

SUPPLEMENT C TIGHTENING TORQUE

TIGHTENING TORQUES FOR MAIN COMPONENTS

[Related with Engine]

Tightening component		Tightening torque		
		N-m	ft-lb	kgf-m
Cylinder head x	Cylinder block	53.9 ± 4.9	39.8 ± 2.8	5.50 ± 0.5
	Cylinder head cover	5.4 ± 1.5	4.0 ± 1.1	0.55 ± 0.15
	Intake manifold	19.1 ± 3.8	14.1 ± 2.8	1.95 ± 0.39
	Exhaust manifold	19.1 ± 3.8	14.1 ± 2.8	1.95 ± 0.39
	Timing belt cover No.2	8.8 ± 1.8	6.5 ± 1.3	0.90 ± 0.18
	Camshaft thrust ring	8.8 ± 1.8	6.5 ± 1.3	0.90 ± 0.18
	Valve rocker shaft	20.6 ± 4.1	15.2 ± 3.0	2.10 ± 0.42
	Water outlet housing	19.1 ± 3.8	14.1 ± 2.8	1.95 ± 0.39
	Distributor	19.1 ± 3.8	14.1 ± 2.8	1.95 ± 0.39
	Fuel pump	19.1 ± 3.8	14.1 ± 2.8	1.95 ± 0.39
	Water temperature sender gauge	13.7 ± 3.9	10.1 ± 2.9	1.40 ± 0.40
	Spark plug	17.7 ± 2.9	13.0 ± 2.2	1.80 ± 0.30
Cylinder block x	Crankshaft bearing cap	58.8 ± 5.9	43.4 ± 4.3	6.00 ± 0.60
	Oil pan	7.8 ± 1.6	5.8 ± 1.2	0.80 ± 0.16
	Oil pump	19.1 ± 3.8	14.1 ± 2.8	1.95 ± 0.39
	Water pump	19.1 ± 3.8	14.1 ± 2.8	1.95 ± 0.39
	Fan belt adjusting bar	19.1 ± 3.8	14.1 ± 2.8	1.95 ± 0.39
	Alternator	39.2 ± 7.8	28.9 ± 5.8	4.00 ± 0.80
	Oil pressure switch	13.7 ± 3.9	10.1 ± 2.9	1.40 ± 0.40
	Water thermo switch	29.4 ± 4.9	21.7 ± 3.6	3.00 ± 0.50
Crankshaft x	Fly wheel	44.1 ± 4.9	32.5 ± 3.6	4.50 ± 0.50
	Crankshaft pulley	98.1 ± 9.8	72.3 ± 7.2	10.00 ± 1.00
Camshaft x	Camshaft timing belt pulley	43.1 ± 8.6	31.8 ± 6.4	4.40 ± 0.88
Oil pump x	Timing belt tensioner	39.2 ± 7.8	28.9 ± 5.8	4.00 ± 0.80
	Oil strainer	7.8 ± 1.6	5.8 ± 1.2	0.80 ± 0.16
Connecting rod x Connecting rod cap		27.0 ± 3.4	19.9 ± 2.5	2.75 ± 0.35
Oil pan x Oil pan drain plug		24.5 ± 4.9	18.1 ± 3.6	2.50 ± 0.50
Valve adjusting screw lock nut		15.2 ± 2.5	11.2 ± 1.8	1.55 ± 0.25
Water pump x Water pump pulley		5.4 ± 1.1	4.0 ± 0.8	0.55 ± 0.11
Fan belt adjusting bar x Alternator		19.1 ± 3.8	14.1 ± 2.8	1.95 ± 0.39
Carburetor x Intake manifold		12.7 ± 2.6	9.4 ± 1.9	1.30 ± 0.26

WSU91-C006

Clutch

Tightening component	Tightening torque		
	N-m	ft-lb	kgf-m
Clutch cover x Flywheel	14.8 - 21.5	10.8 - 15.9	1.5 - 2.2
Clutch release lever x Release lever yoke	29.2 - 39.2	21.7 - 32.5	3.0 - 4.0
Brake pedal x Pedal bracket support	14.7 - 21.6	10.8 - 15.9	1.5 - 2.2

WSU91-C007

Transmission, Transfer & Sub Transmission

Tightening component	Tightening torque		
	N-m	ft-lb	kgf-m
Transmission case cover x Transmission case	6.9 - 9.8	5.1 - 7.2	0.7 - 1.0
Back-up lamp switch x Transmission case	29.4 - 49.0	21.7 - 36.2	3.0 - 5.0
Front bearing retainer x Transmission case	6.9 - 9.8	5.1 - 7.2	0.7 - 1.0
Transfer output shaft x Lock nut	98 - 137	72.0 - 101	10.0 - 14.0
Clutch release lever x Release lever yoke	29.4 - 39.2	21.7 - 28.9	3.0 - 4.0
Transfer front case x Transmission case	29.4 - 44.1	21.7 - 33.3	3.0 - 4.5
Output rear shaft x Lock nut	68.6 - 98	50.6 - 72.0	7.0 - 10.0
Transfer rear case x Transfer front case	14.7 - 21.6	10.8 - 15.9	1.5 - 2.2
Output shaft bearing rear retainer x Transfer rear case	29.4 - 44.1	21.7 - 32.5	3.0 - 4.5
Drain plug x Transmission case	29.4 - 49.0	21.7 - 36.2	3.0 - 5.0
Filler plug x Transmission case	29.4 - 49.0	21.7 - 36.2	3.0 - 5.0
Speedometer sleeve lock plate x Transmission case	6.9 - 9.8	5.1 - 7.2	0.7 - 1.0
Bleeder plug x Transmission case	6.9 - 9.8	5.1 - 7.2	0.7 - 1.0

WSU91-C008

TIGHTENING TORQUE

Propeller Shaft

Tightening component		Tightening torque		
		N-m	ft-lb	kgf-m
Propeller shaft x differential	Front	29.4 - 39.2	21.7 - 28.9	3.0 - 4.0
	Rear	39.2 - 53.9	28.9 - 39.8	4.0 - 5.5

WSU91-C009

Front Differential

Tightening component	Tightening torque		
	N-m	ft-lb	kgf-m
Bracket right & left x Differential carrier	39.3 - 53.9	28.9 - 39.8	4.0 - 5.5
Bracket front x Differential carrier	39.3 - 53.9	28.9 - 39.8	4.0 - 5.5
Differential case x Ring gear	58.8 - 68.6	43.4 - 50.6	6.0 - 7.0
Differential carrier x Bearing cap	29.4 - 49.0	21.7 - 36.2	3.0 - 5.0
Differential carrier x Drain plug	39.3 - 58.8	28.9 - 43.4	4.0 - 6.0
Differential carrier x Front axle housing cover	17.7 - 23.5	13.0 - 17.4	1.8 - 2.4
Drive pinion x Companion flange	98.0 - 137	72 - 101	10.0 - 14.0

WSU91-C010

Rear Differential

Tightening component	Tightening torque		
	N-m	ft-lb	kgf-m
Differential case x Ring gear	58.8 - 68.6	43.4 - 50.6	6.0 - 7.0
Differential bearing cap x Differential carrier	29.4 - 49.0	21.7 - 36.2	3.0 - 5.0
Drive pinion x Differential companion flange	137 - 177	101 - 130	14.0 - 18.0
Rear axle housing x Drain plug	39.3 - 58.8	28.9 - 43.4	4.0 - 6.0
Differential companion flange x Propeller shaft	39.2 - 53.9	28.9 - 39.8	4.0 - 5.5
Differential bearing adjusting nut lock plate x bearing cap	3.9 - 6.9	2.9 - 5.1	0.4 - 0.7

WSU91-C011

Steering

Tightening component	Tightening torque		
	N-m	ft-lb	kgf-m
Steering wheel x Steering shaft	29.4 - 39.2	21.7 - 28.9	3.0 - 4.0
Universal joint	19.6 - 29.4	14.5 - 21.7	2.0 - 3.0
Flexible coupling x Intermediate shaft	9.8 - 15.7	7.2 - 11.6	1.0 - 1.6
Flexible coupling x Steering pinion flange	9.8 - 15.7	7.2 - 11.6	1.0 - 1.6
Drag link end x Drag link	68.6 - 88.3	50.6 - 65.1	7.0 - 9.0
Center arm x Front suspension cross member	98.0 - 118.0	72.0 - 87.0	10.0 - 12.0
Center arm x Tie rod end	39.2 - 53.9	28.9 - 39.8	4.0 - 5.5
Tie rod end x Tie rod end lock nut	34.3 - 53.9	25.3 - 39.8	3.5 - 5.5
Tie rod end x Knuckle arm	39.2 - 53.9	28.9 - 39.8	4.0 - 5.5
Steering gear assembly x Body	29.4 - 49.0	21.7 - 36.2	3.0 - 5.0

WSU91-C012

Brakes

Tightening component	Tightening torque		
	N-m	ft-lb	kgf-m
Master cylinder x Pedal bracket	29.5 - 44.1	21.7 - 32.5	3.0 - 4.5
Backing plate x Wheel cylinder	9.9 - 12.7	7.2 - 9.4	1.0 - 1.3
Wheel cylinder x Bleeder plug	6.9 - 9.8	5.1 - 7.2	0.7 - 1.0
Brake tube x Wheel cylinder	12.8 - 17.6	9.4 - 13.0	1.3 - 1.8
Brake tube flare nut	12.8 - 17.6	9.4 - 13.0	1.3 - 1.8
Front hub or drum x Front drive shaft or Front axle	176.6 - 215.7	130.2 - 159.1	18.0 - 22.0
Backing plate x Steering knuckle	39.3 - 53.9	28.9 - 39.8	4.0 - 5.5
Rear drum x Rear drive shaft	176.6 - 254.9	130.2 - 188.1	18.0 - 26.0
Parking brake cable x Floor panel	4.0 - 6.8	2.9 - 5.1	0.4 - 0.7

WSU91-C013

Front axle & suspension

Tightening componet	Tightening torque		
	N-m	ft-lb	kg-m
Front axle hub x Nut	25.5 - 31.4	18.8 - 23.1	2.6 - 3.2
Preload adjustment	5.39 - 9.41	0.55 - 0.96	3.96 - 6.91
Suspension lower arm x Front shock absorber	29.4 - 44.1	21.7 - 32.5	3.0 - 4.5
Suspension lower arm x Cross member	78.5 - 98.0	57.9 - 72.0	8.0 - 10.0
Suspension lower arm x Strut bar bracket	68.6 - 88.3	50.6 - 65.1	7.0 - 9.0
Strut bar bracket x Body	39.2 - 53.9	28.9 - 39.8	4.0 - 5.5
Front shock absorber x Tie rod end	39.2 - 53.9	28.9 - 39.8	4.0 - 5.5
Front shock absorber x Front brake	39.2 - 53.9	28.9 - 39.8	4.0 - 5.5
Front suspension support x Apron	34.3 - 44.1	25.3 - 32.5	3.5 - 4.5
Front suspension support x Shock absorber	49.0 - 68.6	36.2 - 50.6	5.0 - 7.0
(4WD ONLY)			
Front axle hub x Castle nut	177.0 - 216.0	130.0 - 159.0	18.0 - 22.0
Suspension lower arm x Strut bar bracket	68.6 - 88.3	50.6 - 65.1	7.0 - 9.0
Suspension lower arm x Cross member	78.5 - 98.0	57.9 - 72.0	8.0 - 10.0
Strut bar bracket x Body	39.2 - 53.9	28.9 - 36.2	4.0 - 5.0
Steering Knuckle x Suspension lower arm	73.5 - 93.2	54.2 - 68.7	7.5 - 9.5
Steering Knuckle x Tie rod end	39.2 - 53.9	28.9 - 39.8	4.0 - 5.5
Steering Knuckle x Front brake A/y	39.2 - 53.9	28.9 - 39.8	4.0 - 5.5
Front shock absorber x Steering Knuckle	73.5 - 93.2	54.2 - 68.7	7.5 - 9.5
Front suspension support x Apron	34.3 - 44.1	25.3 - 32.5	3.5 - 4.5
Front suspension support x Shock absorber	49.0 - 68.6	36.2 - 50.6	5.0 - 7.0

WSU91-C018

SUPPLEMENT C TIGHTENING TORQUE

Rear axle & suspension

Tightening component	Tightening torque		
	N-m	ft-lb	kg-m
Rear axle housing x Backing plate	39.2 - 53.9	28.9 - 39.8	4.0 - 5.5
Rear axle shaft x Brake drum	177.0 - 255.0	130.0 - 187.0	18.0 - 26.0
Rear shock absorber x frame (upper section)	34.3 - 53.9	25.3 - 39.8	3.5 - 5.5
Rear shock sbsorber x rear axle housing (Lower section)	34.3 - 53.9	25.3 - 39.8	3.5 - 5.5
Rear spring Ay x Spring bracket pin	68.6 - 88.3	50.6 - 65.1	7.0 - 9.0
Rear spring bumper x U-bolt	44.1 - 53.9	32.5 - 39.8	4.5 - 5.5
Rear spring shackle S/A x Nut (Upper section)	29.4 - 49.9	21.7 - 36.8	3.0 - 5.5
Rear spring shackle S/A x Nut (Lower section)	44.1 - 53.9	32.5 - 39.8	4.5 - 5.5

WSU91-C019

Body

Tightening component	Tightening torque		
	N-m	ft-lb	kgf-m
Front seat x Body	9.8 - 15.7	7.2 - 11.6	1.0 - 1.6
Rear seat x Body	9.8 - 15.7	7.2 - 11.6	1.0 - 1.6
Seat belt x Body	28.4 - 53.0	21.0 - 39.1	2.9 - 5.4

WSU91-C014

Liftpick/Tipper

Tightening component		Tightening torque		
		N-m	ft-lb	kgf-m
Cargo box x Lift Ay	Bolt (4 points)	18.6 - 30.4	13.7 - 22.4	1.9 - 3.1
	Screw (7 points)	9.8 - 15.7	7.2 - 11.6	1.0 - 1.6
Hoist cylinder pin x Lift Ay		49.0 - 78.5	36.2 - 57.9	5.0 - 8.0
Cargo Hinge x Lift Ay		49.0 - 78.5	36.2 - 57.9	5.0 - 8.0

WSU91-C015

P.T.O.

Tightening component	Tightening torque		
	N-m	ft-lb	kgf-m
Transmission x P.T.O. front case	14.7 - 21.6	10.8 - 15.9	1.5 - 2.2
Generator bracket support	29.4 - 44.1	21.7 - 32.5	3.0 - 4.5
P.T.O. case bracket	29.4 - 44.1	21.7 - 32.5	3.0 - 4.5
Bearing No. 4	29.4 - 44.1	21.7 - 32.5	3.0 - 4.5

WSU91-C016