

PART 1
CHAPTER 11—WINDSCREEN DEMISTING AND
RAIN DISPERSAL

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CONTROLS AND INDICATORS

1. The controls and indicators for the windscreen

demisting and rain removal systems are listed in Table 1 for the F Mk 3 and F Mk 6 and in Table 2 for the T Mk 5.

Table 1 — Controls and Indicators — F Mk 3 and F Mk 6

<i>Item</i>	<i>Location</i>	<i>Markings</i>	<i>Remarks</i>
Front windscreen heating switch	Starter panel	W/SCR FRONT	—
Left quarter panel heating switch	Starter panel	W/SCR SIDE	Also controls canopy interspace demisting
Demist control handle	Left cockpit wall	DEMIST — ALL ON/ TOP ON/OFF	—
Rain dispersal control switch	Left console	DE-ICE/OFF/ RAIN DISPL	De-ice function explained in Chapter 3
De-ice/rain dispersal MI	Left console	R/off (black)/I	—

Table 2 — Controls and Indicators — T Mk 5

<i>Item</i>	<i>Location</i>	<i>Markings</i>	<i>Remarks</i>
Left windscreen heating switch	Starter panel	WSCREEN PORT — ON	—
Right windscreen heating switch	Starter panel	WSCREEN STARBOARD — ON	—
Left quarter panel heating switch	Starter panel	WSCREEN SIDE — ON	Also controls canopy interspace demisting
Demist control handle	Left cockpit wall	DEMISTER — OFF/ BLEED/ON	—
Rain dispersal control switch	Panel A2	ANTI-ICING/OFF/ RAIN DISPL	Anti-icing function explained in Chapter 3
Anti-ice/rain dispersal MI	Panel A2	R/off (black)/I	—

WINDSCREEN DEMISTING

DESCRIPTION OF THE SYSTEM

Windscreen Heating

2. In the F Mk 3 and F Mk 6, the windscreen and left quarter are electrically heated. Similarly, the two windscreen panels and the left quarter panel are electrically heated in the T Mk 5.

3. The system keeps the windscreen(s) and quarter panel free from mist and icing. The laminated panels incorporate heating, control and overheat elements which are supplied from the 200V AC busbar and controlled by 28V DC current. The system is brought into operation by two switches in the F Mk 3 and F Mk 6, or by three switches in the T Mk 5.

4. *Front Windscreen(s)*. For the heating elements to the front windscreen(s) to be energised, the W/SCR FRONT (F Mk 3 and F Mk 6) switch or the WSCREEN PORT and WSCREEN STARBOARD (T Mk 5) switches are moved up (ON, T Mk 5). With the undercarriage lever selected DOWN, only half power is applied; when UP is selected, full power is fed to the elements.

5. *Quarter Panel Heating*. The left quarter panel heating is brought into operation by the W/SCR SIDE (WSCREEN SIDE, T Mk 5) switch. The heating is automatically controlled by a temperature control unit.

Hot Air Demisting

6. The left and right quarter panels and the canopy top panel are fitted with hot air sprays in the F Mk 3 and F Mk 6. In the T Mk 5, hot air sprays are fitted

to the left and right quarter panels only. Hot air from the main air system is fed to the sprays via a manually-operated valve.

7. The control lever has three positions. In the T Mk 5 the quarter panels receive a full flow of hot air when ON is selected and a metered supply when at BLEED. In the F Mk 3 and F Mk 6, the ALL ON position provides a full flow to the quarter panels and canopy; TOP ON gives full flow to the canopy and a partial flow to the quarter panels. In all marks, when OFF is selected, the heating supply is shut off.

Canopy Interspace Demisting

8. Air in the canopy interspace is circulated by a AC-powered blower motor which is controlled by the W/SCR switch in the F Mk 3 and F Mk 6, and by the WSCREEN SIDE switch in the T Mk 5. The air is dried by passing it through chemical air driers.

MANAGEMENT OF THE SYSTEM

Normal Operation

9. Providing the windscreen heater switches are on, the front windscreen and quarter panel heating, and the canopy interspace demisting are all automatic, full power being applied to the windscreen(s) when the undercarriage lever is UP. Hot air demisting is not normally used unless the electrical heating proves inadequate or AC failure has occurred.

RAIN DISPERSAL SYSTEM

DESCRIPTION OF THE SYSTEM

General

10. The rain dispersal system clears rain from the front windscreen in the F Mk 3 and F Mk 6, and from

the left front windscreen in the T Mk 5. A centre strip of the whole windscreen is cleared in light rain; in heavy rain the lower part of the centre strip is completely cleared but the upper part may only be partially cleared. The limitations on the use of the system are given in Part 2, Chapter 1.

11. Air from the main air system is directed to a nozzle assembly located in the fuselage skin forward of the windscreen. The assembly has two nozzles angled away from the windscreen and a wiper nozzle directed to the base of the windscreen. The efflux from the angled nozzles creates high turbulence in the airflow to break up large rain droplets, while the jet of hot air from the wiper nozzle keeps an area of the windscreen free from moisture.

Control

12. The system is controlled by the DE-ICE/OFF/RAINDISPL switch (ANTI-ICING/OFF/RAIN DISPL switch, T Mk 5) and by two pressure-operated switches which automatically limit operation to below

10,000 feet and less than 350 knots. A magnetic indicator shows white/R when RAIN DISPL is selected and black when the system is off. Because the anti-ice and rain dispersal systems are controlled by the same three-position switch, it is not possible to have both systems operating at the same time. The engine anti-icing system is explained in Chapter 3.

MANAGEMENT OF THE SYSTEM

Before Flight

13. Check the rain dispersal system before each flight as part of the **After Starting Checks**, thus reducing the possibility of valve seizure owing to corrosion. The system may be used for take-off.

In Flight

14. With two engines running, RAIN DISPL may be selected on at any stage of the approach and left on for an unlimited number of normal overshoots. If the system is used during a single-engine approach, overshoot and landing, report the fact after landing.

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