

Cylinder Head/Camshaft			
Application	Torque(Nm)	Torque(FtLb)	Notes
Camshaft cover to cylinder head bolts	10	7.370	
Camshaft bearing caps to head bolts	10	7.370	Lubricate threads with engine oil. See note 2 below for tightening sequence
Camshaft oil feed pipe to bearing cap bolts	8	5.896	
Cam chain tensioner body to crankcase bolts	9	6.633	
Cam chain tensioner centre bolt	20	14.740	
Cam chain drive gear shaft retaining bolt	10	7.370	
Cylinder head nuts	*		See Note 1 below
Cam chain guide blade to cylinder head bolts	10	7.370	
Cam chain tensioner blade to cylinder head nut	10	7.370	
Oil cooler feed pipe to cylinder head banjo bolts	30	22.110	
Low oil pressure warning light switch (oil feed pipe to cylinder head)	13	9.581	Always replace the sealing washer
Spark plug	20	14.740	
Exhaust pipe stud	18	13.266	
Clutch			
Application	Torque(Nm)	Torque(FtLb)	Notes
Clutch cover to crankcase bolts	9	6.633	Bonneville, Bonneville T100, and Bonneville America
Clutch cover to crankcase bolts	12	8.844	Speedmaster
Gearchange level clamp bolt	9	6.633	
Clutch centre nut	105	77.385	
Clutch release plate to pressure plate bolts	9	6.633	
Clutch level mounting clamp bolts	15	11.055	Tighten upper bolt first then lower bolt
Starter (sprag) clutch housing to crankcase bolts	16	11.792	Fit new bolts if removed
Centrifugal breather to crankshaft screws	12	8.844	Fit new bolts if removed
Engine Mountings			
Application	Torque(Nm)	Torque(FtLb)	Notes
Front and rear upper mounting bolts	80	58.960	
Frame-downtube to frame bolts	45	33.165	Bonneville/T100
Frame-downtube to frame bolts	55	40.535	America/Speedmaster
Frame-tube brace bolts	22	16.214	Bonneville/T100
Cylinder head to frame mounting bracket bolts:			
Frame bolt	22	16.214	Bonneville/T100
Cylinder head bolt	80	58.960	Bonneville/T100
Cylinder head to frame mounting bracket bolts:			
Frame bolt	80	58.960	America/Speedmaster
Cylinder head bolt	80	58.960	America/Speedmaster
Crankshaft/Connecting Rods			
Application	Torque(Nm)	Torque(FtLb)	Notes
Crankcase bolts	*		Too involved for this document
Connecting rod big end bolt nuts	*		Too involved for this document
Centrifugal breather to crankshaft screws	12	8.844	Fit new screws if removed
Starter (sprag) clutch housing to crankshaft bolts	16	11.792	Fit new bolts if removed
Balancer shaft lock washer to crankcase screw	12	8.844	Fit a new screw if removed

Transmission			
Application	Torque(Nm)	Torque(FtLb)	Notes
Gearchange mechanism cover bolts	9	6.633	
Selector fork shaft retaining plate screw	12	8.844	Fit a new screw if removed
Selector drum cam retaining bolt	12	8.844	Fit a new bolt if removed
Gearchange shaft abutment bolt	28	20.636	
Detent arm retaining bolt	12	8.844	Fit a new bolt if removed
Neutral switch	10	7.370	
Sprocket cover to crankcase	9	6.633	
Chainguard to swinging arm	7	5.159	
Lubrication System			
Application	Torque(Nm)	Torque(FtLb)	Notes
Sump drain plug	25	18.425	
Oil filter	8-12	5.8-8.8	
Oil filter adaptor to crankcase	10	7.370	Apply Three Bond TB1305 to threads
Low oil pressure warning light switch	13	9.581	
Oil cooler mounting bolts	9	6.633	
Oil feed pipe to cylinder head banjo bolts (M14 bolts, upper pipe)	30	22.110	
Oil feed pipe to oil cooler banjo bolt (M18 bolt, upper pipe)	45	33.165	
Oil return pipe to sump banjo bolt to cooler (M18 bolt, lower pipe)	45	33.165	
Oil return pipe union to sump adapter	15	11.055	
Oil return pipe union sump adapter	45	33.165	
Oil pick-up strainer screws	6	4.422	Apply Three Bond TB1305 to threads
Sump to crankcase bolts	12	8.844	
Oil pump to crankcase bolts	12	8.844	
Oil pressure relief valve	15	11.055	Apply Three Bond TB1305 to threads
Fuel System/Exhaust			
Application	Torque(Nm)	Torque(FtLb)	Notes
Fuel tank mounting bolts	9	6.633	Bonneville/T100
Fuel tank mounting bolts	19	14.003	America/Speedmaster
Warning light plinth to tank	5	3.685	America/Speedmaster
Airbox mounting bolts	6	4.422	Bonneville/T100
Airbox mounting bolts	5	3.685	America/Speedmaster
Secondary air injection system control valve to frame screws	8	5.896	
Exhaust header pipe to cylinder head nuts	19	14.003	
Exhaust header pipe mounting bolts	22	16.214	Bonneville/T100
Exhaust header pipe mounting bolts	15	11.055	America/Speedmaster
Exhaust header balance pipe clamp	22	16.214	
Silencer mounting (passenger footrest) nut	27	19.899	Bonneville/T100
Silencer mounting (passenger footrest) fixing	See rear susp		America/Speedmaster
Silencer clamp	22	16.214	
Low fuel warning light sender to fuel tank	9	6.633	
Fuel tank badge to tank	9	6.633	

Braking System			
Application	Torque(Nm)	Torque(FtLb)	Notes
Brake caliper bleed nipple	5	3.685	
Front brake caliper mounting bolts	28	20.636	
Front brake caliper pad retaining pin	18	13.266	
Front brake caliper pad retaining pin plug	3	2.211	
Front brake hose banjo bolts	25	18.425	
Front brake master cylinder mounting clamp bolts	15	11.055	Tighten upper bolt first then lower bolt
Front brake disc bolts	22	16.214	Fit new bolts if removed
Rear brake fluid reservoir mounting screw	7	5.159	America/Speedmaster
Rear brake fluid reservoir mounting screw	5	3.685	Bonneville/T100
Rear brake caliper mounting bolts	40	29.480	
Rear brake caliper pad retaining pins	18	13.266	
Rear brake hose to caliper banjo bolt	25	18.425	
Rear brake pipe to master cylinder and joint block (steel pipe)	25	18.425	America/Speedmaster
Rear brake master cylinder mounting bolts	18	13.266	Bonneville/T100
Rear brake master cylinder mounting bolts	27	19.899	America/Speedmaster
Rear brake master cylinder pushrod clevis locknuts	18	13.266	
Rear brake light switch	15	11.055	
Rear brake disc retaining bolts	22	16.214	Fit new bolts if removed
Rear brake hose clamp to swinging arm	7	5.159	
Rear brake pedal pivot	30	22.110	
Front Suspension/Steering			
Application	Torque(Nm)	Torque(FtLb)	Notes
Top yoke fork clamp bolt	27	19.899	Bonneville/T100
Top yoke fork clamp bolt	20	14.740	America/Speedmaster
Bottom yoke fork clamp bolt	27	19.899	
Fork top cap	23	16.951	
Fork damper rod bolt	30	22.110	Bonneville/T100
Fork damper rod bolt	43	31.691	America/Speedmaster
Fork cover to bottom yoke	9	6.633	America/Speedmaster
Steering head bearing adjuster nut locknut	45	33.165	
Steering stem top nut	65	47.905	
Handlebar mounting clamp to top yoke nut	35	25.795	Bonneville/T100
Handlebar mounting clamp to top yoke nut	45	33.165	America/Speedmaster
Handlebar clamp bolts	26	19.162	Tighten upper bolt first then lower bolt
Handlebar end weight screw	5	3.685	
Rear Suspension			
Application	Torque(Nm)	Torque(FtLb)	Notes
Rear suspension unit mounting bolts	28	20.636	
Swinging arm spindle nut	110	81.070	
Swinging arm outrigger clamp bolts	45	33.165	America/Speedmaster

Footrests			
Application	Torque(Nm)	Torque(FtLb)	Notes
Rider footrest bracket to frame bolts	27	19.899	Bonneville/T100
Rider footrest mounting bar to frame	30	22.110	America/Speedmaster
Rider footrest clevis bracket to mounting bar	45	33.165	America/Speedmaster
Rider footrest bracket locating bolt (left hand side only)	9	6.633	America/Speedmaster
Passenger footrest/silencer mounting plate to frame	30	22.110	America/Speedmaster
Passenger footrest to silencer mounting plate	27	19.899	America/Speedmaster
Frame/Bodywork			
Application	Torque(Nm)	Torque(FtLb)	Notes
Seat to frame screws	10	7.370	Bonneville/T100
Front seat to mudguard fixing	26	19.162	America/Speedmaster
Rear seat to mudguard fixing	10	7.370	America/Speedmaster
Front mudguard to stay bolts	9	6.633	Bonneville/T100
Front mudguard stay to fork bolts	12	8.844	Bonneville/T100
Front mudguard to bracket bolts	3	2.211	America/Speedmaster
Front mudguard bracket to fork bolts	12	8.844	America/Speedmaster
Rear mudguard mounting screws	9	6.633	Bonneville/T100
Rear mudguard to bracket screws	26	19.162	America/Speedmaster
Rear mudguard to frame cross-beam screws	26	19.162	America/Speedmaster
Rear mudguard bracket to frame screws	64	47.168	America/Speedmaster
Side stand pivot bolt	20	14.740	
Side stand pivot bolt locknut	25	18.425	
Airbox cover/airbox wiring cover	3	2.211	America/Speedmaster
Wheels			
Application	Torque(Nm)	Torque(FtLb)	Notes
Front wheel spindle fixing	60	44.220	
Front wheel spindle clamp bolt	27	19.899	Bonneville/T100
Front wheel spindle clamp bolt	20	14.740	America/Speedmaster
Rear wheel spindle nut	85	62.645	
Final Drive			
Application	Torque(Nm)	Torque(FtLb)	Notes
Rear wheel spindle nut	85	62.645	
Chainguard to swinging arm screws	7	5.159	
Front sprocket cover bolts	9	6.633	
Front sprocket nut	132	97.284	Secure in position with lockwasher
Rear sprocket nuts	55	40.535	Bonneville/T100
Rear sprocket nuts	85	62.645	America/Speedmaster

Electrical System/Ignition			
Application	Torque(Nm)	Torque(FtLb)	Notes
Headlight mounting bolts	10	7.370	Bonneville/T100
Headlight mounting bracket to lower yoke	27	19.899	America/Speedmaster
Headlight clamp to bracket	27	19.899	America/Speedmaster
Speedometer housing to top yoke bolts	9	6.633	Bonneville/T100
Speedometer bracket to top yoke	9	6.633	America/Speedmaster
Rear light fixings	9	6.633	Bonneville/T100
Rear light fixings	3	2.211	America/Speedmaster
Rear light bracket to mudguard	5	3.685	America/Speedmaster
Front indicator mounting nuts	10	7.370	Bonneville/T100
Front indicator to bracket	15	11.055	America/Speedmaster
Front indicator bracket to hand controls	15	11.055	America/Speedmaster
Rear indicator mounting nuts	18	13.266	
Handlebar switch retaining screws	2	1.474	
Ignition switch screws	5	3.685	
Alternator rotor bolts (M10 bolt)	98	72.226	
Alternator rotor bolts (M12 bolt)	120	88.440	
Alternator stator to cover bolts	12	8.844	
Alternator stator wiring clamp to cover screw	12	8.844	
Alternator cover to crankcase bolts	9	6.633	
Regulator/rectifier fixings	9	6.633	
Starter motor to crankcase bolts	10	7.370	
Starter motor lead terminal nut	7	5.159	
Starter solenoid lead terminal nut	7	5.159	
Ignition pick-up coil screws	10	7.370	Ensure coil air gap is correctly set
Igniter unit retaining nut	9	6.633	

Note 1

The cylinder head nuts are tightened in three stages.

This is to ensure that the cylinder head gasket seals correctly to the cylinder head and barrels.

The three stages are as follows:

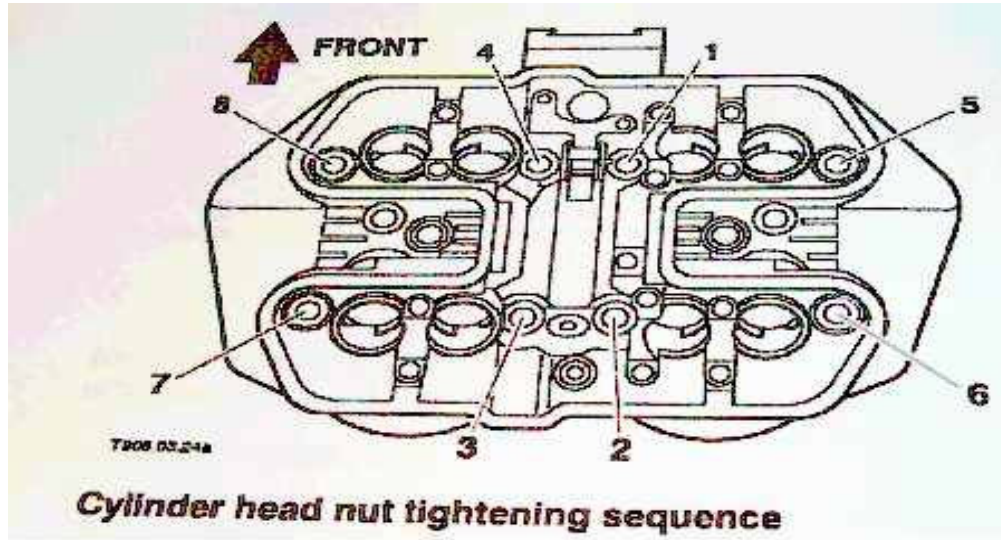
NOTE: In stages A and B a torque wrench of known and accurate calibration must be used.

A. Tighten the cylinder head nuts, in the sequence shown, to 20 Nm

B. Tighten the cylinder head nuts, in the sequence shown, to torque 30 Nm

C. Finally tighten the cylinder head nuts, in the sequence shown, through a further 90 degrees

NOTE: Use service tool 3880105-T0301 to ensure accuracy when angle-tightening



Note 2

