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PART 4 : SECTION 1

CHAPTER 2

FIRE ON THE GROUND

Refuelling and Starting Precautions

1. During refuelling operations the electrical services (including radio and radar equipment) are not to be operated.

2. Electrical fuel contents gauges may be switched on before refuelling, but they should not be switched off until refuelling is completed and the aircraft is free from fumes. All mechanical refuelling appliances must be earthed before refuelling.

3. Fire-extinguishing equipment must be available to the ground crew whenever an engine is started. Should a fire occur, the ground crew should immediately warn the pilot by picking up a fire extinguisher or by using the hand in a "throat-cutting" motion to indicate that the engine must be stopped.

4. Some aircraft are fitted with an external intercom socket for use by ground crew when starting aircraft engines. In this case immediate verbal warning can be given to the pilot if a fire occurs.

Action to Extinguish Fire

5. **Piston-Engine Aircraft.** It is not advisable to open the throttle, as the fire may be an induction-system fire which can be sucked through the engine. Opening the throttle may greatly increase the severity of the fire. The engine must be stopped immediately a warning of fire is received or seen. The drill is:—

- (a) Close the throttle.
- (b) Stop the engine, using the fuel cut-off, slow-running cut-out, or, if neither is fitted, by switching off the ignition.
- (c) Turn off the fuel, and switch off the booster pump if fitted.
- (d) Switch off the ignition, if not already off.

6. An intake fire may be dealt with by the ground crew blanketing the intake as soon as the propeller stops. With any other type of fire, including a serious intake fire, the ground crew should use fire-extinguishing equipment and/or

call for the pilot to operate the fire-extinguisher system if he considers it necessary. He should not do this before the engine has stopped, as the fire might otherwise recur as soon as the brief action of the extinguisher is finished.

7. On light aircraft with unsupercharged engines it is possible to extinguish small intake fires by turning off the fuel and opening the throttle, but if the pilot is doubtful of the effectiveness of this method he should carry out the actions of para. 5.

8. An engine which has been on fire must not be re-started until it has been examined. An exception to this is an intake fire which has been extinguished by blanketing the intake without the use of a fire extinguisher.

9. **Turbo-Jet Engine Aircraft.** Should an engine fire occur, as distinct from torching experienced on some engines (the emission of flames and burning fuel from the jet pipe), the throttle should be closed and the L.P. and H.P. cocks turned off (in that order) followed by the booster pumps. The pilot should operate the fire extinguisher as soon as these actions have been completed. If the fire does not go out, external fire extinguishers should be used. After any fire, including torching which was severe enough to warrant stopping the engine, the engine should be examined for damage.

Turbo-Jet Engine Torching

10. After any failure to start, a certain amount of fuel collects on the ground under the jet pipe. A subsequent attempt to start will sometimes cause torching, which ignites the fuel on the ground. To prevent this type of fire, the aircraft should be moved to another position whenever a faulty start has resulted in spilt fuel.

11. **Use of Asbestos Blanket.** On certain types of jet aircraft on which the jet efflux passes close to the tailplane during starting, the tailplane surface may be scorched by the effect of wind on the efflux. In such cases an asbestos blanket should be placed over the tailplane before starting.

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► **Overheated Wheels and Brakes**

12. When the brakes have been severely overheated, they should be allowed to cool naturally if fire is not apparent. The application of CO₂, water or foam causes rapid cooling and contraction of the heated metals which sometimes results in explosive fractures; wheel fragments

have caused damage at 500 ft. from such a fracture.

13. If a wheel catches fire, it should be approached from a fore or aft direction not in line with the axle, thus obtaining some protection from the tyre. ◀

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