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Supersedes 457377, Dated 2011

Torque specification guide

Front & rear axle nut torque specifications
for FWD, RWD & 4WD vehicles



Instructions

One of the most common mistakes during installation is improper torque of the Axle nut. To guarantee the (Bearing, Spindle or Hub) is torqued correctly, follow the manufacture's installation procedure. Ignoring these important details will reduce the life of your (Bearing, Spindle or Hub).

Use a qualified, calibrated torque wrench. Do not use an impact gun to install the axle nut. The impact gun will damage the axle nut. It will also leave your spindle nut under or over torque resulting in hub assembly failure.

To ensure that you have the correct torque for the application refer to this guide or contact the vehicle manufactures dealer. It is important that you properly torque the spindle nut to ensure optimum bearing life. Under torque of an axle nut will allow excessive movement causing uneven loading and excessive wear. Over torque of the axle nut will cause excessive load and cause the bearing to overheat, this is one of the most common causes for failures.

All replacement hub units are not created equal

SKF premium quality hubs

- Engineered to meet or exceed OE specifications
- Life expectancy of 100,000+ miles
- OE sensors assure correct ABS functions
- Premium seals, both inboard and outboard, protect the bearing
- Precision bearing preload and correct application of advanced manufacturing techniques such as orbital rolling
- 100% tested to the actual OE specifications per part number for fit, form and function
- High quality steel and surface finishes
- Proper implementation of heat treatment
- Precise assembly tolerances

VS

"Value" grade hubs

- Reverse engineered to generic specifications
- Typically last about 25% to 35% as long as the OE hub (25,000 to 35,000 miles)
- Low quality reproduction sensors can cause ABS system malfunctions
- Reproduction seals selected for price, not performance, quickly subject the bearing to contamination
- Imprecise bearing preload and inconsistent manufacturing techniques may lead to poor performance and shortened bearing life
- Tests not performed on all critical areas – defective return rates run 6 to 12 times higher than premium hubs
- Inferior quality steel and surface finishes will lead to bearing noise and premature failure
- Heat treatment improperly applied and/or poorly controlled can result in safety issues like a wheel off condition
- Inconsistent and imprecise assembly tolerances may lead to wheel pulsation

**Don't compromise your customer's vehicle safety.
Always install SKF premium quality hubs!**

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Acura			
1.6EL.....	1997-2005.....	134/182	—
2.2CL, 2.3CL, 3.0CL	1997-1999	181/245	134/181
2.5TL	1995-1998	181/245	134/181
3.2CL	2001-2003	181/245	134/181
3.2TL	1996-2007	181/245	134/181
3.5RL	1996-2004.....	181/245	181/245
Integra	1986-2001.....	134/181	134/181
IXL 1.5L, 2.0L.....	2013	133/181	—
IXL 2.4L	2013	181/245	—
Legend	1991-1995.....	242/335	206/285
	1986-1990.....	180/244	180/244
MDX.....	2007-2013.....	242/329	181/245
	2003-2006.....	210/285	181/245
	2001-2002.....	181/245	181/245
NSX.....	1991-2005.....	—	242/329
RDX	2013	242/329	133/181
	2007-2012.....	242/329	181/245
RL	2009-2012.....	242/329	181/245
	2005-2007.....	242/329	181/245
RSX	2002-2006.....	134/181	134/181
RSX Type S	2002-2006.....	181/245	134/181
SLX	1996-1999.....	IUA	—
TL FWD	2009-2013.....	242/329	—
TL AWD	2009-2013.....	242/329	181/245
TL.....	2008.....	181/245	134/181
	2005-2008.....	181/245	134/181
TSX	2009-2013.....	242/329	—
	2004-2008.....	181/245	—
Vigor	1992-1994.....	181/245	134/181
ZDX.....	2010-2013.....	242/329	181/245
AM General			
H2.....	2003-2009.....	173/235	—
H3.....	2006-2010.....	191/260	—
American Motors			
AMX.....	1978-1980.....	AMB	—
Concord.....	1978-1983.....	AMB	—
Eagle.....	1980-1988.....	—	—
Gremlin.....	1977-1978.....	AMB	—
Matador	1977-1978.....	AMB	—
Pacer	1977-1980.....	AMB	—
Spirit.....	1979-1983.....	AMB	—
Audi			
100.....	1992-1994.....	147/200[30]	AIA
100, 200.....	1989-1991.....	147/200[30]	AIA
100 Quattro.....	1989-1991.....	147/200[30]	147/200[30]
200 Quattro.....	1989-1991.....	147/200[30]	147/200[30]
4000	1980-1987.....	167/226	AIA
4000 Quattro	1984-1987.....	203/280	203/280

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Audi - cont.			
5000	1978-1988.....	202/280	AIA
5000 Quattro.....	1984-1988.....	202/280	—
80	1988-1991.....	195/265	AIA
80 Quattro	1988-1991.....	195/265	236/320
90 FWD.....	1992-1995.....	147/200[30]	AIA
90 AWD.....	1992-1995.....	81/110[30]	89/120[30]
90	1988-1991.....	195/265	AIA
90 Quattro	1992-1995.....	147/200[30]	177/240
	1988-1991.....	195/265	236/320
Allroad Quattro.....	2013	[50]	[50]
	2001-2005.....	[31]	[31]
A3, A3 Quattro	2006-2013.....	VWH	VWH
A4, A4 Quattro	2008-2013.....	[50]	[50]
	2006-2007.....	[51]	147/200[45]
A4	1996-2005.....	[31]	AIA
A4 Quattro	1996-2005.....	[31]	85/115[32]
A5	2010-2013.....	[50]	[50]
A5 Quattro	2008-2013.....	[50]	[50]
A6	2005-2013.....	[50]	—
	1998-2004.....	[31]	—
	1995-1997.....	147/200[30]	AIA
A6 Quattro	2005-2013.....	[50]	[50]
	1998-2004.....	[31]	[31]
	1995-1997.....	147/200[30]	147/200[30]
A7 Quattro	2012-2013.....	[50]	[50]
A8	1997-1999.....	140/190[32]	—
A8 Quattro	2006-2013.....	147/200[45]	147/200[45]
A8 Quattro	1997-2005.....	140/190[32]	140/190[32]
Cabriolet.....	1994-1998.....	147/200[30]	AIA
Coupe.....	1990-1991.....	195/265	AIA
	1981-1987.....	167/226	AIA
Fox.....	1976-1979.....	167/226	AIA
Q5.....	2009-2013.....	[50]	[50]
Q7	2007-2013.....	[53]	[53]
RS4.....	2007-2008.....	[51]	[50]
RS5.....	2013	[50]	[50]
RS6.....	2003-2004.....	[31]	[31]
R8.....	2008-2013.....	[111]	[50]
S4	2008-2013.....	[50]	[50]
	2006-2007.....	[51]	147/200[45]
	2000-2005.....	[31]	AIA
S4 Quattro	2000-2005.....	[31]	85/115[32]
S4 FWD.....	1992-1994.....	147/200[30]	AIA
S4 AWD.....	1992-1994.....	147/200[30]	147/200[30]
S5	2008-2013.....	[50]	[50]
S6	2007-2013.....	[50]	[50]
S6 Quattro	2002-2013.....	[31]	[31]
S6 FWD.....	1995.....	147/200[30]	AIA
S6 AWD.....	1995-1997.....	147/200[30]	147/200[30]
S7	2013	[50]	[50]

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Audi - cont.			
S8	2013	147/200[45]	147/200[45]
	2007-2009	[50]	[50]
	2001-2003	140/190[32]	140/190[32]
S7	2013	[50]	[50]
TT AWD	2007-2013	VWH	VWH
	2000-2005	[33]	[33]
TT FWD	2007-2010	VWH	
	2000-2005	[33]	129/175
V8 Quattro	1990-1994	147/200[30]	147/200[30]
BMW			
Active Hybrid 3	2013	—	107/145
			[114]
Active Hybrid 5	2013	—	74/100
			[84][114]
Active Hybrid 7	2013	—	74/100
			[84][114]
M Coupe, Roadster	1998-2002	—	[40]
M3	2008-2013	—	221/300[92]
	1995-2006	—	[40]
	1988-1991		147/200
M5	2013	—	[115]
	2006-2010	—	310/420
	2000-2003	—	221/300
	1991-1993	—	214/290
M6	2012-2013	—	[115]
M6 Coupe, Convertible	2006-2010	—	310/420
X1	2013	—	155/210
			[44][113]
X3	2011-2013	155/210	74/100
		[44][113]	[55][114]
	2004-2010	310/420	221/300
X5	2000-2013	310/420	310/420
X6	2008-2013	310/420	310/420
Z3	1997-2002	—	[40]
Z4	2009-2013	—	184/250
	2003-2008	—	221/300
Z8	2000-2003	—	221/300
1 Series	2012-2013	—	[92][101]
	2008-2011	—	[54][92]
1M Series	2011	—	[92][101]
3 Series AWD (E92,E93)	2012-2013	310/420	[101]
3 Series AWD (F30)	2012-2013	155/210[44]	107/145[27]
3 Series RWD (E92,E93)	2012-2013	—	[101]
3 Series RWD (F30)	2012-2013	—	107/145[27]
3 Series AWD	2008-2011	310/420	[46]
	2006-2007	310/420	[46]
	2000-2005	310/420	[40]
	1985-1992	184/250	[40]

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
BMW - cont.			
3 Series RWD	2008-2011	—	[54][92]
	2006-2007	—	[46]
	1985-2005	214/290	[40]
5 Series AWD (F07/F10)	2010-2013	155/210[44]	74/100[84]
5 Series AWD (E60)	2004-2010	221/300	310/420
5 Series AWD (E61)	2006-2010	310/420	310/420
5 Series RWD (F07/F10)	2010-2013	—	[115]
5 Series RWD (E60)	2004-2010	—	310/420
5 Series RWD (E61)	2006-2010	—	310/420
5 Series RWD	1997-2003	—	221/300
	1988-1995	—	214/290
	1985-1987	—	188/260
6 Series AWD	2012-2013	155/210	74/100
		[44][113]	[55][114]
6 Series RWD	2012-2013	—	[115]
6 Series	2004-2010	—	310/420
7 Series AWD	2010-2013	155/210	74/100
		[44][92]	[55][92]
7 Series RWD	2009-2013	—	[115]
	2002-2008	—	310/420
	1988-1994	—	214/290
	1985-1987	—	188/260
7 Series	2002-2007	—	310/420
	1995-2001	—	221/300
8 Series	1994-1997	—	214/290
Buick			
Allure	2005-2009	118/160	—
Century	2001-2005	118/160	—
	1998-2000	159/216	—
	1997	151/205	—
	1996	107/145	—
	1992-1995	103/140[4]	—
	1983-1991	185/260	—
	1982	225/290	—
	1976-1981	GMA	—
Electra	1985-1990	185/260	—
	1980-1984	GMA	—
Enclave	2008-2013	173/235	151/205
Encore	2013	37/50[82]	—
Estate Wagon	1980-1990	GMA	—
LaCrosse AWD	2010-2013	GMS	GMS
LaCrosse FWD	2010-2013	GMS	—
LaCrosse	2005-2009	118/160	—
LeSabre	1998-2005	118/160	—
	1992-1997	107/145	—
	1986-1991	185/260	—
	1980-1985	GMA	—
Lucerne	2006-2011	118/160	—

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm	Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Buick - cont.				Cadillac - cont.			
Park Avenue	1998-2005.....	118/160	—	Déville	2000-2005.....	[5]	—
	1992-1997.....	107/145	—		1997-1999.....	118/160	—
	1991.....	185/260	—		1992-1996.....	107/145	—
Rainier	2004-2007.....	103/140	—		1985-1991.....	180/244	—
Reatta	1988-1991.....	180/244	—		1980-1984.....	GMA	—
Regal	2011-2013.....	GMS	—		1977-1984.....	GMA	—
	2001-2004.....	118/160	—		1976.....	GMC	—
	1998-2000.....	159/215	—	DTS	2008-2011.....	[56]	[79]
	1995-1997.....	151/205	—		2006-2007.....	[5]	[79]
	1988-1994.....	184/250	—	Eldorado	1997-2002.....	118/160	—
	1980-1987.....	GMA	—		1993-1996.....	107/145	—
Rendezvous	2007.....	192/260	—		1992.....	110/145	—
	2002-2006.....	192/260	192/260		1986-1991.....	180/244	—
Riviera	1999.....	118/160	—		1979-1985.....	176/238	—
	1995-1998.....	107/145	—		1976-1978.....	110/145	—
	1986-1993.....	183/248	—	Escalade 2WD	2007-2013.....	—	—
	1980-1985.....	175/240	—		2002-2006.....	177/240	GMQ[15]
Roadmaster	1991-1996.....	GMA	—	Escalade AWD	2007-2013.....	177/240	—
Skyhawk	1982-1988.....	185/260	—		2002-2006.....	177/240	GMQ[15]
	1980.....	GMA	—	Escalade 4WD	1999-2000.....	165/225	GMD[15]
Skylark	1998.....	74/100[3]	—	Escalade ESV	2007-2013.....	177/240	—
	1983-1997.....	185/260	—		2003-2006.....	177/240	GMQ[15]
	1980-1982.....	225/290	—	Escalade EXT 2WD	2007.....	—	—
Somerset	1985-1987.....	185/260	—		2002-2006.....	—	GMQ[15]
Terraza	2005-2007.....	118/160	—	Escalade EXT 4WD	2007-2013.....	177/240	—
Verano.....	2012-2013.....	GMS	—		2002-2006.....	177/240	GMQ[15]
Cadillac				Fleetwood	1993-1996.....	GMA	—
Allante	1993.....	110/145	—		1992.....	107/145	—
	1987-1992.....	183/245	—		1985-1991.....	180/244	—
ATS.....	2013.....	184/250	184/250		1977-1984.....	GMA	—
Brougham	1977-1992.....	GMA	—		1976.....	GMC	—
Calais.....	1976.....	GMC	—	Limousine	1977-1984.....	GMA	—
Catera	1997-2001.....	236/320	—	Seville	1997-2004.....	118/160	—
Cimarron	1982-1988.....	185/260	—		1993-1996.....	107/145	—
CTS, CTS Sport Wagon					1992.....	110/145	—
RWD w/o RPOJ56.....	2010-2013.....	—	170/230		1986-1991.....	180/244	—
CTS, CTS Sport Wagon					1980-1985.....	176/238	—
RWD w/ RPOJ56.....	2010-2013.....	—	158/215		1977-1979.....	GMA	—
CTS, CTS Sport Wagon				SRX.....	2012-2013.....	184/250	GMS
AWD.....	2010-2013.....	158/215	158/215		2010-2011.....	184/250	184/250
CTS RWD.....	2008-2009.....	—	158/215		2008-2009.....	159//215	170/230
CTS AWD.....	2008-2009.....	158/215	158/215		2004-2007.....	118/160	118/160
CTS	2003-2007.....	—	118/160	STS RWD	2005-2011.....	118/160	118/160
Concours DeVille	1997-1999.....	118/160	—	STS AWD	2005-2011.....	—	118/160
	1994-1996.....	107/145	—	XLR	2004-2009.....	—	151/205
				XTS.....	2013.....	GMS	GMS
				Chevrolet			
				Aveo, Aveo 5.....	2004-2011.....	221/300	148/190
				Bel Air.....	1980.....	GMA	—
				Beretta	1987-1996.....	185/260	—

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Chevrolet - cont.			
Camaro	2010-2013.....	—	199/270
	1993-2002.....	—	—
	1980-1992.....	GMA	—
Caprice	2012-2013.....	—	100
	1980-1996.....	GMA	—
Cavalier	2002-2005.....	148/200	—
	1998-2001.....	144/195	—
	1982-1997.....	185/260	—
Celebrity	1983-1990.....	185/260	—
	1982.....	225/290	—
Chevette	1980-1987.....	GMA	—
Citation	1983-1985.....	185/260	—
	1980-1982.....	225/290	—
Classic.....	2004-2005.....	[57]	—
Cobalt	2009-2010.....	[58]	—
	2005-2008.....	155/210	—
Corsica	1987-2006.....	185/260	—
Corvette	2006-2013.....	—	151/205
	1997-2005.....	—	118/160
	1984-1996.....	—	164/223
	1980-1983.....	GMA	100/130
Cruze.....	2011-2013.....	[70]	—
HHR.....	2006-2011.....	155/210	—
El Camino	1980-1987.....	GMA	—
Impala	2003-2013.....	155/210	—
	2001-2002.....	118/160	—
	2000.....	159/215	—
	1980-1996.....	GMA	—
Lumina	1998-2001.....	159/216	—
	1995-1997.....	151/205	—
	1990-1994.....	184/250	—
Lumina APV	1995-1996.....	104/145	—
	1990-1994.....	185/260	—
Malibu	2013.....	GMS	—
	2004-2012.....	159/215	—
	1997-2003.....	[34]	—
	1980-1983.....	GMA	—
Malibu Maxx	2004-2007.....	159/215	—
Metro	1998-2001.....	129/175	—
Monte Carlo	2003-2007.....	118/160	—
	2001-2002.....	118/160	—
	1998-2000.....	159/215	—
	1995-1997.....	151/205	—
	1980-1988.....	GMA	—
Monza	1980.....	GMA	—
Nova	1985-1988.....	137/186	90/123
Orlando.....	2013.....	GMS	—
Prizm	1998-2000.....	166/225	—
Spark.....	2013.....	177/240	140/190
Spectrum	1985-1988.....	137/186	IUC

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Chevrolet - cont.			
Sprint	1989-1991.....	125/179	125/179
	1985-1988.....	151/210	62/100
Sonic	2012-2013.....	[48]	—
Uplander	2008-2009.....	118/160	—
	2005-2007.....	118/160	192/260
Venture	2002-2005.....	118/160	192/260
	1998-2001.....	118/160	—
	1997.....	151/205	—
Volt.....	2011-2013.....	[70]	—
Chevrolet / GMC Trucks			
Acadia FWD	2007-2013.....	173/235	—
Acadia AWD	2007-2013.....	173/235	118/160
Astro.....	1985-1989.....	GMA	—
Astro AWD	1996-2005.....	147/200	—
Astro 2WD	2003-2005.....	—	—
	1990-2002.....	GMA	—
Astro 4WD	1990-1995.....	180/244	—
Avalanche 2WD	2002-2013.....	—	—
Avalanche 4WD	2002-2013.....	177/240	—
Blazer 2WD	1992-1994.....	GMA	—
	1980-1987.....	GMA	—
	1976-1978.....	GMA	—
Blazer R/V 2WD	1988-1991.....	GMA	—
Blazer 4WD	1992-1994.....	165/225	—
	1988-1991.....	GMM[12]	—
		GML[13]	—
	1980-1987.....	GMM[12]	—
		GML[13]	—
	1979.....	GMN	—
	1976-1978.....	GMN	—
Caballero.....	1980-1987.....	GMA	—
Canyon 2WD	2004-2012.....	—	—
Canyon 4WD	2004-2012.....	191/260	—
Captiva Sport.....	2012-2013.....	151/205[75]	151/205[75]
Colorado 2WD	2004-2012.....	—	—
Colorado 4WD	2004-2012.....	191/260	—
C10, C1500 2WD			
Pickup	1976-1986.....	GMA	—
C1500 2WD Pickup	1997-2000.....	GMA	—
	1988-1996.....	GMA	—
C20, C2500 2WD			
Pickup	1979-1986.....	GMA	GMJ[15]
			GMJ[11]
C2500 2WD Pickup	1997-2000.....	GMA	GMD
	1988-1996.....	GMA	GMF

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm	Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Chevrolet / GMC Trucks - cont.				Chevrolet / GMC Trucks - cont.			
C3500 2WD Pickup	1997-2000.....	GMA	GMD[15] GME[14]	G3500 Van.....	2003-2013.....	—	GMQ[15]
	1994-1996.....	GMA	GMF[15] GME[14]		2001-2002.....	GMA	GMQ[15]
	1991-1993.....	GMA	GMF[15] GMG[7]		1998-2000.....	GMA	GMD
	1988-1990.....	GMA	GMF[15] GMG[7]		1996-1997.....	GMA	GMF
C30, C3500 2WD Pickup	1979-1986.....	GMA	GMI[15] GMJ[11] GMJ	G4500 Van.....	2012-2013.....	—	GMQ[15]
	1976-1978.....	GMA	—	H1500, H2500 Van AWD..	2003-2013.....	155/210	—
Denali	2007.....	177/240	—	HHR.....	2006-2007.....	155/210	—
	2004-2006.....	173/235	GMQ[15]	Jimmy 2WD.....	1988-1991.....	GMA	—
Denali 2WD	2001-2003.....	—	GMQ[15]		1979-1987.....	GMA	—
	1999-2000.....	GMA	GMD[15]		1976-1978.....	GMA	—
Denali 4WD	2001-2003.....	155/210	GMQ[15]	Jimmy 4WD.....	1988-1991.....	GMM[12] GML[13]	—
	1999-2000.....	165/225	GMD[15]		1980-1987.....	GMM[12] GML[13]	—
El Camino.....	1980-1987.....	GMA	—		1979.....	GMN	—
Envoy 2WD.....	2002-2007.....	103/140	—		1976-1978.....	GMN	—
Envoy 4WD.....	1999-2007.....	103/140	—	K10, K1500 4WD Pickup	1980-1986.....	GMM[12] GML[13]	—
Equinox.....	2007-2013.....	151/205	151/205		1991-2000.....	165/225	—
	2005-2006.....	151/205	81/110		1988-1990.....	175/235	—
G10, G1500 Van.....	1992-1996.....	GMA	—	K20, K2500 4WD Pickup	1980-1986.....	GMM[12] GML[13]	GMI[15] GMJ[11]
	1988-1991.....	GMA	—		1997-2000.....	165/225	GMD
	1979-1987.....	GMA	—		1991-1996.....	165/225	GMF
G1500 Van.....	2003-2012.....	—	—		1988-1990.....	175/235	GMF
	2001-2002.....	GMA	—	K3500 4WD Pickup.....	1997-2000.....	165/225	GMD[15] GME[14] GMF[15] GME[14] GMF[15] GME[14] GMF[15] GME[14]
	1998-2000.....	GMA	—		1994-1996.....	165/225	
	1996-1997.....	GMA	—		1991-1993.....	165/225	
G1500 Van AWD.....	2007.....	155/210	—		1988-1990.....	175/235	
	2003-2006.....	173/235	—	K30, K3500 4WD Pickup	1983-1986.....	GMM[12] GML[13]	GMI[15] GMG[7] GMJ[11]
G20, G2500 Van.....	1992-1996.....	GMA	—		1980-1982.....	GMM[12] GML[13]	GMI[15] GMH[7] GMJ[11]
	1988-1991.....	GMA	—	LUV Pickup 2WD	1976-1982.....	GMA	—
	1976-1987.....	GMA	—	LUV Pickup 4WD	1980-1982.....	—	—
G2500 Van.....	2003-2013.....	—	GMQ[15]	R10, R1500 2WD Pickup	1987-1991.....	GMA	GMI
	2001-2002.....	GMA	GMQ[15]		1987-1991.....	GMA	GMI
	1998-2000.....	GMA	GMD	R20, R2500 2WD Pickup	1987-1991.....	GMA	GMI
	1996-1997.....	GMA	GMF	R30, R3500 2WD Pickup	1987-1991.....	GMA	GMG[7] GMI[8]
G30, G3500 Van.....	1992-1996.....	GMA	GMF GMG[7] GMI[8]				
	1988-1991.....	GMA	GMI[15] GMG[7] GMJ[11] GMJ[15] GMH[7] GMJ[11]				
	1983-1987.....	GMA					
	1979-1982.....	GMA					

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Chevrolet / GMC Trucks - cont.			
S Blazer, Jimmy 2WD	1982-2003	GMA	—
S Blazer, Jimmy 4WD	1997-2005	103/140	—
S Blazer, Jimmy, Typhoon, Syclone 4WD	1986	181/245	—
S Blazer, Jimmy 4WD	1982-1985	174/235	—
S10, Sonoma, S15 2WD	1982-2004	GMA	—
S10, Sonoma, S15 4WD	1997-2004	103/140	—
	1986-1996	180/244	—
	1982-1985	174/235	—
Safari	1985-1989	GMA	—
Safari 2WD	2003-2005	—	—
	1990-2002	GMA	—
Safari AWD	1996-2005	147/200	—
Safari 4WD	1990-1995	180/244	—
Sierra, Silverado 2WD	2010-2013	—	GMQ[15]
	1999-2009	—	GMQ[15]
Sierra, Silverado 4WD	2010-2013	188/255	GMQ[15]
	1999-2009	177/240	GMQ[15]
SSR	2004-2006	—	—
Suburban 2WD	2000-2013	—	GMQ[15]
	1997-1999	GMA	GMD
	1992-1996	GMA	GMF
	1988-1991	GMA	GMI
	1979-1987	GMA	GMI[15]
Suburban 4WD	2000-2013	177/240	GMQ[15]
	1997-1999	165/225	GMD
	1992-1996	165/225	GMF
	1988-1991	GMM[12]	GMI
		GML[13]	
	1980-1987	GMM[12]	GMI[15]
		GMM[13]	GMJ[11]
Tahoe, Yukon 2WD	1998-2013	—	GMQ[15]
	1997	GMA	—
	1995-1996	GMA	—
Tahoe, Yukon 4WD	1998-2013	177/240	GMQ[15]
	1997	165/225	—
	1995-1996	165/225	—
Terrain	2010-2013	151/205	151/205
Tracker	1999-2004	159/216	—
	1998	155/210	—
TrailBlazer 2WD	2002-2009	—	—
TrailBlazer 4WD	2002-2009	103/140	—
Traverse FWD	2009-2013	173/235	—
Traverse AWD	2009-2013	173/235	151/205
V10, V1500 4WD Pickup	1987-1991	GMM[12] GML[13]	GMI
V20, V2500 4WD Pickup	1987-1991	GMM[12] GML[13]	GMI

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Chevrolet / GMC Trucks - cont.			
V30, V3500 4WD Pickup	1987-1991	GMM[12] GMM[13]	GMG[7] GMI[8]
Yukon XL 2WD	2001-2013	—	GMQ[15]
	2000	—	GMD
Yukon XL 4WD	2001-2013	177/240	GMQ[15]
	2000	177/240	GMD
Chrysler			
All	1980-1981	CRA	—
200	2011-2013	118/160	—
300 RWD	2005-2013	—	157/213
300 AWD	2005-2013	157/213	157/213
300M	2001-2004	105/142	124/168
	1999-2000	120/163	124/168
Aspen RWD	2007-2009	—	—
Aspen 2WD	2007	—	—
Aspen 4WD	2007-2009	185/251	—
Cirrus	2000	105/142	185/250
	1995-1999	180/244	185/250
Concorde	2001-2004	105/142	124/168
	1995-2000	120/163	124/168
	1993-1994	80/108	125/170
Conquest	1987-1989	CRB	—
Cordoba	1982-1983	CRA	—
Crossfire	2004-2008	—	164/220
Daytona	1984-1993	180/244	CRC
Dynasty	1988-1993	180/244	CRC
E Class	1983-1984	180/244	CRC
Fifth Ave	1990-1993	180/244	CRC
	1982-1989	CRA	—
Imperial	1990-1993	180/244	CRC
	1982-1983	CRA	—
Intrepid	2001-2004	105/142	124/168
	1995-2000	120/163	124/168
	1993-1994	80/108	125/170
Laser	1984-1986	180/244	CRC
LeBaron	1982-1995	180/244	CRC
LHS	2001	105/142	124/168
	1995-2000	120/163	124/168
	1994	80/108	125/170
New Yorker	1995-1996	120/163	124/168
	1994	80/108	125/170
	1983-1993	180/244	CRC
	1982	CRA	—
Newport	1982-1987	CRA	—
Pacifica	2004-2008	180/244	180/244
PT Cruiser	2001-2010	180/244	160/217
Prowler	2001-2002	—	105/141

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Chrysler - cont.			
Sebring Convertible	2008-2010.....	97/132	181/245
	2001-2006.....	110/150	185/250
	2000.....	105/142	185/250
	1996-1999.....	180/244	185/250
Sebring Coupe	1995-2005.....	167/226	—
Sebring Sedan	2007-2010.....	97/132	—
	2001-2006.....	110/150	185/250
TC	1989-1991.....	180/244	—
Town & Country	2008-2013.....	118/244	—
	2005-2007.....	180/244	—
Town & Country AWD	1999-2004.....	180/244	180/244
	1990-1998.....	180/244	—
Town & Country FWD	1999-2004.....	180/244	—
	1990-1998.....	180/244	CRC
Voyager AWD	2000-2003.....	180/244	180//244
Voyager FWD	2000-2003.....	180/244	—
Daewoo			
Lanos	2000-2002.....	DAA	DAB
	1999.....	DAA	DAC
Leganza	2001-2002.....	DAE	207/280
	1999-2000.....	DAA	210/285
Nubira	2001-2002.....	DAA	DAD
	1999-2000.....	DAA	DAD
Daihatsu			
Charade	1988-1992.....	148/201	144/106
Rocky.....	1990-1992.....	DHA	—
Dodge / Plymouth			
024, TC3	1980-1982.....	180/244	CRC
400.....	1982-1983.....	180/244	CRC
600.....	1982-1988.....	180/244	CRC
Aries	1981-1989.....	180/244	CRC
Arrow	1976-1980.....	CRB	—
Aspen	1978-1980.....	CRA	—
Avenger	2009-2013.....	118/160	—
	1995-2000.....	167/226	—
Avenger AWD	2008.....	118/160	118/160
Breeze	2000.....	105/142	185/250
	1996-1999.....	180/244	185/250
Caliber	2010-2012.....	180/244	—
Caliber AWD	2007-2009.....	181/245	181/245
Caliber FWD	2007-2009.....	181/245	—
Caravan AWD	1999-2004.....	180/244	180/244
	1990-1998.....	180/244	—
Caravan FWD	1999-2007.....	180/244	—
	1990-1998.....	180/244	CRC
Caravan, Voyager	1984-1989.....	180/244	CRC
Caravelle.....	1982-1988.....	180/244	CRC
Cargo Van	2012.....	118/160	—

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Dodge / Plymouth - cont.			
Challenger	2008-2013.....	184/250	157/213
	1978-1983.....	CRB	—
Champ.....	1979-1982.....	167/226	CRB
Charger AWD	2007-2013.....	157/213	157/213
Charger RWD	2007-2013.....	152/207	157/213
Charger	2006.....	184/250	157/213
	1982-1987.....	180/244	CRC
	1978-1979.....	CRA	—
Colt	1993-1994.....	167/226	130/180
	1989-1992.....	167/226	127/175
	1985-1988.....	167/226	90/125
	1979-1984.....	167/226	CRB
	1976-1980.....	CRB	—
Conquest	1984-1986.....	CRB	—
Dart	2013.....	148/200[95]	129/175
Daytona	1984-1993.....	180/244	CRC
Diplomat.....	1977-1989.....	CRA	—
Dynasty	1988-1993.....	180/244	CRC
Grand Caravan	2008-2013.....	118/160	—
	2005-2007.....	180/244	—
Grand Caravan, Grand Voyager AWD	1999-2004.....	180/244	180/244
	1990-1998.....	180/244	—
Grand Caravan, Grand Voyager FWD	1999-2004.....	180/244	—
	1990-1998.....	180/244	CRC
Grand Caravan, Grand Voyager CRC.....	1988-1989.....	180/244	—
Grand Fury	1977-1989.....	CRA	—
Horizon	1978-1990.....	180/244	CRC
Intrepid	2001-2004.....	105/142	124/168
	1995-2000.....	120/163	124/168
	1993-1994.....	80/108	125/170
Journey AWD	2009-2013.....	97/132	181/245
Journey FWD	2009-2013.....	97/132	—
Lancer	1985-1989.....	180/244	CRC
Laser 4WD	1990-1994.....	167/226	138/190
Laser FWD	1990-1994.....	167/226	166/225
Magnum AWD	2005-2008.....	157/213	157/213
Magnum RWD	2005-2008.....	184/250	157/213
Magnum.....	1978-1979.....	CRA	—
Mini Ram Van	1984-1988.....	180/245	—
Mirada	1980-1983.....	CRA	—
Monaco	1990-1992.....	181/245	123/167
Neon	2000-2005.....	180/244	160/217
	1996-1998.....	135/183	160/217
	1995.....	150/203	160/217
Neon SRT-4	2003-2005.....	180/244	160/217
Omni.....	1980-1990.....	180/244	CRC
Prowler	1997-2000.....	—	105/141
Rampage, Scamp	1982-1984.....	180/244	—

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Dodge / Plymouth - cont.			
Shadow, Sundance	1987-1994.....	180/244	CRC
Spirit.....	1989-1995.....	180/244	CRC
St. Regis	1980-1981.....	CRA	—
Stealth AWD	1991-1996.....	166/225	203/280
Stealth FWD	1991-1996.....	166/225	166/225
Stratus Coupe	2001-2005.....	167/226	—
Stratus Sedan	2001-2006.....	110/150	185/250
	2000.....	105/142	185/250
	1995-1999.....	180/244	185/250
TC3.....	1980-1982.....	180/244	CRC
Turismo.....	1982-1987.....	180/244	CRC
Viper	1997-2006.....	—	190/258
Vista	1992-1994.....	167/226	166/225
Vista 4WD	1984-1991.....	165/224	—
Vista FWD	1984-1991.....	165/224	CRB
Volare.....	1978-1980.....	CRA	—
Voyager AWD.....	1999-2000.....	180/244	180/244
	1990-1998.....	180/244	CRC
Voyager FWD.....	1999-2000.....	180/244	—
	1990-1998.....	180/244	—
Voyager.....	1984-1989.....	180/244	CRC

Dodge / Plymouth Trucks

Arrow 2WD.....	1979-1980.....	CRD	—
Arrow 4WD.....	1979-1980.....	DTF	—
B100 Van	1980.....	DTB	DTE[17] DTD[18]
B150 Van	1985-1993.....	DTB	DTD
B150 Van	1981-1984.....	DTB	DTE[17] DTD[18]
B1500 Van	2002-2003.....	DTK	DTC
	1994-2001.....	DTB	DTC
B200 Van	1980.....	DTB	DTE[17] DTD[18]
B250 Van	1985-1993.....	DTB	DTD
	1981-1984.....	DTB	DTE[17] DTD[18]
B2500 Van	2002-2003.....	DTK	DTC
	1994-2001.....	DTB	DTC
	1994-1998.....	DTB	DTC
B300 Van	1980.....	DTB	DTE[17] DTD[18]
B350 Van	1985-1993.....	DTB	DTD
	1981-1984.....	DTB	DTE[17] DTD[18]
B3500 Van	2002-2003.....	DTK	DTC
	1994-2001.....	DTB	DTC
D100, D150 2WD Pickup	1985-1993.....	DTB	DTD
	1980-1984.....	DTB	DTE[17] DTD[18]

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Dodge / Plymouth Trucks - cont.			
D200 2WD Pickup	1980.....	DTB	DTE[17] DTD[18]
D250 2WD Pickup	1985-1993.....	DTB	DTD[18]
	1981-1984.....	DTB	DTE[17] DTD[18]
D300 2WD Pickup	1980.....	DTB	DTE[17] DTD[18]
D350 2WD Pickup	1985-1993.....	DTB	DTD
	1981-1984.....	DTB	DTD DTE
Dakota 2WD	2005-2011.....	—	—
	1997-2004.....	185/251	—
	1987-1996.....	DTB	—
Dakota 4WD	2005-2011.....	185/251	—
	1997-2004.....	173/235	—
	1987-1996.....	190/258	—
Durango 2WD	2011-2013.....	—	—
	1997-2010.....	—	—
Durango 4WD	2011-2013.....	229/310	—
	1997-2010.....	185/251	—
Nitro 2WD.....	2007-2011.....	—	—
Nitro 4WD.....	2007-2011.....	100/135	—
Raider.....	1987-1989.....	DTF	—
Ram 1500 Pickup	2006-2013.....		
2WD w/Indep Susp.....		—	—
4WD w/Indep Susp.....		185/251	—
	2003-2007.....		
2WD w/Link/Coil Susp.....		—	—
4WD w/Link/Coil Susp.....		263/356	—
	2003-2005.....		
2WD w/Indep Susp.....		—	DTL[9]
4WD w/Indep Susp.....		185/251	DTL[9]
	2000-2002.....	—	—
2WD.....		185/251	DTC
4WD.....		180/244[16]	DTC
	1996-1999.....	DTA	DTC
2WD.....		—	—
4WD.....		175/237[16]	DTC
	1994-1995.....	DTA	DTC
2WD.....		—	—
4WD.....		180/244[16]	DTC
Ram 2500 Pickup	2013.....		
4WD w/Link/Coil Susp.....		[38]	DTL[9]
	2010-2012.....		
2WD w/Link/Coil Susp.....		—	DTL[9]
2WD w/Link/Coil Susp.....		—	DTM[2]
4WD w/Link/Coil Susp.....		[38]	DTL[9]
4WD w/Link/Coil Susp.....		[38]	DTM[2]

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Dodge / Plymouth Trucks - cont.			
Ram 2500 Pickup - cont.			
	2008-2009.....		
2WD w/Indep Susp.....	—	DTL[9]	
2WD w/Indep Susp.....	—	DTM[2]	
2WD w/Link/Coil Susp.....	—	DTL[9]	
2WD w/Link/Coil Susp.....	—	DTM[2]	
4WD w/Indep Susp.....	185/251	DTL[9]	
4WD w/Indep Susp.....	185/251	DTM[2]	
4WD w/Link/Coil Susp.....	263/356	DTL[9]	
4WD w/Link/Coil Susp.....	263/356	DTM[2]	
	2006-2007.....		
2WD w/Link/Coil Susp.....	—	DTL[9]	
2WD w/Indep Susp.....	—	DTL[9]	
4WD w/Link/Coil Susp.....	263/356	DTL[9]	
4WD w/Indep Susp.....	185/251	DTL[9]	
	2003-2005.....		
2WD w/Link/Coil Susp.....	—	DTL[9]	
2WD w/Indep Susp.....	—	DTL[9]	
4WD w/Link/Coil Susp.....	[38]	DTL[9]	
4WD w/Indep Susp.....	185/251	DTL[9]	
	2000-2002.....	280/380	DTC
2WD.....	280/380	DTC	
4WD.....	180/244[16]	DTC	
	1996-1999.....	DTA	DTC
2WD.....	DTA	DTC	
4WD.....	175/237[16]	DTC	
	1994-1995.....	DTA	DTC
2WD.....	DTA	DTC	
4WD.....	180/244[16]	DTC	
Ram 3500 Pickup.....	2013.....		
4WD w/Link/Coil Susp.....	[38]	DTL[9]	
	2010-2012.....		
2WD w/Link/Coil Susp.....	—	DTL[9]	
2WD w/Link/Coil Susp.....	—	DTM[2]	
4WD w/Link/Coil Susp.....	[38]	DTL[9]	
4WD w/Link/Coil Susp.....	[38]	DTM[2]	
	2008-2009.....		
2WD w/Indep Susp.....	—	DTL[9]	
2WD w/Indep Susp.....	—	DTM[2]	
2WD w/Link/Coil Susp.....	—	DTL[9]	
2WD w/Link/Coil Susp.....	—	DTM[2]	
4WD w/Indep Susp.....	185/251	DTL[9]	
4WD w/Indep Susp.....	185/251	DTM[2]	
4WD w/Link/Coil Susp.....	263/356	DTL[9]	
4WD w/Link/Coil Susp.....	263/356	DTM[2]	
	2006-2007.....		
2WD w/Link/Coil Susp.....	—	DTL[9]	
2WD w/Indep Susp.....	—	DTL[9]	
4WD w/Link/Coil Susp.....	263/356	DTL[9]	
4WD w/Indep Susp.....	185/251	DTL[9]	

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Dodge / Plymouth Trucks - cont.			
Ram 3500 Pickup - cont.			
	2000-2002.....		
2WD.....	280/380	DTC	
4WD.....	180/244[16]	DTC	
	1996-1999.....		
2WD.....	DTA	DTC	
4WD.....	175/237[16]	DTC	
	1994-1995.....		
2WD.....	DTA	DTC	
Ram 4500,5500.....	2008-2013.....	[49]	—
	2008-2013.....	—	DTL[9]
	2008-2013.....	—	DTM[2]
Ram 50 Pickup 2WD.....	1981-1993.....	CRD	—
Ram 50 Pickup 4WD.....	1981-1993.....	DTF	—
Ramcharger, Trailduster			
4WD.....	1980-1993.....	DTG	—
Ramcharger, Trailduster			
2WD.....	1979-1993.....	DTB	—
Sprinter, Dual Rear			
Wheels, Inner Hub Nut..	2004-2010.....	—	[41]
Sprinter, Dual Rear			
Wheels, Outer Hub Nut..	2004-2010.....	—	184/250
Sprinter, Single Rear			
Wheels.....	2004-2010.....	—	—
W100, W150			
4WD Pickup.....	1985-1993.....	DTG	DTD
	1980-1984.....	DTG	DTE[17]
W200 HD 4WD Pickup.....	1980.....	DTI	DTE[17]
			DTD[18]
W200 LD 4WD Pickup.....	1980.....	DTG	DTE[17]
			DTD[18]
W250 HD 4WD Pickup.....	1985-1993.....	DTG	DTD
	1981-1984.....	DTG	DTE[17]
			DTD[18]
W250 LD 4WD Pickup.....	1992-1993.....	DTH	DTD
	1985-1991.....	DTI	DTD
	1981-1984.....	DTI	DTE[17]
			DTD[18]
W300 4WD Pickup.....	1980.....	DTI	DTE[17]
			DTD[18]
W350 4WD Pickup.....	1992-1993.....	DTH	DTD
	1985-1991.....	DTI	DTD
	1981-1984.....	DTI	DTE[17]
			DTD[18]
Eagle			
Eagle Wagon.....	1988.....	—	—
Medallion.....	1988-1989.....	—	—
Premier.....	1988-1992.....	181/245	123/167
Summit.....	1993-1996.....	167/226	130/180
	1989-1992.....	167/226	127/175

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Eagle - cont.			
Summit Wagon.....	1992-1996.....	167/226	166/225
Summit Wagon FWD.....	1989-1991.....	165/224	CRB
Summit Wagon 4WD.....	1989-1991.....	165/224	CRB
Talon AWD.....	1995-1998.....	167/226	167/226
	1990-1994.....	167/226	138/190
Talon FWD.....	1995-1998.....	167/226	—
	1990-1994.....	167/226	167/226
Vision.....	1995-1997.....	120/163	124/168
	1993-1994.....	80/108	125/170
Fiat			
500.....	2012-2013.....	229/310	—
Ford / Mercury			
Aspire.....	1997.....	116-174/ 157-235[89]	FDG
	1994-1996.....	116-174/ 157-235[89]	FDF
C-Max.....	2013.....	59/80[44]	—
Capri.....	1992-1994.....	145/196	FDC
Contour, Mystique.....	1998-2000.....	199/270	210/290
	1995-1997.....	246/334	210/290
Cougar.....	1999-2002.....	214/290	214/290
	1989-1997.....	221/300	221/300
	1981-1988.....	FDA	—
Country Squire, Colony Park.....	1981-1991.....	FDA	—
Crown Victoria.....	2003-2011.....	—	—
	1992-2002.....	221/300	—
	1983-1991.....	FDA	—
Edge FWD.....	2011-2013.....	FDE	FDE
	2007-2010.....	FDE	—
Edge 4WD.....	2011-2013.....	FDE	—
	2007-2010.....	FDE	[60]
Escort.....	2000-2002.....	205/277	152/206
	1991-1999.....	205/277	152/206
	1981-1990.....	188/255	FDA
EXP.....	1981-1987.....	188/255	FDA
Fairlane.....	1976-1980.....	FDA	—
Fairmont.....	1981-1983.....	FDA	—
Festiva.....	1989-1993.....	145/196	FDB
Fiesta.....	2011-2013.....	—	—
Five Hundred 2WD.....	2007.....	259/350[42]	—
Five Hundred 4WD.....	2007.....	259/350[42]	148/200
Five Hundred.....	2005-2006.....	258/350[42]	148/200
Flex FWD.....	2009-2013.....	FDE	—
Flex AWD.....	2009-2013.....	FDE	FDE
Focus.....	2012-2013.....	59/80[44]	—
	2005-2011.....	199/270	173/235
	2000-2004.....	233/316	173/235
Freestar.....	2004-2007.....	111/150	—

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Ford / Mercury - cont.			
Freestyle FWD.....	2005-2007.....	259/350[42]	—
Freestyle AWD.....	2005-2007.....	259/350[42]	148/200
Fusion AWD.....	2013.....	147/200	147/200
	2006-2012.....	188/255	188/255
		[59][61]	[59][61]
Fusion FWD.....	2013.....	—	147/200
	2006-2012.....	188/255	—
		[59][61]	—
Granada.....	1981-1982.....	FDA	—
Grand Marquis.....	2003-2011.....	—	—
	1992-2002.....	221/300	—
	1983-1991.....	FDA	—
LTD.....	1981-1986.....	FDA	—
LN7.....	1982-1983.....	190/255	FDA
Lynx.....	1981-1987.....	190/255	FDA
Marauder.....	2003-2004.....	—	—
Milan AWD.....	2006-2011.....	188/255	188/255
		[59][61]	[59][61]
Milan FWD.....	2006-2011.....	188/255	—
Montego FWD.....	2007.....	259/350[42]	—
Montego AWD.....	2007.....	259/350[42]	148/200
Monterey.....	2005-2007.....	111/150	—
Mustang.....	2006-2013.....	251/340[59]	—
	2005.....	221/300	—
Mustang Cobra.....	1999-2004.....	258/350	240/325
Mustang.....	1994-2004.....	258/350	—
	1981-1993.....	FDA	—
Mystique.....	1998-2000.....	199/270	199/270
	1995-1997.....	246/334	210/290
Probe.....	1993-1997.....	205/277	154/206
	1989-1992.....	205/277	100/136
Sable, Taurus, Taurus X FWD.....	2008-2013.....	FDE	—
Sable, Taurus, Taurus X AWD.....	2008-2013.....	FDE	FDE
Sable, Taurus.....	2000-2007.....	184/250	221/300
	1986-1999.....	190/258	221/300
Tempo, Topaz.....	1984-1994.....	190/255	FDA
Thunderbird.....	2002-2005.....	—	302/410
	1989-1997.....	221/300	221/300
	1981-1988.....	FDA	—
Tracer.....	1991-1999.....	205/277	152/206
	1987-1989.....	145/196	—
Villager.....	1993-2002.....	203/275	178/240
Windstar.....	2000-2003.....	184/250	221/300
	1998-1999.....	186/252	221/300
	1995-1997.....	194/263	FDD
XR7.....	1981-1982.....	FDA	—
Zephyr.....	1981-1983.....	FDA	—
ZX2.....	1998-2003.....	205/277	152/206

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm	Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Ford / Mercury Trucks				Ford / Mercury Trucks- cont.			
Aerostar 2WD	1995-1997	FTA	—	Expedition 4WD	2010-2013	20/27[59]	184/250[62]
	1986-1994	FTA	—		2009	20/27[59]	184/250[62]
Aerostar 4WD	1995-1997	185/257	—		2007-2008	20/27	254/345
	1986-1994	190/260	—		2003-2006	20/27	250/338
Bronco	1995-1996	FTM[20]	—		1997-2002	221/300	—
		FTQ[21]	—	Explorer 2WD	2011-2013	—	FDE
	1986-1994	FTL[20]	—		2002-2010	—	203/275[59]
		FTQ[21]	—		2001	—	—
	1981-1985	FTJ	—		1997-2000	FT2	—
	1977-1980	FTE	—		1995-1996	FTA	—
Bronco II 2WD	1984-1990	FTA	—		1991-1994	FTA	—
Bronco II 4WD	1984-1990	FTU[20]	—	Explorer 4WD	2011-2015	FDE	FDE
		FTV[21]	—		2002-2010	184/250[59]	203/275[59]
Courier	1976-1982	FTD	—		2001	184-250	—
E150 Van	2011-2013	FT6	—		1997-2000	184-250	—
	2007-2010	FTY	—		1995-1996	195/270	—
	2004-2006	[39]	—		1993-1994	FTW[20]	—
	1998-2003	FTY	—			FTX[21]	—
	1977-1997	FTB	—		1991-1992	FTU[20]	—
E250 Van	2011-2013	FT6	—			FTV[21]	—
	2007-2010	FTY	—	Explorer Sport Trac 2WD ..	2007-2010	—	203/275
	2004-2006	[39]	—	Explorer Sport Trac 4WD ..	2007-2010	148/200	203/275
	1998-2003	FTY	—	Explorer Sport &			
	1987-1997	FTB	FTT[23]	Sport-Trac 2WD	2001-2003	FT2	—
			FTS[24]	Explorer Sport &			
	1977-1986	FTB	FTH	Sport-Trac 4WD	2004-2005	162/220	—
E350 Van	2011-2013	FT6	FTZ[24]		2001-2003	184/250	—
	2007-2010	FTY	FTZ[24]	F100 Pickup 2WD	1977-1983	FTB	—
	2004-2006	[39]	—	F100 Pickup 4WD	1981-1983	FTJ	—
	1998-2003	FTY	FTZ[24]		1977-1980	FTE	—
	1987-1997	FTB	FTT[23]	F150 Pickup 2WD	2013	—	—
			FTS[24]		2009-2012	—	—
	1977-1986	FTB	FTH		2007-2008	296/400	—
E450 Van	2011-2013	FT6	FTZ[24]		2004-2006	FTY	—
	1998-2010	FTY	FTZ[24]		1997-2003	FTY	—
E550 Van	2003	—	FTZ[24]		1977-1996	FTB	—
Escape FWD	2013	59/80[44]		F150 Pickup 4WD	2013	30/40[59]	—
	2012	221/300[59]	214/290[59]		2009-2012	20/27[59]	—
	2004-2011	221/300[59]	214/290[59]		2007-2008	20/27	—
	2001-2003	214/290	214/290		2004-2006	20/27	—
Escape 4WD	2013	59/80[44]	98/133		1997-2003	221/300	—
	2012	221/300[59]	214/290[59]		1996	FTM[20]	—
	2004-2011	221/300[59]	221/300[59]			FTR[21]	—
	2001-2003	214/290	214/290		1995	FTM[20]	—
Escape	2001-2003	214/290	214/290			FTQ[21]	—
Excursion	2000-2005	FTY	FT1[23]		1994	FTQ[21]	—
Expedition 2WD	2010-2013	—	184/250[62]			FTL[20]	—
	2009	—	258/350[59]		1986-1993	FTL[20]	—
	2007-2008	—	254/345			FTO[21]	—
	2003-2006	—	250/338		1981-1985	FTJ	—
	1997-2002	FTN	—		1977-1980	FTE	—

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Ford / Mercury Trucks- cont.			
F250 LD Pickup 2WD	1997-1998.....	FTP	—
	1977-1996.....	FTB	—
F250 LD Pickup 4WD	1997-1998.....	221/300	—
	1996.....	FTM[20]	—
		FTR[21]	—
	1995.....	FTM[20]	—
		FTQ[21]	—
	1994.....	FTL[20]	—
		FTQ[21]	—
	1986-1993.....	FTL[20]	—
		FTQ[21]	—
	1981-1985.....	FTJ[19]	—
		FTK[22]	—
	1977-1980.....	FTE	—
F250 HD Pickup 2WD	1987-1997.....	FTB	FTT[23]
			FTS[24]
	1981-1986.....	FTB	FTH
	1977-1980.....	FTB	FTG
F250 HD Pickup 4WD	1996-1997.....	FTM[20]	FTT[23]
		FTR[21]	FTS[24]
	1995.....	FTM[20]	FTT[23]
		FTQ[21]	FTS[24]
	1994.....	FTL[20]	FTT[23]
		FTQ[21]	FTS[24]
	1987-1993.....	FTL[20]	FTT[23]
		FTQ[21]	FTS[24]
	1986.....	FTL[20]	FTH
		FTQ[21]	—
	1981-1985.....	FTJ[19]	FTH
		FTK[22]	—
	1977-1980.....	FTE	FTG
F350 Pickup 2WD	1988-1997.....	FTB	FTT[23]
			FTS[24]
	1987.....	FTB	FTT[23]
			FTS[24]
	1981-1986.....	FTB	FTH
	1977-1980.....	FTB	FTG
F350 Pickup 4WD	1996-1997.....	FTR	FTT[23]
			FTS[24]
	1994-1995.....	FTQ	FTT[23]
			FTS[24]
	1987-1993.....	FTO	FTT[23]
			FTS[24]
	1986.....	FTO	FTH
	1981-1985.....	FTK	FTH
	1977-1980.....	FTE	FTG
F Super Duty 2WD			
250-350.....	2011-2013.....	FT3	FT7,FT4
	2007-2010.....	FT3	FTZ,FT4

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Ford / Mercury Trucks- cont.			
F Super Duty 4WD			
250-350.....	2011-2013.....	—	FT7,FT4
	2007-2010.....	—	FTZ,FT4
F Super Duty 2WD			
450-550.....	2011-2013.....	—	FTZ,FT4
	2007-2010.....	—	FTZ,FT4
F Super Duty 4WD			
450-550.....	2011-2013.....	—	FTZ,FT4
	2007-2010.....	—	FTZ,FT4
F Super Duty			
250-550	1999-2006.....	FTY	FT1[23]
			FTZ[24]
Mariner FWD.....	2005-2011.....	221/300[59]	214/290[59]
Mariner 4WD	2005-2011.....	221/300[59]	221/300[59]
Mountaineer 2WD	2002-2010.....	—	203/275[59]
	2001	—	—
	1997-2000.....	FT2	—
Mountaineer 4WD	2002-2010.....	184/250[59]	203/275[59]
	2001	184-250	—
	1997-2000.....	184-250	—
Ranger 2WD	2006-2011.....	FT2	—
	2001-2005.....	FT2	—
	1998-2000.....	FTA	—
	1995-1997.....	FTA	—
	1983-1994.....	FTA	—
Ranger 4WD	2006-2011.....	184/250[59]	—
	2001-2005.....	162/220	—
	1998-2000.....	[25]	—
	1993-1997.....	FTW[20]	—
		FTX[21]	—
	1983-1992.....	FTU[20]	—
		FTV[21]	—
Transit Connect.....	2010-2013.....	207/280[59]	251/340[59]

Geo

Metro.....	1989-1997.....	129/175	129/175
Prizm.....	1993-1997.....	159/216	—
	1989-1992.....	137/186	90/123
Spectrum	1989	137/186	IUC
Storm	1990-1993.....	137/186	—
Tracker	1989-1997.....	155/210	—

GMC Trucks - See Chevrolet / GMC Trucks

Honda

Accord	2008-2013.....	242/328	—
	1990-2002.....	181/245	134/181
	1986-1989.....	134/181	134/181
	1983-1985.....	137/190	HAA
	1976-1982.....	108/150	HAA

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm	Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Honda - cont.				Hyundai - cont.			
Accord 2.4L A/T	2003-2007	134/181	134/181	Genesis Coupe	2010-2013	—	188/255
Accord 2.4L M/T	2003-2007	181/245	134/181	Santa Fe	2013	199/270	199/270
Accord 3.0L	2003-2007	181/245	134/181	.....	2008-2012	188/255	188/255
Accord Crosstour FWD	2010-2013	242/329	—	.....	2001-2007	170/230	170/230
Accord Crosstour AWD	2010-2013	242/329	181/245	Scoupe	1991-1995	170/230	127/175
Civic	1984-2006	134/181	134/181	Sonata	2011-2013	188/255	—
.....	1976-1983	108/150	HAA	.....	2008-2010	207/280	—
Civic SI	2007-2013	181/245	—	.....	2002-2007	177/240	177/240
Civic Exc. SI	2007-2013	134/181	—	.....	1995-2001	170/230	167/226
CR-V	2012-2013	242/328	[109]	.....	1992-1994	170/230	196/270
.....	20007-2011	242/328	181/245	.....	1989-1991	170/230	HIA
.....	1997-2006	181/245	134/181	Tiburon	1997-2001	170/230	158/215
CRX	1984-1991	134/181	134/181	Tiburon 2.0L	2008	192/260	192/260[93]
CRZ	2011-2013	134/181	134/181	.....	2008	207/280	192/260[93]
Del Sol	1993-1997	134/181	134/181	.....	2003-2007	170/230	170/230
Element	2003-2011	181/245	134/181	.....	.....	177/240	170/230
Fit	2007-2013	134/181	134/181	Tucson	2010-2013	203/275	203/275
Insight	2010-2013	134/181	134/181	.....	2005-2006	HIB	170/230
.....	2000-2006	134/181	119/162	Tucson 2WD	2007-2009	HIB	170/230
Odyssey	2005-2013	242/328	—	Tucson 4WD	2007-2009	HIB	190/258
.....	1995-2004	181/245	181/245	Veloster	2012-2013	202/274	—
Passport 2WD & 4WD	1994-2002	IUA	—	Veracruz AWD	2007-2012	202/274	202/274
Pilot	2009-2013	242/328	181/245	Veracruz FWD	2007-2012	202/274	—
.....	2005-2008	210/285	181/245	XG300	2001	192/260	170/230
.....	2003-2004	181/245	181/245	XG350	2002-2005	192/260	170/230
Prelude	1992-2001	181/245	134/181	Infiniti			
.....	1990-1991	181/245	181/245	EX35 AWD	2011-2012	92/125	77/105
.....	1983-1989	134/181	HAA	.....	2008-2010	92/125	135/183
.....	1979-1982	108/150	HAA	EX35 RWD	2011-2012	—	77/105
Ridgeline	2006-2013	242/328	181/245	.....	2008-2010	—	135/183
S2000	2000-2009	242/329	181/245	.....	2013	—	77/105
Hyundai				EX37 AWD	2013	92/125	77/105
Accent	2012-2013	202/274	—	FX35, FX45 AWD	2003-2008	203/275	177/240
.....	2007-2011	188/260	—	FX35, FX45 RWD	2003-2008	—	177/240
.....	2006	175/237	—	FX35, FX50 RWD	2011-2012	—	77/105
.....	2001-2005	175/237	147/200	.....	2011-2012	92/125	77/105
.....	1995-2000	170/230	147/200	.....	2009-2010	—	136/185
Azera	2012-2013	199/270	—	.....	2009-2010	92/125	136/185
.....	2007-2011	207/280	—	FX37 AWD	2013	92/125	77/105
.....	2006	170/230	—	FX37 RWD	2013	—	77/105
Elantra	2007-2013	202/274	—	G20	2002	217/294	163/221
.....	2001-2006	192/260	192/260	.....	1999-2001	203/275	156/210
.....	1996-2000	192/260	162/220	.....	1991-1996	203/275	163/221
.....	1995-92	192/260	148/200	G25 AWD	2011-2012	92/125	77/105
Elantra GT	2013	199/270	—	G25 RWD	2011-2012	—	77/105
Entourage	2007-2008	199/275	188/260	G35	2003-2006	177/240	177/240
Equus	2011-2013	—	203/280	G35 Coupe	2007	—	177/240
Excel	1990-1994	170/230	129/175	G35 Sedan AWD	2008	92/125	133/180
.....	1986-1989	170/230	HIA	.....	2007	92/125	129/175
Genesis	2009-2013	—	188/255				

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm	Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Infiniti - cont.				Isuzu - cont.			
G35 Sedan RWD	2008	—	133/180	Pickup 2WD	1988-1995	IUB	—
	2007	—	129/175		1981-1987	IUE	—
G37 AWD	2010-2013	92/125	77/105	Pickup 4WD	1988-1995	IUA	—
	2009	92/125	[63]		1981-1987	IUF	—
	2008	92/125	[63]	Rodeo	1991-2002	IUA	—
G37 RWD	2010-2013	—	77/105	Rodeo 2WD	2003-2004	—	—
	2009	—	[63]	Rodeo 4WD	2003-2004	181/245	—
	2008	—	133/180	Rodeo Sport	2001-2003	IUA	—
I30	2000-2001	217/294	163/221	Stylus	1991-1993	137/186	—
	1996-1999	203/275	163/221	Trooper	1992-2002	IUA	—
I35	2002-2004	203/275	163/221		1984-1991	IUF	—
J30	1993-1997	217/294	178/241	Vehicross	2000-2001	IUA	—
JX35 AWD	2013	135/182	92/125	Jaguar			
JX35 FWD	2013	135/182	—	All	1980-1987	JGB	—
M30	1990-1992	—	117/152	S-Type	2000-2008	—	221/300
M35H	2012-2013	—	77/105	X-Type	2002-2008	200/270	200/270
M35,M45	2010	92/125	136/185	XF AWD	2013	221/300	221/300
	2009	92/125	[63]	XF RWD	2009-2013	—	221/300
	2008	92/125	135/183	XFR	2010-2013	—	221/300
	2006-2007	92/125	130/175	XJ AWD	2013	221/300	221/300
M37,M56	2011-2013	92/125	77/105	XJ RWD	2004-2013	—	221/300
M45	2003-2004	181/245	177/240	XJ Series	2004-2007	—	221/300
Q45	1990-2006	181/245	177/240	XJ6, XJ12 & XJS	1988-1997	JGA	—
QX4	1997-2003	NDG	181/245	XJ8	1998-2003	—	236/320
QX56	2011-2013	90/123	164/223	XK, XKR Series	2004-2013	—	221/300
	2004-2010	101/137	170/230	XK8	1997-2003	—	236/320
Isuzu				Jeep			
Amigo	1998-2000	IUA	—	Cherokee	1996-2001	175/237	—
Amigo 2WD	1989-1994	IUB	—		1976-1983	JPB	—
Amigo 4WD	1989-1994	IUA	—	Cherokee 2WD	1984-1995	JPA	—
Ascender 2WD	2003-2008	—	—	Cherokee 4WD	1984-1995	175/237	—
Ascender 4WD	2003-2008	103/140	—	CJ-5	1977-1983	JPB	—
Axiom 2WD	2002-2004	181/245	—	CJ-7	1977-1986	JPB	—
Axiom 4WD	2002-2004	—	—	Comanche 2WD	1986-1992	JPA	—
Hombre 2WD	1997-2000	GMA	—	Comanche 4WD	1986-1992	175/237	—
	1996	GMA	—	Commander	2006-2010	100/135	—
Hombre 4WD	1997-2000	103/140	—	Compass, Patriot AWD	2007-2013	180/244	181/245
	1996	181/245	—	Compass, Patriot FWD	2007-2013	180/244	—
I-Mark	1986-1989	137/186	IUC	Grand Cherokee	2005-2010	100/135	—
	1981-1984	IUC	—		1993-2004	175/237	—
I-Mark FWD	1985	137/186	IUC	Grand Cherokee AWD	2011-2013	229/310	229/310
I-Mark RWD	1985	IUC	—	Grand Cherokee RWD	2011-2013	—	229/310
Impulse	1990-1993	137/186	—	Grand Wagoneer	1993	175/237	—
	1983-1989	IUD	—		1984-1991	JPB	—
i-280, i-290, i-350,				J10 Pickup	1976-1987	JPB	—
i-370 2WD	2006-2008	—	—	J20 Pickup	1976-1987	JPB	—
i-280, i-290, i-350,				Liberty RWD	2002-2012	—	—
i-370 4WD	2006-2008	191/260	—	Liberty 4WD	2002-2012	100/135	—
Oasis	1996-1999	181/245	134/185	Scrambler	1982-1985	JPB	—

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Jeep - cont.			
Wagoneer	1976-1983.....	JPB	—
Wagoneer 2WD	1984-1990.....	JPA	—
Wagoneer 4WD	1984-1990.....	175/237	—
Wrangler	2007-2013.....	100/136	—
	1987-2006.....	175/237	—
Kia			
Amanti	2004-2009.....	207/280	—
Borrego RWD	2009-2010.....	199/270	199/270
Borrego 4WD	2009-2010.....	199/270	199/270
Forte	2010-2013.....	203/275[93]	—
Optima [81]	2011-2013.....	188/255	—
Optima [67]	2006-2010.....	203/280	—
Optima [66]	2001-2006.....	192/260	192/260
Rio	2012-2013.....	202/275	—
Rio [65]	2005-2011.....	188/255	—
Rio [64]	2001-2005.....	145/200[93]	KIB
Rio5	2011-2013.....	202/275	—
	2006-2011.....	188/255	—
Rondo	2007-2010.....	203/275	—
Sedona	2006-2012.....	199/270[93]	188/255
	2002-2005.....	199/270[93]	25/33
Sephia	1997-2001.....	180/244	180/244
	1994-1996.....	177/240	[35]
Sorento	2011-2013.....	159/215	159/215
	2003-2009.....	198/275	—
Soul	2011-2013.....	199/270	—
Spectra, Spectra5	2008-2009.....	188/255	188/255
	2001-2007.....	180/244	180/244
Sportage	1995-2002.....	KIA	—
Sportage FWD	2011-2013.....	202/274	—
	2005-2010.....	207/280[86]	207/280[86]
Sportage 4WD	2011-2013.....	202/274	202/274
	2005-2010.....	207/280[86]	207/280[86]
Land Rover			
Defender	1997	LRC	—
	1993-1995.....	LRB	—
Discovery	1995-1997.....	LRA	—
Discovery II	1998-2004.....	360/490[6]	—
Evoque	2012-2013.....	89/120[26]	73/100[44]
Freelander	2002-2005.....	295/400	295/400
LR2	2008-2013.....	[71]	LRD
LR3	2005-2009	258/350	258/350
LR4	2010-2013.....	170/230[95]	311/420[95]
Range Rover	2013	89/120[26]	89/120[26]
	2003-2012.....	311/420	311/420
	2000-2002.....	192/260[6]	—
	1995-1997.....	LRA	—
Range Rover Sport	2010-2013.....	169/230[95]	311/420[95]
	2008-2009.....	169/230[95]	258/350[95]

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Lexus			
CT200H.....	2011-2013.....	159/216	—
ES250	1990-1991.....	137/186	90/123
ES300	1992-2003.....	217/294	—
ES300H.....	2013	217/294	—
ES330	2004-2006.....	217/294	—
ES350	2007-2013.....	217/294	—
GS300.....	1993-1997.....	147/199	213/289
GS300 AWD	2006	217/294	214/290
GS300 FWD	2001-2006.....	217/294	213/289
GS300, GS400.....	1998-2000.....	147/199	213/289
GS350 AWD	2007-2013.....	217/294[96]	214/290[96]
GS350 RWD	2007-2013.....	—	214/290[96]
GS430.....	2001-2007.....	—	214/290
GS450H.....	2007-2013.....	—	214/290[96]
GS460 2WD	2008-2011.....	—	214/290[96]
GS460 4WD	2008-2011.....	217/294[96]	214/290[96]
GX460.....	2010-2013.....	173/235	—
GX470.....	2003-2009.....	173/235	—
HS250H.....	2010-2012.....	159/216[97]	—
IS250 AWD.....	2006-2013.....	217/294[96]	214/290[96]
IS250 RWD.....	2006-2013.....	—	214/290[96]
IS300	2000-2005.....	108/147	213/289
IS350 AWD.....	2006-2013.....	217/294[96]	214/290[96]
IS350 RWD.....	2011-2013.....	—	214/290[96]
IS-F.....	2008-2013.....	—	214/290[96]
LS400.....	2000	—	213/289
	1995-1999.....	147/199	213/289
	1990-1994.....	147/199	253/343
LS430.....	2001-2006.....	—	214/290
LS460 AWD.....	2009-2013.....	217/294[97]	214/290[97]
LS460 RWD	2007-2013.....	—	214/290[96]
LS600HL.....	2008-2013.....	217/294[97]	214/290[97]
LX450.....	1996-1997.....	TAA	—
LX470.....	1998-2007.....	TAH	—
LX570.....	2008-2013.....	[52]	—
RX300 2WD	1999-2003.....	217/294	—
RX300 4WD	1999-2003.....	217/294	159/216
RX330 2WD	2004-2006.....	217/294	—
RX330 4WD	2004-2006.....	217/294	217/294
RX350 2WD	2007-2013.....	217/294	—
RX350 4WD	2007-2013.....	217/294	217/294
RX400H 2WD	2006-2008.....	217/294	—
RX400H 4WD	2006-2008.....	217/294	217/294
RX450H 2WD	2010-2013.....	217/294	—
RX450H 4WD	2010-2013.....	217/294	217/294
SC300, SC400.....	1992-2000.....	147/199	213/289
SC430.....	2002-2010.....	147/199	213/289
Lincoln			
Aviator.....	2003-2005.....	184/250	203/275
Blackwood.....	2002	FTY	—

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm	Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Lincoln - cont.				Mazda - cont.			
Continental.....	1999-2002.....	184/250	221/300	B2300 Pickup 2WD	2001-2009.....	FT2	—
	1988-1998.....	190/258	221/300		1994-1997.....	FTA	—
LS.....	2000-2006.....	—	221/300	B2300 Pickup 4WD	2001-2009.....	162/220	—
Mark VII.....	1988-1992.....	FDA	—		1994-1997.....	FTW[20]	—
Mark VIII.....	1993-1998.....	221/300	—			FTX[21]	—
Mark LT Pickup 2WD	2006-2008.....	296/400	—	B2500 Pickup 2WD	2001.....	FTP	—
Mark LT Pickup 4WD	2006-2008.....	20/27	—		1998-2000.....	FTA	—
MKS AWD.....	2009-2013.....	FDE	FDE			[25]	—
MKS FWD.....	2009-2013.....	FDE	—	B2500 Pickup 4WD	2001.....	162/220	—
MKT AWD.....	2010-2013.....	FDE	FDE	B2600 Pickup 2WD	1987-1993.....	MAC	—
MKT FWD.....	2010-2013.....	FDE	—	B2600 Pickup 4WD	1987-1993.....	MAD	—
MKX AWD.....	2011-2013.....	FDE	FDE	B3000 Pickup 2WD	2001-2007.....	FT2	—
	2007-2010.....	FDE	[60]		1998-2000.....	FTA	—
MKX FWD.....	2011-2013.....	FDE	—		1994-1997.....	FTA	—
	2007-2010.....	FDE	—	B3000 Pickup 4WD	2001-2007.....	162/220	—
MKZ AWD.....	2013.....	147/200	147/200		1998-2000.....	[25]	—
	2007-2012.....	189/255[61]	189/255[61]		1994-1997.....	FTW[20]	—
MKZ FWD.....	2013.....	147/200	—			FTX[21]	—
	2007-2012.....	189/255[61]	189/255[61]	B4000 Pickup 2WD	2001-2009.....	FT2	—
Navigator 2WD	2003-2006.....	—	221/300		1998-2000.....	FTA	—
	1998-2002.....	FTN	—		1994-1997.....	FTA	—
Navigator 4WD	2003-2006.....	20/27	221/300	B4000 Pickup 4WD	2001-2009.....	162/220	—
	1998-2002.....	221/300	—		1998-2000.....	[25]	—
Navigator, Navigator L					1994-1997.....	FTW[20]	—
2WD	2010-2013.....	—	184/250[62]			FTX[21]	—
	2009.....	—	258/350	CX-5 AWD.....	2013.....	FT8	FT8
	2007-2008.....	—	254/345	CX-5 FWD.....	2013.....	FT8	—
Navigator, Navigator L				CX7 AWD.....	2007-2012.....	202/274[98]	202/274
4WD	2010-2013.....	20/27	184/250[62]	CX7 FWD.....	2007-2012.....	202/274[98]	—
	2009.....	20/27	258/350	CX9 AWD.....	2007-2013.....	202/274[98]	202/274
	2007-2008.....	20/27	254/345	CX9 FWD.....	2007-2013.....	202/274[98]	—
Town Car	2003-2011.....	—	—	GLC	1977-1980.....	MAB	—
	1991-2002.....	221/300	—	GLC Wagon	1981-1983.....	MAB	—
	1988-1990.....	FDA	—	GLC Exc. Wagon	1981-1985.....	145/200	MAB
Zephyr.....	2006.....	185/255	185/255	Mazda 2.....	2011-2013.....	202/274	—
Mazda				Mazda 3	2007-2013.....	202/274	—
All	1976-1987.....	FDA	—		2004-2006.....	MA3	—
323.....	1990-1994.....	205/277	152/206	Mazda 5	2007-2013.....	202/274	—
	1986-1989.....	144/196	MAA		2006.....	188/255	—
626.....	1983-1987.....	145/200	MAA	Mazda 6 AWD	2003-2013.....	202/274	235/319
	1979-1982.....	MAB	—	Mazda 6 FWD	2006-2007.....	202/274	—
626, MX-6	1993-2002.....	205/277	152/206	Miata (MX-5).....	2004-2013.....	—	202/275[10]
	1988-1992.....	205/277	102/138	Miata	1999-2003.....	159/216[87]	235/319[68]
808.....	1976-1977.....	MAB	—		1990-1997.....	159/216	217/293[88]
929.....	1988-1991.....	100/138	203/275	Millenia	1995-2002.....	205/277	152/206
929, Serenia	1992-1995.....	152/206	203/275	MPV	2000-2006.....	205/277	152/206
B1800 Pickup	1976-1978.....	MAC	—	MPV 2WD	1989-1998.....	152/206	—
B2000 Pickup	1979-1987.....	MAC	—	MPV 4WD	1989-1998.....	203/275	—
B2200 Pickup	1982-1993.....	MAC	—	MX-3, Precidia	1992-1996.....	205/277	152/206
				MX-5	2006.....	—	188/255

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Mazda - cont.			
MX-6.....	1993-1997.....	205/277	152/206
	1988-1992.....	205/277	102/138
Navajo 2WD	1991-1994.....	FTA	—
Navajo 4WD	1993-1994.....	FTW[20]	—
		FTX[21]	—
	1991-1992.....	FTU[20]	—
		FTV[21]	—
Protégé, Protégé 5	1990-2003.....	205/277	152/206
RX-7	1993-1995.....	152/206	203/275
	1986-1992.....	MAB	203/275
	1979-1985.....	MAB	—
RX-8	2004-2011.....	—	202/275
Serenia.....	1992-1995.....	152/206	203/275
Tribute.....	2008-2011.....	222/300	222/300
	2001-2006.....	214/290	214/290
Mercedes-Benz			
C Series.....	2008-2013.....	—	[103]
	1997-2007.....	—	162/220
C Series 4 Matic.....	2008-2013.....	[102]	[103]
	2003-2007.....	81/110[82]	162/220
CL Series.....	2010-2013.....	—	[103]
	2006-2009.....	—	[104]
	2000-2005.....	236/320	236/320
CL 63AMG.....	2008-2013.....	—	[103]
CL 65AMG.....	2008-2013.....	—	[105]
CL Series 4 Matic.....	2009-2013.....	[102]	[103]
CLK Series.....	1998-2012.....	—	162/220
CLK AMG Series.....	2001-2009.....	—	162/220
CLK AMG Cabriolet, Black Series	2004-2009.....	—	[104]
CLS Series.....	2012-2013.....	—	258/350
	2006-2011.....	—	[103]
CLS Series 4 Matic.....	2012-2013.....	[102]	258/350
E Series	2004-2012.....	—	[103]
	1999-2003.....	[83]	236/320
	1997-1998.....	[83]	162/220
E Series 4 Matic.....	2010-2013.....	[102]	[103]
	2004-2009.....	51/70[44]	[103]
	1999-2003.....	[30]	236/320
	1997-1998.....	[30]	162/220
G Series	2002-2013.....	133/180	—
GL Series.....	2013.....	[106]	[108]
	2007-2012.....	192/260[84]	—
GLK Series	2010-2013.....	[102]	[103]
GLK Series 4 Matic.....	2010-2013.....	192/260[84]	—
ML Series	2013.....	—	[108]
	2006-2011.....	192/260[84]	[107]
	1998-2005.....	361/490	361/490
ML Series 4 Matic	2012-2013.....	[106]	[108]
R Series	2006-2012.....	192/260[84]	[107]

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Mercedes-Benz - cont.			
S Series	2006-2013.....	—	[103][78]
	1997-2005.....	—	236/320
S55 AMG	2001-2006.....	—	[104]
S63,S65 AMG	2006-2012.....	—	[105]
S Series 4 Matic.....	2006-2013.....	[102]	[103][78]
	2003-2005.....	51/70[44]	236/320
SL Series	2006-2013.....	—	[103]
	2003-2005.....	—	236/320
	1997-2002.....	—	162/220
SL 65 AMG.....	2005-2011.....	—	[77]
SLK Series.....	2012-2013.....	—	258/350
	2000-2011.....	—	162/220
SLK 55 AMG Series.....	2002-2013.....	—	258/350
Sprinter Dual Rear Wheels.....	2011-2013.....	—	—
Inner Hub Nut.....	—	—	[41]
Outer Hub Nut	—	—	184/250
Sprinter Single Rear Wheel.....	2011-2013.....	—	—
Mercury - See Ford / Mercury			
Mini			
Cooper AWD	2002-2013.....	134/182	134/182
			[117]
Cooper FWD	—	134/182	—
Mitsubishi			
3000GT AWD	1991-1999.....	166/225	203/280
3000GT FWD	1991-1999.....	166/225	166/225
Cordia, Tredia	1983-1988.....	167/226	MIA
Diamante	1997-2004.....	167/226	—
	1992-1996.....	167/226	166/225
Eclipse.....	2006-2012.....	167/226	—
	2000-2005.....	167/226	—
Eclipse AWD	1995-1999.....	167/226	166/225
	1990-1994.....	167/226	138/190
Eclipse FWD	1995-1999.....	167/226	—
	1990-1994.....	167/226	166/225
Endeavor FWD.....	2004-2011.....	188/225	—
Endeavor 4WD.....	2004-2011.....	188/225	188/225
Expo	1992-1996.....	167/226	166/225
Galant	2010-2012.....	188/255	—
	1994-2009.....	167/226	—
	1985-1988.....	167/226	MIA
Galant AWD.....	1989-1993.....	167/226	MIA
Galant FWD	1989-1993.....	167/226	MIA
I-MIEV.....	2012.....	—	129/176
Lancer	2002-2007.....	181/245	130/175
Lancer AWD.....	2011.....	129/176[110]	129/176
	2008-2010.....	129/176	129/176

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm	Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Mitsubishi - cont.				Nissan - cont.			
Lancer AWD Evolution.....	2012-2013.....	129/176[110]	129/176	Armada 2WD.....	2012-2013.....	—	135/182
Lancer AWD Ex. Evolution.....	2012-2013.....	184/250	129/176		2005-2011.....	—	170/230
Lancer FWD.....	2012-2013.....	184/250	—	Armada 4WD.....	2012-2013.....	101/137	135/182
	2011.....	129/176[110]	—		2005-2011.....	101/137	170/230
	2008-2010.....	129/176	—	Axxess FWD.....	1990.....	203/275	163/221
Mirage.....	1993-2002.....	167/226	130/180	Axxess 4WD.....	1990.....	203/275	203/275
	1989-1992.....	167/226	127/175	B210.....	1976-1978.....	NDB	—
	1985-1988.....	167/226	90/125	Cube.....	2009-2013.....	92/125	—
Montero.....	2004-2006.....	148/200	188/255	Frontier 2WD.....	2005-2013.....	—	—
	2001-2003.....	188/255	188/255		2004.....	NDA	206/280
	1983-2000.....	DTF	—		1998-2003.....	NDA	—
Montero Sport 2WD.....	1997-2004.....	DTJ	—	Frontier 4WD.....	2005-2013.....	101/137	—
Montero Sport 4WD.....	1997-2004.....	DTJ	—		2004.....	NDG	206/280
Outlander AWD.....	2003-2006.....	181/245	181/245		1998-2003.....	NDG	—
Outlander 2WD.....	2007-2013.....	129/176	—	GT-R.....	2009-2013.....	166/225	166/225
	2003-2006.....	181/245	130/175	Juke 2WD.....	2011-2013.....	136/185	—
Outlander 4WD.....	2007-2013.....	129/176	129/176	Juke 4WD.....	2011-2013.....	136/185	92/125
Outlander Sport 2WD.....	2011-2013.....	129/176	—	Leaf.....	2011-2013.....	136/185	—
Outlander Sport 4WD.....	2011-2013.....	129/176	129/176	Maxima.....	2009-2013.....	203/275	—
Pickup 2WD.....	1983-1996.....	CRD	—		2007-2008.....	203/275	—
Pickup 4WD.....	1983-1996.....	DTF	—		2004-2006.....	217/294	—
Precis.....	1993-1994.....	170/230	127/175		2000-2003.....	217/294	163/221
	1990-1992.....	167/226	127/175		1989-1999.....	203/275	163/221
	1987-1989.....	167/226	HIA		1985-1988.....	203/275	—
Raider.....	2006-2009.....	185/251	—		1983-1984.....	NDB	—
Sigma.....	1988-1990.....	167/226	MIA	Murano AWD.....	2013.....	177/240	92/125
Starion.....	1984-1989.....	CRB	—		2011-2012.....	177/240	129/175
Van.....	1987-1990.....	CRD	—		2009-2010.....	129/175	129/175
Nissan					2003-2007.....	92/125	92/125
200SX.....	1995-1998.....	174/236	163/221	Murano FWD.....	2013.....	177/240	—
	1977-1988.....	NDB	—		2011-2012.....	177/240	—
210.....	1979-1982.....	NDE	—		2009-2010.....	129/175	—
240SX.....	1995-1998.....	181/245	178/241		2003-2007.....	92/125	—
	1989-1994.....	134/182	203/275	NX.....	1991-1993.....	174/236	163/221
280ZX.....	1979-1983.....	NDB	—	Pathfinder 2WD.....	2013.....	—	92/125
300ZX.....	1990-1996.....	181/245	178/241		2005-2012.....	—	177/240
	1984-1989.....	NDB	—	Pathfinder 4WD.....	2013.....	135/182	92/125
310.....	1979-1982.....	—	NDC		2005-2012.....	101/137	177/240
350Z.....	2003-2009.....	—	177/240	Pathfinder.....	1996-2004.....	NDG	—
370Z.....	2012-2013.....	—	77/105	Pathfinder 2WD.....	1987-1995.....	NDD	—
	2011.....	—	133/180	Pathfinder 4WD.....	1987-1995.....	NDG	—
	2009-2010.....	—	[63]	Pathfinder Armada 2WD.....	2004.....	—	170/230
510.....	1978-1981.....	NDE	—	Pathfinder Armada 4WD.....	2004.....	101/137	170/230
810.....	1978-1983.....	NDB	—	Pickup 2WD.....	1981-1997.....	NDD	—
Altima.....	2013.....	135/182	—	Pickup 4WD.....	1987-1997.....	NDG	—
	2008-2012.....	129/175	—		1984-1985.....	NDH	—
	2007.....	92/125	—		1981-1982.....	126/175	—
	2002-2006.....	202/275	—	Pickup 4WD, Early.....	1983.....	126/175	—
	1993-2001.....	203/275	163/221	Pickup 4WD, Late.....	1983.....	NDH	—
				Pickup 4WD, 720.....	1986.....	NDH	—
				Pickup 4WD, D21.....	1986.....	NDG	—

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Nissan - cont.			
Pickup	1976-1980.....	NDE	—
Pulsar.....	1987-1990.....	174/236	163/221
	1983-1986.....	—	NDC
Quest.....	2011-2013.....	155/211	—
	2004-2009.....	92/125	—
	1993-2002.....	203/275	178/240
Rogue AWD.....	2011-2013.....	136/185	92/125
	2008-2010.....	92/125	—
Rogue FWD	2011-2013.....	136/185	—
	2008-2010.....	92/125	92/125
Sentra	2013.....	96/130	—
	2012.....	140/190	—
	2007-2011.....	92/125	—
	2006.....	145/197	163/221
	1987-2001.....	174/236	163/221
	1982-1986.....	—	NDC
Sentra 1.8L.....	2002-2005.....	174/236	163/221
Sentra 2.5L.....	2002-2005.....	217/294	163/221
SE-R 2.5L.....	2002-2003.....	217/294	163/221
Stanza.....	1987-1992.....	203/275	—
	1982-1986.....	174/236	NDC
Titan	2004-2013.....	101/137	—
Versa Hatchback.....	2012.....	140/190	—
Versa Sedan.....	2012-2013.....	183/247	177/240
Versa	2007-2011.....	83/113	—
Xterra.....	2005-2013.....	101/137	—
Xterra 2WD.....	2000-2004.....	NDA	—
Xterra 4WD.....	2000-2004.....	NDG	—

Oldsmobile

88	1998-1999.....	118/160	—
	1992-1997.....	107/145	—
	1986-1991.....	185/260	—
	1980-1985.....	GMA	—
98	1992-1996.....	107/145	—
	1985-1991.....	185/260	—
	1980-1984.....	GMA	—
Achieva	1998.....	74/100[3]	—
	1992-1997.....	185/260	—
Alero	1999-2004.....	[34]	—
Aurora	2001-2003.....	118/160	—
	1998-1999.....	118/160	—
	1995-1997.....	107/145	—
Bravada	1997-2004.....	103/140	—
	1991-1996.....	181/245	—
Calais	1985-1991.....	185/260	—
Ciera, Cruiser	1996.....	107/145	—
	1992-1995.....	103/140[4]	—
	1983-1991.....	185/260	—
	1982.....	225/290	—
Custom Cruiser	1980-1992.....	GMA	—

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Oldsmobile - cont.			
Cutlass FWD	1997-1999.....	284/385	—
Cutlass Supreme	1996-1997.....	151/205	—
	1988-1995.....	184/250	—
Cutlass Supreme RWD	1988.....	GMA	—
Cutlass RWD	1980-1987.....	GMA	—
Firenza	1982-1988.....	185/260	—
Intrigue	2001-2002.....	159/215	—
	1998-2000.....	118/160	—
LSS	1998-1999.....	118/160	—
	1992-1997.....	107/145	—
Omega	1983-1984.....	185/260	—
	1980-1982.....	225/290	—
Regency	1998.....	118/160	—
	1997.....	107/145	—
Silhouette	2002-2004.....	118/160	192/260
	1998-2001.....	118/160	—
	1997.....	151/205	—
	1995-1996.....	104/145	—
	1990-1994.....	185/260	—
Starfire	1980.....	GMA	—
Toronado	1986-1992.....	183/248	—
	1979-1985.....	175/240	—
Trofeo	1988-1992.....	183/248	—

Plymouth - See Dodge / Plymouth

Plymouth Trucks - See Dodge / Plymouth Trucks

Pontiac

1000	1983-1987.....	GMA	—
2000	1983.....	185/260	—
6000	1983-1991.....	185/260	—
	1982.....	225/290	—
Acadian	1980-1987.....	GMA	—
Aztec.....	2001-2005.....	192/260	192/260
Bonneville.....	1998-2005.....	118/160	—
	1992-1997.....	107/145	—
	1987-1991.....	185/260	—
Bonneville, Catalina.....	1980-1986.....	GMA	—
Fiero	1988.....	220/280	200/270
	1984-1987.....	195/267	200/270
Firebird.....	1993-2002.....	—	—
	1980-1992.....	GMA	—
Firefly.....	1989-1997.....	129/175	129/175
	1985-1988.....	151/210	62/100
Grand Am	1999-2005.....	[34]	—
	1998.....	74/100[3]	—
	1985-1997.....	185/260	—
	1980-1981.....	GMA	—

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Pontiac - cont.			
Grand Prix.....	1998-2008.....	118/160	—
	1995-1997.....	151/205	—
	1988-1994.....	184/250	—
	1980-1987.....	GMA	—
GTO.....	2004-2006.....	—	221/300
G3.....	2009.....	221/300	—
G5.....	2009.....	[58]	—
	2007-2008.....	155/210	—
G6.....	2005-2010.....	159/215	—
G8.....	2008-2009.....	—	[69]
J2000.....	1982.....	185/260	—
Laurentian.....	1980-1981.....	GMA	—
LeMans.....	1988-1993.....	GMR	—
	1980-1981.....	GMA	—
Montana.....	1999-2001.....	118/160	—
Montana SV6.....	2007-2009.....	118/160	—
Montana, Montana SV6.....	2002-2006.....	118/160	192/260
Parisienne.....	1980-1986.....	GMA	—
Phoenix.....	1983-1984.....	185/260	—
	1980-1982.....	225/290	—
Pursuit.....	2005-2006.....	155/210	—
Safari Wagon.....	1980-1989.....	GMA	—
Solstice.....	2006-2009.....	—	159/215
Sunbird.....	1984-1994.....	185/260	—
	1980.....	GMA	—
Sunburst.....	1985-1987.....	137/186	IUC
Sunfire.....	2002-2005.....	148/200	—
	1998-2001.....	144/195	—
	1995-1997.....	185/260	—
Sunrunner.....	1994-1997.....	155/210	—
T1000.....	1981-1982.....	GMA	—
Tempest.....	1987-1991.....	185/260	—
Torrent.....	2007-2009.....	151/205	151/205
	2006.....	151/205	81/110
Trans Sport.....	1997-1999.....	118/160	—
	1995-1996.....	104/145	—
	1990-1994.....	185/260	—
Vibe.....	2003-2008.....	159/216	—
Vibe AWD.....	2009-2010.....	159/215	159/215
Vibe FWD.....	2009-2010.....	159/215	—
Wave.....	2005-2007.....	221/300	140/190
Porsche			
All.....	1980-1994.....	POA	—
Except 911.....	1995.....	POA	—
911 Turbo.....	2001-2006.....	340/460	340/460
911 AWD.....	1995-2012.....	340/460	340/460
911 RWD.....	1995-2012.....	[29]	340/460[1]
Boxster.....	1995-2013.....	[29]	340/460
Cayman.....	2006-2013.....	[29]	340/460
Cayenne.....	2003-2013.....	340/460	340/460

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm	Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Subaru				Toyota			
Baja	2003-2006.....	162/220	177/240	4-Runner 2WD	2003-2013.....	203/275	—
BRZ.....	2013.....	—	140/190[98]	.....	1996-2002.....	—	—
B9 Tribeca	2006-2007.....	177/240	177/240	.....	1986-1995.....	TAD	—
Forester	2004-2006.....	162/220	—	.....	1984-1985.....	TAD	—
Forester AWD	2007-2013.....	162/220	140/190	4-Runner 4WD	2003-2013.....	173/235	—
.....	2003-2006.....	140/190	140/190	.....	1996-2002.....	174/235	—
.....	1998-2002.....	137/186	137/186	.....	1986-1995.....	TAB	—
Impreza	2004-2013.....	162/220	140/190	.....	1984-1985.....	TAC	—
.....	2003.....	140/190	140/190	Avalon	2011-2013.....	217/294	—
Impreza AWD	1993-2002.....	137/186	137/186	Avalon w/ABS	1995-2010.....	217/294	—
Impreza FWD	1993-1995.....	137/186	SUA	Avalon w/o ABS	1995-2010.....	217/294	90/123
Justy	1987-1994.....	130/177	SUA	Camry	2011-2013.....	217/294	—
Legacy, Outback	2004-2013.....	162/220	177/240	.....	1983-1986.....	137/186	90/123
.....	2002-2003.....	159/216	174/235	Camry w/ABS	1992-2010.....	217/294	—
.....	2000.....	137/186	174/235	Camry w/o ABS	1992-2010.....	217/294	90/123
Legacy, Outback, 2.5L	2001.....	137/186	174/235	Camry 4WD	1987-1991.....	137/186	137/187
Legacy, Outback, 3.0L	2001.....	159/216	174/235	Camry FWD	1987-1991.....	137/186	90/123
Legacy AWD	1990-1999.....	137/186	137/186	Camry Solara	1999-2008.....	217/294	—
Legacy FWD	1990-1996.....	137/186	SUA	Celica	1994-2005.....	159/216	—
SVX	1992-1997.....	137/186	138/187	.....	1986-1987.....	137/186	90/123
Tribeca.....	2008-2013.....	177/240[98]	177/240[98]	.....	1976-1985.....	TAE	—
XV Crosstrek	2013.....	162/220	140/190	Celica FWD	1992-1993.....	166/226	90/123
All Others 4WD	1976-1994.....	148/200	145/196	.....	1988-1991.....	137/186	90/123
All Others FWD	1976-1994.....	148/200	SUA	Celica 4WD	1992-1993.....	166/226	166/226
Suzuki				.....	1988-1991.....	137/186	137/186
Aerio, Aerio SX	2002-2007.....	127/175	127/175	Corolla	2003-2013.....	159/216	—
Esteem.....	1995-2002.....	127/175	127/175	.....	1998-2012.....	166/225	—
Equator.....	2009-2012.....	101/137	—	.....	1993-1997.....	159/216	—
Forenza.....	2004-2008.....	221/300	—	.....	1991-1992.....	152/206	90/123
Grand Vitara.....	1999-2005.....	156/216	—	.....	1988-1990.....	137/186	90/123
Grand Vitara AWD	2006-2013.....	160/220	160/220	.....	1976-1983.....	TAE	—
Grand Vitara FWD	2006-2013.....	160/220	—	Corolla FWD	1984-1987.....	137/186	90/123
Kizashi AWD.....	2010-2013.....	185/250	185/250	Corolla RWD	1984-1987.....	TAE	—
Kizashi FWD.....	2010-2013.....	185/250	—	Corona	1976-1982.....	TAE	—
Reno	2006-2008.....	221/300	—	Cressida	1989-1992.....	108/147	203/275
Samari	1989-1995.....	SZA	—	.....	1978-1988.....	TAE	—
Sidekick.....	1991-1998.....	152/210	—	Echo	2000-2005.....	159/216	—
.....	1989-1990.....	119/160	—	FJ Cruiser 2WD	2007-2013.....	203/275	—
Swift	1989-2001.....	127/175	[28]	FJ Cruiser 4WD	2007-2013.....	174/235	—
SX4 FWD.....	2007-2013.....	147/200	—	Highlander FWD	2001-2013.....	217/294	—
SX4 4WD	2007-2013.....	147/200	129/175	Highlander 4WD	2001-2013.....	217/294	217/294
Verona.....	2004-2006.....	236/320	—	Land Cruiser	2011-2013.....	[80]	—
Vitara.....	1999-2004.....	156/216	—	.....	2008-2010.....	[52]	—
XL-7 AWD	2008-2009.....	151/205	151/205	.....	1998-2007.....	TAH	—
.....	2007.....	151/205	81/110	.....	1981-1997.....	TAA	—
XL-7 FWD	2008-2009.....	151/205	—	.....	1976-1980.....	—	—
.....	2007.....	151/205	—	Matrix FWD	2003-2013.....	159/216	—
XL-7	2004-2006.....	157/216	—	Matrix 4WD	2003-2013.....	159/216	159/216
X-90.....	1996-1998.....	152/210	—	MR2	2000-2005.....	—	159/216
				.....	1985-1989.....	90/123	137/186

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Toyota - cont.			
MR2 Turbo	1993-1995.....	90/123	217/294
	1991-1992.....	90/123	217/294
MR2 Exc. Turbo	1993-1995.....	90/123	159/216
	1991-1992.....	90/123	137/186
Paseo	1994-1997.....	159/216	TAF
	1992-1993.....	166/226	TAF
Pickup 2WD	1986-1995.....	TAD	—
	1979-1985.....	TAD	—
Pickup 4WD	1986-1995.....	TAB	—
	1979-1985.....	TAC	—
Previa	1991-1997.....	147/199	—
Prius	2001-2013.....	159/216	—
Prius C, Prius V.....	2012-2013.....	159/216	—
RAV4	1996.....	159/216	152/206
RAV4 4-cyl. 2WD	2007-2012.....	159/216	—
RAV4 4-cyl. 4WD	2007-2012.....	159/216	159/216
RAV4 V6 2WD	2007-2012.....	215/292	—
RAV4 V6 4WD	2007-2012.....	215/292	159/216
RAV4 2WD	1998-2006.....	159/216	—
RAV4 4WD	1998-2006.....	159/216	159/216
RAV4 4WD, 2WD w/ABS..	1997.....	159/216	159/216
Sequoia 2WD	2008-2013.....	282/382	251/340
	2001-2007.....	203/274	—
Sequoia 4WD	2008-2013.....	249/338	251/340
	2001-2007.....	173/235	—
Sienna AWD	2011-2013.....	217/294	217/294
	2007-2010.....	217/294	159/216
	2004-2006.....	217/294	217/294
Sienna FWD	1998-2012.....	217/294	—
Starlet	1981-1984.....	TAE	—
Supra	1993-1998.....	147/199	213/289
	1987-1992.....	147/199	203/275
	1982-1985.....	100/137	100/137
	1979-1981.....	TAE	—
Supra 2.8L	1986.....	100/137	100/137
Supra 3.0L	1986.....	147/199	203/275
T100 Pickup 2WD	1993-1998.....	TAD	—
T100 Pickup 4WD	1993-1998.....	TAB	—
Tacoma 2WD	2011-2013.....	147/199	—
	2005-2010.....	147/199	—
	1997-2004.....	TAD	—
	1995-1998.....	TAD	—
Tacoma 4WD	2011-2013.....	173/235	—
	2005-2010.....	173/235	—
	1997-2004.....	174/235	—
	1995-1998.....	TAB	—
Tacoma Prerunner	2005-2010.....	203/275	—

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Toyota - cont.			
Tercel	1994-1999.....	159/216	TAF
	1992-1993.....	166/226	TAF
	1989-1991.....	137/186	TAF
	1983-1988.....	137/186	TAF
	1980-1982.....	90/127	TAF
Tundra 2WD	2007-2013.....	282/382	—
	2000-2006.....	203/274	—
Tundra 4WD	2007-2013.....	249/338	—
	2000-2006.....	173/235	—
Van 2WD	1984-1989.....	TAE	—
Van 4WD	1984-1989.....	TAG	—
Venza AWD	2009-2013.....	217/294	217/294
Venza FWD	2009-2013.....	217/294	—
Yaris	2006-2013.....	160/216	—
Volkswagen			
Cabrio.....	1995-2002.....	195/265	VWB
Cabriolet	1985-1992.....	174/240	VWB
CC AWD.....	2009-2013.....	VWH	VWH
CC FWD.....	2009-2013.....	VWH	[74]
Corrado.....	1990-1994.....	195/265	VWB
EuroVan FWD.....	1997-2003.....	111/150[30]	—
EuroVan AWD.....	1997-2003.....	111/150[30]	111/150[30]
EuroVan	1993-1996.....	148/200	VWB
Eos.....	2013	VWH	[74]
	2012	VWI	[77]
	2007-2011.....	VWE	148/200[45]
Fox.....	1987-1993.....	170/230	VWB
GLI	2009	[85]	—
	2008.....	147/200[47]	—
Golf	1999-2006.....	VWC	129/175
Golf AWD	2012-2013.....	VWH	VWH
Golf FWD	2010-2013.....	VWH	[99]
Golf w/Base Suspension...	1985-1998.....	195/265	VWB
Golf w/Plus Suspension ..	1985-1998.....	VWD	VWB
GTI	2010-2013.....	VWH	[99]
	2006-2009.....	VWE	VWF
	1983-1984.....	174/240	VWB
GTI w/Base Suspension ..	1985-1998.....	195/265	VWB
GTI w/Plus Suspension ..	1985-1998.....	VWD	VWB
Jetta.....	2011-2013.....	VWH	[99]
	2007-2010.....	VWE	VWF
	1999-2006.....	VWC	129/175
	1980-1984.....	174/240	VWB
Jetta w/Base Suspension ..	1985-1998.....	195/265	VWB
Jetta w/Plus Suspension...	1985-1998.....	VWD	VWB
New Beetle	2012-2013.....	VWJ	133/180[44]
	1998-2010.....	VWC	129/175
Passat.....	2013	VWL	133/180[44]
	2012	VWH	133/180[45]
	2009-2010.....	VWE[75]	[74]

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Volkswagen - cont.			
Passat AWD	2007-2008.....	VWE[75]	[73]
	1998-2006.....	[31]	85/116
Passat FWD	2007-2008.....	VWE[75]	[74]
	1998-2006.....	[31]	AIA
Passat w/Base			
Suspension FWD.....	1995-1997.....	195/265	VWB
Passat w/Plus			
Suspension FWD.....	1995-1997.....	66/90[27]	66/90[27]
Passat w/Base			
Suspension 4WD.....	1995-1997.....	195/265	66/90[27]
Passat w/Plus			
Suspension 4WD.....	1995-1997.....	66/90[27]	VWB
Passat Synchro.....	1990-1994.....	195/265	170/230
Passat Exc. Synchro.....	1990-1994.....	195/265	VWB
Phaeton	2004-2006.....	—	148/200[45]
Pickup	1980-1984.....	174/240	VWB
Quantum Synchro.....	1982-1988.....	170/230	170/230
Quantum Exc. Synchro.....	1982-1988.....	170/230	VWB
R32.....	2008.....	VWE[75]	VWG
Rabbit.....	2006-2010.....	VWE[75]	VWF
	1976-1984.....	174/240	VWB
Routan	2009-2011.....	118/160	—
Scirocco.....	1985-1989.....	195/265	VWB
	1976-1984.....	174/240	VWB
Tiguan AWD.....	2009-2013.....	VWH	VWH
Tiguan FWD.....	2009-2013.....	VWH	—
Touareg	2011-2013.....	VWK	VWK
Touareg w/17, 18, 18			
Plus Wheels	2003-2010.....	369/500	369/500[75]
Touareg w/16 Wheels.....	2003-2010.....	148/200	148/200[75]
Vanagon.....	1980-1983.....	VWB	253/350
Vanagon Synchro	1984-1991.....	258/350	253/350
Vanagon Exc. Synchro.....	1984-1991.....	VWB	253/350

Volvo

240, 260 Series	1976-1993.....	VOA	—
740[72].....	1985-1990.....	VOA	—
760.....	1988-1990.....	VOA	102/140[26]
760[72].....	1983-1987.....	VOA	-
780[72].....	1987-1990.....	VOA	102/140[26]
850.....	1993-1997.....	89/120[26]	—
940.....	1991-1995.....	VOA	102/140[26]
960.....	1992-1997.....	VOA	102/140[26]
C30.....	2008-2013.....	26/35[44]	—
C70	2007-2013.....	26/35 [44]	—
	1998-2006.....	89/120[26]	—
Coupe	1991.....	VOA	102/140[26]
DL, GL, GLE, GLT	1980-1984.....	VOA	—
S40	2011.....	26/35[44]	37/50
S40 AWD.....	2007-2010.....	26/35 [44]	37/50
S40 FWD, V40	2007-2010.....	26/35[44]	—

Make/ Model	Year	Front proc. or torque ft-lbs/Nm	Rear proc. or torque ft-lbs/Nm
Volvo - cont.			
S40, V40	2004-2006.....	26/35 [44]	37/50
	2003.....	89/120[26]	89/120[26]
S60 AWD.....	2011-2013.....	26/35[44]	26/35
	2001-2009.....	26/35[44]	37/50
S60 FWD		26/35[44]	—
		37/50	—
S70, V70	1998-2000.....	89/120[26]	—
S80	2001-2006.....	26/35[30]	—
	1999-2000.....	37/50	—
S80 AWD.....	2007-2013.....	26/35[44]	26/35
S80 FWD		26/35[44]	—
S90, V90	1998-1999.....	VOA	102/140[26]
V50	2011.....	26/35[44]	81/110
V50 AWD.....	2005-2010.....	26/35[44]	37/50
V50 FWD.....		26/35[44]	—
V70	2008-2010.....	26/35 [44]	—
V70 FWD.....	2001-2007.....	26/35 [44]	—
V70, V70R AWD		26/35 [44]	37/50
XC60.....	2010-2013.....	26/35[44]	26/35
XC70.....	2008-2013.....	26/35[44]	26/35
	2006-2007.....	26/35[44]	36/50
XC90 AWD	2003-2013.....	26/35[44]	37/50
XC90 FWD		26/35[44]	—

Yugo

All	1985-1991.....	160/215	—
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Footnote codes

- [1] Additional lock nut on 911 Carrera RS, 147 ft-lbs/200 Nm.
- [2] With 302RBI rear axle.
- [3] After tightening to this value, turn an additional 40 degrees.
- [4] After tightening to this value, turn an additional 20 degrees.
- [5] Soft ride & sport suspension, 118 ft-lbs/160 Nm; heavy duty suspension, 170 ft-lbs/230 Nm.
- [6] Driveshaft nut.
- [7] With Rockwell 12" or 12 1/4" ring gear.
- [8] With 9 3/4" or 10 1/2" ring gear.
- [9] With 10.5 or 11.5 rear axle.
- [10] Maximum value shown. Torque value varies from 174–202 ft-lbs/236– 275 Nm.
- [11] With 9 3/4" ring gear.
- [12] With manual locking hubs.
- [13] With automatic locking hubs.
- [14] With 11" ring gear (Dana 80 with rear disc brakes).
- [15] With 10 1/2" or 12 1/2" ring gear.
- [16] Tighten nut to specified value and tighten further to align cotter pin with hole.
- [17] With double nut type bearing unit.
- [18] With wedge nut type bearing unit.
- [19] With Dana 44 axle.
- [20] With manual locking hubs.
- [21] With automatic locking hubs.
- [22] With Dana 50 axle.
- [23] With Ford axle.
- [24] With Dana axle.
- [25] The wheel hub and bearing are not serviceable or adjustable. If the bearing retaining nut is removed, the hub and bearing must be replaced.
- [26] After tightening to specification, turn an additional 60 degrees.
- [27] After tightening to specification, turn an additional 45 degrees.
- [28] Less wheel hub, 73 ft-lbs/100 Nm. With wheel hub, 127 ft-lbs/175 Nm.
- [29] Wheel hub to wheel carrier, 340 ft-lbs/460 Nm.
- [30] After tightening to this value, turn an additional 90 degrees.
- [31] M14 bolt, tighten to 85 ft-lbs/115 Nm, then turn an additional 180 degrees. M16 bolt, tighten to 140 ft-lbs/190 Nm, then turn an additional 180 degrees.
- [32] After tightening to this value, turn an additional 180 degrees.
- [33] Use new bolt or nut. Bolt: Tighten bolt to 177 ft-lbs/240 Nm, loosen 90 degrees, loosen 90 degrees, tighten bolt to 177 ft-lbs/240 Nm, then advance bolt an additional 90 degrees. Nut: Older adhered type hub stamped 8N0 615, apply Audi locking fluid D185 400 A2, or equivalent, tighten nut to 195 ft-lbs/235 Nm. Newer greased type hub stamped 8N0 615A or B, apply grease G052 142 A2, or equivalent, tighten nut to 140 ft-lbs/190 Nm, then turn an additional 90 degrees.
- [34] First design nut (Pac-style nut painted black), 284 ft-lbs/385 Nm; second design nut (solid gray nut), 173 ft-lbs/235 Nm.
- [35] Rear disc brake, 131–173 ft-lbs/177–235 Nm; rear drum brake, 154–200 ft-lbs/209–279 Nm.
- [36] Nut less top groove, 214 ft-lbs/290 Nm; nut with top groove, 125 ft-lbs/ 170 Nm, then turn an additional 45 degrees.
- [37] After tightening to this value, turn an additional 30 degrees.
- [38] Tighten axle nut to 132 ft-lbs/179 Nm, rotate axle 5 to 10 times to seat hub bearings, tighten axle nut to 263 ft-lbs/356 Nm. Align axle nut to next forward cotter pin hole and install cotter pin.
- [39] With Dana 70 axles, tighten bolts to 105 ft-lbs/143 Nm, loosen 90 degrees, tighten to 70 ft-lbs/95 Nm, loosen 90 degrees, tighten 18 ft-lbs/24 Nm. With Dana 135 axles, tighten bolts to 99 ft-lbs/133 Nm, loosen 90 degrees, tighten to 70 ft-lbs/95 Nm, loosen 90 degrees, tighten 18 ft-lbs/24 Nm.
- [40] M22 nut, tighten to 147 ft-lbs/200 Nm; M24 nut, tighten to 184 ft-lbs/ 250 Nm; M27 nut, 221 ft-lbs/300 Nm.
- [41] Tighten inner hub nut 221 ft-lbs/300 Nm while spinning wheel hub constantly. Turn back inner nut and then tighten until it touches thrust washer without play. Then tighten 1/8 turn.
- [42] Install and tighten new front axle wheel end nut to specification in a continuous rotation. Stopping the rotation during installation will cause the nylon lock to seat incorrectly.

Footnote codes

- [43] Then turn additional 36 degrees.
- [44] Then turn additional 90 degrees.
- [45] Then turn additional 180 degrees.
- [46] M27 nut, tighten to 310 ft-lbs/420 Nm; M24 nut, tighten to 184 ft-lbs/ 250 Nm.
- [47] Then turn additional 80 degrees.
- [48] There are two styles of axle nuts. Style 1 has a thin collar measuring 1.5mm thick; Style 2 has a thick collar measuring 2.7mm thick. For the Style 1 axle nut, torque to 244 ft-lbs/330 Nm. For style 2 axle nut, tighten to 37 ft-lbs/50 Nm, plus 60 degrees. Do not reuse old nut.
- [49] With 9 1/4 axle, 132 ft-lbs/179 Nm, then rotate 5 to 10 times, final torque 263 ft-lbs/356 Nm. With 275 FBI axle, 243 ft-lbs/330 Nm.
- [50] With vehicle on the ground, loosen 90 degrees. With vehicle off the ground and brakes applied, tighten new bolt to 147 ft-lbs/200 Nm. Install wheels and lower the vehicle onto its wheels. Tighten the axle shaft bolt an additional 180 degrees. Always replace bolt after removal.
- [51] With M14 bolt, tighten to 85 ft-lbs/115 Nm; with M16 bolt, tighten to 147 ft-lbs/200 Nm, if vehicle is raised. Only turn an additional 180 degrees when vehicle is on floor. Always replace nut after removal.
- [52] Using a 39mm socket, tighten axle shaft nut to 148 ft-lbs/200 Nm. Loosen the axle shaft nut. Tighten the axle shaft nut to 251 ft-lbs/340 Nm.
- [53] With vehicle on the ground, loosen 90 degrees. With vehicle off the ground and brakes applied, tighten new nut to 110 ft-lbs/150 Nm. Install wheels and lower the vehicle onto its wheels. Tighten the axle shaft nut to 368 ft-lbs/500 Nm. Always replace nut after removal.
- [54] With M27, thread tighten to 310 ft-lbs/420 Nm; with M24, thread tighten to 106 ft-lbs/145 Nm, then turn additional 90 degrees.
- [55] Then turn additional 45 degrees.
- [56] With RPO Codes FE1 or FE3, 118 ft-lbs/160 Nm; with RPO Code FE7, 170 ft-lbs/230 Nm.
- [57] First design, 284 ft-lbs/385 Nm; second design, 173 ft-lbs/235 Nm.
- [58] With RPO Code LNF, MU3, 159 ft-lbs/215 Nm; without RPO Code LNF, MU3, 155 ft-lbs/210 Nm.
- [59] Use new original equipment nut.
- [60] Using new nut, tighten inner nut to 203 ft-lbs/275 Nm; outer hub nut to 129 ft-lbs/175 Nm.
- [61] Remove and discard the old wheel hub nut. With the vehicle raised up, apply the brake so the halfshaft will not rotate and install a new wheel hub nut. Do not attempt to tighten the nut with the vehicle on the ground or the wheel bearing will be damaged. Stake the new nut in the keyway to .039 in (1mm) minimum depth.
- [62] Use new original equipment nut. Have assistant apply the brakes to keep the halfshaft from rotating.
- [63] Rear CV axle without adjusting cap and spring washer, torque to 136 ft-lbs/185 Nm; with adjusting cap and spring washer, torque to 77 ft-lbs/105 Nm.
- [64] Kia Rio model code 'BC'.
- [65] Kia Rio model code 'JB'.
- [66] Kia Optima model code 'MS'.
- [67] Kia Optima model code 'MG'.
- [68] Maximum value shown. Torque value varies from 174-235 ft-lbs/236- 319 Nm.
- [69] Tighten in three steps: First, 110 ft-lbs/150 Nm; second, loosen 180 degrees; last, tighten 313 ft-lbs/425 Nm.
- [70] Tighten in three steps: First, 111 ft-lbs/150 Nm; second, loosen 45 degrees; last, tighten 185 ft-lbs/250 Nm.
- [71] Torque bolt to 33 ft-lbs plus an additional 80 degrees.
- [72] The 700 Series has 2 different types of wheel bearings available. The 1982 to 1987 700 Series had an integral front wheel hub and brake disc. The hub was fitted with a conical bearing and castle nut held with a cotter pin. For 1988 and onward the hub and brake disc are separate. Volvo states for 1982-1987 vehicles, once the earlier integral hub/disc units are no longer available, service kits must be used. The service kit included a separate brake disc, a new hub, bearing and seals. There are different torques depending on the type of hub. The tightening torques for 1982-1987 vehicles with the integral hub/disc design are: Torque to 42 ft-lbs (57 Nm). Turn the wheel while tightening. Loosen the nut half a turn and re-tighten to 1.1 ft-lbs (1.5 Nm) (finger tight). Insert the cotter pin. If the holes don't line up, tighten nut until they do. The tightening torques for 1982-1992 with the separate hub and rotor are: Torque to 74 ft-lbs (100 Nm) plus an additional 45 degrees.
- [73] Tighten bolt to 52 ft-lbs/70 Nm plus an additional 90 degrees. Always replace bolt after removal.
- [74] Tighten bolt to 148 ft-lbs/200 Nm plus an additional 180 degrees. Always replace bolt after removal.
- [75] Use new original equipment bolt.
- [76] Vehicles with aluminum wheel bearing housing, 148 ft-lbs/200 Nm plus additional 180 degrees; with steel wheel bearing housing, 133 ft-lbs/ 180 Nm plus additional 180 degrees.
- [77] Tighten with code P99 to 280 ft-lbs/380 Nm; without code P99, 110 ft-lbs/150 Nm plus an additional 45 degrees.
- [78] Model 221 with code Z07 or Z19, tighten 273 ft-lbs/390 Nm.
- [79] Models with FE7 suspension 147 ft-lbs/200 Nm.
- [80] Tighten in two steps; 1st step, 148 ft-lbs/200 Nm Then, 250 ft-lbs/340 Nm.
- [81] Kia Optima model code 'TF'.

Footnote codes

- [82] Then turn additional 60 degrees.
- [83] Bolt, 199 ft-lbs/270 Nm; Nut, 206 ft-lbs/280 Nm.
- [84] Then turn additional 45 degrees.
- [85] M16 Bolt Hex head, 148 ft-lbs/200 Nm, then an additional 180 degrees. M16 Bolt, 12 point 52 ft-lbs/70 Nm, then an additional 90 degrees.
- [86] Maximum value shown. Torque value varies from 148-206 ft-lbs/200- 279 Nm.
- [87] Maximum value shown. Torque value varies from 123-159 ft-lbs/167- 216 Nm.
- [88] Maximum value shown. Torque value varies from 159-217 ft-lbs/216- 293 Nm.
- [89] If bearings are replaced, proceed as follows to select the proper bearing preload spacer. Drive inner and outer bearing races into steering knuckle. Lubricate races and new bearings with engine oil, then install bearing into steering knuckle. Install spacer selection tool kit T87C-1104-B, original spacer and hardware to steering knuckle in a soft jaw vise. Tighten center bolt in increments to 36 ft-lbs, 72 ft-lbs, 108 ft-lbs and 145 ft-lbs. After bolt is tightened to each specification, remove from vise and rotate knuckle to seat bearings. Measure the torque required to start rotation of center bolt using an inch pound torque wrench. If torque reading is 2.2-10.4 in-lbs, the spacer thickness is correct. If less than 2.2 in-lbs, a thinner spacer is required. If greater than 10.4 in-lbs, a thicker spacer is required. See service manual for details.
- [90] Use new nut. After installing nut, stake nut shoulder against spindle. The nut must be replaced if it splits or cracks during staking.
- [91] Use new nut. Before installing nut, apply a small amount of engine oil to seating surface of nut. After tightening nut, stake nut shoulder against spindle. The nut must be replaced if it splits or cracks during staking.
- [92] Use new nut. Before installing nut, apply a small amount of engine oil to retaining nut to wheel bearing contact surface. After tightening nut, stake nut shoulder in two locations against spindle. The nut must be replaced if it splits or cracks during staking.
- [93] Use new nut. After tightening, stake nut into shaft groove. The nut must be replaced if it splits or cracks during staking.
- [94] Use new nut. After installing nut, stake nut shoulder against spindle in two places. The nut must be replaced if it splits or cracks during staking.
- [95] Use new retaining nut. After tightening, stake nut.
- [96] After tightening, stake lock nut.
- [97] Stake shaft nut after axle hub bearing looseness & axle hub runout inspections.
- [98] Use new nut. After tightening, stake nut (.02 inch minimum) into shaft groove. The nut must be replaced if it splits or cracks during staking.
- [99] Tighten bolt to 133 ft-lbs/180 Nm plus an additional 90 degrees. Always replace bolt after removal.
- [100] Without police package, tighten to 258 ft-lbs/350 Nm. Loosen 180 degrees, then tighten to 258 ft-lbs/350 Nm. Always replace nut after removal. With police package, tighten to 111 ft-lbs/150 Nm. Loosen 180 degrees, then tighten to 313 ft-lbs/425 Nm. Always replace nut after removal.
- [101] With M27 thread, tighten to 310 ft-lbs/420 Nm; with M24 thread, tighten to 106 ft-lbs/145 Nm, then turn additional 45 degrees. Always replace nut after removal.
- [102] Tighten 118 ft-lbs/160 Nm, back off nut, tighten 88 ft-lbs/120 Nm, final torque additional 90 degrees.
- [103] Tighten self locking, 258 ft-lbs/350 Nm; non self locking, 125 ft-lbs/170 Nm, tighten additional 45 degrees.
- [104] Tighten self locking, 258 ft-lbs/350 Nm; without self locking, 236 ft-lbs/320 Nm.
- [105] Tighten 110 ft-lbs/150 Nm plus additional 45 degrees.
- [106] Tighten 184 ft-lbs/250 Nm, loosen 180 degrees, 147 ft-lbs/200 Nm, tighten additional 30 degrees.
- [107] Tighten 184 ft-lbs/250 Nm, tighten additional 45 degrees.
- [108] Tighten 258 ft-lbs/350 Nm, loosen 180 degrees, tighten 184 ft-lbs/250 Nm, torque an additional 30 degrees.
- [109] Rear spindle nut with 4WD, 181 ft-lbs/245 Nm. With real time AWD system, 133 ft-lbs/181 Nm.
- [110] Front axle torque with castle nut, 129 ft-lbs/176 Nm. Torque with flange nut, 184 ft-lbs/250 Nm.
- [111] Collar bolt: With vehicle on the ground, loosen 90 degrees. With vehicle off the ground and brakes applied, tighten new bolt to 147 ft-lbs/200 Nm. Install wheels and lower the vehicle onto its wheels. Tighten the axle shaft bolt an additional 180 degrees. Always replace bolt after removal. 12 point nut: With vehicle on the ground, loosen 90 degrees. With vehicle off the ground and brakes applied, tighten new nut to 110 ft-lbs/150 Nm. Install wheels and lower the vehicle onto its wheels. Tighten the axle shaft nut to 368 ft-lbs/500 Nm. Always replace nut after removal.
- [112] Tighten an additional 57 degrees-63 degrees.
- [113] Replace collar bolt and compression spring.
- [114] Use new nut. After tightening nut, stake nut on flat areas of output shaft.
- [115] With M27 thread, tighten to 74 ft-lbs/100 Nm; then turn an additional 45 degrees. Replace collar nut after removal. With M16 thread, tighten to 37 ft-lbs/50 Nm; then turn an additional 155 degrees. Replace collar bolt and spring after removal.
- [116] Tighten M5 nut 4 ft-lbs/5 Nm.
- [117] Replace collar nut and oil contact surface.

Adjustment procedures

AIA	Tighten the hub nut gradually while turning the thrust washer with a screwdriver tip. Do not bend or pry with the screwdriver. Tighten the hub nut to the point where the washer cannot be turned and back off slightly. Install the locknut and cotter pin.	DTC	Tighten hub bearing adjustment nut to 120-140 ft-lbs/ 163-190 Nm while turning hub. Loosen 1/8 to 1/3 turn to provide .001-.009" endplay. Tap locking wedge into spindle keyway and adjusting nut.
AMA	Tighten hub nut to 20 ft-lbs/27 Nm then back off 1/3 turn. Tighten to 12 in-lbs/1.5 Nm while turning wheel. Install the cage nut and cotter pin.	DTD	Tighten adjusting nut to 120-140 ft-lbs/163- 190 Nm while turning hub. Loosen 1/3 turn to provide .001-.008" endplay. Tap locking wedge into spindle keyway and adjusting nut.
AMB	Tighten hub nut to 25 ft-lbs/33 Nm then back off 1/3 turn. Tighten to 6 in-lbs/1 Nm while turning wheel. Install the cage nut and cotter pin.	DTE	Rotate wheel and tighten locknut until drag is felt at wheel. Back off 1/6 turn to zero or just perceptible endplay. Install lock washer and jambnut. Without turning locknut, tighten jambnut to 35-65 ft-lbs/41-88 Nm. Bend tabs of lock washer over both locknut and jambnut.
AMC	Tighten hub nut to 22 ft-lbs/30 Nm then back off 1/3 turn. Tighten to 6 in-lbs/1 Nm while turning wheel. Install the cage nut and cotter pin.	DTF	Tighten locknut to 120 ft-lbs/165 Nm. Back off to 0/0 then retighten to 18 ft-lbs/25 Nm. Back off 30-40 degrees so that the hub turning resistance is 2.6-11.3 lbs/ 0.3-1.3 kg on a spring scale. Install lock washer and loosen locknut slightly to align holes.
AMD	Tighten hub nut to 20-25 ft-lbs/27-33 Nm then back off 1/3 turn. Tighten to 2-10 in-lbs/1 Nm while turning wheel. Install the cage nut and cotter pin.	DTG	Tighten adjusting nut to 50 ft-lbs/68 Nm and then loosen. Retorque to 30-40 ft-lbs/41-54 Nm while rotating hub and rotor. Back off 135-150 degrees. Install lock washer by aligning hole on washer with pin on nut. Install outer locknut and torque to 50 ft-lbs/68 Nm.
BWA	Tighten hub nut to 22-24 ft-lbs/29-32 Nm while rotating wheel. Back off and retighten to 2 ft-lbs/3 Nm. Back off slightly and install cotter pin.	DTH	Tighten adjusting nut to 50 ft-lbs/68 Nm and then loosen. Retorque to 30-40 ft-lbs/41-54 Nm while rotating hub and rotor. Back off 135- 150 degrees. Install lock washer by aligning hole on washer with pin on nut. Install outer locknut and torque to 160-205 ft-lbs/217-278 Nm.
CRA	Tighten hub nut to 20-25 ft-lbs/25-29 Nm while rotating wheel. Back off 90 degrees and finger tighten. Install cotter pin.	DTI	Tighten adjusting nut to 50 ft-lbs/68 Nm and then loosen. Retorque to 30-40 ft-lbs/41-54 Nm while rotating hub and rotor. Back off 135- 150 degrees. Install tabbed washer and locknut. Without turning adjusting nut, tighten locknut to 65 ft-lbs/88 Nm. Then bend tabs on washer over inner and outer nuts.
CRB	Tighten hub nut to 14 ft-lbs/20 Nm. Back off and retighten to 4 ft-lbs/6 Nm. Install cotter pin.	DTJ	Tighten locknut to 120 ft-lbs/165 Nm. Back off to 0/0 then retighten to 18 ft-lbs/25 Nm. Back off 30 degrees so that the hub turning resistance is .9-4.3 lbs/4-9 N on a spring scale. Install lock washer and loosen locknut slightly to align holes.
CRC	Tighten hub nut to 20-27 ft-lbs/27-34 Nm while rotating wheel. Back off and finger tighten. Install cotter pin.	DTK	Tighten hub nut to 35 ft-lbs/48 Nm while rotating wheel. Back off nut. Tighten nut to 25 in-lbs/3 Nm. Install cotter pin. Endplay should be .001-.003".
CRD	Tighten hub nut to 22 ft-lbs/29 Nm. Back off and retighten to 4 ft-lbs/6 Nm. Install cotter pin.	DTL	Tighten hub bearing adjustment nut to 22 ft-lbs/30 Nm while turning hub. Loosen nut approximately 30 degrees and align hub nut with axle tube key slot. Install locking key. Endplay should be .001-.010".
DAA	Tighten nut to 133 ft-lbs/181 Nm, loosen, tighten to 37 ft-lbs then turn nut an additional 60 degrees.	DTM	Tighten hub nut to 95 Nm (70 ft-lbs) while rotating the hub. Then back off nut 90 degrees and retighten nut to 41 Nm (30 ft-lbs). NOTE: This will set hub to zero end-play.
DAB	While spinning wheel, tighten nut to 18 ft-lbs/25 Nm, loosen 180 degrees, tighten to 18 in-lbs/2 Nm.	FDA	Tighten hub nut to 17-25 ft-lbs/22-29 Nm while rotating wheel. Back off 1/2 turn and re- tighten to 10-15 lbs/ 1-2 kg. Install FDA cotter pin.
DAC	While spinning wheel, tighten nut to 15 ft-lbs/20 Nm, loosen 180 degrees, tighten to 9 in-lbs/1 Nm.	FDB	Tighten hub nut to 18-22 ft-lbs/22-27 Nm while rotating wheel. Back off and retighten until 6-22 in-lbs/0.5-2 Nm of drag is measured at drum with a pull scale.
DAD	While spinning wheel, tighten nut to 18 ft-lbs/25 Nm, loosen 180 degrees, tighten to 9 in-lbs/1 Nm.		
DAE	Using a new caulking nut, tighten to 133 ft-lbs/181 Nm, then loosen nut. Tighten the nut 50 degrees, then advance nut an additional 60 degrees.		
DHA	Tighten hub nut to 72-109 ft-lbs/98-147 Nm. Back off nut 1/6 turn. Turn hub 2 to 3 turns. Adjust lock nut so that starting torque is 3.1-7.9 lbs/1.4-3.6 kg when measured with a spring scale attached to the hub wheel stud. Models w/manual hubs, install lock washer and lock nut and tighten to 72-109 ft-lbs/98-147 Nm. Install cotter pin. Recheck starting torque with spring scale.		
DTA	Tighten hub nut 30-40 ft-lbs/37-50 Nm while rotating wheel. Back off and finger tighten. Install cotter pin. Freeplay is measured at wheel .001-.002".		
DTB	Tighten hub nut to 30-40 ft-lbs/37-50 Nm while rotating wheel. Back off and finger tighten. Install cotter pin.		

Adjustment procedures

FDC	Tighten to 18-21 ft-lbs/25-29 Nm, loosen. Using in-lbs torque wrench on wheel stud, measure seal drag. Add amount of seal drag to 1.3-4.3 in-lbs to determine bearing preload. Tighten nut slightly until specified preload is reached.	FTH	Tighten adjusting nut to 130 ft-lbs/180 Nm while rotating hub. Back off enough to get .001-.010" endplay, usually 1/8-1/4 turn. Insert locking wedge in keyway slot. Tap in easily. Do not bottom out against shoulder of adjusting nut. Wedge must cut a new groove in nut or both must be replaced.
FDD	While rotating hub, tighten to 18-23 ft-lbs/24-31 Nm, back-off 2-3 turn, tighten to 18 in-lbs/2 Nm.	FTI	Tighten adjusting nut to 50 ft-lbs/68 Nm while rotating hub. Back off 90 degrees. Install lock ring and align nearest hole with pin on adjusting nut. Tighten locknut to 90 ft-lbs/127 Nm. Endplay should be .001-.010."
FDE	Tighten old wheel hub, adjusting nut to 258 ft-lbs/350 Nm to seat the halfshaft. Remove and discard the old wheel hub nut. With the vehicle raised up, apply the brake so the halfshaft will not rotate, and install a new wheel hub nut. Tighten nut to 258 ft-lbs/350 Nm. Do not attempt to tighten the nut with the vehicle on the ground or the wheel bearing will be damaged. Tighten the new wheel hub nut to specification within 5 minutes of starting it on treads. Always install a new wheel hub nut after loosening or when not tightening in the specified time.	FTJ	Tighten adjusting nut to 50 ft-lbs/68 Nm while rotating hub. Back off 45 degrees. Align lock washer hole with pin on adjusting nut. Tighten locknut to 150 ft-lbs/203 Nm. Endplay should be .001-.006".
PDF	While rotating brake drum, torque locknut to 18-22 ft-lbs/ 25-29 Nm. Loosen locknut until it can be turned by hand and then measure seal drag. To determine specified preload, add seal drag measurement to required bearing preload of 1.3- 4.3 in-lbs. Tighten locknut slightly and then measure amount of force needed to start rotation of drum. Continue to tighten locknut until preload is reached.	FTK	Tighten adjusting nut to 50 ft-lbs/68 Nm while rotating hub. Back off to 0. Retighten adjusting nut to 48 ft-lbs/ 66 Nm and then back off 135-150 degrees while rotating hub. Insert washer and tighten locknut to 65 ft-lbs/88 Nm. Bend washer tab over adjusting nut and locknut.
FDG	While rotating brake drum, torque locknut to 18-22 ft-lbs/ 25-29 Nm. Loosen locknut until it can be turned by hand and then measure seal drag. To determine specified preload, add seal drag measurement to required bearing preload of 0.6- 1.91 in-lbs. Tighten locknut slightly and then measure amount of force needed to start rotation of drum. Continue to tighten locknut until preload is reached.	FTL	Using Spanner Locknut Wrench special tool, tighten adjusting nut to 70 ft-lbs/95 Nm. After 70 ft-lbs/95 Nm, nut will ratchet. Apply inward pressure on Spanner to disengage adjusting locknut splines and back off 180 degrees. Tighten adjusting nut to 15 ft-lbs/20 Nm and remove Spanner. Endplay should be 0-.006".
FTA	Tighten hub nut to 17-25 ft-lbs/22-29 Nm while turning wheel. Back off 1/2 turn and tighten to 18-20 in-lbs/2-3 Nm.	FTM	Using Spanner Locknut Wrench special tool, tighten adjusting nut to 70 ft-lbs/95 Nm. After 70 ft-lbs/95 Nm, nut will ratchet. Apply inward pressure on Spanner to disengage adjusting locknut splines and back off 90 degrees. Tighten adjusting nut to 15 ft-lbs/20 Nm and remove Spanner. Endplay should be 0.
FTB	Tighten hub nut to 22-25 ft-lbs/25-29 Nm while rotating hub in opposite direction. Back off 1/8 turn and install locknut and cotter pin.	FTN	Tighten hub nut to 30 ft-lbs/40 Nm while turning wheel. Back off 2 turns and tighten to 17-24 ft-lbs/23-24 Nm. Loosen nut 180 degrees. Tighten nut to 17 in-lbs/2 Nm.
FTC	Tighten hub nut to 17-25 ft-lbs/22-29 Nm while rotating hub. Install locknut and back off two slots of the nut. Install cotter pin.	FTO	Tighten adjusting nut to 50 ft-lbs/68 Nm while turning hub. Back off to 0. Tighten adjusting nut to 35 ft-lbs/48 Nm and back off 135-150 degrees. Align lock washer with keyway and pin on adjusting nut. Tighten locknut to 182 ft-lbs/247 Nm. Endplay should be 0-.006.
FTD	Tighten hub nut to 17-25 ft-lbs/22-29 Nm while rotating hub. Back off 1/4 turn and install cotter pin.	FTP	Tighten hub nut to 17-24 ft-lbs/22-34 Nm while turning wheel. Loosen nut 180 degrees and tighten to 17 in-lbs/ 2 Nm.
FTE	Tighten adjusting nut to 50 ft-lbs/68 Nm while rotating hub. Back off 90 degrees. Install lock ring and align nearest hole with pin on adjusting nut. Tighten locknut to 65 ft-lbs/88 Nm. Endplay should be .001-.010".	FTQ	Tighten adjusting nut to 50 ft-lbs/68 Nm while turning hub. Back off 90 degrees. Align lock washer with keyway and pin on adjusting nut. Tighten locknut to 182 ft-lbs/ 247 Nm.
FTF	Tighten adjusting nut to 50 ft-lbs/68 Nm while rotating hub. Back off and retighten to 35 ft-lbs/47 Nm while rotating hub. Back off 1/2 turn. Assemble lock washer hole to pin on adjusting nut. Tighten locknut to 50 ft-lbs/68 Nm. Endplay should be .001-.010".	FTR	Tighten adjusting nut to 50 ft-lbs/68 Nm while turning hub. Back off 90 degrees. Tighten wheel retaining nut to 16 in-lbs/1.8 Nm. Install key into spindle keyway by inserting the short leg into the aligned slot in nut. Press in until curved portion of retaining key is seated into counterbore of nut. Install cam assembly. Install: metal washer, plastic washer, then splined washer. Install C clip or lock ring.
FTG	Tighten adjusting nut to 65 ft-lbs/88 Nm while rotating hub. Back off 3/8 turn. Install lock washer with smooth side out. Tighten locknut to 100 ft-lbs/139 Nm. Bend two tabs of lock washer over adjusting nut and locknut.		

Adjustment procedures

FTS	Using Spanner Locknut Wrench special tool, tighten adjusting nut to 70 ft-lbs/95 Nm. Hub will ratchet as torque is applied. Ratchet back 90 degrees and retighten to 15-20 ft-lbs/18-25 Nm.	FT1	Using Spanner Locknut Wrench special tool, tighten adjusting nut to 60 ft-lbs/82 Nm. Hub will ratchet as torque is applied. Ratchet nut back 5 clicks (used bearing) or 7 clicks (new bearing).
FTT	Using Spanner Locknut Wrench special tool, tighten adjusting nut to 60 ft-lbs/82 Nm. Hub will ratchet as torque is applied. Ratchet nut back 5 clicks (used bearing) or 8 clicks (new bearing).	FT2	Tighten hub nut to 17-24 ft-lbs/22-34 Nm while turning wheel. Loosen nut 175 degrees and tighten to 17 in-lbs/2 Nm.
FTU	Tighten the adjusting nut to 35 ft-lbs/47 Nm while turning hub. Back off 90 degrees. Retighten the adjusting nut to 16 in-lbs/1.8 Nm. Install lock washer so that the pin on the adjusting nut aligns with a hole on the washer. Torque locknut to 150 ft-lbs/203 Nm. Install bearing thrust spacer, needle thrust bearing, and axle shaft spacer. Clip snap ring to spindle.	FT3	Tighten hub nut to 21 ft-lbs/28 Nm while turning wheel clockwise. Back off 180 degrees. While rotating brake disc, tighten to 17 in-lbs/2 Nm.
FTV	Tighten adjusting nut to 35 ft-lbs/47 Nm while turning hub. Back off 90 degrees. Retighten the adjusting nut to 16 in-lbs/1.8 Nm. Align the closest lug in the wheel bearing adjusting nut with the center of the spindle keyway slot. Advance nut to next lug as needed. Install the separate lock key in the spindle keyway under the adjusting nut. Install locknut needle bearing and thrust washer. Push cam assembly onto the locknut by lining up the key in the cam with the spindle keyway. Caution! Do not damage the separate lock key when aligning the spindle nut adjustment lug with the center of the spindle keyway slot. Also, do not damage the fixed cam when aligning the cam key with the spindle keyway.	FT4	With Ford axle using the Ford Axle Locknut Socket or equivalent, tighten the wheel hub nut to 70 ft-lbs/95 Nm while rotating wheel occasionally. Then back off the hub nut 180 degrees, apply inward pressure to the socket to separate the ratcheting components of the hub, and tighten the hub nut to 15 ft-lbs/20 Nm. Verify final bearing adjustment has zero endplay.
FTW	Tighten the adjusting nut to 35 ft-lbs/47 Nm while turning hub. Back off 90 degrees. Retighten the adjusting nut to 16 in-lbs/1.8 Nm. Install lock washer and tighten locknut to 150 ft-lbs/203 Nm. Endplay should be 0-.003". Install axle shaft spacer and clip the snap ring to the end of the shaft.	FT5	Tighten hub nut to 21 ft-lbs/28 Nm while turning wheel. Loosen nut 175 degrees and tighten additional 18 in-lbs/2 Nm.
FTX	Tighten adjusting nut to 35 ft-lbs/47 Nm while turning hub. Back off 90 degrees. Retighten the adjusting nut to 16 in-lbs/1.8 Nm. Align the closest lug in the wheel bearing adjusting nut with the center of the spindle keyway slot. Advance nut to next lug as needed. Install the separate lock key in the spindle keyway under the adjusting nut. Install the two-thrust spacer and push or press the cam assembly onto the locknut by lining up the key in the cam with the spindle keyway. Caution! Do not damage the separate lock key when aligning the spindle nut adjustment lug with the center of the spindle keyway slot. Also, do not damage the fixed cam when aligning the cam key with the spindle keyway.	FT6	Tighten hub nut to 30 ft-lbs/40 Nm while turning wheel. Back off 2 turns. While rotating brake disc, tighten to 21 ft-lbs/28 Nm. Loosen nut 175 degrees. Tighten to 17 in-lbs/2 Nm.
FTY	Tighten hub nut to 30 ft-lbs/40 Nm while turning wheel. Back off 2 turns. While rotating brake disc, tighten to 17-24 ft-lbs/22-34 Nm. Loosen nut 175 degrees. Tighten nut to 17 in-lbs/2 Nm.	FT7	For Dana Full Floating Axles, use Ford axle locknut socket, tighten the wheel hub nut to 70 ft-lbs (95 Nm) while rotating hub. Back off hub nut 90°. Apply inward pressure to the socket to separate the ratcheting components of the hub nut. Tighten hub nut 18 ft-lbs (24 Nm). Attach magnetically mounted dial indicator to the spindle end and place the indicator tip on outside of hub. Check for zero end play, the final bearing adjustment specification.
FTZ	Using Spanner Locknut Wrench special tool, tighten adjusting nut to 70 ft-lbs/95 Nm. After 70 ft-lbs/95 Nm, nut will ratchet. Apply inward pressure on Spanner to disengage adjusting locknut splines and back off 90 degrees. Tighten adjusting nut to 18 ft-lbs/24 Nm and remove Spanner. Final bearing adjustment has zero end play. Maximum torque to rotate bearing is 20 in-lbs/2.3 Nm.	FT8	Tighten drive nut to 74-110 ft-lbs/100-150 Nm, loosen 180°, then tighten to 175-202 ft-lbs/236-274 Nm.
		GMA	Tighten hub nut to 12 ft-lbs/16 Nm while rotating wheel. Back off and finger tighten. Back off slightly to install cotter pin.
		GMB	Snug hub nut while rotating wheel. Back off 1/4-1/2 turn and finger tighten. Install cotter pin.
		GMC	Tighten hub nut to 15 ft-lbs/18 Nm while rotating wheel. Back off and finger tighten. Back off slightly to install cotter pin.
		GMD	Tighten adjustment nut to 50 ft-lbs/68 Nm while rotating hub and drum. Back off 1/4 turn and tighten to 13 ft-lbs/17 Nm. Align nut slot with closest keyway. Insert key, retaining ring, and axle. Endplay should be .001-.010".
		GME	Tighten adjusting nut to 50 ft-lbs/68 Nm while rotating hub and disc. Back off and retighten to 35 ft-lbs/47 Nm. Back off 135-150 degrees. Insert lock washer and bend one tab over adjusting nut. Install locknut and tighten to 65 ft-lbs/88 Nm. Bend tab of washer over locknut. Endplay should be .001-.010".
		GMF	Tighten adjusting nut to 50 ft-lbs/68 Nm while rotating hub and drum. Back off nut to "just loose" (not more than one slot of lock or axle spindle) to align with keyway. Install key, retaining ring, and axle.

Adjustment procedures

GMG	Tighten adjusting nut to 50 ft-lbs/68 Nm while rotating hub. Back off 1/8 turn while rotating hub. Insert lock washer and bend one tab over adjusting nut. Install locknut and tighten to 250 ft-lbs/339 Nm. Bend tab of washer over locknut. Endplay should be "just loose."	GMR	Tighten to 74 ft-lbs/100 Nm, loosen, tighten to 15 ft-lbs/20 Nm, turn an additional 90 degrees.
GMH	Tighten adjusting nut to 90 ft-lbs/120 Nm while rotating hub. Back off 1/8 turn while rotating hub. Insert lock washer and bend one tab over adjusting nut. Install locknut and tighten to 250 ft-lbs/339 Nm. Bend tab of washer over locknut. Endplay should be "just loose."	GMS	Tighten to 111 ft-lbs/150 Nm. Back off 45 degrees and retighten to 184 ft-lbs/250 Nm.
GMI	Tighten adjusting nut to 50 ft-lbs/68 Nm while rotating hub. Back off to "just loose." Torque on nut when contacting bearing must be 0 or finger tight. Insert key into nut through slot or back off slightly. Install snap ring and axle shaft.	HAA	Tighten hub nut to 22 ft-lbs/30 Nm. Back off and retighten to 4 ft-lbs/6 Nm.
GMJ	Tighten adjusting nut to 50 ft-lbs/68 Nm while rotating hub. Back off and retighten to 35 ft-lbs/47 Nm. Back off 1/4 turn and insert washer. Install locknut and tighten to 65 ft-lbs/88 Nm. Endplay should be .025-.250".	HIA	Tighten hub nut to 15 ft-lbs/20 Nm. Back off and retighten to 4 ft-lbs/6 Nm.
GMK	Tighten adjusting nut to 50 ft-lbs/68 Nm while rotating hub. Back off 1/8 turn and insert washer. Install locknut and tighten to 175 ft-lbs/235 Nm.	HIB	Tighten the hub bearing nut by the following procedures. Hub bearing nut must be fastened with a torque of 202 ft-lbs/274 Nm and front hub must be rotated 3 times for secure placement of hub bearing. Unfasten hub bearing nut until its tightening torque is 0 ft-lbs/0 Nm. Hub bearing nut must be fastened again with torque 144 ft-lbs/196 Nm. Assemble split pin. If the direction of split pin is not in line with the hole of knuckle, unfasten hub bearing nut within 30° and assemble split pin.
GML	Tighten adjusting nut to 50 ft-lbs/68 Nm while turning hub. Back off and retighten to 35 ft-lbs/47 Nm. Back off 3/8 turn. Install ring and torque locknut to 160 ft-lbs/217 Nm minimum. Tang on ring must press through slot on spindle. Hole in pin must align with locknut, turn adjusting nut to align. Endplay should be .001-.010".	IUA	Tighten the hub nut to 22 ft-lbs/29 Nm, then fully loosen. Install a spring scale to one of the wheel nut studs. Tighten the hub nut until the scale reads: 4.5-5.5 lbs/2-2.5 kg for new bearing and seal; 2.5-4.0 lbs/1.2-1.8 kg for a used bearing and seal.
GMM	Tighten adjusting nut to 50 ft-lbs/68 Nm while turning hub. Back off and retighten to 50 ft-lbs/68 Nm. Back off to 0. Install ring and torque locknut to 160 ft-lbs/217 Nm minimum. Tang on ring must press through slot on spindle. Hole in pin must align with locknut, turn adjusting nut to align. Endplay should be .001-.010".	IUB	Tighten the hub nut to 22 ft-lbs/29 Nm, then fully loosen. Install a spring scale to one of the wheel nut studs. Tighten the hub nut until the scale reads: 1.8-2.2 lbs/20-25 kg.
GMN	Tighten adjusting nut to 50 ft-lbs/68 Nm while turning hub. Back off and retighten to 35 ft-lbs/47 Nm. Back off 3/8 max. Align nearest hole in adjusting nut lock with adjusting nut pin. Tighten locknut to 80 ft-lbs/108 Nm. Endplay should be .001-.010.	IUC	Tighten the hub nut to 22 ft-lbs/30 Nm, then fully loosen. Tighten nut finger tight and install cotter pin.
GMO	Tighten adjusting nut to 50 ft-lbs/68 Nm while turning hub. Back off and retighten to 35 ft-lbs/47 Nm. Back off 3/8 max. Insert lock washer and tighten locknut to 65 ft-lbs/88 Nm. Bend one tab over adjusting nut and one over locknut. Endplay is .001-.010.	IUD	Tighten the hub nut until 1.1-3.3 lbs/0.5-1.5 kg of force is required to turn the hub with a spring scale attached to a lug nut stud.
GMP	Tighten adjusting nut to 50 ft-lbs/68 Nm while turning hub. Back off and retighten to 35 ft-lbs/47 Nm. Back off 1/4 max. Holes in washer must align with tang in slot in spindle. Tighten locknut to 50 ft-lbs/68 Nm. Endplay should be .001-.010".	IUE	Tighten the hub nut to 22 ft-lbs/29 Nm. Turn the hub 2-3 times and loosen the nut. Finger tighten the nut. Tighten the nut further until 2.2 lbs/1.0 kg of force is required to turn the hub with a spring scale attached to a lug stud.
GMQ	Tighten adjustment nut to 52 ft-lbs/70 Nm while rotating hub and drum. Loosen nut. Tighten nut until it contacts bearing cone. Torque on nut must be zero to finger tight. Back off nut, if necessary, to align nut slot with closest keyway. Do not back off more than one slot to align keyway. Insert key, retaining ring, and axle shaft.	IUF	Tighten the hub nut to 22 ft-lbs/29 Nm. Turn the hub 2-3 times and loosen the nut. Finger tighten the nut. Tighten the nut further until 3.3 lbs/1.5 kg of force is required to turn the hub with a spring scale attached to a lug stud. Align the holes in the lock washer with the nut. Turn the nut slightly if needed.
		JGA	Tighten hub nut to eliminate endplay. Back off nut slightly to provide endplay of .001-.003".
		JGB	Tighten hub nut to eliminate endplay. Back off nut slightly to provide endplay of .002-.005".
		JPA	Tighten the hub nut to 21 ft-lbs/28 Nm while rotating the wheel. Back off 1/2 turn and tighten to 19 in-lbs/1.5 Nm.
		JPB	Tighten adjusting nut to 50 ft-lbs/68 Nm while rotating hub. Repeat several times. Loosen the adjusting nut 1/6 turn while rotating hub. Install lock washer. Align one of the holes with the peg on the adjusting nut. Install the locknut and tighten to 50 ft-lbs/68 Nm. Endplay should be 0.

Adjustment procedures

JPC	Tighten adjusting nut while rotating hub. Repeat several times. After tightening nut, back off 1/6-1/4 turn. Install washer and locknut. Bend one tab of the washer over the locknut.	NDB	Tighten hub nut to 18-22 ft-lbs/22-26 Nm. Back off and tighten again. Back off up to 60 degrees and install cotter pin.
KIA	Tighten lock nut against hub to set bearing preload. Use spring scale on hub wheel stud to measure bearing preload which should be 10 in-lbs/1-3 Nm.	NDC	Tighten hub nut to 29-33 ft-lbs/34-40 Nm. Back off and tighten again. Back off up to 90 degrees and install cotter pin.
KIB	Tighten lock nut to 20 ft-lbs/27 Nm. Loosen nut slightly until it can be turned by hand. Use spring scale on hub wheel stud to measure bearing grease seal drag. Add grease seal drag reading to value of .6-1.9 lbs/2.6-8.5 Nm. Turn adjusting nut slowly until specified preload is obtained. After preload adjustment, stake nut in position.	NDD	Tighten hub nut to 25-29 ft-lbs/30-34 Nm. Back off and tighten again. Back off up to 45 degrees and install cotter pin.
LRA	Tighten the hub nut to 50 ft-lbs/61 Nm, then back off 90 degrees. Tighten the hub nut 3 ft-lbs/4 Nm. Endplay should be .004. Install lock nut and tighten to 50 ft-lbs/61 Nm.	NDE	Tighten hub nut to 22-25 ft-lbs/25-29 Nm. Back off and tighten again. Back off up to 90 degrees and install cotter pin.
LRB	While slowly rotating hub, tighten the hub nut until all endplay is removed, then back off 180 degrees. Tighten the hub nut 13-15 in-lbs. Endplay should be .0005-.004". Install lock nut and tighten to 70-80 ft-lbs/95-108 Nm.	NDF	Tighten hub nut to 16-17 ft-lbs/19-21 Nm. Back off and tighten again. Back off up to 40-70 degrees and install cotter pin.
LRC	Tighten the hub nut to 37 ft-lbs/50 Nm, then back off 90 degrees. Tighten the hub nut 7 ft-lbs/10 Nm. Endplay should be .0004". Install lock nut and tighten to 37 ft-lbs/50 Nm.	NDG	Tighten adjusting nut to 58-72 ft-lbs/78-98 Nm while turning hub. Back off to 0. Tighten adjusting nut to 4.3-13 in-lbs/0.5-1.5 Nm.
LRD	Tighten the hub nut to 199 ft-lbs/270 Nm. Tighten the hub nut to 243 ft-lbs/330 Nm. Tighten the hub nut an additional 30 degrees. Stake hub nut.	NDH	Tighten adjusting nut to 58-72 ft-lbs/78-98 Nm while turning hub. Back off to 0. Tighten adjusting nut until force to turn hub with a spring scale attached to a lug stud is 1.6-4.7 lbs/0.7-2.1 kg.
MAA	Tighten locknut to 18-22 ft-lbs/25-29 Nm. Turn the hub 2-3 times. Loosen the locknut and finger tighten. Turn the locknut until torque to turn hub with a spring scale attached to a lug stud is 1.3-4.3 in-lbs/.15-.50 kg. Stake locknut.	POA	While turning wheel tighten adjusting nut slightly. Back off adjusting nut until brake disc can just be moved using finger pressure on a screwdriver. Tighten adjusting nut retaining screw to 11 ft-lbs.
MAB	Tighten locknut to 14-18 ft-lbs/20-25 Nm. Turn the hub 2-3 times. Loosen the locknut and finger tighten. Turn the locknut until force to turn hub with a spring scale attached to a lug stud is .77-1.92 lbs/.35-.87 kg.	SBA	Tighten in three steps; 111 ft-lbs (150 Nm), then loosen 45°, final torque to 185 ft-lbs (250 Nm).
MAC	Tighten locknut to 14-22 ft-lbs/20-29 Nm. Turn the hub 2-3 times. Loosen the locknut and finger tighten. Turn the locknut until force to turn hub with a spring scale attached to a lug stud is 1.3-2.4 lbs/.60-1.1 kg.	SNA	Tighten nut to 74-118 ft-lbs/100-160 Nm, loosen, tighten to 15 ft-lbs/20 Nm, turn an additional 90 degrees.
MAD	Tighten locknut. Turn the hub 2-3 times. Loosen the locknut and finger tighten. Turn the locknut until force to turn hub with a spring scale attached to a lug stud is 1.3-2.6 lbs/.60-1.2 kg. Install bearing set plate and bolts; spacer, then snap ring.	SUA	Tighten adjusting nut while turning wheel. Back off 1/8 turn and finger tighten.
MA3	Tighten locknut to 23-29 ft-lbs/32-39 Nm. Mark lockbolt at one point and tighten it further until marking has moved 85-95 degrees.	SZA	Tighten adjusting nut while turning wheel to 58 ft-lbs/80 Nm. Loosen nut. Tighten nut to 9 ft-lbs/12.5 Nm.
MIA	Tighten hub nut to 14 ft-lbs/20 Nm, rotate wheel 2-3 turns and back off nut. Tighten hub nut to 7 ft-lbs/10 Nm, rotate wheel, retorque to 7 ft-lbs/10 Nm.	TAA	Tighten adjusting nut to 43 ft-lbs/60 Nm. Turn the hub right and left several times and retighten to 43 ft-lbs/60 Nm. Loosen the nut and finger tighten. Tighten adjusting nut to 4 ft-lbs/6 Nm. Force to turn hub with a spring scale attached to a lug stud should be 6.4-12.6 lbs/2.9-5.7 kg. Insert lock washer. Tighten locknut to 47 ft-lbs/64 Nm. Recheck turning torque with the spring scale.
NDA	Tighten hub nut to 25-29 ft-lbs/30-34 Nm. Turn hub several times in each direction to seat bearings, then tighten again to 25-29 ft-lbs/30-34 Nm. Back off 45 degrees and install cotter pin.	TAB	Tighten adjusting nut to 43 ft-lbs/60 Nm. Turn the hub right and left several times and loosen the adjusting nut. Retighten to 18 ft-lbs/25 Nm. Force to turn hub with a spring scale attached to a lug stud should be 6.4-12.6 lbs/2.9-5.7 kg. Install washer and locknut. Tighten to 35 ft-lbs/47 Nm. Axial play should be 0.
		TAC	Tighten adjusting nut to 43 ft-lbs/60 Nm. Turn the hub right and left several times and loosen the adjusting nut. Retighten to 35-60 in-lbs/4-6 Nm. Force to turn hub with a spring scale attached to a lug stud should be 2.2-8.6 lbs/1.0-3.9 kg. Install washer and locknut. Tighten to 65 ft-lbs/90 Nm.
		TAD	Tighten adjusting nut to 25 ft-lbs/34 Nm while rotating hub. Back off to 0. Tighten adjusting nut until 1.3-4 lbs/0.6-1.8 kg of force is required to turn hub with a spring scale attached to a lug stud.

Adjustment procedures

TAE	Tighten adjusting nut to 21 ft-lbs/28 Nm while rotating wheel. Back off and finger tighten. Tighten slightly to install cotter pin. Axial endplay should be .002".	VWI	With hex head bolt: With vehicle on ground, loosen 90 degrees. With vehicle off the ground and brakes applied, remove bolt. Tighten new bolt 148 ft-lbs/200 Nm. Lower vehicle onto its wheels and tighten an additional 180 degrees. With 12 point bolt: Use special tool XZN18-T10162. 12 point bolt without ribs, tighten new bolt 148 ft-lbs/200 Nm with vehicle off the ground. Lower vehicle onto its wheels and tighten an additional 180 degrees. 12 point bolt with ribs, tighten new bolt 52 ft-lbs/70 Nm with vehicle off the ground. Lower vehicle onto its wheels and tighten an additional 90 degrees.
TAF	Tighten adjusting nut to 22 ft-lbs/29 Nm while rotating wheel. Back off to 0. Tighten adjusting nut until 0-2.6 lbs/0-1.2 kg of force is required to turn hub with a spring scale attached to a lug stud.	VWJ	With vehicle on ground, loosen 90 degrees. With vehicle off the ground and brakes applied, remove bolt. With 12 point bolt, tighten new bolt 148 ft-lbs/200 Nm. Lower vehicle onto its wheels and tighten an additional 90 degrees.
TAG	Tighten adjusting nut to 43 ft-lbs/59 Nm while turning wheel. Back off to 0. Tighten adjusting nut to 11 ft-lbs/15 Nm. Force to turn hub with a spring scale attached to a lug stud should be 4.6-7.9 lbs/2.1-3.6 kg. Install washer and torque locknut to 35 ft-lbs/47 Nm.	VWK	12 point bolt: With vehicle on ground, loosen 90 degrees. With vehicle off the ground and brakes applied, remove bolt. Tighten new bolt 111 ft-lbs/150 Nm. Lower vehicle onto its wheels and tighten an additional 369 ft-lbs/500 Nm.
TAH	Tighten adjusting nut to 43 ft-lbs/59 Nm while turning wheel. Back off to 0. Tighten adjusting nut to 38-57 in-lbs/4.3-6.5 Nm. Force to turn hub with a spring scale attached to a lug stud should be 9.5-15 lbs/42-67 N. Install washer and tighten locknut to 47 ft-lbs/64 Nm.	VWL	With grade 10.9 bolt: Tighten 52 ft-lbs/70 Nm plus an additional 90 degrees. With grade 8.8 bolt: Tighten 148 ft-lbs/200 Nm plus an additional 180 degrees.
VOA	Tighten adjusting nut to 50 ft-lbs/68 Nm while rotating wheel. Back off 1/3 turn. Loosen slightly and install cotter pin.		
VOB	Tighten adjusting nut to 15 ft-lbs/20, then 33 ft-lbs/45 Nm. Tighten an additional 60 degrees.		
VWA	Tighten adjusting nut to 7 ft-lbs/10 Nm. Back off and finger tighten. Install cotter pin.		
VWB	Tighten the hub nut gradually while turning the thrust washer with a screwdriver tip. Do not bend or pry with the screwdriver. Tighten the hub nut to the point where the washer cannot be turned and back off slightly. Install the locknut and cotter pin.		
VWC	Tighten to 148 ft-lbs/200 Nm. Loosen. Tighten to 37 ft-lbs/50 Nm, then turn nut an additional 60 degrees.		
VWD	Tighten to 148 ft-lbs/200 Nm. Loosen. Tighten to 37 ft-lbs/50 Nm, then turn nut an additional 30 degrees.		
VWE	With hex head bolt, 148 ft-lbs/200 Nm. Then turn nut an additional 180 degrees. With 12 point bolt, 52 ft-lbs/70 Nm. Then turn nut an additional 90 degrees.		
VWF	With hex head bolt, 133 ft-lbs/180 Nm. Then turn nut an additional 180 degrees.		
VWG	With hex head bolt, 133 ft-lbs/180 Nm. Then turn nut an additional 180 degrees. With 12 point bolt, 52 ft-lbs/70 Nm. Always replace with a new bolt.		
VWH	12 point bolt without ribs: With vehicle on ground, loosen 90 degrees. With vehicle off the ground and brakes applied, remove bolt. Tighten new bolt 148 ft-lbs/200 Nm. Lower vehicle onto its wheels and tighten an additional 180 degrees. 12 point bolt with ribs: With vehicle on ground, loosen 90 degrees. With vehicle off the ground and brakes applied, remove bolt. Tighten new bolt 52 ft-lbs/70 Nm with vehicle off the ground. Lower vehicle onto its wheels and tighten an additional 90 degrees. Hex bolt: Tighten bolt 148 ft-lbs/200 Nm. Lower vehicle onto its wheels and tighten an additional 180°.		

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