

SERVICE- SHOP LORE No. 2

A.J.S. and MATCHLESS TWIN

YOU ARE AN AMBITIOUS TYPE. You do all your own maintenance and tackle major repairs with the same aplomb. You have read the instruction book right through and have it handy when any tricky job is on the go.

The instruction book for A.J.S. and Matchless twins, you'll agree, is really detailed. It covers just about everything. Still, it is worth while elaborating a few tips, say the Woolwich service men, so here goes.

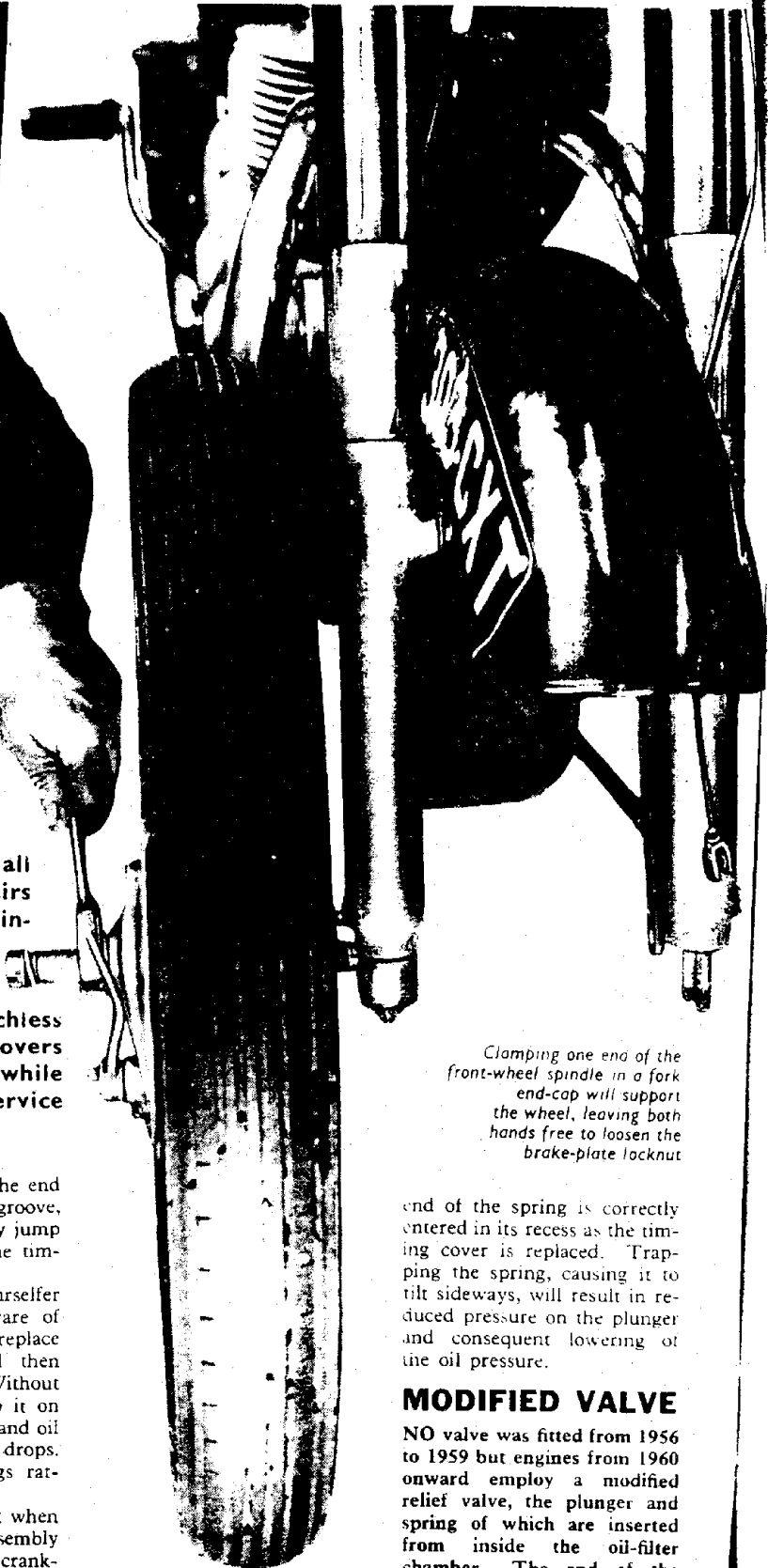
FOR instance, oil-pressure relief valves. On models made from 1952 to 1955 the valve is disturbed when the timing cover is removed. The valve consists of a cylindrical metal plunger and a spring; the plunger is pressed into a hole in the crankcase wall by the spring, the outer end of which abuts in a recess in the timing cover.

On the shank of the plunger is a shallow groove in which one end of the spring is located. Now if a previous

owner neglected to fit the end coil of the spring in its groove, the spring will promptly jump out of position when the timing cover is taken off.

The new do-it-yourselfer will probably be unaware of the spring's departure, replace the timing cover, and then start the engine. Without spring pressure to keep it on its seat, the valve opens and oil pressure immediately drops. Result—big-end bearings rattling in no time at all.

It is just as important when the plunger-spring assembly has been fitted in the crankcase wall, to see that the outer



Clamping one end of the front-wheel spindle in a fork end-cap will support the wheel, leaving both hands free to loosen the brake-plate locknut

end of the spring is correctly entered in its recess as the timing cover is replaced. Trapping the spring, causing it to tilt sideways, will result in reduced pressure on the plunger and consequent lowering of the oil pressure.

MODIFIED VALVE

NO valve was fitted from 1956 to 1959 but engines from 1960 onward employ a modified relief valve, the plunger and spring of which are inserted from inside the oil-filter chamber. The end of the plunger projects outward into

the timing chest and a washer and circlip retain the unit in position.

Point to watch here is that the projecting end of the valve is not accidentally knocked; this may dislodge the circlip, allowing the valve to shoot into the filter chamber. And another point—that washer is specially designed for the job, any old washer will just not do as a replacement.

FILTERS

ON another angle of lubrication—do you know that three different types of crankcase oil filter have been used since early 1960? Prior to that date a spring loaded, plain gauze was fitted but that one is not interchangeable with later patterns, which screw into position.

First a fine-mesh filter was introduced but the mesh was so effective that sludge could build up rapidly on the surface and impede oil flow. Later in 1960, a coarser mesh was introduced with a felt overlay and today a slightly modified version is used. The latest pattern requires considerably less attention than the earlier ones.

SPECIAL WASHER

IF you have just re-assembled the engine and found that oil is oozing out through the crankcase joint, it's almost a cert that you forgot to replace the thin paper washer at the mouth of the filter chamber.

Jointing compound used between the crankcase halves is insufficient to withstand the pressure, which sometimes reaches 450 lb/sq in on the earlier twins, at the joint dividing the chamber. So a 0.002in paper washer is used to ensure a good seal.

AT T.D.C.

ADJUSTING the valve clearances, the book tells you, must be done with the piston on that side at the top of its compression stroke. Unless this

is so a cam follower may be resting on a quietening ramp, although you may be under the impression that it is on the cam base.

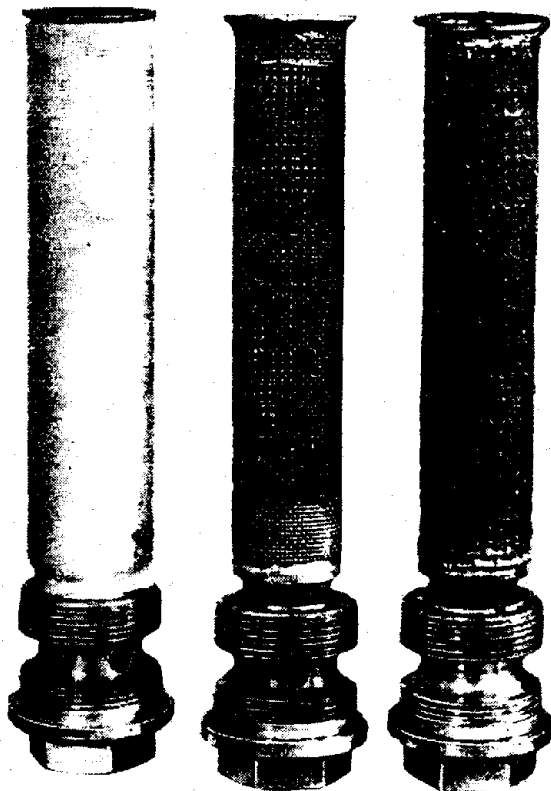
Check this by poking a length of wire through the plug hole to give an indication of the rise and fall of the piston; then ensure that both valves are closed, with the piston at top dead centre. This may be verified by checking that the valves on the opposite cylinder are "rocking"—inlet just opening, exhaust just closing.

For up-to-1960 models the recommended clearance is 0.006in; for later models 0.008in.

By the way, when you replace the sparking plugs a dusting of flake graphite or a smear of graphite grease on the threads will ensure ease of removal the next time—and save the threads in the head.

To work on the valve clearances, you have removed the tank—perhaps you are wondering just how tight the tank-mounting bolts should be done up? The general rule is to

Three types of oil filter used since 1959. Left to right: In current use, middle 1960 and early 1960



keep on tightening until the rubbers just begin to bulge.

OIL PIPES

"WARNING—make sure oil pipes are not reversed before starting engine." There it is, as emphatic as that in the instruction book. But accidents do happen.

It is easy to confuse the pipes as they enter the tank alongside one another. To check for correct coupling, the union on the feed pipe—at the front of the crankcase—should be slackened a shade; then a trickle of oil should appear. If it does *not* the pipe is incorrectly coupled—or there may be an air-lock or blockage which requires clearing.

CYCLE PARTS

WORK on the cycle parts is pretty straightforward, but the odd dodge is employed by the factory mechanics. For example, if you want to loosen a tight front shoe-plate retaining nut, you can hold the opposite end of the wheel spindle by using a fork-leg



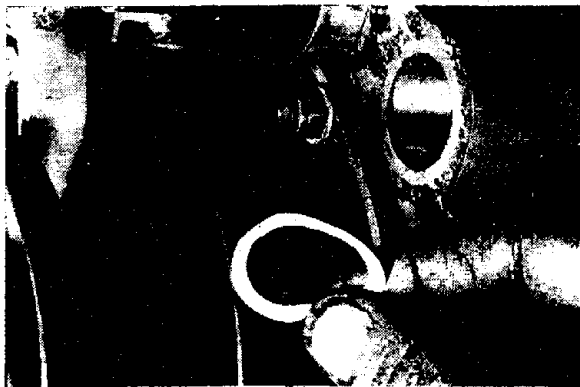
Left: Pressure-relief valve fitted to all twins from 1960 onward. Above: The spring on pressure relief valves used between 1952 and 1955 is located in a recess in the timing cover

clamp as a vice. This holds the wheel and leaves you free to slacken the $\frac{1}{2}$ in (Whitworth) nut with a spanner; if necessary the plate can be steadied by operating the brake with a spanner on the cam spindle nut.

Difficulty in manoeuvring the front-wheel spindle into the fork ends is lessened if you use your toe under the wheel to lift it into position. Then the fork end-caps can be bolted into place.

Proprietary manufacturers seldom grease the springs when assembling rear suspension units. Sometimes the result is an irritating squeak caused by friction between the dust covers and springs. The remedy is simple. Remove the top mounting bolt and swing the unit rearward. Then apply a firm grip, with both hands, around the top dust cover and press firmly downward to compress the spring. This will release pressure on the split collar and allow the halves to be plucked free by a second pair of hands. The spring, and internal surface of the dust covers, can then be greased.

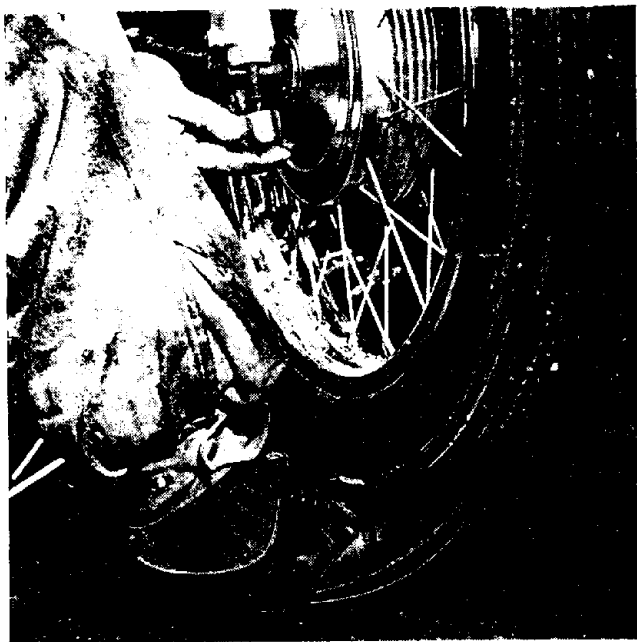
Reassemble the unit and refit the mounting bolt. Then deal with the other unit.



Above: When the crankcase is reassembled, a paper washer is fitted across the mouth of the filter pressure chamber. Below: Compressing the spring in a suspension unit allows the collars to be plucked free



Wedging a foot beneath the front wheel to hold it in position for the fork end-caps to be bolted up



Going Far?

THE first essential is to wrap up warmly. Successive layers of loose-fitting woollies, with a final wind-and-water-proof covering, will best retain warm air pockets. Remember that chest, neck and head account for the body's highest heat losses. Avoid tightness, which hampers both circulation and movement.

Spare gloves, goggles and neck towel are also likely to come in useful.

The rider who sets off warm is halfway to success. Enjoy a nourishing hot breakfast, move around briskly in full kit while making final preparations.

On the road, it is the worst possible rule to keep pressing on long after the cold has become uncomfortable. Apart from the general misery, symptoms of exposure—numbness, tiredness, lassitude—grow progressively worse.

Long before sheer physical exhaustion forces a halt, stop for a warming-up session.

A warm room and a bowl of soup work wonders, but the real all-through heat comes from physical jerks by the roadside.

So dress properly—start warm—halt frequently. Hang the average speeds, and enjoy the run!

YOU AND THE LAW

Questions answered by the R.A.C. solicitor

QUESTION:

A youthful pedal cyclist crashed into my sidecar outfit while it was parked in broad daylight. A fair amount of damage was done to the sidecar coachwork. The father of the boy agreed that his son was to blame but, on presenting him with the account, I have heard from his solicitor repudiating liability on behalf of the father. He points out that the cyclist was only a school-boy. Surely the father is liable?

ANSWER:

No. A parent is normally only liable for the wrongdoing of his child when the child is acting as his servant or agent; e.g., running an errand. For what it is worth, you have a right of action against the boy, but normally it would be a waste of time to pursue the matter unless you

knew he was insured for third-party liability. Members of cycling clubs, and riders who are obtaining their cycles on hire purchase, are very often insured.

GET THIS NEXT WEEK!

