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SERVICE SHEETS

BSA SERVICE SHEET No. 701

Reprinted August, 1957

ALL MODELS — USEFUL DATA

Model	C10	C11	B31	B32	B33	B34	M20
Engine bore ...	63mm.	63mm.	71mm.	71mm.	85mm.	85mm.	82mm.
Engine stroke ...	80mm.	80mm.	88mm.	88mm.	88mm.	88mm.	94mm.
Engine capacity ...	249c.c.	249c.c.	348c.c.	348c.c.	499c.c.	499c.c.	496c.c.
Petrol tank capacity ...	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	5 pints
Gearbox capacity ...	*½ pint	*½ pint	1 pint	1 pint	1 pint	1 pint	1 pint
Tappet clearance (cold):							
Inlet ...	.004"	.003"	.003"	.003"	.003"	.003"	.010"
Exhaust ...	.006"	.003"	.003"	.003"	.003"	.003"	.012"
Tyres (front) ...	3.00 × 19	3.00 × 20†	3.25 × 19	2.75 × 21	3.25 × 19	2.75 × 21	3.25 × 19
Tyres (rear) ...	3.00 × 19	3.00 × 20†	3.25 × 19	4.00 × 19	3.25 × 19	4.00 × 19	3.25 × 19
Piston ring gap (plain) ...	.010"	.010"	.010"	.010"	.010"	.010"	.010"
Piston ring gap (oil control) ...	.010"	.010"	.010"	.010"	.010"	.010"	.010"
Piston ring side clearance ...	.002"/.004"	.002"/.004"	.002"/.004"	.002"/.004"	.002"/.004"	.002"/.004"	.002"/.004"
Piston clearance—bottom of skirt ...	.0045"/.0065"	.0035"/.0055"	.0040"/.0055"	.0040"/.0055"	.0045"/.0065"	.0045"/.0065"	.0040"/.0060"
Gear ratios:							
Top ...	6.6.	6.6	5.6	7.1	5.0	5.6	5.3
3rd ...	—	—	7.3	9.2	6.5	7.4	7.0
2nd ...	9.8	9.8	11.1	14.2	10.0	11.5	10.9
1st ...	14.5	14.5	15.9	20.2	14.2	16.8	15.8
Ignition setting (inches before):							
T.D.C. fully advanced ...	—	—	7/16"	7/16"	7/16"	7/16"	7/16"
Fully retarded ...	1/32"	1/32"	—	—	—	—	—
Carburettor:							
Jet ...	90	80	150	150	200	200	170
With air cleaner ...	90	80	150	150	170	170	—
Sparking plug C.I. cyl. head ...	L.10	L.10S	L.10S	L.10S	L.10S	L.10S	L.10
Al. alloy cyl. head ...	NS	—	—	NAS	—	NAS	NS
Compression ratio, ...	5.1-1	6.5-1	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°	25°	25°	25°	25°	25°
Closes after B.D.C. ...	70°	70°	65°	65°	65°	65°	65°
Valve timing—exhaust:							
Opens before B.D.C. ...	70°	70°	65°	65°	65°	65°	65°
Closes after T.D.C. ...	25°	25°	25°	25°	25°	25°	25°
Distributor points gap ...	.012"	.012"	—	—	—	—	—
Magneto points gap ...	—	—	.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"
Tyre pressures:							
Front (per square inch) ...	20 lb.	20 lb.	16 lb.	—	16 lb.	—	17 lb.
Rear (per square inch) ...	28 lb.	28 lb.	20 lb.	—	17 lb.	—	22 lb.

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

* 4 Speed Gearbox 1 pint.

† 3.00 × 19 on later models.

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

Model	M21	M33	A7 Up to Engine No. ZA7 11192	A7 S.T. Two Carburettors	A7 On and After Engine No. AA7 101.	A7 S.T. On and After Engine No. AA7S 101.	A10
Engine bore	82mm.	85mm.	62mm.	62mm.	66mm.	66mm.	70mm.
Engine stroke	112mm.	88mm.	82mm.	82mm.	72.6mm.	72.6mm.	84mm.
Engine capacity	591c.c.	499c.c.	495c.c.	495c.c.	497c.c.	497c.c.	646c.c.
Petrol tank capacity	3 galls.	3 galls.	3 galls.	3½ galls.	3½ galls.	3½ galls.	4½ galls.
Oil tank capacity	5 pints	5 pints	4 pints	4 pints	4 pints	4 pints	4 pints
Gearbox capacity	1 pint	1 pint	1 pint	1 pint	1 pint	1 pint	1 pint
Tapet clearance (cold):							
Inlet	.010"	.003"	.015"	.015"	.010"	.010"	.010"
Exhaust	.012"	.003"	.015"	.015"	.010"	.010"	.010"
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"/.004"	.002"/.004"	.002"/.004"
Piston clearance—bottom of skirt	.0040"/.0060"	.0045"/.0065"	.0030"/.0050"	.0030"/.0050"	.0030"/.0050"	.0030"/.0050"	.0030"/.0050"
Gear ratios:							
Top	5.9	4.8	5.1	5.1	5.1	5.0	4.42
3rd	7.8	6.3	6.2	6.2	6.2	6.05	5.36
2nd	12.2	9.9	9.0	9.0	9.0	8.8	7.77
1st	17.8	14.3	13.2	13.2	13.2	12.9	11.41
Ignition setting (inches before T.D.C. fully advanced)	7/16"	7/16"	3/8"	3/8"	5/16"	3/8"	11/32"
Carburetter:							
jet	170	200	—	110	—	—	—
With air cleaner	—	170	140	—	140	160	170
Sparking plug C.I. cyl. head... ..	L.10	L.10S	L.10S	L.10S	L.10S	L.10S	L.10S
A.I alloy cyl. head	N8	—	—	—	—	—	—
Compression ratio	5-1	6.8-1	6.6-1	7-1	6.6-1	7.25-1	6.5-1
Valve timing—inlet:							
Opens before T.D.C.	25°	25°	24°	24°	30°	42°	30°
Closes after B.D.C.	65°	65°	65°	65°	70°	62°	70°
Valve timing—exhaust:							
Opens before B.D.C.	65°	65°	60°	60°	65°	67°	65°
Closes after T.D.C.	25°	25°	21½°	21½°	25°	37°	25°
Distributor points gap	—	—	—	—	—	—	—
Magneto points gap	.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"
Tyre pressures:							
Front (per square inch)... ..	16lb.	17lb.	17lb.	17lb.	17lb.	17lb.	17lb.
Rear (per square inch)	18lb.	18lb.	18lb.	18lb.	18lb.	18lb.	18lb.

* 3.25-19 with telescopic forks.

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