

BSA SERVICE SHEET No. 701

Revised September 1959

ALL MODELS—USEFUL DATA

Model	C10	C11	C12	C15 Std.	1331	1332	1333	B34	M20
Engine bore ...	63 mm.	63 mm.	63 mm.	67 mm.	71 mm.	71 mm.	85 mm.	85 mm.	82 mm.
Engine stroke ...	80 mm.	80 mm.	80 mm.	70 mm.	88 mm.	88 mm.	88 mm.	88 mm.	94 mm.
Engine capacity ...	249 c.c.	249 c.c.	249 c.c.	249 c.c.	348 c.c.	348 c.c.	499 c.c.	499 c.c.	496 c.c.
Petrol tank capacity ...	2½ galls.	2½ galls.	2½ galls.	2½ galls.	3 galls.	3 galls.	3 galls.	3 galls.	3 galls.
Oil tank capacity ...	4 pints	4 pints	4 pints	4 pints	4 pints	4 pints	4 pints	4 pints	5 pints
Gearbox capacity ...	¾ pint	¾ pint	¾ pint	¾ pint	1 pint	1 pint	1 pint	1 pint	1 pint
Valve clearance cold:									
Inlet ...	.004"	.003"	.010"	.008"	.003"	.003"	.003"	.003"	.010"
Exhaust ...	.006"	.003"	.012"	.010"	.003"	.003"	.003"	.003"	.012"
Tyres (front) ...	3.00 x 19	3.00 x 20*	3.00 x 19	3.25 x 17	3.25 x 19	2.75 x 21	3.25 x 19	2.75 x 21	3.25 x 19
Tyres (rear) ...	3.00 x 19	3.00 x 20*	3.00 x 19	3.25 x 17	3.25 x 19	4.00 x 19	3.25 x 19	4.00 x 19	3.25 x 19
Piston ring gap (plain) ...	.010"	.010"	.010"	.010"	.010"	.010"	.010"	.010"	.010"
Piston ring gap (oil control) ...	.010"	.010"	.010"	.010"	.010"	.010"	.010"	.010"	.010"
Piston ring side clearance ...	.002"/.004"	.002"/.004"	.002"/.004"	.002"/.004"	.002"/.001"	.002"/.001"	.002"/.004"	.002"/.004"	.002"/.004"
Piston clearance bottom of skirt ...	.0045"/.0065"	.0035"/.0055"	.0035"/.0055"	.0025"/.004"	.0040"/.0055"	.0040"/.0055"	.0045"/.0065"	.0045"/.0065"	.0040"/.0060"
Gear ratios:									
Top ...	6.6	6.6	6.26	5.98	5.6	7.1	5.0	5.6	5.3
3rd ...			7.64	7.65	7.3	9.2	6.5	7.4	7.0
2nd ...	9.8	9.8	11.1	10.54	11.1	14.2	10.0	11.5	10.9
1st ...	14.5	14.5	16.15	15.96	15.9	20.2	14.2	16.8	15.8
Ignition setting (inches before T.D.C.):									
Fully advanced ...				11/32"	7/16"	7/16"	7/16"	7/16"	7/16"
Fully retarded ...	1/32"	1/32"	T.D.C.						
Carburettor:									
Jet ...	90	80	110		150	150	200	200	170
With air cleaner ...	90	80	100	140	150	150	170	170	—
Spark plug:									
C.I. cyl. head ...	L10	L10S	L10S		L10S	L10S	L10S	L10S	—
Al. alloy cyl. head ...	N8			N5	NAS	NAS	NAS	NAS	N8
Compression ratio	5.1-1	6.5-1	6.5-1	7.25-1	6.5-1	6.5-1	6.8-1	6.8-1	4.9-1
Valve timing—inlet:									
Opens before T.D.C. ...	25°	25°	34°	26°	25°	25°	25°	25°	25°
Closes after B.D.C. ...	70°	70°	78°	70°	65°	65°	65°	65°	65°
Valve timing—exhaust:									
Opens before B.D.C. ...	70°	70°	74°	61½°	65°	65°	65°	65°	65°
Closes after T.D.C. ...	25°	25°	38°	34½°	25°	25°	25°	25°	25°
Distributor points gap ...	.012"	.012"	.015"	.012"					
Magneto points gap ...					.012"	.012"	.012"	.012"	.012"
Plug points gap ...	.015" to .018"	.015" to .018"	.018" to .020"	.020" to .025"	.015" to .018"	.015" to .018"	.015" to .018"	.015" to .018"	.015" to .018"
Tyre pressures:									
Front (per sq. in.) ...	20 lb.	20 lb.	18 lb.	16 lb.	16 lb.		16 lb.		17 lb.
Rear (per sq. in.) ...	28 lb.	28 lb.	26 lb.	22 lb.	20 lb.		17 lb.		22 lb.

For Swinging Arm and other models not listed see appropriate series.

*1 speed Gearbox 1 pint

*3.00 x 19 on later models.

B.S.A. Service Sheet No. 701 (contd).

Model	M21	M33	A7	A7 S.T.	A7	A7 S/T & S/S	A10	R/R and S/R
			Up to Engine No. ZA7 11182	Two Carburettors	On and After Engine No. AA7 101.	On and After Engine No. AA7S 101.		
Engine bore	82mm.	85mm.	62mm.	62mm.	66mm.	66mm.	70mm.	70mm
Engine stroke	112mm.	88mm.	82mm.	82mm.	72.6mm.	72.6mm.	84mm.	81mm
Engine capacity	591c.c.	499c.c.	495c.c.	495c.c.	497c.c.	497c.c.	646c.c.	616c.c.
Petrol tank capacity ...	3 galls.	3 galls.	3 galls.	3½ galls.	3½ galls.	3½ galls.	4½ galls.	2 or 3 galls
Oil tank capacity	5 pints	5 pints	4 pints	4 pints	4 pints	4 pints	4 pints	5½ pints
Gearbox capacity	1 pint	1 pint	1 pint	1 pint	1 pint	1 pint	1 pint	1 fl. ozs.
Tappet clearance (cold):								
Inlet ... ..	.010"	.003"	.015"	.015"	.010"	.008"	.010"	.068"
Exhaust ... ..	.012"	.003"	.015"	.015"	.016"	.012"	.016"	.008"
Tyres (front)	3.50 × 19	3.25 × 19	3.25 × 19	3.25 × 19	3.25 × 19	3.25 × 19	3.25 × 19	
Tyres (rear)	3.50 × 19	3.50 × 19	3.50 × 19	3.50 × 19	3.50 × 19	3.50 × 19	3.50 × 19	
Piston ring gap (plain) ...	.010"	.010"	.013"	.013"	.013"	.013"	.013"	
Piston ring gap (oil control) ...	.010"	.010"	.011"	.011"	.011"	.011"	.011"	
Piston ring side clearance ...	.002"/.004"	.002"/.004"	.002"/.004"	.002"/.004"	.002"/.001"	.002"/.004"	.002"/.004"	.002"/.004"
Piston clearance bottom of skirt ...	.0040"/.0060"	.0045"/.0065"	.0030"/.0050"	.0030"/.0050"	.0030"/.0050"	.0030"/.0050"	.0030"/.0050"	.003"/.005"
Gear ratios:								
Top	5.9	4.8	5.1	5.1	5.1	S/T 5.0 S/S 5.28	4.42	4.53
3rd	7.8	6.3	6.2	6.2	6.2	6.05 6.38	5.36	5.48
2nd	12.2	9.9	9.0	9.0	9.0	8.8 9.28	7.77	7.96
1st	17.8	14.3	13.2	13.2	13.2	12.9 13.62	11.41	11.68
Ignition setting (inches before T.D.C. fully advanced) ...	7/16"	7/16"	3/8"	3/8"	5/16"	3/8"	11/32"	3/8"
Carburettor:								
Jet	170	200	—	110	—	—	—	250
With air cleaner	—	170	140	—	140	160	170	240
Sparking plug C.I. cyl. head... A.I alloy cyl. head	L.10 N8	L.10S —	L.10S —	L.10S —	L.10S —	L.10S —	L.10S —	NA 10
Compression ratio	5-1	6.8-1	6.6-1	7-1	6.6-1	7.25-1	6.5-1	R/R 8-1 S/R 8.26-1
Valve timing--inlet: ...								
Opens before T.D.C.	25°	25°	24°	24°	30°	42°	30°	42°
Closes after B.D.C.	65°	65°	65°	65°	70°	62°	70°	62°
*Valve timing exhaust: ...								
Opens before B.D.C.	65°	65°	60°	60°	65°	67°	65°	67°
Closes after T.D.C.	25°	25°	21½°	21½°	25°	37°	25°	37°
Distributor points gap	—	—	—	—	—	—	—	—
Magneto points gap ... ..	.012"	.012"	.012"	.012"	.012"	.012"	.012"	.012"
Plug points gap ... ..	.015" to .018"	.015" to .018"	.015" to .018"	.015" to .018"	.015" to .018"	.015" to .018"	.015" to .018"	.018"/.026"
Tyre pressures:								
Front (per square inch)...	16lb.	17lb.	17lb.	17lb.	17lb.	17lb.	17lb.	17lb.
Rear (per square inch) ..	18lb.	18lb.	18lb.	18lb.	18lb.	18lb.	18lb.	19lb.

*NOTE: -- Standard A7's after Eng. No. CA7 5232 and Standard A10's after Eng. No. DA10 1617 have the same camshaft as the S/S and R/R machines and valve timing is therefore the same.