
Appendix & Glossary

Contents

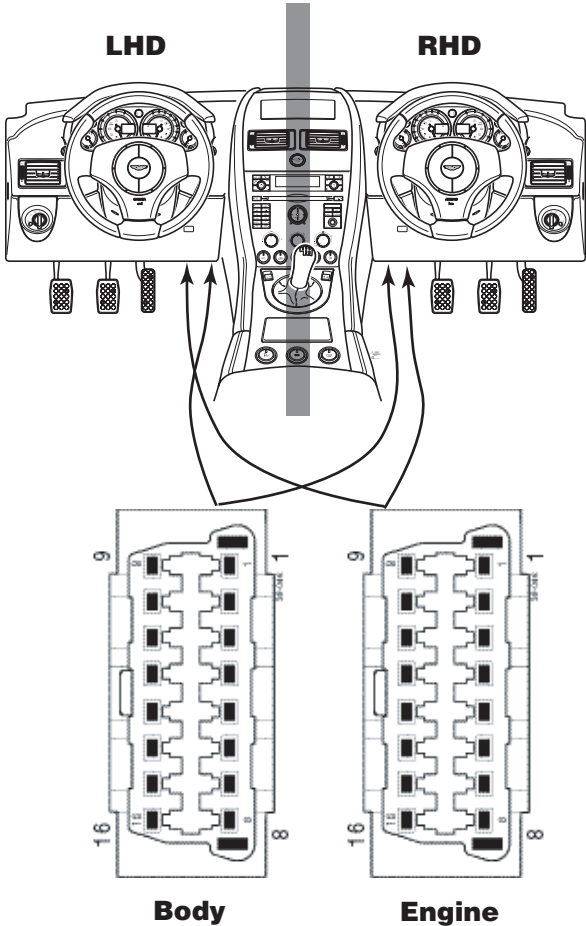
Diagnostic Ports	20-1-2
Fluids / Capacities.....	20-1-2
Abbreviations.....	20-1-3
Terms.....	20-1-3
Special Tools - Pictorial Index	20-1-3
Specialist Tool Operation	20-1-9
PowerTrain Trolleys (303-F715)	1-9
Front Mounts	1-9
Rear Mounts	1-9
PowerTrain Trolleys Link Bars	
(303-F715-06)	1-10
Ball Joint Splitter (204-523)	1-10
Track Rod Ends.....	1-10
Vertical Link.....	1-10
Brake Hose Check (206-100).....	1-11
Front Brake Caliper	1-11
Crankshaft Rear Oil Seal Remove (TBA).....	1-11
Crankshaft Rear Oil Seal Install (No. TBA)	1-12
Maintenance Schedules	20-1-14
Torque Figures.....	20-1-17
General Torque Figures	1-17
Vehicle Torque Figures.....	1-18
Torque Conversion Tables	20-1-34

Appendix & Glossary

Diagnostic Ports

Diagnostic ports are provided for:

- OBD II
- Body - including



Fluids / Capacities

Capacities		
	Europe	USA
Engine sump (incl. filter)	10.4 ltr	11.0 qts
Engine sump (excl. filter)	9.5 ltr	10.0 qts
Engine cooling system	15 ltr	15.5 qts
Screen washer reservoir	6.9 ltr	7.3 qts
Gearbox		
Manual (including final drive and cooler)	4 ltr	4.2 qts
Automatic (including cooler)	9.7 ltr	10.2 qts
Final drive (Automatic) including cooler	1.6 ltr	1.7 qts
Transmission Cooler		
Manual Gearbox	TBA	TBA
Automatic Gearbox	1.6 ltr	1.7 qts
Automatic Final Drive	0.7	0.7
Fuel tank	80 ltr	21.0 galls

Approx. 78 litres (17.2 UK Gallons) usable.

Recommended Fluids

Engine oil EU / Aus Mobil 1 (0W-40)
USA Mobil 1 (0W-40) and (0W-30)

Do not mix Mobil 1 oil with any mineral oils.

Engine coolant 60% water, 40% Havoline OAT

Do not mix OAT coolant with any glycol based anti-freeze.

Automatic transmission fluid Shell ATFM 1375-4

Automatic transmission final drive oil Shell 'Transaxle' oil 75W/90

Manual gearbox oil / Final drive Shell 'Transaxle' oil 75W/90

Brake / Clutch fluid Castrol Super Response Dot 4

Power steering fluid Texaco Cold Climate

A/C refrigerant HFC134A.

Fuel EU 95 RON Unleaded (Min.) or 98 RON Super Unleaded

Aus Premium Unleaded (95 RON Min.)

USA Premium Unleaded (95 RON), AKI 91 (Premium)

Abbreviations

To follow

Terms

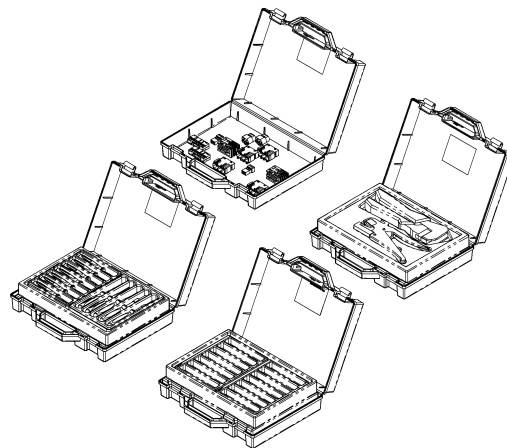
Frequently used alternative names or spellings for vehicle components mentioned in this Workshop Manual.

UK English	US English
Bonnet	Hood
Boot	Trunk
Brake Disc	Rotor
Handbrake	Parking Brake
Petrol	Gasoline
Tyre	Tire
Wing	Fender
Windscreen	Windshield
Sill	Rocker Panel
Nip	

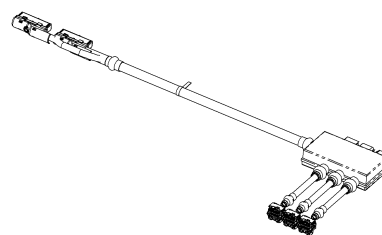
Special Tools - Pictorial Index

Part No. / Description

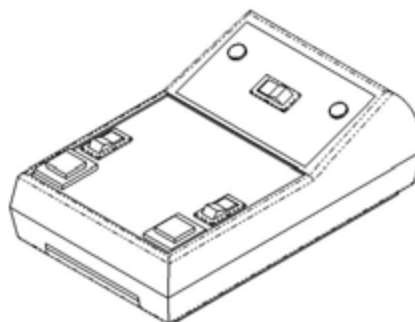
43-10047 (Wiring Harness Repair Kit)



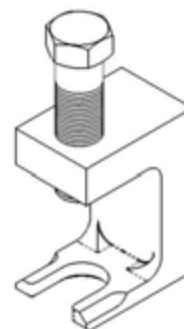
43-10048 (PCM II Test Lead)



43-27750 (MOST Tester)

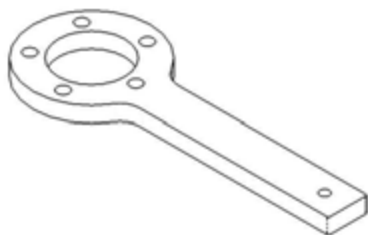


204-523 (Ball Joint Splitter)

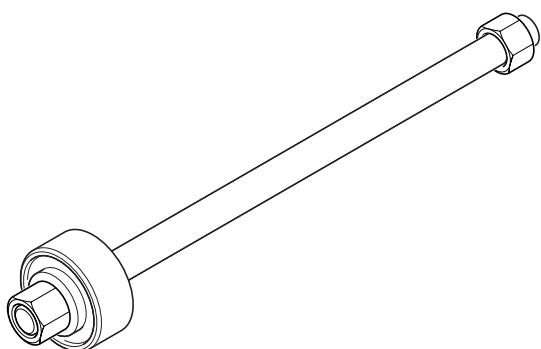


Part No. / Description

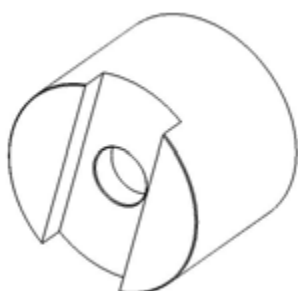
204-524 (Front Suspension Support)



205-521 (Rear Subframe Bush Removal)



205-791 (Rear Subframe Bush Removal (use with 205-521))



205-792 (Rear Subframe Receiver Cup)

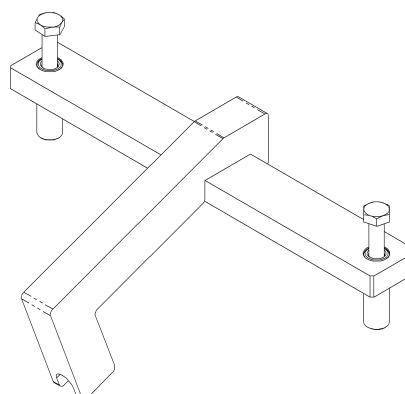


205-793 (Rear Subframe Bush Installer)



Part No. / Description

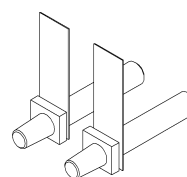
206-100 (Brake Hose Install)



206-103 (Handbrake Cable Removal)



303-535 (Cylinder Bore Protectors)



TBA (Crankshaft Rear Oil Seal and Slinger Removal)

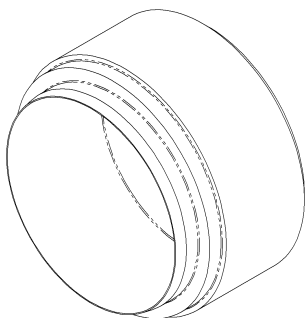
Image to Follow

TBA (Crankshaft Rear Oil Seal Slinger Install)

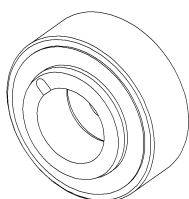
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Part No. / Description

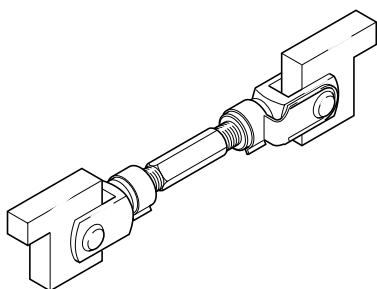
303-664 (Crankshaft Rear Oil Seal Install)



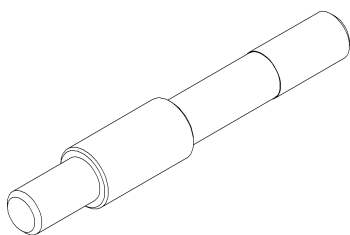
303-665 (Crankshaft Front Oil Seal Install)



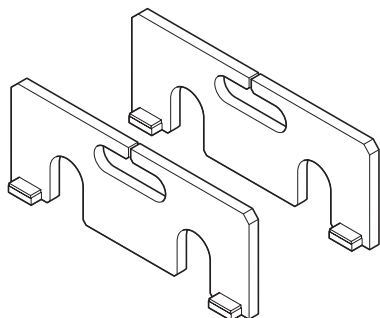
303-666 (Cylinder Block Spreader)



303-667 (Clutch Alignment)

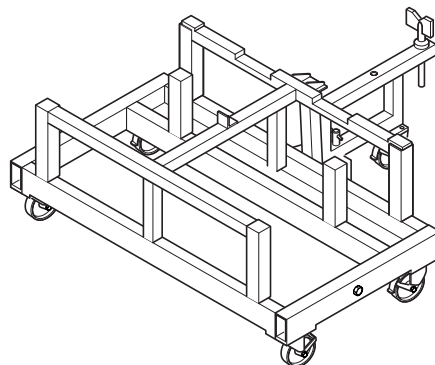


303-713 (Camshaft Set)

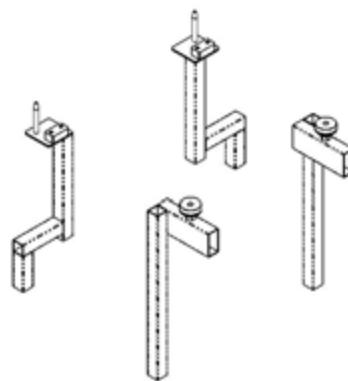


Part No. / Description

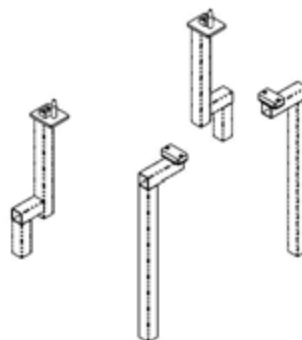
303-F715 (Multi-purpose Trolley) x2



303-F715-04 (Rear Subframe Trolley Adaptors)



303-F715-05 (Engine/Subframe Trolley Adaptors)

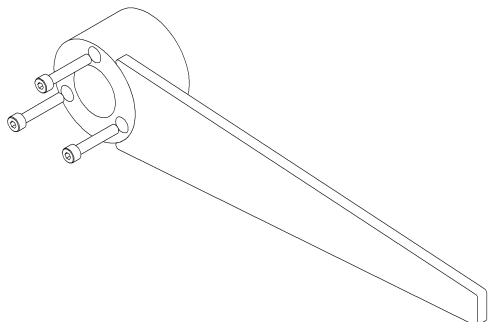


303-F715-06 (Trolley Brace Bars)

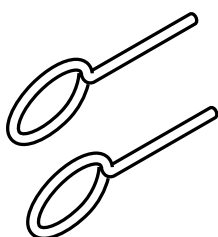


Part No. / Description

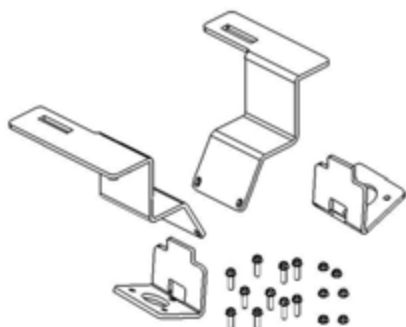
303-1047 (Crankshaft Holding)



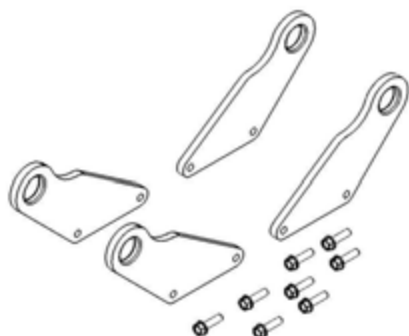
303-1072 (Timing Chain Tensioner Pins)



303-1080 (Engine Support Adaptor)

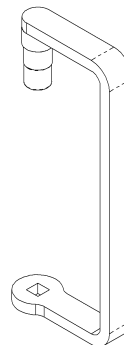


303-1098 (Engine Lifting Brackets)

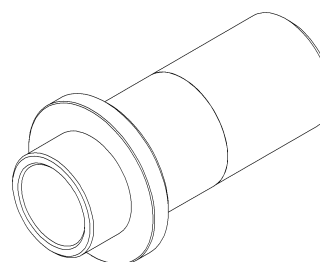


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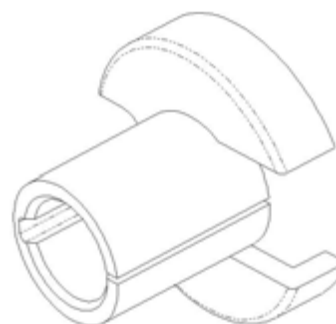
303-1133 (Engine Mount Top Nut Adaptor)



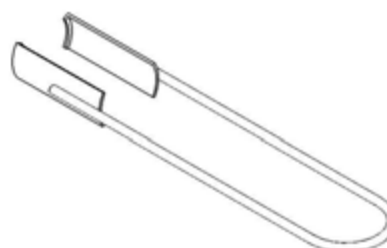
307-521 (Transaxle Seal Instal)



310-040 (Fuel Pipe Disconnect Tool)

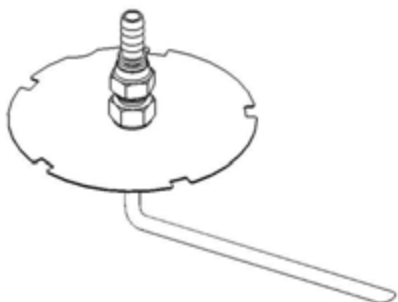


310-134 (Filler Neck Disconnect Tool)



Part No. / Description

310-136 (Fuel Tank Drainage Adaptor)



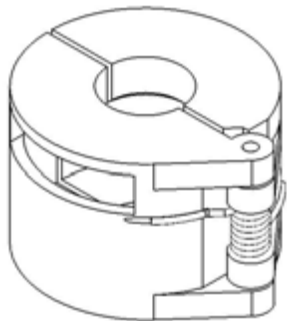
310-140 (Fuel Pump Install / Remove)

Image to Follow

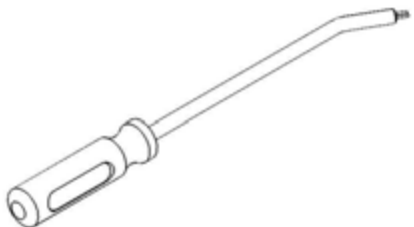
412-026 (Quick Disconnect Tool)

412-038 (Quick Disconnect Tool)

412-040 (Quick Disconnect Tool)



412-132 (Quick Disconnect Tool)

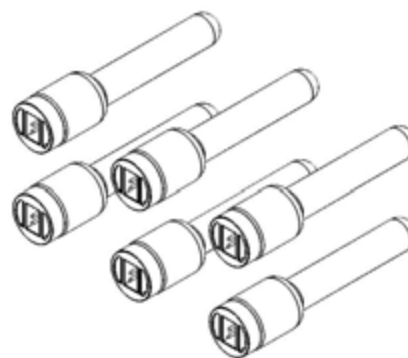


Part No. / Description

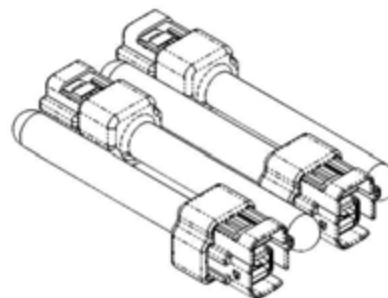
418-583 (Oxygen Sensor Diagnostic Lead)



501-073A (Airbag Simulators)



501-103 (Side Airbag and Pretensioner simulators)

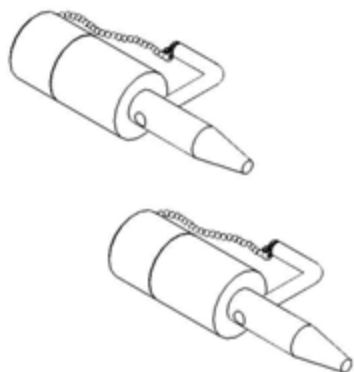


501-104 (Trim Removal)



Part No. / Description

501-108 (IP Alignment Pins)



Part No. / Description

501-112 (Wiper Linkage to Wiper Motor)

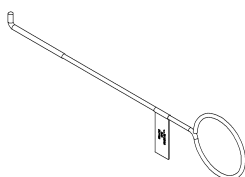
Image to follow

501-F111 (Door Service Trolley)

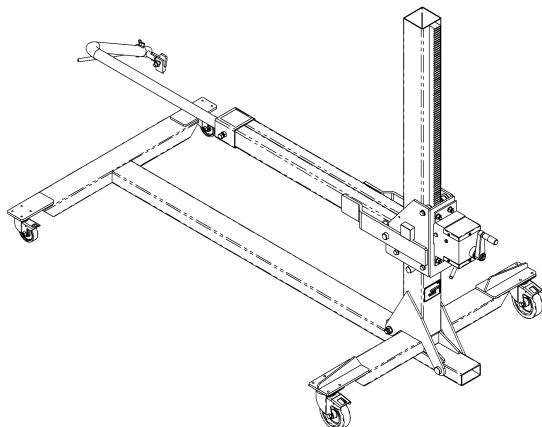


Image to follow

501-115 (Front Veneer Removal)



501-F116 (IP Removal)



Specialist Tool Operation

To assist the technician in the operation of some of the specialist tools available for this vehicle, listed here are specialist tool operating procedures.

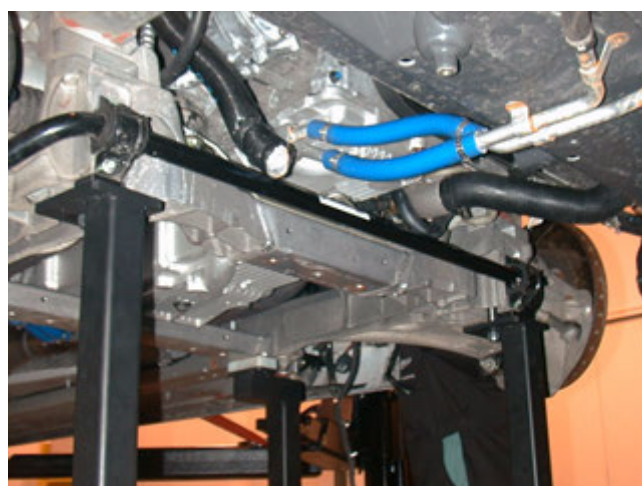
PowerTrain Trolleys (303-F715)

Images of where to locate the powertrain trolleys to the rear and front subframes to come

When removing the powertrain in total use both powertrain trolleys joined together using service tool (Refer to '303-F715-06 (Trolley Brace Bars)', page 20-1-5).

The link bars install as shown. They are not handed.

Front Mounts



Rear Mounts





Ball Joint Splitter (204-523)

Track Rod Ends

To access the vertical link lower ball joint.

1. For each affected wheel station, slacken road wheel nuts 1/4 turn each. Raise vehicle and make safe.
2. Remove road wheel(s).
3. Install service tool No. 204-524 to the front hub.
Place a support under service tool No. 204-524. Lower vehicle enough to raise the suspension to ride height.

PowerTrain Trolleys Brace Bars (303-F715-06)



Image to follow

4. Insert service tool No. 204-523.

Image to follow



Vertical Link

To access upper and lower ball joints on the vertical link:

Note steering geometry settings before removing upper control arm.

1. Remove upper control arm from body. Allow the vertical link and lower arm to fall forward.
2. Top and bottom ball joints can then be accessed.

Brake Hose Check (206-100)

Front Brake Caliper

Caution

Ensure that the alignment line on the flexible brake pipe remains in a straight line.

Caution

On LH and RH calipers the brake pipe must route towards the front of the car.

1. Insert the brake pipe union to the caliper.
 - Ensure that the flex hose alignment line is straight
 - Ensure that the brake pipe elbow faces forward.
 Torque to **22 Nm**.
2. Install the brake pipe alignment tool. Check that the brake pipe orientation is correct:
 - The flex hose alignment line is straight
 - The brake pipe faces forward and locates correctly in the alignment tool



3. If the alignment is **not** correct, carefully back off the pipe union at the brake calliper until the pipe can be rotated backwards to allow forward movement when being re-torqued. Re torque the brake pipe union to **22 Nm** then re check alignment as detailed above.

Crankshaft Rear Oil Seal Remove (TBA)

Caution

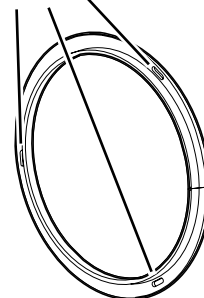
Throughout this procedure it is essential that all parts remain clean, free of dirt, grease and debris.

1. Using the sleeved punch (supplied with the new oil seal kit), pierce three equally spaced holes in the oil seal slinger.

There are three weak areas on the slinger, indicated in the image below.



Pierce holes in areas provided



2. Place the oil seal removal tool into position.



3. Line up the three holes in the oil seal removal tool with the three pierced holes in the oil seal slinger.

4. Insert three screws (supplied with the new oil seal kit) into the three holes provided in the oil seal removal tool.



Screw the three screws in enough to attach to the oil seal slinger. Insert the oil seal removal tool bolt.

5. Turn the bolt of the oil seal removal tool clockwise to withdraw the oil seal slinger.
6. Remove the oil seal slinger, the three screws and the bolt from the oil seal removal tool.

Caution

Ensure that the oil seal removal tool is clean, free of dirt, grease and debris.

7. Using the oil seal removal tool, carefully knock the crankshaft oil seal through the oil seal housing.

The oil seal will stop against the crankshaft / engine block web.



8. Using the sleeved punch (supplied with the new oil seal kit), pierce a hole in the crankshaft oil seal at the top (12 o'clock) only.



9. Screw the sleeved screw (supplied with the new oil seal kit) into the pierced hole enough to attach to the crankshaft oil seal.

10. Pull the crankshaft oil seal from the seal housing and the crankshaft.



Crankshaft Rear Oil Seal Install (No. TBA)

Caution

Throughout this procedure it is essential that all parts remain clean, free of dirt, grease and debris.

1. Install the bolt assembly of the oil seal install tool.



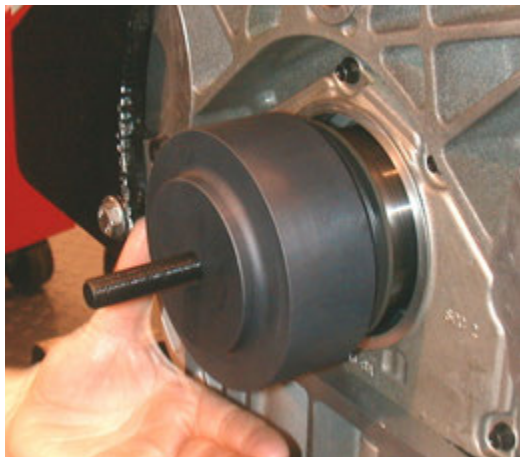
2. Place the oil seal to the oil seal installation tool.

The holes on the oil seal facing outward (away from the engine block).



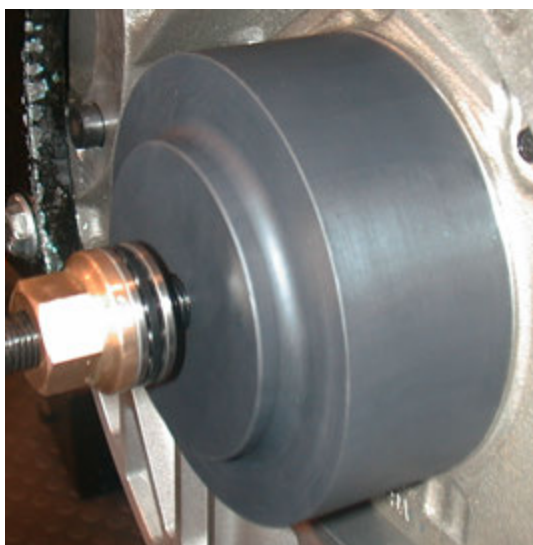
3. Wipe the lip of the new oil seal with clean engine oil.
4. Place the seal install tool, complete with the new oil seal, into position and install the nut and bearing assembly.
7. Using the oil seal slinger install tool repeat from step two to install the oil seal slinger.

The oil seal slinger installs one way only on the oil seal slinger install tool.



5. Wind the nut and bearing assembly in until the oil seal install tool bottoms out on the oil seal housing.

When the oil seal install tool has bottomed out on the oil seal housing the new oil seal has been installed to the correct depth.



6. Remove the oil seal install tool. Do not remove the bolt assembly.



Maintenance Schedules

1000mls	10000mls	20000mls	
1500km	16000km	32000km	
3 months	12 months	24 months	
Road Test Evaluation			
x	x	x	Pre-Maintenance Road Test Evaluation
Fluids, Filters and Leaks Checks			
x	x	x	Renew engine oil
x	x	x	Renew engine oil filter
x	x	x	Check for engine oil leaks
-	x	x	Renew air cleaner elements
x	x	x	Check manual transaxle for leaks
48,000 km (30,000 mile)			Renew manual transaxle oil and filter
x	x	x	Check auto gearbox for leaks / top up if required
x	x	-	Check differential for leaks, top up if required (automatic)
-	-	x	Renew differential oil (automatic)
5 Years			Renew engine coolant - check S.Gravity
x	x	x	Check / top-up engine coolant
x	x	x	Check cooling and heating systems for leaks
x	x	x	Check for fuel leaks
2 years			Renew brake / clutch fluid
x	x	x	Check / top-up brake / clutch fluid reservoir
x	x	x	Check / top-up power steering reservoir
x	x	x	Check power steering system for leaks
x	x	x	Check brake hoses, pipes and unions for leaks
x	x	x	Check suspension dampers for leaks
x	x	x	Top-up windscreen washer reservoir
x	x	x	Check exhaust system for leaks
x	x	x	Check operation of exhaust by-pass valves
x	x	x	Check A/C system for leaks
-	-	x	Renew pollen filter

1000mls	10000mls	20000mls
1500km	16000km	32000km
3 months	12 months	24 months

Mechanical Function Checks

-	x	x	Lubricate all door locks and hinges
x	x	x	Check / adjust all drive belt tensions, renew if necessary
x	x	x	Lubricate handbrake links and cables
x	x	x	Check handbrake security
48,000 km (30,000 mile)			Check condition of handbrake pads
-	x	x	Inspect brake pad and warning leads for wear. Replace if 60% worn
-	x	x	Inspect condition of discs
-	x	x	Check wiper blade inserts. Renew if necessary
48,000 km (30,000 mile)			Renew wiper blades
48,000 km (30,000 mile)			Clean out coolant radiator and A/C condenser
x	x	x	Check condition and operation of all seat belts
x	x	x	Check security of exhaust system mountings and heatsheilds
x	x	x	Check brake hoses, pipes and unions
x	x	x	Check power steering pipes and unions for corrosion and mechanical defects
x	x	x	Check security and condition of fuel hoses
x	x	x	Check cooling system hoses security and condition
x	x	x	Check A/C hoses security and condition
x	x	x	Check condition and security of steering unit joints and gaiters
x	x	x	Check security and condition of suspension fixings
x	x	x	Check security and condition of suspension ball joints, gaiters and bushes
-	-	x	Check tightness of driveshaft bolts
x	x	x	Check interior rear view mirror for security and function
-	-	x	Check the condition of wheel arch liners

Electrical Function Checks

112,000 km (70,000 mile)			Renew spark plugs
x	x	x	Check / record battery voltage
x	x	x	Clean and grease battery connections
x	-	x	Check and if necessary adjust headlight alignment
x	x	x	Check operation of all lights
x	x	x	Check operation of ABS warning lamp
x	x	x	Check operation of all warning indicators
x	x	x	Check audible warnings including security system
x	x	x	Check operation of the horns
x	x	x	Check operation of the windscreen wipers
x	x	x	Check exterior rear view mirrors for security and function
x	x	x	Interrogate DTC P codes / Rectify if required
x	x	x	Check service interval indicator. Reset
x	x	x	Check / operate battery disconnect switch
x	x	x	Check / operate battery connect switch
x	x	x	Check / operate electric windows
x	x	x	Check / operate powerfold mirrors (option)
x	x	x	Check windscreen washers and jets



1000mls	10000mls	20000mls
1500km	16000km	32000km
3 months	12 months	24 months

Wheels and Tyre Checks

x	x	x	Check for correct tyre size, type and rotation
x	x	x	Check colour coded valve collars for correct location (Tyre pressure monitoring)
x	x	x	Check and report tyre tread depth
x	x	x	Check tyres for uneven / excessive wear or damage
x	x	x	Check / adjust tyre pressures
x	x	x	Check torque of road wheel nuts
x	x	x	Check road wheel rims for inner and outer damage.
x	x	x	Check operation of tyre pressure sensors
x	x	x	Check 'use by' date of tyre repair kit

Anti Corrosion Check

x	Check body panels and underbody for corrosion starting from the inside - out (excluding stone chips).
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Gear Change Modes

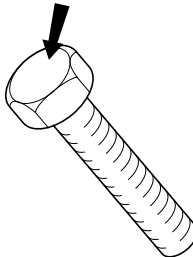
x	x	x	Auto
x	x	x	Sport
x	x	x	Touchtronic
x	x	x	Reverse

Final Checks

x	x	x	Degrease windscreen
x	x	x	Carry out road test - including operation of all auto gearbox modes
x	x	x	Check ABS and Traction Control operation
x	x	x	Check operation of all seat belts and buckles
x	x	x	Check that fuel filler bowl rain drain is clear

Torque Figures

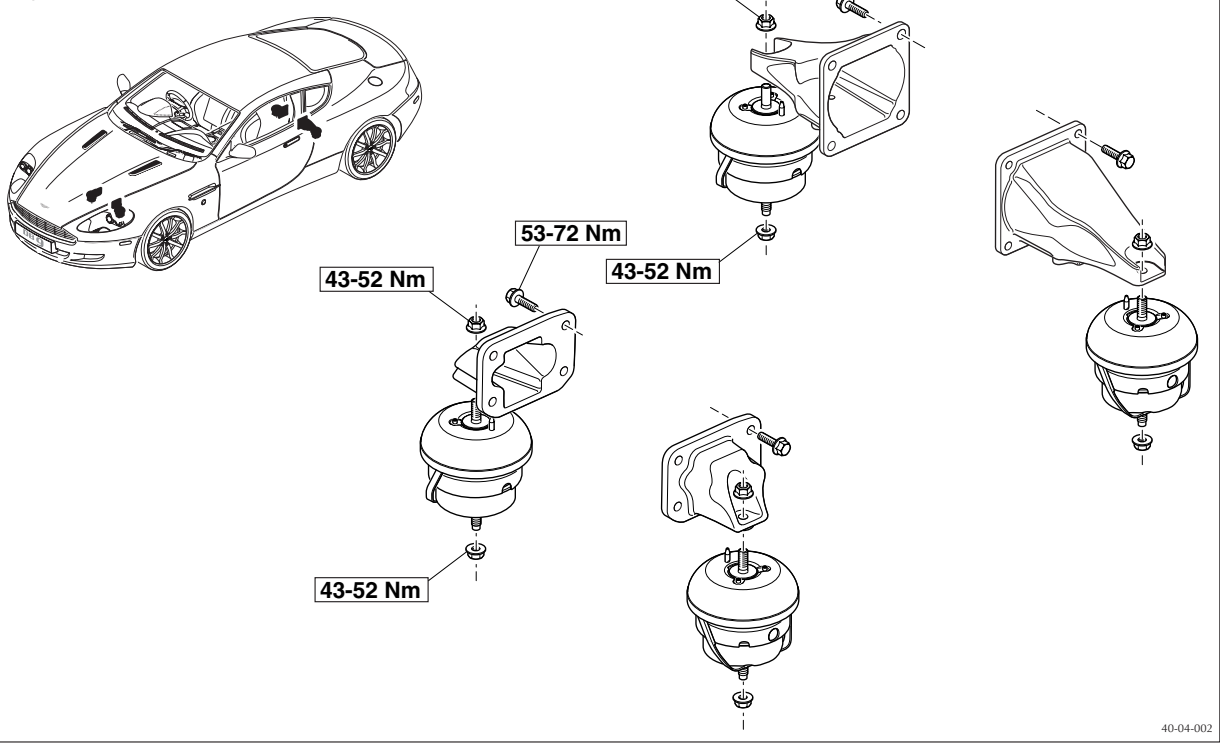
General Torque Figures

Nom. Dia.	Applied Torque (Nm)										 Stamped on bolt head
	4.6 & 4.82		8.8 / 8		9.8 / 9		10.9 & 10.9 / 10		12.9 / 12		
	Mean	+/-	Mean	+/-	Mean	+/-	Mean	+/-	Mean	+/-	
M3	0.5	0.1	1.4	0.2	-	-	1.9	0.4	2.3	0.5	
M4	1.2	0.2	3.1	0.6	-	-	4.5	0.8	5.2	1	
M5	2.4	0.5	6.2	1.2	6.9	1.3	8.9	1.7	10.4	2	
M6	4.1	0.8	10.4	2	11.8	2.3	15.2	2.7	17.5	3.3	
M8	9.9	2	25	5	28	5.5	36	7	42	8	
M10	19.5	3.9	50.5	9.5	56	10	72	13	84	16	
M12	34.2	6.8	88	17	99	19	126	24	147	28	
M14	54.4	10.9	140	28	157	30	200	40	235.5	46.5	
M16	85	17.2	217.5	42.5	245	47	310	61	363.5	70.5	
M18	116.7	23.4	313.5	58.5	-	-	433	80	509	94	
M20	165	33	437.5	82.5	-	-	605	114	707	133	
M22	225	45	602.5	102.5	-	-	832	157	974	187	
M24	286	57	774	154	-	-	1070	213	1244	247	
M27	417	83	1115	215	-	-	1547	298	1810	350	
M30	567	113	1520	290	-	-	2102	402	2450	470	
M33	722	154	2062	400	-	-	2856	551	3335	645	
M36	994	199	2650	510	-	-	3664	703	4275	825	
M39	1285	255	3435	660	-	-	4746	910	5545	1065	

Vehicle Torque Figures

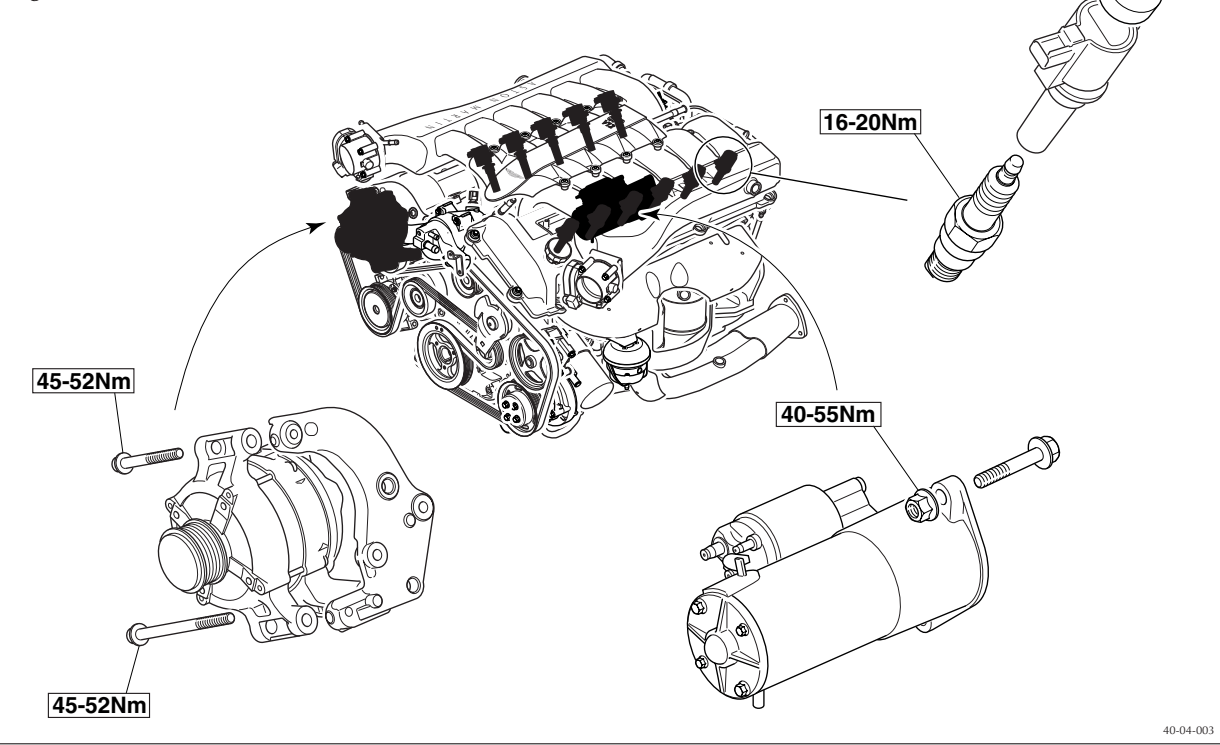
DB 9

Engine and Gearbox Mounts



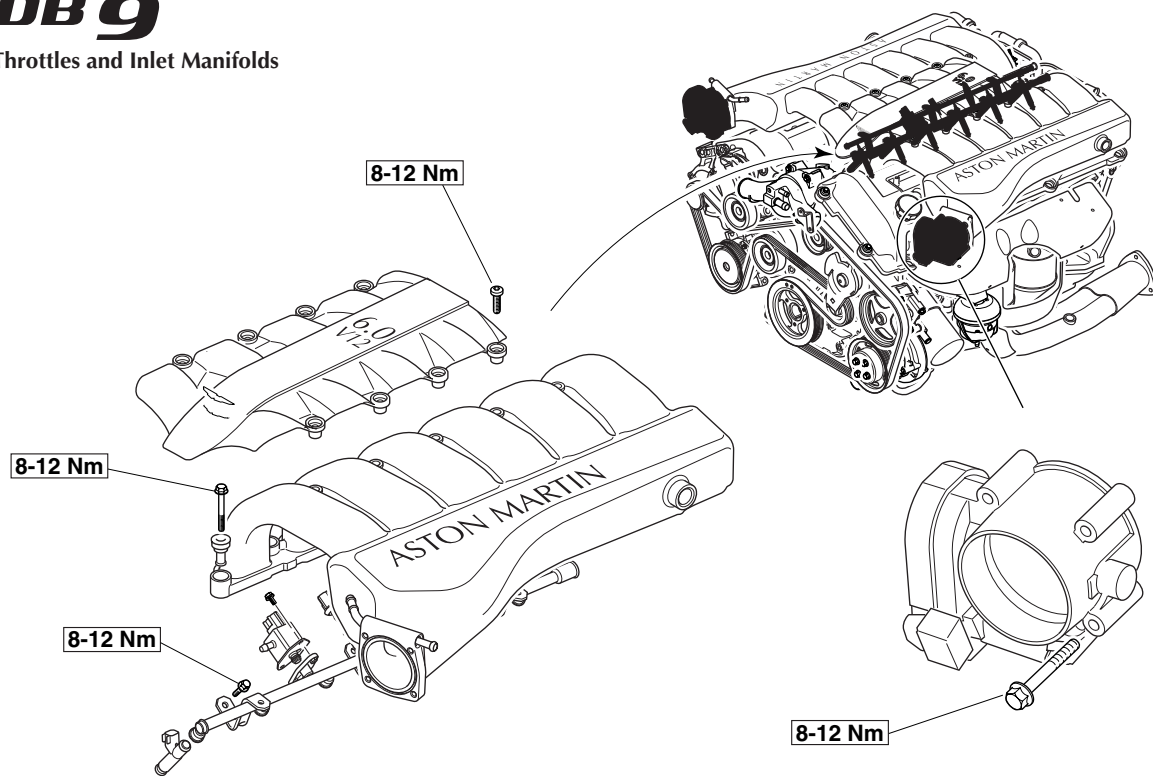
DB 9

Engine Electrical



DB 9

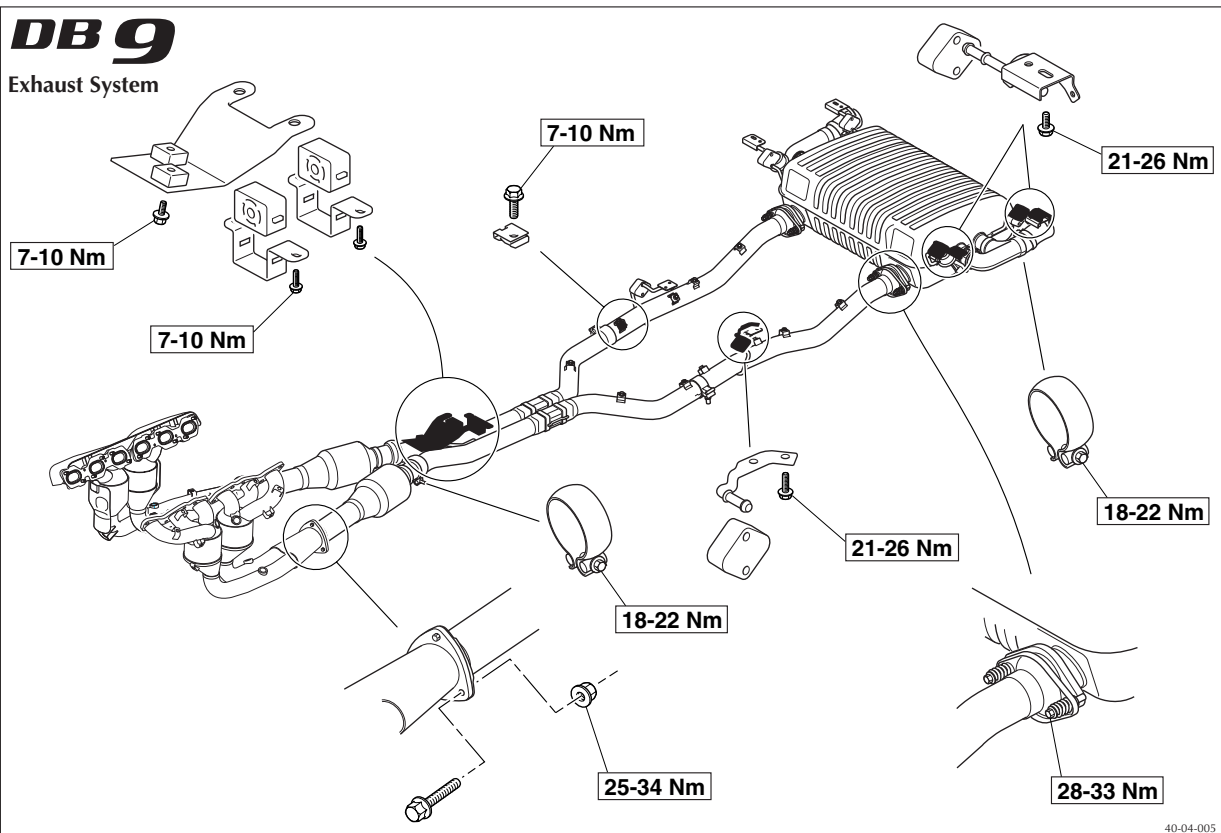
Throttles and Inlet Manifolds



40-04-004

DB 9

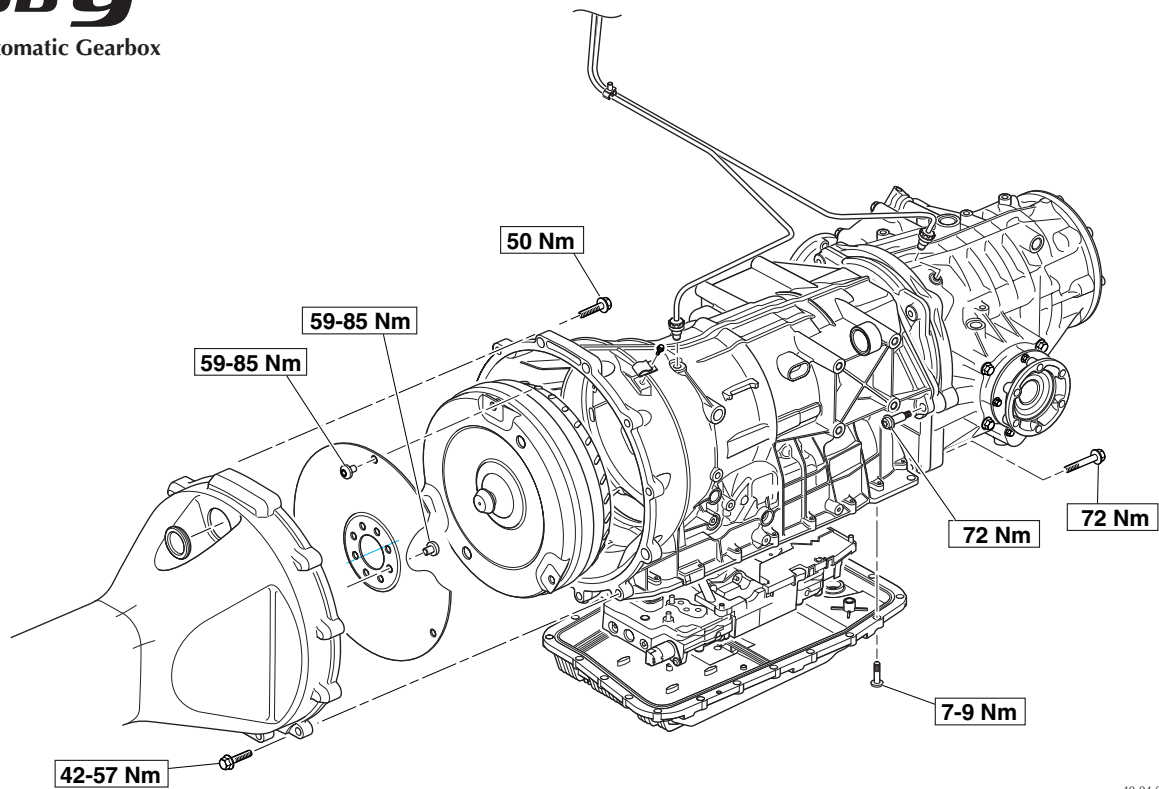
Exhaust System



40-04-005

DB 9

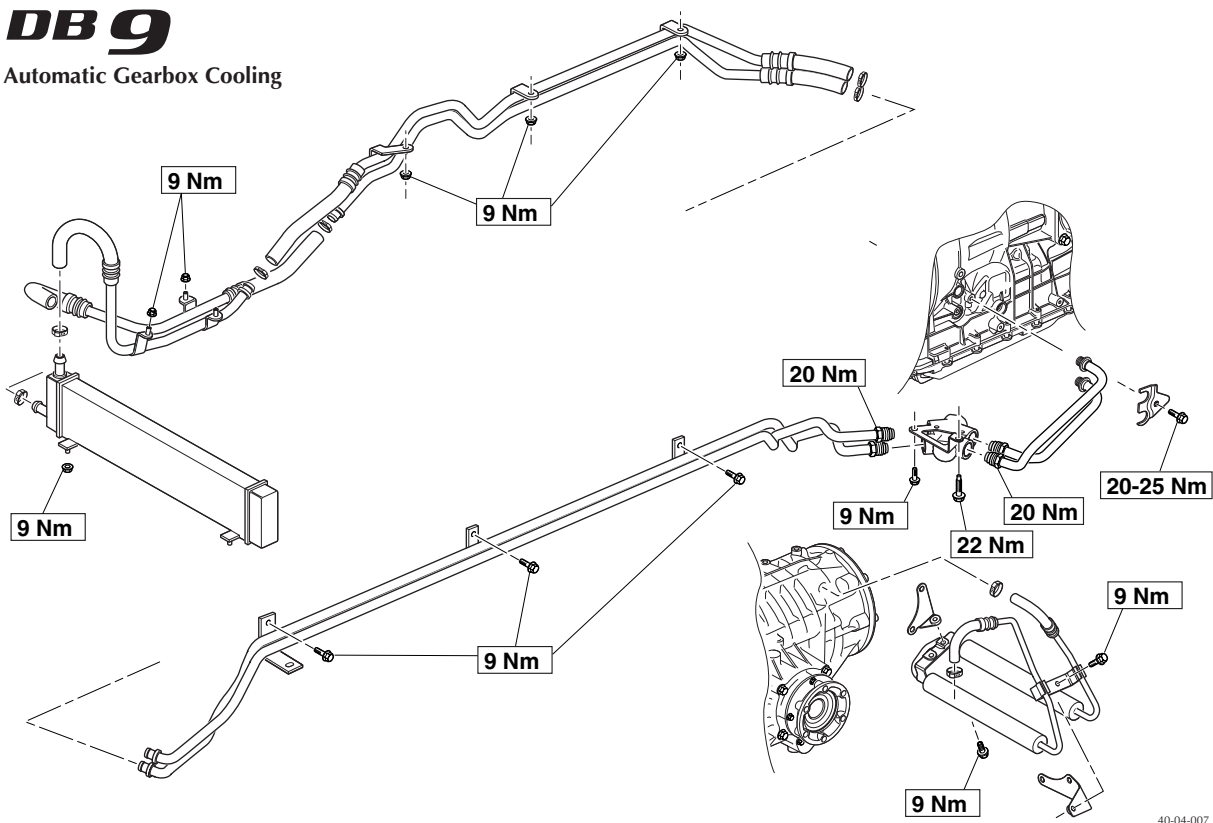
Automatic Gearbox



40-04-006

DB 9

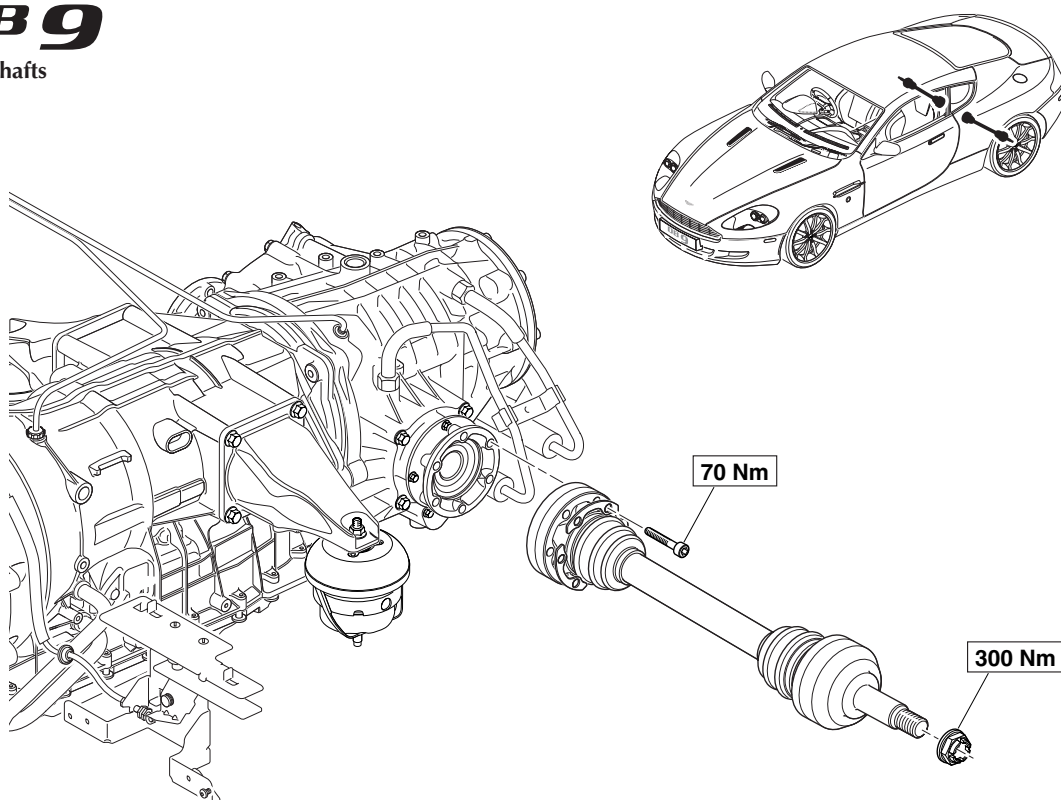
Automatic Gearbox Cooling



40-04-007

DB 9

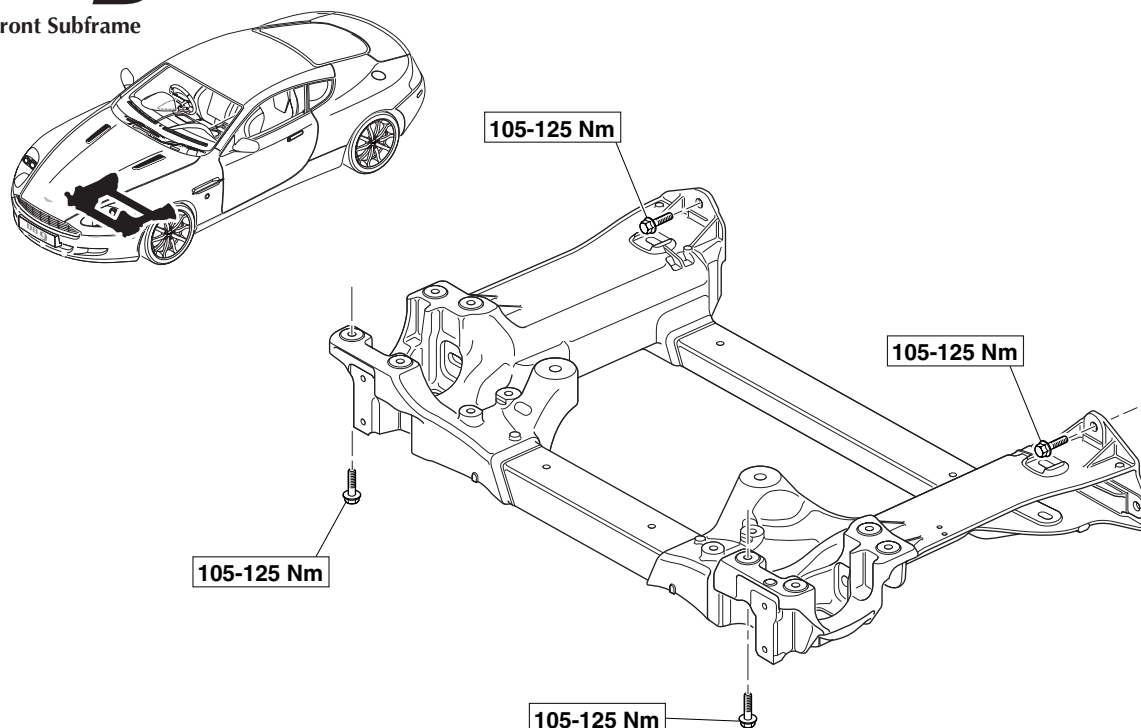
Driveshafts



40-04-008

DB 9

Front Subframe

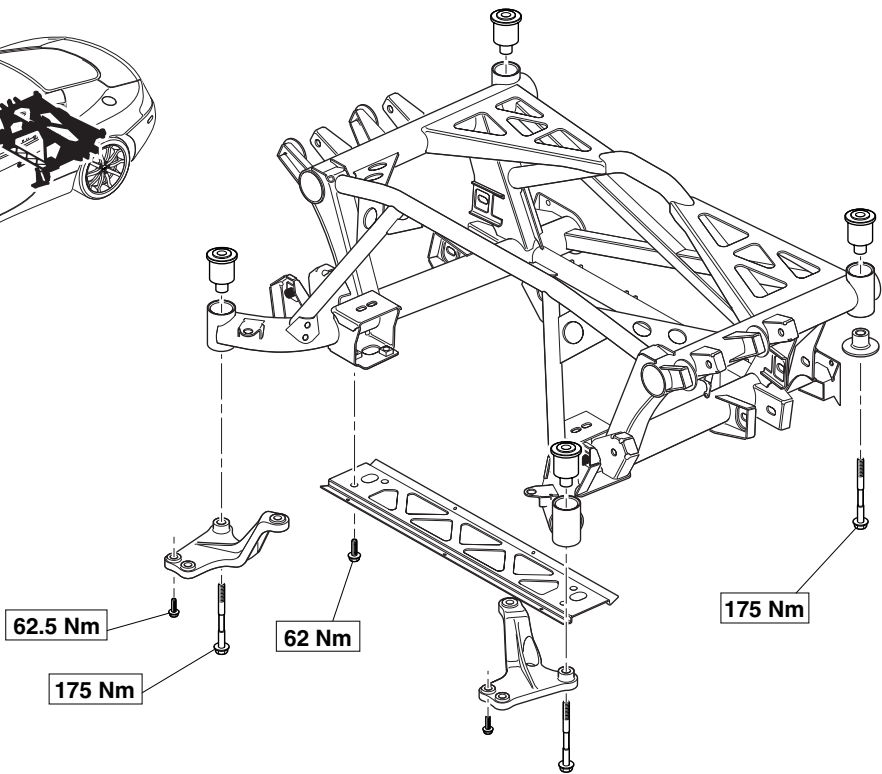
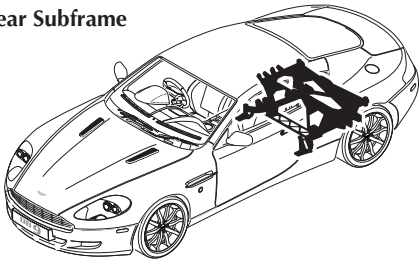


40-04-009



DB 9

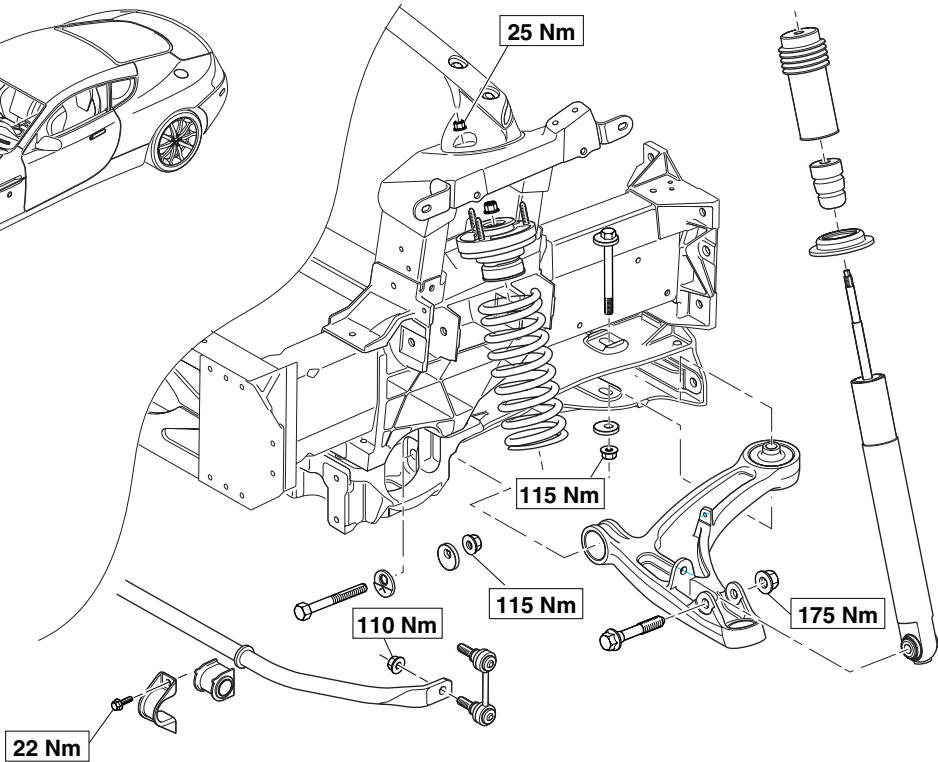
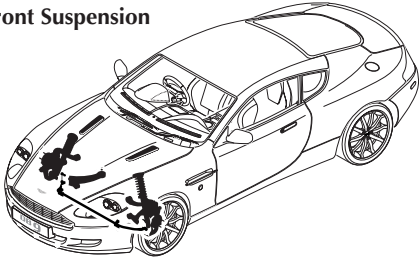
Rear Subframe



40-04-010

DB 9

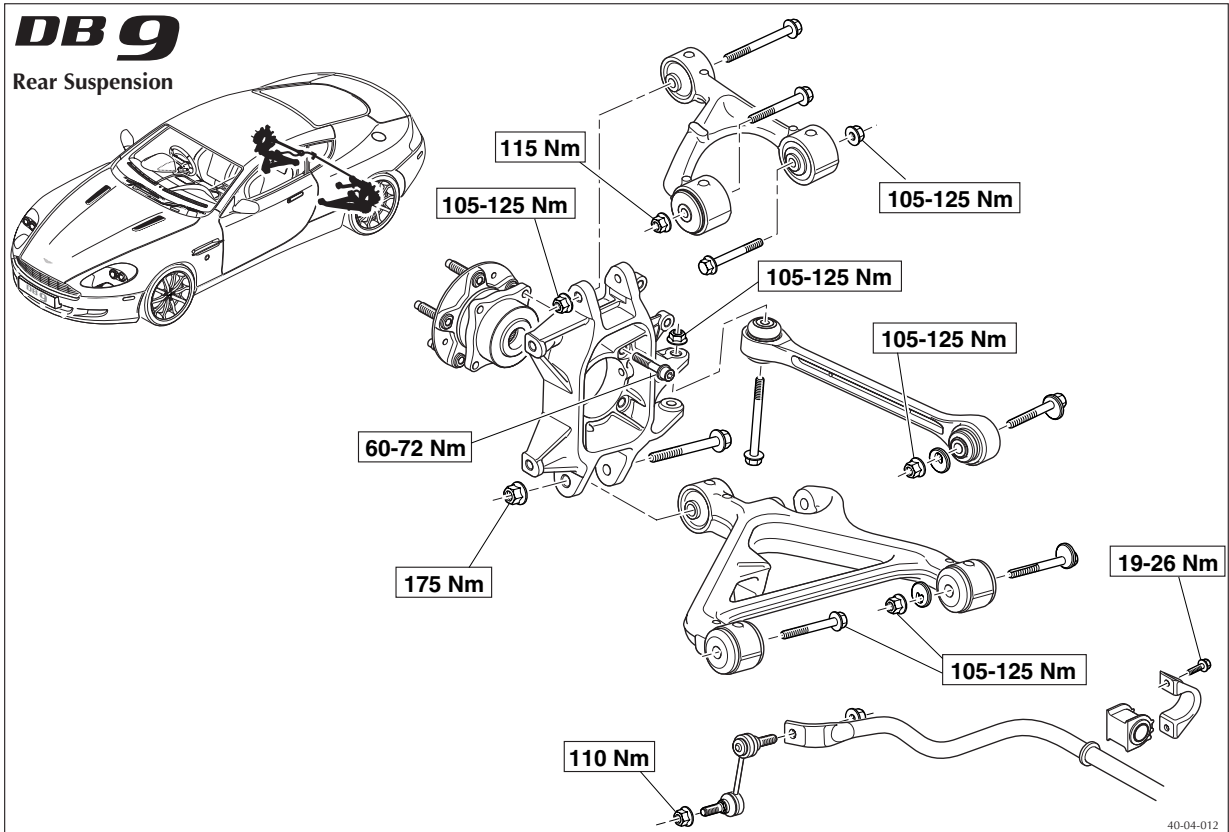
Front Suspension



40-04-011

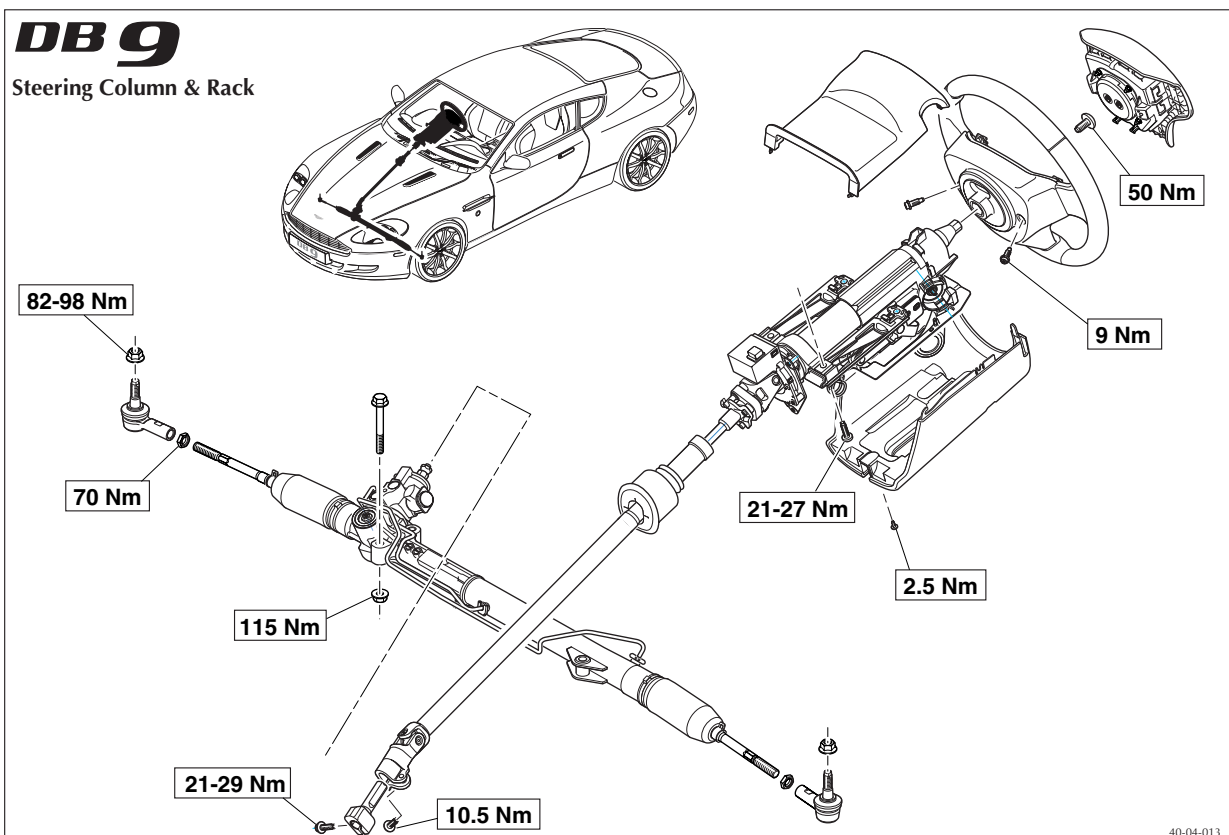
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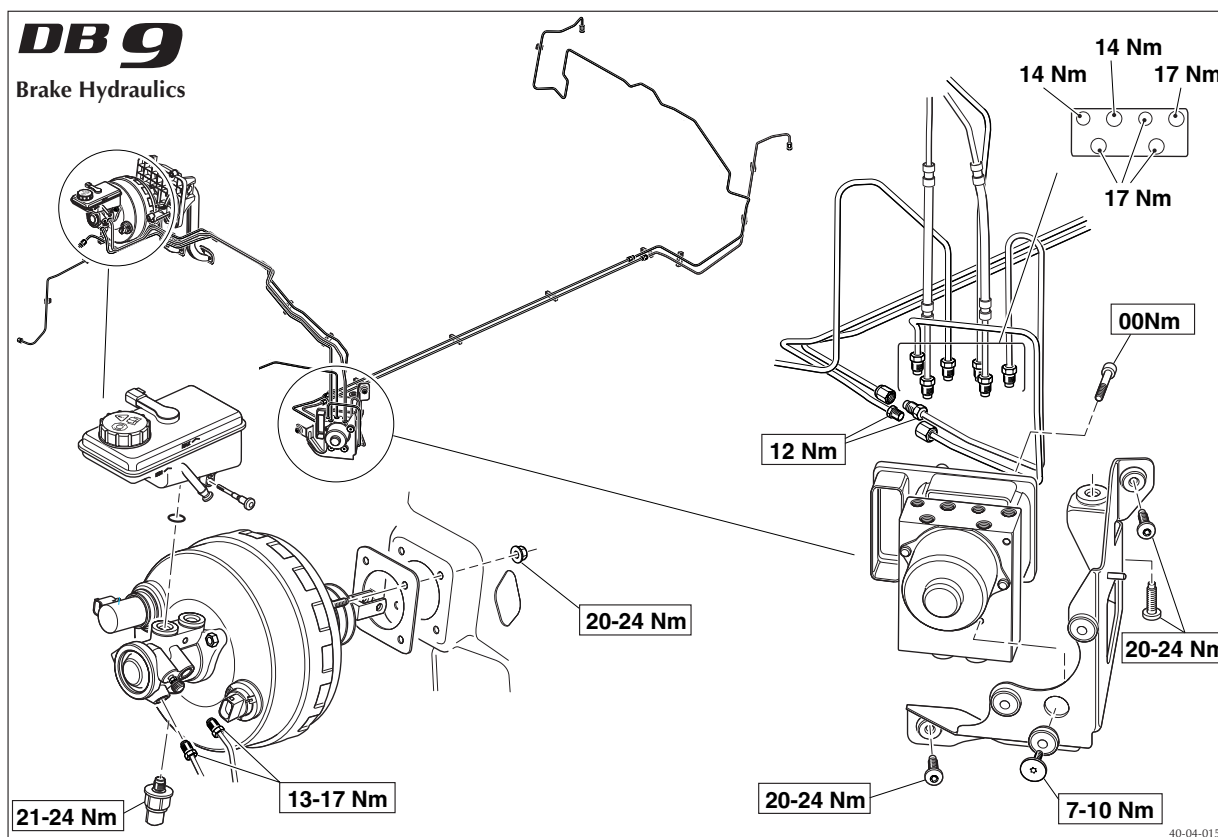
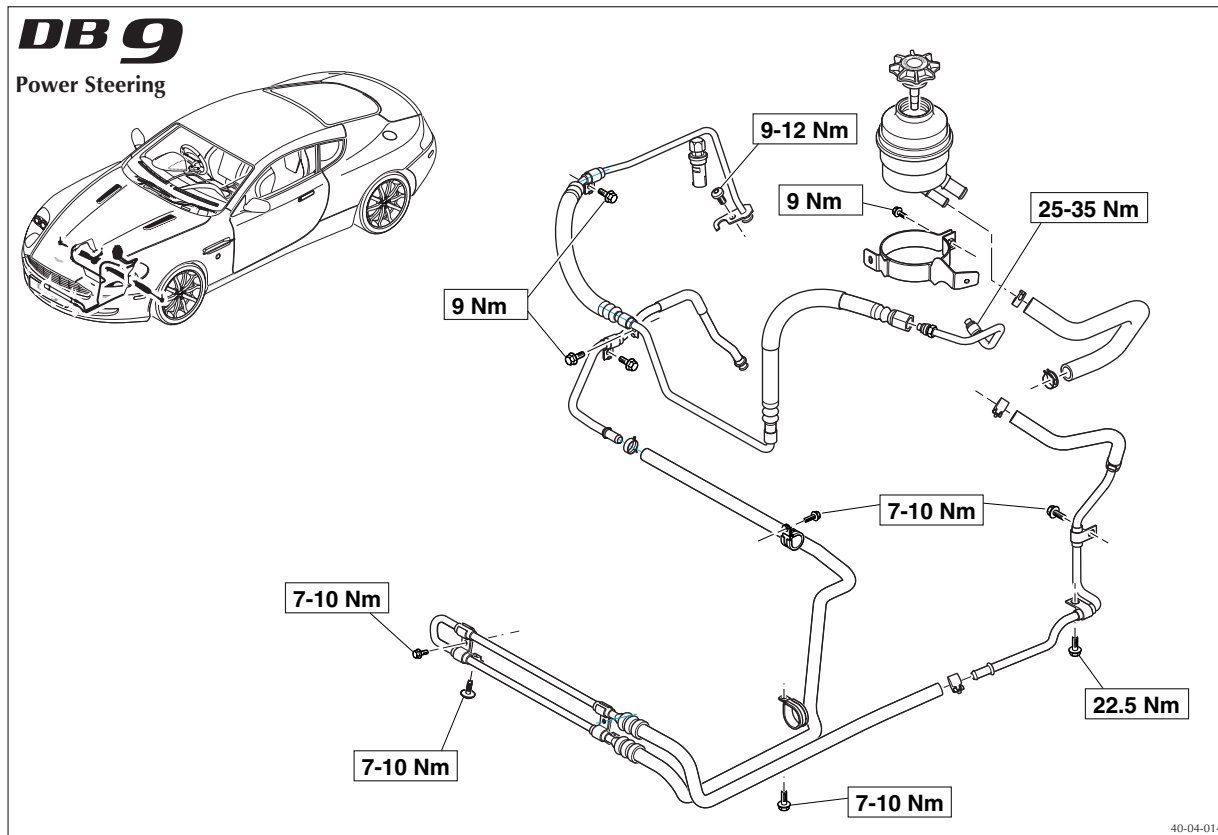
Rear Suspension



DB 9

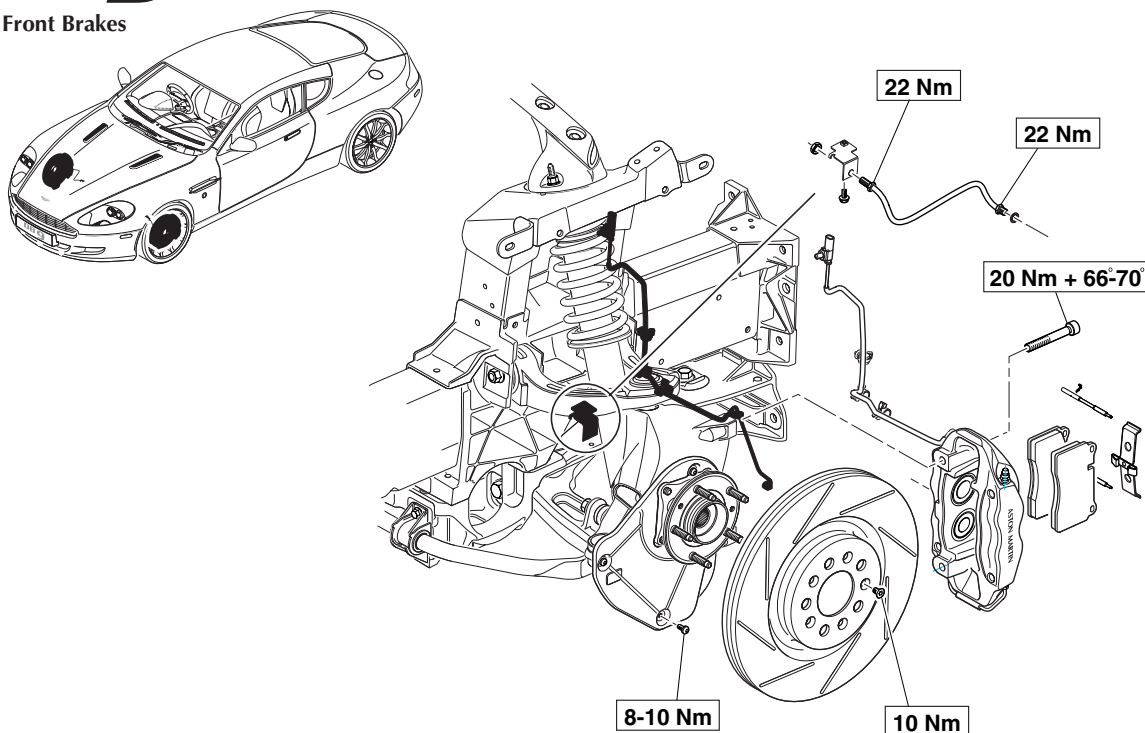
Steering Column & Rack





DB 9

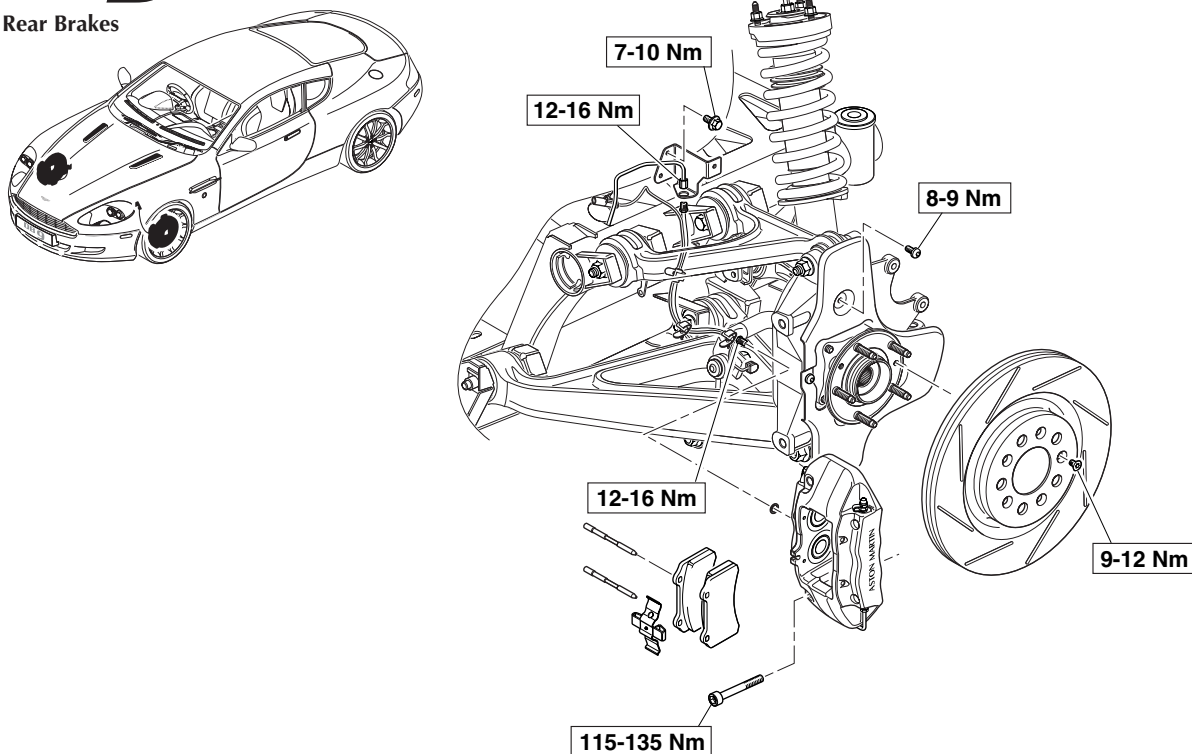
Front Brakes



40-04-016

DB 9

Rear Brakes

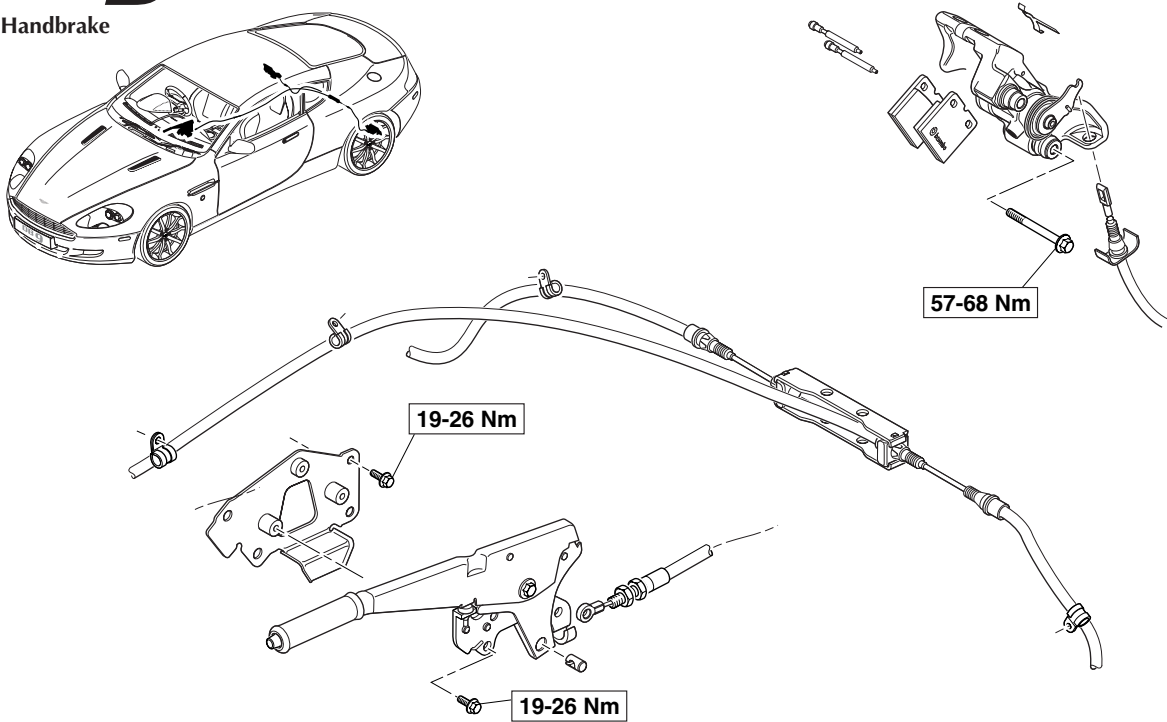


40-04-017



DB 9

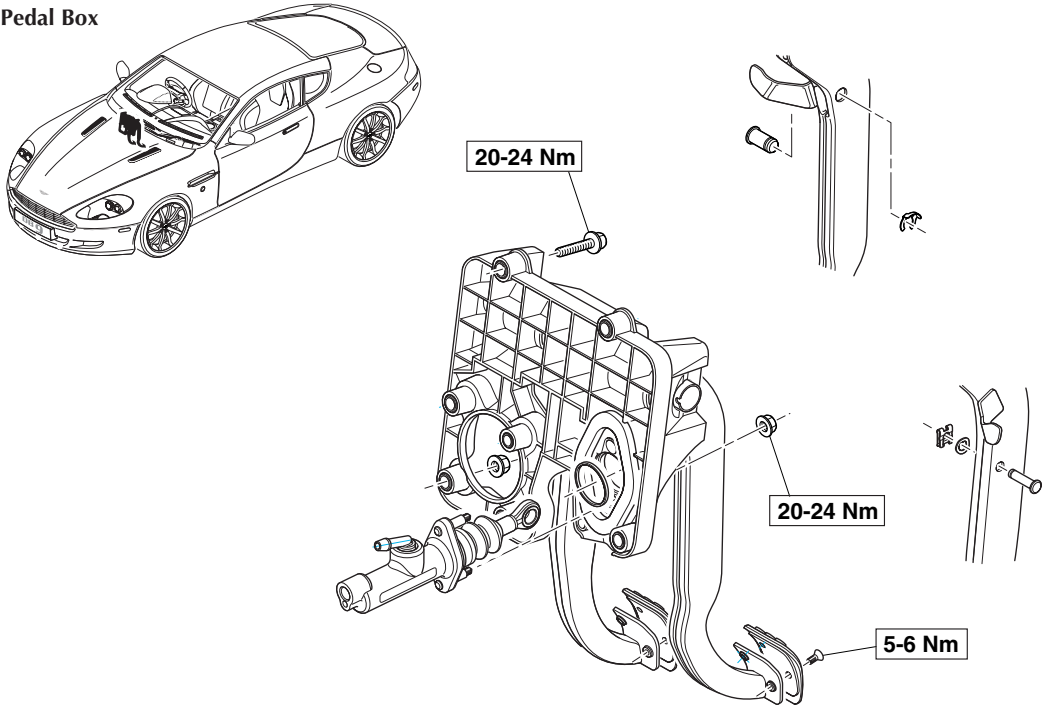
Handbrake



40-04-018

DB 9

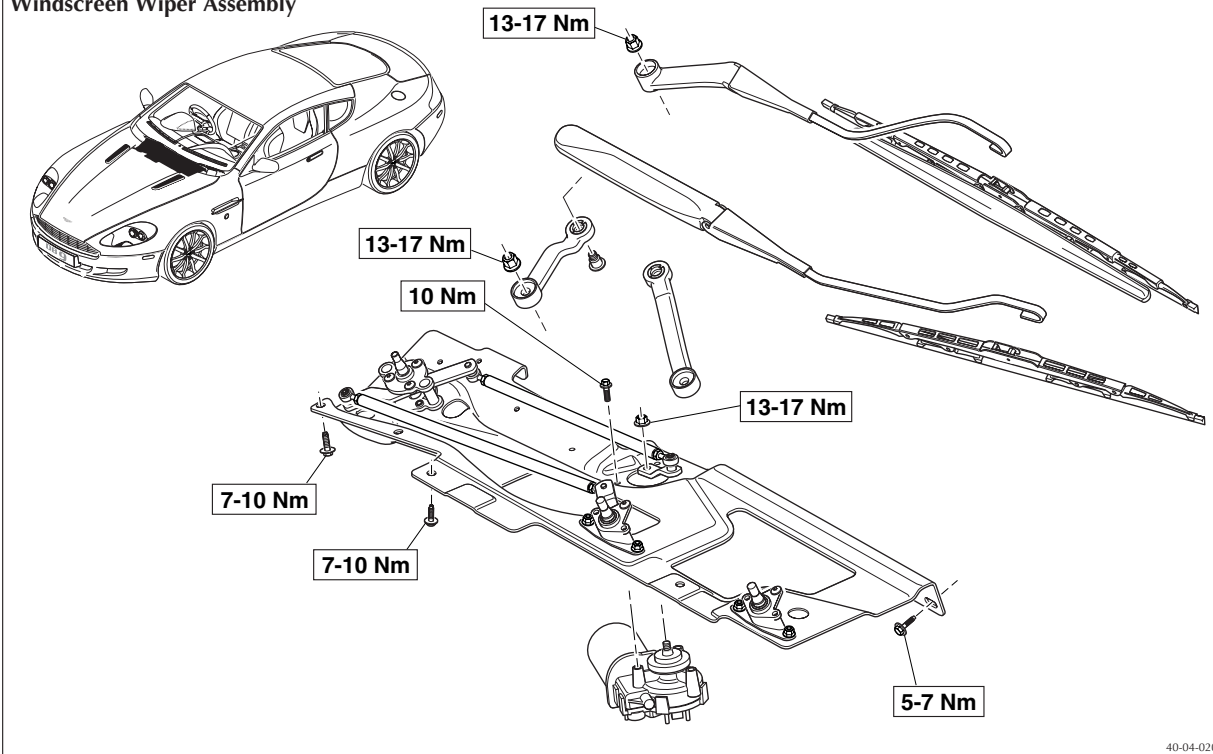
Pedal Box



40-04-019

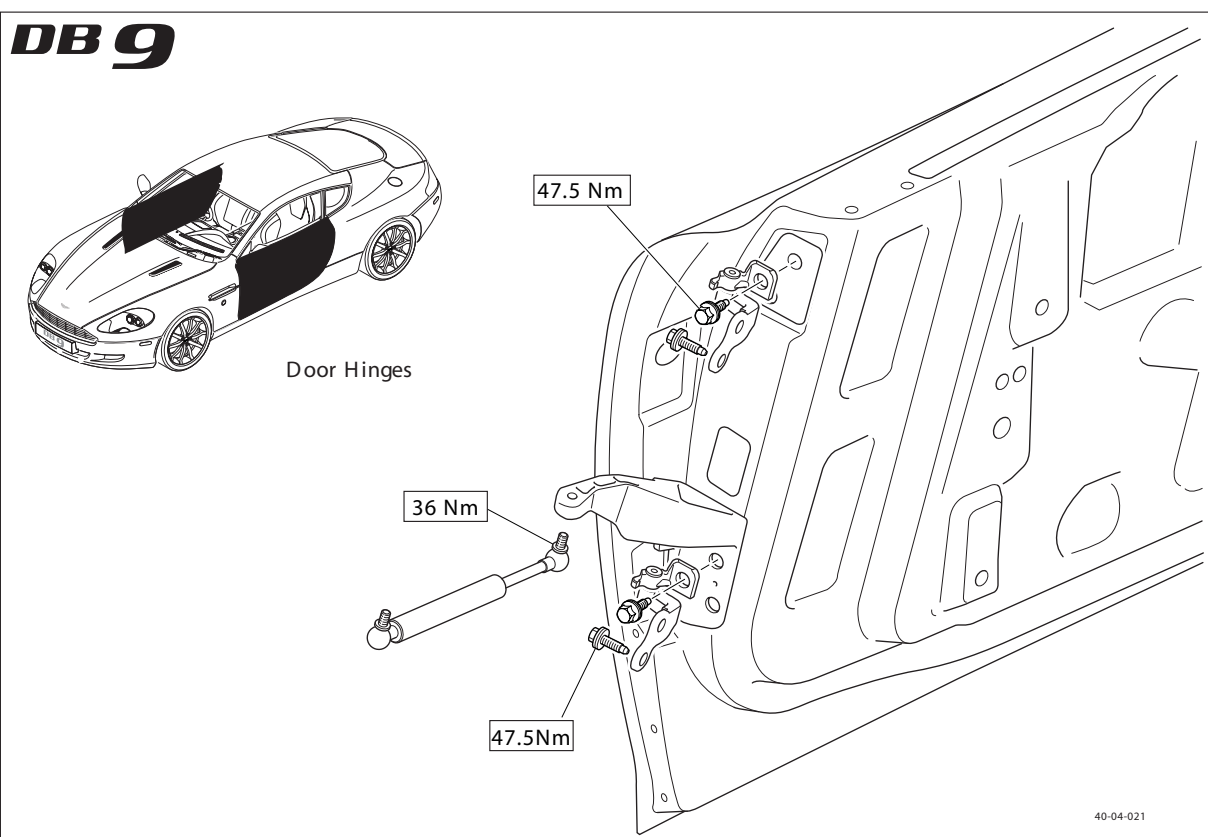
DB 9

Windscreen Wiper Assembly



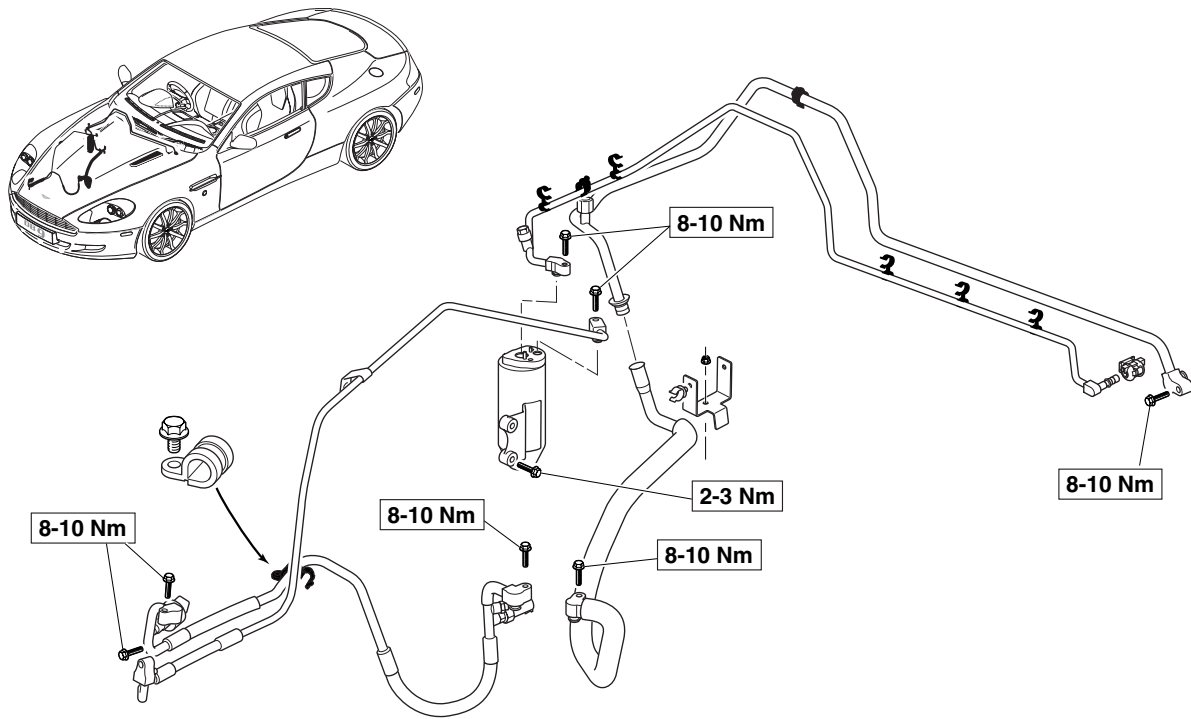
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Door Hinges



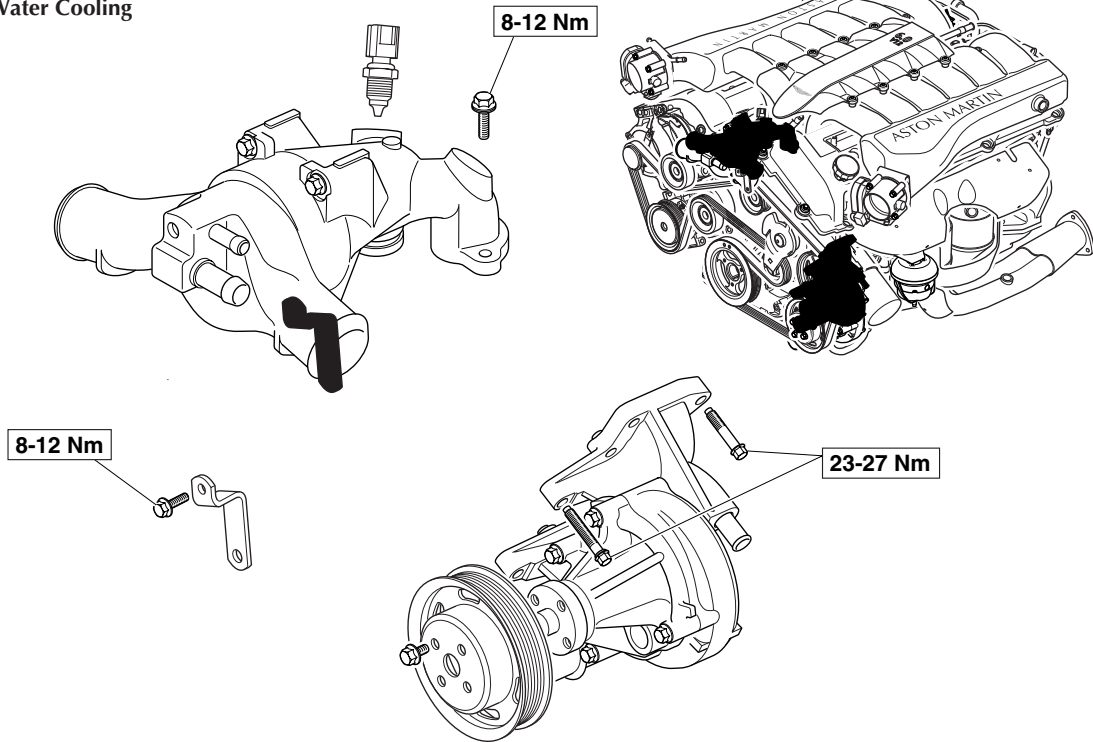
DB 9

Air Conditioning System



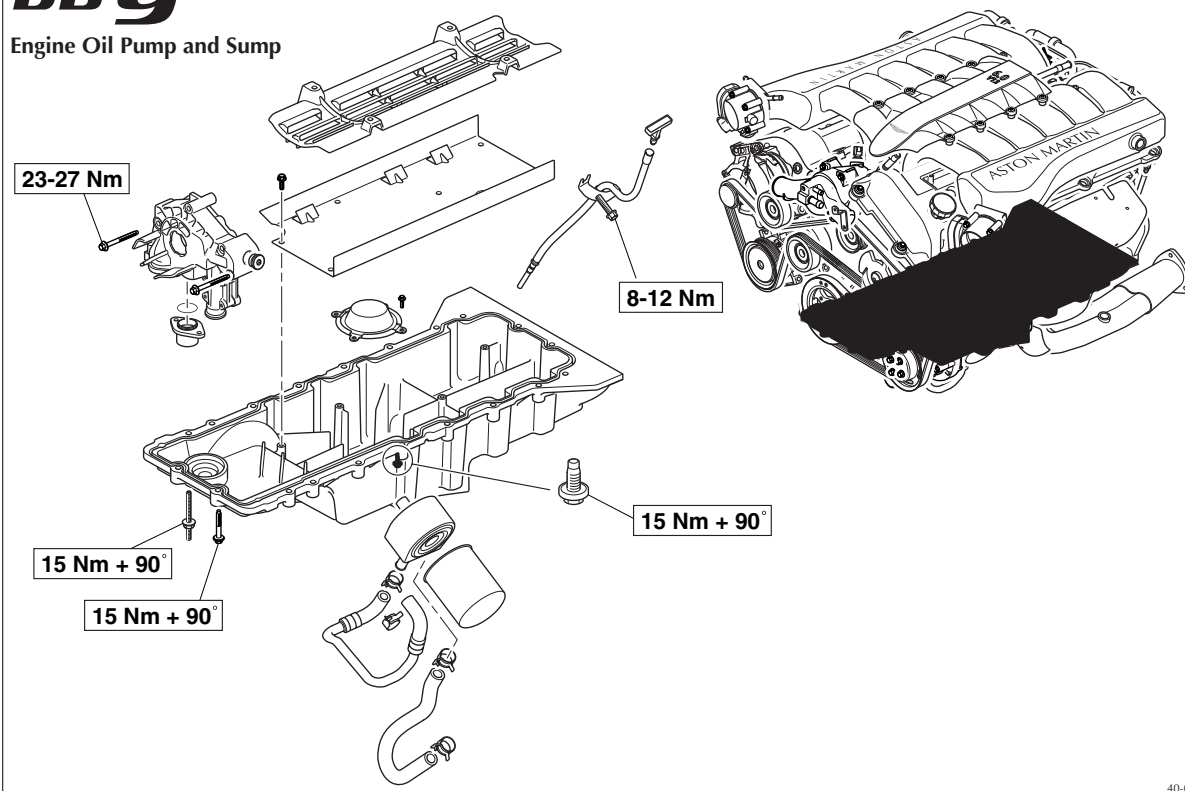
DB 9

Engine Water Cooling



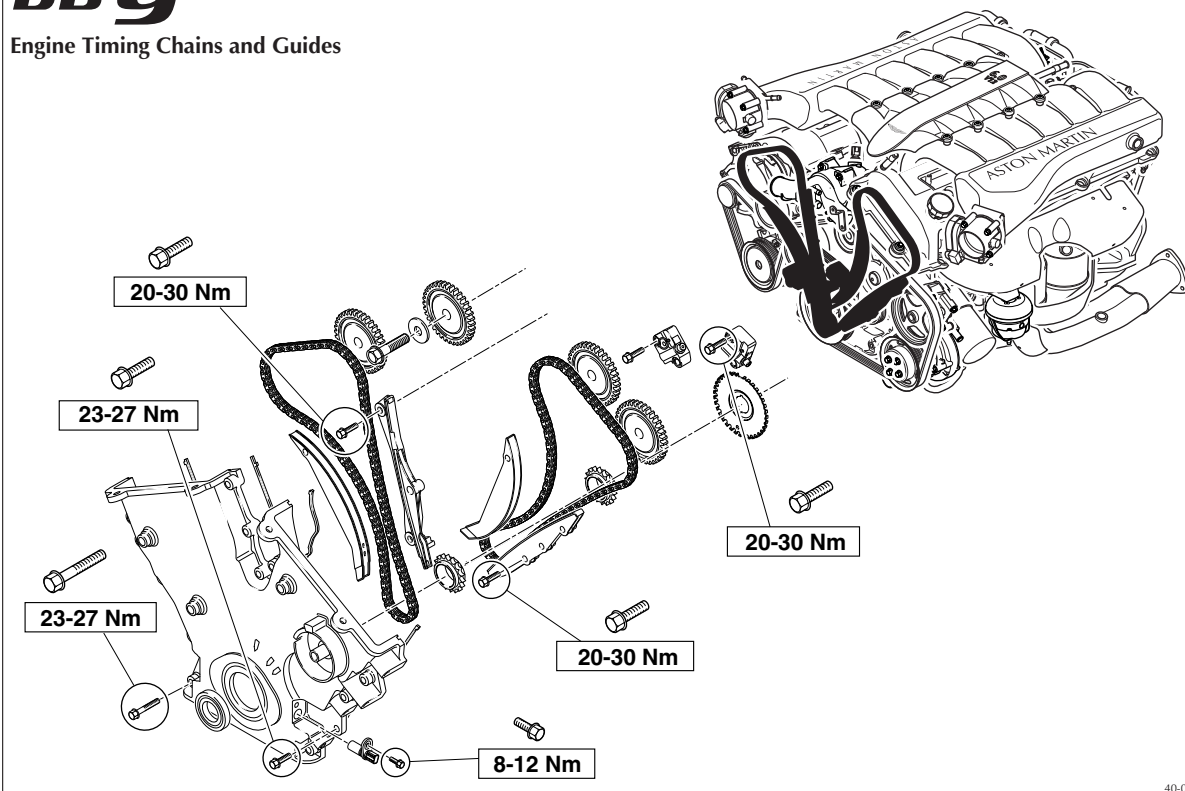
DB 9

Engine Oil Pump and Sump



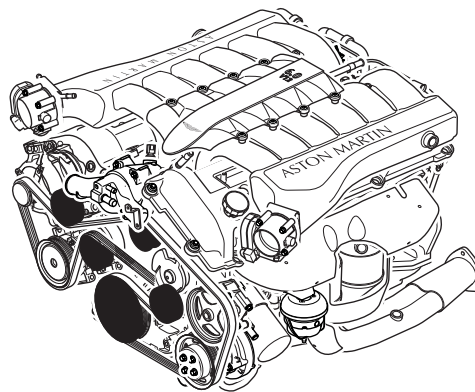
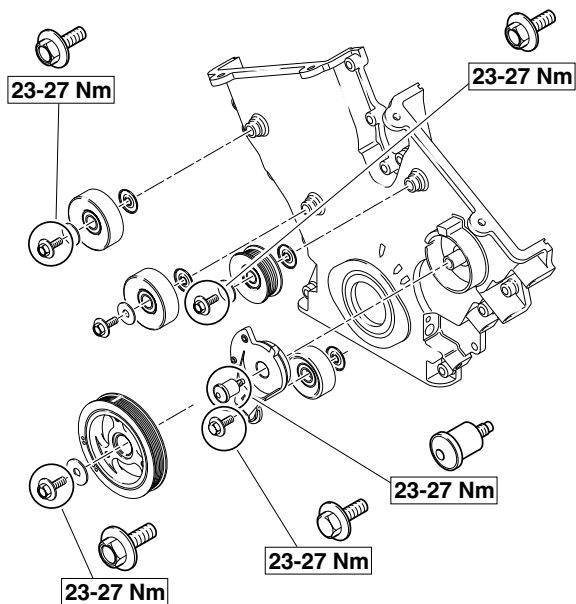
DB 9

Engine Timing Chains and Guides



DB 9

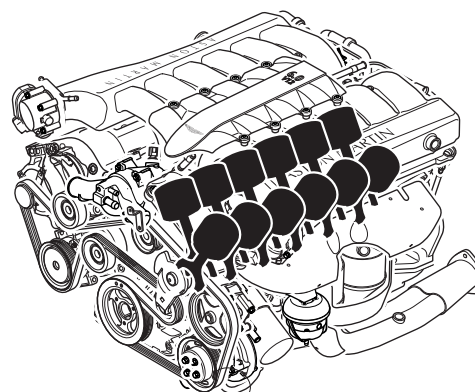
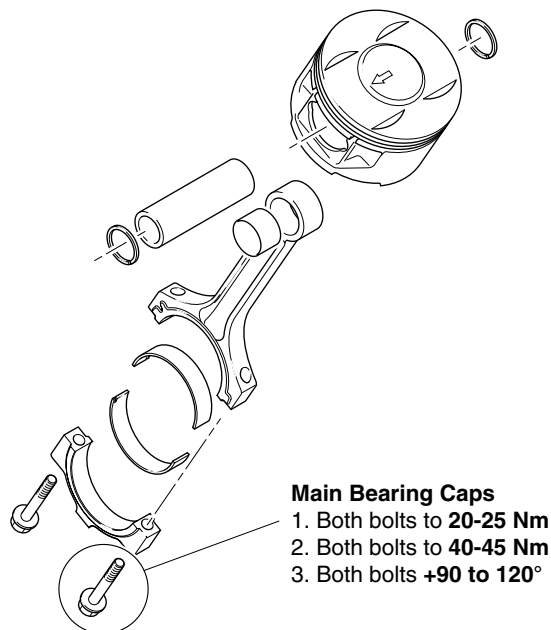
Engine Pulleys



40-04-026

DB 9

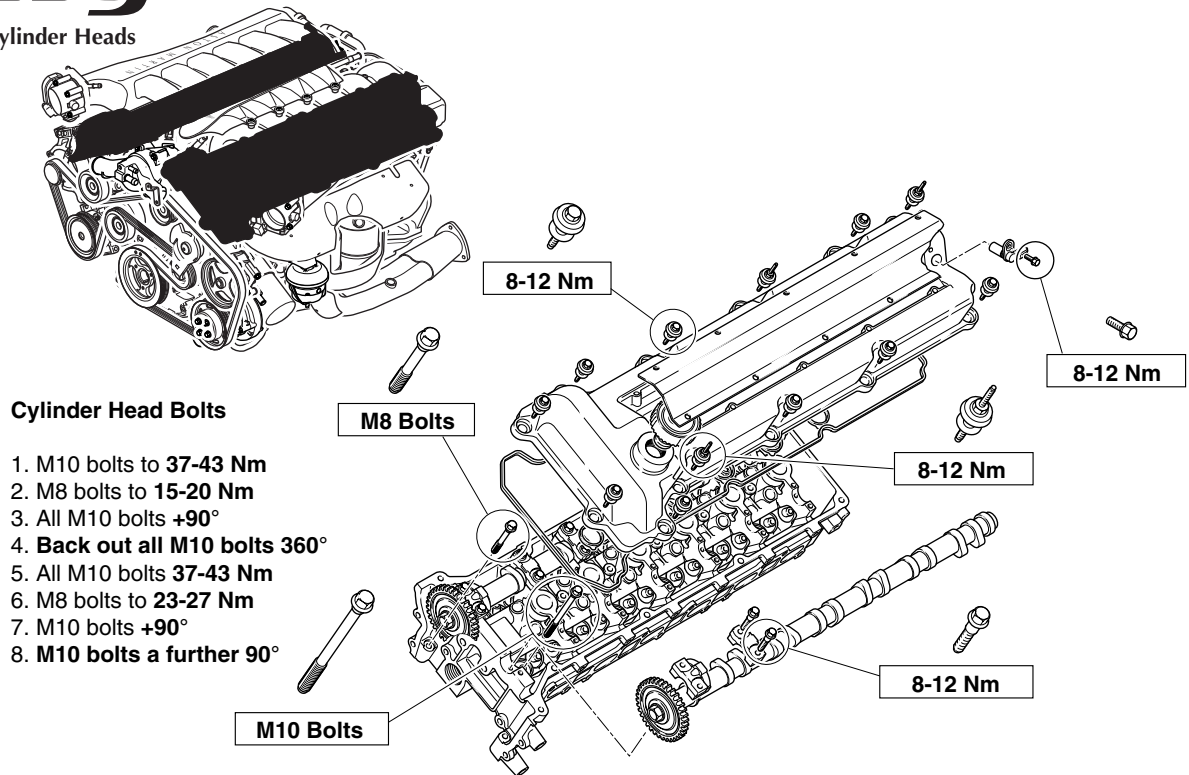
Pistons & Connecting Rods



40-04-027

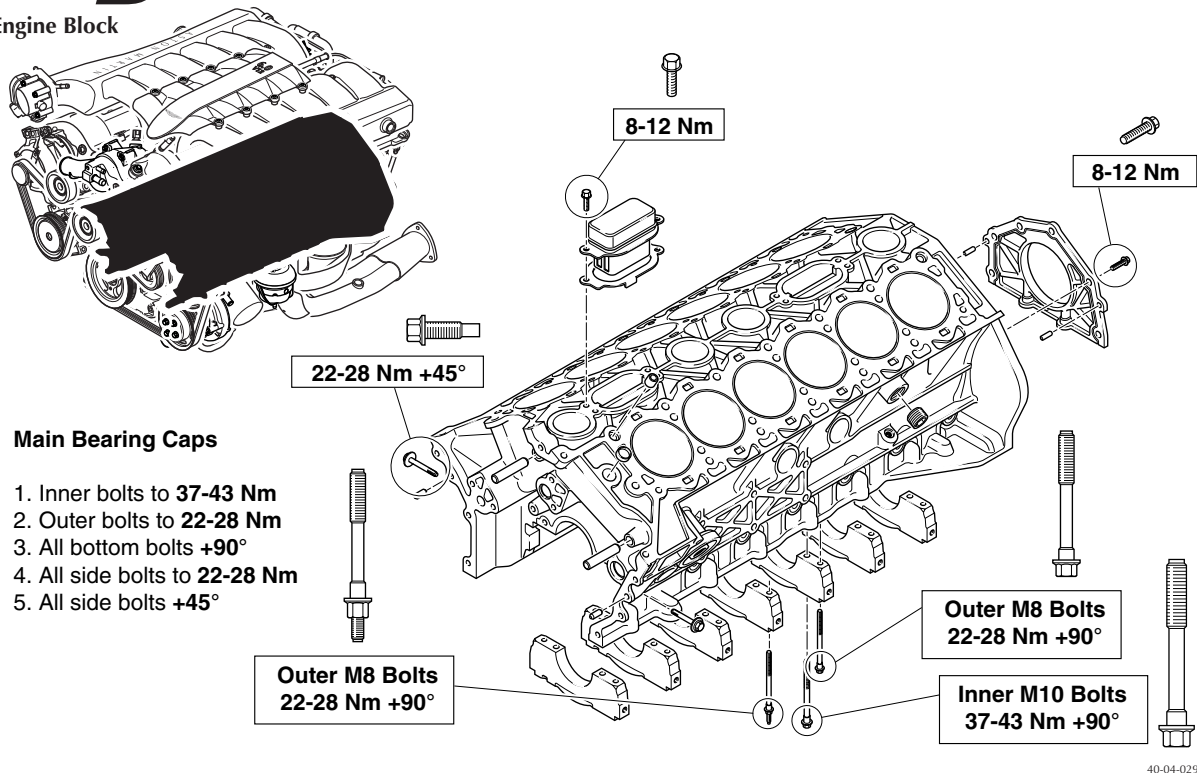
DB 9

Cylinder Heads



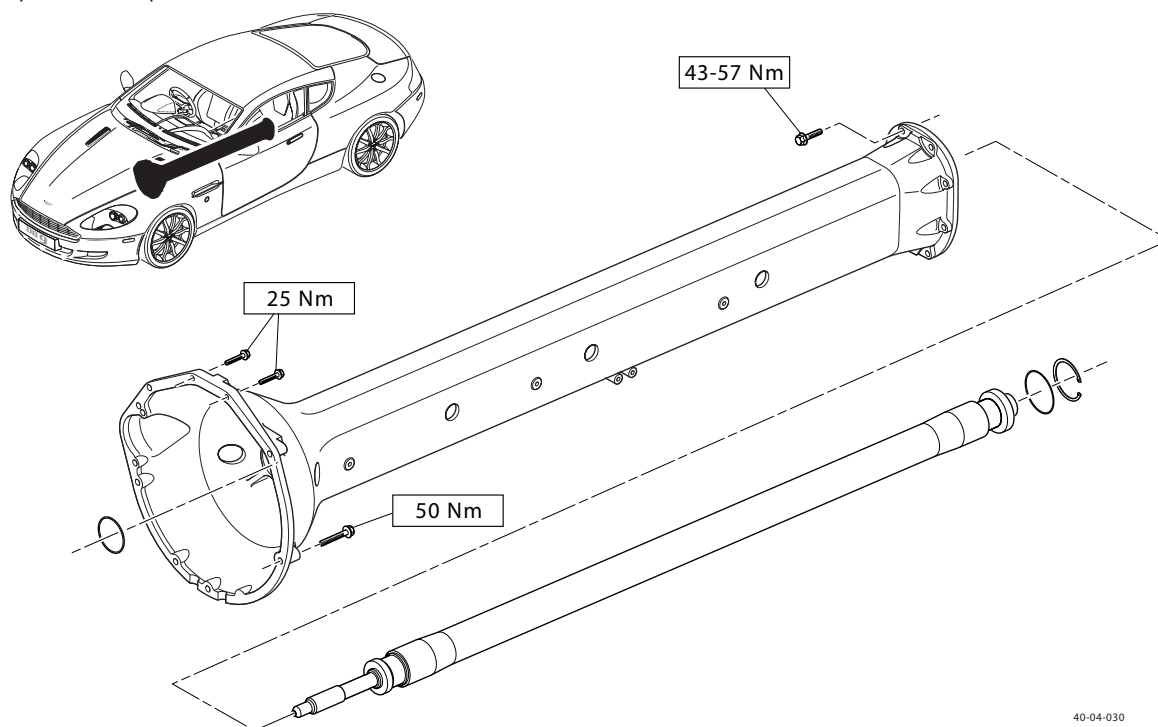
DB 9

Engine Block



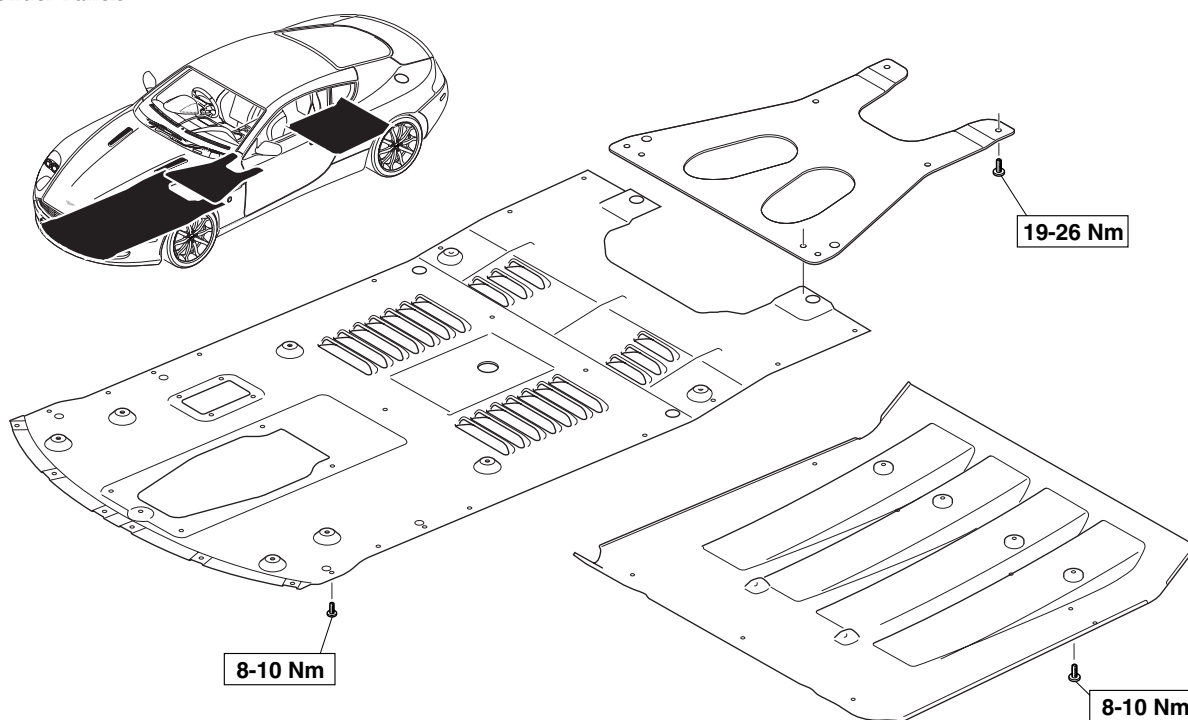
DB 9

Propshaft & Torque Tube



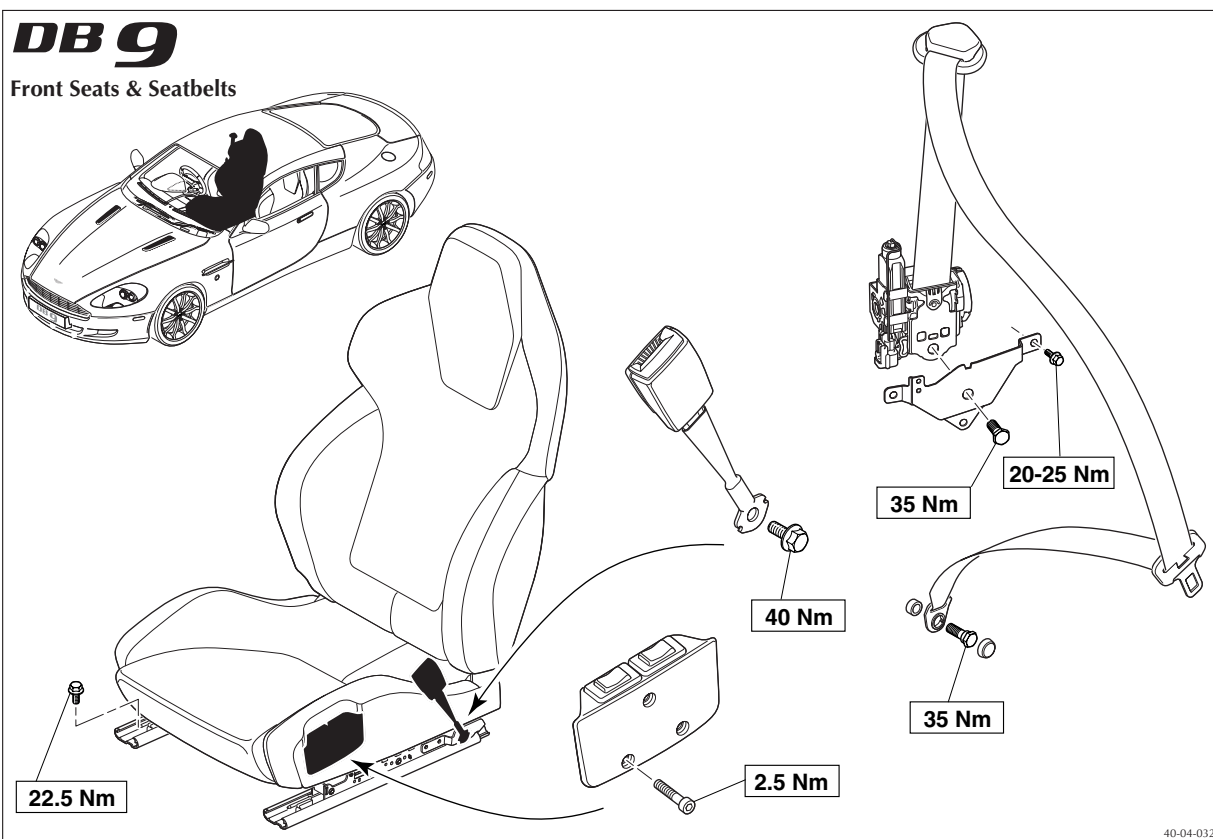
DB 9

Under-Panels



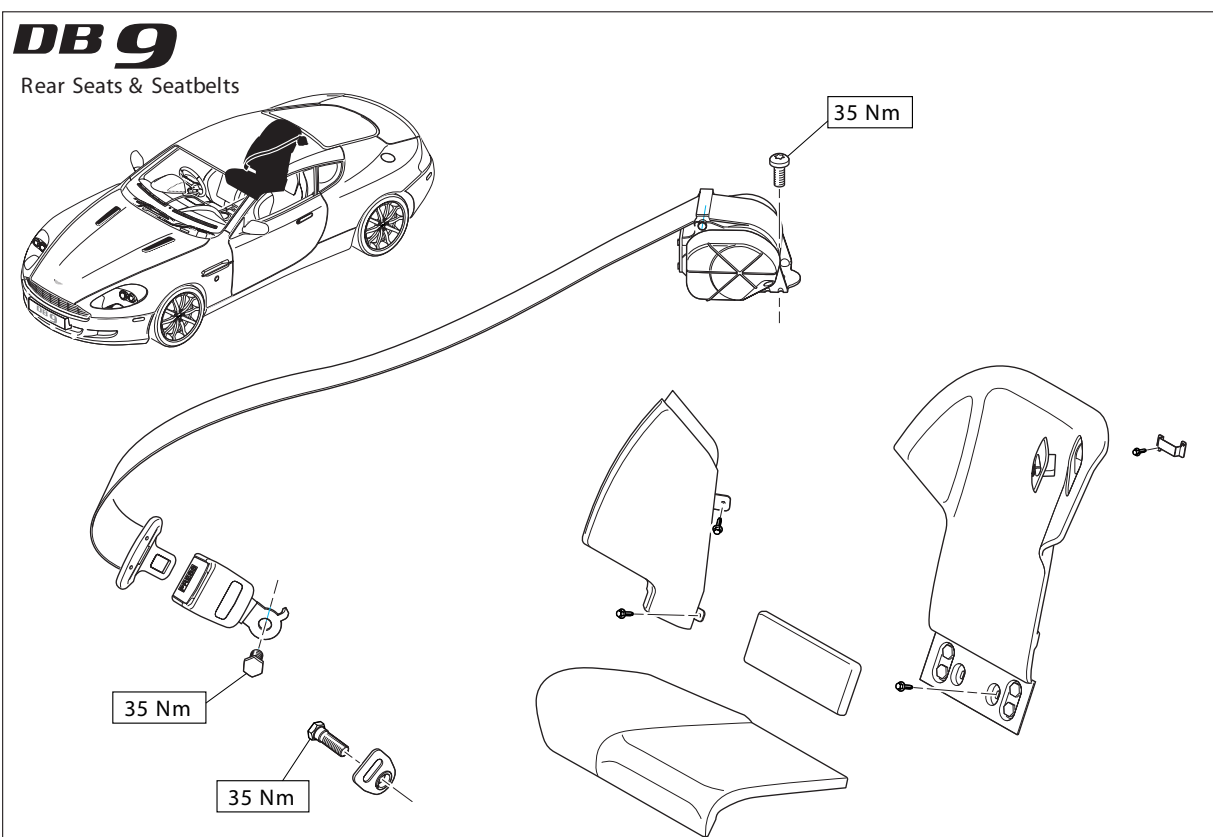
DB 9

Front Seats & Seatbelts



DB 9

Rear Seats & Seatbelts





Torque Conversion Tables

Newton Metres to Pounds Feet											
	Pounds Feet										
	0	1	2	3	4	5	6	7	8	9	
Newton Metres	0	-	0.74	1.47	2.21	2.95	3.69	4.42	5.16	5.90	6.64
	10	7.38	8.11	8.85	9.59	10.33	11.06	11.80	12.54	13.28	14.01
	20	14.75	15.49	16.23	16.96	17.71	18.44	19.18	19.91	20.65	21.39
	30	22.13	22.86	23.60	24.34	25.08	25.81	20.55	27.29	28.03	28.76
	40	29.50	30.24	30.98	31.71	32.45	33.19	33.93	34.68	35.40	36.14
	50	36.88	37.62	38.35	39.09	39.83	40.57	41.30	42.04	42.78	43.52
	60	44.25	44.99	45.73	46.47	47.20	47.94	48.68	49.42	50.15	50.89
	70	51.63	52.37	53.10	53.84	54.58	55.32	56.06	56.79	57.53	58.27
	80	59.00	59.74	60.48	61.22	61.95	62.69	63.43	64.17	64.91	65.64
	90	66.38	67.12	67.86	68.59	68.33	70.07	70.81	71.54	72.28	73.02
	100	73.76	74.49	75.23	75.97	76.71	77.44	78.18	78.92	79.66	80.39
	110	81.13	81.87	82.61	83.34	84.08	84.82	85.56	86.29	87.03	87.77
	120	88.51	89.24	89.98	90.72	91.46	92.19	92.93	93.67	94.41	95.15
	130	95.88	96.62	97.36	98.09	98.83	98.58	100.3	101.00	101.78	102.52
	140	103.26	104.00	104.73	105.47	108.21	106.95	107.68	108.42	109.16	109.90
	150	110.63	111.37	112.11	112.85	113.59	114.33	115.06	115.80	116.54	117.27
	160	118.01	118.75	119.49	120.22	120.98	121.70	122.44	123.17	123.91	124.65
	170	125.39	126.12	126.86	127.60	128.34	129.07	129.81	130.55	131.29	132.02
	180	132.76	133.50	134.24	134.87	135.71	136.45	137.19	137.92	138.68	139.40
	190	140.14	140.87	141.61	142.35	143.09	143.83	144.56	145.30	146.04	140.78
	200	147.51	148.25	148.99	149.73	150.46	151.20	151.94	152.68	153.41	154.15
	210	154.89	155.63	156.36	157.10	157.83	158.58	159.31	160.05	160.79	161.53
	220	162.26	163.00	163.74	164.48	165.21	165.95	166.69	167.43	168.16	168.90
	230	169.64	170.38	171.11	171.85	172.59	173.33	174.07	174.80	175.54	176.28
	240	177.02	177.75	178.49	179.23	179.97	180.70	181.44	182.18	182.92	133.65
	250	184.39	185.13	185.87	186.60	187.34	158.08	188.82	189.55	190.29	191.03
	260	191.77	192.50	193.24	193.98	194.72	195.45	196.19	198.93	197.67	198.40
	270	198.14	198.58	200.62	201.35	202.09	202.83	203.57	204.31	205.10	205.78
	280	206.52	207.26	207.99	208.73	209.47	210.21	210.94	211.68	212.42	213.16
	290	213.89	214.63	215.37	216.11	216.84	217.58	218.32	219.06	219.79	220.53
	300	221.27	222.01	222.74	223.48	224.22	224.98	225.68	226.43	227.17	227.91
	310	228.64	229.38	230.12	230.86	231.68	232.33	233.07	233.81	234.55	235.28
	320	236.02	238.76	237.50	238.23	238.97	239.71	240.45	241.18	241.92	242.68
	330	243.40	244.13	244.87	245.61	246.35	247.08	247.82	248.56	249.20	250.03
	340	250.77	251.51	252.25	252.98	253.72	254.46	255.20	255.93	256.67	257.41
	350	258.15	258.68	259.62	260.36	261.10	261.84	262.57	263.31	264.05	264.79
	360	265.52	268.26	267.00	267.74	268.47	267.21	269.95	270.68	271.42	272.16
	370	272.90	273.64	274.37	275.11	275.85	276.59	277.32	278.06	278.80	279.54
	380	280.27	281.01	281.75	282.49	283.22	283.98	284.70	285.44	286.17	286.91
	390	287.65	298.38	289.12	289.86	298.68	291.34	292.08	292.81	293.55	294.29

Newton Metres to Pounds Feet (Continued)											
		Pounds Feet									
		0	1	2	3	4	5	6	7	8	9
Newton Metres	400	295.03	295.76	298.50	297.24	297.98	298.71	299.45	300.19	300.93	301.68
	410	302.40	303.14	303.88	304.61	305.35	306.09	306.83	307.56	308.30	309.04
	420	309.78	310.51	311.25	311.99	312.73	313.46	314.20	314.94	315.68	316.41
	430	317.15	317.89	318.63	319.36	320.10	320.84	321.58	322.32	323.05	323.79
	440	324.53	325.27	326.00	326.74	327.48	328.22	328.95	329.68	330.43	331.17
	450	331.90	332.64	333.38	334.12	334.35	335.59	336.33	337.07	337.80	338.54
	460	339.28	340.02	340.75	341.49	342.23	342.97	343.70	344.44	345.18	345.92
	470	346.65	347.39	348.13	348.87	349.60	350.34	351.08	351.82	352.56	353.29
	480	354.03	354.77	355.51	356.24	356.98	357.72	358.46	359.19	359.93	350.67
	490	361.41	362.14	362.88	363.62	364.36	365.08	365.83	366.57	367.31	368.04
	500	368.78	369.52	370.26	370.99	371.73	372.47	373.21	373.94	374.68	375.42
	510	376.16	376.89	377.63	378.37	379.11	379.85	380.58	381.32	382.06	382.80
	520	383.53	384.27	385.01	385.75	386.48	387.22	387.96	388.70	389.43	390.17
	530	390.91	391.65	392.38	393.12	393.86	394.60	395.33	396.07	396.81	397.55
	540	398.28	399.02	399.76	400.50	401.23	401.97	402.71	403.45	404.18	404.92
	550	405.68	406.40	407.13	407.87	408.61	409.35	410.09	410.82	411.56	412.30
	560	413.04	413.77	414.51	415.25	415.99	416.72	417.40	418.20	418.94	419.67
	570	420.41	421.15	421.87	422.62	423.36	424.10	424.84	425.57	426.31	427.05
	580	427.79	428.52	429.26	430.00	430.74	431.47	432.21	432.95	433.68	434.42
	590	435.16	435.90	436.64	437.37	438.11	438.85	439.59	440.33	441.06	441.80
	600	442.54	443.28	444.01	444.75	445.49	448.23	446.96	447.70	448.44	449.18
	610	449.91	456.65	451.39	452.13	452.86	453.60	454.34	455.08	455.81	456.55
	620	457.29	456.03	458.76	459.50	460.24	460.98	401.71	462.45	463.19	463.93
	630	464.66	465.40	468.14	466.88	467.61	468.35	469.09	468.83	470.57	471.30
	640	472.04	472.78	473.52	474.25	474.99	475.73	476.47	477.20	477.94	478.68
	650	479.42	480.15	480.89	481.63	482.37	483.10	483.84	484.58	485.32	486.05
	660	486.79	487.53	488.27	489.00	489.74	490.48	491.22	491.95	492.68	493.43
	670	494.17	484.90	489.64	496.38	497.12	497.85	498.59	499.33	500.07	500.81
	680	501.54	502.28	503.02	503.76	504.49	505.23	505.97	506.71	507.44	508.18
	690	508.92	509.68	510.39	511.13	511.87	512.61	513.34	514.08	514.82	515.56
	700	516.29	517.03	517.77	518.51	519.25	519.98	520.72	521.46	522.19	522.93
	710	523.67	524.41	525.14	525.88	526.62	527.36	528.10	528.83	529.57	530.31
	720	531.05	531.78	532.52	533.26	534.00	534.73	535.47	536.21	536.95	537.68
	730	538.42	539.16	539.90	540.63	541.37	542.11	542.85	543.56	544.32	545.06
	740	545.80	546.53	547.27	548.01	548.75	549.48	550.22	550.96	551.70	552.43
	750	553.17	553.91	554.65	555.38	556.12	556.86	557.60	558.34	559.07	559.80
	760	560.55	561.29	562.02	562.76	568.50	564.24	564.97	565.71	568.45	567.19
	770	567.92	568.68	569.40	570.14	570.87	571.61	572.35	573.09	573.82	574.56
	780	575.30	576.04	576.77	577.51	578.25	578.99	579.72	580.40	581.20	581.94
	790	582.67	583.41	584.15	584.89	585.62	586.36	587.10	587.84	588.58	589.31



Newton Metres to Pounds Feet (Continued)

		Pounds Feet									
		0	1	2	3	4	5	6	7	8	9
Newton Metres	800	590.79	591.53	592.26	593.00	593.74	594.48	595.21	595.95	596.58	596.68
	810	597.43	598.16	598.90	599.64	600.38	601.11	601.85	602.59	603.33	604.06
	820	604.80	605.54	606.28	607.01	607.75	608.49	609.23	609.96	610.70	611.44
	830	612.18	612.91	613.65	614.39	615.13	615.86	616.60	617.34	618.08	618.81
	840	619.55	620.29	621.03	621.77	622.50	623.24	623.98	624.72	625.45	626.19
	850	626.93	627.67	628.40	629.14	629.68	630.62	631.35	632.09	632.83	633.57
	860	634.30	635.04	635.78	636.52	637.25	637.99	638.73	639.47	640.20	640.94
	870	641.68	642.42	643.15	643.89	644.63	645.37	646.10	646.84	647.58	648.32
	880	649.06	649.79	650.53	651.27	652.01	652.74	653.48	654.22	654.96	655.69
	890	656.43	657.17	657.91	658.64	659.38	660.12	660.86	661.59	662.33	663.07
	900	663.81	664.54	665.28	666.02	666.76	667.49	668.23	668.97	669.71	670.44
	910	671.18	671.92	672.66	673.39	674.13	674.87	675.61	676.35	677.08	677.82
	920	678.56	679.30	680.03	680.77	681.51	682.25	682.98	683.72	683.46	685.20
	930	685.93	686.67	687.41	688.15	688.88	689.62	690.36	691.10	691.83	692.57
	940	693.31	694.05	684.78	695.52	696.26	697.00	697.73	698.47	699.21	699.95
	950	700.68	701.42	702.16	702.90	703.63	704.37	705.11	705.85	706.59	707.32
	960	708.06	708.80	708.54	710.27	711.01	711.75	712.49	713.22	713.96	714.70
	970	715.44	716.17	716.91	717.65	718.39	719.12	719.86	720.60	721.34	722.07
	980	722.81	723.55	724.29	725.02	725.76	726.50	727.24	727.97	728.71	729.45
	990	730.19	730.92	731.66	732.40	733.14	733.87	734.61	735.35	736.09	736.83

Pounds Feet to Newton Metres

		Newton Metres									
		0	1	2	3	4	5	6	7	8	9
Pounds Feet	0	-	1.36	2.71	4.07	5.42	6.78	8.13	9.49	10.85	12.20
	10	13.56	14.91	16.27	17.63	18.98	20.34	21.69	23.05	24.40	25.76
	20	27.12	28.47	29.83	31.18	32.54	33.89	35.25	36.61	37.96	39.32
	30	40.67	42.03	43.39	44.74	46.10	47.45	48.81	50.16	51.52	52.88
	40	54.23	55.59	56.94	58.30	59.66	61.01	62.37	63.72	65.08	66.43
	50	67.79	69.15	70.50	71.86	73.21	74.57	75.93	77.28	78.64	79.99
	60	81.35	82.70	84.06	85.42	86.77	88.13	89.49	90.84	92.20	93.55
	70	94.91	96.26	97.62	98.97	100.33	101.68	103.04	104.40	105.75	107.11
	80	108.47	109.82	111.12	112.53	113.89	115.25	116.60	117.96	119.31	120.67
	90	122.02	123.38	124.74	126.09	127.45	128.80	130.16	131.51	132.87	134.23
	100	135.58	136.94	138.29	139.65	141.01	142.36	143.72	145.07	146.43	147.78
	110	149.14	150.50	151.85	153.21	154.56	155.92	157.28	158.63	159.99	161.34
	120	164.05	165.41	162.70	166.77	163.12	169.48	170.83	172.19	173.55	174.90
	130	176.26	177.61	178.97	180.32	181.68	183.04	184.39	185.75	187.10	188.46
	140	189.82	191.17	192.53	193.88	195.24	196.59	197.95	199.31	200.66	202.02
	150	203.37	204.73	206.08	207.44	208.80	210.15	211.51	212.86	214.22	215.58
	160	216.93	218.29	219.64	221.00	222.35	223.71	225.07	226.42	227.78	229.13
	170	230.49	231.85	233.20	234.56	235.91	237.27	238.64	239.98	241.34	242.69
	180	244.05	245.40	246.76	248.12	249.47	250.83	252.18	253.54	254.89	250.25
	190	257.61	258.96	260.32	261.67	263.03	264.38	265.74	267.10	263.45	269.81

Pounds Feet to Newton Metres (Continued)											
		Newton Metres									
		0	1	2	3	4	5	6	7	8	9
Pounds Feet	200	271.16	272.52	273.88	275.23	276.59	277.94	279.30	280.65	282.01	283.37
	210	284.72	286.08	287.43	288.79	290.15	291.50	292.86	294.21	295.57	296.92
	220	298.28	299.64	300.99	302.35	303.70	305.06	306.42	307.77	309.13	310.48
	230	311.84	313.19	314.55	315.91	317.26	318.62	319.97	321.33	322.68	324.04
	240	325.40	326.75	328.11	329.46	330.82	332.18	333.53	334.89	336.24	337.60
	250	338.95	340.31	341.67	343.02	344.38	345.73	347.09	348.45	349.80	351.16
	260	352.51	353.87	355.22	356.58	357.94	359.29	360.65	362.00	363.36	364.72
	270	366.07	367.43	368.78	370.14	371.49	372.85	374.21	375.56	376.92	378.27
	280	379.63	380.98	382.34	383.70	385.05	386.41	387.76	389.12	390.48	391.63
	290	393.19	394.54	395.90	397.26	398.61	398.97	401.32	402.63	464.03	405.39
	300	406.75	408.10	409.46	410.81	412.17	413.52	414.98	416.24	417.59	418.95
	310	420.30	421.68	423.02	424.37	425.73	427.08	428.44	429.79	431.15	492.51
	320	433.86	435.22	436.57	437.93	439.29	440.64	442.00	443.35	444.71	448.06
	330	447.42	448.78	450.13	451.49	452.84	454.20	455.56	456.91	458.27	459.62
	340	460.98	462.33	463.69	465.05	466.40	467.76	489.11	470.47	471.63	473.18
	350	474.54	475.89	477.25	478.60	479.98	481.32	482.67	464.03	485.38	486.74
	360	488.09	489.45	498.81	492.16	493.52	494.87	496.23	497.59	498.94	500.30
	370	501.65	503.01	504.36	505.72	507.08	598.43	509.79	511.14	512.50	513.86
	380	515.21	516.57	517.92	519.28	520.63	521.98	523.34	524.70	526.06	527.41
	390	528.77	530.13	531.48	532.84	534.19	535.55	536.90	538.26	539.62	540.97
	400	542.33	543.68	545.04	546.40	547.75	549.11	550.46	551.82	553.17	554.53
	410	555.89	557.24	558.60	559.95	561.31	562.66	564.02	565.38	566.73	568.09
	420	569.45	570.80	572.16	573.51	574.87	576.22	577.59	578.93	580.29	581.65
	430	583.00	584.38	585.71	587.07	598.41	589.78	591.14	592.49	593.85	595.20
	440	596.56	597.92	599.27	600.63	601.98	603.34	604.70	606.05	607.41	608.76
	450	610.12	611.47	612.83	614.19	615.54	616.90	618.25	619.61	620.97	622.32
	460	623.68	625.03	626.39	627.74	629.10	630.46	631.81	633.17	634.52	635.98
	470	637.23	638.59	639.95	641.30	642.68	644.01	645.37	640.73	648.08	649.44
	480	650.79	652.15	653.50	654.86	656.22	657.57	658.93	660.28	661.64	663.00
	490	664.35	665.71	667.06	668.42	669.77	671.13	672.49	673.84	675.20	676.55
	500	677.91	679.27	680.62	680.98	683.33	684.69	686.04	687.04	688.76	690.11
	510	691.47	692.82	694.18	697.54	696.89	698.25	699.60	700.96	702.31	703.67
	520	705.03	706.38	707.74	709.09	710.45	711.80	713.16	714.52	715.87	717.23
	530	718.58	719.94	721.30	722.65	724.01	725.36	726.72	728.07	729.43	730.79
	540	732.14	733.50	734.85	736.21	737.57	738.92	740.28	741.63	742.99	744.35
	550	745.70	747.06	748.41	749.77	751.12	752.48	753.84	755.19	756.55	757.90
	560	759.26	760.61	761.97	763.33	764.68	766.04	767.39	768.75	770.11	771.48
	570	772.82	774.17	775.53	776.88	778.24	779.69	780.95	782.31	783.66	785.02
	580	786.37	787.73	789.09	790.44	791.80	793.15	794.51	795.87	797.22	798.58
	590	799.93	801.28	802.64	804.00	805.36	806.71	808.07	809.42	810.78	812.14



Pounds Feet to Newton Metres (Continued)

		Newton Metres									
		0	1	2	3	4	5	6	7	8	9
Pounds Feet	600	813.49	814.85	816.20	817.56	818.91	820.27	821.63	822.98	824.34	825.69
	610	827.05	828.41	829.76	831.12	832.47	833.83	835.18	836.54	837.90	839.25
	620	840.61	841.96	844.32	844.68	848.03	847.39	848.74	850.10	851.45	852.81
	630	854.17	855.52	856.88	858.23	859.59	860.94	862.30	863.68	865.01	868.37
	640	867.72	868.08	870.44	871.79	873.15	874.50	875.86	877.21	878.57	879.93
	650	881.28	882.64	883.99	885.35	886.71	888.06	889.42	890.77	892.13	893.48
	660	894.84	896.20	897.55	898.91	900.26	901.62	902.98	904.33	905.68	907.04
	670	908.40	909.75	911.11	912.47	913.82	915.17	916.55	917.89	919.25	920.60
	680	921.96	923.31	924.67	926.02	927.38	928.74	930.09	931.45	932.80	934.16
	690	935.51	936.87	938.23	939.58	940.94	942.29	943.65	945.01	946.36	947.72
	700	949.07	956.43	951.78	953.14	954.50	955.85	957.21	958.56	959.92	961.28
	710	962.63	963.99	965.34	966.70	968.05	969.41	970.77	972.12	973.47	974.83
	720	976.19	977.55	978.90	980.26	981.61	982.97	984.32	985.68	987.04	988.39
	730	989.75	991.10	992.46	993.82	995.17	996.53	997.68	999.24	1000.6	1002.0
	740	1003.3	1004.7	1006.0	1007.4	1008.7	1010.1	1011.4	1012.8	1014.2	1015.5
	750	1016.9	1018.2	1019.6	1020.9	1022.3	1023.6	1025.0	1026.4	1027.7	1029.1
	760	1030.4	1031.8	1033.1	1034.5	1035.8	1037.2	1038.6	1039.9	1041.3	1042.6
	770	1044.0	1045.3	1048.7	1048.1	1049.4	1050.8	1052.1	1053.5	1054.8	1056.2
	780	1057.5	1058.9	1060.3	1061.6	1063.0	1064.3	1065.7	1067.0	1068.4	1069.7
	790	1071.1	1072.5	1073.8	1075.2	1076.5	1077.9	1079.2	1080.6	1081.9	1083.3
	800	1084.7	1086.0	1087.4	1088.7	1090.1	1091.4	1092.8	1094.2	1095.5	1096.9
	810	1098.2	1099.6	1100.9	1102.3	1103.6	1105.0	1106.4	1107.8	1109.1	1110.4
	820	1111.8	1113.1	1114.5	1115.8	1117.2	1118.6	1119.9	1121.3	1122.6	1124.0
	830	1125.3	1126.7	1128.0	1129.4	1130.8	1132.1	1133.5	1134.8	1136.2	1137.5
	840	1138.9	1140.2	1141.6	1143.0	1144.3	1145.7	1147.0	1148.4	1149.7	1151.1
	850	1152.5	1153.8	1155.2	1156.5	1157.9	1159.2	1160.6	1161.9	1163.3	1164.7
	860	1168.0	1167.4	1168.7	1170.1	1171.4	1172.8	1174.1	1175.5	1176.9	1178.2
	870	1179.6	1180.9	1182.3	1183.6	1185.0	1186.3	1187.7	1189.1	1190.4	1191.8
	880	1193.1	1194.5	1195.8	1197.2	1198.5	1199.9	1201.3	1202.6	1204.0	1205.3
	890	1206.7	1208.0	1209.4	1210.8	1212.1	1213.5	1214.8	1216.2	1217.5	1218.9
	900	1220.2	1221.6	1223.0	1224.3	1225.7	1227.0	1228.4	1229.7	1231.1	1232.4
	910	1233.8	1235.2	1236.5	1237.9	1239.2	1240.6	1241.9	1243.3	1244.6	1246.0
	920	1247.4	1248.7	1250.1	1251.4	1252.8	1254.1	1255.5	1256.8	1258.2	1259.6
	930	1260.9	1262.3	1263.6	1265.0	1266.3	1267.7	1269.1	1270.4	1271.8	1273.1
	940	1274.5	1275.8	1277.2	1278.5	1279.9	1281.3	1282.6	1284.0	1285.3	1286.7
	950	1288.0	1289.4	1290.7	1292.1	1293.5	1294.8	1296.2	1297.5	1298.9	1300.2
	960	1301.6	1302.9	1304.3	1305.7	1307.0	1308.4	1309.7	1311.1	1312.4	1313.8
	970	1315.1	1316.5	1317.9	1319.2	1320.6	1321.9	1323.3	1324.6	1326.0	1327.4
	980	1328.7	1330.1	1331.4	1332.8	1334.1	1335.5	1336.8	1338.2	1339.6	1340.9
	990	1342.3	1343.6	1345.0	1346.3	1347.7	1349.0	1350.4	1351.8	1353.1	1354.5