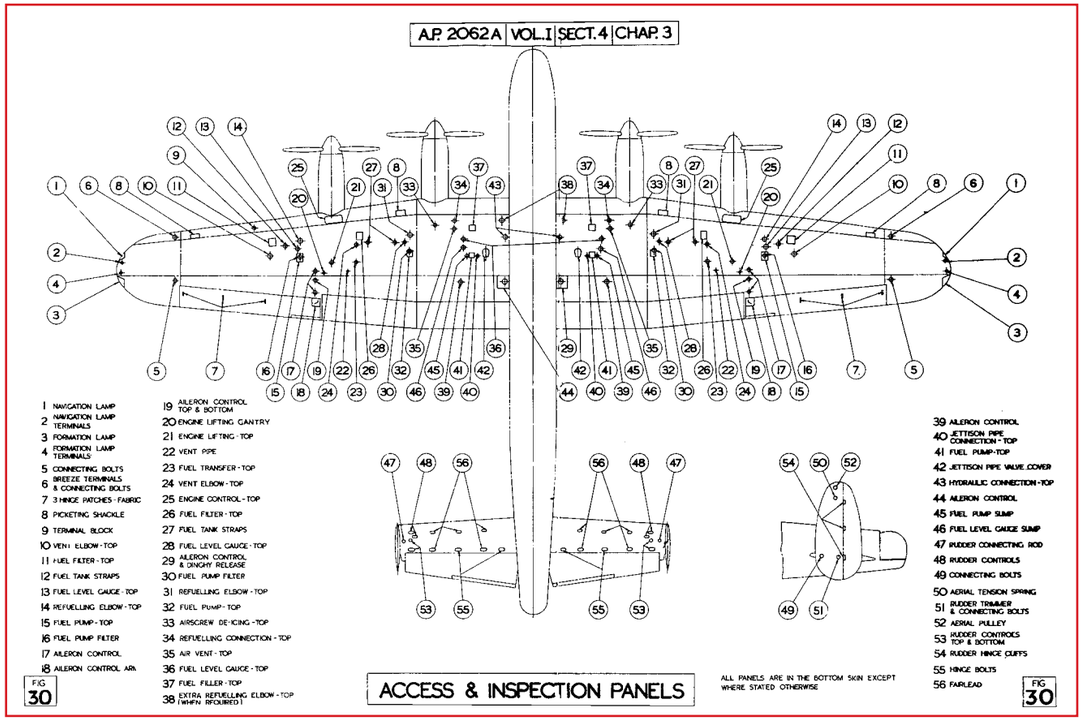

ABOVE Positions of Lancaster access and inspection panels. *(Crown Copyright)*

Servicing a Lancaster

The servicing cycle of the BMFF Lancaster is eight years between majors. This is worked out according to the hours flown, the fatigue life of the airframe, components that are fitted, known structural failures and the risks of flying a 60-plus-year-old aircraft. All these factors are considered and a schedule is produced. This schedule not only takes into consideration the aircraft itself but also the parts in it which have their own specific lifespan, either in flying hours, landings or calendar time. For example, a main wheel is lifed for 100 landings, so this would have to be removed and serviced regardless of whether the aircraft itself was due a service.

Because of the size of the aircraft the flight servicing is carried out by the individual trades: airframe, engine, and electrics. When servicings have been completed they're signed for on the appropriate document, form 705, in the aircraft flight log form F700. This form is then signed by the pilot to acknowledge he accepts that the aircraft is ready for flight.

Before Flight Servicing

This is carried out within 24 hours of the aircraft's scheduled take-off time. If the aircraft doesn't fly within that period then the service has to be repeated. The following items are checked:

1. Internal and external checks to ensure all panels are secure.
2. Check of all the flying controls to make sure they're in working order and free of all restrictions.
3. Tyre pressures are checked.
4. All Plexiglas is checked and cleaned.
5. Crew harnesses are checked.
6. Oil, coolant, pneumatic and hydraulic fluids are checked to ensure they're at the correct level and are replenished if necessary.
7. The aircraft is refuelled to the required level.
8. The electrical systems are checked, *eg* the navigation lights.
9. Engine controls are checked for restrictions.

After Flight Servicing

Valid for seven days, this is carried out as soon as possible after landing to ensure that any problems that are identified can be corrected before the aircraft flies again. Such problems may include worn tyres, broken fasteners and oil leaks. The ground crew will:

1. Refuel the aircraft.
2. Clean the exterior to maintain the aircraft in display condition.
3. Tidy the aircrew harnesses.
4. Carry out a visual inspection, looking for cracks and damage such as exhaust stubs that have holed and loose screws or panel fasteners.

Turnaround Servicing

This is carried out if the aircraft is scheduled to fly again within a few hours of landing, and involves the following:

1. Refuel the aircraft as necessary.
2. Clean the windscreen and canopy.
3. A quick visual check of the exterior of the aircraft.

Oils and pressures aren't checked during this servicing, as everything is too hot.

Lubricants and fluids

- **Fuel** – Avgas F18 100LL, 2,154 gallons (however, PA474 flies with between 600 and 1,000 gallons).
- **Oil** – OM270-Aeroshell 100, 150 gallons.
- **Hydraulic fluid** – OM15/H515.
- **Coolant** – AL3.
- **Lubricating oil** – OM150, used for hinges and bearings.

ABOVE With the fuel bowser in position and the boom extended, refuelling begins. *(Paul Blackah/ Crown Copyright)*

LEFT Corporal Crosby refuelling the number 1 port fuel tank. *(Paul Blackah/ Crown Copyright)*