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AP 105B-07238-5F

Issued August 1974

HUNTER

BAY SERVICING SCHEDULE

SHUTTLE VALVES
PART No. C 4122Y—MK A
C 4122Y—MK E & C 4122Y—MK G
(DOWTY ROTOL)

BY COMMAND OF THE DEFENCE COUNCIL

Michael Carr

(Ministry of Defence)

FOR USE IN THE
ROYAL AIR FORCE

AMENDMENT RECORD CERTIFICATE

1. This certificate is for Ministry of Defence (Air) ALs only.
2. Amendments are to be inserted in numerical sequence except where Non-Availability slips for particular A.L.s are issued.

A.L. No	A.L. MONTH AND YEAR OF ISSUE	AMENDMENT INCORPORATED SIGNATURE	DATE OF INCORPORATION
1			
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E0447 (1) Issued August 74

SHUTTLE VALVES
SUPPLEMENTARY SERVICING

ITEM No	ITEM	OPERATION

REF NO.	EQUIPMENT AND TOOLS	QTY
	Kit, Tool Airframe Fitter to Scale A2 AP830 Vol 3 Pt A	1
4G/5878	Rig Test, Hydraulic	1
27Q/12420	Adapter, Test (Mk E and Mk G shuttle valves only)	1
27Q/12419	Adapter, Test (Mk A shuttle valves only)	1

SPARES

Refer to AP4515B Vol 3 Pt 1 Sect 2 Chap 15

	MATERIALS	NATO CODE NO.	
34B/9100572	Oil, OM-15	H-515	As required

SERVICING NOTES

1. AP105B-0001-5F is to be complied with throughout the work detailed in this schedule.

2. The Mk E shuttle valve does not utilize a banjo union at the jack connexion.

SHUTTLE VALVES

ITEM No	ITEM	OPERATION
1.	Preparation	
1.1	Servicing Notes.	Read.
2.	Dismantling	
2.1	Oil end adapter.	Remove.
2.2	Air end adapter.	
2.3	Jack adapter and banjo union. (If fitted).	
2.4	Bonded seals.	Remove and discard.
2.5	Fluted valve and spring assembly.	Withdraw from body.
2.6	Shuttle assembly.	
2.7	Plug.	Remove from shuttle. Note: Record the number of shims removed to facilitate correct assembling.
2.8	Seating washer.	
2.9	Ball valve and spring.	
2.10	Shims.	
2.11	Duplex seal.	Remove and discard.
3.	Examination	
3.1	Adapters. (3 off).	(i) Clean. (ii) Examine and particularly threads and oil ways.
3.2	Fluted valve assembly.	
3.3	Plug.	
3.4	Ball valve.	
3.5	Shuttle assembly.	
3.6	Shuttle spring.	
3.7	Fluted valve spring.	
3.8	Body.	
3.9	Banjo union. (If fitted).	
4.	Assembling	
4.1	Shims.	Assemble on shuttle. (Fig 1).
4.2	Spring.	
4.3	Ball valve.	
4.4	Plug.	(i) Assemble on shuttle. (ii) Lock by centre-popping.
4.5	Duplex seal.	Fit.

Continued overleaf

ITEM No	ITEM	OPERATION
4.6 4.7	Seating washer.) Shuttle.)	Insert into body.
4.8 4.9	Bonded seal.) Air end adapter.)	Fit.
4.10 4.11 4.12	Fluted valve spring.) Fluted valve.) Bonded seal.)	Assemble on oil end adapter.
4.13	Oil end adapter and fluted valve assembly.	Insert into body.
4.14 4.15 4.16	Jack end adapter.) Banjo union.) (If applicable).) Bonded seals.) (2 off).)	Fit.
4.17	Adapters. (3 off).	Wire lock to body.
5.	Flow Test	
5.1	Banjo union. (If fitted).	Fit blanking cap.
5.2	Jack end adapter.	Connect to hydraulic test rig.
5.3	Hydraulic test rig.	Operate, to achieve rate of flow between 6 and 7 gall/min within 10 seconds.
5.4	Oil end adapter.	Ensure oil flows freely for minute.
5.5	Hydraulic test rig.	Stop.
6.	Pressure Test	
6.1	Oil end adapter.	Fit blanking cap.
6.2	Jack end adapter.	Connect to hydraulic test rig, hand pump connexion.
6.3	Hand pump.	Apply pressure of 4950 lbf/in2.
6.4	Assembly.	Ensure no leaks.
6.5	Hydraulic test rig.	Release pressure.
6.6	Jack end adapter.	Disconnect from hand pump connexion.
6.7	Air end adapter.	Connect to hydraulic test rig.
6.8	Hydraulic test rig.	Apply pressure of between 80 and 120 lbf/in2.

ITEM No	ITEM	OPERATION
6.	Pressure Test (Cont)	
6.9	Ball valve.	Ensure operates between 80 and 120 lbf/in2. Note: This is indicated by fluid flowing from jack end adapter. Adjust blow-off pressure by adding or subtracting shims.
6.10	Hydraulic test rig.	Release pressure.
6.11	Oil end adapter.	(i) Remove blanking cap. (ii) Fit small bore pipe.
6.12	Small bore pipe.	Immerse open end in water.
6.13	Jack end adapter.	Connect to air supply.
6.14	Air supply.	Apply pressure of 5 lbf/in2.
6.15	Small bore pipe.	Ensure bubbles flow from open end.
6.16	Hydraulic test rig.	Gradually apply pressure of 70 lbf/in2.
6.17	Small bore pipe.	Ensure bubbles stop.
6.18 6.19	Hydraulic test rig.) Air supply.)	Release pressure.
6.20	Hydraulic test rig.	Apply pressure of 70 lbf/in2.
6.21	Air supply.	Apply pressure of 5 lbf/in2.
6.22	Small bore pipe.	Ensure no bubbles.
6.23	Air supply.	(i) Release pressure. (ii) Disconnect.
6.24	Jack end adapter.	Fit blanking nut.
6.25	Hydraulic test rig.	Apply pressure of 3000 lbf/in2.
6.26	Assembly.	Ensure no leaks.
6.27	Hydraulic test rig.	(i) Release pressure. (ii) Disconnect.
6.28	Jack end adapter.	Remove blanking nut.
6.29	Oil-end adapter.	Remove small bore pipe.

Continued overleaf

ITEM No	ITEM	OPERATION
7.	Air Pressure Test	
7.1	Air-end adapter.	(i) Fit test adapter and pressure gauge assembly. (ii) Connect to air supply.
7.2	Air supply.	Apply pressure of 3000 lbf/in2.
7.3	Stop cock.	Close.
7.4	Test adapter pressure gauge.	Ensure no pressure drop.
7.5	Test adapter.	Gradually release air pressure.
7.6	Shuttle.	Ensure opens at a pressure not exceeding 90 lbf/in2.
7.7	Air supply.	Disconnect.
7.8	Oil end adapter.	Connect to air supply.
7.9	Air supply.	Apply pressure of 2000 lbf/in2.
7.10	Assembly.	Ensure no leaks.
7.11	Air supply.	(i) Release pressure. (ii) Disconnect.
7.12 7.13	Test adapter. Gauge assembly.	Remove.
7.14	Jack end adapter banjo union. (If fitted).	Remove blanking cap.
8.	Completion	
8.1	Storage blanks.	Fit.
8.2	Servicing forms.	Sign.

SHUTTLE VALVES

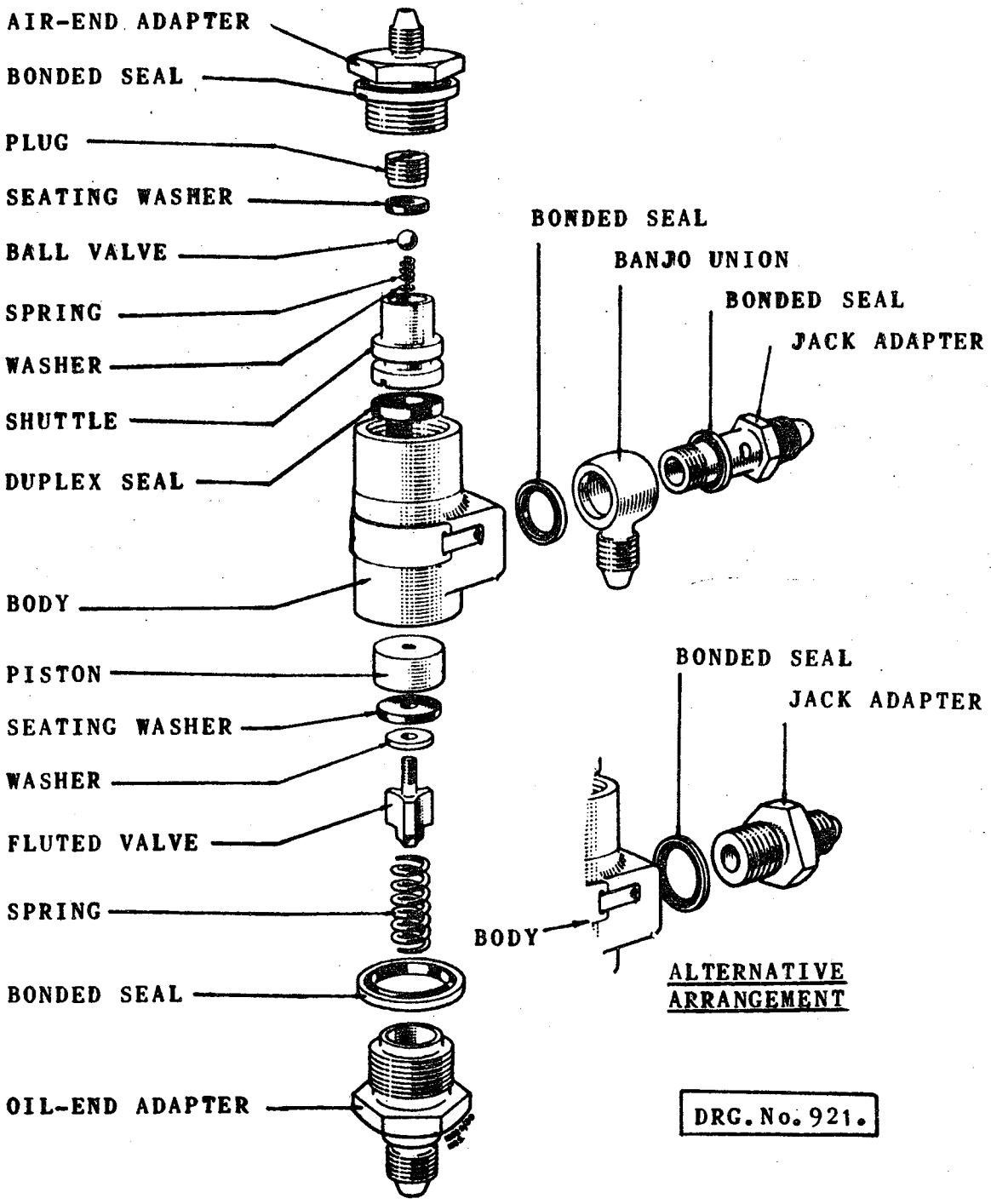

FIG 1