

Introduction to the Moto Guzzi 750, 850 and 1000 V-twins

Moto Guzzi SpA was founded in 1921 by Carlo Guzzi and Giorgio Parodi. With Guzzi as the engineer, the first production model was a 500 cc horizontal engined single cylinder machine; an engine configuration which, although unusual, was to be one of the Moto Guzzi hallmarks until after the Second World War. The 500 cc engine was modified continually in the light of successful racing experience, and in common with the 250 cc engine which soon supplemented it, was available in IOE, OHV and OHC form at various times during its production run. By 1934, when a 175 cc machine was produced, all models could be supplied either in roadgoing or racing trim, with or without a spring frame.

The early post-war era saw a completely new range of models to be built concurrently with the later models of the single cylinder horizontal engine type. The range included machines with both two-stroke and four-stroke engines of between 63 cc and 235 cc capacity. Most of these models outlived the earlier singles, the production of which ceased in the late '50's. Moto Guzzi, in addition to models which though successful as racing machines were ostensibly produced as road models, have a history of producing one-off machines designed solely for the purpose of winning races in the hands of their own riders. These include the 250 cc supercharged model, the 500 cc 120° V-twin, and, after the War, the in-line DOHC water-cooled four

and the even more magnificent 500 cc V-8.

The Moto Guzzi transverse V-twin of today, of which the V-1000 I-Convert is the latest addition, utilizes an engine designed originally for use in a light four-wheel transporter manufactured for the armed forces. The compactness of the engine and the transverse configuration has made the engine ideally suited as a motorcycle power unit. Included in the range currently in production is the 850 Le Mans model, a sporting road machine which with little modification can be used as a production racer. This model has superseded the 750S and S3 models, which were developments of the earlier V7 sport. The touring field is catered for by the 850T and the T3, the latter model incorporating an integral front and rear braking system. The 850T3 California is the out and out American style tourer. The V-1000 I-Convert model is considered by many to have the ideal specifications for a long-distance tourer, having weather equipment and panniers similar to those of the 850 California, a 1000 cc engine and an almost unique transmission system utilizing a torque converter and a two-speed gearbox. The success of the transverse V-twin is reflected in the new range of lightweight Moto Guzzi models of 350 cc and 500 cc which share a purpose-built engine unit similar to the earlier larger machines, and retaining the shaft final drive.

Dimensions and weight

	750S	750S3	850 Le Mans	850T3 and V-1000
Overall length	2165 cm (85.2 in)	2165 cm (85.2 in)	2190 cm (86.2 in)	2200 cm (86.5 in)
Overall width	700 cm (27.5 in)	680 cm (26.8 in)	720 cm (28.3 in)	780 cm (34.0 in)
Overall height	1035 cm (40.7 in)	1020 cm (40 in)	1030 cm (40.5 in)	1060 cm (46.0 in)
Wheel base	1470 cm (58 in)	1470 cm (58 in)	1470 cm (58.0 in)	1470 cm (58.0 in)
Weight	225 kg (495 lbs)	230 kg (507 lbs)	198 kg (437 lbs)	240 kg (560 in)

Ordering spare parts

Every Moto Guzzi authorised dealer undertakes to stock those genuine Moto Guzzi parts that are required frequently. Other parts which are required less frequently can be obtained by the dealer from an area stockist, or from the importers. Only genuine, approved Moto Guzzi parts must be used.

When ordering parts, quote the full frame and engine numbers. If painted parts are required, include the colour.

The frame number is stamped on the right-hand side of the steering head, and on a plate on the front of the steering head.

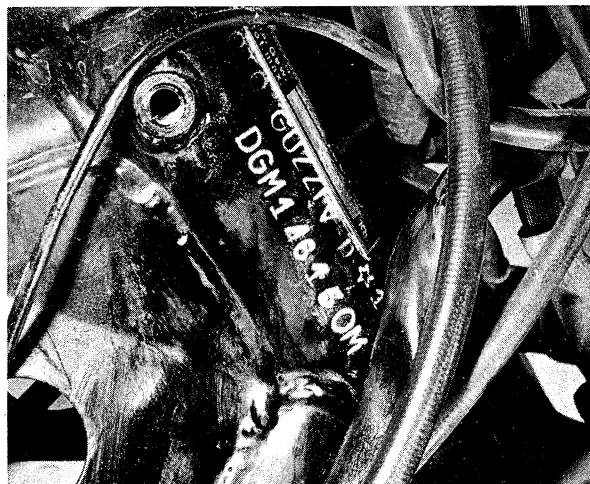
The engine number is on the left of the crankcase, above the oil-level dipstick boss.

Pattern parts may sometimes be available at lower cost, but they do not necessarily make a satisfactory replacement for the originals. There are cases where reduced life or sudden failure has occurred, to the overall detriment of performance, and perhaps safety.

Some of the more expendable items such as spark plugs, bulbs, tyres, oil and grease etc, can be obtained from accessory shops and motor factors. They have convenient opening hours, charge lower prices, and can often be found not far from home. It is also possible to obtain parts by mail order from specialists who advertise in the motorcycle magazines.



Engine number location



Frame number location

Routine maintenance

Periodic routine maintenance is a continuous process that commences immediately the machine is used and continues until the machine is no longer fit for service. It must be carried out at specified mileage recordings or on a calendar basis if the machine is not used regularly, whichever is the soonest. Maintenance should be regarded as an insurance policy, to help keep the machine in the peak of condition and to ensure long, trouble-free service. It has the additional benefit of giving early warning of any faults that may develop and will act as a safety check, to the obvious advantage of both rider and machine alike.

The various maintenance tasks are described under their respective mileage and calendar headings. Accompanying photos or diagrams are provided, where necessary. It should be remembered that the interval between the various maintenance tasks serves only as a guide. As the machine gets older, is driven hard, or is used under particularly adverse conditions, it is advisable to reduce the period between each check.

For ease of reference each service operation is described in detail under the relevant heading. However, if further general information is required it can be found within the manual in the relevant Chapter.

Although no special tools are required for routine maintenance, a good selection of general workshop tools are essential. Included in the tools must be a range of metric ring or combination spanners, a selection of crosshead screwdrivers, and two pairs of circlip pliers, one external opening and the other internal opening.

Weekly or every 300 miles

Tyre pressures

1 Check the tyre pressures with a pressure gauge that is known to be accurate. Always check the pressures when the tyres are cold. If the tyres are checked after the machine has travelled a number of miles, the tyres will have become hotter and consequently the pressure will have increased, possibly as much as 8 psi. A false reading will therefore always result.

Model	Front tyre	Rear tyre
750S, S3, 850T3 and Le Mans	29 psi (2 kg-cm ²)	33 psi (2.3 kg-cm ²)
850T	26 psi (1.8 kg-cm ²)	33 psi (2.3 kg-cm ²)
V-1000	30 psi (2.1 kg-cm ²)	34 psi (2.4 kg-cm ²)

When carrying a pillion passenger the rear tyre pressure should be increased by 3 psi (0.2 kg-cm²). When travelling at continuous high speeds an additional 3 psi (0.2 kg-cm²) should be added to both front and rear tyres.

Engine oil

2 Remove the filler plug from the left-hand side of the crankcase and by means of the integral dipstick check the oil level. Never run the engine with the oil level lower than the lower level mark. Avoid overfilling as this causes higher crankcase pressures which may damage the oil seals. Replenish with SAE 10W/50 or 20W/50 engine oil.

Torque converter reservoir oil level - V-1000 models

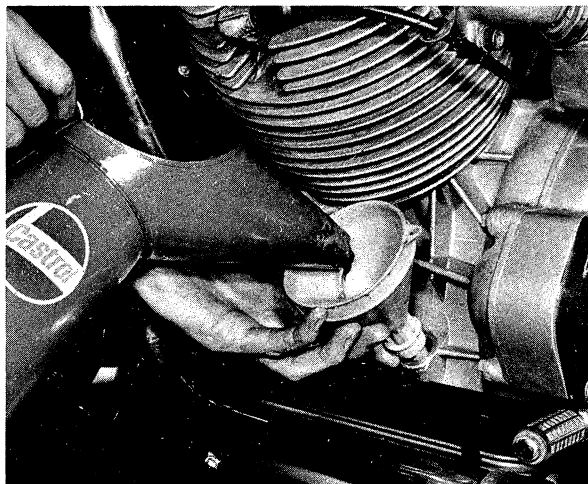
3 Remove the left-hand frame side cover by pulling the lower edge from the rubber securing bush and lifting the cover off the upper hooks. By means of the dipstick in the filler cap check the torque converter hydraulic fluid level. The level should come between the upper and lower marks. Replenish if necessary with Dexron [®] Automatic Transmission Fluid. **DO NOT under any circumstances use engine oil or hydraulic brake fluid.**

Safety inspection

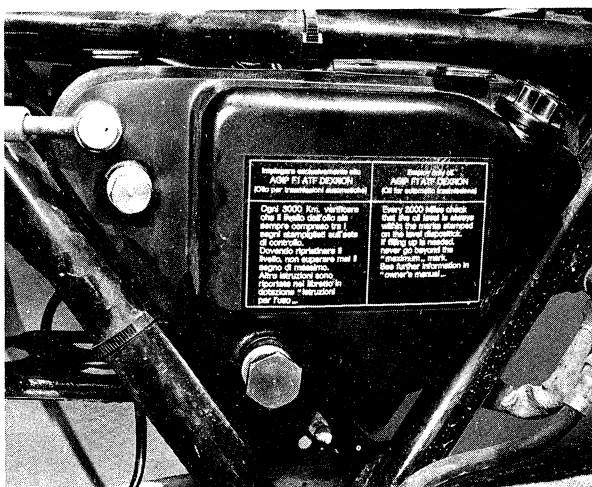
4 Give the whole machine a close visual inspection, checking for loose nuts and fittings, frayed control cables and damaged brake hoses etc.

Legal inspection

5 Check that the lights, horn and flashing indicators function correctly, also the speedometer.



Check and if necessary replenish engine oil



Check torque converter fluid level by means of dipstick

Monthly or every 500 miles

Complete the tasks listed under the weekly/300 mile heading and then carry out the following checks.

Tyre damage

1 Rotate each wheel and check for damage to the tyres, especially splitting on the sidewalls. Remove any stones or other objects caught between the treads. This is particularly important on the front tyre, where rapid tyre deflation due to penetration of the inner tube will almost certainly cause total loss of control of the machine.

Spoke tension

2 Check the spokes for tension, by gently tapping each one with a metal object. A loose spoke is identifiable by the low pitch noise emitted when struck. If any one spoke needs considerable tightening, it will be necessary to remove the tyre and inner tube in order to file down the protruding spoke end. This will prevent it from chafing through the rim band and piercing the inner tube.

On machines fitted with cast alloy spoked wheels a close visual inspection is necessary, checking for cracks and similar structural damage.

Rear brake adjustment - 750S and 850T models only

3 When the rear brake is in correct adjustment the total brake pedal travel measured at the toe tread should be within the range 0.8 - 1.2 in (20 - 30 mm). If the travel is greater or less than this carry out the necessary adjustment by means of the shouldered nut at the brake arm end of the control rod.

The actual brake pedal travel is really a matter of choice, but should not be so tight that the brake linings bind on the drum. Conversely, excess brake pedal travel will prevent quick operation of the brake.

Battery electrolyte level

4 Release the seat catch and lift up the dualseat. Remove the tool tray and detach the battery retaining strap. Remove the filler plug or plugs and check the battery electrolyte level. The solution should just cover the battery plates. If required, replenish using distilled water. Do not fill to a level more than 5 mm (3/16 in) over the top of the plates.

Two monthly or every 2,000 miles

Complete the checks listed under the weekly 300 mile and monthly 500 mile headings and then carry out the following tasks:

Engine oil change

1 The oil should be changed regularly at the prescribed intervals, more particularly in the case of 750S and most 850T models, where no in-line oil filter cartridge is used. Drain the oil into a container of more than 3.5 litres (7.3/6.0 US/Imp pints). The drain plug is located in the rear wall of the sump. Oil drainage will be accelerated and improved if the engine has reached normal working temperature; the oil will be thinner and so flow more readily. Refit the drain plug and replenish the engine through the filler orifice with approximately 3 litres of SAE 10W/50 or 20W/50 engine oil. Check the level with the dipstick and then pour in a further amount of oil until the level reaches the maximum mark.

Gearbox oil level

2 Remove the gearbox level plug from the right-hand side of the machine. The oil level should be just below that of the lower threads in the aperture. If required, replenish with a MP SAE 90 or EP 90 gearbox oil through the filler orifice.

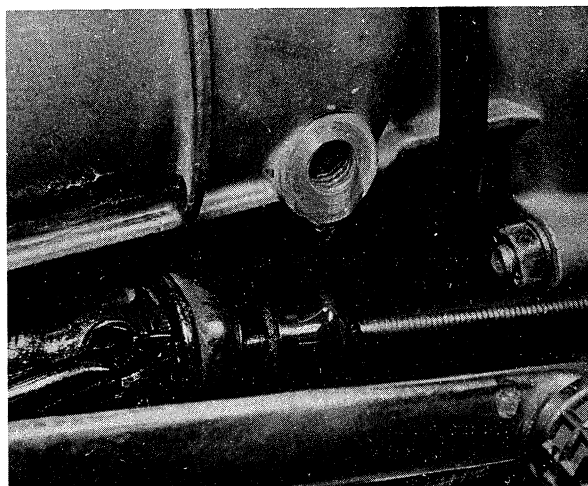
Rear bevel drive box level

3 Remove the bevel box level plug and check the oil level. If necessary, replenish to a level just below the filler orifice with MP SAE 90 or EP 90 gearbox oil.

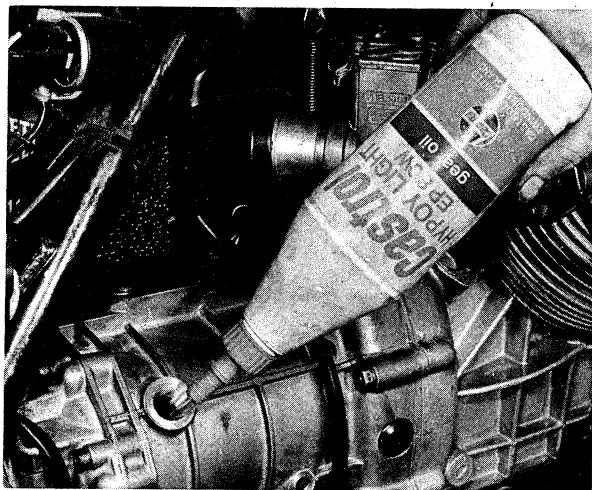
Tappet adjustment

4 Remove the spark plugs and detach each rocker cover after removing the retaining screws. A small amount of oil will spill out of each rocker chamber when the covers are removed. Adjustment of the clearance between the rocker arms and valve stems should be made with the engine **COLD**. Rotate the engine until one piston is at top dead centre (TDC) on the compression stroke (both valves closed). Check the rocker clearances with a 0.22 mm (0.0085 in) feeler gauge. Adjustment is made by loosening the locknut on the rocker arm and screwing the adjuster inwards or outwards, as necessary. Hold the adjuster firmly, tighten the locknut and recheck. The feeler gauge should be a light sliding fit.

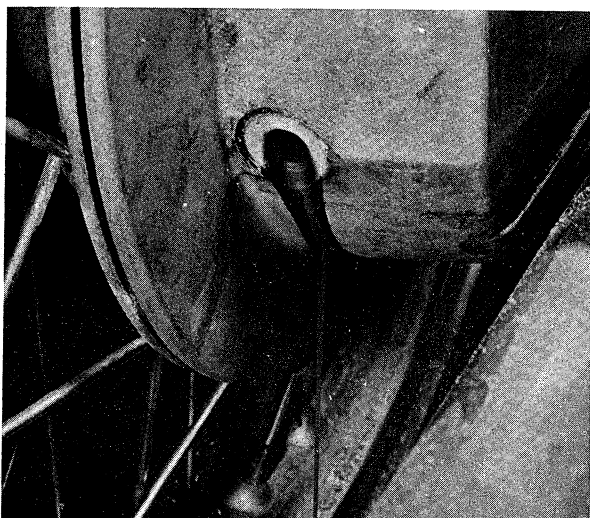
Repeat the operation on the other cylinder.



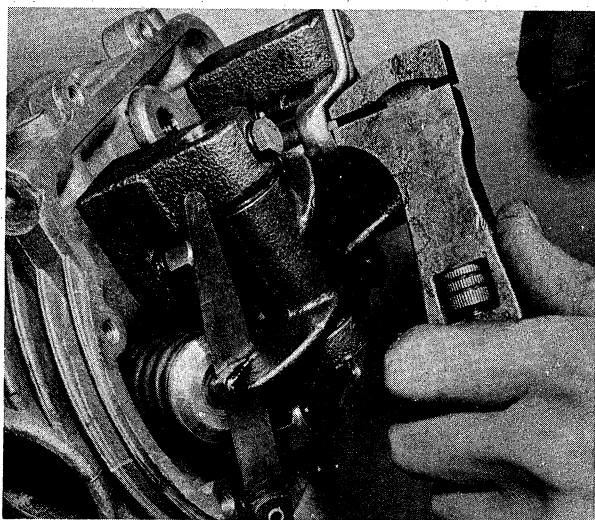
Check gearbox oil level and ...



... refill if necessary with correct oil



Rear bevel box oil level plug



Adjust tappet clearance with engine COLD

Four monthly or every 4,000 miles

Complete all the checks listed in the previous schedules and then complete the following:

Hydraulic brake fluid level

1 Check the level of the brake fluid in both the front and rear master cylinder reservoirs. Before removing the front brake reservoir cap place the handlebars in such a position that the reservoir is as upright as possible; this will prevent spillage. If fluid spills onto paintwork or plastic fittings, wash it off immediately. Hydraulic fluid is a good paintstripper.

Replenish if the level is below the lower face of the diaphragm, with the diaphragm positioned correctly. Never allow the fluid to fall more than 6 mm below the maximum mark which is measured at the waist of the diaphragm. Use hydraulic fluid of DOT 3 (USA) or SAE J1703 specification. Never use engine oil or similar fluids. If the level of fluid in either of the reservoirs is excessively low, check the pads for wear. If the pads are not worn, suspect a fluid leakage in the system. This must be rectified immediately.

V-1000 and Le Mans models are fitted with a float-operated switch in the rear master cylinder, which illuminates a warning light if the fluid falls below a pre-set level. This does not, however, preclude the necessity of regular fluid level checks.

Air filter cleaning

2 This service item does not apply to Le Mans models. Raise the dualseat and detach the battery retaining straps and the petrol tank retaining strap. Disconnect the negative battery lead followed by the positive lead and lift the battery from position. After detaching the petrol feed pipes at the tap unions, lift the tank up at the rear and away from the machine.

Because of the design of the air filter rubber duct, which connects the air filter to the carburettors, the carburettors must be detached at the cylinder heads. Unscrew the three socket screws holding each inlet stub to the cylinder head and swing both carburettors away, after pulling them from the rubber ducting.

Unscrew the single nut from the rod projecting through the front of the air filter box and withdraw the breather box. The hose to the box may be pulled off. Lift out the air filter element.

The element is of the corrugated dry paper type. Knock the loose dust from the element and blow out the ingrained dirt from the inside of the filter, using an air jet. If the element is badly soiled, perforated or oil soaked, it should be renewed without question. Poor performance and an over-rich mixture will result from a blocked filter.

When refitting the filter assembly, note that the free plate at the front of the breather box must be located correctly with the projection on the box.

Spark plug cleaning

3 Remove the spark plugs and clean them, using a wire brush. Clean the electrodes with fine emery paper or cloth and then reset the gaps to 0.6 mm (0.023 in) with the correct feeler gauge. Before replacing the plugs, smear the threads with a small amount of graphite grease, to aid future removal. Where high speed CW275L plugs are being used, the correct gap is 0.5 mm (0.019 in).

Cleaning and adjusting the contact breakers

4 In order to inspect and adjust the contact breakers, the housing cap, retained by two screws, must be removed. To aid access for easy removal and subsequent attention, the rear of the petrol tank should be raised a few inches after detaching the retaining strap and the petrol pipes. Support the tank on a bunch of rags or a wooden block.

Rotate the engine until one set of points is open and examine

the contact faces. Slight irregularities in the faces may be removed using a fine swiss file or a strip of emery paper backed by a piece of tin. If they are dirty, pitted or burnt, it will be necessary to remove them for further attention, as described in Section 3 of Chapter 4.

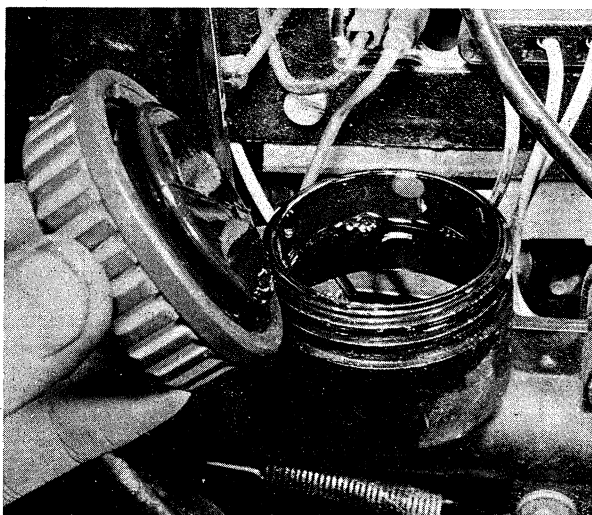
Repeat the process on the second set of points.

The correct contact breaker gap, when the points are in the fully open position, is within the range 0.42 - 0.48 mm (0.016 - 0.018 in) for 850T models and 0.37 - 0.43 mm (0.014 - 0.017 in) for all other models. Adjustment is effected by slackening the two screws passing through the contact breaker fixed point plate and using a screwdriver inserted in the notch provided, moving the fixed contact near to or further away from the moving contact. Ensure that the points are in the fully open position when this adjustment is made or a false setting will result. Tighten the two screws and recheck the gap; the feeler gauge should be a light sliding fit between the faces.

Repeat the process on the other set of contact points. Before refitting the housing cap, clean the points faces using a clean rag dipped in methylated spirits. This will ensure that the points are perfectly clean and prevent the faces picking-up prematurely. Apply a few drops of thin oil to the cam lubricator wick. Do not overlubricate or the excess oil may find its way to the points, causing ignition failure.

Ignition timing

5 It is important that the ignition timing is checked regularly



Do not allow fluid level to drop in either reservoir



Clean cylindrical tap filters and ...

and accurately. Check the timing as described in Chapter 4, Section 7.

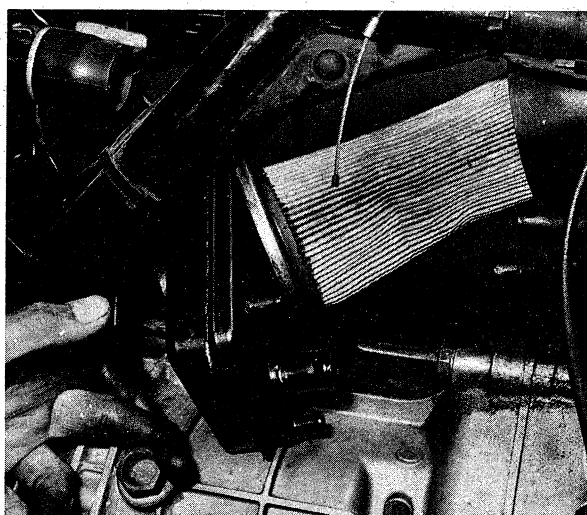
Six monthly or every 6,000 miles

Carry out the tasks described in the weekly, monthly, two monthly and four monthly sections and then attend to the following:

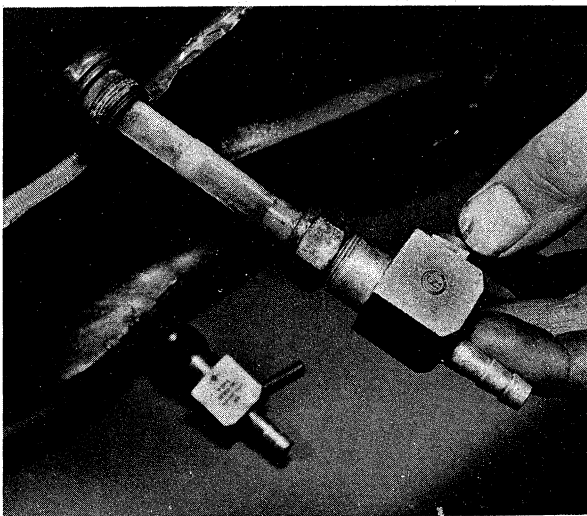
Fuel filter cleaning

1 Disconnect the petrol pipes at the petrol tap unions. The pipes are retained either by screw clips or spring clips. Drain the petrol tank completely by fitting temporarily suitable lengths of hose to the taps. Unscrew each tap by applying a spanner to the hexagonal nut above the tap body. A gauze filter is fitted to each tap. Remove the screw passing through each pipe union at the carburettors. Pull the unions away and displace the circular filter screens.

Clean the screens and tap filters in petrol, removing stubborn deposits with a soft brush. If the gauze is perforated, the tap or screen should be renewed. Refit the components, ensuring that they are not overtightened. A little petrol resistant sealing compound applied to the tap threads will help prevent leakage.



Carburettors must be removed to gain access to element



... the filter screen at each carburettor union

Changing the gearbox and bevel box oil

2 Drain the contents of the gearbox and the bevel box after the machine has been on a run of sufficient length to allow the oil to reach normal working temperature. The gearbox drain plug on the V-1000 models is fitted to the lower edge of the end cover. On all other models the drain plug is in the casing base.

Replace both drain plugs and refill the gearbox with 0.6 ltr (1.26/1.05 US/Imp pts) for V-1000 models and 0.751 ltr (1.75/1.33 US/Imp pts) for all other models.

The rear bevel box on all models has a capacity of 0.250 ltr (8.4/7.04 US/Imp fl oz). A mixture of MP SAE 90 or EP 90 gear oil should be made up to this amount with 20 cc (¾ oz) of Molykote type A or a molybdenum disulphide transmission additive.

Battery connections

3 Disconnect the negative battery lead followed by the positive lead. Clean the terminals and the leads thoroughly with wire wool or emery paper. Refit and tighten the leads. Apply a coating of petroleum jelly to the two terminals covering all the exposed metal, to prevent further corrosion.

Air filter

4 The air filter element should be renewed at this service interval regardless of its condition. Removal is described in the Section on filter cleaning under the 4,000 mile service heading.

Spark plugs

5 It is recommended that the spark plugs are renewed at approximately 6,000 mile intervals. Although a spark plug may give good service after this mileage peak efficiency will have been lost. Refer to Chapter 4 specifications for the correct plug type.

Nine monthly or every 9,000 miles

Complete all the previously listed tasks and then carry out the following operation:

Oil filter cleaning

1 At 9,000 miles approximately, or at every fifth oil change, the oil filter screen should be removed and cleaned and the oil filter element, where fitted, renewed. After draining the oil in the normal way undo the sump retaining screws and lift the sump away. If care is taken, the sump gasket can often be reused. Unscrew the oil filter cartridge and discard it. Remove the centre screw from the oil filter screen, after bending down the ear of the locking plate. Displace the screen and wash it thoroughly in petrol. Allow the screen to dry before refitting. Fit a new filter cartridge and replace the sump. During this service operation the sump itself should be cleaned thoroughly.

Yearly or every 12,000 miles

The yearly maintenance schedule constitutes a minor overhaul and in addition to all the preceding maintenance tasks the following should be carried out:

- 1 Check the condition of the rear brake linings as described in Chapter 6, Section 13.
- 2 Remove, inspect and regrease the wheel bearings. Refer to Chapter 6, Section 10.
- 3 Relubricate the steering head bearings. See Chapter 5, Section 5.

Front fork oil change

4 The lubricating oil in each front fork leg should be drained and replenished. Place the machine on the centre stand and remove the socket screw from the centre of each fork top bolt. Place blocks below the engine so that the front wheel is clear of the ground and remove the two top bolts. Unscrew the drain plug at the lower rear of each fork leg and allow the oil to drain. Replace the drain plugs and refill each fork leg with the correct quantity of Dexron [®] Automatic Transmission Fluid or equivalent.

Quantity per leg:

Model	Fork leg capacity (each)
750S and 850T	50 cc (1.7/1.4 US/Imp fl oz)
850T3	60 cc (2.0/1.7 US/Imp fl oz)
750S3 and V-1000	70 cc (2.7/2.0 US/Imp fl oz)
Le Mans	120 cc (4.0/3.4 US/Imp fl oz)

After filling, refit the top bolts, lower the front wheel onto the ground and fit the damper retaining socket bolts.

Additional routine maintenance**1 Brake pads: examination and replacement**

The rate of brake pad wear is dependent on the conditions under which the machine operates, weight carried and the style of riding, consequently it is difficult to advise on specific inspection intervals. Whatever inspection interval is chosen, bear in mind that the rate of wear will not be constant.

Prise the fluted cover off the top of each caliper and check the width of each pad. If any pad has worn to less than 6 mm (0.2362 in) both pads in that set must be renewed.

The pads may be removed without detaching either the wheel or caliper, as follows:

Depress one end of the pad pin retaining spring and withdraw the freed pin. Remove the spring and the second long pin and then lift the tapered pin out of position in the pads. The pads may be displaced one at a time. Slot the new set of pads into place, if necessary pushing the pistons back into the caliper halves to gain the added clearance. Refit the pins by reversing the dismantling procedure.

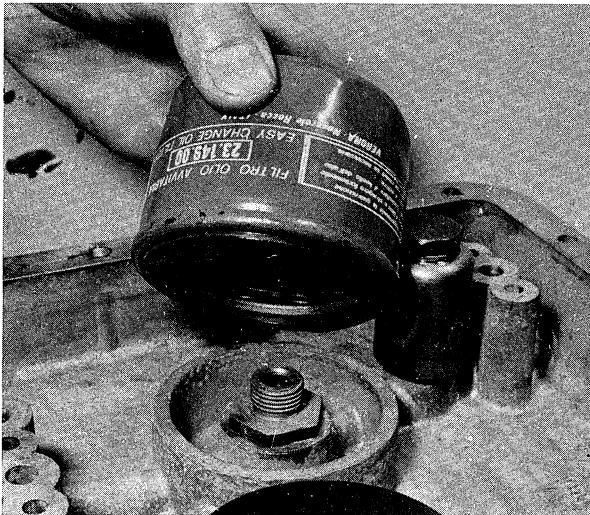
2 Clutch adjustment

In common with brake pad wear, clutch wear and the resultant necessary adjustment depends on operating conditions and the style of riding. Adjust the clutch, when necessary, as follows:

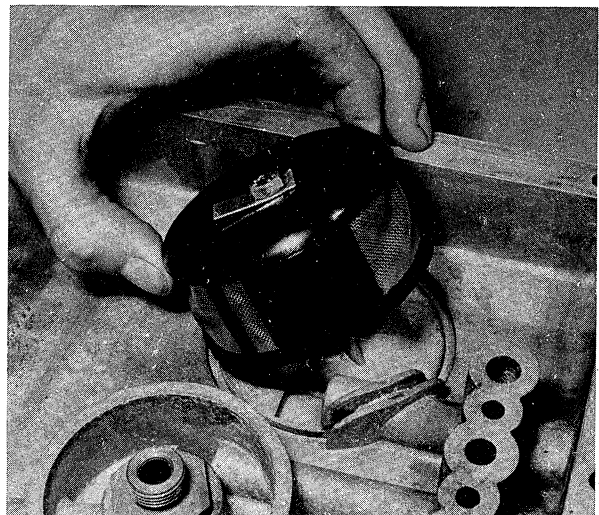
Rotate the adjuster wheel on the handlebar control until the free play measured between the lever and lever stock is approximately 4 mm (5/32 in). There must always be some free play in the cable or the clutch pushrod will bind, causing premature wear. In addition, the clutch plates may slip due to the slight amount of lift imparted. If the required latitude of adjustment is not available at the handlebar control lever, use the adjuster at the lower end of the cable, after loosening the locknut.

3 Control cable lubrication

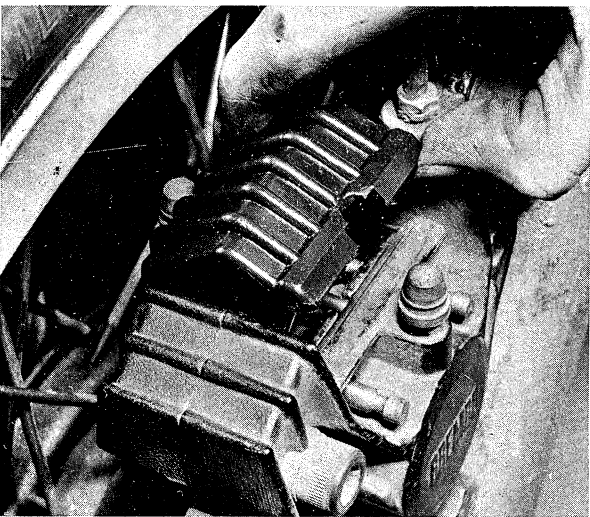
Use motor oil or an all-purpose oil to lubricate the control cables. A good method for lubricating the cables is shown in the accompanying illustration, using a plasticine funnel. This method has a disadvantage in that the cables usually need removing from the machine. An hydraulic cable oiler which pressurises the lubricant, overcomes this problem. Do not lubricate nylon lined cables as the oil will cause the nylon to swell, thereby causing total cable seizure.



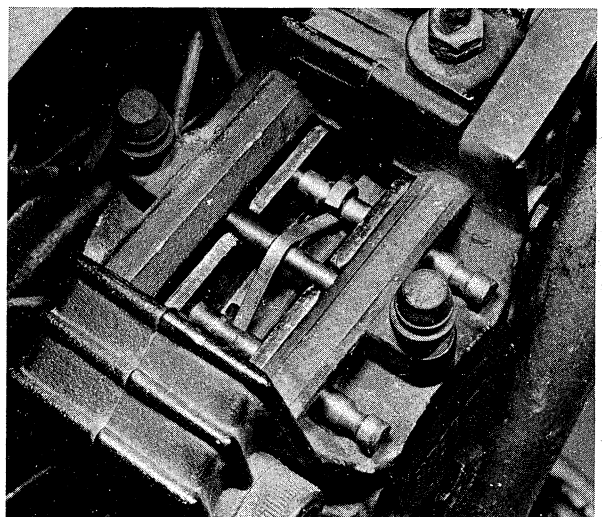
Remove and discard old oil filter



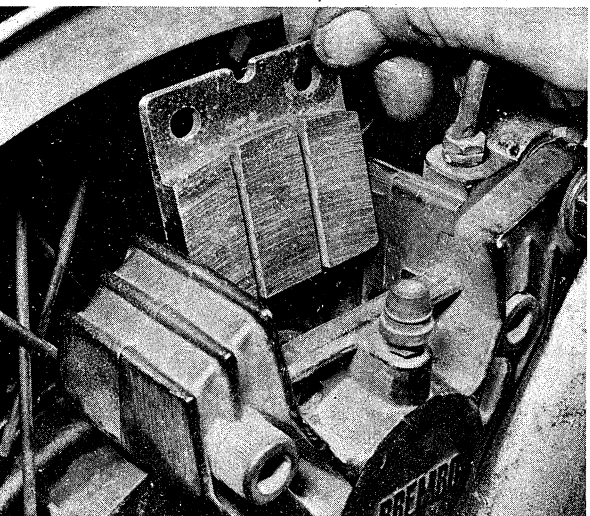
Detach and clean oil filter screen



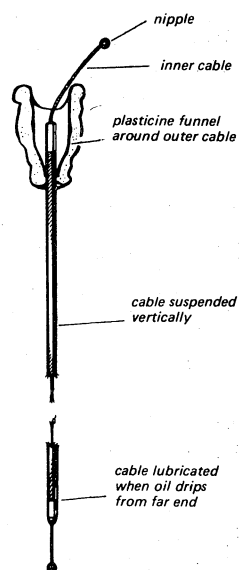
Pry off cap to inspect brake pads



Withdraw all pins and spring to ...



... enable removal of pad sets



Oiling control cable

Working conditions and tools

When a major overhaul is contemplated, it is important that a clean, well-lit working space is available, equipped with a workbench and vice, and with space for laying out or storing the dismantled assemblies in an orderly manner where they are unlikely to be disturbed. The use of a good workshop will give the satisfaction of work done in comfort and without haste, where there is little chance of the machine being dismantled and reassembled in anything other than clean surroundings. Unfortunately, these ideal working conditions are not always practicable and under these latter circumstances when improvisation is called for, extra care and time will be needed.

The other essential requirement is a comprehensive set of good quality tools. Quality is of prime importance since cheap tools will prove expensive in the long run if they slip or break and damage the components to which they are applied. A good quality tool will last a long time, and more than justify the cost. The basis of any tool kit is a set of open-ended spanners, which can be used on almost any part of the machine to which there is reasonable access. A set of ring spanners makes a useful addition, since they can be used on nuts that are very tight or where access is restricted. Where the cost has to be kept within reasonable bounds, a compromise can be effected with a set of combination spanners - open-ended at one end and having a ring of the same size on the other end. Socket spanners may also be considered a good investment, a basic 3/8 or 1/2 inch square drive kit comprising a ratchet handle and a small number of socket heads, if money is limited. Additional sockets can be purchased, as and when they are required. Provided they are slim in profile, sockets will reach nuts or bolts that are deeply recessed. When purchasing spanners of any kind, make sure the correct size standard is purchased. Almost all machines manufactured outside the UK and USA have metric nuts and bolts, whilst those produced in Britain have BSF or BSW sizes. The standard used in the USA is AF, which is also found on some of the later British machines. Other tools that should be included in the kit are a range of crosshead screwdrivers, a pair of pliers and a hammer.

When considering the purchase of tools, it should be remembered that by carrying out the work oneself, a large proportion of the normal repair cost, made up by labour charges, will be saved. The economy made on even a minor overhaul will go a long way towards the improvement of a tool kit.

In addition to the basic tool kit, certain additional tools can prove invaluable when they are close to hand, to help speed up a multitude of repetitive jobs. For example, an impact screwdriver will ease the removal of screws that have been tightened by a similar tool, during assembly, without risk of damaging the screw

heads. And, of course, it can be used again to retighten the screws, to ensure an oil or airtight seal results. Circlip pliers have their uses too, since gear pinions, shafts and similar components are frequently retained by circlips that are not too easily displaced by a screwdriver. There are two types of circlip pliers, one for internal and one for external circlips. They may also have straight or right-angled jaws.

One of the most useful of all tools is the torque wrench, a form of spanner that can be adjusted to slip when a measured amount of force is applied to any bolt or nut. Torque wrench settings are given in almost every modern workshop or service manual, where the extent to which a complex component, such as a cylinder head, can be tightened without fear of distortion or leakage. The tightening of bearing caps is yet another example. Overtightening will stretch or even break bolts, necessitating extra work to extract the broken portions.

As may be expected, the more sophisticated the machine, the greater is the number of tools likely to be required if it is to be kept in first class condition by the home mechanic. Unfortunately, there are certain jobs which cannot be accomplished successfully without the correct equipment and although there is invariably a specialist who will undertake the work for a fee, the home mechanic will have to dig more deeply in his pockets for the purchase of similar equipment if he does not wish to employ the service of others. Here a word of caution is necessary, since some of these jobs are best left to the expert. Although an electrical multimeter of the Avo type will prove helpful in tracing electrical faults, in inexperienced hands it may irrevocably damage some of the electrical components if a test current is passed through them in the wrong direction. This can apply to the synchronisation of twin or multiple carburettors too, where a certain amount of expertise is needed when setting them up with vacuum gauges. These are, however, exceptions. Some instruments, such as a strobe lamp, are virtually essential when checking the timing of a machine powered by a CDI ignition system. In short, do not purchase any of these special items unless you have the experience to use them correctly.

Although this manual shows how components can be removed and replaced without the use of special service tools (unless absolutely essential), it is worthwhile giving consideration to the purchase of the more commonly used tools if the machine is regarded as a long term purchase. Whilst the alternative methods suggested will remove and replace parts without risk of damage, the use of the special tools recommended and sold by the manufacturer will invariably save time.

Recommended lubricants

Component	AGIP product	Alternative grade
ENGINE	SINT 2000 SAE 10W/50	10W/50 or 20W/50
GEARBOX	F.1 Rotra MP SAE 90	Hypoy SAE 90
TORQUE CONVERTER	Dexron [®] F.1 ATF	Dexron [®] ATF
REAR BEVEL DRIVE	F.1 Rotra MP SAE 90 and Molykote Type A	Hypoy SAE 90
TELESCOPIC FORK	Dexron [®] F.1 ATF	Dexron [®] ATF
DISC BRAKES	DOT 3 (USA)	J1703 hydraulic fluid

Moto Guzzi recommend the use of AGIP lubricants for all applications on their machines. AGIP, however, is not available in the UK or the USA and as such a good quality brand of the equivalent correct grade may be substituted.

Maintenance and capacities data

	Metric	Imp	US
Engine oil:			
750S, 850T and 750S3	3.5 ltr	6.0 pt	7.3 pt
All others	3.0 ltr	1.05 pt	1.26 pt
Gearbox oil:			
V-1000	0.600 ltr	1.05 pt	1.26 pt
All others	0.750 ltr	1.33 pt	1.75 pt
Torque converter fluid	1.5-1.7 ltr	2.6-3.0 pt	3.17-3.6 pt
Rear bevel drive oil	0.250 ltr	7.04 fl oz	8.4 fl oz
Front fork oil:			
750S and 850T	50 cc	1.4 fl oz	1.7 fl oz
850T3	60 cc	1.7 fl oz	2.0 fl oz
750S3 and V-1000	70 cc	2.0 fl oz	2.7 fl oz
Le Mans	120 cc	3.4 fl oz	4.0 fl oz
Tappet clearances (COLD)	0.22 mm (0.00085 in) all valves		
Spark plug gap:			
Standard plug	0.6 mm (0.023 in)		
High speed plug	0.5 mm (0.019 in)		
Contact breaker gap:			
850T	0.42-0.48 mm (0.016-0.018 in)		
All other models	0.37-0.43 mm (0.014-0.017 in)		
Tyre pressures:	Front	Rear*	
750S, S3, 850T3 and Le Mans	29 psi (2 kg cm ²)	33 psi (2.3 kg cm ²)	
850T	26 psi (1.8 kg cm ²)	33 psi (2.3 kg cm ²)	
V-1000	30 psi (2.1 kg cm ²)	34 psi (2.4 kg cm ²)	

* Add 3 psi (0.2 kg cm²) when carrying pillion passenger.

Add 3 psi (0.2 kg cm²) to both tyres when travelling at a continuous high speed.