

APPENDIX No. 8.

AERODROME WORK IN THE SQUADRON.

The daily work at the aerodrome in the squadron repair-shops was enormous, and the effect of rapid and skilful work by mechanics in all branches was an important factor in the efficiency of a squadron for fighting. A brief outline of that work—in the form of squadron reports—will show the interior domestic economy of an air squadron.

EQUIPMENT OFFICER'S WORK.

“Accountancy of Stores.—Stores are accounted for by means of Receipts and Issues Ledger. To save too much handling of ledger, an issue book is kept on stores counter, and every article issued during the day is entered in ledger after the day's issues have finished.

“Replacement of Stores.—Urgent stores are those required for immediate minor repairs upon unserviceable aeroplanes, engines, or motor-transport. These are indented for on Aircraft Parks *via* Wing by telegram, and have priority over anything else. Crash reports are rendered to equipment officer by flight concerned, and all parts not in store are wired for to the Park immediately. Park advises when parts are ready and squadrons collect. Some parks deliver spares to make machines and motor-transport serviceable directly they are ready for issue. Ordinary stores and spare parts to complete squadron to mobilisation equipment are indented for fortnightly in triplicate, *via* Wing.

“Organisation of Headquarters' Workshops.—The engine-repairing and overhaul department consists of one engine-sergeant and one engine-fitter from headquarters. The remainder of the engine-fitters (six in number) are drawn from flights, and work on engines in pairs. All engines are received into workshops with their log-books correctly entered up. On arrival for repair or overhaul, the engine is dismantled and indent is placed at technical stores for spare parts necessary to make the engine serviceable. Apart from the log-book a report is kept of the history of each engine dealt with in workshops. Attached herewith is a specimen of form for recording engine details for the engine-sergeant's use. In the event of cylinders being removed from the crank-case they are placed in a bath of caustic soda, which facilitates cleaning. In order to keep parts of a dismantled engine together, a tray is used, suitably divided.

“The maintenance of all magnetos and testing of spark plugs is carried out by the electrician.”

ARMAMENT OFFICER'S WORK.

“Organisation of Armoury.—The armoury is an important branch of a squadron and entails a lot of work, particularly with a squadron of twenty-five machines, each machine carrying a Vickers gun. The average personnel of armourers and gear-men to a squadron is one armament-officer, one sergeant-armourer, one gear-armourer, one armourer-corporal, nine other armourers, and six gear-men. The work was distributed as follows:—

“The armament officer is responsible to the squadron-commander for the care, cleaning, and upkeep of all guns on machines, for the

fitting and correct alignment of sights, and for the training of pilots in gunnery.

"The armourer-sergeant is responsible to the armament officer. He supervises the work of armourers, and reports when machines are serviceable.

"The armourer-corporal is usually a first-class mechanic, and all special fittings and improvements he carries out.

"Two armourers are attached to each flight, and have four machines allotted to them. They are responsible for the guns on these machines, that they are cleaned and kept serviceable, and that ammunition boxes are kept filled with small arms ammunition.

"*Belt-Filling and Testing S.A.A.*—Two men are kept at belt-filling and testing S.A.A. S.A.A. must be filled in right sequence, and belt ammunition must be stored in dry place.

"*Gears.*—The gear-sergeant is in charge of gears, and has under him six gear-men, two of whom are attached to each flight. Gears require constant attention and to be checked before and after each flight.

"*Replacements.*—When a gun is damaged on a machine during combat or in a crash, and the machine is repaired in the squadron, if the gun cannot be repaired, a spare gun (four of which are carried) is fitted and the damaged one returned to the Aircraft Dépôt and a new gun is drawn. When a machine is lost or struck off strength, the new machine to replace arrives fitted with gears and guns. These generally require much attention, new pins and springs fitted to gear, guns eased and tested, and sights fitted and aligned.

"*Stores.*—Ammunition and all stores required for armoury or gears are indented for through the squadron equipment officer. It is necessary to keep a good supply of ammunition in hand (say, 50,000 rounds), for if the squadron is active this is about a three days' supply. Under normal conditions the average amount of S.A.A. used daily is 3,000 rounds. All stores that arrive are entered up in a special book, showing ammunition used and in hand daily, and also total amount of all gunnery stores held in the squadron. A log-book is also kept showing number of machine, number of guns on machine, ammunition fired from these guns, stoppages, cause, breakages, etc., and when new barrels are fitted. It is important to record the performance of the gun, as it assists to rectify any trouble that occurs.

"*Workshop Lorries.*—Each workshop lorry has one mechanic in charge of plant whose duty it is to carry out any machine-work required by the squadron. The squadron electric supply is obtained from these lorries.

"*Blacksmiths' Shops and Oxy-Welding Plant.*—These are accommodated in a separate building. This section consists of two blacksmiths and one oxy-welder.

"*Coppersmiths' Shop.*—When possible, a separate building should be erected for coppersmiths. There are four coppersmiths—one in headquarters and one in each flight.

"*Vulcanisers.*—One vulcaniser is employed entirely on motor-transport work and another on aero work. They have their plant in a separate building. This is necessary to minimise fire risk.

"*Fabric Workers.*—Two fabric workers are on the strength of headquarters. They are chiefly employed repairing fabric on machines and dopping it. All sewing-machine work is carried out in the squadron workshops.

"*Carpenters.*—The woodwork is carried out by a corporal and two mechanics."

SPECIMEN WORKSHOP ORDER.

Date sent in..... Workshop No.....

WORKSHOP ORDER.

.....FlightF./Sgt. Authority.....

Description of Job.	Material Used.
(This side for use of person requesting work to be done.)	(This side for workshop use only.)

Signature of Mechanic on Job.....

Date finished.....

Received satisfactory by.....