CF-105 SERVICE DATA Utility Hydraulics System

Power Circuit

CONFIDENTIAL

Section 20.

UTILITY HYDRAULICS SYSTEM

POWER CIRCUIT

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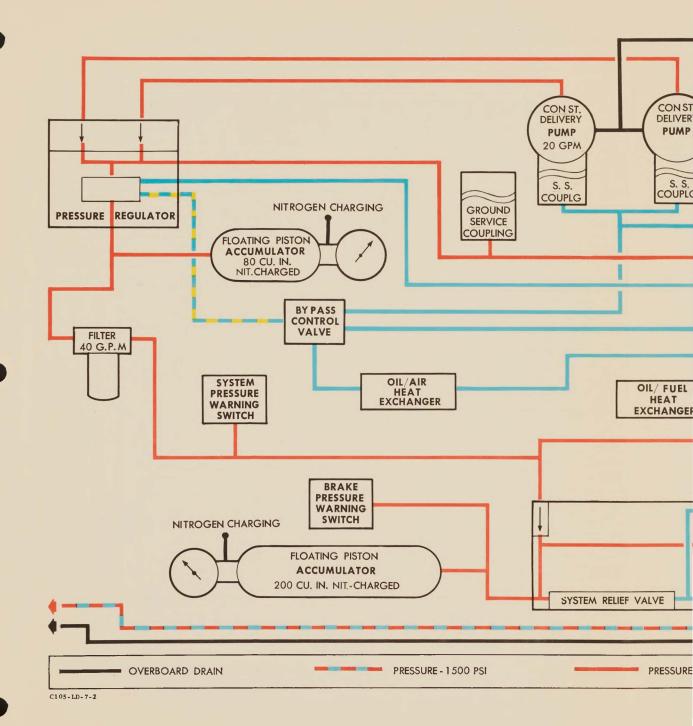
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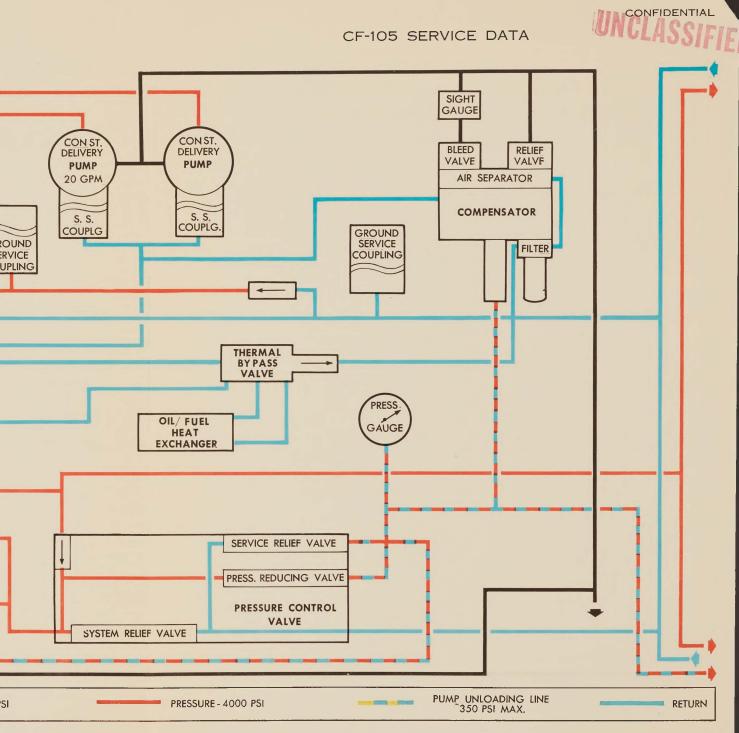
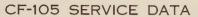


FIG. 1 POWER CIRCUIT - SCHEMATIC



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.

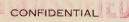
Pressure Regulator

- 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.

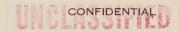
Accumulator 200 Cubic Inch

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 precharged 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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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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		SUB-SYSTEM			NENT	REF. N
SYSTEM	1	50B-5151EM		СОМРО	NENI	
UTILITY HYDRA	LULICS	POWER		Pump - Constar	nt Delivery	19-1-
AVRO PART N 7-1958-21	10.	MANUFACTURER Vickers Inc.	MAN'F	'R'S PART NO.	AIRCRAFT	EFFECTIV
OVERHAUL LIFE:	KNOW	N-	ES	TIMATED- 500) hours	· · · · · · · · · · · · · · · · · · ·
FUNCTION						
	To supply	hydraulic pressure t	to the ut	ility system.		
LOCATION	.					
	In the fu	selage, station 610.				
ACCESS						MEN X MINU
	Through t	he No. 1 service pane	.7 .26 -	-	-	
		ne no. I service pane	T = 20 G	amlocs.		
		ne no. I service pane	90 c	amlocs.		
		me No. I Service pane	:1 - JO C	amiocs.		
		me NO. I Service pame	91 - 90 C	am.tocs.		
		ne NO. I Service pane	31 - 30 C	amiocs.		
REPLACEMENT F			11 - 30 c	amiocs.		MEN X MINU
REPLACEMENT F			11 - 30 c	amiocs.	,	MEN X MINU
REPLACEMENT F	PROCEDURE		1 - 30 c	amiocs.		MEN X MINU
REPLACEMENT F	PROCEDURE Position Install a	the pump. nd tighten nuts on to				MEN X MINU
REPLACEMENT F	Position Install a mounting Connect t	the pump. nd tighten nuts on to studs (6). he two hydraulic pipe	the fla	nge 1 the		MEN X MINU
REPLACEMENT F	PROCEDURE Position Install a mounting Connect t pump driv Fill the	the pump. nd tighten nuts on to studs (6). he two hydraulic pipe e drain pipeline to t pump with hydraulic f	the fla	nge 1 the		MEN X MINU
REPLACEMENT F	Procedure Position Install a mounting Connect t pump driv	the pump. nd tighten nuts on to studs (6). he two hydraulic pipe e drain pipeline to t pump with hydraulic f	the fla	nge 1 the		MEN X MINU
REPLACEMENT F	PROCEDURE Position Install a mounting Connect t pump driv Fill the	the pump. nd tighten nuts on to studs (6). he two hydraulic pipe e drain pipeline to t pump with hydraulic f	the fla	nge 1 the		MEN X MINU
REPLACEMENT F	PROCEDURE Position Install a mounting Connect t pump driv Fill the	the pump. nd tighten nuts on to studs (6). he two hydraulic pipe e drain pipeline to t pump with hydraulic f	the fla	nge 1 the		MEN X MINU
REPLACEMENT F	PROCEDURE Position Install a mounting Connect t pump driv Fill the	the pump. nd tighten nuts on to studs (6). he two hydraulic pipe e drain pipeline to t pump with hydraulic f	the fla	nge 1 the	•	MEN X MINU
REPLACEMENT F	PROCEDURE Position Install a mounting Connect t pump driv Fill the	the pump. nd tighten nuts on to studs (6). he two hydraulic pipe e drain pipeline to t pump with hydraulic f	the fla	nge 1 the		MEN X MINU
REPLACEMENT F	PROCEDURE Position Install a mounting Connect t pump driv Fill the	the pump. nd tighten nuts on to studs (6). he two hydraulic pipe e drain pipeline to t pump with hydraulic f	the fla	nge 1 the	•	MEN X MINU
REPLACEMENT F	PROCEDURE Position Install a mounting Connect t pump driv Fill the	the pump. nd tighten nuts on to studs (6). he two hydraulic pipe e drain pipeline to t pump with hydraulic f	the fla	nge 1 the		MEN X MINU

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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SYSTEM	SUB-SYSTEM		COMPON	IENT	REF. NO
UTILITY HYDRAULICS	POWER		Regulator - F	ressure	19-1-2
AVRO PART NO. 7-1958-21	MANUFACTURER Electrol Inc.	MAN'F	'R'S PART NO.	AIRCRAFT E	EFFECTIVIT
OVERHAUL LIFE: KN	IOWN-	ES	TIMATED- 500	hours	
FUNCTION To re pumps	gulate the pressure from	the cons	tant delivery		
LOCATION In th	e fuselage, station 591.				
ACCESS	gh No. 1 service panel -	36 camic	10°S	MI	EN X MINUTE
REPLACEMENT PROCED	URE			МЕ	EN X MINUTE
attac Conne	h the regulator to the back hment bolts. ct the five hydraulic pig the system.		th three		

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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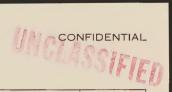


SYSTEM	SUB-SYSTEM		СОМРО	NENT	REF. NO
UTILITY HYDRAULICS	POWER	F	ilter - High	Pressure	19-1-3
AVRO PART NO. 7 - 1956 - 23	MANUFACTURER Parmatic Eng. Ltd.	MAN'F'R'S	PART NO.	AIRCRAFT	EFFECTIVIT
OVERHAUL LIFE: KNO	DWN-	ESTIMA	ATED- 50	00 hours	
FUNCTION Main : system	pressure filter of the u	tility hydra	aulic		
LOCATION In the	e fuselage, station 591.				
ACCESS			<u></u>	М	EN X MINUTE
Throug	gh hydraulics access pane	el - 52 cam	locs.		
REPLACEMENT PROCEDU	JRE			м	EN X MINUTE
three Connec	n the regulator to its mo attachment bolts. ct the two hydraulic pipe the system.		1 the		

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INSPECTI	ION						MEN	X MINUTES
			Check for and leaks Clean and			rrosion		
``								
FUNCTIO	NAL CHECK	KS					MEN	X MINUTES
GROUND	HANDLING	AND GRO	OUND TEST	EQUIPMEN	т			
			Hydraulic	ground te	st rig.			
SPECIAL	TOOLS TO	REMOVE C	OR SERVICE					
REMARK	S							
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SYSTEM	SUB-SYSTEM		COMPONENT	REF. NO.
UTILITY HYDRAULICS	POWER	Accumulat	or 80 Cubic Inch	19-1-4
AVRO PART NO. 7-1956-381	MANUFACTURER Sprague Engineering	MAN'F'R'S PART	R'S PART NO. AIRCRAFT E	
OVERHAUL LIFE: KN	OWN-	ESTIMATED-	500 hours	
FUNCTION To st	abilize main system pres	sure.		
LOCATION	e the fuselage, station	579.		
ACCESS		·	м	EN X MINUTE
Inrou	gh hydraulics access pan	el - 52 camiocs.		
two s Conne Charg	th the accumulator to its traps and four nuts. it one hydraulic and one the accumulator. the system.			EN X MINUTE



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 GR	OUND TEST EQUIPMENT	
	Nitrogen charging trolley. Hydraulic ground test rig.	
SPECIAL TOOLS TO REMOVE	OR SERVICE	
		- 1 - 1
REMARKS		
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SYSTEM		SUB-SYSTEM		COMPON		REF. NO.
UTILITY HYDRAU	LICS	POWER		Valve - Press	ure Control	19-1-5
avro part no 7-1958-14		MANUFACTURER nson Man. Co. Inc.	MAN'F	R'S PART NO.	AIRCRAFT E	FFECTIVITY
OVERHAUL LIFE:	KNOW	N-	EST	TIMATED- 500	hours	
FUNCTION	and redu To provi	nt excessive pressure ced pressure lines. de a supply of fluid zation of compensator	at 1500]	psi for normal		
LOCATION	In the f	uselage, station 591.		*		
ACCESS					ME	N X MINUTES
	Through and thro	hydraulics access pan ugh No. 1 service doo	el - 52 c	camlocs		
REPLACEMENT PR	ROCEDURE	- Annual Attraction and Annual Attraction			ME	N X MINUTES
	with the Connect	he pressure control u three attachment bol the six hydraulic pip e system.	ts.	ts mounting		

INSPECTION		MEN X MINUTES
	Check for security, damage, cracks, corrosion and leaks.	
FUNCTIONAL CHECKS		MEN X MINUTES
GROUND HANDLING AND GRO	DUND TEST EQUIPMENT	
	Hydraulic ground test rig.	
SPECIAL TOOLS TO REMOVE C	DR SERVICE	
REMARKS		
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SYSTEM						
		SUB-SYSTEM		COMPON	NENT	REF. NO.
UTILITY HYDRAULI	cs	POWER		Accumulator 200	Cubic Inch	19-1-6
AVRO PART NO. 7-1958-12	Spr	MANUFACTURER rague Engineering	MAN'F	R'S PART NO.	AIRCRAFT E	FFECTIVITY
OVERHAUL LIFE:	KNOWN	1-	ES.	TIMATED- 500	hours	
s		urize the utility and compensators and to pessure.				
LOCATION	nside th	ne fuselage, station	591 - 630			
ACCESS			BA110		ME	N X MINUTE
REPLACEMENT PRO	CEDURE				ME	N X MINUTES

INSPECTION	Check nitrogen pressure on gauge (1500 psi with hydraulic pressure relieved). Check for security, damage, cracks, corrosion and leaks.	MEN X MINUTES
FUNCTIONAL CHECKS		MEN X MINUTES
GROUND HANDLING AND GRO	Nitrogen charging trolley. Hydraulic ground test rig.	
SPECIAL TOOLS TO REMOVE C	DR SERVICE	
REMARKS		
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CF-105 SERVICE DATA COMPONENT DATA SHEET

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

MEN X MINUTES

Through hydraulic access panel - 52 camlocs.

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.

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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SYSTEM		SUB-SYSTEM		СОМРО	NENT	REF. NO.
UTILITY HYDRA	ULICS	POWER		Valve - By-pa	ss Control	19-1-8
AVRO PART No. 7-1956-353		MANUFACTURER research Manufacturin Company		'R'S PART NO.	AIRCRAFT E	O1
OVERHAUL LIFE:	KNOW	N-	ES	TIMATED- 500	hours	
FUNCTION	heat exc	ol the flow of fluid hanger, the thermal bensator according to	y-pass v	alve and		
LOCATION	In the f	uselage, station 591.				
ACCESS		40			МЕ	EN X MINUTES
	Through	hydraulic access pane		amlocs.		
REPLACEMENT P	ROCEDURE		***		ME	EN X MINUTES
	two atta	he valve to its mount chment bolts. the four hydraulic pi e system.		the		



INSPECTION							MEN	X MINUTES
		Check for	security,	damage, cr	acks, cor	rosion		
		and leaks						
FUNCTIONAL CHEC	CKS						MEN	X MINUTES
GROUND HANDLING	IG AND GRO	UND TEST	EQUIPMEN	Т				
		Hydraulic	ground te	st rig.				
SPECIAL TOOLS TO	O REMOVE O	R SERVICE						
REMARKS								
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CVCTEM	CUP CVCTEM		COMPON	UENIT	REF. NO.
SYSTEM UTILITY HYDRAULICS	SUB-SYSTEM POWER		COMPO!		19-1 - 9
UTILITY HYDRAULICS	POWER		Heat Exchanger Oil-to-Air		19-1-9
AVRO PART NO. 7-1956-377 7-1956-378	MANUFACTURER	MAN'F	'R'S PART NO.	AIRCRAFT I	
OVERHAUL LIFE: KNO	OWN-	ES	TIMATED- 500	hours	
	ol the utility hydraulic	system	fluid		
LOCATION	gine bays, station 577.				
ACCESS				M	EN X MINUTE
Acces:	sible when the engines a	re remov	ed.		
REPLACEMENT PROCEDU	JRE .			МІ	EN X MINUTE
exchar Insta Conne Conne two ¶ Attac Insta	h heat exchanger to enginger with four bolts. Il engine oil heat exchant the utilities piping et engine oil lines to ewig-o-Flex connections. In spring-loaded slip-joil the engine. the system.	nger with adaptor was ngine oi	h four bolts.	• -	
N11-2-5					



Check for security, damage, cracks, corrosion and leaks. Check for signs of internal leakage at air exhaust. Check for obstruction of air flow. MEN X MINUTES MEN X MINUT			
and leaks. Check for signs of internal leakage at air exhaust. Check for obstruction of air flow. MEN X MINUTES	INSPECTION		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.		and leaks. Check for signs of internal leakage at air exhaust.	
Hydraulic ground test rig. SPECIAL TOOLS TO REMOVE OR SERVICE Engine removal equipment. REMARKS Two heat exchangers are fitted, RH only in use.	FUNCTIONAL CHECKS		MEN X MINUTES
Hydraulic ground test rig. SPECIAL TOOLS TO REMOVE OR SERVICE Engine removal equipment. REMARKS Two heat exchangers are fitted, RH only in use.			
SPECIAL TOOLS TO REMOVE OR SERVICE Engine removal equipment. REMARKS Two heat exchangers are fitted, RH only in use.	GROUND HANDLING AND GR	ROUND TEST EQUIPMENT	
Engine removal equipment. REMARKS Two heat exchangers are fitted, RH only in use. ISSUE 1 DATE 28 Nov 56		Hydraulic ground test rig.	
Two heat exchangers are fitted, RH only in use. ISSUE 1 DATE 28 Nov 56	SPECIAL TOOLS TO REMOVE	OR SERVICE	
Two heat exchangers are fitted, RH only in use. ISSUE 1 DATE 28 Nov 56		Engine removal equipment.	
ISSUE 1 DATE 28 Nov 56	REMARKS		
DATE 28 Nov 56		Two heat exchangers are fitted, RH only in use.	
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SYSTEM	SUB-SYSTEM		COMPON	IENT		REF. NO.
UTILITY HYDRAULICS	POWER		Valve - Thermal By-pass			19-1-10
AVRO PART NO.	MANUFACTURER	MAN'F	R'S PART NO.	AIRCRAF	T EFF	ECTIVITY
7-1956-383				2	25201	
OVERHAUL LIFE: KN	OWN-	ES.	TIMATED- 500	hours		
FUNCTION						
To got heat	vern the flow of fluid the exchanger according to the	hrough the	e oil-to-fuel			
LOCATION						
In the	fuselage, station 591.					
					4 7	
ACCESS					MEN :	X MINUTES
Through	gh hydraulic access pane	1 - 52 ca	mlocs.			
REPLACEMENT PROCEDU	JRE		, , , , , , , , , , , , , , , , , , ,		MEN)	MINUTES
three Conne	h the valve to its mount mounting bolts. et the five hydraulic lin the system.					

SYSTEM	SUB-SYSTEM		СОМРО	NENT	REF. NO.
UTILITY HYDRAULICS			lve - Control		
UTILITY HIDRAULIOS	POWER	va.	TAG - COUCLOI	Table Check	19-1-11
AVRO PART NO. 7 - 1994-12	MANUFACTURER Vinson	MAN'F'R'S	PART NO.	AIRCRAFT E	FFECTIVITY
OVERHAUL LIFE: KN	OWN-	ESTIMA	ATED- 500	hours	
FUNCTION To de	pressurize the main pres	sure line in	n the		
power	circuit.				
LOCATION On th	e front face of former,	station 485	•		
ACCESS				МЕ	EN X MINUTES
Gaine	d when armament pack is	lowered.			
REPLACEMENT PROCEDU	JRE			ME	EN X MINUTES
Conne	h with four mounting bol ct the two hydraulic lin the system.	ts. es.			
					e e

INSPECT	ои	MEN X MINUTES
	Check for security, damage, cracks, corrosion	
	and leaks.	
FUNCTIO	NAL CHECKS	MEN X MINUTES
GROUND	HANDLING AND GROUND TEST EQUIPMENT	
	Hydraulic ground test rig.	
	nydraurio ground 1650 rig.	
SPECIAL	TOOLS TO REMOVE OR SERVICE	
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SYSTEM	SUB-SYSTEM		COMPON	VENT	REF. NO.
UTILITY HYDRAULICS POWER			Switch - Pressure Type 1		
AVRO PART NO. 7 - 3258 - 35	MANUFACTURER Parmatic Engineering Limited	MAN'F'	R'S PART NO.	AIRCRAFT E	EFFECTIVITY 01
OVERHAUL LIFE: KN	OWN-	EST	TIMATED- 500	hours	
FUNCTION To in	dicate malfunctioning of	the power	er circuit.		
LOCATION On th	e front face of former,	station A	485.		
ACCESS			1 × 1817	М	EN X MINUTES
	d when armament pack is	lowered.			
Conne Conne	n with two bolts. to one hydraulic line. to one electrical cable. the system.			ME	EN X MINUTES

INSPECTION								MEN	X MINUTES
			Check for and leaks	security,	damage, o	eracks, co	rrosion		
FUNCTIONAL	CHECK	S						MEN	X MINUTES
GROUND HA	NDLING	AND GRO	UND TEST	EQUIPMEN	т				
			Hydraulic	ground te	st rig.				
SPECIAL TOO	OLS TO F	REMOVE O	R SERVICE						
REMARKS									
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SYSTEM	SUB-SYSTEM		COMPON	NENT	REF. NO.
UTILITY HYDRAULICS POWER			Switch - Press	ure Type 2	19-1-13
AVRO PART NO. 7-1958-17	MANUFACTURER Parmatic Eng. Ltd.	MAN'F	"R'S PART NO.	AIRCRAFT E	FFECTIVITY
OVERHAUL LIFE: KN	OWN-	ES	TIMATED- 500	hours	
FUNCTION To wa	rn the pilot when emerge t available.	ency brak	e pressure		
LOCATION In th	e fuselage, station 591.			,	
ACCESS				ME	N X MINUTES
Throu	gh No. 1 service panel -	· 36 caml	ocs.	ME	N X MINUTES
Attac Conne Conne	h with two bolts. ct one hydraulic line. ct one electrical cable. the system.				

INSPECT	ION	MEN X MINUTES
	Check for security, damage, cracks, corrosion and leaks.	
FUNCTIO	NAL CHECKS	MEN X MINUTES
GROUND	HANDLING AND GROUND TEST EQUIPMENT	
	Hydraulic ground test rig.	
SPECIAL	TOOLS TO REMOVE OR SERVICE	
REMARK:	5	
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COMPONENT DATA SHEET

AVRO PART NO. MANUFACTURER MAN'FR'S PART NO. AIRCRAFT EFFECTIVITY 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 Through hydraulics access panel - 52 camlocs. MEN X MINUTE Insert the gauge into the clamp and tighten the two clamp securing bolts. Connect one hydraulic line.	SYSTEM	SUB-SYS	STEM	COMPON	ENT	REF. NO
OVERHAUL LIFE: KNOWN- ESTIMATED- 500 hours FUNCTION Indicates pressure in the compensator pressurizing and emergency brake lines. LOCATION In the fuselage, station 565. ACCESS Through hydraulics access panel - 52 camlocs. MEN X MINUT Insert the gauge into the clamp and tighten the two clamp securing bolts. Connect one hydraulic line.	UTILITY HYDRAULI	CS POWER		Gauge - Reduced	Pressure	19-1-1
OVERHAUL LIFE: KNOWN- ESTIMATED- 500 hours FUNCTION Indicates pressure in the compensator pressurizing and emergency brake lines. LOCATION In the fuselage, station 565. ACCESS Through hydraulics access panel - 52 camlocs. MEN X MINUT Insert the gauge into the clamp and tighten the two clamp securing bolts. Connect one hydraulic line.			MAN'F	R'S PART NO.		
FUNCTION Indicates pressure in the compensator pressurizing and emergency brake lines. LOCATION In the fuselage, station 565. ACCESS Through hydraulics access panel - 52 camlocs. MEN X MINUT The fuselage into the clamp and tighten the two clamp securing bolts. Connect one hydraulic line.	7-3258-29	Aviation Electric			25201	
Indicates pressure in the compensator pressurizing and emergency brake lines. LOCATION In the fuselage, station 565. ACCESS Through hydraulics access panel - 52 camlocs. MEN X MINUT Insert the gauge into the clamp and tighten the two clamp securing bolts. Connect one hydraulic line.	OVERHAUL LIFE:	KNOWN-	ES	TIMATED- 500	hours	
In the fuselage, station 565. ACCESS MEN X MINUT Through hydraulics access panel - 52 camlocs. MEN X MINUT MEN X MINUT Insert the gauge into the clamp and tighten the two clamp securing bolts. Connect one hydraulic line.	I	ndicates pressure in the	compensator	pressurizing		
Through hydraulics access panel - 52 camlocs. REPLACEMENT PROCEDURE Insert the gauge into the clamp and tighten the two clamp securing bolts. Connect one hydraulic line.		n the fuselage, station	565.			
REPLACEMENT PROCEDURE Insert the gauge into the clamp and tighten the two clamp securing bolts. Connect one hydraulic line.	ACCESS				МЕ	EN X MINUT
two clamp securing bolts. Connect one hydraulic line.					ME	N X MINUTI
	t	wo clamp securing bolts. onnect one hydraulic lin		ighten the		

35

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
70-1		
GROUND HANDLING A	AND GROUND TEST EQUIPMENT	
	Hydraulic ground test rig.	
SPECIAL TOOLS TO RE	EMOVE OR SERVICE	
REMARKS		
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SYSTEM	SUB-SYSTEM		COMPON	NENT	REF. NO.
UTILITY HYDRAULICS	POWER	G	auge - Sight	Bleed	19=1-15
AVRO PART NO. CS-G-108	MANUFACTURER	MAN'F'R'S	PART NO.		FEFFECTIVITY
OVERHAUL LIFE: KNO	-NWC	ESTIMA	TED- 500	hours	
FUNCTION To al of th	low visual checking for e system.	air during b	leeding		
LOCATION In th	e fuselage, station 571.				
ACCESS Throu	gh hydraulic access door	- 52 camloc	·S.		MEN X MINUTES
	ORE If the gauge in its mounce the lines at upper and lo				MEN X MINUTES

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INSPECT	ION						MEN	X MINUTES
			Check for	leaks.				
FUNCTIO	NAL CHECK	(S					MEN	X MINUTES
GROUND	HANDLING	AND GRO	UND TEST	EQUIPMEN	т			
			Hydraulic	ground te	st rig.			
SPECIAL	TOOLS TO	REMOVE O	R SERVICE					
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SYSTEM		SUB-SYSTEM		COMPO	VENT	REF. NO.
UTILITY HYDRAULI	cs	POWER		Coupling Halves	- Pump Juction	19-1-16
AVRO PART NO.		MANUFACTURER	MAN'F	'R'S PART NO.	AIRCRAFT	EFFECTIVITY
7-3258-45 7-3258-47	Eas	etern Aircraft Products				201
OVERHAUL LIFE:	KNOWN	1-	ES	TIMATED- 50	0 hours	
FUNCTION To	seal h	ydraulic lines when	pumps ar	e removed.		
LOCATION	the fu	selage, station 605.				
ACCESS					м	EN X MINUTES
Th	rough N	o. l service panel -	36 cam1	ocs.		
REPLACEMENT PROC	EDURE				М	EN X MINUTES
th Con	e pipel nnect t	the coupling halves to tine. The pipeline to the property of t		mp and		



INSPECTION	MEN X MINUTES
Check for leaks.	
Check for leaks.	
FUNCTIONAL CHECKS	MEN X MINUTES
GROUND HANDLING AND GROUND TEST EQUIPMENT	
Hydraulic ground test rig.	
nydraulic ground test rig.	
SPECIAL TOOLS TO REMOVE OR SERVICE	
SPECIAL TOOLS TO REMOVE OR SERVICE	
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SYSTEM	SUB-SYSTEM	STEM COMPONENT		NENT	REF. NO.	
UTILITY HYDRAULICS	POWER	Coupling and Cap - Self-sealing			19-1-17	
AVRO PART NO. Coupling - CS-C-147-10 Cap - CS-C-138-10	MANUFACTURER Aeroquip	MAN'F'R'S PART NO. AIRCR.			AFT EFFECTIVITY 25201	
OVERHAUL LIFE: KN	IOWN-	ES	TIMATED- 500	hours		
FUNCTION To pa	rovide a connection point	for gro	und servicing.			
LOCATION In the	ne fuselage, station 572.					
ACCESS	igh hydraulic access door	- 52 ca	mlocs.	ME	N X MINUTES	
six s	ch the coupling to the moscrews.			ME	N X MINUTES	

INSPECTION	MEN X MINU	TES
Check for leaks.		
FUNCTIONAL CHECKS	MEN X MINU	TES
GROUND HANDLING AND GROUND TEST EQUIPMENT		
Hydraulic ground test rig.		
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CF-105 SERVICE DATA

SYSTEM UTILITY HYDRAULICS	SUB-SYSTEM POWER		COMPOI Coupling and Self-s		REF. NO.
AVRO PART NO. Coupling - CS-C-149-12 Cap - CS-C-139-12	MANUFACTURER Aeroquip	MAN'F	R'S PART NO.		
OVERHAUL LIFE: K	NOWN-	ES	TIMATED- 50	0 hours	
	provide a connection point ricing.	for gro	und		
LOCATION In t	the fuselage, station 572.				
ACCESS				М	EN X MINUTE
	ough hydraulic access door)			
REPLACEMENT PROCE	DURE			м	EN X MINUTE
wit]	ach the coupling to the mon six screws. Hect the hydraulic pipelin				

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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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