

SA67



AP 105C-05109-123

October 1985

(Superseding AP 105C-05109-1)

**PRESSURE REDUCING VALVES
HYMATIC TYPES
PS 48/12, PS 48/41
AND PAS 148-074**

**GENERAL AND TECHNICAL INFORMATION
GENERAL ORDERS AND MODIFICATIONS
ILLUSTRATED PARTS CATALOGUE**

BY COMMAND OF THE DEFENCE COUNCIL

Nive Whitmore.

Ministry of Defence

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Redditch Worcestershire

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AP 100B-01 Order 0504 (RAF)

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USE OF AMENDMENT INDICATORS

Changes of technical import are identified within this publication by triangle indicators positioned outside the type area thus: ►.....◄

MODIFICATION RECORD

The following record confirms that the Topic 1 of this publication incorporates all technical changes necessitated by the modifications listed below. Further information on modification titles, classification categories and Mark applicabilities may be found in Topic 2.

Mod No	Brief details	Class
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PRESSURE REDUCING VALVESHYMATIC TYPES PS 48/12, PS 48/41 and PAS 148-074

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LEADING PARTICULARS PS 48/12 AND PS 48/41

Type	...	PS 48/12	...	PS 48/41	...
Part No.	...	C51642	...	C51937	...
Ref. No.	...	6685-99-449-7181	...	6685-99-449-7268	...
Inlet pressure	...	8.6 bar (125 lbf/in. ²)	...	8.6 bar (125 lbf/in. ² max)	...
Outlet pressure	...	0.4 bar (6.0 lbf/in. ²)(nominal)	...	0.2 bar (3.0 lbf/in. ²)	...
Dimensions:					
Length	...	194mm (7.67 in.)	...	194mm (7.67 in.)	...
Diameter	...	50mm (2.0 in.)	...	50mm (2.0 in.)	...
Connections:					
Inlet	...	3/4 in. BSP female cone...	...	1 in. BSP female cone	...
Outlet	...	1 in. BSP female cone...	...	1 in. BSP female cone	...
Vent	...	3/8 in. BSP female cone...	...	3/8 in. BSP female cone	...
Weight	...	0.64 Kg (1.4 lbf.)(approx)	...	0.64 Kg (1.4 lbf.)(approx)	...

LEADING PARTICULARS PAS 148-074

Type	...	...	...	...	...	PAS 148-074
Part No.	...	...	...	...	...	PAS 148-074
Ref. No.	...	...	...	...	...	1650-99-449-7271
Inlet pressure	...	...	...	...	...	12 to 120 lbf/in. ²
Outlet pressure	...	...	...	...	...	5.8 to 7.4 lbf/in. ²
Dimensions:						
Length	...	...	...	...	...	7.67 in.
Diameter	...	...	...	...	...	2.0 in.
Connections:						
Inlet	...	...	...	...	...	3/4 in. BSP female cone
Outlet	...	...	...	...	...	1 in. BSP female cone
Vent	...	...	...	...	...	3/8 in. BSP female cone
Weight	...	...	...	...	...	1.4 lbf (approx)

INTRODUCTION

1 These reducing valves are used to reduce the pressure and flow of an air supply, to the requirements of a particular system.

DESCRIPTION (Fig 1)

2

2.1 The valves are of similar construction and have the following differences.

2.1.1 Mainsprings (see Table No. 1)

2.1.2 Connections (see Leading Particulars)

2.2 The three body groups are composed of identical detail parts, but drawing numbers differ to cover different inlet and outlet pressure settings.

2.3 A body houses the two sliding components of the valve, a poppet and a control piston. The poppet is attached to the piston with a twicklip, and a spring acts on the piston to hold the poppet in the open position. An axial hole through the poppet connects with radial holes in the poppet and the piston. An orifice in the body, adjusted by a bleed screw which is pre-set during manufacture. Three unions are fitted, inlet, outlet and vent to permit connection into a system. The vent union is also the adjusting screw to alter the spring head against the piston. It is housed in the bottom cover which is screwed on to the body, and secured by a nut which is locked using a tab washer. Rotation of the vent union moves a spring carrier along the union, altering the spring loading, spring carrier rotation being prevented by flats on the carrier engaging with flats on the inside of the bottom cover. The bottom cover is locked to the body by a locking plate secured to the body using a lock screw and shakeproof washer.

OPERATION (Fig 2)

3

3.1 The clearance between the poppet and bore and piston and bores are greatly exaggerated in the illustration so that the air flow path can be readily indicated.

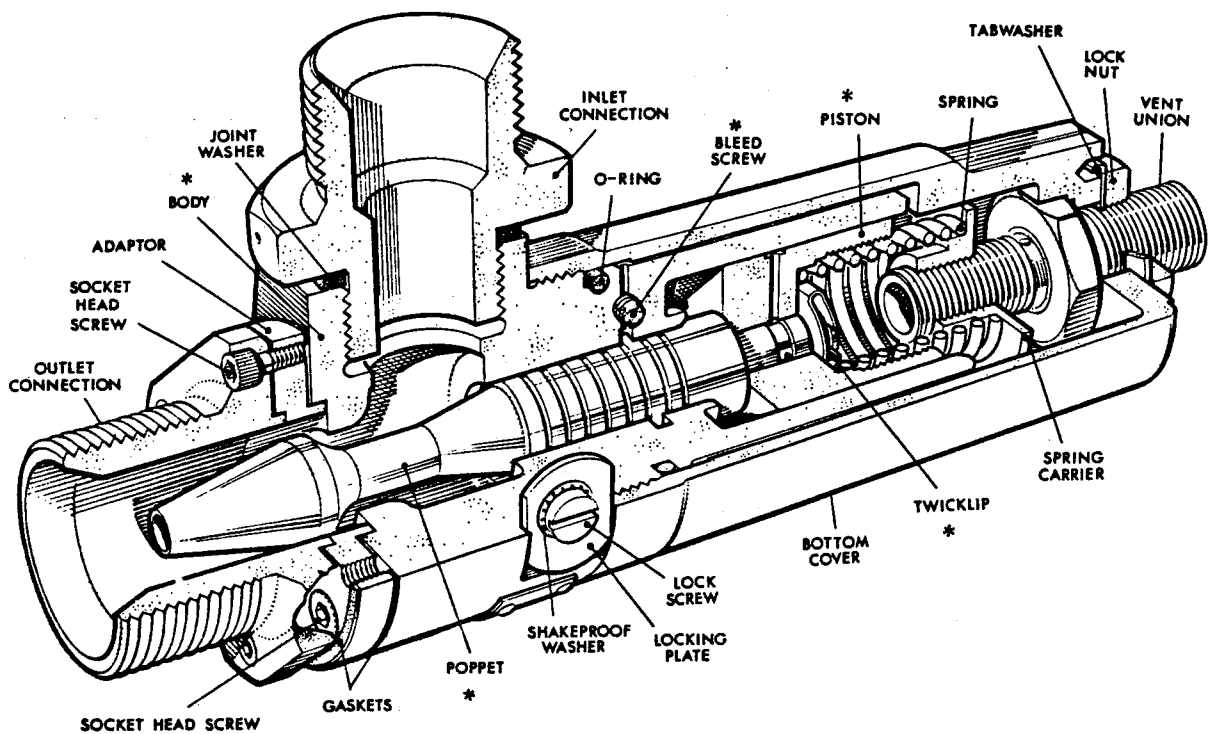


Fig 1 Reducing valve Type PAS 148-074

3.2 In the unpressurised condition the poppet is held fully open by the spring load.

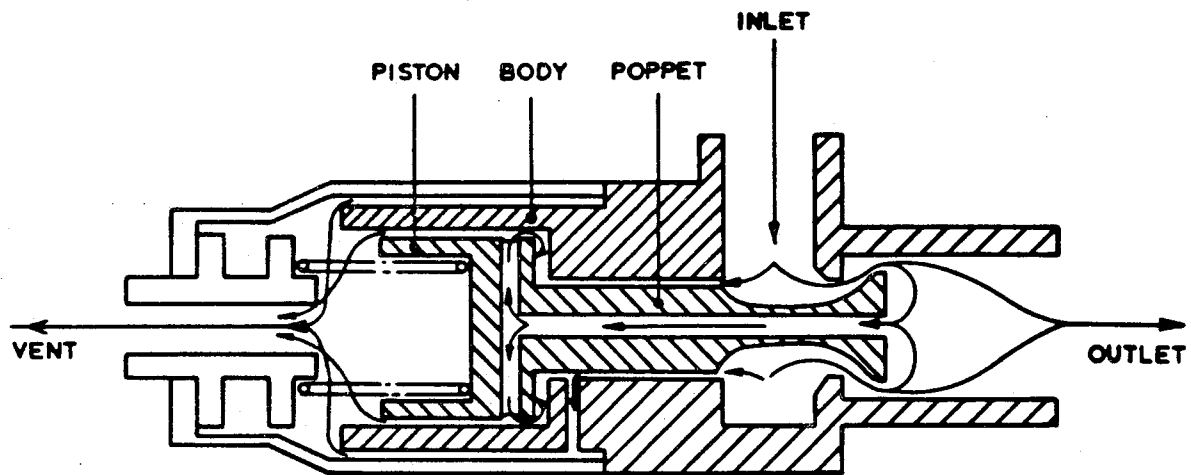
3.3 Pressurized air, entering the valve through the inlet union, passes to the outlet via the open valve. The outlet air also passes, through an axial and radial drilling in the poppet and a radial drilling in the piston, to the chamber behind the piston, so exerting a load on the piston in opposition to the spring load as shown in stage 1.

3.4 As the outlet pressure increases, the air load on the piston increases and compresses the spring until, at the adjusted outlet pressure, the poppet is closed onto its seat as shown in Stage 2.

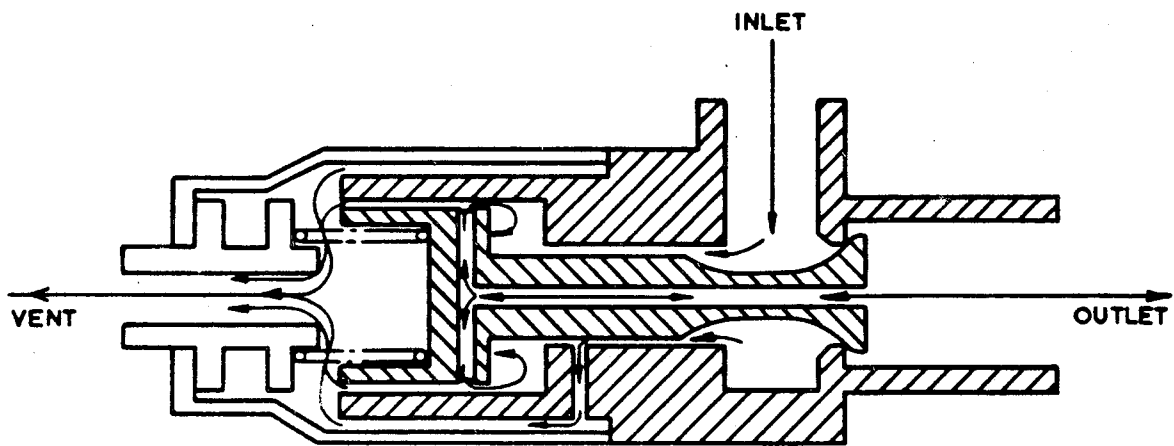
3.5 With the poppet on the seat, build-up of outlet pressure under zero flow conditions is prevented by seat leakage being vented through the small bleed hole in the poppet, and leakage between the body and the piston.

3.6 Usage of outlet air causes a pressure drop in the chamber behind the piston and the poppet valve moves from its seat sufficiently to maintain the required outlet pressure and flow.

3.7 Inlet air that passes through the clearance between the poppet valve stem and the bore of the body, passes round the skirt of the body and exhausts through the vent. Outlet air that passes through the clearance between the piston and bore of the body, to the vent end of the piston, exhausts through the vent.



STAGE 1. PRESSURIZING



STAGE 2. PRESSURISED

Fig 2 Diagrammatic operation

3.8 The passage of air through the vent must not be blocked or restricted.

SERVICING

TOOLS, TEST EQUIPMENT AND MATERIALS

4

- 4.1 Twicklip pliers Hymatic Part No. DMT 993 Ref. No. 1B/1206621.
- 4.2 Hexagon wrench key for socket head screws.
- 4.3 The test layouts are shown in Fig 3 and test rig Ref. No. 4G/4671420 is required.
- 4.4 Trichloroethane.
- 4.5 A nap-free cloth.

DISMANTLING (Fig 1)

5

Note...

The starred items indicated on the illustration (Fig 1), form a body group of which the body, piston and poppet are a matched assembly. None of these items can be interchanged with new separate items or with items from another valve. The bleed screw position is set by the manufacturer and must not be disturbed.

5.1 Remove the inlet union and discard the joint washer.

5.2 Release the tabwasher securing the vent union locknut, remove the locknut and discard the tabwasher.

5.3 Remove the screw, shakeproof washer and locking plate securing the bottom cover. Discard the shakeproof washer and locking plate.

5.4 Unscrew and remove the bottom cover. Remove the spring, remove the vent union from the bottom cover and remove the carrier from the vent union.

5.5 Remove and discard the 'O'-ring from the groove in the body.

5.6 Remove the four screws securing the outlet connection, remove the connection and discard the gasket.

5.7 Remove the four screws securing the adaptor, remove the adaptor and discard the gasket.

5.8 Remove the Twicklip with Twicklip pliers, push the poppet clear of the piston and remove the piston and poppet from the body. Discard the Twicklip.

EXAMINING

6

6.1 Clean the parts with trichloroethane and dry off with low pressure clean air.

6.2 Examine the sliding surfaces of the piston and poppet and the bores of the body for scoring or fretting. See that the valve seats, under the poppet head and in the body, are not damaged. See that the bleed screw is secure in the body.

6.3 See that all threads are serviceable and that the cones of the unions are not damaged. The internal thread in the piston is used for machining purposes and does not need checking.

6.4 If the piston, body or poppet are found to be unserviceable the body group must be discarded and a new group used for replacement. In this event the nameplate must be transferred to the new group and secured with four drive screws.

6.5 Examine all parts for corrosion and deterioration of surface treatment.

6.6 Check the spring to the requirements of Table 1.

TABLE 1
Spring data

Item	Working length	Load at working length
Spring PS48/12	22.8mm (0.9 in.)	32.8N (7.37 lbf)±10%
Spring PS 48/41	28.4mm (1.12 in.)	13.3 N to 16 N (3 to 3.6 lbf)
Spring PAS 148-074	22.8mm (0.9 in.)	46.7 N (10.5 lbf)±10%

REPAIR

7 Repair consists of renewing any parts that do not pass inspection. In situ or special repair schemes do not apply to these valves.

ASSEMBLING (Fig 1)

8 Note...

No lubricants are to be used in the assembly of these valves.

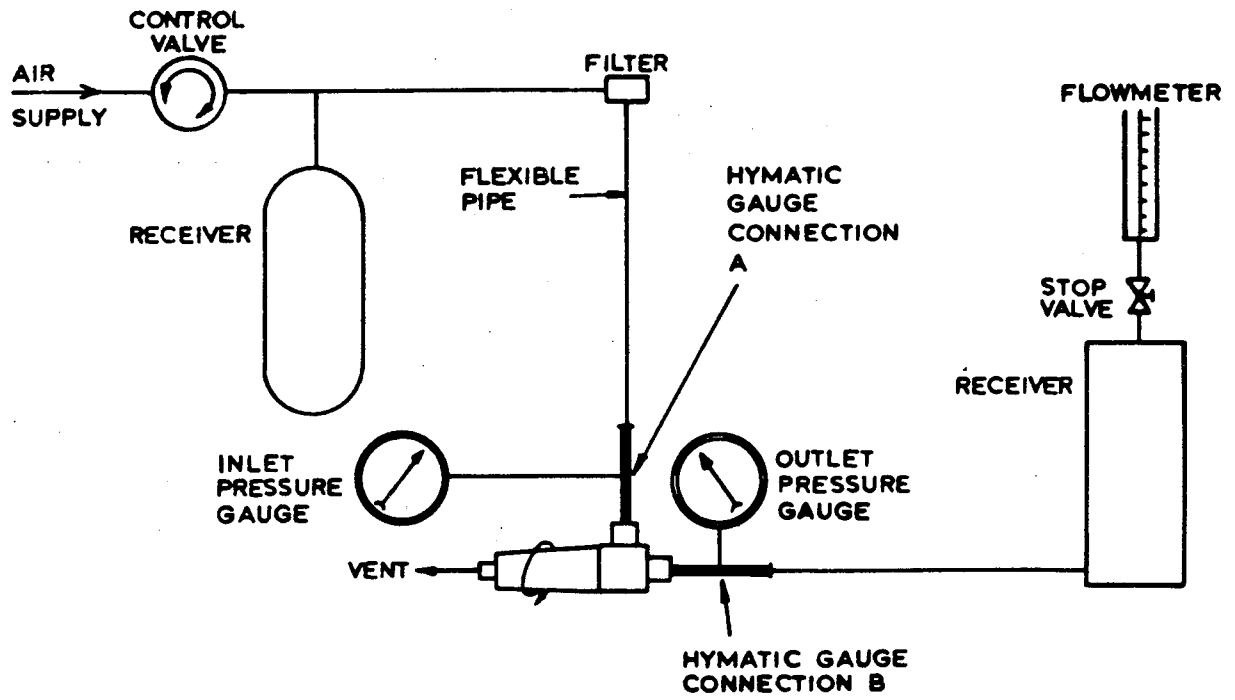
8.1 Polish the sliding surfaces of the poppet and piston, and the bores of the body with a nap free cloth. Insert the poppet in the bore of the body. Supporting the head of the poppet with one finger, insert the piston and push in onto the poppet spigot until it is hard against the shoulder. Using the Twicklip pliers, place the new Twicklip in position on the spigot. Use a small screwdriver or similar tool to push each of the four tongues of the Twicklip down until they snap into the groove in the spigot. The correct fitting of the Twicklip is essential.

8.2 Check, by moving the assembly axially with the fingers, that there is no feeling of friction and, that with the body held in a vertical position the assembly falls slowly to the limit of its travel.

8.3 Position a new gasket on the adaptor and secure the adaptor to the body with the four 2BA screws. Evenly tighten the screws to a torque loading of 2.26 to 2.82 Nm (20 to 25 lbf.in.). Lock the screws by peening the edge of the recess against the screw head, with a rectangular ended punch, at two diametrically opposed positions. Position a new gasket on the outlet connection and secure the connection to the adaptor with the four 4BA screws. Evenly tighten the screws to a torque loading of 0.9 to 1.13 Nm (8 to 10 lbf.in.). Lock the screws by peening as stated above.

8.4 Fit a new 'O-ring in the groove in the body.

8.5 Screw the carrier onto the vent union approximately half way along the union thread. Insert the union in the bottom cover and loosely fit the tabwasher and locknut.



APPLICABILITY AND PART NO OF
GAUGE CONNECTIONS

VALVE TYPE	CONNECTIONS	
	A	B
PS 48 / 12	DMT/1085 / F	DMT/1085 / H
PS 48 / 41	DMT/1085 / H	DMT/1085 / H
PAS148-074	DMT/1085 / F	DMT/1085 / H

Fig 3 Test layout PS48/12, PS48/41, PAS 148-074

- 8.6 Place the spring inside the piston and screw on the bottom cover.
- 8.7 Tighten the bottom cover, and secure it with the new locking plate, new shakeproof washer and screw.
- 8.8 Position a new joint washer on the inlet union and screw in and tighten the union.

TESTING PS48/12 (Fig 3)

9

- 9.1 Connect the valve to the test rig as shown in Fig 3 with the long axis horizontal.
- 9.2 Apply an inlet pressure of 2.1 bar (30 lbf/in.²) and adjust the outlet pressure to 0.43 bar (6.2 lbf/in.²) at a flow of 141 litres/min (5.0 ft³/min.) Turn the vent union clockwise to decrease and anti-clockwise to increase the outlet pressure. The union must be pushed into the bottom cover about 0.25 in., to clear the hexagon flats, before it can be turned, and must be returned to its correct location after each adjustment has been made.

Note...

Sub-para 9.2 is a nominal setting and the valve may be re-adjusted to meet the requirements of sub-para 9.3.1, 9.3.2 and 9.3.3.

9.3 At inlet pressures ranging from 1.7 to 8.6 bar (25 to 125 lbf/in.²) and the flow controlled to 84.9 litres/min (3.0 ft³/min.) see that the outlet pressure does not oscillate or hunt outside a limit of 0.02 bar (0.25 lbf/in.²) at each observed value.

9.3.1 Check that at an inlet pressure of 0.34 (5.0 lbf/in.²) the outlet pressure does not fall below 0.27 bar (3.9 lbf/in.²) at a flow of 849 litres/min. (30.0 ft³/min.).

9.3.2 Check that the valve meets the following outlet pressure requirements at the inlet pressure and flows indicated.

Inlet pressure bar (lbf/in. ²)	Maximum flow Litres/min (ft ³ /min)	Outlet pressure maximum bar (lbf/in. ²)
8.6 (125)	2.5 (0.9)	0.46 (6.75)
8.6 (125)	49.5 (1.75)	0.45 (6.5)
6.9 (100)	14.2 (0.5)	0.46 (6.75)
6.9 (100)	28.3 (1.0)	0.45 (6.5)
3.45 (50)	7.1 (0.25)	0.46 (6.75)
3.45 (50)	14.2 (0.5)	0.45 (6.5)

9.3.3 Check that the valve meets the following outlet pressure requirements at the inlet pressures and flows indicated.

Inlet pressure bar (lbf/in. ²)	Maximum flow Litres/min (ft ³ /min)	Outlet pressure maximum bar (lbf/in. ²)
0.69 (10)	14.2 - 28.3 (0.5 - 1.0)	0.40 - 0.45 (5.75 - 6.56)
4.1 (60)	14.2 - 28.3 (0.5 - 1.0)	0.40 - 0.45 (5.75 - 6.56)
1.7 - 8.6 (25 - 125)	14.2 (5.0)	0.39 - 0.43 (5.7 - 6.3)
1.7 - 8.6 (25 - 125)	283 (10.0)	0.37 - 0.42 (5.5 - 6.1)
1.7 - 8.6 (25 - 125)	424 (15.0)	0.37 - 0.41 (5.4 - 6.0)
1.7 - 8.6 (25 - 125)	849 (30.0)	0.35 - 0.39 (5.2 - 5.8)
1.7 - 8.6 (25 - 125)	1274 (45.0)	0.33 - 0.39 (4.9 - 5.8)
1.7 - 8.6 (25 - 125)	1699 (60.0)	0.33 - 0.40 (4.8 - 5.9)
1.7 - 8.6 (25 - 125)	2123 (75.0)	0.31 - 0.42 (4.6 - 6.2)

9.3.4 Vent leakage to atmosphere must not exceed 56.6 litres/min. (2.0 ft³/min.) under any conditions.

9.4 Lock the vent union locknut with the tabwasher.

9.5 After each check, lightly tap the pipe line in the vicinity of the valve on test to simulate vibration. Any oscillation set up in the valve by this simulated vibration must not be excessive, must not be of increasing amplitude, and must cease when tapping is discontinued.

9.6 Release all pressure, blank off the vent connection and close the stop valve. Apply a pressure of 0.69 bar (10.0 lbf/in.²) and check for external leaks. Leakage not exceeding 100 cm³/hour (6.1 in.³/hour) is permitted.

9.7 Release all pressure and remove the blank from the vent connection.

9.8 Turning the valve through 360 deg. in 60 deg. stages, as indicated by the arrow in the diagram, check that the valve continues to function within the specified limits and that oscillation does not increase.

9.9 Release all pressure, remove the valve from the test rig and fit protective covers to the inlet, outlet and vent connections.

TESTING PS 48/41 (Fig 3)

10

10.1 Connect the valve to the test rig as shown in Fig 3 with the long axis horizontal.

10.2 Apply an inlet pressure of 8.6 bar (125 lbf/in.²) and adjust the outlet pressure to 0.19 bar (2.8 lbf/in.²) at a flow of 1132 litres/min. (40.0 ft³/min.) See para 9, sub-para 9.2 for method of adjustment.

Note...

Sub-para 10.2 is a nominal setting and the valve may be re-adjusted to meet the requirements of sub-para. 10.4, 10.5, 10.6, 10.7.

10.3 At inlet pressures ranging from 0.41 to 8.6 bar (6.0 to 125 lbf/in.²) and the flow controlled at 141 litres/min. (5.0 ft³/min.) see that the outlet pressure does not oscillate or hunt outside a limit of 0.02 bar (0.25 lbf/in.²) at each observed value.

10.4 Check that at inlet pressures of 0.69 to 8.6 bar (10 to 125 lbf/in.²) and flows ranging from 141 to 1132 litres/min. (5 to 40 ft³/min.) the outlet pressure is within 0.13 to 0.2 bar (2.0 to 3.0 lbf/in.²).

10.5 Check that at inlet pressures of 0.41 to 8.6 bar (6 to 125 lbf/in.²) and flows ranging from 141 to 1557 litres/min. (5.0 to 55 ft³/min.) the outlet pressure is within 0.07 to 0.2 bar (1.0 to 3.0 lbf/in.²).

10.6 Check that at an inlet pressure of 8.6 bar (125 lbf/in.²) and no flow the outlet pressure does not exceed 0.22 bar (3.25 lbf/in.²).

10.7 Check that at an inlet pressure of 0.69 bar (10 lbf/in.²) and outlet pressure of 0.07 bar (1.0 lbf/in.²) the flow is not less than 2038 litres/min. (72 ft³/min).

10.8 Vent leakage to atmosphere must not exceed 56 litres/min. (2.0 ft³/min.) under any condition.

10.9 Lock the vent union locknut with the tabwasher.

10.10 After each check, lightly tap the pipe line in the vicinity of the valve on test to simulate vibration. Any oscillation set up in the valve by this simulated vibration must not be excessive, must not be of increasing amplitude and must cease when tapping is discontinued.

10.11 Turning the valve through 360 deg. in 45 deg. stages, as indicated by the arrow in the diagram, check that the valve continues to function within the specified limits and that oscillation does not increase.

10.12 Release all pressure, remove the valve from the test rig and fit protective covers to the inlet, outlet and vent connections.

TESTING PAS 148-074 (Fig 3)

11

11.1 Connect the valve to the test rig as shown in Fig 3, with the long axis horizontal.

11.2 Apply an inlet pressure of 4.8 bar (70 lbf/in.²) and adjust the outlet pressure to 0.45 bar (6.5 lbf/in.²) at a flow of 1274 litres/min. (45 ft³/min.) See para. 9 sub-para. 9.2 for method of adjustment.

Note...

Sub-para. 11.2 is a nominal setting and the valve may be re-adjusted to meet the requirements of sub-para. 11.3 and 11.4.

11.3 Check that at an inlet pressure of 8.3 bar (120 lbf/in.²) and flow controlled to 792 litres/min. (28 ft³/min.) the outlet pressure does not exceed 0.51 bar (7.4 lbf/in.²).

11.4 Check that at an inlet pressure of 0.83 bar (12 lbf/in.²) and flow of 1699 litres/min. (60 ft³/min.) the outlet pressure does not fall below 0.39 bar (5.8 lbf/in.²).

11.5 Vent leakage to atmosphere must not exceed 28 litres/min. (1.0 ft³/min).

11.6 Lock the vent union locknut with the tabwasher.

11.7 After each check, lightly tap the pipe line in the vicinity of the valve on test to simulate vibration. Any oscillation set up in the valve by this simulated vibration must not be excessive, must not be of increasing amplitude and must cease when tapping is discontinued.

11.8 Turning the valve through 360 deg. in 60 deg. stages, as indicated by the arrow in the diagram, check that the valve continues to function within the specified limits and that oscillation does not increase.

11.9 Release all pressure, remove the valve from the test rig, and fit protective covers to the inlet, outlet and vent connections.

GENERAL ORDERS AND MODIFICATIONS

PREFACE

1 Material issued for inclusion in this Topic 2 should be filed in the following order:

1.1 **Preface** (this page).

1.2 **General orders.** These leaflets are identified by the prefix 'GO' to the leaflet numbers and should be filed in numerical order.

1.3 **Equipment modification list.** This list shows all approved MOD modifications affecting the subject of this Topic 2, including those for which leaflets will not be issued. The list will be reissued periodically. As modification leaflets are inserted, suitable entries should be recorded in the applicable columns of this list.

1.4 **Modification leaflets.** Leaflets bear numbers allotted in sequence as the leaflets are sent to press and should be filed in numerical order.

2 When a complete leaflet or individual leaf is reissued in amended form the alterations are indicated by triangles thus ► - - - - ◄ to show where text has been changed.

EQUIPMENT MODIFICATION LIST

Leaflet No.	
Class	
Modification title	
Mod. plate strike No.	
Contractor Mod. No.	
MOD Mod. No.	

PARTS CATALOGUE AND RELATED INFORMATION

MODIFICATION RECORD

MOD No.	AL No.	MOD No.	AL No.	MOD No.	AL No.	MOD No.	AL No.	MOD No.	AL No.

* INCORPORATED IN INITIAL ISSUE OF CATALOGUE
NA MOD NOT APPLICABLE TO THIS CATALOGUE
C MOD CANCELLED
AS AMENDMENT SHEET

PARTS CATALOGUE AND RELATED INFORMATION

PREFACE

DEMANDS

- 1 (1) The demand must quote the appropriate Vocabulary Section and Reference/Stock Number for each item. Unreferenced parts are not normally provisioned as spares and demands for such items must quote the Vocabulary Section, Maker's Part Number, and the name and type of aircraft or equipment. The location of each part within the equipment should be clearly indicated.
- (2) Demands are to be prepared in accordance with the procedure laid down in AP 830 Volume 1 or BR4.

LOCAL MANUFACTURE

- 2 Parts annotated "LM" are to be manufactured from local resources. If the manufacture of such items is beyond the capacity of the Unit, the demand is to be endorsed "Unable to manufacture locally".

MAJOR REPAIR

- 3 "MR" indicates that an item is required for major repair purposes only and will not normally be held in store by Units other than those authorised to undertake major repair of the equipment.

UNITS PER ASSEMBLY

- 4 The number quoted is the quantity required per next higher assembly in the position shown except "attaching parts" which quote the quantity required to attach one item. The letters "AR" in the "Units per Assy" column indicate that the quantity is "as required". Where applicable the quantity normally fitted is shown as a nominal figure, eg (Nom 3). Where an item is listed only for reference purposes the letters "(RF)" are quoted.

CLASSIFICATION OF EQUIPMENT

- 5 The Class of Store is indicated by a single letter as laid down in AP 830 Volume 1 or BR4.

CONDITION OF SUPPLY (Interchangeability Code)

- 6 Condition of Supply is indicated by one of the following letters and is only quoted against parts which are not directly interchangeable:

V	Open up holes on assembly
W	Partially assembled
X	Ream or machine on assembly
Y	Drill or drill and tap on assembly
Z	Trim on assembly

OBSOLESCE STOCK

- 7 An asterisk in the "Part No" column indicates that no further purchases of the item will be made but the part is to be used until stocks are exhausted.

MODIFICATIONS

- 8 When items are affected by a modification the "Mod No" is quoted in the Nomenclature. Modifications incorporated in the catalogue are listed in the Modification Record.

INDEX OF NATO STOCK NUMBERS

Vocab Sect.	NATO Stock No.	Part Number	Chap. No.	Fig/ Index	ICY MR	C of S
29C	5310-99-100-6946	AGS 2035/C		-12		C
27VB	5340-99-102-9732	C51610		-15		C
27VB	5330-99-102-9777	D9083		-14		C
27VB	4820-99-103-1502	D10658		-34		C
27VB	5360-99-145-1671	D10869		-20		C
27VB	9905-99-150-9055	D9081		- 9		C
27VB	6685-99-449-7181	C51642		1- 2		P
27VB	1650-99-449-7187	D9645		-31		C
27VB	1650-99-449-7188	D9589		-24		C
27VB	1650-99-449-7191	D9522		-21		C
27VB	6685-99-449-7268	C51937		1- 3		P
27VB	6685-99-449-7271	PAS 148-074		1- 1		P
27VB	4730-99-449-7277	D12696		-27		C
28F	5310-99-912-8915	AGS 1148/C		-17		C
28F	5310-99-912-9566	AGS 1138/F		-28		C
28F	5305-99-913-1779	BS A31/C8		-13		C
27VB	5305-99-941-7924	D9360/2		- 5		C
28F	4730-99-943-9107	AGS 1105/F		-26		C
28S	5305-99-948-6055	D75120/B2		-10		C
27VB	5310-99-949-9374	D9619		-16		C
27VB	5330-99-949-9376	D9592		-30		C
27VB	5310-99-949-9383	D9590		-19		C
27VB	4730-99-949-9387	D9644		- 4		C
27VB	4730-99-949-9388	D9591		-18		C
27VB	5310-99-949-9389	D9595		-11		C
27VB	5305-99-949-9888	D9610		-25		C

INDEX OF PART NUMBERS

Part Number	Vocab Sect.	NATO Stock No., Ref. No. or LM	Chap. No.	Fig. Index No.
A-AA-192040-02				-35
A-AA-192040-04				-33
AGS 1105/F	28F	-943-9107		-26
AGS 1138/F	28F	5310-99-912-9566		-28
AGS 1148/C	28F	-912-8915		-17
AGS 2035/C	28W	5310-99-100-6946		-12
BS A31/C8		-913-1779		-13
C51610	27VB	5340-99-102-9732		-15
C51615				-29
C51616				-32
C51642	27VB	6685-99-449-7181	1- 2	
C51937	27VB	6685-99-449-7268	1- 3	
D9081	27VB	9905-99-150-9055	- 9	
D9083	27VB	5330-99-102-9777	-14	
D9217		5365-99-203-2391	-23	
D9360/2	27VB	5305-99-941-7924	- 5	
D9522	27VB	1650-99-449-7191	-21	
D9589	27VB	1650-99-449-7188	-24	
D9590	27VB	5310-99-949-9383	-19	
D9591	27VB	4730-99-949-9388	-18	
D9592	27VB	5330-99-949-9376	-30	
D9595	27VB	5310-99-949-9389	-11	
D9610	27VB	5305-99-949-9888	-25	
D9619		5310-99-949-9374	-16	
D9644	27VB	4730-99-949-9387	- 4	
D9645	27VB	1650-99-449-7187	-31	
D10658	27VB	4820-99-103-1502	-34	
D10869	27VB	5360-99-146-1671	-20	
D12663/2		5305-99-951-2020	- 6	
D12696	27VB	4730-99-449-7277	-27	
D13264			-22	
D75120/B2	28S	5305-99-948-6055	-10	
E-NL-061801-05			- 8	
E-NL-061801-19			- 7	
PAS 148-074	27VB	6685-99-449-7271	1-1	

DETAILED PARTS LIST

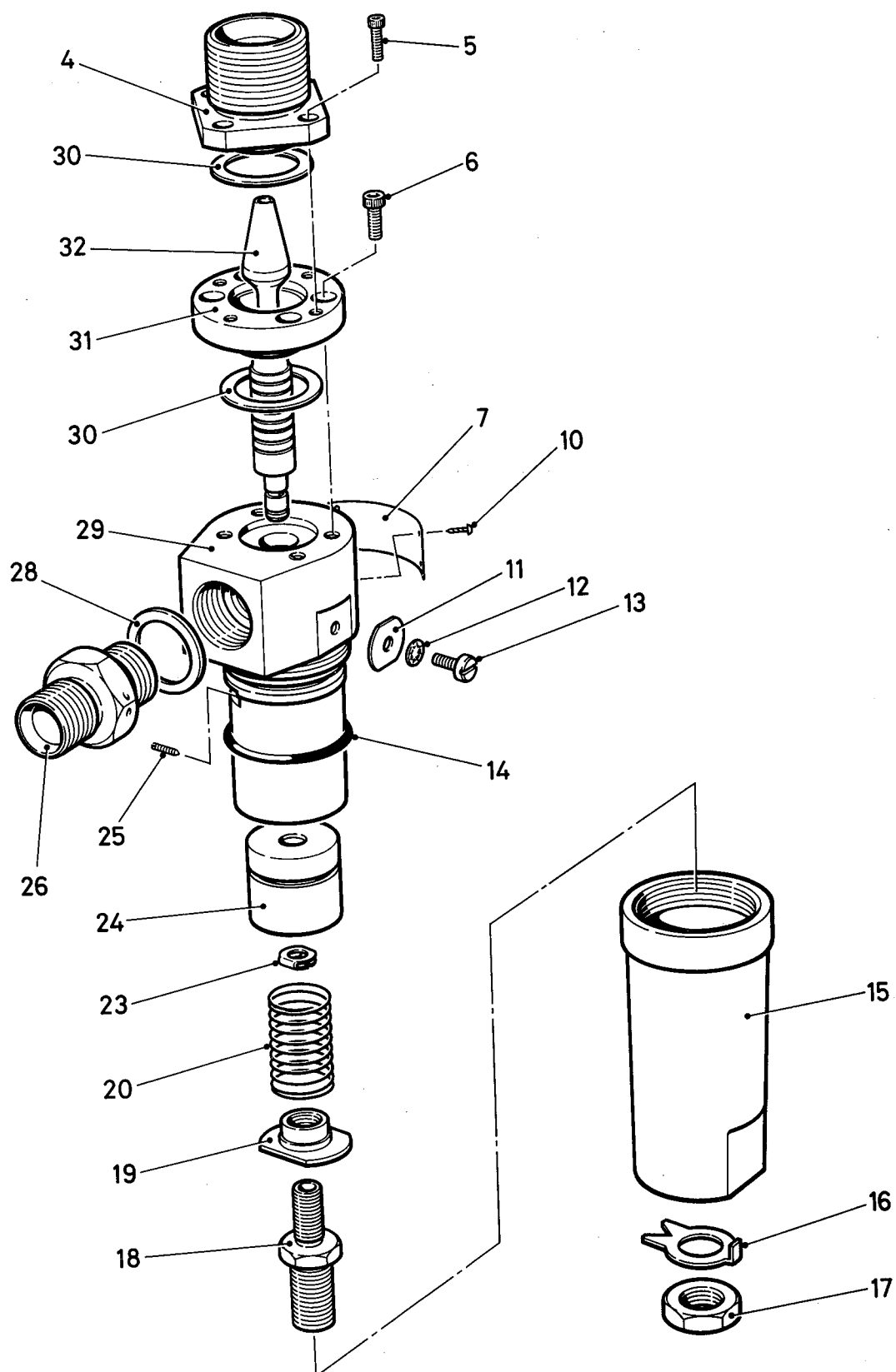


Fig 1 Valve, pressure reducing

DETAILED PARTS LIST

Valve, pressure reducing, Types PAS 148-074, PS48/12 and PS 48/41

Fig/ Index No.	Part No.	Nomenclature	Usage Code	Units per Assy
		1 2 3 4 5 6		
1- 1	PAS 148-074	Valve, pressure reducing	A	
1- 2+	C51642	Valve, pressure reducing (PS48/12)	B	
1- 3+	C51937	Valve, pressure reducing (PS48/41)	C	
- 4	D9644	Union, outlet		1
- 5	D9360/2	Screw, socket head 4BA x 3/8 in.		4
- 6	D12663/2	Screw, socket head 2BA x 3/8 in.		4
- 7	E-NL-061801-19	Nameplate	A	1
- 8	E-NL-061801-05	Nameplate	B	1
- 9	D9081	Nameplate	C	1
-10	D75120/B2	Screw, drive		4
-11	D9595	Plate, locking		1
-12	AGS 2035/C	Washer, shakeproof		1
-13	BS A31/C8	Screw, lock		1
-14	D9083	Seal, 'O'-ring		1
-15	C51610	Cover, bottom		1
-16	D9619	Washer, tab		1
-17	AGS 1148/C	Nut, lock		1
-18	D9591	Union, vent		1
-19	D9590	Carrier, spring		1
-20	D10869	Spring	A	1
-21+	D9522	Spring	B	1
-22+	D13264	Spring	C	1
-23*	D9217	Twicklip, 5/16 in. dia.		1
-24*	D9589	Piston, control		1
-25*	D9610	Screw, bleed		1
-26	AGS 1105/F	Union, inlet 3/4 in. x 1.5 in.	A C	1
-27+	D12696	Union, inlet 3/4 in. x 1 in.	B	1
-28	AGS 1138/F	Washer, joint		1
-29*	C51615	Body		1
-30	D9592	Gasket		2
-31	D9645	Adaptor		1
-32*	C51616	Poppet		1
* Supplied as a matched item, body group.				
-33+	A-AA-192040-04	Body group	A	1
-34+	D10658	Body group (PS48/12)	B	1
-35+	A-AA-192040-02	Body group (PS48/41)	C	1

+ Item not illustrated.



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