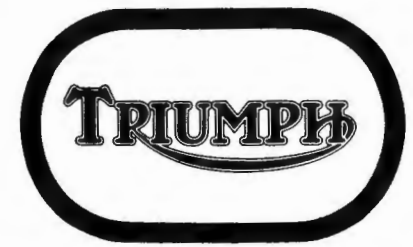




**OWNER'S HANDBOOK
1987**



OWNER'S HANDBOOK

BONNEVILLE 750

1987

MODEL

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Part No. 62-0082 - Issue 1.

This Triumph owner's handbook includes all the information that the majority of owners will require, but the following additional publications are available for owners who wish to have more comprehensive information of their machines:

- a) Full comprehensive workshop manual covering the dismantling and re-assembly of individual components;
- b) Replacement parts catalogue.

The above publications can be obtained through official Triumph Stockists.

Where specialised advice is required beyond the ability of the Dealer, you should write to your Distributor who will act on our behalf. Unless the full engine number is quoted it is often difficult to identify the type of Motorcycle and give a helpful reply.

Where a guarantee claim is involved, consult your Dealer or Distributor who may be able to provide a replacement to enable your Motorcycle to be used whilst the defective part is returned to his Distributor. Guarantee claims in respect of proprietary components should be forwarded by your Dealer to his Distributor.

The terms of the guarantee for countries other than the United Kingdom can be obtained from your Dealer.

IMPORTANT

Some data in this handbook may become outdated due to improvements made to the machine in the future. If there is any question concerning this handbook consult your Triumph Dealer.

LAYOUT OF CONTROLS

RIGHT HAND SIDE OF HANDLEBAR

Kill Switch: Move to the right to stop engine. Switch off the ignition and remove the key when parking.

Front brake lever: Pull the lever towards the handlebar to apply the front brake.

Headlamp/Pilot switch: Move up for headlamp, down for Pilot.

Throttle control: Twist towards you to increase engine speed. Twist away from you to reduce engine speed.

LEFT HAND SIDE OF HANDLEBAR

Clutch lever: Pull the lever towards the handlebar to disengage the clutch.

Direction indicator switch: Move right for right indication and left for left indication.

Horn: Press to sound horn.

High beam flasher: Move dip switch in downward direction.

Headlamp dip switch: Move upwards for high beam and downwards for low beam.

Cold start control: Turn lever clockwise to engage enriching device.

INSTRUMENT BINNACLE

Speedometer: Indicates the speed and registers total and trip mileage. To set the trip indicator to zero twist the knob (located beneath the speedometer) clockwise. DO NOT pull the knob as it is a snap fit in the speedometer.

Tachometer: Indicates the engine speed in revolutions per minute.

Ignition/Lighting switch: Key operated by a four position switch. See page 35 for details of operation.

Oil pressure warning light: (RED) It illuminates as the ignition is switched on and should extinguish with the engine running as oil pressure builds up. If it fails to extinguish with the engine beyond tickover, stop the engine and investigate the cause.

High beam warning light: (BLUE) Illuminates as the headlight high beam is selected.

Direction indicator warning light: (AMBER) Illuminates when the direction indicators are operating.

Neutral indicator light: (GREEN) Illuminates when neutral gear position is selected.

ON THE MACHINE

Fuel taps: At the rear underneath the tank. Turn down the lever on both taps for normal running. When the reserve is required turn up the lever on both taps. Always turn off both taps when parking, otherwise the motor may become flooded.

Note:

When the machine is used for continual high speeds or maximum acceleration, i.e. maximum throttle opening, both taps **must** be used simultaneously to ensure that a sufficient quantity of fuel is available.

FOOT CONTROLS

Brake pedal: In front of right footrest. Press down to apply the rear wheel brake.

Gearchange lever: In front of left footrest. Press down to change to a lower gear or pull up to change to a higher gear. The lever is spring loaded and always returns to the central position.

Starter pedal: The folding pedal behind the footrest.

Steering lock: Turn steering to left hand and operate lock located on the bottom yoke.

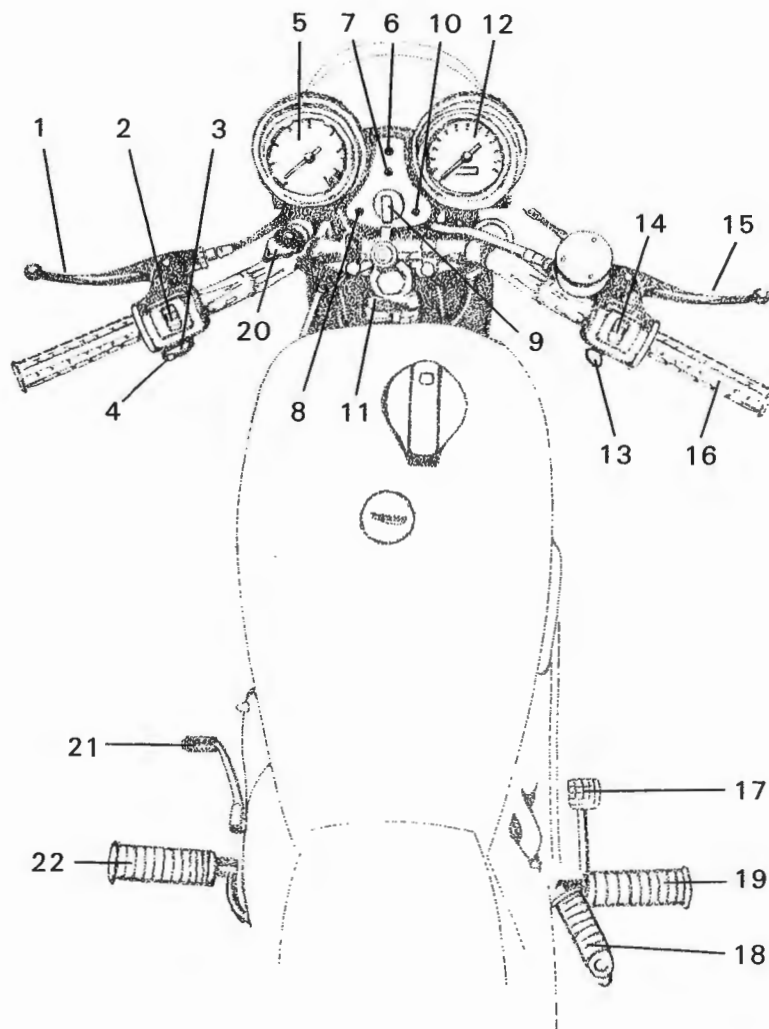


Fig. 1 Control Layout

- | | |
|--|-------------------------------|
| 1. Clutch Lever | 13. Engine Stop 'Kill' Switch |
| 2. High Low Headlamp Switch | 14. Headlamp/Pilot Switch |
| 3. Direction Indicator Switch | 15. Front Brake Lever |
| 4. Horn Push | 16. Throttle |
| 5. Tachometer | 17. Rear Brake Pedal |
| 6. Direction Indicator Warning Light (Amber) | 18. Kickstarter |
| 7. Neutral Indicator Warning Light (Green) | 19. Footrest |
| 8. High Beam Warning Light (Blue) | 20. Cold Start Control |
| 9. Ignition Lighting Switch | 21. Gearchange lever |
| 10. Oil Pressure Warning Light (Red) | 22. Left Footrest |
| 11. Steering Lock | |
| 12. Speedometer | |

TAKING THE MOTORCYCLE ON THE ROAD FOR THE FIRST TIME

In most cases the dealer will have checked the oil levels in the gearbox, primary chaincase and reservoir, checked the tyre pressures and filled the dry-charged battery; if in doubt check again. Replenish the gas tank with a suitable grade of fuel and the motorcycle is ready for starting.

TO START THE ENGINE

1. Select the neutral position between first and second gear.
2. Pull in the clutch lever and operate the starter pedal several times to free the clutch.
3. Turn on both fuel taps (see page 6)
4. Engage cold start device by rotating choke lever in clockwise direction.
5. Place the key in the ignition switch and turn clockwise to the second position (see page 35).
6. Press down the starter pedal gently until some resistance is felt, then press harder when the engine will start.
7. Return the cold start lever to normal run position as soon as engine will allow without stalling i.e. lever fully closed.

RUNNING IN YOUR NEW MOTORCYCLE

Important: The treatment given to a new motorcycle will have an important bearing on its subsequent life.

Although new parts are machined as accurately as possible, the moving parts need to mate with each other or become "broken-in". At a low constant speed this would take a considerable mileage, therefore the ideal method of "breaking-in" is to increase progressively the load and length of time the load is maintained.

Your motorcycle will travel at 50 m.p.h. (80Km/h) with only a small throttle opening on a level road without harm, but any use of a large throttle opening even in low gear, other than for a very short time, may cause damage.

It is important that the following points are noted:

- i) Change gear frequently so that the engine is always working easily, neither pulling hard in a high gear nor revolving fast in a low gear. (The extra use of the gearbox helps to run-in all the transmission parts).
- (ii) It is difficult to quote a set mileage but provided that the running in is done intelligently, it should be possible to use maximum performance after 1500 miles (2 · 500 Km).

Whenever maximum performance is used, it is beneficial to snap shut the throttle for a moment occasionally as this sucks a certain amount of oil up the cylinders.

BRAKING SYSTEMS

Front disc brake

The front brake is hydraulic with individual brake pads operating on each side of a disc. The entire system is self adjusting and will not require any form of mechanical adjustment.

Note: During the life of the brake pads it will not be necessary to maintain the maximum fluid level in the master cylinder. The level will drop slightly as the brake pads wear and when new pads are fitted the fluid will return to its original level provided no leakage has occurred.

If at any time it has been found necessary to repair the system due to leaks at the unions or feed pipe etc., it will be necessary to replenish the master cylinder and to "bleed" the system to remove any trapped air.

IMPORTANT: Ensure that the master cylinder is full of a reputable hydraulic disc brake fluid meeting at least SAE J. 1703 or DOT 3 specifications before commencing the bleeding operation.

"Bleeding". Connect a suitably sized rubber pipe "C" (Fig. 2) to the bleed nipple "A" (Fig. 2) and suspend it in a glass jar with the open end of the tube immersed in about ½ in of hydraulic brake fluid. At this point unscrew the bleed nipple (with the pipe still attached) one complete turn. Remove the screwed cap from the master cylinder and take out the rubber diaphragm "E" (Fig. 3). Pull the brake lever fully onto the handlebar and hold it in that position for a few seconds. Air in the system will be expelled through the rubber tube and will be observed in the form of bubbles rising in the jar. Release the brake lever and repeat the operation until air bubbles are no longer seen to escape. To prevent any air being drawn back into the systems when the lever is released, loop the "bleed" pipe as shown in Fig. 2. This ensures that a "head" of fluid is maintained between the top of the loop and the "bleed" nipple.

When this stage is reached hold the brake lever in the fully "on" position and retighten the bleed nipple (with the pipe still connected). Remember to maintain the level of the hydraulic brake fluid in the master cylinder during the entire operation. The correct level for the fluid "F" is shown in Fig. 3. This will be the correct level when the brake pads are "NEW". When replacing the rubber diaphragm it will be found easier to replace the cap with the diaphragm in a folded condition. Hold the diaphragm upside down on a flat surface and push the middle section down until it touches the surface it is resting on. It will now remain in that position and the diaphragm can now be replaced into the cylinder and the cap refitted. When refitting the cap make sure that it is retightened firmly.

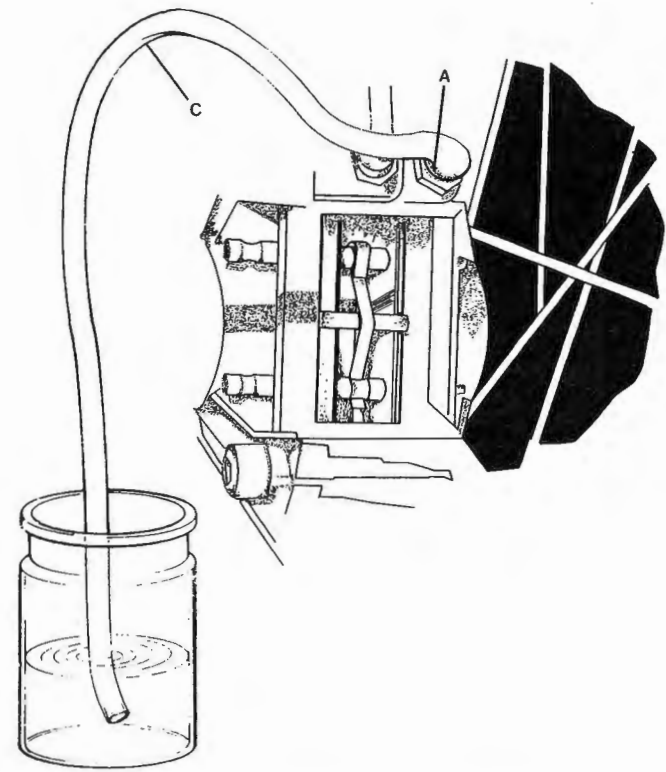


Fig. 2. Showing arrangement for bleeding the front brake

If at any time it is found necessary to replenish the system with hydraulic brake fluid during the life of one set of brake pads remember that when eventually new pads are fitted the fluid level will rise appreciably in the cylinder and may spill onto the gas tank. Therefore the level will have to be corrected to that shown in Fig. 3. (Hydraulic brake fluid instantaneously corrodes cellulose paintwork and great care should be exercised when handling this fluid).

The brake pads will require replacement when the lining thickness reaches a minimum of 1mm (.08"). This can be easily determined by removing the pad cover which is clipped onto the body. (See Fig. 2)

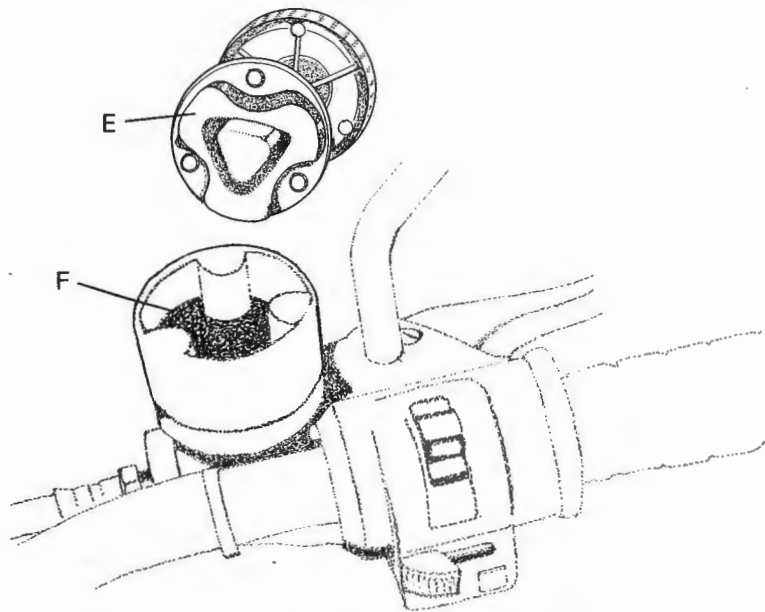


Fig. 3. Showing the brake reservoir fluid level and cap

If any part of the lining material is below the minimum thickness the pad will require replacement. When fitting new pads push the actuating plungers in the caliper back slightly to allow sufficient clearance for the new pads to be inserted. Remember as mentioned earlier if at any time during the life of the old pads the fluid was replenished at the master cylinder the level will rise in the cylinder and will spill out when new pads are assembled.

Rear disc brake

The mechanical and hydraulic parts of the rear disc brake are almost identical with that of the front disc brake.

They consist of a master cylinder with reservoir situated above the right hand pillion footrest.

The caliper which contains the disc pads is identical with that of the front disc brake.

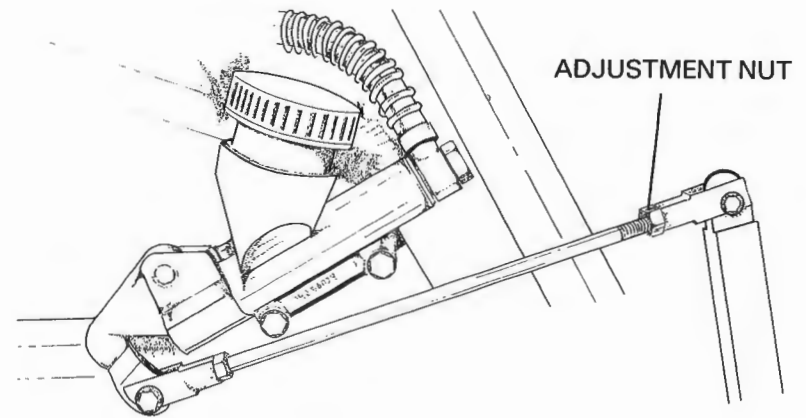


Fig. 4.

Note: Where the front disc brake instruction states Front Brake Lever – rear brake pedal should be substituted.

The adjustment controlling the brake pedal position is on the rod which actuates the master cylinder. In the normal position there must always be clearance between the operating lever and piston.

Note: Depress brake pedal twice to return the pads to their working position.

IMPORTANT NOTE

Brake fluid should be changed completely every 18 months or 18,000 miles whichever is the sooner.

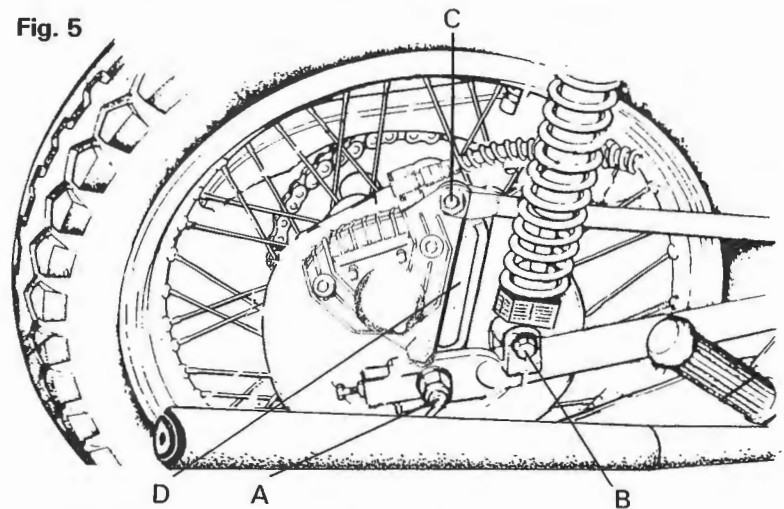


Fig. 5

WHEELS

The wheel bearings are sealed and require no maintenance.

To remove the front wheel

1. Remove two bolts retaining the LH brake caliper.
2. Remove wheel spindle nut.
3. Slack pinch bolt at bottom of RH fork leg.
4. Withdraw wheel spindle.

To replace the front wheel

Engage the discs between the pads in the calipers.
Replace wheel spindle, spindle nut and tighten pinch bolt.
Replace caliper. Check brake operation.

The wheel bearings are of a non-adjustable journal type with the bearings in good condition there should not be any detectable side movements at the wheel rim.

To remove the rear wheel (See Fig. 5)

Raise machine on centre stand.

Remove rear chain connecting link.

Place machine in gear.

Detach speedometer cable from drive box.

Remove torque arm fixing bolt 'C' and move torque arm up away from the brake caliper.

Remove wheel spindle nut 'A' and withdraw the spindle from the left side.

Collect chain adjusters from each side of swinging fork.

The wheel can now be removed.

Replacement is the reversal of the above. Check brake operation.

TYRES

Tyre pressure should be checked at regular weekly intervals. (For correct pressure see Useful Data).

After checking the pressure the valve cap should always be replaced as it forms a seal against dirt and also prevents accidental deflation of the tyre at high speeds.

The tyre pressures given in the useful data are suitable for a 12 stone (76Kg) rider — if a pillion passenger is carried, the tyre pressure in the rear tyre should be increased by 6 lbs/sq.in. and in the front by 4 lbs/sq.in.

Front wheels are balanced complete with tyre and tube before leaving the factory. If the tyre is removed it should be replaced in the same position with the balancing spot level with the valve.

When a new tyre is fitted the weights should be removed and the wheel re-balanced adding weight as necessary until it will remain at rest in any position. Ensure that the brake is not binding while the balancing operation is being carried out.

SUSPENSION

REAR

The rear suspension is a forked member pivoting on bronze bushes lubricated by periodical high-pressure greasing. The load is carried by coil spring with two-way hydraulic damping units. The spring is adjustable for load but the hydraulic system is completely sealed and needs no attention.

To increase the static loading of the spring, place the machine on the stand so that there is least load on the spring and use the "C" spanner (provided in the tool kit) to turn the cam in the direction shown in Fig. 6. Arrow 'A'. Both units must be on the same notch whichever may be chosen.

The standard lowest position is for solo riding, the second position is for heavier solo riders or when luggage is carried on the rear of the machine and the third or highest position is for use when a pillion passenger is being carried.

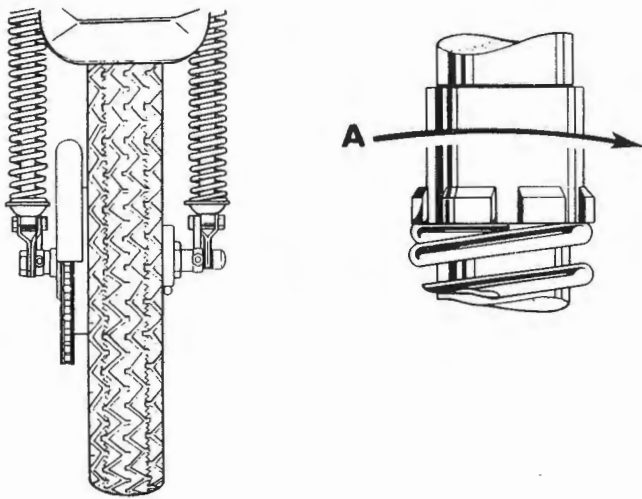


Fig. 6. To adjust the rear suspension springs

FRONT

The telescopic front forks are mounted in the frame by taper roller bearings. The load is carried by two coil springs in compression and the movement is controlled by integral damping.

FRONT FORK

The oil in the forks will require changing at intervals specified in the routine maintenance chart.

Place the machine on the centre stand.

Remove the drain screw located immediately above the wheel spindle on the rear of each fork leg and allow the oil to drain into a suitable container. To ensure all the oil is removed, depress the forks.

When replacing the drain screw, check the washers. If they are damaged, replace.

Remove the handlebars and the plastic cap on top of the forks.

Remove the alloy inner plugs and refill the forks with required quantity of fork oil (see useful data).

N.B. On re-assembly, coat the threads of the inner plug and drain plug with jointing compound.

Steering head races

If any play is felt at the steering head, the head races may require adjustment.

To make the adjustment, place the machine on the centre stand and slacken the pinch bolt at the back of the fork top lug.

Tighten down the large sleeve nut on the fork stem until the play is just taken up.

N.B. The forks should turn freely from lock to lock without any dragging or hesitation. If the adjustment seems correct but the movement is rough or jerky, then the steering head races are probably damaged and it will be necessary to replace them.

When the adjustment is correct tighten the pinch bolt.

VALVE OPERATING MECHANISM

There are four adjusters on the rockers which are accessible after removing the two inspection covers from the rocker boxes. A feeler gauge of the correct thickness can be inserted under each rocker, see Fig. 7. The clearance must always be checked when the engine is cold. It will be easiest to find the correct point of the stroke to adjust the valve clearance if you put the machine on the centre stand, engage top gear, and then remove the sparking plugs. By turning the rear wheel you can then turn the crankshaft and position the valves.

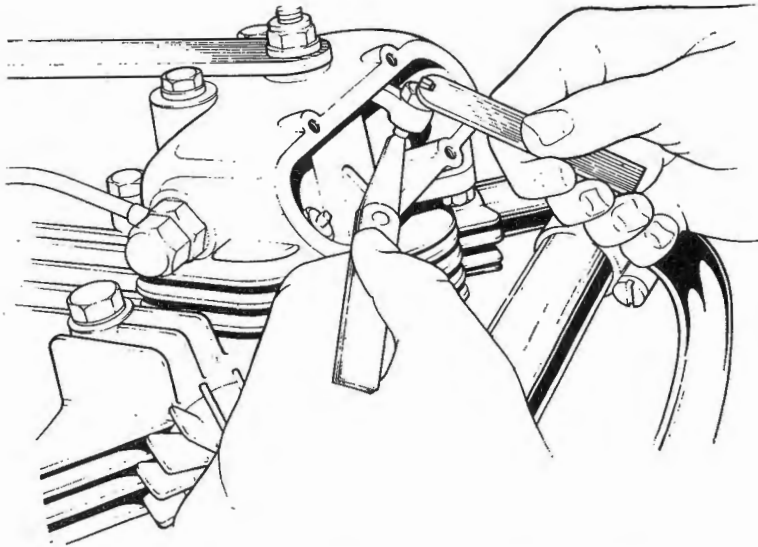


Fig. 7 To adjust the valve operating mechanism

Inlet valves (towards the rear of the engine)

Turn the rear wheel until one of the inlet rockers moves downwards, thus opening the valve. When this valve is fully open the operating mechanism of the other inlet valve will be seated on the base of the cam and clearance can now be checked and adjusted if necessary. The clearance is 0.008in. and is correct when a feeler gauge of this thickness is a tight sliding fit between the valve tip and the adjuster. Tighten the locknut and recheck the clearance. Having adjusted one inlet valve turn the rear wheel until the valve which you have adjusted is now fully open and repeat the procedure for the other inlet valve.

Exhaust valves

Having adjusted the inlet valves proceed to the exhaust valves which are situated at the front on the engine. Proceed in the same way as for the inlet valves and position one valve fully open whilst you check the clearance of the other. In this case the clearance is 0.006in.

Check that the inspection cover gaskets are in good condition and replace the covers making sure that the bolts are tightened evenly.

THE CARBURETTOR

How it operates

When the engine is idling, mixture is supplied from the pilot jet system, then as the throttle slide is raised, via the pilot by-pass. The mixture is then controlled by the tapered needle working in the needle jet and finally by the size of the main jet. The pilot system is supplied by a pilot jet, which is detachable and is located in the body. The main jet does not spray directly into the mixing chamber but discharges through the needle jet into the primary air chamber and the fuel goes from there as a rich petrol-air mixture through the primary air choke into the main air choke.

This primary air choke has a compensating action in conjunction with bleed holes in the needle jet, which serve the double purpose of air-compensating the mixture from the needle jet and allowing the fuel to provide a well, outside and around the needle jet, which is available for snap acceleration.

Adjustment of carburettor parts

Throttle stop screw

This screw should be set to open the throttle sufficiently to keep the engine running at a slow tick-over, when the twistgrip is closed.

Pilot air screw

To set the idling mixture, this screw should be set in to enrich or out to weaken, normal number of turns out from full in is about 2½. The screw controls the suction on the pilot jet by metering the amount of air which mixes with the petrol.

Needle and needle jet

Machines are delivered from the factory with the needle in the correct location. Do not attempt to readjust the setting without expert advice.

Throttle valve cut-away

The amount of cut-away is recorded by a number marked on the throttle, viz. 928/2½ means throttle type 928 with No. 2½ cut-away; a longer cut-away such as 4 gives a weaker mixture or a smaller such as 2 gives a richer mixture.

For settings see Useful Data.

Drain plug

The carburettor has a drain plug situated in the base of the float bowl. This plug is hollow and collects any foreign matter present. It is advisable to drain the float bowl and clean the plug at each 3,000 mile interval.

The twin carburettors may require synchronisation and a simple method is as follows:

First adjust the cables from the junction box so that they have the minimum of free play. Now start the motor and take off one plug lead and then adjust the pilot air screw and throttle stop screw in the OPPOSITE carburettor until the motor runs regularly. Replace the plug lead and repeat the process similarly for the other carburettor. With both plug leads replaced the tick-over will be too fast and the stop screws should be lowered simultaneously until correct. It is most important that the throttle slides lift simultaneously or the motor will run roughly, particularly when accelerating.

SPARK PLUGS

To remove a spark plug, use the box spanner and short tommy bar provided in the tool kit. If the plug is difficult to unscrew, pour some penetrating oil round the threads and allow it to soak before continuing.

Plugs should be cleaned and tested on a plug cleaning machine at regular intervals. (See routine maintenance chart). If no plug cleaning machine is available use a penknife or wire brush to remove carbon deposit. Measure the gap with feeler gauges (for correct setting use 'Useful Data') and where necessary adjust the gap by bending the side electrode but never the centre electrode.

When replacing the plug, smear a little graphite grease around the threads and ensure the joint washer is in good condition.

It may be advisable to consult your dealer before varying the grade of plugs as he will know local conditions and your type of use.

AIR CLEANERS

Access is gained to the filter element by firstly removing the outer styling panels (disconnecting the retaining rubber ring). Secondly removing the central fixing bolt and pulling the side cover away. The element can then be withdrawn.

The element should be washed in clean petrol and thoroughly cleaned with a jet of compressed air.

This should be carried out at regular intervals (See routine maintenance chart).

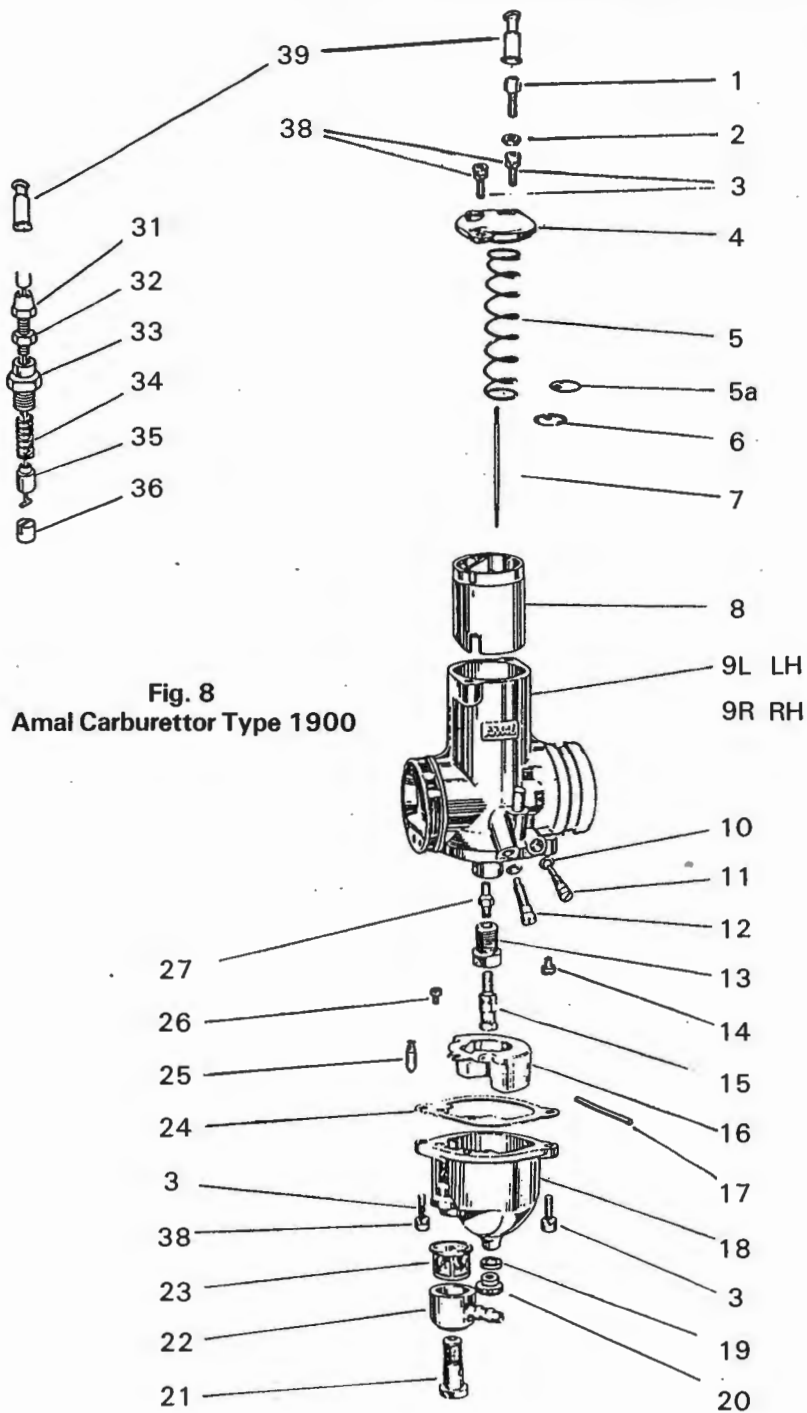


Fig. 8
Amal Carburettor Type 1900

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Key to Illustration	Component
1	Cable adjuster
2	Cable adjuster locknut
3	Securing screw for float-bowl and mixing-chamber top
4	Mixing-chamber top
5	Throttle-slide spring
5a	Needle retaining disc
6	Needle clip
7	Throttle needle (paired with needle jet 622/122)
8	Throttle slide (specify cutaway)
9	Carburettor body assembly (CW choke tube 622/074)
10	'O' rings
11	Pilot air adjusting screw
12	Throttle stop adjusting screw
13	Jet holder
14	Pilot jet
15	Main jet (specify size)
16	Float (standard)
17	Float spindle
18	Float bowl — (CW insert 622/072)
19	Float bowl drain plug washer
20	Float bowl drain plug
21	Banjo bolt
22	Banjo, double, 150°. push-on (5/16in. tubing)
Not shown	Banjo bolt washer (for diecast banjos only)
23	Filter
24	Float chamber washer
25	Float needle
26	Cold start jet
27	Needle jet
31	Adjuster
32	Adjuster locknut
33	Screw
34	Spring
35	Plunger cap
36	Plunger assembly (CW sealing disc 622-085)
Not shown	Jet key and 'Pozidriv' screwdriver
Not shown	Cold start dip tube
Not shown	Air vent adaptor
Not shown	Air vent tube
Not shown	Air vent clip
38	Spring washer
39	Sheath - cable adjuster

Cable operated
cold start

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Ignition timing

The ignition timing is correctly set at the factory and should not normally require subsequent re-setting. However, if the transducer is removed it must be accurately re-set. Scratch marks from casting to plate made before removal may be adequate for correct re-positioning but for a change of unit or in case of doubt, re-timing will be necessary. Ensure the transducer leads are correctly connected.

Remove the screwed cap from the left side of the chaincase to reveal the alternator rotor. Position the transducer such that the fixing studs are approximately central in the adjustment slots. Start the engine, accelerate to 5,000 r.p.m. and observe the relative position of rotor timing slot and fixed point using an ignition controlled strobe flash gun.

If the rotor timing mark appears to the left of the fixed point, the timing is retarded and must be advanced until alignment is achieved by slackening the transducer fixing studs and turning the unit in an anti-clockwise direction or vice-versa as necessary. The transducer fixing studs must be firmly tightened to prevent subsequent movement.

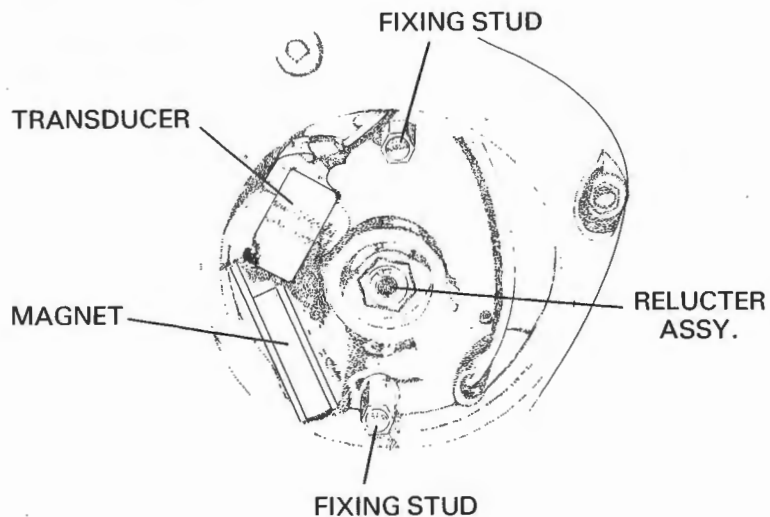


Fig. 9. Ignition timing unit

TO CHANGE THE OIL

Engine oil needs to be changed at regular intervals. The specified intervals are given in the routine maintenance chart.

It is advisable to perform the oil change whilst the engine is hot as this ensures the majority of foreign matter is in suspension.

Place a drip tray beneath the crankcase and remove the engine drain plug. This is located underneath the engine adjacent to the engine bottom mounting lug. Allow the oil to drain.

It is important that the oil filter is thoroughly cleansed with paraffin.

N.B. Before re-fitting drain plug check the sealing ring. If it is at all damaged or worn, replace with new ring.

The oil reservoir must now be drained. This is achieved by removing the Filler Cap - located on the main frame tube, accessible when seat is raised. Remove the drain plug from the centre of the cover plate located at the base of the reservoir and allow the oil to drain into a suitable container. Remove the cover plate secured by four nuts and remove the oil filter. Note: There are two gaskets, one above the filter base flange and one below.

Clean the oil filter with paraffin and replace filter, cover plate and drain plug, again ensure that all gaskets and sealing rings are renewed where necessary.

Replenish oil reservoir with a reputable grade of clean oil meeting S.A.E. specifications see page 38. Ensure that correct amount of oil is used. (See useful data).

Start the engine and immediately check that oil is returning to the reservoir by removing the oil filler cap where oil should be seen to be flowing from the pipe protruding into the filler neck tube.

Your Triumph Dealer will drain the engine, reservoir and clean the filters during 500 mile service. It is advisable to have this operation carried out again at 1,000 miles and at the same time have the gearbox and primary chaincase drained and flushed.

Check oil level regularly. (See routine maintenance chart). For this use, the oil filler cap has a dipstick indicating 'Max' and 'Min'. The oil is best kept at a level between 'Max' and 'Min'.

GEARBOX

The gearbox oil should be checked and changed at intervals specified in the routine maintenance chart.

To drain the Gearbox:

Place a drip tray beneath the gearbox. Remove the drain and level plug assembly (D. & C - Fig. 10) and allow the oil to drain.

Replace Drain Plug (d) - Ensure fibre washer is in good condition. Add oil to gearbox through the side filler hole (B) until oil begins to flow down the level tube, then replace the level plug (C).

Note: When checking the oil level, normally there will be some oil trapped in the level tube. This should be allowed to drain before topping up commences.

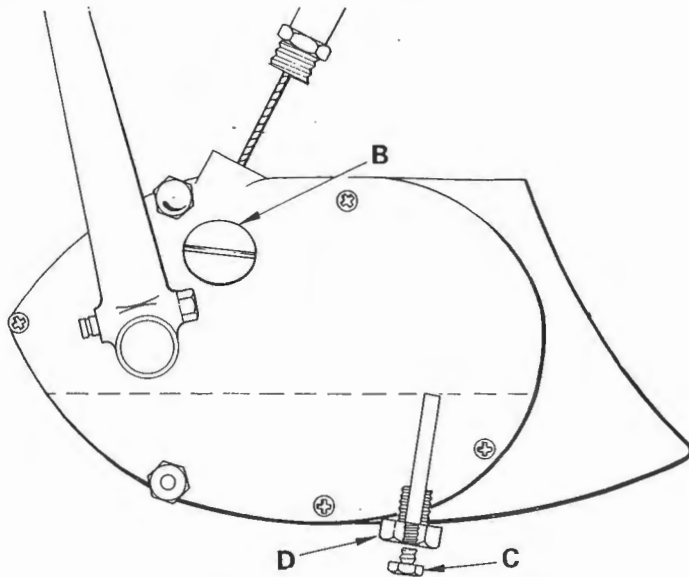


Fig. 10. Gearbox drain and level plugs

Primary Chaincase:

The primary chaincase oil level is automatically maintained by the engine crankcase breathing system. Only after the lubricant has been drained off or lost during adjustment of the primary chain is it necessary to replenish with engine oil. (See useful data).

The drain plug is in the bottom of the outer portion of the chaincase.

CLUTCH AND CLUTCH OPERATING MECHANISM

To adjust the clutch operating mechanism

Remove the inspection plug (2 Fig. 11) from the primary chaincase outer cover.

Slacken off the adjustment at the handlebar end of the clutch cable.

Loosen the hexagonal locknut (through the inspection hole) in the outer-cover and screw in the slotted adjuster screw in the centre of the pressure plate until the pressure plate just begins to lift.

Unscrew the adjuster half a turn and secure it in that position by re-tightening the locknut.

Where re-adjusting the clutch cable it is advisable to fully tighten the adjuster at the handlebar end and take up any excessive cable slack on the adjuster fitted at the gearbox end.

It is then necessary to adjust the cable at the handlebar until there is approximately 1/8in. (3 mm) free play.

To adjust the clutch

If the clutch is dragging and normal adjustment of the operating mechanism produces no improvement it will be necessary to remove the primary chaincase to adjust the three springs which provide the loading on the pressure plate.

- Remove the exhaust pipe and swing the footrest out of the way.
- Place a drip tray beneath the machine.
- Release the cover by unscrewing two domed nuts and eight screws.
- Tighten the three slotted nuts on the clutch initially until the heads are flush with the end of the pins.
- Pull the handlebar clutch lever and operate the starter pedal - the outermost plate of the clutch should lift evenly and turn without wobbling. If one side of the plate is high, tighten the slotted nut nearest to it until the pressure plate lifts and turns evenly.
- Replace the outer cover and replenish with approximately 1/4 pint (150cc) / via 1 (see Fig. 11) of oils as used in the main oil reservoir.

Note: The correct level of oil is maintained by The Engine Lubrication System.

CONTROL CABLES

Clutch cable

To remove the clutch cable slacken off the clutch cable adjustment and slip out the cable nipple at the handlebar control.

Slide the rubber cover away from the abutment at the gearbox end and unscrew the abutment.

Remove the large slotted plug from the gearbox outer cover and access will be gained to the clutch operating arm. It is then only necessary to release the cable nipple from the arm.

Replacement is the reversal of the above instructions.

Throttle cable

To remove the throttle cable remove the fuel tank and the top caps from the carburettors. It will be found easier to disconnect the cable from the throttle slide if the twist grip is removed from the handlebar and the cables disconnected.

Pull back the return spring in the throttle slide and remove the needle and needle clip. With the spring still retracted push the cable through the slide and when the nipple is clear pull it across the figure of eight slot and withdraw the cable.

The cables can be detached from the junction box by unscrewing the two halves of the casing and releasing the nipples. When reassembling the box grease the internals liberally.

Note:

When reassembling the throttle slide into the carburettor do not apply any form of lubricant to the bearing surface; this will undoubtedly cause the slide to stick.

DRIVE CHAINS

Primary Chain

Provision for the take up of wear in the Primary Chain is made by means of a rubber faced slipper blade below the bottom run of the chain. The free movement in the chain can be felt with a finger after removing the top inspection plug "1" (Fig. 11).

The correct chain adjustment is 3/8" free movement.

To adjust the tension: (See Fig. 12).

- a) Remove plug '5'.
- b) Tighten the tensioner '4' until the required adjustment is achieved.
- c) Replace plug '5'; Check 'O' ring sealing washer is in good condition. Replace if necessary.

Rear Chain

The adjustment is controlled by draw bolt adjusters located at each end of the rear wheel spindle.

Correct chain adjustment is:

At its tightest point machine on its wheels $\frac{3}{4}$ " (1.8cm) free movement.

At its slackest point machine on centre stand $1 \cdot \frac{3}{4}$ " (4.3cm) free movement.

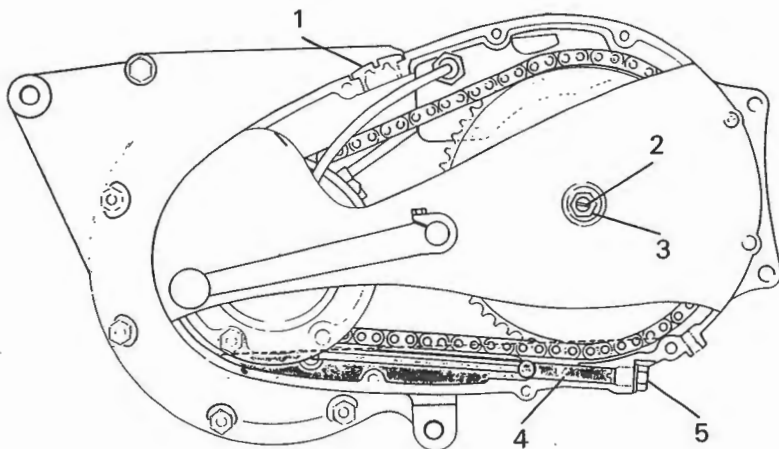
If the free movement is outside these limits it should be corrected by loosening the rear wheel spindle nut and turning the draw bolts an equal distance. Re-tighten wheel spindle.

It is recommended that the rear chain is lubricated at 300 mile intervals or sooner. Depending on conditions of use.

Rear wheel alignment

If the wheel alignment was correct originally, the adjustment of the draw bolt adjusters by an equal distance should preserve that alignment.

If the alignment is incorrect the road holding of the machine will be adversely affected and the effect on the rear chain and rear sprocket will be to cause rapid wear



- | | |
|----------------------------|--------------------|
| 1. Chain inspection plug | 4. Chain tensioner |
| 2. Clutch inspection plug. | 5. Tensioner plug |
| 3. Adjuster nut | |

Fig. 11. To adjust primary chain

To correct the alignment, place a straight edge alongside both wheels (allowances for the difference in section between front and rear tyre should be made). Loosen wheel spindle and align wheel by turning the right hand draw bolt adjuster. Tighten wheel spindle.

ELECTRICAL EQUIPMENT

IMPORTANT NOTE

The Negative side of the battery is to earth.

The electrical system is supplied from an alternating current generator contained in the primary chaincase and driven from the crankshaft. The generator output is then converted into direct current by a silicon diode rectifier. Direct current is supplied to the battery with a Zener diode in circuit to regulate the current that the battery receives, this depending entirely on the state of the charge of the battery.

Note: To avoid the possibility of over voltage destroying the rectifier, the D.C. connections to the rectifier, Zener diode and battery must remain connected whilst the engine is running.

The current is then supplied to the ignition system which is controlled by a transducer driven direct from the exhaust camshaft. The transducer is connected to the amplifier box situated inside the side panel (beneath the seat) via two connectors inside the headlamp shell.

The routine maintenance needed by the various components is set out in the following paragraphs. All electrical components and connections including the earth points to the frame on the machine must be clean and tight.

Transducer

No timing adjustment should be necessary but should be checked at intervals (see routine maintenance chart).

Stoplamp switches

Switches are fitted front and rear. The front switch is fitted at the master cylinder and acts on the lever. The rear is bolted to the frame, operated by the rear brake pedal. The rear switch can be adjusted — the front is non-adjustable.

Alternator RM24

The alternator is contained in the primary chaincase and has no wearing parts. Check that the snap connectors are clean and tight in the output cable to the rear of the engine unit.

Flasher unit (8FL)

The flasher unit is situated on the coil tray under the seat. The unit is sealed any fault can only be corrected by substituting another unit.

Rectifier 3DS

This is located on the rear mudguard beneath the battery carrier. Never disturb the nut which clamps the plates together. If the plates are twisted the internal electrical connections will be broken. Note that the fixing bolt and nut are No. 10x32 U.N.F. thread.

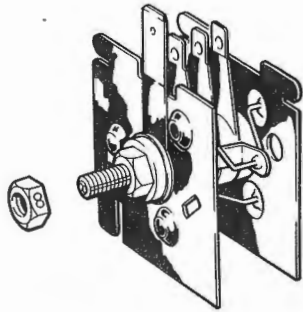


Fig 12. To secure the rectifier

Battery

The lead/acid battery is carried beneath the hinged twin seat. Keep the top and the terminals clean. During charging the battery produces gas and this may carry some acid. Wipe up any liquid as it will cause corrosion if it is allowed to remain on metal parts. Check the acid level every week. The level is indicated on the outside of the case. Add distilled water until the liquid reaches this point. If you suspect a faulty battery have it checked by any Triumph dealer. When replacing the battery on the machine always connect the (-) negative terminal to the frame of the machine (ground) via the black harness leads. And ensure the (+) positive terminal does not make contact with the frame or the seat when it is lowered.

Headlamp IMPORTANT

It must be noted at night that the rider is dependent upon a single delicate filament and should be prepared to change beams in case of failure.

Ignition coils

The twin ignition coils are mounted to a plate beneath the twin seat. Keep the tops of the coils clean particularly beneath the electrical terminals. Inspect the cable for frayed wires or damaged insulation. Any damaged cable must be replaced.

Resistive plug caps are fitted to overcome interference with radio and television reception. This is a European legal requirement.

ZENER DIODE — 2CDP

The Zener diode is a small electronic device that acts as a by-pass valve to divert surplus charging current away from the battery. It acts as a voltage regulator and controls the current into the battery, and is mounted on the air filter housing to ensure efficient cooling. Care must be taken therefore not to impair the flow of air around the heat sink.

Providing the diode is kept clean, to ensure maximum efficiency, no maintenance will be necessary.

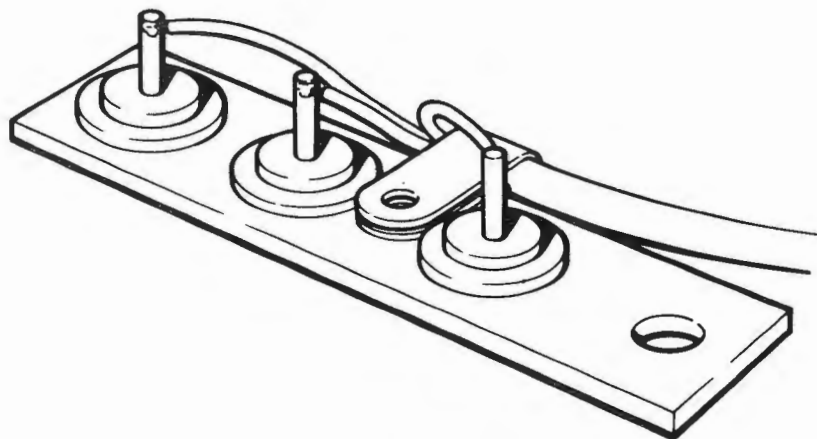


Fig. 13. ZENER DIODE - 2CDP

Fuses

A block of three fuses is included in the electrical circuit and is located on the coil tray under the seat. These are:

1. 7½ amp - Protects lights
2. (Centre) 15 amp - Protects everything.
3. 7½ amp - Protects all other functions wired through the ignition switch excluding ignition.

It may be necessary to increase the fuse rating if additional equipment is subsequently fitted to the motor cycle.

IMPORTANT

If the motorcycle engine at any time appears to run erratically first check that the fuse has not blown, and then ascertain the cause before making a replacement.

Ignition/lighting switch 149SA

It is of the barrel type using non-identical keys. The owner should make a note of the key number to ensure correct replacement in case of subsequent loss. No emergency start position is incorporated in the switch, as the machine will start with the switch in the normal ignition position, even with a "flat" battery.

The switch has four positions:

1. Key turned fully anti-clockwise - pilot, tail and instrument lights only for parking. Key may be removed.
2. First position clockwise - all electrical systems switch off. Key may be removed.
3. Second position clockwise - ignition and electrical accessories switch on. Key locked into switch.
4. Fully clockwise - all systems including lights switched on. Key locked into switch.

Requirements for Canada and U.S.A.

(Positions 1 & 2 as before)

3. Second position clockwise - electrical accessories only switched on - no ignition. Key locked into switch.
4. Fully clockwise - all systems including lights and ignition switched on. Key locked into switch.

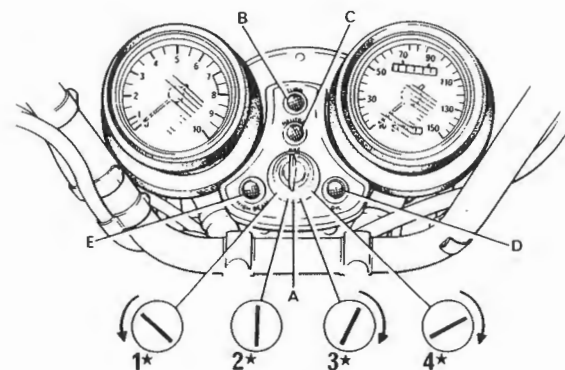


Fig. 14. Ignition/lighting switch

- A IGNITION/LIGHTING SWITCH
- B DIRECTION INDICATOR WARNING LIGHT (AMBER)
- C NEUTRAL INDICATOR WARNING LIGHT (GREEN)
- D OIL PRESSURE WARNING LIGHT (RED)
- E HI-BEAM WARNING LIGHT (BLUE)

* For details of switch positions see above

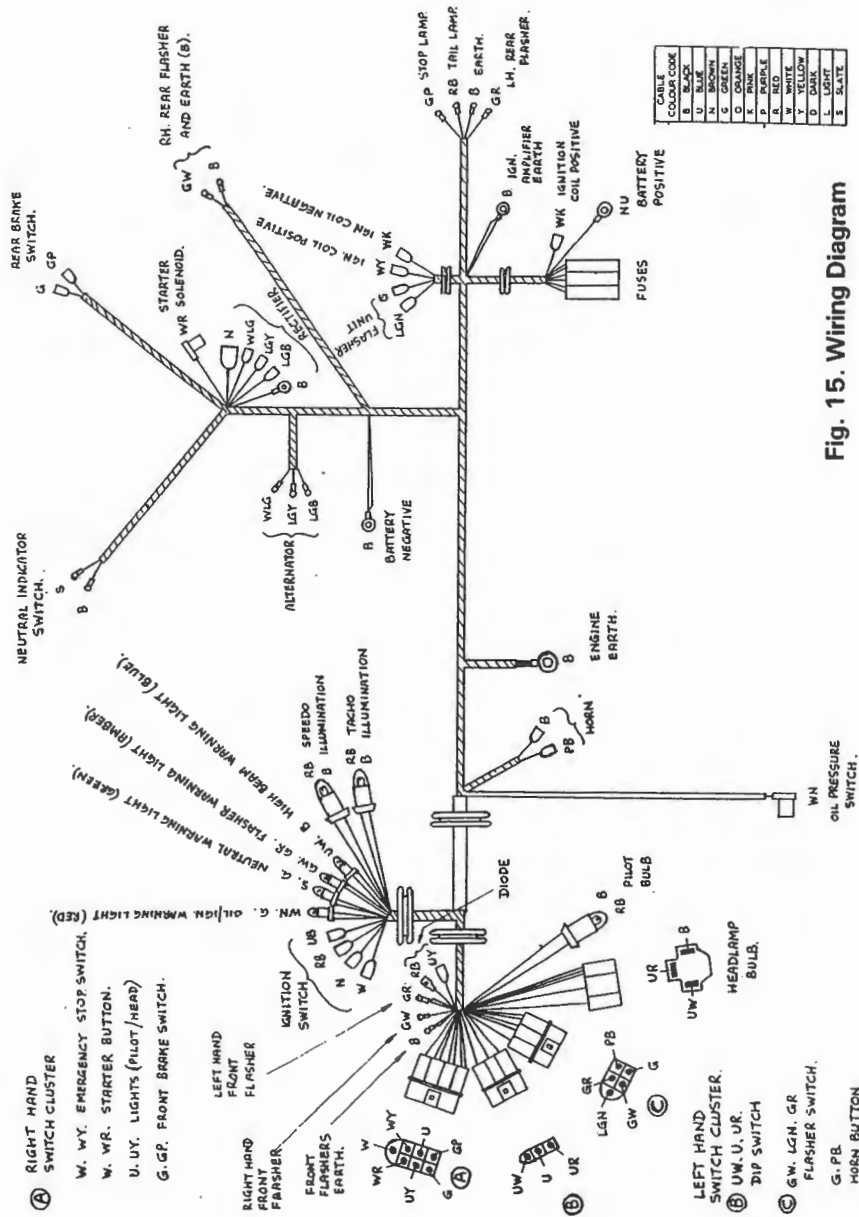


Fig. 15. Wiring Diagram

CLEANING

Regular thorough cleaning of your motorcycle will not only enhance its appearance but will improve general performance and extend the useful life of many components.

Do not attempt to remove dried dirt from your motorcycle, but use a copious supply of water from a hose or a bucket. (If a hose is used, use only enough pressure to do the job). Excessive hose pressure may cause waterseepage into seals). Do not direct water into the electrical system, air cleaner or brakes.

Once the majority of dirt has been hosed off. Wash all surfaces with water containing some proprietary cleaner.

Rinse motorcycle immediately and dry all surfaces with a chamois or clean absorbent cloth. Do not use abrasive cleaners on chromium plating but treat it in the same way as the painted surfaces. When the motorcycle is clean and dry, apply wax polish.

Wash the seat with a vinyl upholstery cleaner to keep the cover clean and pliable.

WARRANTY

The fitting of replacement parts other than GENUINE TRIUMPH REPLACEMENT PARTS will invalidate the guarantee.

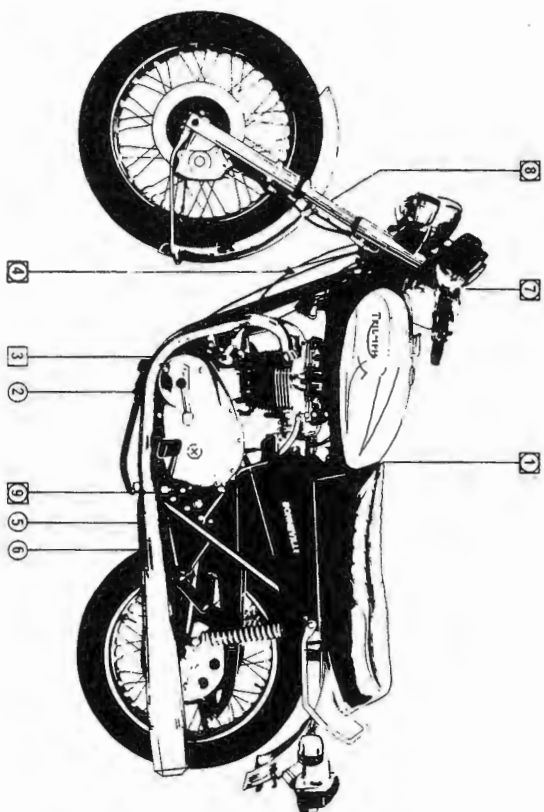
L.F. Harris (Rushden) Ltd. warrants to the ultimate purchaser and each subsequent purchaser that the Triumph Model T140 Motorcycle is designed, built and equipped so as to conform at the time of sale with all U.S. Emission Standards applicable at the time of manufacture and that it is free from defects in materials and workmanship which would cause it not to meet these standards within the period of 5 years or 18,641 miles (30,000 Kilometers) whichever occurs first. Failures, other than those resulting from defects in material and workmanship, which arise solely as a result of owner abuse and/or lack of proper maintenance are not covered by the warranty.

IMPORTANT NOTE

Any modifications to any Triumph motorcycle made by you or to be made by you in the future shall be held by our company to have been modified at your own risk and responsibility and without either the explicit or implied consent of the Manufacturers. We will assume no liability, obligation or responsibility for any defective or modified parts or for the modified motorcycle itself, or for any claims, demands or legal action for property damage or personal injuries which may result from the modification of any Triumph motorcycle.

GUIDE TO LUBRICATION POINTS

Illustration No.	Description	SAE Oil grade
1	Engine oil reservoir	20W/50
2	Gearbox	EP90
3	Primary chaincase	20W/50
4	Steering head	Grease
5	Brake pedal link pivot	10W/30
6	Brake pedal spindle	10W/30
7	Exposed cables	10W/30
8	Telescopic fork	Auto. trans. fluid
9	Swinging fork pivot	Grease



Numbers in circles refer to right side of machine
 Numbers in squares refer to left side of machine

Fig. 16. Lubrication points

RECOMMENDED LUBRICANTS (All Markets) THE PRODUCTS RECOMMENDED ARE NOT LISTED IN ORDER OF PREFERENCE.

	Engine and Primary Chaincase	Gearbox	Telescopic Fork	Wheel Bearings, Swinging Fork Steering Races
MOBIL	Mobiloil Super 20/50	Mobilube GX90	Mobil ATF 210	Mobilgrease MP or Mobilgrease Super
DUCKHAM'S	Duckham's Q20/50	Duckham's Hypoid 90	Duckham's Q-Matic	Duckham's LB10 Grease
CASTROL	Castrol GTX or Castrol XL20/50	Castrol Hypoy	Castrol T.Q.F.	Castrol LM Grease
B.P.	B.P. Super Visco-Static 20/50	B.P. Gear Oil SAE 90 EP	B.P. 'B' Autron	B.P. Energrease L2
ESSO	Uniflo 20/50	Esso Gear Oil GX90/140	Esso Glide	Esso Multipurpose Grease H
SHELL	Shell Super Motor Oil 20/50	Shell Spirax 90 EP	Shell Donax T.7	Shell Retinax A
TEXACO	Havoline Motor Oil 20W/50	Multigear Lubricant EP90	Texomatic 'F'	Marfak All Purpose

USEFUL DATA

MOTOR

Bore and Stroke - mm	76 x 82
Bore and Stroke - in	2.993 x 3.228
Capacity - cu. in./cc	45/744
Compression Ratio	7.9:1
Tappet Clearance, Inlet and Exhaust - Cold mm.	0.203, 0.15
Tappet Clearance, Inlet and Exhaust - Cold in.	0.008, 0.006
Valve timing checked at nil tappet clearance	
Valve lift: Inlet opens	0.190ins (4.83mm) at T.D.C.
Exhaust closes	0.130ins (3.27mm) at T.D.C.

IGNITION - Timing (Before top centre)

Crankshaft position at 5,000 r.p.m.	38
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SPARK PLUGS

Type	Champion N3
Point Gap - mm	0.635
Point Gap - in	0.025

SPROCKETS

Gearbox	19T
Rear Wheel	45T

CHAINS

Primary - $\frac{3}{8}$ " in pitch x $\frac{1}{4}$ " wide, Triplex links	84
Secondary - $\frac{5}{8}$ " in pitch x $\frac{3}{8}$ " wide, links	106

GEAR RATIOS

5th Top	4.74
4th Fourth	5.64
3rd Third	6.64
2nd Second	8.70
1st Bottom	12.24
Engine r.p.m. @ 10 m.p.h. in top gear	635

CARBURETTORS

T140

Amal Type	R930/111 L930/112
Main Jet	190
Needle Jet	106
Needle Type	St'd
Needle Position	1
Throttle Valve Cutaway	3
Pilot Jet	20
Starter Jet	35

FUEL

Octane Rating	97 (4 star)
Hydraulic brake fluid	To meet SAE J1703 or D.O.T. 3

TYRE SIZE

Front	4.10 x 19
Rear	4.25 x 18

TYRE PRESSURES

Front lb/sq. in	28
Rear lb/sq. in	32

BULBS

Headlight 12v — Halogen 60/45w	Lucas H4/AB472
Parking light 12v 6w M.C.C.	Lucas 989
Stop/Tail light 12v 5/21w (offset pin)	Lucas 380
Speedometer 12v 3w M.E.S.	Lucas 504
Tachometer 12v 3w M.E.S.	Lucas 504
Hi-beam warning light 12v 2w	Lucas 281
Indicator warning light 12v 2w	Lucas 281
Direction indicators 12v 12w	Lucas 382
Fuse rating (Amperes)	7 1/2 A/15A/7 1/2 A
Oil pressure warning light 12v 2w	Lucas 281
Neutral indicator warning light 12v 2w	Lucas 281

CAPACITIES

Fuel Tank - Large	4.0 galls Imp
Fuel Tank - Small	2.8 galls Imp
Oil Reservoir	4.0 pints Imp
Gearbox - cc	500
Primary chaincase (Initial fill) - c.c.	150
Front forks (each leg) - c.c.	180
Front brake hydraulic system - c.c.	Approx. 220
Rear brake hydraulic system - c.c.	Approx. 200

OVERALL DIMENSIONS

Length - in.	87.5
Width - in. High Bars	33.0
Seat height - in.	31.0
Weight - lb (unladen)	395
Width - in. Low Bars	27