

Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZGY00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2GR-FKS CHARGING: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

CHARGING SYSTEM

Battery	Voltage	Standard	11.6 to 12.8 V at 20°C (68°F)
Charging circuit without load	Amperage	Standard	10 A or higher
	Voltage	Standard	10.275 to 16.25 V
Charging circuit with load	Amperage	Standard	30 A or higher

GENERATOR

Generator assembly	Generator brush holder assembly	Brush length	Standard	9.5 to 11.5 mm (0.374 to 0.453 in.)
			Minimum	4.5 mm (0.177 in.)
	Generator rotor assembly	Resistance	Slip ring - Slip ring	1.8 to 2.2 Ω at 20°C (68°F) for 100 A 1.55 to 1.95 Ω at 20°C (68°F) for 130 A
			Slip ring - Rotor core	10 M Ω or higher
		Slip ring diameter	Standard	14.2 to 14.8 mm (0.559 to 0.583 in.)
			Minimum	14.0 mm (0.551 in.)



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TORQUE SPECIFICATIONS

GENERATOR

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Generator assembly x V-ribbed belt tensioner and cylinder head	43	438	32
Generator assembly x Wire harness clamp bracket	8.0	82	71 in.*lbf
Generator assembly x Terminal B	9.8	100	87 in.*lbf
Wire harness stay x Body	8.0	82	71 in.*lbf
Retainer plate x Drive end frame assembly generator	2.3	23	20 in.*lbf
Generator coil assembly x Drive end frame assembly generator	5.6	57	50 in.*lbf
Generator brush holder assembly x Generator coil assembly	1.8	18	16 in.*lbf
Generator rear end cover x Generator coil assembly	4.6	47	41 in.*lbf
Generator pulley x Generator rotor assembly	133	1351	98
Battery hold down clamp x Body	5.4	55	48 in.*lbf
Generator assembly x Generator bracket	20	204	15
Cylinder block x Generator bracket	20	204	15
No. 2 idler pulley sub-assembly x Timing chain cover	43	438	32



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Title: SERVICE SPECIFICATIONS: 2GR-FKS COOLING: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

COOLANT

ITEM		SPECIFIED CONDITION
for Automatic Transmission	w/ Engine Oil Cooler	10.5 liters (11.1 US qts, 9.2 Imp. qts)
	w/o Engine Oil Cooler	9.9 liters (10.5 US qts, 8.7 Imp. qts)
for Manual Transmission	w/ Engine Oil Cooler	10.2 liters (10.8 US qts, 9.0 Imp. qts)
	w/o Engine Oil Cooler	9.6 liters (10.1 US qts, 8.4 Imp. qts)

Thermostat

CONDITION	SPECIFIED CONDITION
Standard valve opening temperature	85 to 89°C (185 to 192°F)
Standard valve lift	8.0 mm (0.315 in.) or more at 100°C (212°F)

ITEM	CONDITION	SPECIFIED CONDITION
Radiator Cap Sub-assembly	Standard value (for brand-new radiator cap sub-assembly)	93 to 123 kPa (1.0 to 1.3 kgf/cm2, 14 to 18 psi)
	Minimum standard value (for used radiator cap sub-assembly)	79 kPa (0.8 kgf/cm2, 11 psi)

ITEM	INJECTION PRESSURE	SPECIFIED CONDITION
Radiator Core	2942 to 4903 kPa (30.0 to 50.0 kgf/cm2, 427 to 711 psi)	300 mm (11.8 in.)
	4903 to 7845 kPa (50.0 to 80.0 kgf/cm2, 711 to 1138 psi)	500 mm (19.7 in.)



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TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Cylinder block water drain cock plug x Cylinder block water drain cock	13	130	9
engine water pump assembly x Timing chain cover assembly	Bolt A	11	112
	Bolt B	11	112
	Bolt C	21	214
	Bolt D	43	438
No. 2 idler pulley sub-assembly x Timing chain or belt cover sub-assembly	43	438	32
Vane pump assembly x timing chain cover assembly	21	214	15
Water inlet x Timing chain or belt cover sub-assembly	9.0	92	80 in.*lbf
Water inlet with thermostat x Timing chain cover assembly	10	102	7
V-bank cover x Intake air surge tank	7.5	76	66 in.*lbf
No. 1 engine under cover sub-assembly x Frame assembly	30	306	22
No. 2 engine under cover sub-assembly x Frame assembly	30	306	22
Radiator x Radiator support	18	184	13
Fan shroud x Radiator	6.0	61	53 in.*lbf
Fan with fluid coupling x Engine water pump assembly	21	214	15



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Title: SERVICE SPECIFICATIONS: 2GR-FKS EMISSION CONTROL: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Purge VSV	Resistance	at 20 °C (68 °F)	23 to 26 Ω
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Title: SERVICE SPECIFICATIONS: 2GR-FKS EMISSION CONTROL: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Purge VSV x Intake air surge tank	21	214	15
PCV valve x Cylinder head cover sub-assembly LH	5.0	51	44 in.*lbf
No. 1 engine cover sub-assembly x Cylinder head cover sub-assembly LH	10	102	7
Charcoal canister assembly x Vehicle body	20	204	15
Charcoal canister assembly x ABS wire harness bracket	13	127	9



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Title: SERVICE SPECIFICATIONS: 2GR-FKS ENGINE CONTROL SYSTEM: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

ITEM	TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
Throttle body with motor assembly	2 (M+) - 1 (M-)	20°C (68°F)	0.3 to 100 Ω
Accelerator position sensor No. 1 voltage	Released	-	0.5 to 1.1 V
	Depressed	-	2.6 to 4.5 V
	Released	-	1.2 to 2.0 V
	Depressed	-	3.4 to 4.75 V
Mass air flow sensor	Idling (after the engine warms up)	-	2.6 to 3.7 gm/sec
	2000 rpm (after the engine warms up)	-	5.4 to 9.6 gm/sec
	3000 rpm (after the engine warms up)	-	10.6 to 15.8 gm/sec
	4 (THA) - 2 (E2G)	-20°C (-4°F)	13.6 to 18.4 kΩ
		20°C (68°F)	2.21 to 2.69 kΩ
		-	0.49 to 0.67 kΩ
	1 - 2	Approx. 20°C (68°F)	2.32 to 2.59 kΩ
Engine coolant temperature sensor		Approx. 80°C (176°F)	0.310 to 0.326 kΩ
Knock sensor	1 - 2	20°C (68°F)	120 to 280 kΩ
Air fuel ratio sensor	1 (HA1A) - 2 (+B)	20°C (68°F)	1.6 to 3.2 Ω
	1 (HA1A) - 4 (A1A-)	20°C (68°F)	10 kΩ or higher
	1 (HA2A) - 2 (+B)	20°C (68°F)	1.6 to 3.2 Ω
	1 (HA2A) - 4 (A2A-)	Always	10 kΩ or higher
Heated oxygen sensor.	1 (HT1B) - 2 (+B)	20°C (68°F)	5 to 10 Ω
	1 (HT1B) - 4 (E2)	Always	10 kΩ or higher
	1 (HT2B) - 2 (+B)	20°C (68°F)	5 to 10 Ω
	1 (HT2B) - 4 (E2)	Always	10 kΩ or higher
EFI MAIN No. 1 relay	3 - 5	Battery voltage is not applied to terminals 1 and 2	10 kΩ or higher

ITEM	TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
EFI MAIN No. 2 rela	3 - 5	Battery voltage is applied to terminals 1 and 2	Below 1 Ω
		Battery voltage is not applied to terminals 1 and 2	10 k Ω or higher
IG2- MAIN relay	3 - 5	Battery voltage is applied to terminals 1 and 2	Below 1 Ω
		Battery voltage is not applied to terminals 1 and 2	10 k Ω or higher



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TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Camshaft timing gear bolt	120	1224	89
No. 1 engine under cover sub-assembly x vehicle	30	306	22
No. 2 engine under cover sub-assembly x vehicle	30	306	22
Camshaft timing oil control solenoid assembly to the timing chain cover assembly	10	102	7
Engine oil level dipstick guide x Timing chain cover assembly and oil pan sub-assembly	10	102	7
Throttle body bracket x Intake air surge tank assembly and timing chain cover assembly	21	214	15
throttle body with motor assembly to the intake air surge tank assembly	10	102	7
Air cleaner assembly x Cylinder head cover sub-assembly	8.0	82	71 in.*lbf
Ar cleaner hose to the throttle body with motor assembly	4.0	41	35
Air cleaner assembly x Intake air surge tank	8.0	82	71 in.*lbf
V-bank cover x Air cleaner assembly	7.5	76	66 in.*lbf
V-bank cover x Intake air surge tank	7.5	76	66 in.*lbf
ECM bracket x ECM	3.2	33	28 in.*lbf
No. 2 ECM bracket x ECM	3.2	33	28 in.*lbf
ECM bracket x ECM	3.2	33	28 in.*lbf
No. 2 junction block x No. 2 ECM bracket	8.0	82	71 in.*lbf
ECM x Body	5.0	51	44 in.*lbf
Accelerator pedal rod assembly x Body	8.0	82	71 in.*lbf
Mass air flow meter x Air cleaner cap sub-assembly	1.0	10	9.0 in.*lbf
VVT sensor x Cylinder head cover sub-assembly	8.0	8202	7
Crank position sensor x Cylinder block sub-assembly	10	102	7.4
Engine coolant temperature sensor x Cylinder block	20	204	15
Knock sensor x Cylinder block sub-assembly	20	204	15
Air fuel ratio sensor x Exhaust manifold sub-assembly	44	449	32
Manifold stay x Exhaust manifold	40	408	30
Manifold stay x Transmission	40	408	30
Cool air inlet No. 1 x Body	12	122	9.0

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Power steering oil pressure switch	21	214	15



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Title: SERVICE SPECIFICATIONS: 2GR-FKS ENGINE MECHANICAL: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

ENGINE

Ignition timing	Terminals TC and CG of DLC3 connected	8 to 12° BTDC at idle (Transmission in neutral or park position)
	Terminals TC and CG of DLC3 disconnected	7 to 24° BTDC at idle (Transmission in neutral or park position)
Idle speed	Manual Transmission	500 to 600 rpm (With the shift lever in neutral or park)
	Automatic Transmission	550 to 650 rpm (With the shift lever in neutral or park)
Compression	Compression pressure	1400 kPa (14.3 kgf/cm ² , 199 psi) or higher
	Minimum pressure	980 kPa (10.0 kgf/cm ² , 142 psi)
	Difference between each cylinder	100 kPa (1.0 kgf/cm ² , 15 psi) or less

ENGINE UNIT

Camshaft	Circuit runout	Maximum	0.03 mm (0.00118 in.)	
	Cam lobe height	Intake side of bank 1	Standard	44.3229 to 44.4229 mm (1.74499 to 1.74893 in.)
			Minimum	37.95 mm (0.96393 in.)
		Intake side of bank 2	Standard	44.3221 to 44.4221 mm (1.74499 to 1.74890 in.)
			Minimum	37.95 mm (0.96393 in.)
		Exhaust side of bank 1	Standard	44.4377 to 44.5377 mm (1.74951 to 1.75345 in.)
			Minimum	37.95 mm (0.96393 in.)
		Exhaust side of bank 2	Standard	44.4356 to 44.5356 mm (1.74943 to 1.75337 in.)
			Minimum	37.95 mm (0.96393 in.)
	Journal diameter	No. 1 journal	Standard	35.946 to 35.960 mm (1.4152 to 1.4157 in.)
		Other journals	Standard	25.959 to 25.975 mm (1.0220 to 1.0226 in.)
	for Bank 1: Oil clearance	No. 1 journal	Standard	0.032 to 0.071 mm (0.00122 to 0.00280 in.)
			Maximum	0.10 mm (0.00394 in.)

		No. 2, 3, 4 journals	Standard	0.025 to 0.062 mm (0.000984 to 0.00240 in.)
			Maximum	0.09 mm (0.00354 in.)
		No. 5 journal	Standard	0.015 to 0.052 mm (0.000591 to 0.00205 in.)
			Maximum	0.09 mm (0.00354 in.)
	for Bank 2: Oil clearance	No. 1 journal	Standard	0.032 to 0.071 mm (0.00122 to 0.00280 in.)
			Maximum	0.10 mm (0.00394 in.)
		Other journals	Standard	0.025 to 0.062 mm (0.000984 to 0.00240 in.)
			Maximum	0.09 mm (0.00354 in.)
Cylinder head set bolt	Length	Standard	141.3 to 142.7 mm (5.56 to 5.62 in.)	
		Maximum	143.7 mm (5.66 in.)	
	Diameter	Standard	10.80 to 11.00 mm (0.425 to 0.433 in.)	
		Minimum	10.70 mm (0.421 in.)	
Chain	Elongation	Maximum	136.7 mm (5.38 in.)	
No. 2 chain	Elongation	Maximum	137.6 mm (5.42 in.)	
Crankshaft timing gear or sprocket	Diameter (with Chain)	Minimum	61.4 mm (2.42 in.)	
Idle sprocket	Diameter (with Chain)	Minimum	61.4 mm (2.42 in.)	
Idle gear shaft	Idle gear shaft diameter	Standard	22.987 to 23.000 mm (0.905 to 0.906 in.)	
	Idle gear inside diameter	Standard	23.020 to 23.030 mm (0.906 to 0.907 in.)	
	Oil clearance	Standard	0.020 to 0.043 mm (0.000787 to 0.00169 in.)	
		Maximum	0.093 mm (0.00366 in.)	
No. 2 chain tensioner assembly	Worn depth	Maximum	0.9 mm (0.0354 in.)	
No. 3 chain tensioner assembly	Worn depth	Maximum	0.9 mm (0.0354 in.)	
Chain tensioner slipper	Worn depth	Maximum	1.0 mm (0.0394 in.)	
No. 1 chain vibration damper	Worn depth	Maximum	1.0 mm (0.0394 in.)	
No. 2 chain vibration damper	Worn depth	Maximum	1.0 mm (0.0394 in.)	
Exhaust manifold sub-assembly	Warpage	Maximum	0.70 mm (0.0276 in.)	
Intake Manifold	Warpage	Maximum	0.10 mm (0.00394 in.)	
Ring pin for camshaft housing sub-assembly	Protrusion height	Standard	2.7 to 3.3 mm (0.106 to 0.130 in.)	
No. 1 straight pin for camshaft housing sub-assembly	Protrusion height	Standard	7.7 to 8.3 mm (0.303 to 0.327 in.)	

CYLINDER HEAD

Cylinder head sub-assembly	Warpage	Standard	Cylinder Block Side	0 to 0.05 mm (0 to 0.00197 in.)
		Standard	Intake Side	0 to 0.08 mm (0 to 0.00315 in.)
		Standard	Exhaust Side	0 to 0.08 mm (0 to 0.00315 in.)
		Maximum	0.10 mm (0.00394 in.)	
Intake valve	Valve stem diameter	Standard	5.470 to 5.485 mm (0.215 to 0.216 in.)	
	Margin thickness	Standard	1.0 mm (0.0394 in.)	
		Maximum	0.5 mm (0.0197 in.)	
	Overall length	Standard	105.85 mm (4.17 in.)	
Maximum		105.35 mm (4.15 in.)		
Exhaust valve	Valve stem diameter	Standard	5.465 to 5.480 mm (0.215 to 0.216 in.)	
	Margin thickness	Standard	1.0 mm (0.0394 in.)	
		Maximum	0.5 mm (0.0197 in.)	
	Overall length	Standard	110.40 mm (4.35 in.)	
Maximum		109.90 mm (4.33 in.)		
Inner compression spring	Free length		54.53 mm (2.147 in.)	
	Deviation	Maximum	1.0 mm (0.0394 in.)	
	Angle (reference)	Maximum	2°	
Intake valve guide bush	Bush inside diameter	Standard	5.510 to 5.530 mm (0.217 to 0.218 in.)	
	Oil clearance	Standard	0.025 to 0.060 mm (0.000984 to 0.00236 in.)	
		Maximum	0.08 mm (0.00315 in.)	
	Bush bore diameter	Use STD	10.285 to 10.306 mm (0.4049 to 0.4057 in.)	
		Use O/S 0.05	10.335 to 10.356 mm (0.4069 to 0.4077 in.)	
Protrusion height	Standard	9.1 to 9.9 mm (0.358 to 0.390 in.)		
Exhaust valve guide bush	Bush inside diameter	Standard	5.510 to 5.530 mm (0.217 to 0.218 in.)	
	Oil clearance	Standard	0.03 to 0.065 mm (0.00118 to 0.00256 in.)	
		Maximum	0.085 mm (0.00335 in.)	
	Bush bore diameter	Use STD	10.285 to 10.306 mm (0.4049 to 0.4057 in.)	

		Use O/S 0.05	10.335 to 10.356 mm (0.4069 to 0.4077 in.)
	Protrusion height	Standard	9.1 to 9.9 mm (0.358 to 0.390 in.)
Camshaft	Thrust clearance	Standard	0.08 to 0.13 mm (0.00315 to 0.00512 in.)
		Maximum	0.15 mm (0.00591 in.)
Ring pin for cylinder head sub-assembly	Protrusion height	Standard	2.5 to 3.5 mm (0.0984 to 0.138 in.)
Straight pin for cylinder head sub-assembly	Protrusion height	Standard	17.5 to 19.5 mm (0.689 to 0.768 in.)

CYLINDER BLOCK

Connecting rod thrust clearance	Standard	0.15 to 0.40 mm (0.00591 to 0.0157 in.)
	Maximum	0.50 mm (0.0197 in.)
Connecting rod oil clearance	Standard	0.032 to 0.052mm (0.00126 to 0.00205 in.)
	Maximum	0.070 mm (0.00276 in.)
Connecting rod diameter	Mark 1	56.000 to 56.006 mm (2.20472 to 2.20496 in.)
	Mark 2	56.007 to 56.012 mm (2.20500 to 2.20519 in.)
	Mark 3	56.013 to 56.018 mm (2.20523 to 2.20543 in.)
	Mark 4	56.019 to 56.024 mm (2.20547 to 2.20566 in.)
Connecting rod bearing center wall thickness	Mark 1	1.481 to 1.484 mm (0.05831 to 0.05843 in.)
	Mark 2	1.485 to 1.487 mm (0.05846 to 0.05854 in.)
	Mark 3	1.488 to 1.490 mm (0.05858 to 0.05866 in.)
	Mark 4	1.491 to 1.493 mm (0.05870 to 0.05878 in.)
Crankshaft pin diameter	Standard	52.992 to 53.000 mm (2.0863 to 2.0866 in.)
Cylinder block warpage	Standard	0 to 0.05 mm (0 to 0.00197 in.)
	Maximum	0.07 mm (0.00276 in.)
Cylinder bore diameter	Standard	94.000 to 94.012 mm (3.7008 to 3.7013 in.)
	Maximum	94.200 mm (3.7087 in.)
Piston diameter	Distance	9.2 mm (0.362 in.)

	Standard	93.962 to 93.992 mm (3.6992 to 3.7004 in.)
	Minimum	93.830 mm (3.694 in.)
Piston oil clearance	Standard	0.008 to 0.05 mm (0.0003 to 0.0019 in.)
	Maximum	0.075 mm (0.00295 in.)
Piston ring groove clearance	No. 1	0.02 to 0.07 mm (0.000787 to 0.00276 in.)
	No. 2	0.02 to 0.06 mm (0.000787 to 0.00236 in.)
	Oil	0.07 to 0.15 mm (0.000276 to 0.00591 in.)
Piston pin hole inside diameter	Mark A	21.998 to 22.001 mm (0.8661 to 0.8662 in.)
	Mark B	22.002 to 22.004 mm (0.8662 to 0.8663 in.)
	Mark C	22.005 to 22.007 mm (0.8663 to 0.8664 in.)
Piston pin diameter	Mark A	21.997 to 22.000 mm (0.8660 to 0.8661 in.)
	Mark B	22.001 to 22.003 mm (0.8662 to 0.8663 in.)
	Mark C	22.004 to 22.006 mm (0.8663 to 0.8664 in.)
Piston pin oil clearance	Standard	-0.002 to 0.004 mm (-0.0000787 to 0.000158 in.)
	Maximum	0.015 mm (0.000591 in.)
Connecting rod bushing inside diameter	Mark A	22.005 to 22.008 mm (0.86634 to 0.86645 in.)
	Mark B	22.009 to 22.011 mm (0.86650 to 0.86657 in.)
	Mark C	22.012 to 22.014 mm (0.86661 to 0.86669 in.)
Connecting rod bushing oil clearance	Standard	0.005 to 0.011 mm (0.000197 to 0.000433 in.)
	Maximum	0.030 mm (0.00118 in.)
Crankshaft thrust clearance	Standard	0.04 to 0.24 mm (0.00157 to 0.00945 in.)
	Maximum	0.30 mm (0.0118 in.)
	Thrust washer thickness	2.43 to 2.48 mm (0.0957 to 0.0976 in.)

Piston ring end gap	No. 1	Standard	0.22 to 0.27 mm (0.00866 to 0.0106 in.)
		Maximum	0.5 mm (0.0197 in.)
	No. 2	Standard	0.7 to 0.75 mm (0.0276 to 0.0295 in.)
		Maximum	0.85 mm (0.0335 in.)
	Oil	Standard	0.10 to 0.35 mm (0.00394 to 0.0138 in.)
		Maximum	0.6 mm (0.0236 in.)
Connecting rod out-of alignment		Maximum	0.05 mm (0.00197 in.) per 100 mm (3.94 in.)
Connecting rod twist		Maximum	0.15 mm (0.00591 in.) per 100 mm (3.94 in.)
Connecting rod bolt diameter		Standard	7.2 to 7.3 mm (0.283 to 0.287 in.)
		Minimum	7.0 mm (0.276 in.)
Crankshaft circle runout		Maximum	0.06 mm (0.00236 in.)
Crank main journal	Journal diameter	Standard	60.988 to 61.000 mm (2.4011 to 2.4016 in.)
	Taper and out-of-round	Maximum	0.02 mm (0.000787 in.)
Crank pin	Crank pin diameter	Standard	52.992 to 53.000 mm (2.0863 to 2.0866 in.)
	Taper and out-of-round	Maximum	0.02 mm (0.000787 in.)
Crankshaft oil clearance	No. 1, No. 4 journal	Standard	0.019 to 0.029 mm (0.000748 to 0.00114 in.)
		Minimum	0.050 mm (0.00197 in.)
	No. 2, No. 3 journal	Standard	0.025 to 0.035 mm (0.000984 to 0.00138 in.)
		Minimum	0.060 mm (0.00236 in.)
Standard upper bearing center wall thickness (No. 1 and No. 4 journal)		Mark 1	2.497 to 2.500 mm (0.09831 to 0.09843 in.)
		Mark 2	2.501 to 2.503 mm (0.09846 to 0.09854 in.)
		Mark 3	2.504 to 2.506 mm (0.09858 to 0.09866 in.)
		Mark 4	2.507 to 2.509 mm (0.09870 to 0.09878 in.)
		Mark 5	2.510 to 2.512 mm (0.09882 to 0.09890 in.)

Standard lower bearing center wall thickness (No. 1 and No. 4 journal)		Mark 1	2.478 to 2.481 mm (0.09756 to 0.09768 in.)
		Mark 2	2.482 to 2.484 mm (0.09772 to 0.09780 in.)
		Mark 3	2.485 to 2.487 mm (0.09783 to 0.09791 in.)
		Mark 4	2.488 to 2.490 mm (0.09795 to 0.09803 in.)
		Mark 5	2.491 to 2.493 mm (0.09807 to 0.09815 in.)
Standard upper bearing center wall thickness (No. 2 and No. 3 journal)		Mark 1	2.476 to 2.479 mm (0.09748 to 0.09760 in.)
		Mark 2	2.480 to 2.482 mm (0.09764 to 0.09772 in.)
		Mark 3	2.483 to 2.485 mm (0.09776 to 0.09783 in.)
		Mark 4	2.486 to 2.488 mm (0.09787 to 0.09795 in.)
		Mark 5	2.489 to 2.491 mm (0.09799 to 0.09807 in.)
Standard lower bearing center wall thickness (No. 2 and No. 3 journal)		Mark 1	2.493 to 2.496 mm (0.09815 to 0.09827 in.)
		Mark 2	2.497 to 2.499 mm (0.09831 to 0.09839 in.)
		Mark 3	2.500 to 2.502 mm (0.09843 to 0.09850 in.)
		Mark 4	2.503 to 2.505 mm (0.09854 to 0.09862 in.)
		Mark 5	2.506 to 2.508 mm (0.09862 to 0.09874 in.)
Crankshaft bearing cap set bolt diameter		Standard	10.8 to 11.0 mm (0.4252 to 0.4331 in.)
		Minimum	10.7 mm (0.4213 in.)
		Measuring point	47 mm (1.85 in.)
Straight pin for cylinder block sub-assembly	Protrusion height	Pin A	22.5 to 23.5 mm (0.886 to 0.925 in.)
		Pin B	10.5 to 11.5 mm (0.413 to 0.453 in.)
		Pin C	8.5 to 9.5 mm (0.335 to 0.374 in.)
		Pin D	5.5 to 6.5 mm (0.217 to 0.256 in.)



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZGJ00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2GR-FKS ENGINE MECHANICAL: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

CAMSHAFT

PART TIGHTENED		N*M	KG*CM	FT.*LBF
Camshaft timing gear assembly x Camshaft		120	1224	89
Camshaft timing exhaust gear assembly x Camshaft		120	1224	89
No. 3 chain tensioner assembly x Camshaft housing LH		21	214	15
Camshaft housing LH x Cylinder head LH	for bolt A	28	286	21
	for bolt B	16	163	12
No. 2 chain tensioner assembly x Camshaft housing RH		21	214	15
Camshaft housing RH x Cylinder head sub-assembly	for bolt A	28	286	21
	for bolt B	16	163	12
No. 1 chain tensioner assembly x Cylinder head sub-assembly		10	102	7
Timing chain cover plate x Timing chain cover sub-assembly		11	112	8

CYLINDER HEAD GASKET

PART TIGHTENED		N*M	KG*CM	FT.*LBF
Cylinder head sub-assembly x Cylinder block sub-assembly	1st	36	367	27
	2nd	Turn 90°		
	3rd	Turn 90°		
Cylinder head LH x Cylinder block sub-assembly	Recessed head 1st	36	367	27
	2nd	Turn 90°		
	3rd	Turn 90°		
	14 mm (0.551 in.) head	30	306	22
Camshaft bearing cap (for Bank 1) x Camshaft housing RH	1st	10	102	7
	2nd	16	163	12
Camshaft housing RH x Cylinder head sub-assembly		28	286	21
Camshaft bearing cap (for Bank 2) x Camshaft housing LH	1st	10	102	7
	2nd	16	163	12
Camshaft housing LH x Cylinder head LH		28	286	21
Camshaft timing gear assembly x Camshaft		120	1224	89
Camshaft timing exhaust gear assembly x Camshaft		120	1224	89

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
No. 3 chain tensioner assembly x Camshaft housing LH	21	214	15
No. 2 chain tensioner assembly x Camshaft housing RH	21	214	15

CYLINDER HEAD

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
No. 1 straight screw plug x Cylinder head	44	449	32
No. 2 straight screw plug x Cylinder head	80	816	59
No. 3 straight screw plug x Cylinder head	44	449	32
Union x Cylinder head	15	150	11
Stud bolt x Cylinder head	for bolt A and B	10	102
	for bolt C	4.0	41
			35 in.*lbf

CYLINDER BLOCK

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Stud bolt x Cylinder block	10	102	7
No. 1 oil nozzle sub-assembly x Cylinder block	9.0	92	80 in.*lbf
Main bearing cap x Cylinder block	16 point head 1st	61	622
	2nd	Turn 90°	
	12 mm head	26	262
Connecting rod cap x Connecting rod	1st	25	250
	2nd	Turn 90°	
			18

ENGINE ASSEMBLY

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Hood sub-assembly x Hood bracket	13	133	10
Engine hanger x Engine	33	337	24
Engine mount insulator x Engine mount bracket	72	734	53
Engine mount insulator x Body	50	510	37
Drive plate and ring gear x Crankshaft	83	846	61
Flywheel sub-assembly x Crankshaft	1st	30	306
	2nd	Turn 90°	
Oil cooler tube x Oil pan	14	143	10
Suction hose x Timing chain cover	7.5	76	66 in.*lbf
Vane pump assembly x Engine	21	214	15
Earth wire harness x Body	8.5	87	75 in.*lbf

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Engine wire x Body	8.5	87	75 in.*lbf
Air cleaner case x Body	12	122	9

ENGINE UNIT

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Oil seal retainer x Cylinder block		10	102	7
No. 1 water outlet pipe x Cylinder block		10	102	7
No. 1 chain vibration damper x Cylinder head LH and cylinder block		23	229	17
Idle sprocket assembly x Cylinder block		60	612	44
No. 1 chain tensioner assembly x Cylinder head subassembly		10	102	7
No. 1 oil pan baffle plate x Cylinder block sub-assembly		10	102	7
Oil pan sub-assembly x Stud bolt	for stud bolt A and B	4.0	41	35 in.*lbf
	for stud bolt C	10	102	7
Oil pan sub-assembly x Cylinder block sub-assembly	for bolt A	10	102	7
	for bolt B, C, E and nut D	21	214	15
Oil pan sub-assembly x Oil level sensor bracket		10	102	7
Oil pan sub-assembly x Engine oil level sensor		10	102	7
Oil pan sub-assembly x Oil strainer sub-assembly		10	102	7
Oil pan sub-assembly x No. 2 oil pan sub-assembly		10	102	7
No. 2 oil pan sub-assembly x Oil pan drain plug		40	408	30
Oil filler stud bolt x Cylinder head cover sub-assembly LH		4.0	41	35 in.*lbf
Rear water by-pass joint x Cylinder head sub-assembly		10	102	7
Water inlet with thermostat sub-assembly x Timing chain cover		10	102	7
Water outlet x Timing chain cover		21	214	15
Water drain cock x Cylinder block		25	255	18
Water drain cock plug x Water drain cock		13	130	9
Oil filler cap housing x Cylinder head cover sub-assembly LH		10	102	7
Vacuum pump hole cover bracket x Cylinder head		21	214	15
No. 2 water by-pass pipe x Cylinder head		10	102	7
No. 1 water by-pass pipe x Timing chain cover		10	102	7
V-ribbed belt tensioner assembly x Timing chain cover		43	438	32
No. 2 idler pulley x Timing chain cover		43	438	32
No. 1 idler pulley x Timing chain cover		54	551	40
No. 1 compressor mounting bracket x Cylinder block		43	438	32
Front No. 1 engine mounting bracket LH x Cylinder block		43	438	32

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Front No. 1 engine mounting bracket RH x Cylinder block	43	438	32
Oil level dipstick guide x Timing chain cover	10	102	7



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Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2GR-FKS EXHAUST: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Compression spring	Length	Minimum	40.5 mm (1.594 in.)
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Last Modified: 11-13-2015	6.6 F	Doc ID: RM0000049G9018X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2GR-FKS EXHAUST: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

Exhaust Manifold

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Front No. 2 exhaust pipe assembly x Exhaust pipe sub-assembly LH x Center exhaust pipe assembly	for nut	54	554	40
	for bolt	48	489	35
Manifold stay x Exhaust manifold sub-assembly RH x Automatic transmission assembly		40	408	30
No. 2 manifold stay x Exhaust manifold sub-assembly LH x Automatic transmission assembly		40	408	30
No. 1 exhaust manifold heat insulator x Exhaust manifold sub-assembly RH		13	133	10
No. 2 exhaust manifold heat insulator x Exhaust manifold sub-assembly LH		13	133	10
Exhaust manifold sub-assembly RH x Cylinder head sub-assembly		21	214	15
Exhaust manifold sub-assembly LH x Cylinder head LH		21	214	15

Exhaust Pipe

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Upper monolithic converter Protector x Lower monolithic converter Protector		11	107	8
Clamp x Monolithic converter Protector		11	107	8
Front No. 2 exhaust pipe assembly x Exhaust manifold sub-assembly LH		54	554	40
Exhaust pipe stopper bracket x Body		19	194	14
Front exhaust pipe assembly x Exhaust manifold sub-assembly RH		54	554	40
Front exhaust pipe assembly x Center exhaust pipe assembly		43	438	32
Front No. 2 exhaust pipe assembly x Center exhaust pipe assembly		48	489	35
Tail exhaust pipe assembly x Center exhaust pipe assembly		48	489	35



Last Modified: 11-13-2015	6.6 F	Doc ID: RM0000047DN00BX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2GR-FKS FUEL: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

FUEL SYSTEM

Standard fuel pressure	at idle	196 to 588 kPa (2.0 to 6.0 kgf/cm ² , 28 to 85 psi)
	remains for 5 minutes after engine has stopped	147 kPa (1.5 kgf/cm ² , 21 psi) or higher
Standard fuel pressure (for high pressure)	at engine warm up and idle	1800 to 2800 kPa (18.4 to 28.6 kgf/cm ² , 261 to 406 psi)

FUEL INJECTOR (for Port Injection)

Standard resistance	1 - 2	20°C (68°F)	11.6 to 12.4 Ω
Standard injection volume	67 to 81 cc (4.1 to 4.9 cu.in.) per 15 seconds		
Difference between each fuel injector	14 cc (0.9 cu.in.) or less		
Standard fuel drop	1 drop or less per 20 minutes		

FUEL INJECTOR (for Direct Injection)

Standard resistance	1 - 2	20°C (68°F)	1.74 to 2.04 Ω
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FUEL PRESSURE SENSOR

Standard voltage	2 - 3	Pressure not applied to fuel pressure sensor	Approximately 0.56 to 0.94 V
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FUEL PRESSURE SENSOR (for High Pressure)

Standard voltage	3 - 1	Pressure not applied to fuel pressure sensor	Approximately 0.4 to 0.6 V
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FUEL PUMP

Standard resistance	U - V	0.05 to 3.0 Ω
	V - W	0.05 to 3.0 Ω
	U - W	0.05 to 3.0 Ω

FUEL PUMP (for High Pressure)

Standard resistance	1 - 2	20°C (68°F)	0.45 to 0.55 Ω
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FUEL SENDER GAUGE ASSEMBLY

Standard resistance	2 - 3	Float position is F (Upper)	13.5 to 16.5 Ω
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Float position is E (Lower)	405.5 to 414.5 Ω
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Last Modified: 11-13-2015	6.6 F	Doc ID: RM0000047DO009X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2GR-FKS FUEL: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

Fuel Injector (for Port Injection)

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Fuel delivery pipe x Cylinder head sub-assembly and cylinder head LH	17	173	13
Engine wire x Cylinder head cover sub-assembly	8.0	82	71 in.*lbf
Engine wire x Cylinder head cover sub-assembly LH	8.0	82	71 in.*lbf

Fuel Injector (for Direct Injection)

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Fuel delivery pipe RH x Cylinder head sub-assembly	26	265	19
Wire harness x Fuel delivery pipe RH	10	102	7
Stud bolt x Cylinder head LH	10	102	7
Fuel delivery pipe assembly LH x Cylinder head LH	26	265	19
No. 2 fuel pipe sub-assembly x fuel delivery pipe RH and fuel delivery pipe assembly LH	35 (30)	357 (306)	26 (22)

(): For use with union nut wrench

Fuel Pressure Sensor (for High Pressure)

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Fuel pipe plug sub-assembly x Fuel delivery pipe assembly LH	10	102	7

Fuel Pump (for High Pressure)

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Fuel pump assembly x Pump housing	26	265	19
No. 1 fuel pipe sub-assembly x Fuel delivery pipe RH and fuel pump assembly	35 (30)	357 (306)	26 (22)
Fuel tube sub-assembly x Cylinder head cover sub-assembly	10	102	7
Wire harness clamp bracket x Cylinder head cover sub-assembly	8.0	82	71 in.*lbf

(): For use with union nut wrench

Fuel Pump ECU

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Fuel pump control ECU x Body	20	199	14

Fuel Tank

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Fuel tank band x Body	62	632	46
No. 1 fuel tank protector sub-assembly x Body (w/ Off Road Package)	20	204	15



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZPL00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2GR-FKS IGNITION: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

IGNITION SYSTEM

Spark plug	Recommended spark plug	DENSO made	FK20HBR8
	Electrode gap for new spark plug		0.7 to 0.8 mm (0.0276 to 0.0315 in.)
	Maximum electrode gap for used spark plug		1.1 mm (0.0433 in.)



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZPM00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2GR-FKS IGNITION: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

IGNITION COIL AND SPARK PLUG

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Spark plug x Cylinder head sub-assembly	18	184	13
Ignition coil x Cylinder head cover	10	102	7
Wire harness bracket x Cylinder head cover	8.0	82	71 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM0000049G9017X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2GR-FKS INTAKE: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

Intake Manifold

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
No. 1 V-bank cover bracket x Intake air surge tank	10	102	7
Intake air surge tank assembly x Intake manifold	21	214	15
No. 2 surge tank stay x Cylinder head sub-assembly LH	21	214	15
Throttle body bracket x Intake air surge tank assembly	21	214	15
No. 1 surge tank stay x Cylinder head sub-assembly LH	21	214	15
Intake manifold x Cylinder head sub-assembly LH, RH	21	214	15

Intake Air Control Valve Actuator (for ACIS)

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Intake air control valve actuator x Intake air surge tank assembly	6.0	61	53 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZO100AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2GR-FKS LUBRICATION: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

LUBRICATION SYSTEM

Oil pressure	at idling	29 kPa (0.3 kgf/cm ² , 4.2 psi) or higher
	at 3000 rpm	294 to 588 kPa (3.0 to 6.0 kgf/cm ² , 43 to 85 psi)

OIL PUMP

Tip clearance	Standard	0.06 to 0.16 mm (0.00236 to 0.00630 in.)
	Maximum	0.16 mm (0.00630 in.)
Side clearance	Standard	0.030 to 0.075 mm (0.00118 to 0.00295 in.)
	Maximum	0.075 mm (0.00295 in.)
Body clearance	Standard	0.250 to 0.325 mm (0.00984 to 0.0128 in.)
	Maximum	0.325 mm (0.0128 in.)



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZO200AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2GR-FKS LUBRICATION: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

OIL AND OIL FILTER

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Oil filter cap assembly x Oil filter bracket	25	255	18
Oil filter drain plug x Oil filter cap assembly	13	133	10
Oil pan drain plug x No. 2 oil pan sub-assembly	40	408	30

OIL PRESSURE SWITCH

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Engine oil pressure switch x Oil filter bracket	15	153	11

OIL LEVEL SENSOR

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Engine oil level sensor bracket x Oil pan sub-assembly	10	102	7
Engine oil level sensor x Oil level sensor bracket	10	102	7

OIL PUMP

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Oil pump cover x Timing chain cover		9.1	92	81 in.*lbf
Oil pump relief valve plug x Oil pump cover		49	500	36
Timing chain cover x Cylinder head, Cylinder block	for bolt A, B and nut	21	214	15
	for bolt C and D	43	438	32
Oil pan sub-assembly x Cylinder block, Timing chain cover	for bolt A	10	102	7
	for bolt B, C, E and nut D	21	214	15
Oil strainer sub-assembly x Oil pan sub-assembly		10	102	7
No. 2 oil pan sub-assembly x Oil pan sub-assembly		10	102	7
Cylinder head cover sub-assembly x Cylinder head sub-assembly x VVT sensor		10	102	7
Crankshaft pulley x Crankshaft		260	2651	192
Oil filter bracket x Timing chain cover		21	214	15

ENGINE OIL COOLER

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
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PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Oil cooler assembly x Oil filter bracket	21	214	15



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Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2GR-FKS STARTING: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

STARTING SYSTEM

Starter	No-load characteristics	Current	90 A or less at 11.5 V
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STARTER

Starter	Pull-in coil	Resistance	Terminal 50 - Terminal C	Below 1 Ω
	Hold-in coil	Resistance	Terminal 50 - Switch body	Below 2 Ω
	Starter armature assembly	Resistance	Segment - Segment	Below 1 Ω
			Segment - Coil core	10 k Ω or higher
		Circle runout	Maximum	0.05 mm (0.00197 in.)
		Commutator diameter	Standard	30.0 mm (1.18 in.)
			Minimum	29.0 mm (1.14 in.)
		Undercut depth	Standard	0.6 mm (0.0236 in.)
			Minimum	0.2 mm (0.00787 in.)
	Starter yoke	Resistance	Lead wire - Brush	Below 1 Ω
			Starter yoke body - Brush	10 k Ω or higher
	Brush	Brush length	Standard	15.5 mm (0.610 in.)
			Minimum	8.5 mm (0.335 in.)
	Starter brush holder assembly	Resistance	Positive (+) brush - Negative (-) brush	10 k Ω or higher
		Brush spring load	Standard	18 to 24 N (1.8 to 2.4 kgf, 4.0 to 5.3 lbf)
			Minimum	12 N (1 kgf, 2.7 lbf)



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZGX00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2GR-FKS STARTING: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

STARTING SYSTEM

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Lead wire x Terminal C	5.9	60	52 in.*lbf

STARTER

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Commutator end frame x Brush holder assembly	1.5	15	13 in.*lbf
Starter drive housing assembly x Magnetic starter switch assembly	5.9	60	52 in.*lbf
Starter yoke assembly x Magnet starter switch assembly	5.9	60	52 in.*lbf
Lead wire x Terminal C	5.9	60	52 in.*lbf
Starter assembly x Transmission housing	37	377	27
Starter assembly x Terminal 30	9.8	100	87 in.*lbf
Engine wire x Starter assembly	8.0	82	71 in.*lbf
Engine wire x Cylinder block	13	133	10
Starter cover x Starter assembly	12	117	8
Negative battery terminal x Battery	5.4	55	48 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZH000BX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2TR-FE CHARGING: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

CHARGING SYSTEM

Battery	Voltage	Standard	12.5 to 12.9 V at 20°C (68°F)
Charging circuit without load	Amperage	Standard	10 A or higher
	Voltage	Standard	12.1 to 15.4 V
Charging circuit with load	Amperage	Standard	30 A or higher

GENERATOR

Generator assembly	Generator brush holder assembly	Brush length	Standard	9.5 to 11.5 mm (0.374 to 0.453 in.)
			Minimum	4.5 mm (0.177 in.)
	Generator rotor assembly	Resistance	Slip ring - Slip ring	1.8 to 2.2 Ω at 20°C (68°F)
			Slip ring - Rotor core	10 MΩ or higher
	Slip ring diameter		Standard	14.2 to 14.8 mm (0.559 to 0.583 in.)
			Minimum	14.0 mm (0.551 in.)



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZH100PX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2TR-FE CHARGING: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

GENERATOR

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Retainer plate x Generator drive end frame	2.3	23	20 in.*lbf
Generator coil assembly x Generator drive end frame	5.6	57	50 in.*lbf
Generator brush holder assembly x Generator rectifier end frame	1.8	18	16 in.*lbf
Rear end cover x Generator rectifier end frame	4.6	47	41 in.*lbf
Generator pulley with clutch x Generator rotor assembly	80	816	59
Generator assembly x Timing chain cover	43	438	32
Generator assembly x Engine wire	9.8	100	87 in.*lbf
Battery x Negative battery terminal	5.4	55	48 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZGQ00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2TR-FE COOLING: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

COOLANT

CAPACITY	CLASSIFICATION
MT: 8.7 liters (9.2 US qts, 7.7 Imp. qts)	Use only "TOYOTA Super Long Life Coolant", or similar high qualityethylene glycol based non-silicate, non-amine, non-nitrite, and non-borate coolant with long-life hybrid organic acid technology (coolant with long-life hybrid organic acid technology is a combination of lowphosphates and organic acids).
A/T: 8.6 liters (9.1 US qts, 7.6 Imp. qts)	

Thermostat

CONDITION	SPECIFIED CONDITION
Standard valve opening temperature	86 to 90°C (187 to 194°F)
Standard valve lift	10.0 mm (0.394 in.) or more at 100°C (212°F)

Radiator

ITEM	CONDITION	SPECIFIED CONDITION
Radiator Cap Sub-assembly	Standard pressure (for brand-new radiator cap sub-assembly)	93 to 123 kPa (1.0 to 1.3 kgf/cm2, 14 to 18 psi)
	Minimum pressure (for used radiator cap sub-assembly)	79 kPa (0.8 kgf/cm2, 11 psi)

ITEM	INJECTION PRESSURE	SPECIFIED CONDITION
Radiator Core	2942 to 4903 kPa (30.0 to 50.0 kgf/cm2, 427 to 711 psi)	300 mm (11.8 in.)
	4903 to 7845 kPa (50.0 to 80.0 kgf/cm2, 711 to 1138 psi)	500 mm (19.7 in.)



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZGR00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2TR-FE COOLING: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Cylinder block water drain cock plug x Cylinder block water drain cock sub-assembly		13	130	9
No. 1 engine under cover x Body		30	306	22
Fluid coupling assembly x Fan		10	102	7
Fan with Fluid coupling x Water pump assembly		25	255	18
Water pump assembly x Timing chain cover	Bolt A	25	255	32
	Bolt B	8.9	235	18 in.*lbf
V-ribbed belt tensioner assembly x Cylinder block sub-assembly	Bolt A	40	408	30
	Bolt B	23	235	17
No. 1 idler pulley sub-assembly x Timing chain cover sub-assembly		40	438	32
Water inlet x Timing chain cover sub-assembly		28	286	21
Negative battery terminal x Battery		5.4	55	48 in.*lbf
Timing chain cover x Water inlet		20	204	15
Radiator assembly x Body		18	184	13
Fan shroud x Radiator assembly		6.0	61	53 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZGM00LX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2TR-FE EMISSION CONTROL: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Purge valve	Resistance	1 - 2	23 to 26 Ω at 20°C (68°F)
Air fuel ratio sensor	Voltage	1 (HA1A) - 2 (+B)	2.9 V at ignition switch ON
		E19-1 (A1A-) - E19-6 (HA1A)	3.3 V at ignition switch ON
	Resistance	1 (HA1A) - 2 (+B)	1.8 to 3.4 Ω at 20°C (68°F)
		1 (HA1A) - 4 (A1A-)	10 k Ω or higher
Charcoal canister assembly	Voltage	E17-15 (VCP) - E17-14 (EPPM)	4.5 to 5.5 V at ignition switch ON
		E17-16 (PPMP) - E17-14 (EPPM)	3.0 to 3.6 V at ignition switch ON
Heated oxygen sensor	Resistance	1 (HT1B) - 2 (+B)	11 to 16 Ω at 20°C (68°F)
		1 (HT1B) - 4 (E2)	10 k Ω or higher
Manifold absolute pressure sensor	Voltage	A8-3 (VC) - A8-1 (E2)	4.5 to 5.5 V
		E21-1 (AIP) - E21-8 (EAIP)	0.1 to 0.4 V at applied positive pressure of 19.6 kPa (0.20 kgf/cm ² , 2.84 psi)
			0.4 to 0.7 V at applied positive pressure of 39.2 kPa (0.40 kgf/cm ² , 5.69 psi)
			0.7 to 1.0 V at applied positive pressure of 58.8 kPa (0.60 kgf/cm ² , 8.53 psi)
			1.0 to 1.3 V at applied positive pressure of 78.5 kPa (0.80 kgf/cm ² , 11.4 psi)
			1.3 to 1.6 V at applied positive pressure of 98.0 kPa (1.00 kgf/cm ² , 14.2 psi)
Air switching valve assembly	Resistance	1 - 2	4.5 to 5.5 Ω at 20°C (68°F)
Air pump heater relay	Resistance	3 - 5	10 k Ω or higher at battery voltage not applied
			Below 1 Ω or higher at battery voltage is applied to terminals 1 and 2
Air pump assembly	Current		10 to 40 A at 20°C (68°F)
Air pump heater (for Automatic Transmission)	Resistance	1 (APH+) - 3 (APHG)	3.6 to 17.6 Ω at -20°C (-4°F)
			3.4 to 16.5 Ω at -10°C (14°F)
			3.1 to 15.4 Ω at 0°C (32°F)
			2.8 to 14.3 Ω at 10°C (50°F)
			2.7 to 13.2 Ω at 20°C (68°F)



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Title: SERVICE SPECIFICATIONS: 2TR-FE EMISSION CONTROL: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Air fuel ratio sensor x Exhaust pipe assembly front	44	449	33
Battery x Battery negative terminal	3.9	40	35 in.*lbf
Heated oxygen sensor x Exhaust pipe assembly tail	44	449	33
Air pump assembly x Body	18	184	13
Washer jar assembly x Body	6	56	49 in.*lbf
Air switching valve assembly x Cylinder head sub-assembly	20	204	15
Intake pipe insulator x Air switching valve assembly	20	204	15
Intake pipe insulator x Cylinder head sub-assembly	20	204	15
Exhaust manifold heat insulator No. 1 x Exhaust manifold	12	122	9
Charcoal canister x Body	20	204	15
ABS wire harness bracket x charcoal canister	13	127	9



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZAK00LX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2TR-FE ENGINE CONTROL SYSTEM: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

ITEM	TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
Camshaft timing oil control valve assembly	1 - 2	20°C (68°F)	6.9 to 7.9 Ω
Throttle body with motor assembly	2 (M+) - 1 (M-)	20°C (68°F)	0.3 to 100 Ω
Accelerator pedal sensor assembly	Accel Sensor Out No. 1	Released	0.5 to 1.1 V
		Depressed	2.6 to 4.5 V
	Accel Sensor Out No. 2	Released	1.2 to 2.0 V
		Depressed	3.4 to 4.75 V
Mass air flow meter	4 (THA) - 5 (E2)	-20°C (-4°F)	12.5 to 16.9 kΩ
		20°C (68°F)	2.19 to 2.67 kΩ
		60°C (140°F)	0.50 to 0.68 kΩ
Crankshaft position sensor	1 (NE+) - 2 (NE-)	Cold	1630 to 2740 Ω
		Hot	2065 to 3225 Ω
Engine coolant temperature sensor	1 (E2) - 2 (THW)	20°C (68°F)	2.32 to 2.59 kΩ
		80°C (176°F)	0.310 to 0.326 kΩ
(Knock sensor	1 - 2	20°C (68°F)	120 to 280 kΩ
E.F.I. relay	3 - 5	-	10 kΩ or higher
		-	Below 1 Ω (Apply battery voltage to terminals 1 and 2)
Circuit opening relay assembly	3 - 5	-	Below 1 Ω (Apply battery voltage to terminals 1 and 2)



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Title: SERVICE SPECIFICATIONS: 2TR-FE ENGINE CONTROL SYSTEM: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED		N*M	KG*CM	FT.*LBF
Camshaft timing oil control valve assembly x Cylinder head sub-assembly		9.0	92	80 in.*lbf
Wire harness clamp bracket x Intake manifold		8.0	82	71 in.*lbf
Throttle body with motor assembly x Intake manifold		10	102	7
Intake air connector x Intake manifold		8.0	82	71 in.*lbf
Intake air connector x Throttle body with motor assembly		5.0	51	44 in.*lbf
No. 2 ECM bracket x ECM		3.2	33	28 in.*lbf
ECM bracket x ECM		3.2	33	28 in.*lbf
ECM x Instrument panel reinforcement assembly		5.0	51	44 in.*lbf
Accelerator pedal sensor assembly x Vehicle body		8.0	82	71 in.*lbf
Camshaft position sensor (for Intake Side) x Timing chain cover sub-assembly		10	102	7
camshaft position sensor (for Exhaust Side) x cylinder head cover sub-assembly		10	102	7
Crankshaft position sensor x Timing chain cover sub-assembly		9.0	92	80 in.*lbf
No. 1 compressor mounting bracket x Engine assembly	Bolt A	43	438	32
	Bolt B	43	438	32
	Bolt C	21	214	15
No. 1 engine under cover sub-assembly x Vehicle		30	306	22
Knock sensor x Cylinder block sub-assembly		20	204	15
Intake manifold x Cylinder block sub-assembly		25	255	18
Heater hose bracket x Intake manifold		19	194	14
Purge VSV x Intake manifold		9.0	92	80
Battery x Battery negative terminal		5.4	55	48 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZGK00AX
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Title: SERVICE SPECIFICATIONS: 2TR-FE ENGINE MECHANICAL: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

ENGINE

Ignition timing	Terminals TC and CG of DLC3 connected	3 to 7° BTDC at idle
	Terminals TC and CG of DLC3 disconnected	5 to 15° BTDC at idle
Idling speed	Manual Transmission	600 to 700 rpm (With the shift lever in neutral)
	Automatic Transmission	700 to 800 rpm (With the shift lever in N)
Compression	Compression pressure	1230 kPa (12.5 kgf/cm ² , 178 psi)
	Minimum pressure	880 kPa (9.0 kgf/cm ² , 128 psi) or more
	Difference between each cylinder	98 kPa (1.0 kgf/cm ² , 14 psi) or less

ENGINE UNIT

Timing chain	Chain elongation	Maximum	147.5 mm (5.81 in.)
	Camshaft sprocket diameter (with chain)	Minimum	113.8 mm (4.48 in.)
	Crankshaft sprocket diameter (with chain)	Minimum	59.4 mm (2.34 in.)
	Sprocket worn distance	Minimum	1.0 mm (0.0394 in.)
	Tensioner slipper wear	Maximum	2.0 mm (0.0787 in.)
	Vibration damper wear	Maximum	2.0 mm (0.0787 in.)
	Guide wear	Maximum	0.5 mm (0.0197 in.)
No. 2 timing chain	No. 2 chain elongation	Maximum	123.6 mm (4.87 in.)
	No. 2 crankshaft sprocket diameter (with chain)	Minimum	96.7 mm (3.81 in.)
	Balanceshaft drive gear diameter (with chain)	Minimum	75.9 mm (2.99 in.)
	No. 2 vibration damper wear	Maximum	1.0 mm (0.0394 in.)
	No. 3 vibration damper wear	Maximum	1.0 mm (0.0394 in.)
	No. 4 vibration damper wear	Maximum	1.0 mm (0.0394 in.)
Cylinder head	Cylinder block surface warpage	Maximum	0.05 mm (0.00197 in.)
	Intake manifold surface warpage	Maximum	0.05 mm (0.00197 in.)

	Exhaust manifold surface warpage	Maximum	0.05 mm (0.00197 in.)
	Valve seat	Refacing angle	30°, 45°, 60°
		Contacting angle	45°
		Contacting width	1.1 to 1.5 mm (0.0433 to 0.0591 in.)
	Valve guide bush bore diameter	STD	10.285 to 10.306 mm (0.405 to 0.406 in.)
		O/S 0.05	10.335 to 10.356 mm (0.407 to 0.408 in.)
	Cylinder head set bolt outside diameter	STD	10.76 to 10.97 mm (0.424 to 0.432 in.)
		Minimum	10.40 mm (0.409 in.)
Valve guide bush	Inside diameter		5.51 to 5.53 mm (0.217 to 0.218 in.)
	Outside diameter (for repair part)	STD	10.333 to 10.344 mm (0.4068 to 0.4072 in.)
		O/S 0.05	10.383 to 10.394 mm (0.4088 to 0.4092 in.)
	Protrusion height	STD Intake	9.8 to 10.2 mm (0.386 to 0.402 in.)
		STD Exhaust	7.6 to 8.0 mm (0.299 to 0.315 in.)
Valve	Valve overall length	STD Intake	106.26 mm (4.18 in.)
		STD Exhaust	106.74 mm (4.20 in.)
		Minimum Intake	105.96 mm (4.17 in.)
		Minimum Exhaust	106.44 mm (4.19 in.)
	Stem diameter	Intake	5.470 to 5.485 mm (0.215 to 0.216 in.)
		Exhaust	5.465 to 5.480 mm (0.215 to 0.216 in.)
	Stem oil clearance	STD Intake	0.025 to 0.060 mm (0.000984 to 0.00236 in.)
		STD Exhaust	0.030 to 0.065 mm (0.00118 to 0.00256 in.)
		Maximum Intake	0.08 mm (0.00315 in.)
		Maximum Exhaust	0.10 mm (0.00397 in.)
	Margin thickness	STD Intake	1.05 to 1.45 mm (0.0413 to 0.0571 in.)

		STD Exhaust	1.2 to 1.6 mm (0.0472 to 0.0630 in.)
		Minimum Intake	0.50 mm (0.0197 in.)
		Minimum Exhaust	0.50 mm (0.0197 in.)
Valve compression spring	Deviation	Maximum	1.3 mm (0.0512 in.)
	Free length		52.13 mm (2.05 in.)
Camshaft	Thrust clearance	STD	0.10 to 0.24 mm (0.00394 to 0.00945 in.)
		Maximum	0.26 mm (0.0102 in.)
	Journal oil clearance	STD No. 1	0.035 to 0.072 mm (0.00138 to 0.00283 in.)
		Others	0.025 to 0.062 mm (0.000984 to 0.00244 in.)
		Maximum	0.08 mm (0.00315 in.)
	Journal diameter	STD No. 1	35.949 to 35.965 mm (1.415 to 1.416 in.)
		Others	26.959 to 26.975 mm (1.061 to 1.062 in.)
	Circle runout	Maximum	0.03 mm (0.00118 in.)
	Cam lobe height	STD Intake	42.855 to 42.955 mm (1.687 to 1.691 in.)
		STD Exhaust	42.854 to 42.954 mm (1.687 to 1.691 in.)
		Minimum Intake	42.855 mm (1.687 in.)
		Minimum Exhaust	42.854 mm (1.687 in.)
Cylinder block	Cylinder head surface warpage	Maximum	0.05 mm (0.00197 in.)
	Cylinder bore diameter	STD	94.990 to 95.003 mm (3.7398 to 3.7403 in.)
	Difference in diameter	Maximum	0.2 mm (0.00787 in.)
	Crankshaft bearing cap bolt outside diameter	STD	10.76 to 10.97 mm (0.424 to 0.432 in.)
		Minimum	10.66 mm (0.420 in.)
Piston and piston ring	Piston diameter	STD	94.955 to 94.965 mm (3.7384 to 3.7388 in.)
		O/S 0.50	95.471 to 95.481 mm (3.7587 to 3.7591 in.)
	Piston oil clearance		0.025 to 0.048 mm (0.000984 to 0.00189 in.)

	Piston ring groove clearance	No. 1	0.02 to 0.07 mm (0.000787 to 0.00276 in.)
		No. 2	0.02 to 0.06 mm (0.000787 to 0.00236 in.)
		Oil	0.06 to 0.12 mm (0.00236 to 0.00472 in.)
	Piston ring end gap	No. 1	0.30 to 0.35 mm (0.0118 to 0.0138 in.)
		No. 2	0.59 to 0.71 mm (0.0232 to 0.0280 in.)
		Oil	0.10 to 0.35 mm (0.00394 to 0.0138 in.)
	Minimum end gap	No. 1	0.90 mm (0.0354 in.)
		No. 2	1.36 mm (0.0535 in.)
		Oil	0.75 mm (0.0295 in.)
No. 1 balancshaft	Thrust clearance	Standard	0.07 to 0.13 mm (0.00276 to 0.00512 in.)
		Maximum	0.20 mm (0.00787 in.)
	Main journal diameter	A	37.969 to 37.985 mm (1.49 to 1.50 in.)
		B	37.449 to 37.465 mm (1.474 to 1.475 in.)
	Bearing inside diameter	A	38.025 to 38.045 mm (1.497 to 1.498 in.)
		B	37.525 to 37.545 mm (1.477 to 1.478 in.)
	Oil clearance	Standard A	0.040 to 0.076 mm (0.00157 to 0.00299 in.)
		B	0.060 to 0.096 mm (0.00236 to 0.00378 in.)
		Maximum	0.15 mm (0.00591 in.)
No. 2 balancshaft	Thrust clearance	Standard	0.07 to 0.13 mm (0.00276 to 0.00512 in.)
		Maximum	0.20 mm (0.00787 in.)
	Main journal diameter	A	37.969 to 37.985 mm (1.49 to 1.50 in.)
		B	37.449 to 37.465 mm (1.474 to 1.475 in.)
	Bearing inside diameter	A	38.025 to 38.045 mm (1.497 to 1.498 in.)

	Oil clearance	B	37.525 to 37.545 mm (1.477 to 1.478 in.)
		Standard A	0.040 to 0.076 mm (0.00157 to 0.00299 in.)
		B	0.060 to 0.096 mm (0.00236 to 0.00378 in.)
		Maximum	0.15 mm (0.00591 in.)
Crankshaft bearing	Lower bearing dimension	No. 1, 5	3.75 mm (0.148 in.)
		No. 3	1.75 mm (0.0689 in.)
		No. 2, 4	2.75 mm (0.108 in.)
Connecting rod	Thrust clearance	STD	0.15 to 0.35 mm (0.00591 to 0.0138 in.)
		Maximum	0.40 mm (0.0157 in.)
	Connecting rod oil clearance	STD	0.039 to 0.066 mm (0.00154 to 0.00260 in.)
		Maximum	0.066 mm (0.00260 in.)
	Connecting rod bearing center wall thickness (Reference)	Mark 4	1.487 to 1.490 mm (0.05854 to 0.05866 in.)
		5	1.491 to 1.493 mm (0.05870 to 0.05878 in.)
		6	1.494 to 1.496 mm (0.05882 to 0.05890 in.)
	Rod bend	Maximum per 100 mm (3.94 in.)	0.05 mm (0.00197 in.)
	Rod twist	Maximum per 100 mm (3.94 in.)	0.15 mm (0.00591 in.)
	Piston pin diameter	STD	21.997 to 22.009 mm (0.8660 to 0.8665 in.)
	Piston pin hole diameter	STD	22.001 to 22.010 mm (0.866 to 0.867 in.)
	Piston pin oil clearance	STD	0.001 to 0.007 mm (0.0000394 to 0.000276 in)
		Maximum	0.010 mm (0.000394 in.)
	Bush inside diameter	STD	22.005 to 22.014 mm (0.866 to 0.867 in.)
	Bush oil clearance	STD	0.005 to 0.011 mm (0.000197 to 0.000433 in)
		Maximum	0.025 mm (0.000984 in.)

	Connecting rod bolt tension portion diameter	STD	7.2 to 7.3 mm (0.283 to 0.287 in.)
		Minimum	7.0 mm (0.276 in.)
Crankshaft thrust clearance	STD		0.02 to 0.22 mm (0.000787 to 0.00866 in.)
	Maximum		0.30 mm (0.0118 in.)
	Thrust washer thickness		2.440 to 2.490 mm (0.0961 to 0.0980 in.)
Crankshaft journal bore diameter on cylinder block with bearing (Reference)	Mark A		64.004 to 64.006 mm (2.51984 to 2.51992 in.)
	Mark B		64.007 to 64.008 mm (2.51996 to 2.51999 in.)
	Mark C		64.009 to 64.010 mm (2.52003 to 2.52007 in.)
	Mark D		64.011 to 64.012 mm (2.52011 to 2.52015 in.)
	Mark E		64.013 to 64.014 mm (2.52019 to 2.52023 in.)
	Mark F		64.015 to 64.016 mm (2.52027 to 2.52031 in.)
	Mark G		64.017 to 64.018 mm (2.52035 to 2.52039 in.)
	Mark H		64.019 to 64.020 mm (2.52043 to 2.52047 in.)
	Mark J		64.021 to 64.022 mm (2.52051 to 2.52055 in.)
Crankshaft journal oil clearance	STD No. 3		0.030 to 0.044 mm (0.00118 to 0.00173 in.)
	STD Others		0.024 to 0.038 mm (0.000945 to 0.00150 in.)
	Maximum		0.10 mm (0.0039 in.)
Crankshaft journal diameter	No. 3		59.981 to 59.994 mm (2.361 to 2.362 in.)
	Others		59.987 to 60.000 mm (2.3617 to 2.3622 in.)
Crankshaft journal bore diameter	Other journal	Mark 0	59.999 to 60.000 mm (2.36216 to 2.36220 in.)
		Mark 1	59.997 to 59.998 mm (2.36208 to 2.36212 in.)
		Mark 2	59.995 to 59.996 mm (2.36200 to 2.36204 in.)

		Mark 3	59.993 to 59.994 mm (2.36192 to 2.36196 in.)
		Mark 4	59.991 to 59.992 mm (2.36185 to 2.36189 in.)
		Mark 5	59.989 to 59.990 mm (2.36177 to 2.36181 in.)
		Mark 6	59.987 to 59.988 mm (2.36169 to 2.36173 in.)
	No. 3 journal	Mark 3	59.993 to 59.994 mm (2.36192 to 2.36196 in.)
		Mark 4	59.991 to 59.992 mm (2.36185 to 2.36189 in.)
		Mark 5	59.989 to 59.990 mm (2.36177 to 2.36181 in.)
		Mark 6	59.987 to 59.988 mm (2.36169 to 2.36173 in.)
		Mark 7	59.985 to 59.986 mm (2.36161 to 2.36165 in.)
		Mark 8	59.983 to 59.984 mm (2.36153 to 2.36157 in.)
		Mark 9	59.981 to 59.982 mm (2.36145 to 2.36149 in.)
Crankshaft bearing center wall thickness (Reference)	Mark 1	1.987 to 1.990 mm (0.07823 to 0.07835 in.)	
	Mark 2	1.991 to 1.993 mm (0.07839 to 0.07846 in.)	
	Mark 3	1.994 to 1.996 mm (0.07850 to 0.07858 in.)	
	Mark 4	1.997 to 1.999 mm (0.07862 to 0.07870 in.)	
	Mark 5	2.000 to 2.002 mm (0.07874 to 0.07882 in.)	
Crank pin diameter		STD	52.989 to 53.002 mm (2.086 to 2.087 in.)
Circle runout		Maximum	0.03 mm (0.00118 in.)
Crankshaft journal taper and out-of-round		Maximum	0.005 mm (0.000197 in.)
Crank pin taper and out-of-round		Maximum	0.003 mm (0.000118 in.)



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TORQUE SPECIFICATIONS

ENGINE

PART TIGHTENED	N*M	KG*CM	FT.*LBF
Intake air connector x Cylinder head cover	8.0	82	71 in.*lbf
Intake air connector hose clamp	5.0	51	44 in.*lbf
Spark plug x Cylinder head	18	184	13

TIMING CHAIN

PART TIGHTENED		N*M	KG*CM	FT.*LBF
Balanceshaft drive gear x Cylinder block		25	250	18
No. 2 chain tensioner assembly x Cylinder block		18	184	13
No. 3 chain vibration damper x Cylinder block		18	184	13
No. 2 chain vibration damper x Cylinder block		27	275	20
No. 1 chain vibration damper x Cylinder head assembly and Cylinder block		21	214	15
Chain tensioner slipper x Cylinder block		21	214	15
No. 1 chain tensioner assembly x Cylinder head assembly		10	102	7
Timing chain guide x Cylinder head assembly		10	102	7
Oil pan sub-assembly x Cylinder block		26	265	19
No. 2 oil pan sub-assembly x Oil pan sub-assembly		9.0	92	80 in.*lbf
Oil pan drain plug x No. 2 oil pan sub-assembly		38	382	28
Oil pan cover silencer x No. 2 oil pan sub-assembly		7.0	71	62 in.*lbf
No. 1 idler pulley sub-assembly x Timing chain cover		43	438	32
No. 1 compressor mounting bracket x Cylinder block and Timing chain cover	for bolt A	43	438	32
	for bolt B	43	438	32
	for bolt C	21	214	15

CAMSHAFT

PART TIGHTENED	N*M	KG*CM	FT.*LBF
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PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Camshaft timing gear x Camshaft	78	795	58
Camshaft timing exhaust gear x No. 2 camshaft	78	795	58
Camshaft bearing cap x Cylinder head	16	158	11
No. 1 chain tensioner assembly x Cylinder head	10	102	7
Timing chain cover plate x Timing chain cover sub-assembly	9.0	92	80 in.*lbf
Cylinder head cover sub-assembly x Cylinder head assembly	9.0	92	80 in.*lbf
Ignition coil assembly x Cylinder head cover sub-assembly	9.0	92	80 in.*lbf
Battery negative terminal x Battery	5.4	55	48 in.*lbf

CYLINDER HEAD GASKET

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Cylinder head x Cylinder block	1st	39	398	29
	2nd	Turn 90°	Turn 90°	Turn 90°
	3rd	Turn 90°	Turn 90°	Turn 90°
Engine wire x Cylinder head	for bolt A	19	194	14
	for bolt B	14	143	10
Camshaft bearing cap x Cylinder head		16	158	11
Exhaust manifold x Cylinder head assembly		36	367	27

FRONT CRANKSHAFT OIL SEAL

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Crankshaft pulley x Crankshaft	260	2651	192

REAR CRANKSHAFT OIL SEAL

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Drive plate and ring gear x Crankshaft for Automatic Transmission		74	755	55
Flywheel x Crankshaft for Manual Transmission	1st	27	270	20
	2nd	Turn 90°	Turn 90°	Turn 90°

ENGINE ASSEMBLY

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
No. 1 engine hanger x Cylinder head	42	420	30
No. 1 engine mounting bracket x Cylinder block	51	520	38
No. 1 idler pulley sub-assembly x Timing chain cover	43	438	32
Ignition coil assembly x Cylinder head cover sub-assembly	9.0	92	80 in.*lbf

PART TIGHTENED	N*M	KG*CM	FT.*LBF
Ventilation pipe x Cylinder head assembly	18	184	13
No. 1 water by-pass pipe x Cylinder block	18	178	13
Oil level dipstick guide x Front No. 1 engine mounting bracket	20	204	15
Purge VSV x Intake manifold	9.0	92	80 in.*lbf
Rear end plate x Cylinder block	18	184	13
Front No. 1 engine mounting bracket x Body	50	510	37
Cooler compressor x No. 1 compressor mounting bracket	21	214	15
Suction hose x Timing chain cover	7.5	76	66 in.*lbf
Vane pump x Timing chain cover	21	214	15
Air cleaner case x Body	12	122	9
No. 1 engine under cover x Body	30	306	22
Hood x Body	13	133	10

ENGINE UNIT

PART TIGHTENED		N*M	KG*CM	FT.*LBF
Stud bolt	Stud bolt A	7.5	76	66 in.*lbf
	Stud bolt B and D	7.5	76	66 in.*lbf
	Stud bolt C	7.5	76	66 in.*lbf
Cylinder block water drain cock x Cylinder block		25	250	18
Water drain cock plug x Cylinder block water drain cock		13	130	9
No. 1 oil nozzle x Cylinder block		7.0	71	62 in.*lbf
No. 2 balancershaft driven gear x No. 2 balancershaft		36	367	27
No. 2 balancershaft x Cylinder block		18	184	13
No. 1 balancershaft driven gear x No. 1 balancershaft		36	367	27
No. 1 balancershaft x Cylinder block		18	184	13
Crankshaft x Cylinder block	1st	39	398	29
	2nd	Turn 90°	Turn 90°	Turn 90°
Connecting rod x Connecting rod cap	1st	25	250	18
	2nd	Turn 90°	Turn 90°	Turn 90°
Stud bolt	Stub bolt A	3.0	31	27 in.*lbf
	Stub bolt B	7.5	76	66 in.*lbf
	Stub bolt C	7.5	76	66 in.*lbf
	Stub bolt D	7.5	76	66 in.*lbf
No. 1 head straight screw plug x Cylinder head		44	449	32
No. 2 head straight screw plug x Cylinder head		140	1428	103

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
No. 4 chain vibration damper x Cylinder block	18	184	13
Balanceshaft drive gear x Cylinder block	25	255	18
No. 2 chain tensioner x Cylinder block	18	184	13
No. 3 chain vibration damper x Cylinder block	18	184	13
No. 2 chain vibration damper x Cylinder block	27	275	20
Oil control valve filter screw plug x Cylinder head	30	306	22
No. 1 chain vibration damper x Cylinder head assembly and cylinder block	21	214	15
Chain tensioner slipper x Cylinder block	21	214	15
No. 1 chain tensioner assembly x Cylinder head assembly	10	102	7
Timing chain guide x Cylinder head	10	102	7
Cylinder head cover connector sub-assembly x Camshaft bearing cap	10	102	7
No. 1 taper screw plug x Cylinder block	25	250	18
Oil filter bracket union x Cylinder block	25	250	18
Oil filter bracket x Cylinder block	25	255	18
Oil filter bracket x Screw plug	49	500	36
Oil filter union x Oil filter bracket	43	439	32
Engine coolant temperature sensor x Cylinder head	20	200	14
Engine oil seal retainer x Cylinder block	13	133	10
Oil pan stud bolt	3.0	31	27 in.*lbf
Oil strainer sub-assembly x Oil pan sub-assembly	10	102	7
Camshaft timing oil control valve assembly x Cylinder head cover sub-assembly	9.0	92	80 in.*lbf
Spark plug x Cylinder head assembly	18	184	13



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZH700AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2TR-FE EXHAUST: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Compression spring (Exhaust pipe assembly front x Exhaust manifold)	Free length	Minimum	40.5 mm (1.594 in.)
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Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZH800AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2TR-FE EXHAUST: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Exhaust pipe assembly front x Exhaust manifold	43	438	32
Exhaust pipe assembly front x Exhaust pipe assembly tail	48	489	35
Battery x Battery negative terminal	3.9	40	35 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZD100CX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2TR-FE FUEL: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Fuel pressure (at idle)		304 to 343 kPa (3.10 to 3.50 kgf/cm ² , 44 to 50 psi)
Fuel pressure (remains for 5 minutes after engine has stopped)		147 kPa (1.5 kgf/cm ² , 21 psi)
Fuel injector assembly	Resistance (1 - 2)	11.6 to 12.4 Ω at 20°C (68°F)
	Injection volume	82 to 99 cm ³ (5.0 to 6.0 cu in.) per 15 seconds
	Difference between each injector	17 cm ³ (1.0 cu in.) or less
	Leakage	1 drop or less in 25 minutes
Fuel pump assembly	Resistance	0.2 to 3.0 k Ω at 20°C (68°F)



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZD200BX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2TR-FE FUEL: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Fuel tank x Body	62	632	46
Fuel tank protector sub-assembly No. 1 x Body (with OFF ROAD PACKAGE)	20	204	15
Fuel delivery pipe x Cylinder head	12	122	9
Intake manifold x Purge VSV	9.0	92	80 in.*lbf
Intake manifold x Wire harness clamp bracket	8.0	82	71 in.*lbf
Fuel delivery pipe x Fuel pressure pulsation damper assembly	9.0	92	80 in.*lbf
Fuel delivery pipe x Fuel pressure regulator assembly	9.0	92	80 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZPJ00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2TR-FE IGNITION: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

IGNITION SYSTEM

Spark plug	Recommended spark plug	DENSO made	FK20HR-A8
	Electrode gap for new spark plug		0.7 to 0.8 mm (0.0276 to 0.0315 in.)
	Maximum electrode gap for used spark plug		1.1 mm (0.0433 in.)



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZO300AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2TR-FE LUBRICATION: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

LUBRICATION SYSTEM

Oil pressure	at idle speed	29 kPa (0.3 kgf/cm ² , 4.2 psi) or more
	at 3000 rpm	160 to 490 kPa (1.6 to 5.0 kgf/cm ² , 23 to 71 psi)

OIL PUMP

Oil pump	Tip clearance	STD	0.040 to 0.160 mm (0.00157 to 0.00630 in.)
		Maximum	0.260 mm (0.0102 in.)
	Body clearance	STD	0.250 to 0.325 mm (0.00984 to 0.0128 in.)
		Maximum	0.425 mm (0.0167 in.)
	Side clearance	STD	0.030 to 0.070 mm (0.00118 to 0.00276 in.)
		Minimum	0.130 mm (0.00512 in.)



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZO400AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2TR-FE LUBRICATION: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

LUBRICATION SYSTEM

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Engine oil pressure switch x Cylinder block	15	153	11
No. 1 engine under cover sub-assembly x Body	30	306	22

OIL AND OIL FILTER

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Oil filter x Oil filter bracket	17	175	13
Oil pan drain plug x No. 2 oil pan	38	382	28
No. 1 engine under cover sub-assembly x Body	30	306	22

OIL PUMP

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Oil pump cover x Timing chain cover	for bolt	9.0	91	79 in.*lbf
	for screw	10	105	8
Oil pump relief valve plug x Timing chain cover		49	500	36
Engine water pump assembly x Timing chain cover		8.9	91	79 in.*lbf
Timing chain cover x Cylinder head, Cylinder block	for bolt A	57	581	42
	for bolt B and nut	23	235	17
	for bolt C	21	214	15
	for bolt D	25	255	18
V-ribbed belt tensioner x Timing chain cover, Cylinder block	for bolt 1	40	408	30
	for bolt 2	23	235	17
Oil pan x Cylinder block, Timing chain cover		26	265	19
No. 2 oil pan x Oil pan		9.0	92	80 in.*lbf
Oil pan drain plug x No. 2 oil pan		38	382	28
Oil pan cover silencer x No. 2 oil pan		7.0	71	62 in.*lbf
Cylinder head cover sub-assembly x Cylinder head		9.0	92	80 in.*lbf
No. 1 water by-pass pipe x Timing chain cover		18	178	13
No. 1 idler pulley x Timing chain cover		43	438	32





Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZGU00MX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2TR-FE STARTING: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

STARTING SYSTEM

Starter assembly	Specified current	120 A or less at 11 V
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Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001ZGV00MX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: 2TR-FE STARTING: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

STARTING SYSTEM

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Lead wire x Terminal C	9.8	100	87 in.*lbf

STARTER

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Starter assembly x Transmission housing assembly	37	377	27
Starter wire x Starter assembly	9.8	100	87 in.*lbf
Engine wire x Cylinder block	40	408	30
Negative battery terminal x Battery	5.4	55	48 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001PMD00VX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: AC60E AUTOMATIC TRANSMISSION: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Automatic Transmission System

Line pressure (Fluid temperature): 50 to 80°C (122 to 176°F) At stall speed (Throttle valve fully open)	D position	1450 to 1740 kPa (14.8 to 17.7 kgf/cm ² , 210 to 252 psi)
	R position	1550 to 1840 kPa (15.8 to 18.8 kgf/cm ² , 225 to 267 psi)
Engine stall speed	D position	for 2GR-FKS: 2220 +/- 200 rpm for 2TR-FE: 1990 +/- 200 rpm
Time lag	N → D position	Less than 1.2 seconds
	N → R position	Less than 1.5 seconds
Shift schedule (D position)		
for 2GR-FKS: Throttle valve fully open	1 → 2	45 to 55 km/h (28 to 34 mph)
	2 → 3	90 to 105 km/h (56 to 65 mph)
	3 → 4	130 to 150 km/h (81 to 93 mph)
	4 → 5	210 to 230 km/h (130 to 143 mph)
	5 → 6	305 to 330 km/h (190 to 205 mph)
for 2TR-FE: Throttle valve fully open	1 → 2	35 to 40 km/h (22 to 25 mph)
	2 → 3	75 to 85 km/h (47 to 53 mph)
	3 → 4	110 to 125 km/h (68 to 78 mph)
	4 → 5	165 to 180 km/h (103 to 112 mph)
	5 → 6	320 to 335 km/h (198 to 208 mph)
for 2GR-FKS: Throttle valve opening 6 %	1 → 2	10 to 15 km/h (6 to 9 mph)
	2 → 3	20 to 30 km/h (12 to 19 mph)
	3 → 4	30 to 40 km/h (19 to 25 mph)
	4 → 5	45 to 55 km/h (28 to 34 mph)
	5 → 6	60 to 75 km/h (37 to 47 mph)
for 2TR-FE: Throttle valve opening 6 %	1 → 2	5 to 15 km/h (3 to 9 mph)
	2 → 3	20 to 25 km/h (12 to 16 mph)
	3 → 4	30 to 40 km/h (18 to 25 mph)

	4 → 5	50 to 60 km/h (31 to 37 mph)
	5 → 6	60 to 70 km/h (37 to 44 mph)
Manual downshift speed		
for 2GR-FKS: 5, 4, 3, 2, 1 gear range	→ 5	280 to 305 km/h (174 to 190 mph)
	→ 4	190 to 210 km/h (118 to 130 mph)
	→ 3	125 to 145 km/h (78 to 90 mph)
	→ 2	90 to 100 km/h (56 to 62 mph)
	→ 1	40 to 50 km/h (25 to 31 mph)
for 2TR-FE: 5, 4, 3, 2, 1 gear range	→ 5	240 to 255 km/h (149 to 158 mph)
	→ 4	165 to 180 km/h (103 to 112 mph)
	→ 3	110 to 120 km/h (68 to 75 mph)
	→ 2	70 to 80 km/h (43 to 50 mph)
	→ 1	35 to 40 km/h (22 to 25 mph)

NOTICE:

- All shift point values indicated in the above tables are actual values. Therefore, if checking a shift point with a chassis dynamometer, keep in mind that there is a range of error in the chassis dynamometer indication.
- If checking a shift point against the speed indicated on the speedometer, remember to consider the speedometer correction rate and range of error in the tester indication.

Extension Housing Rear Oil Seal

Automatic transmission extension housing oil seal	Standard depth	5.4 to 5.8 mm (0.213 to 0.228 in.)
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Speed Sensor

Item	Tester Connection	Condition	Specified Condition
Transmission revolution sensor (NT)	1 (NTO) - 2 (NTB)	Low signal	4 to 8 mA
		High signal	12 to 16 mA
Transmission revolution sensor (SP2)	1 (SP2O) - 2 (SP2B)	Low signal	4 to 8 mA
		High signal	12 to 16 mA

Transmission Wire

Tester Connection	Condition	Specified Condition
3 (OT+) - 4 (OT-)	Always	79 Ω to 156 kΩ
5 (OT2+) - 6 (OT2-)	Always	25 Ω to 156 kΩ
3 (OT+) - Body ground 5 (OT2+) - Body ground	Always	10 kΩ or higher
4 (OT-) - Body ground 6 (OT2-) - Body ground	Always	10 kΩ or higher
ATF Temperature		Specified Condition

10°C (50°F)	5 to 8 kΩ
25°C (77°F)	2.5 to 4.5 kΩ
110°C (230°F)	0.22 to 0.28 kΩ

Park/Neutral Position Switch

Tester Connection	Condition	Specified Condition
4 (B) - 5 (L)	Shift lever in P or N	Below 1 Ω
2 (RB) - 6 (PL)	Shift lever in P	Below 1 Ω
2 (RB) - 1 (RL)	Shift lever in R	Below 1 Ω
2 (RB) - 9 (NL)	Shift lever in N	Below 1 Ω
2 (RB) - 7 (DL)	Shift lever in D, S, "+" or "-"	Below 1 Ω
4 (B) - 5 (L)	Shift lever not in P or N	10 kΩ or higher
2 (RB) - 6 (PL)	Shift lever not in P	10 kΩ or higher
2 (RB) - 1 (RL)	Shift lever not in R	10 kΩ or higher
2 (RB) - 9 (NL)	Shift lever not in N	10 kΩ or higher
2 (RB) - 7 (DL)	Shift lever not in D, S, "+" or "-"	10 kΩ or higher

Valve Body Assembly

Item	Tester Connection	Condition	Specified Condition
Shift solenoid valve SL1, SL2, SL3, SL4, SLU and SLT	1 - 2	20°C (68°F)	5.0 to 5.6 Ω
Shift solenoid valve SL	Shift solenoid valve connector terminal - Shift solenoid valve body	20°C (68°F)	11 to 15 Ω

Pattern Select Switch

Tester Connection	Switch Condition	Specified Condition
4 (B) - 1 (E)	Pattern select switch pushed	Below 1 Ω
	Pattern select switch not pushed	10 kΩ or higher

Shift Lever

Transmission Floor Shift Assembly (w/o Smart Key System)		
Tester Connection	Condition	Specified Condition
1 (ACC) - Body ground	Ignition switch ACC	11 to 14 V
	Ignition switch off	Below 1 V
4 (IG) - Body ground	Ignition switch ON	11 to 14 V
	Ignition switch off	Below 1 V

8 (STP) - Body ground	Brake pedal depressed	11 to 14 V
	Brake pedal released	Below 1 V
7 (E) - Body ground	Always	Below 1 Ω
5 (KLS+) - Body ground	Ignition switch ACC and shift lever in P	Below 1 V
	Ignition switch ACC and shift lever not in P	11 to 14 V
Transmission Floor Shift Assembly (w/ Smart Key System)		
Tester Connection	Condition	Specified Condition
5 (IG) - Body ground	Engine switch on (IG)	11 to 14 V
	Engine switch off	Below 1 V
4 (STP) - Body ground	Brake pedal depressed	11 to 14 V
	Brake pedal released	Below 1 V
1 (E) - Body ground	Always	Below 1 Ω
Transmission Control Switch (Transmission Floor Shift Assembly)		
Tester Connection	Condition	Specified Condition
4 (IG) - 5 (S)	Shift lever in S, "+" or "-"	Below 1 Ω
	Shift lever not in S, "+" or "-"	10 k Ω or higher
3 (SFTU) - 2 (E)	Shift lever held in "+" (Up-shift)	Below 1 Ω
	Shift lever not held in "+"	10 k Ω or higher
1 (SFTD) - 2 (E)	Shift lever held in "-" (Down-shift)	Below 1 Ω
	Shift lever not held in "-"	10 k Ω or higher

Torque Converter and Drive Plate

Drive plate and ring gear sub-assembly	Maximum runout	0.30 mm (0.0118 in.)
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Automatic Transmission Unit

Direct clutch drum sub-assembly	Standard inside diameter	59.515 to 59.540 mm (2.3432 to 2.3440 in.)
Input shaft sub-assembly	Standard inside diameter	20.000 to 20.025 mm (0.7874 to 0.7883 in.)
Forward clutch hub sub-assembly	Standard inside diameter	26.037 to 26.062 mm (1.0251 to 1.0260 in.)
Sun gear input drum sub-assembly	Standard inside diameter	35.811 to 35.835 mm (1.4099 to 1.4108 in.)
Front planetary gear assembly	Standard inside diameter	35.811 to 35.835 mm (1.4099 to 1.4108 in.)
Front planetary ring gear flange sub-assembly	Standard inside diameter	54.038 to 54.063 mm (2.1275 to 2.1284 in.)
Rear planetary ring gear flange sub-assembly	Standard inside diameter	32.176 to 32.201 mm (1.2668 to 1.2677 in.)

Center planetary gear assembly	Standard clearance	0.12 to 0.68 mm (0.00473 to 0.0267 in.)
Rear planetary gear assembly	Standard clearance (Rear planetary gear pinion thrust clearance)	0.2 to 0.6 mm (0.00788 to 0.0236 in.)
	Standard inside diameter (Rear planetary gear bushing)	20.000 to 20.025 mm (0.7874 to 0.7883 in.)
Intermediate shaft	Standard runout	0.03 mm (0.00118 in.)
	Standard diameter	A: 32.062 to 32.075 mm (1.2623 to 1.2627 in.) B: 25.962 to 25.975 mm (1.0222 to 1.0226 in.) C: 19.963 to 19.976 mm (0.7860 to 0.7864 in.)
Forward clutch return spring sub-assembly	Standard free length	26.74 mm (1.053 in.)
Direct clutch return spring sub-assembly	Standard free length	22.14 mm (0.872 in.)
No. 1 brake piston return spring sub-assembly	Standard free length	16.72 mm (0.658 in.)
No. 2 brake piston return spring sub-assembly	Standard free length	16.68 mm (0.657 in.)
1st and reverse brake return spring sub-assembly	Standard free length	23.74 mm (0.935 in.)
Pack clearance of No. 1 clutch (Forward clutch)	Standard clearance	0.75 to 1.05 mm (0.0296 to 0.0413 in.)
Forward clutch flange thickness	Part No. 35635-04010	3.0 mm (0.118 in.)
	Part No. 35635-04020	3.1 mm (0.122 in.)
	Part No. 35635-04030	3.2 mm (0.126 in.)
	Part No. 35635-04040	3.3 mm (0.130 in.)
	Part No. 35635-04050	3.4 mm (0.134 in.)
	Part No. 35635-04060	3.5 mm (0.138 in.)
	Part No. 35635-04070	3.6 mm (0.142 in.)
	Part No. 35635-04080	3.7 mm (0.146 in.)

	Part No. 35635-04090	3.8 mm (0.150 in.)
	Part No. 35635-04100	3.9 mm (0.154 in.)
	Part No. 35635-04110	4.0 mm (0.157 in.)
	Part No. 35635-04120	4.1 mm (0.161 in.)
	Part No. 35635-04130	4.2 mm (0.165 in.)
Pack clearance of No. 2 clutch (Direct clutch)	Standard clearance	for 2GR-FKS: 0.5 to 0.8 mm (0.0197 to 0.0314 in.) for 2TR-FE: 0.4 to 0.7 mm (0.0158 to 0.0275 in.)
Direct clutch flange thickness	Part No. 35675-04010	3.0 mm (0.118 in.)
	Part No. 35675-04020	3.1 mm (0.122 in.)
	Part No. 35675-04030	3.2 mm (0.126 in.)
	Part No. 35675-04040	3.3 mm (0.130 in.)
	Part No. 35675-04050	3.4 mm (0.134 in.)
	Part No. 35675-04060	3.5 mm (0.138 in.)
	Part No. 35675-04070	3.6 mm (0.142 in.)
	Part No. 35675-04080	3.7 mm (0.146 in.)
	Part No. 35675-04090	3.8 mm (0.150 in.)
Pack clearance of No. 1 brake	Standard clearance	for 2GR-FKS: 0.4 to 0.7 mm (0.0158 to 0.0275 in.) for 2TR-FE: 0.3 to 0.6 mm (0.0119 to 0.0236 in.)
No. 1 brake flange thickness	Mark 0	4.9 mm (0.193 in.)

	Mark 1	5.0 mm (0.197 in.)
	Mark 2	5.1 mm (0.201 in.)
	Mark 3	5.2 mm (0.205 in.)
	Mark 4	5.3 mm (0.209 in.)
	Mark 5	5.4 mm (0.213 in.)
	Mark 6	5.5 mm (0.217 in.)
	Mark 7	5.6 mm (0.220 in.)
	Mark 8	5.7 mm (0.224 in.)
	Mark A	5.8 mm (0.228 in.)
Pack clearance of No. 2 brake	Standard clearance	for 2GR-FKS: 0.5 to 0.8 mm (0.0197 to 0.0314 in.) for 2TR-FE: 0.4 to 0.7 mm (0.0158 to 0.0275 in.)
No. 2 brake flange thickness	Mark 0	2.0 mm (0.0787 in.)
	Mark 1	2.1 mm (0.0827 in.)
	Mark 2	2.2 mm (0.0866 in.)
	Mark 3	2.3 mm (0.0906 in.)
	Mark 4	2.4 mm (0.0945 in.)
	Mark 5	2.5 mm (0.0984 in.)
	Mark 6	2.6 mm (0.102 in.)
	Mark 7	2.7 mm (0.106 in.)
	Mark 8	2.8 mm (0.110 in.)

Pack clearance of No. 4 brake	Standard clearance	for 2GR-FKS: 0.7 to 1.0 mm (0.0276 to 0.0393 in.) for 2TR-FE: 0.5 to 0.8 mm (0.0197 to 0.0314 in.)
No. 4 brake flange thickness	Mark 0	1.8 mm (0.0709 in.)
	Mark 2	2.0 mm (0.0787 in.)
	Mark 4	2.2 mm (0.0866 in.)
	Mark 6	2.4 mm (0.0945 in.)
	Mark 8	2.6 mm (0.102 in.)
	Mark 10	2.8 mm (0.110 in.)
	Mark 12	3.0 mm (0.118 in.)
	Mark 14	3.2 mm (0.126 in.)
Manual valve lever shaft oil seal	Standard depth	-0.5 to 0.5 mm (-0.0196 to 0.0196 in.)
Automatic transmission extension housing oil seal	Standard depth	5.4 to 5.8 mm (0.213 to 0.228 in.)

Oil Pump

Front oil pump body sub-assembly	Maximum inside diameter	38.138 mm (1.50 in.)
Stator shaft assembly	Maximum inside diameter	22.227 mm (0.875 in.)
Oil pump assembly	Standard body clearance	0.10 to 0.17 mm (0.00394 to 0.00669 in.)
	Standard tip clearance	0.07 to 0.15 mm (0.00276 to 0.00590 in.)
	Standard side clearance	0.03 to 0.05 mm (0.00118 to 0.00196 in.)
Front oil pump oil seal	Standard Depth	-0.3 to 0.3 mm (-0.0118 to 0.0118 in.)



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001PME00XX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: AC60E AUTOMATIC TRANSMISSION: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

Automatic Transmission Fluid

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Drain plug x Automatic transmission assembly	20	204	15
Overflow plug x Automatic transmission assembly	20	204	15
Refill plug x Automatic transmission assembly	39	400	29

Speed Sensor

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Transmission revolution sensor (NT) x Automatic transmission assembly	5.4	55	48 in.*lbf
Transmission revolution sensor (SP2) x Automatic transmission assembly	5.4	55	48 in.*lbf

Transmission Wire

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Drain plug x Automatic transmission assembly		20	204	15
Transmission wire x Automatic transmission assembly		5.4	55	48 in.*lbf
Transmission insulator RH x Automatic transmission assembly		14	143	10
Wire harness clamp bracket x Transmission insulator RH		13	127	9
Temperature sensor clamp x Transmission valve body assembly	Bolt A	10	102	7
	Bolt B	11	112	8
Automatic transmission oil pan sub-assembly x Automatic transmission assembly		7.4	75	65 in.*lbf

Park / Neutral Position Switch

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Park/neutral position switch x Automatic transmission assembly	Bolt	13	130	9
	Nut	6.9	70	61 in.*lbf
Water by-pass pipe x Automatic transmission assembly		21	214	15

Valve Body Assembly

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Shift solenoid valve SL x Transmission valve body assembly	6.4	65	57 in.*lbf
Solenoid lock plate x Transmission valve body assembly	6.4	65	57 in.*lbf

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Transmission valve body assembly x Automatic transmission assembly	11	112	8
Detent spring x Transmission valve body assembly	10	102	7
Valve body oil strainer assembly x Transmission valve body assembly	10	102	7

Oil Cooler (for 2GR-FKS)

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Oil cooler bracket x Oil cooler assembly	5.5	56	49 in.*lbf
Oil cooler assembly x Vehicle body	5.5	56	49 in.*lbf
No.1 oil cooler tube sub-assembly x Oil cooler bracket	5.5	56	49 in.*lbf
Oil cooler tube x Vehicle body	28	286	21
Oil cooler tube clamp x Automatic transmission assembly	14	143	10
Oil cooler tube clamp x Engine assembly	14	143	10
Flexible hose clamp x Oil cooler tube clamp	5.5	56	49 in.*lbf
Transmission oil cooler assembly x Transmission oil thermostat	14	143	10
Transmission oil thermostat x Automatic transmission assembly	21	214	15
No. 1 engine under cover sub-assembly x Vehicle body	30	306	22
No. 2 engine under cover sub-assembly x Vehicle body	30	306	22

Oil Cooler (for 2TR-FE)

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Oil cooler tube x Vehicle body	28	286	21
Oil cooler tube clamp x Engine assembly	Bolt A	14	143
	Bolt B	28	286
Oil cooler tube clamp x Oil cooler tube clamp	5.5	56	49 in.*lbf
Flexible hose clamp x Automatic transmission assembly	14	143	10
No. 1 oil cooler inlet tube and No. 1 oil cooler outlet tube x Automatic transmission assembly	without union nut wrench	34	350
	with union nut wrench	29	300
No. 1 engine under cover sub-assembly x Vehicle body	30	306	22

Shift Lever

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Transmission floor shift assembly x Vehicle body	14	143	10

Automatic Transmission Assembly (for 2GR-FKS)

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Transmission oil pan heat insulator x Automatic transmission assembly		14	143	10
Transmission control cable bracket x Automatic transmission assembly		28	286	21
Transmission breather bracket x Automatic transmission assembly		6.5	66	58 in.*lbf
Transmission oil cooler assembly x Automatic transmission assembly		21	214	15
Automatic transmission assembly x Engine assembly	Bolt A	37	377	27
	Bolt B	71	724	52
Wire harness clamp bracket x Automatic transmission assembly		8.0	82	71 in.*lbf
Rear engine mounting insulator x Automatic transmission assembly		58	591	43
No. 3 frame crossmember sub-assembly x Vehicle body		40	408	30
No. 3 frame crossmember sub-assembly x Rear engine mounting insulator		21	214	15
Front suspension member bracket LH and RH x No. 3 frame crossmember sub-assembly and vehicle body		33	337	24
Water by-pass pipe x Automatic transmission assembly		21	214	15
Oil cooler tube x Automatic transmission assembly and Engine assembly		14	143	10
Transmission control cable assembly x Transmission control shaft lever LH		14	143	10
Drive plate and torque converter assembly setting bolt x Torque converter assembly		48	489	35
Negative (-) battery terminal x Battery		5.4	55	48 in.*lbf
No. 1 engine under cover sub-assembly x Vehicle body		30	306	22
No. 2 engine under cover sub-assembly x Vehicle body		30	306	22

Automatic Transmission Assembly (for 2TR-FE)

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Transmission oil pan heat insulator x Automatic transmission assembly		14	143	10
Transmission control cable bracket x Automatic transmission assembly		28	286	21
Transmission breather bracket x Automatic transmission assembly		6.5	66	58 in.*lbf
Automatic transmission assembly x Engine assembly	Bolt A	37	377	27
	Bolt B	71	724	52
Rear engine mounting insulator x Automatic transmission assembly		58	591	43
Wire harness clamp bracket x Automatic transmission assembly		8.0	82	71 in.*lbf
No. 3 frame crossmember sub-assembly x Vehicle body		40	408	30
No. 3 frame crossmember sub-assembly x Rear engine mounting insulator		21	214	15

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Front suspension member bracket LH and RH x No. 3 frame crossmember sub-assembly and vehicle body		33	337	24
Oil cooler tube x Engine assembly		5.5	56	49 in.*lbf
Flexible hose clamp x Automatic transmission assembly		14	143	10
No. 1 oil cooler inlet tube and No. 1 oil cooler outlet tube x Automatic transmission assembly	without union nut wrench	34	350	25
	with union nut wrench	29	300	22
Transmission control cable assembly x Transmission control shaft lever LH		14	143	10
Manifold stay x Automatic transmission assembly and exhaust manifold	Bolt A	30	306	22
	Bolt B	44	449	32
	Bolt C	71	724	52
Drive plate and torque converter assembly setting bolt x Torque converter assembly		48	489	35
Negative (-) battery terminal x Battery		5.4	55	48 in.*lbf
No. 1 engine under cover sub-assembly x Vehicle body		30	306	22

Transmission Control Cable

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Transmission control cable assembly x Vehicle body		5.5	56	49 in.*lbf
Transmission control cable assembly x Transmission control shaft lever LH		14	143	10

Automatic Transmission Unit

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Oil pump assembly x Automatic transmission case sub-assembly		21	215	16
Parking lock pawl bracket x Automatic transmission case sub-assembly		18	184	13
Transmission valve body assembly x Automatic transmission case sub-assembly		11	112	8
Detent spring x Transmission valve body assembly		10	102	7
Valve body oil strainer assembly x Transmission valve body assembly		10	102	7
Transmission wire x Automatic transmission case sub-assembly		5.4	55	48 in.*lbf
Temperature sensor clamp x Transmission valve body assembly	Bolt A	10	102	7
	Bolt B	11	112	8
Automatic transmission oil pan sub-assembly x Automatic transmission case sub-assembly		7.4	75	65 in.*lbf
Drain plug x Automatic transmission oil pan sub-assembly		20	204	15
Overflow plug x Automatic transmission oil pan sub-assembly		20	204	15

PART TIGHTENED		N*M	KG*CM	FT.*LBF
Automatic transmission housing x Automatic transmission case sub-assembly	M10 bolt	34	346	25
	M12 bolt	57	579	42
Extension housing sub-assembly x Automatic transmission case sub-assembly		34	346	25
Oil cooler tube union x Automatic transmission case sub-assembly (for 2GR-FKS)	without SST	31	317	23
	with SST	26	266	19
Oil cooler tube union x Automatic transmission case sub-assembly (for 2TR-FE)	without SST	29	300	22
	with SST	25	252	18
Automatic transmission case plug x Automatic transmission case sub-assembly		7.4	75	65 in.*lbf
Automatic transmission case plug (TORX) x Automatic transmission case sub-assembly		39	400	29
Refill plug x Extension housing sub-assembly		39	400	29
Park/neutral position switch x Automatic transmission case sub-assembly	Bolt	13	131	9
	Nut	6.9	70	61 in.*lbf
Transmission control shaft lever LH x Manual valve lever shaft		16	160	12
Transmission revolution sensor (NT) x Automatic transmission case sub-assembly		5.4	55	48 in.*lbf
Transmission revolution sensor (SP2) x Automatic transmission case sub-assembly		5.4	55	48 in.*lbf

Oil Pump

PART TIGHTENED		N*M	KG*CM	FT.*LBF
Stator shaft assembly x Front oil pump body sub-assembly		11	110	8
Front oil pump plate x Stator shaft assembly		11	110	8



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Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: AC60F AUTOMATIC TRANSMISSION: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Automatic Transmission System

Line pressure (Fluid temperature): 50 to 80°C (122 to 176°F) At stall speed (Throttle valve fully open)	D position	1450 to 1740 kPa (14.8 to 17.7 kgf/cm ² , 210 to 252 psi)
	R position	1550 to 1840 kPa (15.8 to 18.8 kgf/cm ² , 225 to 267 psi)
Engine stall speed	D position	for 2GR-FKS: 2220 +/- 200 rpm for 2TR-FE: 1990 +/- 200 rpm
Time lag	N → D position	Less than 1.2 seconds
	N → R position	Less than 1.5 seconds
Shift schedule (D position)		
for 2GR-FKS: Throttle valve fully open	1 → 2	45 to 55 km/h (28 to 34 mph)
	2 → 3	90 to 105 km/h (56 to 65 mph)
	3 → 4	130 to 150 km/h (81 to 93 mph)
	4 → 5	210 to 230 km/h (130 to 143 mph)
	5 → 6	305 to 330 km/h (190 to 205 mph)
for 2TR-FE: Throttle valve fully open	1 → 2	35 to 40 km/h (22 to 25 mph)
	2 → 3	75 to 85 km/h (47 to 53 mph)
	3 → 4	110 to 125 km/h (68 to 78 mph)
	4 → 5	165 to 180 km/h (103 to 112 mph)
	5 → 6	320 to 335 km/h (198 to 208 mph)
for 2GR-FKS: Throttle valve opening 6 %	1 → 2	10 to 15 km/h (6 to 9 mph)
	2 → 3	20 to 30 km/h (12 to 19 mph)
	3 → 4	30 to 40 km/h (19 to 25 mph)
	4 → 5	45 to 55 km/h (28 to 34 mph)
	5 → 6	60 to 75 km/h (37 to 47 mph)
for 2TR-FE: Throttle valve opening 6 %	1 → 2	5 to 15 km/h (3 to 9 mph)
	2 → 3	20 to 25 km/h (12 to 16 mph)
	3 → 4	30 to 40 km/h (18 to 25 mph)

	4 → 5	50 to 60 km/h (31 to 37 mph)
	5 → 6	60 to 70 km/h (37 to 44 mph)
Manual downshift speed		
for 2GR-FKS: 5, 4, 3, 2, 1 gear range	→ 5	280 to 305 km/h (174 to 190 mph)
	→ 4	190 to 210 km/h (118 to 130 mph)
	→ 3	125 to 145 km/h (78 to 90 mph)
	→ 2	90 to 100 km/h (56 to 62 mph)
	→ 1	40 to 50 km/h (25 to 31 mph)
for 2TR-FE: 5, 4, 3, 2, 1 gear range	→ 5	240 to 255 km/h (149 to 158 mph)
	→ 4	165 to 180 km/h (103 to 112 mph)
	→ 3	110 to 120 km/h (68 to 75 mph)
	→ 2	70 to 80 km/h (43 to 50 mph)
	→ 1	35 to 40 km/h (22 to 25 mph)

NOTICE:

- All shift point values indicated in the above tables are actual values. Therefore, if checking a shift point with a chassis dynamometer, keep in mind that there is a range of error in the chassis dynamometer indication.
- If checking a shift point against the speed indicated on the speedometer, remember to consider the speedometer correction rate and range of error in the tester indication.

Transfer Adapter Oil Seal

Transfer adapter oil seal	Standard depth	0 to 0.5 mm (0 to 0.0196 in.)
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Speed Sensor

Item	Tester Connection	Condition	Specified Condition
Transmission revolution sensor (NT)	1 (NTO) - 2 (NTB)	Low signal	4 to 8 mA
		High signal	12 to 16 mA
Transmission revolution sensor (SP2)	1 (SP2O) - 2 (SP2B)	Low signal	4 to 8 mA
		High signal	12 to 16 mA

Transmission Wire

Tester Connection	Condition	Specified Condition
3 (OT+) - 4 (OT-)	Always	79 Ω to 156 kΩ
5 (OT2+) - 6 (OT2-)	Always	25 Ω to 156 kΩ
3 (OT+) - Body ground 5 (OT2+) - Body ground	Always	10 kΩ or higher
4 (OT-) - Body ground 6 (OT2-) - Body ground	Always	10 kΩ or higher
ATF Temperature		Specified Condition

10°C (50°F)	5 to 8 kΩ
25°C (77°F)	2.5 to 4.5 kΩ
110°C (230°F)	0.22 to 0.28 kΩ

Park/Neutral Position Switch

Tester Connection	Condition	Specified Condition
4 (B) - 5 (L)	Shift lever in P or N	Below 1 Ω
2 (RB) - 6 (PL)	Shift lever in P	Below 1 Ω
2 (RB) - 1 (RL)	Shift lever in R	Below 1 Ω
2 (RB) - 9 (NL)	Shift lever in N	Below 1 Ω
2 (RB) - 7 (DL)	Shift lever in D, S, "+" or "-"	Below 1 Ω
4 (B) - 5 (L)	Shift lever not in P or N	10 kΩ or higher
2 (RB) - 6 (PL)	Shift lever not in P	10 kΩ or higher
2 (RB) - 1 (RL)	Shift lever not in R	10 kΩ or higher
2 (RB) - 9 (NL)	Shift lever not in N	10 kΩ or higher
2 (RB) - 7 (DL)	Shift lever not in D, S, "+" or "-"	10 kΩ or higher

Valve Body Assembly

Item	Tester Connection	Condition	Specified Condition
Shift solenoid valve SL1, SL2, SL3, SL4, SLU and SLT	1 - 2	20°C (68°F)	5.0 to 5.6 Ω
Shift solenoid valve SL	Shift solenoid valve connector terminal - Shift solenoid valve body	20°C (68°F)	11 to 15 Ω

Pattern Select Switch

Tester Connection	Switch Condition	Specified Condition
4 (B) - 1 (E)	Pattern select switch pushed	Below 1 Ω
	Pattern select switch not pushed	10 kΩ or higher

Shift Lever

Transmission Floor Shift Assembly (w/o Smart Key System)		
Tester Connection	Condition	Specified Condition
1 (ACC) - Body ground	Ignition switch ACC	11 to 14 V
	Ignition switch off	Below 1 V
4 (IG) - Body ground	Ignition switch ON	11 to 14 V
	Ignition switch off	Below 1 V

8 (STP) - Body ground	Brake pedal depressed	11 to 14 V
	Brake pedal released	Below 1 V
7 (E) - Body ground	Always	Below 1 Ω
5 (KLS+) - Body ground	Ignition switch ACC and shift lever in P	Below 1 V
	Ignition switch ACC and shift lever not in P	11 to 14 V
Transmission Floor Shift Assembly (w/ Smart Key System)		
Tester Connection	Condition	Specified Condition
5 (IG) - Body ground	Engine switch on (IG)	11 to 14 V
	Engine switch off	Below 1 V
4 (STP) - Body ground	Brake pedal depressed	11 to 14 V
	Brake pedal released	Below 1 V
1 (E) - Body ground	Always	Below 1 Ω
Transmission Control Switch (Transmission Floor Shift Assembly)		
Tester Connection	Condition	Specified Condition
4 (IG) - 5 (S)	Shift lever in S, "+" or "-"	Below 1 Ω
	Shift lever not in S, "+" or "-"	10 k Ω or higher
3 (SFTU) - 2 (E)	Shift lever held in "+" (Up-shift)	Below 1 Ω
	Shift lever not held in "+"	10 k Ω or higher
1 (SFTD) - 2 (E)	Shift lever held in "-" (Down-shift)	Below 1 Ω
	Shift lever not held in "-"	10 k Ω or higher

Torque Converter and Drive Plate

Drive plate and ring gear sub-assembly	Maximum runout	0.30 mm (0.0118 in.)
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Automatic Transmission Unit

Direct clutch drum sub-assembly	Standard inside diameter	59.515 to 59.540 mm (2.3432 to 2.3440 in.)
Input shaft sub-assembly	Standard inside diameter	20.000 to 20.025 mm (0.7874 to 0.7883 in.)
Forward clutch hub sub-assembly	Standard inside diameter	26.037 to 26.062 mm (1.0251 to 1.0260 in.)
Sun gear input drum sub-assembly	Standard inside diameter	35.811 to 35.835 mm (1.4099 to 1.4108 in.)
Front planetary gear assembly	Standard inside diameter	35.811 to 35.835 mm (1.4099 to 1.4108 in.)
Front planetary ring gear flange sub-assembly	Standard inside diameter	54.038 to 54.063 mm (2.1275 to 2.1284 in.)
Rear planetary ring gear flange sub-assembly	Standard inside diameter	32.176 to 32.201 mm (1.2668 to 1.2677 in.)

Center planetary gear assembly	Standard clearance	0.12 to 0.68 mm (0.00473 to 0.0267 in.)
Rear planetary gear assembly	Standard clearance (Rear planetary gear pinion thrust clearance)	0.2 to 0.6 mm (0.00788 to 0.0236 in.)
	Standard inside diameter (Rear planetary gear bushing)	20.000 to 20.025 mm (0.7874 to 0.7883 in.)
Intermediate shaft	Standard runout	0.03 mm (0.00118 in.)
	Standard diameter	A: 32.062 to 32.075 mm (1.2623 to 1.2627 in.) B: 25.962 to 25.975 mm (1.0222 to 1.0226 in.) C: 19.963 to 19.976 mm (0.7860 to 0.7864 in.)
Forward clutch return spring sub-assembly	Standard free length	26.74 mm (1.053 in.)
Direct clutch return spring sub-assembly	Standard free length	22.14 mm (0.872 in.)
No. 1 brake piston return spring sub-assembly	Standard free length	16.72 mm (0.658 in.)
No. 2 brake piston return spring sub-assembly	Standard free length	16.68 mm (0.657 in.)
1st and reverse brake return spring sub-assembly	Standard free length	23.74 mm (0.935 in.)
Pack clearance of No. 1 clutch (Forward clutch)	Standard clearance	0.75 to 1.05 mm (0.0296 to 0.0413 in.)
Forward clutch flange thickness	Part No. 35635-04010	3.0 mm (0.118 in.)
	Part No. 35635-04020	3.1 mm (0.122 in.)
	Part No. 35635-04030	3.2 mm (0.126 in.)
	Part No. 35635-04040	3.3 mm (0.130 in.)
	Part No. 35635-04050	3.4 mm (0.134 in.)
	Part No. 35635-04060	3.5 mm (0.138 in.)
	Part No. 35635-04070	3.6 mm (0.142 in.)
	Part No. 35635-04080	3.7 mm (0.146 in.)

	Part No. 35635-04090	3.8 mm (0.150 in.)
	Part No. 35635-04100	3.9 mm (0.154 in.)
	Part No. 35635-04110	4.0 mm (0.157 in.)
	Part No. 35635-04120	4.1 mm (0.161 in.)
	Part No. 35635-04130	4.2 mm (0.165 in.)
Pack clearance of No. 2 clutch (Direct clutch)	Standard clearance	for 2GR-FKS: 0.5 to 0.8 mm (0.0197 to 0.0314 in.) for 2TR-FE: 0.4 to 0.7 mm (0.0158 to 0.0275 in.)
Direct clutch flange thickness	Part No. 35675-04010	3.0 mm (0.118 in.)
	Part No. 35675-04020	3.1 mm (0.122 in.)
	Part No. 35675-04030	3.2 mm (0.126 in.)
	Part No. 35675-04040	3.3 mm (0.130 in.)
	Part No. 35675-04050	3.4 mm (0.134 in.)
	Part No. 35675-04060	3.5 mm (0.138 in.)
	Part No. 35675-04070	3.6 mm (0.142 in.)
	Part No. 35675-04080	3.7 mm (0.146 in.)
	Part No. 35675-04090	3.8 mm (0.150 in.)
Pack clearance of No. 1 brake	Standard clearance	for 2GR-FKS: 0.4 to 0.7 mm (0.0158 to 0.0275 in.) for 2TR-FE: 0.3 to 0.6 mm (0.0119 to 0.0236 in.)
No. 1 brake flange thickness	Mark 0	4.9 mm (0.193 in.)

	Mark 1	5.0 mm (0.197 in.)
	Mark 2	5.1 mm (0.201 in.)
	Mark 3	5.2 mm (0.205 in.)
	Mark 4	5.3 mm (0.209 in.)
	Mark 5	5.4 mm (0.213 in.)
	Mark 6	5.5 mm (0.217 in.)
	Mark 7	5.6 mm (0.220 in.)
	Mark 8	5.7 mm (0.224 in.)
	Mark A	5.8 mm (0.228 in.)
Pack clearance of No. 2 brake	Standard clearance	for 2GR-FKS: 0.5 to 0.8 mm (0.0197 to 0.0314 in.) for 2TR-FE: 0.4 to 0.7 mm (0.0158 to 0.0275 in.)
No. 2 brake flange thickness	Mark 0	2.0 mm (0.0787 in.)
	Mark 1	2.1 mm (0.0827 in.)
	Mark 2	2.2 mm (0.0866 in.)
	Mark 3	2.3 mm (0.0906 in.)
	Mark 4	2.4 mm (0.0945 in.)
	Mark 5	2.5 mm (0.0984 in.)
	Mark 6	2.6 mm (0.102 in.)
	Mark 7	2.7 mm (0.106 in.)
	Mark 8	2.8 mm (0.110 in.)

Pack clearance of No. 4 brake	Standard clearance	for 2GR-FKS: 0.7 to 1.0 mm (0.0276 to 0.0393 in.) for 2TR-FE: 0.5 to 0.8 mm (0.0197 to 0.0314 in.)
No. 4 brake flange thickness	Mark 0	1.8 mm (0.0709 in.)
	Mark 2	2.0 mm (0.0787 in.)
	Mark 4	2.2 mm (0.0866 in.)
	Mark 6	2.4 mm (0.0945 in.)
	Mark 8	2.6 mm (0.102 in.)
	Mark 10	2.8 mm (0.110 in.)
	Mark 12	3.0 mm (0.118 in.)
Manual valve lever shaft oil seal	Standard depth	-0.5 to 0.5 mm (-0.0196 to 0.0196 in.)
Transfer adapter oil seal	Standard depth	0 to 0.5 mm (0 to 0.0196 in.)

Oil Pump

Front oil pump body sub-assembly	Maximum inside diameter	38.138 mm (1.50 in.)
Stator shaft assembly	Maximum inside diameter	22.227 mm (0.875 in.)
Oil pump assembly	Standard body clearance	0.10 to 0.17 mm (0.00394 to 0.00669 in.)
	Standard tip clearance	0.07 to 0.15 mm (0.00276 to 0.00590 in.)
	Standard side clearance	0.03 to 0.05 mm (0.00118 to 0.00196 in.)
Front oil pump oil seal	Standard Depth	-0.3 to 0.3 mm (-0.0118 to 0.0118 in.)



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Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: AC60F AUTOMATIC TRANSMISSION: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

Automatic Transmission Fluid

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Drain plug x Automatic transmission assembly	20	204	15
Overflow plug x Automatic transmission assembly	20	204	15
Refill plug x Automatic transmission assembly	39	400	29

Speed Sensor

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Transmission revolution sensor (NT) x Automatic transmission assembly	5.4	55	48 in.*lbf
Transmission revolution sensor (SP2) x Automatic transmission assembly	5.4	55	48 in.*lbf

Transmission Wire

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Drain plug x Automatic transmission assembly		20	204	15
Transmission wire x Automatic transmission assembly		5.4	55	48 in.*lbf
Transmission insulator RH x Automatic transmission assembly		14	143	10
Wire harness clamp bracket x Transmission insulator RH		13	127	9
Temperature sensor clamp x Transmission valve body assembly	Bolt A	10	102	7
	Bolt B	11	112	8
Automatic transmission oil pan sub-assembly x Automatic transmission assembly		7.4	75	65 in.*lbf

Park / Neutral Position Switch

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Park/neutral position switch x Automatic transmission assembly	Bolt	13	130	9
	Nut	6.9	70	61 in.*lbf
Water by-pass pipe x Automatic transmission assembly		21	214	15

Valve Body Assembly

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Shift solenoid valve SL x Transmission valve body assembly	6.4	65	57 in.*lbf
Solenoid lock plate x Transmission valve body assembly	6.4	65	57 in.*lbf

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Transmission valve body assembly x Automatic transmission assembly	11	112	8
Detent spring x Transmission valve body assembly	10	102	7
Valve body oil strainer assembly x Transmission valve body assembly	10	102	7

Oil Cooler (for 2GR-FKS)

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Oil cooler bracket x Oil cooler assembly	5.5	56	49 in.*lbf
Oil cooler assembly x Vehicle body	5.5	56	49 in.*lbf
No.1 oil cooler tube sub-assembly x Oil cooler bracket	5.5	56	49 in.*lbf
Oil cooler tube x Vehicle body	28	286	21
Oil cooler tube clamp x Automatic transmission assembly	14	143	10
Oil cooler tube clamp x Engine assembly	14	143	10
Flexible hose clamp x Oil cooler tube clamp	5.5	56	49 in.*lbf
Transmission oil cooler assembly x Transmission oil thermostat	14	143	10
Transmission oil thermostat x Automatic transmission assembly	21	214	15
No. 1 engine under cover sub-assembly x Vehicle body	30	306	22
No. 2 engine under cover sub-assembly x Vehicle body	30	306	22

Oil Cooler (for 2TR-FE)

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Oil cooler tube x Vehicle body	28	286	21
Oil cooler tube clamp x Engine assembly	Bolt A	14	143
	Bolt B	28	286
Oil cooler tube clamp x Oil cooler tube clamp	5.5	56	49 in.*lbf
Flexible hose clamp x Automatic transmission assembly	14	143	10
No. 1 oil cooler inlet tube and No. 1 oil cooler outlet tube x Automatic transmission assembly	without union nut wrench	34	350
	with union nut wrench	29	300
No. 1 engine under cover sub-assembly x Vehicle body	30	306	22

Shift Lever

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Transmission floor shift assembly x Vehicle body	14	143	10

Automatic Transmission Assembly (for 2GR-FKS)

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Transmission oil pan heat insulator x Automatic transmission assembly		14	143	10
Transmission control cable bracket x Automatic transmission assembly		28	286	21
Transmission breather bracket x Automatic transmission assembly		6.5	66	58 in.*lbf
Transmission oil cooler assembly x Automatic transmission assembly		21	214	15
Automatic transmission assembly x Engine assembly	Bolt A	37	377	27
	Bolt B	71	724	52
Wire harness clamp bracket x Automatic transmission assembly		8.0	82	71 in.*lbf
Rear engine mounting insulator x Automatic transmission assembly		58	591	43
No. 3 frame crossmember sub-assembly x Vehicle body		40	408	30
No. 3 frame crossmember sub-assembly x Rear engine mounting insulator		21	214	15
Front suspension member bracket LH and RH x No. 3 frame crossmember sub-assembly and vehicle body		33	337	24
Water by-pass pipe x Automatic transmission assembly		21	214	15
Oil cooler tube x Automatic transmission assembly and Engine assembly		14	143	10
Transmission control cable assembly x Transmission control shaft lever LH		14	143	10
Drive plate and torque converter assembly setting bolt x Torque converter assembly		48	489	35
Negative (-) battery terminal x Battery		5.4	55	48 in.*lbf
No. 1 engine under cover sub-assembly x Vehicle body		30	306	22
No. 2 engine under cover sub-assembly x Vehicle body		30	306	22

Automatic Transmission Assembly (for 2TR-FE)

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Transmission oil pan heat insulator x Automatic transmission assembly		14	143	10
Transmission control cable bracket x Automatic transmission assembly		28	286	21
Transmission breather bracket x Automatic transmission assembly		6.5	66	58 in.*lbf
Automatic transmission assembly x Engine assembly	Bolt A	37	377	27
	Bolt B	71	724	52
Rear engine mounting insulator x Automatic transmission assembly		58	591	43
Wire harness clamp bracket x Automatic transmission assembly		8.0	82	71 in.*lbf
No. 3 frame crossmember sub-assembly x Vehicle body		40	408	30
No. 3 frame crossmember sub-assembly x Rear engine mounting insulator		21	214	15

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Front suspension member bracket LH and RH x No. 3 frame crossmember sub-assembly and vehicle body		33	337	24
Oil cooler tube x Engine assembly		5.5	56	49 in.*lbf
Flexible hose clamp x Automatic transmission assembly		14	143	10
No. 1 oil cooler inlet tube and No. 1 oil cooler outlet tube x Automatic transmission assembly	without union nut wrench	34	350	25
	with union nut wrench	29	300	22
Transmission control cable assembly x Transmission control shaft lever LH		14	143	10
Manifold stay x Automatic transmission assembly and exhaust manifold	Bolt A	30	306	22
	Bolt B	44	449	32
	Bolt C	71	724	52
Drive plate and torque converter assembly setting bolt x Torque converter assembly		48	489	35
Negative (-) battery terminal x Battery		5.4	55	48 in.*lbf
No. 1 engine under cover sub-assembly x Vehicle body		30	306	22

Transmission Control Cable

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Transmission control cable assembly x Vehicle body		5.5	56	49 in.*lbf
Transmission control cable assembly x Transmission control shaft lever LH		14	143	10

Automatic Transmission Unit

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Oil pump assembly x Automatic transmission case sub-assembly		21	215	16
Parking lock pawl bracket x Automatic transmission case sub-assembly		18	184	13
Transmission valve body assembly x Automatic transmission case sub-assembly		11	112	8
Detent spring x Transmission valve body assembly		10	102	7
Valve body oil strainer assembly x Transmission valve body assembly		10	102	7
Transmission wire x Automatic transmission case sub-assembly		5.4	55	48 in.*lbf
Temperature sensor clamp x Transmission valve body assembly	Bolt A	10	102	7
	Bolt B	11	112	8
Automatic transmission oil pan sub-assembly x Automatic transmission case sub-assembly		7.4	75	65 in.*lbf
Drain plug x Automatic transmission oil pan sub-assembly		20	204	15
Overflow plug x Automatic transmission oil pan sub-assembly		20	204	15

PART TIGHTENED		N*M	KG*CM	FT.*LBF
Automatic transmission housing x Automatic transmission case sub-assembly	M10 bolt	34	346	25
	M12 bolt	57	579	42
Rear transfer adapter x Automatic transmission case sub-assembly		34	346	25
Oil cooler tube union x Automatic transmission case sub-assembly (for 2GR-FKS)	without SST	31	317	23
	with SST	26	266	19
Oil cooler tube union x Automatic transmission case sub-assembly (for 2TR-FE)	without SST	29	300	22
	with SST	25	252	18
Automatic transmission case plug x Automatic transmission case sub-assembly		7.4	75	65 in.*lbf
Automatic transmission case plug (TORX) x Automatic transmission case sub-assembly		39	400	29
Refill plug x Rear transfer adapter		39	400	29
Park/neutral position switch x Automatic transmission case sub-assembly	Bolt	13	131	9
	Nut	6.9	70	61 in.*lbf
Transmission control shaft lever LH x Manual valve lever shaft		16	160	12
Transmission revolution sensor (NT) x Automatic transmission case sub-assembly		5.4	55	48 in.*lbf
Transmission revolution sensor (SP2) x Automatic transmission case sub-assembly		5.4	55	48 in.*lbf

Oil Pump

PART TIGHTENED		N*M	KG*CM	FT.*LBF
Stator shaft assembly x Front oil pump body sub-assembly		11	110	8
Front oil pump plate x Stator shaft assembly		11	110	8



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001YZK00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: AIR CONDITIONING: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

REFRIGERANT (for HFC-134a (R134a))

Refrigerant charge volume	570 to 630 g (20.10 to 22.22 oz.)
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REFRIGERANT (for HFO-1234yf (R1234yf))

Refrigerant charge volume	470 to 530 g (16.59 to 18.69oz.)
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COMPRESSOR

Magnetic clutch clearance	0.30 to 0.60 mm (0.012 to 0.024 in.)
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Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001YZL00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: AIR CONDITIONING: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Negative battery terminal x Battery	5.4	55	48 in.*lbf

AIR CONDITIONING UNIT

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Expansion valve x Evaporator core		7.0	71	62 in.*lbf
Valve to connector tube x Expansion valve		25	255	18
Mode case x Main case		2.0	20	18 in.*lbf
Heater pivot x Main case		2.0	20	18 in.*lbf
Mode mounting plate x Main case		2.0	20	18 in.*lbf
Heater blower cover x Main case		2.0	20	18 in.*lbf
Blower resistor x Main case		2.0	20	18 in.*lbf
Heater radiator unit assembly x Main case		4.0	41	35 in.*lbf
Heater cover case x Main case		2.0	20	18 in.*lbf
Temperature mounting plate x Main case		2.0	20	18 in.*lbf
No. 3 air conditioning radiator damper servo sub-assembly x Main case		2.0	20	18 in.*lbf
No. 1 air conditioning servo assembly x Main case		2.0	20	18 in.*lbf
No. 2 air conditioning radiator damper servo sub-assembly x Main case		2.0	20	18 in.*lbf
No. 1 air conditioning radiator damper servo sub-assembly x Main case		2.0	20	18 in.*lbf
Instrument panel reinforcement x Body	Bolt A	35	357	26
	Bolt B	31	311	22
Air conditioning unit assembly x Body		5.0	51	44 in.*lbf
Air conditioning unit assembly x Instrument panel reinforcement		5.0	51	44 in.*lbf
Air conditioning amplifier assembly x Instrument panel reinforcement		7.0	71	62 in.*lbf
Driver side junction block x Instrument panel reinforcement		8.0	82	71 in.*lbf
Bracket x Driver side junction block		8.0	82	71 in.*lbf
Air conditioning tube assembly x Body		7.5	76	66 in.*lbf
Suction hose sub-assembly x Body		7.5	76	66 in.*lbf

COMPRESSOR

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
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PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Magnet clutch hub x Cooler compressor assembly	13.5	138	10
Pressure relief valve x Cooler compressor assembly	8.0	82	71 in.*lbf
Compressor pick up sensor x Cooler compressor assembly	4.0	41	35 in.*lbf
Compressor and magnetic clutch x Compressor bracket	21	214	16
Discharge hose sub-assembly x Compressor and magnetic clutch	9.8	100	87 in.*lbf
Suction hose sub-assembly x Compressor and magnetic clutch	9.8	100	87 in.*lbf
Suction hose sub-assembly x Timing chain cover	7.5	76	66 in.*lbf
Front wheel LH x Front axle hub	113	1152	83

CONDENSER

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Condenser assembly x Body	9.0	92	80 in.*lbf
Air conditioning tube assembly x Condenser assembly	9.8	100	87 in.*lbf
Discharge hose sub-assembly x Condenser assembly	9.8	100	87 in.*lbf

AIR CONDITIONING PRESSURE SENSOR

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Air conditioning pressure sensor x Air conditioner tube assembly	11	110	8

AIR CONDITIONING AMPLIFIER

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Air conditioning amplifier x Main case	7.0	71	62 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM00000207N00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: AUDIO / VISUAL: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

FRONT DOOR SPEAKER

Front No. 1 speaker assembly (w/o Amplifier Box Speaker Assembly)	Standard	3.2 to 4.8 Ω
Front No. 1 speaker assembly (w/ Amplifier Box Speaker Assembly)	Standard	1.4 to 2.2 Ω

REAR DOOR SPEAKER (for Double Cab)

Rear speaker assembly (w/o Amplifier Box Speaker Assembly)	Standard	3.2 to 4.8 Ω
Rear speaker assembly (w/ Amplifier Box Speaker Assembly)	Standard	1.5 to 2.1 Ω



Last Modified: 11-13-2015	6.6 F	Doc ID: RM00000207000AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: AUDIO / VISUAL: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

RADIO RECEIVER

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Radio receiver assembly with bracket x Body	7.0	71	62 in.*lbf
Radio receiver assembly x Radio bracket	2.5	25	22 in.*lbf

STEREO COMPONENT AMPLIFIER

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Stereo component amplifier assembly x Body	8.4	86	74 in.*lbf
Battery negative terminal x Battery	5.4	55	48 in.*lbf

INSTRUMENT PANEL SPEAKER

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Front No. 2 speaker assembly x Body	8.4	86	74 in.*lbf

AMPLIFIER BOX SPEAKER ASSEMBLY

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
No. 1 speaker assembly with box x Body	8.4	86	74 in.*lbf

RADIO ANTENNA

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Antenna assembly with holder x Body	4.5	46	40 in.*lbf

NOISE FILTER (for 2GR-FKS)

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Battery negative terminal x Battery	5.4	55	48 in.*lbf

NOISE FILTER (for 2TR-FE)

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Battery negative terminal x Battery	5.4	55	48 in.*lbf

STEERING PAD SWITCH

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Steering pad switch x Steering wheel	2.4	24	21 in.*lbf

SATELLITE RADIO TUNER

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Radio and display receiver assembly x Radio receiver bracket	2.5	25	22 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001X1K00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: AXLE: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Front axle hub bearing deviation	Maximum	0.05 mm (0.0020 in.)
Front axle hub bearing runout	Maximum	0.05 mm (0.0020 in.)
Rear axle hub bearing deviation	Maximum	0.05 mm (0.0020 in.)
Rear axle hub and bearing runout	Maximum	0.05 mm (0.0020 in.)
Rear axle shaft runout	Maximum	1.5 mm (0.0591 in.)
Rear axle shaft flange runout	Maximum	0.05 mm (0.0020 in.)



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001X1L00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: AXLE: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KG*CM	FT.*LBF
Front wheel	113	1,152	83
Battery negative terminal x Battery	3.9	40	35 in.*lbf
Steering knuckle x Front disc dust cover	8.3	85	73 in.*lbf
Steering knuckle x Front axle hub	199	2,029	147
Front suspension upper arm x Steering knuckle	110	1,122	81
Front lower ball joint attachment x Steering knuckle	160	1,631	118
Front flexible hose x Front disc brake caliper assembly	30	306	22
Front flexible hose x Shock absorber assembly front	32	326	24
Front speed sensor x Steering knuckle	8.3	85	73 in.*lbf
Skid control sensor wire x Steering knuckle	5.0	51	44 in.*lbf
Skid control sensor wire x Front suspension upper arm	5.0	51	44 in.*lbf
Front axle hub x Steering knuckle	80	816	59
Front wheel adjusting nut x Steering knuckle	275	2,804	203
Tie rod end sub-assembly x Steering knuckle	91	928	67
Front stabilizer link assembly x Steering knuckle	70	714	52
Front axle hub nut x Front drive shaft	235	2,396	173
Front disc brake caliper assembly x Steering knuckle	123	1,254	91
Brake tube bracket x Steering knuckle	29	296	21
Brake tube x Front disc brake caliper assembly	15	155	11
Front speed sensor harness bracket x Steering knuckle	13	133	10
Front speed sensor x Steering knuckle	8.3	85	73 in.*lbf
Rear wheel	113	1,152	83
Rear axle shaft with backing plate x Rear axle housing	45	459	33
Rear brake tube No. 8 x Rear wheel brake cylinder	15	155	11
Parking brake cable assembly No. 3 x Backing plate	8.0	82	71 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000003ESB01DX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: BRAKE CONTROL: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

A-TRAC Switch

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
5 - 8	Pressed	Below 1 Ω
	Not Pressed	10 k Ω or higher

VSC OFF Switch

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
6 - 9	Pressed	Below 1 Ω
	Not Pressed	10 k Ω or higher

Crawl Control Switch (Drive Monitor Switch)

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
7 (ECU) - 8 (E)	Low	Below 1 Ω
2 (UP) - 8 (E)		10 k Ω or higher
6 (DN) - 8 (E)		
7 (ECU) - 8 (E)	Between Low and Medium	Below 1 Ω
2 (UP) - 8 (E)		10 k Ω or higher
6 (DN) - 8 (E)		
7 (ECU) - 8 (E)	Medium	Below 1 Ω
2 (UP) - 8 (E)		10 k Ω or higher
6 (DN) - 8 (E)		
7 (ECU) - 8 (E)	Between Medium and High	Below 1 Ω
2 (UP) - 8 (E)		10 k Ω or higher
6 (DN) - 8 (E)		
7 (ECU) - 8 (E)	High	Below 1 Ω
2 (UP) - 8 (E)		10 k Ω or higher
6 (DN) - 8 (E)		
3 (SWI3) - 8 (E)	ON/OFF: Pressed	Below 1 Ω
	ON/OFF: Not pressed	10 k Ω or higher

Multi-terrain Select Switch (Drive Monitor Switch)

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
7 (ECU) - 8 (E)	MUD and SAND	Below 1 Ω
2 (UP) - 8 (E)		10 k Ω or higher
6 (DN) - 8 (E)		
7 (ECU) - 8 (E)	LOOSE ROCK	Below 1 Ω
2 (UP) - 8 (E)		10 k Ω or higher
6 (DN) - 8 (E)		
7 (ECU) - 8 (E)	MOGUL	10 k Ω or higher
2 (UP) - 8 (E)		
6 (DN) - 8 (E)		
7 (ECU) - 8 (E)	ROCK and DIRT	10 k Ω or higher
2 (UP) - 8 (E)		Below 1 Ω
6 (DN) - 8 (E)		
7 (ECU) - 8 (E)	ROCK	10 k Ω or higher
2 (UP) - 8 (E)		Below 1 Ω
6 (DN) - 8 (E)		
1 (SW11) - 8 (E)	ON/OFF: Pressed	Below 1 Ω
	ON/OFF: Not pressed	10 k Ω or higher



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001XJO00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: BRAKE CONTROL: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Brake actuator bracket assembly x Brake actuator		5.4	55	48 in.*lbf
Brake actuator x Body		19	194	14
Brake tube x Brake actuator	Flare nut (M10) without a union nut wrench (10 mm)	15	155	11
	Flare nut (M10) with a union nut wrench (10 mm)	15	155	11
	Flare nut (M12) without a union nut wrench (12mm)	20	199	14
	Flare nut (M12) with a union nut wrench (12mm)	18	187	13
Battery negative terminal x Battery		5.4	55	48 in.*lbf
Front speed sensor x Steering knuckle		8.3	85	73 in.*lbf
Front wheel		113	1152	83
Rear speed sensor x Rear axle housing		8.0	82	71 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001XMG00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: BRAKE: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Brake pedal height (from dash panel)	Automatic transmission	164.4 to 174.4 mm (6.473 to 6.866 in.)
	Manual transmission	160.5 to 170.5 mm (6.319 to 6.712 in.)
Rod operating adapter length	for Hydraulic brake booster	214 to 224 mm (8.425 to 8.818 in.)
	for Vacuum brake booster	213 to 223 mm (8.386 to 8.780 in.)
Stop light switch clearance		0.5 to 2.6 mm (0.020 to 0.102 in.)
Brake pedal free play		1 to 6 mm (0.04 to 0.24 in.)
Brake pedal reserve distance (from asphalt sheet) at 490 N (50 kgf, 110.2 lbf)		More than 55 mm (2.17 in.)
Brake booster push rod to piston clearance		0 mm (0 in.)
Front disc thickness (2WD)	Standard	25.0 mm (0.984 in.)
	Minimum	23.0 mm (0.906 in.)
Front disc brake pad lining thickness (2WD)	Standard	12.0 mm (0.472 in.)
	Minimum	1.0 mm (0.039 in.)
Front disc runout	Maximum	0.05 mm (0.0020 in.)
Front disc thickness (4WD and Pre-Runner)	Standard	28.0 mm (1.102 in.)
	Minimum	26.0 mm (1.024 in.)
Front disc brake pad lining thickness (4WD and Pre-Runner)	Standard	11.5 mm (0.453 in.)
	Minimum	1.0 mm (0.039 in.)
Rear brake drum inside diameter	Standard	254 mm (10.00 in.)
	Maximum	256 mm (10.08 in.)
Rear drum brake shoe lining thickness	Standard	5.0 mm (0.197 in.)
	Minimum	1.0 mm (0.039 in.)
Rear brake shoe clearance		0.5 mm (0.020 in.)



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001XMH00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: BRAKE: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Bleeder plug	11	112	8
Brake booster clevis lock nut	26	265	19
Brake pedal x Brake pedal support sub-assembly	34	350	25
Brake pedal support sub-assembly x Brake booster	14	145	10
Brake pedal support sub-assembly x Hydraulic brake booster	14	145	10
Brake pedal support reinforcement x Reinforcement	19	189	14
Driver side junction block x Reinforcement	8.0	82	71 in.*lbf
Battery negative terminal x Battery	5.4	55	48 in.*lbf
Brake master cylinder x Brake booster	13	127	9
Brake tube x Brake master cylinder	18 (20)	187 (199)	13 (14)
Brake booster accumulator assembly x Brake booster pump assembly	57	585	42
Master cylinder solenoid x Master cylinder body	32	325	24
Brake booster pump bracket x Master cylinder solenoid	7.8	80	69 in.*lbf
Brake actuator bracket x Master cylinder body	7.8	80	69 in.*lbf
Pin x Brake booster pump assembly	7.8	80	69 in.*lbf
Brake booster pump wire harness x Master cylinder solenoid	2.9	30	26 in.*lbf
Brake actuator tube No. 1 x Brake booster pump assembly	14 (15)	145 (155)	10 (11)
Brake actuator tube No. 1 x Master cylinder body	14 (15)	145 (155)	10 (11)
Brake master cylinder reservoir sub-assembly x Master cylinder body	1.7	17	15 in.*lbf
Brake actuator bracket No. 1 x Master cylinder solenoid	7.8	80	69 in.*lbf
Brake tube x Hydraulic brake booster	14 (15)	145 (155)	10 (11)
Vacuum pump assembly x Engine assembly	21	214	15
No. 2 water by-pass pipe x Engine assembly	10	102	7
Front Wheel	113	1,152	83
Disc brake cylinder assembly x Steering knuckle	123	1,254	91
Brake tube x Disc brake cylinder assembly	14 (15)	145 (155)	10 (11)
Rear wheel brake cylinder x Backing plate	9.5	97	84 in.*lbf
Brake tube x Rear wheel brake cylinder	14 (15)	145 (155)	10 (11)
Rear Wheel	113	1,152	83

(): For use without union nut wrench



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000005WBN000X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: CAN COMMUNICATION: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

NETWORK GATEWAY ECU

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Network gateway ECU x Instrument panel	3.0	31	27 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001W8500AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: CLUTCH: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Pedal height from floor panel	-	178.1 to 188.1 mm (7.01 to 7.41 in.)
Clutch pedal free play	-	5.0 to 15.0 mm (0.197 to 0.591 in.)
Clutch pedal push rod play at pedal top	-	1.0 to 5.0 mm (0.0394 to 0.197 in.)
Clutch release point from pedal full stroke end position	-	25 mm (0.984 in.) or more
Clutch disc rivet head depth	Minimum	0.3 mm (0.0118 in.)
Clutch disc runout (for R156F)	Maximum	0.8 mm (0.0315 in.)
Clutch disc runout (for RC62F)	Maximum	0.7 mm (0.0276 in.)
Diaphragm spring finger wear (for R156F)	Maximum depth	0.35 mm (0.0138 in.)
	Maximum width	6.0 mm (0.236 in.)
Diaphragm spring finger wear (for RC62F)	Maximum depth	0.35 mm (0.0138 in.)
	Maximum width	5.0 mm (0.197 in.)
Flywheel runout	Maximum	0.1 mm (0.00393 in.)
Diaphragm spring tip alignment	Maximum	0.5 mm (0.0196 in.)
Clutch start switch Resistance	ON (pushed)	Below 1Ω
	OFF (free)	10 kΩ or higher
Clutch start cancel switch Resistance	Switch OFF 2 - 4	10 kΩ or higher
	Switch OFF 2 - 4 (Apply battery voltage to terminals 1 and 3)	10 kΩ or higher
	Switch ON 2 - 4 (Apply battery voltage to terminals 1 and 3)	Below 1 Ω



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001W8600AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: CLUTCH: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Clutch switch assembly lock nut		20	201	15
Push rod clevis lock nut		12	120	9
Clutch pedal sub-assembly x Clutch pedal support		34	350	25
Clutch master cylinder assembly x Clutch pedal support		12	120	9
Clutch start switch x Clutch pedal support		16	160	12
Clutch master cylinder to 2 way tube x Clutch master cylinder assembly	without union nut wrench	15	155	11
	with union nut wrench	13	136	10
Clutch pedal support x Vehicle body	for Bolt	18	184	13
	for Nut	14	145	10
Clutch master cylinder to flexible hose tube x Clutch pedal support way	without union nut wrench	15	155	11
	with union nut wrench	13	136	10
Release cylinder bleeder plug x Clutch release cylinder assembly		11	110	8
Clutch release cylinder assembly x Manual transmission assembly		12	120	9
Clutch release cylinder to flexible hose tube x Clutch release cylinder assembly	without union nut wrench	15	155	11
	with union nut wrench	13	136	10
Clutch release cylinder to accumulator tube x Clutch release cylinder assembly	without union nut wrench	15	155	11
	with union nut wrench	13	136	10
Release cylinder heat insulator x Manual transmission assembly		12	120	9
Clutch accumulator assembly x Manual transmission assembly		12	120	9
Clutch release cylinder to flexible hose tube x Clutch accumulator assembly	without union nut wrench	15	155	11
	with union nut wrench	13	136	10
Clutch release cylinder to flexible hose tube x Manual transmission assembly		20	204	15
Flywheel sub-assembly x Crankshaft	1st	27	270	20

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
	2nd	Turn 90 °		
Clutch cover assembly x Flywheel sub-assembly		19	195	14
Release fork support x Manual transmission assembly (for R156F)		47	479	35
Release fork support x Manual transmission assembly (for RC62F)		47	480	35
Clutch start switch assembly x Clutch pedal support		16	160	12



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001YZH00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: CRUISE CONTROL: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Driver side junction block assembly x Body	8.0	82	71 in.*lbf
Negative battery terminal x Battery	5.4	55	48 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001YG600AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: DIFFERENTIAL: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

FRONT DIFFERENTIAL CARRIER ASSEMBLY

Differential drive pinion preload (at starting)	New bearing Reused bearing	1.08 to 2.02 N*m (11 to 21 kgf*cm, 9.6 to 17.9 in.*lbf) 1.07 to 1.91 N*m (11 to 19 kgf*cm, 9.5 to 16.9 in.*lbf)
Total preload (at starting)		1.29 to 2.79 N*m (14 to 29 kgf*cm, 11 to 24 in.*lbf)
Differential ring gear backlash		0.11 to 0.21 mm (0.0043 to 0.0083 in.)
Differential side gear backlash		0 to 0.15 mm (0 to 0.0059 in.)
Front differential carrier oil seal	Oil seal drive in depth	2.7 to 3.3 mm (0.106 to 0.130 in.)
Front differential side oil seal	Oil seal drive in depth	-0.45 to 0.45 mm (-0.0177 to 0.0177 in.)
Front differential side tube oil seal	Oil seal drive in depth	4.85 to 5.85 mm (0.189 to 0.2284 in.)
Front differential side gear needle roller bearing	Bearing press in depth	1.4 to 2.0 mm (0.055 to 0.079 in.)
Differential clutch sleeve and clutch sleeve fork clearance	Max.	0.35 mm (0.0138 in.)
Front differential side gear thrust washer thickness		1.50 mm (0.0591 in.) 1.55 mm (0.0610 in.) 1.60 mm (0.0630 in.) 1.65 mm (0.0650 in.) 1.70 mm (0.0669 in.) 1.75 mm (0.0689 in.) 1.80 mm (0.0709 in.) 1.85 mm (0.0728 in.) 1.90 mm (0.0748 in.)
Front differential ring gear thrust washer thickness		1.58 mm (0.0622 in.) 1.60 mm (0.0630 in.) 1.62 mm (0.0638 in.) 1.64 mm (0.0646 in.) 1.66 mm (0.0654 in.) 1.68 mm (0.0661 in.) 1.70 mm (0.0669 in.) 1.72 mm (0.0677 in.) 1.74 mm (0.0685 in.) 1.76 mm (0.0693 in.)

	1.78 mm (0.0701 in.) 1.80 mm (0.0709 in.) 1.82 mm (0.0717 in.) 1.84 mm (0.0724 in.) 1.86 mm (0.0732 in.) 1.88 mm (0.0740 in.) 1.90 mm (0.0748 in.) 1.92 mm (0.0756 in.) 1.94 mm (0.0764 in.) 1.96 mm (0.0772 in.) 1.98 mm (0.0780 in.) 2.00 mm (0.0787 in.) 2.02 mm (0.0800 in.) 2.04 mm (0.0803 in.) 2.06 mm (0.0811 in.) 2.08 mm (0.0819 in.) 2.10 mm (0.0827 in.) 2.12 mm (0.0835 in.) 2.14 mm (0.0843 in.) 2.16 mm (0.0850 in.)
Front differential drive pinion plate washer thickness	1.70 mm (0.0669 in.) 1.73 mm (0.0681 in.) 1.76 mm (0.0693 in.) 1.79 mm (0.0705 in.) 1.82 mm (0.0717 in.) 1.85 mm (0.0728 in.) 1.88 mm (0.0740 in.) 1.91 mm (0.0752 in.) 1.94 mm (0.0764 in.) 1.97 mm (0.0776 in.) 2.00 mm (0.0787 in.) 2.03 mm (0.0799 in.) 2.06 mm (0.0811 in.) 2.09 mm (0.0823 in.) 2.12 mm (0.0835 in.) 2.15 mm (0.0847 in.) 2.18 mm (0.0858 in.) 2.21 mm (0.0870 in.) 2.24 mm (0.0882 in.) 2.27 mm (0.0894 in.) 2.30 mm (0.0906 in.) 2.33 mm (0.0917 in.)

REAR DIFFERENTIAL CARRIER ASSEMBLY

Companion flange vertical runout	Max	0.10 mm (0.00394 in.)
Companion flange lateral runout	Max	0.10 mm (0.00394 in.)
Differential ring gear runout	Max	0.07 mm (0.00276 in.)

Rear differential case runout	Max	0.07 mm (0.00276 in.)
Differential drive pinion preload (at starting)	New bearing Reused bearing	0.99 to 1.94 N*m (10 to 19 kgf*cm, 9 to 17 in.*lbf) 0.99 to 1.82 N*m (10 to 18 kgf*cm, 9 to 16 in.*lbf)
Total preload (at starting)	New bearing 3.909	1.45 to 2.73 N*m (15 to 27 kgf*cm, 13 to 24 in.*lbf)
	Reused bearing 3.909	1.45 to 2.50 N*m (15 to 25 kgf*cm, 13 to 22 in.*lbf)
	New bearing 4.300	1.41 to 2.66 N*m (15 to 27 kgf*cm, 13 to 23 in.*lbf)
	Reused bearing 4.300	1.42 to 2.45 N*m (15 to 24 kgf*cm, 13 to 21 in.*lbf)
Differential ring gear backlash		0.13 to 0.18 mm (0.00512 to 0.00708 in.)
Rear differential case side gear backlash LH		0.05 to 0.20 mm (0.00197 to 0.00787 in.)
Rear differential case side gear backlash RH		0.05 to 0.20 mm (0.00197 to 0.00787 in.)
Rear differential carrier oil seal	Oil seal drive in depth	0.4 to 1.0 mm (0.021 to 0.057 in)
Rear differential side gear thrust washer thickness	41361-0K010	1.48 to 1.52 (0.0583 to 0.0598)
	41361-0K020	1.53 to 1.57 (0.0603 to 0.0618)
	41361-0K030	1.58 to 1.62 (0.0622 to 0.0637)
	41361-0K040	1.63 to 1.67 (0.0642 to 0.0657)
	41361-0K050	1.68 to 1.72 (0.0662 to 0.0677)
	41361-0K060	1.73 to 1.77 (0.0682 to 0.0696)
	41361-0K070	1.78 to 1.82 (0.0701 to 0.0716)
	41361-0K080	1.83 to 1.87 (0.0721 to 0.0736)
	41361-0K090	1.88 to 1.92 (0.0741 to 0.0755)
Rear differential drive pinion plate washer thickness	90564-35109	1.69 to 1.71 (0.0666 to 0.0673)
	90564-35110	1.72 to 1.74 (0.0678 to 0.0685)
	90564-35111	1.75 to 1.77 (0.0689 to 0.0696)
	90564-35112	1.78 to 1.80 (0.0701 to 0.0708)
	90564-35113	1.81 to 1.83 (0.0713 to 0.0720)
	90564-35114	1.84 to 1.86 (0.0725 to 0.0732)
	90564-35115	1.87 to 1.89 (0.0737 to 0.0744)
	90564-35116	1.90 to 1.92 (0.0748 to 0.0755)
	90564-35117	1.93 to 1.95 (0.0760 to 0.0767)
	90564-35118	1.96 to 1.98 (0.0772 to 0.0779)
	90564-35119	1.99 to 2.01 (0.0784 to 0.0791)

	90564-35120	2.02 to 2.04 (0.0796 to 0.0803)
	90564-35121	2.05 to 2.07 (0.0807 to 0.0814)
	90564-35123	2.08 to 2.10 (0.0819 to 0.0826)
	90564-35124	2.11 to 2.13 (0.0831 to 0.0838)
	90564-35125	2.14 to 2.16 (0.0843 to 0.0850)
	90564-35126	2.17 to 2.19 (0.0855 to 0.0862)
	90564-35127	2.20 to 2.22 (0.0867 to 0.0874)
	90564-35128	2.23 to 2.25 (0.0878 to 0.0885)
	90564-35129	2.26 to 2.28 (0.0890 to 0.0897)
	90564-35130	2.29 to 2.31 (0.0902 to 0.0909)
	90564-35131	2.32 to 2.34 (0.0914 to 0.0921)

REAR DIFFERENTIAL CARRIER ASSEMBLY (w/ Differential Lock)

Companion flange vertical runout	Max	0.10 mm (0.00394 in.)
Companion flange lateral runout	Max	0.10 mm (0.00394 in.)
Differential ring gear runout	Max	0.07 mm (0.00276 in.)
Rear differential case runout	Max	0.07 mm (0.00276 in.)
Differential drive pinion preload (at starting)	New bearing Reused bearing	1.51 to 3.48 N*m (16 to 35 kgf*cm, 14 to 30 in.*lbf) 1.53 to 3.34 N*m (16 to 34 kgf*cm, 14 to 29 in.*lbf)
Total preload (at starting)	New bearing 3.909	1.87 to 4.15 N*m (20 to 43 kgf*cm, 17 to 36 in.*lbf)
	Reused bearing 3.909	1.90 to 3.97 N*m (20 to 41 kgf*cm, 17 to 35 in.*lbf)
	New bearing 4.300	1.85 to 4.10 N*m (19 to 42 kgf*cm, 17 to 36 in.*lbf)
	Reused bearing 4.300	1.88 to 3.92 N*m (20 to 40 kgf*cm, 17 to 34 in.*lbf)
Differential ring gear backlash		0.10 to 0.20 mm (0.00394 to 0.00787 in.)
Rear differential case side gear backlash LH		0.05 to 0.20 mm (0.00197 to 0.00787 in.)
Rear differential case side gear backlash RH		0.05 to 0.20 mm (0.00197 to 0.00787 in.)
Rear differential carrier oil seal	Oil seal drive in depth	0.0 to 0.3 mm (0.000 to 0.012 in.)
Rear differential side gear thrust washer thickness	No. 1 differential side gear thrust washer	1.05 to 1.15 (0.0414 to 0.0452)
		1.15 to 1.25 (0.0453 to 0.0492)
		1.25 to 1.35 (0.0493 to 0.0531)

Rear differential drive pinion plate washer thickness	No. 2 differential side gear thrust washer	1.35 to 1.45 (0.0532 to 0.0570)
		1.05 to 1.15 (0.0414 to 0.0452)
		1.15 to 1.25 (0.0453 to 0.0492)
		1.25 to 1.35 (0.0493 to 0.0531)
		1.35 to 1.45 (0.0532 to 0.0570)
	No. 3 differential side gear thrust washer	1.35 to 1.45 (0.0532 to 0.0570)
	90564-78001	1.71 to 1.73 (0.0674 to 0.0681)
	90564-78002	1.73 to 1.75 (0.0682 to 0.0688)
	90564-78003	1.75 to 1.77 (0.0689 to 0.0696)
	90564-78004	1.77 to 1.79 (0.0697 to 0.0704)
	90564-78005	1.79 to 1.81 (0.0705 to 0.0712)
	90564-78006	1.81 to 1.83 (0.0713 to 0.0720)
	90564-78007	1.83 to 1.85 (0.0721 to 0.0728)
	90564-78008	1.85 to 1.87 (0.0729 to 0.0736)
	90564-78009	1.87 to 1.89 (0.0737 to 0.0744)
	90564-78010	1.89 to 1.91 (0.0745 to 0.0751)
	90564-78011	1.91 to 1.93 (0.0752 to 0.0759)
	90564-78012	1.93 to 1.95 (0.0760 to 0.0767)
	90564-78013	1.95 to 1.97 (0.0768 to 0.0775)
	90564-78014	1.97 to 1.99 (0.0776 to 0.0783)
	90564-78015	1.99 to 2.01 (0.0784 to 0.0791)
	90564-78016	2.01 to 2.03 (0.0792 to 0.0799)
	90564-78017	2.03 to 2.05 (0.0780 to 0.0807)
	90564-78018	2.05 to 2.07 (0.0807 to 0.0814)
	90564-78019	2.05 to 2.07 (0.0808 to 0.0814)
	90564-78020	2.07 to 2.09 (0.0815 to 0.0822)
	90564-78021	2.11 to 2.13 (0.0831 to 0.0838)
	90564-78022	2.13 to 2.15 (0.0839 to 0.0846)
	90564-78025	2.15 to 2.17 (0.0847 to 0.0854)
	90564-78024	2.17 to 2.19 (0.0855 to 0.0862)

REAR DIFFERENTIAL CARRIER ASSEMBLY (w/o Differential Lock)

Companion flange vertical runout	Max	0.10 mm (0.00394 in.)
Companion flange lateral runout	Max	0.10 mm (0.00394 in.)
Differential ring gear runout	Max	0.07 mm (0.00276 in.)
Rear differential case runout	Max	0.07 mm (0.00276 in.)

Differential drive pinion preload (at starting)	New bearing Reused bearing	1.51 to 3.48 N*m (16 to 35 kgf*cm, 14 to 30 in.*lbf) 1.53 to 3.34 N*m (16 to 34 kgf*cm, 14 to 29 in.*lbf)
Total preload (at starting)	New bearing 3.909	1.87 to 4.15 N*m (20 to 43 kgf*cm, 17 to 36 in.*lbf)
	Reused bearing 3.909	1.90 to 3.97 N*m (20 to 41 kgf*cm, 17 to 35 in.*lbf)
	New bearing 4.300	1.85 to 4.10 N*m (19 to 42 kgf*cm, 17 to 36 in.*lbf)
	Reused bearing 4.300	1.88 to 3.92 N*m (20 to 40 kgf*cm, 17 to 34 in.*lbf)
Differential ring gear backlash		0.10 to 0.20 mm (0.00394 to 0.00787 in.)
Rear differential case side gear backlash LH		0.05 to 0.20 mm (0.00197 to 0.00787 in.)
Rear differential case side gear backlash RH		0.05 to 0.20 mm (0.00197 to 0.00787 in.)
Rear differential carrier oil seal	Oil seal drive in depth	0.0 to 0.3 mm (0.000 to 0.012 in.)
Rear differential side gear thrust washer thickness	41361-0K110	1.43 to 1.47 (0.0563 to 0.0578)
	41361-0K300	1.48 to 1.52 (0.0583 to 0.0598)
	41361-0K310	1.53 to 1.57 (0.0603 to 0.0618)
	41361-0K320	1.58 to 1.62 (0.0622 to 0.0637)
	41361-0K330	1.63 to 1.67 (0.0642 to 0.0657)
	41361-0K340	1.68 to 1.72 (0.0662 to 0.0677)
	41361-0K350	1.73 to 1.77 (0.0682 to 0.0696)
	41361-0K360	1.78 to 1.82 (0.0701 to 0.0716)
	41361-0K370	1.83 to 1.87 (0.0721 to 0.0736)
Rear differential drive pinion plate washer thickness	90564-78001	1.71 to 1.73 (0.0674 to 0.0681)
	90564-78002	1.73 to 1.75 (0.0682 to 0.0688)
	90564-78003	1.75 to 1.77 (0.0689 to 0.0696)
	90564-78004	1.77 to 1.79 (0.0697 to 0.0704)
	90564-78005	1.79 to 1.81 (0.0705 to 0.0712)
	90564-78006	1.81 to 1.83 (0.0713 to 0.0720)
	90564-78007	1.83 to 1.85 (0.0721 to 0.0728)
	90564-78008	1.85 to 1.87 (0.0729 to 0.0736)
	90564-78009	1.87 to 1.89 (0.0737 to 0.0744)
	90564-78010	1.89 to 1.91 (0.0745 to 0.0751)
	90564-78011	1.91 to 1.93 (0.0752 to 0.0759)
	90564-78012	1.93 to 1.95 (0.0760 to 0.0767)

90564-78013	1.95 to 1.97 (0.0768 to 0.0775)
90564-78014	1.97 to 1.99 (0.0776 to 0.0783)
90564-78015	1.99 to 2.01 (0.0784 to 0.0791)
90564-78016	2.01 to 2.03 (0.0792 to 0.0799)
90564-78017	2.03 to 2.05 (0.0780 to 0.0807)
90564-78018	2.05 to 2.07 (0.0808 to 0.0814)
90564-78019	2.07 to 2.09 (0.0815 to 0.0822)
90564-78020	2.09 to 2.11 (0.0823 to 0.0830)
90564-78021	2.11 to 2.13 (0.0831 to 0.0838)
90564-78022	2.13 to 2.15 (0.0839 to 0.0846)
90564-78023	2.15 to 2.17 (0.0847 to 0.0854)
90564-78024	2.17 to 2.19 (0.0855 to 0.0862)



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001YG700AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: DIFFERENTIAL: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Front differential carrier assembly			
Drive pinion x Companion flange	370	3773	273
No, 1 Differential front mounting support x Frame	137	1400	101
No, 2 Differential front mounting support x Frame	137	1400	101
Differential carrier assembly front x Differential vacuum actuator assembly	21	210	15
No, 2 Differential front mounting support x Front differential tube assembly	110	1122	81
No, 1 Differential front mounting support x Front differential carrier assembly	186	1899	138
No, 2 Differential front mounting support x Front differential carrier assembly	160	1631	118
No, 3 Differential front mounting support x Front differential carrier assembly	108	1100	80
Ring gear x Differential case	97	984	71
Front differential carrier assembly x Breather tube	13	129	8
Front differential carrier assembly x Side bearing retainer	50	510	37
Front differential carrier assembly x Differential case	110	1121	81
No.1 Engine under cover x frame	30	306	22
No. 2 Engine under cover x frame	30	306	22
Negative battery terminal	5.4	55	48 in.*lbf
Front wheel	113	1152	83
Rear Differential			
Differential carrier			
Drive pinion x Companion flange	370	3773	273
Differential carrier x Axle housing	25	255	18
Differential case x Ring gear	92	938	68
Bearing cap x Differential carrier	85	870	63
Adjusting nut lock x Bearing cap	13	130	9
Differential carrier	(w/ differential lock)		
Differential case x Ring gear	451	4,600	333
Differential carrier x Axle housing	25	255	18
Bearing cap x Differential carrier	113	1152	83
RH differential case x LH differential case	47	480	35

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Differential case x differential ring gear	137	1397	101
Indicator switch	9.0	92	80 in.*lbf
DIFFERENTIAL LOCK POSITION PLATE x DIFFERENTIAL CASE RH	6.9	70	61 in.*lbf
Differential carrier	(w/o differential lock)		
Differential case x Ring gear	451	4,600	333
Differential carrier x Axle housing	45	459	33
Bearing cap x Differential carrier	113	1152	83
RH differential case x LH differential case	47	480	35
Differential case x differential ring gear	137	1397	101
Negative battery terminal	5.4	55	48 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001X1900AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: DRIVE SHAFT: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Front axle outboard joint boot clamp clearance	1.0 to 5.0 mm (0.039 to 0.197 in.)
Front drive inboard joint boot clamp clearance	1.0 to 4.0 mm (0.039 to 0.157 in.)
Front drive shaft standard length	484.4 to 488.4 mm (19.071 to 19.266 in.)



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Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: DRIVE SHAFT: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Front lower ball joint attachment x Steering knuckle	160	1631	118
Front axle hub nut x Front drive shaft	235	2396	173
Tie rod end sub-assembly x Steering knuckle	91	928	67
Front speed sensor harness bracket x Steering knuckle	13	133	10
Front speed sensor x Steering knuckle	8.3	85	73 in.*lbf
Front wheel	113	1152	83



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Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: ENGINE HOOD / DOOR: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

HOOD

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Hood hinge x Hood sub-assembly	13	133	10
Hood lock assembly x Radiator support sub-assembly	8.0	82	71 in.*lbf

FRONT DOOR

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Front door hinge assembly x Body	26	265	19
Front door hinge assembly x Door	26	265	19
Front door lock striker plate x Body	23	235	17
Front door check assembly x Body	29	296	21
Front door check assembly x Door	8.5	87	75 in.*lbf
Front door outside handle frame sub-assembly x Door	4.0	41	35 in.*lbf
Front door lock assembly x Door	5.0	51	44 in.*lbf
Front door outside cover x Door	4.0	41	35 in.*lbf
Front door front lower frame sub-assembly x Door	8.0	82	71 in.*lbf
Front door rear lower frame sub-assembly x Door	8.0	82	71 in.*lbf
Power window regulator motor assembly x Front door window regulator sub-assembly	5.4	55	48 in.*lbf
Front door window regulator sub-assembly x Door	8.0	82	71 in.*lbf
Front door glass sub-assembly x Front door window regulator sub-assembly	8.0	82	71 in.*lbf

REAR DOOR (for Access Cab)

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Rear door hinge assembly x Body	26	265	19
Rear door hinge assembly upper x Door	26	265	19
Access panel upper lock striker assembly x Body	23	235	17
Rear door lock striker plate x Body	23	235	17
Rear door check assembly x Body	29	296	21
Rear door check assembly x Door	8.5	87	75 in.*lbf
Front door lock striker plate x Body	23	235	17

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Courtesy light switch assembly x Door	9.0	92	80 in.*lbf
Rear door inside locking cable assembly x Door	5.0	51	44 in.*lbf
Access panel lock remote control assembly x Door	12	122	9
Access panel lower lock assembly x Door	5.0	51	44 in.*lbf
Access panel upper lock assembly x Door	12	122	9
Front seat belt assembly outer (floor side) x Door	42	428	31

REAR DOOR (for Double Cab)

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Rear door hinge assembly x Body	26	265	19
Rear door hinge assembly x Door	26	265	19
Rear door check assembly x Body	29	296	21
Rear door check assembly x Door	8.5	87	75 in.*lbf
Rear door lock striker plate assembly x Body	23	235	17
Rear door outside handle frame sub-assembly x Door	4.0	41	35 in.*lbf
Rear door outside handle cover x Door	4.0	41	35 in.*lbf
Rear door lock assembly x Door	5.0	51	44 in.*lbf
Power window regulator motor assembly x Rear door window regulator sub-assembly	5.4	55	48 in.*lbf
Rear door window regulator sub-assembly x Door	8.0	82	71 in.*lbf
Rear door front window guide sub-assembly x Door	8.0	82	71 in.*lbf
Rear door rear window frame sub-assembly x Door	8.0	82	71 in.*lbf
Rear door glass sub-assembly x Rear door window regulator sub-assembly	8.0	82	71 in.*lbf
Rear door glass sub-assembly x Rear door window regulator sub-assembly	8.0	82	71 in.*lbf
Rear door glass sub-assembly x Rear door window regulator sub-assembly	8.0	82	71 in.*lbf
Rear door glass sub-assembly x Rear door window regulator sub-assembly	8.0	82	71 in.*lbf
Negative battery terminal x Battery	5.4	55	48 in.*lbf

TAIL GATE

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Tail gate hinge assembly x Tail gate	27	275	20
Tail gate stay assembly x Tail gate	26	260	19
Tail gate stay stopper x Rear body side panel	26	260	19
Tail gate lock striker x Rear body side panel	29	296	21
Tail gate handle assembly x Tail gate	5.5	56	49 in.*lbf
Tail gate lock assembly LH x Tail gate	29	296	21

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Tail gate lock assembly RH x Tail gate	29	296	21

TONNEAU COVER ASSEMBLY

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Tonneau cover pin x Body	27	275	20
Tonneau cover latch LH x Tonneau cover panel sub-assembly	7.0	71	62 in.*lbf
Tonneau cover latch RH x Tonneau cover panel sub-assembly	7.0	71	62 in.*lbf
Tonneau cover assembly aid holder x Front tonneau cover panel sub-assembly	7.0	71	62 in.*lbf
Top cover lock striker x Body	26	260	19
Top cover lock striker (for Front RH) x Body	26	260	19
Top cover sub-assembly x Top cover lock striker	29	296	21



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Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: ENGINE IMMOBILISER: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KG*CM	FT.*LBF
Certification ECU (Smart key ECU) x Instrument panel reinforcement	6.5	66	58 in.*lbf



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Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: EXTERIOR: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

FRONT BUMPER

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Front bumper cover insert x Headlight assembly	5.9	60	52 in.*lbf
No. 2 front bumper extension sub-assembly LH x Body	58	591	43
No. 2 front bumper extension sub-assembly RH x Body	58	591	43
Front bumper reinforcement x Body	58	591	43
Front bumper arm mounting bracket LH x Body	4.0	41	35 in.*lbf
Front bumper arm mounting bracket RH x Body	4.0	41	35 in.*lbf
Front bumper upper center retainer x Front bumper arm mounting bracket	5.5	56	49 in.*lbf
Front bumper x Body	Bolt	5.0	44 in.*lbf
	Screw	2.8	25 in.*lbf

REAR BUMPER (w/ Towing Package)

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Blind spot monitor sensor LH x Body	10	102	7
Blind spot monitor sensor RH x Body	10	102	7
Rear bumper side stay LH x Rear bumper reinforcement sub-assembly	30	306	22
Rear bumper side stay RH x Rear bumper reinforcement sub-assembly	30	306	22
Rear bumper plate x Rear bumper reinforcement sub-assembly	30	306	22
Rear bumper assembly x Body	90	920	67
No. 1 receiver hitch attachment reinforcement x Body	90	920	67

REAR BUMPER (w/o Towing Package)

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Blind spot monitor sensor LH x Body	9.0	92	80 in.*lbf
Blind spot monitor sensor RH x Body	9.0	92	80 in.*lbf
Rear bumper side stay LH x Rear bumper reinforcement sub-assembly	30	306	22
Rear bumper side stay RH x Rear bumper reinforcement sub-assembly	30	306	22
Rear bumper plate x Rear bumper reinforcement sub-assembly	30	306	22
Rear bumper assembly x Body	90	920	67

FRONT DOOR BELT MOULDING:

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Negative battery terminal x Battery	5.4	55	48 in.*lbf

REAR DOOR BELT MOULDING:

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Negative battery terminal x Battery	5.4	55	48 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM00000208D00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: HORN: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Fuse (HORN)	Standard	Below 1 Ω
Relay (HORN)	Standard	10 k Ω or higher
Resistance (3 - 5)		Below 1 Ω (When battery applied to terminals 1 and 2)



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001YZD00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: INSTRUMENT PANEL: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KG*CM	FT.*LBF
Front passenger airbag assembly x Instrument panel reinforcement	20	205	15
Negative battery terminal x Battery	5.4	55	48 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001XJR00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: INTERIOR: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

ROOF HEADLINING (for Double Cab):

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Rear seat 3 point type outer belt assembly x Body	42	428	31
Front seat outer belt assembly x Body	42	428	31

ROOF HEADLINING (for Access Cab):

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Rear seat 3 point type outer belt assembly x Body	42	428	31
Back panel trim x Body	5.5	56	49 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001Z4B00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: LIGHTING: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Headlight relay	3 - 5: 10 k Ω or higher (Battery voltage not applied to terminals 1 and 2) 3 - 5: Below 1 Ω (Battery voltage applied to terminals 1 and 2)
Daytime running light relay	3 - 5: 10 k Ω or higher (Battery voltage is not applied to terminals 1 and 2) 3 - 5: Below 1 Ω (Battery voltage is applied to terminals 1 and 2)
Headlight dimmer relay	3 - 5: 10 k Ω or higher 3 - 5: Below 1 Ω (Battery voltage applied to terminals 1 and 2)
Deck light relay	3 - 5: 10 k Ω or higher (Battery voltage is not applied to terminals 1 and 2) 3 - 5: Below 1 Ω (Battery voltage is applied to terminals 1 and 2)
Fog light relay	3 - 5: 10 k Ω or higher (Battery voltage is not applied to terminals 1 and 2) 3 - 5: Below 1 Ω (Battery voltage applied to terminals 1 and 2)
Towing tail relay	3 - 5: 10 k Ω or higher (Battery voltage is not applied to terminals 1 and 2) 3 - 5: Below 1 Ω (Battery voltage applied to terminals 1 and 2)



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001Z4C00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: LIGHTING: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Headlight assembly x Front fender panel	5.4	55	48 in.*lbf
Rear combination light assembly x Rear body side panel	4.1	42	36 in.*lbf
Center stop light assembly (for LED Type Stop Light) x Body	3.6	36	31 in.*lbf
Cargo light assembly (Center stop light assembly) x Body	3.6	36	31 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001YZC00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: METER: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Negative battery terminal x Battery	5.4	55	48 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001Z4H00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: MIRROR: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

OUTER REAR VIEW MIRROR

Outer rear view mirror assembly LH	Mirror heater Terminal 2 (H/T+) - Terminal 4 (H/T-)	at 25°C (77°F)	8.5 to 11.5 Ω
Outer rear view mirror assembly RH	Mirror heater Terminal 2 (H/T+) - Terminal 4 (H/T-)	at 25°C (77°F)	8.5 to 11.5 Ω



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001Z4I00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: MIRROR: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

INNER REAR VIEW MIRROR

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Inner rear view mirror assembly x Front glass	1.5	15	13 in.*lbf

OUTER REAR VIEW MIRROR

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Outer rear view mirror assembly x Front door panel sub-assembly	8.0	82	71 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM00000503M004X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: NAVIGATION: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

NAVIGATION RECEIVER

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Navigation receiver assembly with bracket x Body	7.0	71	62 in.*lbf
Navigation receiver assembly x Radio receiver bracket	2.5	25	22 in.*lbf
Battery negative terminal x Battery	5.4	55	48 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000005WC9000X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: OTHER SYSTEM: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

INVERTER RELAY

3 - 5	Voltage is not applied between terminals 1 and 2	10 k Ω or higher
	Voltage is applied between terminals 1 and 2	Below 1 Ω



Last Modified: 11-13-2015	6.6 F	Doc ID: RM00000208L00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: OTHER SYSTEM: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

VOLTAGE INVERTER

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Voltage inverter assembly x Body	15	153	11
	7.5	76	66 in.*lbf
Voltage inverter assembly x Ground wire	8.0	82	71 in.*lbf

REAR POWER OUTLET SOCKET

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Power outlet socket assembly x Deck side trim box RH	5.0	51	44 in.*lbf
Battery negative terminal x Battery	5.4	55	48 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000003OWQ007X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: PARK ASSIST / MONITORING: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Television camera assembly x Tail gate	5.5	56	49 in.*lbf
Blind spot monitor sensor LH x Body	9.0	92	80 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001XN800AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: PARKING BRAKE: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Parking brake lever travel at 200 N (20 kgf, 45 lbf)		5 to 7 clicks
Parking brake switch assembly	On (Shaft not pressed)	Below 1 Ω
	Off (Shaft pressed)	10 k Ω or higher



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001XN900AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: PARKING BRAKE: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Rear wheel	113	1,152	83
Parking brake lever sub-assembly x body	13	127	9
No. 3 parking brake cable assembly x Frame	13	127	9
No. 3 parking brake cable assembly x Backing plate	8.0	82	71 in.*lbf
No. 2 Parking brake cable assembly x Body	13	127	9
No. 2 parking brake cable assembly x Backing plate	8.0	82	71 in.*lbf
Parking brake switch assembly x Parking brake lever sub-assembly	0.9	9	8 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001XNC00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: POWER STEERING: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Power Steering Fluid (for 2GR-FKS)

Fluid level rise	Maximum	5 mm (0.20 in.)
Fluid pressure at idle speed with valve closed		8800 to 9300 kPa (89.8 to 94.8 kgf/cm ² , 1276 to 1348 psi)

Power Steering Fluid (for 2TR-FE)

Fluid level rise	Maximum	5 mm (0.20 in.)
Fluid pressure at idle speed with valve closed		8300 to 8800 kPa (84.7 to 89.7 kgf/cm ² , 1204 to 1276 psi)

Steering Wheel

Steering effort at idle speed	(Reference)	6.0 N*m (60 kgf*cm, 53 in.*lbf) or less
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Vane Pump Assembly

Pulley shaft and vane pump housing front oil clearance	Standard Maximum	0.021 to 0.043 mm (0.0008 to 0.0017 in.) 0.07 mm (0.0028 in.)
Vane plate height	Minimum	7.7 mm (0.303 in.)
Vane plate thickness	Minimum	1.408 mm (0.0554 in.)
Vane plate length	Minimum	11.993 mm (0.4722 in.)
Vane pump rotor and vane plate clearance	Maximum	0.025 mm (0.0012 in.)
Compression spring free length	Minimum	36.9 mm (1.453 in.)
Vane pump rotating torque		0.27 N*m (2.8 kgf*cm, 2.4 in.*lbf) or less

Power Steering Link Assembly

Tie rod end turning torque		0.49 to 3.43 N*m (5.0 to 35.0 kgf*cm, 4.34 to 30.36 in.*lbf)
Power steering rack runout	Maximum	0.3 mm (0.012 in.)
Power steering control valve turning torque		1.4 to 2.2 N*m (14.3 to 22.4 kgf*cm, 12.4 to 19.5 in.*lbf)
Steering rack boot No. 1 clamp clearance		3.0 mm (0.118 in.) or less



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001XND00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: POWER STEERING: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Rear vane pump housing x Front vane pump housing	22	224	16
Pressure port union sub-assembly x Front vane pump housing	69	704	51
Vane pump oil reservoir sub-assembly x Front vane pump housing (2TR-FE)	9.0	92	80 in.*lbf
Vane pump assembly x Engine	21	214	15
Pressure feed tube assembly x Vane pump assembly	50	510	37
No. 1 Engine under cover sub-assembly x Frame	30	306	22
Power steering suction port union x Front vane pump housing (2GR-FKS)	12	122	9
Ground wire x Vane pump assembly (2GR-FKS)	8.5	87	75 in.*lbf
Control valve housing x Rack housing	18	184	13
Steering rack guide spring cap nut x Steering rack guide spring cap	43 (59)	440 (601)	32 (44)
Steering rack end sub-assembly x Power steering rack	61 (84)	619 (851)	45 (62)
Tie rod end lock nut x Steering rack end sub-assembly	56	566	41
Steering turn pressure tube x Control valve housing	14 (15)	141 (153)	10 (11)
Steering turn pressure tube x Rack housing	14 (15)	141 (153)	10 (11)
Steering gear outlet return tube x Control valve housing	22 (24)	222 (245)	16 (18)
Power steering link assembly x Suspension cross member	95	969	70
Pressure feed tube assembly union nut x Power steering link assembly	22 (24)	222 (245)	16 (18)
Pressure feed tube assembly bracket x Power steering link assembly	28	286	21
No. 2 Steering intermediate shaft x Power steering link assembly	35	357	26
Steering sliding yoke x No. 2 Steering intermediate shaft	35	357	26
Steering sliding yoke x Steering intermediate shaft	35	357	26
Tie rod end sub-assembly x Steering knuckle	91	928	67

(): For use without SST



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001WZX00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: PROPELLER SHAFT: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Universal joint spider bearing axial play	Maximum	0 to 0.05 mm (0 to 0.00196 in.)
Propeller shaft runout	Maximum	0.6 mm (0.0236 in.)



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001WZY00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: PROPELLER SHAFT: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Propeller shaft assembly x Rear differential carrier assembly	88	899	65
Universal joint yoke x Propeller shaft with center bearing assembly (1st)	200	2039	148
No. 2 center support bearing x Body	36	369	27
Front propeller shaft assembly x Transfer assembly	88	899	65
Front propeller shaft assembly x Front differential carrier assembly	88	899	65
Propeller shaft heat insulator bracket sub-assembly x Front No. 3 crossmember sub-assembly	16	160	12
Rear propeller shaft assembly x Transfer assembly	88	899	65



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001W8700FX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: R156F MANUAL TRANSMISSION: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Synchronizer ring outer No. 3 to gear spline piece No. 5 clearance	STD	0.68 to 1.32 mm (0.0268 to 0.0519 in.)
Hub sleeve No. 3 to shift fork No. 3 clearance	STD	0.24 to 0.84 mm (0.00945 to 0.0330 in.)
Counter 5th gear inner diameter	STD Max.	38.015 to 38.040 mm (1.4967 to 1.4976 in.) 38.040 mm (1.4976 in.)
Reverse idler gear inner diameter	STD Max.	24.040 to 24.061 mm (0.9465 to 0.9472 in.) 24.061 mm (0.9472 in.)
Reverse idler gear shaft outer diameter	STD Min.	23.979 to 24.000 mm (0.9441 to 0.9448 in.) 23.979 mm (0.9441 in.)
Reverse idler gear to reverse shift arm	STD	0.05 to 0.35 mm (0.00197 to 0.0137 in.)
Reverse idler gear radial clearance	STD	0.040 to 0.082 mm (0.00158 to 0.00322 in.)
Counter gear snap ring thickness Rear	STD Mark A Mark B Mark C Mark D Mark E Mark F Mark G	0.10 mm (0.00393 in.) or less 2.85 mm (0.112 in.) 2.90 mm (0.114 in.) 2.95 mm (0.116 in.) 3.00 mm (0.118 in.) 3.05 mm (0.120 in.) 3.10 mm (0.122 in.) 3.15 mm (0.124 in.)
Counter 5th gear thrust clearance	STD	0.10 to 0.35 mm (0.00394 to 0.0137 in.)
Counter 5th gear radial clearance	STD	0.015 to 0.068 mm (0.000591 to 0.00267 in.)
Output shaft snap ring thickness Snap ring	STD Mark A Mark B Mark C Mark D Mark E Mark F Mark G Mark H Mark J Mark K Mark L	0.10 mm (0.00393 in.) or less 2.65 mm (0.104 in.) 2.70 mm (0.106 in.) 2.75 mm (0.108 in.) 2.80 mm (0.110 in.) 2.85 mm (0.112 in.) 2.90 mm (0.114 in.) 2.95 mm (0.116 in.) 3.00 mm (0.118 in.) 3.05 mm (0.120 in.) 3.10 mm (0.122 in.) 3.15 mm (0.124 in.)

	Mark M	3.20 mm (0.126 in.)
	Mark N	3.25 mm (0.128 in.)
	Mark P	3.30 mm (0.130 in.)
	Mark Q	3.35 mm (0.132 in.)
	Mark R	3.40 mm (0.134 in.)
	Mark S	3.45 mm (0.136 in.)
Front bearing retainer oil seal drive in depth	-	11.2 to 12.2 mm (0.441 to 0.480 in.)
Transfer adapter oil sea drive in depth	-	45.4 to 46.4 mm (1.79 to 1.82 in.)
Synchronizer ring No. 2 to input shaft clearance	STD	0.70 to 1.70 mm (0.0276 to 0.0669 in.)
Input shaft snap ring thickness Snap ring	STD Mark A Mark B Mark C Mark D Mark E Mark F Mark G	0.1 mm (0.0039 in.) or less 2.10 to 2.15 mm (0.0827 to 0.0846 in.) 2.15 to 2.20 mm (0.0846 to 0.0866 in.) 2.20 to 2.25 mm (0.0866 to 0.0886 in.) 2.25 to 2.30 mm (0.0886 to 0.0906 in.) 2.30 to 2.35 mm (0.0906 to 0.0925 in.) 2.35 to 2.40 mm (0.0925 to 0.0945 in.) 2.40 to 2.45 mm (0.0945 to 0.0965 in.)
1st gear thrust clearance	STD	0.20 to 0.45 mm (0.00788 to 0.0177 in.)
2nd gear thrust clearance	STD	0.10 to 0.25 mm (0.00394 to 0.00984 in.)
3rd gear thrust clearance	STD	0.10 to 0.25 mm (0.00394 to 0.00984 in.)
1st gear radial clearance	STD	0.020 to 0.073 mm (0.000785 to 0.00287 in.)
2rd gear radial clearance	STD	0.015 to 0.068 mm (0.000591 to 0.00267 in.)
3rd gear radial clearance	STD	0.015 to 0.068 mm (0.000591 to 0.00267 in.)
Output shaft circle runout	Max.	0.03 mm (0.00118 in.)
Output shaft outer diameter	(A) STD (B) STD (C) STD (A) STD (A) Min. (B) Min. (C) Min.	38.979 to 38.995 mm (1.5346 to 1.5352 in.) 46.984 to 47.000 mm (1.8498 to 1.8504 in.) 37.984 to 38.000 mm (1.4954 to 1.4961 in.) 38.979 mm (1.5346 in.) 46.984 mm (1.8498 in.) 37.984 mm (1.4954 in.)
Output shaft flange	STD	4.8 to 5.2 mm (0.189 to 0.204 in.)
3rd gear inner diameter	STD Max.	44.015 to 44.040 mm (1.7329 to 1.7339 in.) 44.040 mm (1.7339 in.)

2rd gear inner diameter	STD Max.	53.015 to 53.040 mm (2.0872 to 2.0881 in.) 53.040 mm (2.0881 in.)
1st gear inner diameter	STD Max.	46.015 to 46.040 mm (1.812 to 1.8126 in.) 46.040 mm (1.8126 in.)
1st gear thrust washer thickness	STD	5.95 to 6.05 mm (0.235 to 0.238 in.)
Synchronizer ring set No. 1 to 1st gear clearance	STD	0.75 to 1.65 mm (0.0295 to 0.0650 in.)
Synchronizer ring set No. 1 to 2nd gear clearance	STD	0.65 to 1.75 mm (0.0256 to 0.0689 in.)
Synchronizer ring No. 2 to 3rd gear clearance	STD	0.75 to 1.65 mm (0.0295 to 0.0650 in.)
Reverse gear to shift fork No. 1	STD	0.15 to 0.41 mm (0.00591 to 0.0161 in.)
Hub sleeve No. 2 to shift fork No. 2 clearance	STD	0.15 to 0.35 mm (0.00591 to 0.0138 in.)
Output shaft snap ring thickness (clutch hub No. 2) Snap ring	STD Mark A Mark B Mark C Mark D Mark E Mark F Mark G	0.1 mm (0.0039 in.) or less 1.80 to 1.85 mm (0.0709 to 0.0728 in.) 1.85 to 1.90 mm (0.0728 to 0.0748 in.) 1.90 to 1.95 mm (0.0748 to 0.0768 in.) 1.95 to 2.00 mm (0.0768 to 0.0787 in.) 2.00 to 2.05 mm (0.0787 to 0.0807 in.) 2.05 to 2.10 mm (0.0807 to 0.0827 in.) 2.10 to 2.15 mm (0.0827 to 0.0846 in.)
Output shaft snap ring thickness Clutch hub No. 1	STD Mark A Mark B Mark C Mark D Mark E Mark F Mark G	0.1 mm (0.0039 in.) or less 2.30 to 2.35 mm (0.0906 to 0.0925 in.) 2.35 to 2.40 mm (0.0925 to 0.0945 in.) 2.40 to 2.45 mm (0.0945 to 0.0965 in.) 2.45 to 2.50 mm (0.0965 to 0.0984 in.) 2.50 to 2.55 mm (0.0984 to 0.1004 in.) 2.55 to 2.60 mm (0.1004 to 0.1024 in.) 2.60 to 2.65 mm (0.1024 to 0.1043 in.)



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Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: R156F MANUAL TRANSMISSION: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Manual transmission unit assembly x Engine Bolt A	72	730	53
Manual transmission unit assembly x Engine Bolt B and C	37	377	27
Rear No. 1 engine mount insulator x Manual transmission unit assembly	58	591	43
No. 3 frame crossmember assembly x Rear No. 1 engine mount insulator	21	214	15
No. 3 frame crossmember assembly x Frame	40	408	30
No. 3 frame crossmember assembly x Front suspension member bracket LH AND RH	33	337	24
Clutch release cylinder assembly x Manual transmission unit assembly	12	120	9
Manifold stay x Manual transmission unit assembly Bolt A	72	730	53
Manifold stay x Manual transmission unit assembly Bolt B	44	449	32
Manifold stay x Exhaust manifold	30	306	22
Engine under cover sub-assembly No. 2 x Frame	30	306	22
Manual transmission filler plug x Manual transmission case	37	377	27
Manual transmission drain plug x Manual transmission case	37	377	27
Output shaft rear bearing retainer x Intermediate plate	25	184	13
Reverse shift arm bracket x Intermediate plate	18	255	18
No. 1 shift fork x No. 1 gear shift fork shaft	20	199	14
No. 2 shift fork x No. 2 gear shift fork shaft	20	199	14
No. 1 shift detent ball spring seat x Intermediate plate	19	189	14
Front bearing retainer x Manual transmission case	17	168	12
Reverse restrict pin plug x Transfer adapter	19	189	14
Manual transmission case x Transfer adapter	37	377	27
Shift lever housing x Shift and select lever shaft	33	340	25
Reverse restrict pin assembly x Transfer adapter	37	377	27
Floor shift control shift lever retainer sub-assembly x Transfer adapter	18	184	13
Back-up light switch assembly x Manual transmission case	44	449	32
Clutch housing x Manual transmission case	36	367	27



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001W8D00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: RC62F MANUAL TRANSMISSION: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

MANUAL TRANSMISSION OIL

2.5 liters (2.6 US qts, 2.2 Imp. qts)	SAE 75W-90
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BACK-UP LIGHT SWITCH

SWITCH CONDITION	SPECIFIED CONDITION
Pushed	Below 1 Ω
Released	10 k Ω or higher

MANUAL TRANSMISSION UNIT

Reverse idler gear radial clearance	Standard	0.015 to 0.050 mm (0.000591 to 0.00196 in.)
	Maximum	0.050 mm (0.00196 in.)
Clearance of No. 4 synchronizer ring with output shaft	Standard	0.82 to 1.48 mm (0.0323 to 0.0582 in.)
	Minimum	0.82 mm (0.0323 in.)
Reverse idler gear thrust clearance	Standard	0.196 to 0.939 mm (0.0078 to 0.0369 in.)
	Minimum	0.939 mm (0.0369 in.)
Rear transmission case straight pin specified condition	Item A	Specified condition 5.5 to 6.5 mm (0.2166 to 0.2559 in.)
	Item B	Specified condition 3.5 to 4.5 mm (0.1378 to 0.1771 in.)
Intermediate plate ring pin specified condition	Specified condition	5.5 to 7.5 mm (0.2166 to 0.2952 in.)
Front transmission case sub-assembly straight pin specified condition	Specified condition	9.5 to 10.5 mm (0.3741 to 0.4133 in.)
No. 1 gear shift fork shaft depth	Standard	0 to 0.5 mm (0 to 0.0196 in.)
No. 4 gear shift fork shaft depth	Standard	0 to 0.5 mm (0 to 0.0196 in.)
No. 2 gear shift fork shaft depth	Standard	0 to 0.5 mm (0 to 0.0196 in.)
Shift and select lever depth	Standard	0 to 0.5 mm (0 to 0.0196 in.)
Shift fork shaft bearing dimension	Dimension	147.7 to 148.7 mm (5.815 to 5.854 in.)

Shift and select lever shaft needle roller bearing dimension	Dimension	0.5 to 1.5 mm (0.0197 to 0.0590 in.)
Shift fork shaft bearing dimension	Dimension	106.9 to 107.9 mm (4.209 to 4.248 in.)
Shift and select lever shaft needle roller bearing dimension	Dimension	107.15 to 108.15 mm (4.219 to 4.257 in.)
Transmission case plug dimension	Dimension	17.3 to 18.3 mm (0.6812 to 0.7204 in.)
Output shaft bearing shim thickness	Standard	2.214 to 2.230 mm (0.0872 to 0.0877 in.)
		2.230 to 2.246 mm (0.0878 to 0.0884 in.)
		2.246 to 2.262 mm (0.0885 to 0.0890 in.)
		2.262 to 2.278 mm (0.0891 to 0.0896 in.)
		2.278 to 2.294 mm (0.0897 to 0.0903 in.)
		2.294 to 2.310 mm (0.0904 to 0.0909 in.)
		2.310 to 2.326 mm (0.0910 to 0.0915 in.)
		2.326 to 2.342 mm (0.0916 to 0.0922 in.)
		2.342 to 2.358 mm (0.0923 to 0.0928 in.)
		2.358 to 2.374 mm (0.0929 to 0.0934 in.)
		2.374 to 2.390 mm (0.0935 to 0.0940 in.)
		2.390 to 2.406 mm (0.0941 to 0.0947 in.)
		2.406 to 2.422 mm (0.0948 to 0.0953 in.)
		2.422 to 2.438 mm (0.0954 to 0.0959 in.)
		2.438 to 2.454 mm (0.0960 to 0.0966 in.)
		2.454 to 2.470 mm (0.0967 to 0.0972 in.)
		2.470 to 2.486 mm (0.0973 to 0.0978 in.)

2.486 to 2.502 mm (0.0979 to 0.0985 in.)
2.502 to 2.518 mm (0.0986 to 0.0991 in.)
2.518 to 2.534 mm (0.0992 to 0.0997 in.)
2.534 to 2.550 mm (0.0998 to 0.1003 in.)
2.550 to 2.566 mm (0.1004 to 0.1010 in.)
2.566 to 2.582 mm (0.1011 to 0.1016 in.)
2.582 to 2.598 mm (0.1017 to 0.1022 in.)
2.598 to 2.614 mm (0.1023 to 0.1029 in.)
2.614 to 2.630 mm (0.1030 to 0.1035 in.)
2.630 to 2.646 mm (0.1036 to 0.1041 in.)
2.646 to 2.662 mm (0.1042 to 0.1048 in.)
2.662 to 2.678 mm (0.1049 to 0.1054 in.)
2.678 to 2.694 mm (0.1055 to 0.1060 in.)
2.694 to 2.710 mm (0.1061 to 0.1066 in.)
2.710 to 2.726 mm (0.1067 to 0.1073 in.)
2.726 to 2.742 mm (0.1074 to 0.1079 in.)
2.742 to 2.758 mm (0.1080 to 0.1085 in.)
2.758 to 2.774 mm (0.1086 to 0.1092 in.)
2.774 to 2.790 mm (0.1093 to 0.1098 in.)
2.790 to 2.806 mm (0.1099 to 0.1104 in.)
2.806 to 2.822 mm (0.1105 to 0.1111 in.)

		2.822 to 2.838 mm (0.1112 to 0.1117 in.)
		2.838 to 2.854 mm (0.1118 to 0.1123 in.)
		2.854 to 2.870 mm (0.1124 to 0.1129 in.)
		2.870 to 2.886 mm (0.1130 to 0.1136 in.)
		2.886 to 2.902 mm (0.1137 to 0.1142 in.)
		2.902 to 2.918 mm (0.1143 to 0.1148 in.)
		2.918 to 2.934 mm (0.1149 to 0.1155 in.)
		2.934 to 2.950 mm (0.1156 to 0.1161 in.)
		2.950 to 2.966 mm (0.1162 to 0.1167 in.)
Front transmission bearing retainer oil seal drive in depth	Standard	0.8 to 1.8 mm (0.0315 to 0.0708 in.)

INPUT SHAFT

3rd gear thrust clearance		Standard	0.200 to 0.490 mm (0.0079 to 0.0192 in.)
3rd gear radial clearance		Standard	0.0150 to 0.065 mm (0.0006 to 0.0025 in.)
6th gear sub-assembly thrust clearance		Standard	0.150 to 0.580 mm (0.0059 to 0.0228 in.)
6th gear sub-assembly radial clearance		Standard	0.015 to 0.067 mm (0.0006 to 0.0026 in.)
5rd gear thrust clearance		Standard	0.150 to 0.410 mm (0.0060 to 0.0161 in.)
5th gear radial clearance		Standard	0.013 to 0.054 mm (0.0006 to 0.0021 in.)
Input shaft runout		Maximum	0.03 mm (0.0012 in.)
Input shaft journal diameter	Journal A	Standard	34.009 to 34.022 mm (1.3390 to 1.3394 in.)
		Minimum	34.009 mm (1.3389 in.)
	Journal B	Standard	44.985 to 45.000 mm (1.7711 to 1.7716 in.)
		Minimum	44.985 mm (1.7711 in.)

		Journal C	Standard	44.985 to 45.000 mm (1.7711 to 1.7716 in.)
			Minimum	44.985 mm (1.7711 in.)
		Journal D	Standard	44.985 to 45.000 mm (1.7711 to 1.7716 in.)
			Minimum	44.985 mm (1.7711 in.)
		Journal E	Standard	32.967 to 32.98 mm (1.2980 to 1.2984 in.)
			Minimum	32.967 mm (1.2980 in.)
5th gear inside diameter			Standard	53.013 to 53.029 mm (2.0872 to 2.0877 in.)
			Maximum	53.029 mm (2.0877 in.)
6th gear sub-assembly inside diameter			Standard	51.015 to 51.040 mm (2.0085 to 2.0094 in.)
			Maximum	51.040 mm (2.0094 in.)
3rd gear inside diameter			Standard	51.015 to 51.040 mm (2.0085 to 2.0094 in.)
			Maximum	51.040 mm (2.0094 in.)
No. 2 transmission hub sleeve clearance	No. 2 gear shift fork	Standard	0.28 to 0.84 mm (0.0111 to 0.0331 in.)	
	No. 3 gear shift fork	Standard	0.28 to 0.84 mm (0.0111 to 0.0331 in.)	
No. 3 synchronizer ring and 5th gear clearance			Standard	0.77 to 1.63 mm (0.0304 to 0.0641 in.)
			Minimum	0.77 mm (0.0304 in.)
No. 3 synchronizer ring and 6th gear clearance			Standard	0.77 to 1.63 mm (0.0304 to 0.0641 in.)
			Minimum	0.77 mm (0.0304 in.)
No. 3 synchronizer ring and 3rd gear clearance			Standard	0.86 to 2.02 mm (0.0339 to 0.0795 in.)
			Minimum	0.86 mm (0.0339 in.)
3rd gear thrust washer thickness			Standard	7.62 to 7.68 mm (0.3000 to 0.3023 in.)
			Minimum	7.62 mm (0.3000 in.)
Input shaft bearing snap ring clearance			Standard	0.1 mm (0.00394 in.) or less
Input shaft bearing snap ring thickness			Standard	2.65 to 2.70 mm (0.1044 to 0.1062 in.)
				2.70 to 2.75 mm (0.1063 to 0.1082 in.)
				2.75 to 2.80 mm (0.1083 to 0.1102 in.)
				2.80 to 2.85 mm (0.1103 to 0.1122 in.)
				2.85 to 2.90 mm (0.1122 to 0.1141 in.)
				2.90 to 2.95 mm (0.1142 to 0.1161 in.)
Clutch hub set shaft snap ring clearance			Standard	0.1 mm (0.00394 in.) or less
Clutch hub set shaft snap ring thickness			Standard	1.80 to 1.85 mm (0.0709 to 0.0728 in.)

		1.85 to 1.90 mm (0.0729 to 0.0748 in.)
		1.90 to 1.95 mm (0.0749 to 0.0767 in.)
		1.95 to 2.00 mm (0.0768 to 0.0787 in.)
		2.00 to 2.05 mm (0.0788 to 0.0807 in.)
		2.05 to 2.10 mm (0.0808 to 0.0826 in.)
Gear thrust washer shaft snap ring clearance	Standard	0.1 mm (0.00394 in.) or less
Gear thrust washer shaft snap ring thickness	Standard	2.07 to 2.12 mm (0.0815 to 0.0834 in.)
		2.12 to 2.17 mm (0.0835 to 0.0854 in.)
		2.17 to 2.22 mm (0.0855 to 0.0874 in.)
		2.22 to 2.27 mm (0.0875 to 0.0893 in.)
		2.27 to 2.32 mm (0.0894 to 0.0913 in.)
		2.32 to 2.37 mm (0.0914 to 0.0933 in.)
No. 2 clutch hub setting shaft snap ring clearance	Standard	0.1 mm (0.00394 in.) or less
No. 2 clutch hub setting shaft snap ring thickness	Standard	2.50 to 2.55 mm (0.0983 to 0.1004 in.)
		2.55 to 2.60 mm (0.1004 to 0.1023 in.)
		2.60 to 2.65 mm (0.1024 to 0.1043 in.)
		2.65 to 2.70 mm (0.1044 to 0.1062 in.)
		2.70 to 2.75 mm (0.1063 to 0.1082 in.)
		2.75 to 2.80 mm (0.1083 to 0.1102 in.)

OUTPUT SHAFT

Output shaft inside diameter	Standard	45.009 to 45.025 mm (1.7721 to 1.7726 in.)
	Maximum	45.025 mm (1.7726 in.)

COUNTER GEAR

Countershaft reverse gear thrust clearance	Standard	0.150 to 0.300 mm (0.0060 to 0.0118 in.)
Countershaft reverse gear radial clearance	Standard	0.0150 to 0.065 mm (0.0060 to 0.0025 in.)
Countershaft 1st speed gear thrust clearance	Standard	0.150 to 0.480 mm (0.0060 to 0.0188 in.)
Countershaft 1st speed gear radial clearance	Standard	0.015 to 0.067 mm (0.0006 to 0.0026 in.)
Countershaft 2nd speed gear thrust clearance	Standard	0.150 to 0.480 mm (0.0060 to 0.0188 in.)
Countershaft 2nd speed gear radial clearance	Standard	0.015 to 0.067 mm (0.0006 to 0.0026 in.)
Counter gear runout	Maximum	0.03 mm (0.0012 in.)

Counter gear standard outside diameter	Journal A	Standard	35.002 to 35.015 mm (1.3781 to1.3785 in.)
		Minimum	35.002 mm (1.3781 in.)
	Journal B	Standard	36.985 to 37.000 mm (1.4561 to1.4566 in.)
		Minimum	36.985 mm (1.4561 in.)
	Journal C	Standard	47.985 to 48.000 mm (1.8892 to1.8897 in.)
		Minimum	47.985 mm (1.8892 in.)
	Journal D	Standard	53.985 to 54.000 mm (2.1254 to2.1259 in.)
		Minimum	53.985 mm (2.1254 in.)
Journal E	Standard	34.002 to 34.015 mm (1.3387 to1.3391 in.)	
	Minimum	34.002 mm (1.3387 in.)	
Countershaft reverse gear inside diameter		Standard	51.015 to 51.040 mm (2.0085 to 2.0094 in.)
		Maximum	51.040 mm (2.0094 in.)
Countershaft 1st speed gear inside diameter		Standard	54.015 to 54.040 mm (2.1266 to 2.1275 in.)
		Maximum	54.040 mm (2.1275 in.)
Countershaft 2st peed gear inside diameter		Standard	60.015 to 60.040 mm (2.3628 to 2.3637 in.)
		Maximum	60.040 mm (2.3637 in.)
Clearance of No. 4 transmission hub sleeve with No. 4 shift fork		Standard	0.30 to 0.50 mm (0.012 to 0.019 in.)
Clearance of No. 1 transmission hub sleeve with No. 1 shift fork		Standard	0.15 to 0.35 mm (0.006 to 0.013 in.)
Clearance of No. 1 synchronizer ring set with countershaft 1st speed gear		Standard	0.83 to 1.77 mm (0.0327 to 0.0696 in.)
		Minimum	0.83 mm (0.0326 in.)
Clearance of No. 2 synchronizer ring set with countershaft 2nd speed gear		Standard	0.88 to 1.72 mm (0.0347 to 0.0677 in.)
		Minimum	0.88 mm (0.0347 in.)
Clearance of synchronizer ring with countershaft 2nd speed gear		Standard	0.65 to 1.35 mm (0.0256 to 0.0531 in.)
		Minimum	0.65 mm (0.0256 in.)
No. 1 clutch hub shaft snap ring clearance		Standard	0.1 mm (0.00394 in.) or less
No. 1 clutch hub shaft snap ring thickness		Standard	2.28 to 2.33 mm (0.0898 to 0.0917 in.)

		2.33 to 2.38 mm (0.0918 to 0.0937 in.)
		2.38 to 2.43 mm (0.0938 to 0.0956 in.)
		2.43 to 2.48 mm (0.0957 to 0.0976 in.)
		2.48 to 2.53 mm (0.0977 to 0.0996 in.)
		2.53 to 2.58 mm (0.0997 to 0.1015 in.)
Rear counter gear bearing snap ring clearance	Standard	0.1 mm (0.00394 in.) or less
Rear counter gear bearing snap ring thickness	Standard	2.45 to 2.50 mm (0.0965 to 0.0984 in.)
		2.50 to 2.55 mm (0.0985 to 0.1003 in.)
		2.55 to 2.60 mm (0.1004 to 0.1023 in.)
		2.60 to 2.65 mm (0.1024 to 0.1043 in.)
		2.65 to 2.70 mm (0.1044 to 0.1062 in.)
		2.70 to 2.75 mm (0.1063 to 0.1082 in.)
		2.75 to 2.80 mm (0.1083 to 0.1102 in.)



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Title: SERVICE SPECIFICATIONS: RC62F MANUAL TRANSMISSION: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

MANUAL TRANSMISSION OIL

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Transmission filler plug x Manual transmission case	37	377	27
Drain plug sub-assembly x Manual transmission case	37	377	27

MANUAL TRANSMISSION OIL

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Back-up light switch assembly x Manual transmission case	44	449	32

MANUAL TRANSMISSION ASSEMBLY

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Wiring harness clamp bracket x Manual transmission assembly	8.0	82	71 in.*lbf
Transmission breather bracket x Manual transmission assembly	19	194	14
Manual transmission unit assembly x Engine Bolt A	72	729	53
Manual transmission unit assembly x Engine Bolt B	37	377	27
Rear No. 1 engine mounting insulator x Manual transmission assembly	58	591	43
No. 3 frame crossmember sub-assembly x Frame	40	408	30
No. 3 frame crossmember x Rear engine mounting insulator	21	214	15
Front suspension member bracket LH and RH x No. 3 frame crossmember sub-assembly and vehicle body	33	337	24

MANUAL TRANSMISSION UNIT

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
No. 3 gear shift fork shaft x No. 3 gear shift fork	20	199	14
No. 1 gear shift fork shaft x No. 1 gear shift fork	20	199	14
No. 2 gear shift fork shaft x No. 2 gear shift fork	20	199	14
Shift and select lever shaft x Shift lever housing	50	511	37
Bearing lock plate x Rear transmission case	11	115	8
Output shaft x Manual transmission output shaft rear set nut	187	1907	138
No. 4 gear shift fork x No. 4 gear shift fork shaft	20	199	14

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Transmission oil separator sub-assembly x Transmission intermediate plate	18	184	13
Shift inter lock plate stopper x Transmission intermediate plate	24	243	18
Manual transmission case x Rear transmission case	37	337	27
Reverse idler gear shaft x Reverse idler gear shaft bolt	25	255	18
Counter gear shaft x Counter gear shaft nut	40	408	30
Front bearing retainer x Front transmission case	40	408	30
Clutch housing x Manual transmission case sub-assembly	36	367	27
Manual transmission case cover x Rear transmission case	18	184	13
Shift lever housing x Extension housing	50	511	37
Floor shift control shift lever retainer sub-assembly x Extension housing	18	184	13
No. 2 with head straight screw plug x Rear transmission case	25	250	18
Shift detent ball plug x Rear transmission case	22	224	16
Manual transmission case plug x Manual transmission case	37	377	27
Back-up light switch bracket x Manual transmission case	13	128	9



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001XJT00AX
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Title: SERVICE SPECIFICATIONS: SEAT BELT: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

FRONT SEAT INNER BELT ASSEMBLY:

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Front seat inner belt assembly x Front seat frame adjuster assembly	42	428	31
Negative battery terminal x Battery	5.4	55	48 in.*lbf

FRONT SEAT OUTER BELT ASSEMBLY (for Double Cab):

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Front shoulder belt anchor adjuster assembly x Body	42	428	31
Front seat outer belt assembly x Body (for Retractor Upper)	12.5	127	9
Front seat outer belt assembly x Front shoulder belt anchor adjuster assembly (for Shoulder Anchor)	42	428	31
Front seat outer belt assembly x Body (for Floor Anchor)	42	428	31
Negative battery terminal x Battery	5.4	55	48 in.*lbf

FRONT SEAT OUTER BELT ASSEMBLY (for Access Cab):

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Front shoulder belt anchor adjuster assembly x Rear door panel sub-assembly	42	428	31
Front seat outer belt assembly x Body (for Retractor Upper)	12.5	127	9
Front seat outer belt assembly x Body (for Retractor Lower)	42	428	31
Front seat outer belt assembly x Front shoulder belt anchor adjuster assembly (for shoulder anchor)	42	428	31
Negative battery terminal x Battery	5.4	55	48 in.*lbf

REAR SEAT INNER ASSEMBLY (for Double Cab):

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Rear seat inner belt assembly x Body	42	428	31

REAR SEAT INNER ASSEMBLY (for Access Cab):

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Rear seat inner belt assembly x Body	42	430	31

REAR SEAT OUTER BELT ASSEMBLY (for Double Cab):

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Rear seat outer belt assembly x Body (for Retractor Upper)	12.5	127	9
Rear seat outer belt assembly x Body (for Retractor Lower)	42	428	31
Rear seat outer belt assembly x Body (for Shoulder Anchor)	42	428	31
Rear seat outer belt assembly x Body (for Floor Anchor)	42	428	31

REAR SEAT OUTER BELT ASSEMBLY (for Access Cab):

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Rear seat outer belt assembly x Body (for Retractor Upper)	12.5	127	9
Rear seat outer belt assembly x Body (for Shoulder Anchor)	42	428	31
Rear seat outer belt assembly x Body (for Floor Anchor)	42	428	31
Back panel trim x Body	5.5	56	48 in.*lbf

REAR CENTER SEAT OUTER BELT ASSEMBLY (for Double Cab):

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Rear center seat outer belt assembly x Rear seatback frame sub-assembly Body	42	428	31
Rear center seat outer belt assembly x Body (for Floor Anchor)	42	428	31



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Title: SERVICE SPECIFICATIONS: SEAT: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

FRONT SEAT ASSEMBLY (for Driver Side):

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Lower active headrest unit x Front seat frame with adjuster assembly	5.0	51	44 in.*lbf
Upper active headrest unit x Front seat frame with adjuster assembly	14	143	10
Lower active headrest unit x Upper active headrest unit	5.0	51	44 in.*lbf
Front seat air bag assembly x Front seat frame with adjuster assembly	8.0	82	71 in.*lbf
Front seat back cover x Front seat frame with adjuster assembly (for Front Seat Side Airbag)	5.5	55	49 in.*lbf
Front seat inner belt assembly x Front seat frame with adjuster assembly	42	428	31
Front seat assembly x Body	37	377	27
Negative battery terminal x Battery	5.4	55	48 in.*lbf

FRONT SEAT ASSEMBLY (for Front Passenger Side):

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Front seat back cover x Front seat frame adjuster assembly (for Front Seat Side Airbag)	5.5	55	49 in.*lbf
Front seat inner belt assembly x Front seat frame adjuster assembly	42	430	31
Lower active headrest unit x Front seat back frame	14	142	10
Upper active headrest unit x Front seat back frame	5.0	51	44 in.*lbf
Front seat assembly x Body	37	375	27
Negative battery terminal x Battery	5.4	55	48 in.*lbf

FRONT SEAT ASSEMBLY (for Front Passenger Side):

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Lower active headrest unit x Front seat frame with adjuster assembly	5.0	51	44 in.*lbf
Upper active headrest unit x Front seat frame with adjuster assembly	14	143	10

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Lower active headrest unit x Upper active headrest unit	5.0	51	44 in.*lbf
Front seat air bag assembly x Front seat frame with adjuster assembly	8.0	82	71 in.*lbf
Front seat back cover x Front seat frame with adjuster assembly (for Front Seat Side Airbag)	5.5	55	49 in.*lbf
Front seat inner belt assembly x Front seat frame with adjuster assembly	42	428	31
Front seat assembly x Body	37	377	27
Negative battery terminal x Battery	5.4	55	48 in.*lbf

FRONT SEAT ASSEMBLY (for Bench Seat Type):

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Seat track handle sub-assembly x Front seat cushion spring assembly	14	145	10
Front seat outer track assembly x Front seat cushion spring assembly	20	205	15
Front seat track rear bracket x Front seat outer track assembly	32	325	24
Front seat track front bracket x Front seat outer track assembly	32	325	24
Front seat back assembly x Front seat cushion spring assembly	42	430	31
Front seat assembly x Body	37	375	27
Negative battery terminal x Battery	5.4	55	48 in.*lbf

REAR SEAT ASSEMBLY (for LH Side):

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Rear seat back lock assembly x Rear seat back frame sub-assembly	30	306	22
Rear seat cushion hinge sub-assembly x Rear seat cushion frame sub-assembly	21	214	15
Rear seat back center hinge sub-assembly x Body	30	306	22
Rear seat back hinge sub-assembly x Body	30	306	22
Rear seat back assembly x Rear seat back center hinge sub-assembly	37	377	27
Rear seat back assembly x Rear seat back hinge sub-assembly	37	377	27
Rear seat cushion assembly x Body	37	377	27

REAR SEAT ASSEMBLY (for RH Side):

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Rear seat back lock assembly x Rear seat back frame sub-assembly	30	306	22
Rear center seat outer belt assembly x Rear seat back frame sub-assembly	42	428	31
Rear seat cushion hinge sub-assembly x Rear seat cushion frame sub-assembly	21	214	15
Rear seat back center hinge sub-assembly x Rear seat back frame sub-assembly	37	377	27

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Rear seat back hinge sub-assembly x Body	30	306	22
Rear seat back assembly x Rear seat back center hinge sub-assembly	37	375	27
Rear seat back assembly x Rear seat back hinge sub-assembly	37	375	27
Rear center seat outer belt assembly x Body (for Floor Anchor)	42	428	31
Rear seat cushion assembly x Body	37	375	27

REAR SEAT ASSEMBLY (for Access Cab):

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Rear seat cushion support bracket x Rear seat cushion frame sub-assembly	for Torx	13	127	9
	for Bolt	18	184	13
Rear seat hinge sub-assembly x Rear seat cushion frame sub-assembly		18	184	13
Child restraint seat anchor bracket sub-assembly x Body		30	306	22
Rear seat headrest assembly x Body		20	204	15
Rear seat cushion assembly x Body		30	306	22
Rear seat lock assembly x Rear seat cushion frame sub-assembly		7.0	71	62 in.*lbf
Back panel trim x Body		5.5	56	49 in.*lbf



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Title: SERVICE SPECIFICATIONS: SLIDING ROOF: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED		N*M	KGF*CM	FT.*LBF
Sliding roof drain hose joint LH x Sliding roof housing sub-assembly		1.5	15	13 in.*lbf
Sliding roof drain hose joint RH x Sliding roof housing sub-assembly		1.5	15	13 in.*lbf
Sliding roof drive gear sub-assembly x Sliding roof housing sub-assembly		5.4	55	48 in.*lbf
Sliding roof housing bracket LH x Body	bolt A	34	350	25
	bolt B	5.4	55	48 in.*lbf
Roof panel support LH(for Rear Side) x Body	bolt A	34	350	25
	bolt B	5.4	55	48 in.*lbf
Roof panel support LH(for Front Side) x Body	bolt A	34	350	25
	bolt B	5.4	55	48 in.*lbf
Sliding roof glass sub-assembly x Sliding roof housing sub-assembly		4.0	41	35 in.*lbf



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Title: SERVICE SPECIFICATIONS: SUPPLEMENTAL RESTRAINT SYSTEM: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Steering pad x Steering wheel assembly	8.8	90	78 in.*lbf
Lower No. 1 instrument panel airbag assembly x Instrument panel reinforcement	10	102	7
Lower No. 2 instrument panel airbag assembly x Instrument panel reinforcement	10	102	7
Curtain shield airbag assembly x Body	12.5	127	9
Front seat airbag assembly x Front seat	8.0	82	71 in.*lbf
Airbag sensor assembly x Body	17.5	178	13
Front airbag sensor set bolt	9.0	92	80 in.*lbf
Side airbag sensor x Body	9.0	92	80 in.*lbf
Rear airbag sensor x Body	9.0	92	80 in.*lbf
Seat position airbag sensor x Front seat	8.0	82	71 in.*lbf
Negative battery terminal x Battery	5.4	55	48 in.*lbf



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Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: STANDARD BOLT: HOW TO DETERMINE BOLT STRENGTH; 2016 MY Tacoma [08/2015 -]		

HOW TO DETERMINE BOLT STRENGTH

Bolt Type

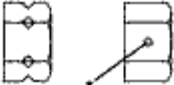
HEXAGON HEAD BOLT		STUD BOLT	WELD BOLT	CLASS
NORMAL RECESS BOLT	DEEP RECESS BOLT			
 No Mark	 No Mark	 No Mark		4T
 		-	-	5T
 w/ Washer	 w/ Washer		-	6T
 	 	-	-	7T
		 	-	8T
		-	-	9T
	 	-	-	10T
	 	-	-	11T



Last Modified: 11-13-2015	6.6 F	Doc ID: RM00000118X0GNX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: STANDARD BOLT: HOW TO DETERMINE NUT STRENGTH; 2016 MY Tacoma [08/2015 -]		

HOW TO DETERMINE NUT STRENGTH

Nut Type

PRESENT STANDARD HEXAGON NUT	OLD STANDARD HEXAGON NUT		CLASS
	COLD FORGING NUT	CUTTING PROCESSED NUT	
 No Mark	-	-	4N
 No Mark (w/ Washer)	 No Mark (w/ Washer)	 No Mark	5N (4T)
	-	-	6N
-			7N (5T)
	-	-	8N
		 No Mark	10N (7T)
	-	-	11N
	-	-	12N

HINT:

- *: Nut with 1 or more marks on one side surface of the nut.
- Use a nut with the same nut strength classification number (or more) as the bolt strength classification number when tightening parts with a bolt and nut.

Example:

- Bolt = 4T
- Nut = 4N or more



Last Modified: 11-13-2015	6.6 F	Doc ID: RM00000118W0GNX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: STANDARD BOLT: SPECIFIED TORQUE FOR STANDARD BOLTS; 2016 MY Tacoma [08/2015 -]		

SPECIFIED TORQUE FOR STANDARD BOLTS

CLASS	DIAMETER (MM)	PITCH (MM)	SPECIFIED TORQUE					
			HEXAGON HEAD BOLT			HEXAGON FLANGE BOLT		
			N*M	KGF*CM	FT.*LBF	N*M	KGF*CM	FT.*LBF
4T	6	1	5	55	48 in.*lbf	6	60	52 in.*lbf
	8	1.25	12.5	130	9	14	145	10
	10	1.25	26	260	19	29	290	21
	12	1.25	47	480	35	53	540	39
	14	1.5	74	760	55	84	850	61
	16	1.5	115	1150	83	-	-	-
5T	6	1	6.5	65	56 in.*lbf	7.5	75	65 in.*lbf
	8	1.25	15.5	160	12	17.5	175	13
	10	1.25	32	330	24	36	360	26
	12	1.25	59	600	43	65	670	48
	14	1.5	91	930	67	100	1050	76
	16	1.5	140	1400	101	-	-	-
6T	6	1	8	80	69 in.*lbf	9	90	78 in.*lbf
	8	1.25	19	195	14	21	210	15
	10	1.25	39	400	29	44	440	32
	12	1.25	71	730	53	80	810	59
	14	1.5	110	1100	80	125	1250	90
	16	1.5	170	1750	127	-	-	-
7T	6	1	10.5	110	8	12	120	9
	8	1.25	25	260	19	28	290	21
	10	1.25	52	530	38	58	590	43
	12	1.25	95	970	70	105	1050	76
	14	1.5	145	1500	108	165	1700	123
	16	1.5	230	2300	166	-	-	-
8T	8	1.25	29	300	22	33	330	24
	10	1.25	61	620	45	68	690	50
	12	1.25	110	1100	80	120	1250	90

CLASS	DIAMETER (MM)	PITCH (MM)	SPECIFIED TORQUE					
			HEXAGON HEAD BOLT			HEXAGON FLANGE BOLT		
			N*M	KGF*CM	FT.*LBF	N*M	KGF*CM	FT.*LBF
9T	8	1.25	34	340	25	37	380	27
	10	1.25	70	710	51	78	790	57
	12	1.25	125	1300	94	140	1450	105
10T	8	1.25	38	390	28	42	430	31
	10	1.25	78	800	58	88	890	64
	12	1.25	140	1450	105	155	1600	116
11T	8	1.25	42	430	31	47	480	35
	10	1.25	87	890	64	97	990	72
	12	1.25	155	1600	116	175	1800	130



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001Y9600AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: STEERING COLUMN: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Steering wheel free play	Maximum	30 mm (1.18 in.)
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Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001Y9700AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: STEERING COLUMN: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Steering wheel set nut	50	510	37
Steering column assembly set nut and bolt	21	210	16
Main shaft assembly x Steering intermediate shaft	35	357	26
Steering sliding yoke x No. 2 Intermediate shaft	35	357	26
Power steering gear box x No. 2 intermediate shaft	35	357	26
Steering sliding yoke x intermediate shaft	35	357	26



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001XCH00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: SUSPENSION: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Vehicle Height (Unloaded Vehicle):

VEHICLE MODEL	TIRE SIZE	FRONT A - B	REAR C - D
TRN245L-CRMSKA	P245/75R16	65 mm (2.56 in.)	-39 mm (-1.54 in.)
TRN245L-CRMSKA (FIRM SUSPENSION)	P245/75R16	65 mm (2.56 in.)	-46 mm (-1.81 in.)
TRN245L-CRTSKA	P245/75R16	67 mm (2.64 in.)	-39 mm (-1.54 in.)
TRN245L-CRTSKA (FIRM SUSPENSION)	P245/75R16	67 mm (2.64 in.)	-47 mm (-1.85 in.)
GRN305L-CRFSHA	P245/75R16	65 mm (2.56 in.)	-37 mm (-1.46 in.)
	265/70R16	66 mm (2.6 in.)	-39 mm (-1.54 in.)
	P265/65R17	65 mm (2.56 in.)	-37 mm (-1.46 in.)
GRN305L-CRFSHA (FIRM SUSPENSION)	P245/75R16	65 mm (2.56 in.)	-45 mm (-1.77 in.)
	265/70R16	66 mm (2.6 in.)	-47 mm (-1.85 in.)
	P265/65R17	65 mm (2.56 in.)	-45 mm (-1.77 in.)
GRN305L-CRTSHA	P245/75R16	64 mm (2.52 in.)	-39 mm (-1.54 in.)
	265/70R16	65 mm (2.56 in.)	-41 mm (-1.61 in.)
	P265/65R17	64 mm (2.52 in.)	-39 mm (-1.54 in.)
GRN305L-CRTSHA (FIRM SUSPENSION)	P245/75R16	64 mm (2.52 in.)	-47 mm (-1.85 in.)
	265/70R16	66 mm (2.6 in.)	-49 mm (-1.93 in.)
	P265/65R17	64 mm (2.52 in.)	-47 mm (-1.85 in.)
GRN305L-PRFSHA	P245/75R16	64 mm (2.52 in.)	-32 mm (-1.26 in.)
	265/70R16	65 mm (2.56 in.)	-34 mm (-1.34 in.)
	P265/65R17	64 mm (2.52 in.)	-32 mm (-1.26 in.)
GRN305L-PRFSHA (FIRM SUSPENSION)	P245/75R16	65 mm (2.56 in.)	-40 mm (-1.57 in.)
	265/70R16	66 mm (2.6 in.)	-41 mm (-1.61 in.)
	P265/65R17	65 mm (2.56 in.)	-40 mm (-1.57 in.)
GRN305L-PRTSHA	P245/75R16	65 mm (2.56 in.)	-33 mm (-1.3 in.)
	265/70R16	66 mm (2.6 in.)	-34 mm (-1.34 in.)
	P265/65R17	65 mm (2.56 in.)	-33 mm (-1.3 in.)
GRN305L-PRTSHA (FIRM SUSPENSION)	P245/75R16	66 mm (2.6 in.)	-41 mm (-1.61 in.)
	265/70R16	66 mm (2.6 in.)	-42 mm (-1.65 in.)

VEHICLE MODEL	TIRE SIZE	FRONT A - B	REAR C - D
	P265/65R17	66 mm (2.6 in.)	-41 mm (-1.61 in.)
GRN310L-PRTSHA	P245/75R16	64 mm (2.52 in.)	-34 mm (-1.34 in.)
	265/70R16	64 mm (2.52 in.)	-36 mm (-1.42 in.)
	P265/65R17	64 mm (2.52 in.)	-34 mm (-1.34 in.)
GRN310L-PRTSHA (FIRM SUSPENSION)	P245/75R16	65 mm (2.56 in.)	-42 mm (-1.65 in.)
	265/70R16	65 mm (2.56 in.)	-44 mm (-1.73 in.)
	P265/65R17	65 mm (2.56 in.)	-42 mm (-1.65 in.)
GRN305L-PRTSHA	P265/65R17	54 mm (2.13 in.)	-43 mm (-1.69 in.)
TRN265L-CRTSKA	P245/75R16	63 mm (2.48 in.)	-39 mm (-1.54 in.)
TRN265L-CRTSKA (FIRM SUSPENSION)	P245/75R16	63 mm (2.48 in.)	-47 mm (-1.85 in.)
TRN265-PRTSKA	P245/75R16	67 mm (2.64 in.)	35 mm (-1.38 in.)
TRN265-PRTSKA (FIRM SUSPENSION)	P245/75R16	67 mm (2.64 in.)	-43 mm (-1.69 in.)
GRN325L-CRTSHA	P245/75R16	66 mm (2.6 in.)	-42 mm (-1.65 in.)
	265/70R16	66 mm (2.6 in.)	-46 mm (-1.81 in.)
	P265/65R17	66 mm (2.6 in.)	-44 mm (-1.73 in.)
GRN325L-CRTSHA (FIRM SUSPENSION)	P245/75R16	66 mm (2.6 in.)	-52 mm (-2.05 in.)
	265/70R16	67 mm (2.64 in.)	-41 mm (-1.61 in.)
	P265/65R17	67 mm (2.64 in.)	-49 mm (-1.93 in.)
GRN325L-PRTSHA	P245/75R16	65 mm (2.56 in.)	-35 mm (-1.38 in.)
	265/70R16	66 mm (2.6 in.)	-37 mm (-1.46 in.)
	P265/65R17	65 mm (2.56 in.)	-35 mm (-1.38 in.)
GRN325L-PRTSHA (FIRM SUSPENSION)	P245/75R16	66 mm (2.6 in.)	-43 mm (-1.69 in.)
	265/70R16	66 mm (2.6 in.)	-45 mm (-1.77 in.)
	P265/65R17	66 mm (2.6 in.)	-42 mm (-1.65 in.)
GRN330L-PRTSHA	P245/75R16	62 mm (2.44 in.)	-37 mm (-1.46 in.)
	265/70R16	65 mm (2.56 in.)	-39 mm (-1.54 in.)
	P265/65R17	62 mm (2.44 in.)	-37 mm (-1.46 in.)
GRN330L-PRTSHA (FIRM SUSPENSION)	P245/75R16	63 mm (2.48 in.)	-45 mm (-1.77 in.)
	265/70R16	65 mm (2.56 in.)	-47 mm (-1.85 in.)
	P265/65R17	63 mm (2.48 in.)	-45 mm (-1.77 in.)
GRN325L-PRTSHA	P265/65R17	53 mm (2.09 in.)	41 mm (-1.61 in.)
GRN325L-PRTLHA	P265/60R18	64 mm (2.52 in.)	-33 mm (-1.3 in.)
GRN325L-PRTLHA (FIRM SUSPENSION)	P265/60R18	65 mm (2.56 in.)	-41 mm (-1.61 in.)

VEHICLE MODEL	TIRE SIZE	FRONT A - B	REAR C - D
GRN330L-PRTLHA	P265/60R18	63 mm (2.48 in.)	-36 mm (-1.42 in.)
GRN330L-PRTLHA (FIRM SUSPENSION)	P265/60R18	64 mm (2.52 in.)	-44 mm (-1.73 in.)
GRN305L-PRTLHA	P265/60R18	65 mm (2.56 in.)	-31 mm (-1.22 in.)
GRN305L-PRTLHA (FIRM SUSPENSION)	P265/60R18	66 mm (2.6 in.)	-40 mm (-1.57 in.)
GRN310L-PRTLHA	P265/60R18	64 mm (2.52 in.)	-33 mm (-1.3 in.)
GRN310L-PRTLHA (FIRM SUSPENSION)	P265/60R18	65 mm (2.56 in.)	-41 mm (-1.61 in.)

Camber, Caster and Steering Axis Inclination (Unloaded Vehicle):

VEHICLE MODEL	TIRE SIZE	CAMBER	CASTER	STEERING AXIS INCLINATION
TRN245L-CRMSKA	P245/75R16	0°32' +/- 45' (0.54° +/- 0.75°)	2°2' +/- 45' (2.03° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)
TRN245L-CRMSKA (FIRM SUSPENSION)	P245/75R16	0°32' +/- 45' (0.54° +/- 0.75°)	1°51' +/- 45' (1.85° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)
TRN245L-CRTSKA	P245/75R16	0°30' +/- 45' (0.50° +/- 0.75°)	2°2' +/- 45' (2.04° +/- 0.75°)	11°57' +/- 45' (11.95° +/- 0.75°)
TRN245L-CRTSKA (FIRM SUSPENSION)	P245/75R16	0°30' +/- 45' (0.50° +/- 0.75°)	1°52' +/- 45' (1.86° +/- 0.75°)	11°57' +/- 45' (11.95° +/- 0.75°)
GRN305L-CRFSHA	P245/75R16	0°32' +/- 45' (0.54° +/- 0.75°)	2°4' +/- 45' (2.06° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)
GRN305L-CRFSHA (FIRM SUSPENSION)	P245/75R16	0°32' +/- 45' (0.54° +/- 0.75°)	1°53' +/- 45' (1.89° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)
GRN305L-CRFSHA	265/70R16	0°31' +/- 45' (0.52° +/- 0.75°)	2°1' +/- 45' (2.01° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN305L-CRFSHA (FIRM SUSPENSION)	265/70R16	0°31' +/- 45' (0.52° +/- 0.75°)	1°50' +/- 45' (1.83° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN305L-CRFSHA	P265/65R17	0°32' +/- 45' (0.54° +/- 0.75°)	2°4' +/- 45' (2.06° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)
GRN305L-CRFSHA (FIRM SUSPENSION)	P265/65R17	0°32' +/- 45' (0.54° +/- 0.75°)	1°53' +/- 45' (1.89° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)
GRN305L-CRTSHA	P245/75R16	0°34' +/- 45' (0.56° +/- 0.75°)	1°59' +/- 45' (1.98° +/- 0.75°)	11°54' +/- 45' (11.90° +/- 0.75°)
GRN305L-CRTSHA (FIRM SUSPENSION)	P245/75R16	0°34' +/- 45' (0.56° +/- 0.75°)	1°48' +/- 45' (1.80° +/- 0.75°)	11°54' +/- 45' (11.90° +/- 0.75°)
GRN305L-CRTSHA	265/70R16	0°32' +/- 45' (0.54° +/- 0.75°)	1°55' +/- 45' (1.92° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)
GRN305L-CRTSHA (FIRM SUSPENSION)	265/70R16	0°32' +/- 45' (0.54° +/- 0.75°)	1°44' +/- 45' (1.74° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)

VEHICLE MODEL	TIRE SIZE	CAMBER	CASTER	STEERING AXIS INCLINATION
GRN305L-CRTSHA	P265/65R17	0°34' +/- 45' (0.56° +/- 0.75°)	1°59' +/- 45' (1.98° +/- 0.75°)	11°54' +/- 45' (11.90° +/- 0.75°)
GRN305L-CRTSHA (FIRM SUSPENSION)	P265/65R17	0°34' +/- 45' (0.56° +/- 0.75°)	1°48' +/- 45' (1.80° +/- 0.75°)	11°54' +/- 45' (11.90° +/- 0.75°)
GRN305L-PRFSHA	P245/75R16	0°32' +/- 45' (0.54° +/- 0.75°)	2°11' +/- 45' (2.19° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)
GRN305L-PRFSHA (FIRM SUSPENSION)	P245/75R16	0°32' +/- 45' (0.54° +/- 0.75°)	2°1' +/- 45' (2.01° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)
GRN305L-PRFSHA	265/70R16	0°31' +/- 45' (0.52° +/- 0.75°)	2°9' +/- 45' (2.15° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN305L-PRFSHA (FIRM SUSPENSION)	265/70R16	0°31' +/- 45' (0.52° +/- 0.75°)	1°58' +/- 45' (1.97° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN305L-PRFSHA	P265/65R17	0°32' +/- 45' (0.54° +/- 0.75°)	2°11' +/- 45' (2.19° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)
GRN305L-PRFSHA (FIRM SUSPENSION)	P265/65R17	0°32' +/- 45' (0.54° +/- 0.75°)	2°1' +/- 45' (2.01° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)
GRN305L-PRTSHA	P245/75R16	0°31' +/- 45' (0.52° +/- 0.75°)	2°10' +/- 45' (2.17° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN305L-PRTSHA (FIRM SUSPENSION)	P245/75R16	0°31' +/- 45' (0.52° +/- 0.75°)	1°59' +/- 45' (1.99° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN305L-PRTSHA	265/70R16	0°31' +/- 45' (0.52° +/- 0.75°)	2°8' +/- 45' (2.13° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN305L-PRTSHA (FIRM SUSPENSION)	265/70R16	0°31' +/- 45' (0.52° +/- 0.75°)	1°58' +/- 45' (1.96° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN305L-PRTSHA	P265/65R17	0°31' +/- 45' (0.52° +/- 0.75°)	2°11' +/- 45' (2.19° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN305L-PRTSHA (FIRM SUSPENSION)	P265/65R17	0°31' +/- 45' (0.52° +/- 0.75°)	2°1' +/- 45' (2.01° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN310L-PRTSHA	P245/75R16	0°32' +/- 45' (0.54° +/- 0.75°)	2°10' +/- 45' (2.17° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)
GRN310L-PRTSHA (FIRM SUSPENSION)	P245/75R16	0°32' +/- 45' (0.54° +/- 0.75°)	2°1' +/- 45' (2.01° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)
GRN310L-PRTSHA	265/70R16	0°32' +/- 45' (0.54° +/- 0.75°)	2°8' +/- 45' (2.13° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)
GRN310L-PRTSHA (FIRM SUSPENSION)	265/70R16	0°32' +/- 45' (0.54° +/- 0.75°)	1°58' +/- 45' (1.97° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)
GRN310L-PRTSHA	P265/65R17	0°32' +/- 45' (0.54° +/- 0.75°)	2°10' +/- 45' (2.16° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)
GRN310L-PRTSHA (FIRM SUSPENSION)	P265/65R17	0°32' +/- 45' (0.54° +/- 0.75°)	2° +/- 45' (2.00° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)

VEHICLE MODEL	TIRE SIZE	CAMBER	CASTER	STEERING AXIS INCLINATION
GRN305L-PRTSHA	P265/65R17	0°42' +/- 45' (0.70° +/- 0.75°)	1°50' +/- 45' (1.83° +/- 0.75°)	11°45' +/- 45' (11.75° +/- 0.75°)
TRN265L-CRTSKA	P245/75R16	0°35' +/- 45' (0.58° +/- 0.75°)	2°2' +/- 45' (2.03° +/- 0.75°)	11°53' +/- 45' 11.88° +/- 0.75°
TRN265L-CRTSKA (FIRM SUSPENSION)	P245/75R16	0°35' +/- 45' (0.58° +/- 0.75°)	1°51' +/- 45' (1.85° +/- 0.75°)	11°53' +/- 45' 11.88° +/- 0.75°
TRN265-PRTSKA	P245/75R16	0°30' +/- 45' (0.50° +/- 0.75°)	2°10' +/- 45' (2.17° +/- 0.75°)	11°57' +/- 45' (11.95° +/- 0.75°)
TRN265-PRTSKA (FIRM SUSPENSION)	P245/75R16	0°30' +/- 45' (0.50° +/- 0.75°)	1°59' +/- 45' (1.99° +/- 0.75°)	11°57' +/- 45' (11.95° +/- 0.75°)
GRN325L-CRTSHA	P245/75R16	0°31' +/- 45' (0.52° +/- 0.75°)	1°59' +/- 45' (1.99° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN325L-CRTSHA (FIRM SUSPENSION)	P245/75R16	0°31' +/- 45' (0.52° +/- 0.75°)	1°53' +/- 45' (1.89° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN325L-CRTSHA	265/70R16	0°31' +/- 45' (0.52° +/- 0.75°)	1°55' +/- 45' (1.92° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN325L-CRTSHA (FIRM SUSPENSION)	265/70R16	0°31' +/- 45' (0.52° +/- 0.75°)	1°44' +/- 45' (1.74° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN325L-CRTSHA	P265/65R17	0°31' +/- 45' (0.52° +/- 0.75°)	1°58' +/- 45' (1.97° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN325L-CRTSHA (FIRM SUSPENSION)	P265/65R17	0°31' +/- 45' (0.52° +/- 0.75°)	1°48' +/- 45' (1.80° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN325L-PRTSHA	P245/75R16	0°31' +/- 45' (0.52° +/- 0.75°)	2°10' +/- 45' (2.17° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN325L-PRTSHA (FIRM SUSPENSION)	P245/75R16	0°31' +/- 45' (0.52° +/- 0.75°)	1°59' +/- 45' (1.99° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN325L-PRTSHA	265/70R16	0°31' +/- 45' (0.52° +/- 0.75°)	2°6' +/- 45' (2.10° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN325L-PRTSHA (FIRM SUSPENSION)	265/70R16	0°31' +/- 45' (0.52° +/- 0.75°)	1°55' +/- 45' (1.92° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN325L-PRTSHA	P265/65R17	0°31' +/- 45' (0.52° +/- 0.75°)	2°9' +/- 45' (2.15° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN325L-PRTSHA (FIRM SUSPENSION)	P265/65R17	0°31' +/- 45' (0.52° +/- 0.75°)	1°58' +/- 45' (1.97° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN330L-PRTSHA	P245/75R16	0°35' +/- 45' (0.58° +/- 0.75°)	2°7' +/- 45' (2.11° +/- 0.75°)	11°53' +/- 45' (11.88° +/- 0.75°)
GRN330L-PRTSHA (FIRM SUSPENSION)	P245/75R16	0°35' +/- 45' (0.58° +/- 0.75°)	1°57' +/- 45' (1.95° +/- 0.75°)	11°53' +/- 45' (11.88° +/- 0.75°)
GRN330L-PRTSHA	265/70R16	0°32' +/- 45' (0.54° +/- 0.75°)	2°5' +/- 45' (2.09° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)

VEHICLE MODEL	TIRE SIZE	CAMBER	CASTER	STEERING AXIS INCLINATION
GRN330L-PRTSHA (FIRM SUSPENSION)	265/70R16	0°32' +/- 45' (0.54° +/- 0.75°)	1°56' +/- 45' (1.93° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)
GRN330L-PRTSHA	P265/65R17	0°35' +/- 45' (0.58° +/- 0.75°)	2°6' +/- 45' (2.11° +/- 0.75°)	11°53' +/- 45' (11.88° +/- 0.75°)
GRN330L-PRTSHA (FIRM SUSPENSION)	P265/65R17	0°35' +/- 45' (0.58° +/- 0.75°)	1°57' +/- 45' (1.95° +/- 0.75°)	11°53' +/- 45' (11.88° +/- 0.75°)
GRN325L-PRTSHA	P265/65R17	0°43' +/- 45' (0.71° +/- 0.75°)	1°52' +/- 45' (1.87° +/- 0.75°)	11°44' +/- 45' (11.74° +/- 0.75°)
GRN325L-PRTLHA	P265/60R18	0°32' +/- 45' (0.54° +/- 0.75°)	2°12' +/- 45' (2.20° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)
GRN325L-PRTLHA (FIRM SUSPENSION)	P265/60R18	0°32' +/- 45' (0.54° +/- 0.75°)	2°2' +/- 45' (2.03° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)
GRN330L-PRTLHA	P265/60R18	0°34' +/- 45' (0.56° +/- 0.75°)	2°10' +/- 45' (2.16° +/- 0.75°)	11°54' +/- 45' (11.90° +/- 0.75°)
GRN330L-PRTLHA (FIRM SUSPENSION)	P265/60R18	0°34' +/- 45' (0.56° +/- 0.75°)	2° +/- 45' (2.00° +/- 0.75°)	11°54' +/- 45' (11.90° +/- 0.75°)
GRN305L-PRTLHA	P265/60R18	0°31' +/- 45' (0.52° +/- 0.75°)	2°12' +/- 45' (2.20° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN305L-PRTLHA (FIRM SUSPENSION)	P265/60R18	0°31' +/- 45' (0.52° +/- 0.75°)	2°1' +/- 45' (2.01° +/- 0.75°)	11°56' +/- 45' (11.93° +/- 0.75°)
GRN310L-PRTLHA	P265/60R18	0°32' +/- 45' (0.54° +/- 0.75°)	2°10' +/- 45' (2.17° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)
GRN310L-PRTLHA (FIRM SUSPENSION)	P265/60R18	0°32' +/- 45' (0.54° +/- 0.75°)	2°1' +/- 45' (2.01° +/- 0.75°)	11°55' +/- 45' (11.91° +/- 0.75°)

Toe-in (Unloaded Vehicle):

VEHICLE MODEL	TIRE SIZE	C + D	B - A
TRN245L-CRMSKA	P245/75R16	0°06' +/- 0°10' (0.095° +/- 0.161°)	1.18 +/- 2mm (0.046 +/- 0.08 in.)
TRN245L-CRMSKA (FIRM SUSPENSION)	P245/75R16	0°06' +/- 0°10' (0.095° +/- 0.161°)	1.18 +/- 2mm (0.046 +/- 0.08 in.)
TRN245L-CRTSKA	P245/75R16	0°04' +/- 0°10' (0.071° +/- 0.161°)	0.89 +/- 2mm (0.035 +/- 0.08 in.)
TRN245L-CRTSKA (FIRM SUSPENSION)	P245/75R16	0°04' +/- 0°10' (0.071° +/- 0.161°)	0.89 +/- 2mm (0.035 +/- 0.08 in.)
GRN305L-CRFSHA	P245/75R16	0°06' +/- 0°10' (0.096° +/- 0.161°)	1.18 +/- 2mm (0.046 +/- 0.08 in.)
GRN305L-CRFSHA (FIRM SUSPENSION)	P245/75R16	0°06' +/- 0°10' (0.096° +/- 0.161°)	1.18 +/- 2mm (0.046 +/- 0.08 in.)
GRN305L-CRFSHA	265/70R16	0°05' +/- 0°10' (0.083° +/- 0.159°)	1.04 +/- 2mm (0.041 +/- 0.08 in.)
GRN305L-CRFSHA (FIRM SUSPENSION)	265/70R16	0°05' +/- 0°10' (0.083° +/- 0.159°)	1.04 +/- 2mm (0.041 +/- 0.08 in.)

VEHICLE MODEL	TIRE SIZE	C + D	B - A
GRN305L-CRFSHA	P265/65R17	0°06 ' +/- 0°10 '(0.096°+/- 0.160°)	1.20 +/- 2mm(0.047 +/- 0.08 in.)
GRN305L-CRFSHA (FIRM SUSPENSION)	P265/65R17	0°06 ' +/- 0°10 '(0.096°+/- 0.160°)	1.20 +/- 2mm(0.047 +/- 0.08 in.)
GRN305L-CRTSHA	P245/75R16	0°06 ' +/- 0°10 '(0.108°+/- 0.161°)	1.33 +/- 2mm(0.052 +/- 0.08 in.)
GRN305L-CRTSHA (FIRM SUSPENSION)	P245/75R16	0°06 ' +/- 0°10 '(0.108°+/- 0.161°)	1.33 +/- 2mm(0.052 +/- 0.08 in.)
GRN305L-CRTSHA	265/70R16	0°06 ' +/- 0°10 '(0.095°+/- 0.159°)	1.19 +/- 2mm(0.047 +/- 0.08 in.)
GRN305L-CRTSHA (FIRM SUSPENSION)	265/70R16	0°06 ' +/- 0°10 '(0.095°+/- 0.159°)	1.19 +/- 2mm(0.047 +/- 0.08 in.)
GRN305L-CRTSHA	P265/65R17	0°06 ' +/- 0°10 '(0.108°+/- 0.160°)	1.35 +/- 2mm(0.053 +/- 0.08 in.)
GRN305L-CRTSHA (FIRM SUSPENSION)	P265/65R17	0°06 ' +/- 0°10 '(0.108°+/- 0.160°)	1.35 +/- 2mm(0.053 +/- 0.08 in.)
GRN305L-PRFSHA	P245/75R16	0°06 ' +/- 0°10 '(0.096°+/- 0.161°)	1.18 +/- 2mm(0.046 +/- 0.08 in.)
GRN305L-PRFSHA (FIRM SUSPENSION)	P245/75R16	0°06 ' +/- 0°10 '(0.096°+/- 0.161°)	1.18 +/- 2mm(0.046 +/- 0.08 in.)
GRN305L-PRFSHA	265/70R16	0°05 ' +/- 0°10 '(0.083°+/- 0.159°)	1.04 +/- 2mm(0.041 +/- 0.08 in.)
GRN305L-PRFSHA (FIRM SUSPENSION)	265/70R16	0°05 ' +/- 0°10 '(0.083°+/- 0.159°)	1.04 +/- 2mm(0.041 +/- 0.08 in.)
GRN305L-PRFSHA	P265/65R17	0°06 ' +/- 0°10 '(0.096°+/- 0.160°)	1.20 +/- 2mm(0.047 +/- 0.08 in.)
GRN305L-PRFSHA (FIRM SUSPENSION)	P265/65R17	0°06 ' +/- 0°10 '(0.096°+/- 0.160°)	1.20 +/- 2mm(0.047 +/- 0.08 in.)
GRN305L-PRTSHA	P245/75R16	0°05 ' +/- 0°10 '(0.084°+/- 0.161°)	1.04 +/- 2mm(0.041 +/- 0.08 in.)
GRN305L-PRTSHA (FIRM SUSPENSION)	P245/75R16	0°05 ' +/- 0°10 '(0.084°+/- 0.161°)	1.04 +/- 2mm(0.041 +/- 0.08 in.)
GRN305L-PRTSHA	265/70R16	0°05 ' +/- 0°10 '(0.083°+/- 0.159°)	1.04 +/- 2mm(0.041 +/- 0.08 in.)
GRN305L-PRTSHA (FIRM SUSPENSION)	265/70R16	0°05 ' +/- 0°10 '(0.083°+/- 0.159°)	1.04 +/- 2mm(0.041 +/- 0.08 in.)
GRN305L-PRTSHA	P265/65R17	0°05 ' +/- 0°10 '(0.084°+/- 0.160°)	1.05 +/- 2mm(0.041 +/- 0.08 in.)
GRN305L-PRTSHA (FIRM SUSPENSION)	P265/65R17	0°05 ' +/- 0°10 '(0.084°+/- 0.160°)	1.05 +/- 2mm(0.041 +/- 0.08 in.)
GRN310L-PRTSHA	P245/75R16	0°06 ' +/- 0°10 '(0.096°+/- 0.161°)	1.18 +/- 2mm(0.046 +/- 0.08 in.)
GRN310L-PRTSHA (FIRM SUSPENSION)	P245/75R16	0°06 ' +/- 0°10 '(0.096°+/- 0.161°)	1.18 +/- 2mm(0.046 +/- 0.08 in.)
GRN310L-PRTSHA	265/70R16	0°06 ' +/- 0°10 '(0.096°+/- 0.159°)	1.20 +/- 2mm(0.047 +/- 0.08 in.)
GRN310L-PRTSHA (FIRM SUSPENSION)	265/70R16	0°06 ' +/- 0°10 '(0.096°+/- 0.159°)	1.20 +/- 2mm(0.047 +/- 0.08 in.)
GRN310L-PRTSHA	P265/65R17	0°06 ' +/- 0°10 '(0.096°+/- 0.160°)	1.20 +/- 2mm(0.047 +/- 0.08 in.)

VEHICLE MODEL	TIRE SIZE	C + D	B - A
GRN310L-PRTSHA (FIRM SUSPENSION)	P265/65R17	0°06 ' +/- 0°10 '(0.096° +/- 0.160°)	1.20 +/- 2mm(0.047 +/- 0.08 in.)
GRN305L-PRTSHA	P265/65R17	0°13 ' +/- 0°10 '(0.217° +/- 0.160°)	2.72 +/- 2mm(0.107 +/- 0.08 in.)
TRN265L-CRTSKA	P245/75R16	0°07 ' +/- 0°10 '(0.118° +/- 0.160°)	1.48 +/- 2mm(0.058 +/- 0.08 in.)
TRN265L-CRTSKA (FIRM SUSPENSION)	P245/75R16	0°07 ' +/- 0°10 '(0.118° +/- 0.160°)	1.48 +/- 2mm(0.058 +/- 0.08 in.)
TRN265-PRTSKA	P245/75R16	0°04 ' +/- 0°10 '(0.071° +/- 0.160°)	0.89 +/- 2mm(0.035 +/- 0.08 in.)
TRN265-PRTSKA (FIRM SUSPENSION)	P245/75R16	0°04 ' +/- 0°10 '(0.071° +/- 0.160°)	0.89 +/- 2mm(0.035 +/- 0.08 in.)
GRN325L-CRTSHA	P245/75R16	0°05 ' +/- 0°10 '(0.083° +/- 0.160°)	1.04 +/- 2mm(0.041 +/- 0.08 in.)
GRN325L-CRTSHA (FIRM SUSPENSION)	P245/75R16	0°05 ' +/- 0°10 '(0.083° +/- 0.160°)	1.04 +/- 2mm(0.041 +/- 0.08 in.)
GRN325L-CRTSHA	265/70R16	0°05 ' +/- 0°10 '(0.082° +/- 0.158°)	1.04 +/- 2mm(0.041 +/- 0.08 in.)
GRN325L-CRTSHA (FIRM SUSPENSION)	265/70R16	0°05 ' +/- 0°10 '(0.082° +/- 0.158°)	1.04 +/- 2mm(0.041 +/- 0.08 in.)
GRN325L-CRTSHA	P265/65R17	0°05 ' +/- 0°10 '(0.084° +/- 0.160°)	1.05 +/- 2mm(0.041 +/- 0.08 in.)
GRN325L-CRTSHA (FIRM SUSPENSION)	P265/65R17	0°05 ' +/- 0°10 '(0.084° +/- 0.160°)	1.05 +/- 2mm(0.041 +/- 0.08 in.)
GRN325L-PRTSHA	P245/75R16	0°05 ' +/- 0°10 '(0.083° +/- 0.160°)	1.04 +/- 2mm(0.041 +/- 0.08 in.)
GRN325L-PRTSHA (FIRM SUSPENSION)	P245/75R16	0°05 ' +/- 0°10 '(0.083° +/- 0.160°)	1.04 +/- 2mm(0.041 +/- 0.08 in.)
GRN325L-PRTSHA	265/70R16	0°05 ' +/- 0°10 '(0.082° +/- 0.158°)	1.04 +/- 2mm(0.041 +/- 0.08 in.)
GRN325L-PRTSHA (FIRM SUSPENSION)	265/70R16	0°05 ' +/- 0°10 '(0.082° +/- 0.158°)	1.04 +/- 2mm(0.041 +/- 0.08 in.)
GRN325L-PRTSHA	P265/65R17	0°05 ' +/- 0°10 '(0.084° +/- 0.160°)	1.05 +/- 2mm(0.041 +/- 0.08 in.)
GRN325L-PRTSHA (FIRM SUSPENSION)	P265/65R17	0°05 ' +/- 0°10 '(0.084° +/- 0.160°)	1.05 +/- 2mm(0.041 +/- 0.08 in.)
GRN330L-PRTSHA	P245/75R16	0°07 ' +/- 0°10 '(0.119° +/- 0.161°)	1.48 +/- 2mm(0.058 +/- 0.08 in.)
GRN330L-PRTSHA (FIRM SUSPENSION)	P245/75R16	0°07 ' +/- 0°10 '(0.119° +/- 0.161°)	1.48 +/- 2mm(0.058 +/- 0.08 in.)
GRN330L-PRTSHA	265/70R16	0°06 ' +/- 0°10 '(0.094° +/- 0.158°)	1.18 +/- 2mm(0.046 +/- 0.08 in.)
GRN330L-PRTSHA (FIRM SUSPENSION)	265/70R16	0°06 ' +/- 0°10 '(0.094° +/- 0.158°)	1.18 +/- 2mm(0.046 +/- 0.08 in.)
GRN330L-PRTSHA	P265/65R17	0°07 ' +/- 0°10 '(0.120° +/- 0.160°)	1.50 +/- 2mm(0.059 +/- 0.08 in.)
GRN330L-PRTSHA (FIRM SUSPENSION)	P265/65R17	0°07 ' +/- 0°10 '(0.120° +/- 0.160°)	1.50 +/- 2mm(0.059 +/- 0.08 in.)
GRN325L-PRTSHA	P265/65R17	0°14 ' +/- 0°10 '(0.232° +/- 0.160°)	2.91 +/- 2mm(0.115 +/- 0.08 in.)
GRN325L-PRTLHA	P265/60R18	0°06 ' +/- 0°10 '(0.093° +/- 0.158°)	1.18 +/- 2mm(0.046 +/- 0.08 in.)

VEHICLE MODEL	TIRE SIZE	C + D	B - A
GRN325L-PRTLHA (FIRM SUSPENSION)	P265/60R18	0°06 ' +/- 0°10 '(0.093°+/- 0.158°)	1.18 +/- 2mm(0.046 +/- 0.08 in.)
GRN330L-PRTLHA	P265/60R18	0°06 ' +/- 0°10 '(0.106°+/- 0.158°)	1.34 +/- 2mm(0.053 +/- 0.08 in.)
GRN330L-PRTLHA (FIRM SUSPENSION)	P265/60R18	0°06 ' +/- 0°10 '(0.106°+/- 0.158°)	1.34 +/- 2mm(0.053 +/- 0.08 in.)
GRN305L-PRTLHA	P265/60R18	0°05 ' +/- 0°10 '(0.083°+/- 0.159°)	1.05 +/- 2mm(0.041 +/- 0.08 in.)
GRN305L-PRTLHA (FIRM SUSPENSION)	P265/60R18	0°05 ' +/- 0°10 '(0.083°+/- 0.159°)	1.05 +/- 2mm(0.041 +/- 0.08 in.)
GRN310L-PRTLHA	P265/65R17	0°06 ' +/- 0°10 '(0.095°+/- 0.160°)	1.18 +/- 2mm(0.046 +/- 0.08 in.)
GRN310L-PRTLHA (FIRM SUSPENSION)	P265/65R17	0°06 ' +/- 0°10 '(0.095°+/- 0.160°)	1.18 +/- 2mm(0.046 +/- 0.08 in.)

Wheel Turning Angle (Unloaded Vehicle):

INSIDE WHEEL	OUTSIDE WHEEL (REFERENCE)
39.30° (37.30° to 40.30°)	34.90° (32.90° to 35.90°)



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001XCI00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: SUSPENSION: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

2WD:

PART TIGHTENED	N*M	KG*CM	FT.*LBF
Tie rod end lock nut	56	566	41
Front suspension support sub-assembly x Shock absorber assembly front	27	275	20
Front shock absorber with coil spring x Frame	64	653	47
Front Wheel	113	1152	83
Shock absorber assembly front x Front suspension lower arm	83	846	61
Battery negative terminal x Battery	5.4	55	48 in.*lbf
Front suspension upper arm x Steering knuckle	110	1122	81
Front flexible hose x Shock absorber assembly front	32	326	24
Skid control sensor wire x Front suspension upper arm	5.0	51	44 in.*lbf
Skid control sensor wire x Steering knuckle	5.0	51	44 in.*lbf
Front suspension upper arm x Frame	82	836	60
Front spring bumper x Front suspension lower arm	31	316	23
Front suspension lower arm x Front lower ball joint attachment	140	1428	103
Front lower ball joint attachment x Steering knuckle	160	1631	118
Front suspension lower arm x Suspension cross member	210	2141	155
Front stabilizer bracket No. 1 x Frame	21	214	16
Front stabilizer link assembly x Front stabilizer bar	19	194	14
Front stabilizer link assembly x Front suspension lower arm	69	704	51
Rear spring U-bolt x Spring U-bolt seat sub-assembly	70	714	52
Rear spring bumper No. 1 x Frame	15	153	11
Parking brake cable assembly No. 3 x Rear leaf spring	12.5	127	9
Rear Wheel	113	1152	83
Rear leaf spring x Rear spring shackle sub-assembly No. 2	120	1224	89
Rear leaf spring x Frame	120	1224	89
Rear spring shackle sub-assembly No. 2 x Frame	120	1224	89
Rear shock absorber x Spring u bolt seat sub-assembly	58	591	43
Rear shock absorber x Frame	20	204	15
Rear stabilizer bracket cover x Rear axle housing	27	275	20
Rear stabilizer link assembly x Rear stabilizer bar	65	663	48

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Rear stabilizer link assembly x Frame	65	663	48

4WD and Pre-Runner:

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Tie rod end lock nut	56	566	41
Front suspension support sub-assembly x Shock absorber assembly front	27	275	20
Front shock absorber with coil spring x Frame	64	653	47
Front stabilizer link assembly x Steering knuckle	70	714	52
Engine under cover sub-assembly No. 1 x Frame	30	306	22
Front Wheel	113	1152	83
Shock absorber assembly front x Front suspension lower arm	83	846	61
Front suspension upper arm x Steering knuckle	110	1122	81
Skid control sensor wire x Front suspension upper arm	12.5	127	9
Skid control sensor wire x Steering knuckle	12.5	127	9
Front suspension upper arm x Frame	115	1173	85
Front suspension lower arm x Front lower ball joint attachment	140	1428	103
Front lower ball joint attachment x Steering knuckle	160	1631	118
Front suspension lower arm x Suspension cross member	183	1866	135
Front stabilizer bracket No. 1 x Frame	50	510	37
Front stabilizer link assembly x Front stabilizer bar	70	714	52
Rear spring U-bolt x Spring U-bolt seat sub-assembly	50	510	37
Parking brake cable assembly No. 3 x Rear leaf spring	12.5	127	9
Rear Wheel	113	1152	83
Rear leaf spring x Rear spring shackle sub-assembly No. 2	120	1224	89
Rear leaf spring x Frame	120	1224	89
Rear spring shackle sub-assembly No. 2 x Frame	120	1224	89
Rear shock absorber x Rear axle housing	58	591	43
Rear shock absorber x Frame	20	204	15



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001W8I00MX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: THEFT DETERRENT SYSTEM: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KG*CM	FT.*LBF
Hood courtesy switch (Hood lock assembly) x Radiator support	8.0	82	71 in.*lbf
Air injection control driver x Body	10	102	7



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001XI600AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: TIRE AND WHEEL: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Cold tire inflation pressure	P245/75R16 109S	Front wheel	220 kPa (2.2 kgf/cm ² , 32 psi)
		Rear wheel	220 kPa (2.2 kgf/cm ² , 32 psi)
		Spare wheel	220 kPa (2.2 kgf/cm ² , 32 psi)
	P265/70R16 111T	Front wheel	210 kPa (2.1 kgf/cm ² , 30 psi)
		Rear wheel	210 kPa (2.1 kgf/cm ² , 30 psi)
		Spare wheel	210 kPa (2.1 kgf/cm ² , 30 psi)
	P265/65R17 110S	Front wheel	200 kPa (2.0 kgf/cm ² , 29 psi)
		Rear wheel	200 kPa (2.0 kgf/cm ² , 29 psi)
		Spare wheel	200 kPa (2.0 kgf/cm ² , 29 psi)
	P265/60R18 109H	Front wheel	200 kPa (2.0 kgf/cm ² , 29 psi)
		Rear wheel	200 kPa (2.0 kgf/cm ² , 29 psi)
		Spare wheel	200 kPa (2.0 kgf/cm ² , 29 psi)
Tire runout			3.0 mm (0118 in.) or less
Imbalance after adjustment			8 g (0.018 lb) or less



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001XI700AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: TIRE AND WHEEL: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Tire pressure warning valve and transmitter x Wheel	4.0	41	35 in.*lbf
Front wheel	113	1152	83
Rear wheel	113	1152	83



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001X1Q00EX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: VF2BM TRANSFER: SERVICE DATA; 2016 MY Tacoma [08/2015 -]		

SERVICE DATA

Transfer Case Rear Oil Seal			
Installation depth		48.5 to 49.5 mm (1.910 to 1.948 in.)	
Transfer Assembly			
Transfer input shaft	Diameter of the transfer input shaft journal surface	Minimum diameter	47.59 mm (1.874 in.)
	Inside diameter of the transfer input shaft bushing	Maximum inside diameter	39.14 mm (1.540 in.)
Transfer low planetary gear assembly	Thrust clearance	Standard clearance	0.11 to 0.84 mm (0.00434 to 0.0330 in.)
		Maximum clearance	0.84 mm (0.0330 in.)
	Radial clearance	Standard clearance	0.009 to 0.038 mm (0.000355 to 0.00149 in.)
		Maximum clearance	0.038 mm (0.00149 in.)
Transfer drive sprocket sub-assembly	Thrust clearance	Standard clearance	0.10 to 0.25 mm (0.00394 to 0.00984 in.)
		Maximum clearance	0.25 mm (0.00984 in.)
	Radial clearance	Standard clearance	0.010 to 0.055 mm (0.000394 to 0.00216 in.)
		Maximum clearance	0.055 mm (0.00216 in.)
Rear transfer output shaft	Diameter of the rear transfer output shaft journal surface Journal A	Minimum diameter	27.98 mm (1.102 in.)
	Diameter of the rear transfer output shaft journal surface Journal B	Minimum diameter	36.98 mm (1.456 in.)
Front drive clutch sleeve and No. 1 transfer gear shift fork clearance	Clearance between the front drive clutch sleeve and No. 1 transfer gear shift fork	Maximum clearance	0.35 mm (0.0137 in.)
Transfer high and low clutch sleeve and No. 2 transfer gear shift fork clearance	Clearance between the transfer high and low clutch sleeve and No. 2 transfer gear shift fork	Maximum clearance	0.35 mm (0.0137 in.)

Transfer Shift Actuator Assembly			
2WD to 4WD HIGH switch	Tester Connection	Switch Condition	Specified Condition
	3 (TL1) - 6 (GND1)	After 2WD to 4WD HIGH switch is complete	10 k Ω or higher
	4 (TL2) - 6 (GND1)	After 2WD to 4WD HIGH switch is complete	10 k Ω or higher
	5 (TL3) - 6 (GND1)	After 2WD to 4WD HIGH switch is complete	Below 1 Ω
	9 (L4) - 6 (GND1)	After 2WD to 4WD HIGH switch is complete	10 k Ω or higher
	12 (B) - 10 (GND)	After 2WD to 4WD HIGH switch is complete	Below 1 Ω
4WD HIGH to 4WD LOW switch	Tester Connection	Switch Condition	Specified Condition
	3 (TL1) - 6 (GND1)	After 4WD HIGH to 4WD LOW switch is complete	10 k Ω or higher
	4 (TL2) - 6 (GND1)	After 4WD HIGH to 4WD LOW switch is complete	Below 1 Ω
	5 (TL3) - 6 (GND1)	After 4WD HIGH to 4WD LOW switch is complete	10 k Ω or higher
	9 (L4) - 6 (GND1)	After 4WD HIGH to 4WD LOW switch is complete	Below 1 Ω
	12 (B) - 10 (GND)	After 4WD HIGH to 4WD LOW switch is complete	Below 1 Ω
4WD HIGH to 2WD switch	Tester Connection	Switch Condition	Specified Condition
	3 (TL1) - 6 (GND1)	After 4WD HIGH to 2WD switch is complete	Below 1 Ω
	4 (TL2) - 6 (GND1)	After 4WD HIGH to 2WD switch is complete	10 k Ω or higher
	5 (TL3) - 6 (GND1)	After 4WD HIGH to 2WD switch is complete	10 k Ω or higher

	9 (L4) - 6 (GND1)	After 4WD HIGH to 2WD switch is complete	10 kΩ or higher
	12 (B) - 10 (GND))	After 4WD HIGH to 2WD switch is complete	10 kΩ or higher
Transfer clutch hub shaft snap ring	Part No.		Specified Condition
	90520-39013	90520-T0200	2.00 to 2.05 mm (0.0788 to 0.0807 in.)
	90520-39014	90520-T0201	2.05 to 2.10 mm (0.0808 to 0.0826 in.)
	90520-39004	90520-T0191	2.10 to 2.15 mm (0.0827 to 0.0846 in.)
	90520-39005	90520-T0192	2.15 to 2.20 mm (0.0847 to 0.0866 in.)
	90520-39006	90520-T0193	2.20 to 2.25 mm (0.0867 to 0.0885 in.)
	90520-39007	90520-T0194	2.25 to 2.30 mm (0.0886 to 0.0905 in.)
	90520-39008	90520-T0195	2.30 to 2.35 mm (0.0906 to 0.0925 in.)
	90520-39009	90520-T0196	2.35 to 2.40 mm (0.0926 to 0.0944 in.)
	90520-39010	90520-T0197	2.40 to 2.45 mm (0.0945 to 0.0964 in.)
	90520-39011	90520-T0198	2.45 to 2.50 mm (0.0965 to 0.0984 in.)
	90520-39012	90520-T0199	2.50 to 2.55 mm (0.0985 to 0.1003 in.)
Transfer low planetary gear bearing	Installation depth		7.7 to 8.3 mm (0.3032 to 0.3267 in.)
Transfer input bearing shaft	Part No.		Specified Condition

snap ring	90520-72001	90520-T0136	Mark 1: 1.45 to 1.50 mm (0.0571 to 0.0590 in.)
	90520-72002	90520-T0137	Mark 2: 1.50 to 1.55 mm (0.0591 to 0.0610 in.)
	90520-72003	90520-T0138	Mark 3: 1.55 to 1.60 mm (0.0611 to 0.0629 in.)
	90520-72004	90520-T0139	Mark 4: 1.60 to 1.65 mm (0.0630 to 0.0649 in.)
	90520-72005	90520-T0140	Mark 5: 1.65 to 1.70 mm (0.0650 to 0.0669 in.)
Transfer input gear stopper shaft snap ring	Part No.		Specified Condition
	90520-44003	90520-T0202	2.10 to 2.15 mm (0.0827 to 0.0846 in.)
	90520-44004	90520-T0203	2.15 to 2.20 mm (0.0847 to 0.0866 in.)
	90520-44005	90520-T0204	2.20 to 2.25 mm (0.0867 to 0.0885 in.)
	90520-44006	90520-T0205	2.25 to 2.30 mm (0.0886 to 0.0905 in.)
	90520-44007	90520-T0206	2.30 to 2.35 mm (0.0906 to 0.0925 in.)
	90520-44008	90520-T0207	2.35 to 2.40 mm (0.0926 to 0.0944 in.)
	90520-44009	90520-T0208	2.40 to 2.45 mm (0.0945 to 0.0964 in.)
	90520-44010	90520-T0209	2.45 to 2.50 mm (0.0965 to 0.0984 in.)

	90520-44044011	90520-T0210	2.50 to 2.55 mm (0.0985 to 0.100 in.)
	90520-44044012	90520-T0211	2.55 to 2.60 mm (0.101 to 0.102 in.)
	90520-44044013	90520-T0212	2.60 to 2.65 mm (0.103 to 0.104 in.)
	90520-44044014	90520-T0213	2.65 to 2.70 mm (0.105 to 0.106 in.)
	90520-44044015	90520-T0214	2.70 to 2.75 mm (0.107 to 0.108 in.)
	90520-44044016	90520-T0215	2.75 to 2.80 mm (0.109 to 0.110 in.)
	90520-44044017	90520-T0216	2.80 to 2.85 mm (0.111 to 0.112 in.)
	90520-44044018	90520-T0217	2.85 to 2.90 mm (0.113 to 0.114 in.)
	90520-44044019	90520-T0218	2.90 to 2.95 mm (0.115 to 0.116 in.)
	90520-44044020	90520-T0219	2.95 to 3.00 mm (0.117 to 0.118 in.)
	90520-44044021	90520-T0220	3.00 to 3.05 mm (0.119 to 0.120 in.)
Transfer front bearing type T oil seal	for AC60F, R156F:	Installation depth	43.0 to 44.0 mm (1.70 to 1.73 in.)
	for RC62F:	Installation depth (A)	43.0 to 44.0 mm (1.70 to 1.73 in.)
		Installation depth (B)	53.0 to 54.0 mm (2.09 to 2.12 in.)
Transfer output shaft companion flange oil seal	Installation depth		38.0 to 39.0 mm (1.50 to 1.53 in.)



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001X1R00EX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: VF2BM TRANSFER: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Filler plug x Transfer assembly	37	377	27
Drain plug x Transfer assembly	37	377	27
Transfer shift actuator assembly x Rear transfer case	20	204	15
Transfer shift shaft stopper x Rear transfer case	19	194	14
Shift detent ball spring plug x No. 1 transfer gear shift fork	19	190	14
Shift detent ball spring plug x No. 2 transfer gear shift fork	19	190	14
Transfer case plug x Front transfer case	18.6	190	14
Transfer front bearing retainer sub-assembly x Front transfer case	12	117	8
Transfer oil pump body sub-assembly x Front transfer case	7.5	76	66 in.*lbf
Transfer oil separator sub-assembly x Front transfer case	7.5	76	66 in.*lbf
Rear transfer case x Front transfer case	12	122	9
Transfer extension housing x Rear transfer case	11.5	117	8
Output shaft companion flange sub-assembly x Transfer driven sprocket (for Front Side)	118	1203	87
Output shaft companion flange sub-assembly x Transfer driven sprocket (for Rear Side)	127	1299	94
Transfer case cover sub-assembly x Front transfer case	18	184	13
Transfer case lower protector x Transfer assembly	18	184	13
Automatic transmission assembly x Transfer assembly	24	245	18
Manual transmission assembly x Transfer assembly	24	245	18



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001Z4G00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: WINDSHIELD / WINDOWGLASS: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Back window assembly x Body	7.8	80	69 in.*lbf



Last Modified: 11-13-2015	6.6 F	Doc ID: RM000001Z4J00AX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SERVICE SPECIFICATIONS: WIPER AND WASHER: TORQUE SPECIFICATIONS; 2016 MY Tacoma [08/2015 -]		

TORQUE SPECIFICATIONS

PART TIGHTENED	N*M	KGF*CM	FT.*LBF
Front wiper motor x Windshield wiper motor and link	7.5	76	66 in.*lbf
Windshield wiper motor and link x Body	5.5	56	49 in.*lbf
Front wiper arm RH x Windshield wiper motor and link	22	224	16
Front wiper arm LH x Windshield wiper motor and link	22	224	16
Windshield washer jar assembly x Body	5.5	56	49 in.*lbf

