



MAINTENANCE INSTRUCTIONS

ENGINE AIR START PRESSURE VESSEL VALVE

Introduction

These instructions cover the maintenance of the Engine Air Start Pressure Vessel Valve. The valve is available with a number of optional fittings including Air Relief Valve, Fusible Plug and Pressure Gauge.

Safety

Maintenance work must be undertaken by competent persons and to good engineering practice. As with any pressurised device, the Engine Air Start Pressure Vessel Valve must be effectively isolated from all sources of pressure and completely vented to atmosphere before maintenance is carried out.

Recommended Spares

Ref. No.	Description
V1510045	Seal spares kit for complete overhaul.
V1510013	Replacement inlet or outlet (dual purpose) plunger sub-assembly
310101200	Safety Valve - specify set pressure.
V1210551	Fusible Plug - specify melt temperature.
379010---	Pressure Gauge - Specify pressure range.

Plunger Assembly - Replacement.

The following procedure is applicable to both inlet and outlet sub-assemblies.

1. Isolate from pressure and vent to atmosphere.
2. Fully open hand wheel.
3. Undo gland retention grub-screw (6) from body.
4. Unscrew and remove gland (4) and plunger sub-assembly complete.
5. Remove split-pin (19) and hand wheel (17).
6. Unscrew gland (4) from plunger (8).
7. Fit replacement plunger assembly V1510013.
8. Re-assemble in reverse sequence ensuring hand wheel is in fully open position before re-fitting to body.

Plunger Assembly - Withdraw, Strip & Re-Assembly

The following procedure is applicable to both inlet and outlet sub-assemblies. It is recommended to replace all seals selected from seal spares kit V1510045. Refer to sketch VA6B and general arrangement drawing.

1. Isolate from pressure and vent to atmosphere.
2. Fully open hand wheel.
3. Undo gland retention grub screw (6) from body.
4. Unscrew and remove gland (4) and plunger sub-assembly complete.
5. Remove split-pin (19) and hand wheel (17).
6. Unscrew gland (4) from plunger (8).
7. Withdraw seloc pin (12)
8. Clamp plunger (8) on hand wheel drive flats and undo securing screw (11).
9. Remove shroud (10)



MAINTENANCE INSTRUCTIONS

10. Remove plunger extension (9) and expose d-ring (13)
11. Replace all seals (13), (16),(15),(5) 6 (14).
12. Re-assemble in reverse sequence ensuring hand wheel is in fully open position before re-fitting to body.

Isolation Spindle Sub-Assembly - Strip and Re-Assemble

1. Isolate from pressure and vent to atmosphere.
2. Fully open isolator.
3. Remove 3 grub screws (22) and withdraw body isolation (20) sub-assembly.
4. Withdraw split-pin (27) and remove thumb-nut (26)
5. Unscrew valve spindle (23) from body isolation (20).
6. Replace all seals (25), (24) & (21).
7. Re-assemble in reverse sequence ensuring isolator is in fully open position
8. Before re-fitting to body

Fusible Plug - Replacement.

The fusible plug should only require replacement should the Engine Air Start Pressure Vessel Valve become subject to temperatures greater than the melting point of the plug. In this instance, the fault leading to the overheat condition must be rectified.

1. Isolate from pressure and vent to atmosphere.
2. Unscrew plug (37) and replace.

Safety Valve - Replacement.

Should the safety valve blow, the cause of over pressurisation must be found and rectified.

If the safety valve leaks or fails to operate, it should be replaced complete.

Refurbishment of safety valves is not recommended without specialist test equipment and tooling.

See also safety valve installation, operating and maintenance instructions Ref. VA1.

1. Isolate from pressure and vent to atmosphere.
2. Unscrew valve at seat flats (41) and replace.

Pressure Gauge - Replacement.

If the pressure gauge fails it should be replaced complete. Refurbishment of pressure gauges is not recommended without specialist calibration equipment and tooling.

1. Isolate gauge using isolator valve.
2. Unscrew gauge (33) and replace.

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ENGINE AIR START PRESSURE VESSEL VALVE

OPERATION

The valve controls a two stage operation;

- 1, The flow of air from the main air supply to an air receiver.
- 2, The flow of air from the air receiver to the engine.

For stage 1.

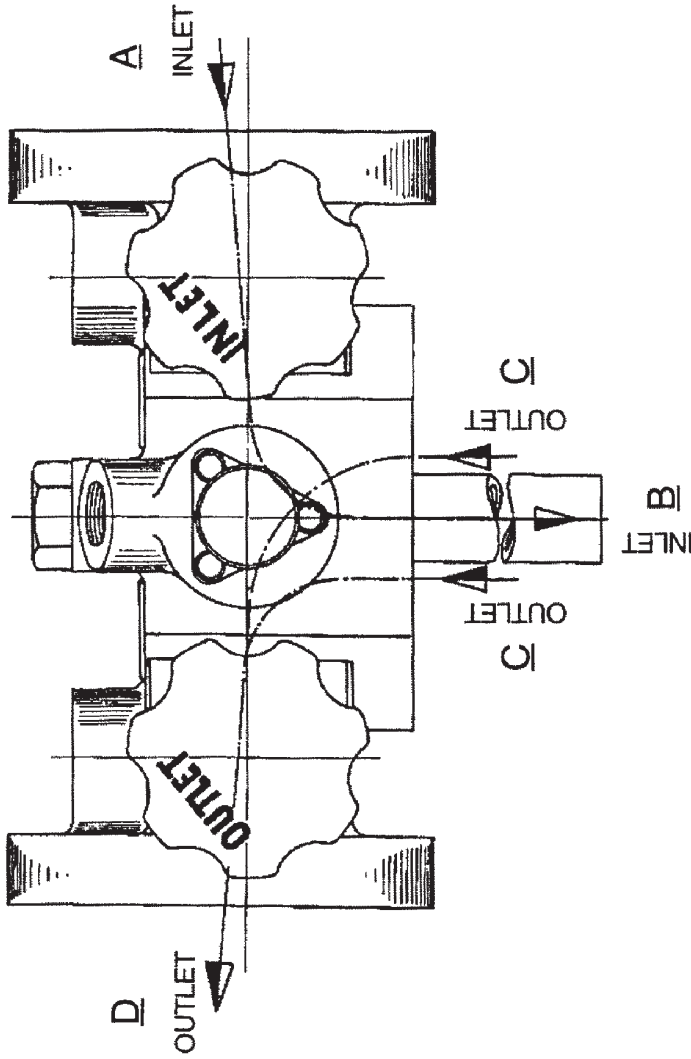
- i. Ensure that the OUTLET valve is closed.
- ii. Open the INLET valve.
- iii. Air will enter the valve through port A and exit through port B
- iv. Monitor the pressure levels on the air receiver.
- v. When the air receiver is full, (reaches the required pressure) close the INLET valve.

For stage 2.

- i. To release the air stored in the air receiver open the OUTLET valve fully.
- ii. Clean air from the air receiver will immediately flow from port C to port D and to the engine.

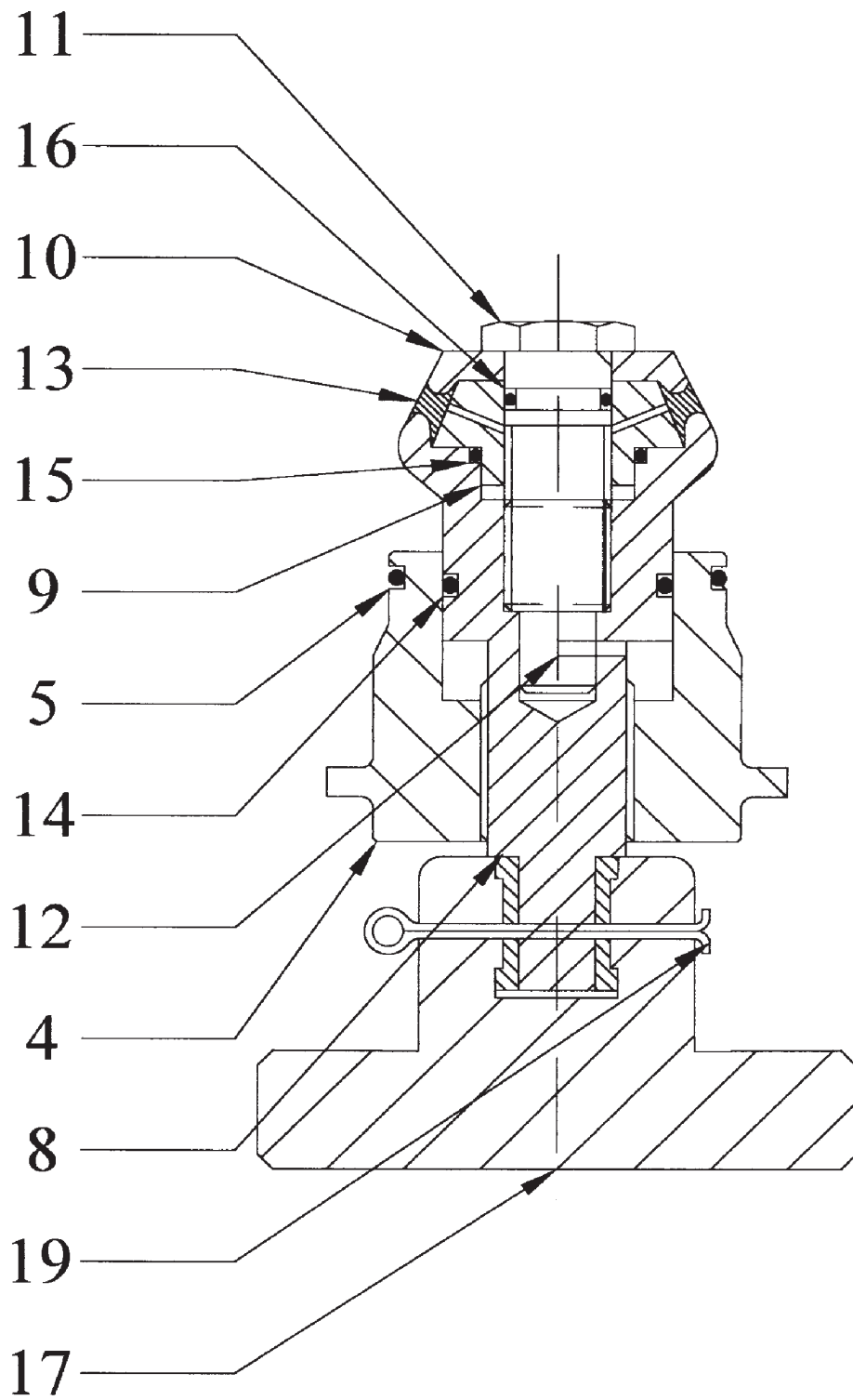
FEATURES

Inlet and Discharge air passages are completely separate and are fitted with individual double acting stop valves. Connections are provided for Air Relief Valve, Fusible Plug, Receiver Pressure Gauge, Inspectors Test Gauge and a Syphon Drain Valve, all of which are direct to the receiver chamber pressure. Receiver pressure gauge connection has separate stop valve.



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ENGINE AIR START PRESSURE VESSEL VALVE

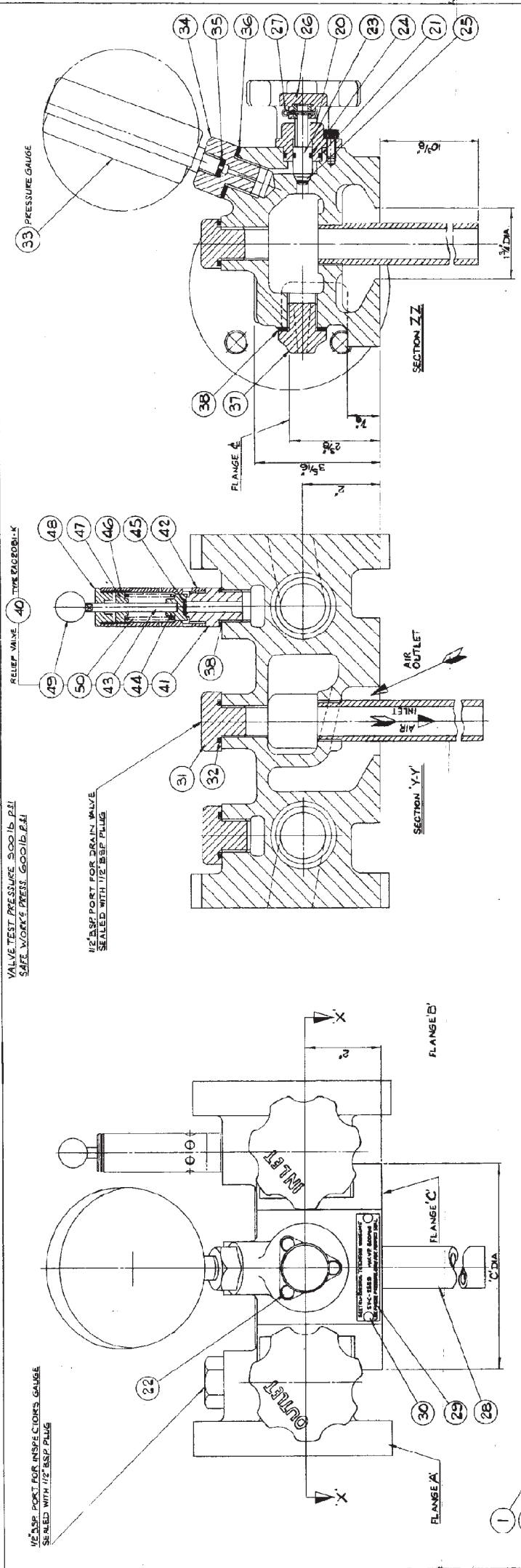


AIR RECEIVER HEAD PLUNGER ASSEMBLY - MAINTENANCE

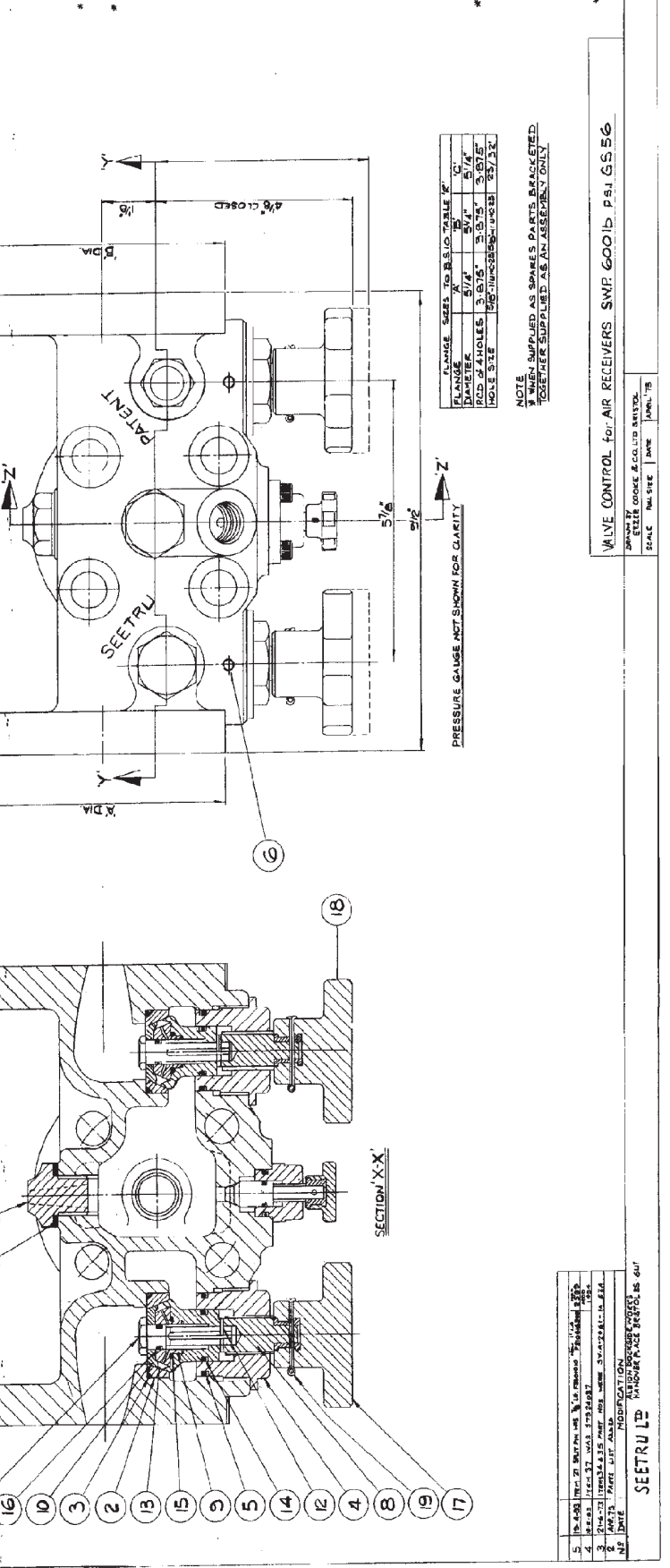
DRAWN : DH

ISSUE : 01

VA6B



QTY	PART NO.	DESCRIPTION	UNIT	ISSUE NO.	DRAWING NO.
1	1	VALVE BODY	1	5	SV-C-2536
1	2	VALVE PLUG	1	5	SV-C-2536
1	3	VALVE SPRING	1	5	SV-C-2536
1	4	VALVE PLATE	1	5	SV-C-2536
1	5	VALVE SEAT	1	5	SV-C-2536
1	6	VALVE O-RING	1	5	SV-C-2536
1	7	VALVE GASKET	1	5	SV-C-2536
1	8	VALVE NUT	1	5	SV-C-2536
1	9	VALVE WASHER	1	5	SV-C-2536
1	10	VALVE PIN	1	5	SV-C-2536
1	11	VALVE PIN WASHER	1	5	SV-C-2536
1	12	VALVE PIN NUT	1	5	SV-C-2536
1	13	VALVE PIN WASHER	1	5	SV-C-2536
1	14	VALVE PIN NUT	1	5	SV-C-2536
1	15	VALVE PIN WASHER	1	5	SV-C-2536
1	16	VALVE PIN NUT	1	5	SV-C-2536
1	17	VALVE PIN WASHER	1	5	SV-C-2536
1	18	VALVE PIN NUT	1	5	SV-C-2536
1	19	VALVE PIN WASHER	1	5	SV-C-2536
1	20	VALVE PIN NUT	1	5	SV-C-2536
1	21	VALVE PIN WASHER	1	5	SV-C-2536
1	22	VALVE PIN NUT	1	5	SV-C-2536
1	23	VALVE PIN WASHER	1	5	SV-C-2536
1	24	VALVE PIN NUT	1	5	SV-C-2536
1	25	VALVE PIN WASHER	1	5	SV-C-2536
1	26	VALVE PIN NUT	1	5	SV-C-2536
1	27	VALVE PIN WASHER	1	5	SV-C-2536
1	28	VALVE PIN NUT	1	5	SV-C-2536
1	29	VALVE PIN WASHER	1	5	SV-C-2536
1	30	VALVE PIN NUT	1	5	SV-C-2536
1	31	VALVE PIN WASHER	1	5	SV-C-2536
1	32	VALVE PIN NUT	1	5	SV-C-2536
1	33	VALVE PIN WASHER	1	5	SV-C-2536
1	34	VALVE PIN NUT	1	5	SV-C-2536
1	35	VALVE PIN WASHER	1	5	SV-C-2536
1	36	VALVE PIN NUT	1	5	SV-C-2536
1	37	VALVE PIN WASHER	1	5	SV-C-2536
1	38	VALVE PIN NUT	1	5	SV-C-2536
1	39	VALVE PIN WASHER	1	5	SV-C-2536
1	40	VALVE PIN NUT	1	5	SV-C-2536
1	41	VALVE PIN WASHER	1	5	SV-C-2536
1	42	VALVE PIN NUT	1	5	SV-C-2536
1	43	VALVE PIN WASHER	1	5	SV-C-2536
1	44	VALVE PIN NUT	1	5	SV-C-2536
1	45	VALVE PIN WASHER	1	5	SV-C-2536
1	46	VALVE PIN NUT	1	5	SV-C-2536
1	47	VALVE PIN WASHER	1	5	SV-C-2536
1	48	VALVE PIN NUT	1	5	SV-C-2536
1	49	VALVE PIN WASHER	1	5	SV-C-2536
1	50	VALVE PIN NUT	1	5	SV-C-2536



FLANGE SIZE TO B.S. 10 TABLE 2	VALVE	DRIVER	POD. 4 HOLES	MOLE SIZE
3/4"	3/4"	3/4"	3/8"	3/8"
1"	1"	1"	3/8"	3/8"
1 1/4"	1 1/4"	1 1/4"	3/8"	3/8"
1 1/2"	1 1/2"	1 1/2"	3/8"	3/8"
2"	2"	2"	3/8"	3/8"

NOTE:
 WHEN SUPPLIED AS SPARE PARTS BRACKETED
 TOGETHER SUPPLIED AS AN ASSEMBLY ONLY.

VALVE CONTROL FOR AIR RECEIVERS SWP 600 LB PSI GS 56
 SHEET 1 OF 1
 DATE: 10/15/54
 SCALE: 1/2" = 1"

SEETRU LTD
 MODIFICATION
 DATE: 10/15/54
 DRAWING NO: SV-C-2536
 SHEET 1 OF 1

ITEM	QTY	NAME	MATERIAL	PART NUMBER
40	1	RELIEF VALVE TO SUIT		
38	2	1/2" BSP WASHER	SOFT COPPER	
37	1	PLUG / FUSIBLE PLUG TO SUIT		
36	1	ADAPTOR SEAL	NYLON	SVA 2461-3A
35	1	GAUGE SEAL	P.T.F.E.	SVA 2555-2A
34	1	GAUGE ADAPTOR	BRASS	SVA 2555-1A
33	1	PRESSURE GAUGE		
32	2	'O' RING	RUBBER	B.S. 1806 No.119
31	2	PLUG	BMS	SV-C-2097-9A
30	2	RIVET TYPE 'U'	BRASSED	'O' x 3/16" HTS
29	1	NAMEPLATE	BRASS	SV-C-2097-24A
28	1	TUBE 3/4" BSP	B.S.P.	SV-C-2097-29A
27	1	SPLIT PIN	STEEL	1/16" DIA x 1"
26	1	THUMBNUT	PLASTIC	SV-C-2097-12A
25	1	SINGLE 'D' RING	RUBBER	SV-A-2011-5A
24	1	'O' RING	RUBBER	B.S.1806 No. 012
23	1	VALVE SPINDLE	BRASS	SV-C-2097-8A
22	3	CAP SCREW	H.T.S	1/4" 28 U.N.F. x 1/2"
21	1	'O' RING	RUBBER	B.S.1806 No. 210
20	1	BODY ISOLATION	H.P.B.	SV-C-2097-26A
19	2	SPLIT PIN	STEEL	3/32" DIA x 1 3/4"
18	1	INLET HANDWHEEL	PLASTIC	SV-C-2097-11A
17	1	OUTLET HANDWHEEL	PLASTIC	SV-C-2097-10A
16	2	'O' RING	RUBBER	B.S.1806 No. 012
15	2	'O' RING	RUBBER	B.S.1806 No. 115
14	2	'O' RING	RUBBER	B.S.1806 No. 210
13	2	DOUBLE 'D' RING	RUBBER	SV-C-2097-16A
12	2	SEL-LOK PIN	SP. STEEL	3/32" DIA x 5/16"
11	2	SECURING SCREW	BRASS	SV-C-2097-6A
10	2	SHROUD	BRASS	SV-C-2097-5A
9	2	PLUNGER EXTENSION	BRASS	SV-C-2097-4A
8	2	PLUNGER	BRASS	SV-C-2097-3A
7	2	PLUNGER ASSEMBLY SV-C-2097-32A (ITEMS 8-16)		
6	2	GRUB SCREW	H.T.S.	1/4" 28 U.N.F. x 3/8" CP
5	2	'O' RING	RUBBER	B.S.1806 No. 222
4	2	GLAND	BRASS	SV-C-2097-7A
3	2	'O' RING	RUBBER	B.S.1806 No. 221
2	2	SEAT	ST. STEEL	SV-C-2097-2A
1	1	BODY	SG C.I.	
ITEM	QTY	NAME	MATERIAL	PART NUMBER