CHARTS AVAILABLE IN THIS SERIES

No. B1 DECARBONISATION, ADJUSTMENTS AND SIMPLE REPLACEMENTS.
No. B2 REMOVING THE ENGINE/GEARBOX UNIT AND COMPLETE DISMANTLING.
No. B3 REBUILDING AND REPLACING THE ENGINE/GEARBOX UNIT.
No. B4 FRONT FORK, STEERING AND WHEELS.
No. B5 AUTOMOTIVE UNIT REPLACEMENT PARTS

BSA

SERVICE CHART

DECARBONISATION, Adjustments and Simple Replacements

Beagle No. B1

1

PRELIMINARIES

In order to remove the cylinder head, it is first necessary to take off the carburettor. Make sure the petrol tap is in the "off" position, and slacken the carburettor pinch bolt. The carburettor can now be pulled off its mounting stub and tied back out of the way.

The exhaust pipe and silencer can be removed together after taking off the nuts and bolts securing the silencer to the frame.

2

REMOVAL OF CYLINDER HEAD AND BARREL

It is advisable at this point to loosen the sparking plug and remove the two rocker covers. Turn the engine until both rockers are free and loosen off the rocker adjusting screws.

After taking off the three securing nuts and washers the cylinder head may be jarred free from the barrel and lifted clear together with one push rod, leaving the other push rod with the barrel.

Care must be taken during this operation to avoid trapping the push rods between the head and barrel.

When the remaining push rod has been removed the barrel may be lifted off and placed aside. Steady the piston as the barrel is removed to prevent its falling against the crankcase mouth.

3

REMOVAL OF PISTON

The piston and piston rings are now exposed. Normally it should not be necessary to remove the piston but if for some reason this is desirable, first remove the circlip from one end of the gudgeon pin. Use a pair of small-nosed pliers or the tang end of a file then, holding the piston firmly in the head tap the gudgeon pin out from the other side. If it is too tight to move, it can be released by warming the piston with a rag soaked in hot water and wrung out. The inside of the piston skirt should be marked to ensure that the piston can be replaced the same way round.

4

BIG-END BEARING

With the cylinder and piston removed the big-end bearing can be checked for wear. This is done by pulling the connecting rod upwards until it is at top dead centre and with the rod in this position, check for play straight up and down. If the bearing is sound there should be no play in this direction. If vertical play is just perceptible the bearing may be good for a few thousand miles but if in doubt unit should be stripped and the assembly replaced. A small amount of sideways movement is normal and should not be confused with up and down play.

5

PISTON RINGS

The piston carries two compression rings and an oil control ring. The lower compression ring is tapered and must always be replaced so that the letter "T" or word "Top" etched on the side of the ring is uppermost.

All three piston rings should be a free sliding fit in their grooves.

Carbon build-up in the grooves can cause the rings to become tight, in which case they must be removed and the carbon scraped from the grooves. An ideal tool for this is a piece of old piston ring, but care must be taken not to remove any metal from the piston.

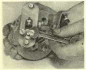
6

RING GAPS

If the piston rings are worn there will be loss of compression, loss of power and an increase in oil consumption.

To ascertain if the rings are worn it is necessary to measure the ring gaps. This is done by carefully removing the ring from the piston and placing it in the cylinder barrel, preferably at the lower end, it is then squared up by inserting the piston and the gap measured with feeler gauges.

The standard gap is .006—.011 in. and a slight increase could be ignored, but a gap of over .020 in. would require new rings to be fitted.



7

ATTENTION TO CYLINDER HEAD — REMOVAL OF VALVES

In order to remove the valves from the cylinder head the valve springs should first be compressed using Service Tool 61–3723. If the valve to be removed is held on its seat during this operation the split collets holding it will be released and they and the valve can be removed. If the collets stick to the spring cap so that the valve opens as the spring is compressed, they can be released by gently tapping the valve back on to its seat.

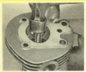
The free length of the valve springs should be 1.175 in. If they have shortened by more than 1/16 in. they should be replaced. The valves are not interchangeable, the inlet having the larger head and the letters "In." stamped on it, whilst the exhaust has the letters "Exh." stamped on its head.

8

REMOVAL OF ROCKER ASSEMBLIES

The rocker assemblies need not be disturbed unless it is necessary to renew any parts, or unless the valve guides are to be changed in which case the rocker should be removed to prevent accidental damage.

The rocker spindle nut and fibre washers must be removed, after which the spindles can be gently tapped out of the cylinder head using a suitable drift. This releases the rockers and washers on either side. Note the order of the washers for reassembly. If difficulty is experienced in removing the rocker spindles due to their being a tight fit in the head, they can be eased by heating the head in boiling water. The rockers and spindles should not be interchanged and should be reassembled to the same valve chamber from which they came.



9

VALVE GUIDES AND SEATS

The cylinder head should be heated in boiling water and the valve guides drifted out from the direction of the combustion chamber. For this operation the head should be supported on a wooden block in which two holes have been drilled to accommodate the rocker cover studs. A suitable drift for this operation is Service Tool 61–3737. Replacement guides should be fitted with new circlips and drifted in from the opposite direction until the circlips rest against the head, which should again be heated.

If the valve seats in the head are deeply pitted, or when new guides have been fitted, the seats should be re-cut with Service Tool 61–4087. Alternatively the head should be taken to the nearest dealer who has the necessary equipment.

10

VALVE GRINDING

Carbon should be removed from the combustion chamber and ports using a soft scraper. Take care not to scratch the soft aluminium of the head or damage the valve seats.

If the seating areas on the valves and head are not deeply pitted, the valve may be reground in the head. Smear a small amount of valve grinding paste on the seat of the valve and place it in its guide. Using Service Tool 61–3735 hold the valve on its seat and rotate it backwards and forwards a small amount at a time. Periodically lift the valve off its seat and rotate it by a small amount before repeating the procedure until the seating areas provide a uniform matt finish. All traces of grinding paste must be removed with petrol.

11

REASSEMBLY OF PISTON

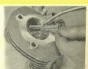
After removing all traces of carbon from its crown refit the piston the same way round as before, with the gudgeon pin lightly smeared with engine oil. A new circlip should be used and care taken to ensure that it is seated properly. The correctly gapped piston rings should be oiled and positioned in their respective grooves (see Section 5). Rotate the rings so that their gaps lie at approximately 120° intervals.

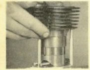
12

VALVE GEAR

Dealing with each valve assembly in turn the spring seating washer, spring and spring cup should be lightly oiled and placed in position. The spring can now be compressed using the compressor tool. Lightly oil the valve stem and insert the valve into its guide. Position the collets around the valve stem holding them in place by means of a blob of grease. Release the valve spring.

A new sealing ring should be fitted to each rocker spindle and the components lightly oiled. The three thin washers fit on one side of the rocker, the spring washer being the middle one, the thick washer fits on the other side nearest the securing nut which is fitted with a fibre washer and should be tightened firmly.





13

CYLINDER BARREL

The cylinder barrel can now be replaced. The cylinder base gasket should be smeared on both sides with a small amount of jointing compound and positioned against the joint face of the barrel. Smear the bore with clean engine oil and lower the barrel gently over the piston. Make sure that the rings are compressed into their grooves and not trapped by the barrel as it slides over them. The operation is made easier if Service Tool 61–3725 is used to clamp the piston rings and hold the piston. The two service tools can be removed when the barrel is lowered far enough to cover the piston rings.

14

CYLINDER HEAD

Lightly smear the ends of the push rods with oil and replace them in the barrel. Note they are fitted with their plain ends downwards. Turn the engine until they are both in their lowest position and withdraw one, placing it against its rocker in the cylinder head. Position the head gasket on top of the barrel and lower the head together with the one push rod on to the barrel.

Make sure that the rockers are free and fit the head securing nuts and washers, tightening the nuts evenly.

Set the rocker clearances as detailed and refit the sparking plug, carburettor, exhaust pipe and rocker covers.

15

ROCKER CLEARANCE ADJUSTMENT

Checking or adjustment of the rocker clearances should only be carried out with the engine cold. Take off the rocker covers and the sparking plug, and turn the engine until the piston is at top dead centre of the firing stroke. In this position both valves should be closed and a gap of .003 in. should exist between the rockers and the ends of the valve stems. The gap should be checked by the insertion of the special feeler gauge supplied in the tool kit. The gauge should be a sliding fit between the valve stem and the rocker adjusting screw when the gap is correct. Adjust the gap by slackening the hexagonal locknut and screwing the square-headed adjuster in or out as required. Always tighten up the locknut before re-checking the setting.

16

SPARKING PLUG

The machine is fitted with a Champion type Z10 sparking plug.

If the best performance with regard to both power and economy is to be obtained the sparking plug must be kept clean and correctly gapped. Gradual erosion of the plug points is normal and results in the gap widening. Check the gap periodically with a feeler gauge and if necessary reset to .018—.020 in. by bending the side wire. Never attempt to alter the gap by moving the central electrode as this is almost certain to damage the insulation.

Fouling of the plug may be caused by incorrect carburation or over-oiling. If it occurs the plug should be cleaned, preferably by a sand-blast type plug cleaner found at most garages.

If the points are badly burned or cleaning fails to restore the plug to its full efficiency, it should be replaced.

17

OIL CHANGE

The oil should be drained and renewed after the first 250 miles, again at 500, and then periodically every 2,000 miles.

To drain the oil, first place a tray or similar receptacle under the sump, then holding the sump in place, remove the two mounting nuts and fibre washers. Lower the sump, taking care not to damage its cork washer, and allow the oil to drain. Take off the two nuts and washers holding the filter plate and withdraw the plate. Wash the filter and the interior of the sump thoroughly in petrol and then allow all traces of this to evaporate before reassembly. When refitting the filter ensure that the oil feed pipe passes through the grommet in the filter plate. Do not over-tighten the sump securing nuts. Refill the sump with clean oil, to the level shown on the dip-stick. The correct viscosity of oil is S.A.E. 20.

18

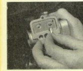
THROTTLE CABLE REPLACEMENT

To replace a throttle cable first unscrew and remove the two screws on the handlebar twist-grip control, take off the top half of the control and remove the cable nipple and cable stop.

Slacken off the pinch bolt on the carburettor and slide the carburettor off its stub. Unscrew the two screws on top of the mixing chamber and pull out the slide.

Compress the spring with the fingers and slip the cable nipple down and out of the throttle slide.

Replacement is in the reverse order, care being taken not to displace the needle clip.



19

DISMANTLING THE CARBURETTOR

Turn off the fuel supply at the tap and remove the hexagon-headed bolt just below the top. Remove the banjo union with its fibre washers and the filter gauze. The float chamber is held by two screws on top and one underneath the joint, take out the screws and remove the float chamber and float.

Both needle and main jets are screwed into the top of the float chamber and can be removed for cleaning in the normal manner, but, care should be taken to use spanners which are a good fit.

The nylon float needle fits into an orifice in the underside of the mixing chamber and is always fitted with the point upwards.

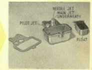
20

CARBURETTOR JETS

If there is the slightest sign of wear on the needle seating it should be replaced. When replacing the float chamber see that the gasket is in good condition, the needle in position, and the float is correctly seated.

Do not use excessive force when screwing in the jets.

Unless it is absolutely necessary do not disturb the throttle stop screw—which is the horizontal one—or the slow-running adjustment screw—the vertical one—as this would entail completely resetting the carburettor, a job which must only be done when the engine is at its normal working temperature.



21

AIR CLEANER

The air cleaner is retained on the air intake by two 3/16 in. screws with shakeproof washers, as it cannot be dismantled, it should be washed thoroughly in petrol and left to drain.

When replacing see that it is fitted so that water will drain off the gauze at the front of the filter and not into the filter.

Before replacing the carburettor on its stub see that the "O" ring is in position inside the choke tube and is in good condition.

22

REPLACING THE CLUTCH CABLE

Cables sometimes fray, this causes a sticky action and is very dangerous, any cable in this condition should be replaced.

Withdraw the clutch by using a spanner on the nut above the lever on the crankcase, slip the cable nipple out of the lever and remove the outer casing from the stop lug.

Slip the cable through the wire clip on the rocker cover and through the rubber grommet on the top fork yoke. Unscrew and remove the cable adjuster before slipping the nipple from the handlebar lever.

Replacement is in the reverse order.

23

REPLACING A CHAIN

If the old chain is unbroken simply slacken off the wheel spindle nuts and unscrew the chain adjuster nuts. Remove the connecting link, spring clip, disconnect the chain and attach the new chain to the old one, pull the old chain off the sprockets and the new one on, reconnect and adjust as necessary.

If the chain has broken and fallen off replacement will be simplified if the chainguard is released. To do this, take out the left-hand lower damper bolt and remove the bolt and nut which passes through the swinging arm tube. Do not omit the spacer between the damper and chainguard, and see that the wheel is 1½" from the R/H swinging arm when adjusting the chain.

Cylinder bore size	47.6 mm.
Stroke	42 mm.
Capacity	75 c.c.
Compression ratio	8 : 1
Ignition timing	.135 in. (3.429 mm.) or 30° B.T.D.C.
Spark plug	Champion Z10
Spark plug gap	.020 in. (.508 mm.)
Contact breaker setting gap	.012 in. (.304 mm.)
Valve timing:	
inlet opens	35° B.T.D.C.
inlet closes	53° A.B.D.C.
exhaust opens	60° B.B.D.C.
exhaust closes	32° A.T.D.C.

Gear ratios:	overall	internal
top	11.52	1.0
3rd	15.1	1.318
2nd	23.8	2.059
bottom	34.4	2.986R

Primary gear ratio	3.33 : 1
Sump capacity	1¼ pints or 1½ pints dry
Oil grade	S.A.E. 20 or 20/30 Winter and Summer.
Gearbox capacity	½ pint

B.S.A. MOTOR CYCLES LTD., SERVICE DEPARTMENT, ARMOURY RD, B'HAM 11   Printed in England January 1964

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BSA

SERVICE CHART

Beagle

Removing the Engine Gearbox Unit and Complete Dismantling

No. B2

1

REMOVAL OF ENGINE UNIT

Apply a suitable spanner to the nut at the end of the clutch arm on the engine, turn clockwise and release the clutch cable nipple.

Slacken off the carburettor pinch bolt and pull the carburettor off its stub.

Pull the generator lead couplings from inside the frame, at the back of the cylinder, and break the connections.

Place a suitable receptacle under the sump, to catch the oil, unscrew the sump nuts and remove the sump.

After draining, replace the sump loosely on the engine.

7

PISTON RINGS

The piston carries two compression rings and an oil control ring. The lower compression ring is tapered and must always be replaced so that the letter "T" or word "Top" marked on the side of the ring is uppermost.

All three piston rings should be a free sliding fit in their grooves.

Excessive carbon build-up in the grooves can cause the rings to become tight, in which case they must be removed and the carbon scraped from the grooves. An ideal tool for this is a piece of old piston ring, but care must be taken not to remove any metal from the piston. Any bright streaks or stained or scored patches on the peripheries of the rings indicate that they should be replaced.

13

CLUTCH AND PRIMARY DRIVE

Unscrew the clutch spring screws and remove the springs and cups with the clutch outer plate. Do not lose the clutch operating key and hair-spring which are now released.

The outer driven pinion can now be pulled off, followed by the lined plate and inner pinion.

Bend back the tab washer behind the clutch centre nut and remove the nut. The centre can be prevented from rotating by engaging top gear and holding the gearbox sprocket in a length of old chain, its end gripped in a vice.

Pull off the centre using Service Tool 61-3731, being careful not to lose the split ring released from behind it.

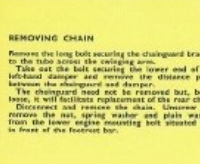
19

SPLITTING THE CRANKCASE HALVES

Remove the 5/16 in. bolt from the front of the cylinder base and the two Phillips-headed screws, one behind the cylinder, the other just above and in front of the sump, and three screws around driveside shaft.

Take off the nuts and washers from the remaining three studs inside the sump and tap the halves apart using a hide mallet.

The crankshaft may stay in either half but can be tapped free again using a hide mallet.



REMOVING CHAIN

Remove the long bolt securing the chainguard bracket to the tube across the swinging arm.

Take out the bolt securing the lower end of the left-hand damper and remove the distance piece between the chainguard and damper.

The chainguard need not be removed but, being loose, it will facilitate replacement of the rear chain.

Disconnect and remove the chain. Unscrew and remove the nut, spring washer and plain washer from the lower engine mounting bolt situated just in front of the footrest bar.

2

8

RING GAPS

If the piston rings are worn there will be loss of compression, loss of power and an increase in oil consumption.

To ascertain if the rings are worn it is necessary to measure the ring gaps. This is done by carefully removing the ring from the piston and placing it in the cylinder barrel, preferably at the lower end, it is then squared up by inserting the piston and the gap measured with feeler gauges.

The standard gap is .006—.011 in. and a slight increase could be ignored, but a gap of over .028 in. would require new rings to be fitted.

14

PRIMARY DRIVE PINION

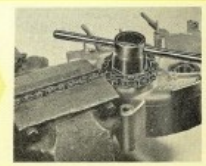
To remove, bend back the three tabs on the lock-washer and unscrew the nut which has a normal right-hand thread. Usually the pinion is a push-fit on the shaft but, if it is tight, it can be removed with Service Tool 61-3729.

20

MAINSHAFT OIL SEAL

There is an oil seal fitted behind the gearbox final drive sprocket and if there has been leakage at this point it is an indication that the seal has deteriorated and needs replacing.

To change the seal it will be necessary to remove the sprocket and the mainshaft pinion sleeve as described in the next paragraph when the seal can be removed and replaced from the sprocket side. If, however, there is no sign of wear or leakage, there is no need to disturb the sprocket or pinion sleeve.



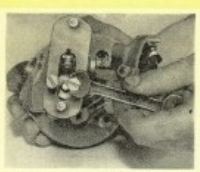
3

EXHAUST SYSTEM

Remove the lower mounting bolt from the right-hand side.

Unscrew and remove the large nut on the footrest bar and the two nuts behind the silencer, pull the silencer away from its bracket and withdraw the exhaust pipe from the cylinder, place to one side.

The engine is now held only by the top mounting bolt, place a suitable box or crutch under the engine, remove the top mounting bolt, nut and washers and the engine can be dropped out of the mounting plates.

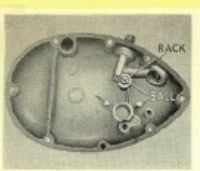


9

ATTENTION TO CYLINDER HEAD — REMOVAL OF VALVES

In order to remove the valves from the cylinder head the valve spring should first be compressed using Service Tool 61-3733. If the valve to be removed is held on its seat during this operation the slit collets holding it will be released and they and the valve can be removed. If the collets stick to the spring cap so that the valve opens as the spring is compressed, they can be released by gently tapping the valve back on to its seat.

The free length of the valve springs should be 1.176 in. If they have shortened by more than 1/16 in. they should be replaced. The valves are not interchangeable, the inlet having the larger head and the letters "In." stamped on it, while the exhaust has the letters "Exh." stamped on its head.



15

REMOVAL OF TIMING SIDE OUTER COVER

Take off the gearchange and kickstarter pedals, remove the eight Phillips-headed screws from around its edges and pull the outer cover off complete with kickstart quadrant leaving the gearchange quadrant in place. Note the lengths of the screws taken from the various points. Take care not to lose the small rack and ball which operate the clutch.

The clutch push rod is in two halves with a ball between the two. These can now be extracted from the mainshaft.

Pull off the kickstarter spring and remove the dowels from behind and below the quadrant. Note that the latter carries a loose bush. Take off the quadrant.

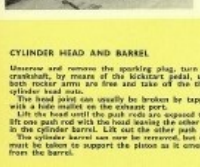
The footchange return spring can now be prised off its locating pin and removed together with its stop-plate and distance washer.

21

REMOVAL OF GEARBOX SPROCKET AND SLEEVE PINION

The gearbox sprocket can be taken off after its securing nut and tab washer are removed. Bend back the tab washer, and, holding the sprocket in a length of old chain with its ends clamped in a vice, unscrew the nut. Note that this has a left-hand thread and therefore unscrews in a clockwise direction.

The sleeve can now be tapped out of its bearing into the gearbox case. Take care not to apply force to the small bush protruding from the end of the sleeve, or this may be driven into the sleeve and subsequently fail to complete the primary drive oil seal. If possible a tubular drift should be used.



CYLINDER HEAD AND BARREL

Unscrew and remove the sparking plug, turn the crankshaft, by means of the kickstart pedal, until both rocker arms are free and take off the three cylinder head nuts.

The head joint can usually be broken by tapping with a hide mallet on the exhaust port.

Lift the head until the push rods are exposed then lift one push rod with the hand leaving the other rod in the cylinder barrel. Lift out the other push rod.

The cylinder barrel can now be removed, but care must be taken to support the piston as it emerges from the barrel.

4

10

ROCKER ASSEMBLIES

The rockers need not be disturbed unless it is necessary to renew parts such as the rockers due to ovality of the bores, or, if the valve guides are to be changed, in which case the rocker should be removed to avoid accidental damage.

The rocker spindle nut and fibre washer must be removed, after which the spindle can be gently tapped out of the head using a soft metal drift.

Before completely removing the spindle take careful note of the position of the various washers to ensure correct reassembly.

If the rocker spindles are tight, heat the head in hot water. Avoid interchanging parts between spindles.

16

OIL PUMP AND INNER TIMING COVER

The oil pump is secured by two Phillips-headed screws which pass through the inner timing cover into the offside crankcase half. After these have been unscrewed the oil pump may be taken off complete with its plunger and nylon operating block. As its joint with the timing case is broken, the non-return valve ball and spring are released. Take care not to lose these and store them in a safe place. If the spring remains in its hole in the timing case it should be brought out with a piece of wire. Take off the small cork washer from the oil pump driving peg.

After the two Phillips-headed screws in the centre of the cover have been removed, the cover can be pulled off together with the gearbox cluster, selector quadrant and cam-plate.

22

GEARBOX CLUSTER

Pull off the selector quadrant spring and stop-plate and drive out the peg.

Push the quadrant spindle through the cover after disengaging the pawls with the blade of a knife or similar tool. The pawls should be quite free in the quadrant without excessive twist and the teeth must be undrilled and sharp.

If there is wear on the teeth of the pawls then there will most probably be wear on the cam-plate as well.

5

REMOVAL OF PISTON

The piston and piston rings are now exposed. Normally it should not be necessary to remove the piston but if for some reason this is desirable, first remove the circlip from one end of the gudgeon pin. Use a pair of small-nosed pliers or the tang end of a file then, holding the piston firmly in the hand tap the gudgeon pin out from the other side. If it is too tight to move, it can be released by warming the piston with a rag soaked in hot water and wrung out. The inside of the piston skirt should be marked to ensure that the piston can be replaced the same way round.

11

VALVE GUIDES AND SEATS

The cylinder head should be heated in boiling water and the valve guides drifted out from the direction of the combustion chamber. For this operation the head should be supported on a wooden block in which two holes have been drilled to accommodate the rocker cover studs. A suitable drift for this operation is Service Tool 61-3737. Replacement guides should be fitted with new circlips and drifted in from the opposite direction until the circlips rest against the head, which should again be heated.

If the valve seats in the head are deeply pitted, or when new guides have been fitted, the seats should be re-cut with Service Tool 61-4087. Alternatively the head should be taken to the nearest dealer who has the necessary equipment.

17

TIMING GEARS

With the inner timing cover removed the camshaft and wheel can be removed and the cam followers withdrawn. The cams and followers should be examined for wear or scoring, if the peaks of the cams are worn down the valve opening is affected and the efficiency of the engine reduced.

To remove the crankshaft pinion bend back the tab washer and unscrew the locknut which has a normal right-hand thread. Note the timing marks on both wheels.

The pinion can be removed with Service Tool 61-3733.

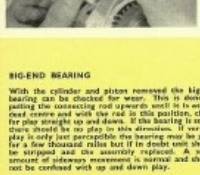
23

LAYSHAFT

The layshaft and its gears can now be removed from the cover. Note the thrust washer between the first gear and the sliding dog and the larger washer fitted between the first gear and the cover.

Pull out the selector fork shafts and remove the forks, these are interchangeable but, if they are being refitted it is advisable to replace them in the same positions.

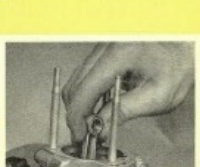
The teeth should be polished on the friction faces without scoring or signs of overheating such as "blueing". This would indicate overloading and there may also be wear on either the sliding dogs, cam-plate or quadrant pawls.



BIG-END BEARING

With the cylinder and piston removed the big-end bearing can be checked for wear. This is done by pushing the connecting rod upwards until it is at top dead centre and with the rod in this position, check for play straight up and down. If the bearing is sound there should be no play in this direction. If vertical play is only just perceptible the bearing may be good for a few thousand miles but if in doubt unit should be stripped and the assembly replaced. A small amount of sideways movement is normal and should not be confused with up and down play.

6



12

REMOVAL OF PRIMARY DRIVE COVER

Remove the generator cover on the left-hand side of the unit. Hold the crankshaft by inserting a rod through the connecting rod eye to rest on strips of wood over the crankcase mouth. Remove the flywheel nut and spring washer and use Service Tool 61-3727 to pull the flywheel off its taper. Take out the key.

The stator is held by two Phillips-headed screws passing through slotted holes. It is not necessary to remove the stator, although in some cases it may have to be rotated slightly for the cover securing screws to be removed. In this case the original position of the stator should be marked by a line scribed on it, pointing to one of the screws.

Use a hide mallet to tap the cover free when its securing screws are removed.

18

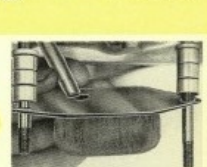
SUMP AND OIL FILTER

Take off the two self-locking nuts holding the sump, remove the fibre washers and sump. Make sure that the fibre washers are fit for further use and if the gaskets are at all damaged they should be replaced.

The self-locking nuts should be tight on the screw threads, if not replace them.

Note the position of the distance piece and if the studs are to be removed note that the longer stud is fitted at the rear.

Clear any sludge from the sump, wash the filter in petrol and allow to drain before refitting.



24

GEARBOX CAM-PLATE AND MAINSHAFT

The gearbox cam-plate can be removed after its pivot pin is taken out. It is located in the casing by a grub screw which should be slackened off. The pin is threaded internally and can be pulled out using one of the timing screws.

The mainshaft, still assembled to the inner timing cover, should be held in a safe-jawed vice. Bend back the tab washer on the securing nut and remove the nut. Take off the kickstarter ratchet components, noting their relative positions for assembly purposes. The shaft can now be driven out of its bearing using a hide mallet.

CHARTS AVAILABLE IN THIS SERIES

No. B1 DECARBONISATION, ADJUSTMENTS AND SIMPLE REPLACEMENTS.

No. B2 REMOVING THE ENGINE/GEARBOX UNIT AND COMPLETE DISMANTLING.

No. B3 REBUILDING AND REPLACING THE ENGINE/GEARBOX UNIT.

No. B4 FRONT FORK, STEERING AND WHEELS.

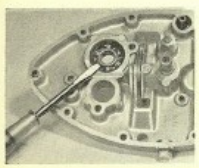
No. B5 AUTOMOTIVE UNIT REPLACEMENT PARTS

BSA

SERVICE CHART Beagle

Rebuilding and Replacing the Engine-Gearbox Unit

No. B3



1

BEARINGS AND OIL SEALS

For the removal and refitting of journal bearings, the bearing housings should first be heated either in an oven or in boiling water, and the bearings then driven in or out with suitable drifts or extractors.

Note that the gearbox mainshaft bearing in the inner timing cover is secured by a circlip which must be removed before the bearing itself can be pressed out of its housing. A new circlip should be fitted after this has been done.

The seal to replace a bearing is shown if up and down play exists in it, or if it rotates roughly. A plain bearing should be renewed if its surface becomes deeply scored.

When replacing oil seals, there is no need to heat the housings, but care must be taken to ensure that they are replaced the same way round as before.

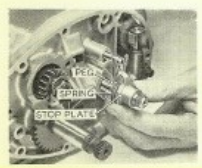
7

GEARBOX FITTINGS

If the mainshaft has been separated from the inner timing cover, it can now be tapped back into its bearing. Refit the kickstarter ratchet components and use a new tab washer to lock the securing nut.

When replacing the gearbox cam-plate note that the three closely spaced notches should be in the lower half of the plate as it is possible for the plate to be replaced the wrong way up. Do not forget to tighten the pivot pin grub screw securely.

The cam-plate spring is held on to the rear face of the gearbox housing by two hexagon-headed screws. If these have been removed for renewal of the spring, a new tab washer should be fitted and bent over them.



13

FOOTCHANGE

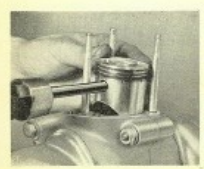
The footchange return spring and stop plate can now be assembled on to the footchange spindle.

Make sure that the peg which passes through the spindle is equally spaced from pivot pin and stop plate over the spindle so that the ends of the spring engage either side of the peg as shown.

The gasket used between the inner and outer covers should be cemented to the outer cover.

There are also two hexagon-headed bolts and one grub screw on the outer edge of the cover.

The lower one is the drain screw, the small bolt is for fasting the pump delivery and the grub screw is to blank off the engine breather drilling. All these should be kept right.



19

REPLACING THE PISTON

After removing all carbon from the ring grooves and refitting or replacing the piston rings, warm the piston, lightly oil the gudgeon pin and replace the piston on the connecting rod the same way round as before. Fit a new circlip and ensure that it is well down in its groove, a loose circlip can result in a badly scored cylinder barrel. Place a new base washer in position on the cylinder using jointing compound, lightly oil the piston rings, position the gaps at 120 degrees and clamp the rings with slipper part number 61-3713. Plus the "U" tool under the piston skirt to support the piston.

FINAL DRIVE SPROCKET

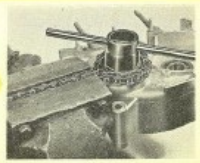
The final drive sprocket and pinion sleeve assembly must be built up before the crankcase halves are bolted together.

After ensuring that the main bearing and oil seal are satisfactory, lightly oil the outer surface of the pinion sleeve, hold it square to the bearing and press firmly home.

Oil the sleeve portion of the sprocket, press gently into position and secure with a new tab washer and the securing nut. Remember that the nut has a left-hand thread and must therefore be tightened anti-clockwise.

Prevent the assembly turning by holding the sprocket with a length of old chain gripped in the vice.

Turn the tab washer over the nut after tightening



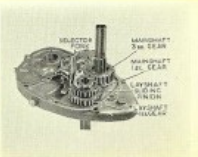
2

LAYSHAFT

Oil the kickstarter quadrant and refit it in the inner timing cover. Mount the quadrant in a soft-jawed vice so that the cover is horizontal.

All the various gears etc. should now be lightly smeared with oil.

Place the layshaft first gear pinion spacer in its recess in the cover, followed by the pinion and the small thick spacing washer, its chamfered face uppermost. The layshaft sliding pinion with its selector fork can now be fitted, the fork to engage in the cam track nearest to the cover.

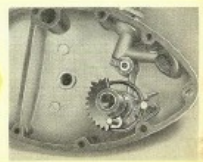


8

REPLACING THE COVER

Check that the clutch operating rock and ball are in position in the outer cover, press the one end of the kickstarter return spring into the hole of the quadrant, slide the quadrant into the cover until the spring eye is engaged over the peg formed from the spindle, turn the quadrant to tension the spring then press the quadrant home and against its stop.

Slide the cover over the footchange spindle and tap gently home, securing with the eight cover screws. These are of various lengths and care is required to ensure that they are correctly positioned.

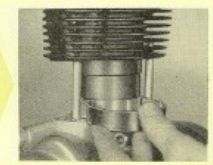


14

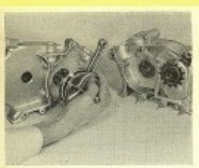
CYLINDER BARREL

Apply clean front oil to the cylinder barrel and slide it over the piston until the slipper has been pressed down clear of the rings, take away the slipper and the "U" tool, and press the barrel well down on to the crankcase.

Place both push rods in the cylinder barrel and revolve the crankshaft until the piston is at the top of its stroke and both push rods are at the same height, in this position both valves would be closed.



20

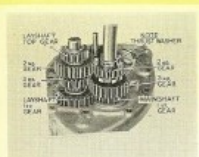


3

TRANSMISSION

The crankshaft assembly requires special equipment and specialised knowledge to dismantle and re-assemble. It is therefore wiser for the inexperienced to use a factory reconditioned unit, which can be obtained from any bona fide dealer, if say the big-end requires replacement.

When the crankshaft is assembled into the crankcase it is locked to the drive-side by the primary driving gear and there is no need for shimming to control end float.



9

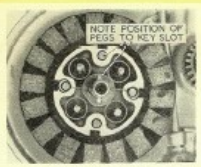
MAINSHAFT

The mainshaft timing pinion is held against the mainshaft fixed gears, and its selector fork engages in the remaining cam track.

Mount the layshaft so that its splines engage and insert the selector fork shaft into its hole in the cover.

The remaining small distance washer fits on the mainshaft after the mainshaft sliding pinion.

Finally fit the selector quadrant using a knife blade to hold its pawls out of engagement with the cam-plate until it is fully home. Refit the small peg in the quadrant shaft so that equal lengths project on either side.

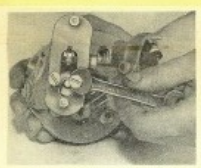


15

CLUTCH AND PRIMARY DRIVE

Refit the crankshaft pinion recessed side outwards. Use a new tab washer to secure its nut, which should be firmly tightened.

The two halves of the split ring which fits behind the clutch centre should be held in position by a blob of grease and the centre refitted so that the slot in the mainshaft lines up with two of the four outer pegs. Securely tighten the centre nut and lock with a new tab washer. The two driven gears with the lined plate in between, can now be fitted.



21

VALVE ASSEMBLY

After removing all carbon from the cylinder head and grinding in the valves, deal with each valve in turn. Oil the valve stem, place it in its guide and replace the spring seating washer, spring and spring cap. Compress the spring with tool number 61-3713, apply a dab of grease to the halves of the collets and place them in position on the valve stem ensuring that they are correctly seated.

Remove the spring compressor carefully to avoid displacing the collets and repeat for the other valve.

Replace the rocker gear ensuring that the various washers are correctly positioned as shown in Illustration No. 5, Chart No. B1.

CRANKCASE HALVES

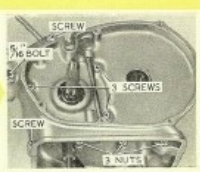
Clean both joint faces with petrol and remove all traces of old jointing.

Lubricate the timing-side main bearing with clean engine oil and using a force-feed oil can, lubricate the bigend bearing via the hole in the timing-side mainshaft.

The crankshaft can now be assembled into the timing-side crankcase half.

Smear the joint faces of both crankcase halves with jointing compound and allow this to dry for a few minutes. Lubricate the drive-side main bearing with engine oil and tap the two halves together with a hide mallet.

Refit the three crankcase screws in the primary drive case, noting that they are fitted with spring washers, tighten them evenly together with the other Phillips-headed screws and the 5/16 in. bolt.



4

TIMING COVER

A new gasket, having jointing compound on one side only, should be used at the timing cover joint. Lightly oil the camshaft bearing, crankcase layshaft bush and pinion sleeve, and holding the complete gear cluster and timing cover assembly, feed the mainshaft into the pinion sleeve bearing in the crankcase half. Engage the layshaft in its bearing and gently tap the case home, using a hide mallet.

Refit the two Phillips-headed screws and spring washers in the centre of the timing case, noting that the longer one fits to the rear.

10

CLUTCH OPERATING KEY

Grease the clutch push rod components and place them in position in the mainshaft. Locate the ends of the small hairspring over two of the outer pegs of the clutch centre so that the middle of the spring is dished outwards to hold the operating key, which can now be fitted.

Of the two recesses at 90 degrees to each other in the centre of the clutch outer plate, only one is deep enough to accommodate the operating key. The plate should therefore be fitted so that the key rests in this deep recess.

The clutch springs and cap can now be fitted and the screws tightened down fully.

16

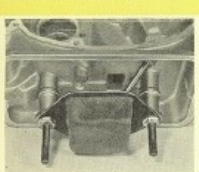
REPLACING THE HEAD

Loose the rocker adjusting screws loose, pick up the head, place the other push rod in position in the head and holding it against its rocker, lower the rod and head over the barrel and studs.

Secure the assembly with the three holding down nuts and plain washers screwing each nut down an equal amount to avoid distortion. The long extension nut passes through the fins on the opposite side to the spark plug.

Adjust the tappets to .003 in. using the special feeler gauge provided in the tool kit and replace the rocker covers, using new cover gaskets if necessary.

22

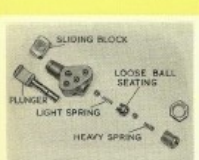


5

SUMP AND OIL FILTER

Reassembly of the sump can now be carried out. Clean the filter with petrol if necessary and allow it to dry. Refit the two distance pieces on the pump mounting studs, followed by the filter plate and its nuts and washers. Ensure that the feed pipeline passes through the grommet in the filter plate.

Replace the cork sump gasket if this has hardened or been damaged and fit the sump with its shallow end to the front. Do not omit the flat washers under the nuts the sump securing nuts or leakage of oil is likely.



11

OIL PUMP

The oil pump should not be dismantled unless it is known to be worn or defective.

Check the fit of the plunger in the body of the pump, if there is evidity loath parts will require replacement.

To dismantle the rest of the pump slacken the locknut at the base and carefully remove the plug, this will release the two 3/16 in. diameter steel balls, two springs and the loose ball seating.

After cleaning to remove any accumulation of sludge, place one ball into the body of the pump, next place the lighter of the two springs in position then the loose ball seating, slotted end first, next the second ball then the heavier spring and finally the screwed plug. Screw the plug right home and secure the locknut.

17

PRIMARY COVER AND FLYWHEEL

A new gasket should be smeared with jointing compound and positioned against the cover. The bearings in the cover should be lightly oiled, and the cover tapped into position. Take care—at this is done—that the rubber grommet holding the lighting leads is correctly located and not trapped between the joint faces.

The cover is held by seven Phillips-headed screws, three of them situated in the flywheel housing having spring washers. Tighten all seven screws securely.

23

REPLACING THE ENGINE UNIT

Support the unit with a suitable box under the sump and replace the top mounting bolt loosely.

Ensure that the generator lead couplings are available, swing unit up into position and replace the rear mounting bolt from the right-hand side. Secure bolt bolts with one plain washer, one spring washer and nut.

Thread the rear chain over the chain-guard bracket then over the gearbox sprocket and on to the rear wheel sprocket. Replace the connecting link with the open end of the clip to the rear.

TIMING GEARS

The crankshaft timing pinion can now be replaced. Ensure that the key is in position, press the pinion right home, fit a new tab washer and secure the nut finally bending back the tab washer to lock the nut.

Lightly oil the cam followers and insert them in their respective positions in the crankcase, oil the camshaft and holding the followers in their uppermost positions, insert the cam wheel at the same time carefully meshing the two timing dots to each other.

In the illustration the crankshaft nut and tab washer have been left off for clarity.

6

OIL PUMP MOUNTING

All traces of old jointing should be removed and care taken to prevent debris from this finding its way into the pump. The new gasket should be positioned against the pump with a very thin even layer of jointing compound in between. The pump-drain valve-spring should be positioned in the middle lower hole of the pump mounting. The corresponding hole in the pump body forms the seating for the valve ball, and must be clear and free from traces of jointing compound. Hold the ball on to its seating with a very small blob of light grease.

Lightly oil the pump operating peg and position the thin cork washer and rubber block on it. Make sure that the plunger is oiled and slides freely in the pump body. Mount the pump in position and tighten the two securing screws firmly and evenly.

12

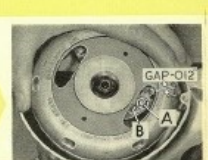
STATOR PLATE

Re-position the stator if this has been disturbed, and check that its mounting bolts are tight.

Refit the flywheel Woodruff key and locate the flywheel on its taper.

Tighten its securing nut firmly on to the spring washer.

Check the contact breaker gap by turning the crankshaft until the points are fully open then set them to .413 in. by slackening off screw (A) and turning screw (B) to left or right as necessary. Do not omit to secure screw (A) after checking the gap. Refit the outer cover.



18

FINISHING OFF

Replace the damper bolt and spacer and the chain-guard front mounting bolt.

Reconnect the generator leads, replace the right-hand footrest centre stand spring, exhaust system and carburettor.

To replace the centre stand spring, place it in position and lift the "C" shaped link and footrest over the stud.

Turn the footrest anti-clockwise to lift the link over the spacer tube, press the rest over the hexagon bar, and secure with the large nut and washer after the exhaust system is replaced. Reconnect the clutch cable.

Do not forget to refill the sump and gearbox with fresh oil before starting the engine.

24

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No. B5 AUTOMOTIVE UNIT REPLACEMENT PARTS

BSA SERVICE CHART Beagle

No. B4

FRONT FORK, STEERING and WHEELS

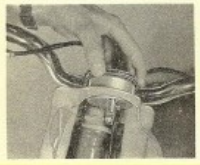
1

STEERING HEAD ADJUSTMENT

The steering head should only be adjusted if there is definite play in the head bearings or if it is excessively tight. To check for play place the fingers of the left hand around the top bearing and apply the front brake, pushing the machine forward.

To adjust, slacken the two bolts just below and behind the handlebar clips, then tighten or unscrew the self-locking nut at the base of the steering head. Tightening the nut will reduce play in the head and slackening off the nut will increase the steering head movement.

The head should move freely from side to side without up and down play or jerky movement. Do not omit to retighten the two bolts below the handlebars when adjustment is correct.



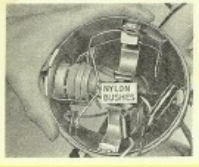
7

FRONT FORK REMOVAL

Remove the front wheel as detailed in previous paragraph, slacken off the screw at the base of the headlamp, and pull off the headlamp front. Pull the cable socket away from the headlamp switch and disconnect the other cables, taking careful note of their respective positions. (The brown cable with black tracer connects to the black horn button wire.)

Disconnect the speedometer cable and if the fork is to be dismantled, disconnect also at the wheel end and remove the cable and speedometer head.

Slacken the Unbrako screws and remove the clutch lever from the handlebar. Disconnect the clutch cable from the operating lever and pull the cable up through the grommet in the top yoke.



13

SPEEDOMETER

Replace the speedometer head and fit the large grommet underneath, pass the speedometer cable up through the small grommet in the headlamp shell and connect to speedometer head.

Plug in the speedometer light bulb.

Replace the socket underneath the lamp switch—this can only be fitted one way—and connect the two green leads, one to each battery bracket, ensuring that the small nylon bushes are pressed into position.

Replace the headlamp on its bracket, couple up the wires to the lamp front and replace the front, secure the lamp so that it is pressing up against the grommet under the speedometer head.

Refit the cable grommets to the front mudguard and check all connections.

19

REPLACING REAR WHEEL

Place the wheel in the fork ends without the chain adjusters and engage the brake plate torque arm over its lug, depress the brake pedal and slide the rod-with spring in position—through the brake lever.

Place the chain adjusters over the spindle and outside the fork ends, screw the spindle nuts on loosely, refit the chain and adjust so that there is not less than 2 in. of slack with the wheel at its lowest point and with the rim 1½ in. from the inside of the right-hand arm.

When this position is obtained lock the spindle nuts and check again adjusting as necessary. Finally adjust the brake.

SPEEDOMETER CABLE

To change the speedometer cable, unscrew the knurled nut at the wheel end and withdraw the cable. Unscrew and remove the chrome-plated bolts at each side of the headlamp, noting the position of the dished washers.

Lower the headlamp and unscrew the knurled nut under the speedometer head, withdraw the cable and pull down through the headlamp grommet.

Replacement is simply the reversal of this procedure. The speedometer head can also be changed at this stage if necessary, it only requires the removal of the nut, "U" shaped bracket and bolt when the speedometer head can be lifted upwards out of the forks.

2

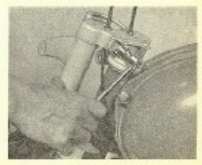
HANDLEBAR

Remove the front brake cable from the handlebar lever, disconnect the cables from the hub lever and pull up through the grommet in the top yoke.

Unscrew and remove the four bolts holding the handlebar clips, there are two nuts at the back and a tapped plate underneath the top yoke.

Disconnect the throttle wire from the twist-grip, pull the horn button wire through the grommet and place the handlebars to one side.

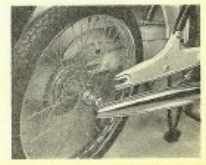
Unscrew and remove the large self-locking nut at the base of the steering column. Remove the two bolts behind the top yoke and draw the forks down and away from the frame at the same time catching any loose balls.



8

REAR WHEEL REMOVAL

To remove the rear wheel slacken off the two large spindle nuts and remove the brake rod adjusting nut. Disconnect the rear chain, run the chain off the rear sprocket, pull the wheel out of the fork ends and remove the brake rod from the cover plate lever. The wheel can now be drawn out between the arm of the silencer and the mudguard on the right-hand side of the machine.



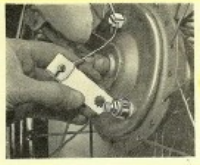
14

PETROL TANK REMOVAL

Before the petrol tank can be removed from the machine it must be drained. Turn off the fuel at the tap, unscrew the bonin union bolt and remove the petrol pipe replacing the bolt, washers and filter gauze on the carburetter for safety. Using a suitable screwdriver turn on the tap and allow the tank to drain. This process can be speeded up if the tap is removed from the pipe.

Having removed as much fuel as possible, disconnect the balance pipe underneath the tank by removing one clip and pulling off the pipe. Remove the four mounting bolts and rubbers and lift the tank clear of the frame.

20



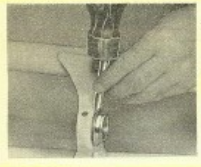
3

FRONT WHEEL REMOVAL

Place a piece of wood approximately 1 in. thick under the stand to keep the front wheel clear of the ground.

Remove the 5/16 in. nut and washer from the brake cam spindle and pull the lever off the spindle, noting the position of the lever for replacement.

Unscrew the knurled thimble on the speedometer drive gearbox and pull out the cable. Unscrew and remove the right-hand spindle nut. Slacken the pinch bolt on the left-hand side, unscrew and pull out the spindle to release the wheel towards the front of the machine, this will also release the spacing washer from the left-hand side.



9

HEAD RACES

There are twenty-four (24) 3/16 in. diameter steel balls between each top and cone. The cones are fitted on the bottom yoke and under the top connecting plate. These two cones can be pulled off with a thin chisel or similar tool and the cups which are fitted into the head tube can be driven out with a suitably shaped drift. The ball tracks on both cups and cones should be polished and quite free from indentation or pitting, if there is evidence of this on any of them, all should be replaced.

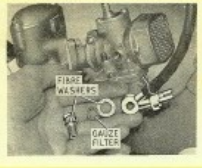
When replacing the races great care should be taken to see that they are fitted squarely to each other.

15

FURTHER DISMANTLING

Using 9/16 in. spanners unscrew the large cover plate nut, take off the nut and cover plate complete with brake shoes. The spindle can be driven out towards the right-hand side without disturbing the two bush nuts. Lift out the distance piece and prise out the dust cover from the left-hand side. This uncovers the bearing locking which has a left-hand thread and is therefore removed by unscrewing in a clockwise direction with Service Tool number 61-3751.

After removing the locking and felt washer displace the distance tube and using a suitable drift drive out the left-hand bearing, felt washer and dust excluder. Take out the distance tube and drive out the right-hand bearing.



21

REPLACING THE TANK

It will be time well spent if the petrol tank is flushed out before replacing. Make sure that the balance pipe underneath the tank is quite sound, place the tank carefully in position and secure the four mounting bolts, these must be screwed right down to the shoulder and the rubbers must be in good condition. Connect the fuel pipe and the balance pipe and secure the wire clip over the tank outlet.

Reconnect the feed pipe to carburetter ensuring that the two fibre washers are each side the banjo and the gauze filter is inside.

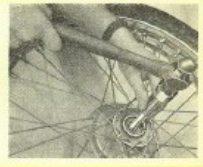
FRONT WHEEL BEARINGS

The bearings are of the ball journal type and are packed with grease on assembly, they will not require attention for many thousands of miles.

When it is necessary to replace or grease the bearings, take out the wheel as previously described and pull off the brake cover plate. Carefully prise off the speedometer gearbox.

Using a drift not more than 7/16 in. in diameter drive out the dust cover, felt washer, bearing and centre sleeve from one side.

The other bearing, dust cover, etc. can now be driven out from the opposite end.



4

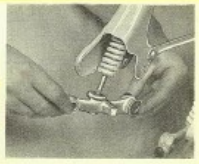
FURTHER DISMANTLING

The front mudguard is retained by four bolts and nuts and removed in quite straightforward. The cable grommets in the mudguard are split and can be removed from the cables after being pulled from the guard.

To remove the trailing arm take off the spring scroll stud nut and remove the pivot bolt and nut. The bronze bushes can be pressed out with suitable drifts and replacements pressed in after fixing up the grease holes.

The springs can only be removed from the top scrolls with Service Tool number 61-3728 although they can usually be screwed on to the scrolls quite easily by hand.

The two fork tubes should be quite straight and parallel with each other, if they have suffered any accidental damage these service replacements should be obtained through the medium of your dealer.



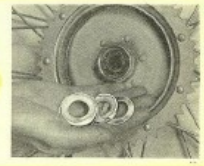
10

REPLACING BEARINGS

As the rear hub shell is provided with a grease nipple there is no need to pack the bearings with grease on assembly. Make sure that the large washer is in position on the left-hand side of the hub shell, press in the left-hand bearing, insert the thin steel washer and secure with the locking which has a left-hand thread. Insert the felt washer and cover with the outer dust cap.

Insert the centre distance tube and press in the right-hand bearing, insert the thin steel washer and press in the felt washer and the retainer and apply grease gun.

Note.—When fitting new bearings pressure should only be applied to the outer ring of the bearing.



16

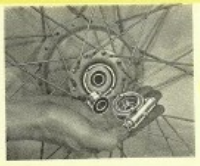
REAR DAMPERS

Should it be necessary to remove the rear dampers at any time, it can be done without disturbing other components. Obtain a piece of wood of sufficient thickness to place between the rear tyre and the mudguard.

Remove both the lower damper bolts and the nuts from the upper mounting stud. Draw the stud out to one side sufficient to remove the damper from the opposite side. Repeat for the other damper.

Replacement is simply a reversal of the above procedure but do not omit the distance piece, fitted between the left-hand damper and the chainguard.

22



5

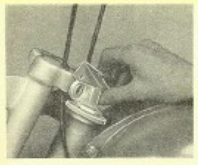
REPLACING THE BEARINGS

When replacing wheel bearings pressure should only be applied to the outer ring of the bearing. Press the right-hand side bearing into the hub shell up to the flange. Pack the shell with a good high-melting point grease and insert the centre distance piece.

Press the other bearing into the shell up to the flange and without disturbing the first bearing.

The felt oil seals and dust excluders can now be pressed in from their respective sides but care is required to avoid distortion.

The rest of the assembly is quite straightforward except to note that, of the two other large distance pieces, the parallel one is used on the left-hand or speedometer side.



11

REFITTING THE FORKS

After rebuilding or replacing the forks or steering head races, grease both the cups and insert 24 steel balls in each, these should be quite clean and free from pitting, if there is any trace of pitting or rust then all the balls should be replaced.

Pass the wiring harness socket through the forks and carefully insert the lower steering head cone into the lower cup, place the top cone and dust cover in position and the long stud down through the bearings and the bottom yoke.

Screw on the large self-locking nut sufficient to retain the assembly without releasing the steel balls.

Place the angled bracket between the head lug and top yoke and secure loosely with the two bolts and plate inside the top yoke.

17

BRAKE SHOES

Front and rear shoes are not interchangeable otherwise their removal and replacement is quite straightforward, they can be sprung off and on quite easily.

Never allow the rivet heads to come into contact with the drum, this will cause scoring and will reduce the efficiency of the brake, although new linings may be fitted. As soon as the linings become worn obtain relined shoes through your dealer. Never allow grease to come past the felt washers, if this happens fit new washers and in the case of the rear wheel, stop using the grease gun.

23

WIRING HARNESS

To change the wiring harness remove seat which is secured by four bolts underneath. Remove the earth lead from the bolt at the rear end of the frame and break the two couplings underneath the rear number plate bracket. Pull out the generator lead couplings from behind the engine and break the red lead.

Take off the rubber cover and disconnect the two couplings at the brown/black leads. There is no need to touch the coupling on the purple lead.

Tie two lengths of string to the tail lamp and earth wire leads and pull the harness out of the frame through the hole underneath the petrol tank leaving the two pieces of string lying in the frame.

WHEEL REPLACEMENT

Push the wheel into position between the two arms and engage the brake plate torque arm over its stud.

Push the spindle through the left-hand arm and position the spacing washer, push the spindle right through the hub and screw into the right-hand arm, position the speedometer gear so that the cable inlet is in a horizontal underneath, tighten the spindle, secure the pinch bolt and screw on the spindle nut.

Replace the speedometer cable and the front brake lever adjusting the cable as necessary.

6

REPLACE HANDLEBARS

Adjust the steering head by screwing up the large self-locking nut underneath the head finally tightening the two bolts above.

Place the handlebars and clips in position, insert the two bolts with nuts at the back and two bolts at the front which screw into the tapped plate fitted underneath the top yoke. Fitting the plate will be facilitated if the speedometer head is first removed. Thread the horn button wire through the grommet on the left-hand side of the fork, followed by the clutch cable and pass the front brake cable through the right-hand grommets. Replace the brake lever and twist-grip control and refit the front wheel.

Reconnect the cables at the wheel, engine and twist-grip.

12

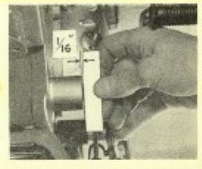
SWINGING ARM

To replace the bushes in the swinging arm, remove the rear wheel as previously described, remove both lower damper bolts and the front chainguard bolt and nut.

Remove one of the swinging arm pivot bolt nuts, drive the spindle out and take the arm away.

The aluminium bushes are separated by a spacer tube and can be driven out of the frame with a suitable drift. In cases where corrosion has occurred it is sometimes beneficial to apply penetrating oil to the outer shell of the bush.

When pressing in the replacement bushes see that they project an equal amount each side of the frame and do not omit the spacer tube.



18

REPLACING

If the headlamp is not being replaced, remove the lamp front, disconnect the black horn button lead, the two green leads and pull the socket away from the underside of the switch. Take the old harness away.

To replace the harness, tie the ends of the string to the blue and black tail lamp leads and to the translucent earth lead and after loading the wires through the hole in the frame, pull the leads through sufficient to remake the connections.

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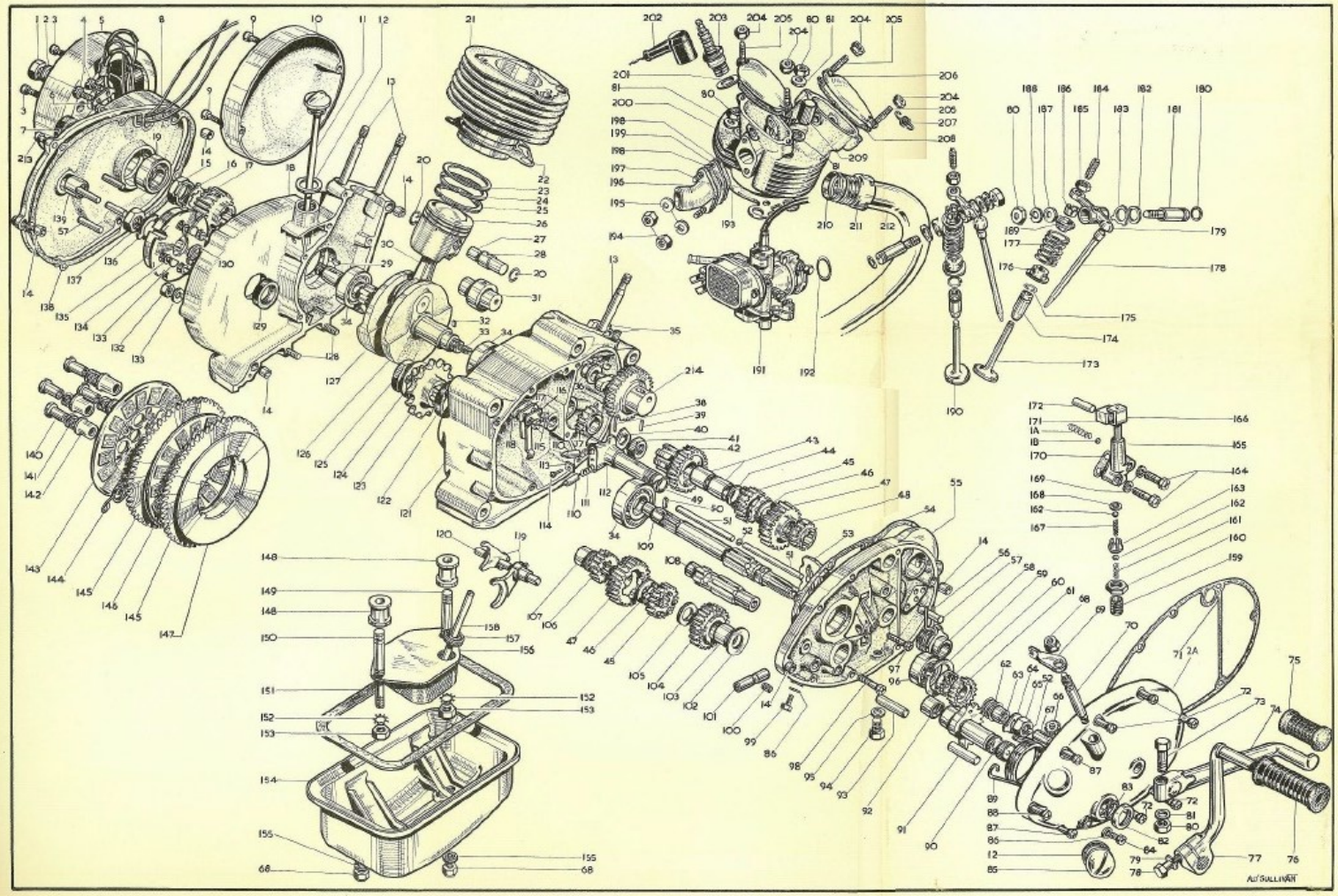

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