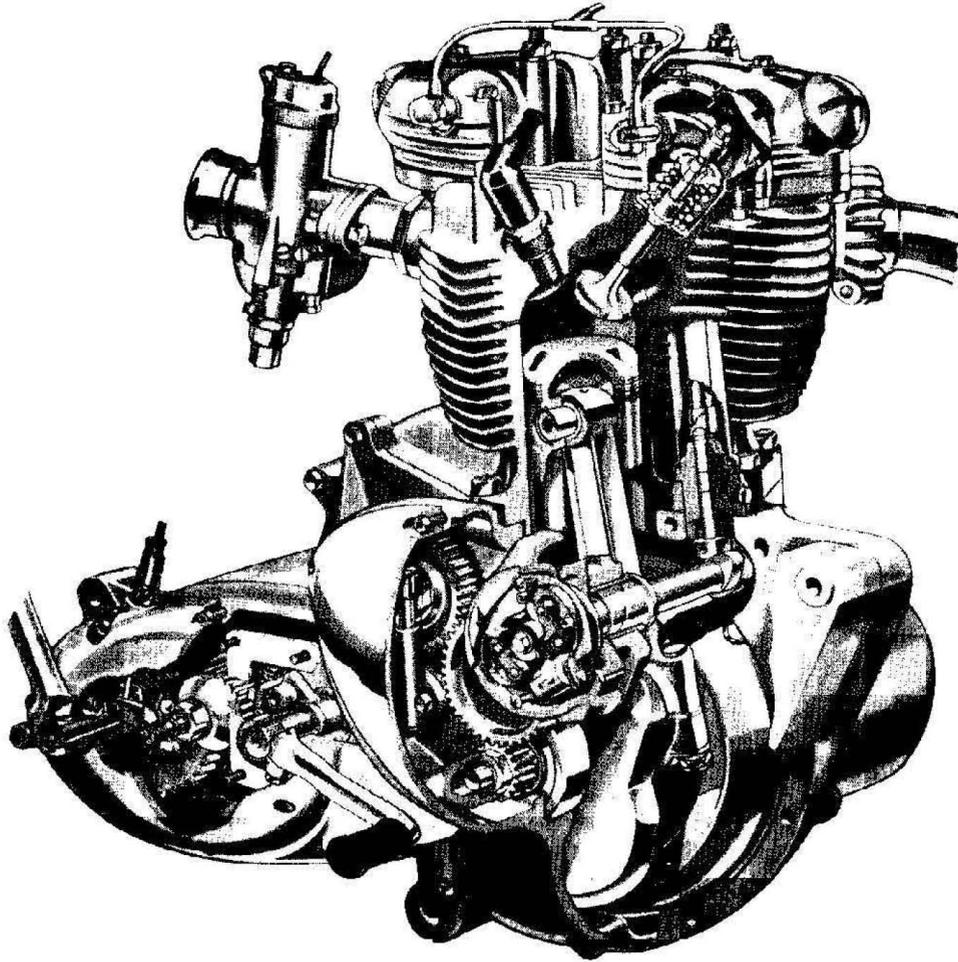


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TRIUMPH

WORKSHOP MANUAL



UNIT CONSTRUCTION 650 c.c. TWINS

T120 TR6 & 6T · FROM ENGINE No. DU. 101

1963 to 1970

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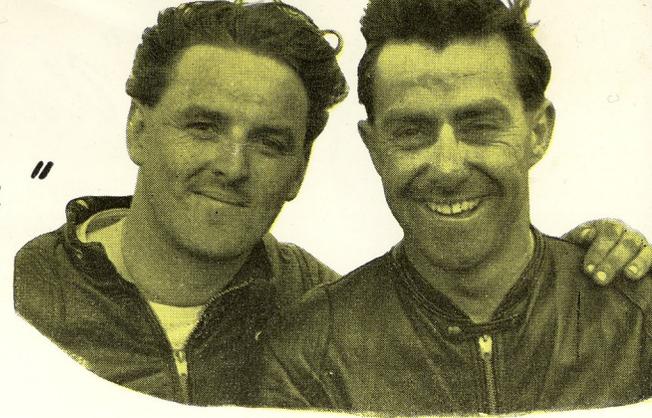
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"We had a wonderful ride on the 120
to win the Thruxton 500 mile race"

say JOHN HOLDER and TONY GODFREY



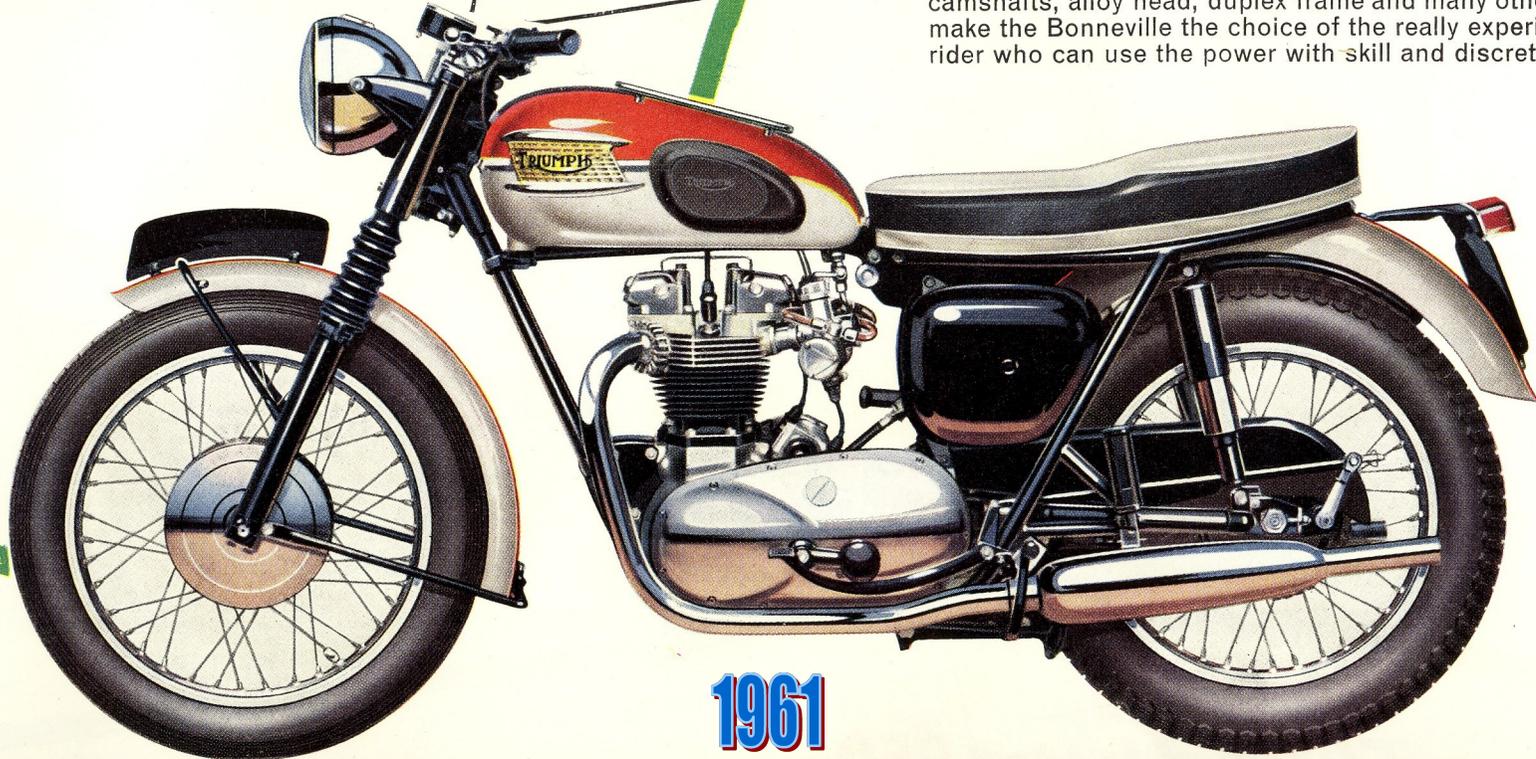
Bonneville 120

650 C.C.

T120/R

Patent Nos. 475860, 469635, 684685

For sheer performance the Triumph "Bonneville 120" is without equal as a standard production fully equipped road going motorcycle. This is proved by the spectacular results of the Thruxton International 500 Mile Race where this model swept the board. Two carburetters, special camshafts, alloy head, duplex frame and many other features make the Bonneville the choice of the really experienced rider who can use the power with skill and discretion.



1961

T120/C This model is available for competition use, fitted with trials tires and twin up-swept exhaust system. (Not illustrated).

Full technical specification inside back pages.

BONNEVILLE T120|R

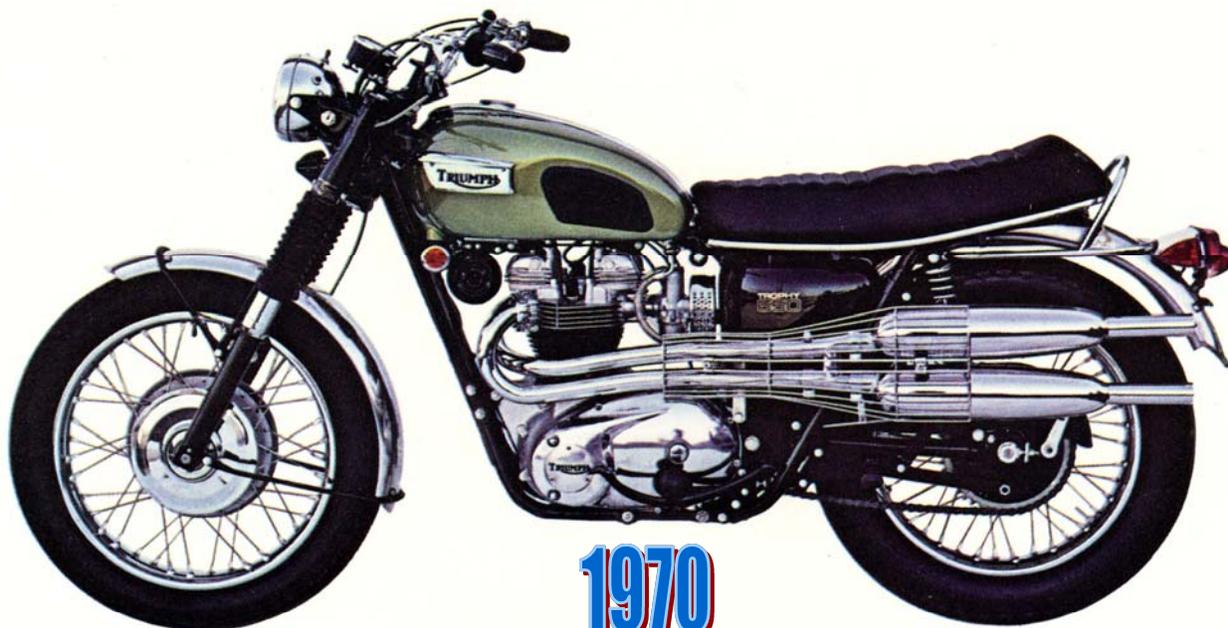
This is the 'top of the line'. And with Triumph that means something. A really responsive mount, it's the one that set, and still holds, the world's speed record. A true champion in every sense, the Bonneville is greater than ever in '67 - the smoothest ride on the road. If you demand the best motorcycle on the road today, then your choice has to be Bonneville. Available either in the road sport version for road riding or in competition trim for the race minded.



1967

BONNEVILLE 650 c.c. O.H.V., TWIN CARBURETOR, TWIN CYLINDER.

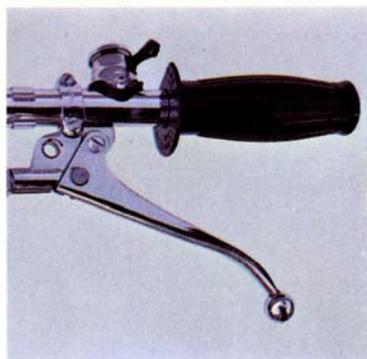
Pride of ownership is built into this Triumph. Rugged good looks combine with complete dependability for supreme rider satisfaction. A modern, up-to-date motorcycle with real quality features available only on Triumph, such as polished stainless steel fenders that will never lose their lustre. This is the greatest motorcycle under any and all road conditions, and it will take you (and a friend) where you want to go easily, quickly and comfortably. If you think that all motorcycling is the same, you owe it to yourself to test ride the new 1967 Bonneville that is waiting for you at your nearest dealers now.



1970

THE TROPHY 650

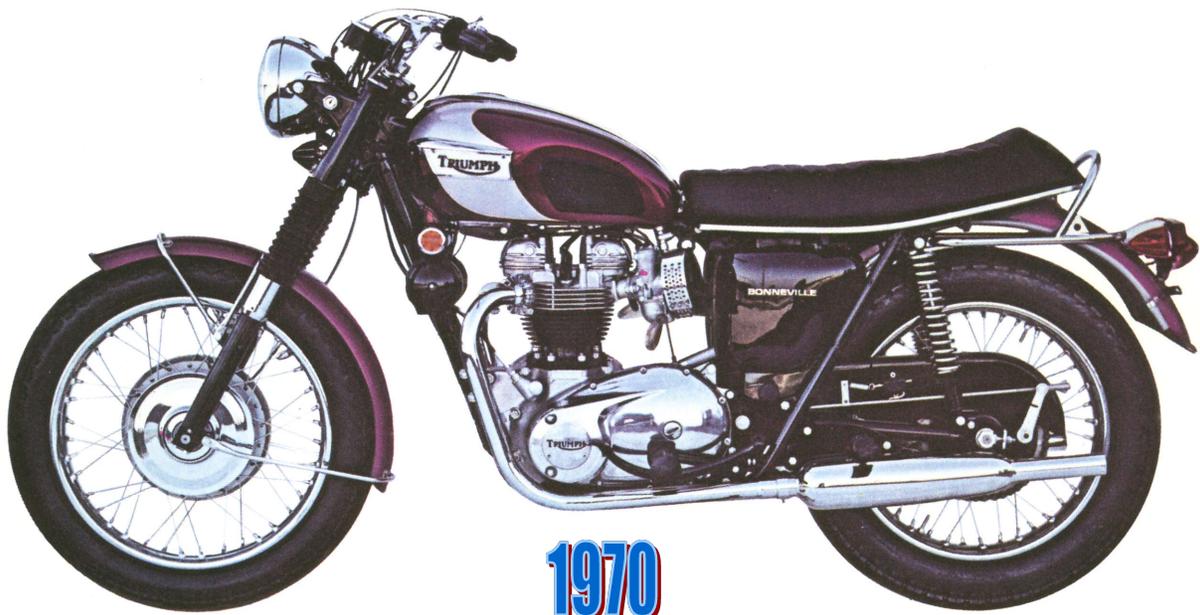
When you talk cross-country, you're talking about the Trophy 650, the first name and the last word in cross-country racing. From its sleek, upswept exhaust to its competition-proven engine, this beauty speaks winning. But don't take our word for it, Triumph yourself.



Engine type	OHV	Front chain size	.375 x .225 x .25 in. Duplex
Number of cylinders	2	Rear chain size	.625 x .375 in.
Bore and stroke	71 x 82 mm, 2.79 x 3.23 in.	Tire, front	3.50 x 19 in. (Opt. K70 or Trials Universal)
Displacement	649 cc, 40 cu. in.	Tire, rear	4.00 x 18 in. (Opt. K70 or Trials Universal)
Compression ratio	9:1	Brake diameter, front	8 in.
BHP and RPM	45 @ 6,500	Brake diameter, rear	7 in.
Engine sprocket teeth	29	Finish	Spring Gold/Black Stainless steel fenders
Clutch sprocket teeth	58	Seat height	30.5 in.
Gearbox sprocket teeth	18	Wheelbase	55.5 in.
Rear sprocket teeth	46	Length	84.5 in.
RPM 10 mph top gear	666	Width	27 in.
Gear ratios, top	5.11	Clearance	7.125 in.
Gear ratios, third	6.09	Weight (Dry)	384 lbs.
Gear ratios, second	8.63	Fuel capacity	2.5 gals.
Gear ratios, first	12.46	Oil capacity	6 pints
Carburetor	Single/Amal 930		

Specifications subject to change without notice.

THE TRIUMPH

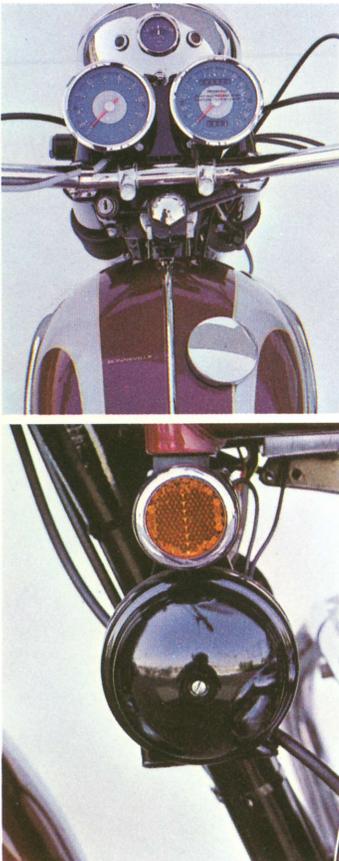


1970

THE BONNEVILLE 650

The standard by which all the others are judged. A streamlined 650cc holds the AMA-approved world's speed record of 245.667 mph. Solid engineering, rugged construction and the kind of ride that has to be felt to be believed.

The Bonneville is in a class all by itself.

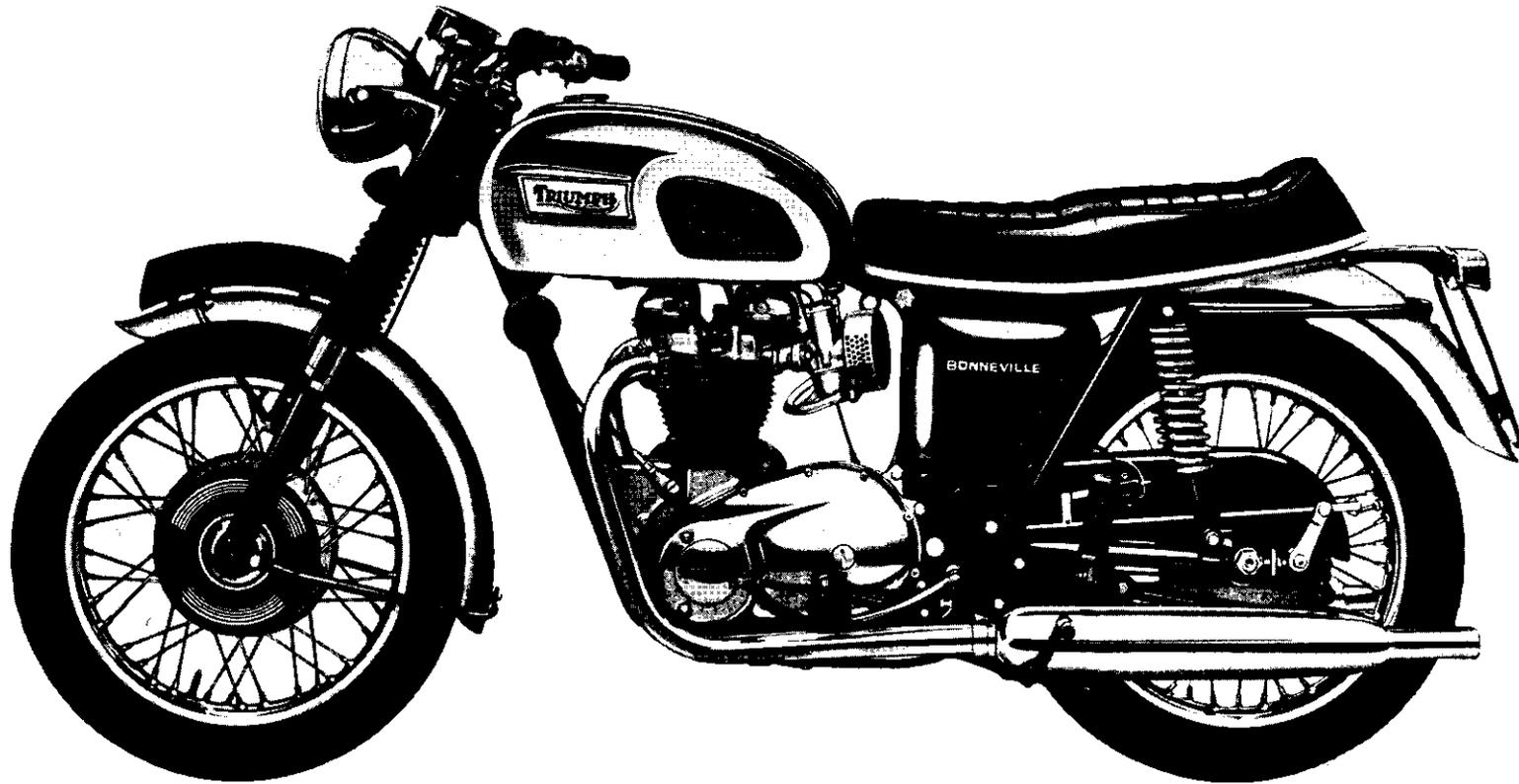


Engine type	OHV	Front chain size	.357 x .225 x .25 in. Duplex
Number of cylinders	2	Rear chain size	.625 x .375 in.
Bore and stroke	71 x 82 mm, 2.79 x 3.23 in.	Tire, front	3.25 x 19 in. (K70)
Displacement	649 cc, 40 cu. in.	Tire, rear	4.00 x 18 in. (K70)
Compression ratio	9:1	Brake diameter, front	8 in.
BHP and RPM	52 @ 6,500	Brake diameter, rear	7 in.
Engine sprocket teeth	29	Finish	Astral Red/Silver
Clutch sprocket teeth	58	Seat height	30.5 in.
Gearbox sprocket teeth	19	Wheelbase	55.5 in.
Rear sprocket teeth	46	Length	84.5 in.
RPM 10 mph top gear	634	Width	27 in.
Gear ratios, top	4.84	Clearance	7.125 in.
Gear ratios, third	5.76	Weight (Dry)	386 lbs.
Gear ratios, second	8.17	Fuel capacity	2.5 gals.
Gear ratios, first	11.81	Oil capacity	6 pints
Carburetor	Twin/Amal 930		

Specifications subject to change without notice.

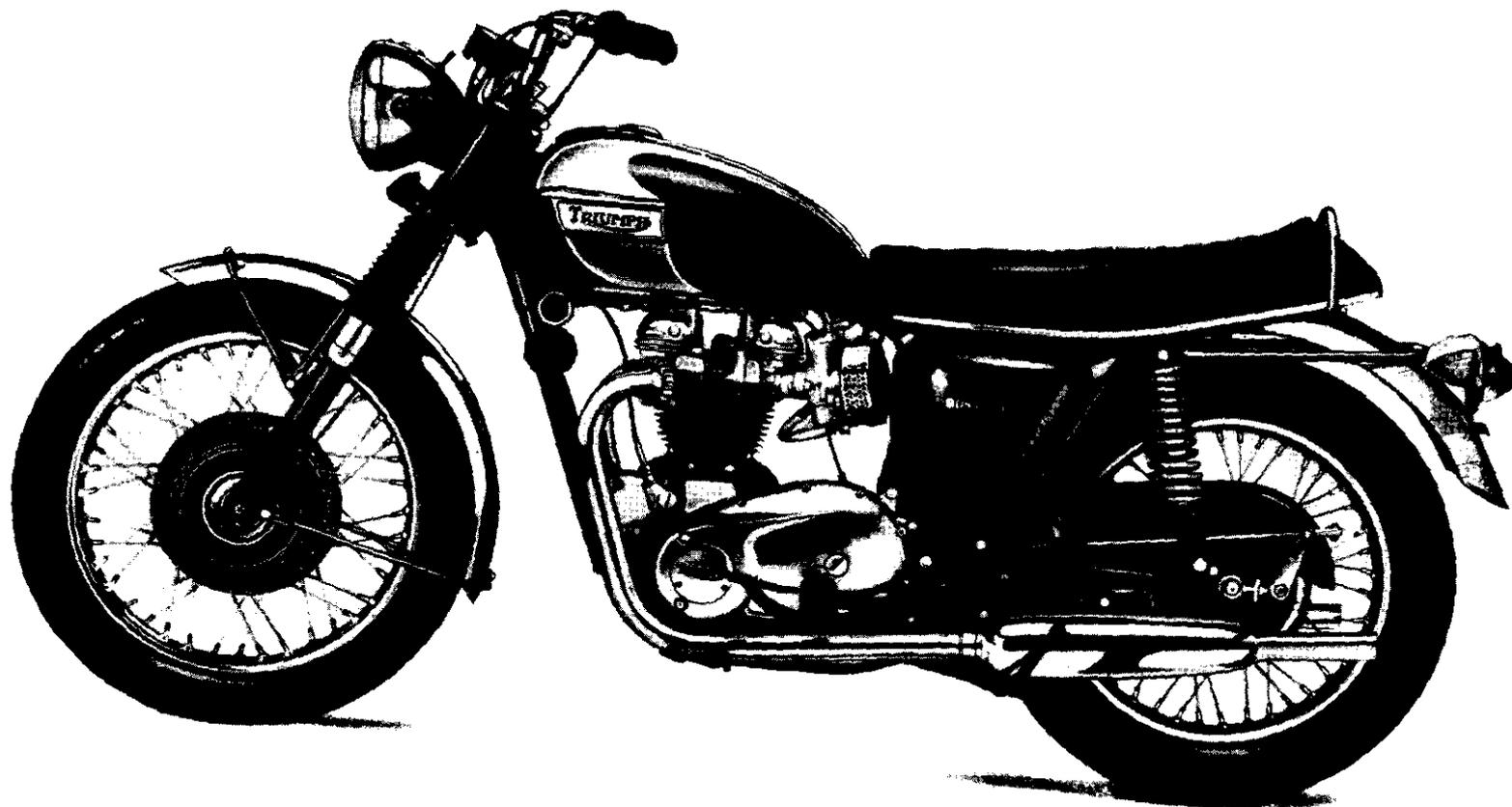
THE TRIUMPH

TRIUMPH 650 c.c. UNIT CONSTRUCTION TWINS



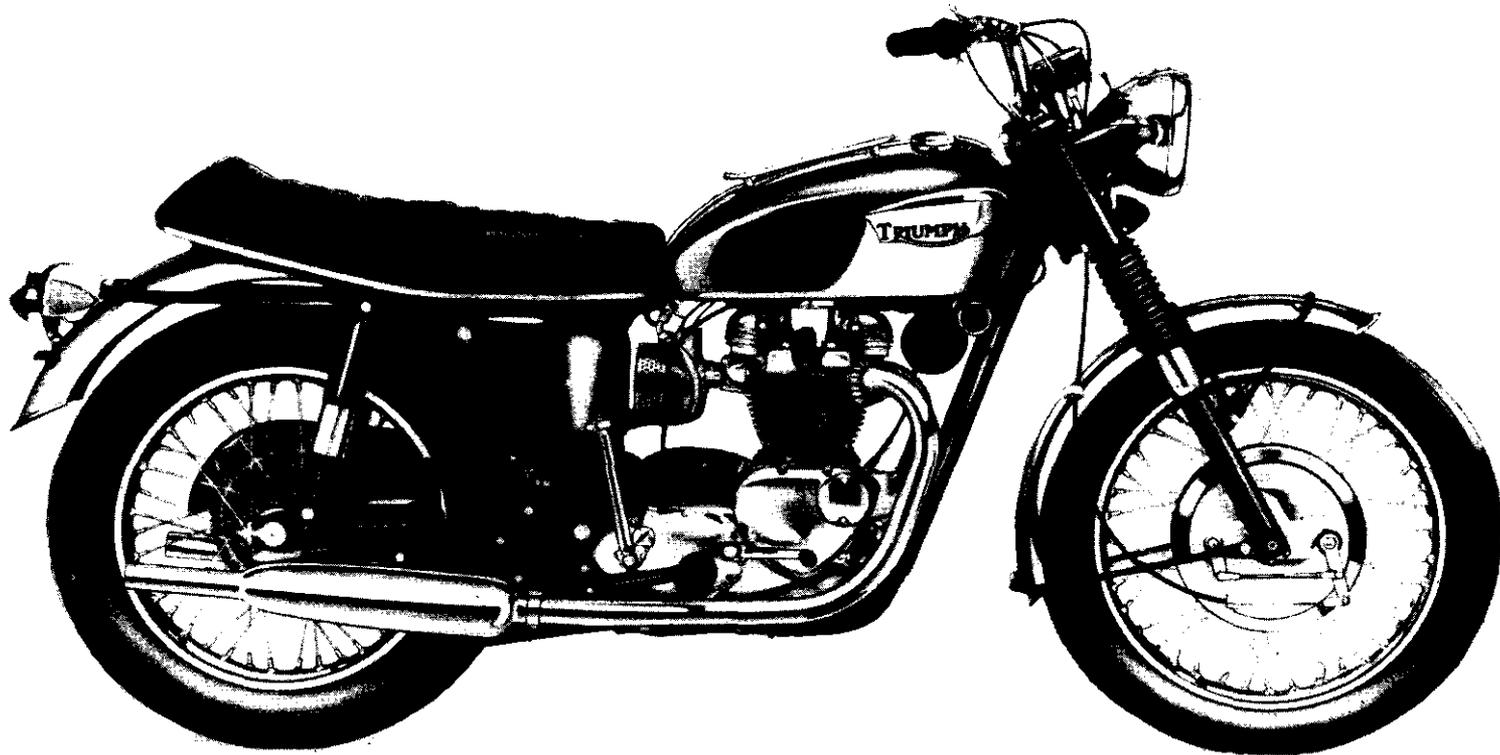
650 c.c. TRIUMPH BONNEVILLE 120 (T120)

TRIUMPH 650 c.c. UNIT CONSTRUCTION TWINS



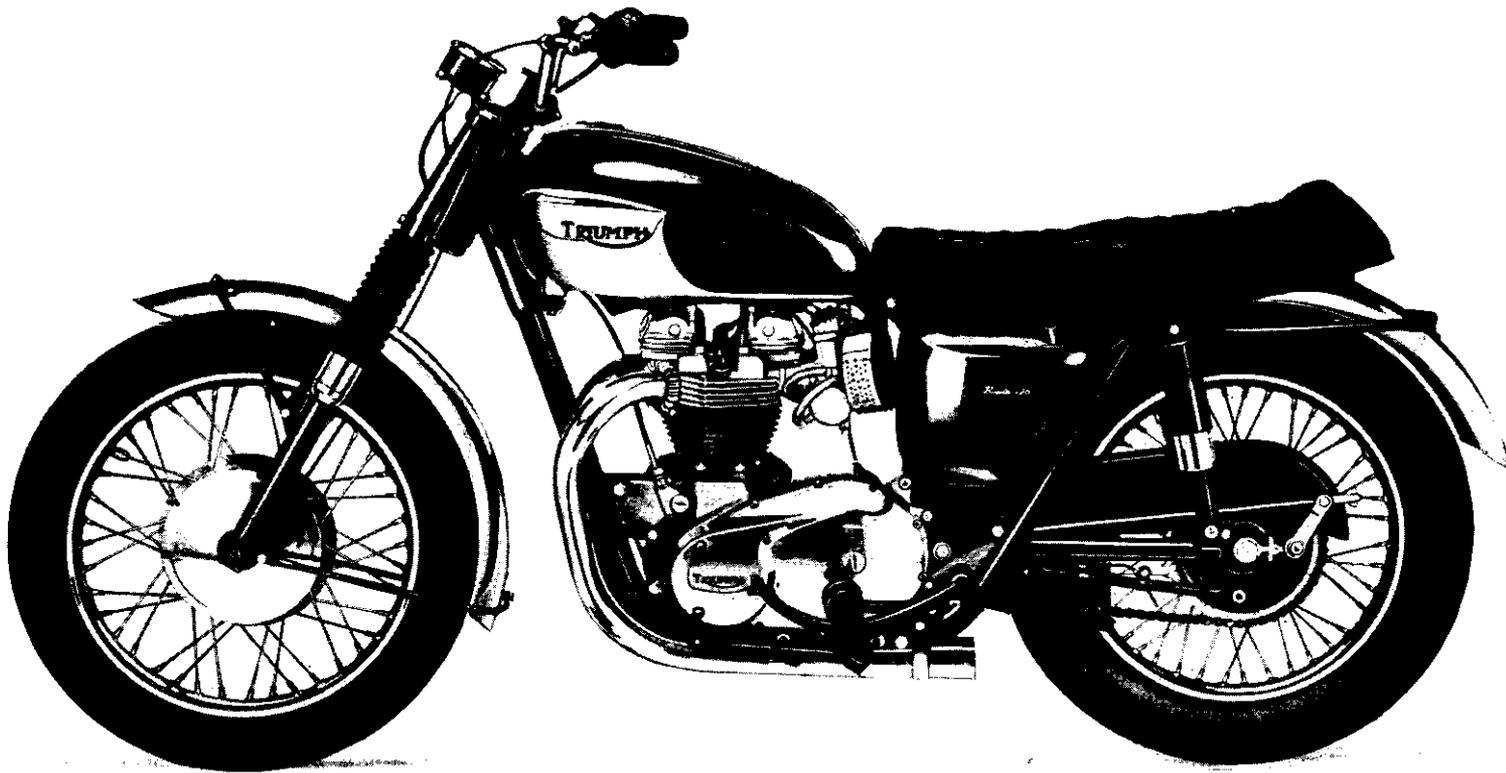
650 c.c. (40 cu. in.) BONNEVILLE (T120R)

TRIUMPH 650 c.c. UNIT CONSTRUCTION TWINS



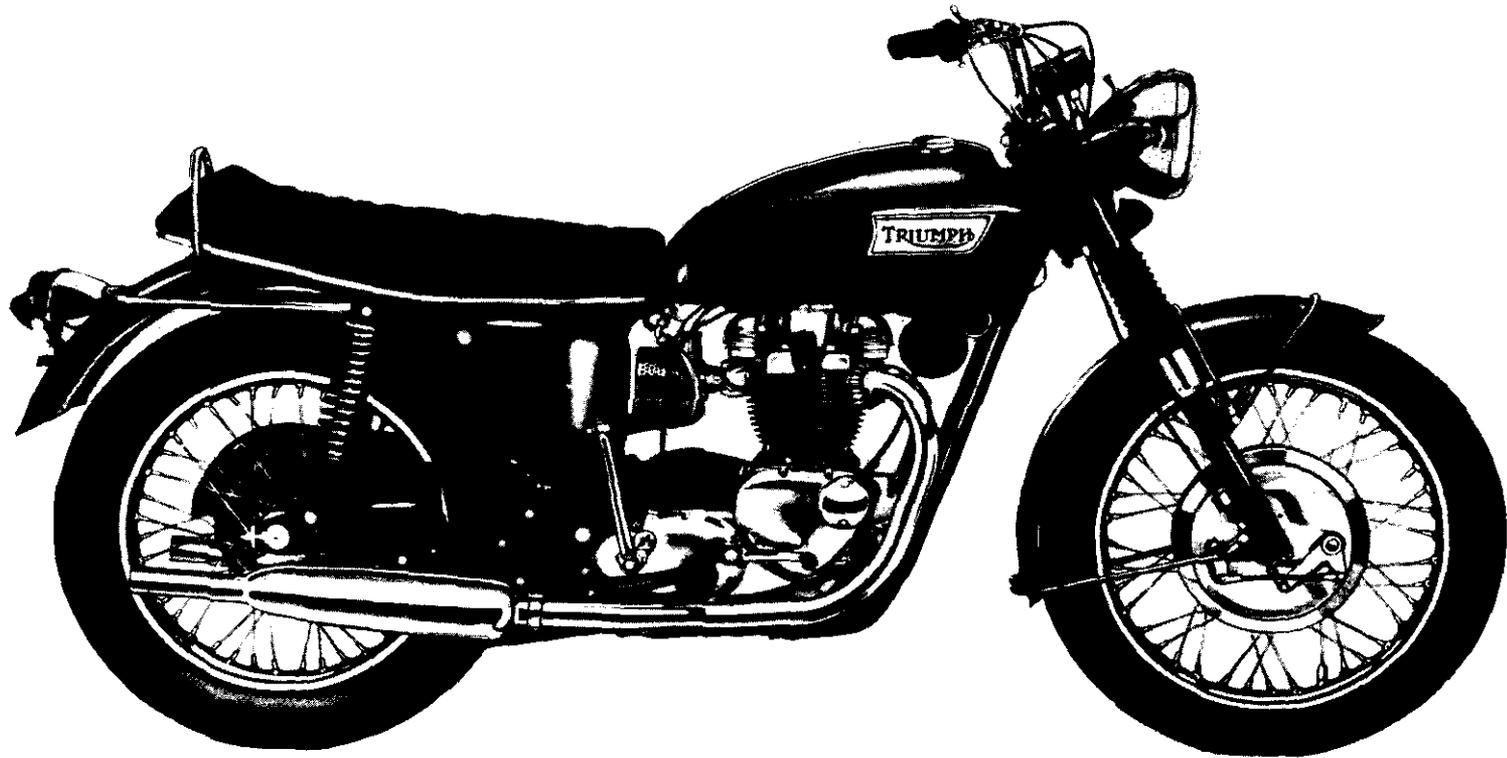
650 c.c. (40 cu. in.) TIGER 650 (TR6R)

TRIUMPH 650 c.c. UNIT CONSTRUCTION TWINS



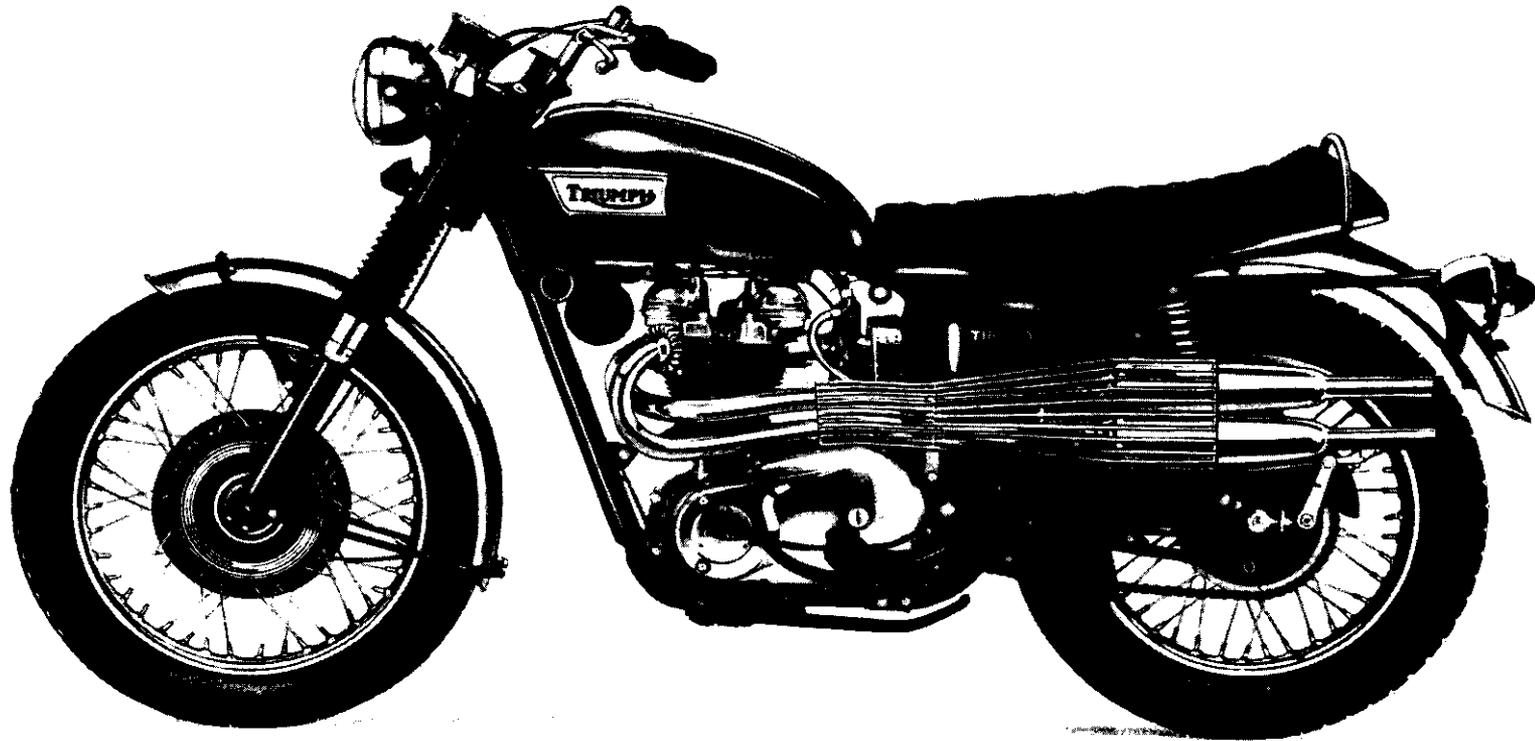
**650 c.c. (40 cu. in.) BONNEVILLE T.T. SPECIAL (T120TT)
DISCONTINUED AFTER ENGINE NUMBER DU. 66245**

TRIUMPH 650 c.c. UNIT CONSTRUCTION TWINS



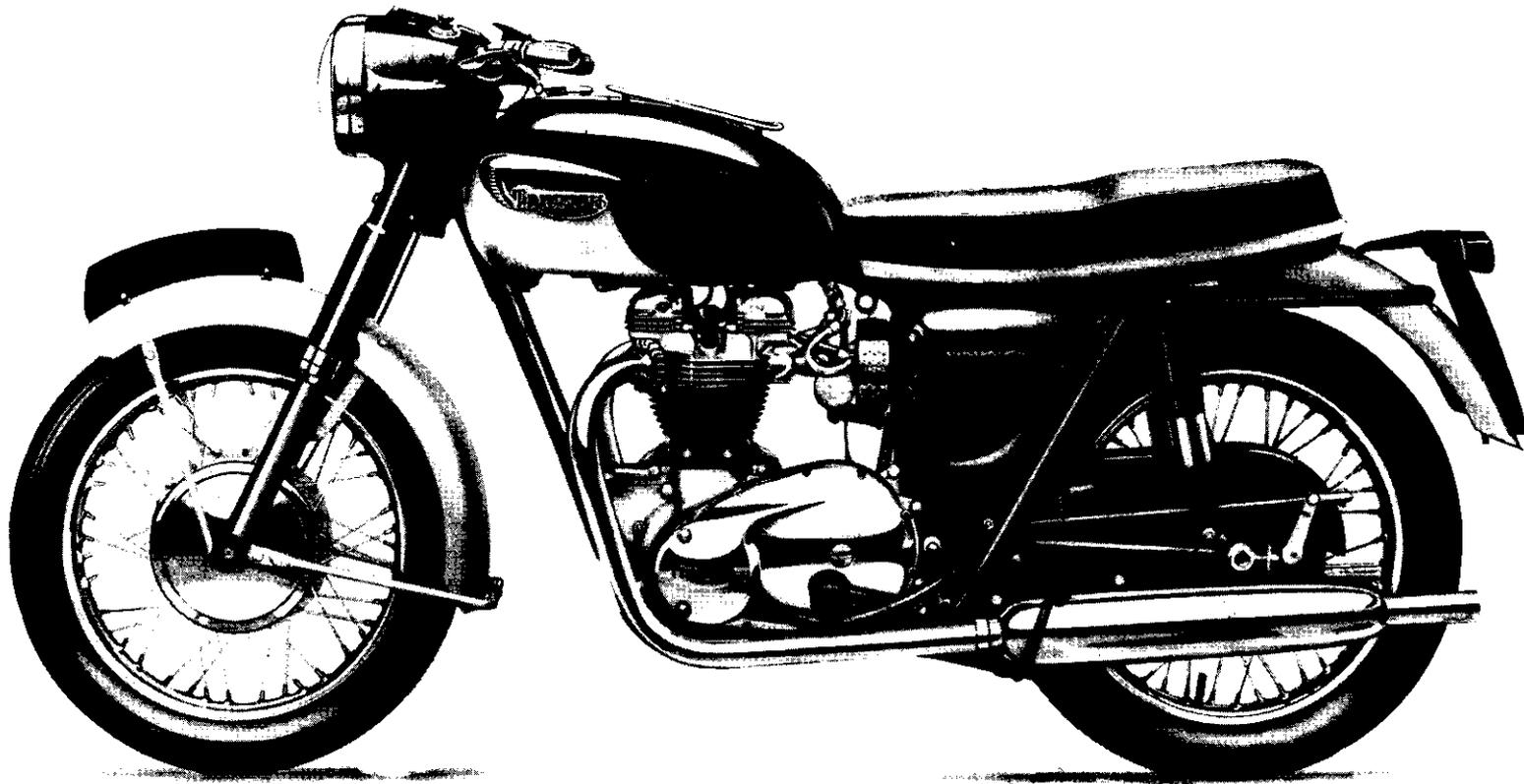
650 c.c. (40 cu. ins.) TROPHY (TR6R)

TRIUMPH 650 c.c. UNIT CONSTRUCTION TWINS



650 c.c. (40 cu. in.) TROPHY 650 (TR6C)

TRIUMPH 650 c.c. UNIT CONSTRUCTION TWINS



**650 c.c. TRIUMPH THUNDERBIRD (6T)
DISCONTINUED AFTER ENGINE NUMBER DU. 44393**

GENERAL DATA

T120 Bonneville

TR6 Trophy

Also: USA variations T120R, TR6R, TR6C

Note:—Throughout this Section, read **All Models** as for T120 Bonneville, unless otherwise detailed under the particular Model

As the existing threaded parts on all Triumph motorcycles are gradually modified to a Unified thread, it becomes a matter of necessity to know the threads you are dealing with.

Size	Cycle Engineers Institute (C.E.I.)	UNIFIED		WHITWORTH	
		Unified Fine (UNF)	Unified Coarse (UNC)	British Standard Fine (BSF)	British Standard Whitworth (Coarse) (BSW)
$\frac{1}{4}$ "	26	28	20	26	20
$\frac{5}{16}$ "	26	24	18	22	18
$\frac{3}{8}$ "	26	24	16	20	16
$\frac{7}{16}$ "	26	20	14	18	14
$\frac{1}{2}$ "	20	20	13	16	12
$\frac{9}{16}$ "	20	18	12	16	12
$\frac{5}{8}$ "	20	18	11	14	11

T120 BONNEVILLE—(cont)

PISTONS

Material	...	...	...	...	...	...	...	...	...	...	...	Aluminium Alloy—diecasting
Clearance: Top of skirt	...	...	...	...	...	...	...	...	...	...	...	.0106/.0085 in.
Bottom of skirt	...	...	...	...	...	...	...	...	...	...	...	.0061/.0046 in.
Gudgeon pin hole dia.	...	...	...	...	...	...	...	...	...	...	...	.6882/.6886 in.

PISTON RINGS

Material	...	...	...	...	...	...	...	...	...	...	...	Cast iron
Compression rings (tapered):	...	...	...	...	...	...	...	...	...	...	...
Width	...	...	...	...	...	...	...	...	...	...	...	.0615/.0625 in.
Thickness	...	...	...	...	...	...	...	...	...	...	...	.092/.100 in.
Fitted gap	...	...	...	...	...	...	...	...	...	...	...	.010/.014 in.
Clearance in groove	...	...	...	...	...	...	...	...	...	...	...	.001/.003 in.
Oil control ring:	...	...	...	...	...	...	...	...	...	...	...
Width	...	...	...	...	...	...	...	...	...	...	...	.092/.100 in.
Thickness	...	...	...	...	...	...	...	...	...	...	...	.124/.125 in.
Fitted gap	...	...	...	...	...	...	...	...	...	...	...	.010/.014 in.
Clearance in groove	...	...	...	...	...	...	...	...	...	...	...	.0005/.0025 in.

FUEL SYSTEM

Twin Carburetters											Concentric float		Monobloc
Amal type	...	...	...	...	...	...	...	...	...	...	...	R930/9 and L930/10	389/203
Main jet size	...	...	...	...	...	...	...	...	...	...	...	220	206
Pilot jet size	...	...	...	...	...	...	...	...	...	...	...	—	25
Needle jet size	...	...	...	...	...	...	...	...	...	...	...	.106	.106
Needle type	...	...	...	...	...	...	...	...	...	...	...	STD	D
Needle position	...	...	...	...	...	...	...	...	...	...	...	2	3
Throttle valve:	...	...	...	...	...	...	...	...	...	...	...
Type	...	...	...	...	...	...	...	...	...	...	...	2½	389/95
Return spring free length	...	...	...	...	...	...	...	...	...	...	...	2½ in.	2½ in.
Carburetter nominal bore size	...	...	...	...	...	...	...	...	...	...	...	30 mm.	1½ in. dia.
Air cleaner type (where fitted)	...	...	...	...	...	...	...	...	...	...	...	Filter cloth and metal gauze	

TRANSMISSION

CLUTCH DETAILS

Type	...	...	...	...	...	...	...	...	...	...	...	Multiplate with integral shock absorber
No. of plates: Driving (bonded)	...	...	...	...	...	...	...	...	...	...	...	6
Driven (plain)	...	...	...	...	...	...	...	...	...	...	...	6
Pressure springs:	...	...	...	...	...	...	...	...	...	...	...
Number	...	...	...	...	...	...	...	...	...	...	...	3
Free length	...	...	...	...	...	...	...	...	...	...	...	1½ in.
No. of working coils	...	...	...	...	...	...	...	...	...	...	...	9½
Spring rate	...	...	...	...	...	...	...	...	...	...	...	113 lbs./in.
Approximate fitted load	...	...	...	...	...	...	...	...	...	...	...	62 lbs.
Bearing rollers:	...	...	...	...	...	...	...	...	...	...	...
Number	...	...	...	...	...	...	...	...	...	...	...	20
Diameter	...	...	...	...	...	...	...	...	...	...	...	.2495/.2500 in.
Length	...	...	...	...	...	...	...	...	...	...	...	.231/.236 in.
Clutch hub bearing diameter	...	...	...	...	...	...	...	...	...	...	...	1.3733/1.3743 in.
Clutch sprocket bore diameter	...	...	...	...	...	...	...	...	...	...	...	1.8745/1.8755 in.
Thrust washer thickness	...	...	...	...	...	...	...	...	...	...	...	.052/.054 in.
Engine sprocket teeth	...	...	...	...	...	...	...	...	...	...	...	29
Clutch sprocket teeth	...	...	...	...	...	...	...	...	...	...	...	58
Chain details	...	...	...	...	...	...	...	...	...	...	...	Duplex endless— $\frac{3}{8}$ in. pitch × 84 links

CLUTCH OPERATING MECHANISM

Conical spring:	...	...	...	...	...	...	...	...	...	...	...
Number of working coils	...	...	...	...	...	...	...	...	...	...	...	2
Free length	...	...	...	...	...	...	...	...	...	...	...	1½ in.
Diameter of balls	...	...	...	...	...	...	...	...	...	...	...	$\frac{3}{8}$ in.
Clutch operating rod:	...	...	...	...	...	...	...	...	...	...	...
Diameter of rod	...	...	...	...	...	...	...	...	...	...	...	$\frac{7}{16}$ in.
Length of rod	...	...	...	...	...	...	...	...	...	...	...	11.822/11.812 in.

GEARBOX

T120 BONNEVILLE—(cont)

RATIOS

Internal ratios (Std.)	4th (Top) ...	...	...	...	...	...	...	...	...	1-00 : 1	
	3rd... ..	...	...	...	...	...	...	...	...	1-19 : 1	
	2nd ... ..	...	...	...	...	...	...	...	...	1-69 : 1	
	1st (Bottom) ... ..	...	...	...	...	...	...	...	...	2-44 : 1	
Overall ratios:	4th (Top) ... ..	...	...	...	...	...	...	...	...	Solo	Sidecar
	3rd ... ..	...	...	...	...	...	...	...	...	4-84	5-41
	2nd ... ..	...	...	...	...	...	...	...	...	5-76	6-44
	1st (Bottom) ... ..	...	...	...	...	...	...	...	...	8-17	9-15
Engine R.P.M. @ 10 M.P.H. in	4th (Top) gear ... ..	...	...	...	...	...	...	...	...	11-8	13-4
Gearbox sprocket teeth ... ..		...	...	...	...	...	...	...	...	648	725
		...	...	...	...	...	...	...	...	19	17

GEAR DETAILS

Mainshaft high gear:											
	Bore diameter (bush fitted) ... ..	...	...	...	...	...	...	...	...	...	.8135/.8145 in.
	Working clearance on shaft ... ..	...	...	...	...	...	...	...	...	...	.0032/.0047 in.
	Bush length ... ..	...	...	...	...	...	...	...	...	...	2½ in.
	Bush protrusion length ... ..	...	...	...	...	...	...	...	...	...	⅞ in. None after DU66246
Layshaft low gear:											
	Bore diameter (bush fitted) ... ..	...	...	...	...	...	...	...	...	...	.8135/.8145 in.
	Working clearance on shaft ... ..	...	...	...	...	...	...	...	...	...	.0025/.0045 in.

GEARBOX SHAFTS

Mainshaft:											
	Left end diameter ... ..	...	...	...	...	...	...	...	...	...	.8098/.8103 in.
	Right end diameter ... ..	...	...	...	...	...	...	...	...	...	.7494/.7498 in.
	Length ... ..	...	...	...	...	...	...	...	...	...	{ 10½ in. (up to DU48143) 11½ in. (DU48144 onwards)
Layshaft:											
	Left end diameter ... ..	...	...	...	...	...	...	...	...	...	.6845/.6850 in.
	Right end diameter ... ..	...	...	...	...	...	...	...	...	...	.6845/.6850 in.
	Length... ..	...	...	...	...	...	...	...	...	...	6¾ in.
Camplate plunger spring:											
	Free length ... ..	...	...	...	...	...	...	...	...	...	2½ in.
	No. of working coils ... ..	...	...	...	...	...	...	...	...	...	22
	Spring rate ... ..	...	...	...	...	...	...	...	...	...	5-6 lb./in.

BEARINGS

	High gear bearing ... ..	...	...	...	...	...	...	...	...	...	1¼ × 2½ × ⅝ in. Ball Journal
	Mainshaft bearing ... ..	...	...	...	...	...	...	...	...	...	¾ × 1⅞ × ⅞ in. Ball Journal
	Layshaft bearing (left) ... ..	...	...	...	...	...	...	...	...	...	1¼ × ⅝ × ¼ in. Needle Roller
	Layshaft bearing (right) ... ..	...	...	...	...	...	...	...	...	...	1¼ × ⅝ × ¼ in. Needle Roller

KICKSTART OPERATING MECHANISM

	Bush bore diameter ... ..	...	...	...	...	...	...	...	...	...	.751/.752 in.
	Spindle working clearance in bush ... ..	...	...	...	...	...	...	...	...	...	.003/.005 in.
	Ratchet spring free length ... ..	...	...	...	...	...	...	...	...	...	½ in.

GEARCHANGE MECHANISM

Plungers:											
	Outer diameter ... ..	...	...	...	...	...	...	...	...	...	.4315/.4320 in.
	Working clearance in bore ... ..	...	...	...	...	...	...	...	...	...	.0005/.0015 in.
Plunger springs:											
	No. of working coils ... ..	...	...	...	...	...	...	...	...	...	12
	Free length ... ..	...	...	...	...	...	...	...	...	...	1½ in.
Inner bush bore diameter											
	Clearance on shaft ... ..	...	...	...	...	...	...	...	...	...	.6245/.6255 in.
Outer bush bore diameter											
	Clearance on shaft ... ..	...	...	...	...	...	...	...	...	...	.0007/.0032 in.
	Clearance on shaft ... ..	...	...	...	...	...	...	...	...	...	.7495/.7505 in.
	Clearance on shaft ... ..	...	...	...	...	...	...	...	...	...	.0005/.0025 in.
Quadrant return springs:											
	No. of working coils ... ..	...	...	...	...	...	...	...	...	...	9½
	Free length ... ..	...	...	...	...	...	...	...	...	...	1½ ins.

T120 BONNEVILLE—(cont)

FRAME AND ATTACHMENT DETAILS

HEAD RACES

No. of balls: Top	20
Bottom	20
Ball diameter	$\frac{1}{4}$ in.

SWINGING FORK

Bush type	Pre-sized, steel-backed— phosphor bronze
Bush bore diameter	1.4460/1.4470 in.
Sleeve diameter	1.4445/1.4450 in.
Distance between fork ends	$7\frac{1}{2}$ in.

REAR SUSPENSION

Type	Swinging fork controlled by com- bined coil spring/hydraulic damper units
Spring details:	
Fitted length	8 in.
Free length	$8\frac{7}{8}$ in.
Mean coil diameter	$1\frac{1}{2}$ in.
Spring rate	145 lbs./in.
Colour code	Blue/yellow
Load at fitted length	38 lb.

WHEELS, BRAKES AND TYRES

WHEELS

Rim size: Front and rear	WM2-19 Front WM2-18 rear
Type: Front	Spoke—single cross lacing
Rear	Spoke—double cross lacing
Spoke details: Front: Left side	20 off 8/10 SWG butted $5\frac{3}{8}$ in. U.H. straight
Right side	10 off 8/10 SWG butted $4\frac{3}{8}$ in. U.H. 78° head
Right side	10 off 8/10 SWG butted $4\frac{7}{8}$ in. U.H. 100° head
Rear: Left side	20 off 8/10 SWG butted $7\frac{1}{2}$ in. U.H. 90° head
Right side	20 off 8/10 SWG butted $7\frac{1}{4}$ in. U.H. 90° head

WHEEL BEARINGS

Front and rear, dimensions and type	20 × 47 × 14 mm.—Ball Journal
Front and rear, spindle diameter (at bearing journals) ... ..	.7862/.7867 in.

STANDARD REAR WHEEL

Bolt size for detachable sprocket	$\frac{1}{4}$ in. dia. × $\frac{1}{8}$ in. U.H. × 26 C.E.I.
Number of bolts	8

Q.D. REAR WHEEL

Bearing type	$\frac{3}{4}$ × $1\frac{1}{2}$ × $\frac{5}{16}$ in. Ball Journal
Bearing sleeve: journal diameter ... ..	.7500/.7495 in.
Brake drum bearing	$\frac{7}{8}$ × $2 \times \frac{1}{2}$ in. Ball Journal
Bearing sleeve: journal diameter ... ..	.8745/.8740 in.
Bearing housing: internal diameter	1.9890/1.9980 in.

REAR WHEEL DRIVE

Gearbox sprocket	See "Gearbox"
Rear wheel sprocket teeth	46
Chain details:	
No. of links: Solo	104
Sidecar	103
Pitch	$\frac{5}{8}$ in.
Width	$\frac{3}{8}$ in.
Speedometer drive gearbox ratio	2:1
Speedometer cable length	65 ins.

T120 BONNEVILLE—(cont)

BRAKES

Type	...	Internal expanding twin leading shoes
Drum Diameter: Front	...	8 in.
Rear	...	7 in.
		} ± .002 in.
Lining thickness: Front	...	.183/.193 in.
Rear	...	.177/.187 in.
Lining area: Front	...	24.4 sq. in.
Rear	...	14.6 sq. in.
Pre-set length of adjustable cam lever rod	...	6½ in. between centres

TYRES

Size: Front	...	3.25×19 in.
Rear	...	3.50×18 in.
Tyre pressure: Front	...	24 lb./sq. in. (1.685 Kg/sq. cm.)
Rear	...	24 lb./sq. in. (1.685 kg/sq. cm.)

FRONT FORKS

TELESCOPIC FORK

Type	...	Telescopic—Shuttle valve damping
Spring details:		Solo Sidecar
Free length	...	9¾ in. 9¾ in.
No. working coils	...	12½ 15½
Spring rate	...	26½ lb. in. 32½ lb. in.
Gauge	...	6 SWG 5 SWG
Colour code	...	Yellow/blue Yellow/green
Damper sleeve		
Length	...	2½ in.
Internal diameter	...	1.387—1.393 in.
Material	...	Black polypropylene
Bush details:		Top bush Bottom bush
Length	...	1 in. .870/.875 in.
Outer diameter	...	1.498/1.499 in. 1.4935/1.4945 in.
Inner diameter	...	1.3065/1.3075 in. 1.2485/1.2495 in.
Stanchion diameter	...	1.3025/1.3030 in.
Working clearance in top bush	...	.0035/.0050 in.
Bleed holes	...	8 holes ⅜ in. dia.
Fork leg bore diameter	...	1.498/1.500 in.
Working clearance of bottom bush	...	.0035/.0065 in.
Shuttle valve:		
Outer diameter (large)	...	1.018/1.016 in.
Outer diameter (small)	...	0.875/0.874 in.

ELECTRICAL SYSTEM

ELECTRICAL EQUIPMENT

Battery type (12v.)	...	PUZ 5A
Rectifier type	...	2DS 506
Alternator type	...	RM.19
Horn type (12v.)	...	6H
Bulbs:		No. Type
Headlight (L/H dip)	...	414 50/40 watts—pre-focus
Parking light	...	989 6 watts—MCC
Stop and tail light	...	380 6/21 watts—offset pin
Speedometer light	...	987 3 watts—MES
Ignition warning light	...	281 2 watts (BA 7S)
High beam indicator light	...	281 2 watts (BA 7S)
Zener diode type	...	ZD 715
Coil type (2 off)	...	MA12 (12v.) 2 off or later, 17M12 (12v.) 2 off
Contact breaker type	...	6CA
Fuse rating	...	35 amp.

T120 BONNEVILLE—(cont)

GENERAL

CAPACITIES

Fuel tank	...	...	...	...	...	...	...	...	...	...	4 gall. (4.8 U.S. galls., 18 litres)
Oil tank	...	...	...	...	...	...	...	...	...	...	6 pint (7½ U.S. pints, 3 litres)
Gearbox	...	...	...	...	...	...	...	...	...	...	7 pint (500 c.c.)
Primary chaincase	...	...	...	...	...	...	...	...	...	...	7 pint (350 c.c.)
Telescopic fork legs	...	...	...	...	...	...	...	...	...	...	¾ pint (200 c.c.)

BASIC DIMENSIONS

Wheel base	...	...	...	...	...	...	...	...	...	...	55 in. (140 cm.)
Overall length	...	...	...	...	...	...	...	...	...	...	84 in. (214 cm.)
Overall width	...	...	...	...	...	...	...	...	...	...	27½ in. (70 cm.)
Overall height	...	...	...	...	...	...	...	...	...	...	38 in. (97 cm.)
Ground clearance	...	...	...	...	...	...	...	...	...	...	5 in. (13 cm.)

WEIGHTS

Unladen weight	...	...	...	...	...	...	...	...	...	...	365 lb. (166 kgm.)
Engine unit (dry)	...	...	...	...	...	...	...	...	...	...	130 lb. (59 kgm.)

TORQUE WRENCH SETTINGS (DRY)

Flywheel bolts	...	...	...	...	...	...	...	...	...	...	33 lb. ft. (4.6 kg.m.)
Conn. rod bolts	...	...	...	...	...	...	...	...	...	...	28 lb. ft. (3.9 kg.m.)
Crankcase junction bolts	...	...	...	...	...	...	...	...	...	...	13 lb. ft. (1.8 kg.m.)
Crankcase junction studs	...	...	...	...	...	...	...	...	...	...	20 lb. ft. (2.8 kg.m.)
Cylinder block nuts	...	...	...	...	...	...	...	...	...	...	35 lb. ft. (4.8 kg.m.)
Cylinder head bolts (¾ in. dia.)	...	...	...	...	...	...	...	...	...	...	18 lb. ft. (2.49 kg.m.)
Cylinder head bolt (7/8 in. dia.)	...	...	...	...	...	...	...	...	...	...	15 lb. ft. (2.1 kg.m.)
Rocker box nuts	...	...	...	...	...	...	...	...	...	...	5 lb. ft. (.7 kg.m.)
Rocker box bolts	...	...	...	...	...	...	...	...	...	...	5 lb. ft. (.7 kg.m.)
Rocker spindle domed nuts	...	...	...	...	...	...	...	...	...	...	22 lb. ft. (3.0 kg.m.)
Oil pump nuts	...	...	...	...	...	...	...	...	...	...	5 lb. ft. (.7 kg.m.)
Kickstart ratchet pinion nut	...	...	...	...	...	...	...	...	...	...	45 lb. ft. (6.3 kg.m.)
Clutch centre nut	...	...	...	...	...	...	...	...	...	...	50 lb. ft. (7 kg.m.)
Rotor fixing nut	...	...	...	...	...	...	...	...	...	...	30 lb. ft. (4.1 kg.m.)
Stator fixing nuts	...	...	...	...	...	...	...	...	...	...	20 lb. ft. (2.8 kg.m.)
Primary cover domed nuts	...	...	...	...	...	...	...	...	...	...	10 lb. ft. (1.4 kg.m.)
Headlamp pivot bolts	...	...	...	...	...	...	...	...	...	...	10 lb. ft. (1.4 kg.m.)
Headrace sleeve nut pinch bolt	...	...	...	...	...	...	...	...	...	...	15 lb. ft. (2.1 kg.m.)
Stanchion pinch bolts	...	...	...	...	...	...	...	...	...	...	25 lb. ft. (3.5 kg.m.)
Front wheel spindle cap bolts	...	...	...	...	...	...	...	...	...	...	25 lb. ft. (3.5 kg.m.)
Brake cam spindle nuts	...	...	...	...	...	...	...	...	...	...	20 lb. ft. (2.8 kg.m.)
Zener diode fixing nut	...	...	...	...	...	...	...	...	...	...	1.5 lb. ft. (.21 kg.m.)
Fork cap nut	...	...	...	...	...	...	...	...	...	...	80 lb. ft. (11.1 kg.m.)

N.B.—18 lb. ft. replaces earlier recommendation of 25 lb. ft. for ¾ in. dia. cylinder head bolts for all unit construction 650 c.c. models.

FRAME AND ATTACHMENT DETAILS

REAR SUSPENSION

Spring details:										Solo	Sidecar
Fitted length	...	...	...	...	...	...	...	...	...	8 $\frac{3}{4}$ in.	8 $\frac{3}{4}$ in.
Free length	...	...	...	...	...	...	...	...	...	8 $\frac{1}{4}$ in.	8 $\frac{1}{4}$ in.
Mean coil diameter	...	...	...	...	...	...	...	...	...	1 $\frac{1}{2}$ in.	1 $\frac{1}{2}$ in.
Spring rate	...	...	...	...	...	...	...	...	...	100 lb./in.	150 lb./in
Colour code	...	...	...	...	...	...	...	...	...	Green/green	Blue/red
Load at fitted length	...	...	...	...	...	...	...	...	...	28 lb.	73 lb.

GENERAL

BASIC DIMENSIONS

Ground clearance	6 in. (15 cm.)
------------------	-----	-----	-----	-----	-----	-----	-----	-----	-----	----------------

U.S.A. ONLY

TR6R, TR6C, T120R, T120TT (T120TT ONLY UP TO DU.66245) FOR DATA NOT GIVEN HERE REFER TO GENERAL DATA FOR MODELS T120 AND TR6 ENGINE

Compression ratio T120TT	... ..	11 : 1
Power output T120TT	... ..	54 @ 6,500

CYLINDER HEAD T120TT

Inlet port size	... ..	1 $\frac{3}{8}$ in. tapering to 1 $\frac{1}{8}$ in.
Exhaust port size	... ..	1 $\frac{1}{8}$ in. dia.
Carburettor adaptors	... ..	1 $\frac{3}{8}$ in. dia.

CARBURETTERS

T120TT

Choke size	... ..	1 $\frac{3}{8}$ in.
Type	... ..	389/95
Main jet size	... ..	330
Pilot jet size	... ..	25
Needle jet size	... ..	106
Needle type	... ..	D
Needle position	... ..	2
Throttle valve	... ..	389/4

AIR CLEANER

T120R and T120TT	... ..	Coarse felt
TR6R and TR6C	... ..	Cloth

SPARKING PLUGS

T120TT	Champion N58R
--------	--------	---------------

TACHOMETER DRIVE (TR6R, T120R)

Type of tachometer gearbox	... ..	90° drive from L/H end of exhaust camshaft
Drive ratio	... ..	4:1
Cable length	... ..	28 in.
Tachometer head	... ..	RSM 3003/01

IGNITION TIMING (A.C. MAGNETO) TR6C AND T120TT (Up to DU66245)

Crankshaft position (B.T.D.C.)		
Static timing	... ..	29°
Fully advanced	... ..	39°
Piston position (B.T.D.C.)		
Static timing	... ..	$\frac{1}{4}$ in. (6.3 mm.)
Fully advanced	... ..	$\frac{7}{8}$ in. (11.5 mm)
Advance range:		
Contact breaker	... ..	5°
Crankshaft	... ..	10°

CONTACT BREAKER (A.C. MAGNETO) TR6C and T120TT (Up to DU66245)

Gap setting	... ..	.014/.016 in. (.35/.40 mm.)
Advance range	5°
Fully advanced at	2,000 R.P.M.

TRANSMISSION

REAR CHAIN

T120TT	103 links
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GEARBOX SPROCKET

TR6R	19 teeth
TR6C	18 teeth
T120R	19 teeth
T120TT	17 teeth

GENERAL DATA

ALTERNATIVE FITMENTS FOR SPORTS MODELS TR6 AND T120

ENGINE

PISTONS (11 : 1 C.R.)

Material	...	...	...	...	...	...	...	...	...	...	...	Aluminium Alloy—Die Casting
Clearance: Top of skirt	...	...	...	...	...	...	...	...	...	...	...	·0146/·0125 in.
Bottom of skirt	...	...	...	...	...	...	...	...	...	...	...	·0084/·0070 in.
Gudgeon pin hole diameter	...	...	...	...	...	...	...	...	...	...	...	·6882/·6886 in.

TAPPETS ("R" TYPE)

Material	...	...	...	...	...	...	...	...	...	...	...	High tensile steel—stellite tip
Tip radius	...	...	...	...	...	...	...	...	...	...	...	1·125 in.
Tappet diameter	...	...	...	...	...	...	...	...	...	...	...	·3105/·3115 in.
Clearance in guide block	...	...	...	...	...	...	...	...	...	...	...	·005/·0015 in.

GEARBOX

RATIOS

Internal ratios (Close):	4th (Top)	...	...	...	...	...	...	...	...	...	...	1·00 : 1
	3rd	...	...	...	...	...	...	...	...	...	...	1·09 : 1
	2nd	...	...	...	...	...	...	...	...	...	...	1·30 : 1
	1st (Bottom)	...	...	...	...	...	...	...	...	...	...	1·695 : 1
Internal ratios (Wide):	4th (Top)	...	...	...	...	...	...	...	...	...	...	1·00 : 1
	3rd	...	...	...	...	...	...	...	...	...	...	1·425 : 1
	2nd	...	...	...	...	...	...	...	...	...	...	2·21 : 1
	1st (Bottom)	...	...	...	...	...	...	...	...	...	...	2·915 : 1
Gearbox sprocket...	...	...	...	...	...	...	...	...	...	...	...	15, 16, 17, 18, 19 or 20 teeth

FRONT FORKS

TELESCOPIC FORK (Only applicable up to DU66245)

Oil restrictor assembly:		
Rod diameter ... ..	...	3115/3125 in.
Cup outer diameter ... ..	...	5845/5855 in.
Body bore diameter ... ..	...	590/592 in.

ELECTRICAL SYSTEM

IGNITION CAPACITOR

Model ... ..	...	2MC
Storage life ... ..	...	At 20°C. (68°F.) shelf life 18 months
		At 40°C. (86°F.) shelf life 9 to 12 months

GENERAL

CAPACITIES

Fuel tank	2½ gall. (2.8 U.S. galls., 11 litres)
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TACHOMETER

Type of tachometer gearbox	90° drive from L/H end of exhaust camshaft
Drive ratio ... ..	...	4 : 1
Cable length ... ..	...	28 in.
Tachometer head ... ..	...	RSM 3003/01

MISCELLANEOUS DATA PRIOR TO ENGINE No. DU.66246—(cont)

VALVE SPRINGS (RED SPOT)

	Outer	Inner
Free length	1 5/8 in.	1 1/2 in.
Total number of coils	5 1/2	7 1/4
Total fitted load valve open	125 lbs.	
Total fitted load valve closed	50 lbs.	

VALVE SPRINGS (WHITE SPOT)

	Outer	Inner
Free length	2 1/2 in.	1 5/8 in.
Total number of coils	6 1/2	7
Total fitted load valve open	130 lbs.	
Total fitted load valve closed	77 lbs.	

VALVE TIMING

	6T (DU101 onwards)	TR6 (DU101- DU44393)	T120 (DU101- DU24874)	T120 (certain later machines series DU24874 and DU44393)
Inlet opens	25° before top centre	34°	34°	34°
Inlet closes	52° after bottom centre	55°	55°	55°
Exhaust opens	60° before bottom centre	48°	48°	55°
Exhaust closes	17° after bottom centre	27°	27°	34°

Set all tappets to 0.020 in. for checking

TAPPETS (T120 prior to DU24875)

Tip radius750 in.
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CAMSHAFT

	6T	TR6	T120
Cam lift305 in.	.314 in. Inlet .296 in. Exhaust	.314 in. Inlet .296 in. Exhaust

(Certain later T120 between DU24875 and DU44393 have .314 in. both Inlet and Exhaust)

IGNITION TIMING A.C. Magneto (E.T.) Ignition equipment

Crankshaft position (B.T.D.C.)	
Static timing	29°
Fully advanced	39°
Piston position (B.T.D.C.)	
Static timing	1/4 in. (6.3 mm.)
Fully advanced	7/8 in. (11.5 mm.)
Advance range:	
Contact breaker	5°
Crankshaft	10°

IGNITION TIMING

	6T	TR6	T120
Static { Crankshaft position DU101-DU5824	7°	10°	10°
	11°	14°	15°

FULLY ADVANCED

	6T	TR6	T120
Static { Piston position DU101-DU5824	35°	39°	39°
	1/4 in.	1/2 in.	3/2 in.
Advance range: { Piston position DU5825-onwards	3/2 in.	1/16 in.	1/16 in.
	Contact breaker } Up to DU5824		
Contact breaker } From DU5825	14°	14°	14°
Crankshaft }	28°	28°	28°
Contact breaker }	12°	12°	12°
Crankshaft }	24°	24°	24°

CARBURETTER

	6T DU101 onwards	TR6 DU101- DU5824	TR6 DU5825- DU44393	T120 DU101- DU5824	T120 DU5825- DU66246
Type	376	376	389	376	389
Main jet	230	250	310	240	260
Needle jet ... ..	.106	.106	.106	.106	.106
Needle type	C	C	D	D	D
Needle position	3	3	1	2	3
Throttle valve	376/4	376/3 1/2	389/3 1/2	376/3 1/2	389/3
Main jet	25	25	25	25	25
Bore	1 1/8 in.	1 1/8 in.	1 1/8 in.	1 1/8 in.	1 1/8 in.