

250 c.c. O.H.V. TWIN CYLINDER SCOOTER

REPLACING THE ENGINE, GEARBOX AND FINAL DRIVE UNIT IN THE FRAME

With the front engine studs in position, pick up the unit and holding it tilted slightly to the left pass the rear drive unit through the two vertical frame members. Bring the engine upright and slide it into position so that the two crankcase lugs slide into the mounting brackets on the two vertical frame pillars. Having placed the unit loosely in position, insert the rear right hand engine mounting bolt through the lug on the frame and the lug on the crankcase, then pass the left hand bolt through the mounting in a similar manner. Place the $\frac{1}{4}$ " clip over the main bolt and fit the two small $\frac{1}{4}$ " diameter bolts and nuts.

Pick up the L shaped front engine mounting plates and slide each one into position over the front engine studs so that the feet of the plates are turned outwards; refit the nuts and washers over the studs but do not tighten completely. Now replace the bolts through the chassis cross member and tighten down securely, finally tightening the nuts on the crankcase studs. At this stage the rear damper unit should be coupled at its upper end to the dual seat carrier.

Replace the curved bearing arm which passes outside the left hand vertical tube by sliding it over the main bearing bush, which has four holes equally spaced around its periphery. Insert the three long bolts which retain the rear end of the bearing arm, passing them through from the rear of the final drive case. Two of these bolts have flats on their heads which engage in flats on the back of the chaincase, the middle bolt having a hexagon head. Note that the lower bolt also carries the speedometer cable clip. Replace the large washer on the front end of the bearing arm, making sure that it is engaged over the dowel pin, and finally refit the hollow bolt which also carries a grease nipple.

Now pick up the speedometer cable and carefully engage the squared end of the inner cable in the speedometer drive and screw the cable union nut on to the drive bush. Re-connect the brake cable by passing the inner cable through the slot in the lug, fit the fork end of the cable over the lever, insert the clevis pin followed by the washer and finally the split pin. Do not omit to spread the ends of the split pin.

Re-connect the two low tension leads to the coils, the longer one going to the right hand coil. Refit the rear mudguard which is secured by four $\frac{1}{4}$ " diameter nuts and bolts, two on the cross members between the two vertical pillars and two at the rear on the bracket which carries the petrol tank and silencer.

The kick-starter chain can now be re-connected to the pedal by re-fitting the spring connecting link, making sure that the closed end of the spring is facing towards the rear of the machine. Replace the gearchange lever over the squared end of the gearchange spindle, fit the plain washer, spring washer and finally the nut. Make sure that the large plain washer is fitted over the square on the spindle, and is not trapped between the square and the other washer. Tighten the nut securely. Later models use a special nut only.

If the fabric distance piece is not already fitted to the carburetter flange studs it should now be refitted, together with the jointing washers and the manifold together with carburetter placed in position.

If the carburetter has been removed from the swan neck manifold make sure that the rubber "O" ring is in position inside the carburetter body. If this is omitted it is liable to cause air leaks and consequently weak mixture and overheating. Refit the two spring washers and $\frac{1}{4}$ " nuts on to the studs holding the inlet manifold and tighten evenly and securely. Do not in any circumstances tighten down one nut before the other as this is liable to distort the manifold face, and will again result in leakage.

Replace the petrol pipe on the float chamber, making sure that the gauze filter is inside the banjo union, and that the large fibre washer is between the union and the float chamber, with the small fibre washer between the head of the bolt and the outside face of the banjo union. Replace the petrol tap support bracket over the left hand rocker box stud and replace the $\frac{1}{4}$ " diameter nut. The fibre washer and steel washer should already be in position on the stud and underneath the bracket.

It is always advisable to use new exhaust pipe gaskets at the cylinder head joint. Refit the exhaust pipes on to the cylinder head and then swing the silencer down over the ends of the exhaust pipes and securely tighten the clips. Tighten the two bolts holding the silencer when the clips have been correctly fitted. The air ducting around the cylinder head, which also carries the pipe supplying air to the carburetter, can now be refitted by sliding it over the front exhaust pipe studs and securing in position with the small $\frac{1}{4}$ " nuts. The cool air pipe is secured to the strut across the frame immediately below the petrol tank, by one $\frac{1}{4}$ " nut and bolt with spring washer. Replace the H.T. lead on the plugs noting that the lead from the right hand coil is fitted to the right hand spark plug. Now slide the clutch cable through the slot in the lug on the primary drive cover, make sure that the outer casing is seating in the lug, fit the spring over the inner wire and with the aid of a hammer shaft, press in the clutch lever and slip the clutch nipple into the lever.

The rear wheel can now be refitted, care being taken to ensure that the valve is on the right hand side of the machine. The three conical wheel nuts can be fitted either way round but each nut should be tightened evenly ; if one nut is tightened down too much it is liable to distort the wheel on its seating on the stub axle. Make sure that the nuts are securely tightened after the wheel is on the ground. Now re-connect the kick-starter chain tensioner spring, which is hooked on to the bracket on the right hand exhaust pipe, with the long flat connecting link hooked over the second chain roller from the kick-starter sprocket on the gearbox. When the sprocket is in the rest position this roller is the second from last tooth on the sprocket. The link must pass outside the gearchange lever. Re-connect the alternator cables to the couplings underneath the frame, making sure that the colours are correctly matched and that the rubber grommet is in position in the back of the flywheel case. Check the gearchange for operation and make sure that the two "C" shaped hinges are in position on the lugs of the dual seat carrier.

The small clip which supports the throttle cable must be connected to the air ducting around the flywheel by means of the $\frac{3}{16}$ " pin and nut at the top right hand side of the front.

Place the body panels in position, fitting the top and bottom screws. These are the round head screw beneath the dual seat, and the screw at the bottom immediately above the pillion passenger's footboards, but do not tighten either at this stage. Refit the bolts round the edges of the valances, these being the two $\frac{3}{16}$ " bolts at the front and one at the rear bottom end, then the two $\frac{5}{16}$ " bolts which also carry the spare wheel brackets (when fitted), and the $\frac{1}{4}$ " bolts at the top which support the number plate. When a spare wheel and carrier are fitted re-connect the rear carrier to the two lugs which project from the dual seat frame, refit the spare wheel, couple the lower end of the carrier in position on the spare wheel and secure the two wheel nuts. Make sure that the plastic beading is pressed well home before finally tightening the panel bolts.

Re-connect the "C" shaped hinges to the dual seat brackets by the two $\frac{1}{4}$ " bolts and screw on the dual seat catch knob.