

*Mr. Cresp.  
Experimental*



# Motor Cycles

*for 1952*

---

DATA BOOK

*Private and Confidential*

## SUB. INDEX.

	<i>Pages</i>
BORE, STROKE, CAPACITY .. .. .	2 3
GEAR RATIOS .. .. .	8 9
LUBRICATION .. .. .	2 3
PETROL AND OIL CAPACITIES .. .. .	10 11
TIMING, IGNITION AND VALVE .. .. .	4 5
TYRES, PRESSURES, WHEELS .. .. .	10 11
WEIGHTS .. .. .	16 17

Issued by the Technical Department

**Engine  
Specification**

**2 3**

**Engine  
Data**

**4 5**

**Carburation**

**6 7**

**Transmission**

**8 9**

**General  
Details**

**10 11**

**Electrical  
Equipment**

**12 13**

**Performance  
Figures**

**14 15**

**General  
Dimensions**

**16 17**

**Bearings  
(Main and  
Big-end)**

**18 19**

**Gold Star  
Section**

**22 23**

**24 25**

ENGINE SPECIFICATION

	DI	DI Comp.	C10	C11	B31	B32 Comp.
Title	Bantam Touring	Bantam Comp.	Touring	Touring	Touring	Comp
Number of Cylinders	1	1	1	1	1	1
Valve arrangement	Two stroke	Two stroke	S.V.	O.H.V.	O.H.V.	O.H.V.
Cylinder arrangement	Inclined	Inclined	Vert.	Vert.	Vert.	Vert.
Cylinder head	Al. alloy	Al. alloy	Al. alloy	C. iron	C. iron	C. iron*
Cylinder barrel	C. iron	C. iron	C. iron	C. iron	C. iron	C. iron*
Cylinder liner	—	—	—	—	—	—
Capacity (c.c.)	123	123	249	249	348	348
Bore (mm.)	52	52	63	63	71	71
Stroke (mm.)	58	58	80	80	88	88
Lubrication system	Petrol	Petrol	Dry sump	Dry sump	Dry sump	Dry sump

\*Aluminium alloy engine with liner optional extra.

B32G.S.	B33	B34 Comp.	B34G.S.	M20	M21	M33	A7	A7S.T.	A10G.F.
Gold Star	Touring	Comp.	Gold Star	Touring	Touring	Touring	Touring	Star Twin	Golden Flash
1	1	1	1	1	1	1	2	2	2
O.H.V.	O.H.V.	O.H.V.	O.H.V.	S.V.	S.V.	O.H.V.	O.H.V.	O.H.V.	O.H.V.
Vert.	Vert.	Vert.	Vert.	Vert.	Vert.	Vert.	Vert.	Vert.	Vert.
†Al. alloy	C. iron	C. iron*	Al. alloy die cast	Al. alloy	Al. alloy	C. iron	C. iron	C. iron	C. iron
Yes	—	—	Yes	—	—	—	—	—	—
348	499	499	499	496	591	499	497	497	646
71	85	85	85	82	82	85	66	66	70
88	88	88	88	94	112	88	72.6	72.6	84
Dry sump	Dry sump	Dry sump	Dry sump	Dry sump	Dry sump	Dry sump	Dry sump	Dry sump	Dry sump

†Die cast on later 1952 production.

Engine  
Specification

2 3

Engine  
Data

4 5

Carburation

6 7

Transmission

8 9

General  
Details

10 11

Electrical  
Equipment

12 13

Performance  
Figures

14 15

General  
Dimensions

16 17

Bearings  
(Main and  
Big-end)

18 19

Gold Star  
Section

22 23

24 25

ENGINE DATA.

	D1	D1 Comp.	C10	C11	B31	B32 Comp
Valve Timing (deg.) I.O. before T.D.C.	—	—	25	25	25	25
I.C. after B.D.C.	—	—	70	70	65	65
E.O. before B.D.C.	—	—	70	70	65	65
E.C. after T.D.C.	—	—	25	25	25	25
Ignition Timing: Piston distance before T.D.C. with points just opening (A—fully advanced; R—fully retarded) inches	5/32	5/32	1/32R	1/32R	7/16A	7/16A
mm.	4	4	.8	.8	11.1	11.1
Ignition Control	Fixed	Fixed	Automatic	Automatic	Manual	Manual
Crankshaft (degrees)	26½	26½	12	12	38	38
Tappet clearances (cold)—Inlet	—	—	.004	.003	.003	.003
mm.	—	—	.102	.076	.076	.076
Exhaust	—	—	.006	.003	.003	.003
mm.	—	—	.153	.076	.076	.076
Compression ratio	—	—	5-1	6.5-1	6.5-1	6.5-1
Piston Rings—Plain (2 off)	—	—	.0625x.091	.0625x.091	.094x.101	.094x.101
Oil Control (1 off)	—	—	.125x.095	.125x.095	.125x.105	.125x.105
Piston Ring Gap—Plain	***.010	***.010	.010	.010	.010	.010
mm.	***.254	***.254	.254	.254	.254	.254
Oil Control	***.010	***.010	.010	.010	.010	.010
mm.	***.254	***.254	.254	.254	.254	.254
Sparkign Plug (Champion)	L10	L10	N8	L10S	L10S	**L10S
Gudgeon Pin diameter	15/32	15/32	5/8	5/8	3/4	3/4
mm.	11.9	11.9	15.9	15.9	19.1	19.1
Exhaust Pipe diameter	1½	1½	1½	1½	1½	1½
mm.	34.9	34.9	34.9	34.9	41.3	41.3

NOTE.—When the contact breaker points are fully open, the correct gap is: Model D1 (Wico Pac equipment), .015in. (.38mm.); all other models, .012in. (.305mm.).

\*\* When fitted with aluminium cylinder head an NA8 long reach plug is required.

\*\*\*These rings are specially stepped at the locating pegs.

B32G.S.	B33	B34 Comp.	B34G.S.	M20	M21	M33	A7	A7S.T.	A10G.F.
*	25	25	*	25	25	25	30	42	30
—	65	65	—	65	65	65	70	62	70
—	65	65	—	65	65	65	65	67	65
—	25	25	—	25	25	25	25	37	25
*	7/16A	7/16A	*	7/16A	7/16A	7/16A	5/16A	3/8A	11/32A
—	11.1	11.1	—	11.1	11.1	11.1	7.9	9.5	8.7
Manual	Manual	Manual	Manual	Manual	Manual	Manual	Automatic	Manual	Automatic
*	38	38	*	38½	37½	38	35	38	34
—	.003	.003	—	.010	.010	.003	.010	.010	.010
—	.076	.076	—	.254	.254	.076	.254	.254	.254
*	.003	.003	*	.012	.012	.003	.010	.010	.010
—	.076	.076	—	.305	.305	.076	.254	.254	.254
*	6.8-1	6.8-1	*	4.9-1	5-1	6.8-1	†6.6-1	7.25-1	†6.5-1
.0625x.120	.094x.145	.094x.145	.094x.145	.094x.115	.094x.115	.094x.145	.062x.108	.062x.108	.062x.120
.125x.104	.156x.125	.156x.125	.156x.125	.123x.125	.123x.125	.156x.125	.125x.093	.125x.093	.125x.105
.010	.010	.010	.010	.010	.010	.010	.013	.013	.013
.254	.254	.254	.254	.254	.254	.254	.33	.33	.33
.010	.010	.010	.010	.010	.010	.010	.011	.011	.011
.254	.254	.254	.254	.254	.254	.254	.28	.28	.28
*	L10S	**L10S	*	N8	N8	L10S	L10S	L11S	L10S
3/4	3/4	3/4	3/4	3/4	3/4	3/4	11/16	11/16	3/4
19.1	19.1	19.1	19.1	19.1	19.1	19.1	17.5	17.5	19.1
1½	1½	1½	1½	1½	1½	1½	1½	1½	1½
41.3	41.3	41.3	41.3	44.4	44.4	41.3	38.1	38.1	38.1

†Optional compression ratios: A7, 7.25 to 1; A10 Golden Flash, 7.25 to 1 (Ignition ½ A).

\*See Special Gold Star specification pages 22-23.

Engine  
Data

4 5

Carburation

6 7

Transmission

8 9

General  
Details

10 11

Electrical  
Equipment

12 13

Performance  
Figures

14 15

General  
Dimensions

16 17

Bearings  
(Main and  
Big-end)

18 19

Gold Star  
Section

22 23

24 25

CARBURATION.

	D1	D1 Comp.	C10	C11	B31	B32 Comp.
Air Cleaner	..	..	..	..	Gauze	Gauze
Carburettor type	..	..	..	..	Felt Std. Exp't	Felt Std. Exp't
Choke size (inches)	..	..	..	..	Felt Std. Exp't	Felt Std. Exp't
Jet number	..	..	..	..	Felt Std. Exp't	Felt Std. Exp't
Throttle Valve number	..	..	..	..	Felt Std. Exp't	Felt Std. Exp't
Needle position	..	..	..	..	Felt Std. Exp't	Felt Std. Exp't
Needle Jet	..	..	..	..	Felt Std. Exp't	Felt Std. Exp't
Engine End size (inches)	..	..	..	..	Felt Std. Exp't	Felt Std. Exp't

†† 361/2 with short Racing Twist Grip.

B32G.S.	B33	B34 Comp.	B34G.S.	M20	M21	M33	A7	A7S.T.	A10G.F.
—	Felt Std. Exp't	Felt Std. Exp't	—	Felt Std. Exp't	Felt Std. Exp't	Felt Std. Exp't	Felt	Felt	Felt
*	289G/1AT	289G/1AT	*	276C/1B	276BR/1B	289G/1AT	276EU/1DB	276FD/1DB	276ER/1DB
—	1 1/8	1 1/8	—	1	1 1/16	1 1/8	15/16	1	1 1/16
—	200†	200†	—	170	160	200†	140	160	170
—	29/4	29/4	—	6/4	6/4	20/4	6/4	6/4	6/4
—	3	3	—	2	2	3	4	3	2
—	.1065	.1065	—	.1065	.1065	.1065	.107	.107	.108
—	1 1/8	1 1/8	—	1	1 1/16	1 1/8	15/16	1 1/16	1 1/16

†No. 170 jet when air cleaner is fitted.

\*See special Gold Star specification page 22.

Carburation

6 7

Transmission

8 9

General Details

10 11

Electrical Equipment

12 13

Performance Figures

14 15

General Dimensions

16 17

Bearings (Main and Big-end)

18 19

Gold Star Section

22 23

24 25

# TRANSMISSION

		D1	D1 Comp.	C10	C11	B31	B32 Comp.
Standard Gear ratios (solo)	4th	..	—	††	††	5.6	7.06
	3rd	..	7.0	8.64	6.6	7.38	9.30
	2nd	..	11.7	14.45	9.8	11.5	14.5
	1st	..	22.0	27.1	14.5	16.7	21.1
(sidecar)	4th	..	—	—	—	—	—
	3rd	..	—	—	—	—	—
	2nd	..	—	—	—	—	—
	1st	..	—	—	—	—	—
Front Chain size (inches)	..	..	.375 pitch x .250 roller dia.	½x.305	½x.305	½x.305	½x.305
Front Chain pitches (solo)	..	..	50	50	69	69	68
(sidecar)	..	..	—	—	—	—	—
Rear Chain size (inches)	..	..	.5 pitch x .335 roller dia.	½x.305	½x.305	⅝x½	⅝x½
Rear Chain pitches (rigid frame) (solo)	..	..	116	122	104	104	93
(sidecar)	..	..	—	—	—	—	92
Rear Chain pitches (spring frame) (solo)	..	..	117	123	107	107	96
(sidecar)	..	..	—	—	—	—	95
Teeth on Engine Sprocket (solo)	..	..	17	17	16	16	17
(sidecar)	..	..	—	—	—	—	16
Teeth on Clutch Sprocket	..	..	38	38	43	43	43
Teeth on Gearbox Sprocket	..	..	15	15	17	17	19
Teeth on Rear Chainwheel (solo)	..	..	47	58	42	42	42
(sidecar)	..	..	—	—	—	—	—
Clutch Friction Plates	..	..	3	3	2	2	4
	..	..	—	—	—	—	5

†† Gear Ratios for "C" 4-speed Gearbox:—4th 6.65, 3rd 8.06, 2nd 11.7, 1st 17.15

	B32G.S.	B33	B34 Comp.	B34G.S.	M20	M21	M33	A7	A7S.T.	A10G.F.
	*	5.0	5.64	*	5.28	4.75	4.75	†5.1	†5.0	†4.42
	*	6.59	7.44	*	6.95	6.25	6.25	6.2	6.05	5.36
	*	10.3	11.59	*	10.87	9.77	9.77	9.0	8.8	7.77
	*	14.9	16.81	*	15.76	14.15	14.15	13.2	12.9	11.41
	—	—	—	—	5.94	5.94	5.59	5.4	5.4	5.16
	—	—	—	—	7.82	7.82	7.37	6.6	6.6	6.26
	—	—	—	—	12.2	12.2	11.5	9.5	9.5	9.06
	—	—	—	—	17.7	17.7	16.72	14.0	14.0	13.3
	½x.305	½x.305	½x.305	½x.305	½x.305	½x.305	½x.305	( ††† ⅜ Duplex )		
	*	70	70	*	69	70	70	80	80	80
	—	—	—	—	68	68	69	80	80	80
	⅝x½	⅝x½	⅝x½	⅝x½	⅝x½	⅝x½	⅝x½	⅝x⅝	⅝x⅝	⅝x⅝
	*	92	92	*	95	95	95	—	—	—
	—	—	—	—	95	95	95	—	—	—
	*	96	95	*	97	97	97	102	102	100
	—	—	—	—	97	97	97	104	104	104
	*	19	20	*	18	20	20	27	27	27
	—	—	—	—	16	16	17	27	27	27
	43	43	43	43	43	43	43	54	54	54
	*	19	16	*	19	19	19	18	18	19
	42	42	42	42	42	42	42	46	45	42
	—	—	—	—	42	42	42	49	49	49
	5	5	5	5	5	5	5	5	5	5

† Alternative wide ratio gears for A models:—

A7 Solo— Top, 5.1; Third, 7.4; Second, 10.8; First, 16.2 } Sidecar—Top, 5.4; Third, 7.9; Second, 11.6; First, 17.2  
A7ST Solo— " 5.0; " 7.3; " 10.6; " 15.8 }  
A10GFSolo— " 4.4; " 6.45; " 9.37; " 13.95 } Sidecar— " 5.16; " 7.52; " 10.96; " 16.35

††† ⅜ in. Triple Chain to special order.

\* See special Gold Star specification page 24.

Transmission

8 9

General  
Details

10 11

Electrical  
Equipment

12 13

Performance  
Figures

14 15

General  
Dimensions

16 17

Bearings  
(Main and  
Big-end)

18 19

Gold Star  
Section

22 23

24 25

GENERAL DETAILS.

		D1	D1 Comp.	C10	C11	B31	B32 Comp.
Petrol Tank capacity	galls. ..	1½	1½	2½	2½	3	**3
	litres ..	8	8	11½	11½	13½	13½
Oil Tank capacity	galls. ..	—	—	—	—	—	—
	litres ..	—	—	2½	2½	2½	2½
††Front Forks (per leg)	pints ..	Grease	Grease	—	—	—	—
	c.c. ..	—	—	142	142	142	212
Total Fork movement	in. ..	3½	3½	6	6	6	5½
	cm. ..	9.5	9.5	15.2	15.2	15.2	14.6
Total Rear Suspension movement	in. ..	2	2	2	2	2½	2½
	cm. ..	5.1	5.1	5.1	5.1	5.7	5.7
Gearbox capacity	pints ..	½	½	½	½	1	1
	c.c. ..	425	425	284	284	568	568
Chaincase capacity (approx.)	pints ..	—	—	1/7	1/7	1/7	1/7
	c.c. ..	—	—	80	80	80	80
Standard Front Tyre ..	..	2.75-19	2.75-19	3.00-19	3.00-19	3.25-19	2.75-21 Trials Un.
Standard Rear Tyre ..	..	2.75-19	3.25-19	3.00-19	3.00-19	3.25-19	4.00-19 Trials Un.
†††Inflation pressures	p.s.i. (front tyre)	16	16	18	18	16	—
	atm. " ..	1.09	1.09	1.22	1.22	1.09	—
	p.s.i. (rear tyre)	22	16	24	24	20	—
	atm. " ..	1.50	1.09	1.63	1.63	1.36	—
Standard Sidecar Tyre	..	—	—	—	—	—	—
Inflation pressures	p.s.i. (front tyre)	—	—	—	—	—	—
(with sidecar)	atm. " ..	—	—	—	—	—	—
	p.s.i. (rear tyre)	—	—	—	—	—	—
	atm. " ..	—	—	—	—	—	—
	p.s.i. (s'car tyre)	—	—	—	—	—	—
	atm. " ..	—	—	—	—	—	—
Standard Wheel Rim (front)	..	WM1-19	WM1-19	WM1-19	WM1-19	WM2-19	WM1-21
(rear) ..	..	WM1-19	WM1-19	WM1-19	WM1-19	WM2-19	WM2-19
(sidecar) ..	..	—	—	—	—	—	—
Brake diameter—inches (front)	..	5	5	5½	5½	7	7
(rear) ..	..	5	5	5½	5½	7	7
Brake Lining width—inches approx. (front)	..	—	—	1	1	1½	1½
(rear)	..	—	—	1	1	1½	1½

† 4-speed Gearbox 1 pint. 568 c.c.

††Use seasonal engine oil for ¼ pint capacities and S.A.E. 20 for ⅓ pint types.

†††NOTE.—The recommended inflation pressures are based on a rider's weight of 140 lb. If the rider is heavier, a pillion passenger or luggage is carried, the pressures should be increased in accordance with the Dunlop Load and Pressure Schedule.

B32G.S.	B33	B34 Comp.	B34G.S.	M20	M21	M33	A7	A7S.T.	A10G.F.
*	3	**3	*	3	3	3	3½	3½	4½
—	13½	13½	—	13½	13½	13½	16	16	19
2½	2½	2½	2½	2½	2½	2½	2½	2½	2½
212	142	212	212	142	142	142	212	212	212
5½	6	5½	5½	6	6	6	5½	5½	5½
14.6	15.2	14.6	14.6	15.2	15.2	15.2	14.6	14.6	14.6
2½	2½	2½	2½	2½	2½	2½	2½	2½	2½
5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
1	1	1	1	1	1	1	1	1	1
568	568	568	568	568	568	568	568	568	568
1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/6	1/6	1/6
80	80	80	80	80	80	80	90	90	90
*	3.25-19	2.75-21 Trials Un.	*	3.25-19	3.25-19	3.25-19	3.25-19	3.25-19	3.25-19
*	3.50-19	4.00-19 Trials Un.	*	3.25-19	3.50-19	3.50-19	3.50-19	3.50-19	3.50-19
—	16	—	—	16	16	16	17	17	17
—	1.09	—	—	1.09	1.09	1.09	1.16	1.16	1.16
—	17	—	—	22	17	18	18	18	18
—	1.16	—	—	1.50	1.16	1.22	1.22	1.22	1.22
—	—	—	—	3.25-19	3.25-19	3.25-19	3.25-19	3.25-19	3.25-19
—	—	—	—	22	22	22	22	22	22
—	—	—	—	1.50	1.50	1.50	1.50	1.50	1.50
—	—	—	—	22	18	18	19	19	19
—	—	—	—	1.50	1.22	1.22	1.29	1.29	1.29
—	—	—	—	18	18	18	18	18	12
—	—	—	—	1.22	1.22	1.22	1.22	1.22	1.23
WM1-21	WM2-19	WM1-21	WM1-21	WM2-19	WM2-19	WM2-19	WM2-19	WM2-19	WM2-19
WM2-19	WM2-19	WM2-19	WM2-19	WM3-19	WM3-19	WM3-19	WM2-19	WM2-19	WM2-19
*	7	7	*	7	7	7	7	8	8
7	7	7	7	7	7	7	7	7	7
*	1½	1½	*	1½	1½	1½	1½	1½	1½
1½	1½	1½	1½	1½	1½	1½	1½	1½	1½

\*See special Gold Star specification page 23.

\*\*Two gallon Petrol Tank for Scrambles.

General  
Details

10 11

Electrical  
Equipment

12 13

Performance  
Figures

14 15

General  
Dimensions

16 17

Bearings  
(Main and  
Big-end)

18 19

Gold Star  
Section

22 23

24 25



ELECTRICAL EQUIPMENT

	D1	D1 Comp.	C10	C11	B31	B32 Comp.
	Wico Paco Flywheel Magneto		Contact Breaker DKX 1AO AC33 40079B		††	
†Magneto	..	..	..	..	..	..
Coil	..	..	..	..	..	..
Separate Dynamo	..	..	..	..	..	..
Dynamo Output	..	..	..	..	..	..
Battery Voltage	..	..	..	..	..	..
Battery capacity	..	..	..	..	..	..
Headlamp diameter (inches) ..	..	..	..	..	..	..
Headlamp Bulb	..	..	..	..	..	..
Pilot Bulb	..	..	..	..	..	..
Tail Lamp Bulb	..	..	..	..	..	..
Stop Tail Lamp Bulb (when fitted)	..	..	..	..	..	..

†Model D1 fitted with Lucas A.C. Generator (47077A) with rectifier (47078A):—

Dynamo output	45w	Headlamp Bulb No. 312 6v 30/24w
Battery voltage	6	Pilot Bulb No. 988 3w
Battery capacity	5a.h.	Tail Lamp Bulb No. 200 3w

B32G.S.	B33	B34 Comp.	B34G.S.	M20	M21	M33	A7	A7S.T.	A10G.F.
*		††		*		(Magneto Type K2F)			
— (Magdyno		Type MO16 (045160)		—		045180 42263 045180			
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	2001OA	2001OA	2001OA
60w	60w	60w	60w	60w	60w	60w	60w	60w	60w
6	6	6	6	6	6	6	6	6	6
12a.h.	12a.h.	12a.h.	12a.h.	12a.h.	12a.h.	12a.h.	12a.h.	12a.h.	12a.h.
7½	7½	7½	7½	7½	7½	7½	7½	7½	7½
—		No. 312 — 6 volt, — 30/24 watt		—		—			
—		No. 988 — 6 volt — 3 watt		—		—			
—		No. 200 — 6 volt — 3 watt		—		—			
—		No. 352 — 6 volt — 3/18 watt — (Index type)		—		—			

††Alternative Lucas Magneto Type KMR1 or B.T.H. Magneto Type KD1

\* See special Gold Star specification page 25.

Electrical Equipment  
12 13

Performance Figures  
14 15

General Dimensions  
16 17

Bearings (Main and Big-end)  
18 19

Gold Star Section  
22 23

24 25



PERFORMANCE FIGURES

		D1	D1 Comp.	C10	C11	B31	B32 Comp.
Max. b.h.p. at r.p.m. . . . .		4.5-5000	4.5-5000	8-5000	11-5400	17-5500	17-5500
Max. speed (solo) m.p.h. . . . .		45-50	35-40	50-55	55-60	65-70	60
	k.p.h. . . . .	72-80	56-64	80-88	88-97	105-113	97
Max. speed (sidecar) m.p.h. . . . .		—	—	—	—	—	—
	k.p.h. . . . .	—	—	—	—	—	—
Petrol consumption m.p.g. . . . .		120-140	100-120	100-110	100-120	85-90	80-85
(solo)	litres per 100 km. . . . .	2.2	2.5	2.7	2.5	3.3	3.5
Petrol consumption m.p.g. . . . .		—	—	—	—	—	—
(sidecar)	litres per 100 km. . . . .	—	—	—	—	—	—
Oil consumption m.p.g. . . . .		†	†	2-3000	2-3000	2-3000	2-3000
	litres per 1000 km. . . . .	†	†	1.0	1.0	1.0	1.0

†These machines are lubricated by petroil mixture.  
For running-in use 16 parts petrol to 1 of oil, i.e., 284c.c. per gallon petrol (63c.c. per litre).  
For normal use 24 parts petrol to 1 of oil, i.e., 190c.c. per gallon petrol (42c.c. per litre).

B32G.S.	B33	B34 Comp.	B34G.S.	M20	M21	M33	A7	A7S.T.	A10G.F.
—	23-5500	23-5500	—	13-4200	15-4000	23-5500	27-5800	31-6000	35-5750
—	77-82	70	—	58-62	60-65	77-82	85-90	90-95	100 Plus
—	124-132	113	—	93-100	96-105	124-132	129-137	137-153	161 Plus
—	—	—	—	48-52	50-55	57-62	60-65	65-70	65-75
—	—	—	—	77-83	80-88	91-100	96-105	105-113	105-121
—	75-80	70-75	—	65-70	65-70	75-80	75-80	75-80	65-70
—	3.7	3.9	—	4.1	4.1	3.7	3.7	3.7	4.1
—	—	—	—	55-60	55-60	65-70	65-70	65-70	55-60
—	—	—	—	5.0	5.0	4.1	4.1	4.1	5.0
—	2-2500	2-2500	—	2-2500	2-2500	2-2500	2-2500	2-2500	2-2500
—	1.1	1.1	—	1.1	1.1	1.1	1.1	1.1	1.1

Performance  
Figures

14 15

General  
Dimensions

16 17

Bearings  
(Main and  
Big-end)

18 19

Gold Star  
Section

22 23

24 25

GENERAL DIMENSIONS (Approx.)

		D1	D1 Comp.	C10	C11	B31	B32 Comp.
Wheelbase	inches .. ..	50	50	52	52	54	54
	cm. .. ..	127	127	132	132	137	137
Ground clearance	inches .. ..	4½	7	4½	4½	5	6½
	cm. .. ..	12	17.8	11.4	11.4	13	16
Saddle height	inches .. ..	27	29	28	28	30½	31½
	cm. .. ..	68.5	73.6	71	71	77.5	80
Overall width (solo)	inches .. ..	26½	26½	28	28	28	28
	cm. .. ..	67	67	71	71	71	71
Overall width (with sidecar)	inches .. ..	—	—	—	—	—	—
	cm. .. ..	—	—	—	—	—	—
Overall length (solo)	inches .. ..	77	77	80½	80½	82	82
	cm. .. ..	196	196	204	204	208	208
Overall height	inches .. ..	38½	38½	39	39	40	41
	cm. .. ..	98.5	98.5	99	99	102	104
Handlebar width	inches .. ..	26½	26½	26½	26½	28½	28½
	cm. .. ..	66.5	66.5	66.5	66.5	71.5	71.5
*** {	†††Engine weight	lb. ..	45	45	61.5	69.5	98
		kg. ..	20.4	20.4	28	31.6	44.5
	Dry weight (rigid frame)	lb. ..	†167	†174	272	280	364
		kg. ..	†76	†79	123.5	127	165
*** {	Dry weight (spring frame)	lb. ..	†183	†190	**288	**296	382
		kg. ..	†83	†86.5	131	134	173
Steering angle to road..		.. ..	61°	61°	61°	61°	61°
Lock angle (each side)		.. ..	45°	45°	45°	45°	45°

†Lucas equipment 4lb.—1.8 kg. extra

††Weight in trials trim. When fitted with aluminium cylinder head and barrel dry weights are reduced by approximately 14lb.—6.4 kg.

††† D models—Engine/Gearbox unit.

C models—Dynamo with contact breaker.

B31, B33 and M models with Magdyno.

B32, B34 Comp. with Magneto (Magdyno 9 lb.—4.1 kg. extra.)

A models—with Magneto and Dynamo.

B32G.S.	B33	B34 Comp.	B34G.S.	M20	M21	M33	A7	A7S.T.	A10G.F.
54½	54	54	54½	54	54	54	54½	54½	54½
139	137	137	139	137	137	137	139	139	139
5 or 6½	5	6½	5 or 6½	5½	5½	5½	4½	4½	4½
13 or 16	13	16	13 or 16	14	14	14	11.4	11.4	11.4
30½ or 31½	30½	31½	30½ or 31½	30½	30½	30½	30	30	30
77.5 or 80	77.5	80	77.5 or 80	77.5	77.5	77.5	76	76	76
28	28	28	28	28	28	28	28	28	28
71	71	71	71	71	71	71	71	71	71
—	—	—	—	60½	60½	60½	60½	60½	60½
—	—	—	—	153	153	153	153	153	153
83½	82	82	83½	85	85	85	84	84	84
212	208	208	212	216	216	216	213	213	213
40 or 41	40	41	40 or 41	39½	39½	39½	40½	40½	40½
102 or 104	102	104	102 or 104	100	100	100	103	103	103
28½	28½	28½	28½	28½	28½	28½	28½	28½	28½
71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5
*	103	94	*	99	99	103	105	105	106
—	47	42.6	—	45	45	47	47.7	47.7	48.2
*	368	342††	*	366	370	374	—	—	—
*	167	155††	*	166	168	170	—	—	—
*	387	361††	*	390	394	398	400	401	408
*	171	164††	*	177	179	180.5	181.5	182	185
61°	61°	61°	61°	61°	61°	61°	61°	61°	61°
45°	45°	45°	45°	45°	45°	45°	45°	45°	45°

B.S.A. Sidecars—Ground clearance, 6½ inches (16.5 cm.). Overall length of combination, 90 inches (228 cm.). (22/47 tourer model) weight 209 lb. (95.5 kg.). (23/51 family model) weight 234 lb. (106 kg.).

\*See special Gold Star specification page 25.

\*\*4-speed Gearbox increases weight by 4 lb.—1.8 kg.

\*\*\* These are average weights and should be regarded as approximate.

General Dimensions

16 17

Bearings (Main and Big-end)

18 19

Gold Star Section

22 23

24 25

BEARINGS (Main and Big-end)

				D1	D1 Comp.	C10	C11	B31	B32 Comp.
Crankcase (drive side)	inner	..	..	Ball	Ball	—	—	Roller	Roller
	inner dia.	..	..	3/4"	3/4"	—	—	25mm.	25mm.
	outer dia.	..	..	1 1/8"	1 1/8"	—	—	62mm.	62mm.
	width	..	..	9/16"	9/16"	—	—	17mm.	17mm.
Crankcase (drive side)	outer	..	..	Ball	Ball	Ball	Ball	Ball	Ball
	inner dia.	..	..	17mm.	17mm.	25mm.	25mm.	25mm.	25mm.
	outer dia.	..	..	40mm.	40mm.	62mm.	62mm.	52mm.	52mm.
	width	..	..	12mm.	12mm.	17mm.	17mm.	15mm.	15mm.
Crankcase (gear side)		..	..	Ball	Ball	(Phosphor Bronze Bush)		Roller	Roller
	inner dia.	..	..	3/4"	3/4"	63/64"	63/64"	7/8"	7/8"
	outer dia.	..	..	1 1/8"	1 1/8"	1 1/4"	1 1/4"	2 1/4"	2 1/4"
	width	..	..	9/16"	9/16"	1"	1"	1 1/16"	1 1/16"
Crankcase (gear side)	additional	..	..	—	—	—	—	—	—
	inner dia.	..	..	—	—	—	—	—	—
	outer dia.	..	..	—	—	—	—	—	—
	width	..	..	—	—	—	—	—	—
Big-end Bearing		..	..	Single Rollers	Single Rollers	Single Rollers	Single Rollers	Double Rollers	Double Rollers

B32G.S.	B33	B34 Comp.	B34G.S.	M20	M21	M33	A7	A7S.T.	A10G.F.
Roller	Roller	Roller	Roller	Roller	Roller	Roller	Ball	Ball	Roller
25mm	25mm.	25mm.	1 1/8"	25mm.	25mm.	25mm.	1 1/8"	1 1/8"	30mm.
62mm.	62mm.	62mm.	2 13/16"	62mm.	62mm.	62mm.	2 13/16"	2 13/16"	62mm.
17mm.	17mm.	17mm.	13/16"	17mm.	17mm.	17mm.	13/16"	13/16"	16mm.
Ball	Ball	Ball	Ball	Roller	Roller	Ball	—	—	—
25mm.	25mm.	25mm.	25mm.	25mm.	25mm.	25mm.	—	—	—
52mm.	52mm.	52mm.	52mm.	52mm.	52mm.	52mm.	—	—	—
15mm.	15mm.	15mm.	15mm.	15mm.	15mm.	15mm.	—	—	—
Roller	Roller	Roller	Roller	Roller	Roller	Roller	( White Metal Bush )		
7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 1/8"
2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"	1 11/16"	1 11/16"	1 11/16"
1 1/16"	1 1/16"	1 1/16"	1 1/16"	1 1/16"	1 1/16"	1 1/16"	1 5/16"	1 5/16"	1 5/16"
—	—	—	—	Ball	Ball	—	—	—	—
—	—	—	—	7/8"	7/8"	—	—	—	—
—	—	—	—	2 1/4"	2 1/4"	—	—	—	—
—	—	—	—	1 1/16"	1 1/16"	—	—	—	—
Double Rollers	Double Rollers	Double Rollers	Double Rollers	Double Rollers	Double Rollers	Double Rollers	V.P.2 Lead Bronze	V.P.2 Lead Bronze	V.P.2 Lead Bronze

Bearing  
(Main and  
Big-end)  
18 19

Gold Section  
22 23

## GOLD STAR SPECIFICATION

THE DATA CONTAINED IN THIS SECTION REPRESENT  
THE STANDARD RECOMMENDATIONS FOR THE RANGE  
OF SPECIFICATIONS AND MAY BE VARIED TO SUIT  
SPECIAL REQUIREMENTS.

B32 GOLD STAR FIGURES ARE FOR ENGINES ON AND

~~AFTER ZB32 G.S.—6000.~~  
AFTER ZB32 G.S.—6000.

FURTHER INFORMATION MAY BE OBTAINED FROM  
THE COMPETITION OR TECHNICAL DEPARTMENTS.

### B32 GOLD STAR

SPECIFICATION	Piston	Comp. Ratio	Comp. Plate (ins.)	To give Ratio	Fuel	Carb. Type (see Table I)	CAMS	
							Inlet	Exhaust
TOURING .. .. .	65-1681	6.5	—	—	Pool	A or B	65-2448	65-2452
RELIABILITY TRIALS .. .. .	65-1681	6.5	—	—	Pool	A	65-2420	65-2420
INTERNATIONAL TRIALS .. .. .	65-1616	8.0	1/32	7.5	80 Octane	A	65-2420	65-2420
	65-1616	8.0	—	—	Pool	B	65-2448	65-2450
SCRAMBLES .. .. .	65-1674	9.0	—	—	50/50 P. Benzole	B	65-2448	65-2450
	65-1674	9.0	.012	8.8	50/50 P. Benzole	B or C	65-2444	65-2446
RACING .. .. .	65-1687	13.0	—	—	Alcohol	D	65-2448	65-2450
CLUBMAN'S .. .. .	65-1616	8.0	.012	7.8	Pool	B	65-2444	65-2446

### B34 GOLD STAR

SPECIFICATION	Piston	Comp. Ratio	Comp. Plate (ins.)	To give Ratio	Fuel	Carb. Type (see Table II)	CAMS	
							Inlet	Exhaust
	65-1245	6.8	—	—	Pool	A	65-2448	65-2450
TOURING .. .. .	65-1265	7.5	1/32	7.2	Pool	B	65-2448	65-2450
RELIABILITY TRIALS .. .. .	65-1245	6.8	—	—	Pool	A	65-2420	65-2420
INTERNATIONAL TRIALS .. .. .	65-1265	7.5	—	—	80 Octane	A	65-2420	65-2420
	65-1285	8.0	1/16	7.4	Pool	B	65-2448	65-2450
SCRAMBLES .. .. .	65-1532	9.0	—	—	50/50 P. Benzole	B	65-2448	65-2450
	65-1532	9.0	1/16	8.4	50/50 P. Benzole	B or C	65-2444	65-2446
RACING .. .. .	65-1279	11.0	—	—	Alcohol	D	65-2448	65-2450
CLUBMAN'S .. .. .	65-1285	8.0	1/16	7.4	Pool	B	65-2444	65-2446

VALVE CLEARANCES (ins.)		VALVE TIMING At .018in. clearance				IGNITION TIMING Fully Advanced (ins.)	Crankshaft (degrees)	Champion Plug Type
Inlet	Exhaust	INLET Opens Early	Closes Late	EXHAUST Opens Early	Closes Late			
.008	.010	43°	73°	64°	34°	7/16	36	NA8
.003	.003	25°	65°	65°	25°	7/16	36	NA8
.003	.003	25°	65°	65°	25°	7/16	36	NA10
.008	.010	43°	73°	70°	45°	7/16	36	NA12
.008	.010	43°	73°	70°	45°	7/16	36	NA14
.008	.010	60°	85°	80°	55°	15/32	39	NA14
.008	.010	43°	73°	70°	45°	3/8	34	NA14
.008	.010	60°	85°	80°	55°	15/32	39	NA14

VALVE CLEARANCES (ins.)		VALVE TIMING At .018in. clearance				IGNITION TIMING Fully Advanced (ins.)	Crankshaft (degrees)	Champion Plug Type
Inlet	Exhaust	INLET Opens Early	Closes Late	EXHAUST Opens Early	Closes Late			
.008	.010	43°	73°	70°	45°	1/2	40½	NA8
.008	.010	43°	73°	70°	45°	1/2	40½	NA8
.003	.003	25°	65°	65°	25°	1/2	40½	NA8
.003	.003	25°	65°	65°	25°	1/2	40½	NA10
.008	.010	43°	73°	70°	45°	1/2	40½	NA12
.008	.010	43°	73°	70°	45°	1/2	40½	NA12
.008	.010	60°	85°	80°	55°	1/2	40½	NA14
.008	.010	43°	73°	70°	45°	7/16	37	NA14
.008	.010	60°	85°	80°	55°	15/32	39	NA14



SPECIFICATION	SPROCKETS (Number of Teeth)				CHAINS (Pitches)			GEAR RATIOS							
	Engine	G'box	Clutch	Chain Wheel	Front	Rigid	REAR S.Frame	INTERNAL				OVERALL			
								Top	3	2	1	Top	3	2	1
TOURING .. .. .	17	19	43	42	69	92	96	1.0	1.32	2.05	2.98	5.6	7.38	11.5	16.7
RELIABILITY TRIALS .. .. .	16	16	43	42	68	92	95	1.0	1.32	2.05	2.98	7.06	9.3	14.5	21.1
INTERNATIONAL TRIALS .. .. .	16	16	43	42	68	92	95	1.0	1.32	2.05	2.98	7.06	9.3	14.5	21.1
SCRAMBLES .. .. .	16	16	43	42	68	92	95	1.0	1.32	1.72	2.48	7.06	9.3	12.15	17.44
	16	16	43	42	68	92	95	1.0	1.32	1.72	2.48	7.06	9.3	12.15	17.44
RACING .. .. .	18	19	43	42	69	92	96	1.0	1.1	1.31	1.78	5.28	5.77	6.9	9.86
	18	19	43	42	69	92	96	1.0	1.1	1.31	1.78	5.28	5.77	6.9	9.86
CLUBMAN'S .. .. .	19	19	43	42	70	92	96	1.0	1.1	1.31	1.78	5.0	5.48	6.55	9.5

SPECIFICATION	SPROCKETS (Number of Teeth)				CHAINS (Pitches)			GEAR RATIOS							
	Engine	G'box	Clutch	Chain Wheel	Front	Rigid	REAR S.Frame	INTERNAL				OVERALL			
								Top	3	2	1	Top	3	2	1
TOURING .. .. .	19	19	43	42	70	92	96	1.0	1.32	2.05	2.98	5.0	6.59	10.3	14.9
	19	19	43	42	70	92	96	1.0	1.32	2.05	2.98	5.0	6.59	10.3	14.9
RELIABILITY TRIALS .. .. .	20	16	43	42	70	92	95	1.0	1.32	2.05	2.98	5.64	7.44	11.59	16.81
INTERNATIONAL TRIALS .. .. .	20	16	43	42	70	92	95	1.0	1.32	2.05	2.98	5.64	7.44	11.59	16.81
SCRAMBLES .. .. .	17	16	43	42	69	92	95	1.0	1.32	1.72	2.48	6.63	8.74	11.41	16.37
	17	16	43	42	69	92	95	—	1.32	1.72	2.48	6.63	8.74	11.41	16.37
RACING .. .. .	20	19	43	42	70	92	96	1.0	1.1	1.31	1.78	4.75	5.19	6.22	8.88
	20	19	43	42	70	92	96	—	1.1	1.31	1.78	4.75	5.19	6.22	8.88
CLUBMAN'S .. .. .	21	19	43	42	71	92	96	1.0	1.1	1.31	1.78	4.53	4.95	5.93	8.47

## B32 GOLD STAR

PETROL TANK Capacity (galls.)	TYRE SIZES and TYPES		BRAKES Dia. (ins.)		ENGINE WEIGHT (Lb.)	AVERAGE DRY WEIGHT (Lb.)	
	Front	Rear	Front	Rear		Rigid	Spring Frame
3 or 4	3.00-21 Ribbed	3.25-19 Triple Stud Ra ing	8	7	86 Magdyno	—	372
2 or 3	3.00-21 Trials Universal	4.00-19 Trials Universal	7	7	77 Magneto	324	342
2 or 3	3.00-21 Trials Universal	4.00-19 Trials Universal	7	7	77 Magneto	324	342
2 or 3	2.75-21 Trials Universal	4.00-19 Trials Universal	7	7	77 Magneto	324	342
2 or 3	2.75-21 Trials Universal	4.00-19 Trials Universal	7	7	77 Magneto	324	342
3 or 4	3.00-21 Ribbed	3.25-19 Triple Stud Racing	8	7	77 Magneto	323	341
3 or 4	3.00-21 Ribbed	3.25-19 Triple Stud Racing	8	7	77 Magneto	323	341
3 or 4	3.00-21 Ribbed	3.25-19 Triple Stud Racing	8	7	86 Magdyno	—	372

## B34 GOLD STAR

PETROL TANK Capacity (galls.)	TYRE SIZES and TYPES		BRAKES Diam. (ins.)		ENGINE WEIGHT	AVERAGE DRY WEIGHT	
	Front	Rear	Front	Rear	(Lb.)	Approx. (Lb.)	Spring Frame
						Rigid	
3 or 4	3.00-21 Ribbed	3.50-19 Triple Stud Racing	8	7	89 Magdyno	—	375
3 or 4	3.00-21 Ribbed	3.50-19 Triple Stud Racing	8	7	89 Magdyno	—	375
2 or 3	3.00-21 Trials Universal	4.00-19 Trials Universal	7	7	80 Magneto	329	347
2 or 3	3.00-21 Trials Universal	4.00-19 Trials Universal	7	7	80 Magneto	329	347
2 or 3	2.75-21 Sports	4.00-19 Sports	7	7	80 Magneto	329	347
2 or 3	2.75-21 Sports	4.00-19 Sports	7	7	80 Magneto	329	347
3 or 4	3.00-21 Ribbed	3.50-19 Triple Stud Racing	8	7	80 Magneto	326	344
3 or 4	3.00-21 Ribbed	3.50-19 Triple Stud Racing	8	7	80 Magneto	326	344
3 or 4	3.00-21 Ribbed	3.50-19 Triple Stud Racing	8	7	89 Magdyno	—	375

**TABLE I. CARBURATION.  
B32 GOLD STAR.**

Type	Fuel	Choke ins.	Main jet.	Throttle valve.	Needle pos.	Needle jet.
A Stand.	Pool	1	150	6/4	3	.1065
B 10TT	P/B	1 3/32	360	7	4	.109
C Remote Needle	P/B	1 3/32	varies	6	.4	.109
D 10TT	Dope	1 3/32	varies	7	4	.120

**B32 and B34 GOLD STARS  
ALTERNATIVE LIGHTING/IGNITION  
EQUIPMENT.**

Lucas Magdyno	Type MO1/6 (045160)
Lucas Special Magdyno	Type MO1/6 (045232)
Lucas Magneto	Type KMR1
B.T.H. Magneto	Type KD1

**TABLE II. CARBURATION.  
B34 GOLD STAR.**

Type	Fuel	Choke ins.	Main jet	Throttle valve	Needle pos.	Needle jet
A Stand	1 1/8 Pool	200	29/4	3	.1065	
B 10TT	P/B	1 5/32	360	6	4	.109
C Remote Needle	P/B	1 3/16	520	7	4	.109
D 10TT	Dope	1 3/16	varies	6	6	.120



## NOTES

---

### B.S.A. CYCLES LTD., BIRMINGHAM, 11

*Directors:* SIR BERNARD DOCKER, K.B.E., J.P. (*Chairman*). J. LEEK, C.B.E. J. A. T. DICKINSON, O.B.E. S. F. DIGBY.

*B.S.A. Cycles Ltd. reserve the right to alter the designs or any constructional details of their manufactures at any time without giving notice*

*Printed July, 1952.*

MC369-3