FAULT DIAGNOSIS

SYMPTOM	POSSIBLE CAUSE	REMEDY
A—ENGINE FAILS TO FIRE WHEN COLD	1. Inadequate or no fuel supply to the A.E.D.	**1.** Slacken the filter plug on the A.E.D. Crank the engine; fuel should leak from the plug. If no fuel, check the system leading to the A.E.D. If fuel is present, tighten the plug. Then carry out check 2 under symptom **A.**
	2. Inadequate or **no** fuel supply from the A.E.D. to the inlet manifold	**2.** Crank the engine for several seconds. Remove the pipe at the inlet manifold. If fuel is present, it indicates that the A.E.D. is satisfactory and the cause for failure to start must be traced to some other source. If no fuel is present this indicates a faulty A.E.D. Proceed as follows: **a.** Check that the main valve is open by inserting the probe down the centre hole—press down fully; the probe should return approximately ·030 in. (0·75 mm.) when released. NOTE:—This check is not applicable when temperature is above 35° C. (95° F.) **b.** Remove the float-chamber lid and check that the needle valve and float are free to move. If there is no fuel in the float chamber check that the fuel filter is clean and that ample fuel is being delivered to the unit. See **SERVICING (Float level).**
B—ENGINE FIRES BUT FAILS TO KEEP RUNNING WHEN COLD	1. Sticking or faulty needle valve or float	**1.** Check the following: *a.* Remove the vent pipe from the float chamber and check that fuel is not discharged when cranking the engine. *b.* If fuel is discharged check the operation of the needle valve and float as detailed under **'A'** Item 2 **(b.)**.
	2. Faulty air flap valve	**2.** Remove the air inlet elbow on the A.E.D. and check that the flap valve is free to move and return under spring load. If jammed, dismantle the unit and rectify.
	3. Inadequate fuel supply	**3.** Check for lack of fuel as detailed under **'A'** 1 and **'A'** Item 2 **(b.)**.
	4. Faulty jet needle diaphragm	**4.** Remove the A.E.D. complete, remove the cap for the needle diaphragm, then withdraw the diaphragm and check for damage. Replace faulty parts. Reassemble as detailed in REASSEMBLING
		If diaphragm is satisfactory, a complete overhaul of the unit is indicated.
C—ENGINE FAILS TO START WHEN HOT OR PART WARM OR FIRES AND FAILS TO KEEP RUNNING	1. Incorrect starting procedure	**1.** Crank the engine and open the throttle slightly. If the unit is badly over-choked open the throttle fully do not over-rev. If the engine starts but fails to keep running, carry out check '4' below.
	2. Leaks from pipe layout	**2.** Ensure that all pipes are correctly fitted, particularly the pipe between the hot air pick-up and the A.E.D. Rectify as necessary, ensuring airtight joints. NOTE:—Air leaks at the hot air entry will result in excessive fuel consumption and the possibility of stalling at certain engine temperatures.
	3. Before carrying out further checks ensure that the A.E.D. is not the cause of failure to start	**3.** Remove the pipe from the A.E.D. to inlet manifold. Blank off the aperture in the manifold. If the engine starts this indicates that the A.E.D. is at fault, and further checks must be made. However, if the engine is flooded it may be necessary to crank for several seconds, with a slightly open throttle before the engine will fire.
	4. Sticking or faulty needle valve or float	**4.** Check the following: *a.* Remove the vent pipe from the float-chamber and check that fuel is not discharged when cranking the engine. *b.* If fuel is discharged, check the operation of the needle valve and float. Remove the float chamber lid; check that the needle valve and float are free to move. If there is no fuel in the float-chamber check that the fuel filter is clean and that ample fuel is being delivered to the unit. See **SERVICING (Filter Cleaning).**
	5. Main valve faulty. This fault and the checking procedure applies only when engine is really hot.	**5.** Check that the main valve is completely closed by inserting the probe down the centre hole, press down fully; probe should not return which indicates that the valve is fully seated. If probe returns under spring pressure dismantle the unit and rectify.
	6. Incorrect needle movement	**6.** Check the movement of the jet needle by inserting the probe down the hollow grub screw. Push down fully. If the engine is at its normal working temperature, probe should not return; if partly warm, probe should return approximately ·015 in. (0,40 mm.).
	7. Faulty needle diaphragm	**7.** Carry out checks as detailed under **'B'** Item 4.