

GENERAL	
Cubic capacity	347 C.C.
Stroke	93 mm. / 3.6614"
Cylinder bore	2 ²³ / ₃₂ " = 2.7187 ± 0.0005" (Re-bore to + 0.02" when wear exceeds 0.008"). Note: In later years Matchless produced pistons allowing +40 thou reboring. Other manufacturers offered even more sizes. The fitment of liners remains permissible. Liner OD 2.8455 - 2.8465" interference fit 0.0025 - 0.0035"
Compression ratio	5.88:1 with plate / 6.3:1 without plate
Max compression at kick starter speed	95 - 100 lbs sq."
BHP at 4,500 rpm	13
Max torque at 3,500 rpm	184.8 lb. in.
Lubrication	Dry sump
IGNITION	
Contact breaker point separation	0.010" to 0.012"
Ignition setting	7/16" BTDC (With the ignition control fully advanced)
Sparking plug	Champion L-10(S) / Lodge H-14(S) / Lodge H-53 ∆ KLG F70, AC Sphinx 44 or plugs of similar reach and heat range. Thread 14 mm. Reach 1/2" (∆ 3/8" to 9/16"). GAP 0.020" to 0.025"
Contact breaker spring pressure	18-24oz
Magneto control lever	1/16" to 1/8" free cable travel before movement on cam face
CAPACITIES	
Front fork	6 1/2 Fluid Ounces / 1/3" pint (each side) - use ATF or 10 SAE
Gearbox	1 3/4 Pints semi liquid grease (2 1/2" from bottom of gearbox casing)
Oil tank	3 Pints - pressure test in water to 5 lbs/Sq."
Petrol tank	3 Gallons
CRANKCASE	
Camshaft bush bore	ID 0.687" to 0.68825"
Tappet guide bore	Interference fit
Camshaft bush	ID 0.5" ± 0.0005" Clearance bush to camshaft 0.001" ± 0.00025"
Oil pump bore	Major bore ID 0.Low 0.7183" high 0.7195" Minor bore Low 0.56200" high 0.56325"
Recess for axle roller race sleeve	High 1.7510" Low 1.7495"
Driving side ball bearing (RLS8) bore	High 2.24925" Low 2.24775"
Bore for distance collar	High 1.286" Low 1.281"

Timing axle bush	<p>ID $\frac{7}{8}$" + 0.00125" - 0.0015" OD 1.06425" \pm 0.00025" Diameter of bore in crankcase 1.06425" \pm 0.00025" OD of bush for sleeve 1.37825" \pm 0.00025" ID of sleeve 1.37375" \pm 0.0005" Interference fit bush to sleeve 0.004" \pm 0.00025" Clearance shaft to bush 0.0030" \pm 0.0005"</p>
FLYWHEELS	
Bore for crankpin	Both sides - high 0.87575" low 0.87450"
Bore for axle	<p>Timing side 0.870" \pm 0.001" Driving side 0.9375 \pm 0.0005" The driving side axle is keyed to the flywheel. The timing side axle is a Morse taper 1:8</p>
Diameter	7.125" \pm 0.003"
Truth	Flywheel axles should run to within 0.001" from dead true
Driving flywheel axle diameter measured at ball bearing	1" \pm 0.0002"
Timing side flywheel axle diameter	<p>$\frac{7}{8}$" - 0.003" $\frac{7}{8}$" - 0.0035". \wedge Diameter at flywheel bore 0.7945" \pm 0.005" diameter at roller bearing and bush 0.87175" \pm 0.00025"</p>
Nut, retaining small timing pinion to flywheel axle	$\frac{7}{16}$ " by 26 TPI. (Left-hand thread.)
Timing side pinion bore	0.5595" \pm 0.0005"
Driving axle spline	<p>Top diameter 0.8735" \pm 0.0005" Bottom diameter 0.748" \pm 0.002" Width 0.184" \pm 0.002" Max rotational movement 7°</p>
Flywheel end float in crankcase	approx 0.02"
Driving side flywheel axle ball bearings	ID 1". OD 2 $\frac{1}{4}$ ". Width $\frac{5}{8}$ " (Two used per engine.)
BIG-END BEARING	
Crankpin diameter (On roller race)	High Limit 1.20350" Low Limit 1.20325"
Crankpin diameter (In flywheel)	High Limit 0.8780" Low Limit 0.8775"
Crankpin rollers	<p>Diameter $\frac{1}{4}$" Length $\frac{1}{4}$" Number to one assembly 30 (Alternative to rollers of the above dimensions, rollers $\frac{3}{4}$ inch long, by $\frac{1}{4}$ inch diameter may be supplied. In that event, one roller $\frac{3}{4}$ inch long takes the place of three $\frac{1}{4}$ inch rollers in line.)</p>
Crankpin clearance to bearing	High 0.00050" Low 0.00025"
Crankpin torque	<p>210 lbs/ft \wedge K3 and mild steel 110-115 lb/ft - K3 is ground finish mild steel is machine finish</p>
CONNECTING ROD	
Distance between centers	7 $\frac{3}{8}$ "
ID of big end	2"

End float on crankpin	High 0.008" Low free on pin (cannot be adjusted)
Big-end liner	External diameter High Limit 2.0005" Low Limit 2" Internal diameter. (In Situ.) High Limit 1.70375" Low Limit 1.704"
Small end bush	ID 0.8751" ± 0.0004"
Clearance pin to bush	0.00075" ± 0.00025"
GUDGEON PIN	
Gudgeon pin diameter	$\frac{7}{8}$ " - 0.0010" $\frac{7}{8}$ " - 0.0015" (Gudgeon pin should be easy sliding fit in piston bosses and gudgeon pin bush)
Gudgeon pin length	2.248" ± 0.005"
Gudgeon clearance to bore	High 0.0010" Low 0.0005"
PISTON DIMENSIONS	
	Measurements must be made at right angles to the gudgeon pin Cylinder to piston clearance (bottom of skirt) 0.0054" to 0.0034"
Top Land	2.6877" ± 0.0005"
Second Land	2.6962" ± 0.0005"
Third Land	2.6962" ± 0.0005"
Top of Skirt	2.7132" ± 0.0005"
Bottom of Skirt	2.7143" ± 0.0005"
Gudgeon pin bore	0.8750 ± 0.0005"
Width of compression ring grooves	High 0.0660" Low 0.0645"
Width of scraper ring grooves	High 0.1285" Low 0.1270"
PISTON RINGS	
Diameter of rings (standard)	2.7181
Thickness of compression ring	0.0620" ± 0.0005"
Thickness of scraper ring	0.1245" ± 0.0005"
Ring gap	0.008" ± 0.002"
Ring clearance in groove	0.003"
TAPPETS AND GUIDES	
Diameter of tappet stem	0.5610" ± 0.0005"
Valve lifter collar	Must be tight fit in groove - collar is split for removal after tappet and guide are extracted 'en bloc' Metal washer 35-12-E73 is always replaced on overhaul (fibre on early models)
Tappet head thickness (smallest point)	0.0934" ± 0.0004"
Tappet head diameter	0.9734" ± 0.004"
Tappet guides projection	$\frac{9}{32}$ " from crankcase face - ensure oil hole in the guide is in line with the hole drilled in the head. The gap for the exhaust valve lift faces to the rear.

Tappet guide	OD Tight fit in case ID high 0.56325" low 0.562"
Guide clearance to tappet	High 0.00275" Low 0.0005"
Oil grooves	Six equally spaced 1/8" x 3/64"
ROCKER SLEEVE	
Diameter	High Limit 0.6235" Low Limit 0.6230"
CAMSHAFTS	
Diameter	0.4985" ± 0.00025"
End float in casing	No perceptible
Cam diameter - both	High 1.399" Low 1.395"
Cam lift - both	High 0.288" Low 0.284"
Running clearance with bushes	0.001" ± 0.00025"
Backlash in gears	High 0.001" Low 0.0005"
VALVES	
Exhaust valve timing - with 0.016" tappet clearance	Opens 65° before bottom dead centre (G3-WO 78°) Closes 30° after top dead centre (G3-WO 28°)
Inlet Valve timing - with 0.016" tappet clearance. Early machines up to engine number 54512 inc G3-WO	Opens 20° before top dead centre Inlet Closes 67° after bottom dead centre
Inlet valve timing - with 0.016" tappet clearance. All machines after engine number 54512	Opens 32° before top dead centre Closes 63° after bottom dead centre
Valve clearance	With cold engine NIL (See note Page 37, Para. 52.)
Valve head diameter	Inlet 1 19/32" ± 0.005" Exhaust 1 1/2" ± 0.0005"
Valve seat angle	45°
Valve stem diameter (Inlet and Exhaust)	0.375" - 0.0035" 0.375" - 0.0045" (Note: ^ Inlet valve High 0.373" Low 0.372" (Exhaust valve High 0.3715" Low 0.3705"))
Clearance stem to guide	^ Inlet valve High 0.003" Low 0.0025" Exhaust High 0.005" Low 0.003")
Valve guides	OD 5/8" + 0.00175" 5/8" + 0.00225" ID 3/8" ± 0.0005"
Valve guides project externally from cylinder head	Inlet 1/2" Exhaust 5/8"
Valve springs	Outer valve spring free length 2 1/16" 9 SWG 0.144" Inner valve spring free length 1 13/16" 12 SWG 0.104" (Renew valve springs when free length is more than 3/16" to 1/4" inch below above measurements.)
Valve lift	High 0.26" Low 0.257"
Seat eccentricity	High 0.002" Low nil"

Valve seating width, valve	High $7/64$ " Low $3/32$ "
Valve seating width in block	$5/64$ "
Overhead valve rockers	ID rocker shaft bush High 0.626" Low 0.625" OD rocker shaft sleeve High 0.6235" Low 0.623" Rocker shaft sleeve length High 2.004" Low 2.000" Clearance sleeves to bushes High 0.003" Low 0.0015" Drive left hand bush to reduce endplay
OIL PUMP	
Oil pump plunger	Minor diameter High 0.56175" Low 0.56125" Major diameter High 0.7180" Low 0.7175"
Clearance, shaft to bore	High 0.002" Low 0.00025"
Guide screw	Good sliding fit in plunger groove
Oil feed valve spring	Free length $9/16$ ", closed length $3/16$ ", OD $1/4$ ", 26 SWG 0.018"
STEERING HEAD BALL BEARINGS	Diameter $3/16$ " (56 to set, 28 each race.)
GEARBOX	
Gear ratios	G3-WO - 4th 5.8 to 1, 3rd 7.5 to 1, 2nd 10.2 to 1, 1st 15.5 to 1 G3L - 4th 5.8 to 1, 3rd 7.5 to 1, 2nd 12.2 to 1, 1st 18.5 to 1
Gearbox main shaft	Overall length 10 $1/4$ " Diameter at main gear bushes High 0.844" Low 0.843" Clearance with bush 0.0045 ± 0.001 " Diameter at 3rd gear bush
Gearbox main shaft (Right-hand end.) ball bearing	ID 12 mm. OD 40 mm. Width 17 mm.
GEARBOX SHELL	
Bore, main driving gear	High 2.4412" Low 2.4405"
Bore, layshaft bush	High 0.794" Low 0.792"
Bore, camshaft bush	High 0.688" Low 0.687"
Bearing, main gearbox shaft	ID $1\ 9/32$ ". OD 62 mm. Width 16 mm.
Shell Layshaft bush	OD 0.7955 ± 0.0005 " ID 0.6130 ± 0.0005 " Combined clearance with layshaft High 0.0050" low 0.0035" Flange thickness High 0.125" low 0.122"
Shell Camshaft bush	OD 0.6895 ± 0.0005 " ID 0.4995 ± 0.0005 " Combined shaft to bush High 0.003" low 0.001" Length High 0.687" low 0.677 Thickness of flange 0.060 ± 0.001 " Flange diameter $13/64$ "
KICK STARTER CASE	
Diameter of recess for mainshaft bearing	High 1.5747" Low 1.5740"
Bore diameter layshaft bush	High 0.793" Low 0.792"
Bore diameter camshaft bush	High 1.063" Low 1.062"

Bore diameter kick starter spindle bush	High 0.813" Low 0.812"
Bore diameter control spindle bush	High 0.430" Low 0.429"
Kick starter case bearing	12 x 40 x 17mm
Camshaft bush	OD 1.0645" \pm 0.0005" ID 0.8515" \pm 0.0005" Clearance with camshaft 0.002" \pm 0.001" Length 0.932" \pm 0.005" Diameter over flange 1 ⁹ / ₁₆ " Thickness of flange 0.235" \pm 0.001" Mild steel - interference fit
Control spindle bush	OD 0.4315" \pm 0.0005" ID 0.3125" \pm 0.0005" Clearance bush to shaft 0.004" Length 1/2" Thickness of flange 0.0915" \pm 0.0005" Mild steel - interference fit
Kick starter spindle inner bush	OD 0.81375" \pm 0.00025" ID 0.62775" \pm 0.00025" Clearance shaft to bush 0.00425" \pm 0.00075" Length 0.958" \pm 0.002" Thickness of flange 0.0875" \pm 0.0015" Mild steel - interference fit
Bore diameter control quadrant sleeve (Kick starter case cover)	High 1.063" Low 1.062"
Bore diameter kick starter spindle bush (kick starter case cover)	High 0.876 Low 0.875"
Bush, control quadrant sleeve	OD 1.06375" \pm 0.00025" ID 0.8115" \pm 0.0005" Clearance shaft to bush 0.002" \pm 0.001" Length 0.875" \pm 0.005" Thickness of flange High 0.312" Low 0.309" Mild steel - interference fit
Kick starter spindle outer bush	OD 0.8775" \pm 0.0005" ID 0.7030" \pm 0.0005" Clearance shaft to bush High 0.0050" Low 0.0035" Length High 1.162" Low 1.157" Thickness of flange High 0.089" Low 0.086" Mild steel - interference fit
Mainshaft	Mainshaft endfloat is controlled by third gear shoulder, must not exceed 0.015". Keep within this limit by inserting shims over shaft between nut and driving ratchet
Diameter at main gear bushes	High 0.844" Low 0.843"
Clearance with bush	High 0.0055" Low 0.0035"
Diameter at third gear bush, outer bearing (ratchet pinion bush)	High 0.669" Low 0.6685"
Clearance with third gear bush	High 0.0035" Low 0.002"
Clearance with ratchet pinion bush	High 0.0025" Low 0.001"
Top diameter of spline sliding gear	High 0.844" Low 0.843"
Bottom diameter of spline	High 0.705" Low 0.702"
Width of spline	High 0.191" Low 0.189"

Top diameter of spline, kick starter ratchet	High 0.669" Low 0.668"
Bottom diameter of spline	High 0.549" Low 0.544"
Width of spline	High 0.154" Low 0.152"
Top diameter of spline, clutch centre drive	High 1.1865" Low 1.186"
Bottom diameter of spline	High 1.06" Low 1.055"
Width of spline	High 0.134" Low 0.132"
Diameter over collar	High 1.435" Low 1.42"
Thickness of collar	High 0.185" Low 0.175"
Diameter of bore through centre of shaft	High 0.263" Low 0.257"
Driving gear	32 teeth external, 23 teeth internal (G3WO?)
OD for ball bearing	High 1.281" Low 1.2805"
ID for bushes	High 0.938" Low 0.937"
Top diameter of groove for driving sprocket	High 1.281" Low 1.2805"
Bottom diameter of groove	High 1.159" Low 1.154"
Width of groove	High 0.217" Low 0.215"
Bush for driving gear	OD High 0.94" Low 0.939 ID High 0.8485" Low 0.8475" Clearance bush to shaft High 0.0035" Low 0.002" Length overall High 1.13" Low 1.12"
Sliding gear	28 teeth major end, 18 teeth minor end (G3WO?)
Operating fork groove width	High 0.19" Low 0.188"
Clearance groove to fork	High 0.005" Low 0.001"
Diameter of operating fork groove	High 1.00" Low 0.995"
Top diameter of groove	High 0.848" Low 0.846"
Bottom diameter of groove	High 0.747" Low 0.744"
Width of groove	High 0.184" Low 0.182"
Third gear / Modified gear	29 teeth external, 18 teeth internal, Modified 27 teeth external (G3WO?)
ID of bush	High 0.672" Low 0.671"
Clearance, shaft to bush	High 0.0035" Low 0.002"
Length less flange	High 0.745" Low 0.740"
Thickness of flange	High 0.125" Low 0.120"
Ratchet pinion, kick starter	Teeth, gear 16; ratchet 16. Teeth must be sharp, if rounded in any way a new ratchet pinion must be fitted.
ID driving ratchet	High 0.814" Low 0.813"

Clearance pinion to bush	High 0.004" Low 0.002"
Spline (in ratchet) top diameter	High 0.673" Low 0.671"
Bottom diameter	High 0.583" Low 0.580"
Width	High 0.149" Low 0.147"
Layshaft	
Diameter at 1st and 2nd gear bushes	High 0.782" Low 0.7815"
Diameter at end bushes	High 0.609" Low 0.6085"
Clearance bush to shaft	High 0.005" Low 0.0035"
Top diameter of spline, small and 3rd gear	High 0.7765" Low 0.776"
Bottom diameter of spline	High 0.672" Low 0.667"
Width of spline	High 0.152" Low 0.150"
Top diameter of spline sliding clutch	High 0.9985" Low 0.998"
Bottom diameter of spline	High 0.875" Low 0.8745"
Width of spline	High 0.224" Low 0.222"
Endfloat of shaft after assembly	0.01"
Layshaft bushes 1st and 2nd gear	OD High 0.859" Low 0.858" ID High 0.78" Low 0.779" Clearance bush to gear High 0.004" Low 0.002"
Small gear layshaft	18 teeth
Spline	Top diameter High 0.7795" Low 0.7785" Bottom diameter High 0.700" Low 0.689" Width High 0.148" Low 0.146"
First and second gear layshaft	Teeth: external 27, internal 18 (G3WO?)
Recess diameter	High 1.591" Low 1.581"
ID	High 0.862" Low 0.861"
Clutch sliding	
	18 teeth both ends
Top diameter of spline	High 1.0025" Low 1.0005"
Bottom diameter of spline	High 0.912" Low 0.910"
Width of spline	High 0.215" Low 0.213"
OD over teeth	High 1.554" Low 1.549"
Width of operating fork groove	High 0.190" Low 0.188"
Clearance fork to groove	High 0.005" Low 0.001"
Diameter of groove	High 1.190" Low 1.185"
Third gear spline	
	21 teeth
Top diameter	High 0.7795" Low 0.7785"

<i>Bottom diameter</i>	<i>High 0.700" Low 0.698"</i>
<i>Width</i>	<i>High 0.148" Low 0.146"</i>
<i>Clearance, all gears to spline</i>	<i>High 0.006" Low 0.002"</i>
Camshaft	<i>Camshaft pinion is solid with shaft, 15 teeth</i>
<i>Diameter of operating forks</i>	<i>High 1.124" Low 1.123"</i>
<i>Diameter at inner bush</i>	<i>High 0.498" Low 0.497"</i>
<i>Diameter at outer bush</i>	<i>High 0.850" Low 0.849"</i>
Fork mainshaft	
<i>Bore diameter</i>	<i>High 1.126" Low 1.125"</i>
<i>Diameter between fork ends</i>	<i>High 1.010" Low 1.005"</i>
<i>Thickness of fork ends</i>	<i>High 0.187" Low 0.185"</i>
Fork layshaft	
<i>Bore diameter</i>	<i>High 1.126" Low 1.125"</i>
<i>Diameter between fork ends</i>	<i>High 1.200" Low 1.195"</i>
<i>Thickness of fork ends</i>	<i>High 0.187" Low 0.185"</i>
Control spindle	
<i>Diameter of sleeve</i>	<i>High 0.530" Low 0.529"</i>
<i>Clearance spindle to sleeve</i>	<i>High 0.0055" Low 0.0020"</i>
<i>Diameter at kick starter case bush</i>	<i>High 0.308" Low 0.303"</i>
Main spring	
<i>Diameter of wire</i>	<i>0.062"</i>
<i>OD of coils</i>	<i>0.55"</i>
<i>Free length</i>	<i>1 3/4"</i>
<i>Solid length</i>	<i>9/16"</i>
Spring pawl	
<i>Diameter of wire</i>	<i>0.041"</i>
<i>OD of coils</i>	<i>0.49"</i>
<i>Free length</i>	<i>1 1/4"</i>
<i>Solid length</i>	<i>11/32"</i>
Sleeve, control quadrant	
<i>Diameter at bush</i>	<i>High 0.810" Low 0.809"</i>
<i>Bore diameter</i>	<i>High 0.5345" Low 0.5320"</i>
<i>Top diameter of splines</i>	<i>High 0.9375" Low 0.9365"</i>

Bottom diameter of splines	High 0.812" Low 0.807"
Width of splines	High 0.188" Low 0.186"
Control quadrant, spline	
Top diameter	High 0.937" Low 0.935"
Bottom diameter	High 0.847" Low 0.845"
Width	High 0.184" Low 0.182"
Spring, camshaft pawl	
Diameter of wire	0.064"
OD of coils	$1\frac{3}{32}$ "
Free length	$1\frac{11}{32}$ "
Solid length	$\frac{7}{8}$ "
Spindle, kick stater	
Diameter at outer bush	High 0.6990" Low 0.6985"
Diameter at inner bush	High 0.6240" Low 0.6235"
Diameter at return spring	$\frac{15}{16}$ "
Top diameter of splines	High 0.849" Low 0.848"
Bottom diameter of splines	High 0.705" Low 0.700"
Width of splines	High 0.191" Low 0.189"
Quadrant, splines	<i>If the first half tooth is worn or damaged it can be ground off</i>
Top diameter	High 0.847" Low 0.846"
Bottom diameter	High 0.749" Low 0.744"
Width	High 0.184" Low 0.182"
Spring, return	OD when free is 3.5"
No of coils	10
Width	$\frac{3}{8}$ "
Thickness 20 SWG	0.036"
Length from centre of loop	$42\frac{1}{4}$ "
Tension when wound on $\frac{15}{16}$ " bar and loosened back ONE turn, at 6" radius	High 3.5 lbs Low 2.5 lbs"
Spring, ratchet pinion	
Diameter of wire 30 SWG	0.035"
ID to pass freely over a bar (dia)	$\frac{13}{16}$ "
Free length	$\frac{7}{8}$ "

Solid length	1/8"
Cam absorber, splines (mounted on primary side crankshaft)	
Top diameter	High 0.895" Low 0.891"
Bottom diameter	High 0.760" Low 0.756"
Width	High 0.190" Low 0.189"
Movement, cam on shaft	High 0.008" Low 0.003"
Spring, cam absorber	
OD	2"
ID	1 1/2"
Free length	High 1 19/32" Low 1 17/32"
Minimum permissible length with a poundage of 360 lbs	3/4"
CLUTCH	
Clutch	x4 driving / x5 driven plates / x4 clutch springs Clutch thrust rod (Overall Length) 9 7/8" Clutch operating fork to nose of operating lever clearance 1/32"
Clutch springs	14 SWG (0.08"). Free length 1 3/4". Solid length 11/16". End of last coil thickness 1/32". Coil OD 0.640"
Clutch plates - driving	Plate thickness 0.092". Thickness over inserts High 0.172" low 0.164"
Clutch plates - steel (thin)	0.040"
Clutch plates - steel (thick)	0.144"
Clutch sprocket 40 teeth	Bore for roller race High 2.175" Low 2.174"
CARBURETTER	
Bore	7/8"
Type	AMAL 275F/1J bottom feed
Main jet	120 (early machines - no air cleaner) 160 (late machines with air cleaner)
Throttle valve	5 x 5
Jet taper needle	Length 2 7/8" Located in fourth notch from top (Early models had needle located in third notch from top)
CHAINS	
Front driving	66 Links 1/2" by .305 inch. Length 33"
Rear driving	91 Links 5/8" by .380 inch. Length 56.875"
Magneto	58 Links 3/8" by .225 inch (Mag and Dynamo chains are endless). Length 21.75"
Dynamo	47 Links 3/8" by .225 inch. Length 17.625"

CHAIN WHIP (At tightest place)	
Front driving chain	3/8"
Rear driving chain	3/8 to 1/2"
Magneto chain	1/4"
Dynamo chain	1/4"
SPROCKETS	Clutch 40 teeth, for 1/2" by .305 inch chain Engine 18 teeth, for 1/2" by .305 inch chain Gearbox 16 teeth, for 5/8" by .380 inch chain Rear wheel 42 teeth, for 5/8" by .380 inch chain Magneto 17 teeth, for 3/8" by .225 inch chain Dynamo 17 teeth, for 3/8" by .225 inch chain
WHEELS and BRAKES	
Wheel rim size	19" by 2 1/2" (For 26 inch by 3.25 inch tyre.) Front and rear rims are not interchangeable because .225 inch nipples are used on Front and .250 inch on Rear
Tyres	3.25 x 19 Effective diameter 25.46"
Tyre pressures	G3L - 18 lbs/sq." front, 22 lb/sq." rear G3-WO: With a driver of average weight, the load on the front tyre of the G3-WO is 215 lbs and that on the rear tyre 310 lbs. The minimum inflation pressures for these loads are 17 and 21 lbs per sq." respectively As a general guide the following pressures are specified Load per tyre, 200 lbs - pressure 16 lbs sq." Load per tyre, 240 lbs - pressure 18 lbs sq." Load per tyre, 280 lbs - pressure 20 lbs sq." Load per tyre, 350 lbs - pressure 24 lbs sq." Load per tyre, 400 lbs - pressure 28 lbs sq." Load per tyre, 440 lbs - pressure 32 lbs sq."
Wheel bearing end play	0.002"
SPOKES (all are butted) Spoke lengths are measured under the head	Front left side 20 of 5 13/16" 8g by 10g (Λ 5 5/8") Front right side 20 of 8 3/16" 9g by 11g Rear left / right side 40 of 8 3/16" 6g by 9g
Wheel bearing end play	0.002"
Front / rear brake drum	ID High 5.525" Low 5.520" (G3WO?)
Brake lining (G3L)	Length 6 3/8", width 7/8", thickness 3/16"
Brake return springs (G3L)	Dia (15 SWG) 0.072", OD coils 3/8", coils 14 (free), free length inside hooks 2 1/4"
CABLES	(Late G3L - check individual Spare parts lists for further detail)
Front brake	Inner 42 5/8" Outer 38 1/4"
Clutch	Inner 50 1/2" Outer 47"
Valve lifter	Inner 33 1/2" Outer 30 3/4" Free travel before operating valve High 1/4" Low 1/8"
Advance / retard	Inner 42 7/8" Outer 39 1/2"
Throttle	Inner 39 3/4" Outer 36"

Air	Inner 37" Outer 32"
Teledraulic forks	
Fork crown assembly	Fork crowns and handlebar lugs after engine 57701 were modified. The pt no starts '42'. Either type are permissible but '41' and '42' lugs should not be mixed.
Tube inner, fixed	OD High 1.1245" Low 1.1235"
Bush, fibre guide	ID High 1.1265" Low 1.1255"
Clearance, bush to inner tube	High 0.003" Low 0.001"
Fork slider	ID High 1.5640" Low 1.5625" Clearance slider to bottom bush High 0.0035" Low 0.0015"
Bottom bush	OD High 1.5610" Low 1.5605" Width High 1.002" Low 1" ID High 1.0640" Low 1.0635"
Fork centre tube oil seal	1 1/8" x 1.753" x 7/16"
Fork spring	PCD (20 working coils 0.207" wire) 1.5" Free length 10" Min length with poundage of 58 lbs 8.5" Min working length with poundage of 201 lb load 5.56" Closed length at 282 lb 4.55"
Rear stand spring When assembling place plain steel washers under pivot bolt heads, not under the nut	Diameter of wire 0.144" IWG 9 PCD 5/8" 36 full coils 10 1/16" free length between centres of hook ends 130 lb load to expand at 10 1/16" centres Length over coils at 130 lb tension 7 3/16"
Prop stand spring Permissible wear in prop pin 0.015" lift; 0.015" clearance pin to lug bore	Diameter of wire 0.064" IWG 10 65 coils ID 0.444" Free length inside hooks 5 15/16" Length over coils (solid) 3 9/16"
DYNAMO - Lucas Type E3AR/AO5/1 6v 6A 2100/2300 rpm.	Cut in speed 1250/1500 rpm Max output at 2100/2300 rpm 42W Max rpm 7000 Brushes 1/2" length Spring tension High 15 oz Low 12 oz Commutator diameter 0.985" Mica undercut 1/32" (0.8 mm) Field coil resistance 3.2 Ω
DYNAMO - Miller Type W.D.M. 6v 8A 2200 rpm.	Cut in speed 1150 rpm Max output at rpm (plus) 50W Max rpm 5000 Brushes 1/2" length Spring tension High 32 oz Low 24 oz Commutator diameter High 1.115" Low 1.105" Mica undercut 0.025" Field coil resistance F winding (Red / White leads) 4 Ω ± 0.25 Ω Resistance winding (Green leads) 7 Ω ± 0.25 Ω
Regulator Lucas MGR1	Cut in 7.8v to 8.2v at 20 °C tested on open circuit at dynamo 2000 rpm Cut out between 6v to 6.6v with dynamo open circuit voltmeter across D+ and earth

Regulator Miller GV1 WDM

*Cut in +ve contacts 7.5v to 7.7v -ve contacts 7.9v to 8.1v
Test on rising voltage at 1300-2000 rpm. The contact operation is transitory*