CF-105 SERVICE DATA

Section 20

Utility Hydraulics System

Power Circuit

CONFIDENTIAL

CF-105 SERVICE DATA

Section 20.

UTILITY HYDRAULICS SYSTEM

POWER CIRCUIT

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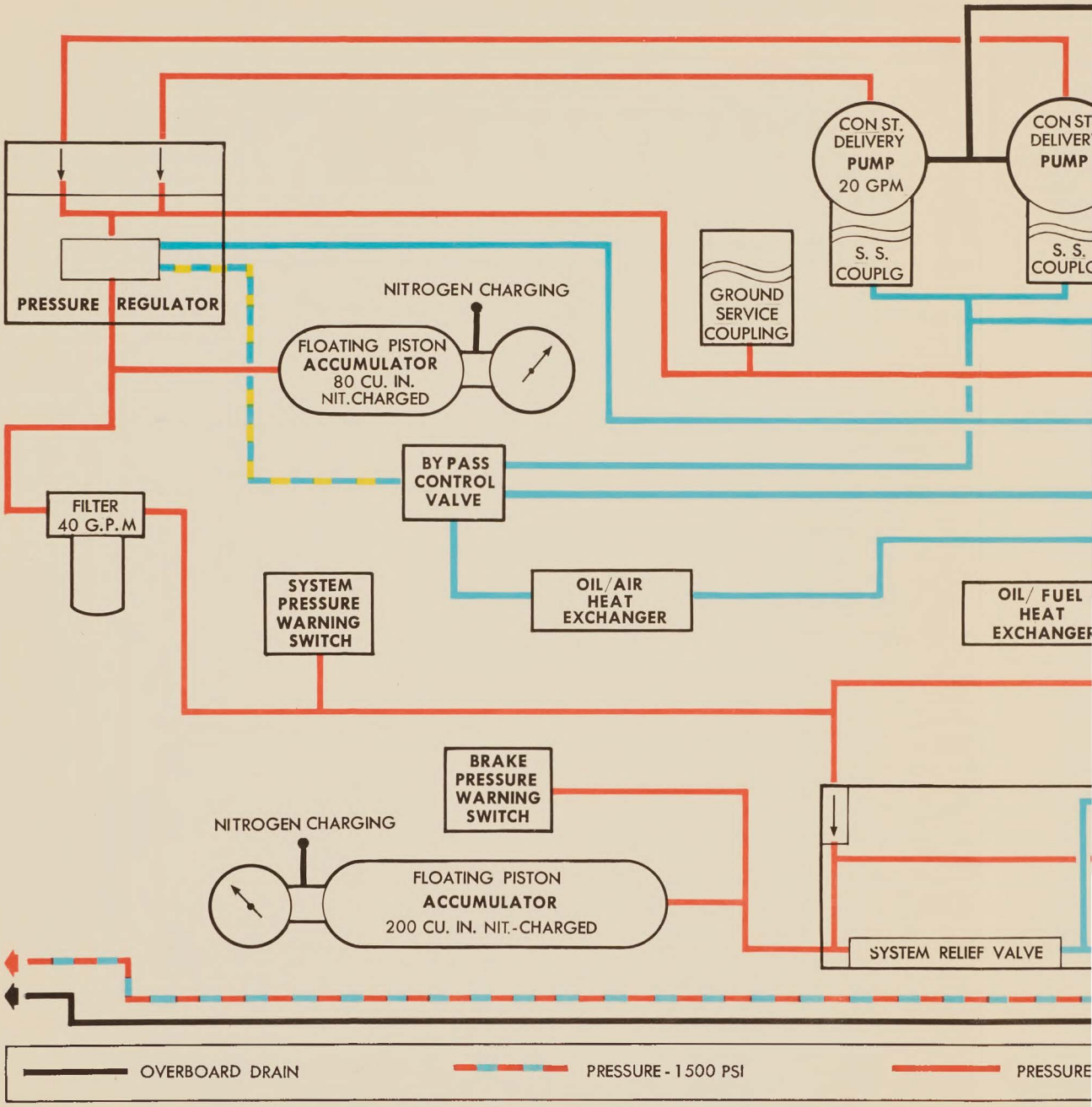
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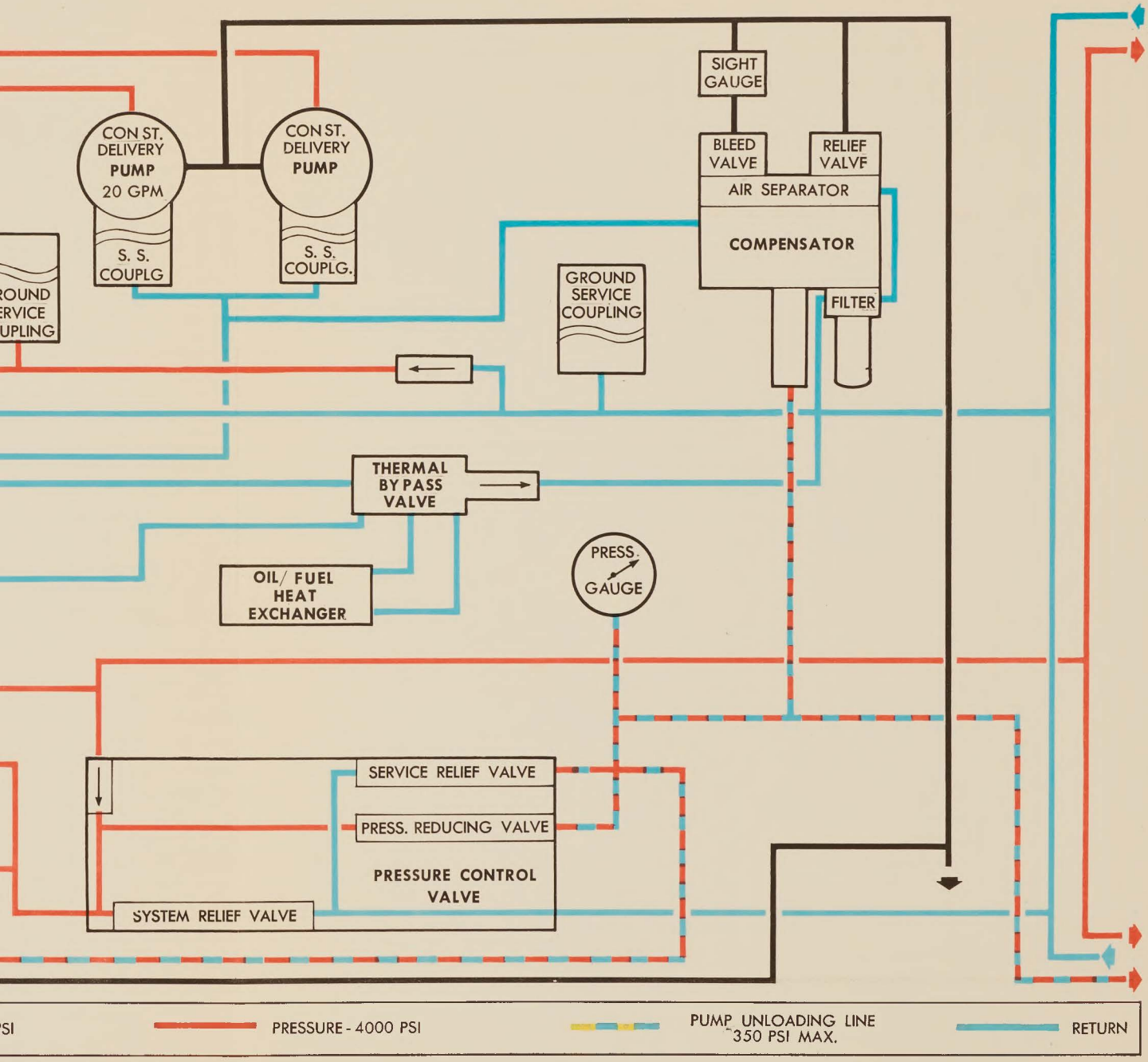

FIG. 1 POWER CIRCUIT - SCHEMATIC

CF-105 SERVICE DATA

SYSTEM DATA SHEET

SYSTEM	SUB-SYSTEM	AIRCRAFT EFF'TY	REF. NO.
UTILITY HYDRAULICS	POWER	25201	19

DESCRIPTION

General

1. The power circuit of the utility hydraulic system supplies the speed brakes, wheel brakes, landing gear and nosewheel steering circuits with pressure at 4,000 psi, and supplies the compensators of the flying control hydraulic systems with reduced pressure at 1500 psi.

2. The system can be operated with fluid temperatures ranging from -54°C (-65°F) to 121°C (250°F) with local hot spots as high as 135°C (275°F). The maximum temperature is controlled by oil-to-air and oil-to-fuel heat exchangers.

3. All pipeline connections are of the flareless type which have superior fatigue characteristics to the flared type of fittings. Steel pipelines incorporating swivel and expanding joints are used to allow movement in components and to compensate for temperature variations. No flexible hoses are used in the pressure side of the system.

4. Self-sealing ground test connections are fitted to facilitate ground testing and charging the system. Two self-sealing couplings in the armament bay allow for connection of an additional sub-circuit.

Pumps

5. Two Vickers constant-delivery pumps are fitted, one on the forward face of each engine driven accessories gearbox. The output from both pumps is fed to the pressure regulator.

Pressure Regulator

6. The pressure regulator performs the following functions:

(a) Maintains a pressure of 4,000 psi in the main pressure line.

(b) Relieves pumps of continuous high pressure operation by dropping the pressure to a maximum of 350 psi and by-passing the fluid when high pressure is not required to operate any of the services. This also minimizes heat generation.

(c) Isolates the pumps in case of a pump failure, or when a ground test rig is connected.

Pressure Filter

7. From the pressure regulator fluid is delivered to the main line through a pressure filter. The pressure filter has a maximum flow rate of 33 gpm (40 U.S.). A by-pass relief valve is incorporated which opens when a pressure differential of 45-55 psi exists across the filter element. Cut-off valves allow the filter bowl to be removed without loss of fluid.

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Accumulator 80 Cubic Inch

8. An 80 cubic inch floating piston type accumulator pre-charged with nitrogen to 1500 psi, is connected into the power circuit between the pressure regulator and the pressure filter. This accumulator stabilizes system pressure to prevent excessive cycling of the pressure regulator. A combined nitrogen charging valve and pressure gauge is fitted to the accumulator.

Pressure Control Valve

9. A pressure control valve is connected into the main pressure line between the filter and the control valves of the sub-circuits and performs the following functions:

(a) Relieves excessive pressure in the pressure line to the return line.

(b) Reduces pressure to 1500 psi for emergency braking and for pressurizing the compensator and the compensators in the flying control hydraulic systems.

(c) Relieves excessive pressure in the reduced pressure line.

(d) Provides a check valve to prevent pressure from the 200 cubic inch accumulator from discharging back into the pressure supply line.

Accumulator 200 Cubic Inch

10. A 200 cubic inch accumulator of the floating piston type is connected downstream of the check valve of the pressure control unit. This accumulator is pre-charged to 1500 psi with nitrogen and is pressurized to 4,000 psi by the pumps. It provides a reserve pressure to the 1500 psi line when the pumps are not operating. A combined nitrogen charging valve and pressure gauge is fitted to the accumulator.

Compensator

11. The compensator performs the following functions:

(a) Maintains a steady pressure on the return side of the circuit to ensure a constant supply of fluid to the inlet ports of the pumps.

(b) Acts as a chamber of variable volume to compensate for fluid displacement or requirements during the operation of the various units and for absorbing volumetric changes due to temperature changes.

(c) Maintains a static pressure of 90 psi over the return circuit when the pumps are not operating.

(d) Traps any air in the system and allows it to be bled off.

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SYSTEM DATA SHEET

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UTILITY HYDRAULIC	POWER	25201	19

12. The compensator is a variable volume container with a large and a small cylinder vertically opposed and with the pistons on a common piston rod. The large cylinder is connected into the common return line and the small cylinder is connected to the 1500 psi line. The area difference of the pistons reduces this pressure to 90 psi in the large cylinder. Volumetric changes in the return fluid are compensated for by movement of the pistons.

13. Return fluid is filtered before entering the return chamber by a filter built integrally with the compensator. This filter contains shut-off valves to minimize fluid loss when the bowl is removed and by-pass valves to by-pass the element if it becomes blocked.

14. A manually operated bleed valve in the head of the compensator allows air in the system to be bled off, or pressure in the system to be relieved, during ground servicing. A sight gauge in the bleed line gives a visual check that all air has been dispelled from the accumulator.

Fluid Temperature Control

15. The working temperature of the fluid is controlled by a by-pass control valve, a thermal by-pass valve, an oil-to-air heat exchanger and an oil-to-fuel heat exchanger.

16. Fluid unloaded by the pressure regulator is fed to the by-pass control valve. At fluid temperatures below 38°C (100°F) the by-pass valve returns the fluid directly to the pump inlets. As the fluid temperature rises above 38°C (100°F) a thermostatically operated valve in the by-pass control valve passes fluid, both directly and through the oil-to-air heat exchanger, to the thermal by-pass valve.

17. At a fluid temperature of 38°C (100°F) only a small proportion of the fluid goes through the oil-to-air heat exchanger. This flow is increased to one third of the total flow as the temperature rises to 93°C (200°F).

18. At fluid temperatures below 93°C (200°F) fluid entering the thermal by-pass valve, from the by-pass control valve and from the oil-to-air heat exchanger, is returned directly to the compensator. As the temperature rises, a thermostatically operated valve in the thermal by-pass valve directs fluid entering from the oil-to-air heat exchanger, to an oil-to-fuel heat exchanger for further cooling. Fluid from the oil-to-fuel heat exchanger re-enters the thermal by-pass valve to rejoin the main flow through the valve to the compensator.

Check Valves

19. To prevent the formation of vapour pockets which could form in the pressure side of the system due to cooling after shut down, a check valve is fitted to allow flow from return to pressure.

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20. To allow main system pressure fluid to be released to return when servicing, a manually operated controllable check valve is fitted in the armament bay.

Indicators and Gauges

21. A pressure warning switch fitted in the main pressure line is connected to a light in the front cockpit to give warning of low main system pressure.

22. A pressure warning switch fitted between the 200 cubic inch accumulator and the pressure control valve is connected to a light in the front cockpit to give warning of emergency brake pressure failure.

23. A pressure gauge in the reduced pressure line allows the reduced pressure to be checked during ground testing.

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CF-105 SERVICE DATA

COMPONENT DATA SHEET

SYSTEM	SUB-SYSTEM	COMPONENT	REF. NO.
UTILITY HYDRAULICS	POWER	Pump - Constant Delivery	19-1-1

AVRO PART NO.	MANUFACTURER	MAN'F'R'S PART NO.	AIRCRAFT EFFECTIVITY
7-1958-21	Vickers Inc.		25201

OVERHAUL LIFE: KNOWN- ESTIMATED- 500 hours

FUNCTION

To supply hydraulic pressure to the utility system.

LOCATION

In the fuselage, station 610.

ACCESS

Through the No. 1 service panel - 36 camlocs.

MEN X MINUTES

REPLACEMENT PROCEDURE

MEN X MINUTES

Position the pump.
Install and tighten nuts on to the flange mounting studs (6).
Connect the two hydraulic pipelines and the pump drive drain pipeline to the pump.
Fill the pump with hydraulic fluid.
Prime the system.

INSPECTION	MEN X MINUTES	
Check for security, damage, cracks, corrosion and leaks.		

FUNCTIONAL CHECKS	MEN X MINUTES	

GROUND HANDLING AND GROUND TEST EQUIPMENT

Hydraulic hand filling pump.

SPECIAL TOOLS TO REMOVE OR SERVICE

REMARKS

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CF-105 SERVICE DATA

COMPONENT DATA SHEET

SYSTEM	SUB-SYSTEM	COMPONENT	REF. NO.
UTILITY HYDRAULICS	POWER	Regulator - Pressure	19-1-2

AVRO PART NO.	MANUFACTURER	MAN'F'R'S PART NO.	AIRCRAFT EFFECTIVITY
7-1958-21	Electrol Inc.		25201

OVERHAUL LIFE: KNOWN– ESTIMATED– 500 hours

FUNCTION

To regulate the pressure from the constant delivery pumps.

LOCATION

In the fuselage, station 591.

ACCESS

Through No. 1 service panel - 36 camlocs.

MEN X MINUTES

REPLACEMENT PROCEDURE

MEN X MINUTES

Attach the regulator to the bracket with three attachment bolts.
Connect the five hydraulic pipelines.
Prime the system.

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INSPECTION	MEN X MINUTES	
Check for security, damage, cracks, corrosion and leaks.		

FUNCTIONAL CHECKS	MEN X MINUTES	

GROUND HANDLING AND GROUND TEST EQUIPMENT

Hydraulic ground test rig.

SPECIAL TOOLS TO REMOVE OR SERVICE

REMARKS

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CF-105 SERVICE DATA

COMPONENT DATA SHEET

SYSTEM	SUB-SYSTEM	COMPONENT	REF. NO.
UTILITY HYDRAULICS	POWER	Filter - High Pressure	19-1-3

AVRO PART NO.	MANUFACTURER	MAN'F'R'S PART NO.	AIRCRAFT EFFECTIVITY
7-1956-23	Parmatic Eng. Ltd.		25201

OVERHAUL LIFE: KNOWN- ESTIMATED- 500 hours

FUNCTION

Main pressure filter of the utility hydraulic system.

LOCATION

In the fuselage, station 591.

ACCESS

MEN X MINUTES

Through hydraulics access panel - 52 camlocs.

REPLACEMENT PROCEDURE

MEN X MINUTES

Attach the regulator to its mounting with the three attachment bolts.
Connect the two hydraulic pipelines.
Prime the system.

INSPECTION	MEN X MINUTES	
Check for security, damage, cracks, corrosion and leaks. Clean and replace filter element.		

FUNCTIONAL CHECKS	MEN X MINUTES	

GROUND HANDLING AND GROUND TEST EQUIPMENT

Hydraulic ground test rig.

SPECIAL TOOLS TO REMOVE OR SERVICE

REMARKS

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COMPONENT DATA SHEET

SYSTEM	SUB-SYSTEM	COMPONENT	REF. NO.
UTILITY HYDRAULICS	POWER	Accumulator 80 Cubic Inch	19-1-4

AVRO PART NO.	MANUFACTURER	MAN'F'R'S PART NO.	AIRCRAFT EFFECTIVITY
7-1956-381	Sprague Engineering		25201

OVERHAUL LIFE: KNOWN- ESTIMATED- 500 hours

FUNCTION

To stabilize main system pressure.

LOCATION

Inside the fuselage, station 579.

ACCESS

Through hydraulics access panel - 52 camlocs.

MEN X MINUTES

REPLACEMENT PROCEDURE

MEN X MINUTES

Attach the accumulator to its mounting with the two straps and four nuts.
Connect one hydraulic and one nitrogen line.
Charge the accumulator.
Prime the system.

INSPECTION	MEN X MINUTES	
Check nitrogen pressure on gauge (1500 psi with hydraulic pressure relieved). Check for security, damage, cracks, corrosion and leaks.		

FUNCTIONAL CHECKS	MEN X MINUTES	

GROUND HANDLING AND GROUND TEST EQUIPMENT

Nitrogen charging trolley.
Hydraulic ground test rig.

SPECIAL TOOLS TO REMOVE OR SERVICE

REMARKS

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COMPONENT DATA SHEET

SYSTEM	SUB-SYSTEM	COMPONENT	REF. NO.
UTILITY HYDRAULICS	POWER	Valve - Pressure Control	19-1-5

AVRO PART NO.	MANUFACTURER	MAN'F'R'S PART NO.	AIRCRAFT EFFECTIVITY
7-1958-14	Vinson Man. Co. Inc.	A50033	25201

OVERHAUL LIFE: KNOWN- ESTIMATED- 500 hours

FUNCTION

To prevent excessive pressure in the main pressure and reduced pressure lines.
To provide a supply of fluid at 1500 psi for normal pressurization of compensators and for emergency braking.

LOCATION

In the fuselage, station 591.

ACCESS | MEN X MINUTES

Through hydraulics access panel - 52 camlocs and through No. 1 service door - 36 camlocs.

REPLACEMENT PROCEDURE | MEN X MINUTES

Attach the pressure control unit to its mounting with the three attachment bolts.
Connect the six hydraulic pipelines.
Prime the system.

INSPECTION	MEN X MINUTES	
Check for security, damage, cracks, corrosion and leaks.		

FUNCTIONAL CHECKS	MEN X MINUTES	

GROUND HANDLING AND GROUND TEST EQUIPMENT

Hydraulic ground test rig.

SPECIAL TOOLS TO REMOVE OR SERVICE

REMARKS

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COMPONENT DATA SHEET

SYSTEM	SUB-SYSTEM	COMPONENT	REF. NO.
UTILITY HYDRAULICS	POWER	Accumulator 200 Cubic Inch	19-1-6

AVRO PART NO.	MANUFACTURER	MAN'F'R'S PART NO.	AIRCRAFT EFFECTIVITY
7-1958-12	Sprague Engineering		25201

OVERHAUL LIFE: KNOWN- ESTIMATED- 500 hours

FUNCTION

To pressurize the utility and flying controls systems compensators and to provide emergency brake pressure.

LOCATION

Inside the fuselage, station 591 - 630.

ACCESS

Through No.'s 1 and 2 service panels - 72 camlocs.

MEN X MINUTES

REPLACEMENT PROCEDURE

MEN X MINUTES

Insert accumulator from the rear.
Install one bolt to rear support beam.
Attach the accumulator to its mounting with the two straps and four nuts.
Connect one hydraulic and one nitrogen line.
Charge the accumulator.
Prime the system.

TM1-3913-2-5

INSPECTION	MEN X MINUTES	
Check nitrogen pressure on gauge (1500 psi with hydraulic pressure relieved). Check for security, damage, cracks, corrosion and leaks.		

FUNCTIONAL CHECKS	MEN X MINUTES	

GROUND HANDLING AND GROUND TEST EQUIPMENT

Nitrogen charging trolley.
Hydraulic ground test rig.

SPECIAL TOOLS TO REMOVE OR SERVICE

REMARKS

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COMPONENT DATA SHEET

SYSTEM	SUB-SYSTEM	COMPONENT	REF. NO.
UTILITY HYDRAULICS	POWER	Compensator - Single Pressurized	19-1-7

AVRO PART NO.	MANUFACTURER	MAN'F'R'S PART NO.	AIRCRAFT EFFECTIVITY
7-1956-111	H. W. Loud		25201

OVERHAUL LIFE: KNOWN- ESTIMATED- 500 hours

FUNCTION

To compensate for volumetric changes in the system due to system operation, temperature and leakage.

LOCATION

In the fuselage, station 571.

ACCESS

Through hydraulic access panel - 52 camlocs.

MEN X MINUTES

REPLACEMENT PROCEDURE

MEN X MINUTES

Hoist the compensator by the support cables.
Rotate the compensator to engage flanges in top mounting.
Install one mounting bolt.
Connect four hydraulic pipelines.
Remove extensions from support cables.
Prime the system.

TM-1-1413-2-1

INSPECTION	MEN X MINUTES	
Bleed the air. Check the oil level. Check for security, damage, cracks, corrosion and leaks. Remove the drain plug. Clean the filter.		

FUNCTIONAL CHECKS	MEN X MINUTES	

GROUND HANDLING AND GROUND TEST EQUIPMENT

Hydraulic ground test rig.

SPECIAL TOOLS TO REMOVE OR SERVICE

Extension cables.

REMARKS

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COMPONENT DATA SHEET

SYSTEM	SUB-SYSTEM	COMPONENT	REF. NO.
UTILITY HYDRAULICS	POWER	Valve - By-pass Control	19-1-8

AVRO PART NO.	MANUFACTURER	MAN'F'R'S PART NO.	AIRCRAFT EFFECTIVITY
7-1956-353	Airesearch Manufacturing Company		25201

OVERHAUL LIFE: KNOWN- ESTIMATED- 500 hours

FUNCTION

To control the flow of fluid to the oil-to-air heat exchanger, the thermal by-pass valve and the compensator according to temperature.

LOCATION

In the fuselage, station 591.

ACCESS

MEN X MINUTES

Through hydraulic access panel - 52 camlocs.

REPLACEMENT PROCEDURE

MEN X MINUTES

Attach the valve to its mounting with the two attachment bolts.
Connect the four hydraulic pipelines.
Prime the system.

TM-3413-2-5

INSPECTION	MEN X MINUTES	
Check for security, damage, cracks, corrosion and leaks.		

FUNCTIONAL CHECKS	MEN X MINUTES	

GROUND HANDLING AND GROUND TEST EQUIPMENT

Hydraulic ground test rig.

SPECIAL TOOLS TO REMOVE OR SERVICE

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CF-105 SERVICE DATA

COMPONENT DATA SHEET

SYSTEM	SUB-SYSTEM	COMPONENT	REF. NO.
UTILITY HYDRAULICS	POWER	Heat Exchanger Oil-to-Air	19-1-9

AVRO PART NO.	MANUFACTURER	MAN'F'R'S PART NO.	AIRCRAFT EFFECTIVITY
7-1956-377 7-1956-378			25201

OVERHAUL LIFE: KNOWN- ESTIMATED- 500 hours

FUNCTION

To cool the utility hydraulic system fluid by means of ram air.

LOCATION

In engine bays, station 577.

ACCESS — MEN X MINUTES

Accessible when the engines are removed.

REPLACEMENT PROCEDURE — MEN X MINUTES

Attach heat exchanger to engine oil heat exchanger with four bolts.
Install engine oil heat exchanger with four bolts.
Connect the utilities piping adaptor with three bolts.
Connect engine oil lines to engine oil heat exchanger - two "Wig-o-Flex" connections.
Attach spring-loaded slip-joint.
Install the engine.
Prime the system.

TM1-3413-2-5

INSPECTION	MEN X MINUTES	
Check for security, damage, cracks, corrosion and leaks. Check for signs of internal leakage at air exhaust. Check for obstruction of air flow.		

FUNCTIONAL CHECKS	MEN X MINUTES	

GROUND HANDLING AND GROUND TEST EQUIPMENT

Hydraulic ground test rig.

SPECIAL TOOLS TO REMOVE OR SERVICE

Engine removal equipment.

REMARKS

Two heat exchangers are fitted, RH only in use.

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COMPONENT DATA SHEET

SYSTEM	SUB-SYSTEM	COMPONENT	REF. NO.
UTILITY HYDRAULICS	POWER	Valve - Thermal By-pass	19-1-10

AVRO PART NO.	MANUFACTURER	MAN'F'R'S PART NO.	AIRCRAFT EFFECTIVITY
7-1956-383			25201

OVERHAUL LIFE: KNOWN- ESTIMATED- 500 hours

FUNCTION

To govern the flow of fluid through the oil-to-fuel heat exchanger according to temperature.

LOCATION

In the fuselage, station 591.

ACCESS

MEN X MINUTES

Through hydraulic access panel - 52 camlocs.

REPLACEMENT PROCEDURE

MEN X MINUTES

Attach the valve to its mounting with three mounting bolts.
Connect the five hydraulic lines.
Prime the system.

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COMPONENT DATA SHEET

SYSTEM	SUB-SYSTEM	COMPONENT	REF. NO.
UTILITY HYDRAULICS	POWER	Valve - Controllable Check	19-1-11

AVRO PART NO.	MANUFACTURER	MAN'F'R'S PART NO.	AIRCRAFT EFFECTIVITY
7-1994-12	Vinson		25201

OVERHAUL LIFE: KNOWN- ESTIMATED- 500 hours

FUNCTION

To depressurize the main pressure line in the power circuit.

LOCATION

On the front face of former, station 485.

ACCESS — MEN X MINUTES

Gained when armament pack is lowered.

REPLACEMENT PROCEDURE — MEN X MINUTES

Attach with four mounting bolts.
Connect the two hydraulic lines.
Prime the system.

TM1-3913-2-5

INSPECTION	MEN X MINUTES	
Check for security, damage, cracks, corrosion and leaks.		

FUNCTIONAL CHECKS	MEN X MINUTES	

GROUND HANDLING AND GROUND TEST EQUIPMENT

Hydraulic ground test rig.

SPECIAL TOOLS TO REMOVE OR SERVICE

REMARKS

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CF-105 SERVICE DATA

COMPONENT DATA SHEET

SYSTEM	SUB-SYSTEM	COMPONENT	REF. NO.
UTILITY HYDRAULICS	POWER	Switch - Pressure Type 1	19-1-12

AVRO PART NO.	MANUFACTURER	MAN'F'R'S PART NO.	AIRCRAFT EFFECTIVITY
7-3258-35	Parmatic Engineering Limited		25201

OVERHAUL LIFE: KNOWN- ESTIMATED- 500 hours

FUNCTION

To indicate malfunctioning of the power circuit.

LOCATION

On the front face of former, station 485.

ACCESS

Gained when armament pack is lowered.

MEN X MINUTES

REPLACEMENT PROCEDURE

MEN X MINUTES

Attach with two bolts.
Connect one hydraulic line.
Connect one electrical cable.
Prime the system.

TMI-3433-2-5

INSPECTION	MEN X MINUTES	
Check for security, damage, cracks, corrosion and leaks.		

FUNCTIONAL CHECKS	MEN X MINUTES	

GROUND HANDLING AND GROUND TEST EQUIPMENT

Hydraulic ground test rig.

SPECIAL TOOLS TO REMOVE OR SERVICE

REMARKS

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CF-105 SERVICE DATA

COMPONENT DATA SHEET

SYSTEM	SUB-SYSTEM	COMPONENT	REF. NO.
UTILITY HYDRAULICS	POWER	Switch - Pressure Type 2	19-1-13

AVRO PART NO.	MANUFACTURER	MAN'F'R'S PART NO.	AIRCRAFT EFFECTIVITY
7-1958-17	Parmatic Eng. Ltd.		25201

OVERHAUL LIFE: KNOWN- ESTIMATED- 500 hours

FUNCTION

To warn the pilot when emergency brake pressure is not available.

LOCATION

In the fuselage, station 591.

ACCESS

MEN X MINUTES

Through No. 1 service panel - 36 camlocs.

REPLACEMENT PROCEDURE

MEN X MINUTES

Attach with two bolts.
Connect one hydraulic line.
Connect one electrical cable.
Prime the system.

TMI-5413-2-5

INSPECTION	MEN X MINUTES
Check for security, damage, cracks, corrosion and leaks.	

FUNCTIONAL CHECKS	MEN X MINUTES

GROUND HANDLING AND GROUND TEST EQUIPMENT

Hydraulic ground test rig.

SPECIAL TOOLS TO REMOVE OR SERVICE

REMARKS

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CF-105 SERVICE DATA

COMPONENT DATA SHEET

SYSTEM	SUB-SYSTEM	COMPONENT	REF. NO.
UTILITY HYDRAULICS	POWER	Gauge - Reduced Pressure	19-1-14

AVRO PART NO.	MANUFACTURER	MAN'F'R'S PART NO.	AIRCRAFT EFFECTIVITY
7-3258-29	Aviation Electric		25201

OVERHAUL LIFE: KNOWN– ESTIMATED– 500 hours

FUNCTION

Indicates pressure in the compensator pressurizing and emergency brake lines.

LOCATION

In the fuselage, station 565.

ACCESS

MEN X MINUTES

Through hydraulics access panel - 52 camlocs.

REPLACEMENT PROCEDURE

MEN X MINUTES

Insert the gauge into the clamp and tighten the two clamp securing bolts.
Connect one hydraulic line.
Prime the system.

TM1-3913-2-5

INSPECTION	MEN X MINUTES	
Check pressure by pressing the button. Check for leaks, discolouration of the dial, security and damage.		

FUNCTIONAL CHECKS	MEN X MINUTES	

GROUND HANDLING AND GROUND TEST EQUIPMENT

Hydraulic ground test rig.

SPECIAL TOOLS TO REMOVE OR SERVICE

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COMPONENT DATA SHEET

SYSTEM	SUB-SYSTEM	COMPONENT	REF. NO.
UTILITY HYDRAULICS	POWER	Gauge - Sight Bleed	19-1-15

AVRO PART NO.	MANUFACTURER	MAN'F'R'S PART NO.	AIRCRAFT EFFECTIVITY
CS-G-108			25201

OVERHAUL LIFE: KNOWN- ESTIMATED- 500 hours

FUNCTION

To allow visual checking for air during bleeding of the system.

LOCATION

In the fuselage, station 571.

ACCESS

Through hydraulic access door - 52 camlocs.

MEN X MINUTES

REPLACEMENT PROCEDURE

Install the gauge in its mounting with two bolts.
Connect lines at upper and lower ends of the gauge.

MEN X MINUTES

INSPECTION	MEN X MINUTES	
Check for leaks.		

FUNCTIONAL CHECKS	MEN X MINUTES	

GROUND HANDLING AND GROUND TEST EQUIPMENT

Hydraulic ground test rig.

SPECIAL TOOLS TO REMOVE OR SERVICE

REMARKS

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CF-105 SERVICE DATA

COMPONENT DATA SHEET

SYSTEM	SUB-SYSTEM	COMPONENT	REF. NO.
UTILITY HYDRAULICS	POWER	Coupling Halves - Pump Suction	19-1-16

AVRO PART NO.	MANUFACTURER	MAN'F'R'S PART NO.	AIRCRAFT EFFECTIVITY
7-3258-45 7-3258-47	Eastern Aircraft Products		25201

OVERHAUL LIFE: KNOWN- ESTIMATED- 500 hours

FUNCTION

To seal hydraulic lines when pumps are removed.

LOCATION

In the fuselage, station 605.

ACCESS — MEN X MINUTES

Through No. 1 service panel - 36 camlocs.

REPLACEMENT PROCEDURE — MEN X MINUTES

Install the coupling halves to the pump and the pipeline.
Connect the pipeline to the pump.
Prime the system.

INSPECTION	MEN X MINUTES	
Check for leaks.		

FUNCTIONAL CHECKS	MEN X MINUTES	

GROUND HANDLING AND GROUND TEST EQUIPMENT

Hydraulic ground test rig.

SPECIAL TOOLS TO REMOVE OR SERVICE

REMARKS

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CF-105 SERVICE DATA

COMPONENT DATA SHEET

SYSTEM	SUB-SYSTEM	COMPONENT	REF. NO.
UTILITY HYDRAULICS	POWER	Coupling and Cap - Self-sealing	19-1-17

AVRO PART NO.	MANUFACTURER	MAN'F'R'S PART NO.	AIRCRAFT EFFECTIVITY
Coupling - CS-C-147-10 Cap - CS-C-138-10	Aeroquip		25201

OVERHAUL LIFE: KNOWN- ESTIMATED- 500 hours

FUNCTION

To provide a connection point for ground servicing.

LOCATION

In the fuselage, station 572.

ACCESS — MEN X MINUTES

Through hydraulic access door - 52 camlocs.

REPLACEMENT PROCEDURE — MEN X MINUTES

Attach the coupling to the mounting bracket with six screws.
Connect the hydraulic pipeline to the coupling.

TM1-3413-2-5

INSPECTION	MEN X MINUTES	
Check for leaks.		

FUNCTIONAL CHECKS	MEN X MINUTES	

GROUND HANDLING AND GROUND TEST EQUIPMENT

Hydraulic ground test rig.

SPECIAL TOOLS TO REMOVE OR SERVICE

REMARKS

ISSUE	1								
DATE	28 Nov 56								

TMI-3413-2-6

CF-105 SERVICE DATA

COMPONENT DATA SHEET

SYSTEM	SUB-SYSTEM	COMPONENT	REF. NO.
UTILITY HYDRAULICS	POWER	Coupling and Cap - Self-sealing	19-1-18

AVRO PART NO.	MANUFACTURER	MAN'F'R'S PART NO.	AIRCRAFT EFFECTIVITY
Coupling - CS-C-149-12 Cap - CS-C-139-12	Aeroquip		25201

OVERHAUL LIFE: KNOWN- ESTIMATED- 500 hours

FUNCTION

To provide a connection point for ground servicing.

LOCATION

In the fuselage, station 572.

ACCESS

MEN X MINUTES

Through hydraulic access door - 52 camlocs.

REPLACEMENT PROCEDURE

MEN X MINUTES

Attach the coupling to the mounting bracket with six screws.
Connect the hydraulic pipeline to the coupling.

TM1-3413-7-5

INSPECTION	MEN X MINUTES	
Check for leaks.		

FUNCTIONAL CHECKS	MEN X MINUTES	

GROUND HANDLING AND GROUND TEST EQUIPMENT

Hydraulic ground test rig.

SPECIAL TOOLS TO REMOVE OR SERVICE

REMARKS

ISSUE	1								
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TM1-3413-2-6