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LANCASTER Mk. I AND III DRILLS

**I. DRILL TO BE CARRIED OUT AT DISPERSAL**

**A. PRE STARTING DRILL**

1. See that chocks are in place, Pitot head, static vents, cockpit and wheel covers removed. Check tyre creep and leading edges screwed down
2. Sign From 700 and fuel state. Note distribution of fuel in various tanks
3. Enter aircraft and check
  - (a) Fireman's axe and first aid kits are in position, all hatches closed & secure.
  - (b) Flare floats and equipment properly stored
  - (c) Oxygen main cock "ON"
  - (d) Check emergency air bottle, normal pressure 1200 lbs. For Duralium or two steel bottles
  - (e) Check hydraulic accumulator, static pressure 220 lbs,
  - (f) Turn main switch to "FLIGHT"
  - (g) Check petrol cross feed cock "OFF" and all idle cut off switches "OFF" "DOWN" with Lancaster III and Merlin 28 engines
  - (h) Switch fuel contents gauge "ON" and check fuel contents
  - (i) Test fuel pumps by ammeter one at a time.
  - (j) Main fuel cocks to No. 2 (center) tanks "ON"
  - (k) Turn on master fuel cocks for Lancaster I, but leave all cocks "OFF" for Lancaster III with Merlin 28.
  - (l) Leave master cocks and Nos. 1 (inner) and Nos. 2 (center) fuel pumps "ON" for Lancaster I, Leave all master cocks "OFF" for Merlin 28 engines.
  - (m) Test trimming tables control movement.
4. The Flight Engineer will then read out the check list, the pilot will repeat as each check is carried out.
  - (a) Adjust rudder pedals to suit length of leg and ensure pedals are adjusted evenly.
  - (b) Test that full rudder to port and starboard can be applied from normal sitting position without extending legs fully
  - (c) Test all control for full movement and put automatic pilot "IN"
  - (d) Brakes "ON" (Note pressure min. 120 lb/sq/ fro Lancaster III)
  - (e) Cold air
  - (f) Bomb doors "CLOSED"
  - (g) Mixer box to I/C position
  - (h) Flap gauge and indicator lights witch 'ON"
  - (i) Set altimeter to "ZERO"
  - (j) Pitch controls "FULLY FINE"
  - (k) Supercharger in M ratio
  - (l) Flap cover "NEUTRAL"
  - (m) Undercarriage lever locked "DOWN"
  - (n) Main switch to "GROUND"

**B. STARTING AND RUNNING UP**

1. When the Pilot or Engineer is ready for starting he will give the order "READY FOR STARTING"
2. N.C.O i/c of starting crew:
  - "UNDERCARRIAGE LOCKED DOWN"
  - "BRAKES ON"
  - "SWITCH TO GROUND"

3. Pilot or engineer reports back each items as checked.
4. Ground crew then prime with Ki-Gas.

Ground crew: "All CLEAR", "CONTACT STARBOARD OUTER"

Pilot or engineer: "CONTACT STARBOARD OUTER"

5. The flight engineer switches 'ON' the booster coil, main ignition switch and with Lancaster III turns on the Master fuel cock of the engine to be started., and he then presses the starter button. For starting Merlin 28, when the engine fires and starts running, and not before snap "UP" the idle out off switch. Do NOT pump throttle on Merlin 28 engines.

#### In The Day Time

The N.C.O. i/c ground crew will stand in a position where he can be clearly seen by the Pilot and indicate when an engine is ready for starting by giving the "Thump Up" with one hand and pointing to the engine with the other.

#### At Night

The ground crew will indicate when an engine is ready for starting by flashing a white torch in a rotating motion from the priming position.

6. The Flight engineer is to check oil pressure as each engine is started. The Pilot control the throttle until the engine starts then opens up o 1200 revs.
7. When all the engines are running the Flight Engineer is to:
  - (a) Switch "OFF" the booster coil
  - (b) Tell W/OP to turn main switch the "FLIGHT". W/Op to repeat the "SWITCH TO FLIGHT" when this is done.
  - (c) Check oil pressure.
8. The Pilot the (1) switches the D.R. compass to "SETTING" and (2) tests flaps.
9. When each engine is warmed up (oil temp. 15 Deg C, Coolant 60 deg C)

Flight Engineer: "Startboard Out OK for run up"

Pilot: "Running up starboard", then

- (a) Test mags for dead out at warming up revs (1100, must be done quickly)
  - (b) Pen throttles to take off booster plus 9 (opening up to plus 14 which is through the gate, will normally be confined to test for an operational or full load take-off)
  - (c) Test magnetos at plus 9 boost. Note drop in revs, not more than 150.
  - (d) Throttle back to 0 boost and check operation of 2 speed blower
  - (e) Also at 0 boost, check operation of C/S unit.
  - (f) Snap back at last 3/4" to test slow running
10. On completion:
 

Flight Engineer: "All engines OK"

Pilot: Repeats.

#### RUNNING UP WITH A PLUS 14 BOOST

- (I) Running up to plus 14 lbs boost is to be confined to a test for a take-off when A.U.W. weight exceeds 61,500 lbs.
- (II) Open throttle through gate position for test not longer than 2 seconds. Plus 14 boost through gate, only applies to operational aircraft

**C. INTERCOMM CHECK**

The Captain is to call each member of the crew who will report on his equipment as follows:

CAPTAIN	CREW MEMBER
"Pilot" (if no Captain)	"Engines O.K. Oxygen connected"
"Air Bomber" (if not Captain)	"Photo leads O.K. Camera isolation Switch "ON" Bomb selectors Nos. O.K., Feed Clear, Oxygen Connected. I/C O.K. when turret rotated"
"Navigator"	"Instruments and lights O.K. 'GEE' set "OFF" Oxygen connected"
"WOP/AG"	"Wireless O.K. Batteries charged. Spare batteries O.K. Oxygen connected.
"Mid Upper Gunner"	"Turret elevation and rotations O.K. Feed clear Oxygen connected. Heated clothing O.K. I/C OK when turret rotated"
"Rear Gunner"	"Turret elevation and rotation O.K. Feed clear. Oxygen connect. Heated clothing O.K. I/C OK when turret rotated"