Chapter 6 FUEL SYSTEM INSTRUMENTS

(Completely revised)

LIST OF CONTENTS

Description

Power supplies

Fuel flow transmitters ...

Para

Para

...

...

...

26

28

Introduction			7	
Modification standard	•••	•••	3	
Fuel tanks contents system				
General			4	
Function			5	
Description				
Power supplies			6	
Ground supply socket			7	
Oscillators			9	
Changeover switch			10	
Tank units			17	
Matching units			12	
Pactifier/adjuster units			13	
ladiestere			16	
	•••		10	
Operation				
Normal			78	
Ground refuelling or defuelling	g		19	
Removal and installation			20	
Fuel flowmeter system			,	
General			22	
Function				
Engine fuel flowmeter circuit			24	

Refuelling or defuelling operated circuit 25

Fuel temperature transmitters		29
Manual density corrector		30
Integrator units		32
Fuel flow indicator		33
Fuel remaining totaliser		34
Operation		
Normal		37
Ground refuelling or defuelling		40
Removal and installation		
Fuel flow transmitters	•••	41
Fuel temperature transmitters	•••	42
Manual density corrector		43
Integrator units		44
Fuel remaining totaliser		45
Fuel flow indicator		46
Servicing		
Fuel tanks contents system setting up		
General		47

General			 	 ~*/
Preparation			 	 49
Setting up procedure		 	 50	
Fuel flowmeter system		 	 51	

LIST OF ILLUSTRATIONS

Fig

Fuel tanks contents system - the	oreti	cal	7
Fuel tanks contents system			2 - 2a
Wing tanks fuel contents system			3
Fuel flowmeter system			4

Introduction

1. This chapter contains a description, including the method of operation, of the instruments of the fuel tanks contents and fuel flow systems together with the associated theoretical diagrams and routeing charts referred to in the text. Detailed information on the components of the two systems is contained in the Air Publications referred to in Chap. 1 of this Section; the same chapter also illustrates the location and best means of access to the components.

2. In the information covering the operation of the fuel system instruments during ground fuelling operations it is assumed that, to comply with standard fire precautions, the 115V a.c. supply required to operate the instruments is provided by a transistorized inverter set plugged into the ground supply socket. Although fuelling operations can be performed without the inverter set (*Book* 1, *Cover* 1, *Sect.* 2, *Chap.* 2) the fuel system instruments will be inoperative and, on cessation of operations, the fuel remaining totaliser must be adjusted to the correct total by using the manual reset device provided (*para* 35).

Modification standard

3. This chapter includes Mod 27, 60, 73 and 185.

FUEL TANKS CONTENTS SYSTEM

General

4. A variant of the Type 2 Pacitor (AC) fuel contents system is fitted on this aircraft to give a continuous indication of the quantity of fuel in each of the eight fuselage tanks and, if fitted, the port and starboard external wing tanks. The system consists of two sub-systems, one comprising the contents indication circuits of the four master tanks and the port wing tank,

and the other the contents indication circuits of the four slave tanks and the starboard wing tank. The contents circuit for each tank comprises a tank unit, a matching unit, a rectifier/adjuster network and a ratiometer type indicator. The supply for the operation of the tank circuits in each sub-system is fed via an oscillator unit. The system also incorporates a changeover switch and a ground supply socket. In the event of a failure of the oscillator in either sub-system, the changeover switch permits the transfer of the serviceable oscillator's output to the contents circuits of the subsystem normally served by the defective oscillator. A shorting plug inserted in the ground supply socket normally completes the aircraft a.c. supply to the two oscillators but its removal permits the connection of a static inverter set when refuelling or defuelling. The components of the system are described under their respective headings in para 6 to 17.

Function

5. The system employs the principle that the capacitance of a capacitor is affected by the dielectric constant of the insulating substance between the conductors (in this instance a combination of fuel and air, or fuel, or air alone according to the fuel level). The output of each oscillator is fed to the coupled control and deflection circuits of the matching units in the particular sub-system. Any variation in the quantity of fuel in any of the tank units causes a proportional increase or decrease, as appropriate, in the capacitance value of the respective tank unit. This varies the a.c. output value of the deflection circuit of the particular matching unit in relation to the capacitance value of the change. The outputs of both the control circuit and the deflection circuit are then rectified by the associated rectifier/adjuster network to provide the d.c. supplies required for the

RESTRICTED

energization of the related coils of the appropriate ratiometer. Due to the difference in the torque strength of the two coils, the pointer movement aligns itself to the resultant field.

Description

Power supplies

6. The system is fed by two separate 115V, 400 c/s, single-phase a.c. supplies from fuses B1 and C9 (panel R-A). Fuse C9 feeds the oscillator associated with the master tanks (No. 2, 3, 5 and 6) and port wing tank circuits, and fuse B1 feeds the oscillator associated with the slave tanks (No. 1, 4, 7 and 8) and starboard wing tank circuits.

Ground supply socket

7. A 17-pole Cannon connector is located on the refuel/defuel panel and marked GROUND SUPPLY SOCKET. The plug portion of the connector is known as the flight shorting plug and, except when ground refuelling or defuelling is taking place, is mated with the receptacle of the connector; the interconnected pins of the plug connect the aircraft electrical supplies as follows:-

- A 115V, 400 c/s single-phase supply to each of the two oscillators in the fuel tanks contents system.
- (2) A 28V d.c. supply to the refuel/defuel control circuit.
- (3) Both 115V, 400 c/s single-phase a.c. and 28V d.c. supplies to the fuel flowmeter system.

8. To comply with standard fire precautions when ground refuelling or defuelling, the battery master switch must be switched off and, with the exception of an inverter set for the operation of the fuel tanks contents and fuel flowmeter systems, all ground electrical supplies disconnected from the aircraft. To permit the connection of the inverter set, the shorting plug is removed from the ground supply socket and the plug of the inverter set substituted. The plug connects the aircraft 24V normal battery supply to the inverter and the 115V, 400 c/s output is fed to the two oscillators of the fuel tanks contents system and to the fuel flowmeter circuit (para 27). Interconnected pins in the plug also connect the aircraft normal battery supply to the refuel/ defuel control circuit (Cover 1, Sect. 6, Chap. 5) and the fuel flowmeter circuit.

Oscillators

9. An oscillator is incorporated in each supply line to convert the 115V, 400 c/s supply into the 8V, $33\frac{1}{3}$ kc/s supply required for the operation of the system.

Changeover switch

10. In the event of failure of an oscillator, the output from the serviceable oscillator can be transferred to the tanks contents circuits normally served by the faulty oscillator. This is effected by a doublepole switch, located on the pilot's starboard console and marked FUEL IND. SUPPLY, NORMAL - CHANGEOVER; to read the contents of the tanks associated with the faulty oscillator, the switch must be selected to CHANGEOVER.

Tank units

11. A single capacitor unit is incorporated in each fuselage tank and two capacitor units, electrically connected to operate as a single unit, are incorporated in each wing tank. Each capacitor unit consists of two concentric cylindrical duralumin tubes mounted vertically within the tank, the two tubes being separated by an air gap. As the fuel in the tank rises it displaces the air in the gap thereby causing the tank unit(s) to serve as a variable capacitor, the capacitance of which varies with changes in the fuel level in the tank. Matching units

12. Matching units, each comprising two transformers and two capacitors are fitted one on the base of the tank unit of each fuselage tank and one on the forward face of a frame, within the fairing, on the outboard side of each wing tank. The transformers and capacitors are connected to form two coupled circuits, one a control circuit and the other a deflection circuit. The primary of the control circuit forms a series-tuned circuit with a fixed reference capacitor, and the primary of the deflection circuit forms a similar circuit with the variable tank capacitor unit. The a.c. output voltage of the control circuit remains constant and is used as a reference with which to compare the a.c. output voltage of the deflection circuit which varies according to the capacitance value of the tank unit.

Rectifier/adjuster units

13. Two rectifier/adjuster units in a compartment on the port side of the forward fuselage each comprise the rectifier systems and resistance networks of four fuselage tanks contents circuits, those of the master tanks circuits in one and those of the slave tanks circuits in the other. Each unit is also a junction box for the distribution of the a.c. output of the associated oscillator to all the tanks contents circuits in its respective sub-system. The rectifier system and resistance network of the contents circuit for each of the wing tanks are housed in separate units within the fairing on the outboard side of the particular wing tank.

14. Each rectifier system comprises two rectifying circuits, each consisting of a matching transformer and a rectifier; one circuit rectifies the supply to the control coil of the associated ratiometer while the other circuit rectifies the supply to its deflection coil.

15. Each resistance network comprises two fixed resistors and two variable resistors and is connected in the d.c. side of the rectifier system; this permits the ratiometer to be preset to the correct scale length, from empty to full. The spindles for setting the variable resistors project through the lid of the unit and are secured against chance movement by Nyloc shaft locking bushes. The empty adjuster is marked E and the full adjuster F.

Indicators

16. Continuous indication of the quantity of fuel, in mass units (pounds), contained in each tank is shown by a ratiometer type indicator incorporated in the contents circuit for the particular tank. The eight indicators for the fuselage tanks are mounted vertically, in two banks of four, in a single unit located on the pilot's starboard console panel and marked FUEL CONTENTS IN LBS. Each indicator is marked with the number of its associated tank and is graduated in 1 lb mass unit \times 100 divisions. The indicators for the wing tanks are mounted on the observer's port console auxiliary panel and are marked WING TANKS, PORT and STBD. The dials of these indicators are graduated in 1 lb mass unit \times 100 divisions.

17. Each ratiometer comprises two moving coils, one a control coil and the other a deflection coil, mounted in the field of a permanent magnet. Both coils are energized by d.c. supplies fed from the associated tank contents circuit; the control coil by a constant reference supply from the control side of the circuit and the deflection coil by a variable supply from the deflection



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Fig. 1. Fuel tanks contents system - theoretical

A.P. 101B-1201-1B, Cover 2, Sect. 7, Chap. 6 A.L. 84, Nov. 66

side of the circuit. The control coil exerts a steady value of torque in an anti-clockwise direction and the deflection coil exerts a variable value of torque in a clockwise

a variable value of torque in a clockwise direction. The resultant value of torque causes the needle to indicate on the scale the quantity of fuel contained in the tank.

Operation (fig 1, 2 - 2a and 3)

Note...

As the contents indication circuit is similar for all the fuel tanks, the operation of No. 1 fuselage tank circuit only is described.

Normal

A 115V, single-phase, 400 c/s supply 18. is fed from fuse B1, via the interconnected pins of the flight shorting plug on the refuel/ defuel panel, to the input side of the oscillator. The 8V, 33¼ kc/s oscillator output is fed from pin A, via the changeover switch and the wiring of the rectifier/adjuster unit, to pin C of the matching unit. The outputs of both the control circuit and deflection circuit are fed from pins A and B of the matching unit to pins E and F, respectively, in plug 2 of the rectifier/adjuster unit. The resultant d.c. outputs of the two circuits are then fed from pins E and D in plug 4 of the rectifier/adjuster unit to terminals 1 and 2, respectively, of the No. 1 tank ratiometer in the indicator unit.

Ground refuelling or defuelling

19. With the battery master switch selected OFF, all electrical ground supplies disconnected and the shorting plug removed from the ground supply socket on the refuel/ defuel panel, the insertion of the plug of an inverter set in the ground supply socket connects the aircraft normal battery to the inverter, the output of which is connected to the oscillators of the fuel tanks contents system. Except for the change in the source of a.c. supply the operation of the fuel contents circuit for each tank is similar to that described in para 18.

Removal and installation

Note...

- Before disconnecting any components of the system, remove fuses B1 and C9 from dist. box R-A and substitute dummy fuses with red streamers attached as described in Cover 1, Sect. 6, Chap. 1.
- (2) The methods of electrical connection and of securing each type of component are similar, therefore the procedure for the removal of one only of each particular type of component is detailed.
- (3) The procedure for installing the various components of the system is generally the reverse of the procedure detailed for their removal.

20. To remove an oscillator unit, matching unit, tank unit or rectifier/adjuster unit from the aircraft proceed as follows:-

- Disconnect the electrical connections taking care not to damage the pin connections.
- (2) Remove the bolts or nuts securing the unit to the structure.

Before removing a tank unit ensure that the tank is drained (Book 1, Cover 3, Sect. 4, Chap. 2) and the associated matching unit removed.

21. The removal of the fuselage tanks contents indicators from the pilot's starboard console and the clamp-secured wing tanks contents indicators from the observer's port console auxiliary panel is described in Chap. 1, this Section.

RESTRICTED

FUEL FLOWMETER SYSTEM

General

22. The fuel flowmeter system fitted on this aircraft is designed to give a continuous presentation, in mass units (pounds), of the rate of fuel flow to the engines and the total quantity of fuel remaining in the tanks.

23. The system consists of two automatic circuits, one to operate an engine fuel flow indicator and the subtractive circuits of a fuel remaining totaliser when fuel is flowing to the engines, and the other to operate the additive or subtractive circuits of the fuel remaining totaliser when refuelling or defuelling is being effected. The fuel remaining totaliser and a density corrector are common to both circuits. The engine fuel flow circuit also includes two fuel flow transmitters, three fuel temperature transmitters, an integrator unit and a fuel flow indicator; while the circuit operated by refuelling or defuelling includes one fuel flow transmitter, one fuel temperature transmitter and an integrator unit. The components of the system are described under their respective headings in the following paragraphs.

Function

Engine fuel flowmeter circuit

24. When the fuel flows through the transmitters in the engine fuel feed pipes, the total rate of fuel flow is shown by the rate of flow indicator and the total weight of fuel registered on the fuel remaining totaliser is progressively reduced.

Refuelling or defuelling operated circuit

25. When fuel flows through the transmitter in the refuel/defuel gallery the total weight of fuel registered on the fuel remain-



Fig. 2. Fuel tanks contents system

A.P. 101B-1201-1B, Cover 2, Sect. 7, Chap. 6 A.L. 84, Nov. 66



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Fig. 3. Wing tanks fuel contents system

ing totaliser is progressively increased when refuelling, and reduced when defuelling.

Description

Power supplies

26. Normal. With the flight shorting plug inserted in the ground supply socket on the refuel/defuel panel (para 7), the two integrator units of the system are fed by a 115V, single-phase, 400 c/s a.c. supply and a 28V d.c. supply from fuses B7 and A3 (dist. box R-A) respectively.

27. Ground refuelling or defuelling. The substitution of the plug of an inverter set for the flight shorting plug in the ground supply socket (para 8) switches the electrical supplies to the system as follows:-

(1) A 24V supply from the aircraft normal

battery is fed via fuse J9 (panel C-Q) to the refuelling/defuelling integrator unit and to the manual reset device of the fuel totaliser.

(2) The 115V, 400 c/s output of the inverter set is connected to the refuelling/defuelling integrator unit.

Fuel flow transmitters

28. A fuel flow transmitter is incorporated in the fuel feed pipe of each engine and another in the refuel/defuel gallery. Each transmitter generates a sinusoidal signal, the frequency of which is directly proportional to the volumetric rate of fuel flow in its respective pipeline.

Fuel temperature transmitters

29. A fuel temperature transmitter is fitted in the refuel/defuel gallery, another

in the fuel feed pipe to the starboard engine and two more in the fuel feed pipe to the port engine. On aircraft not incorporating Mod 73 there are two transmitters in the fuel feed pipe to the starboard engine and one in the fuel feed pipe to the port engine. Each transmitter has a thermally sensitive resistance element, the resistance of which varies in relation to the temperature of the fuel passing through the transmitter. The transmitters are included in the system to correct variations in the output signals of the circuit due to the effect of temperature changes on the fuel density.

Manual density corrector

30. As the fuel flow system is designed to record fuel flow and fuel remaining in mass units (pounds), a manual density corrector is incorporated in the system. The corrector is located on the refuel/

RESTRICTED

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defuel panel in a compartment on the starboard side of the nose fuselage and comprises three ganged potentiometers with a single control knob and a dial graduated in values of fuel density from 0.695 to 0.850. Rotation of the control knob on the face of the corrector moves the dial to the required density setting and adjusts the potentiometers to correct the system in relation to the density setting indicated.

31. One potentiometer varies the current to the fuel flow indicator and the others vary the charging cycle period of the integrating capacitor fitted in the integrator unit of each circuit.

Integrator units

32. A dual-channel rate and count type of integrator unit is incorporated in the engine fuel flow circuit and a single channel count only type of integrator unit is incorporated in the circuit which is operated when refuelling or defuelling is being effected. Each unit forms the electronic link between the fuel flow transmitter(s) of its respective circuit and the fuel flow indicator and fuel remaining totaliser in the first instance and the fuel remaining totaliser only in the second. The fuel temperature transmitter(s) of the appropriate circuit and the manual density corrector are also connected to each of the integrator units and act as subsidiary control elements.

Fuel flow indicator

33. The total volumetric rate of fuel flow through the fuel feed pipes of both engines is indicated in lb/min by a fuel indicator located on the starboard side of the pilot's instrument panel. The indicator is a moving magnet milli-ammeter with a scale calibrated from 0-600 lb/min in 100 lb/min divisions, each of which is subdivided into four 25 lb/min divisions. The d.c. supply for the operation of the indicator is fed from the integrator unit of the engine fuel flow circuit and is proportionate to the summated pulse signals generated by the two flow transmitters of that circuit.

Fuel remaining totaliser

.34. An electro-magnetic four digits counter, located on the starboard side of the pilot's instrument panel, is incorporated in the system to indicate, in mass units (pounds), the total quantity of fuel remaining in the tanks. The counter incorporates two circuits, one for subtractive operation when fuel flows to the engines or during ground defuelling and the other for additive operation during ground or flight refuelling.

35. Both circuits are normally automatic in operation but, during ground refuelling or defuelling, manual resetting of the counter can be effected by two push-switches, located beneath a spring-loaded flap on the counter and marked + and - The depression of either switch connects a d.c. supply to the associated circuit of the counter. Continuous resetting is effected by fully depressing the appropriate switch until the required figure is shown. Single digit resetting is effected by depressing the appropriate push-switch approximately half of its full travel and releasing it.

36. When ground refuelling or defuelling is being effected, the d.c. supply for the manual resetting facility is fed from fuse J9 (panel C-Q) via pins J and G of the ground supply socket, with either the inverter set plug or the ground shorting plug inserted.

Operation (fig 4)

Normal

37. With the flight shorting plug in the ground supply socket, a 115V, 400 Hz ► supply and a 28V d.c. supply are fed from fuses B7 and A3 respectively, via the ground supply socket and the interconnecting pins of the shorting plug, to both the integrator units. The engine fuel flow circuit and the flight refuelling operated circuit operate as detailed in the following paragraphs.

38. Engine fuel flow circuit. The electrical pulse signals generated by the fuel flow transmitters in the port and starboard engine fuel feed pipes are fed to the associated integrator unit. The unit modifies the input signals so that they are correctly registered in mass units, relative to the fuel density and temperature, then summates the corrected signals and forms them into two output supplies. One is a d.c. supply proportional to the fuel flow rate and the other a series of uni-directional current pulses proportional in number to the total quantity of fuel flowing through both transmitters. The d.c. supply is applied to the rate of flow indicator and the current pulse output is fed to the subtractive circuit of the fuel remaining totaliser.

39. Flight refuelling. The electrical pulse signal generated by the fuel flow transmitter in the refuel/defuel circuit is fed to the associated integrator unit. This unit modifies the signal so that it is correctly registered in mass units, relative to the fuel density and temperature, then forms it into a series of uni-directional current pulses proportional in number to the total quantity of fuel flowing through the transmitter. The current pulse output is fed to the additive circuit of the fuel remaining

RESTRICTED



Fig.4. Fuel flowmeter system Interview of the second sec

totaliser via the refuel/defuel switches which are selected to REFUEL at all times during flight.

Ground refuelling or defuelling

40. With the battery master switch selected OFF, all ground electrical supplies disconnected and the flight shorting plug removed from the ground supply socket, on the refuel/defuel panel N-A, the insertion of the plug of an inverter set in the ground supply socket connects the aircraft 24V normal battery supply at fuse J9 to the inverter set and, via the interconnected pins of the plug, to the associated integrator unit. The supply from fuse J9 is also fed, via the plug, to the manual reset device of the fuel totaliser and to the refuel/defuel tank selector switches. The pins of the plug also connect the a.c. output of the inverter set to the integrator unit. The circuit then operates in a similar manner to that described in para 39, the only difference being the selection of the appropriate totaliser circuit for automatic operation by the position of the refuel/ defuel tank selector switches; the additive circuit is selected when refuelling and the subtractive circuit when defuelling. Refuelling and defuelling procedures are fully described in Book 1, Cover 1, Sect. 2, Chap. 2.

Note...

If ground refuelling or defuelling is effected without an inverter set, the fuel system instrument indications must be checked before and after the operation by connecting normal electrical ground power supplies (Cover 1, Sect. 6, Chap. 1), with the flight shorting plug connected. The fuel remaining totaliser must be manually reset to record the correct fuel state of the aircraft, when the fuelling operation is complete and while the ground shorting plug is connected.

Removal and installation

Note...

- (1) Before disconnecting any components of the system, remove fuses B7 and A3 from dist. box R-A, and fuse J9 from panel C-Q and substitute dummy fuses with red streamers attached as described in Cover 1, Sect. 6, Chap. 1.
- (2) The procedure for installing components of the system is the reverse of the removal procedure detailed in the following paragraphs.

Fuel flow transmitters

- 41. (1) Disconnect the co-axial connector.
- (2) Slacken the pipe clamp on each end of the transmitter.
- (3) Pull fuel pipe ends apart to release the transmitter.

Fuel temperature transmitters

- **42.** (1) Disconnect the 3-pole plug and socket connector.
- (2) Release the nut securing the transmitter to the fuel pipe and withdraw the transmitter.

Manual density corrector

- **43.** (1) Remove the four securing screws on the face of the corrector.
- (2) Withdraw corrector from the panel and disconnect the plug and socket connector.

Integrator units

44. (1) Disconnect the co-axial connectors and plug and socket connectors.

RESTRICTED

- (2) Release the four bolts securing the anti-vibration mounting to the structure.
- (3) Remove the unit complete with antivibration mounting.

Fuel remaining totaliser

45. The procedure for removing this instrument is contained in Chap. 1 of this Section.

Fuel flow indicator

46. The procedure for removing this instrument is contained in Chap. 1 of this Section.

SERVICING

Fuel tanks contents system setting up

General

47. When any of the components, with the exception of an oscillator, in a fuselage or wing fuel tank contents indicating circuit are replaced, the affected circuit must be set up to ensure its indications are accurate. The rectifier/adjuster circuits of the eight fuselage tanks are incorporated four in each of two units and replacement of either of these units necessitates the setting up of the four affected circuits. As the indication circuits of all tanks are similar, only the setting up procedure for the circuit which indicates the weight of fuel in fuselage tank No. 3 is detailed.

48. The 115V a.c. supply required for the operation of the fuel tanks contents system during setting up operations is provided by connecting an inverter set (Part No. 0564-204229) to the ground supply socket of the refuel/defuel panel.

Preparation Note...

If for any reason the fuel tank has been drained, e.g. to replace a tank unit, it must be refuelled before commencing the setting up procedure.

- (1) Jack the aircraft into the rigging position as detailed in Book 1, Cover 1, Sect. 2, Chap. 4 of this Volume.
- (2) Rotate the No. 3 tank adjuster E on the appropriate rectifier/adjuster unit to ensure adjustment is available either side of the zero mark then turn the adjuster to the zero mark.
- (3) Remove the flight shorting plug from the ground supply socket on the refuel/ defuel control panel N-A and insert the connector plug of the inverter set. Ensure that the battery master switch is selected OFF.
- (4) Permit a warming up period of 10 minutes to elapse, then ensure that the pointers of all the fuel tank contents indicators have moved from the subzero position.
- (5) Check the specific gravity of the fuel to be used using a suitable hydrometer.
- (6) Set all the tank selector switches on the refuel/defuel control panel to OFF.
 Setting up procedure
- 50. (1) Set the selector switch for tanks3 & 1 on the refuel/defuel control panel to DEFUEL.
- (2) Defuel No. 3 fuel tank until defuelling is automatically discontinued due to the operation of the low-level float switch in the tank.

Note...

Defuelling of a slave tank (Nos. 1, 4, 7 or 8) is not automatically discontinued; therefore, when sufficient fuel has been removed to ensure that the particular tank is empty, the associated tanks selector switch must be set to OFF.

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- (3) Rotate the adjuster E for No. 3 tank to obtain a zero reading at the associated fuel contents indicator.
- (4) Rotate the adjuster F for No. 3 tank through its full range, ensure that the pointer of the associated fuel contents indicator does not move more than half the pointer's width in either direction, then return the adjuster to the zero position.
- (5) Set the refuel/defuel selector switch for tanks 3 & 1 to REFUEL.
- (6) Refuel No. 3 tank with sufficient fuel to ensure that it is full then set the refuel/defuel selector switch to OFF.

Note...

If the contents indicator circuit of a slave tank is being set up the refuelling operation will be automatically discontinued due to the operation of the high-level float switch in the tank.

- (7) Multiply the capacity of No. 3 fuel tank, given in the Leading Particulars, Cover 1, this Book, by the specific gravity of the fuel to obtain the weight of fuel in the tank.
- (8) Using the No. 3 tank adjuster F adjust the associated contents indicator to show the weight of fuel in the tank.
- (9) Set the refuel/defuel selector switch for tanks 3 & 1 to DEFUEL.

Note...

Operations (10), (11) and (12) do not apply if the fuel contents indication circuit of a slave tank is being set up.

- (10) Defuel 30 to 40 lb of fuel, measured at the indicator of the pressure fuelling bowser, from the tanks.
- (11) Slacken the vent plug securing the filler cap locking plate of the associated slave tank to release any internal pressure.

RESTRICTED

- (12) Remove the filler cap of No. 3 fuel tank.
- (13) Using the refuel/defuel selector switch for tanks 3 & 1, defuel No. 3 fuel tank in stages, removing 100 lb, measured at the indicator of the pressure fuelling bowser, at a time. Ensure the contents indicator for No. 3 tank indicates accurately at each stage and indicates 0 when the low-level float switch discontinues the defuelling operation.

Note...

If the contents indication circuit of a slave tank is being set up the indicator of the particular tank should indicate 0 when a quantity of fuel equal to the capacity of the tank has been defuelled.

- (14) If there is any inaccuracy in the indications obtained in operation (13) the setting up procedure must be repeated.
- (15) Refit and lock the filler caps of No. 3 fuel tank and its associated slave tank.

Note...

This operation is not applicable if the fuel tank contents circuit of a slave tank is being set up.

- (16) When the fuel tanks contents indicator circuit is registering accurately apply a small quantity of cellulose paint to the adjusters E and F to show that the circuit has been set up and should not be indiscriminately re-adjusted.
- (17) Remove the connecting plug of the inverter set from the ground supply socket of the refuel/defuel panel and refit the flight shorting plug.

Fuel flowmeter system

51. Information regarding the servicing of the complete fuel flowmeter system and its individual components is contained in A.P. 1275A, Vol. 1, Sect. 18.