PART 1

Chapter 10 — ARMAMENT AND CAMERA INSTALLATION

Contents

1 Gyro gunsights Mk 8R

NOTE: When Mod 1356 is embodied the port gunsight is removed.

(*a*) Each GGS is housed in a fixed mounting one above each instrument panel. The GGS ON/OFF switch is on the left of the centre instrument panel.

(*b*) Each sight automatically provides for both manual and radar ranging. Altitude and ballistics units automatically compensate for the time of flight and gravity drop of the particular ammunition in use. The altitude unit is fully automatic but the ballistics unit must be pre-set for the particular ammunition before flight.

(*c*) A control unit on the port shelf has three controls which are used to adjust the sights, these are:

Control/Marking	Function
Five-position rotary selector — G1/G2/B1/B2/RP	G1 — Air-to-air attacks with guns against targets having a high crossing speed G2 — Ground attacks with guns against stationary or moving targets B1 — Ground attacks with bombs. Aiming index, bottom diamond B2 — Ground attacks with high drag bombs. Sight graticule depressed, aiming index bottom diamond RP — Ground attacks with high or low velocity RPs. Aiming index, centre spot
Rotary control — DIM/BRIGHT	Controls the brilliance of the pupil's GGS presentation
Bombs servo potentiometer, rotary control beneath VOLTS ADJUST PUPIL No marking	With B1 or B2 selected on the main selector, the manual ranging circuit is isolated. The pilot can set the diameter of the gyro graticule by operating the bombs servo potentiometer and observing the external range scale until a range reading appropriate to the required depression angle is obtained. Inadvertent operation of the throttle twist grip during normal throttle handling will not affect the sight presentation

(*d*) A second control unit on the starboard shelf has the following controls for the instructor's use:

Control/Marking	Function
Two-position rotary selector — INSTR/PUPIL	Gives manual ranging authority to the specified pilot's twist grip
Rotary control — DIM/BRIGHT	Controls the brilliance of the instructor's sight presentation
Button — TEST	With the GGS — ON/OFF switch selected ON, the button is depressed to test the serviceability of the radar ranging indicator lights
Push-pull control — IN DAY/ OUT NIGHT	Used to adjust the brilliance of the radar ranging indicator lights for day or night use

(*e*) The aiming index for all gun and RP modes is the centre spot of the gyro graticule. The aiming index for the bomb modes is the lower point of the bottom diamond provided that 73 feet wing span is set.

2 G90 and recorder cameras

(*a*) The cine and recorder cameras are operated automatically whenever the gun or camera operating button on either control column is pressed with the camera master switch on.

(*b*) In the RP mode, with the RP master switch on, when the camera operating button is pressed, the cameras operate and the GGS gyro is

uncaged. When the bombs/RP release button is pressed the gyro is re-caged and the cameras stop after a brief over-run period. In the bomb modes, with the bomb master switch on, when the camera operating button is pressed, the cameras operate. When the bombs/RP release button is pressed, the cameras stop after a brief over-run period. In both cases the cameras can be stopped, at any time, by putting the bombs/RP master switch off. In the RP mode this also cages the gyro.

(c) When Mod 1338 is embodied, a delay is introduced which re-cages the gyro and stops the cameras one second after the bombs/RP release has been depressed. This assists the pilot to continue tracking throughout a ripple firing sequence and effectively increases the over-run period for both cameras.

(d) The camera master switch is on the switch panel below the port instrument panel. The aperture switch is on the starboard side of the centre instrument panel.

3 Armament controls

(a) *Control panel*

The armament control panel on the left of the port GGS has the following controls:

OUTB'D STORES and INB'D STORES jettison buttons
CLEAR A/C switch bar
ROCKETS — RIPPLE/SALVO/SNEB switch (RIPPLE position blanked off)
BOMBS/OFF/RP switch
SELECTOR RP switch
OFF/TAIL/TAIL & NOSE fuzing switch

(b) *Gun firing*

(i) A gun-firing trigger is on the forward face of each control column hand grip. The gun firing circuit is isolated when the aircraft is on the ground by two compression switches, one on each main landing gear leg. A key-operated BUTT TEST — ON/OFF switch is on the starboard shelf; when selected ON the compression switches are bypassed allowing the guns to be fired when the aircraft is on the ground.

(ii) The gun-firing current is provided by a capacitor discharge unit operative only when either gun trigger safety flap is raised and the gun-firing circuit is 'live.'

(c) *RP firing*

With the BOMBS/OFF/RP switch set to RP and the ROCKETS switch set to SNEB, RPs are fired by pressing the bombs/RP release button on the control column.

(d) *Bomb release*

With the BOMBS/OFF/RP switch set to BOMBS and the fuzing switch set as required, bombs are released by pressing the bombs/RP release button on the control column.

(e) *Inboard stores jettison*

With the bomb fuzing switch OFF, all inboard stores are jettisoned by pressing the INB'D STORES jettison button.

(f) *Outboard stores jettison*

All outboard stores are jettisoned by pressing the OUTB'D STORES jettison button.

(g) *'Clear aircraft' switch bar*

When the bomb fuzing switch is OFF, all stores carried on the four pylons are simultaneously jettisoned by pulling down the CLEAR A/C switch bar.

4 Master armament safety break

(a) The master armament safety break (MASB) is behind a panel in the port wing stub. When disconnected the following services are inoperative:
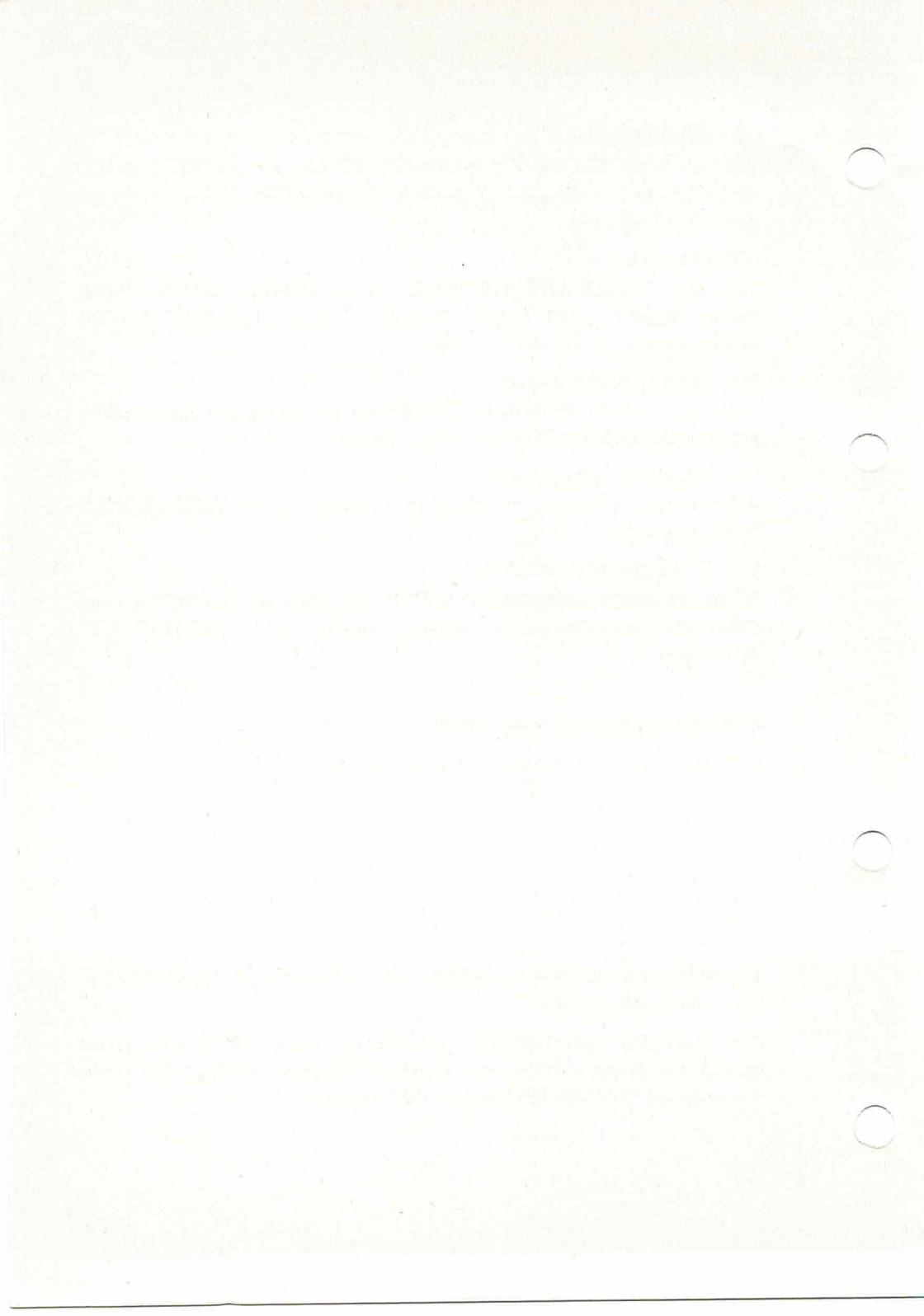
Gun and RP firing

Bomb release

Pylon stores jettisoning (drop tanks, bomb carriers, rocket launchers)

Camera operation

Landing gear normal retraction. (The emergency up-on-the-ground circuit is not affected.)

(b) Command Mod/0156/STC introduces a press-to-test warning lamp on the intercomm switch panel above the starboard shelf. If the MASB is connected the lamp illuminates when pressed.