

Parts Section



VT & VS

500 • 605 • 650 • 800
Range of Twin Engine
& Hydrostatic Sweepers

Part No 02617-1-P

Revision Level 13

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Foreword

This section of the manual will help you when ordering parts and serves as an assembly/disassembly reference when used in conjunction with the Maintenance Section procedures.

About this section

Chapters 20 to 34, listed on the front sheet, cover the major areas of the machine. Some of the more popular options such as the Supawash hi-pressure water system, Channel Brush Rotatilt, Powaboom and Littasnatch wanderhoses are also covered in these chapters. Other more specialised options will be found in the Optional Equipment Chapter 35.

The Table of Contents on page 1 of each chapter locates the exact page a particular illustration or parts list is on. Parts that have been superseded and are not interchangeable with the new items are shown in a 'Superseded Parts' section at the end of the chapter.

The BoM numbers above the parts lists are for Johnston internal reference only.

On pages that have more than one part number column, the symbol '<' indicates that the number in that column is the same as that in the column on the left.

The symbol '>' in front of an item number indicates that item has changed from the one shown on the previous issue of that page.

Chassis Related Parts

The items listed below vary depending on what chassis the Johnston sweeper equipment is mounted to. If any parts for these areas are required, contact the Johnston Parts Department quoting the machine serial number shown on the plate fitted to the subframe crossmember below the body rear door.

- Batteries and battery mounting
- Cab - Sweep control installations (Chapter 32)
- Cab - single and dual steer parts
- Body discharge interlock
- Rear mounted fuel tank
- Gutter and wide sweep brush water spraybar mountings (Chapters 24 and 26)
- Supawash hose reel and front bumper spraybar mountings (Chapter 30.SW)
- Rear underrun bumper
- Rear mudguards and mudflaps
- Subframe to chassis mounts
- Work lights (Chapter 31)
- Channel brush pivot frame support posts (Chapter 24)
- Channel brush hydraulic hoses 75 and 84 (Chapter 24)
- Wide sweep brush hydraulic hoses 70 to 74 (Chapter 26)
- Customer options i.e. autolube, special beacons, reversing camera, handwash etc.

CHAPTER

P

Page Issue Levels

Description

This chapter lists each page in the Parts section, it's issue level and whether it has changed since the previous revision level. Changed pages are indicated by the letter 'C' in the changed column, and new pages by the letter 'N'.

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Front Sheet	13	C	Foreword 1	13	C

P Chapter - Page Issue Levels

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20 Chapter - Body/Rear Door/Cowl

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21 Chapter - Subframe/Body Prop

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22 Chapter - Powapak

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22.CP:05	13	C	22.CP:06	08	
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22.CP:09	10		22.CP:10	08	
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22.CP:13	08		22.CP:14	08	
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22.EC:03	13	N	22.EC:04	13	N

22 Chapter - Powapak - Continued

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22.EI:07	09		22.EI:08	13	C
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22.EI:13	13	C	22.EI:14	10	
22.EI:15	09		22.EI:16	09	
22.EI:17	09		22.EI:18	13	C
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22.EI:23	09		22.EI:24	13	C
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23 Chapter - Systems Locker

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24 Chapter - Channel Brush

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25 Chapter - Nozzle

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26 Chapter - Wide Sweep Brush

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27 Chapter - Wanderhose/Littasnatch

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27:17	13	C	27:18	13	C
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28 Chapter - Hydraulics

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29 Chapter - Pneumatics

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30 Chapter - Water System

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31 Chapter - Electrical System

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32 Chapter - Cab Controls

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33 Chapter - Chassis Application

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34 Chapter - Miscellaneous

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35 Chapter - Optional Equipment

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35.AE:07	13	N	35.AE:08	13	N
35.SG:01	10		35.SG:02	10	
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35.WS:05	10		35.WS:06	10	
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35.WS:09	10		35.WS:10	10	

CHAPTER

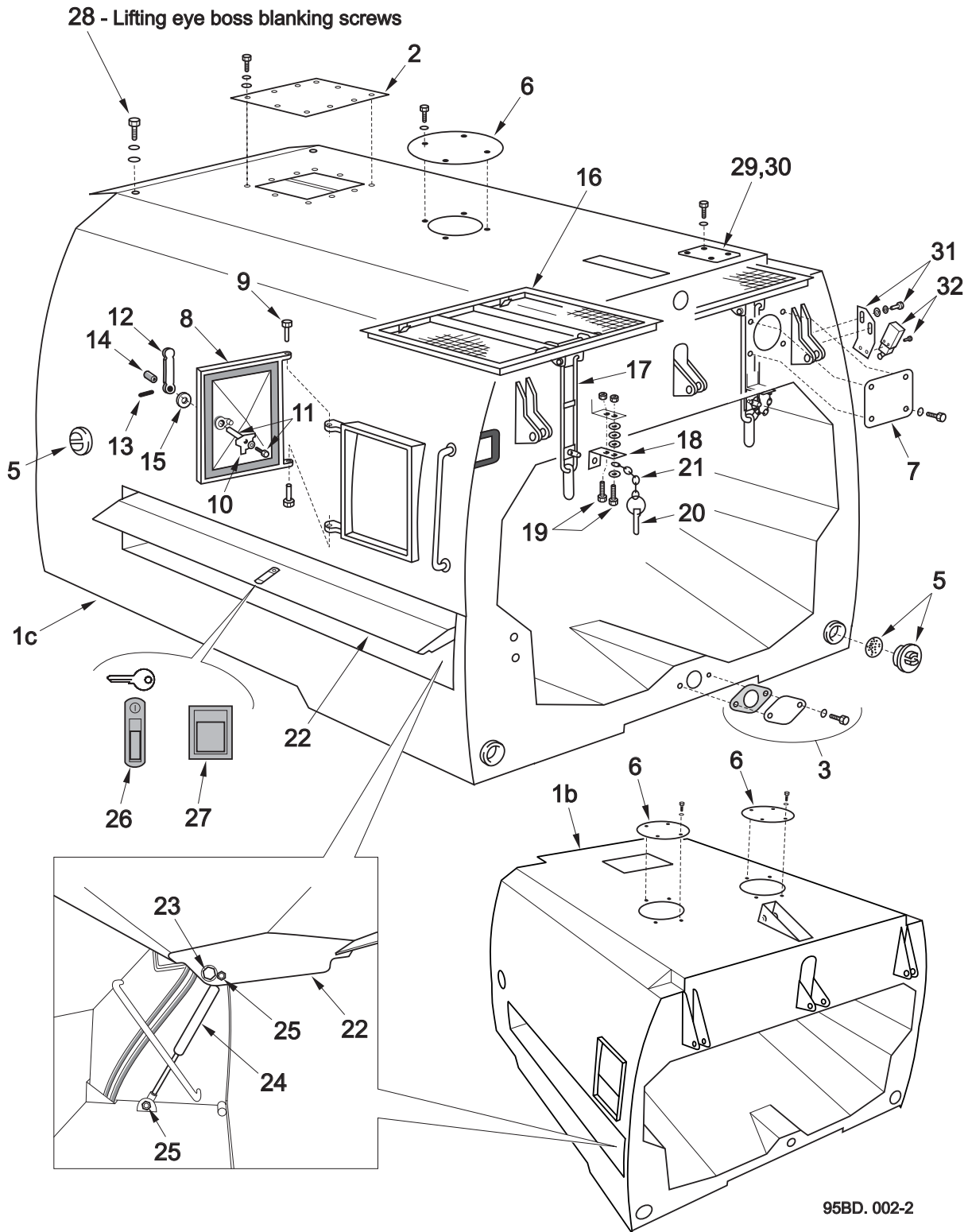
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Body/Rear Door/Cowl

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Body Common Parts (1) - Mesh Screens and Doors



Body Common Parts (1) - Mesh Screens and Doors

Body Welded Assemblies comprise items 1 to 3

BoM 940611

Item No.	Part No.	Description	Quantity			
			500	605	650	800
1a	294000-2	500 Body, Chrome Steel (4003) Not shown	✓	-	-	-
	294000-3	500 Body, Stainless Steel (316) Not shown	✓	-	-	-

BoM 950611

1b	281150-2	605 Body, Chrome Steel (4003)	-	✓	-	-
	281150-3	605 Body, Stainless Steel (316)	-	✓	-	-
1c	280650-2	650 Body, Chrome Steel (4003)	-	-	✓	-
	280650-3	650 Body, Stainless Steel (316)	-	-	✓	-

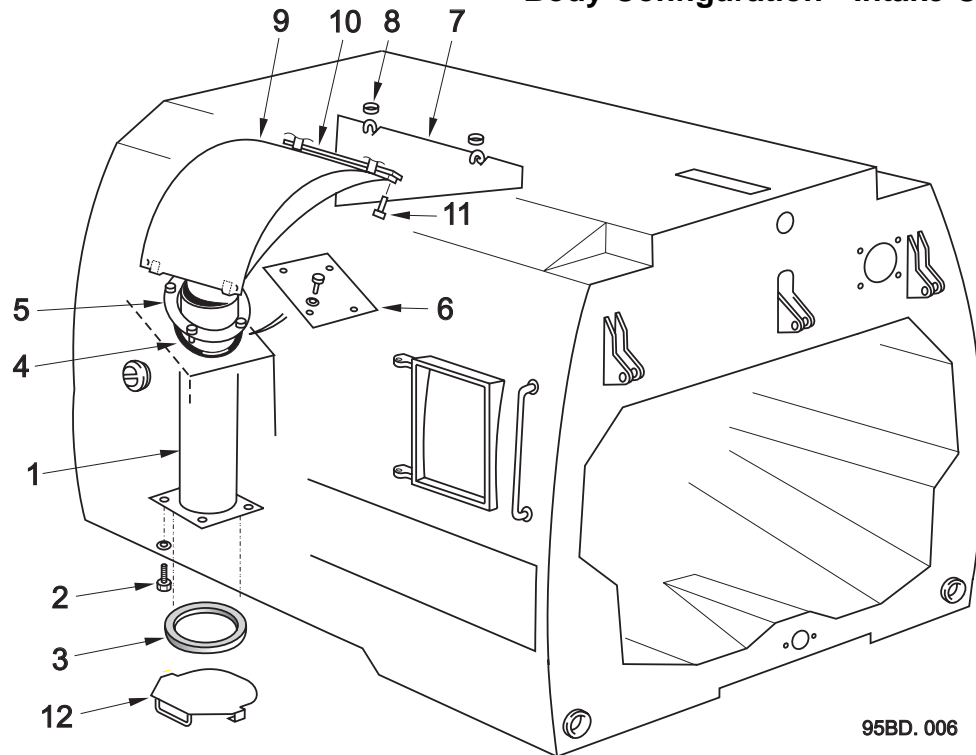
BoM 960611

1d	280950-2	800 Body, Chrome Steel (4003) Not Shown	-	-	-	✓
	280950-3	800 Body, Stainless Steel (316) Not Shown	-	-	-	✓
2	280528-2	Roof Access Panel (4003)	-	1	1	1
	280528-3	Roof Access Panel (316)	-	1	1	1
3	124-437	Screw M8 x 25	-	10	10	10
	460-10	Washer - Spring Ø8	-	10	10	10
	280582-2	Blanking Plate - Recirculation (4003)	-	1	1	1
	280582-4	Blanking Plate - Recirculation (316)	-	1	1	1
>	282574-1	Gasket	-	1	1	1
	118-169	Screw M10 x 25 - Stainless Steel	-	2	2	2
>	451-6	Washer - Sealing M10	-	2	2	2
4	-	-	-	-	-	-
5	41776-2	Cap	4	4	4	4
	40643-1	Cap Seal	4	4	4	4
6	281376-2	Wanderhose Blanking Plate (4003)	2	2	1	1
	281376-3	Wanderhose Blanking Plate (316)	2	2	1	1
	118-199	Screw M12 x 20 Stainless Steel	8	8	4	4
	458-12	Washer - Spring Ø12 Stainless Steel	8	8	4	4
7	281947-2	Blanking Plate - Littasnatch (4003)	-	-	1	1
	281947-3	Blanking Plate - Littasnatch (316)	-	-	1	1
	118-167	Screw M10 x 20 Stainless Steel	-	-	4	4
	458-10	Washer - Spring Ø10 Stainless Steel	-	-	4	4
8	200345-1	Access Door	2	2	2	2
	281217-1	Seal	2	2	2	2
9	123-149	Bolt M12 x 55	4	4	4	4
	425-16	Nut M12	4	4	4	4
10	200342-2	Catch	2	2	2	2
11	282474-1	Shaft	2	2	2	2
	124-105	Screw M6 x 25	2	2	2	2
	457-2	Washer - Plain Ø6	2	2	2	2
	460-8	Washer - Spring Ø6	2	2	2	2

Body Common Parts (1) - Mesh Screens and Doors

Item No.	Part No.	Description	Quantity			
			500	605	650	800
12	63065-2	Handle	2	2	2	2
13	59-1	Cotter Pin	2	2	2	2
14	290-28	Buffer	2	2	-	-
15	455-14	Washer - Plain Ø16	2	2	-	-
16	200712-1	Mesh	2	2	2	-
	280043-1	Mesh	-	-	-	2
17	200714-9	Handle	2	2	-	-
	200714-11	Handle	-	-	-	4
	200714-13	Handle	-	-	2	-
> 18	42111-2	Eye - Mesh Handle	-	-	2	4
	63761-2	Eye - Mesh Handle	2	2	-	-
19	118-141	Screw M8 x 35 Stainless Steel	4	4	4	8
	415-8	Nut M8 Stainless Steel	4	4	4	8
	458-8	Washer - Spring Ø8 Stainless Steel	4	4	4	8
	454-8	Washer - Plain Ø8 Stainless Steel	12	12	12	24
20	60-1	Lynch Pin	2	2	2	4
21	284-13	Chain - 7 Links	2	2	2	4
22	282872-2	Locker Door (4003)	-	2	2	-
	282872-3	Locker Door (316)	-	2	2	-
23	129-183	Screw M12 x 25 Cap Head	-	2	2	-
24	293-14	Gas Strut	-	4	4	-
25	425-14	Nut - Nyloc M8	-	8	8	-
26	211-34	Latch	-	2	2	-
	211-35	Latch Key	-	4	4	-
27	720-2	Superseded Latch - Non Lockable, available as a spares item. Does not fit current door.	-	-	-	-
28	124-265	Screw M16 x 25	2	2	2	2
	455-14	Washer - Plain Ø16	2	2	2	2
	460-14	Washer - Spring Ø16	2	2	2	2
29	281377-2	Blanking Plate - Mesh Shaker (4003)	2	2	2	2
	118-135	Screw M8 x 20	8	8	8	8
	454-8	Washer - Plain Ø8	8	8	8	8
	458-8	Washer - Spring Ø8	8	8	8	8
30	281377-3	Blanking Plate - Mesh Shaker (316)	2	2	2	2
	118-135	Screw M8 x 20 - Stainless Steel	8	8	8	8
	454-8	Washer - Plain Ø8 - Stainless Steel	8	8	8	8
	458-8	Washer - Spring Ø8 - Stainless Steel	8	8	8	8
31	282421-1	Limit Switch Mount	1	1	1	1
	124-135	Screw M8 x 20	2	2	2	2
	460-10	Washer - Spring Ø8	2	2	2	2
	455-10	Washer - Plain Ø8	2	2	2	2
32	282186-1	Limit Switch	1	1	1	1
	84-51	Switch Actuator Arm - Spares item				
	129-36	Screw M4 x 20 Cap Head	2	2	2	2

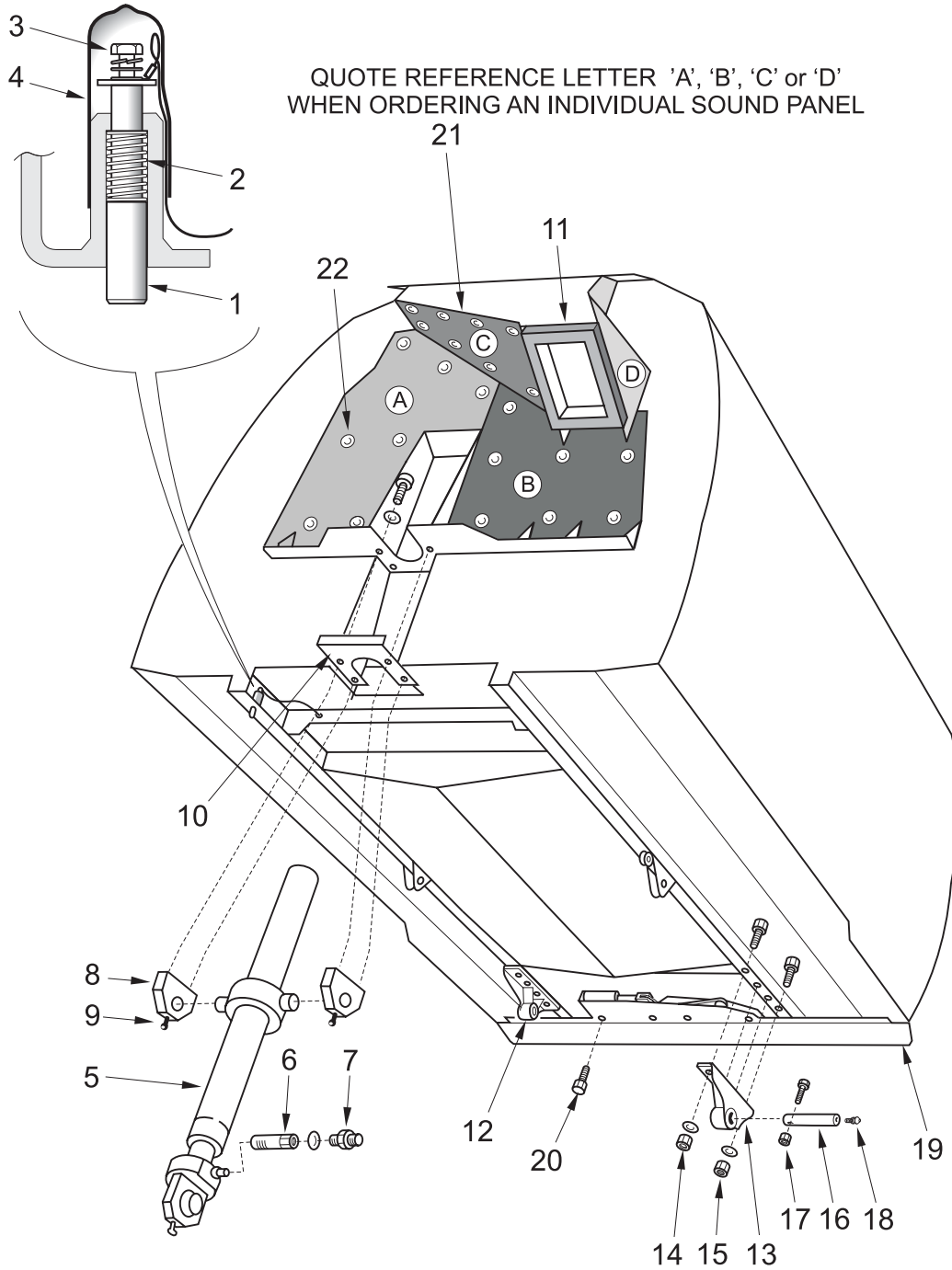
Body Configuration - Intake Components



BoM 950612, 960612

Item No.	Part No.	Description	Quantity	
			Single	Dual
1	280694-1	Intake Duct - Unlined, V500, 605, 650	1	2
	280694-50	Intake Duct - Rubbed Lined, V500, 605, 650		
	281943-1	Intake Duct - Unlined, V800	1	2
	281943-2	Intake Duct - Rubbed Lined, V800		
> 2	118-201	Screw M12 x 25 Stainless Steel	4	8
	485-12	Washer - Spring Ø12 Stainless Steel	4	8
3	93404-1	Make/Break Seal	1	2
4	93400-1	Sealing Ring	1	2
5	95775-5	Seal Ring Clamp	1	2
	> 118-205	Screw M12 x 35 Stainless Steel	4	8
6	95774-2	Blanking Plate (Redundant Inlet)	1	-
	135-1	Screw M12 x 25	4	-
	460-12	Washer - Spring Ø12	4	-
7	40243-1	Centre Baffle	-	1
8	41234-1	Locking ring	-	2
9	281190-2	LH Wear Plate 605 Lo-Top	1	1
	281190-1	RH Wear Plate 605 Lo-Top	1	1
	61102-1	Standard Plate - 650, 800	1	2
10	40223-1	Clamp Bar	1	2
11	124-167	Screw M10 x 20	2	4
	460-11	Washer - Spring Ø10	2	4
12	97944-1	Blanking Plate - Used with Wanderhose	1	-

Body Common Parts (2) - Discharge Components



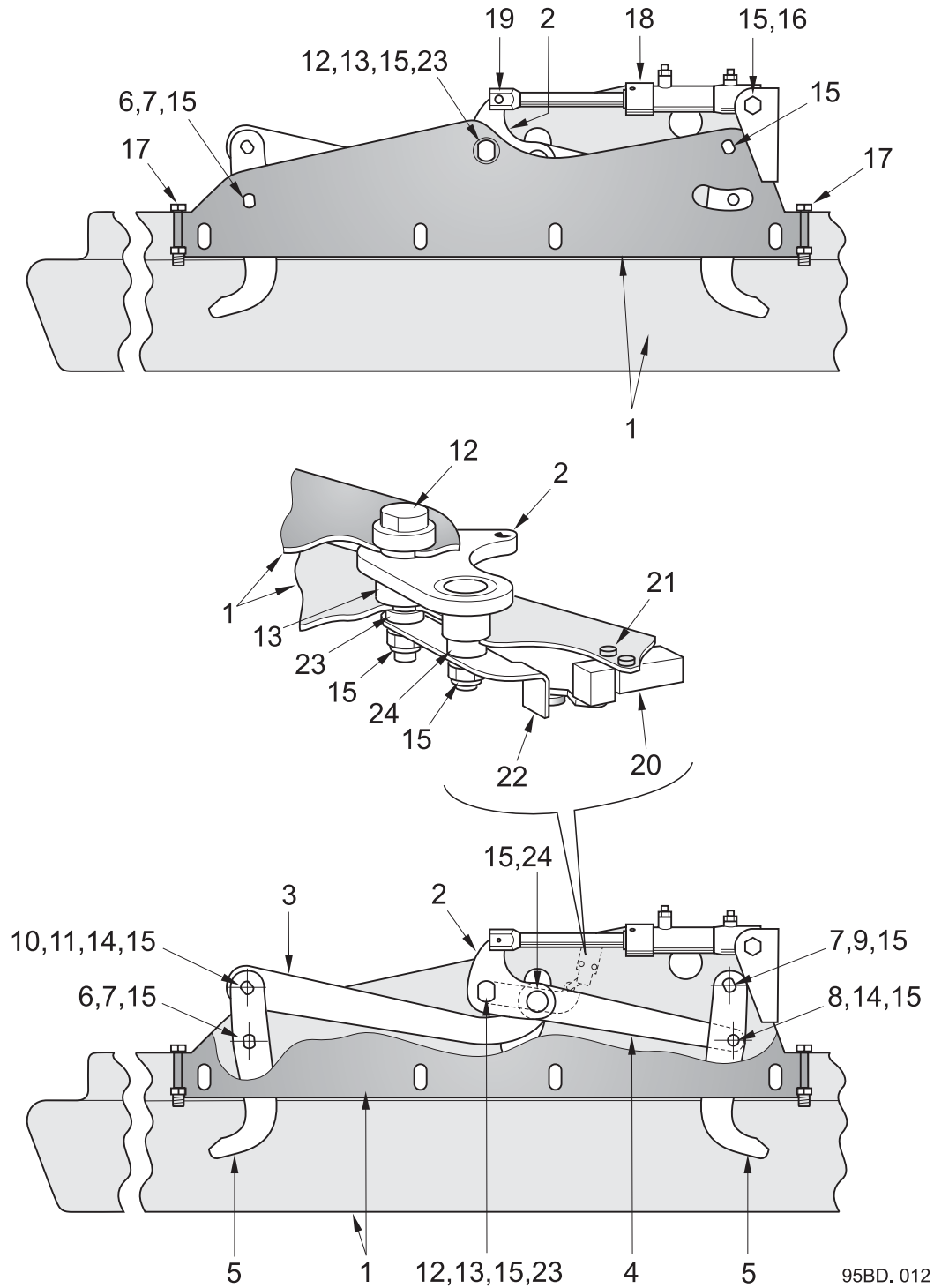
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Body Common Parts (2) - Discharge Components

BoM's 940611, 950611, 960611.

Item No.	Part No.	Description	Quantity	
1	800862-1	Piston	1	
2	200755-1	Spring	1	
3	124-70	Screw M5 x 16	1	
	460-7	Spring Washer Ø5	1	
	455-7	Washer - Plain Ø5	1	
	457-1	Washer - Plain Ø5 Large	1	
4	41120-1	Boot	1	
5	28940-4	Body Tip Cylinder - 500/605/650 Series	1	
	28940-5	Body Tip Cylinder - 800 Series Only	1	
6	71283-1	PC Flow Valve	1	
7	263-3	Adaptor G3/8"	1	
	451-18	Washer - Sealing 3/8"	1	
8	42072-1	Trunnion Block	2	
9	38-1	Grease Nipple	2	
10	41817-1	Sealing Plate	1	
	123-203	Setscrew M12 x 30	4	
	460-12	Washer - Spring Ø12	4	
11	282396-1	Body Make/Break Seal	1	
>	12	282473-1	RH Pivot Bracket - 605/650/800 Series	1
>		294060-2	RH Pivot Bracket - 500 Series Only	1
>	13	282473-2	LH Pivot Bracket - 605/650/800 Series	1
>		294060-1	LH Pivot Bracket - 500 Series Only	1
	14	124-207	Screw M12 x 40	2
		425-16	Nut M12	2
		455-12	Washer - Plain Ø12	2
	15	124-239	Screw M14 x 40	8
		425-17	Nut M14	8
		455-13	Washer - Plain Ø14	8
	16	201248-1	Body Pivot Pin	2
	17	123-159	Bolt M12 x 110	2
		425-16	Nut N12 Nyloc	2
	18	38-30	Grease Nipple	2
	19	281443-1	Door Clamp Assembly - See over page	1
	20	124-277	Screw M16 x 70	4
		455-14	Washer - Plain Ø16	4
		460-14	Washer - Spring Ø16	4
	21	281200-2	Sound Attenuation Kit - 800 Series Only	1
		281196-3	Sound Attenuation Kit - Lo-Top Body	1
		280805-2	Sound Attenuation Kit - Hi-Top Body	1
	22	283-23	Retainer Nail	22
		283-25	Retainer Cap	22

Body Common Parts (2) - Door Clamp Assembly



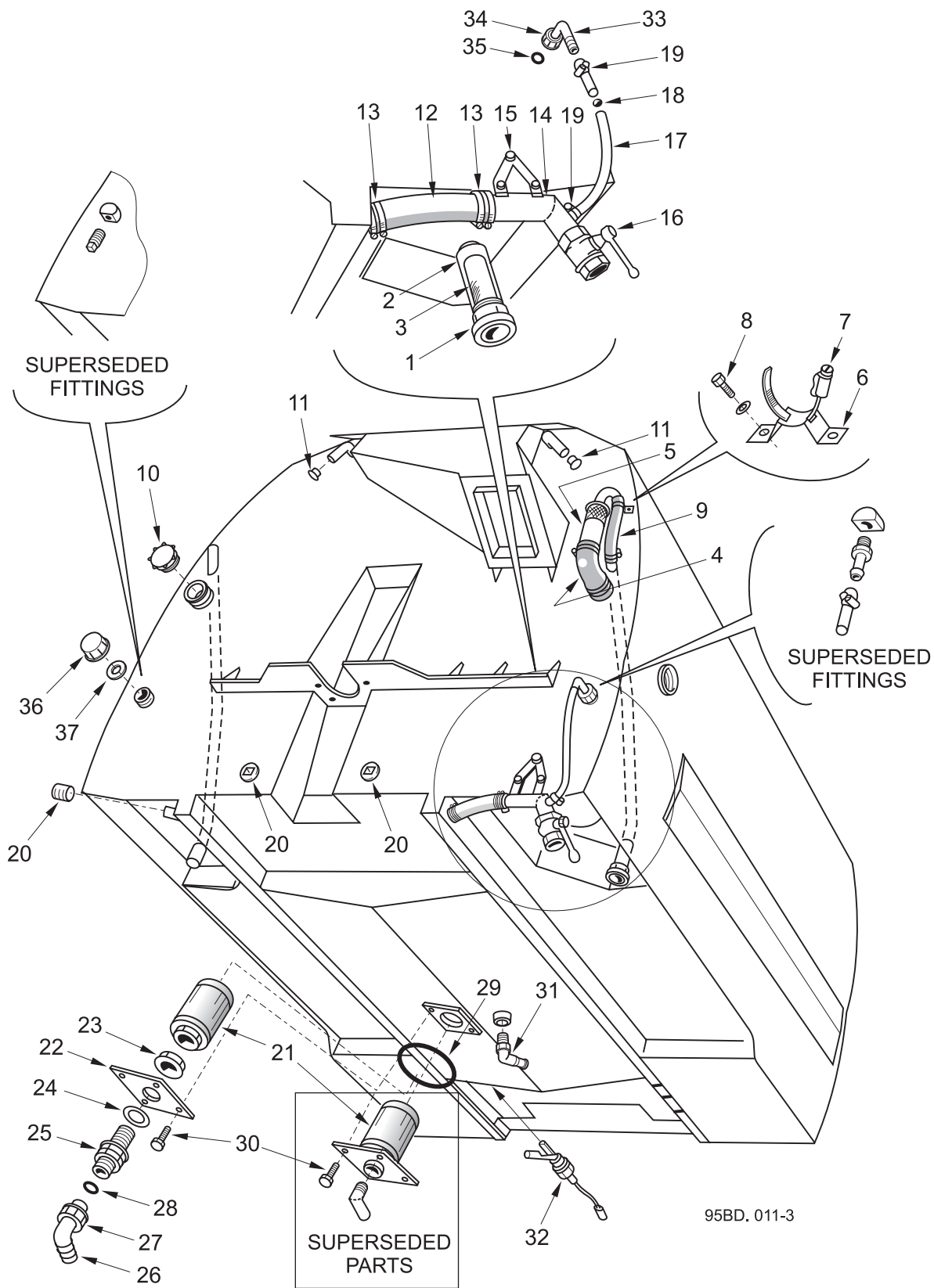
Body Common Parts (2) - Door Clamp Assembly

Drg. No. 281443 Rev.07

Item No.	Part No.	Description	Quantity
	281443-1	Door Clamp Assembly	
1	281427-1	Chute Weld Assembly	1
> 2	282845-1	Fulcrum	1
3	281429-1	Lever - Cranked	1
4	281431-1	Lever	1
5	281430-1	Claw	2
6	281442-3	Pivot Bolt	1
7	281434-3	Spacer	2
8	281435-3	Pin	1
9	281439-3	Pivot Bolt	1
10	281964-3	Pivot Bolt	1
11	282579-3	Spacer	1
12	281958-3	Pivot Pin	1
13	282026-3	Spacer	1
14	455-12	Washer - Plain M12	3
15	425-16	Nut - Nyloc M12	6
16	123-190	Bolt M16 x 90	1
	425-18	Nut - Nyloc M16	1
	455-14	Washer - Plain M16	2
17	124-215	Setscrew M12 x 80	2
	420-16	Nut M12	2
18	281565-1	Cylinder	1
19	29145-1	Clevis Pin	1
	39624	Spring Clip	1
20	282187-1	Limit Switch	1
21	129-38	Screw Cap Head M4 x 25	2
	455-5	Washer - Plain Ø4	2
	460-5	Washer - Spring Ø4	2
22	282676-1	Actuating Arm	1
23	282705-3	Spacer	1
24	282706-3	Spacer	1

Notes

Body Common Parts (3) - Water Components



95BD. 011-3

Note

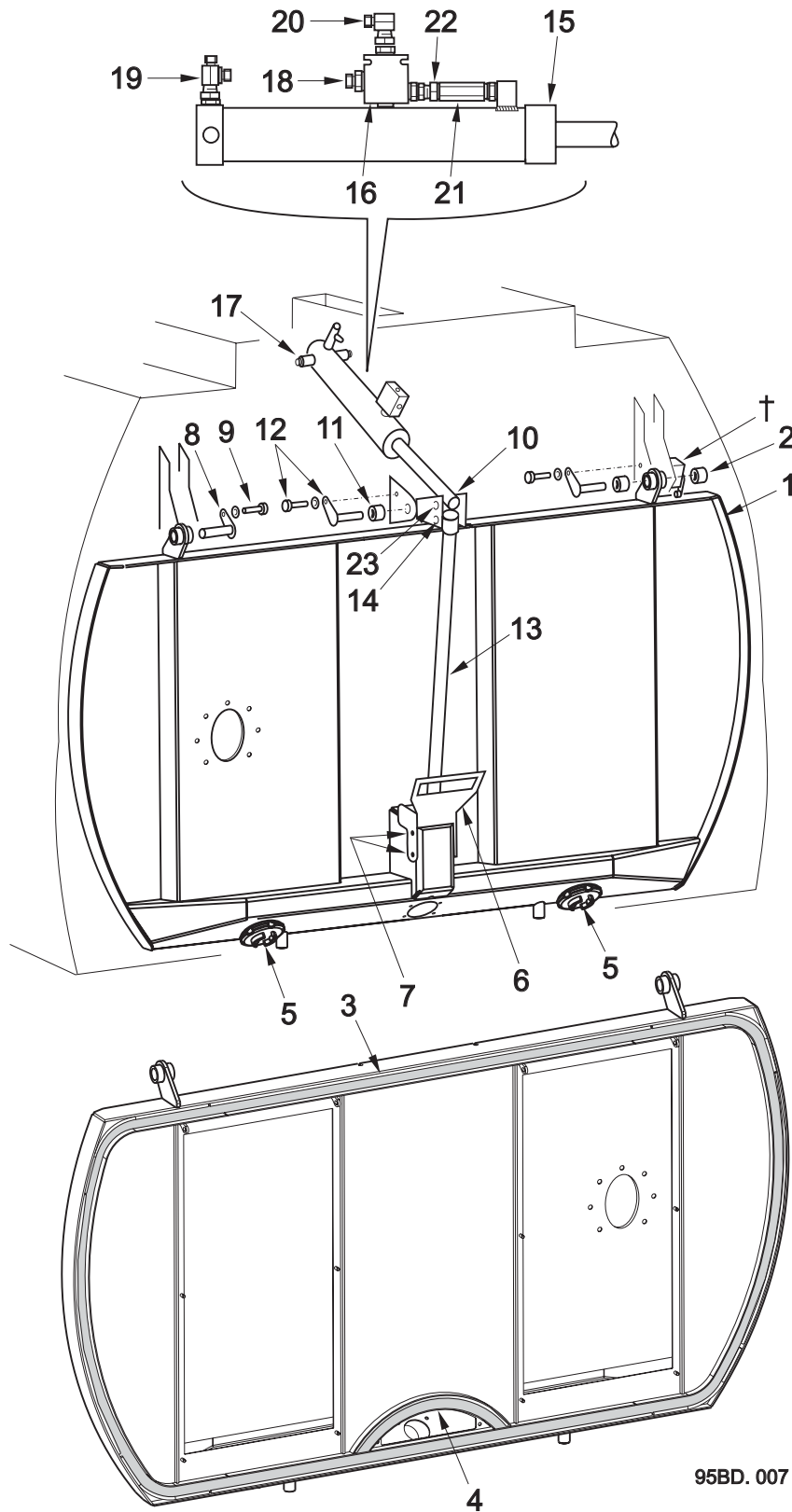
Superseded Fittings/Parts are shown in the 'Superseded Parts' section at the end of this chapter.

Body Common Parts (3) - Water Components

BoM's 940611, 950611, 960611

Item No.	Part No.	Description	Quantity
	1	667-31 Hydrant Coupling - Stortz	1
>	18684-1	Hydrant Coupling - UK Machines only	1
	2	42119-1 Body Hydrant Filler	1
	3	39402 Filter Element	1
	4	61096-2 Rubber Elbow	1
>	501-9	Hose Clip - Elbow to Body	1
>	501-7	Hose Clip - Elbow to Basket	1
	5	95814-1 Water Filler Basket	1
	6	95813-1 Bracket	1
>	7	501-11 Hose Clip	1
	8	124-99 Screw M6 x 10	2
	460-8	Washer - Spring Ø6	2
>	9	272-33 Hose x 0.3m	1
>	501-11	Hose Clip	1
	10	44-28 Plastic Cap	1
>	11	45-29 Plastic Cap	2
	12	42213-1 Hose	1
	13	501-6 Hose Clip	4
	14	90663-2 Tube	1
	15	22773-1 Spacer	3
	124-139	Screw M8 x 30	3
	425-14	Nut M8	3
	455-10	Washer - Spring Ø8	3
	16	39253 Ball Valve	1
	17	15656-1 Sight Tube	1
	18	22-7 Ball Float	1
	19	501-2 Hose Clip	2
	20	55-4 Plug R1 - 1/4"	3
	283062-2	Body Filter Assembly - Comprising items 21 to 28	
	21	6974-1 Suction Element	1
	22	283033-1 Flange	1
	23	277-198 Backnut 1 1/2" BSP	1
>	24	277-214 Gasket 1 1/2"	1
	25	277-212 Nipple 1 1/2" BSP	1
	26	277-213 Hose Tail 1 1/2" BSP x 90°	1
	27	277-170 Fly-nut 1 1/2" BSP	1
	28	277-171 'O' Ring	1
	29	80-143 'O' Ring	1
	30	124-135 Screw M8 x 20	4
	460-10	Washer - Spring Ø8	4
>	31	277-230 Elbow	1
	32	48-328 Level Switch	1
	33	277-186 Elbow	1
	34	277-159 Fly Nut	1
	35	277-188 'O' Ring	1
	36	277-189 Blanking Cap	1
	37	277-160 Gasket	1

Door Assembly and Installation



95BD.007

† For Limit Switch details see Body Common Parts (1)

Rear Door Assembly and Installation

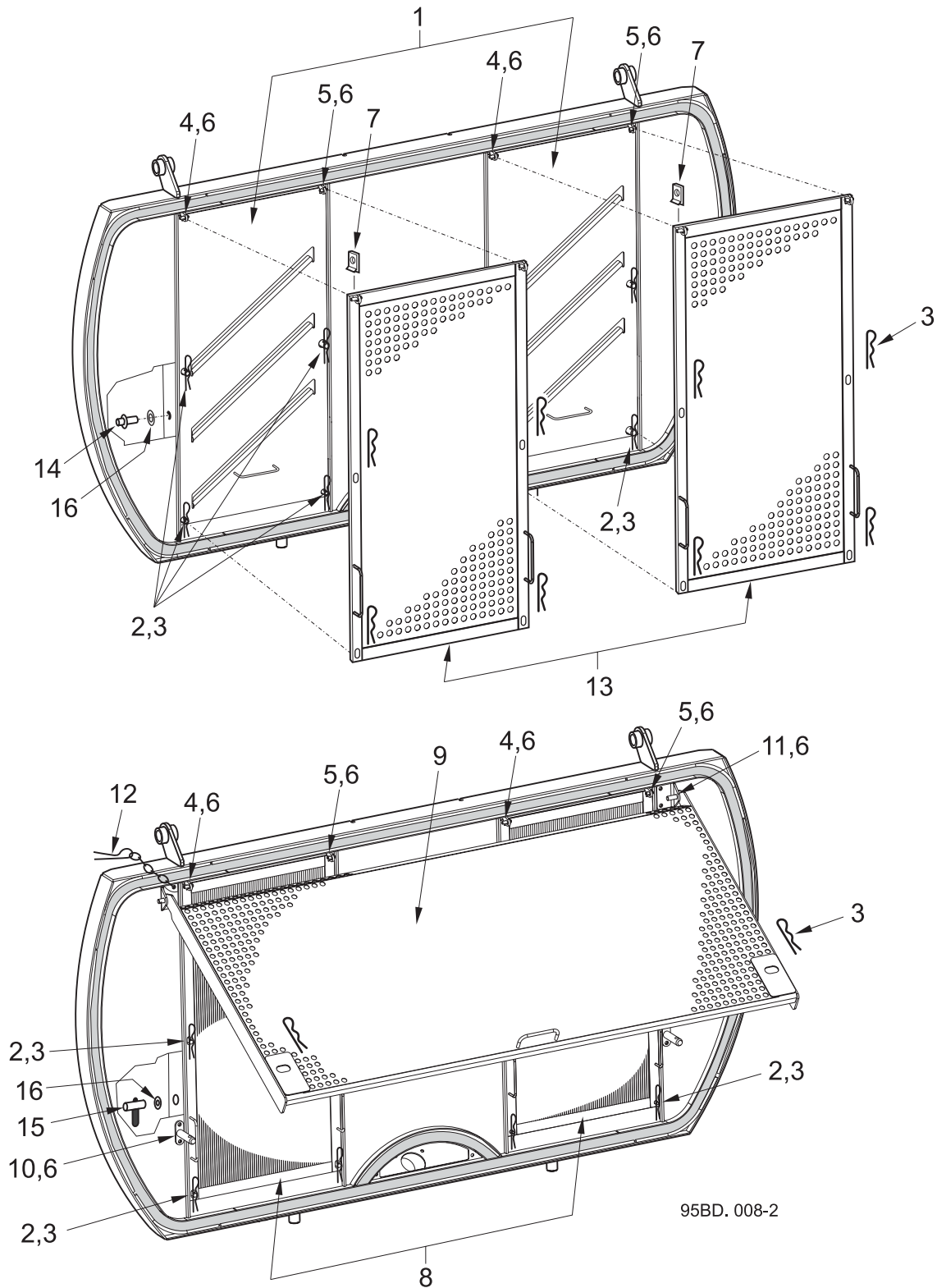
BoM 950811 - Door Assembly

Item No.	Part No.	Description	Quantity	
			4003	316
1	281620-2	Rear Door - Chrome Steel (4003)	1	
	281620-3	Rear Door - Stainless Steel (316)		1
2	29128-3	Bush	4	4
3	281777-1	Door Seal	1	1
4	281778-1	Door Seal - Re-circulation Port	1	1
5	41776-2	Cap	2	2
	40643-1	Seal	2	2
6	281718-2	Guard/Stowage - Chrome Steel	1	
	281718-3	Guard/Stowage - Stainless Steel		1
7	124-135	Screw M8 x 20	4	
	460-10	Washer - Spring Ø8	4	
	455-10	Washer - Plain Ø8	4	
	135-122	Screw M8 x 20 - Stainless Steel		4
	>	458-8	Washer - Spring Ø8 - Stainless Steel	
>	454-8	Washer - Plain Ø8 - Stainless Steel		4

BoM 950813 - Door Installation

8	40578-1	Hinge Pin		2
9	124-132	Screw M8 x 12		2
	460-10	Washer - Spring Ø8		2
10	40897-1	Relay		1
11	29128-3	Bush		2
12	40573-1	Hinge Pin		1
	124-132	Screw M8 x 12		1
	460-10	Washer - Spring Ø8		1
13	60113-9	Door Actuation Shaft		1
14	40572-1	Hinge Pin		1
	124-132	Screw M8 x 12		1
	460-10	Washer - Spring Ø8		1
15	29170-1	Hydraulic Cylinder		1
16	241-216	CV Assembly		1
17	40553-1	Pin		1
	425-18	Nut - Nyloc M8		2
> 18	262-2	Adaptor G1/4"		3
	451-18	Washer - Sealing G1/4"		3
19	255-11	Swivel Tee 1/4"		1
20	262-2	Swivel Elbow 1/4"		1
21	5194	Check Valve G1/4"		1
	451-18	Washer - Sealing		2
22	267-2	Swivel Adaptor G 1/4"		1
23	40572-1	Hinge Pin		1
	124-132	Screw M8 x 12		1
	460-10	Washer - Spring Ø8		1

Rear Door Screens



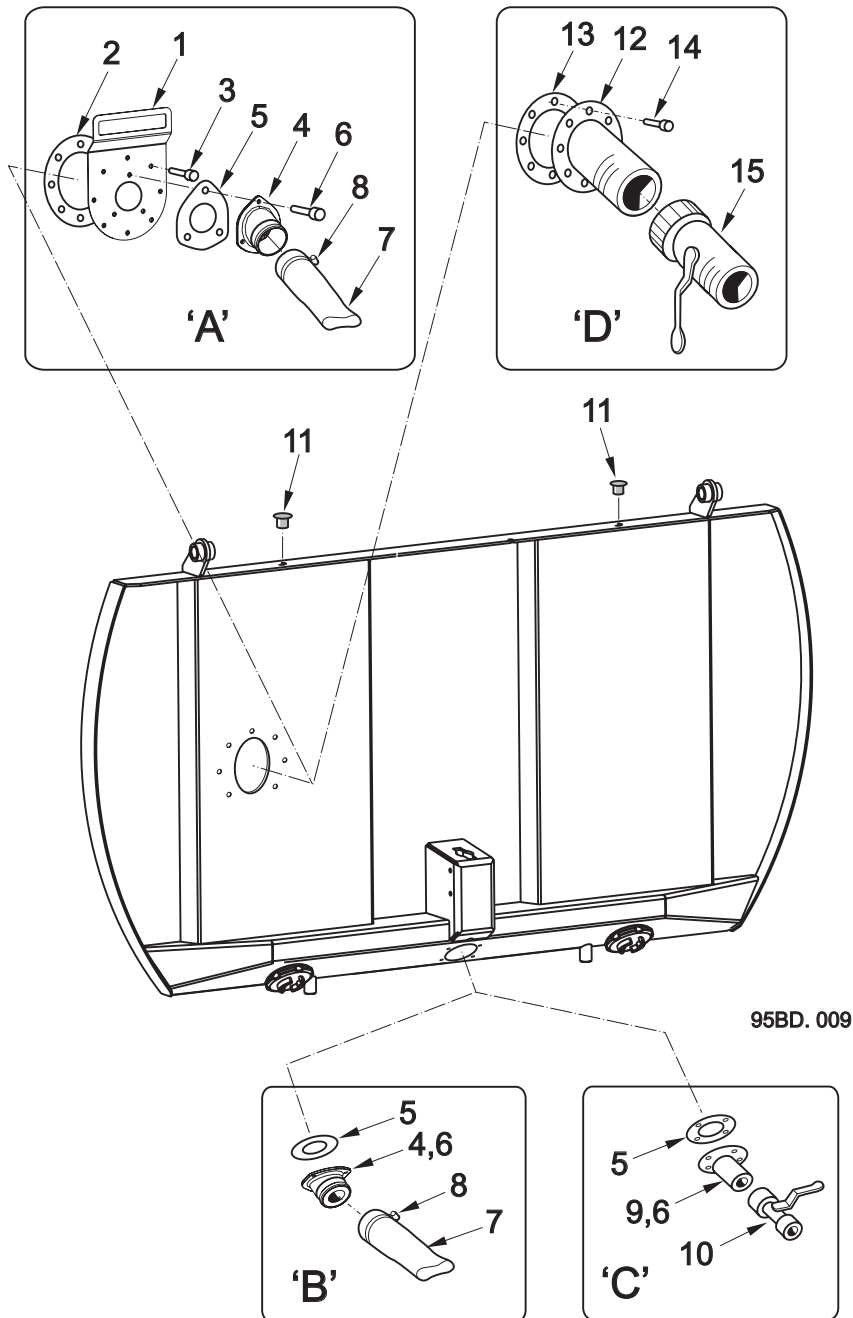
95BD. 008-2

Rear Door Screens

BoM 950812

Item No.	Part No.	Description	Quantity		
			Standard	Perforated	Wedge Wire
1	281693-1	Standard Panel Assembly	2	-	-
2	281664-3	Pin Mesh Retainer	8	8	8
	417-8	Nut - Nyloc M8 - Stainless Steel	8	8	8
3	289-27	'R' Spring Clip	8	8	10
4	281651-1	Hinge Bracket	2	2	2
5	281651-2	Hinge Bracket	2	2	2
6	118-137	Screw M8 x 25 - Stainless Steel	8	8	16
	454-8	Washer - Plain Ø8 - Stainless Steel	8	8	16
	458-8	Washer - Spring Ø8 - Stainless Steel	8	8	16
7	39624	Spring Clip	2	2	2
8	281650-1	Wedge Wire Panel Assembly	-	-	2
9	281680-1	Primary Panel Assembly	-	-	1
10	281685-1	Locking Bracket	-	-	2
11	281684-2	Pivot Bracket	-	-	2
12	284-12	'R' Spring Clip	-	-	1
	284-15	Chain - 5 Links	-	-	1
13	281690-1	Perforated Panel Assembly	-	2	-
14	3162	Plug - R 1/4"	1	1	-
15	88-15	Ball Valve - 1/4"M/F	-	-	1
16	451-124	Copper Washer G 1/4"	1	1	1

Notes

Rear Door Drains


- Base System comprises assemblies 'A' and 'B'
- De-watering and Recirculation Systems comprise assemblies 'A' and 'C'
- 4" Valve Option comprises assembly 'D'. This can be fitted with Base or De-watering/Recirculation Systems as required.

Rear Door Drain

BoM 950814

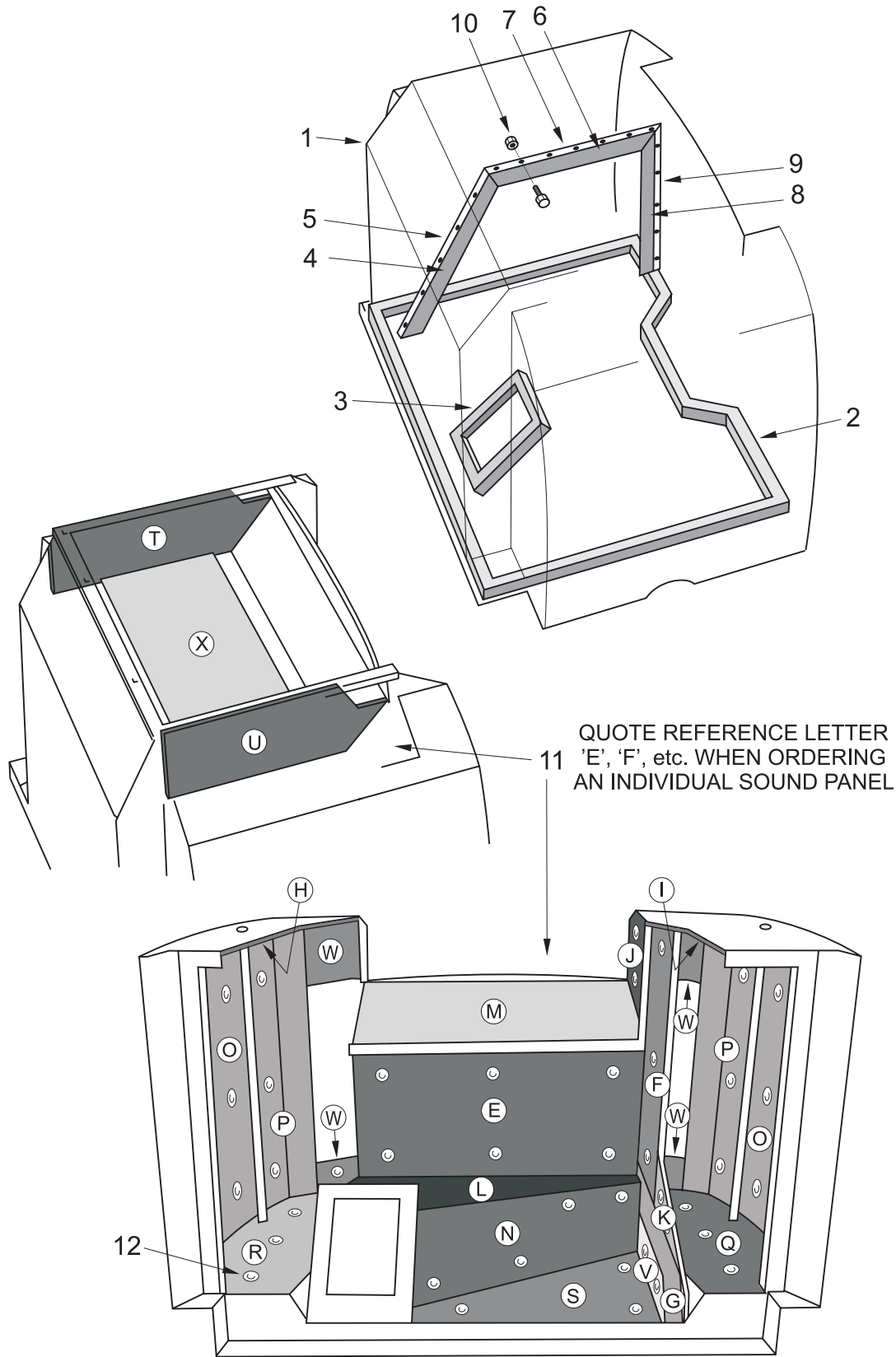
Item No.	Part No.	Description	Quantity		
			'A'	'B'	'C'
Assemblies 'A', 'B' and 'C' comprising items 1 to 10:					
1	281392-2	Layflat Stowage Plate	1	-	-
2	281395-1	Gasket	1	-	-
3	118-167	Screw M10 x 20) Stainless	8	-	-
>	454-10	Washer - Plain Ø10) Steel	8	-	-
>	458-10	Washer - Spring Ø10)	8	-	-
	451-6	Washer - Sealing Ø10	8	-	-
4	281452-1	Drain Spigot	1	1	-
5	281411-1	Gasket	1	1	1
6	118-135	Screw M8 x 20) Stainless	3	3	3
>	454-8	Washer - Plain Ø8) Steel	3	3	3
>	458-8	Washer - Spring Ø8)	3	3	3
	451-3	Washer - Sealing Ø	3	3	3
7	9983	Layflat Hose x 1m	1	1	-
8	501-7	Circlip	1	1	-
9	281715-3	1 1/2" Valve Drain Spigot	-	-	1
10	39253	1 1/2" Ball Valve	-	-	1
11	288-29	Lifting Eye Plug x 2			

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Assembly 'D' comprising items 12 to 15:					'D'
12	281393-3	4" Valve Drain Spigot		1	
13	281395-1	Gasket		1	
14	118-167	Screw M10 x 20) Stainless		8	
>	454-10	Washer - Plain Ø10) Steel		8	
>	458-10	Washer - Spring Ø10)		8	
	451-6	Washer - Sealing Ø10		8	
15	88-24	4" Drain Valve		4	

Notes

Cowl - Common Parts (1) - Seals and Soundproofing



95BD. 010-2

Cowl - Common Parts (1) - Seals and Soundproofing

BoM 951511 - 500, 605, 650

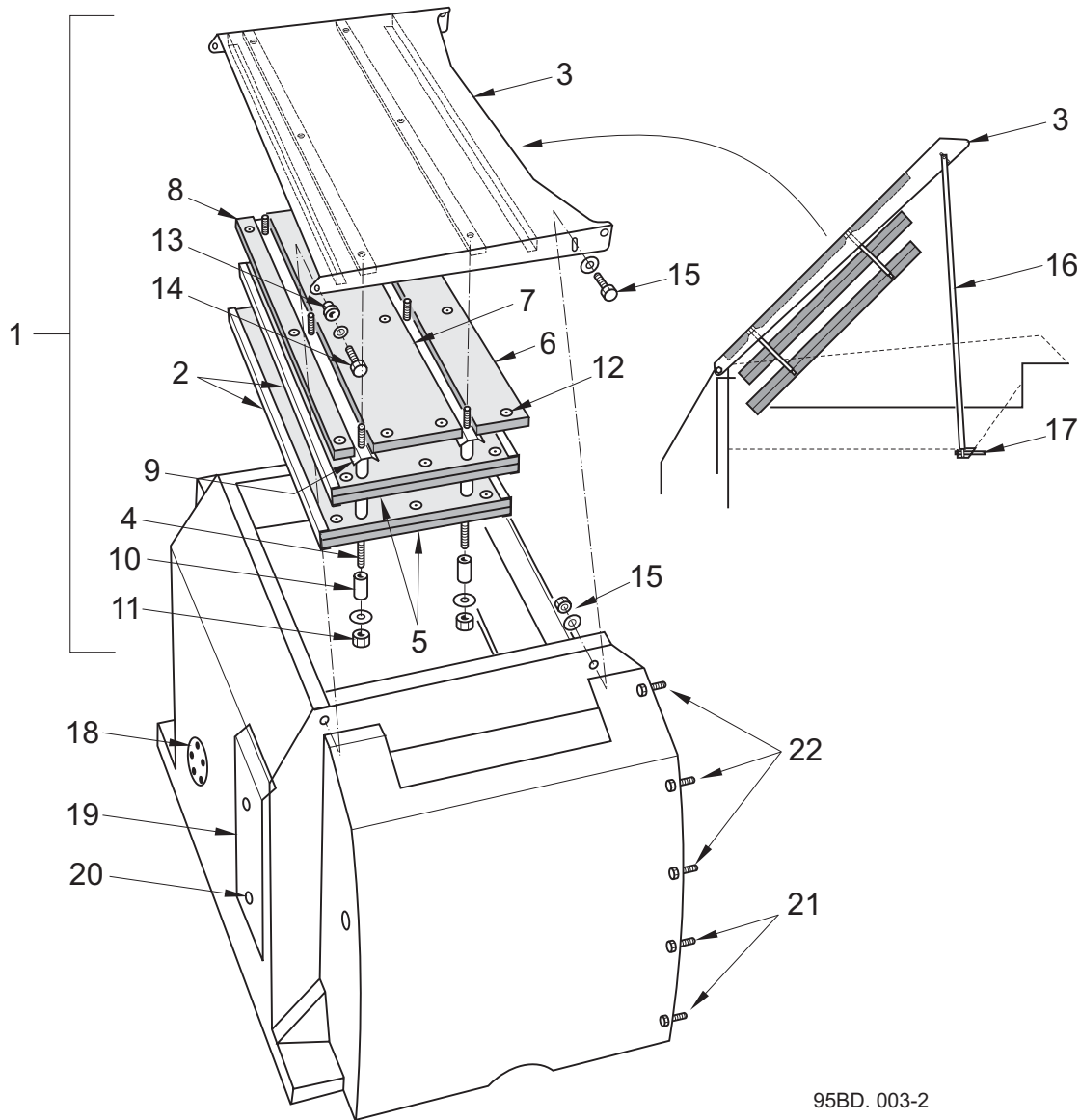
Item No.	Part No.	Description	Quantity
1	281170-1	Cowl - Lo-Top Mild Steel	1
	281170-2	Cowl - Lo-Top Chrome Steel (4003)	1
	281170-3	Cowl - Lo-Top Stainless Steel (316)	1
	280700-1	Cowl - Hi- Top Mild Steel	1
	280700-2	Cowl - Hi- Top Chrome Steel (4003)	1
	280700-3	Cowl - Hi- Top Stainless Steel (316)	1

Cowl BoM 961511 - 800

	280930-1	Cowl - Hi-Top Mild Steel	1
	280930-2	Cowl - Hi-Top Chrome Steel (4003)	1
	280930-3	Cowl - Hi-Top Stainless Steel (316)	1
2	282225-1	Cowl Seal	1
3	282397-1	Cowl/Fan Case Seal	1
4	42613-1	Radiator Rubber Seal	1
5	42610-1	Radiator Rubber Clamp	1
6	42612-1	Radiator Rubber Seal	1
7	42611-1	Radiator Rubber Clamp	1
8	42607-1	Radiator Rubber Seal	1
9	42610-1	Radiator Rubber Clamp	1
10	124-135	Screw M8 x 20	17
	420-14	Nut M8	17
	460-10	Washer - Spring Ø8	17
11	281196-1	Sound Attenuation Kit - Lo-Top Cowl - 500, 605 Series	1
	280805-1	Sound Attenuation Kit - Hi-Top Cowl - 650 Series	1
	281200-1	Sound Attenuation Kit - 800	1
> 12	283-23	Retainer Nail	100
	283-25	Retainer Cap	100

Notes

Cowl Common Parts (2) - Wafer Pack and Wear Plates



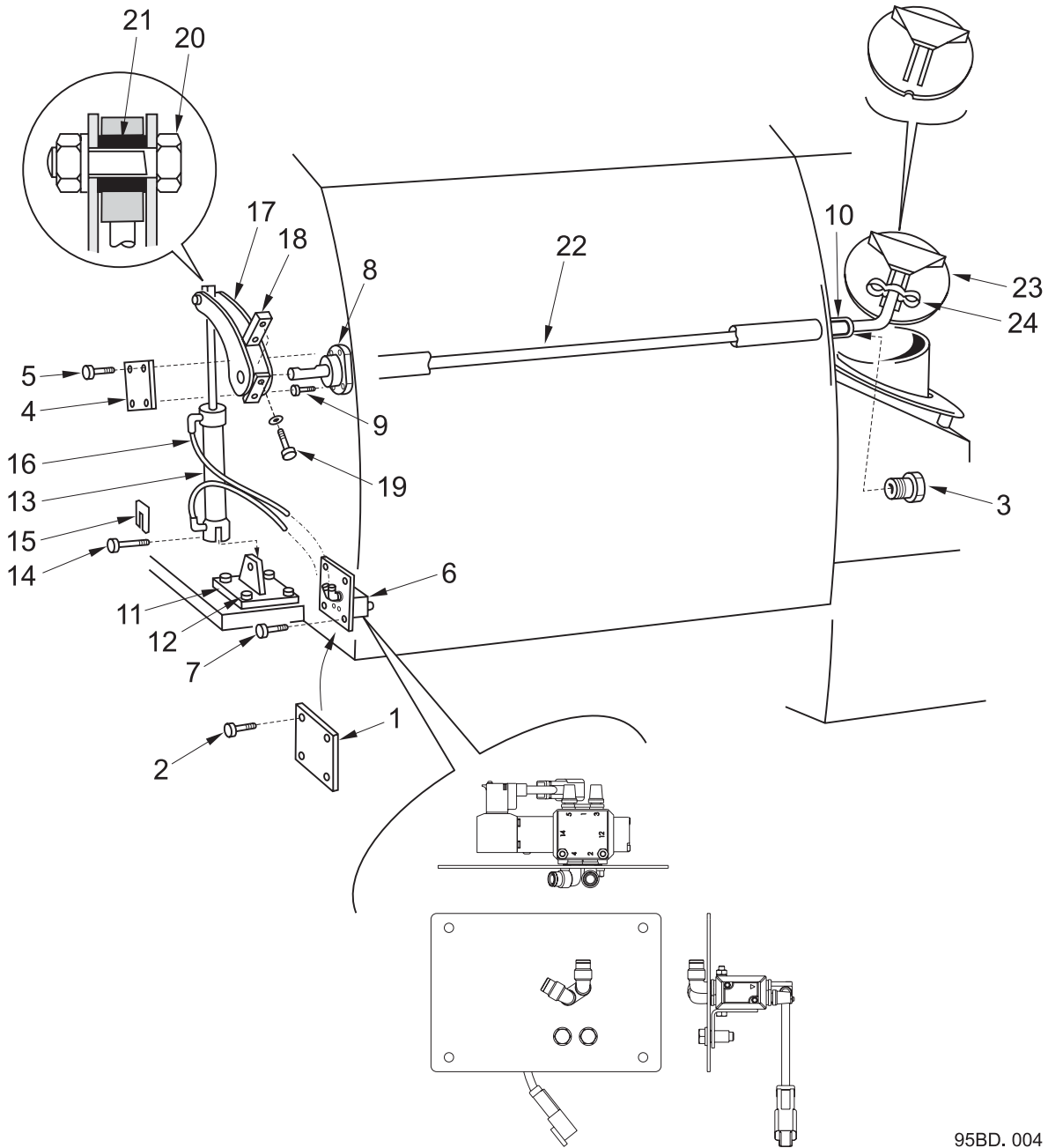
95BD. 003-2

Cowl Common Parts (2) - Wafer Pack and Wear Plates

Bom's 951511, 961511

Item No.	Part No.	Description	Quantity
1	282371-1	Cowl Hood/Wafer Pack Assembly - Comprising Items 2-12	
2	282370-1	Wafer Plate	2
3	282369-1	Hood	1
4	282955-1	Stud	6
	282385-1	Sound Attenuating Foam Kit - Comprising Items 5-8	
5	282385-5	Sound Attenuating Foam - Wafer Panels	4
6	282385-2	Sound Attenuating Foam - Hood Rear Section	1
7	282385-3	Sound Attenuating Foam - Hood Mid Section	1
8	282385-4	Sound Attenuating Foam - Hood Front Section	1
9	803555-1	Retainer Strip	2
> 10	283307-1	Spacer - Black Nylon	12
11	426-5	Nut - Philidas M10	6
	457-5	Washer - Extra Large Ø10	6
12	283-25	Retainer Cap	64
13	280905-3	Spacer Hood Pivot	2
14	124-135	Screw M8 x 20	2
	460-10	Washer - Spring Ø8	2
15	124-137	Screw M8 x 25	2
	457-4	Washer - Spring Ø8	4
	425-14	Nut - Nyloc M8	2
16	280537-1	Hood Stay	1
17	124-185	Screw M10 x 90	1
	425-15	Nut M10	1
18	42739-1	Cover Plate - Hydraulic Tank Access	1
	135-56	Screw M6 x 12	5
	18872	Sealing Strip	1
19	61005-1	Wear Plate - 800 Series	1
	42663-1	Wear Plate - 500,605,650 Series	1
20	135-60	Screw M10 x 20	2
	420-15	Nut M10	2
	460-11	Washer - Spring Ø10	2
21	124-203	Screw M12 x 30	4
	460-11	Washer - Spring Ø12	4
	455-12	Washer - Plain Ø12	4
22	124-171	Screw M10 x 30	6
	460-11	Washer - Spring Ø10	6
	455-11	Washer - Plain Ø10	6

Cowl Configuration - Intake Duct Flaps



95BD.004

Cowl Configuration - Intake Duct Flaps

BoM 951512 - 500, 605, 650

BoM 961512 - 800

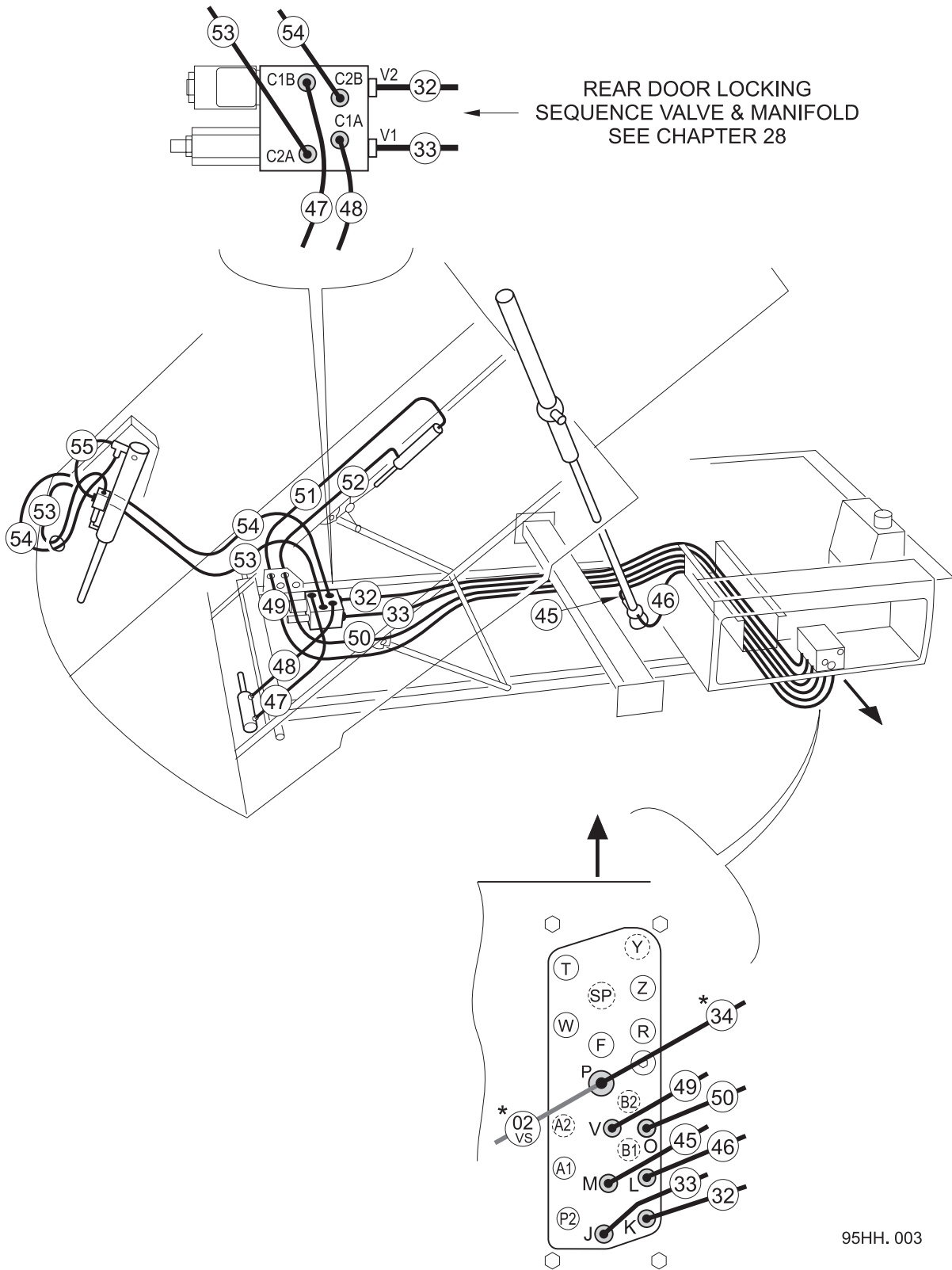
Single Sweep without Powered Flap Plate - Items 1 to 5:

Item No.	Part No.	Description	Quantity
1	42940-1	Blanking Plate	2
2	135-56	Screw M6 x 12	8
	460-8	Washer - Spring M6	8
3	42956-1	Blanking Plug	2
4	40250-1	Blanking Plate	2
5	124-139	Screw M8 x 30	8
	460-10	Washer - Spring M8	8

Single and Dual Sweep with Powered Flap Plate - Items 6 to 24:

			Single	Dual
6	282503-12	Flap Valve Assembly 12v	1	2
	282503-24	Flap Valve Assembly 24v	1	2
7	135-56	Screw M6 x 12	4	8
	460-8	Washer - Spring M6	4	8
8	63523-1	Flap Bearing	1	2
9	124-139	Screw M8 x 30	4	8
	460-10	Washer - Spring M8	4	8
10	29128-2	Bush	1	2
11	281030-1	Bracket - 800 Series	1	2
	42216-1	Bracket - 500, 605, 650 Series	1	2
12	124-135	Screw M8 x 20	4	8
	420-14	Nut M8	4	8
	460-10	Washer - Spring M8	4	8
13	280840-1	Pneumatic Cylinder	1	2
14	29149-1	Pin - Spares item only	1	2
15	39624	Spring Clip - Spares item only	1	2
16	273-20	Tube - Pneumatics Ø6 Blue	2m	4m
17	280424-1	Lever	1	2
18	40456-2	Bar	1	2
19	124-179	Screw M10 x 60	2	4
	460-11	Washer - Spring M10	2	4
20	124-208	Screw M12 x 45	1	2
	420-16	Nut M12	1	2
	460-12	Washer - Spring M12	1	2
21	42733-1	Bush	1	2
22	40442-12	Shaft	1	2
23	282577-1	Flap Plate	1	2
24	40516-1	Clip - Hairpin	2	4

Body Discharge - Hydraulic Hoses



95HH.003

Body Discharge - Hydraulic Hoses

Subframe - BoM 950714

Item No.	Part No.	Description
32	HC04001-352	Hydraulic Hose
33	HC04001-352	Hydraulic Hose

Body - BoM 950611, BoM 960611

Item No.	Part No.	Description
45	HC04001-146	Hydraulic Hose
46	HC06001-191	Hydraulic Hose
47	HC04002-95	Hydraulic Hose
48	HC04002-95	Hydraulic Hose

Body Prop - BoM 950720, BoM 960720

Item No.	Part No.	Description
49	HC04001-370	Hydraulic Hose
50	HC04001-370	Hydraulic Hose
51	HC04002-189	Hydraulic Hose
52	HC04002-155	Hydraulic Hose

Rear Door - BoM 950813

Item No.	Part No.	Description
53	HC04002-400	Hydraulic Hose
54	HC04002-400	Hydraulic Hose
55	HC04000-23	Hydraulic Hose

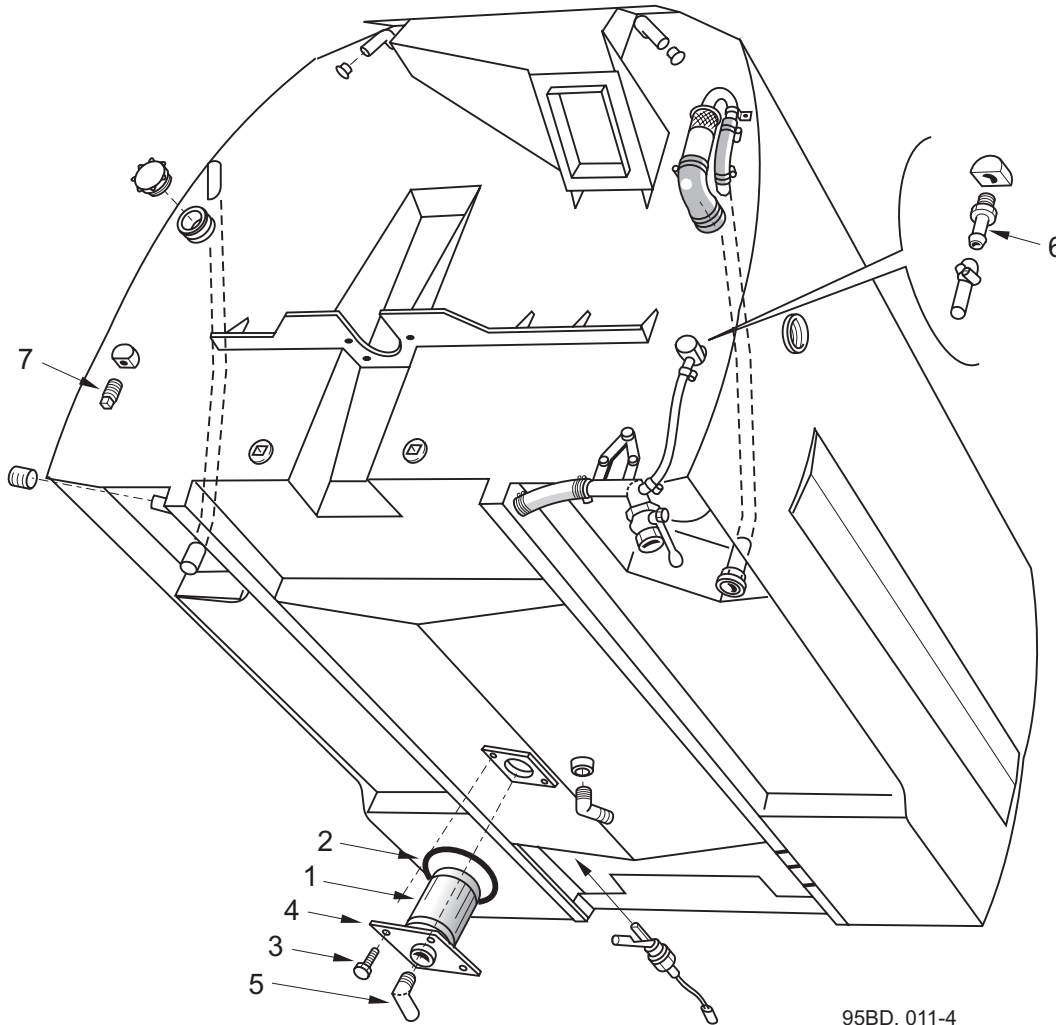
Notes

- > * For hoses 02(VS) and 34 see Emergency Discharge Pump, chapter 28.

Superseded Parts

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Body Water Components - Superseded


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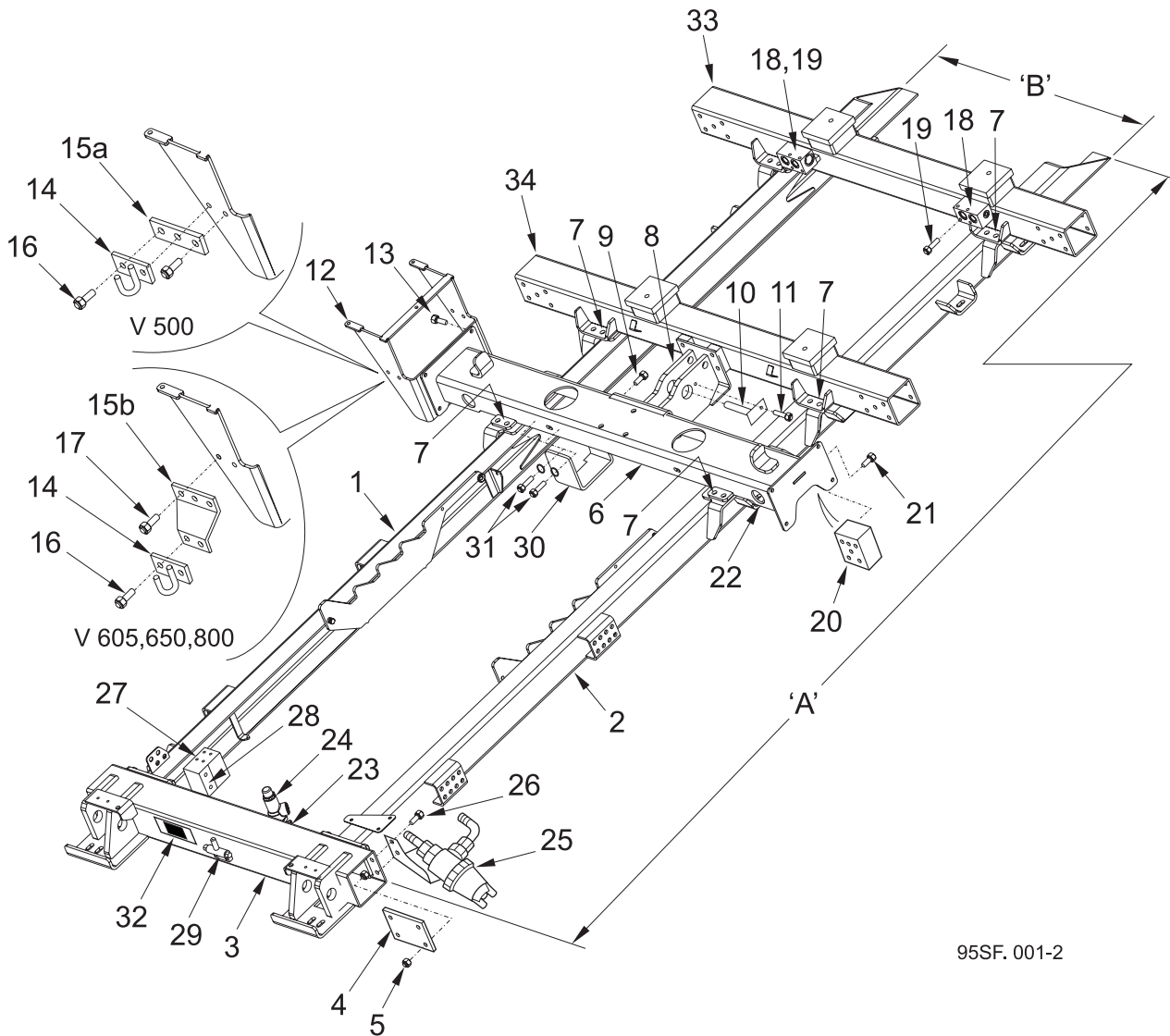
Item No.	Part No.	Description	Quantity
1	6974-1	Suction Element)	1
2	80-143	'O' Ring) As	1
3	124-135	Screw M8 x 20) Current	4
	460-10	Washer - Spring)	4
4	40098-1	Flange	1
5	40600-1	Elbow	1
6	40242-1	Adaptor	1
7	3836	Plug R 3/8"	1

CHAPTER

21**Subframe/Body Prop****Table of Contents**

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Subframe	
Subframe Assembly	21 : 2
Body Props	
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Auto Release Body Prop - Optional	21 : 6

Subframe Assembly



95SF.001-2

Dimension 'A' Side Rail Lengths

VT500 only = 3060

VT605/650/800 Short = 3245 Medium = 3635 *Long = 4085

Lengths are chassis dependent.

* Long rails used when additional water tank is fitted.

Dimension 'B' Side Rail Widths

Standard = 864, using outer fixing holes in Items 3, 6, 31, 32

Narrow = 790, using inner fixing holes in Items 3, 6, 31, 32

Subframe Assembly

Side Rails 940711 - 500 Series

Item No.	Part No.	Description	Quantity
1	294050-1	Side Rail LH	1
2	294051-1	Side Rail RH	1

Side Rails 950711 - 605, 650 Series

1	281512-1	Side Rail LH Short	1
	281512-2	Side Rail LH Medium	1
	281512-3	Side Rail LH Long	1
2	281513-1	Side Rail RH Short	1
	281513-2	Side Rail RH Medium	1
	281513-3	Side Rail RH Long	1

Side Rails 960711 - 800 Series

1	281759-1	Side Rail LH Short	1
	281759-2	Side Rail LH Medium	1
	281759-3	Side Rail LH Long	1
2	281758-1	Side Rail RH Short	1
	281758-2	Side Rail RH Medium	1
	281758-3	Side Rail RH Long	1

Crossmembers 950712, 960712

3	281511-1	Rear Pivot Member	1
4	281519-1	Stretch Plate	2
5	122-164	Bolt M14 x 45	8
	455-13	Washer - Plain M14	8
6	281514-1	Centre Crossmember	1
> 7	122-164	Bolt M14 x 45) Also Used	8
	425-17	Nut M14) with	8
	455-13	Washer - Plain M14) Items 33 and 34	16
8	93665-1	Body Tip Mount - 605, 650 Series	1
	62900-1	Body Tip Mount - 500, 800 Series	1
9	124-203	Screw M12 x 30	7
	425-16	Nut M12	3
10	42432-1	Pivot Pin	1
11	124-134	Screw M8 x 16	1
	460-10	Washer - Plain M8	1

Configuration 940713, 950713

			Single	Dual
12	280880-1	Bracket - Intake Seat	1	2
13	124-171	Screw M10 x 30	4	8
	460-11	Washer - Plain M10	4	8
	420-1	Nut M10	4	8

Subframe Assembly
Configuration 940713, 950713 - continued

Item No.	Part No.	Description	Quantity	
			Single	Dual
14	40269-1	Cylinder Hook - Nozzle Lift	1	2
15a	294100-1	Cylinder Hook Plate - 500 Series	1	2
15b	50603-1	Cylinder Hook Bracket - 605, 650, 800 Series	1	2
> 16	124-173	Screw M10 x 35	2	4
	425-15	Nut M10	2	4
> 17	124-171	Screw M10 x 30 - 605, 650, 800 Series	2	4
	425-15	Nut M10	2	4
18	281548-1	Manifold - Hydraulic	1	2
19	124-147	Screw M8 x 60	2	4
	460-10	Washer - Spring M8	2	4
20	200577	Shuttle/Exhaust Valve Block - See Chapter 26	-	2
21	124-102	Screw M6 x 16	-	4
	460-8	Washer - Spring M6	-	4
22	253-9	Regulator - See Chapter 26	2	4
	410-86	Nut	2	4

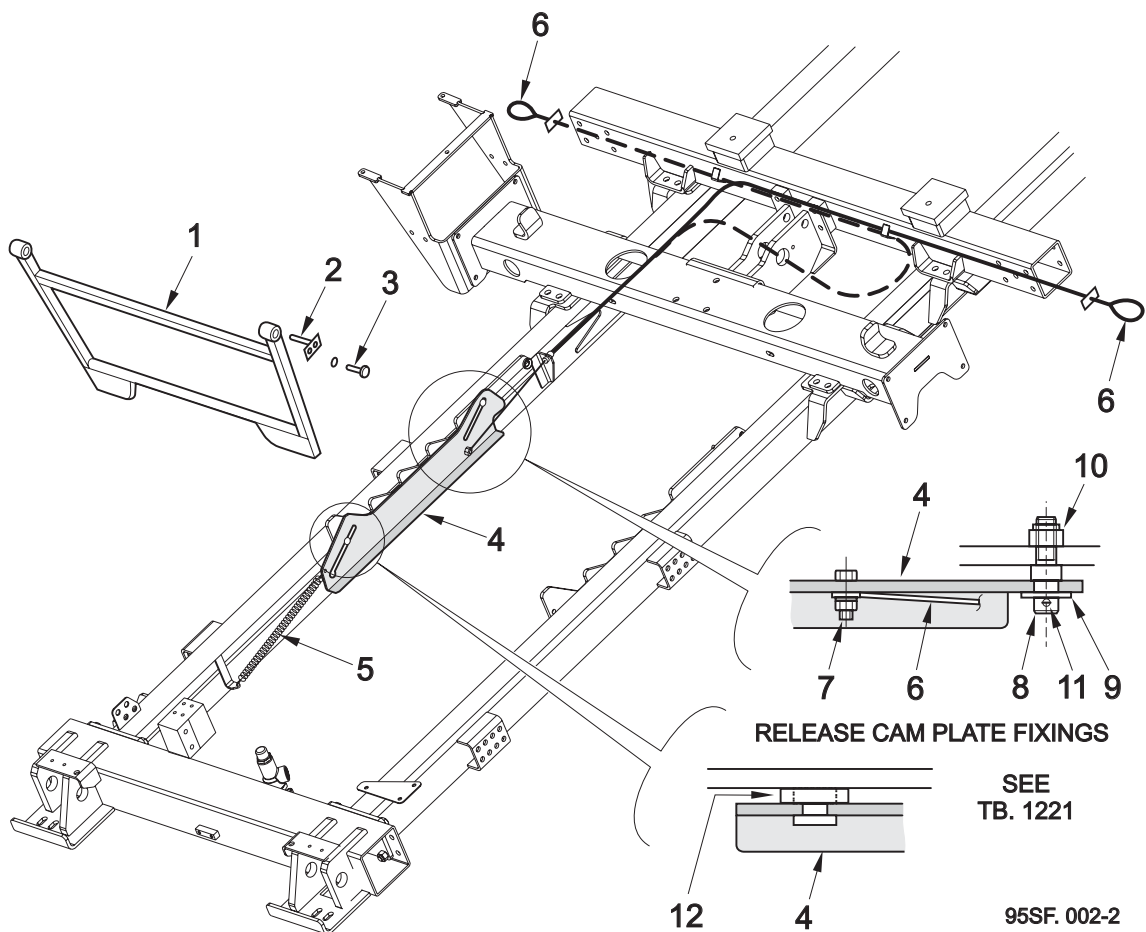
Services 950714

Item No.	Part No.	Description	Quantity
23	281075-1	Manifold - Water Relief Valve - See Chapter 30	1
24	3698-11	Water Relief Valve - See Chapter 30	1
25	281750-1	Water Filter Assembly - See Chapter 30	1
26	124-137	Screw M8 x 25	2
	455-10	Washer - Plain M8	2
	425-14	Nut - Nyloc M8	2
27	281907-1	Sequence Valve - 12 volt) See	1
	281907-2	Sequence Valve - 24 volt) Chapter 28	1
	281952-1	Plate	1
28	124-121	Screw M6 x 90	2
	460-8	Washer - Spring M6	1
29	281076-1	Wanderhose Water Manifold - See Chapter 30	1
30	281653-1	Body Pump Bracket	1
31	124-169	Screw M10 x 25	4
	460-11	Washer - Spring M10	4
	455-11	Washer - Plain M10	4
32	806953-1	Serial Number Plate	1

Various - See Chapter 22.CP

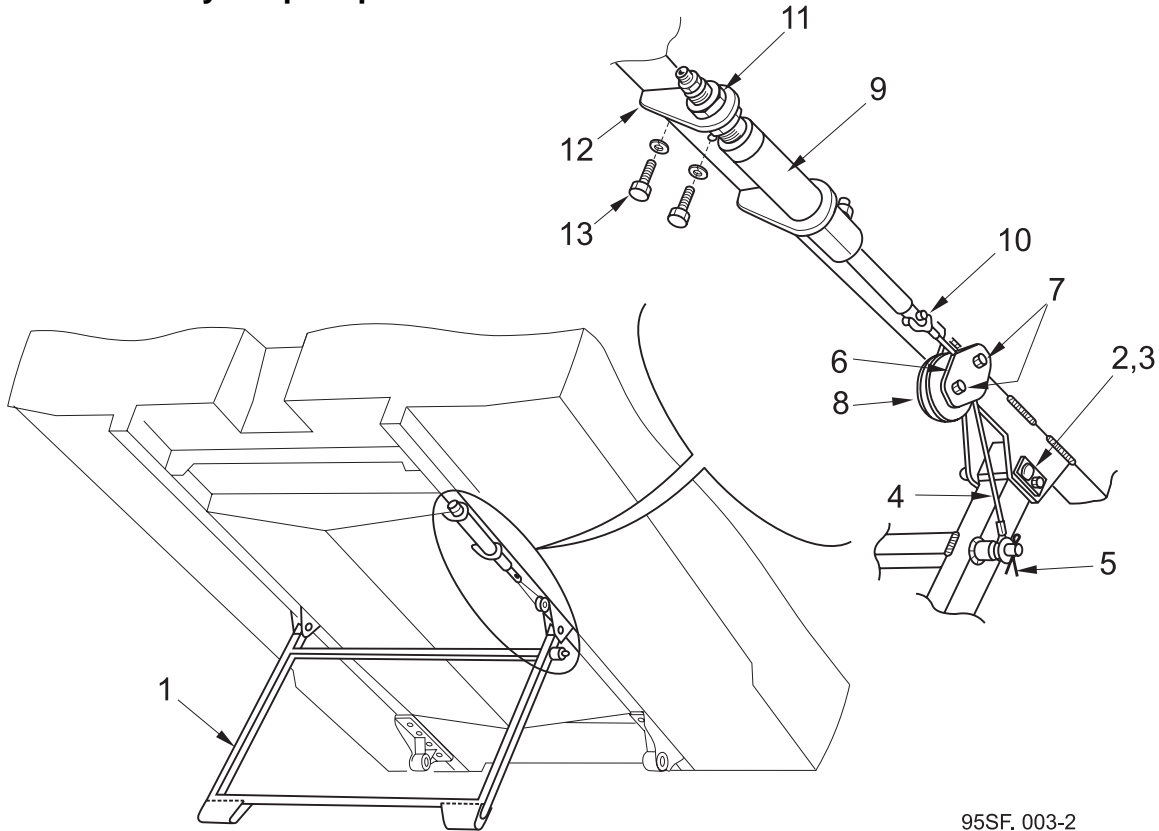
33	281283-1	Engine Beam Front - Reference	1
34	281282-1	Engine Beam Rear - Reference	1

Manual Release Body Prop



BoM 950720 and 960720

Item No.	Part No.	Description	Quantity
1	200475-3 281022-1	Prop - 500, 650 Series Prop - 800 Series	1 1
2	40572-1	Pivot Pin	2
3	124-132 460-10	Screw M8 x 12 Washer - Spring M8	2 2
4	282962-1	Release Cam Plate	1
5	280163-1	Spring	1
6	280146-1 280146-3	Release Cable - 500, 650 Series Release Cable - 800 Series	1 1
> 7	124-70 455-7 425-12	Screw M5 x 16 Washer - Plain Nut - Nyloc M5	1 1 1
8	280173-1	Pivot	1
9	455-11	Washer - Plain M10	1
10	425-14	Nut - Nyloc M8	1
> 11	500-104	Split Pin	1
12	85392-1	Spacer	1

Auto Release Body Prop - Optional


95SF. 003-2

BoM 960720

Item No.	Part No.	Description	Quantity
1	200475-3 281022-1	Prop 500, 650 Series Prop - 800 Series	1
2	40572-1	Pivot Pin	2
3	124-132 460-10	Screw M8 x 12 Washer Ø8	2 2
4	21216-12	Cable	1
5	457-7 500-103	Washer - Large Ø14 Split Pin	1 1
6	94972-1	Plate Pulley	1
7	94971-1	Spacer	2
8	70484-1 124-141 420-14	Pulley Screw M8 x 35 Nut - Nyloc M8	1 2 2
9	29345-1	Cylinder	1
10	124-139 420-14	Screw M8 x 30 Nut - Nyloc M8	2 2
11	421-7	Nut Lock M20F	2
12	280138-1	Bracket	1
> 13	124-137 460-10	Screw M8 x 25 Washer - Spring Ø8	2 2

CHAPTER

22

Powapak

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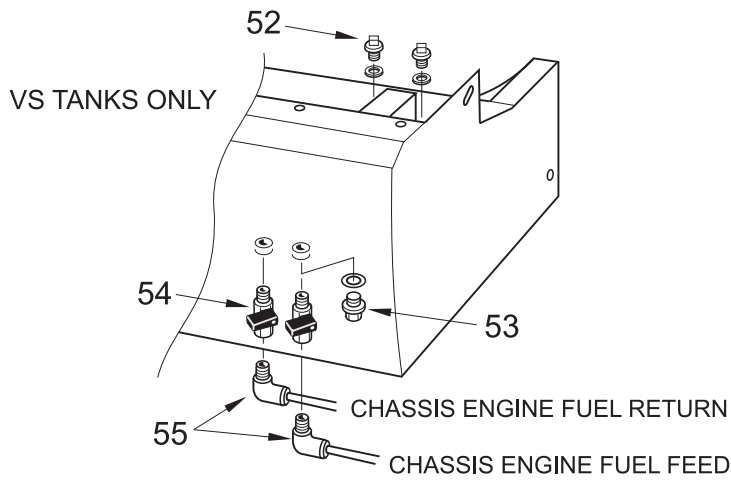
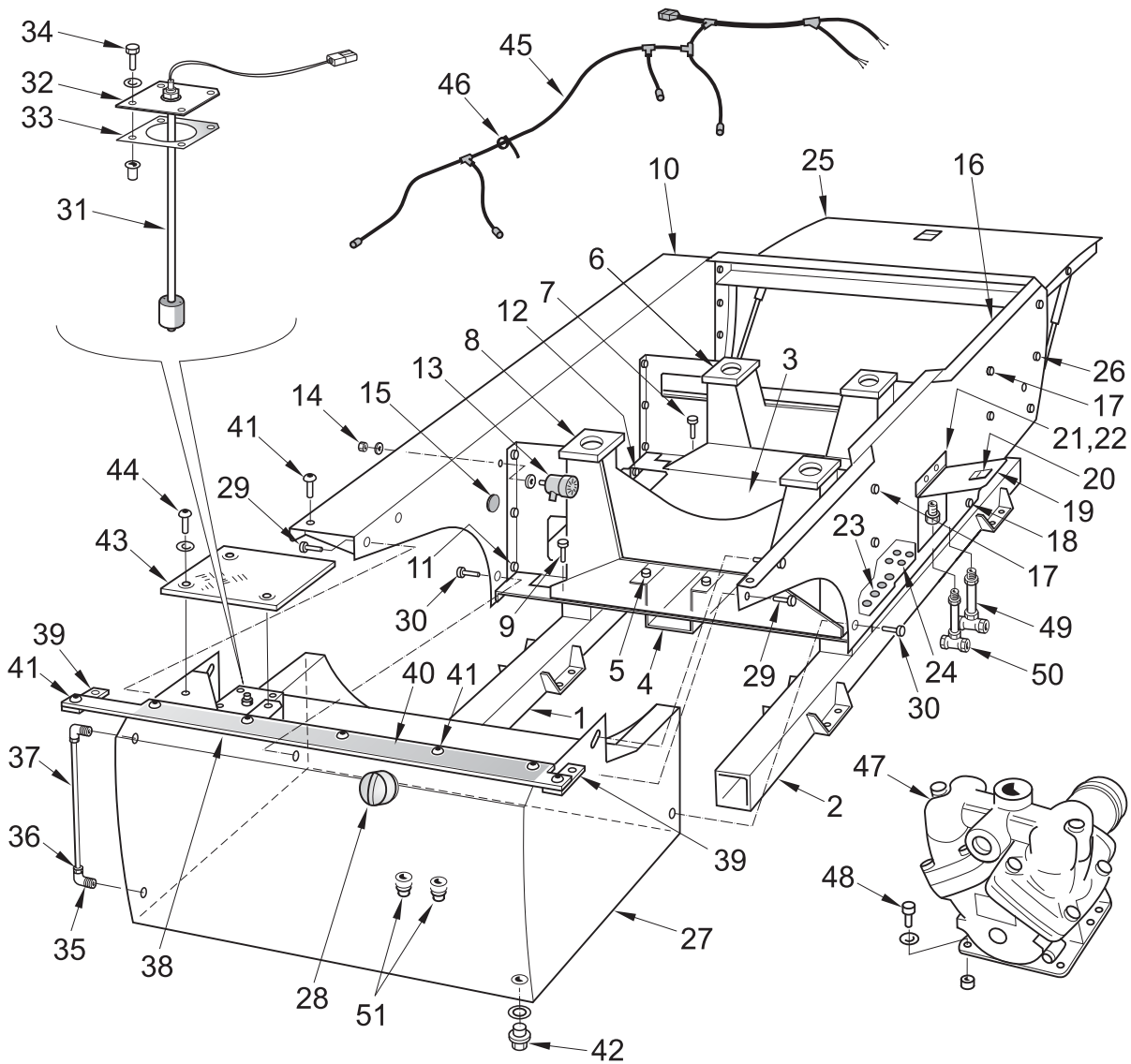
22.CP

VT & VS Common Parts

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Fan Case and Impeller	22.CP : 10
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Powapak Tub

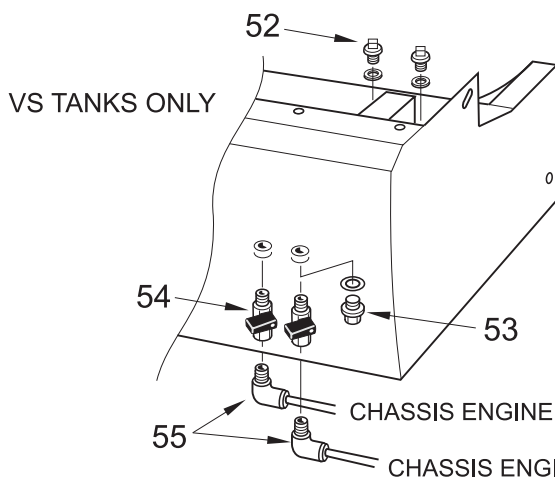
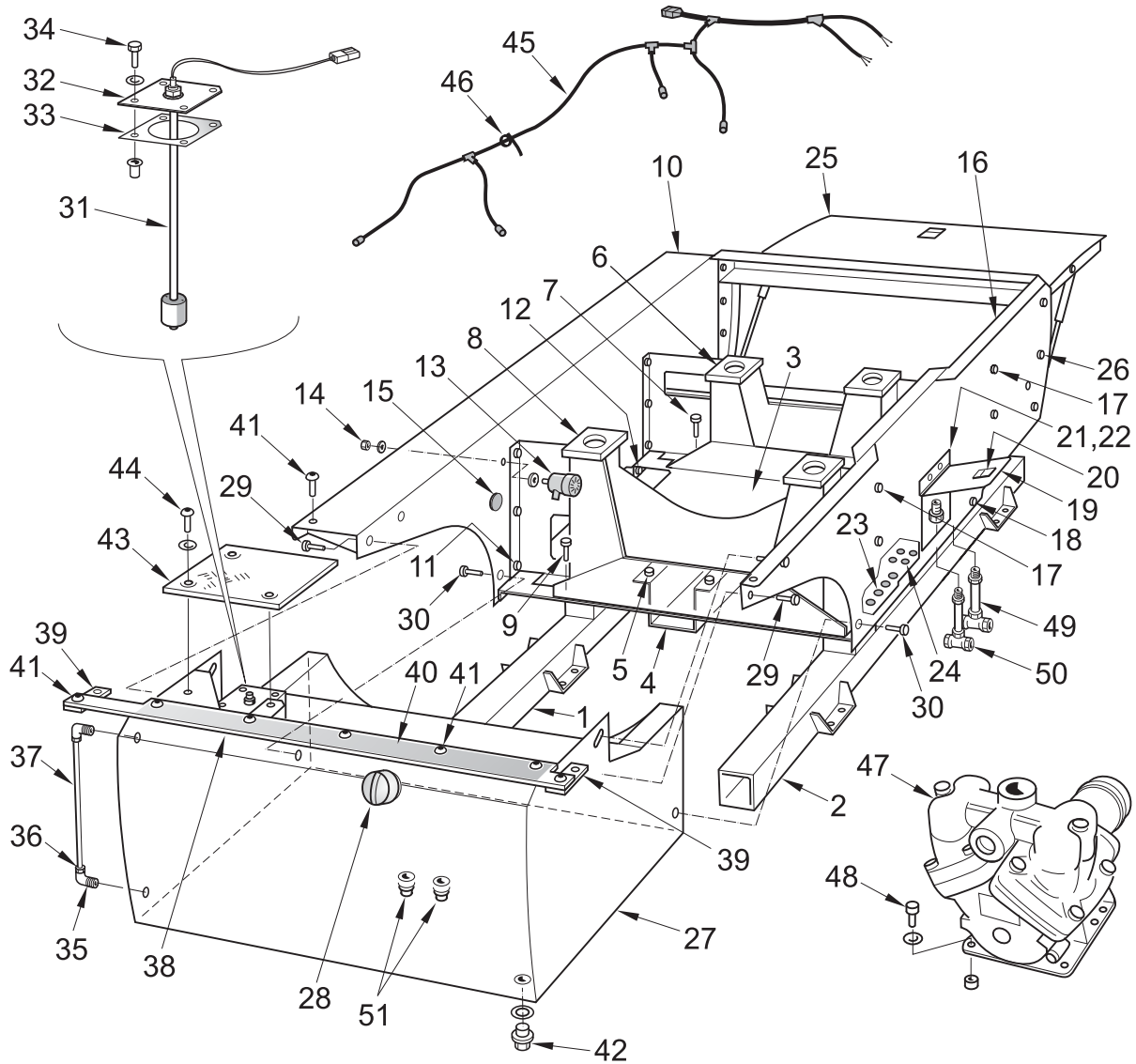


95PT. 002-5

BoM 950512

Item No.	Part No.	Description	Quantity
1	281283-1	Engine Beam - Front	1
2	281282-1	Engine Beam - Rear	1
3	281643-1	Deck Plate	1
4	281881-1	Hose Tray	1
5	124-134	Screw M8 x 16	6
	460-10	Washer - Spring M8	6
6, 7	-	Engine Front Cradle/Panel and Screws See Chapter 22.ET(VT) and Chapter 22.HI(VS)	
8	282375-1	Rear Engine Cradle	1
9	124-272	Screw M16 x 45	2
	460-14	Washer - Spring M16	2
10	200510-1	Front Valance	1
11	124-169	Screw M10 x 25	6
	425-15	Nut - Nyloc M10	6
	455-11	Washer - Plain M10	6
12	124-137	Screw M8 x 25	2
	455-10	Washer - Plain M8	2
	425-14	Nut - Nyloc M8	2
13	30-184	Reverse Alarm with Connector	1
> 14	283229-6	Spacer	1
	457-2	Washer - Large M6	2
	420-13	Nut - M6	1
15	287-12	Grommet	1
> 16	282818-1	Rear Valance	1
> 17	124-169	Screw M10 x 25	6
	455-11	Washer - Plain M10	6
18	124-137	Screw M8 x 25	2
	455-10	Washer - Plain M8	2
	425-14	Nut - Nyloc M8	2
19	281698-1	Flap - Valance)	1
20	720-1	Latch - Flap) Superseded Items	1
21	42596-2	Hinge - Flap) For Current Parts See	1
	42591-2	Hinge Strip) Chapter 22.ET(VT)	1
22	134-41	Screw M4 x 10) Chapter 22.HI(VS)	4
	425-11	Nut - Nyloc M4)	4
23	288-11	Blind Grommet Ø5/8"	4
24	288-9	Blind Grommet Ø1/2"	4
25	-	Systems Locker Assembly - See Chapter 23	1
26	124-135	Screw M8 x 20	7
	425-14	Nut - Nyloc M6	4
> 27	282340-2	190 Litre Fuel Tank	1

Powapak Tub



95PT. 002-5

Powapak Tub

Item No.	Part No.	Description	Quantity	
28	69-27	Locking Filler Cap (Large)	1	
29	124-169	Screw M10 x 25	4	
	455-11	Washer - Plain M10	6	
	425-15	Nut - Nyloc M10	4	
30	124-167	Screw M10 x 20	2	
	460-11	Washer - Spring M10	2	
	31	283323-1	Fuel Level Sender (Curtis)	1
>	32	283324-1	Adaptor Plate - Curtis Sender	1
>	33	66136-1	Gasket - Adaptor Plate	1
	34	124-103	Screw M6 x 20	4
		460-8	Washer - Spring M6	4
		433-2	Clufix M6	4
	35	521-8	Adaptor Elbow	2
	36	510-4	Nut - Tubing Ø8	2
		511-4	Sleeve - Tubing Ø8	2
	37	39024	Tubing - Nylon Ø8	0.4
	38	281902-1	Walkway	1
	39	281600-1	Support Strip	2
	40	211-12	Anti-slip Surface x 1240 Long	1
	41	135-57	Screw - Button Head M8 x 20	9
		425-14	Nut - Nyloc M8	9
	42	7684-1	Plug G1/2"	1
		451-19	Washer - Sealing G1/2"	1
	43	281610-1	Plate - Walkway	1
	44	135-57	Screw - Button Head M8 x 20	3
		457-4	Washer - Large Flat M8	3
	45	282021-1	Powapak Services Loom	1
	46	24-1	Cable Tie	5
	47	282812-1	Water Pump Assembly	1
	48	124-137	Screw M8 x 25	4
		455-10	Washer - Plain M8	4
	49	281669-1,2	Water Pump 1" Feed Pipe Assembly) See Over	1
	50	281670-1	Water System 3/4" Feed Pipe Assembly) Page	1
	51	3823	Collar Plug G3/8")	2
		451-18	Washer - Sealing) VT Only	2

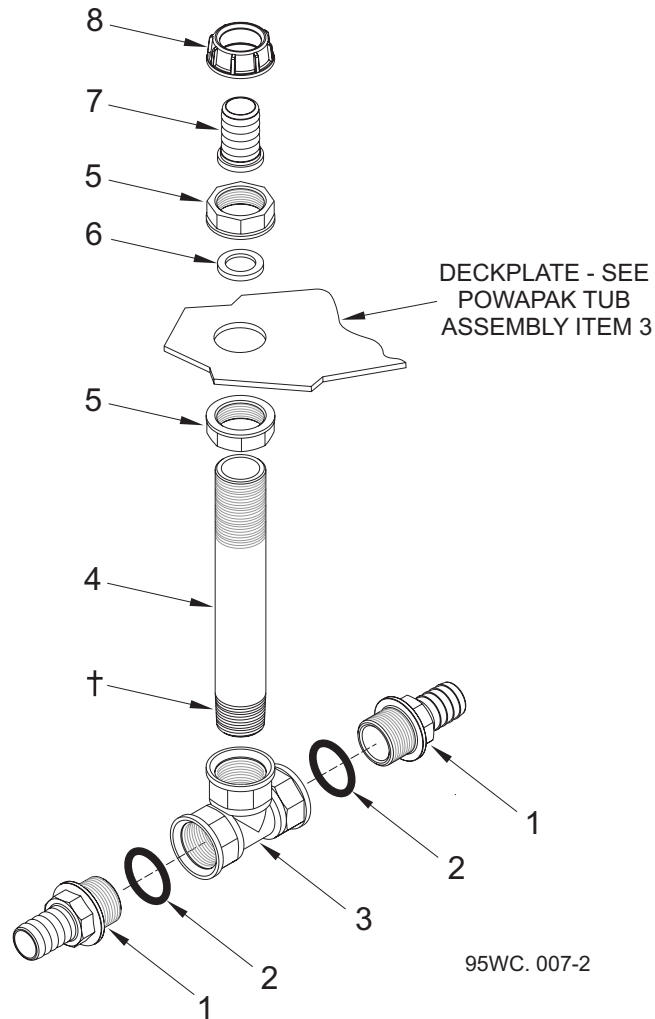
Powapak Tub
VS Only

Item No.	Part No.	Description	Quantity
52	3823	Collar Plug G3/8"	2
	451-18	Washer - Sealing	2
53	3823	Collar Plug G3/8") ESU Units	2
	451-18	Washer - Sealing) only	2
54	88-28	Tap R3/8"	2
* 55	83-78	Elbow R1/2" for Ø8 Fuel Pipe	2
	83-81	Elbow R3/8" for Ø10 Fuel Pipe	2
	83-83	Elbow R3/8" for Ø12 Fuel Pipe	2
	802776-1	Special Mercedes Adaptor G3/8" for 12mm I.D. Fuel Pipe	2
	805931-1	Special MAN Adaptor M14 x M16	1
	805932-1	Special MAN Adaptor M14 x M18	1

Notes

* Item 55 lists a range of fittings required for various fuel pipe sizes - Select as required.
The Fuel Pipe is that supplied with the chassis .

3/4" Water Pump Feed Pipe Assembly

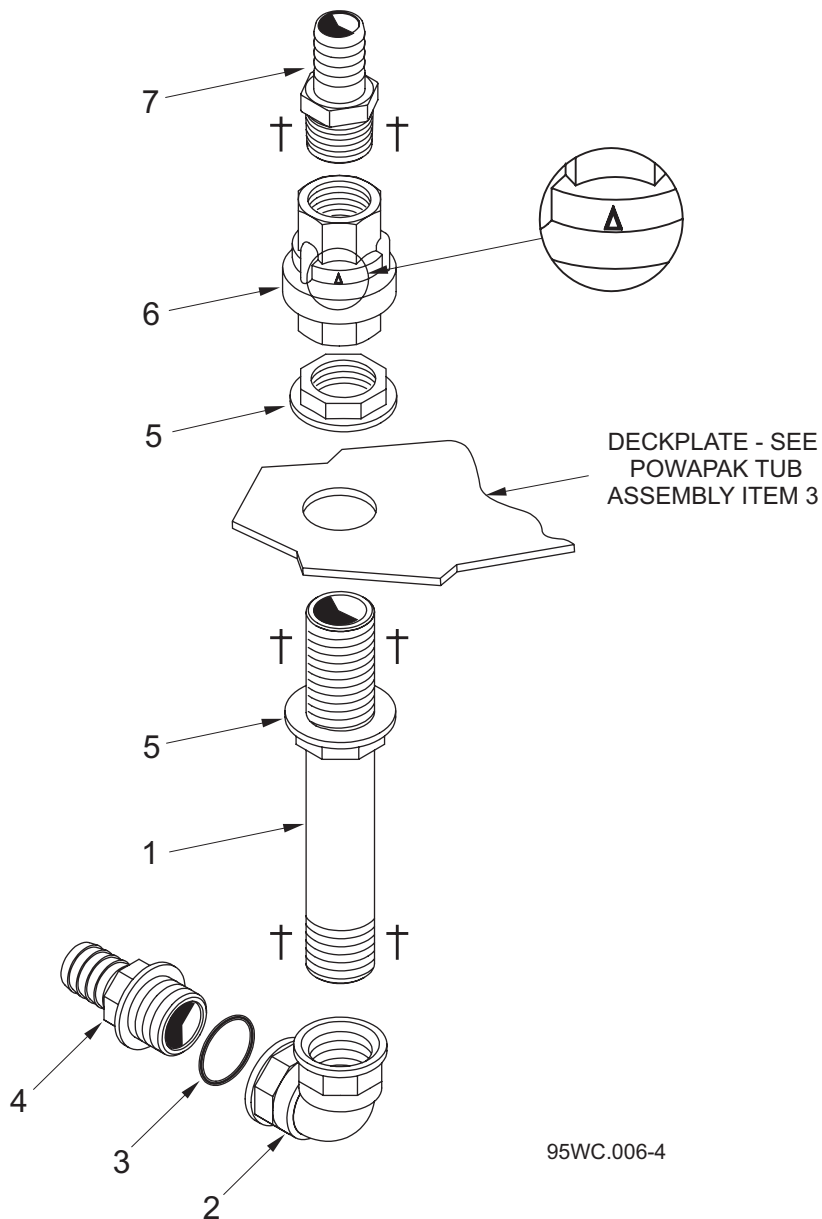


BoM 950512

Item No.	Part No.	Description	Quantity
	281670-1	3/4" System Feed Pipe Assembly	
1	277-130	Hose Tail 3/4" NB x G3/4"	2
2	277-148	'O' Ring	2
3	277-133	Equal Tee	1
4	281668-1	PVC Pipe	1
5	277-164	Backnut G3/4"	2
6	277-160	Gasket	1
7	277-158	Hose Tail Flat Seat G3/4"	1
8	277-159	Flynut G3/4"	1

Notes

Use Loctite 5331 to seal thread marked †.
Do not use PTFE (Teflon) based tape to seal other threads.
To avoid breakage do not over tighten screwed fitting.

1" Water Pump Feed Pipe Assembly

Use Loctite 5331 to seal thread marked †.
Do not use PTFE (Teflon) based tape to seal other threads.
To avoid breakage, do not over tighten screwed fitting.
Ensure Check Valve (6) is fitted with flow indicating arrow pointing upwards as shown.

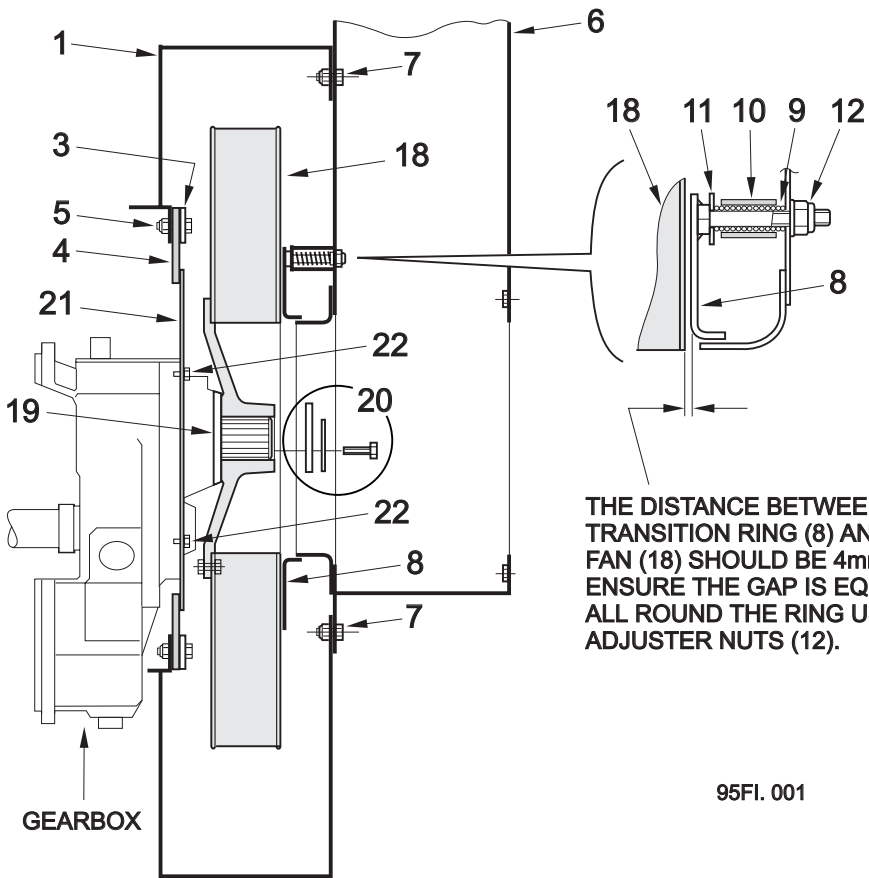
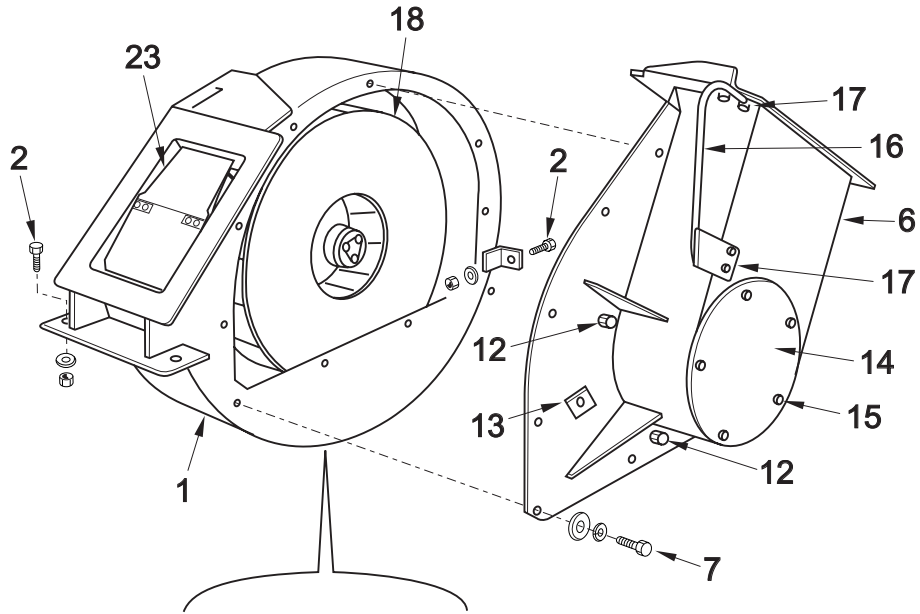
1" Water Pump Feed Pipe Assembly**BoM 950512**

Item No.	Part No.	Description	Quantity
	293280-2	1" Pump Feed Pipe Assembly	
1	281667-1	Pipe - Water 1"	1
2	277-129	Elbow 1" BSP x 90°	1
3	277-149	'O' Ring	1
4	277-125	Hosetail 1" BSP / 1" NB Hose	1
5	277-165	Backnut 1"	2
6	277-174	Check Valve 1" x 1" BSP	1
7	277-219	Hosetail 1" BSP	1

Notes

This current 1" Feed Pipe Assembly has been introduced to use common parts with the revised Supawash Assembly shown in Chapter 30.SW.

Suction System - Fan Case and Impeller



THE DISTANCE BETWEEN THE TRANSITION RING (8) AND FAN (18) SHOULD BE 4mm. ENSURE THE GAP IS EQUAL ALL ROUND THE RING USING ADJUSTER NUTS (12).

95FI. 001

Suction System - Fan Case and Impeller

BoM 950513

Item No.	Part No.	Description	Quantity
Fan Case Common Parts			
1	282390-1	Fan Case	1
2	124-169	Screw M10 x 25	4
	455-11	Washer - Plain M10	4
	425-15	Nut - Nyloc M10	4
3	42239-2	Flange	1
4	42382-1	Diaphragm	1
5	124-137	Screw M8 x 25	12
	425-14	Nut - Nyloc M8	12
6	93875-1	Fan Case Cover	1
7	124-135	Screw M8 x 20	10
	460-10	Washer - Spring M8	10
	457-4	Washer - Extra Large M8	10
8	42401-1	Transition Ring	1
9	285-2	Spring - Compression	3
10	62770-1	Sleeve	3
11	457-5	Washer	3
12	425-15	Nut - Nyloc M10	3
	455-11	Washer - Plain M10	3
13	42587-1	Cover Plate	1
	124-134	Screw M8 x 16	1
	460-10	Washer - Spring M8	1
14	42238-1	Access Cover	1
15	124-134	Screw M8 x 16	5
	460-10	Washer - Spring M8	5
16	62407-1	Grab Handle	1
17	124-135	Screw M8 x 20	4
	460-10	Washer - Spring M8	2
	426-4	Nut N8	2
Fan Case Variable Parts			
18	-	Suction Fan Impeller)	
19	-	Spinner - Gearbox)	
20	-	Impeller Retention)	See 22.ET for VT
21	-	Mask - Fan Case)	See 22.HI for VS
22	-	Screw - Special)	
23	-	Safety Flap Assembly - See next page	1

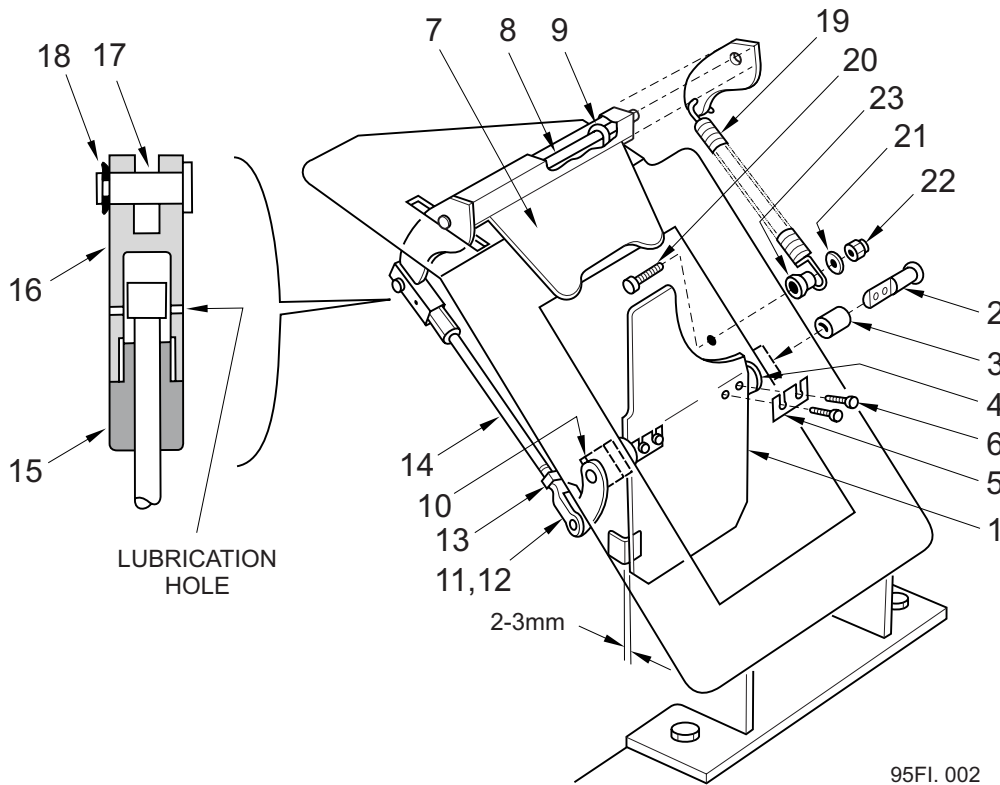
Fan Case Outlet Flap



Safety Precautions



Ensure the outlet flap is correctly set - see below.



Setting Procedures

There should be 2-3mm of free play between the flap (1) and the angle stop inside the fan outlet, as shown, when the flap actuator (7) is fully depressed against the fan case seal face. Adjustment is made by releasing the yoke end locknut (13) and rotating the actuation rod (14) to move the yoke end up or down the rod as required. Having achieved the correct setting, retighten the locknut.

Fan Case Outlet Flap

Item No.	Part No.	Description	Quantity
	282383-1	Safety Flap Assembly comprising:	
1	42582-1	Safety Flap	1
2	42729-1	Rod - Pivot	1
3	29128-1	Bush	2
4	42728-1	Spacer	2
5	42723-1	Tab - Washer	2
6	124-134	Screw M8 x 16	4
7	42947-1	Flap - Actuator	1
8	42993-1	Actuator Rod	1
9	42992-1	U-Bolt	2
	460-8	Washer - Spring M6	4
	420-13	Nut M6	4
10	42952-1	Actuator Flap	1
11	289-4	Yoke End	1
12	289-21	Pin - Spring	1
13	420-15	Locknut M10	1
14	42990-5	Actuation Rod	1
15	42986-1	Sleeve	1
16	42988-1	Clevis	1
17	29145-2	Pin - Clevis	1
18	39624	Spring Retaining Clip	1
19	80766-1	Tension Spring	1
20	123-108	Bolt M8 x 40	1
21	457-4	Washer - Plain M8	1
22	425-14	Nut - Nyloc M8	1
23	42586-1	Spacer	1

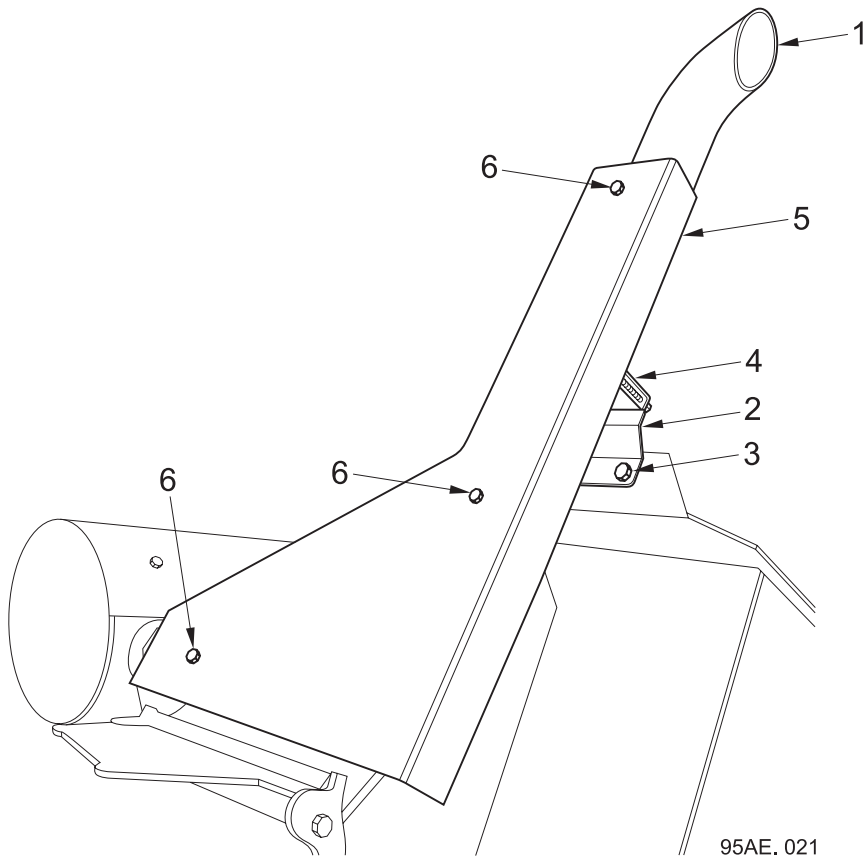
Notes

22.EC

Engine Common Parts

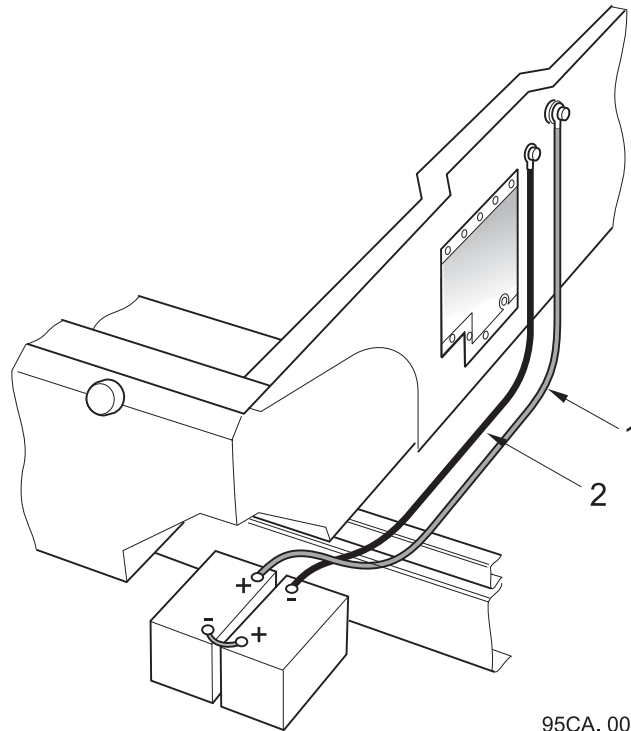
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Tailpipe Installation

BoM 950520 and 960520

Item No.	Part No.	Description	Quantity
1	42649-3	Tailpipe - VT 500, 605	1
	42649-1	Tailpipe - VT 650	1
	281946-1	Tailpipe - VT 800	1
2	200063-1	Support - VT 500, 605, 650	1
	281945-1	Support - VT 800	1
3	124-169	Screw M10 x 25	2
	455-11	Washer - Plain	2
	426-5	Nut - Philidas M10	2
4	6645-14	Exhaust Clamp 2 3/4"	1
5	42647-1	Heat Sheild	1
6	124-100	Screw M6 x 12	3
	460-8	Washer - Spring	3

Starter and Earth Cables



Drg. 807340

Item No.	Part No.	Description	Quantity
1	92105-300	Starter Cable Ø8 x 3000 Long - Red	1
	92105-301	Starter Cable Ø10 x 3010 Long - Red (Daf 12 - 8 only)	1
2	17936-305	Earth Cable 3050 Long - Black	1
	282147-1	Chassis Interface Loom - ESU's only (Not shown)	

Notes

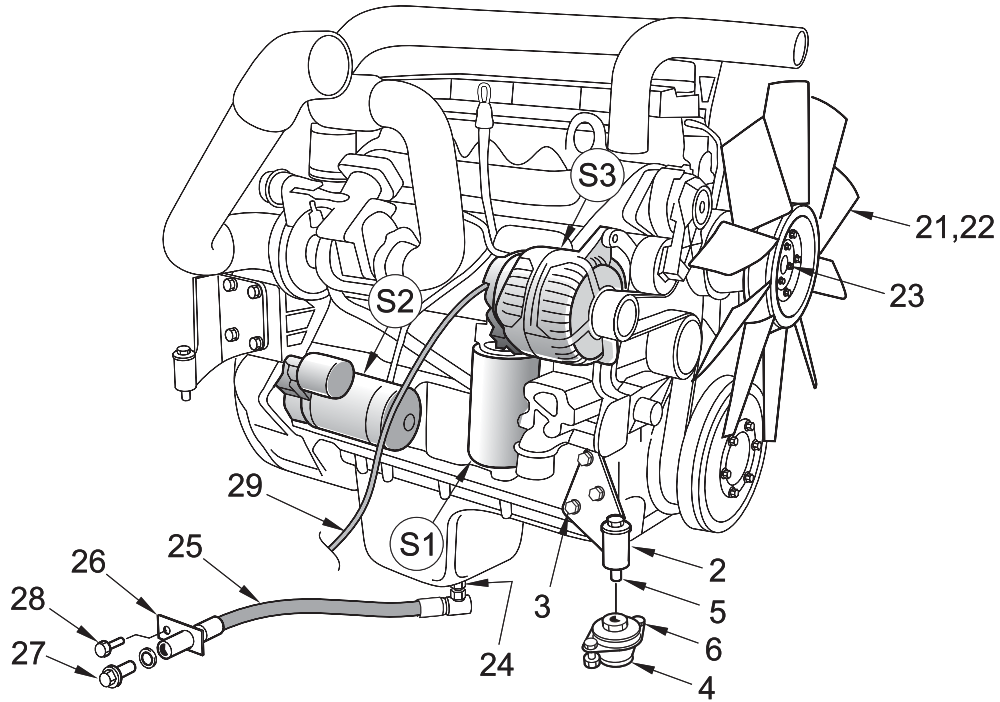
22.EI

Iveco Engines

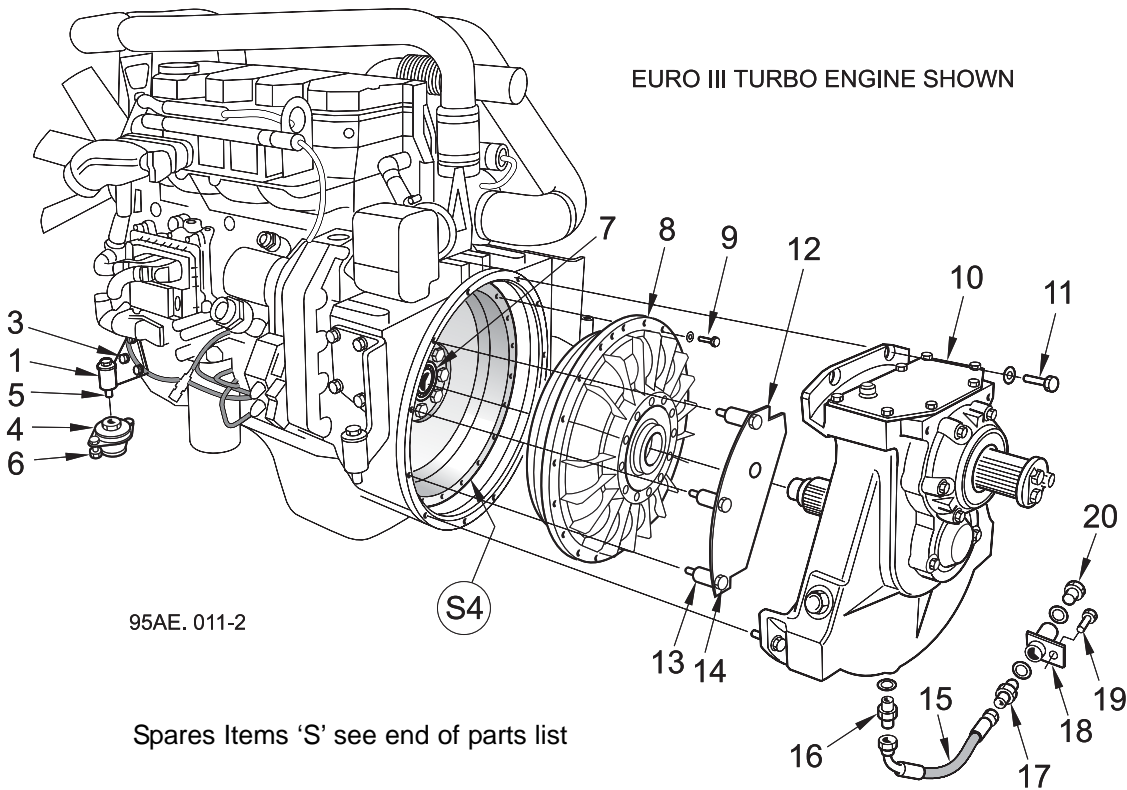
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Iveco Nat. Asp. and Turbo Dressed Engines - Common Parts



EURO III TURBO ENGINE SHOWN



95AE. 011-2

Spares Items 'S' see end of parts list

Iveco Nat. Asp. and Turbo Dressed Engines - Common Parts

BoM 950511

Item No.	Part No.	Description	Quantity
1	281448-1	L.H. Front Engine Mount	1
2	281448-2	R.H. Front Engine Mount	1
3	124-205	Screw M12 x 35	6
	460-12	Washer - Spring	6
4	6953	Mount - Metacone	2
5	123-154	Bolt M12 x 80	2
	460-12	Washer - Spring	2
	457-6	Washer - Plain	2
6	124-171	Screw M10 x 30	4
	460-11	Washer - Spring	4
	420-15	Nut M10	4
7	14-7	Bearing	1
8	42501-3	Fluid Coupling	1
9	129-127	Cap Head Screw M8 x 30	20
	452-57	Washer - Plain	20
10	42270-1	Gearbox	1
11	123-131	Bolt M10 x 55	6
	460-11	Washer - Spring	6
12	42299-1	Safety Cover	2
> 13	920000-32	Spacer - Plain	6
14	123-137	Bolt M10 x 85	6
	460-11	Washer - Spring	6
15	HC08001-48	Hose 1/2"	1
16	263-4	Adaptor G 1/2"	1
	451-19	Washer - Sealing	1
17	265-4	Adaptor G3/8" x 1/2"	1
	451-18	Washer - Sealing G 3/8"	1
18	40525-1	Drain - Gearbox	1
19	124-167	Screw M10 x 20	1
	460-11	Washer - Spring	1
	420-15	Nut M10	1
20	3823	Plug 3/8" BSP	1
	451-18	Washer - Sealing G 3/8"	1
21	281-7	Cooling Fan	1
22	281458-1	Cooling Fan Spacer	1
23	123-134	Bolt M10 x 70	4
	460-11	Washer - Spring	4
24	282513-1	Adaptor M22 x 3/4"	1
	451-20	Washer - Sealing	1
25	HE12003-57	Hose	1
26	62903-1	Drain - Engine	1
27	7684-1	Collar Plug 1/2" BSP Brass	1
	451-19	Washer Sealing	1



Iveco Nat. Asp. and Turbo Dressed Engines - Common Parts

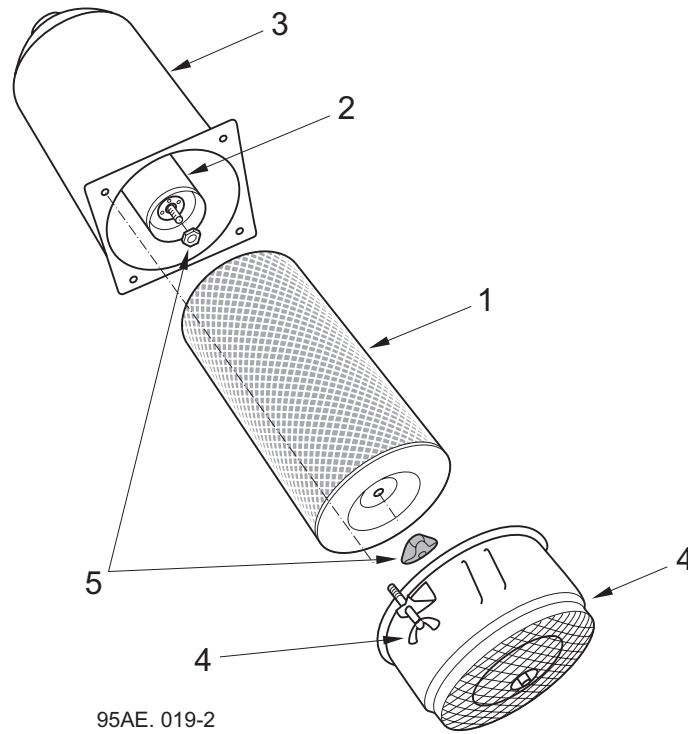
Item No.	Part No.	Description	Quantity
28	124-167	Screw M10 x 20	1
	460-11	Washer - Spring	1
	420-15	Nut M10	1
29	282034-3	Alternator Cable	1

Spares Items

S1	845-100	Oil Filter	
S2	845-103	Starter Motor 24v	
S3	845-104	Alternator 28v	
> S4	-	Flywheel	
	845-159	Starter Ring Gear	

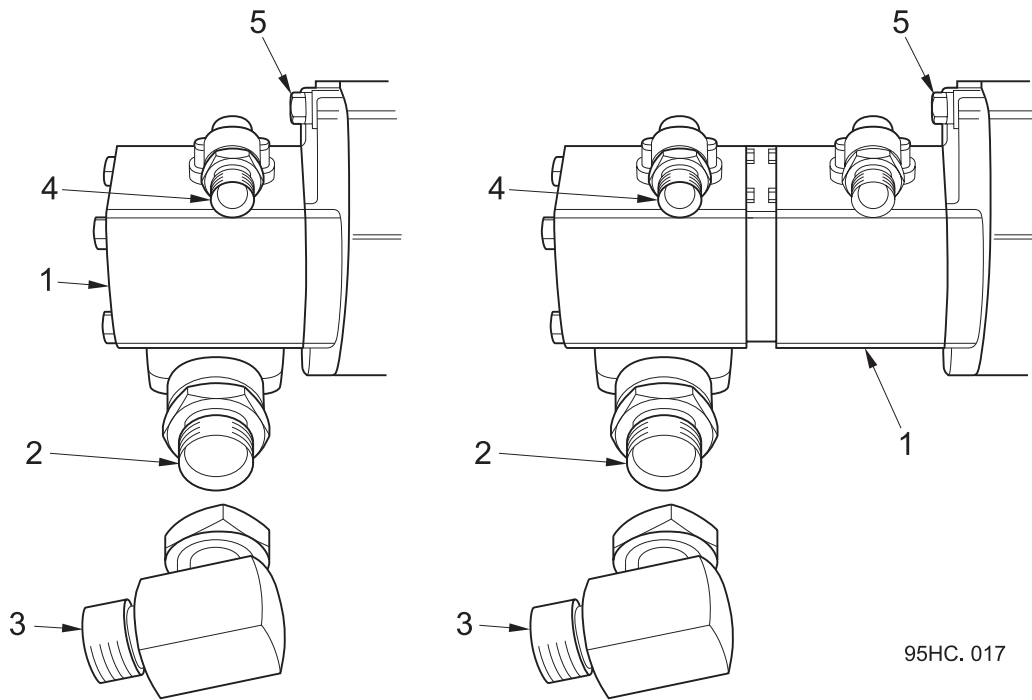
Notes

Combi Filter - Spares Items



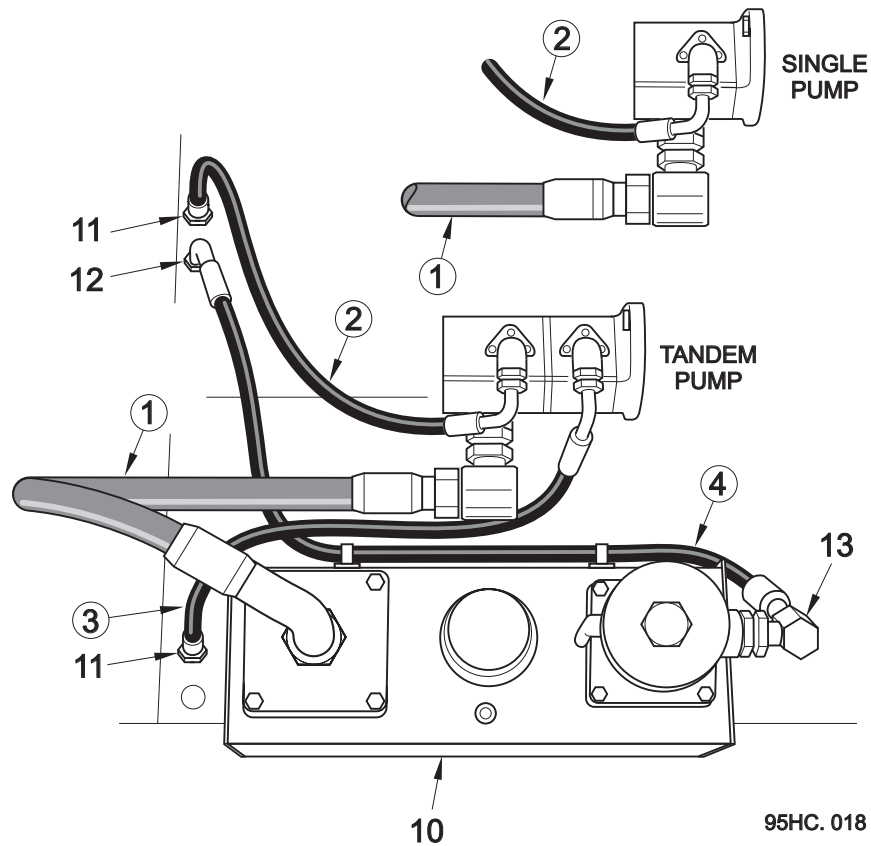
Item No.	Part No.	Description	Quantity
	280850-1	Combi Filter Assembly comprising:-	
1	280850-2	Main Element	1
2	280850-3	Safety Element	1
3	280850-4	Housing	1
4	280850-5	Wing Bolt Kit - Metric	
5	280850-6	Element Nut Kit - Imperial	

Notes

Iveco P.T.O. Pumps

BoM 950514

Item No.	Part No.	Description	Quantity	
			Single	Tandem
1	239-39	Pump - Single	1	-
	239-40	Pump - Tandem	-	1
2	263-8	Adaptor 1 1/4"	1	1
	451-111	Washer - Sealing 1 1/4"	1	1
3	262-8	Swivel Elbow 90° 1 1/4"	1	1
4	263-4	Adaptor 1/2"	1	2
	451-19	Washer - Sealing 1/2"	1	2
5	123-155	Bolt M12 x 85	2	2
	457-6	Washer - Plain	2	2
	460-12	Washer - Spring	2	2

Pump Installations - Iveco Engines



95HC.018

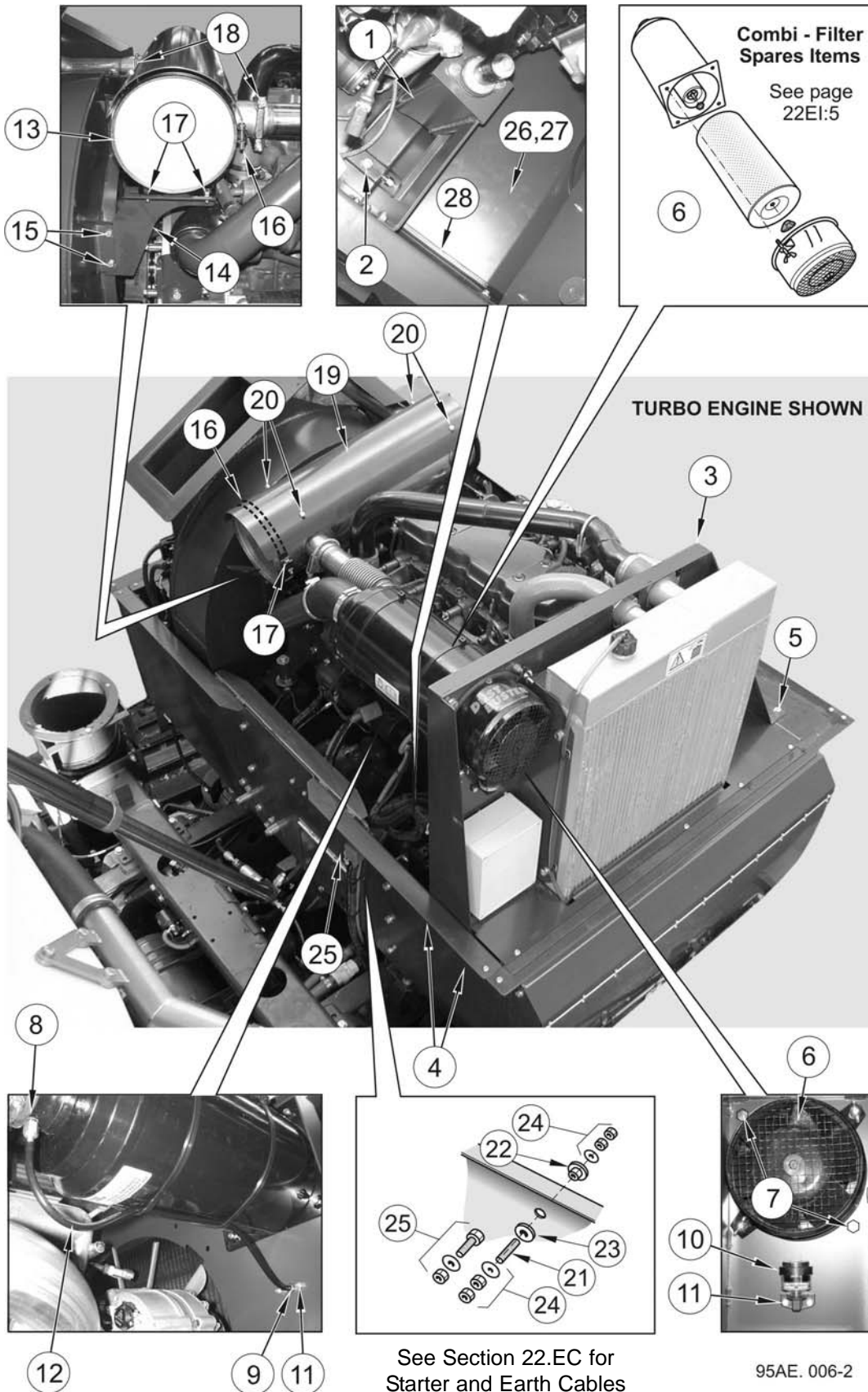
BoM 950514

Item No.	Part No.	Description	Quantity	
			Single	Tandem
1*	HX 20002-94	Suction Hose - Nat. Asp. Engine	1	1
	HX 20002-72	Suction Hose - Turbo Engine	1	1
2*	HCO8002-108	Sweep Systems Hydraulic Hose	1	1
3*	HCO8002-91	Auxiliary Systems Hydraulic Hose	1	1
4*	HE12001-122	Tank Return Hydraulic Hose	1	1
5-9	-			
10	-	Hydraulic Tank - Covered else where in this chapter		
11	264-4	1/2" Bulkhead Adaptor + Locknut	2	2
12	264-6	3/4" Bulkhead Adaptor + Locknut	1	1
13	262-6	Swivel Elbow 3/4"	1	1

Notes

*Hose item numbers correspond with those in Hydraulic diagrams SH521a01 and SH531a01 in Chapter 8.

Iveco Nat. Asp. and Turbo Engine Powapak - Common Parts

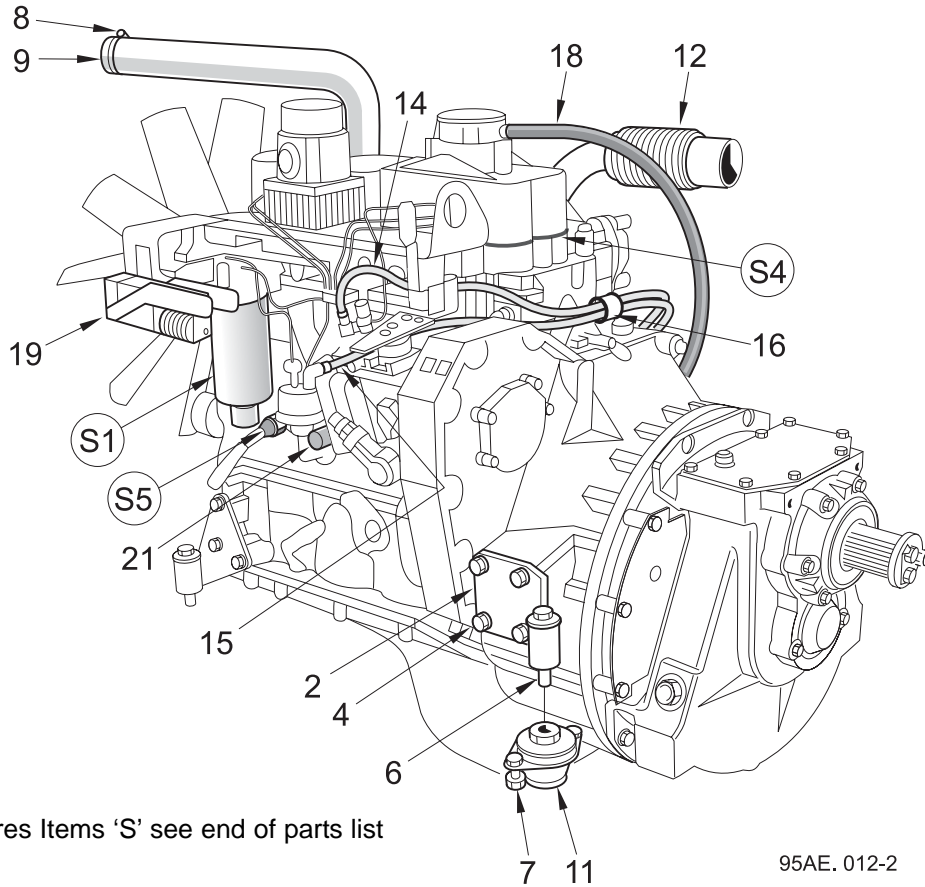
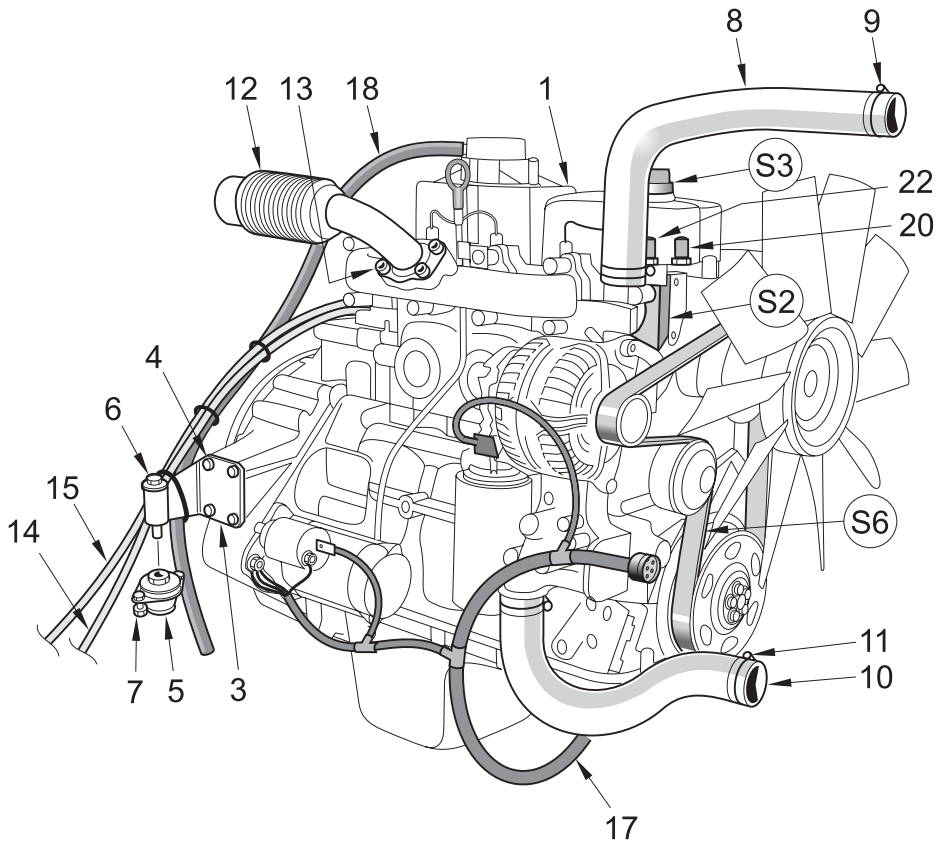


Iveco Nat. Asp. and Turbo Engine Powapak Common Parts

BoM 950511

Item No.	Part No.	Description	Quantity
1	281475-1	Front Engine Cradle	1
2	124-272	Screw M16 x 45	2
	460-14	Washer - Spring	2
3	281455-1	Radiator Shroud	1
4	124-167	Screw M10 x 20	2
	460-11	Washer - Spring	2
5	124-167	Screw M10 x 20	2
	425-15	Nut - Nyloc M10	2
6	280850-1	Combi - Filter	1
7	124-167	Screw M10 x 20	2
	460-11	Washer - Spring	2
8	904-58	Adaptor - Restriction Pipe	1
9	904-56	Connector	1
10	904-55	Restriction Indicator	1
11	124-103	Screw M6 x 20	2
	457-2	Washer - Plain	2
	425-13	Nut - Nyloc M6	2
12	12870	Tube - Black Nylon Ø8 x 0.8m	1
13	281418-1	Silencer - For Tailpipe etc., See Section 22:EE	1
14	281444-1	Mounting Bracket	1
15	124-135	Screw M8 x 20	2
	460-10	Washer - Spring	2
	420-14	Nut M8	2
16	903-9	Mounting Band	1
17	124-135	Screw M8 x 20	2
	460-10	Washer - Spring	2
	420-14	Nut M8	2
18	6645-12	Exhaust Clip 2 1/2"	3
19	281704-1	Heat Shield	1
20	124-97	Screw M6 x 6	4
	457-2	Washer - Large	4
21	42421-3	Stud M10 x 65	1
22	42660-1	Spacer - Nylon	1
23	42661-1	Washer - Nylon	1
24	410-49	Nut - Brass M10	4
	455-11	Washer - Plain	2
25	124-175	Screw M10 x 40	1
	455-11	Washer - Plain	1
	420-15	Nut M10	2
26	281563-1	System Locker Cover Plate	1
27	124-134	Screw M8 x 16	4
	460-10	Washer - Spring	4
28	217-2	Rubber Seal	1

Iveco Tier II Nat. Asp. Dressed Engine Parts and Spares Items



Spares Items 'S' see end of parts list

95AE.012-2

Iveco Tier II Nat. Asp. Dressed Engine Parts and Spares Items

BoM 950511

Item No.	Part No.	Description	Quantity
1	282500-1	Engine - Iveco F4AE0407AD 24v NAT2	
2	282460-1	L.H. Rear Engine Mount	1
3	282460-2	R.H. Rear Engine Mount	1
4	124-205	Screw M12 x 35	4
	460-12	Washer Spring	4
5	22826-1	Mount - Metacone	2
6	123-154	Bolt M12 x 80	2
	460-12	Washer - Spring	2
	457-6	Washer - Plain	2
7	124-171	Screw M10 x 30	4
	460-11	Washer - Spring	4
	420-15	Nut M10	4
8	282467-1	Radiator Hose - Top	1
9	501-5	Hose Clip	2
10	282468-1	Radiator Hose - Bottom	1
11	501-6	Hose Clip	2
12	282595-1	Exhaust Inlet	4
13	124-137	Screw M8 x 25	4
	460-10	Washer - Spring	4
14	282667-1	Fuel Line - Feed	1
	501-30	Clip	1
15	282668-1	Fuel Line - Return	1
	501-30	Clip	1
16	664-8	Pipe Clamp 1"	1
	124-99	Screw M6 x 10	1
	460-8	Washer - Spring	1
17	282042-1	Engine Loom	1
18	496-P02	Breather Pipe	1
19	-	Throttle Actuator - See over page	1
> 20	845-162	Water Temperature Switch	1

KT00695 - Optional Oil Pressure / Water Temperature Gauge Pack

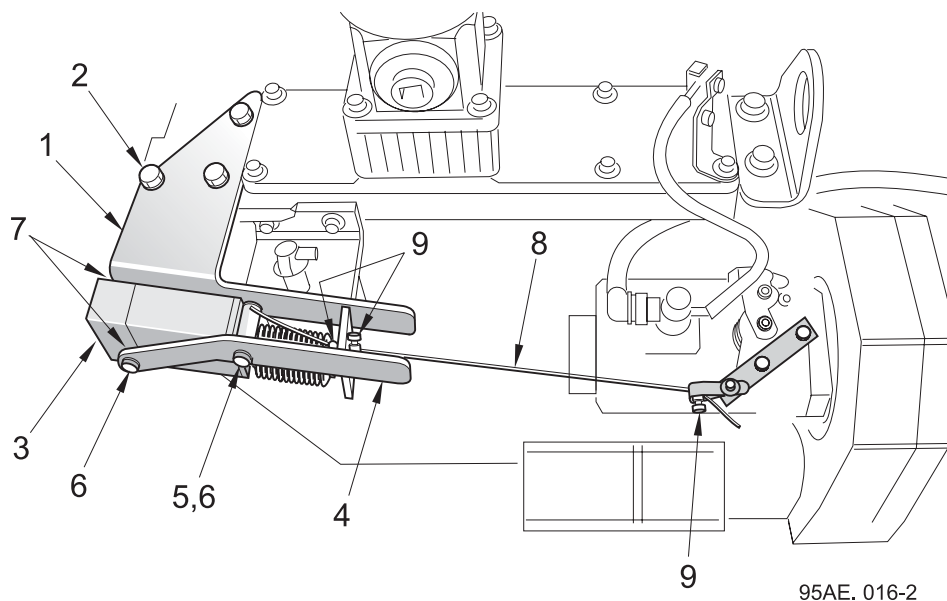
21	87-16	Oil Pressure Sender	1
	283215-1	Adaptor	1
	80-43	'O' Ring	1
22	87-54	Water Temperature Sender	1
	282043-1	Gauge Sender Loom (Not Shown)	1
	282740-1	Water Temp./ Oil Press. Gauge - See Powapak Control Panels, Chapter 32	

Iveco Tier II Nat. Asp. Dressed Engine Parts and Spares Items**Spares Items**

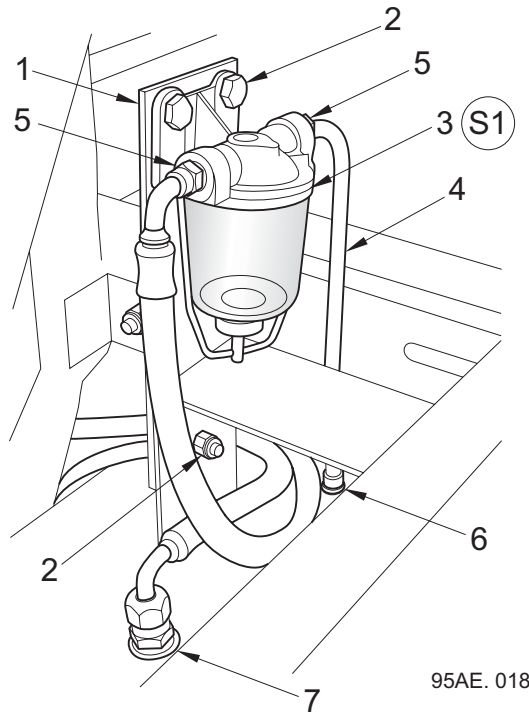
	S1	845-144	Fuel Filter
	S2	845-145	Thermostat
		845-146	Thermostat Seal
	S3	845-151	Oil Filler Cap
		845-152	Oil Filler Seal
	S4	845-147	Rocker Cover Gasket
	S5	281942-1	Oil Pressure Switch
>		283215-1	Adaptor
>		80-43	'O' Ring
	S6	845-158	Alternator/Fan Belt

Notes

Throttle Actuator - Iveco Tier II Nat. Asp. Engine

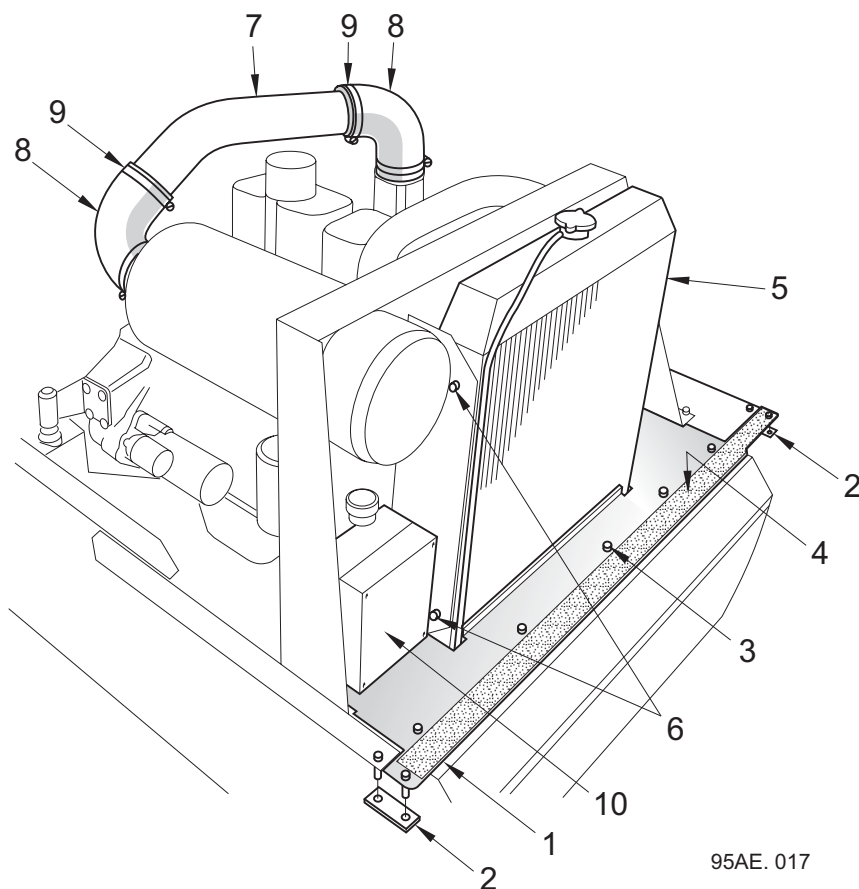


Item No.	Part No.	Description	Quantity
	1	283150-1 Actuator Mount	1
	2	124-167 Screw M10 x 20	2
		460-11 Washer - Spring	2
>	3	281729-2 Actuator Assembly 24v	1
	4	281707-1 Actuator Side Plate	1
	5	42774-4 Spacer x 36 Long	1
	6	124-102 Screw M6 x 16	4
		460-8 Washer - Spring	4
	7	455-8 Washer - Plain. Act as spacers between Actuator/Mount and Actuator/Side Plate	3
	8	281728-1 Throttle Cable	1
	9	38-32 Solderless Nipple	3

Fuel Pre-Filter Installation - Iveco Tier II Nat. Asp. Engines

BoM 950511

Item No.	Part No.	Description	Quantity
1	42295-1	Mounting Plate	1
2	124-135	Screw M8 x 20	4
	425-14	Nut-Nyloc M8	4
3	15314-1	Pre-Filter	1
4	42683-4	Fuel Pipe	1
> 5	25977-1	Nut - Sleeve	2
	511-4	Olive	2
6	40448-1	Adaptor	1
	451-17	Washer - Sealing	1
	510-4	Nut - Sleeve	1
	511-4	Olive	1
7	40448-1	Adaptor	1
	451-17	Washer - Sealing	1
Spares Items			
S1	15314-1	Pre-Filter (Item 3)	

Radiator and Air Cleaner Installations - Iveco Tier II Nat. Asp. Engine

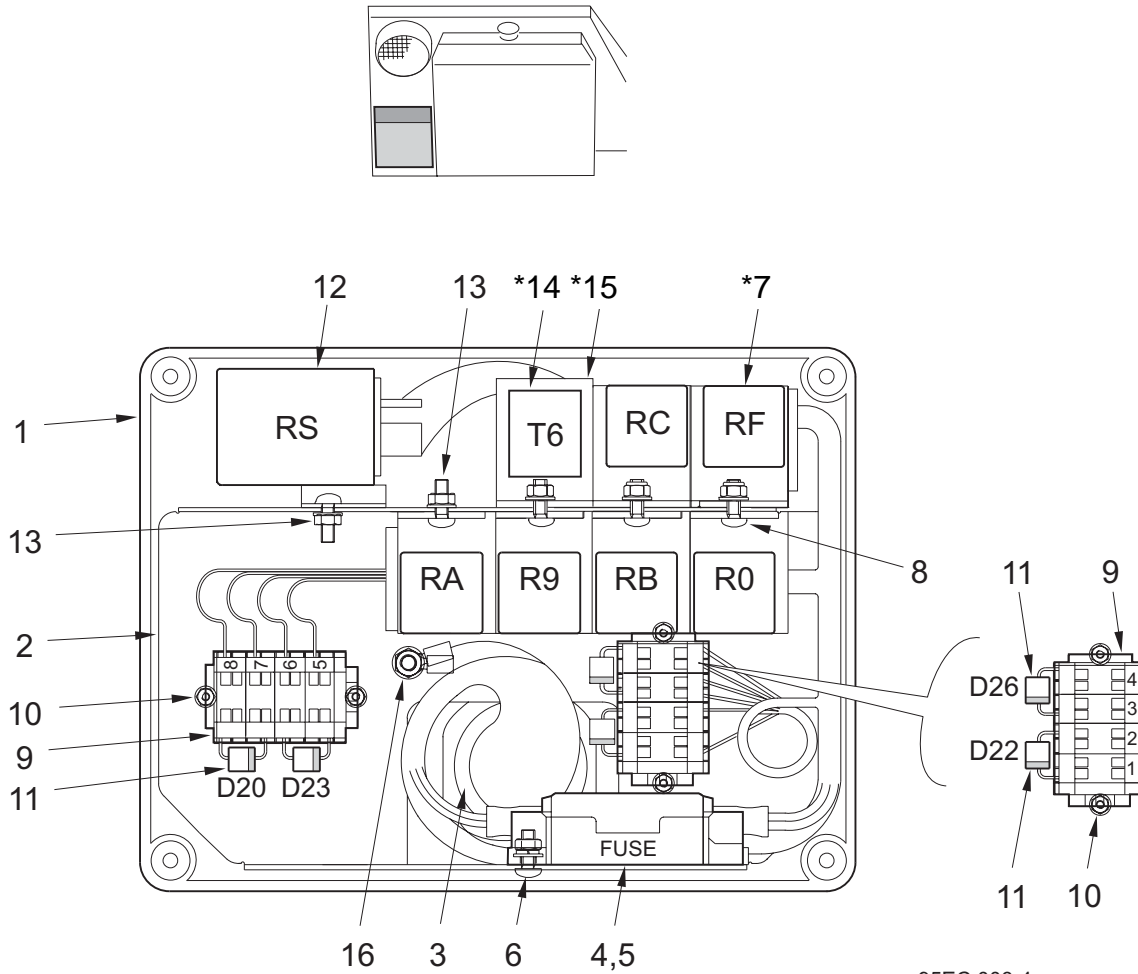


BoM 950511

Powapak Parts

Item No.	Part No.	Description	Quantity
1	281562-2	Walkway	1
2	281600-1	Support Strip	2
3	135-69	Screw - Button Head M8 x 25	9
	455-10	Washer - Plain	4
	425-14	Nut - Nyloc M8	4
4	211-12	Anti - Slip Surface x 0.03m	1
5	200923-1	Radiator	1
6	124-166	Screw M10 x 16	4
	460-11	Washer - Spring	4
	455-11	Washer - Plain	4
7	282516-1	Induction Pipe	1
8	903-11	Elbow 90°	2
9	501-8	Hose Clip	4
10	-	Engine Management Box - See Over Page	

Engine Management Box - Iveco Tier II Nat. Asp. Engines



BoM 950511

Item No.	Part No.	Description	Quantity
	282134-1	Engine Management Box 24v comprising:-	
1	282122-1	Box and Lid	1
	134-44	Screw Pan Head M4 x 20	4
	425-11	Nut-Nyloc M4	4
2	282125-1	Mounting Plate	1
3	710-67	HDP 31 Way Socket Housing	1
	710-70	Jam Nut	1
	281545-2	Sealing Washer	1
4	30-267	Fuse Holder	1
5	30-268	Midi Link 30 Amp	1
6	134-43	Screw M4 x 16	2
	455-5	Washer Plain	2
	425-11	Nut Nyloc M4	2

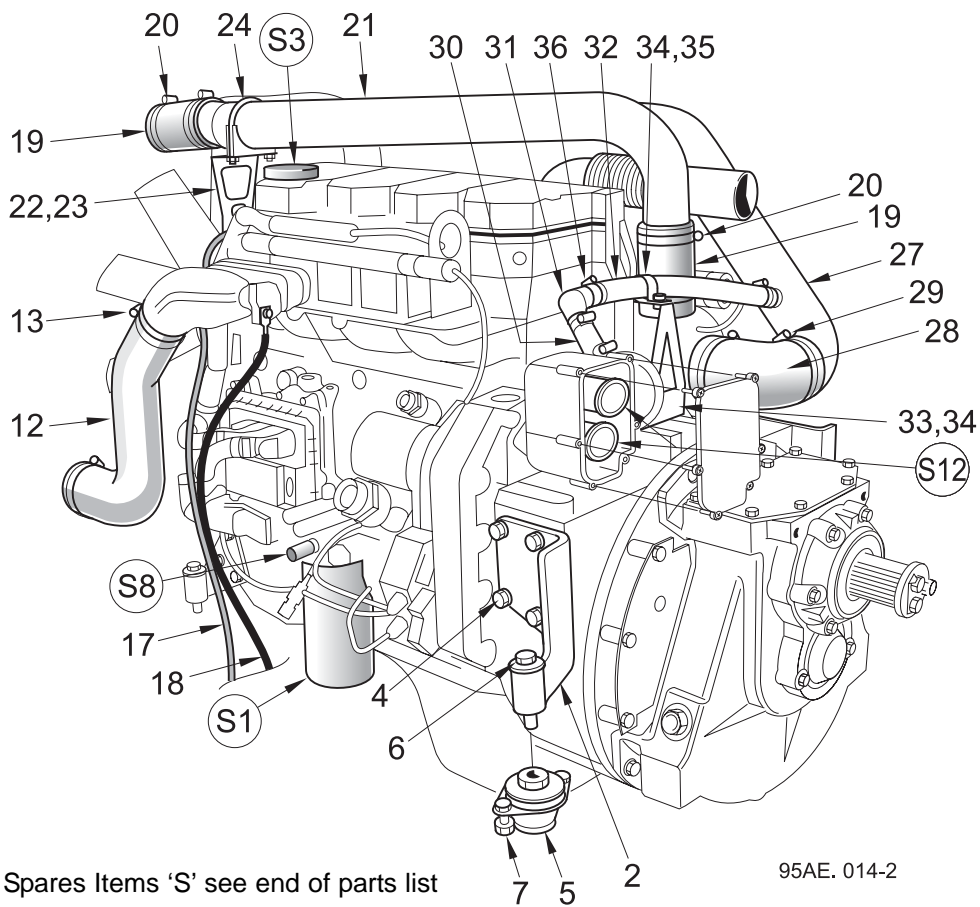
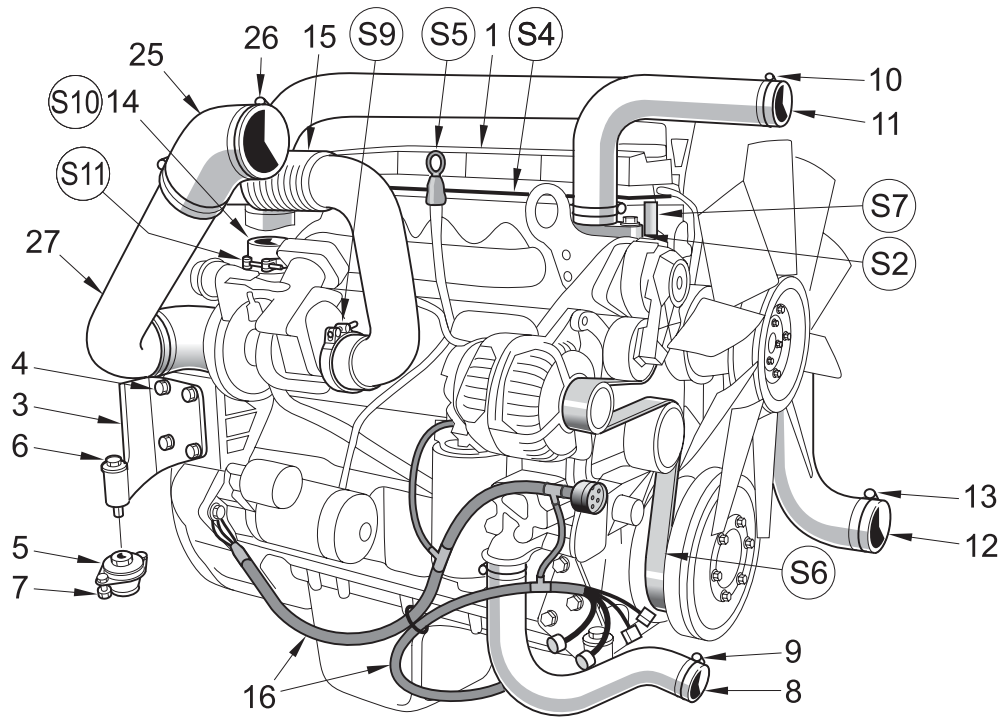
Engine Management Box - Iveco Tier II Nat. Asp. Engines

Item No.	Part No.	Description	Quantity
* 7	48-89	Relay Base	6
	12926	Relay 24 x Type 6RA	6
8	134-42	Screw Pan Head M4 x 12	2
	455-5	Washer - Plain	2
	425-11	Nut - Nyloc M4	2
9	30-256	4 Way Terminal Block	8
	30-254	End Plate - Terminal Block	2
10	134-12	Screw Pan Head M3 x 10	4
	455-3	Washer - Plain	4
	425-10	Nut - Nyloc M3	4
11	13984	Diode 6 Amp	4
12	48-36	Relay 24v	1
13	134-42	Screw Pan Head M4 x 12	4
	460-5	Washer - Spring	4
	420-11	Nut M4	4
* 14	13981	Timer Relay 12v	1
	13982	Timer Relay 24v	1
	13983	Relay Base	1
* 15	283198-1	Timer Relay Bracket	1
16	124-39	Screw M4 x 20	1
	460-5	Washer - Spring	1
	420-11	Nut M4	1
	455-5	Washer - Plain	1
	425-11	Nut Mylock M4	1

Notes

* Additional components. Item 7 - Relay RC, Item 14 - Relay T6 and Mounting Bracket 15 added.
Refer to Technical Bulletin TB 1217 Issue 03.

Iveco Euro III Turbo Dressed Engine Parts and Spares Items



Spares Items 'S' see end of parts list

95AE. 014-2

Iveco Euro III Turbo Dressed Engine Parts and Spares Items

BoM 950511/005

Item No.	Part No.	Description	Quantity
1	280888-1	Engine - Iveco F4AEO487AC 24v TCA E3	
2	281450-1	L.H. Rear Engine Mount	1
3	281450-2	R.H. Rear Engine Mount	1
4	124-205	Screw M12 x 35	8
	460-12	Washer - Spring	8
5	22826-1	Mount - Metacone	2
6	123-154	Bolt M12 x 80	2
	460-12	Washer - Spring	2
	457-6	Washer - Plain	2
7	124-171	Screw M10 x 30	4
	460-11	Washer - Spring	4
	420-15	Nut M10	4
8	281506-1	Radiator Hose - Bottom	1
9	501-5	Hose Clip	2
10	281507-1	Radiator Hose - Top	1
11	501-6	Hose Clip	2
12	281561-1	CAC Hose	1
13	501-7	Hose Clip	2
14	281414-1	Turbocharger Charge Air Outlet Adaptor	1
15	281417-1	Exhaust Inlet Pipe	1
16	282031-1	Engine Loom 24v	1
> 17	282034-4	Heat Start Cable - Red. See 'Radiator and Heat Start' elsewhere in this section.	1
18	282035-2	Heat Start Cable - Black	1
19	271-23	Cuff	2
20	501-6	Hose Clip	4
21	281480-1	Charge Air Pipe	1
22	281708-1	Pipe Support	1
23	124-166	Screw M10 x 16	2
	460-11	Washer - Spring	2
24	6645-12	Exhaust Clip 2 1/2"	1
25	904-51	Rubber Elbow 45°	1
26	501-7	Hose Clip	2
27	281415-1	Induction Air Tube	1
28	904-57	Rubber Elbow 90°	1
29	501-7	Hose Clip	1
30	497-P02	Hose 3/4" x 0.06	1
31	231-42	Elbow 3/4"	1
32	497-P02	Hose 3/4" x 0.45	1

Iveco Euro III Turbo Dressed Engine Parts and Spares Items

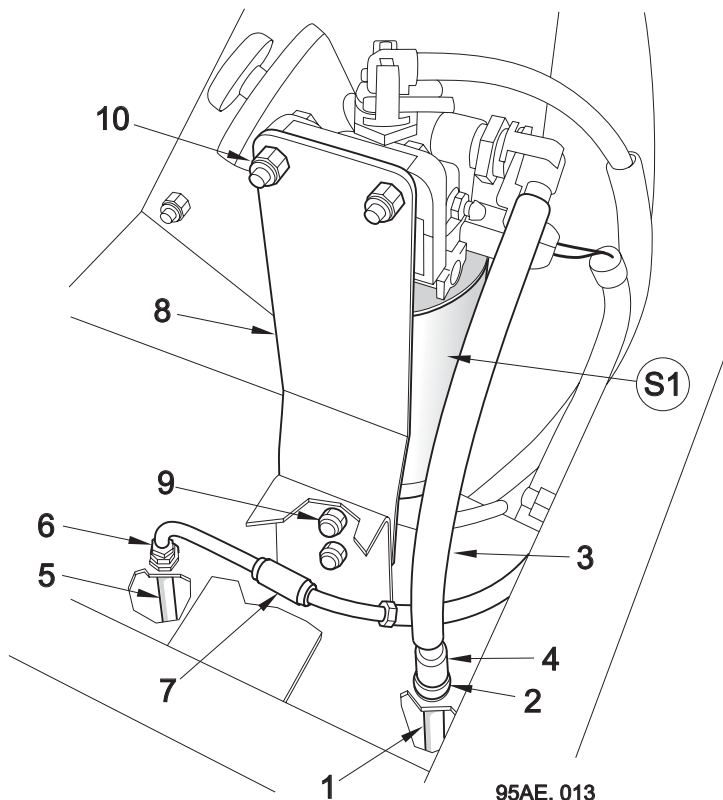
Item No.	Part No.	Description	Quantity
33	281939-1	Bracket	1
34	124-99	Screw M6 x 10	3
	460-8	Washer - Spring	3
	420-13	Nut M6	1
35	664-8	Pipe Clamp 1"	1
36	501-3	Hose Clip	4

Spares Items

S1	845-101	Fuel Filter	
S2	845-153	Thermostat	
	845-146	Thermostat Seal	
S3	845-149	Oil Filler Cap	
S4	845-150	Rocker Cover Gasket	
S5	845-148	Oil Level Dipstik	
S6	845-142	Alternator/Fan Belt	
S7	845-160	Water Temp. Sensor	
S8	845-161	Oil Sensor	
S9	845-108	Clamp	
S10	845-109	'O' Ring - Used with item 14	
S11	845-110	Clamp	
S12	845-183	Blow-By Filter Kit	

Notes

Fuel Pre-Filter Installation - Iveco Euro III Turbo Engine

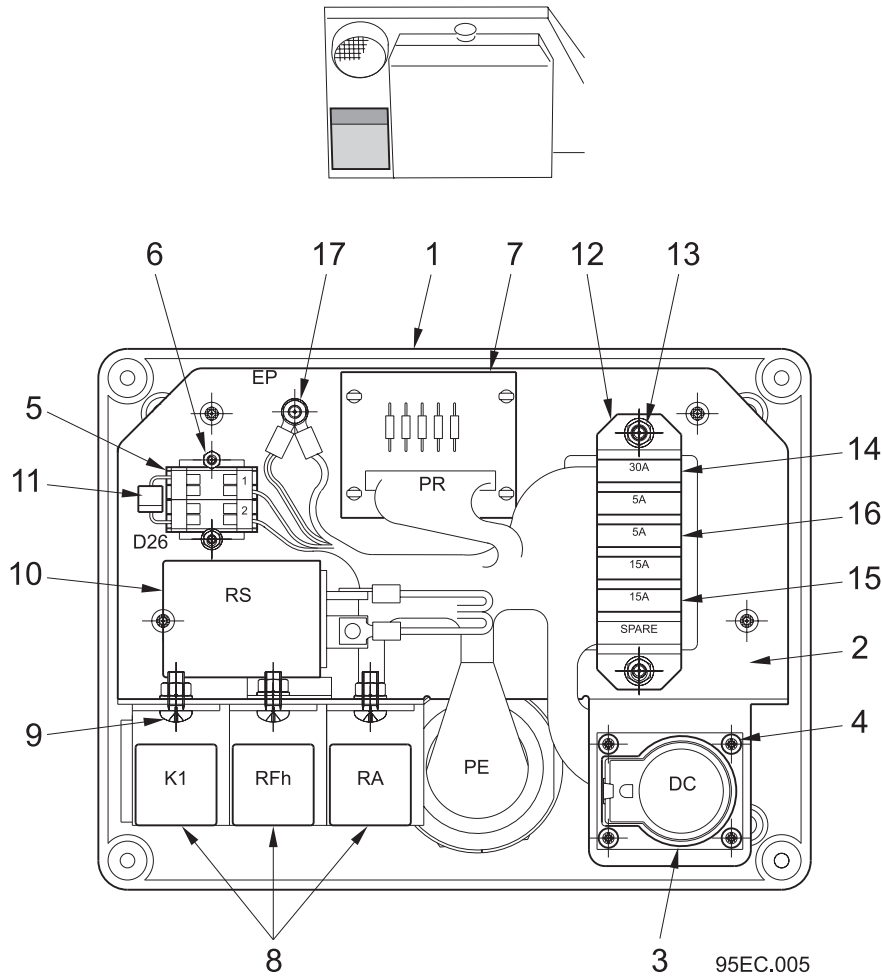


BoM 950511/005

Item No.	Part No.	Description	Quantity
> 1	281487-1	Suction Pipe	1
2	451-17	Washer - Sealing 1/4" BSP	1
3	282488-1	Fuel Hose	1
4	277-85	Straight Connector x Ø10	1
5	42683-3	Return Pipe	1
6	40448-1	Adaptor 1/4" BSP x Ø8	1
	451-17	Washer - Sealing 1/4" BSP	1
	510-4	Tubing Nut Ø8	1
	511-4	Tubing Sleeve Ø8	1
7	277-48	Straight Connector x Ø8	1
8	281470-1	Mounting Plate	1
9	124-135	Screw M8 x 20	2
	460-10	Washer - Spring	2
	420-14	Nut M8	2
10	124-139	Screw M8 x30	2
	460-10	Washer Spring	2
	420-14	Nut M8	2

Spares Items

SI	845-102	Fuel Pre-Filter
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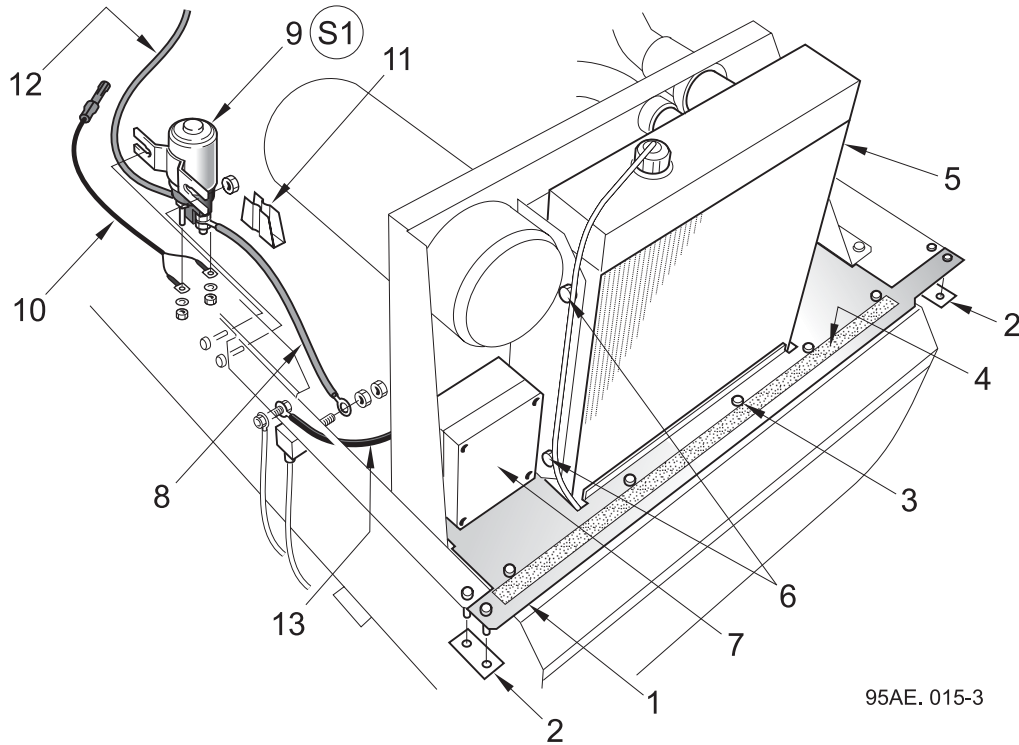
Engine Management Box - Iveco Euro III Turbo Engine

BoM 950511

Item No.	Part No.	Description	Quantity
	282120-1	Engine Management Box 24v comprising:-	
1	282122-1	Box and Lid	1
	134-44	Screw Pan Head M4 x 20	4
	425-11	Nut - Nyloc M4	4
2	282133-1	Mounting Plate	1
3	845-16	Diagnostic Connector	1
4	134-13	Screw Pan Head M3 x12	4
	455-3	Washer - Plain	4
	420-10	Nut M3	4
5	30-256	4 Way Terminal Block	2
	30-254	End Plate	2
6	134-13	Screw Pan Head M3 x 12	2
	455 - 3	Washer - Plain	2
	420-10	Nut M3	2

Engine Management Box - Iveco Euro III Turbo Engine

Item No.	Part No.	Description	Quantity
7	282130-1	Resistor Board	1
	30-280	Board Support	4
	30-281	Snap Rivet	4
8	13194	Relay 24v - Model 6RA	3
9	181-4	Screw Pan Head M5 x 12	3
	455-7	Washer - Plain	3
	420-12	Nut M5	3
10	48-36	Relay	1
11	13984	Diode 6 Amp	1
12	30-279	Fuse Holder	1
13	134-42	Screw Pan Head M4 x 12	2
	455-5	Washer - Plain	2
	420-11	Nut M4	2
14	30-99	Fuse 30 Amp	1
15	30-45	Fuse 15 Amp	2
16	30-93	Fuse 5 Amp	2
17	124-45	Screw M4 x 35	1
	460-5	Washer - Spring	1
	455-5	Washer - Plain	1
	420-11	Nut M4	1
	425-11	Nut-Nyloc	1

Notes

Radiator and Heat Start Relay - Iveco Euro III Turbo Engine


95AE. 015-3

BoM 950511
Powapak Parts

Item No.	Part No.	Description	Quantity
1	281562-1	Walkway	1
2	281600-1	Support Strip	2
3	135-69	Screw - Button Head M8 x 25	9
	455-10	Washer - Plain	4
	425-14	Nut - Nyloc M8	4
4	211-12	Anti-slip Surface x 0.03m	1
5	281570-1	Radiator / Intercooler	1
6	124-166	Screw M10 x 16	4
	460-11	Washer - Spring	4

Dressed Engine Parts

7	282120-1	Engine Management Box 24v - See Previous Pages	1
	134-44	Screw Pan Head M4 x 20	4
	425-11	Nut - Nyloc M4	4

Radiator and Heat Start Relay - Iveco Euro III Turbo Engine

BoM 950511

Item No.	Part No.	Description	Quantity
8	282034-3	Heat Start Cable - Red x 500 Long	1
9	845-139	Heat Start 'Intelligent' Relay	1
10	845-140	'Intelligent' Relay Loom	1
11	845-141	Cover	1
12	282034-4	Heat Start Cable - Red x 2500 Long) See Notes	1
13	282035-2	Heat Start Cable - Black) below	1

Spares Items

S1	845-139	Heat Start 'Intelligent' Relay (Item 9)
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Notes

Items 12 and 13, see 'Dressed Engine Parts and Spares Items' elsewhere in this section, items 17 and 18 respectively.



22.EJ

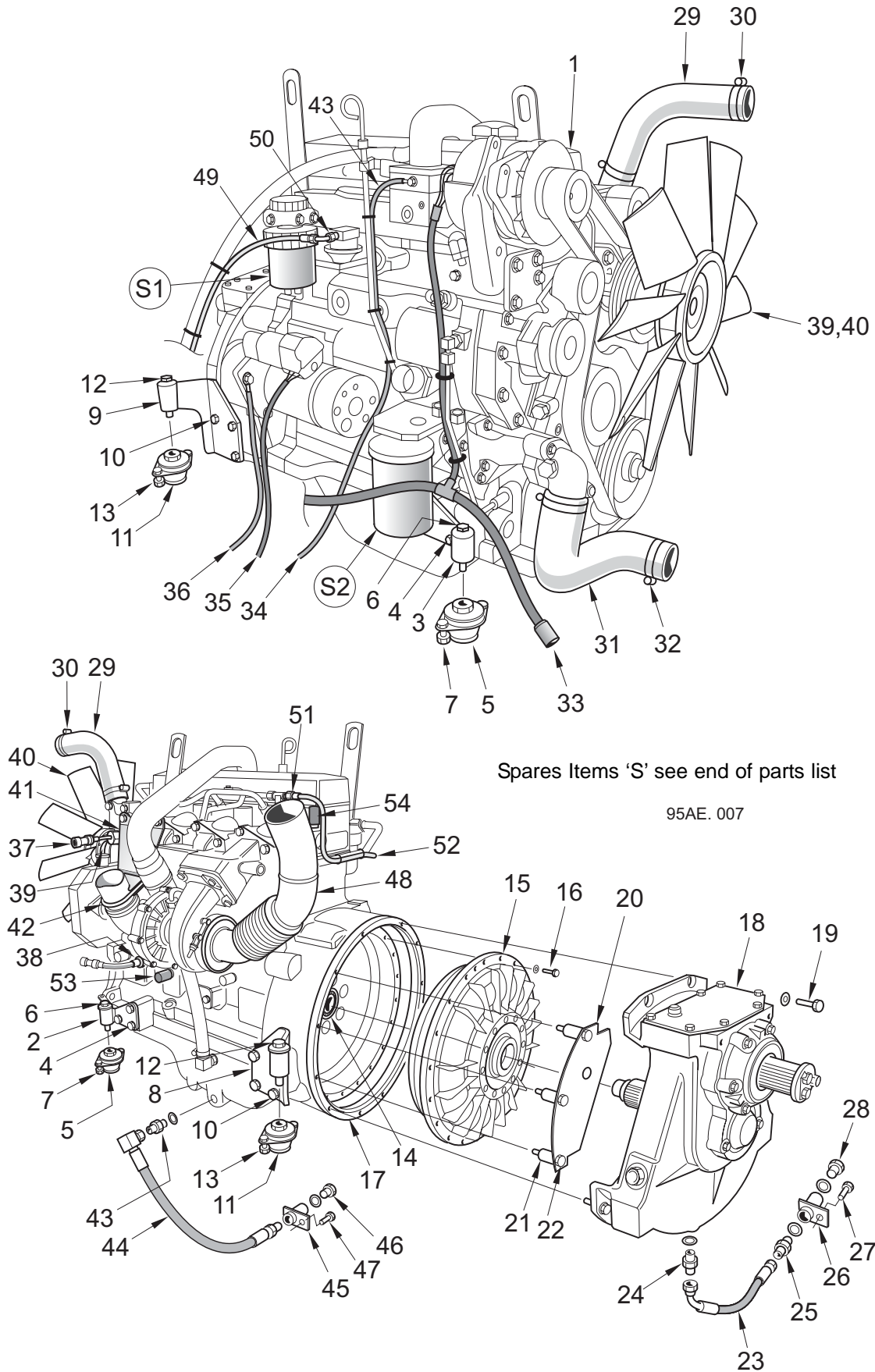
John Deere Engines

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John Deere 'LP' and 'HP' Dressed Engines - Common Parts

The 'LP' Engine can be identified by having a Throttle Actuator as shown on page 22.EJ:7
 The 'HP' Engine is controlled electronically by an ECU unit



Spares Items 'S' see end of parts list

95AE.007

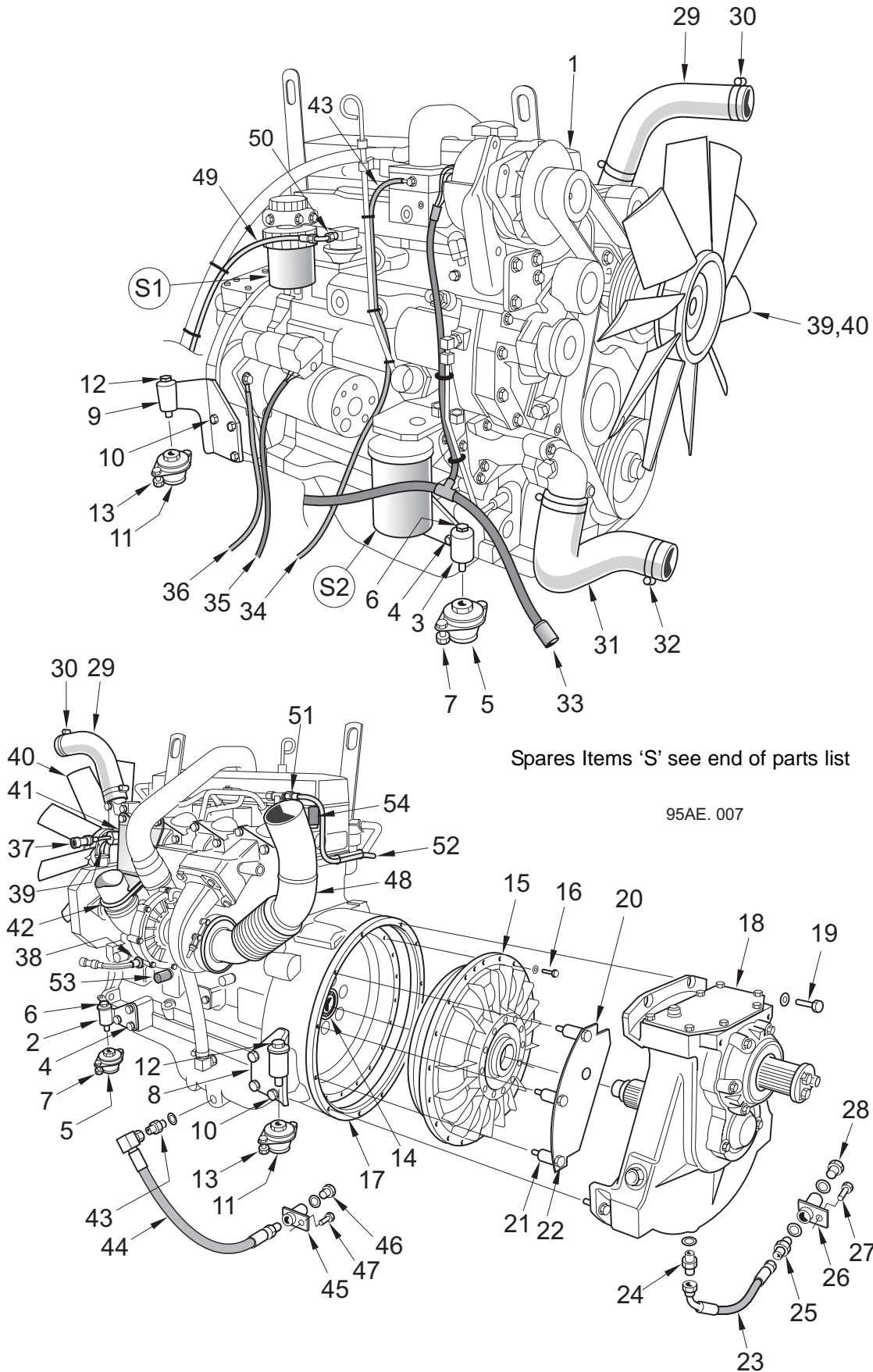
John Deere 'LP' and 'HP' Dressed Engines - Common Parts

BoM 950511

Item No.	Part No.	Description	Quantity
1	282420-1	'LP' Engine - John Deere 4045TF 270 12v TC LP T2 With Mechanically Controlled Fuel Injection	
	282860-1	'HP' Engine - John Deere 4045TF 275 12v TC HP T2 With Electronically Controlled Fuel Injection	
2	280150-4	Bracket - Engine Mounting LH Front	1
3	280150-2	Bracket - Engine Mounting RH Front	1
4	124-199	Screw M12 x 20	6
	460-12	Washer - Spring	6
5	22826-1	Mount - Metacone	2
6	123-151	Bolt M12 x 65	2
	457-6	Washer - Plain	2
	460-12	Washer - Spring	2
7	124-171	Screw M10 x 30	4
	460-11	Washer-Spring	4
	420-15	Nut M10	4
8	280135-1	Bracket-Engine Mounting LH Rear	1
9	280135-2	Bracket-Engine Mounting RH Rear	1
10	124-199	Screw M12 x 20	8
	460-12	Washer - Spring	8
11	22826-1	Mount Metacone	2
12	123-152	Bolt M12 x 70	2
	457-6	Washer - Plain	2
	460-12	Washer - Spring	2
13	124-171	Screw M10 x 30	4
	460-11	Washer-Spring	4
	420-15	Nut M10	4
14	14-7	Bearing	1
	77-39	Shaft Oil Seal	1
15	42501-2	Fluid Coupling - See Section 22.ET	1
16	129-98	Cap Head Screw M6 x 30	20
	280149-1	Washer - Special	20
17	63641-1	Transmission Ring Adaptor	1
18	42270-1	Gearbox - Fan Drive - See Section 22.ET	1
19	123-131	Bolt M10 x 55	6
	460-11	Washer - Spring	6
20	42299-1	Safety Cover	2
> 21	920000-32	Spacer - Plain	6
22	123-137	Bolt M10 x 85	6
	460-11	Washer - Spring	6
23	HC08001-48	Hose 1/2" - Megaflex straight 45°s	1
24	263-4	Adaptor G1/2"	1
	451-19	Washer - Sealing 1/2"	1
25	265-4	Adaptor G3/8" x 1/2"	1
	451-18	Washer - Sealing G 3/8"	1

John Deere 'LP' and 'HP' Dressed Engines - Common Parts

The 'LP' Engine can be identified by having a Throttle Actuator as shown on page 22.EJ:7
 The 'HP' Engine is controlled electronically by an ECU unit



Spares Items 'S' see end of parts list

95AE.007

John Deere 'LP' and 'HP' Dressed Engines - Common Parts

BoM 950511

Item No.	Part No.	Description	Quantity	
26	40525-1	Drain - Gearbox	1	
27	124-167	Screw M10 x 20	1	
	460-11	Washer - Spring	1	
	420-15	Nut M10	1	
28	3823	Plug 3/8" BSP	1	
	451-18	Washer - Sealing G 3/8"	1	
29	280088-1	Hose - Radiator Inlet - Top	1	
30	501-6	Hose Clip	2	
31	280089-1	Hose - Radiator - Lower	1	
32	501-6	Hose Clip	1	
33	282041-1	'LP' Engine Loom	1	
	282048-1	'HP' Engine Loom	1	
	508-4	'P' Clip	6	
34	282044-1	Cable - Relay to Heat Start	1	
35	281224-1	Starter Cable	1	
36	281224-2	Earth Cable	1	
37	282590-1	Temperature Switch	1	
38	281942-1	Oil Pressure Switch	1	
39	282587-1	Spacer - Cooling Fan	1	
40	281-7	Cooling Fan	1	
41	280153-1	Air Inlet Bracket	1	
42	6645-21	Exhaust Clamp 3 5/8"	1	
43	270-8	Adaptor M18 x 3/4"	1	
	451-8	Washer - Sealing	1	
44	HE12003-80	Hydraulic Hose	1	
45	62903-1	Drain	1	
46	7684-1	Collar Plug 1/2" BSP Brass	1	
	451-19	Washer - Sealing	1	
47	124-167	Screw M10 x 20	1	
	460-11	Washer - Spring	1	
	420-15	Nut M10	1	
48	282585-1	Exhaust Inlet Pipe	1	
49	282689-1	Fuel Suction Hose	1	
>	50	848-24	Lift Pump Adaptor - 'LP' Engine only	1
51	282697-1	Adaptor G 1/4"	1	
	848-21	Seal	1	
52	282692-1	Fuel Return Hose	1	
KT00695 - Optional Oil Pressure / Water Temperature Gauge Pack - 'LP' Engines only				
53	87-16	Oil Pressure Sender	1	
54	87-54	Water Temperature Sender	1	
	282043-1	Gauge Sender Loom (Not Shown)	1	

John Deere 'LP' and 'HP' Dressed Engines - Common Parts**KT00695 - Optional Oil Pressure / Water Temperature Gauge Pack**

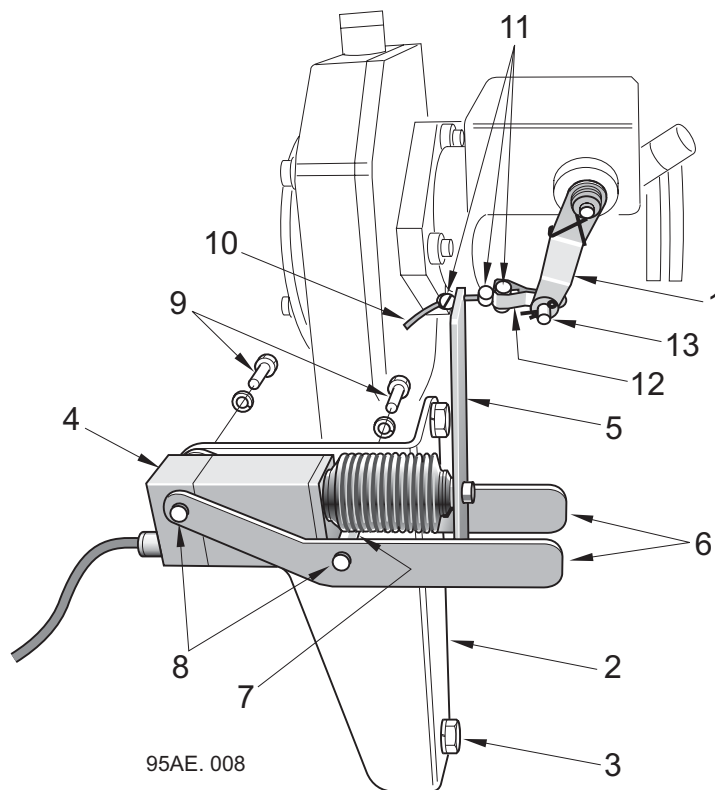
Item No.	Part No.	Description	Quantity
	282740-1	Water Temp./ Oil Press. Gauge - See Powapak Control Panels, Chapter 32	1

Spares Items

S1	848-23	Fuel Filter
S2	848-22	Oil Filter

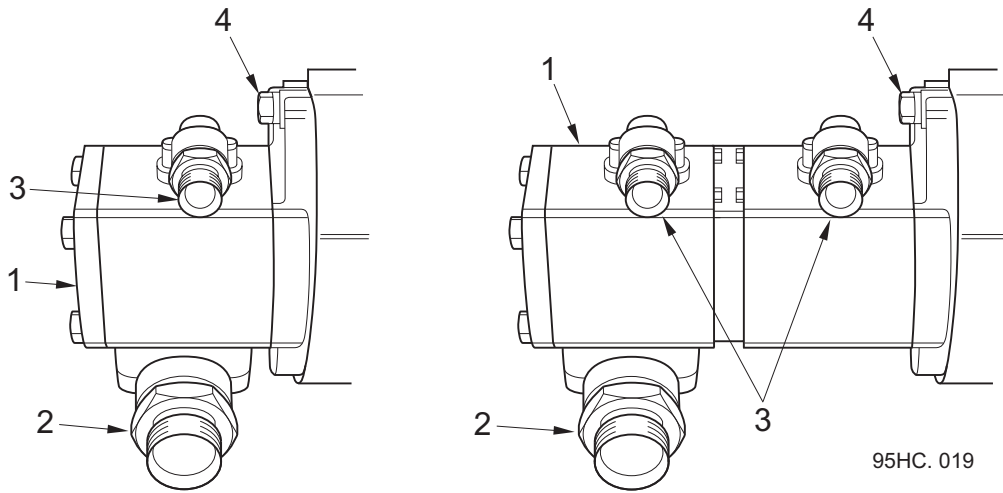
Notes

Throttle Actuator - John Deere 'LP' Engine Only

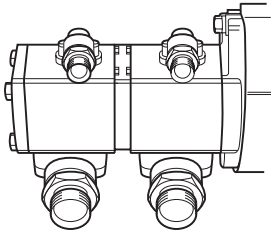


BoM 950511

Item No.	Part No.	Description	Quantity	
1	282643-1	Throttle lever	1	
2	282645-1	Actuator Mount	1	
3	124-263	Screw M16 x 20	2	
	460-14	Washes - Spring	2	
>	4	281729-1	Throttle Actuator 12v	1
	5	282644-1	Actuator Lever	1
	6	281707-1	Actuator Side Plate	2
	7	42774-4	Spacer x 36	1
>	8	124-100	Screw M6 x 12	2
	460-8	Washer - Spring	2	
	9	124-101	Screw M6 x 16	2
	460-8	Washer Spring	2	
	10	281728-1	Throttle Cable	1
	11	38-32	Solderless Nipple	3
>	12	837-47	Fork	1
>	13	837-48	Pin	1
	837-49	Split Pin	1	

John Deere P.T.O. Pumps - Current


95HC. 019



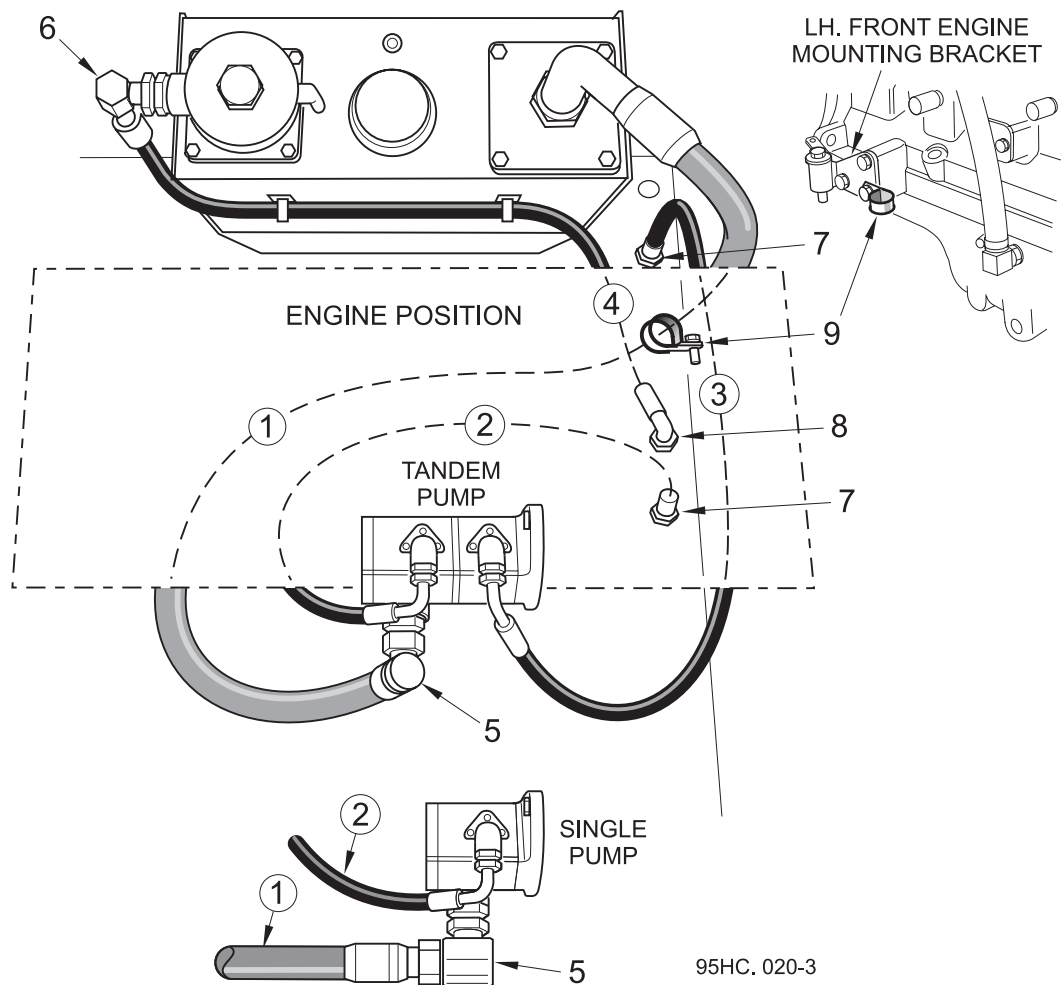
Note

The previous 4 port Tandem Pump and Pump Installation are shown in the 'Superseded Parts' section at the end of this chapter.

BoM 950514

Item No.	Part No.	Description	Quantity	
			Single	Tandem
1	239-27	Pump - Single	1	-
	239-34	Pump - Tandem	-	1
2	263-8	Adaptor 1 1/4"	1	1
	451-111	Washer - Sealing 1 1/4"	1	1
3	263-4	Adaptor 1/2"	1	2
	451-19	Washer - Sealing 1/2"	1	2
4	123-152	Bolt M12 x 70	2	2
	457-6	Washer - Plain	2	2
	460-12	Washer - Spring	2	2

Pump Installations, Current - John Deere Engines



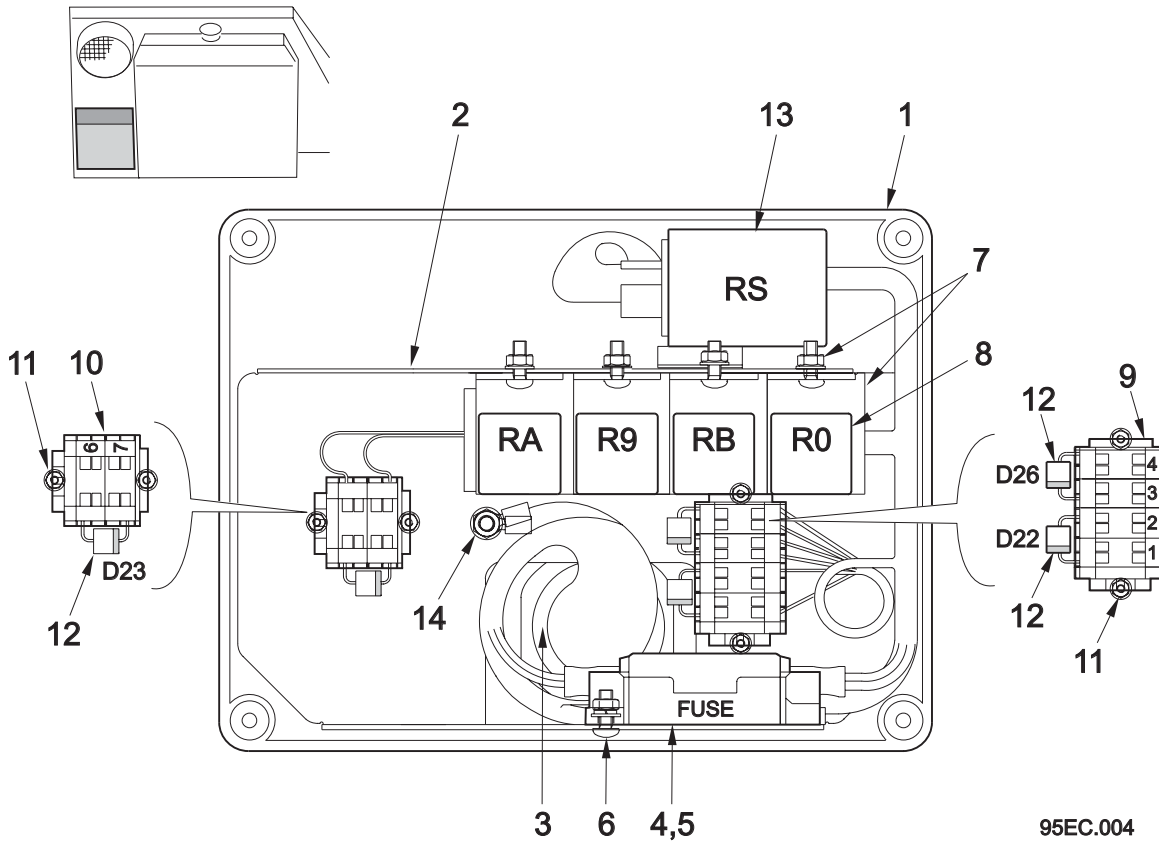
BoM 950514

Item No.	Part No.	Description	Quantity	
			Single	Tandem
1*	HX 20002-175	Suction Hose	1	1
2*	HC08000-114	Sweep Systems Hose	1	1
3*	HC08002-170	Auxiliary Systems Hose	-	1
4*	HE12001-122	Tank Return Hose	1	1
5	601-7	Tee Adaptor 1 1/4"	1	1
6	262-6	Swivel Elbow 3/4"	1	1
7	264-4	1/2" Bulkhead Adaptor + Locknut	1	2
8	264-6	3/4" Bulkhead Adaptor + Locknut	1	1
9	508-12	'P' Clip	1	1

Notes

* Hose numbers in circles correspond with those on Hydraulic diagrams SH521a01 and SH531a01 in Chapter 8.

Engine Management Box - John Deere 'LP' Engine with Mechanically Controlled Fuel Injection Pump



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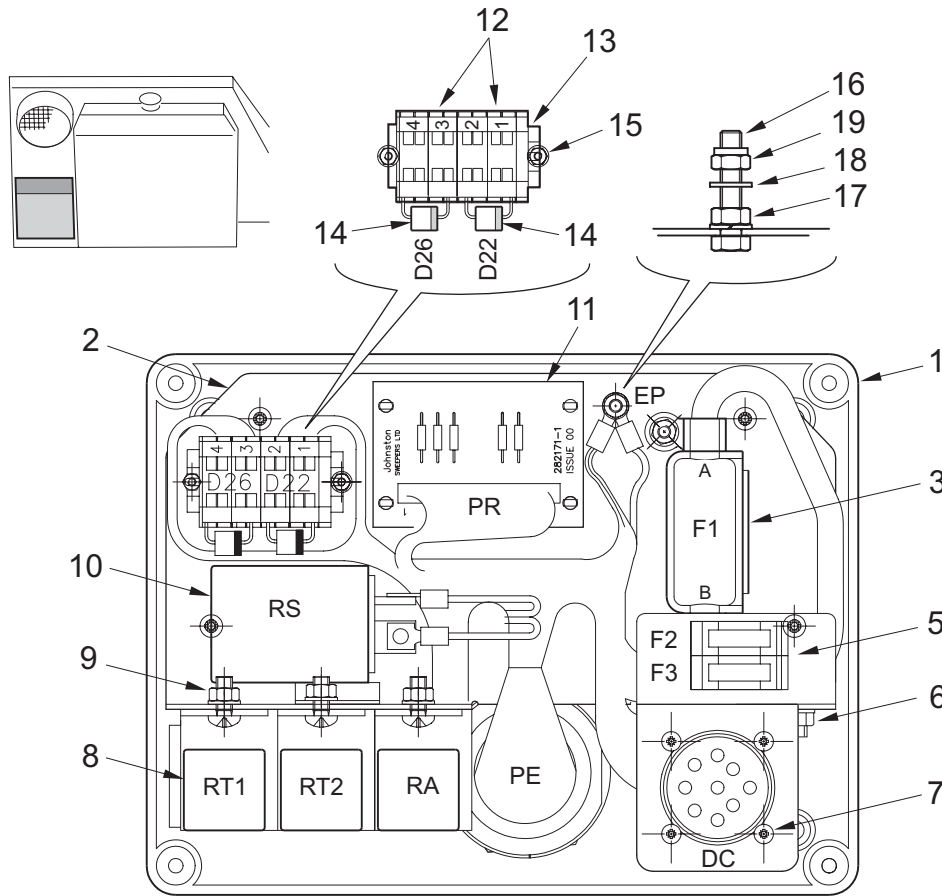
BoM 950511

Item No.	Part No.	Description	Quantity
	282137-1	Engine Management Box 12v Comprising:-	
1	282122-1	Box and Lid	1
	134-44	Screw Pan Head M4 x 20	4
	425-11	Nut - Nyloc M4	4
2	282125-1	Mounting Plate	1
3	710-67	HDP 31 Way Socket Housing	1
	710-70	Jam Nut	1
	281545-2	Sealing Washer	1
4	30-267	Fuse Holder	1
5	30-269	Midi Link 60 Amp	1
6	134-43	Screw M4 x 16	2
	455-5	Washer Plain	2
	425-11	Nut Nyloc M4	2
7	48-89	Relay Base	4
	134-42	Screw Pan Head M4 x 12	4
	455-3	Washer Spring	4
	425-10	Nut M4	4
8	13193	Relay	4

**Engine Management Box - John Deere 'LP' Engine
with Mechanically Controlled Fuel Injection Pump**

Item No.	Part No.	Description	Quantity
9	30-256	Terminal Block - 4 Way	4
	30-254	Terminal Block - End Plate	1
10	30-256	Terminal Block - 4 Way	2
	30-254	Terminal Block - End Plate	1
11	134-12	Screw Pan Head M3 x 10	4
	455-3	Washer Plain	4
	425-10	Nut - Nyloc M3	4
12	13984	Diode 6 Amp	3
13	48-34	Relay	2
	134-42	Screw Pan Head M4 x 12	4
	455-3	Washer Spring	4
	425-10	Nut M4	4
14	134-59	Screw Plan Head M5 x 20	1
	420-12	Nut M5	1
	425-12	Nut - Nyloc M5	1
	460-7	Washer - Spring	1
	455-7	Washer - Plain	1

Notes

**Engine Management Box - John Deere 'HP' Engine
with Electronically Controlled Fuel Injection Pump**


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BoM 950511

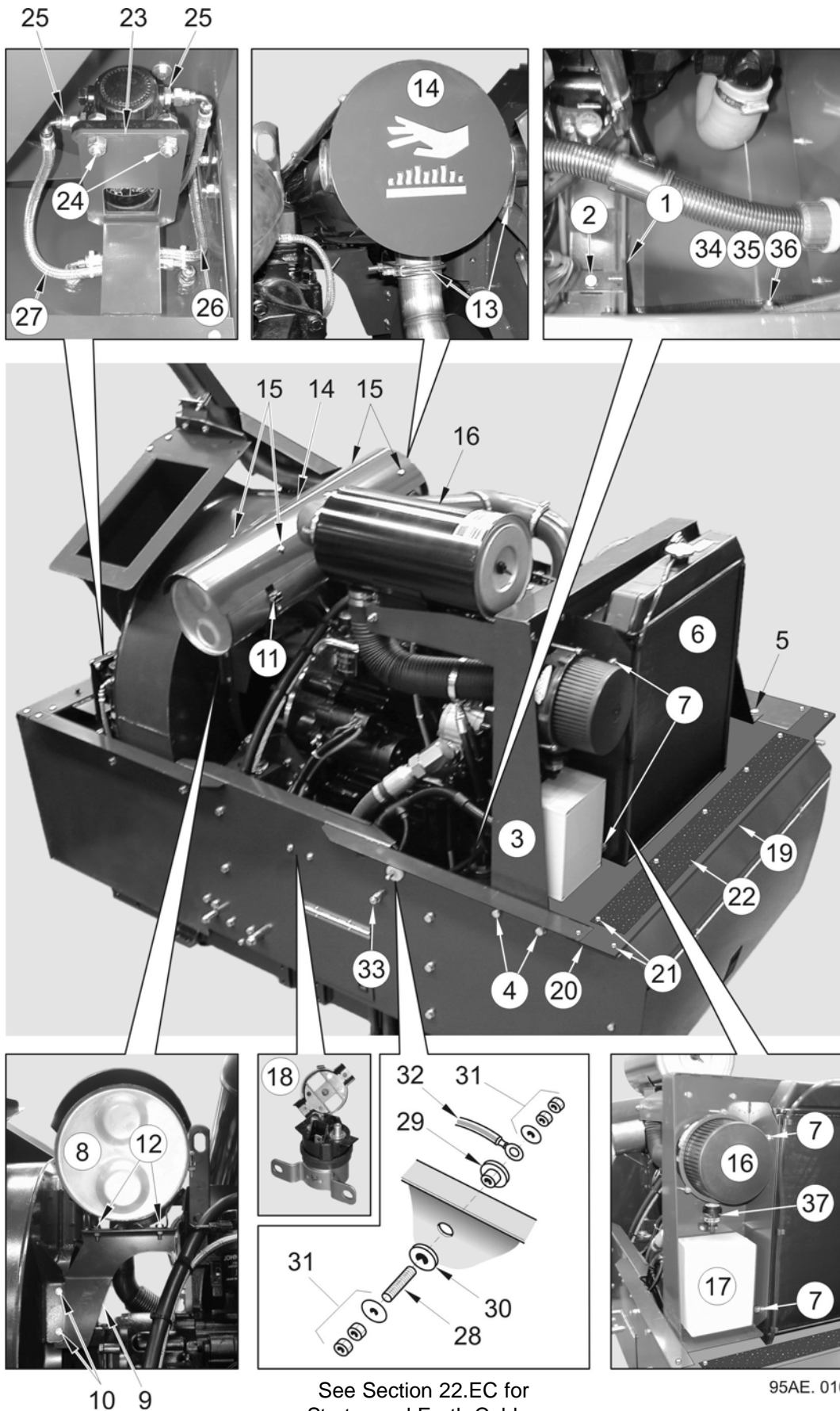
Item No.	Part No.	Description	Quantity
	282138-1	Engine Management Box 12v Comprising:-	
1	282122-1	Box and Lid	1
	134-44	Screw Pan Head M4 x 20	4
	425-11	Nut - Nyloc M4	4
2	282174-1	Mounting Plate	1
3	30-267	Midi Fuse Holder	1
	30-269	Midi Fuse Link - 60 Amp	1
	425-11	Nut - Nyloc M4	1
4	134-43	Screw M4 x 16	2
	455-5	Washer Plain	2
	425-11	Nut Nyloc M4	2
5	30-95	Blade Fuse - 10 Amp Red	2

**Engine Management Box - John Deere 'HP' Engine
with Electronically Controlled Fuel Injection Pump**

Item No.	Part No.	Description	Quantity
6	124-35	Screw M4 x 10	2
	460-5	Washer - Plain	2
	420-11	Nut M4	2
7	134-13	Screw M3 x 12	4
	455-5	Washer - Plain	4
	425-10	Nut Nyloc M3	4
8	13193	Relay - 12v (Model 6RA)	3
9	134-42	Screw M4 x 12	3
	455-5	Washer - Spring	3
	420-11	Nut M4	3
10	48-34	Relay - Green	1
11	282171-1	Resistor Board	1
	30-280	Board Support	4
	30-281	Snap Rivet	4
12	30-256	Terminal Block - 4 Way	2
13	30-254	Terminal Block - End Plate	1
14	13984	Diode - 6 Amp	2
15	134-13	Screw M3 x 12	2
	455-5	Washer - Plain	2
	425-10	Nut Nyloc M3	2
16	124-39	Screw M4 x 20	1
17	420-11	Nut M4	1
	460-5	Washer - Spring	1
18	455-5	Washer - Plain	1
19	425-11	Nut Nyloc M4	1

Notes

John Deere Powapak Parts

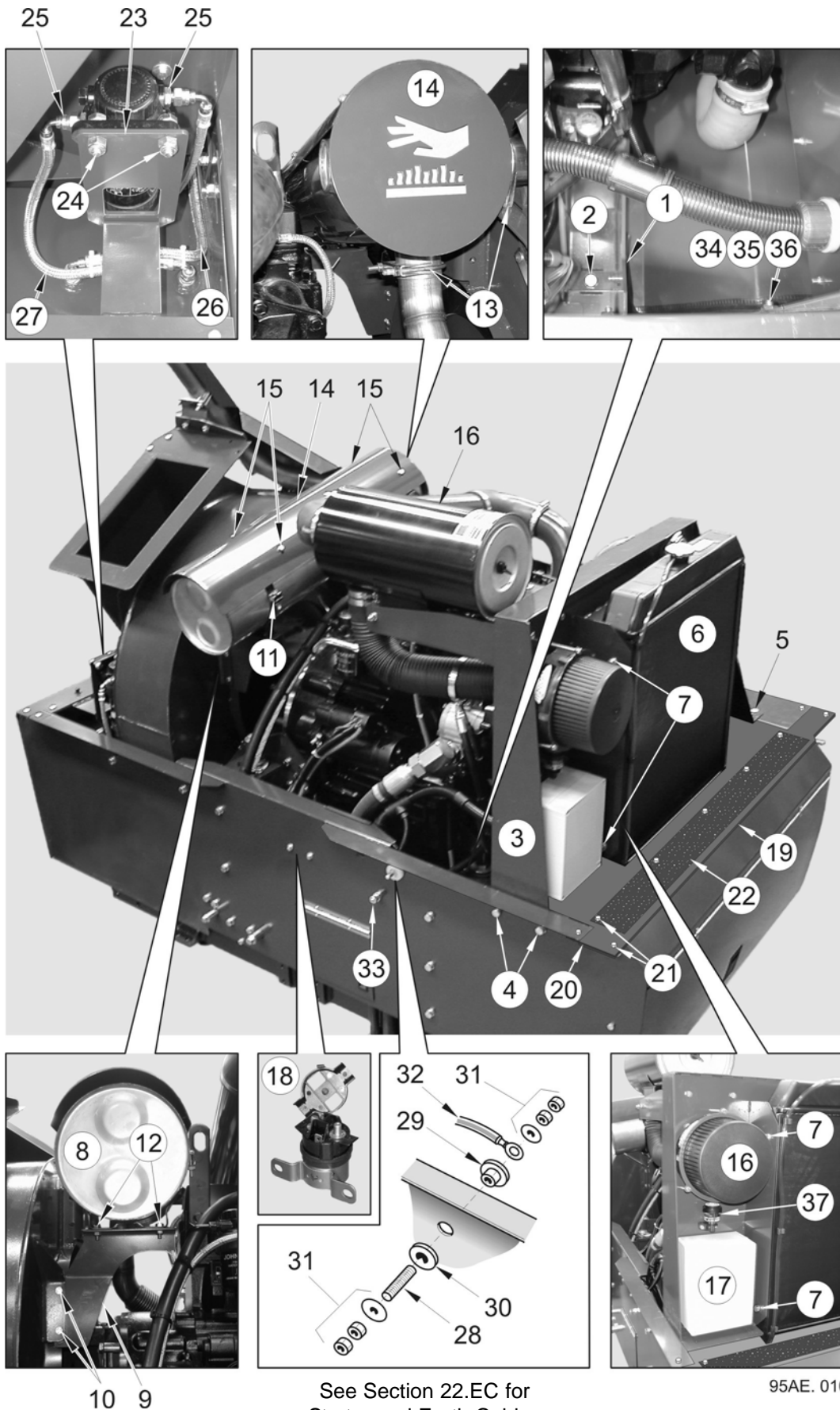


John Deere Powapak Parts

BoM 950511

Item No.	Part No.	Description	Quantity
1	282425-1	Front Engine Cradle	1
2	124-272	Screw M16 x 45	2
	460-14	Washer - Spring M16	2
3	282490-1	Radiator Shroud	1
4	124-167	Screw M10 x 20	2
	460-11	Washer - Spring M10	2
5	124-169	Screw M10 x 25	2
	425-15	Nut - Nyloc M10	2
6	200923-1	Radiator	1
7	124-166	Screw M10 x 16	4
	460-11	Washer - Spring M10	4
	455-11	Washer - Plain M10	4
8	94523-1	Silencer - For Tailpipe etc. See sections 22.EE	1
9	281444-1	Mount - Silencer	1
10	124-135	Screw M8 x 20	2
	460-10	Washer - Spring M8	2
	420-14	Nut M8	2
11	903-9	Mounting Band	1
12	124-135	Screw M8 x 20	2
	460-10	Washer - Spring M8	2
	420-14	Nut M8	2
13	6645-12	Exhaust Clip	1
14	281704-2	Heat Shield	1
15	457-2	Washer - Large M6	4
	124-100	Screw M6 x 12	4
16	-	Air Filter and Prefilter Installation - Covered In This Section	
> 17	-	Engine Management Box - See Previous Pages	
18	48-271	Heat Start Relay	1
	124-101	Screw M6 x 16	2
	455-8	Washer - Plain	2
	425-8	Nut - Nyloc M6	2
19	282605-1	Walkway	1
20	281600-1	Support Strip	2
21	135-69	Screw - Button Head M8 x 25	9
	455-10	Washer - Plain M8	4
	425-14	Nut - Nyloc M8	4
> 22	211-12	Anti-slip Surface x 1240 Long	1
23	282629-1	Plate - Pre-Filter Mounting	1
24	124-134	Screw M8 x 16	2
	455-10	Washer Plain	2
	425-14	Nut - Nyloc M8	2

John Deere Powapak Parts



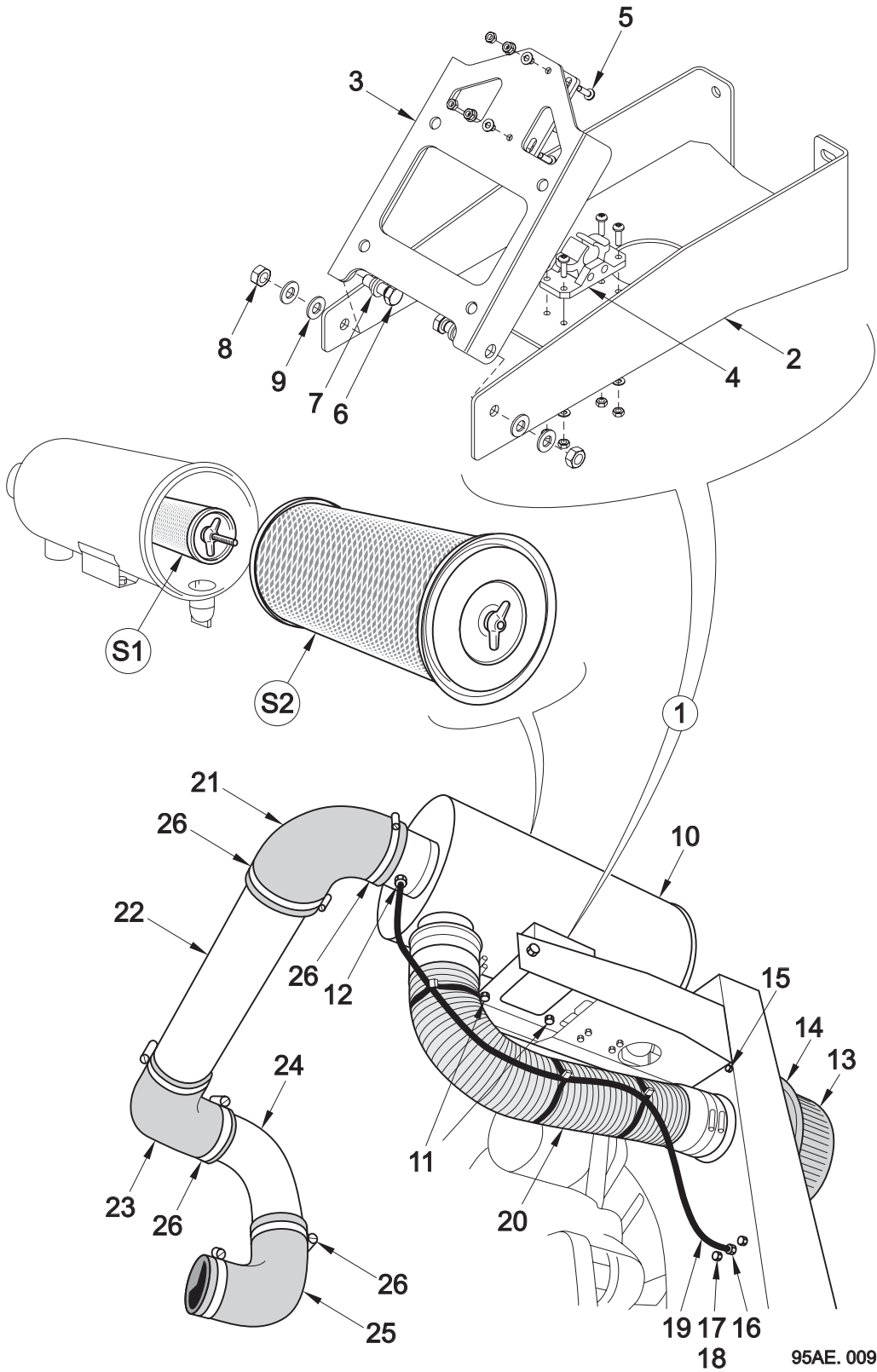
John Deere Powapak Parts

BoM 950511

Item No.	Part No.	Description	Quantity
25	80-40	'O' Ring	2
26	282696-1	Suction Pipe	1
	451-17	Washer - Sealing 1/4" BSP	1
> 27	282691-1	Fuel Suction Hose with Adaptor	1
28	42421-3	Stud M10 x 65	1
29	42660-1	Spacer - Nylon	1
30	42661-1	Washer - Nylon	1
31	455-11	Washer - Plain M10	2
	410-49	Nut - Brass M10	4
32	282034-1	Heat Start Cable - Power to Relay (18)	1
33	124-175	Screw M10 x 40 - Earthing Point	1
	455-11	Washer - Plain M10	1
	420-15	Nut M10	2
34	282586-1	Systems Locker Cover Plate	1
35	124-134	Screw M8 x 16	4
	460-10	Washer - Spring M8	4
36	217-2	Rubber Seal 455 Long	2
37	904-55	Restriction Indicator - 7.5kPa	1

Notes

Air Cleaner Installation



Air Cleaner Installation

BoM 950511

Item No.	Part No.	Description	Quantity
1	281048-1	Air Filter Mount Assembly comprising items 2 - 9:-	
2	280125-1	Mounting Bracket	1
3	281047-1	Pivot Bracket	1
4	436-10	Catch	1
5	134-44	Screw M4 x 20 Pan Head	8
	455-5	Washer Plain	8
	425-11	Nut - Nyloc M4	8
6	124-135	Screw M8 x 20	2
7	441-1	Screw M8 x 4 Insert	2
8	425-14	Nut - Nyloc M8	2
9	455-10	Washer Plain	4
10	94954-1	Air Cleaner	1
11	124-135	Screw M8 x 20	4
	460-10	Washer - Spring	4
12	904-58	Adaptor	1
13	904-23	Pre Cleaner	1
14	282497-1	Securing Ring	1
15	123-98	Bolt M6 X 100	3
	455-8	Washer - Plain	6
	425-13	Nut - Nyloc M6	3
16	904-56	Connector	1
17	124-103	Screw M6 x 20	2
	457-2	Washer - Plain	2
	425-13	Nut - Nyloc M6	2
18	904-55	Restriction Indicator - 7.5kPa	1
19	12870	Tube - Black Nylon 8 O/D x 0.8	1
20	276-13	Flexible Ducting	1
21	61096-3	Elbow - Rubber	1
22	280154-1	Pipe - Air Inlet	1
23	904-12	Elbow 3 1/2"	1
24	280156-1	Elbow - Air Inlet	1
25	61096-3	Elbow - Rubber	1
26	501-8	Hose Clip	6

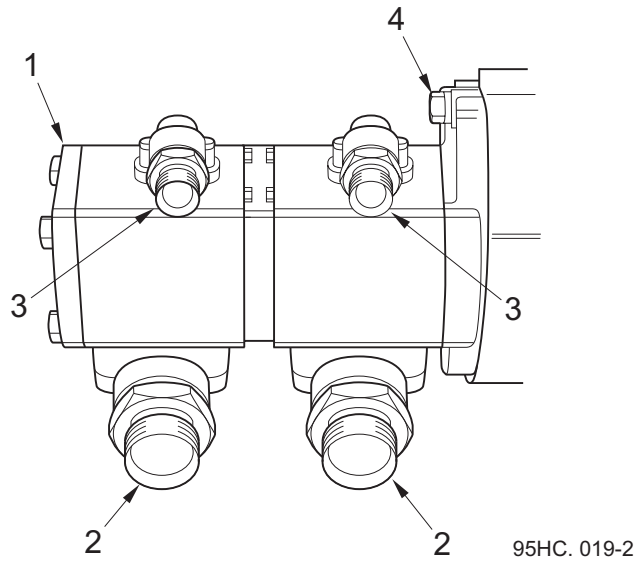
Spares Items

S1	61026-3	Safety Element
S2	94954-2	Main Element

Superseded Parts

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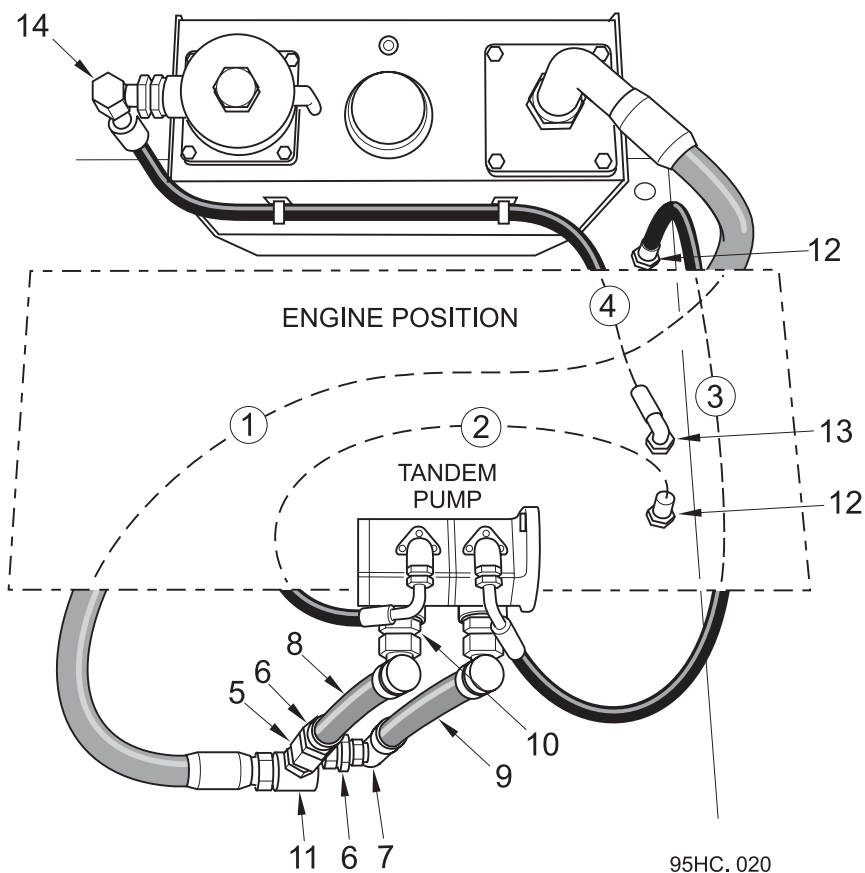
Section	Page
Tandem P.T.O. Pump	22.EJ:22
Tandem P.T.O. Pump Installation	22.EJ:23

Tandem P.T.O. Pump - Superseded

BoM 950514

Item No.	Part No.	Description	Quantity
1	239-28	Pump - Tandem	1
2	263-8	Adaptor 1 1/4"	2
	451-111	Washer - Sealing 1 1/4"	2
3	263-4	Adaptor 1/2"	2
	451-19	Washer - Sealing 1/2"	2
4	123-152	Bolt M12 x 70	2
	457-6	Washer - Plain	2
	460-12	Washer - Spring	2

Notes

Tandem P.T.O. Pump Installation - Superseded



BoM 950514

Item No.	Part No.	Description	Quantity
1*	HX 20002-175	Suction Hose	1
2*	HC08000-114	Sweep Systems Hose	1
3*	HC08002-170	Auxiliary Systems Hose	1
4*	HE12001-122	Tank Return Hose	1
	282886-1	Twin to Common Conversion Kit comprising items 5 to 10:-	
5	601-7	Tee Adaptor 1 1/4"	1
6	265-16	Reducer Adaptor 1 1/4" x 3/4"	2
7	262-6	Elbow 3/4"	1
8	HE12003-26	Hydraulic Hose 3/4"	1
9	HE12003-33	Hydraulic Hose 3/4"	1
10	263-6	Adaptor 3/4"	2
	451-21	Washer - Sealing	2
11	262-8	Swivel Elbow 1 1/4"	1
12	264-4	1/2" Bulkhead Adaptor + Locknut	2
13	264-6	3/4" Bulkhead Adaptor + Locknut	1
14	262-6	Swivel Elbow 3/4"	1

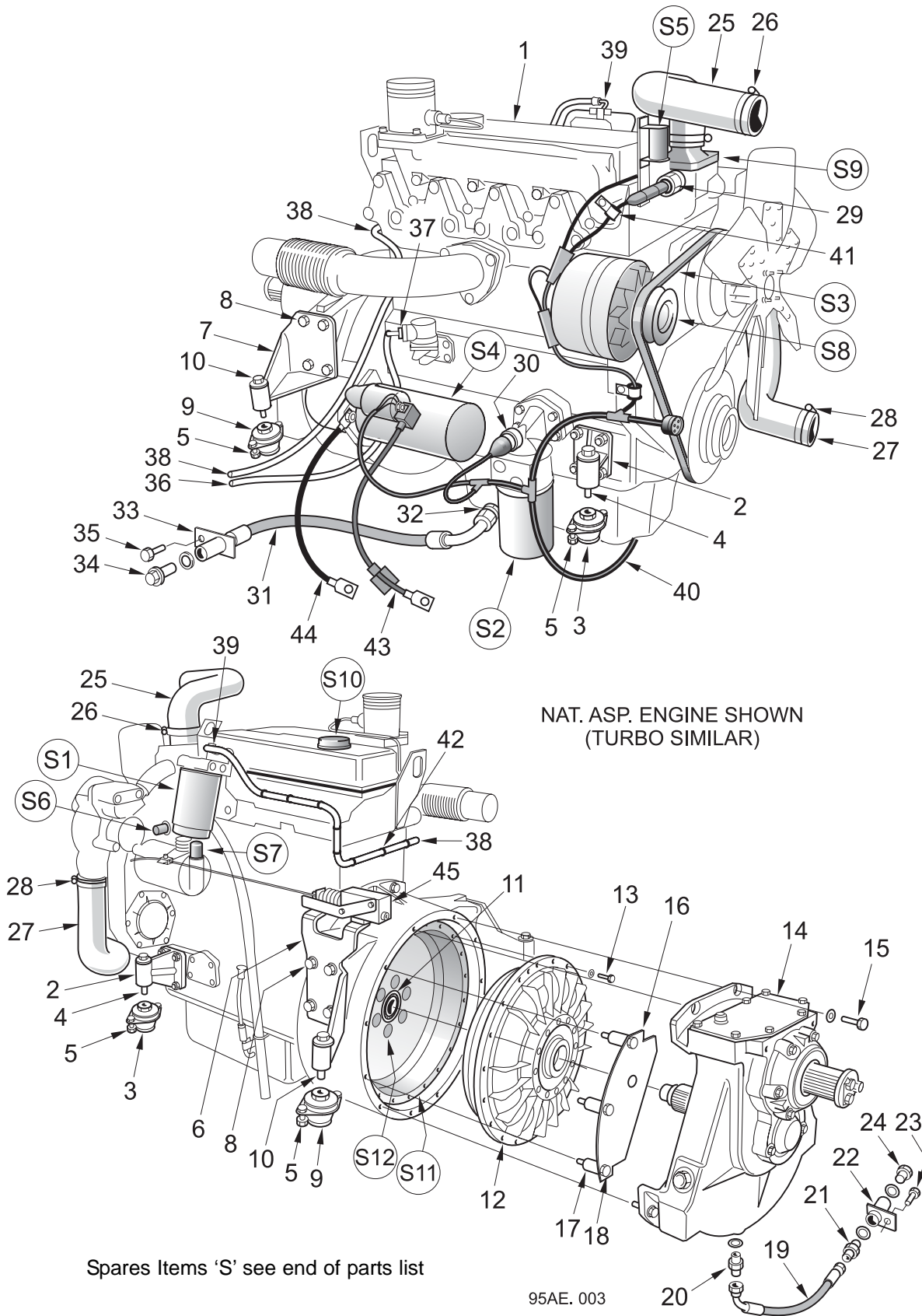
22.EP

Perkins Engines

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Nat Asp and Turbo Engines - Variable Parts	
Dressed Engines	22.EP : 14
Nat. Asp Air Cleaner Installation and Cooling Fan Adaptor	22.EP : 16
Turbo Air Cleaner Installation	22.EP : 17

Perkins Nat. Asp. and Turbo Dressed Engines - Common Parts



Spares Items 'S' see end of parts list

Perkins Nat. Asp. and Turbo Dressed Engines - Common Parts

BoM 950511

Item No.	Part No.	Description	Quantity
1	280080-2	Engine - Perkins NA 1004-40 12v EPA	
	280080-1	Engine - Perkins NA 1004-40 24v EPA	
	94581-2	Engine - Perkins TC 1004-40T 12v EPA	
	94581-1	Engine - Perkins TC 1004-40T 24v EPA	
2	42181-2	Bracket - Engine Mounting, Front	2
3	6953	Mounting - Metacone, Front	2
4	123-154	Bolt M12 x 80	2
	457-6	Washer - Plain M12	2
	460-12	Washer - Spring M12	2
5	124-171	Screw M10 x 30	8
	455-11	Washer - Plain M10	8
	425-15	Nut - Nyloc M10	8
6	63536-1	Mount - Engine Throttle	1
7	42645-2	Mount - Engine Rear	1
8	124-201	Screw M12 x 25	8
	457-6	Washer - Plain M12	8
9	22826-1	Mounting, Metacone, Rear	2
10	123-153	Bolt M12 x 75	2
	457-6	Washer - Plain M12	2
	460-12	Washer - Spring	2
11	14-7	Bearing	1
12	42501-3	Coupling - Fluid, See Notes on next page	1
13	129-127	Screw Cap Socket Head M8 x 30	20
	455-10	Washer - Plain M8	20
14	42270-1	Gearbox - Fan Drive, See Notes on next page	1
15	124-169	Screw M10 x 25	6
	460-11	Washer - Spring M10	6
16	42299-1	Safety Cover	2
17	920000-32	Spacer - Plain	4
18	124-177	Screw M10 x 50	4
	460-10	Washer - Spring M8	4
19	HC08001-48	Hose 1/2" - Megaflex Straight 45°s	1
20	263-4	Adaptor G1/2"	1
	451-19	Washer - Sealing G1/2"	1
	265-4	Adaptor G3/8" x 1/2"	1
21	451-18	Washer - Sealing G3/8"	1
22	40525-1	Drain - Gearbox	1
23	124-167	Setscrew M10 x 20	1
	460-11	Washer - Spring M10	1
	420-15	Nut M10	1
	3823	Plug G3/8"	1
24	451-18	Washer - Sealing G3/8"	1
25	42657-1	Hose - Radiator Inlet - Top	1
26	501-6	Hose Clip	2

Perkins Nat.Asp. and Turbo Dressed Engines - Common Parts
BoM 950511

Item No.	Part No.	Description	Quantity
27	42656-1	Hose - Radiator Lower	1
28	501-6	Hose Clip	2
29	281941-1	Switch - Temperature	1
30	281942-1	Switch - Oil Pressure	1
31	HE12002-69	Hose - Hydraulic 3/4" Straight x 90°s	1
32	263-6	Adaptor	1
33	62903-1	Drain - Engine	1
34	7684-1	Plug - Collar G1/2" Brass	1
	451-19	Washer - Sealing G1/2"	1
35	124-167	Screw M10 x 20	1
	425-15	Nut - Nyloc M10	1
	455-11	Washer - Plain M10	1
36	533-254	Braided Tube	1
37	25977-1	Nut - Sleeve	1
	511-4	Olive - Tube 8mm O/D	1
> 38	282255-1	Braided Tube	1
39	518-7	Adaptor 6 OD x G1/4"	1
	451-17	Washer - Sealing G1/4"	1
40	282040-1	Engine Loom 12v	1
	282030-1	Engine Loom 24v	1
41	508-4	'P' Clip	5
42	24-1	Cable Tie	10
43	92105-60	Starter Cable	1
44	17936-61	Earth Cable	1
45	-	Throttle Actuator - See Next Page	

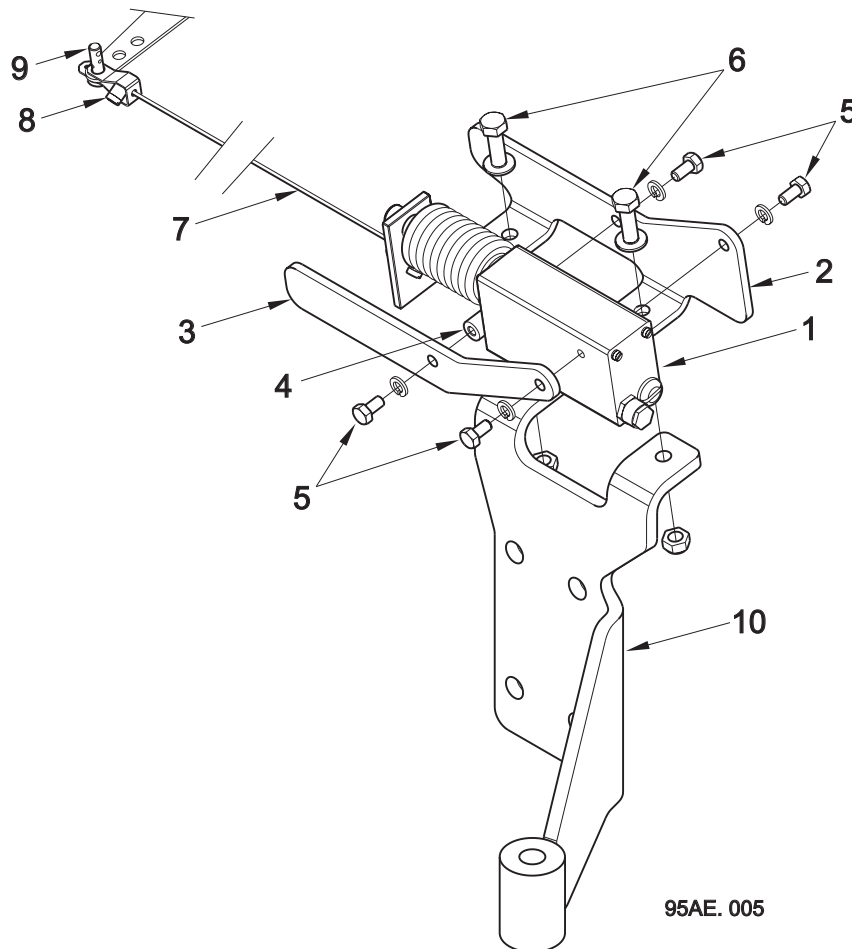
Spares Items

S1	837-7	Fuel Filter	
S2	837-11	Oil Filter	
S3	280-5	Alternator/Fan Belt	
S4	653-22	Starter Motor 12v	
	653-10	Starter Motor 24v	
S5	12017	Cold Start Resistor	
S6	838-55	Heat Start Switch	
S7	837-67	ESOS Valve	
S8	653-208	Alternator 12v	
	653-14	Alternator 24v	
S9	837-136	Thermostat	
S10	837-138	Rocker Cover Filler Cap - Nat. Asp. Engine Only	
> S11	837-19	Flywheel	
> S12	221-3	Cover Seal - six off	

Notes

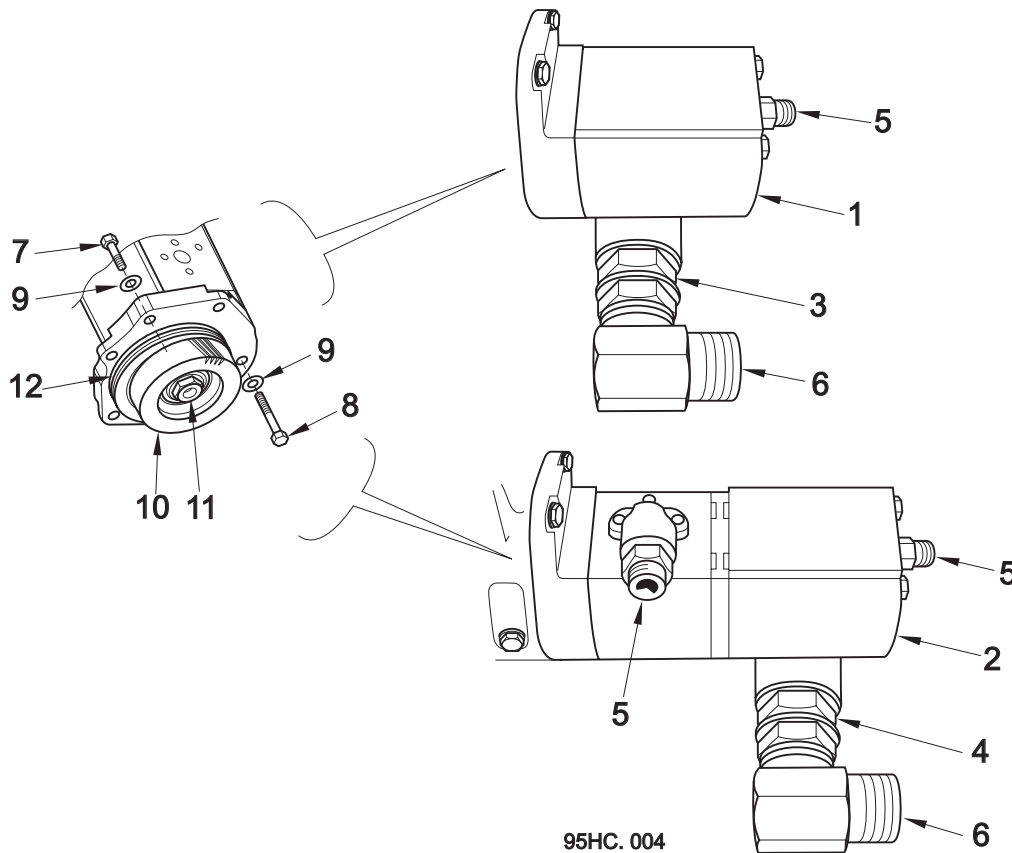
Item 12, Fluid Coupling, and Item 14, Fan Drive Gearbox are detailed elsewhere in this Chapter

Throttle Actuator Installation - Perkins Nat. Asp. and Turbo Engines



95AE. 005

Item No.	Part No.	Description	Quantity
	281727-1	12v Actuator Assembly	
	281727-2	24v Actuator Assembly	
1	281729-1	Actuator 12v	1
	281729-2	Actuator 24v	1
2	281612-1	Actuator Bracket	1
3	281707-1	Side Plate	1
4	42774-4	Spacer - 36 Long	1
5	124-100	Screw M6 x 12	4
	460-8	Washer - Spring M6	4
6	124-137	Screw M8 x 25	2
	425-14	Nut - Nyloc M8	2
7	281728-1	Throttle Cable	1
8	38-32	Solderless Nipple	3
9	Ref.	Lever, Pin and Split Pin	
10	Ref.	LH Rear Engine Mount	

Perkins P.T.O. Pumps


95HC. 004

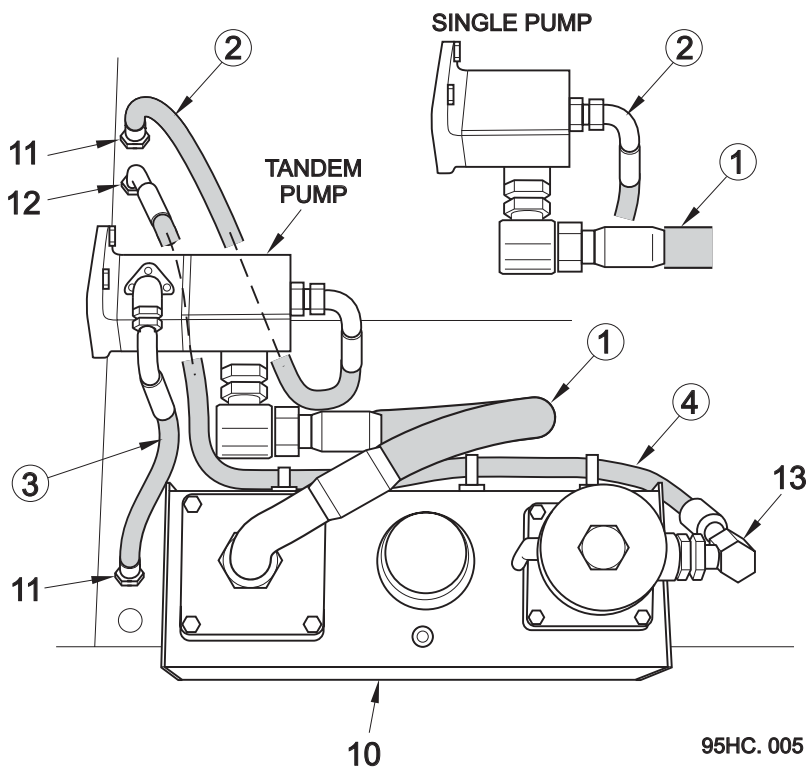
BoM 950514

Item No.	Part No.	Description	Quantity	
			Single	Tandem
1	239-2	Pump - Single	1	-
2	239-38	Pump - Tandem	-	1
3	265-16	Adaptor 3/4" x 1 1/4"	1	-
	451-21	Washer - Sealing 3/4"	1	-
4	263-8	Adaptor 1 1/4"	-	1
	451-111	Washer - Sealing 1 1/4"	-	1
5	263-4	Adaptor 1/2"	1	2
	451-19	Washer - Sealing 1/2"	1	2
6	262-8	Swivel Elbow 1 1/4" x 90°	1	1
7	123-104	Bolt M8 x 30	5	5
8	123-114	Bolt M8 x 70	1	1
9	455-10	Washer - Plain M8	6	6

Pump Spares

10	12785-1	Gear	1	1
	53-8	Key (not shown)	1	1
11	420-16	Nut	1	1
	460-12	Tab Washer	1	1
12	N.S.S.	'O' Ring	1	1

Pump Installations - Perkins Engines



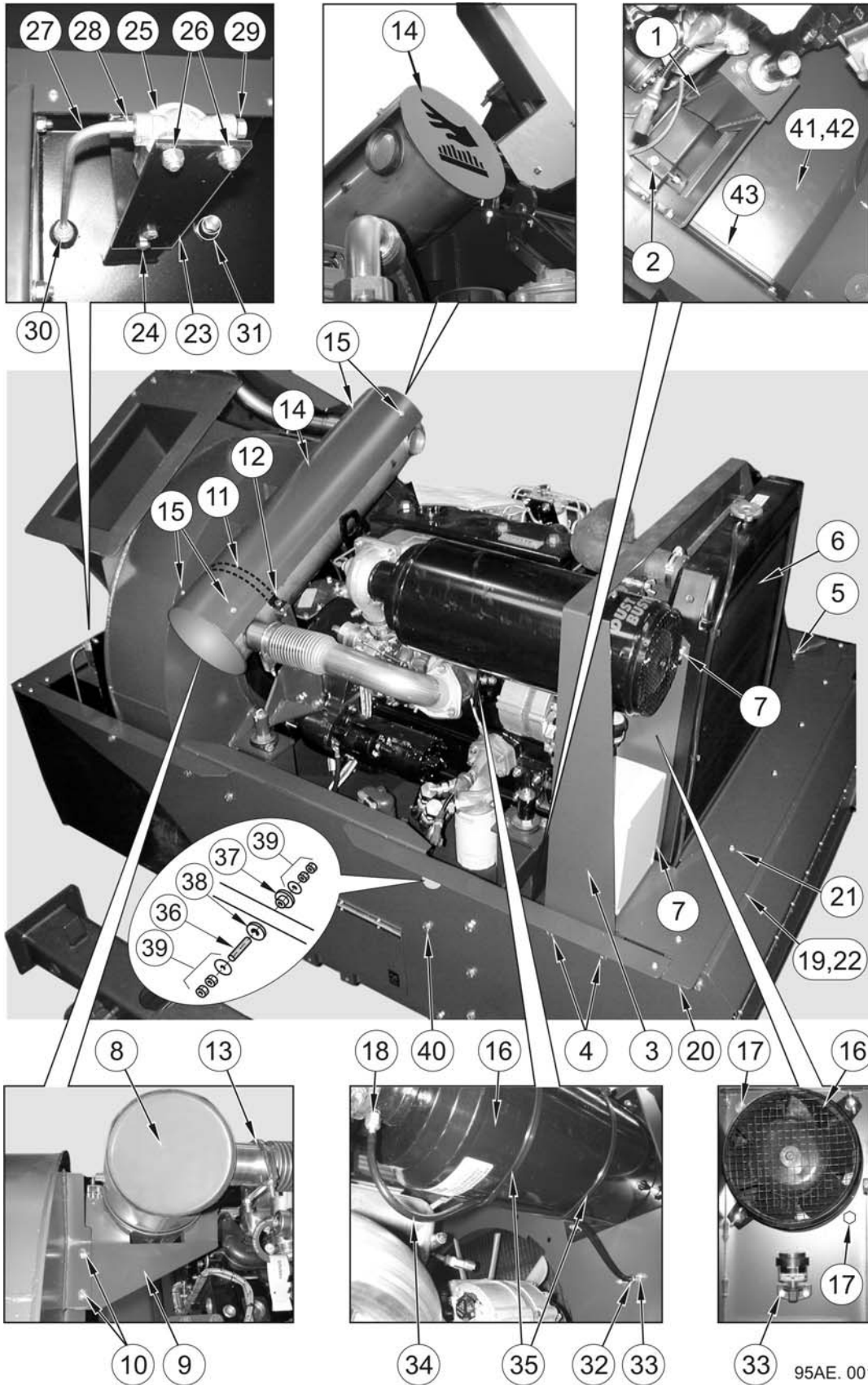
BoM 950514

Item No.	Part No.	Description	Quantity	
			Single	Tandem
1 *	HX20002-72	Hydraulic Hose - Suction	1	1
2 *	HC08002-73	Hydraulic Hose - Sweep System	1	1
3 *	HC08002-64	Hydraulic Hose - Auxiliary Systems	-	1
4 *	HE12001-122	Hydraulic Hose - Tank Return	1	1
5 - 9	-			
10	-	Hydraulic Tank - Covered elsewhere in this chapter	1	1
11	264-4	1/2" Bulkhead Adaptor + Locknut	2	2
12	264-6	3/4" Bulkhead Adaptor + Locknut	1	1
13	262-6	Swivel Elbow 90°	1	1

Notes

* Hose item numbers correspond with those in Hydraulic diagrams SH521a01 and SH531a01 in Chapter 8

Perkins Nat. Asp. and Turbo Engine Powapak - Common Parts



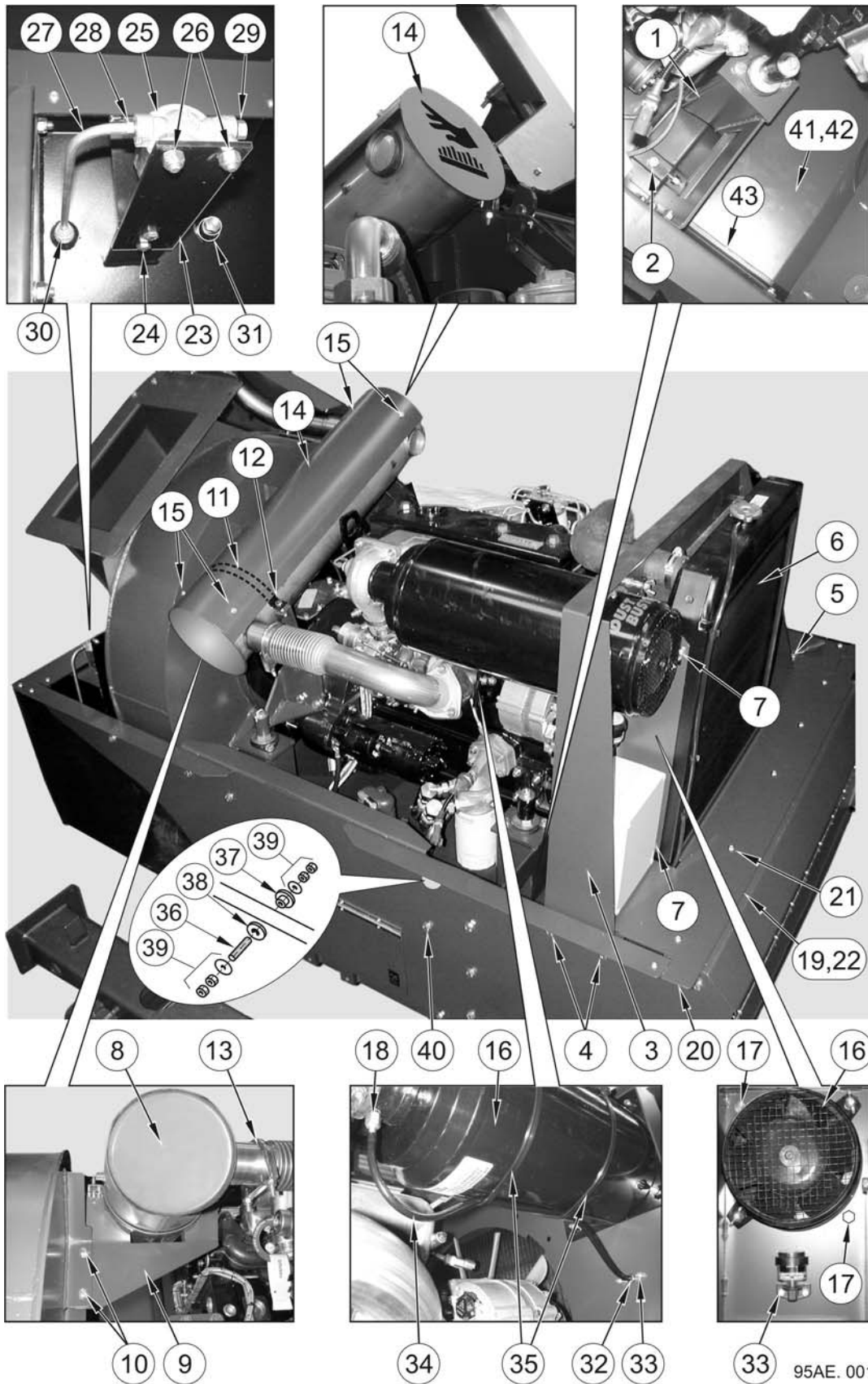
Note: See Section 22.EC for Starter and Earth Cables

Perkins Nat. Asp. and Turbo Engine Powapak - Common Parts

BoM 950511

Item No.	Part No.	Description	Quantity
1	281678-1	Front Engine Cradle	1
2	124-272	Screw M16 x 45	2
	460-14	Washer - Spring M16	2
3	281710-1	Radiator Shroud	1
4	124-167	Screw M10 x 20	2
	460-11	Washer - Spring M10	2
5	124-169	Screw M10 x 25	2
	425-15	Nut - Nyloc M10	2
6	61028-1	Radiator	1
7	124-166	Screw M10 x 16	4
	460-11	Washer - Spring M10	4
	455-11	Washer - Plain M10	4
8	61024-1	Silencer - For Tailpipe etc. See Section 22.EE	1
9	61022-1	Mount - Silencer	1
10	124-135	Screw M8 x 20	2
	460-10	Washer - Spring M8	2
	420-14	Nut M8	2
11	61017-2	Mounting Band	1
12	124-135	Screw M8 x 20	2
	460-10	Washer - Spring M8	2
	420-14	Nut M8	2
13	6645-14	Exhaust Clip	1
14	281701-1	Heat Shield	1
15	457-2	Washer - Large M6	4
	124-100	Screw M6 x 12	4
16	280850-1	Combi-Filter - See Spares Items Over Page	1
17	124-167	Screw M10 x 20	2
	460-11	Washer - Spring M10	2
18	904-58	Adaptor - Restriction Pipe	1
19	200513-1	Walkway	1
20	281600-1	Support Strip	2
21	135-69	Screw - Button Head M8 x 25	9
	455-10	Washer - Plain M8	4
	425-14	Nut - Nyloc M8	4
22	211-12	Anti-slip Surface	0.03M
23	42295-1	Plate - Pre-Filter Mounting	1
24	124-135	Screw M8 x 20	2
	425-14	Nut - Nyloc M8	2
25	15314	Pre-Filter	1
26	124-135	Screw M8 x 20	2
	425-14	Nut M8	2

Perkins Nat. Asp. and Turbo Engine Powapak - Common Parts

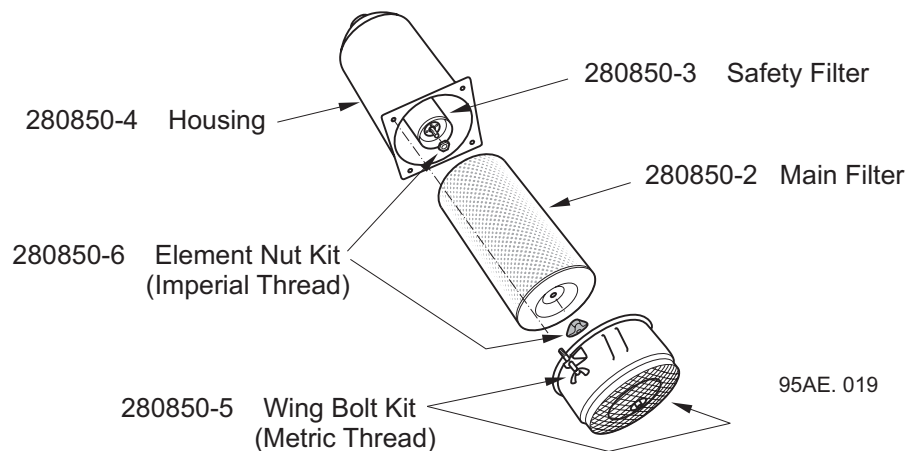


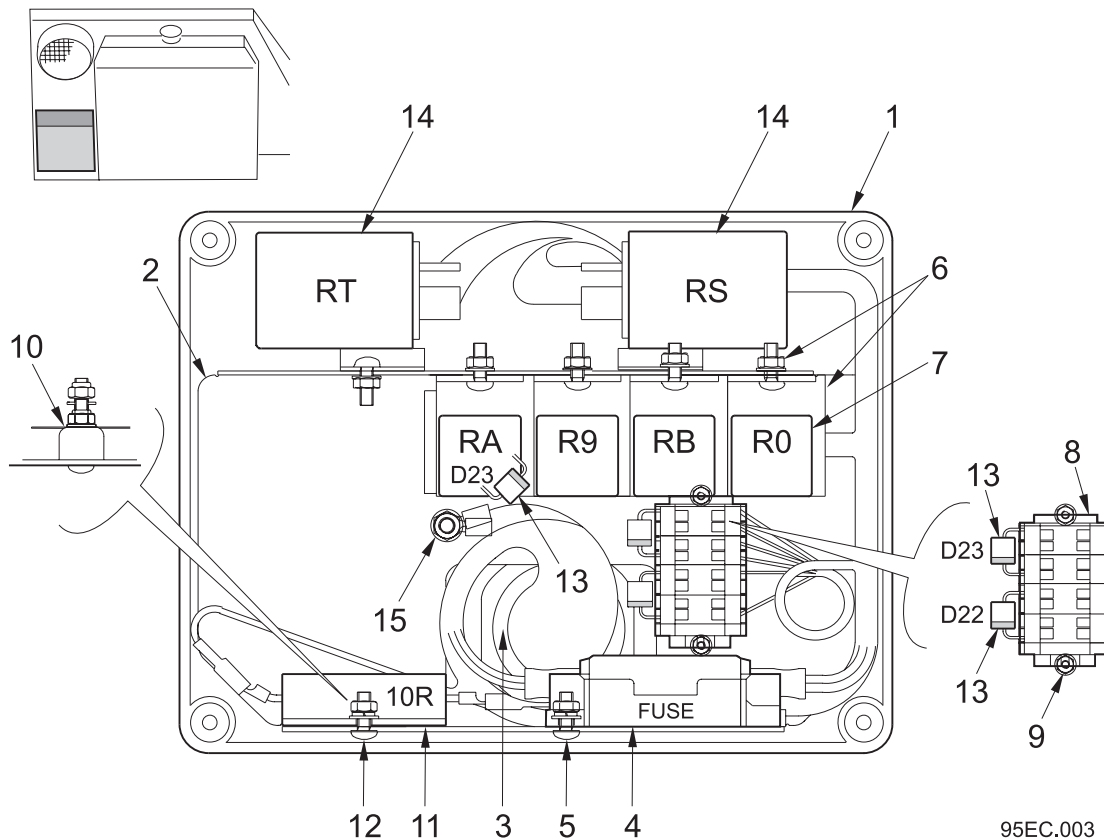
Note: See Section 22.EC for Starter and Earth Cables

Perkins Nat. Asp. and Turbo Engine Powapak - Common Parts

Item No.	Part No.	Description	Quantity
27	42683-4	Fuel - Pipe	1
28	25977-1	Nut - Sleeve	1
	511-4	Olive - Tube 8 O/D	1
29	510-4	Nut - Sleeve	1
30	40448-1	Adaptor	1
	451-17	Washer - Sealing G1/4"	1
	510-4	Nut - Tube 8 O/D	1
	511-4	Olive - Tube O/D	1
31	263-2	Adaptor G1/4"	1
	451-17	Washer - Sealing G1/4"	1
32	904-56	Connector	1
33	124-103	Screw M6 x 20	2
	457-2	Washer - Plain M6	2
	425-13	Nut - Nyloc M6	2
34	12870	Tube - Nylon Black 8 O/D	0.8M
35	24-7	Cable Tie	2
36	42421-3	Stud M10 x 65	1
37	42660-1	Spacer - Nylon	1
38	42661-1	Washer - Nylon	1
39	455-11	Washer - Plain M10	2
	410-49	Nut - Brass M10	4
40	124-175	Screw M10 x 40	1
	455-11	Washer - Plain M10	1
	420-15	Nut M10	2
41	200543-1	Systems Locker Cover Plate	1
42	124-134	Screw M8 x 16	4
	460-10	Washer - Spring M8	4
43	217-2	Rubber Seal 455 Long	2

Combi-Filter (Item 16) Spares Items



Engine Management Box - Perkins Engines

BoM 950511

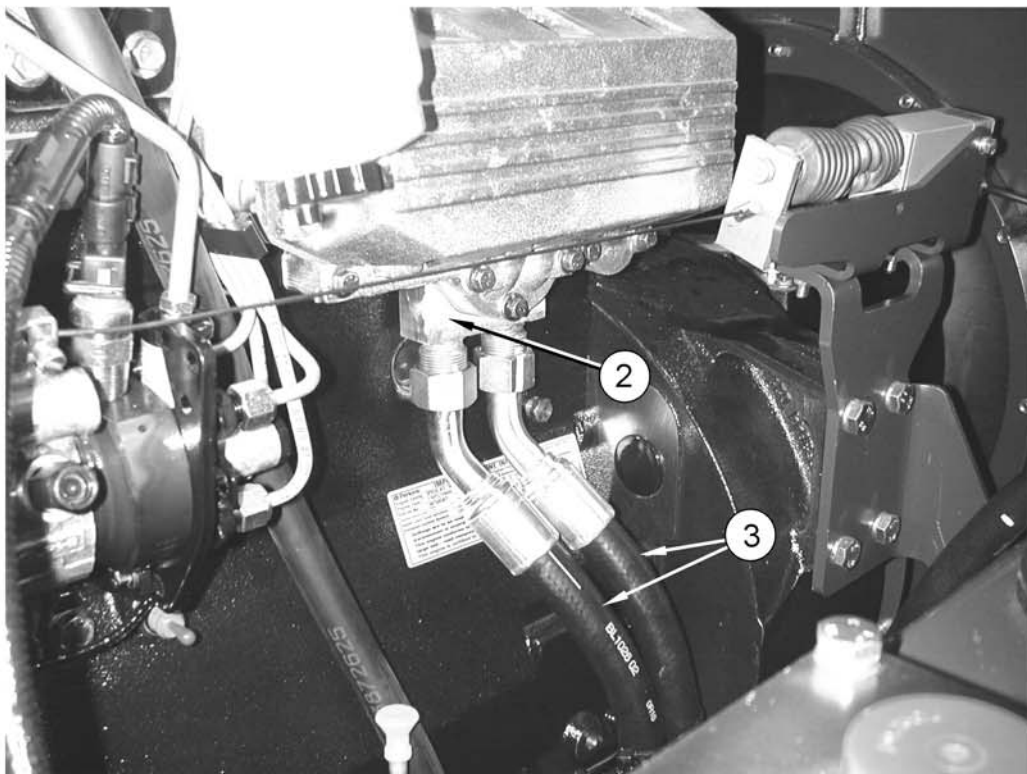
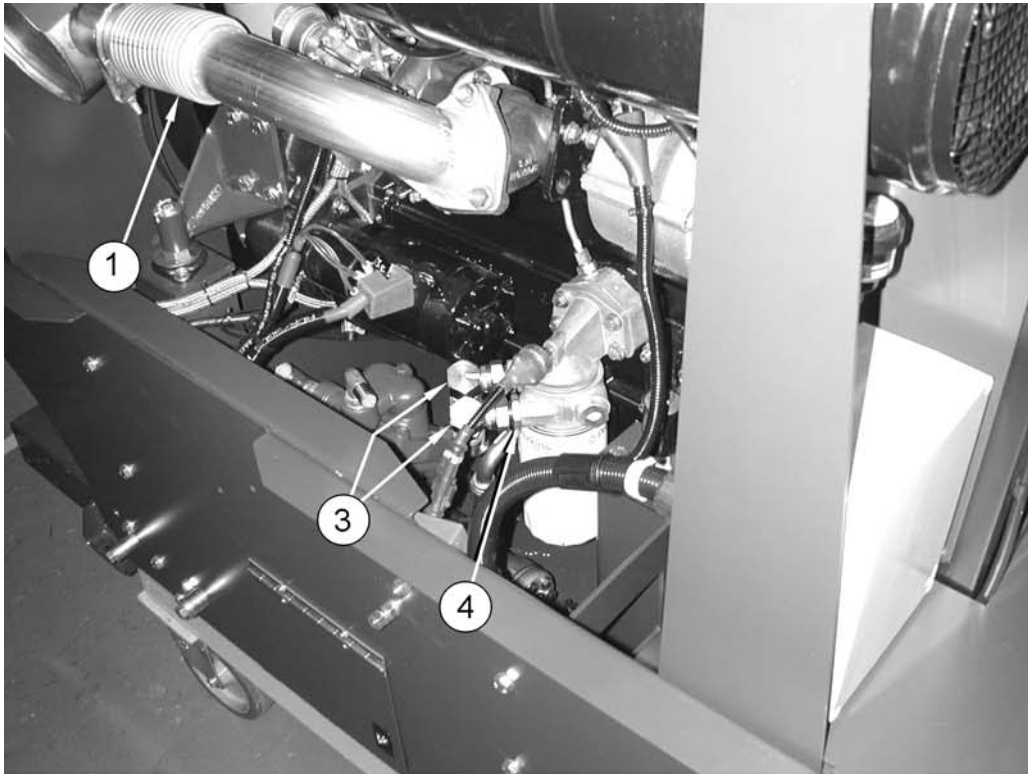
Item No.	Part No.	Description	Quantity	
			12v	24v
	282124-1 282124-2	Engine Management Box 12v Engine Management Box 24v	Comprising items 1 to 11:	
1	282122-1	Box and Lid	1	1
	134-44	Screw Pan Head M4 x 20	4	4
	425-11	Nut - Nyloc M4	4	4
2	282125-1	Mounting Plate	1	1
3	710-67	HDP 31 Way Socket Housing	1	1
	710-70	Jam Nut	1	1
	281545-2	Sealing Washer	1	1
4	30-267	Fuse Holder	1	1
5	134-43	Screw M4 x 16	2	2
	455-5	Washer Plain	2	2
	425-11	Nut Nyloc M4	2	2
6	48-89	Relay Base	4	4
	134-42	Screw Pan Head M4 x 12	4	4
	455-3	Washer Spring	4	4
	425-10	Nut M4	4	4
7	13194	Relay	-	4
	13193	Relay	4	-

Engine Management Box - Perkins Engines

Item No.	Part No.	Description	Quantity	
			12v	24v
8	30-256	Terminal Block - 4 Way	4	4
	30-254	Terminal Block - End Plate	1	1
9	134-12	Screw Pan Head M3 x 10	2	2
	455-3	Washer Plain	2	2
	425-10	Nut - Nyloc M3	2	2
10	282126-1	Adaptor Block	1	-
11	30-29	Resistor 10R 10 Watt	-	1
12	134-42	Screw Pan Head M4 x 12	-	2
	455-5	Washer - Plain	-	2
	460-5	Washer - Spring	-	2
	420-11	Nut M4	-	2
	13	13984	Diode 6 Amp	3	2
14	48-36	Relay	-	2
	48-34	Relay	2	-
	134-42	Screw Pan Head M4 x 12	4	4
	455-3	Washer Spring	4	4
	425-10	Nut M4	4	4
	15	134-59	Screw Pan Head M5 x 20	1	1
	420-12	Nut M5	1	1
	425-12	Nut - Nyloc M5	1	1
	460-7	Washer - Spring	1	1
	455-7	Washer - Plain	1	1

Notes

Perkins Nat. Asp. and Turbo Engine - Variable Parts



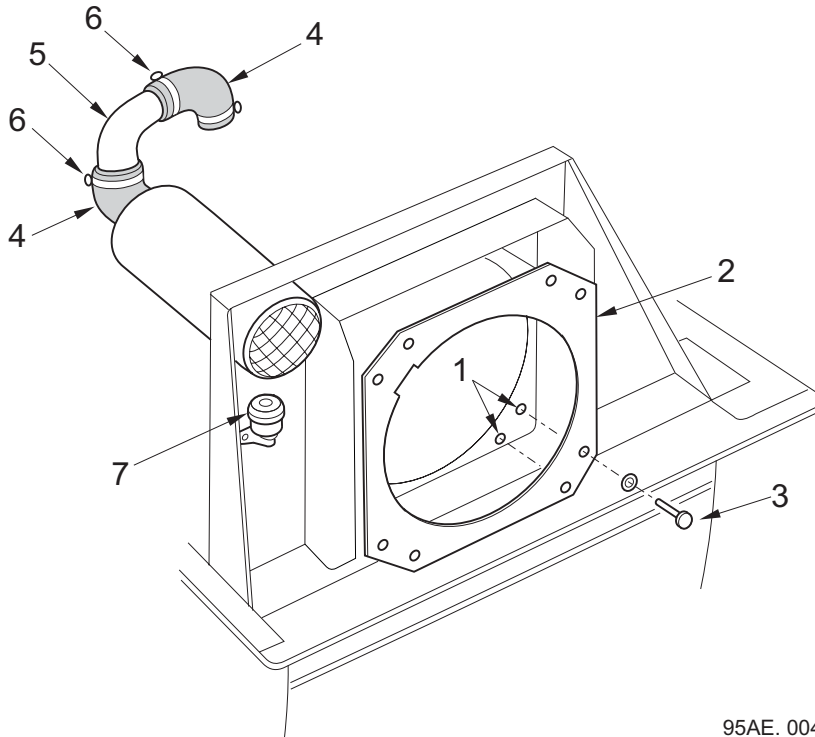
95AE. 002-2

Perkins Nat. Asp. and Turbo Engine - Variable Parts

BoM 950511

Item No.	Part No.	Description	Quantity	
			Nat.Asp.	Turbo
1	94952-1	Exhaust Inlet Pipe	1	-
	61025-1	Exhaust Inlet Pipe	-	1
2	62478-1	Manifold - Oil Cooler	-	1
	837-36	Gasket	-	1
3	HF12022-116-225	Hydraulic Hose	-	2
4	499-3	Adaptor G3/4" x SAE Ø7/8"	-	2
	451-20	Washer - Sealing Ø7/8"	-	2
5	280841-1	Loom Routing Plate - Not Shown. Attaches to Inlet Manifold Fixings.	-	1
	24-1	Cable Tie	-	7

Notes

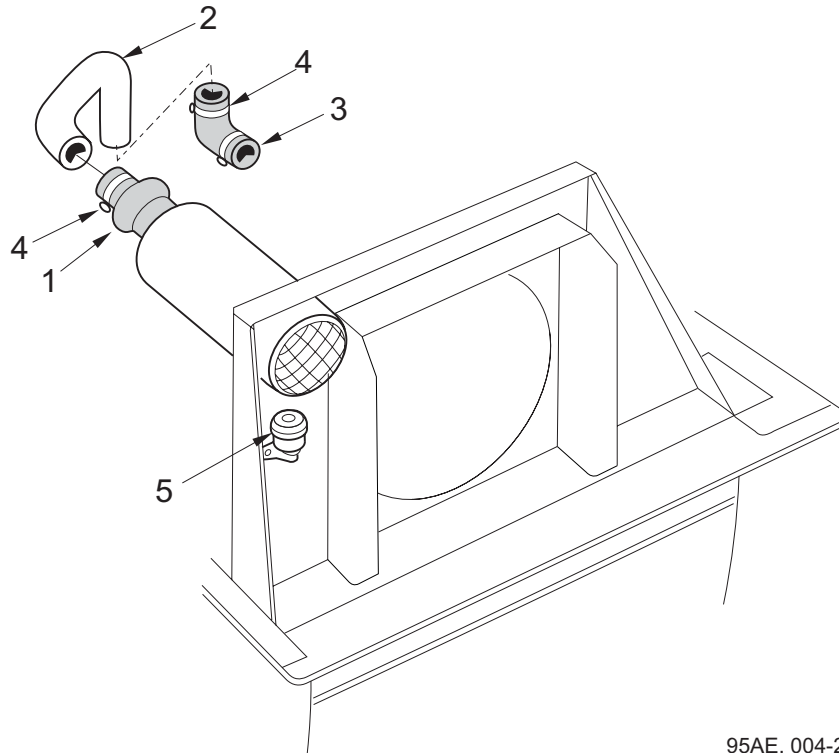
Air Cleaner Installation and Cooling Fan Adaptor - Perkins Nat. Asp. Engine


95AE. 004

BoM 950511

Item No.	Part No.	Description	Quantity
1	433-2	Rivet Nut M6	8
2	280184-1	Cooling Fan Adaptor	1
3	124-103	Screw M6 x 20	8
	460-8	Washer - Spring M6	8
4	904-8	Elbow - Rubber	2
5	280848-1	Induction Elbow	1
6	501-7	Hose Clip	4
7	12188	Air Filter Restrictor - 5.5kPa	1

Air Cleaner Installation - Perkins Turbo Engine



95AE. 004-2

BoM 9510511

Item No.	Part No.	Description	Quantity
1	904-9	Hose - Hump	1
2	281025-1	Induction Air Pipe	1
3	271-25	Elbow	1
4	501-7	Hose Clip	4
5	904-55	Air Filter Restrictor - 7.5kPa	1

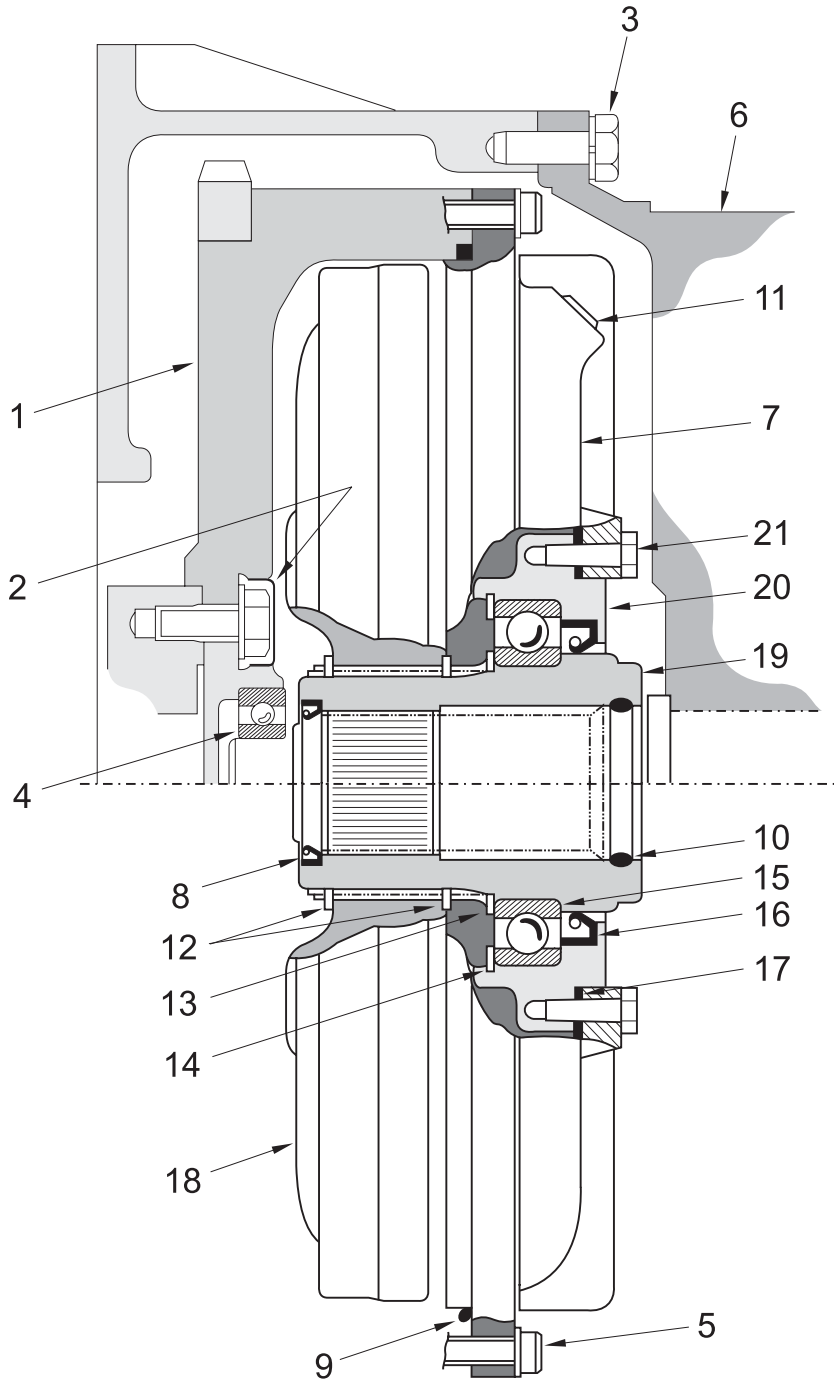
22.ET

Transmission, Impeller and Powapak Tub

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Fan Drive Gearbox	22.ET : 4
Suction System	
Fan Case Installation and Impeller	22.ET : 6
Powapak Tub	
Tub - VT Parts Only	22.ET : 7

Fluid Coupling



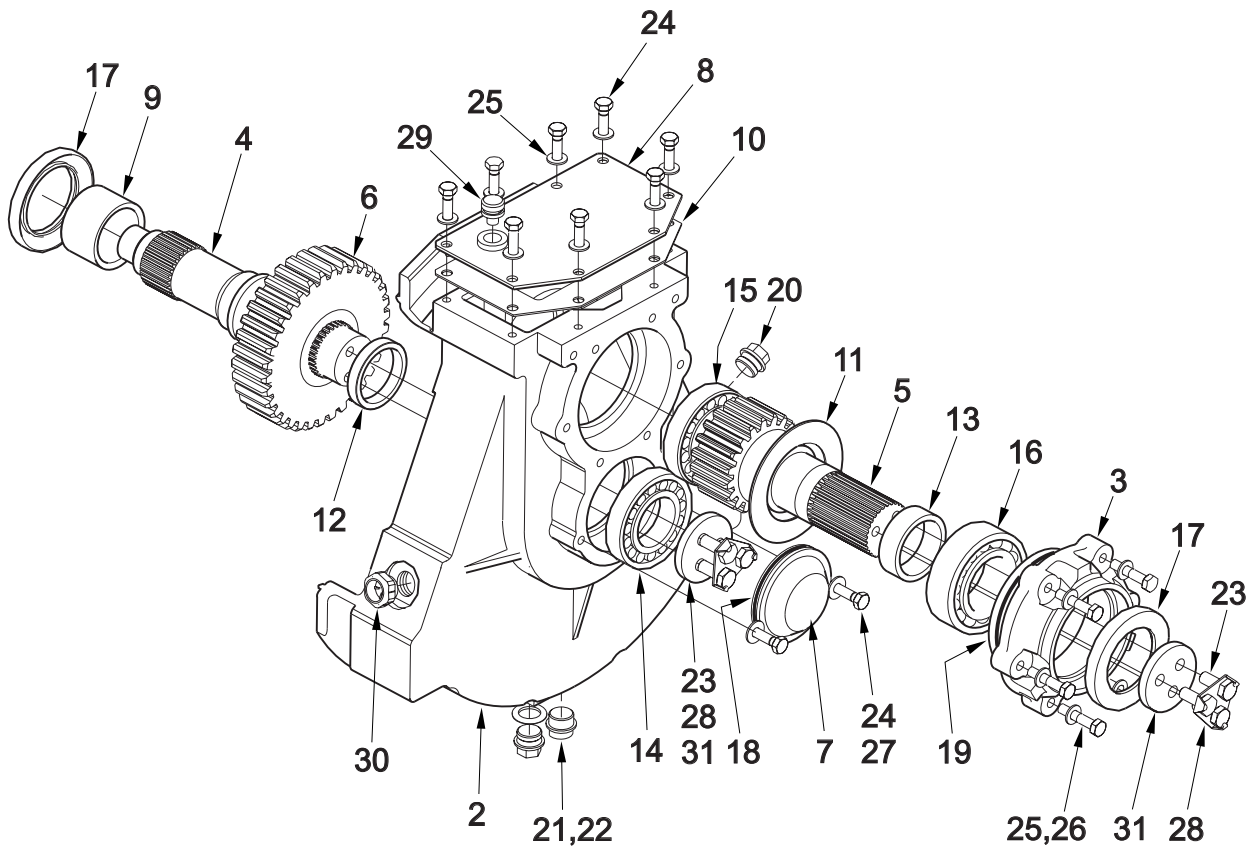
95FC.001-2

			Fluid Coupling
Item No.	Part No.	Description	Quantity
* 1	-	Flywheel)	1
* 2	-	End Cover Seal) Perkins Parts Shown	6
3,4,5		Covered in Dressed Engine Sections	
6	-	Gearbox - See next page	1
7	42501-2	Fluid Coupling - John Deere	1
	42501-3	Fluid Coupling - Iveco and Perkins	1
8	77-39	Rotary Seal	1
9	656-1	'O' Ring	1
10	656-2	'O' Ring	1
11	656-3	Fusible Plug	1
12	656-4	Circlip - External	2
13	656-5	Circlip - External	1
14	656-6	Circlip - Internal	1
15	656-7	Bearing	1
16	656-8	Oil Seal	1
17	656-9	Gasket	1
18	656-10	Impeller Inner	1
19	656-12	Centre Hub	1
20	656-13	Bearing Carrier	1
21	656-14	Screw	12
	42501-500	Overhaul Kit Comprising Items:- 2, 4, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17	

Notes

On assembly, coat internal spline of Item 19 with Kluber Paste 46MR410, JSL Part No. 94-24

> * Items 1 & 2, "See Perkins Dressed Engines - Common Parts"

Fan Drive Gearbox


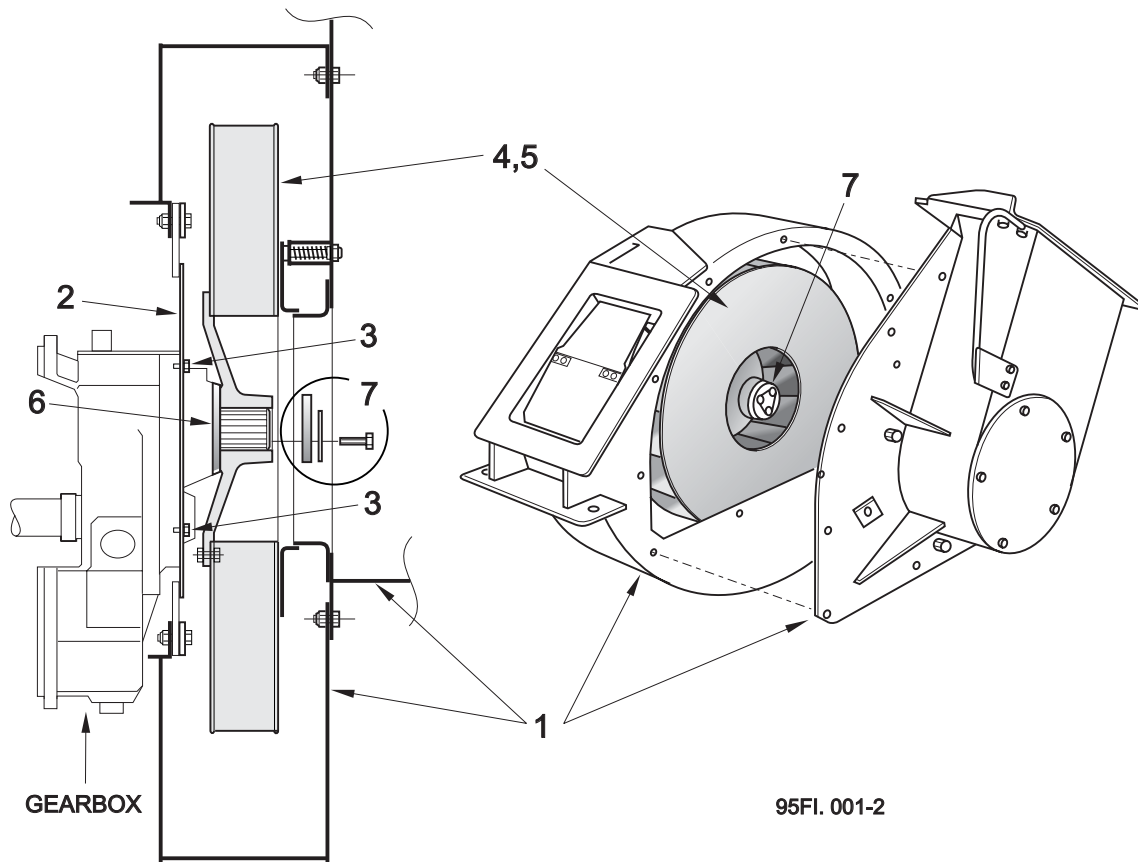
95FG.001

Item No.	Part No.	Description	Quantity
	42270-1	Gearbox comprising:	1
2	42271-2	Casing - Gearbox	1
3	42272-2	Housing - Bearing	1
4	42466-1	Shaft - Input	1
5	42274-19	Shaft - Output	1
6	42275-34	Gear	1
7	42255-1	Cap - Bearing	1
8	42277-1	Plate - Cover	1
9	42278-1	Spacer	1
10	42279-1	Gasket	1
11	42280-1	Washer	1

Fan Drive Gearbox

Item No.	Part No.	Description	Quantity
12	42281-1	Spacer	1
13	42283-1	Spacer	1
14	10-21	Bearing	1
15	10-22	Bearing	1
16	14-46	Bearing	1
17	77-21	Seal - Rotary	2
18	80-95	Seal - 'O' Ring	1
19	80-100	Seal - 'O' Ring	1
> 20	54-4	Plug - Collar	3
21	13109	Plug - Magnetic	1
22	451-126	Washer - Copper	1
23	121-41	Screw M10F x 25	6
24	124-137	Screw M8 x 25	10
25	460-10	Washer - Spring M8	16
26	124-143	Screw M8 x 40	6
27	457-4	Washer - Extra Large M8	2
28	42659-1	Tab Washer	2
29	16978-1	Breather	1
30	87-7	Oil Level Indicator	1
31	42282-2	Clamp Plate	2

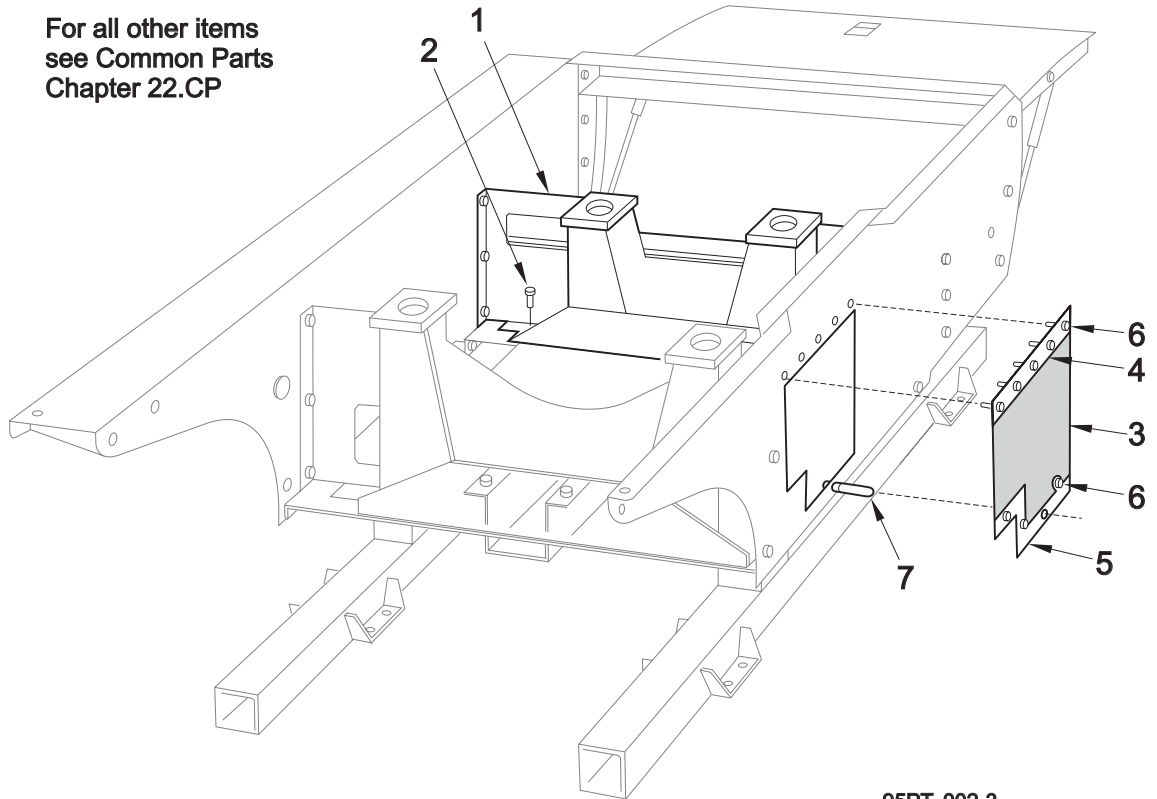
Notes

Fan Case Installation and Impeller

BoM 950513

Item No.	Part No.	Description	Quantity
1		Fan Case and Fittings - See Section 22:CP	
2	42284-1	Mask - Fan Case	1
3	827-37	Screw - Special M8 x 20	4
4	280730-1	Suction Fan Impeller - Ø760 Nat. Asp. Engine	1
5	280830-1	Suction Fan Impeller - Ø800 Turbo charged Engine	1
6	62025-1	Spinner - Gearbox	1
7		Impeller Retention - See Gearbox on previous page	

Powapak Tub - VT Parts Only

For all other items
see Common Parts
Chapter 22.CP



95PT. 002-3

BoM 950511

Item No.	Part No.	Description	Quantity
1	281475-1	Front Engine Cradle - Iveco Engine	1
	281678-1	Front Engine Cradle - Perkins Engines	1
	282425-1	Front Engine Cradle - John Deere Engine	1
2	124-272	Screw M16 x 45	2
	460-14	Washer - Spring	2

BoM 950512

	282816-1	Valance Access Hatch comprising items 3 to 7	
3	282801-1	Neoprene Flap	1
4	282804-1	Securing Plate	1
5	282802-1	Tension Plate	1
6	124-135	Bolt M8 x 20	8
	455-10	Washer - Plain	8
	425-14	Nut - Nylock M8	8
	283-36	Drop - Loc Bolt	1
7	455-10	Washer - Plain	1
	425-14	Nut - Nyloc M*	1

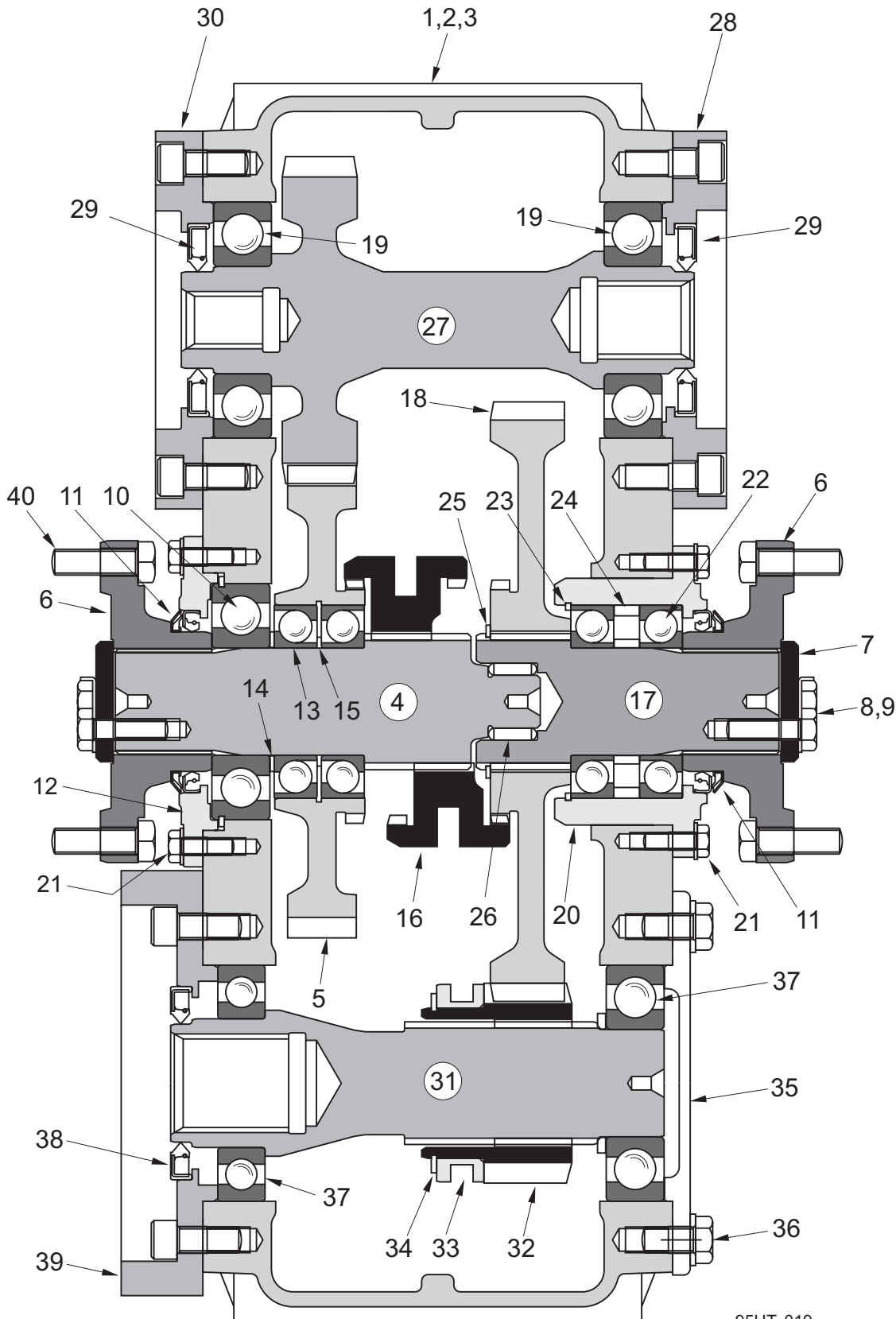
22.HD

HydroDrive Transmission

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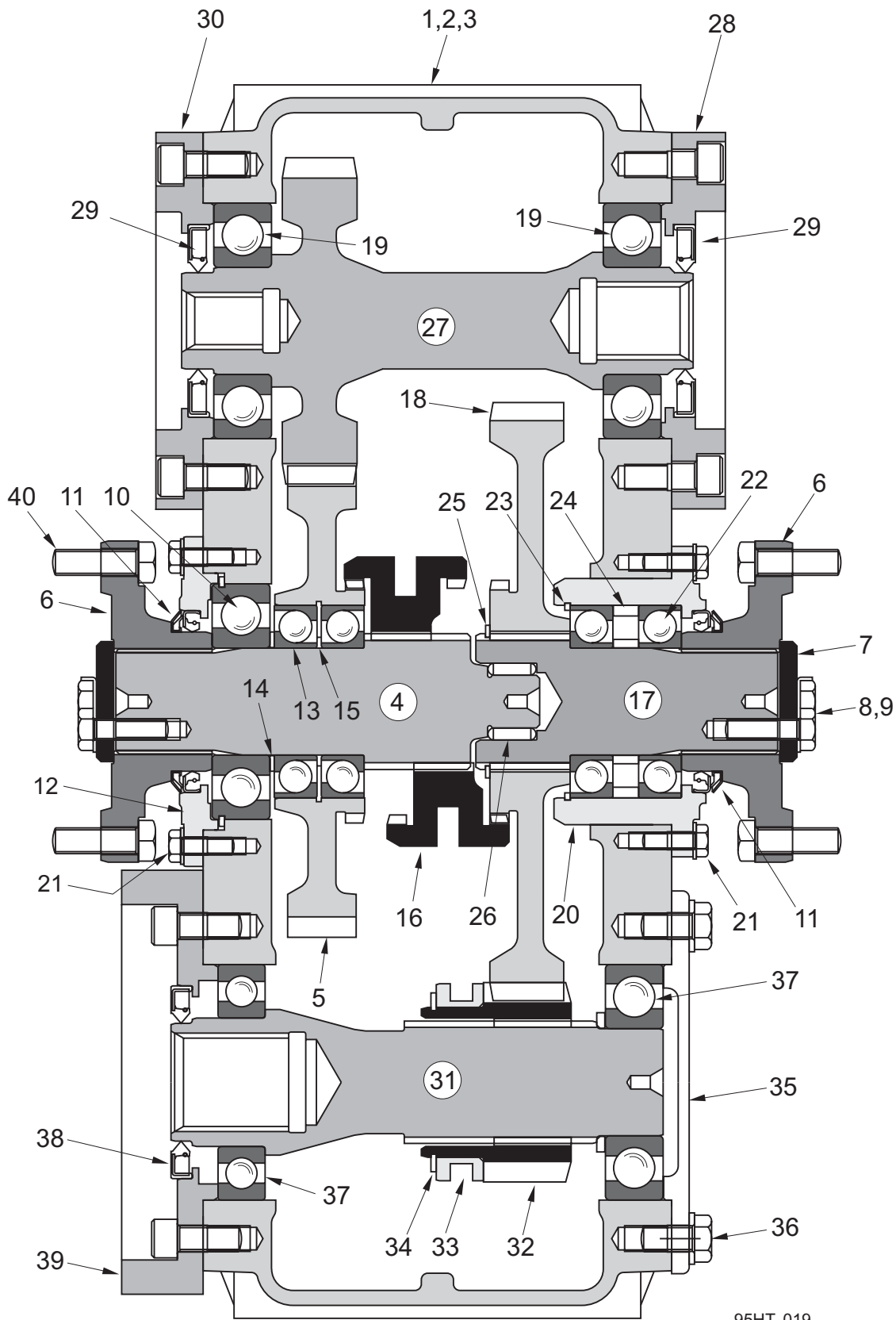
Mk III Gearbox Assembly



Mk III Gearbox Assembly

Item No.	Part No.	Description	Quantity
	29800-3	Gearbox Assembly comprising:	
1	29701-1	Case	1
2	280195-1	Lid	1
3	124-134	Screw M8 x 16	12
	460-10	Washer - Spring M8	12
	29770-1	Gear Set comprising items 4,5,6, 16,17,18, 27, 31,32.	
4	29706-1	Shaft - Input	1
5	29708-1	Gear - Input	1
6	29714-1	Drive Flange	2
7	29518-1	Washer	2
8	121-45	Screw M10F x 35	6
9	29521-1	Tab Washer	2
10	14-53	Ball Bearing - Snap Ring	1
11	77-40	Combi Seal	2
12	29722-1	Housing - Input	1
> 13	14-37	Bearing - Angular Contact	2
14	29732-1	Spacer - Input	1
15	29512-1	Ring and Circlip	1
16	29715-1	Sliding Dog Gear	1
17	29767-1	Shaft - Output	1
18	29766-1	Output Gear	1
19	14-54	Ball Bearing	2
20	29771-1	Housing - Output, See notes over page.	1
21	124-37	Screw M8 x 25	14
	460-10	Washer - Spring M8	1
22	14-55	Bearing - Angular Contact	2
23	28-36	Circlip - Internal	1
24	29772-1	Spacer Assembly - Output Bearings Comprises Inner and Outer Spacers	1
25	27-23	Circlip	1
26	12-24	Needle Roller	17
27	29746-1	Shaft - Trans Pump/Water Pump Drive	1
28	29729-1	Adaptor Flange - Motor (Transmission)	1
29	77-42	Oil Seal	2
30	29728-1	Adaptor Flange - Pump (Fan)	1
31	29712-1	Shaft - Trans. Motor Driven	1
32	29765-1	Gear - Trans. Motor Driven	1
33	29710-3	Selector Ring	1
34	27-13	Circlip	1

Mk III Gearbox Assembly



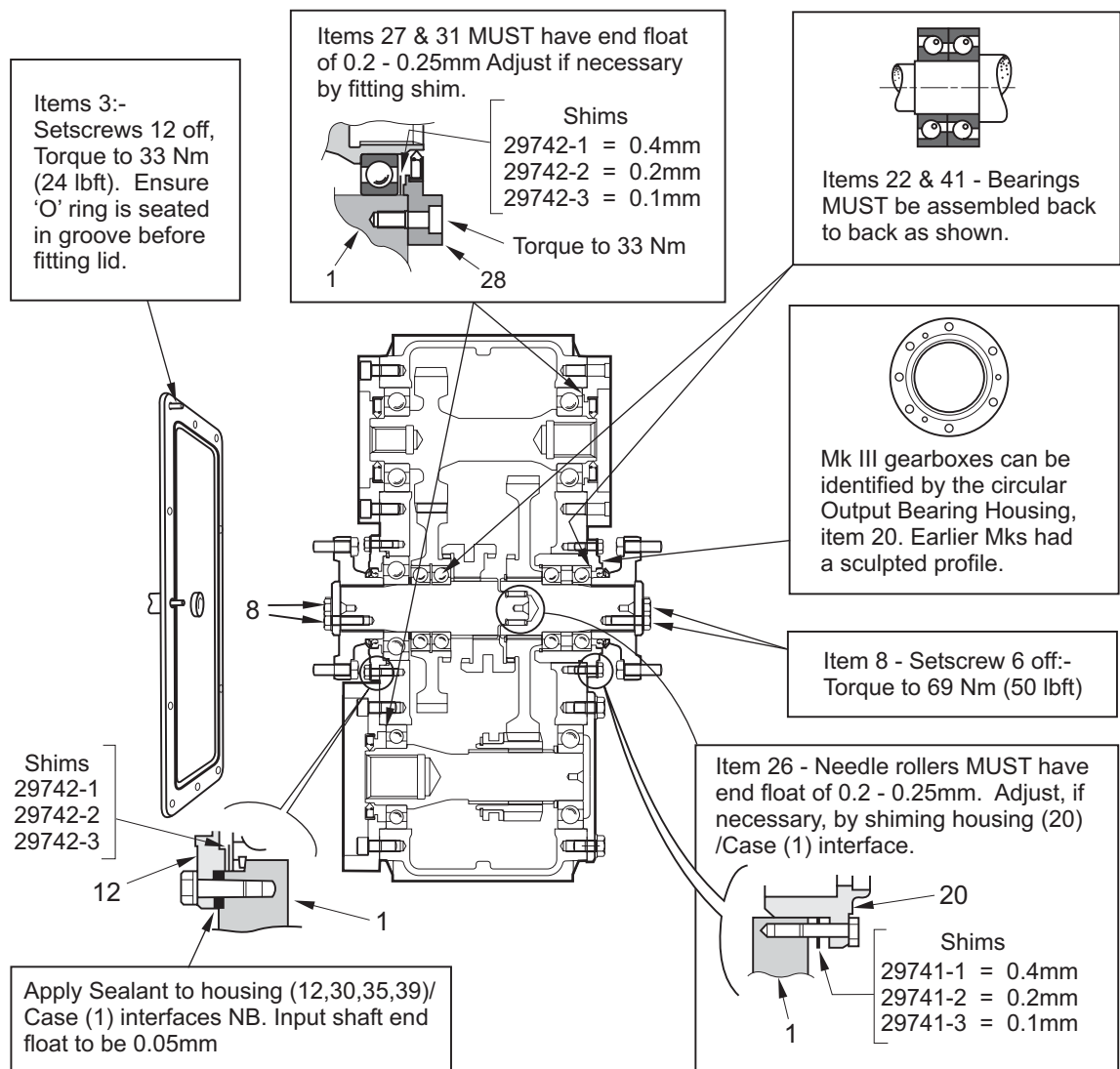
95HT. 019

Mk III Gearbox Assembly

Item No.	Part No.	Description	Quantity
35	29730-1	End Cap	2
36	124-201	Screw M12 x 25	4
	460-12	Washer - Spring M12	4
37	14-26	Ball Bearing	2
38	77-41	Oil Seal	1
39	29726-1	Flange - Motor Adaptor	1
> 40	121-81	Bolt M12f x 50	8
	419-12	Nut M12f Torque Prevailing	8

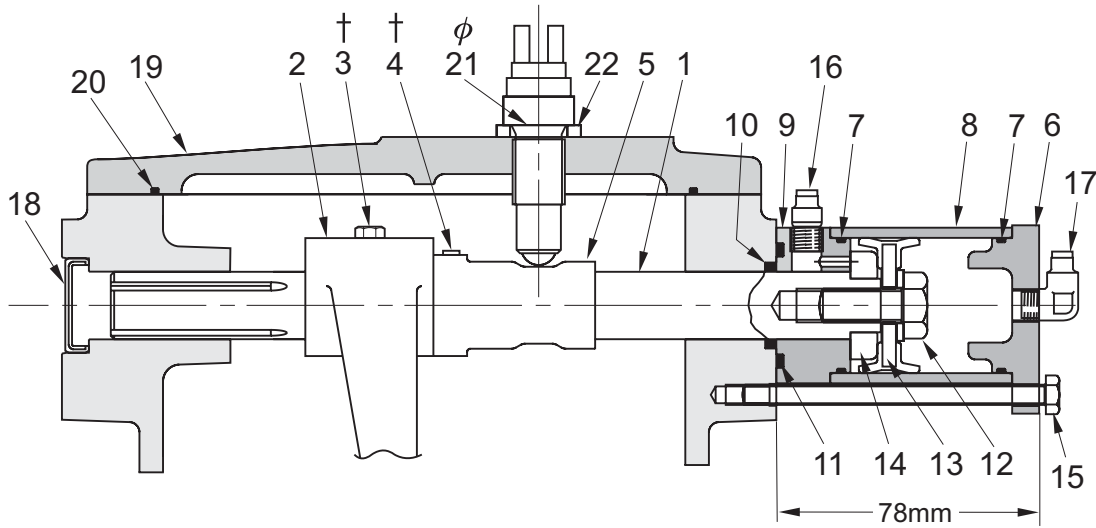
Notes

Mk I and Mk II gearboxes have never been fitted to VS machines

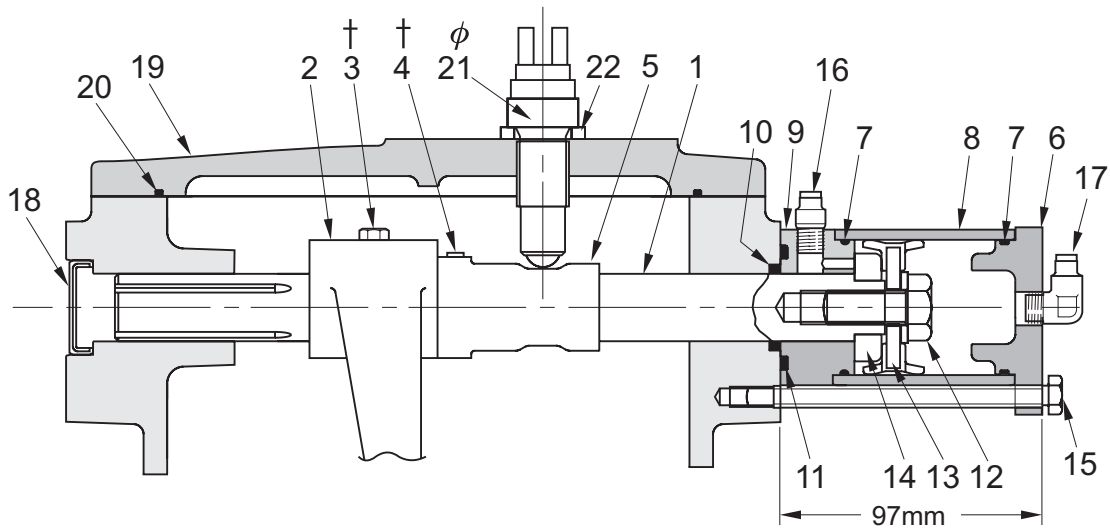


95HT. 023

Gear Selector Assemblies



INPUT SELECTOR (PUMP DRIVE)



OUTPUT SELECTOR (MOTOR DRIVE)

HT. 0007-2

Gear Selector Assemblies

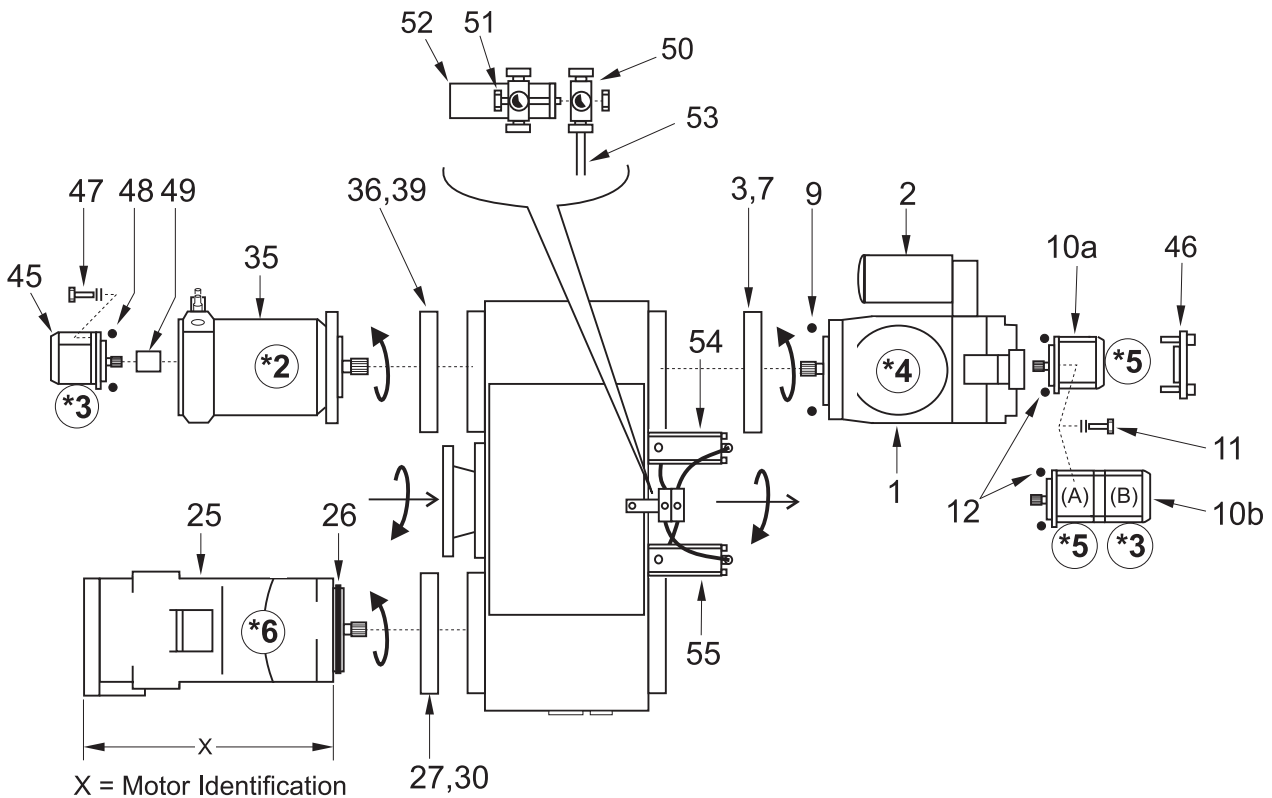
Item No.	Part No.		Description	Quantity Per Cylinder	
	Input Selector	Output Selector			
1	29731-2	29731-1	Rod Air-shift	1	
2	29523-1	29751-1	Yoke	1	
3	29527-1	<	Bolt Retaining M10F	1	
4	135-23	<	Grubscrew M6	1	
5	29747-1	29748-1	Guide Sensor	1	
6	29528-1	29763-1	Head	1	
7	80-33	<	'O' Ring	2/1	
8	29531-2	29764-1	Barrel	1	
9	29529-1	29761-1	Gland	1	
10	663-71	<	'O' Ring	1	
11	80-55	<	'O' Ring	1	
12	124-171	<	Setscrew M10 x 30	1	
>	455-11	<	Plain - Washer M10	1	
13	28868-12	28868-15	Piston Seal	1	
14	29533-1	<	Stroke Limiter	1	
15	126-121		Setscrew M6 x 90	3	
		124-123	Setscrew M6 x 100	3	
>	460-8	<	Washer - Spring M6		
>	16	537-3	<	Adaptor 6 x 1/8" BSP	1
	17	552-3	<	Adaptor Elbow 6 x 1/8" BSP	1
	18	221-2	<	End Cap	1
>	19	280195-1		Lid Cover	1
	20	40-82		'O' Ring	1
	21	282054-1	<	Switch Sensor	1
	22	29756-1	<	Sensor Spacer	1
	23	N/A	80-265	'O' Ring	2
	24	N/A	29762-1	Sleeve	1
	25	N/A	129-93	Bolt M6 x 16 Cap. Hd.	3

† Apply Loctite 275 to Item 3 Retaining Screw and torque to 58 Nm (43 Lbft)

∅ Apply Thread Sealant Loctite 542

Notes

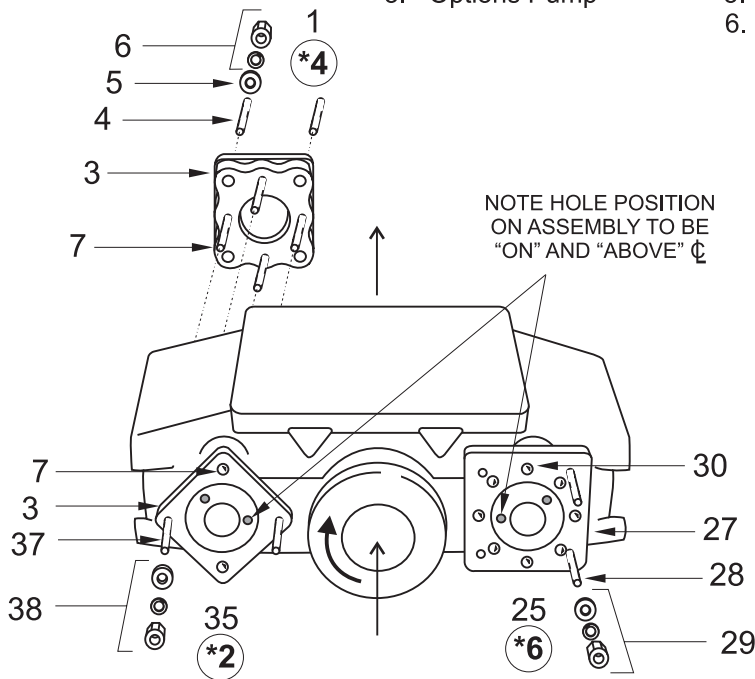
Pumps & Motors



X = Motor Identification
 374mm = 160cc Motor
 333mm = 110cc Motor

* Pump and motor identification numbers, 2 to 6, in balloons correspond with those used elsewhere in this chapter, ie:-

- | | |
|-------------------|-----------------------|
| 2. Fan Drive Pump | 4. Transmission Pump |
| 3. Options Pump | 5. Sweepgear pump |
| | 6. Transmission Motor |



MOUNTING FLANGES AND HARDWARE

95HT. 024

Pumps & Motors

BoM 950412

Item No.	Part No.	Description	Quantity
1	97161-1	Transmission Pump - 55 series (CCW)	1
	97161-2	Forward/Reverse Servo Valve + EDC (Service Item)	
	97161-3	EDC (Solenoid + 'Mil' Plug Service Items)	
2	224-15	Filter Element - (Service item)	
3	29729-1	Adaptor Flange	1
4	29569-1	Stud - Shankd M12 x 65	4
5	45014-8	Spacer Ø13 x 8	4
6	460-12	Washer - Spring	4
	420-16	Nut M12	4
7	129-183	Cap Hd. Setscrew M12 x 25	4
8	-		
9	79-99	'O' Ring	1

BoM 950413

10a	239-7	Pump - Sweepgear (14cc/rev CCW Rotation)	1
10b	239-33	Tandem Pump - (A) Sweepgear, (B) Options (CCW Rotation) (Used when there is insufficient room to fit item (45) 2 x 14cc/rev)	
11	103-39	Bolt 3/8" UNC x 1 1/4"	2
	455-11	Washer - Plain M10	2
	460-11	Washer - Spring M10	2
12	79-97	'O' Ring - (Spares Item)	1
13 - 24	-		

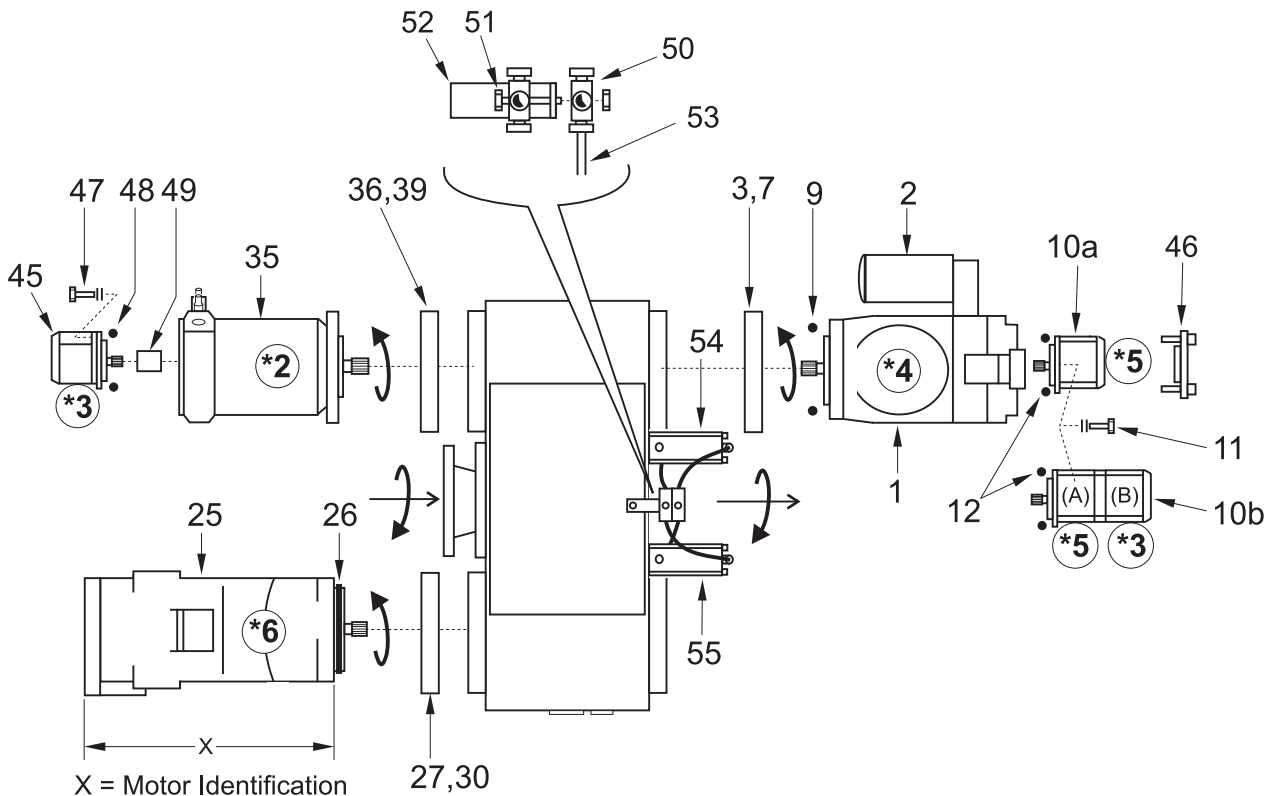
BoM 950412

25	29752-1	160cc Trans. Motor (HSR2) (CW Rotation) X = 374mm	1*
	29753-1	110cc Trans. Motor (HSR2) (CW Rotation) X = 333mm	1*
26	80-109	'O' Ring - (Spares item)	1
27	29726-1	Adaptor Flange	1
28	29758-1	Stud - Shankd M20 x 85	4
29	455-16	Washer - Plain M20	2
	460-16	Washer - Spring M20	2
	420-20	Nut M20	2
30	129-185	Cap Hd. Setscrew M12 x 30	8
31	-		

BoM 950412

35	29749-1	Pump - Fan Drive (CW Rotation)	1
36	29728-1	Adaptor Flange	1
37	29557-1	Stud - Shankd M12 x 80	2
38	455-12	Washer - Plain M12	2
	460-12	Washer - Spring M12	2
	420-16	Nut M12	2
39	129-183	Cap Hd. Setscrew M12 x 25	4

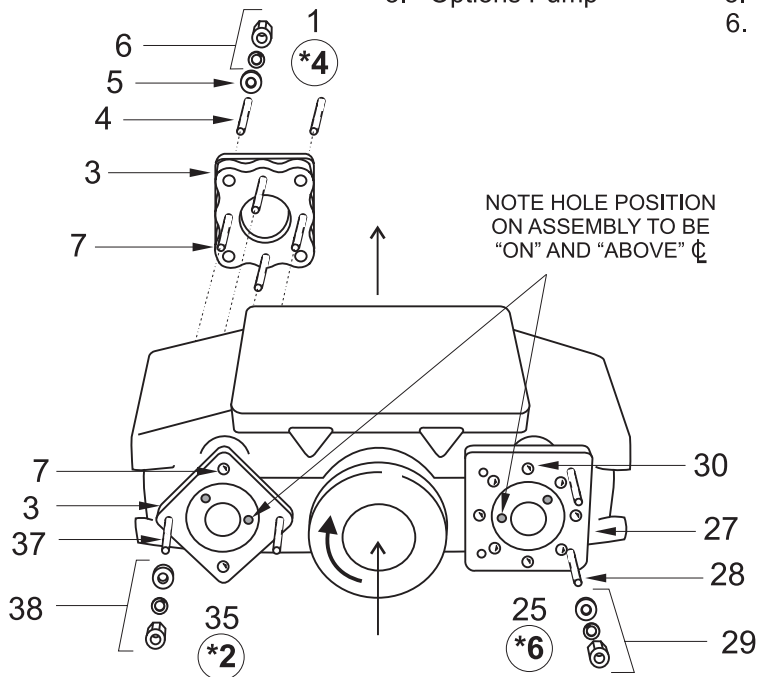
Pumps & Motors



X = Motor Identification
 374mm = 160cc Motor
 333mm = 110cc Motor

* Pump and motor identification numbers, 2 to 6, in balloons correspond with those used elsewhere in this chapter, ie:-

- | | |
|-------------------|-----------------------|
| 2. Fan Drive Pump | 4. Transmission Pump |
| 3. Options Pump | 5. Sweepgear pump |
| | 6. Transmission Motor |



MOUNTING FLANGES AND HARDWARE

95HT. 024

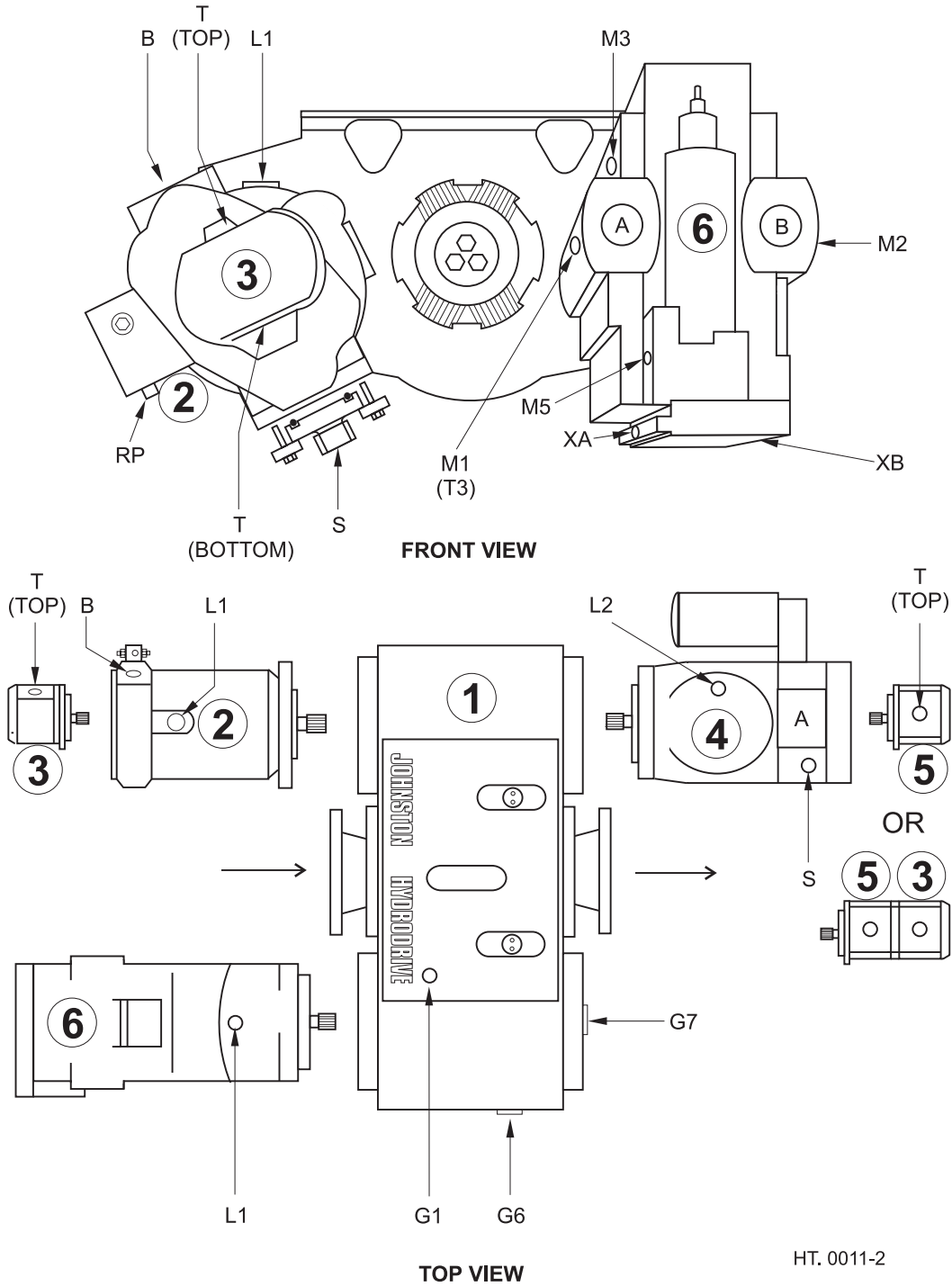
Pumps & Motors

BoM 950411

Item No.	Part No.	Description	Quantity
45	239-11	Pump - Options (14.4cc/rev CW Rotation) 1	
46	-	Blanking Plate - Supplied with Item 35	
	129-154	Cap Hd. Screw M10 x 25	2
	460-11	Washer - Spring M10	2
47	103-39	Bolt 3/8"UNC x 1 1/4"	2
	455-11	Washer - Plain M10	2
	460-11	Washer - Spring M10	2
48	80-94	'O' Ring (Service item)] Spares	
49	294-22	Drive Adaptor - 9 x 23 Spline] Items	
50	527-3	Tee	2
51	124-112	Setscrew M6 x 45	1
	425-13	Nut M6 Nyloc	1
52	29559-1	Bracket - Mounting	1
53	273-20	Tubing Ø6mm Blue	0.6m
	4104-1	Sleeve	
	510-3	Nut	4
	511-3	Olive	4
54	-	Input selector assembly] See Gear Selector	
55	-	Output selector assembly] Assemblies	

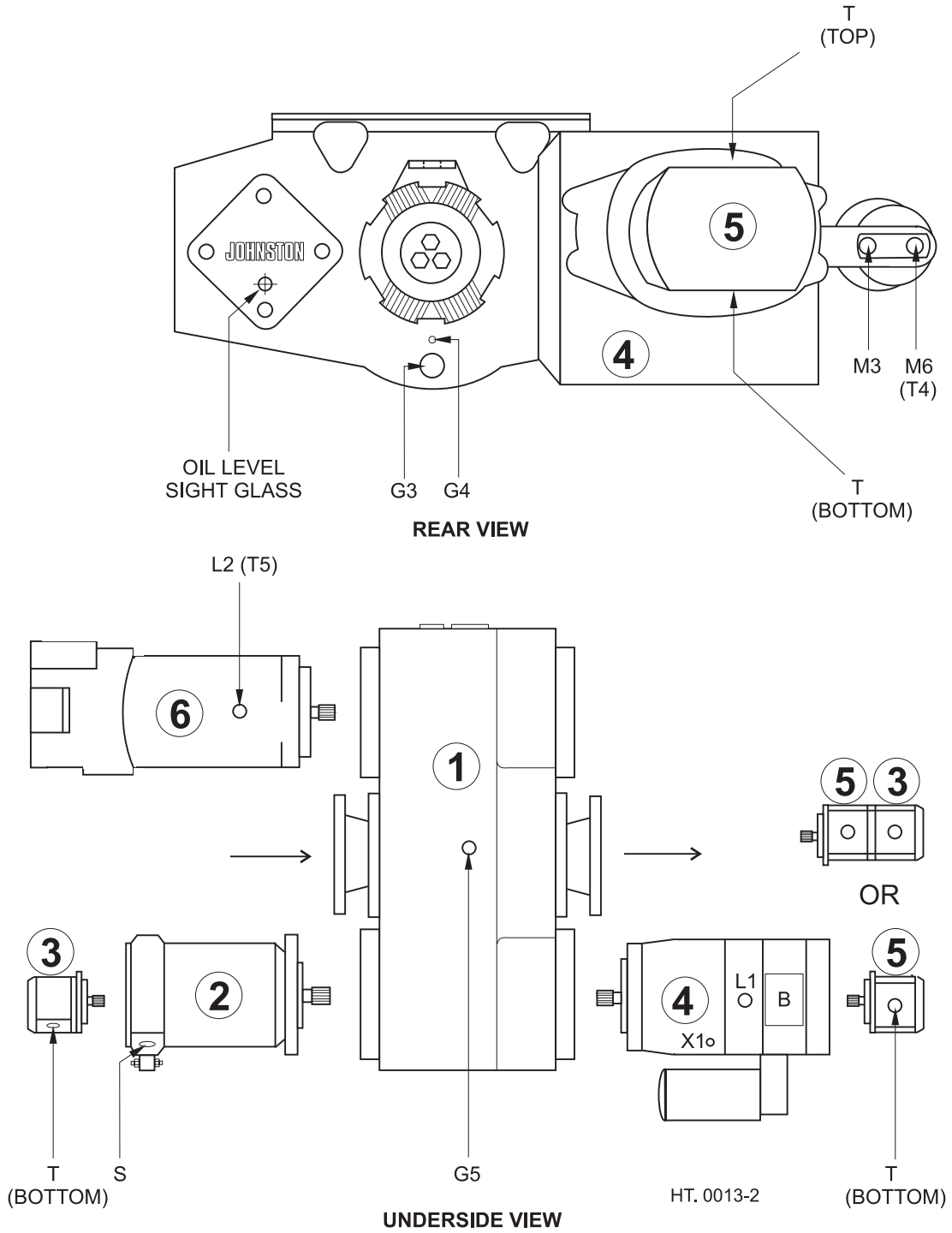
Notes

Port Fittings - Underside & Rear Views

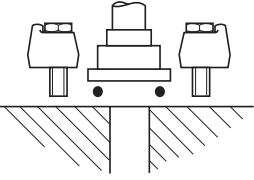
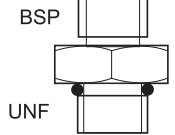
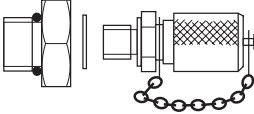
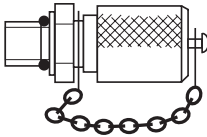
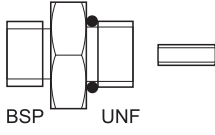
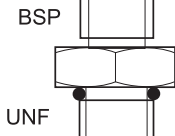
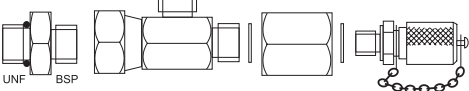


HT. 0011-2

Port Fittings - Underside & Rear Views



Port Fittings
BoM 950412
Transmission Motor (Item 6)

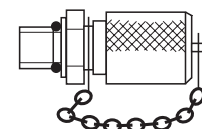
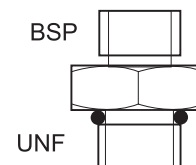
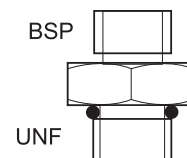
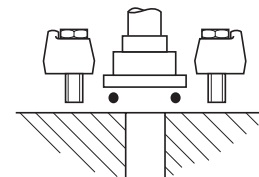
Port	Part No.	Description		
A & B	498-N09	1" H.P. Flange Kit - Comprising:-		
	40-74	'O' Ring Seal)Spares Item	1 off	
	N.S.S.	Flange Half	2 off	
	103-58	Bolt - Cap Head 7/16" UNC x 1 3/4"	4 off	
	450-30	Washer - Spring	4 off	
Tow Valve Option				
A & B	29757-1	Adaptor Block		
	151-100	Bolt 7/16" UNC x 3"		
	40-74	'O' Ring) Spares Item		
	263-4	Adaptor - 1/2" BSP		
L1 (Top)	499-4	Adaptor 1 1/16" UNF x 3/4" BSP for 110cc Motor		
	499-15	Adaptor 1 5/16" UNF x 3/4" BSP for 160cc Motor		
	79-18	'O' Ring Seal for 110cc Motor) Spares		
	80-?	'O' Ring Seal for 160cc Motor) Items		
L2 (Bottom)	90671-1	Test Point Adaptor 1 1/16" UNF for 110cc motor		
	66086-1	Test Point Adaptor 1 5/16" UNF for 160cc motor		
	79-18	'O' Ring Seal for 110cc Motor) Spares		
	80-54	'O' Ring Seal for 160cc Motor) Items		
	665-17	Test Point Valve		
	79-48	'O' Ring Seal) Spares Items		
M1 (Forward)	665-17	Test Point Valve		
	79-48	'O' Ring Seal) Spares Item		
M2 (Reverse)	29671-1	Adaptor 9/16" UNF x 1/4" BSP		
	79-48	'O' Ring Seal)Spares Item		
	28753-5	Orifice		
M3, M5 XA	499-2	Adaptor 9/16" UNF x 1/4" BSP		
	79-48	'O' Ring) Spares Item		
XB	79-48	'O' Ring) Spares Item		
	499-2	Adaptor 9/16" UNF x 1/4" BSP		
	255-11	Swivel Tee		
	457-17	Washer - Sealing	2 Off	
	2565-6	Adaptor G 1/4"		
	665-18	Test point G 1/4"		

Port Fittings

BoM 950412

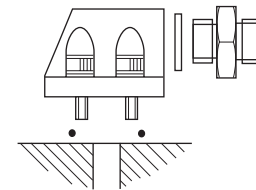
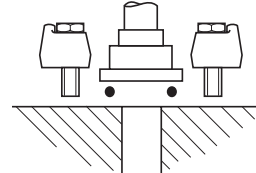
Transmission Pump (Item 4)

Port	Part No.	Description		
A	498-N09	1" H.P. Flange Kit - Comprising:		
	40-74	'O' Ring Seal		1 off
	N.S.S.	Flange Half	) Spares	2 off
	103-58	Bolt 3/8" UNC x 1 1/2"	) Items	4 off
	450-30	Washer - Spring)		4 off
B	498-N09	1" H.P. Flange Kit - Comprising:-		
	40-74	'O' Ring Seal		1 off
	N.S.S.	Flange Half	) Spares	2 off
	103-58	Bolt 7/16" UNC x 1 3/4"	) Items	4 off
	450-30	Washer - Spring)		4 off
X1	499-2	Adaptor 9/16" UNF x G 1/4"		
	79-13	'O' Ring Seal) Spares Item		
L1	499-4	Adaptor 1 1/16" UNF x G 3/4, includes:-		
	79-18	'O' Ring Seal) Spares Item		
L2	499-4	Adaptor 1 5/16" UNF x G 3/4", includes:-		
	79-8	'O' Ring Seal) Spares Item		
M3	499-6	Tee 9/16" UNF x G 1/4" x G 1/4", includes:-		
	79-48	'O' Ring Seal) Spares Item		
S	499-5	Adaptor 1 5/16" UNF x G 1", includes:-		
	80-54	'O' Ring Seal) Spares Item		
M6	665-17	Test Point Valve		
	79-48	'O' Ring Seal) Spares Item		

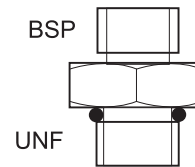


Port Fittings
BoM 950412
Fan Drive Pump (Item 2)

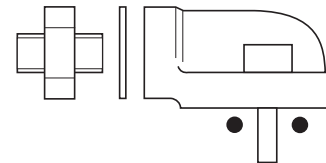
Port	Part No.	Description	Spares Items	Quantity
B	498-N03	1" L.P. Flange Kit - Comprising:-		1 off
	79-78	'O' Ring Seal		2 off
	N.S.S.	Flange Half		4 off
	103-41	Bolt 3/8" UNC x 1 1/2"		
	450-29	Washer - Spring	4 off	
S	802853-1	Adaptor Block		
	79-85	'O' Ring Seal		
	151-115	Cap Hd. Screw 1/2" UNC x 1 1/2"		
	>	450-31	Washer - Spring	
		263-8	Adaptor 1 1/4" BSP	
	451-111	Washing - Sealing		



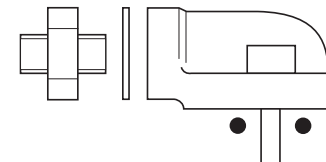
L	499-12	Adaptor 7/8" UNF x G 1/2", includes:-		
	79-8	'O' Ring Seal) Spares Item		
RP	499-1	Adaptor 7/16" UNF x G 1/4", includes:-		
	79-13	'O' Ring Seal) Spares Item		


BoM 950413 and 950414
Sweep Gear Pump (Item 5)

T	262-7	Elbow 1" BSP)	
Inlet	79-34	'O' Ring Seal	) Spares	
(Top)	129-123	Cap Hd. Screw M8c x 20mm	) Items	
	460-10	Washer - Spring M8)	
	265-10	Adaptor 3/4" x 1" BSP		
	451-22	Washer - Sealing 1" BSP		



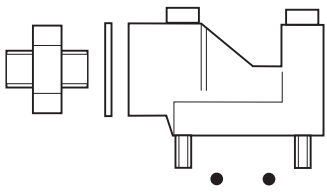
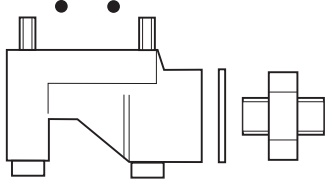
T	262-4	Elbow 1/2" BSP)	
Outlet	79-34	'O' Ring Seal	) Spares	
(Bottom)	129-123	Cap Hd. Screw M8c x 20mm	) Items	
	460-10	Washer - Spring M8)	
	263-4	Adaptor 1/2" BSP		
	451-19	Washer - Sealing 1/2" BSP		



Port Fittings

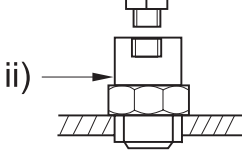
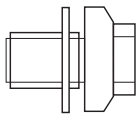
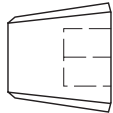
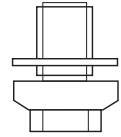
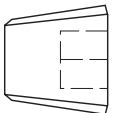

BoM950413

Options Pump (Item 3)

Port	Part No.	Description	
T Outlet (Top)	247-1	Elbow 1/2" BSP	
	79-34	'O' Ring Seal	
	51-55	Cap Hd. Screw	
		5/16" UNC x 2 1/4"	
	450-28	Washer - Spring	
	263-4	Adaptor 1/2" BSP	
	451-19	Washer - Sealing 1/2" BSP	
T Inlet (Bottom)	247-2	Elbow 3/4" BSP	
	79-34	'O' Ring Seal	
	151-55	Cap Hd. Screw	
		5/16" UNC x 2 1/4"	
	450-28	Washer - Spring	
	263-6	Adaptor 3/4" BSP	
	451-21	Washer - Sealing 3/4" BSP	

BoM 950411

Gearbox (Item 1)

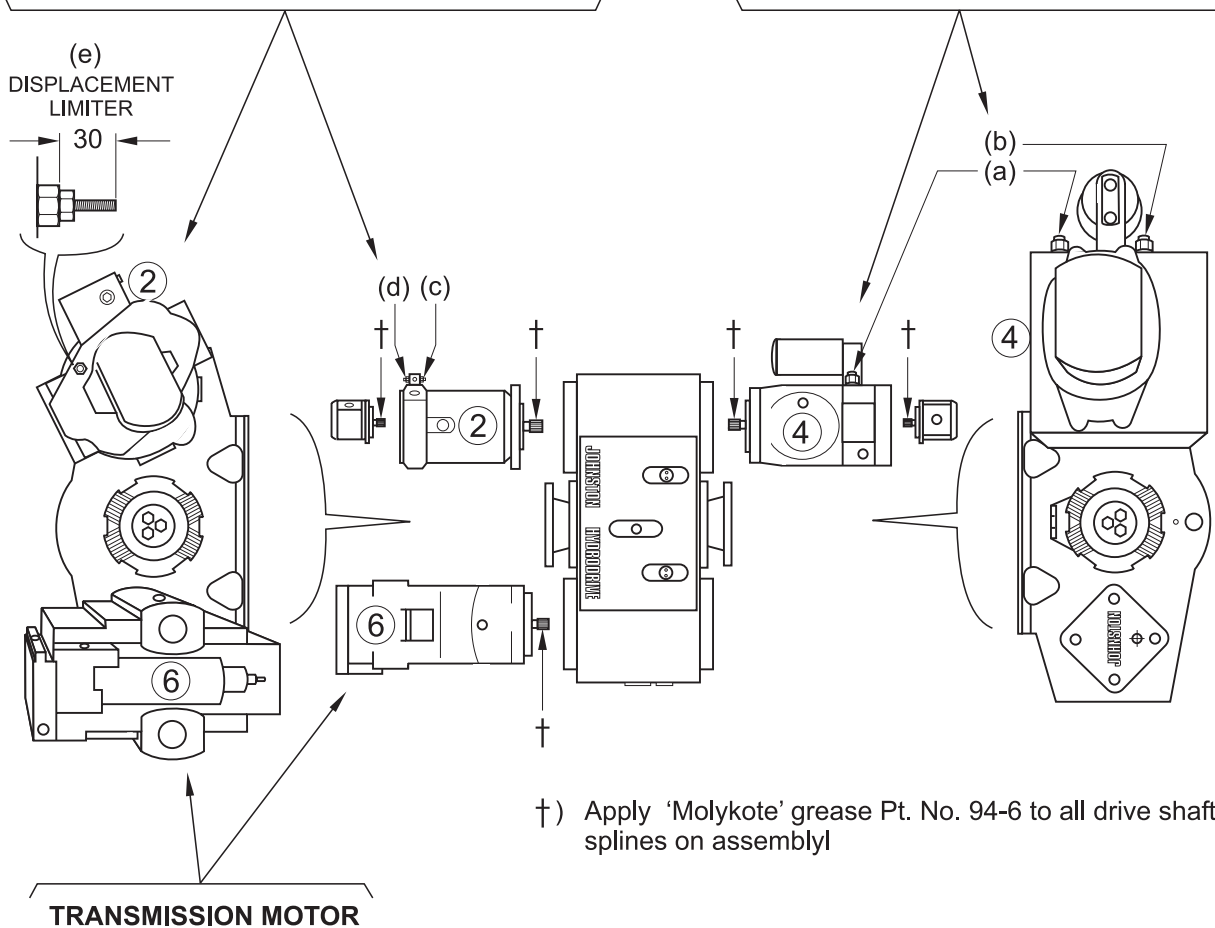
G1	13538	i) Breather	
	41963-1	ii) Adaptor	
	451-18	Washer - Sealing	
G2	7684	Collar Plug 1/2" BSP	
	451-19	Washer - Sealing 1/2" BSP	
G4	5259	Plug 1/8" BSPT - Socket Hd.	
G3, G5	54-50	Magnetic Plug 1/4" BSP	
	451-124	Washer - Copper	
G6	18892	Plug 3/8" BSPT - Socket Hd.	
G7	87-25	Oil Level Gauge	

Settings and Assembly Details
2. FANDRIVE PUMP:-

- c) "Standby" differential pressure setting
- d) Main relief valve maximum pressure setting
- e) Set displacement limiter dimension to 30mm

4. TRANSMISSION PUMP:-

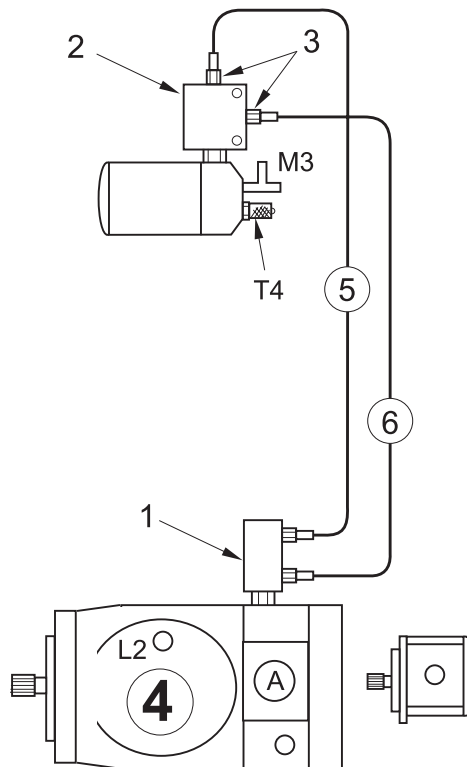
- Charge Pump pre-set to **24 Bar**
- a) Forward drive relief setting **420 Bar**
- b) Reverse drive relief setting **350 Bar**



- Test assembly for leaks
- Test 'free movement' of sliding gears at 1.0 bar maximum air pressure
- Test switches for on/off operation/engagement

95HC. 022

Remote Transmission Filter



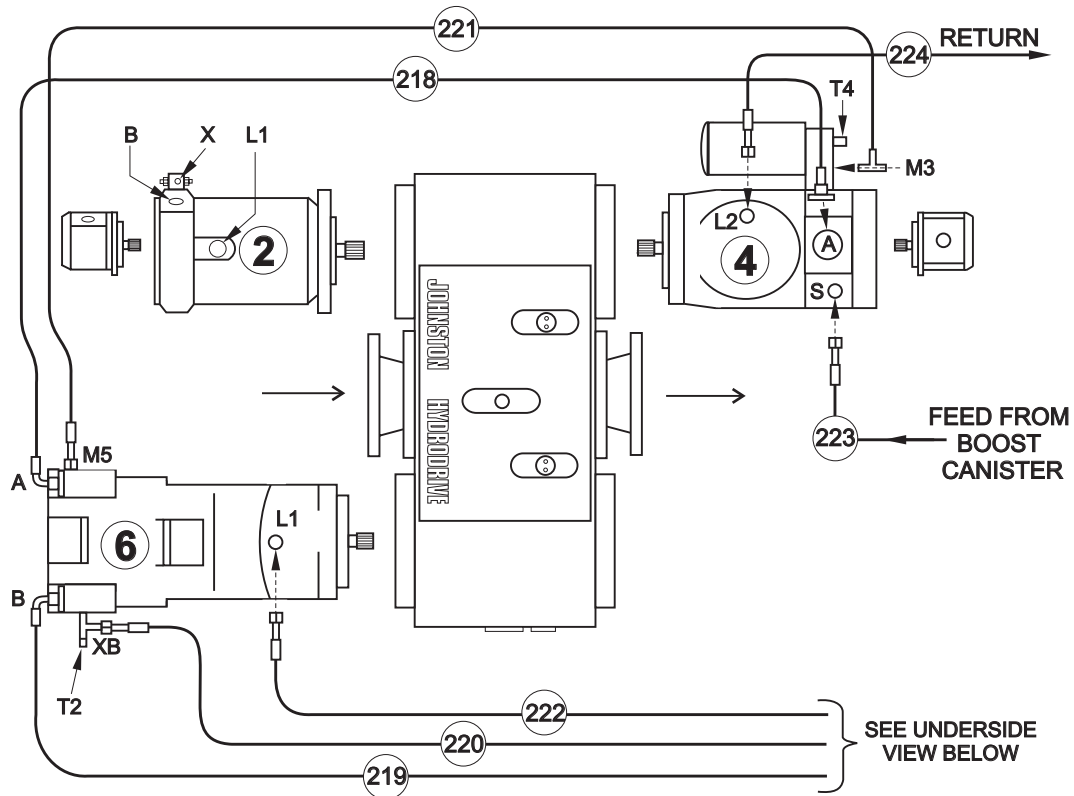
95HT. 025

Item No.	Part No.	Description	Quantity
1	97841-1	Filter Block (Replaces Filter on Pump)	1
2	97840-1	Filter Adaptor Block	1
3	91282-1	Adaptor - Hose	2
4	-	Transmission Pump	1
5	*	Hydraulic Hose	1
5	*	Hydraulic Hose	1

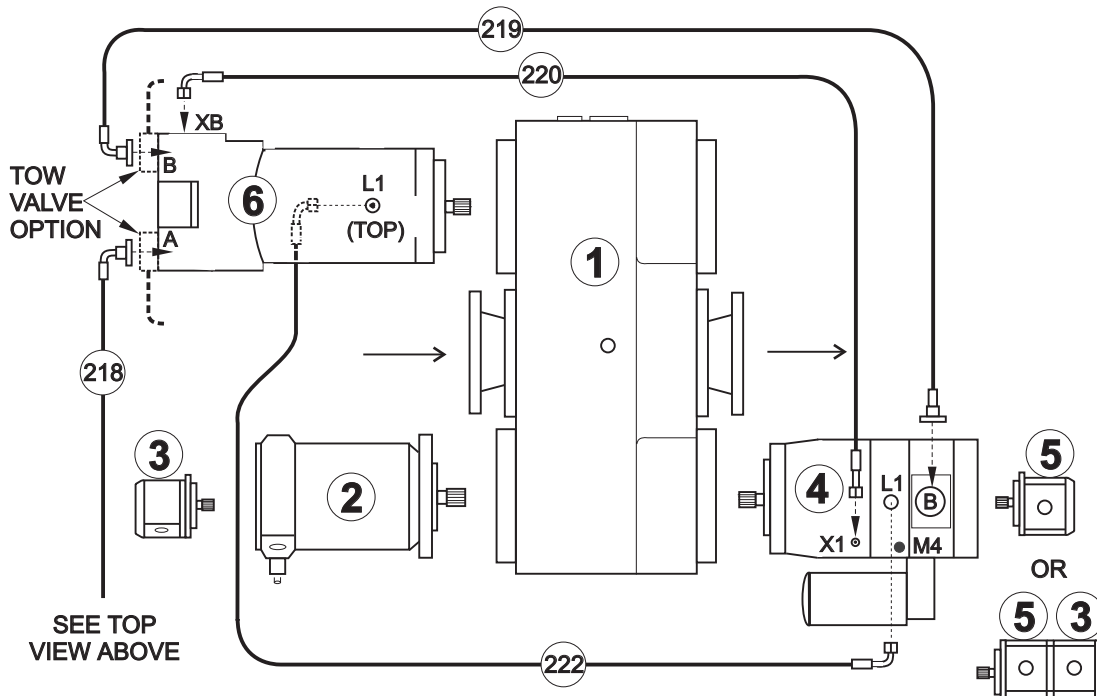
Notes

* Dependent upon chassis application

Hydrodrive Hydraulic Hoses



TOP VIEW



UNDERSIDE VIEW

95HT. 022

- | | | | |
|---|----------------|---|--------------------|
| 1 | Gearbox | 4 | Transmission Pump |
| 2 | Fan Drive Pump | 5 | Sweepgear Pump |
| 3 | Options Pump | 6 | Transmission Motor |

Hydrodrive Hydraulic Hoses

BoM 950414

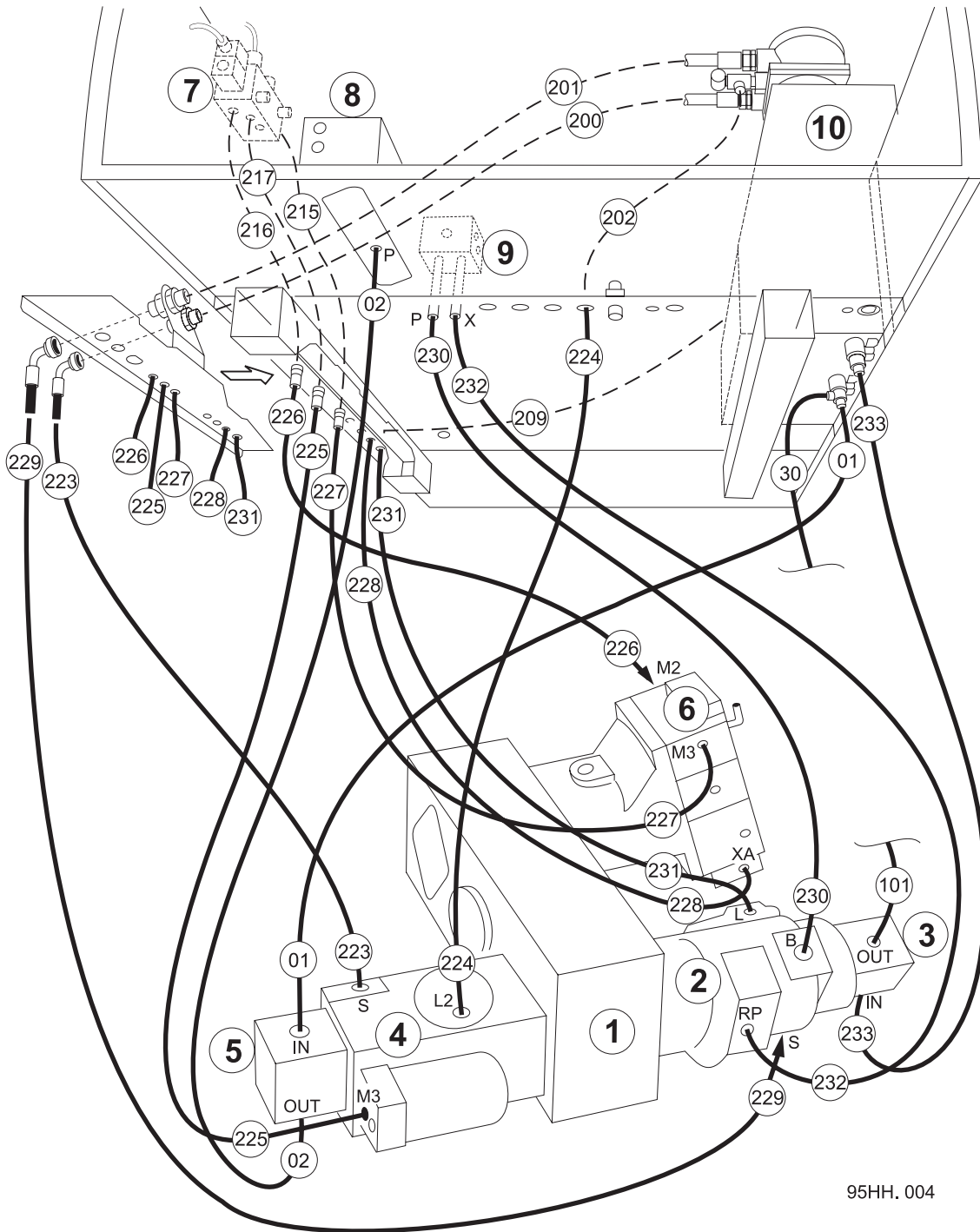
Item No.	Part No.	Description
2	-	Fan Drive Pump
3	-	Options Pump
4	-	Transmission Pump
5	-	Sweepgear Pump
6	-	Transmission Motor
218	HB16148-117-275	1" Hydraulic Hose
219	HB16148-200-275	1" Hydraulic Hose
220	HF04002-140	1/4" Hydraulic Hose
221	HF04002-150	1/4" Hydraulic Hose
222	HE12063-113-310	3/4" Hydraulic Hose
*223	HE16023-170-190	1/4" Hydraulic Hose
*224	HE12002-151	1/4" Hydraulic Hose

Notes

Hose item numbers correspond with those in diagram SH525z01 in Chapter 8 of the Maintenance Section.

*Hoses 223 and 224 see Hydrodrive Transmission Installation diagram over the page.

Hydrodrive Installation



Key - Components with Circuit Diagram references - See Maintenance Section Chapter 8

- | | |
|---------------------------------|--|
| 1. Gear Box | 6. Transmission Motor - SH525z01 |
| 2. Fan Drive Pump - SH524z01 | 7. Antiskid Module - SH525z01 |
| 3. Options Pump - SH528a02 | 8. Sweepgear Valve Block - SH523z01 |
| 4. Transmission Pump - SH525z01 | 9. Fan Drive Valve Block - SH524z01 |
| 5. Sweepgear Pump - SH531b01 | 10. Hydraulic Oil Reservoir - SH521b01 |

Hydrodrive Installation - Hydraulic Hoses

BoM 950414

Item No.	Part No.	Description	Diagram
01	HE16003-300	1" Hydraulic Hose	Hose shown on SH531b01
02	-	See Emergency Discharge Pump - Chapter 28	

BoM 950714

30	-	See Emergency Discharge Pump - Chapter 28	
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BoM 950514

101	-	See Options Pump Valve Block Chapter 28	
200	-		
201	-		
202	-	See Fan Tub Hydraulic Hoses Section 22.HI	
209	-		
215	-		
216	-		
217	-		

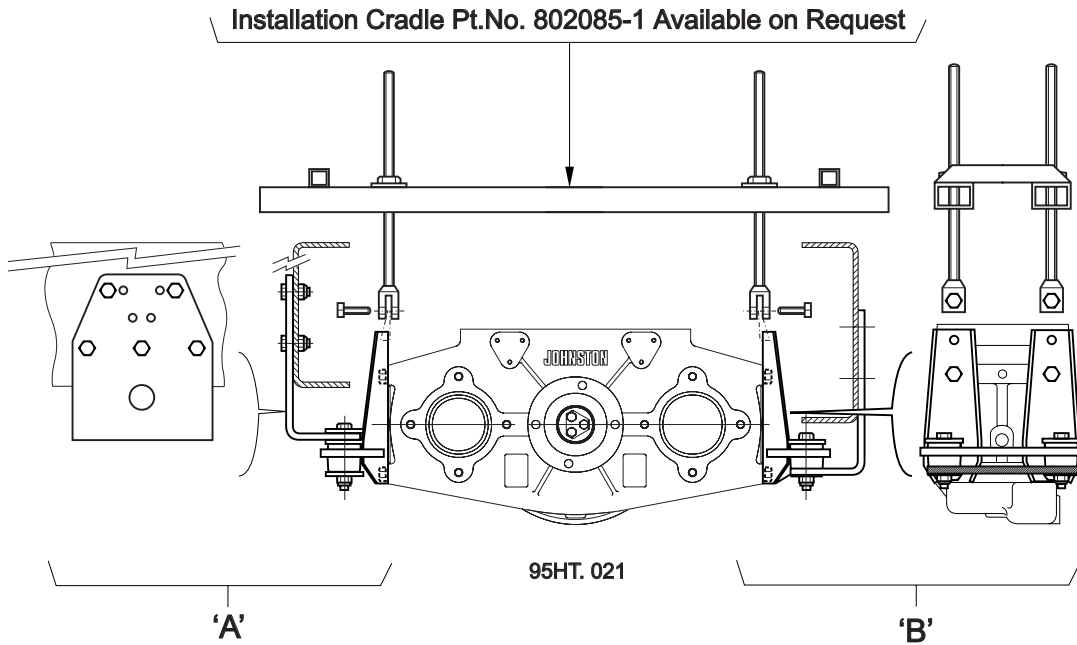
BoM 950414

223	HE16023-170-190	1" Hydraulic Hose	
224	HE12002-151	3/4" Hydraulic Hose	
225	HFO4003-104	1/4" Hydraulic Hose	These hoses are shown on SH525z01
226	HFO4003-114	1/4" Hydraulic Hose	
227	HFO4003-114	1/4" Hydraulic Hose	
228	HFO4003-114	1/4" Hydraulic Hose	
229	HE20001-214	1 1/4" Hydraulic Hose	
230	HF12307-100	3/4" Hydraulic Hose	These hoses are shown on SH525z01
231	HCO8002-78	1/2" Hydraulic Hose	
232	HFO4002-124	1/4" Hydraulic Hose	
233	HE16001-75	1" Hydraulic Hose	

Notes

See Maintenance Section Chapter 8 for Hydraulic Diagrams.

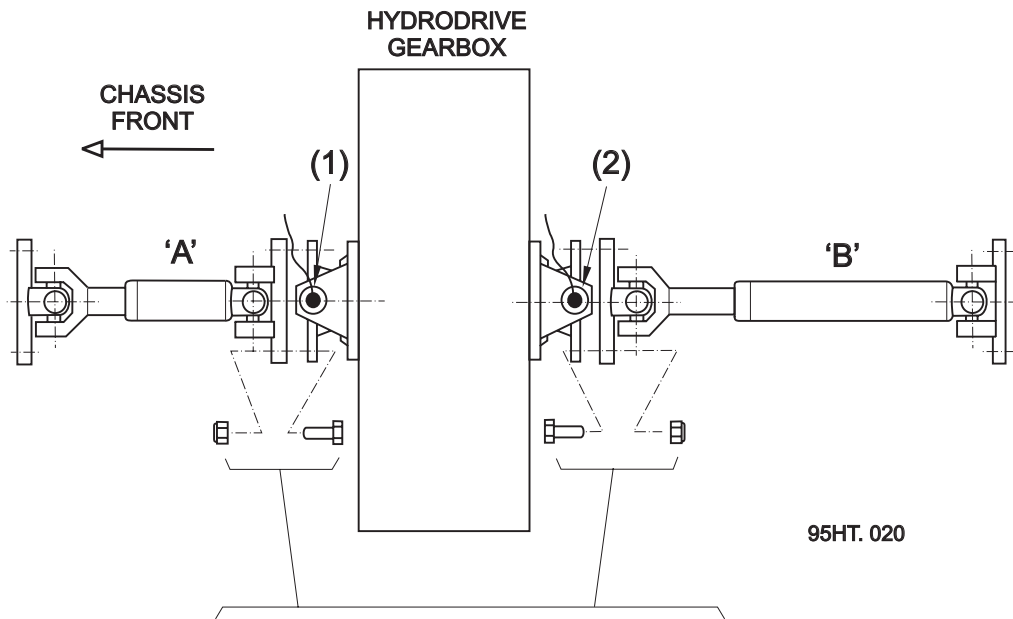
Gearbox installation



A - Some chassis have below bracket mounting
 B - Some chassis have above bracket mounting

Chassis	Installation Drawing
Mercedes 13/5	807520
AF LF-55-220 & 180	806622
MAN 15	808226
Renault 12	807979

Prop Shafts & Sensors



- 124-109 Setscrew M12 x 50 8 off
- 426-6 Nut M12 Philidas 8 off

Torque to 117 Nm (86 lbf)

Chassis

A & B Propshaft Drawing Ref.

Mercedes 13/5	807383
DAF LF-55-220 & 180	806884
MAN 15	808225
Renault 12	807907

Sensors

Item No	Part No.	Description
1	280856-1	Engine Speed Sensor Assembly
	282810-1	Mounting Bracket
2	280856-1	Road Speed Sensor Assembly
	282424-1	Mounting Bracket



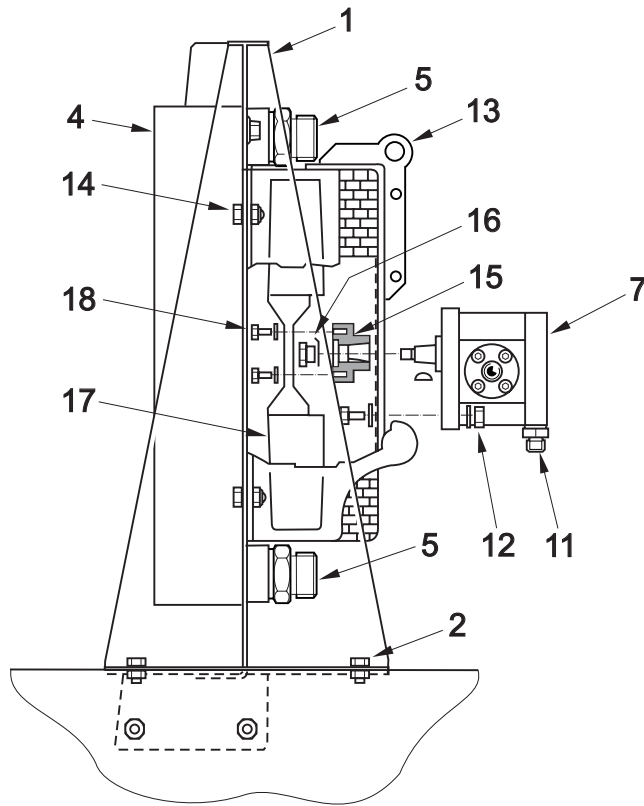
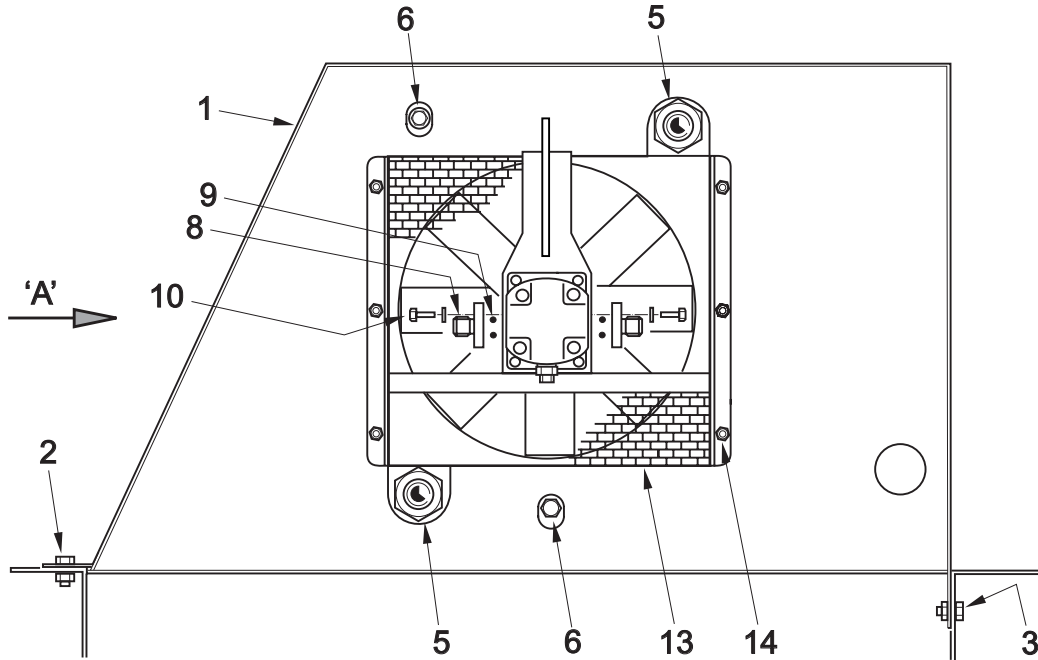
22.HI

Hydrostatic Impeller Drive, Cooler and Controls

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Section	Page
Oil Cooler Assembly	
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Oil Cooler and Fan Installation



VIEW ON ARROW 'A'

95HC. 023

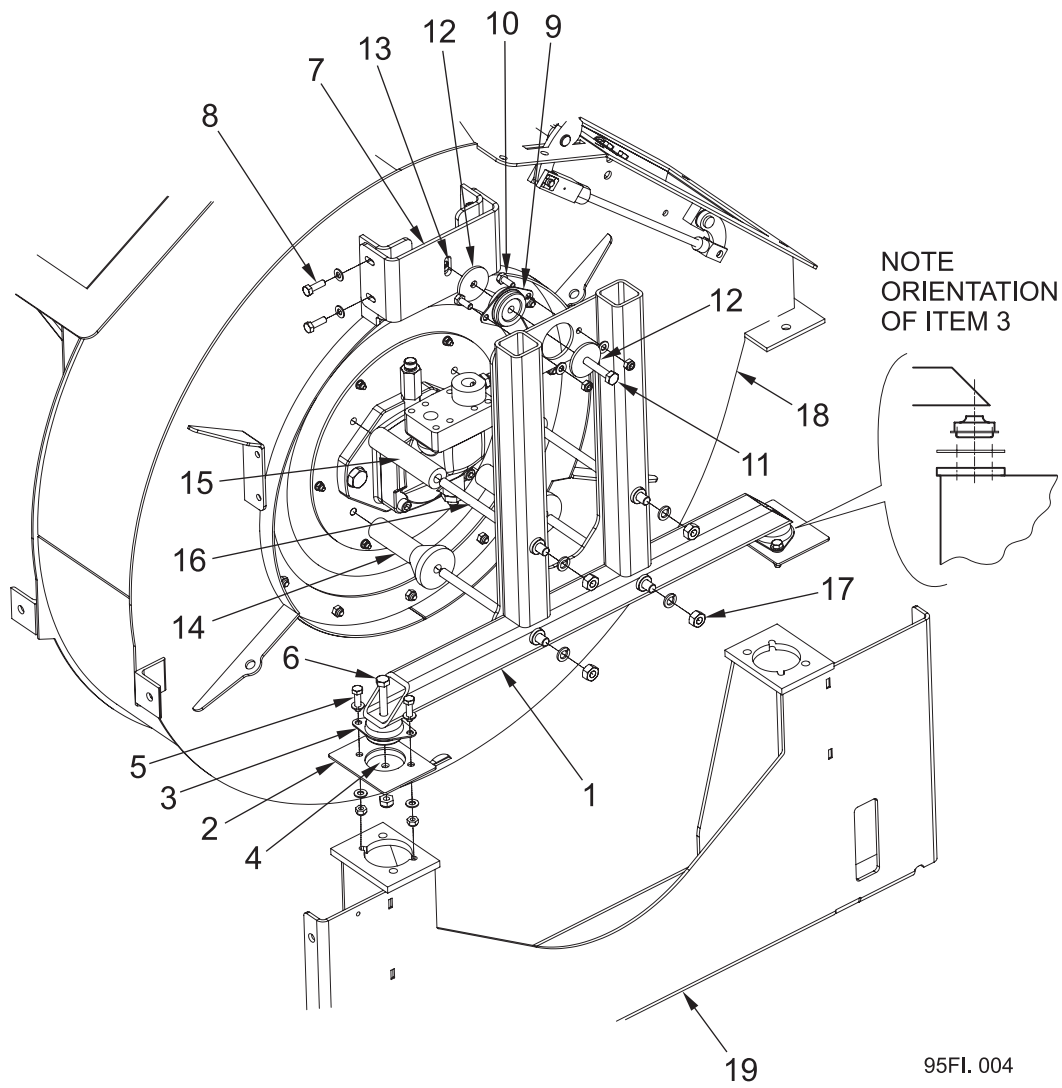
Oil Cooler and Fan Installation

Bom 950511

Item No.	Part No.	Description	Quantity
1	66075-1	Oil Cooler Shroud	1
2	124-167	Screw M10 x 20	2
	460-11	Washer - Spring	2
3	124-167	Screw M10 x 20	2
	425-15	Nut - Nyloc M10	2
4	90536-1	Oil Cooler	1
5	265-11	Adaptor 1 1/4" BSP x 1" BSP	2
	451-111	Washer - Sealing 1 1/4" BSP	2
> 6	54-3	Plug - With Integral Seal	2
7	70540-1	Oil Cooler Motor	1
8	90549-1	Adaptor - Special	2
9	79-34	'O' Ring	2
10	151-50	Capscrew 5/16" UNC x 3/4"	8
	450-28	Washer - Spring 5/16"	8
11	263-2	Adaptor 1/4" BSP	1
	451-17	Washer - Sealing	1
12	124-141	Screw M8 x 35	4
	460-10	Washer - Spring	4
13	90532-1	Motor Mount and Shroud	1
14	124-137	Screw m8 X 25	6
	425-14	Nut - Nyloc M8	6
15	90517-1	Boss - Fan Drive	1
16	42816-1	Nut	1
	12405	Tab Washer	1
17	90829-1	Cooling Fan	1
18	124-103	Screw M6 x 20	4
	460-8	Washer - Spring	4

Notes

Fan Drive Mount Assembly



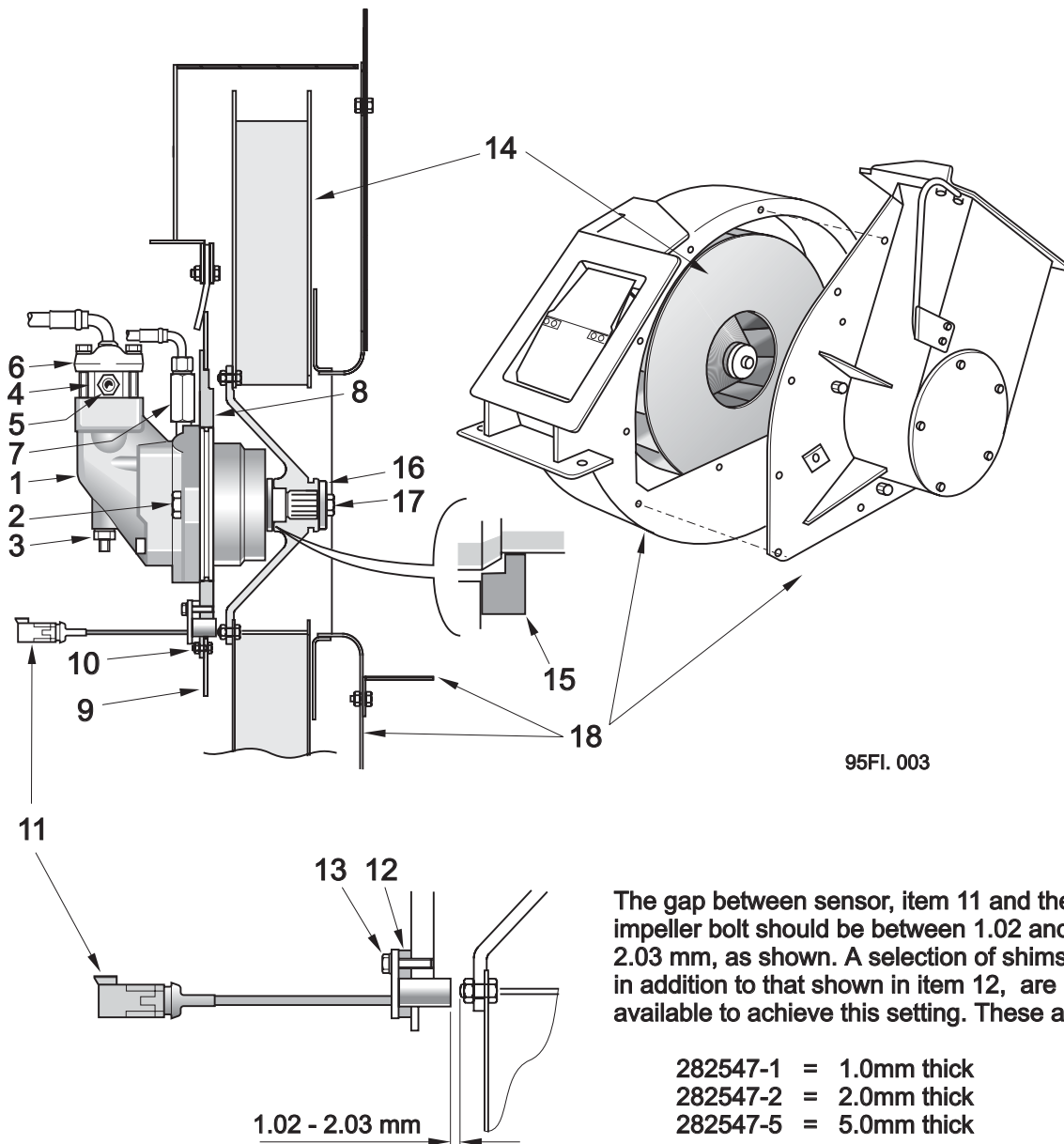
Fan Drive Mount Assembly

BoM 950513, Drg: 282415-1

Item No.	Part No.	Description	Quantity
1	282405-1	Fan Drive Frame	1
2	282407-1	Adaptor Plate	1
3	290-26	Anti-vibration Mount	2
4	282885-1	Rebound Washer	2
5	124-139	Screw M8 x 30	4
	460-10	Washer - Spring M8	4
	455-10	Washer - Plain M8	4
	425-14	Nut - Nyloc M8	4
6	123-131	Bolt M10 x 55	2
	425-15	Nut - Nyloc M10	2
>	457-5	Washer - Large M10	2
7	282408-1	Top Mount Plate	1
8	124-135	Screw M8 x 20	4
	455-10	Washer - Plain	4
9	290-29	Anti-vibration Mount	1
10	124-135	Screw M8 x 20	2
	455-10	Washer - Plain M8	2
	425-14	Nut - Nyloc M8	2
11	123-132	Bolt M10 x 60	1
12	282885-1	Rebound Washer	2
13	457-5	Washer - Large M10	1
	425-15	Nut - Nyloc - M10	1
14	66049-1	Spacer - Tapered	2
15	66048-1	Spacer - Parellel	2
16	66071-1	Stud M12 x 215	4
17	420-16	Nut M12	4
	460-12	Washer - Spring M12	4
18	-	Fancase - See Section 22.CP	
19	-	Rear Cradle - See Section 22.CP	

Notes

Fan Drive Motor Installation



Fan Drive Motor Installation

BoM 950513

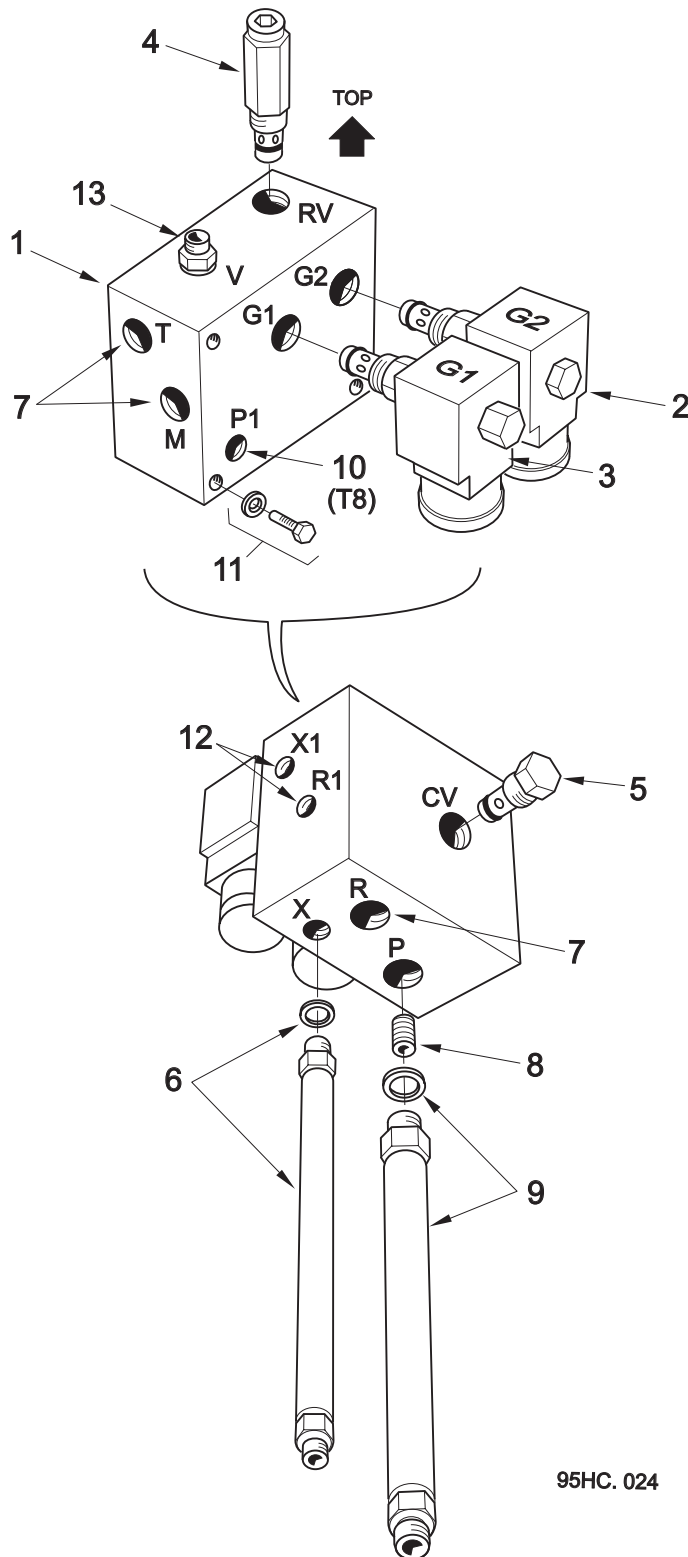
Item No.	Part No.	Description	Quantity
1	78184-1	Fan Motor	1
2	124-269	Screw M16 x 35	2
3	90949-1	Adaptor - Vent Line	1
	451-8	Washer - Sealing	1
4	29667-1	Adaptor	2
	79-32	'O' Ring	1
5	263-2	Adaptor 1/4" BSP	1
	451-17	Washer - Sealing	1
> * 6	498-N08	Flange Kit - See notes below	2
7	66104-1	Adaptor 3/8" x M14	1
	451-112	Washer - Spring	1
8	66072-2	Motor Mount	1
9	66073-1	Mask	1
10	124-103	Screw M6 x 20	6
	460-8	Washer - Spring	6
	425-13	Nut - Nyloc M6	6
11	280856	Speed Sensor	1
12	282547-10	Shim x 10 Thick	1
13	124-109	Bolt M6 x 35	1
	460-8	Washer - Spring	1
14	280830-2	Fan Impeller x 800 Dia	1
15	78401-1	Spacer	1
16	78404-1	Washer	1
17	124-205	Screw M12 x 35	1
	460-12	Washer- Spring	1
18	-	Fan Case and Fittings - See VT/VS Section 22:CP	

Notes

> * Bolts and washers supplied with Flange Kits item 6 must be replaced with the following:-

123-131	Bolt M10 x 55 - Port 'A' (with adaptor item 4)	4 off
123-128	Bolt M10 x 40 - Port 'B'	4 off
460-11	Washer - Spring	8 off

Fan Drive Block



95HC. 024

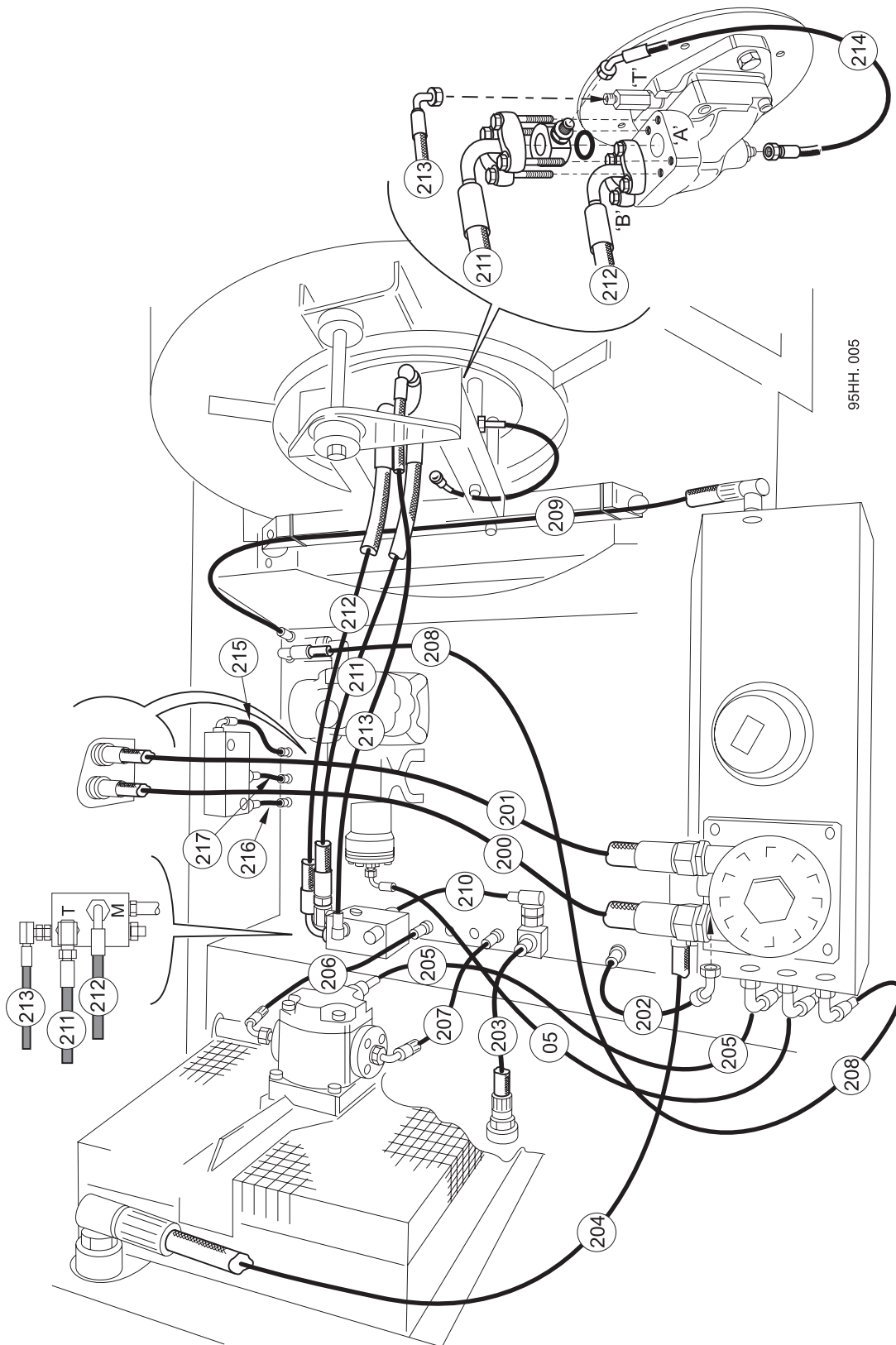
Fan Drive Block

Item No.	Part No.	Description	Quantity
	90875-2	Valve Block Assembly - 12v	
	90875-1	Valve Block Assembly - 24v	
1	29542-1	Block	1
2	90261-2	Solenoid Valve NC - 12v (Coil 254-4)	1
	90261-1	Solenoid Valve NC - 24v (Coil 254-3)	1
3	90262-2	Solenoid Valve NO - 12v (Coil 254-4)	1
	90262-1	Solenoid Valve NO - 24v (Coil 254-3)	1
4	90264-1	Relief Valve Cartridge	1
5	90265-1	Check Valve Cartridge	1
6	281712-1	Extention Pipe 1 1/4" BSP	1
	451-17	Washer - Sealing 1/4" BSP	1
7	263-6	Adaptor 3/4" BSP	3
	451-21	Washer - Sealing 3/4" BSP	3
8	28753-3	Orifice	1
9	281649-1	Extention Pipe 3/4" BSP	1
	451-17	Washer - Sealing 3/4" BSP	1
10	665-6	Test Point Valve	1
	451-4	Washer - Sealing 1/8" BSP	1
11	124-132	Setscrew M8c x 12mm	3
	460-10	Washer - Spring	3
12	5104	Collar Plug 1/8" BSP	2
	451-4	Washer - Sealing 1/8" BSP	2
13	265-2	Adaptor 3/8" x 1/4" BSP	1
	451-17	Washer - Sealing 1/4" BSP	1

'O' Ring Seal Kit for items 2 - 5

Notes

Fan Tub - Hydraulic Hoses



95HH.005

Fan Tub - Hydraulic Hoses

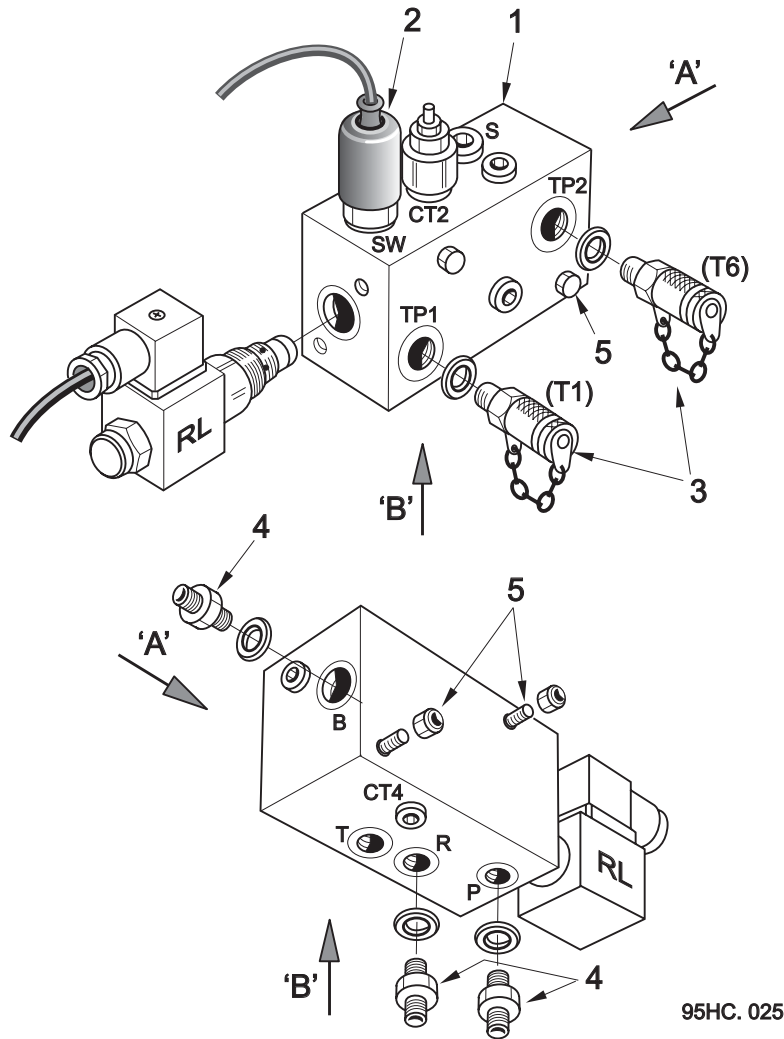
BoM 950514

Item No.	Part No.	Description	Diagram
200	HE20000-108	1/4" Hydraulic Hose	These hoses are shown on SH521b01
201	HE16000-108	1" Hydraulic Hose	
202	HE12001-68	3/4" Hydraulic Hose	
203	HE16003-90	1" Hydraulic Hose	
204	HE16000-65	1" Hydraulic Hose	
208	HCO4002-180	1/4" Hydraulic Hose	
05	HCO4002-105	1/4" Hydraulic Hose	These hoses are shown on SH522/523z01
205	HCO4003-85	1/4" Hydraulic Hose	
206	HCO8002-75	1/2" Hydraulic Hose	
207	HCO8002-75	1/2" Hydraulic Hose	
209	HCO8003-135	1/2" Hydraulic Hose	These hoses are shown on SH524z01
210	HE12003-42	3/4" Hydraulic Hose	
211	HF12011-101	3/4" Hydraulic Hose	
> 212	HF12052-102-270	3/4" Hydraulic Hose	
213	HCO6002-113	3/8" Hydraulic Hose	
214	HCO4001-45	1/4" Hydraulic Hose	
215	HFO4002-41	1/4" Hydraulic Hose	These hoses are shown on SH525z01
216	HFO4000-34	1/4" Hydraulic Hose	
217	HFO4000-34	1/4" Hydraulic Hose	

Notes

See Maintenance Section Chapter 8 for Hydraulic Diagrams.

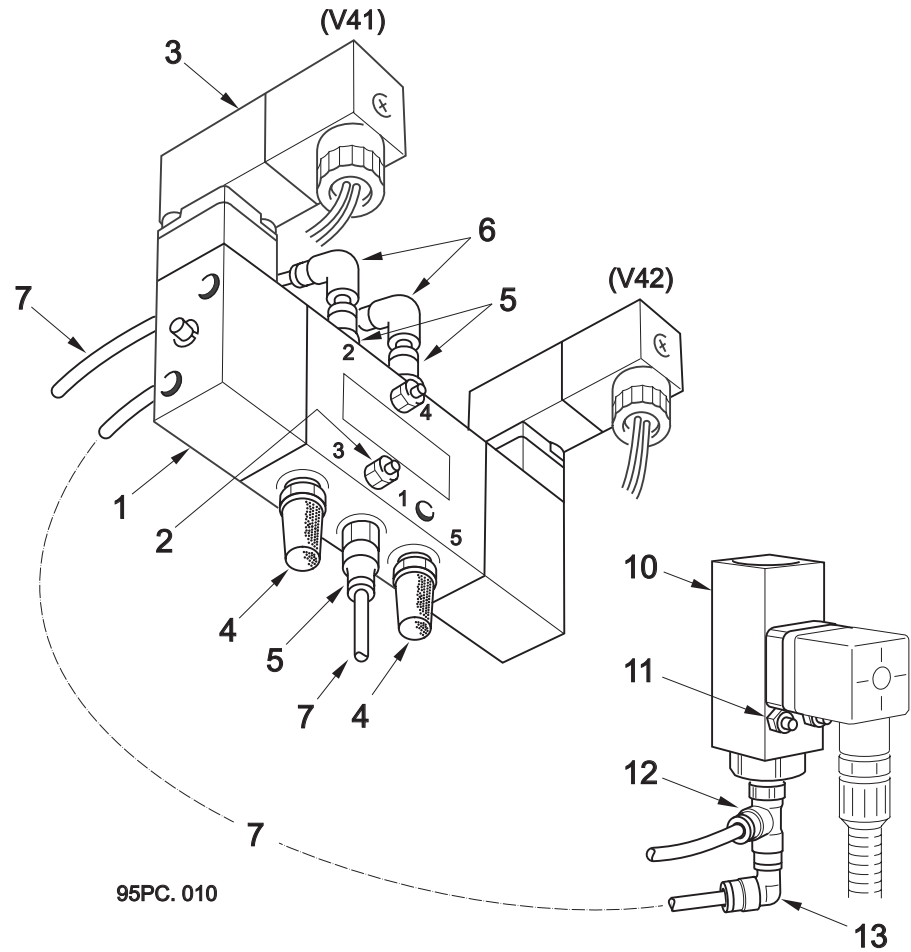
Antiskid Module



BoM 950511

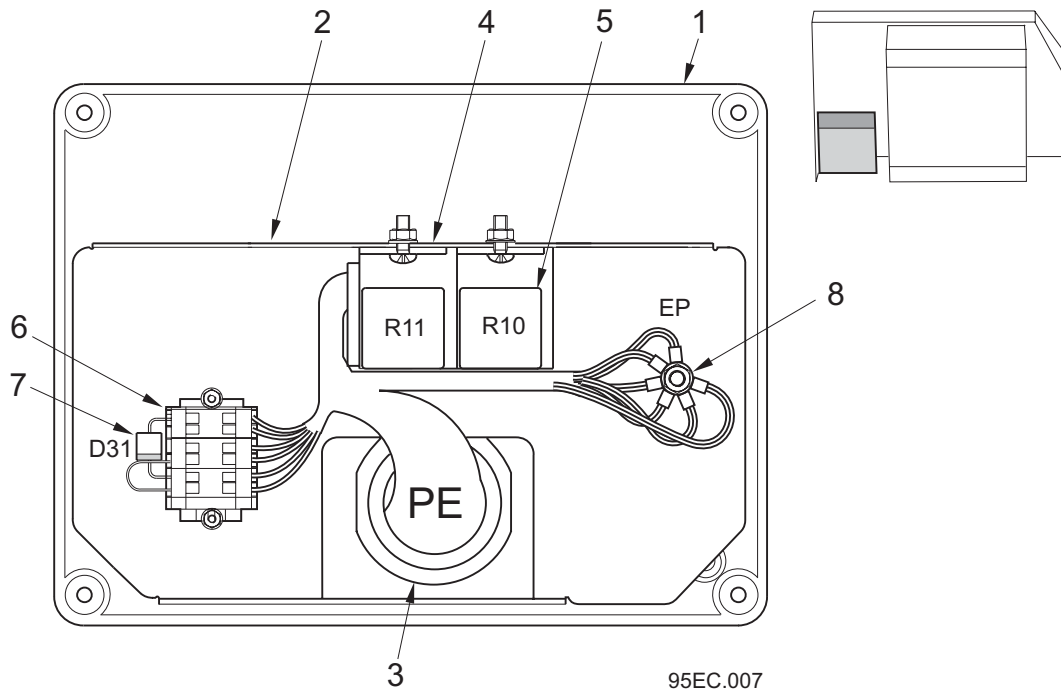
Item No.	Part No.	Description	Quantity
1	66110-1	Antiskid Manifold Assembly 24v	1
	66110-2	Antiskid Manifold Assembly 12v	1
2	70849-1	Brake Light Switch	1
	451-17	Washer - Sealing	1
3	665-17	Test Point Valve 9/19" UNF	2
4	263-2	Adaptor 1/4" BSP	3
	451-17	Washer - Sealing	3
5	124-148	Screw M8 x 65	2
	425-14	Nut - Nyloc M8	2

Hydrodrive Selector Valve & HWE Switch



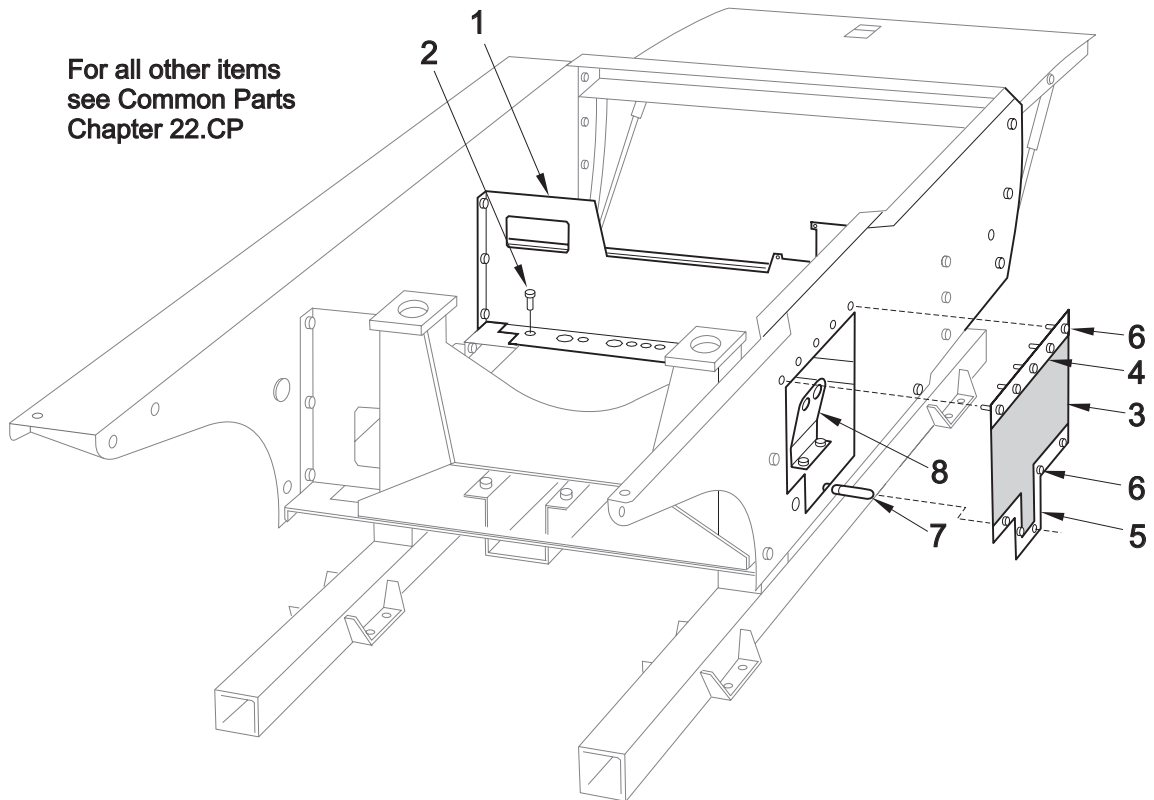
BoM 950511

Item No.	Part No.	Description	Quantity
1	72-21	Hydrodrive Selector Valve	1
2	124-75	Screw M5 x 30	2
	425-12	Nut - Nyloc M5	2
3	72-22	Coil - 24v	
4	72-17	Silencer	2
5	537-3	Adaptor 1/8" BSP x 06	3
6	551-1	Stem Elbow Ø6	2
7	273-20	Tube Ø6 - Blue	As required
8, 9	-		
10	72-52	HWE Air Switch	1
> 11	129-74	Screw - Cap Head M5 x 45	2
	425-12	Nut - Nyloc M5	2
12	540-3	Tee x Ø6	1
13	551-1	Stem Elbow x Ø6	1

Management Box

BoM 950511

Item No.	Part No.	Description	Quantity
	282135-1	Hydro Management Box 12v	
	282135-2	Hydro Management Box 24v	
1	282122-1	Box and Lid	1
	134-44	Screw Pan Head M4 x 20	4
	425-11	Nut - Nyloc M4	4
2	282125-1	Mounting Plate	1
3	710-67	HDP 31 Way Socket Housing	1
	710-70	Jam Nut	1
	281545-2	Sealing Washer	1
4	48-89	Relay Base	2
5	13193	Relay 12v Type 6RA	2
	13194	Relay 24v Type 6RA	2
6	30-256	Terminal Block - 4 Way	3
	30-254	Terminal Block - End Plate	1
7	13984	Diode 6 Amp	1
8	124-73	Screw M5 X 25	1
	460-7	Washer - Spring	1
	420-12	Nut M5	1
	455-7	Washer Plain	1
	425-12	Nut Nyloc M5	1

Fan Tub VS Parts Only



For all other items
see Common Parts
Chapter 22.CP

BoM 950511

Item No.	Part No.	Description	Quantity
1	281695-1	Rear Panel - System Locker	1
2	124-272	Screw M16 x 45	2
	460-14	Washer - Spring	2

BoM 950512

	282816-2	Valance Access Hatch comprising items 3 to 7	
3	282803-1	Neoprene Flap	1
4	282804-1	Securing Plate	1
5	282802-1	Tension Plate	1
6	124-135	Bolt M8 x 20	8
	455-10	Washer - Plain	8
	425-14	Nut - Nyloc M8	8
7	283-36	Drop - Loc Bolt	1
	455-10	Washer - Plain	1
	425-14	Nut - Nyloc M8	1
8	281922-1	Bracket - Hose Support	1
	124-137	Screw M8 x 25	2
	455-10	Washer - Plain	2
	425-14	Nut - Nyloc M8	2

CHAPTER

23

Systems Locker

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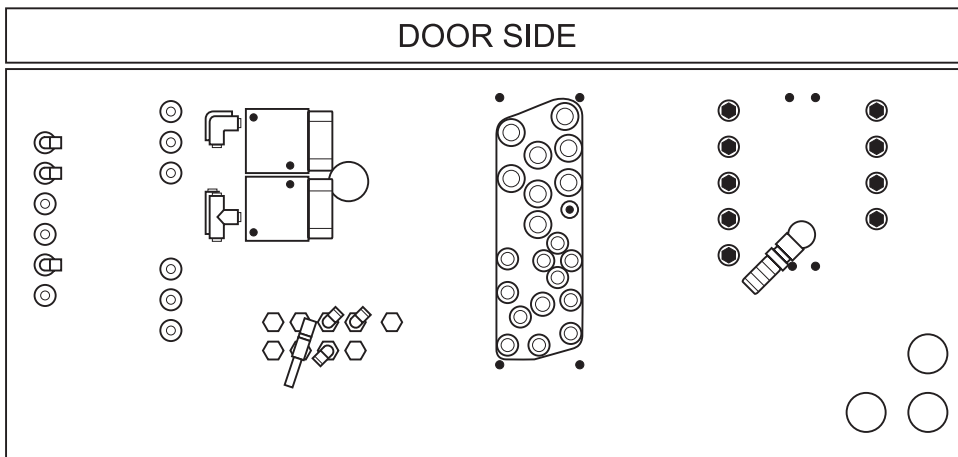
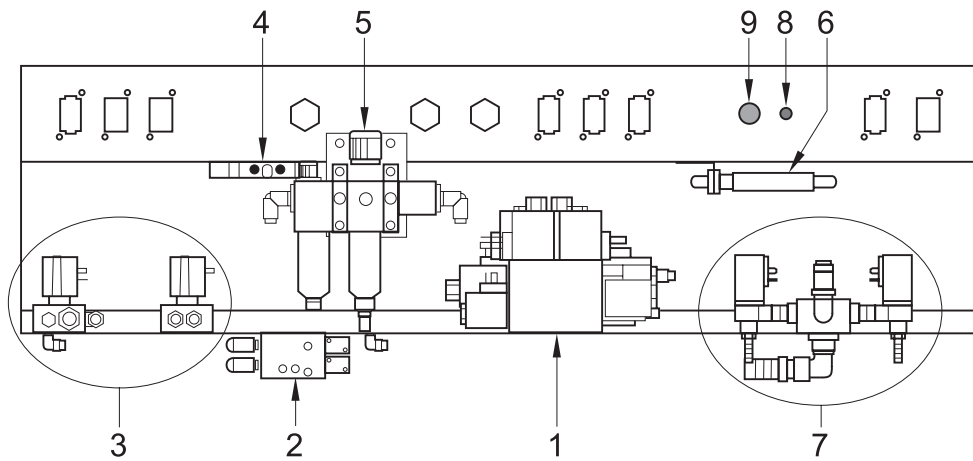
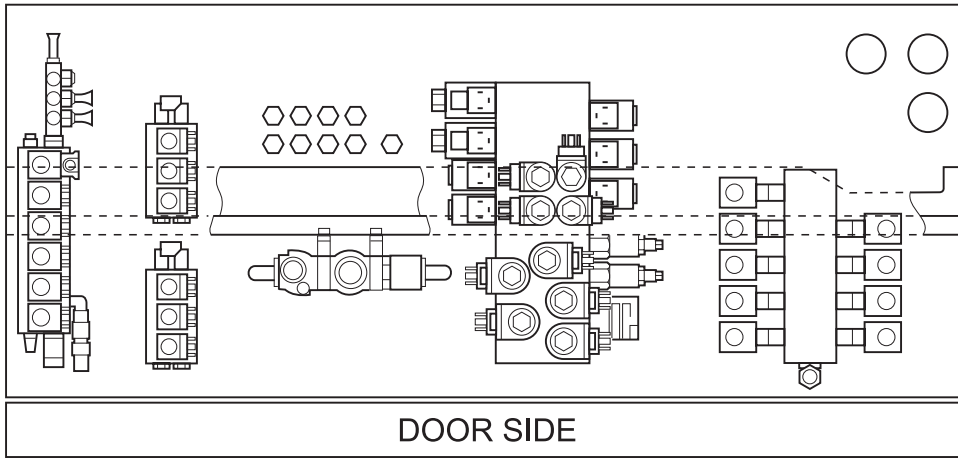
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Systems Locker

Systems Wafer Assembly
Systems Locker Enclosure

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Systems Wafer Assembly



95SL. 003-2

Systems Wafer Assembly

Base Assemblies

Part No.	Description
950912-001	Wafer Assembly - 12v Single
950912-002	Wafer Assembly - 12v Dual
950912-003	Wafer Assembly - 24v Single
950912-004	Wafer Assembly - 24v Dual

Options Assemblies for:

Recirculating Water and Autoloc Cylinders

950912-009	Wafer Assembly - 12v Single
950912-010	Wafer Assembly - 12v Dual
950912-011	Wafer Assembly - 24v Single
950912-012	Wafer Assembly - 24v Dual

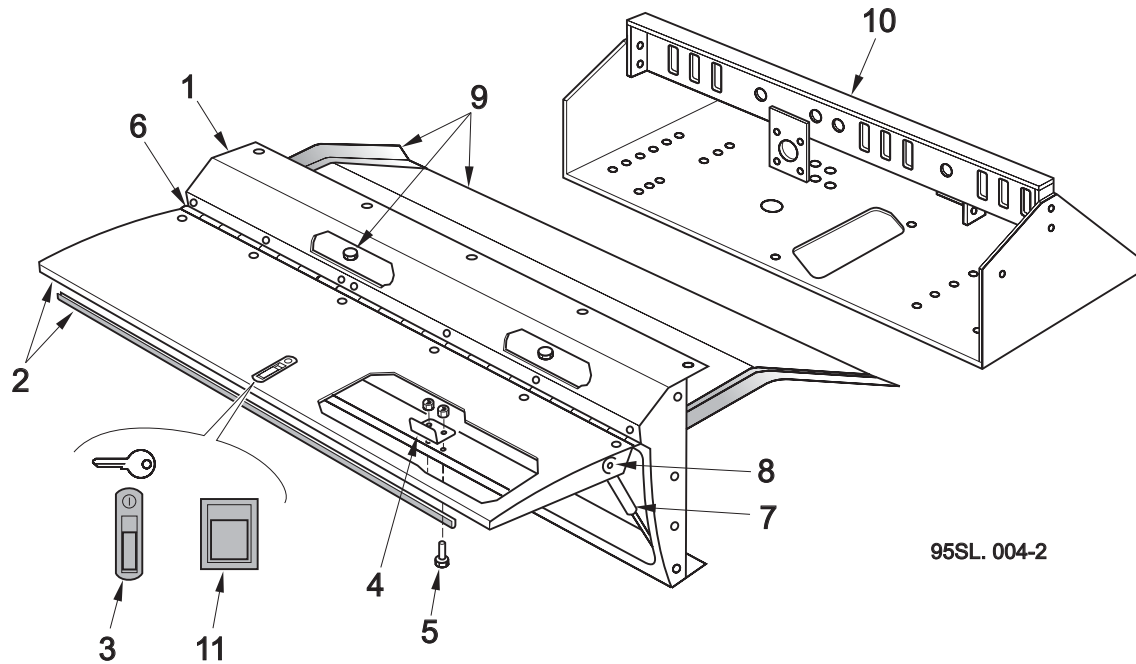
Components

Item No.	Part No.	Description	See Chapter
1	-	Main Hydraulic Valve Block	28
2	200576-1	Channel Brush Control Module	-
3	-	Pneumatic Valve Assemblies	29
4	-	WSB Selector Valve (PV51)	29
5	-	FRL Unit	29
6	-	Pressadrain Purge Block (WDT)	29
7	-	Water Manifold Assembly	30
> 8		Thermal Trip:-	
	30-297	MCB Cutout - 12v = 50Amp	-
	30-292	MCB Cutout - 24v = 30Amp	-
> 9		Emergency Discharge Pump Switch comprising:-	
	99-67	Button	1
	99-2	Body	1
	99-4	Contact	1

Notes

Wiring Looms - Spares Items

- > Looms for the Wafer pneumatic, hydraulic and water control systems are shown in Chapter 31.

Systems Locker Enclosure


95SL. 004-2

BoM 950512

Item No.	Part No.	Description	Quantity
	282868-1	Frame and Door Assembly, comprising items 1 to 8	1
1	281660-1	Locker Frame	1
2	282869-1	Locker Door - Systems	1
	211-33	Edge Trim x 1m	1
3	211-34	Latch	1
	211-35	Latch Key	2
4	28287-1	Latch Plate	1
5	135-91	Button Head Screw M6c x 20	2
	425-13	Nut - Nyloc M6	2
6	42597-5	Hinge	1
	134-41	Screw Pozidrive M4 x 10	12
	425-11	Nut - Nyloc M4	12
7	39435	Gas Spring	2
8	420-12	Nut M5	2
9	-	Cover Plate, Screws and Rubber Seals See Chapter 22 - Powapak Sections	
10	-	Wafer Assembly - see previous page	
11	720-2	Superseded Latch - Non Lockable, available as a spares item. Does not fit current door.	

CHAPTER

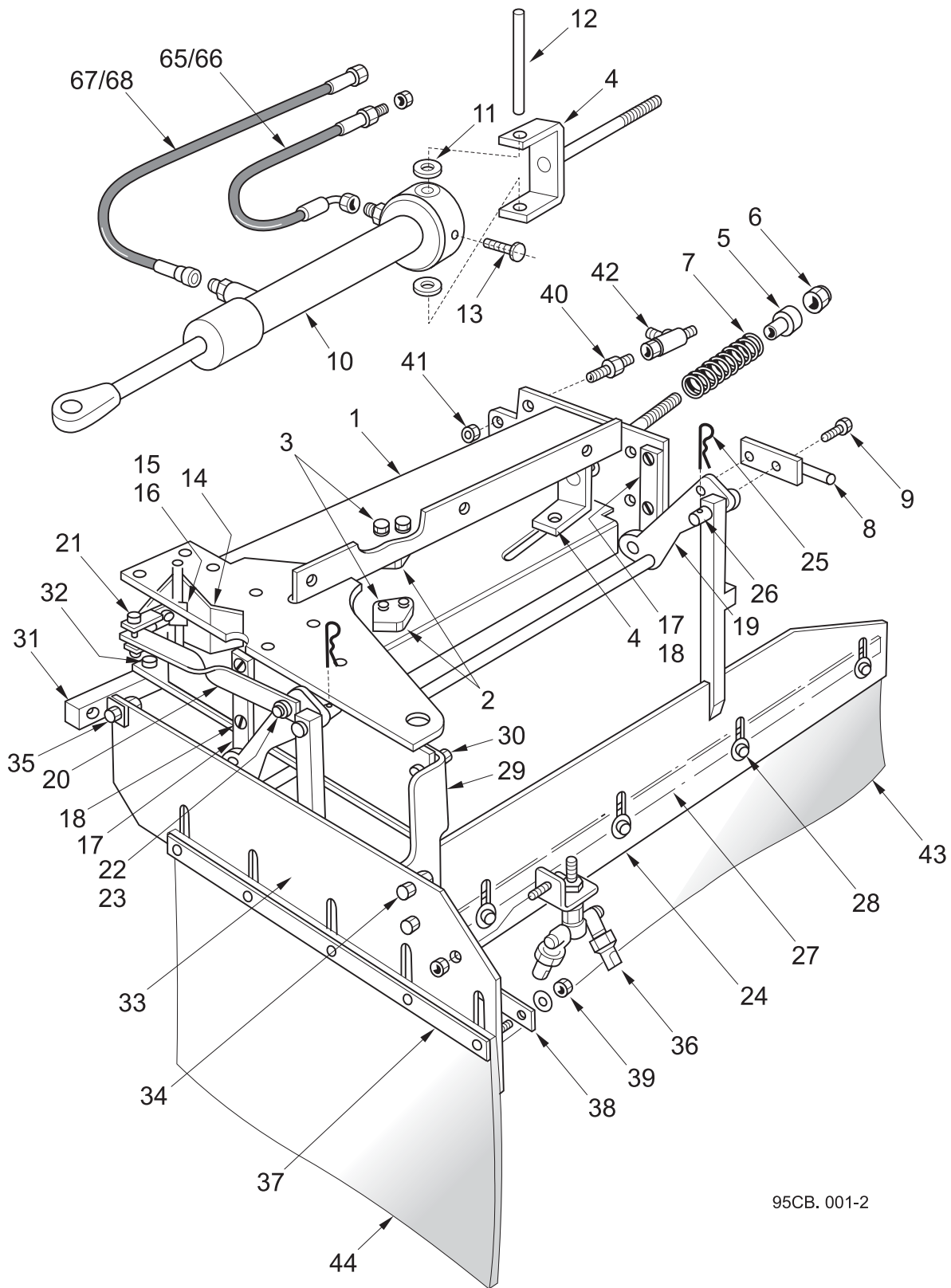
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Channel Brush

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Channel Brush - Pivot Frame Assembly



95CB.001-2

Channel Brush - Pivot Frame Assembly

BoM 951211

Item No.	Part No.	Description	Quantity	
			Single	Dual
1	200075-1	Pivot Frame	1	2
> 2	281587-1	Stop	2	4
3	124-169	Screw M10 x 25	4	8
	460-11	Washer - Spring M10	4	8
4	67348-1	Fork	1	2
5	41911-1	Washer - Kick Back Spring	1	2
6	425-18	Nut - Nyloc M16	1	2
7	41895-2	Compression Spring	1	2
8	40295-1	Nozzle Tow Pin	1	2
9	123-146	Screw M12 x 40	2	4
	425-16	Nut - Nyloc M12	2	4
10	281601-1	Cylinder	1	2
11	40421-1	Spacer	2	4
12	40420-1	Pin	1	2
13	123-109	Bolt M8 x 45	1	2
14	800678-1	Lever - Brush Curtain	1	2
15	40384-1	Catch	1	2
16	124-103	Screw M6 x 20	1	2
	460-8	Washer - Spring M6	1	2
	420-13	Nut M6	1	2
17	200051-1	Davit Hinge	2	4
18	127-139	Screw - Csk M8 x 30	4	8
	460-10	Washer - Spring M8	4	8
	420-14	Nut M8	4	8
19	200046-1	Davit	1	2
20	40382-1	Link	1	2
21	40383-1	Bush - Curtain	1	2
	124-143	Screw M8 x 40	1	2
22	40385-1	Link Retaining Pin	1	2
23	124-141	Screw M8 x 35	1	2
	460-10	Washer - Spring M8	1	2
	420-14	Nut M8	1	2
24	200050-1	Curtain	1	2
25	63582-1	Curtain Quick Release Pin	2	4
26	289-27	Spring Clip	2	4
27	62454-1	Clamp Strip	1	2
28	124-169	Screw M10 x 25	5	10
	457-5	Washer - Plain M10	5	10

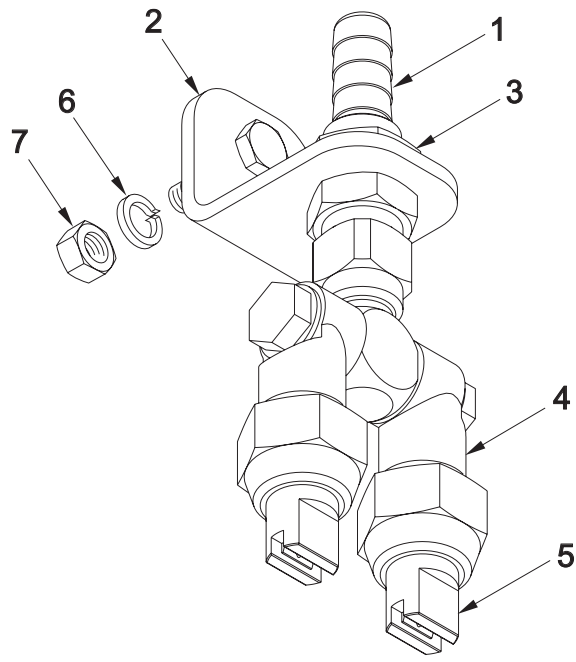
Channel Brush - Pivot Frame Assembly

Item No.	Part No.	Description	Quantity	
			Single	Dual
29	62822-1	Bracket - Mudflap Mounting	1	2
30	124-169	Screw M10 x 25	2	4
	460-11	Washer - Spring M10	2	4
	420-15	Nut M10	2	4
31	62819-1	Tow Point	1	2
32	123-151	Bolt M12 x 65	2	4
	460-12	Washer - Spring M12	2	4
	420-16	Nut M12	2	4
33	67375-1	Plate - Mud Flap	1	2
34	124-167	Screw M10 x 20	2	4
	460-11	Washer - Spring M10	2	4
	420-15	Nut M10	2	4
35	124-201	Screw M12 x 25	1	2
	460-12	Washer - Spring M12	1	2
	420-16	Nut M12	1	2
36	282207-1	Water Jet Assembly - See next page	1	2
37	67372-1	Clamp Strip	1	2
38	67378-1	Clamp Bar	1	2
39	457-4	Washer - Plain M8	5	10
	425-14	Nut - Nyloc M8	5	10
40	200110-1	Adaptor - Bulkhead G1/2" x G1/4"	1	2
41	410-11	Locknut - G1/4"	1	2
42	255-13	Tee - G1/2"	1	2
Curtains				
43	63334-1	Rubber Curtain	1	2
44	67368-1	Rubber Mudflap	1	2
Hydraulic Hoses				
* 65/66	HC04002-55	Hose - Megaflex 1/4" Straight x 90°s	1	2
* 67/68	HC04000-50	Hose - Megaflex 1/4" Straight x Straight	1	2

Notes

* Hose item numbers correspond with those on diagrams SH522 and SH523 in Maintenance Section, Chapter 8.

Water Jet Assembly



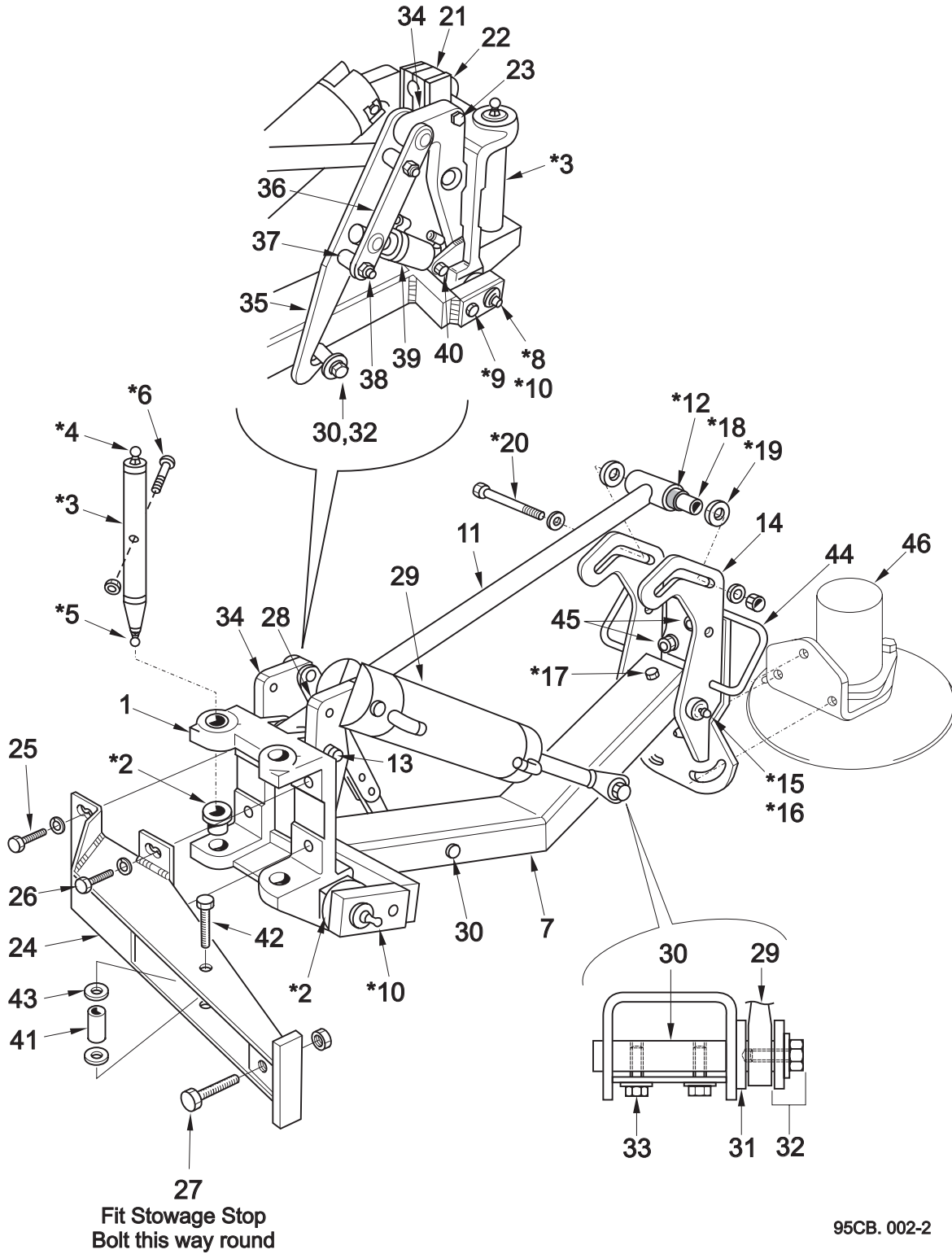
95WC.001

BoM 951211

Item No.	Part No.	Description	Quantity
	282207-1	Jet Assembly comprising:	
1	282214-1	Pipe - Hose Adaptor	1
2	282206-1	Angle Bracket	1
3	410-55	Nut G1/4"	1
4	21-58	Double Swivel Nozzle Holder	1
> 5	21-66	Fan Tip Jet - Red	2
6	460-8	Washer - Spring M6	1
7	420-13	Nut M6	1

Notes

Channel Brush - Arm Assembly

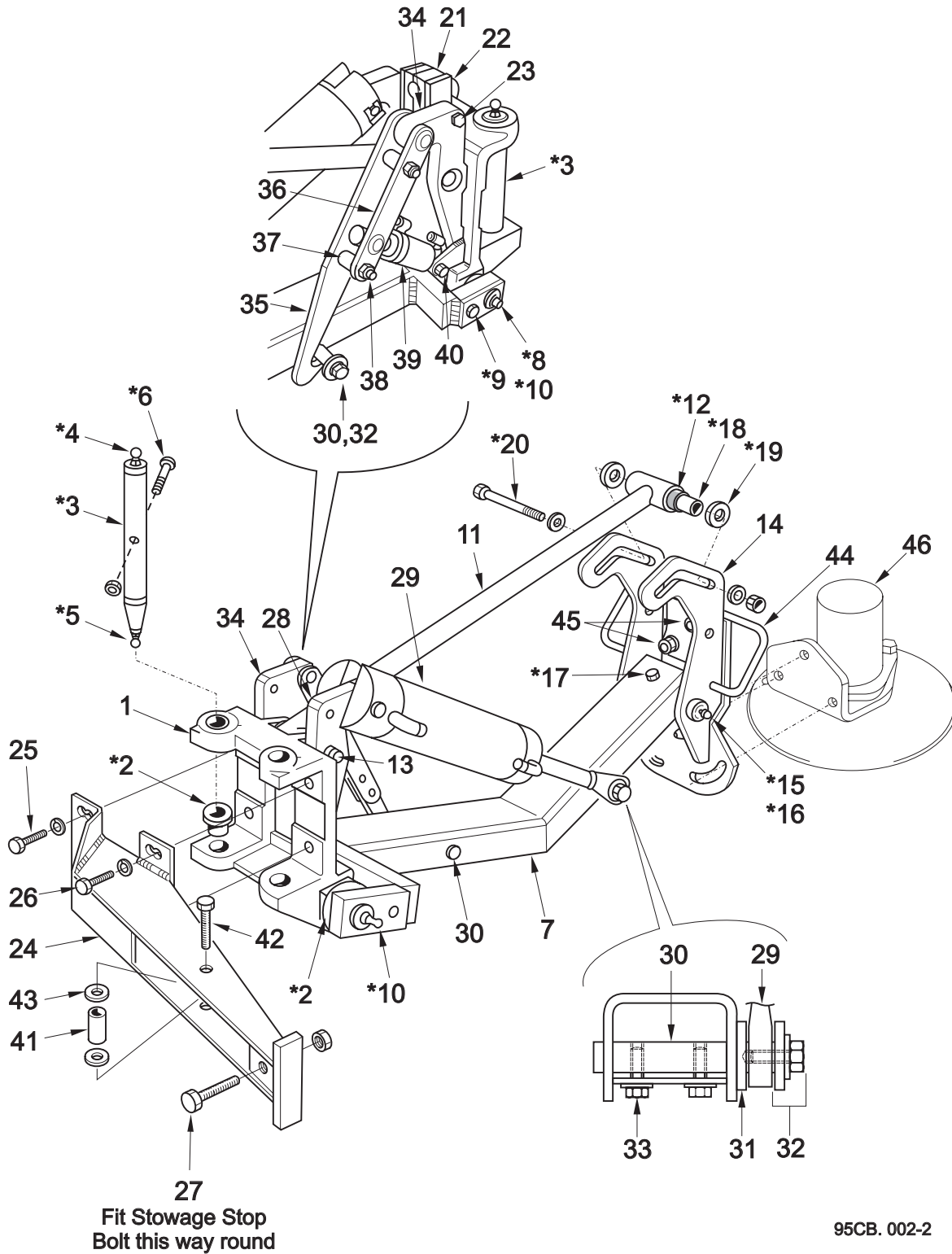


Channel Brush - Arm Assembly

BoM 951212

Item No.	Part No.	Description	Quantity
1	40272-2	Pivot Head	1
* 2	40292-1	Bush	4
* 3	40360-1	Pivot Pin - Channel Brush Head	1
* 4	38-1	Grease Nipple Straight G1/8"	1
* 5	38-1	Grease Nipple Straight G1/8"	1
* 6	124-178	Screw M10 x 55	1
	420-15	Nut M10	1
7	200025-1	Lower Arm	1
* 8	282028-1	Pivot Pin	1
* 9	124-135	Screw M8 x 20	1
	460-10	Washer - Spring	1
* 10	38-1	Grease Nipple Straight G1/8"	2
11	200026-1	Upper Arm Assembly	1
* 12	29128-4	Bush - Non Lube, Part of Item 11	4
> 13	40361-1	Pivot Pin - Upper Arm	1
	460-12	Washer - Spring M12	1
	420-16	Nut M12	1
14	282505-1	Motor Mount	1
* 15	40389-1	Pivot Pin	1
* 16	38-1	Grease Nipple Straight G1/8"	2
* 17	124-146	Screw M8 x 55	1
	460-10	Washer - Spring M8	1
	420-14	Nut M8	1
* 18	40362-1	Bush - Upper Arm	1
* 19	40363-1	Spacer M12	2
* 20	123-159	Bolt M12 x 110	1
	9331-1	Washer - Packing	2
	425-16	Nut - Nyloc M12	1
21	51-43	Plate - Top Clamp	1
	51-44	Clamp	1
22	200082-1	Plate - Clamp Spacer	1
23	123-117	Bolt M8 x 85	1
	425-14	Nut - Nyloc M8	1
24	800677-1	Lever - Pivot Head	1
25	124-171	Screw M10 x 30	2
26	124-173	Screw M10 x 35	2
	460-11	Washer - Spring M10	4
27	121-115	Screw M14 x 60	1
	420-4	Nut M14	1
28	200071-1	Mast	1
29	200355-1	Lift Cylinder - Pneumatic	1

Channel Brush - Arm Assembly



Channel Brush - Head Assembly

BoM 951213

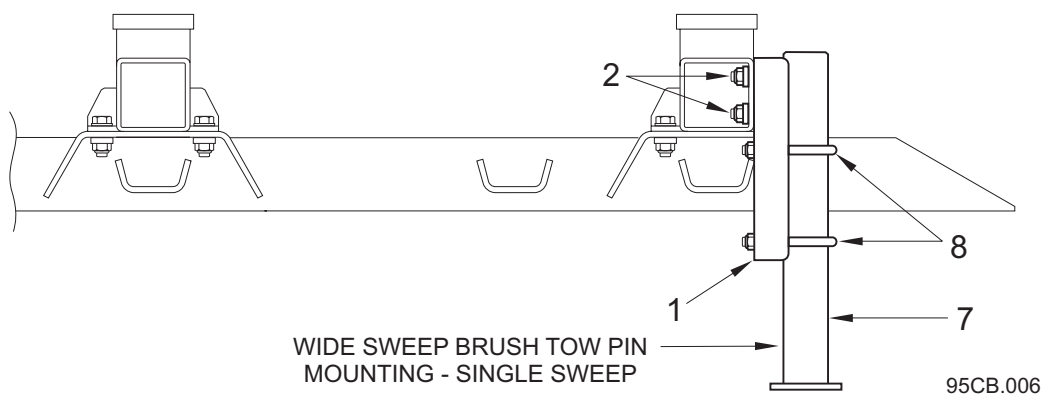
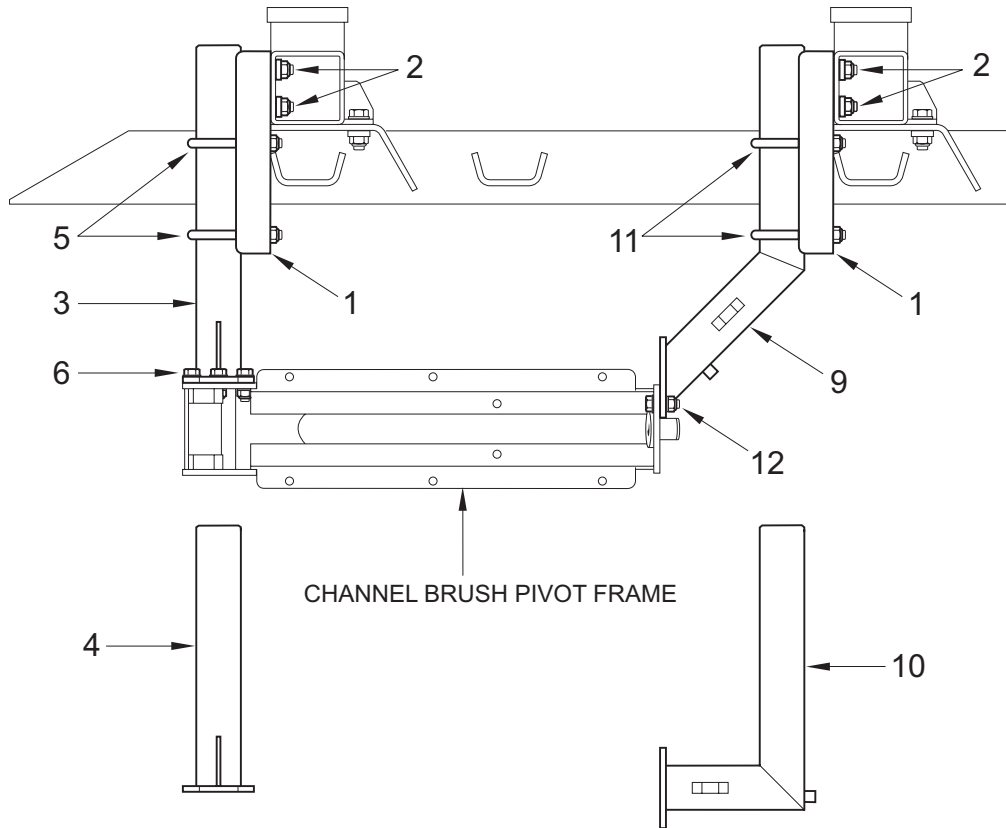
Item No.	Part No.	Description	Quantity	
			500 Dia. Brush	650 Dia. Brush
1	42533-1	Mounting - Brush Motor	1	1
2	281325-2	Bush	3	3
3	123-148	Bolt M12 x 50	3	3
	425-16	Nut - Nyloc M12	3	3
	455-12	Washer - Plain M12	3	3
4	40550-1	Hydraulic Motor	1	-
	61108-1	Hydraulic Motor	-	1
5	124-208	Setscrew M12 x 45	2	2
	460-12	Washer - Spring M12	2	2
	420-16	Nut - M12	2	2
6	263-4	Adaptor G1/2"	2	2
	451-126	Washer - Copper G1/2"	2	2
7	281586-1	Adaptor - Drive Plate	1	-
8	281584-1	Adaptor - Drive Plate	-	1
9	135-58	Bolt - Tuflock M8 x 25	1	1
	460-10	Washer - Spring M8	1	

Brushes. BoM 951230

10	281893-2	Brush Ø500 with Bright Steel Tines - Green Top	1	-
	281893-10	Brush Ø500 with Polypropylene Tines - Natural Top	1	-
	281899-2	Brush Ø650 with Bright Steel Tines - Green Top	-	1
	281899-10	Brush Ø650 with Polypropylene Tines - Natural Top	-	1

Notes

CB Installation - Pivot Frame to Subframe



CB Installation - Pivot Frame to Subframe

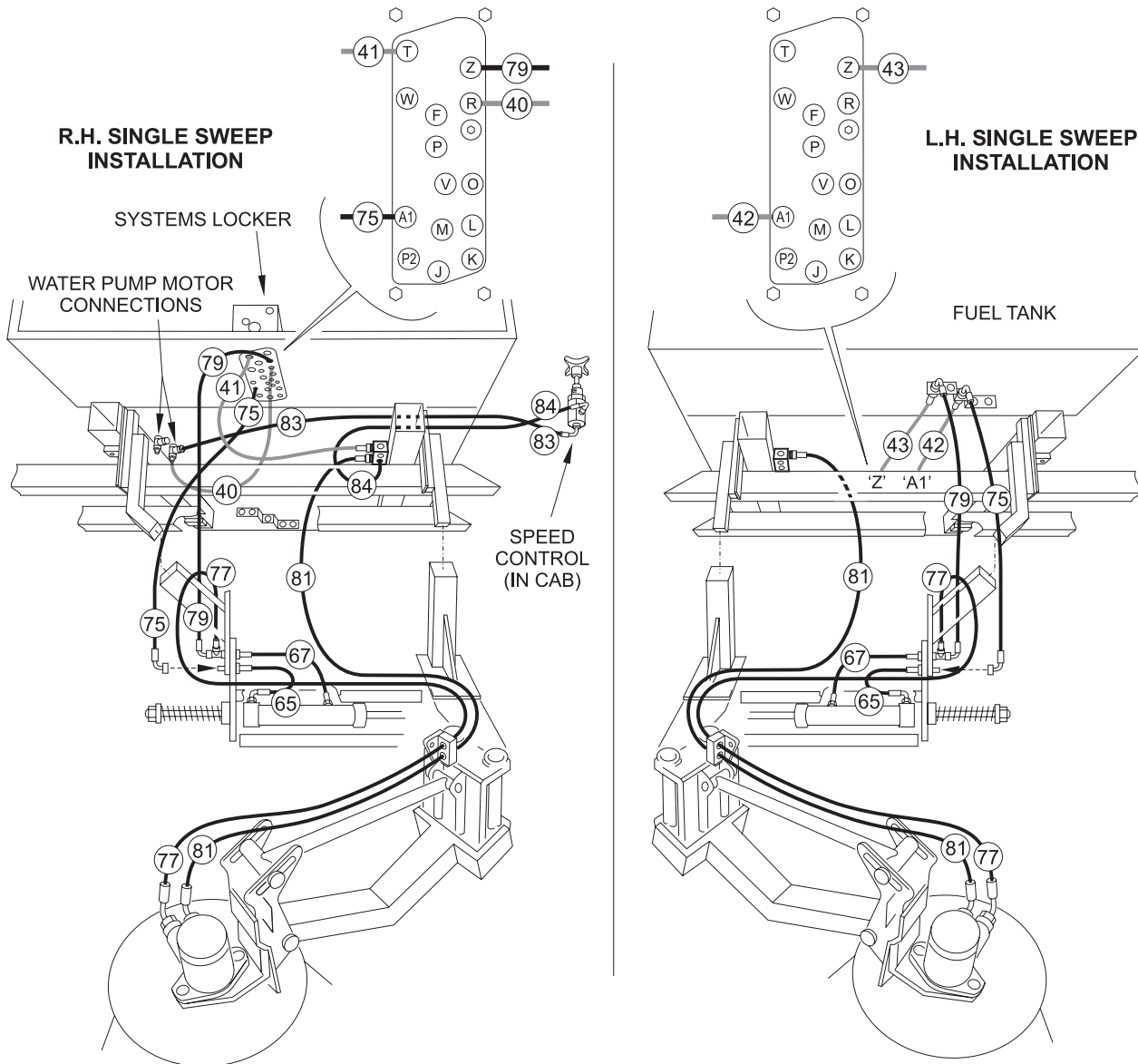
BoM 951220

Item No.	Part No.	Description	Quantity	
			Single	Dual
> 1	282502-1	Mounting Bracket	3	4
	123-147	Bolt M12 x 45	12	16
	45014-25	Spacer	12	16
	425-16	Nut - Nyloc M12	12	16
3 *	281292-1	Support Post - Front 0.9 to 0.99m in Chassis Height	1	2
	281292-2	Support Post - Front 1.0 to 1.099m in Chassis Height	1	2
4 *	281292-3	Support Post - Front 0.8 to 0.89m in Chassis Height	1	2
> 5	281274-1	U-Bolt M12	2	4
	455-12	Washer - Plain M12	4	8
	425-16	Nut - Nyloc M12	4	8
	124-207	Screw M12 x 40	5	10
6	455-12	Washer - Plain M12	5	10
	460-12	Washer - Spring M12	5	10
	425-16	Nut - Nyloc M12	5	10
	281296-1	Support Post - WSB 0.9 to 0.99m in Chassis Height	1	-
7 *	281296-2	Support Post - WSB 1.0 to 1.099m in Chassis Height	1	-
	281296-3	Support Post - WSB 0.8 to 0.89m in Chassis Height	1	-
	281274-1	U-Bolt M12	2	-
> 8	455-12	Washer - Plain M12	4	-
	425-16	Nut - Nyloc M12	4	-
9 *	281298-1	Support Post - Rear 0.9 to 0.99m in Chassis Height	1	2
	281298-2	Support Post - Rear 1.0 to 1.099m in Chassis Height	1	2
10 *	282541-1	Support Post - Rear 0.8 to 0.89m in Chassis Height	1	2
> 11	281274-1	U-Bolt M12	2	4
	455-12	Washer - Plain M12	4	8
	425-16	Nut - Nyloc M12	4	8
	124-207	Screw M12 x 40	2	4
12	455-12	Washer - Plain M12	2	4
	460-12	Washer - Spring M12	2	4
	425-16	Nut - Nyloc M12	2	4

Notes

* Support Posts items 3, 4, 7, 9, 10 see Chapter 33
Post, Item 7, is also shown in Wide Sweep Brush section

CB Single Sweep Installation - Hydraulic Hoses



95EM. 036-4

BoM 950713

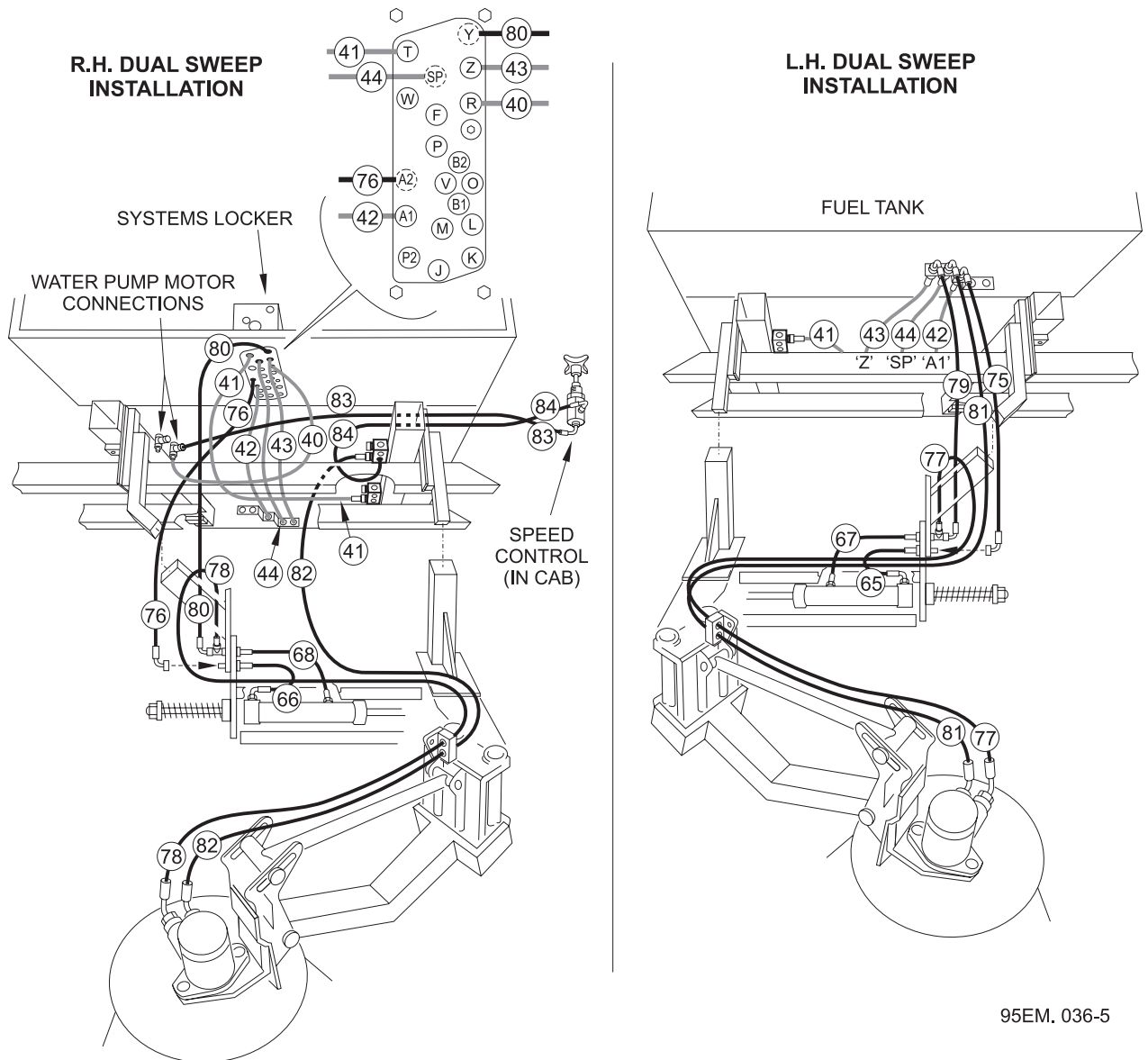
Item Nos.	Part No.	Description	Quantity	
			Single	Dual
}	42	HC04001-141	1	1
	43	HC08001-167	1	1
	44	HC08001-167	-	1

BoM 951220

65/66	-	See Pivot Frame Assembly	-	-
67/68	-	See Pivot Frame Assembly	-	-
75/76	HC04001-78	Hose, 0.8 to 0.99m Chassis Height	1	2
	HC04001-98	Hose, 0.9 to 0.99m Chassis Height	1	2
	HC04001-98	Hose, 1.0 to 1.099m Chassis Height	1	2

Continued on next page

CB Dual Sweep Installation - Hydraulic Hoses

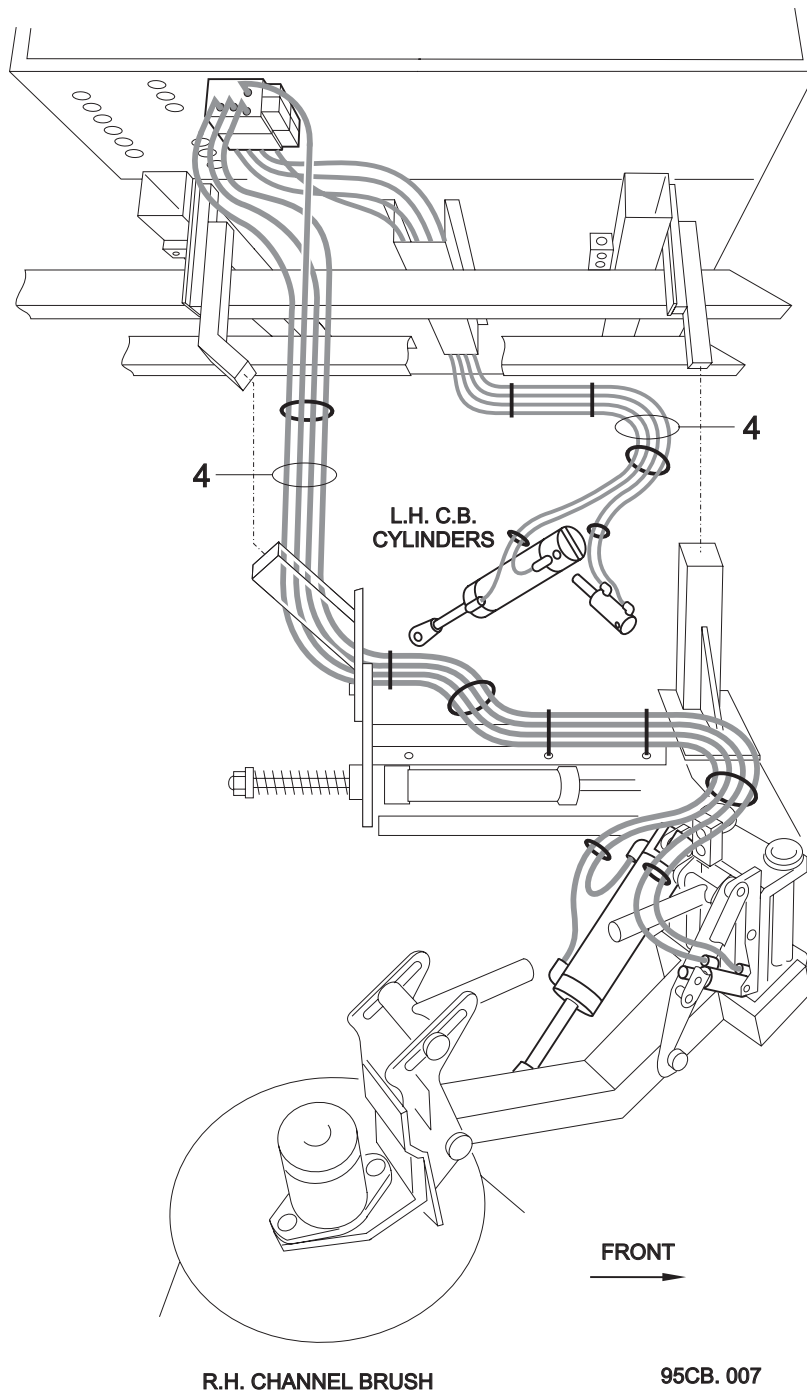


95EM. 036-5

BoM 951220

Item Nos.	Part No.	Description	Quantity	
			Single	Dual
77/78	HC08002-228	Hose, Common to all variants	1	2
79/80	HC08001-70	Hose, 0.8 to 0.99m Chassis Height	1	2
	HC08001-130	Hose, 0.9 to 0.99m Chassis Height	1	2
	HC08001-130	Hose, 1.0 to 1.099m Chassis Height	1	2
81/82	HC08002-202	Hose, 0.8 to 0.89m Chassis Height	1	2
	HC08002-222	Hose, 0.9 to 0.99m Chassis Height	1	2
	HC08002-222	Hose, 1.0 to 1.099m Chassis Height	1	2
83/84	-	See Chapter 33		

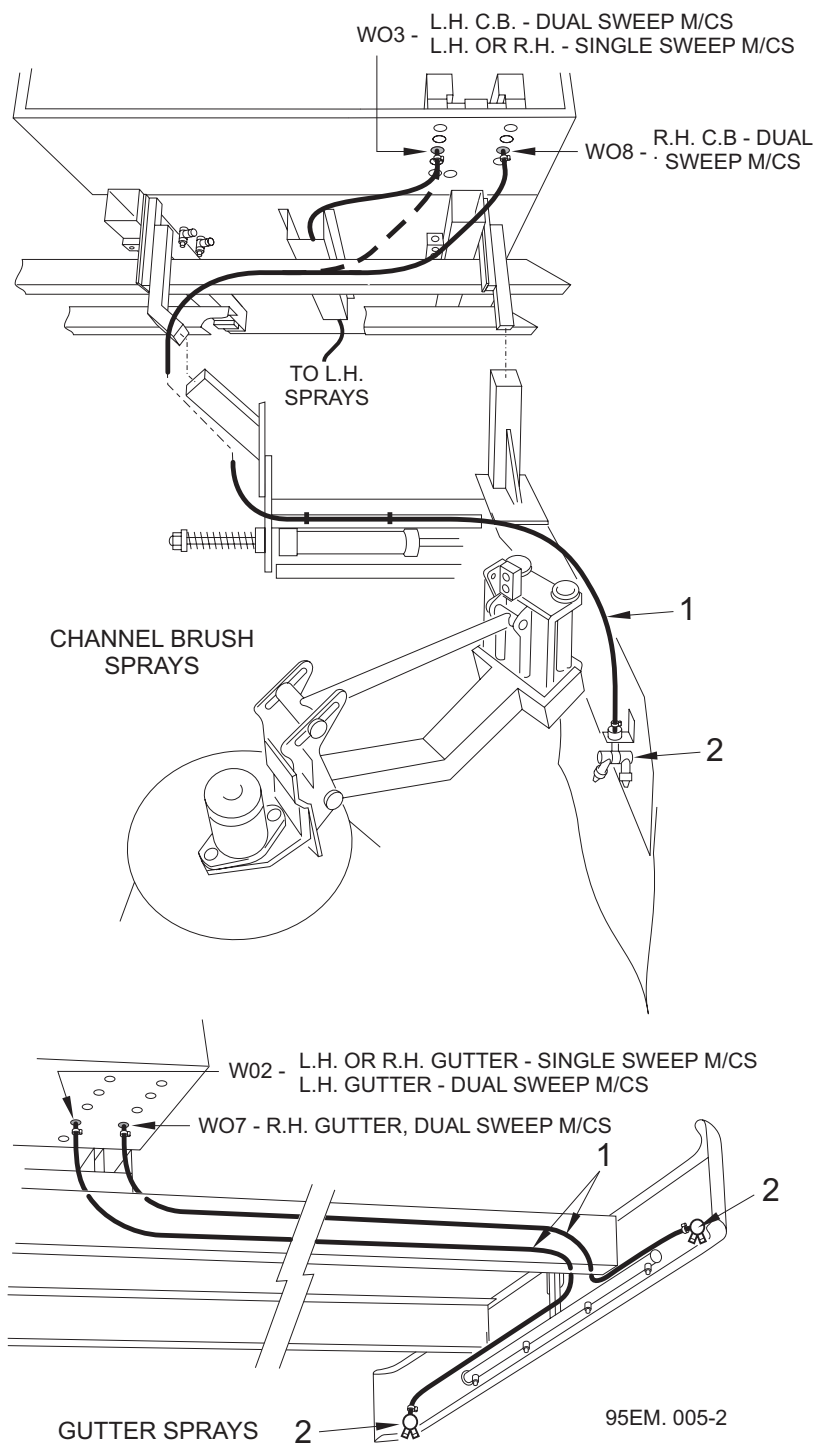
CB Installation - Pneumatic Tubing



BoM 951220

Item Nos.	Part No.	Description	Quantity	
			Single	Dual
1	510-4	Tubing Nut	-	1
	511-4	Olive M8	-	1
2	521-8	Elbow	-	1
3	12870	Black Tubing 8 Diameter	4m	7m
4	273-20	Blue Tubing 6 Diameter	12m	18m

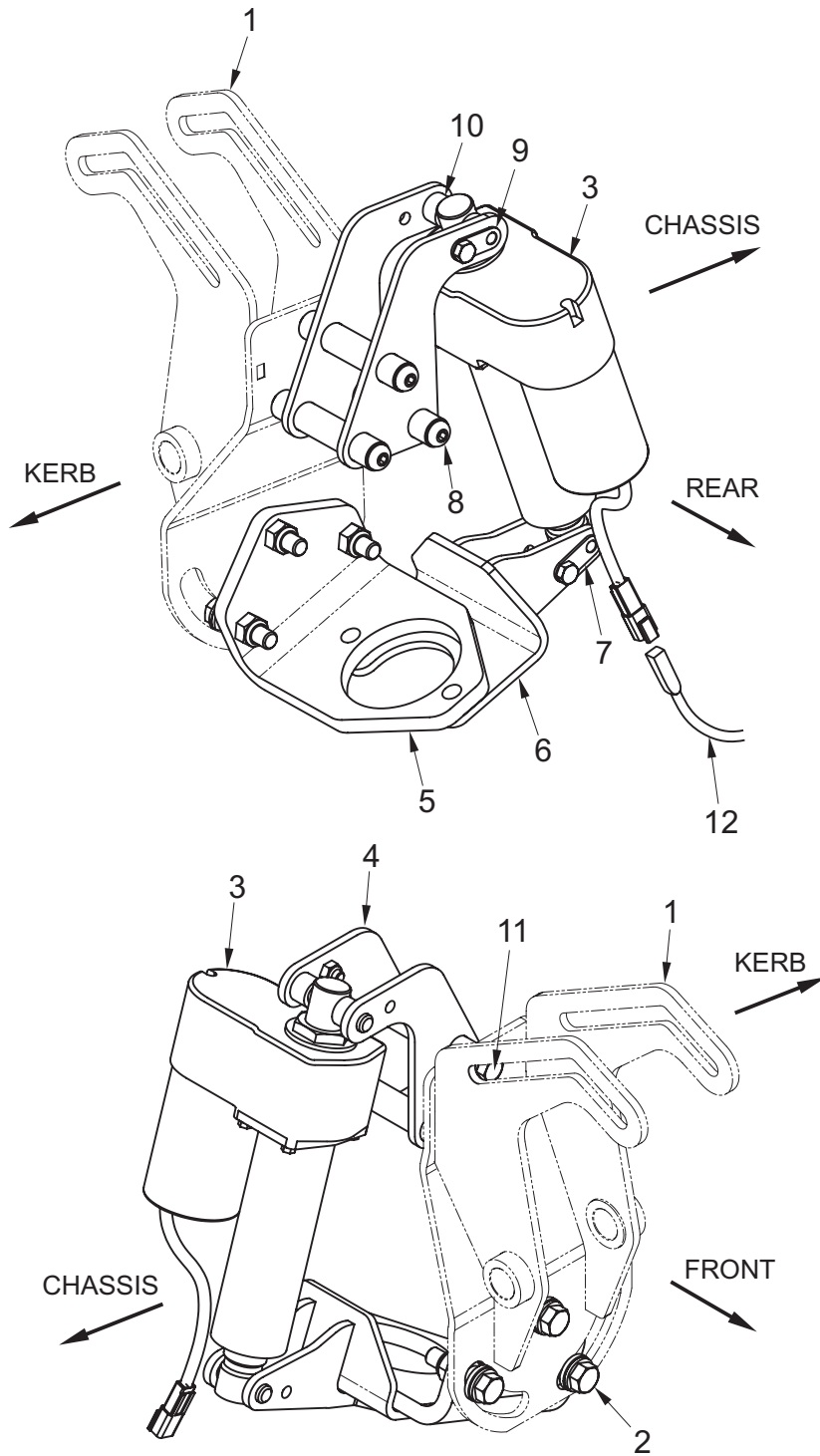
CB Installation - Water Sprays



BoM 951220

Item Nos.	Part No.	Description	Quantity
1	-	Water Hoses - See Chapter 30	-
2	282207	Water Jet Assembly - See elsewhere in this chapter	-

Rotatilt Option



95CB. 008

L.H. ASSEMBLY SHOWN
(R.H. ASSEMBLY IS A MIRROR IMAGE)

KT 02295

Item No.	Part No.	Description	Quantity
	282509-1	Rotatilt Installation 12v	
	282509-2	Rotatilt Installation 24v	
1	282505-1	Motor Mount	1
2	123-148	Screw M12 x 50	3
	281325-1	Bush x 6.5 Long	3
	455-12	Washer	3
	425-16	Nut - Nyloc M12	3
3	282508-12	Electric Actuator 12v	1
	282508-24	Electric Actuator 24v	1
4	282506-1	Pylon	1
5	42533-1	Brush Motor Mount	1
6	282507-1	Lower Mount Bracket	1
7	281330-2	Clevis Pin	1
	124-135	Bolt M8 x 20	1
	425-14	Nut - Nyloc M8	1
> 8	138-152	Screw Button Head M10 x 20	3
9	281330-1	Clevis Pin	1
	124-135	Bolt M8 x 20	1
	425-14	Nut - Nyloc M8	1
10	281314-1	Spacer	2
11	124-171	Bolt M10 x30	3
	460 - 11	Washer	3
12	282053-1	Loom - Switch Panel to Actuator 12v	1
	282053-2	Loom - Swtich Panel to Actuator 24v	1

Notes

The Rotatilt option requires an Options Switch Panel, see Chapter 32, that includes the necessary switches and wiring.

See Diagram SE571z01 in Chapter 9 of the Maintenance Section for wiring details.

CHAPTER

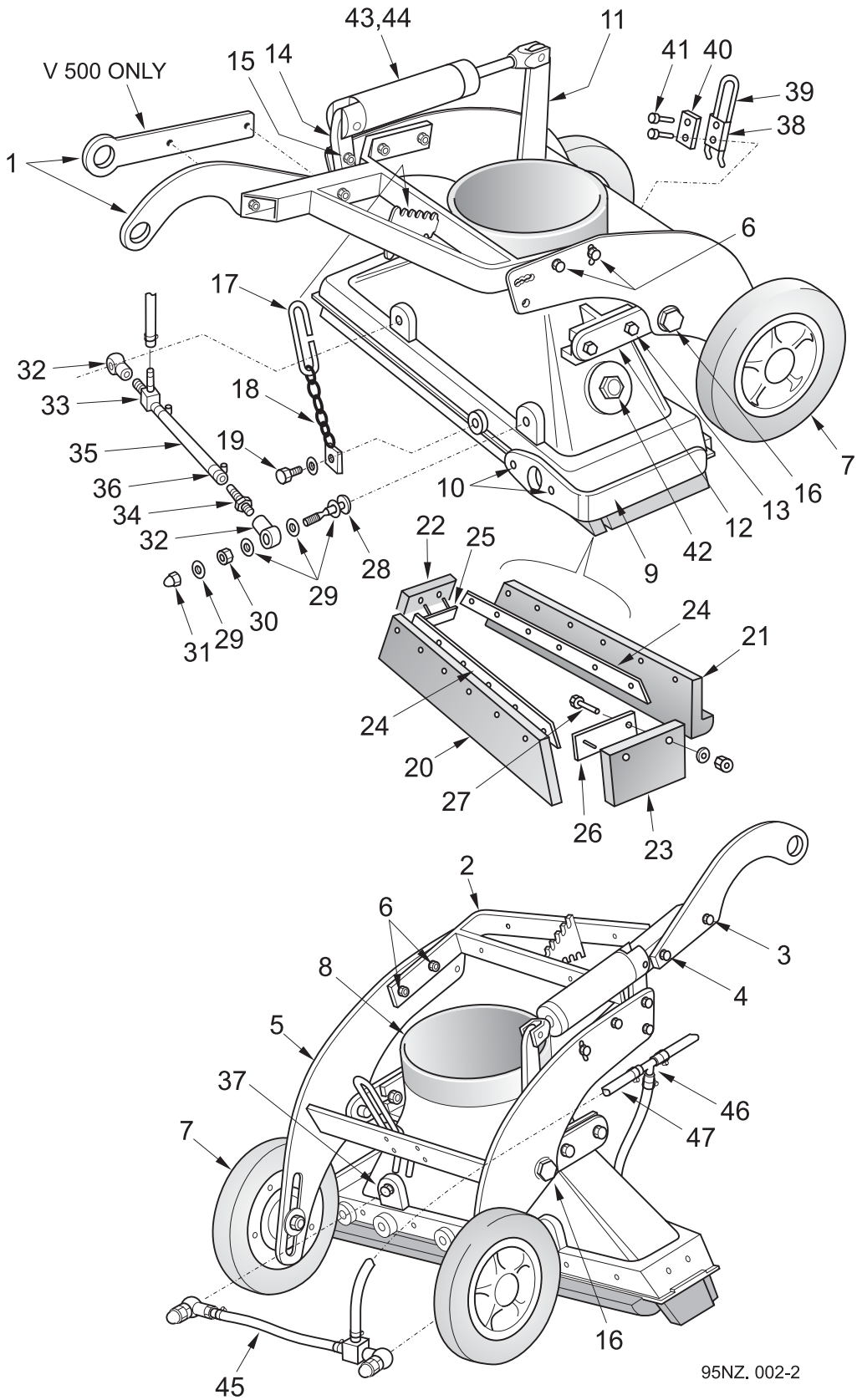
25

Nozzle

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Nozzle Installation	25 : 6

Nozzle Assembly



95NZ. 002-2

Nozzle Assembly

Item No.	Part No.	Description	Quantity
Carriage. BoM 941111, 951111			
> 1	294081-1	Tow Eye - V 500 Only	1
	201227-1	Tow Eye - V 605, 650, 800	1
2	201240-1	Towbar	1
3	124-173	Screw M10 x 35	1
	425-15	Nut M10	1
4	124-181	Screw M10 x 70	1
	425-15	Nut M10	1
5	280870-1	Carriage	1
6	124-173	Screw M10 x 35	4
	425-15	Nut M10	4
	457-5	Washer Ø10	4
7	63491-1	Nozzle Wheel - See over page	2
Dressing. BoM 951112			
8	281420-2	Nozzle - Fully Lined	1
9	281754-1	Bumper	1
10	124-207	Screw N12 x 40	2
	425-16	Nut M12	2
	455-12	Washer Ø12	2
11	281752-1	Actuator Arm	1
12	281751-1	Pivot Arm	1
13	124-175	Screw M10 x 40	4
	425-15	Nut M10	4
	455-11	Washer Ø10	4
14	280866-1	Mast	1
15	124-175	Screw M10 x 40	2
	460-11	Washer Ø10	2
	425-15	Nut M10	2
16	281753-1	Pivot	2
	425-20	Nut M20	2
	455-16	Washer Ø20	2
17	282968-1	Hook	1
18	62353-4	Link	1
19	124-201	Screw M12 x 25	1
	425-16	Nut M12	1
	455-12	Washer Ø12	1

Nozzle Assembly

Item No.	Part No.	Description	Quantity	
	20	62005-1	Nozzle Rubber - Front	1
	21	282230-1	Nozzle Rubber - Rear	1
	22	281045-1	Nozzle Rubber - Inner	1
	23	281044-1	Nozzle Rubber - Outer	1
	24	94017-1	Clamp Plate - Front/Rear	1
	25	63667-1	Clamp Plate - Inner	1
	26	63666-1	Clamp Plate - Outer	1
	27	136-24	Carriage Bolt M8 x 50	16
		455-10	Washer Ø8	16
		410-30	Nut M8	16
	28	282781-1	Water Jet 1.6mm	2
	29	453-1	Fibre Washer Ø20 - 4 Per Jet	8
>	30	416-12	Locknut M12 - Stainless Steel	2
	31	418-12	Domed Nut - Stainless Steel	2
	32	26997-1	Banjo Connector	2
	33	90696-1	Tee Connector	1
	34	46382-3	Hose Adaptor	1
	35	39444	Hose	0.34m
	36	501-1	Hose Clip	2
>	37	124-203	Screw M12 x 30	2
		455-12	Washer Ø12	2
		425-16	Nut M12	2
			) Not required when) Additional Water Option) items 45 - 47 is fitted	
	38	40404-1	Clamp Washer	1
	39	40405-1	Lifting Eye	1
	40	63345-1	Clamp Block	1
	41	124-178	Screw M10 x 55	2
		425-15	Nut M10	2
	42	281755-1	Plug G3/4"	1
		410-57	Nut G3/4"	1

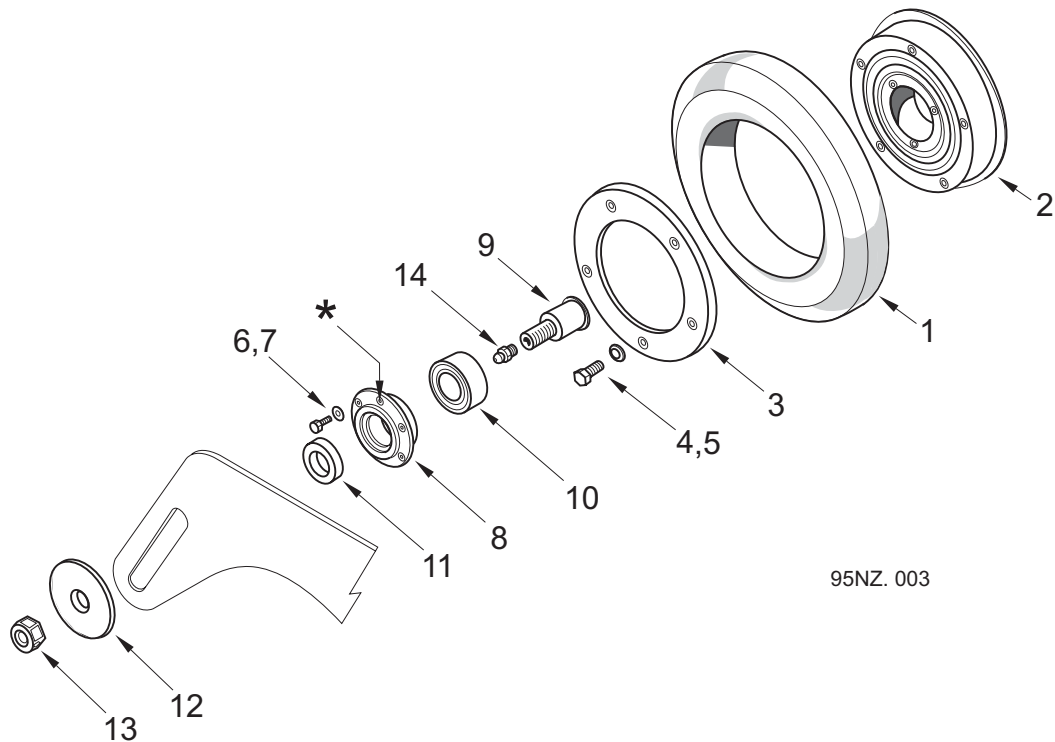
Actuation. BoM 951113

>	43	290001-1	Maxigap Cylinder	1
>	44	-	Varagap Cylinder - See Options Section 35.SG	1

Additional Water Option KT 00995

>	45	-	Injection Parts - as standard Front Sprays, items 28 to 36	
>	46	277-2	Tee Connector	1
>	47	39444	Hose	0.34m
		501-1	Hose Clip	4

Nozzle Wheel

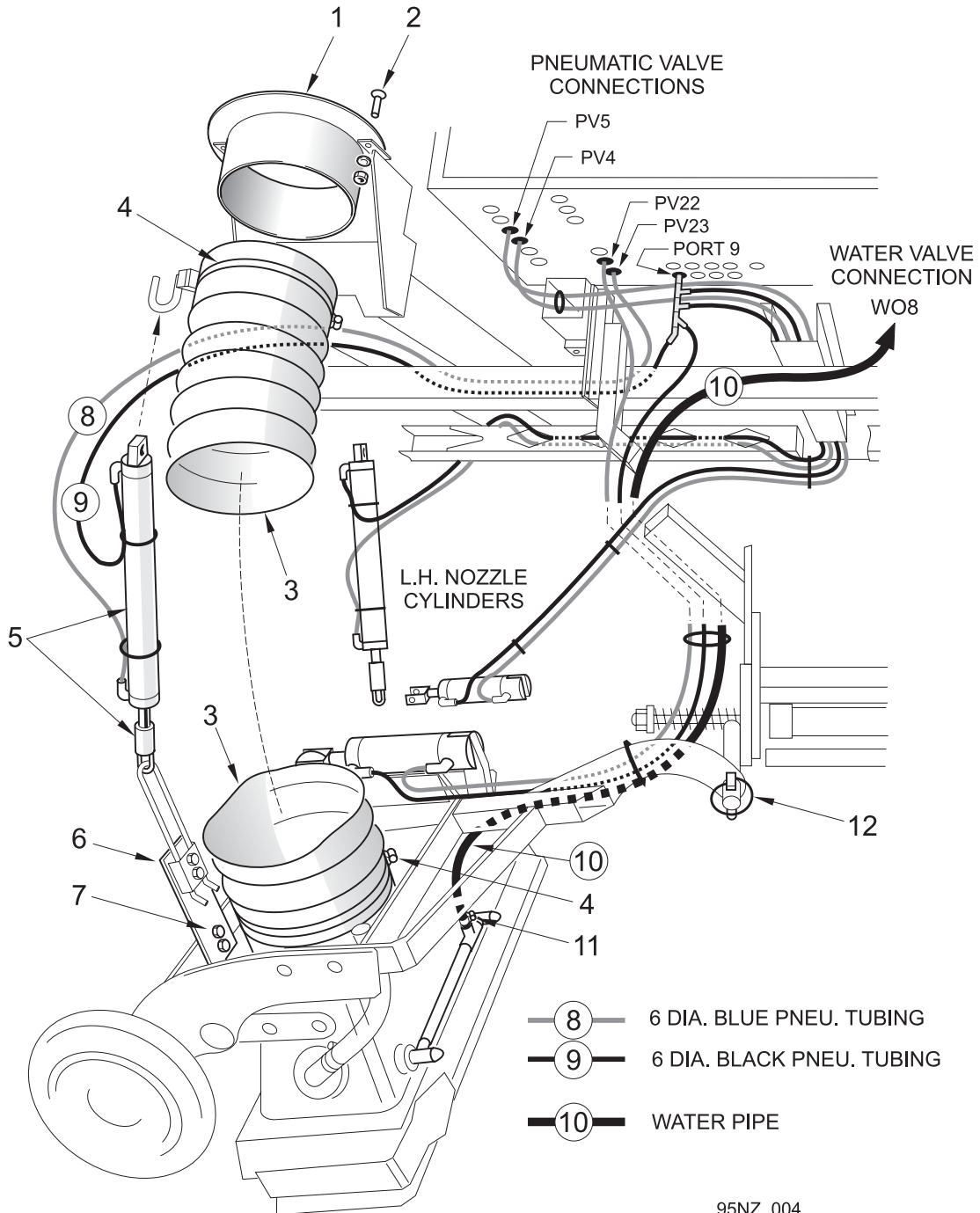


Item No.	Part No.	Description	Quantity
	63491-1	Nozzle Wheel comprising:	
1	16752	Tyre	1
2	63493-1	Hub	1
3	16750-1	Backplate - Tyre	1
4	124-134	Screw M8 x 16	5
5	460-10	Washer - Spring M8	5
6	124-102	Screw M6 x 16	3
7	460-8	Washer - Spring M6	3
8	63495-1	Retainer Plate	1
9	63492-1	Spindle	1
10	14-52	Bearing	1
11	63494-1	Collar	1
12	9114-2	Washer - Special	2
13	425-18	Nut - Nyloc M16	2
14	38-30	Grease Nipple M6 Straight	1

Notes

To withdraw bearing, remove wheel assembly from carriage and refit washer and nut, items 12 and 13. Insert M6c x 50mm screws (124-113) in the three unused retainer plate holes*. Tighten each bolt half a turn at a time to extract bearing.

Nozzle Installation



95NZ. 004

Nozzle Installation

BoM 951120

Item No.	Part No.	Description	Quantity	
			Single	Dual
1	94990-1	Intake Seat - 0.8 to 0.99m Chassis Height	1	2
	94990-3	Intake Seat - 1.0 to 1.099m Chassis Height	1	2
2	127-139	Screw - Countersunk M8 x 30	3	6
	460-10	Washer M8	3	6
	420-10	Nut M8	3	6
3	94992-2	Nozzle Trunking	1	2
4	504-54	Hose Clip	2	4
5	28903-1	Lift Cylinder	1	2
	28903-111	Rod Eye	1	2
	807186	High Chassis Installation Drawing Items 6 and 7:		
6	807182-1	Adaptor Plate	1	2
7	124-171	Screw M10 x 35	2	4
	455-11	Washer M10	2	4
	425-15	Nut - Nyloc	2	4
8	273-20	Pneumatic Tubing Ø6 Blue	10m	16m
9	12869	Pneumatic Tubing Ø6 Black	9m	15m
10	39444	Water Pipe	5m	8m
11	501-1	Hose Clip	2	4
12	60-1	Linch Pin	1	2

Notes

CHAPTER

26

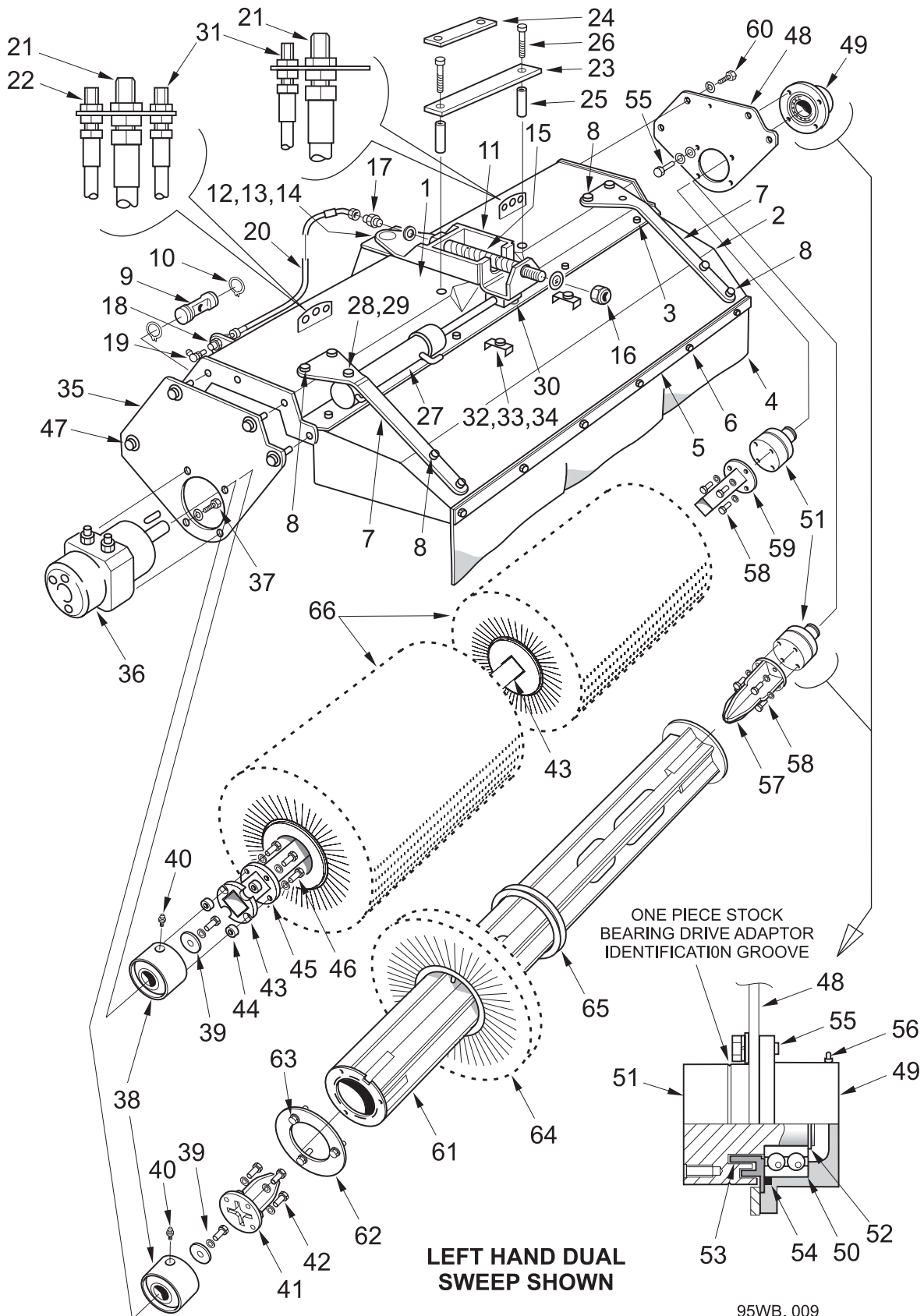
Wide Sweep Brush

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Current Type 'B' Wide Sweep Brush Assembly

Note: Hydraulic hoses are listed on pages 26:10 and 26:12



Current Type 'B' Wide Sweep Brush Assembly

Carriage Assembly - BoM 951011

Item No.	Part No.	Description	Quantity
1	283102-1	Carriage	1
2	283091-1	Curtain	1
3	124-169	Screw M10 x 25	4
	455-11	Washer - Plain M10	8
	425-15	Nut - Nyloc M10	4
4	200055-1	Rubber Curtain	1
5	283126-1	Retaining Strip	1
6	124-137	Screw M8 x 25	6
	455-10	Washer - Plain M8	12
	425-14	Nut - Nyloc M8	6
7	283090-1	Curtain Support	2
8	124-169	Screw M10 x 25	8
	455-11	Washer - Plain M10	16
	425-15	Nut - Nyloc M10	8
9	62097-1	Anchor Pin	2
10	27-2	Circlip	4
11	283103-1	Compensator	1
12	62095-1	Plate - Keeper	1
13	29395-2	Bearing	1
14	124-135	Screw M8 x 20	2
	460-10	Washer - Spring M8	2
15	283092-1	Shaft	1
16	455-16	Washer - Plain M20	1
	425-7	Nut - Nyloc M20	1
17	265-1	Adaptor 1/8" x 1/4" BSP	1
	451-4	Washer - Sealing 1/8" BSP	1
18	262-2	Adaptor - Bulkhead G1/4"	1
19	38-11	Grease Nipple - 90°	1
20	HC04036-87	Hose - 1/4" Megaflex	1
21	264-4	Adaptor - Bulkhead G1/2"	2
22	264-2	Adaptor - Bulkhead G1/4"	1

WSB Slew - BoM 951012

			Single	Dual
23	283127-1	Slew Retainer	-	1
24	283127-2	Slew Retainer	1	-
25	283128-1	Spacer	-	2
26	123-154	Bolt M12 x 80	2	2
	454-12	Washer - Plain M12 - Stainless Steel	4	4
	425-16	Nut - Nyloc M12	2	2

Current Type 'B' Wide Sweep Brush Assembly
WSB Slew - BoM 951012

Item No.	Part No.	Description	Quantity	
			Single	Dual
27	29160-1	Cylinder	-	1
28	283129-1	Bush - Cylinder Mount	-	1
29	123-140	Bolt M10 x 100	-	1
	455-11	Washer - Plain M10	-	2
	457-5	Washer - Plain M10 Large	-	1
	425-15	Nut - Nyloc M10	-	1
30	124-199	Screw M12 x 20	-	1
	460-12	Washer - Spring M12	-	1
	457-6	Washer - Plain M12 Large	-	1
31	264-2	Adaptor - Bulkhead G1/4"	-	2
32	51-51	Clamp - Single	2	-
33	51-50	Clamp - Twin	-	2
34	124-111	Screw M6 x 40	2	2
	425-13	Nut - Nyloc M6	2	2

Motor Assembly - BoM 941013, 951013

	Item No.	Part No.	Description	Quantity	
				Seg.	Mod.
}			Segment Stock	-	-
			Modular Stock	-	Mod.
}	35	283112-1	End Plate - All models except V 500	1	1
		283231-1	End Plate - V 500 only	1	1
	36	99972-1	Motor - OMPW 200	1	1
	37	124-171	Screw - M10 x 30	4	4
		460-11	Washer - Spring M10	4	4
		455-11	Washer - Plain M10	4	4
	38	283109-1	Drive Motor Adaptor	1	1
	39	62064-1	Washer - Special	1	1
		124-136	Screw M8 x 22	1	1
		460-10	Washer - Spring M8	1	1
	40	38-30	Grease Nipple	1	1
	41	283105-1	Drive Dog	1	-
	42	124-137	Setscrew M8 x 25	4	-
		460-10	Washer - Spring M8	4	-
		455-10	Washer - Plain M8	4	-
	43	283123-1	Stock Tube	-	1
	44	283124-1	Driver Spacer	-	4
	45	281249-1	Driver Retaining Plate	-	1
	46	129-129	Screw Socket Head M8 x 35	-	4
		460-10	Washer - Spring M8	-	4
	47	124-169	Screw M10 x 25	4	4
		460-11	Washer - Spring M10	4	4
		455-11	Washer - Plain M10	4	4

Current Type 'B' Wide Sweep Brush Assembly

Bearing Assembly - BoM 941014, 951014

Item No.	Part No.	Description	Quantity	
			Seg.	Mod.
		Segment Stock	-	
		Modular Stock	-	
48	283112-1	Side Plate - All models except V 500	1	1
	283231-1	Side Plate - V 500 only	1	1
49	283107-1	Bearing - Housing	1	1
50	14-47	Bearing	1	1
51	283108-1	Drive Adaptor	1	1
52	27-15	Circlip - External	1	1
53	283121-1	Labyrinth	1	1
54	80-94	'O' Ring	1	1
55	124-169	Screw M10 x 25	4	4
	460-11	Washer - Spring M10	4	4
	455-11	Washer - Plain M10	4	4
56	38-30	Grease Nipple	1	1
57	283106-1	Driven Dog	1	-
58	124-137	Setscrew M8 x 25	4	4
	460-10	Washer - Spring M8	4	4
59	281237-1	Tube - Stock Guide	-	1
60	124-169	Screw M10 x 25	4	4
	460-11	Washer - Spring M10	4	4
	455-11	Washer - Plain M10	4	4

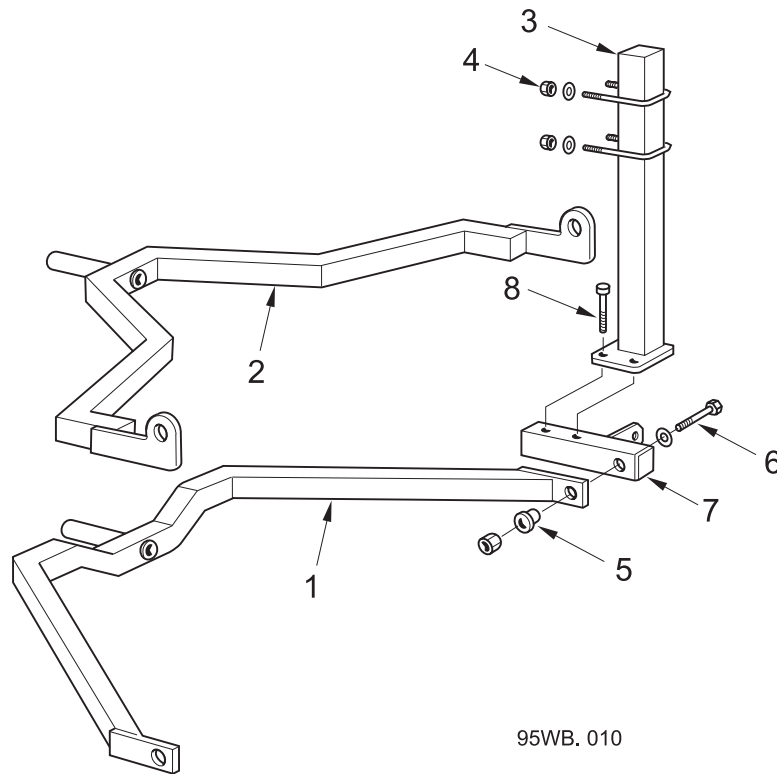
WSB Dressing - BoM 941030, 951030

Segment System

	283114-1	Stock Assembly comprising items 61, 62, 63:-		
>	61	283101-1	Stock - One Piece	1 -
	62	283115-1	Closing Plate - Driven End	1 -
	63	118-137	Screw M8 x 25 - Stainless Steel	4 -
		454-8	Washer - Plain M8 Stainless Steel	4 -
		458-8	Washer - Spring M8 Stainless Steel	4 -
	64	834-1	Poly Segment - V605, 650, 800	43 -
>		283385-340	Poly Segment - V500	43 -
	65	13515	Spacer	41 -

Modular System

	66	281895-1	Poly Brush Stock - V605, 650, 800	- 2 Set
>		294110-1	Poly Brush Stock - V500	- 2 Set

Tow Bar Installations


95WB. 010

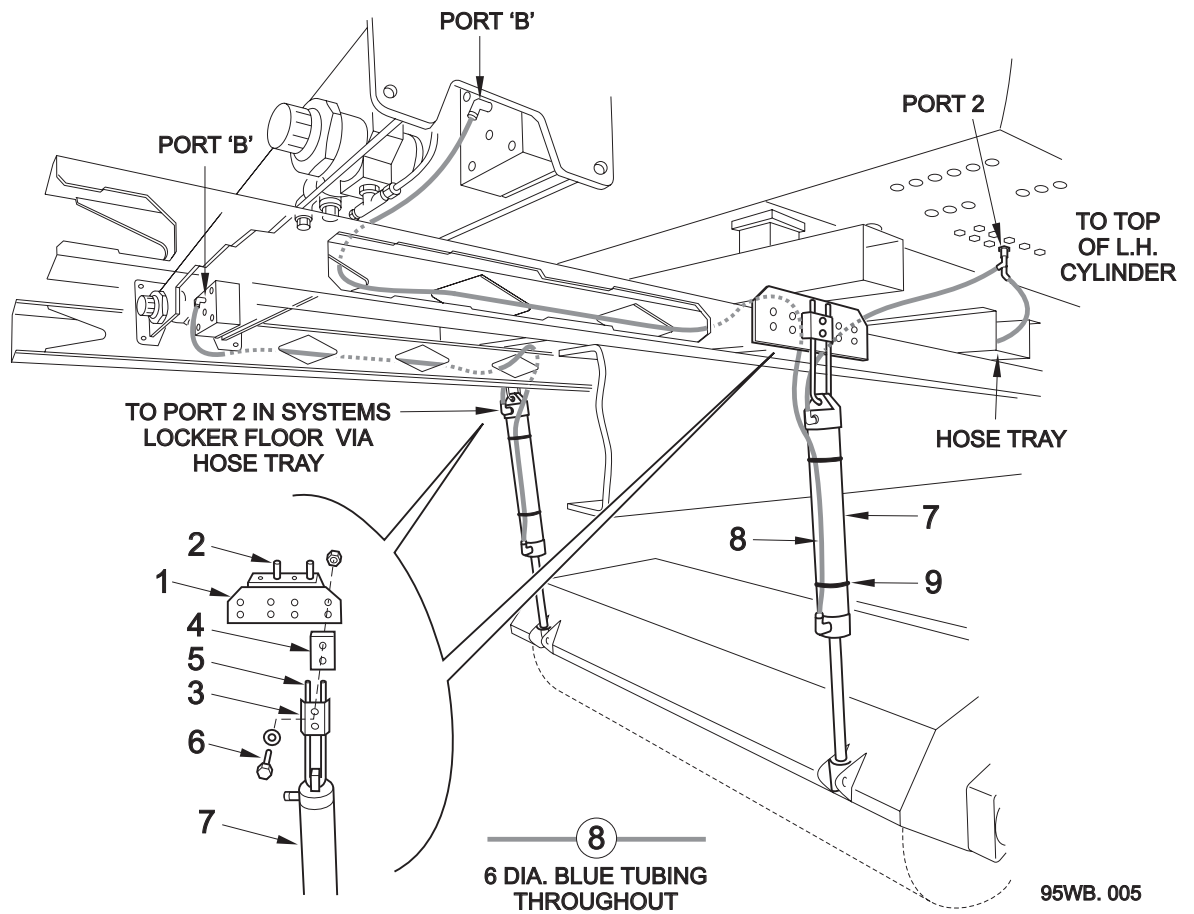
Towbar Assembly - BoM 951015 (V650, 800). BoM 941015 (V500)

1	62070-1	Towbar - V650, 800 Range	1
2	808008-1	Towbar - V500 Range	1

WSB Installation - BoM 951020

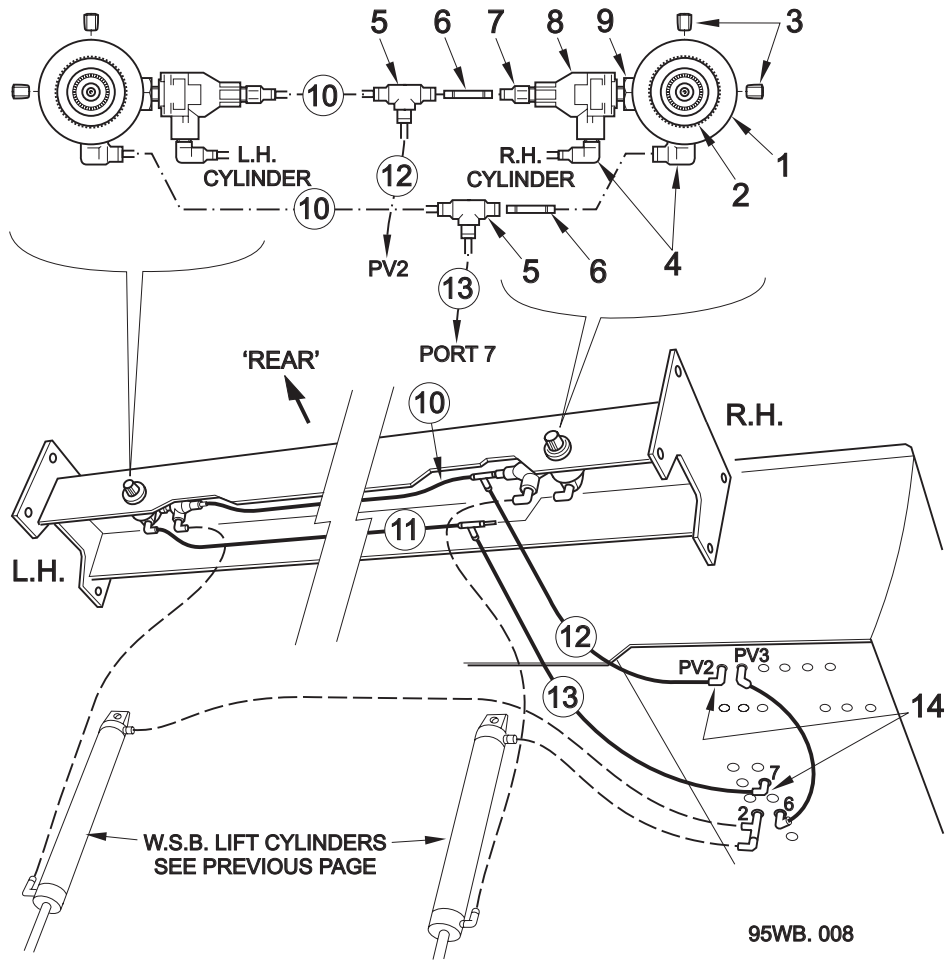
			Single	Dual
3	281296-1	Support - Chassis Height 0.9 - 0.99m	1	-
	281296-2	Support - Chassis Height 1.0 - 1.099m	1	-
	281296-3	Support - Chassis Height 0.8 - 0.99m	1	-
4	281274-1	U-Bolt M12	2	-
	455-12	Washer - Plain	4	-
	425-16	Nut - Nyloc M12	4	-
5	62099-2	Tow Point - Bush	2	2
6	124-217	Screw M12 x 90	2	2
	455-12	Washer - Plain M12	2	2
	425-16	Nut - Nyloc M12	2	2
7	62819-1	Box - Towpoint	1	-
8	123-151	Bolt M12 x 65	2	-
	460-12	Washer - Spring	2	-
	425-16	Nut - Nyloc M12	2	-

WSB Installation - Pneumatics - Suspension Cylinders



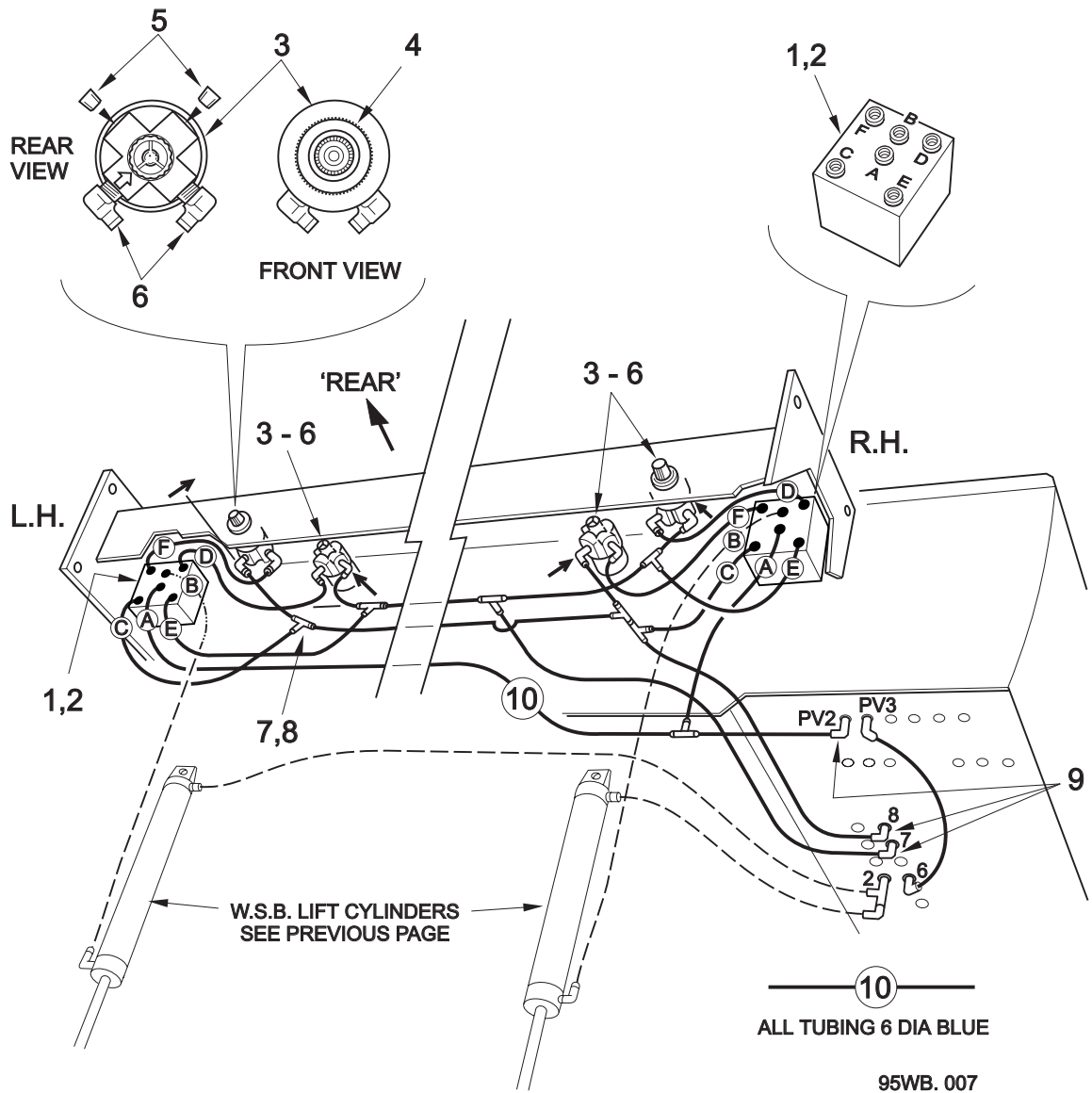
BoM 951020

Item No.	Part No.	Description	Quantity
1	281549-1	Suspension Bracket	2
2	124-199	Screw M12 x 20	4
	460-12	Washer - Spring M12	4
3	40404-1	Clamp Washer	2
4	63345-1	Clamp Block	2
5	40405-1	Lifting Eye	2
6	124-178	Screw M10 x 55	4
	455-11	Washer - Plain M10	4
	425-15	Nut - Nyloc M10	4
7	29284-2	Pneumatic Cylinder	2
8	273-20	Tube - Blue Nylon 6mm OD	
		0.9 to 0.99m Chassis Height	6m
		1.0 to 1.099m Chassis Height	6.5m
9	24-1	Cable Tie	4

WSB Pneumatics - Suspension Regulation, Single Sweep

BoM 950713

Item No.	Part No.	Description	Quantity
1	253-9	Regulator	2
2	410-86	Panel Nut	2
3	9756	Plug R1/4"	4
4	552-8	Elbow R1/4" x Ø6	4
5	554-3	Tee Ø6	2
6	549-3	Stem Connector Ø6	2
7	537-8	Straight Adaptor R1/4" x Ø6	2
8	41211-1	Quick Exhaust Valve	2
9	266-2	Adaptor G1/4" x R1/4"	2
	451-17	Washing - Sealing	2
10	273-20	Tubing Ø6 Blue	1.16m
11	273-21	Tubing Ø6 Red	0.95m
12	273-20	Tubing Ø6 Blue	0.62m
13	273-21	Tubing Ø6 Red	0.74m
14	551-1	Elbow	

WSB Pneumatics - Suspension Regulation, Dual Sweep

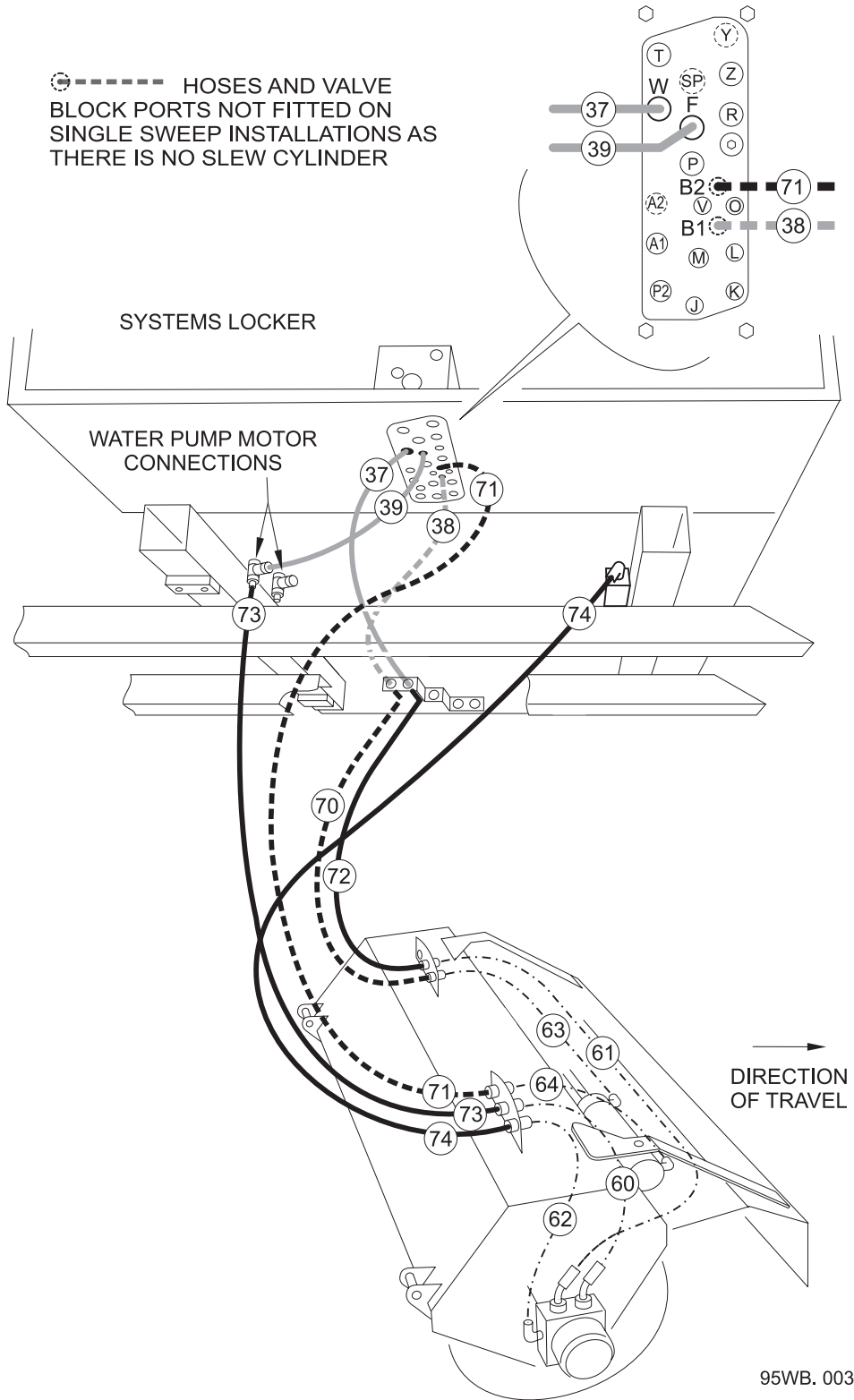


BoM 950713

Item No.	Part No.	Description	Quantity
1	200577	Shuttle/Exhaust Valve Block	2
2	124-102	Screw M6 x 16	4
	460-8	Washer - Spring M6	4
3	253-9	Regulator	4
4	410-86	Panel Nut	4
5	9756	Plug R1/4"	8
6	552-8	Elbow R1/4" x Ø6	8
7	554-3	Tee Ø6	4
8	549-3	Stem Connector Ø6	4
9	551-1	Elbow	3
10	273-20	Tubing Ø6 Blue x 1 Reel	1

WSB Installation - Hydraulic Hoses

----- HOSES AND VALVE
BLOCK PORTS NOT FITTED ON
SINGLE SWEEP INSTALLATIONS AS
THERE IS NO SLEW CYLINDER



95WB. 003

**L.H. SINGLE / L.H. DUAL SWEEP
BRUSH CARRIAGE INSTALLATION**

WSB Installation - Hydraulic Hoses

Subframe Configuration BoM 950713, 940713

Item No.	Part No.	Description	Quantity
37	HC08001-155	Hydraulic Hose - Single and Dual Sweep	1
> 38	HC04002-144	Hydraulic Hose - Dual Sweep Only	1
39	HC08001-98	Hydraulic Hose - Single and Dual Sweep	1
	HC08001-86	Hydraulic Hose - Single and Dual Sweep VT500 Only	1

Carriage Assembly BoM 951011

60	HC08001-73	Hydraulic Hose - Single and Dual Sweep	1
61	HC08001-160	Hydraulic Hose - Single and Dual Sweep	1
62	HC04002-87	Hydraulic Hose - Single and Dual Sweep	1

WSB Slew - BoM 951012

63	HC04003-95	Hydraulic Hose - Dual Sweep Only	1
64	HC04003-36	Hydraulic Hose - Dual Sweep Only	1

WSB Installation BoM 951020

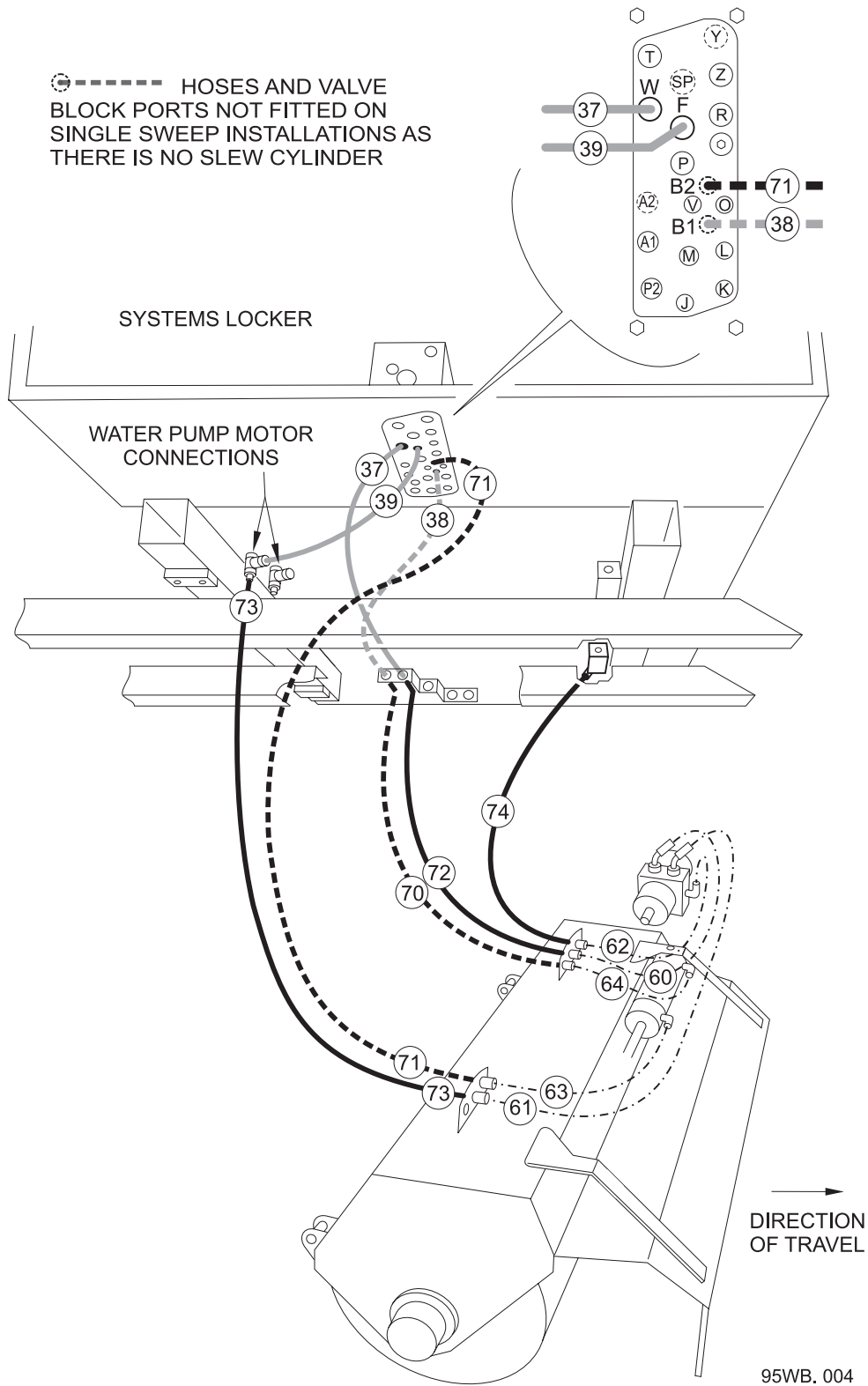
			Chassis Height
70 *	HC04002-95	Hydraulic Hose - Dual Sweep Only	0.8 to 0.99m
	HC04002-115	Hydraulic Hose - Dual Sweep Only	0.9 to 0.99m
	HC04002-115	Hydraulic Hose - Dual Sweep Only	1.0 to 1.099m
71 *	HC04001-128	Hydraulic Hose - Dual Sweep Only	0.8 to 0.99m
	HC04001-148	Hydraulic Hose - Dual Sweep Only	0.9 to 0.99m
	HC04001-148	Hydraulic Hose - Dual Sweep Only	1.0 to 1.099m
72 *	HC08002-105	Hydraulic Hose - Single and Dual Sweep	0.9 to 0.99m
	HC08002-115	Hydraulic Hose - Single and Dual Sweep	1.0 to 1.099m
73 *	HC08002-105	Hydraulic Hose - Single and Dual Sweep	0.9 to 0.99m
	HC08002-115	Hydraulic Hose - Single and Dual Sweep	1.0 to 1.099m
74 *	HC04002-136	Hydraulic Hose - Dual Sweep Only	0.9 to 0.99m
	HC04002-146	Hydraulic Hose - Dual Sweep Only	1.0 to 1.099m
	HC04002-196	Hydraulic Hose - Single Sweep Only	0.9 to 0.99m
	HC04002-206	Hydraulic Hose - Single Sweep Only	1.0 to 1.099m

Notes

Item numbers correspond to those on Diagram SH522z01 in Maintenance Section, Chapter 8

* Hoses 70 to 74 see Chapter 33 - Chassis Related Parts

WSB Installation - Hydraulic Hoses



**R.H. SINGLE / R.H. DUAL SWEEP
BRUSH CARRIAGE INSTALLATION**

WSB Installation - Hydraulic Hoses

Subframe Configuration BoM 950713, 940713

Item No.	Part No.	Description	Quantity
37	HC08001-155	Hydraulic Hose - Single and Dual Sweep	1
> 38	HC04002-144	Hydraulic Hose - Dual Sweep Only	1
39	HC08001-98	Hydraulic Hose - Single and Dual Sweep	1
	HC08001-86	Hydraulic Hose - Single and Dual Sweep VT500 Only	1

Carriage Assembly BoM 951011

60	HC08001-73	Hydraulic Hose - Single and Dual Sweep	1
61	HC08001-160	Hydraulic Hose - Single and Dual Sweep	1
62	HC04002-80	Hydraulic Hose - Single and Dual Sweep	1

WSB Slew - BoM 951012

63	HC04003-95	Hydraulic Hose - Dual Sweep Only	1
64	HC04003-36	Hydraulic Hose - Dual Sweep Only	1

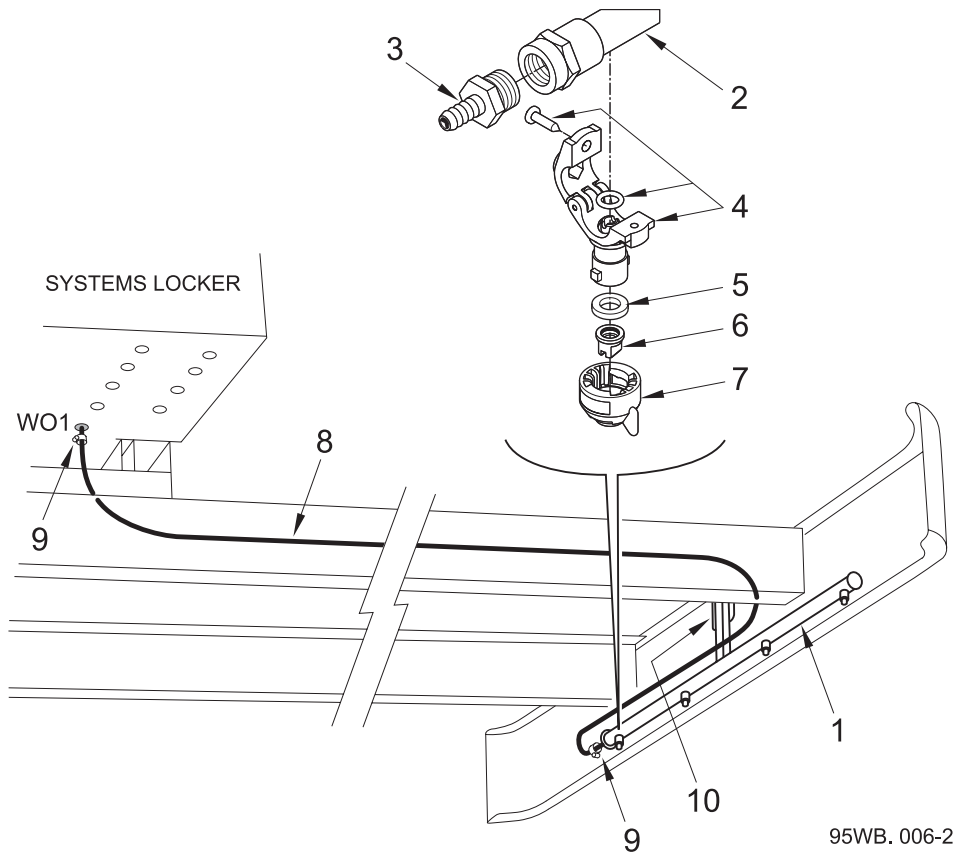
WSB Installation BoM 951020

			Chassis Height
70 *	HC04002-95	Hydraulic Hose - Dual Sweep Only	0.8 to 0.99m
	HC04002-115	Hydraulic Hose - Dual Sweep Only	0.9 to 0.99m
	HC04002-115	Hydraulic Hose - Dual Sweep Only	1.0 to 1.099m
71 *	HC04001-128	Hydraulic Hose - Dual Sweep Only	0.8 to 0.99m
	HC04001-148	Hydraulic Hose - Dual Sweep Only	0.9 to 0.99m
	HC04001-148	Hydraulic Hose - Dual Sweep Only	1.0 to 1.099m
72	HC08002-105	Hydraulic Hose - Single and Dual Sweep	0.9 to 0.99m
	HC08002-115	Hydraulic Hose - Single and Dual Sweep	1.0 to 1.099m
37	HC08001-155	Hydraulic Hose - Single and Dual Sweep	1
73	HC08002-105	Hydraulic Hose - Single and Dual Sweep	0.9 to 0.99m
	HC08002-115	Hydraulic Hose - Single and Dual Sweep	1.0 to 1.099m
74	HC04002-146	Hydraulic Hose - Single and Dual Sweep	0.9 to 0.99m
	HC04002-156	Hydraulic Hose - Single and Dual Sweep	1.0 to 1.099m

Notes

Item numbers correspond to those on Diagram SH522z01 in Maintenance Section, Chapter 8

* Hoses 70 to 74 see Chapter 33 - Chassis Related Parts

WSB Installation - Low Pressure Water Spray Bar

BoM 951020

Item No.	Part No.	Description	Quantity
1	282236-1	Spray Bar Assembly, comprising items 2 to 7:-	1
2	21-334	Spraybar	1
3	21-335	Hosetail	1
4	21-60	Nozzle Holder	1
5	21-64	Seal	1
6	21-66	Fan Tip - Red	1
7	21-63	Bayonet Cap	1
8	39444	Hose	5m
9	501-1	Hose Clip	2
10	-	Spray Bar Mounting - varies with chassis (Contact the Johnston Parts Department for further information)	

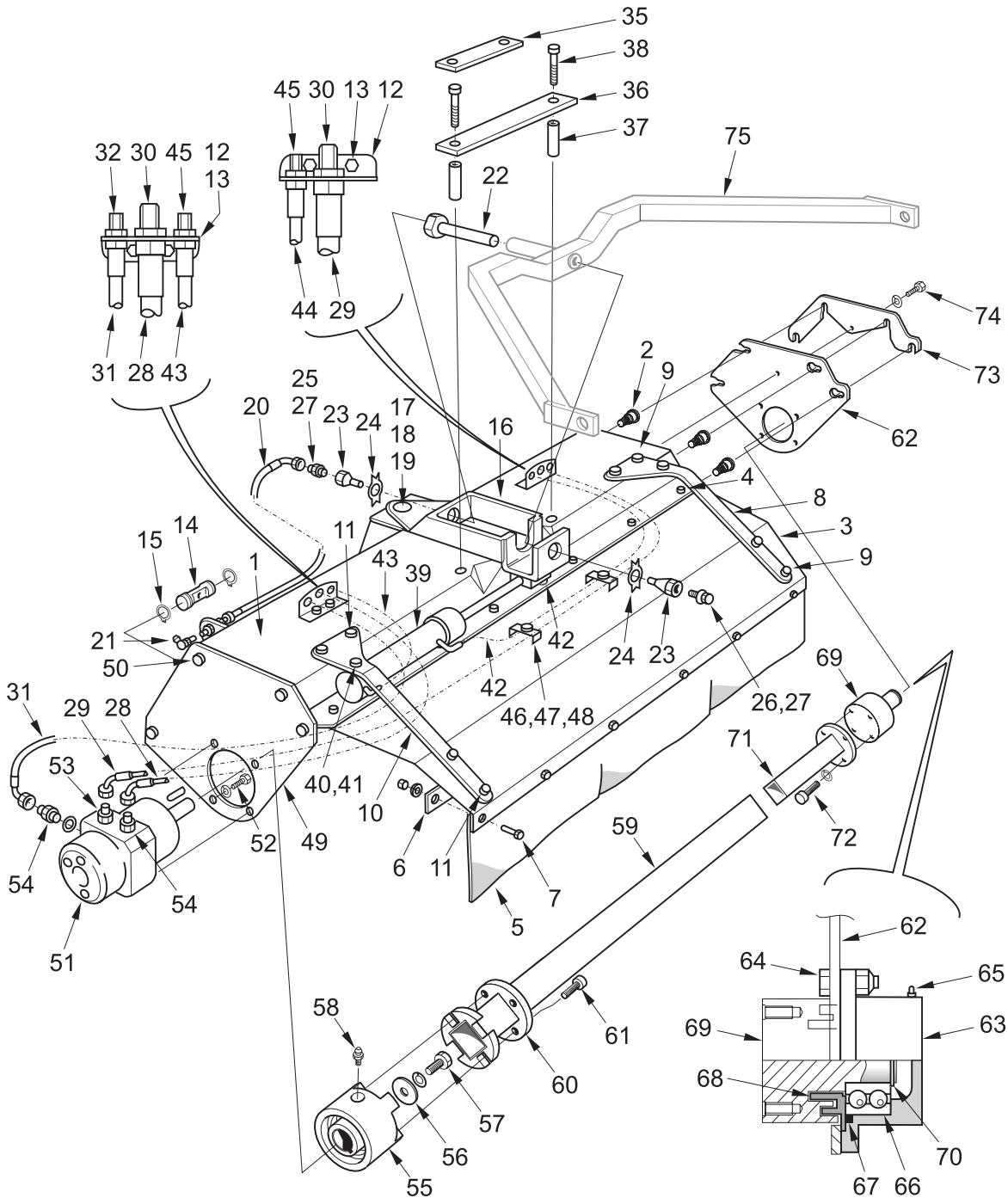
Superseded Parts

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Superseded Type 'A' Two Piece Segment Stock	26 : 20

Superseded Type 'A' Wide Sweep Brush Assembly

Note: Hydraulic hoses are listed on pages 26:10 and 26:12



LEFT HAND DUAL SWEEP SHOWN

95WB. 001-3

Superseded Type 'A' Wide Sweep Brush Assembly

Carriage Assembly - BoM 951011

Item No.	Part No.	Description	Quantity
1	281236-1	Carriage	1
2	281246-1	Screw - Location	4
	425-15	Nut - Nyloc M10	4
3	200045-1	Curtain	1
4	124-167	Screw M10 x 20	6
	425-15	Nut - Nyloc M10	6
5	200055-1	Rubber Curtain	1
6	54013-1	Retaining Strip	1
7	124-137	Screw M8 x 25	6
	455-10	Washer - Plain M8	6
	425-14	Nut - Nyloc M8	6
8	200042-1	LH Curtain Support	1
9	124-169	Screw M10 x 25	4
	425-15	Nut - Nyloc M10	4
10	200042-2	RH Curtain Support	1
11	124-169	Screw M10 x 25	4
	425-15	Nut - Nyloc M10	4
12	90553-2	Angle - Pipe Bracket	2
13	124-103	Screw M6 x 20	4
	425-13	Nut - Nyloc M6	4
14	62097-1	Anchor Pin	2
15	27-2	Circlip	4
16	62080-1	Compensator	1
17	29395-2	Bearing	1
18	62095-1	Plate - Keeper	1
19	124-135	Screw M8 x 20	2
	460-10	Washer - Spring M8	2
20	HC04036-87	Hose - 1/4" Megaflex	1
21	38-11	Grease Nipple - 90°	1
22	62073-1	Shaft	1
23	62077-1	Bolt - Special	2
24	200449-1	Tab Washer	2
25	265-1	Adaptor - G1/8" x 1/4"	1
26	5104	Collared Plug	1
27	451-4	Washer 3/8"	2
28	-	Hose - See WSB Installation Item 60	1
29	-	Hose - See WSB Installation Item 61	1
30	264-4	Adaptor - Bulkhead G1/2"	2
31	-	Hose - See WSB Installation Item 62	1
32	264-2	Connector - Bulkhead	1
33 - 34	-	-	-

Superseded Type 'A' Wide Sweep Brush Assembly
WSB Slew - BoM 951012

Item No.	Part No.	Description	Quantity	
			Single	Dual
35	62065-1	Strip - Retaining	1	-
36	62075-1	Strip - Retaining	-	1
37	62074-1	Spacer	2	2
38	124-213	Screw M12 x 70	2	2
	425-16	Nut - Nyloc M12	2	2
39	29160-1	Cylinder	-	1
40	62078-1	Bush - Cylinder Mount	-	1
41	124-185	Screw M10 x 90	-	1
	425-15	Nut - Nyloc M10	-	1
42	124-199	Screw M12 x 20	-	1
	457-6	Washer - Plain M12	-	1
43	-	Hose - See WSB Installation Item 63	-	1
44	-	Hose - See WSB Installation Item 64	-	1
45	264-2	Adaptor - Bulkhead G1/4"	-	2
46	51-51	Clamp - Single	2	-
47	51-50	Clamp - Twin	-	2
48	124-11	Screw M6 x 40	2	2
	425-13	Nut - Nyloc M6	2	2

Motor Assembly - BoM 951013

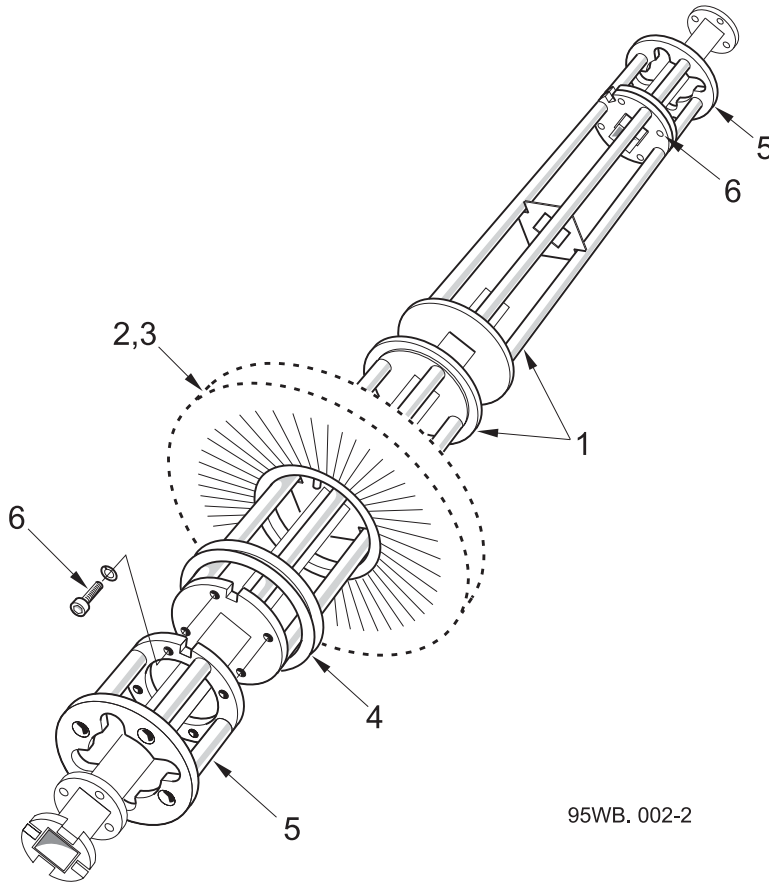
49	281459-1	Motor Plate - All Models except V 500	1	
	281461-1	Motor Plate - V 500 only	1	
50	124-171	Screw M10 x 30	4	
	425-15	Nut - Nyloc M10	4	
51	99972-1	Motor - OMPW 200	1	
52	124-171	Screw - M10 x 30	4	
	460-11	Washer - Spring M10	4	
53	263-4	Adaptor - 1/2" BSP	2	
	451-126	Washer - Copper 1/2" BSP	2	
54	263-2	Adaptor 1/4"	1	
	451-17	Washer - Sealing 1/4"	1	
55	281251-1	Drive Motor Adaptor	1	
56	62064-1	Washer - Special	1	
57	124-136	Screw M8 x 22	1	
	460-10	Washer - Spring M8	1	
58	38-30	Grease Nipple	1	
59	281239-1	Tube - Stock	1	
60	281249-1	Plate - Retaining	1	
61	129-127	Cap Screw M8 x 30	4	

Superseded Type 'A' Wide Sweep Brush Assembly

Bearing Assembly - BoM 951014

Item No.	Part No.	Description	Quantity
62	281243-1	Bearing Plate - All Models except V 500	1
	281460-1	Bearing Plate - V 500 only	1
63	62054-1	Bearing - Housing	1
64	124-139	Screw M8 x 30	4
	425-14	Nut - Nyloc M8	4
65	38-30	Grease Nipple	1
66	14-47	Bearing	1
67	80-94	'O' Ring	1
68	62053-1	Labyrinth	1
69	281252-1	Drive Adaptor	1
70	27-15	Circlip -External	1
71	281237-1	Tube - Stock Guide	1
72	124-137	Screw M8 x 25	4
	460-10	Washer - Spring M8	4
73	281244-1	Keep Plate	1
74	124-135	Screw M8 x 20	1
	460-10	Washer - Spring M8	1
75		Tow Bars and Installations - See Current Type 'B' Wide Sweep Brush	

Note

Superseded Type 'A' Two Piece Segment Stock


95WB.002-2

BoM 951030

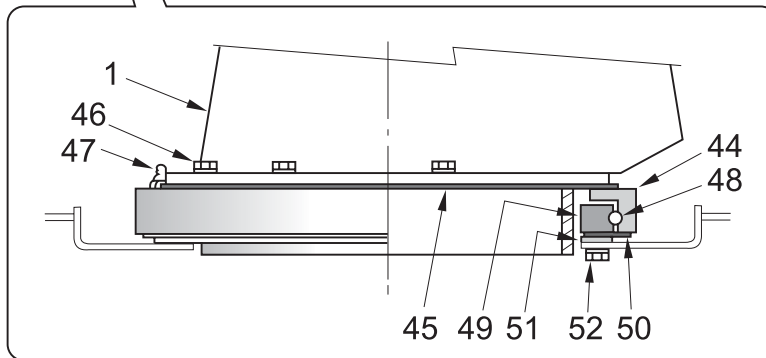
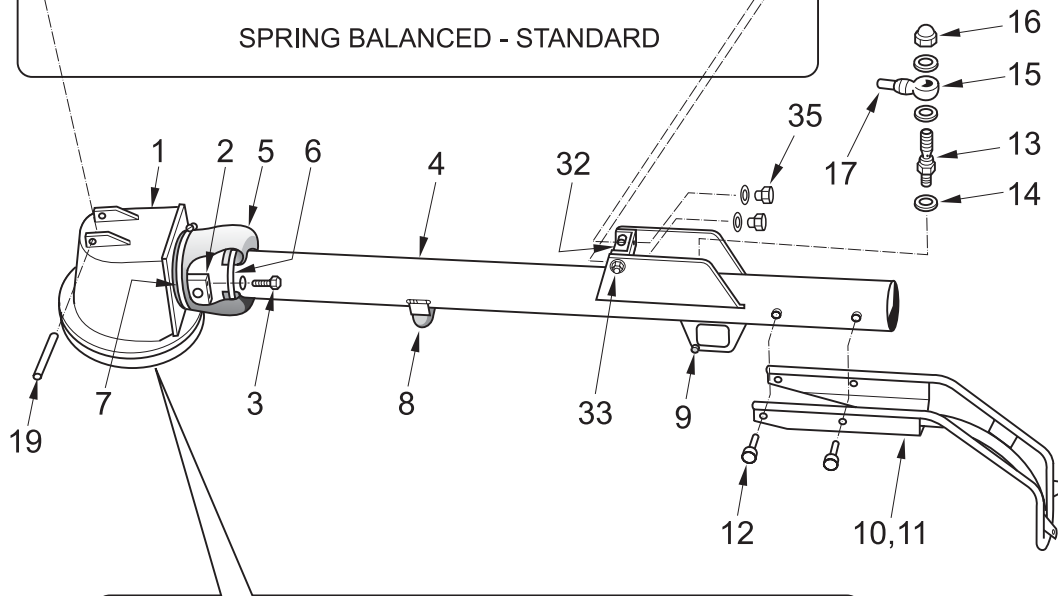
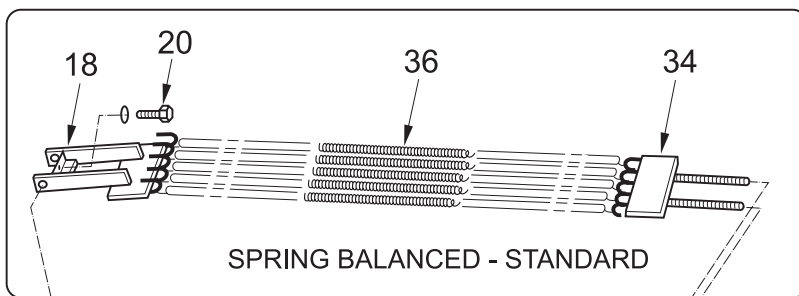
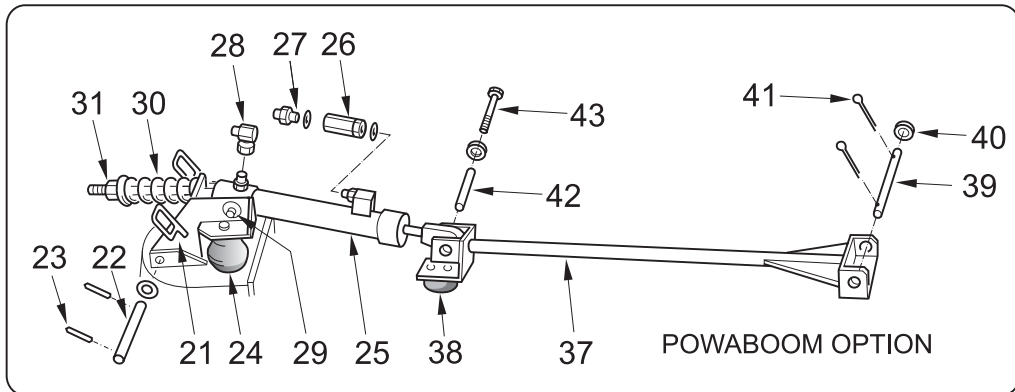
Item No.	Part No.	Description	Quantity
			Poly/Wire Segments
1	281253-1	Stock	2
2	834-1	Poly Segment	20
3	834-3	Wire Segment	20
4	13515	Spacer	38
5	281250-1	Drive Plate	2
6	129-154	Screwcap Head M10 x 25	8
	460-11	Washer - Spring M10	8

CHAPTER

27**Wanderhose/Littasnatch****Table of Contents**

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Top Mounted Wanderhoses



95WH. 001-3

Top Mounted Wanderhoses

Wanderhose Assembly - BoM 941311, 951311

Item No.	Part No.	Description	Quantity	
			150 Dia.	200 Dia.
1	41803-1	Turret	1	1
2	41833-1	Pivot Block	2	-
	40728-1	Pivot Block	-	2
3	123-131	Bolt M10 x 55	4	4
	460-11	Washer M10	4	4
4	294085-1	Boom x 150 Dia. - V 500 Only	1	-
	294086-1	Boom x 200 Dia. - V 500 Only	-	1
	281255-1	Boom x 150 Dia. - V 605, 650, 800 Only	1	-
	281089-1	Boom x 200 Dia. - V 605, 650, 800 Only	-	1
5	40780-1	Flexible Joint	1	1
6	504-51	Hose Clip	1	-
	504-52	Hose Clip	-	1
7	504-55	Hose Clip	1	1
8	39382	Rubber Stop	1	1
	129-65	Screw M5 x 20	2	2
	455-7	Washer M5	2	2
	425-12	Nut M5	2	2
9	290-28	Bump Stop	1	1
	124-36	Screw M4 x 12	1	1
	460-5	Washer - Spring	1	1
10	282470-1	Jib	1	-
11	282545-1	Jib	-	1
12	124-199	Screw M12 x 20	4	4
	460-12	Washer M12	4	4
13	40755-1	Water Jet	1	1
14	453-1	Fibre Washer	3	3
15	26997-1	Banjo	1	1
> 16	410-12	Domed Nut M12	1	1
17	46382-3	Hose Adaptor	1	1
18	40746-1	Claw	1	-
	41814-1	Claw	-	1
19	40420-1	Pin	1	1
20	124-137	Screw M8 x 25	1	1
	460-10	Washer M8	1	1
21	62367-1	Anchor	1	1
22	41374-1	Pin	1	1
	455-14	Washer Ø16	2	2
23	59-10	Cotter Pin	2	2
24	290-3	Rubber Spring	2	2
	124-207	Screw M12 x 40	2	2
	425-16	Nut M12	2	2

Top Mounted Wanderhoses
Wanderhose Assembly - BoM 951310 - Continued

Item No.	Part No.	Description	Quantity		
			150 Dia.	200 Dia.	
25	29170-1	Hydraulic Cylinder - See Chapter 28	1	1	
26	29301-1	Flow Control Valve	1	1	
	451-17	Washer - Sealing 1/4"	1	1	
27	263-2	1/4" Adaptor	1	1	
	451-17	Washer - Sealing 1/4"	1	1	
28	262-2	1/4" Elbow Adaptor	1	1	
29	62365-1	Pivot Pin	1	1	
	455-16	Washer Ø20	2	2	
	500-106	Split Pin	2	2	
30	62366-1	Fork	1	1	
	13501	Spring	1	1	
31	44031-1	Locater	1	1	
	425-7	Nut M20F	1	1	
32	62952-1	Pivot	1	-	
	49051-1	Pivot	-	1	
33	49053-1	Pivot Pin	2	-	
	49052-1	Pivot Pin	-	2	
	455-14	Washer Ø16	2	2	
	425-18	Nut M16	2	2	
34	40746-2	Claw	1	-	
	41814-2	Claw	-	1	
35	41836-1	Nut - Special M16	2	2	
	455-16	Washer Ø20	2	2	
>	36	40691-1	Spring	5	6
37	62953-1	Extension Tube	1	-	
	62608-1	Extension Tube	-	1	
38	39382	Rubber Stop	1	1	
	124-27	Screw M5 x 20	2	2	
	455-7	Washer Ø5	2	2	
	425-12	Nut M5	2	2	
39	62254-2	Pin	1	-	
	62254-1	Pin	-	1	
40	455-16	Washer Ø20	2	2	
41	500-106	Split Pin	2	2	
42	40377-4	Bush	1	1	
43	124-182	Screw M10 x 75	1	1	
	457-5	Washer Ø10	2	2	
	425-15	Nut M10	1	1	

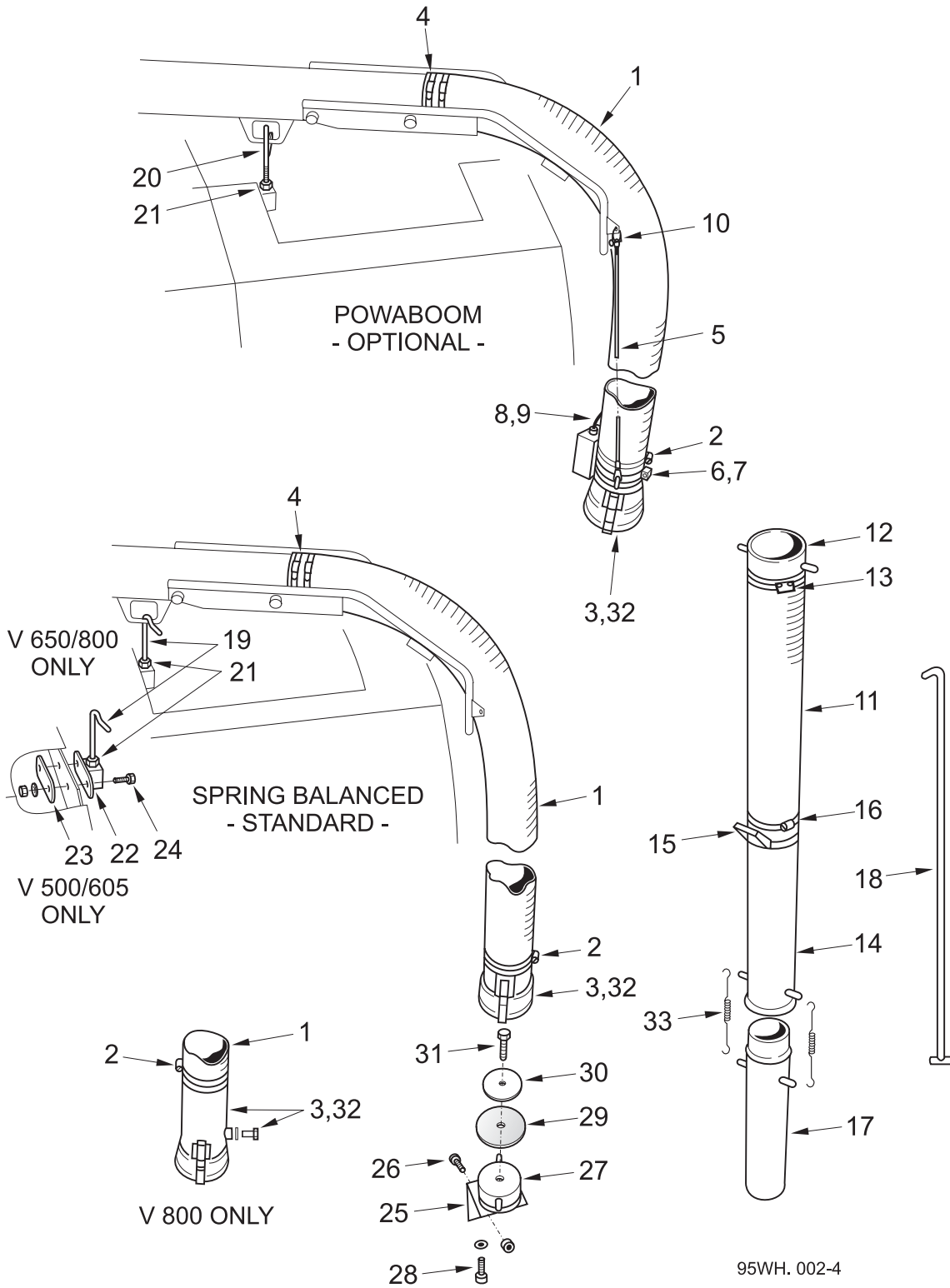
Top Mounted Wanderhoses

Turret Turntable - BoM 951322

Item No.	Part No.	Description	Quantity
44	40722-1	Outer Race	1
45	5955-1	Seal	1
46	124-167	Screw M10 x 20	6
	460-11	Washer Ø10	6
47	38-3	Grease Nipple	1
> 48	22-8	Steel Ball	105
49	40721-1	Inner Race	1
50	40723-1	Seal Plate	1
51	5955-1	Seal	1
52	124-169	Screw M10 x 25	8
	460-11	Washer Ø10	8

Notes

Wanderhoses - Stowage and Trunkings

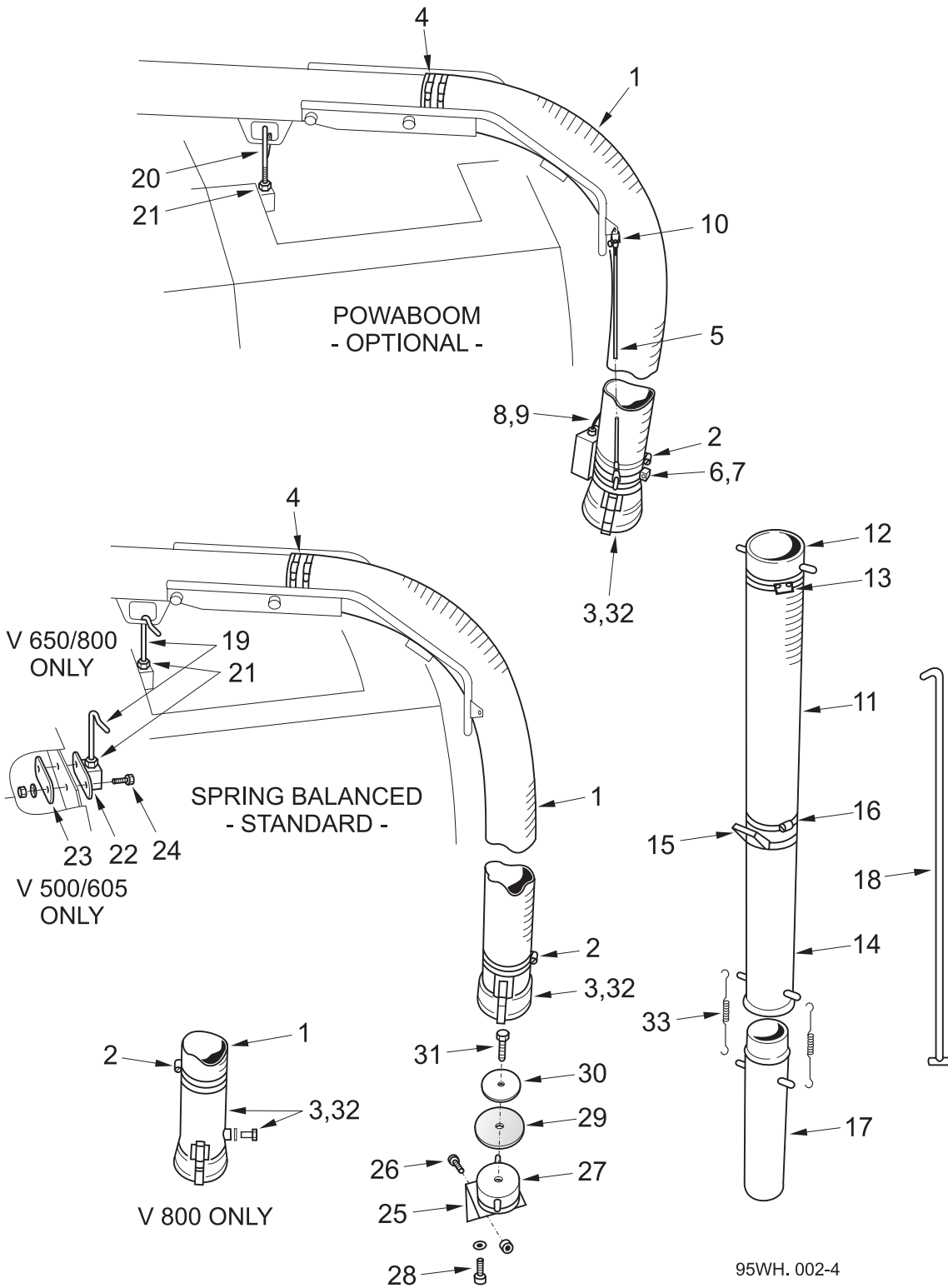


Wanderhoses - Stowage and Trunkings

Dressing - BoM 951330 and 961330

Item No.	Part No.	Description	Quantity	
			Ø150	Ø200
}	282897-1	Trunking Assembly Ø150 - V 605,650)	1	-
	282897-2	Trunking Assembly Ø200 - V 605,650)	-	1
	282900-1	Trunking Assembly Ø150 - V 800 only)	1	-
	282900-2	Trunking Assembly Ø200 - V 800 only)	-	1
}	6004-1	Trunking Ø150	1	-
	15916-1	Trunking Ø200	-	1
}	504-51	Hose Clip	2	-
	503-52	Hose Clip	-	2
}	6003-1	Coupling Ø150 - V 605,650	1	-
	6003-8	Coupling Ø200 - V 605,650	-	1
}	61045-2	Coupling Ø150)	1	-
	61045-1	Coupling Ø200)	-	1
	124-201	Setscrew M12c x 25)	1	1
	453-1	Fibre Washer)	1	1
}	504-51	Hose Clip	1	-
	504-52	Hose Clip	-	1
Powaboom Additions - Items 5 to 10:				
5	21216-8	Lift Cable	2	2
6	282637-1	Cable Support	1	-
	282638-1	Cable Support	-	1
7	123-112	Bolt M8 x 60	1	1
	425-14	Nut M8	1	1
8	-	Control Loom) Covered elsewhere		
9	-	Extension Loom) in this Chapter		
10	6032-1	'D' Shackle		
11	6005-1	Trunking	1	-
	15917-1	Trunking	-	1
12	5996-1	Coupling	1	-
	5996-4	Coupling	-	1
13	504-51	Hose Clip	1	-
	504-52	Hose Clip	-	1
14	6027-1	Hose End Fitting	1	-
	15899-1	Hose End Fitting	-	1
15	6212-1	Handle	1	-
	15920-1	Handle	-	1
16	504-51	Hose Clip	1	-
	504-52	Hose Clip	-	1
17	282893-1	Extension x 1250 long - Includes Clips item 30	1	-
	282890-3	Extension x 1250 long - Includes Clips item 30	-	1

Wanderhoses - Stowage and Trunkings



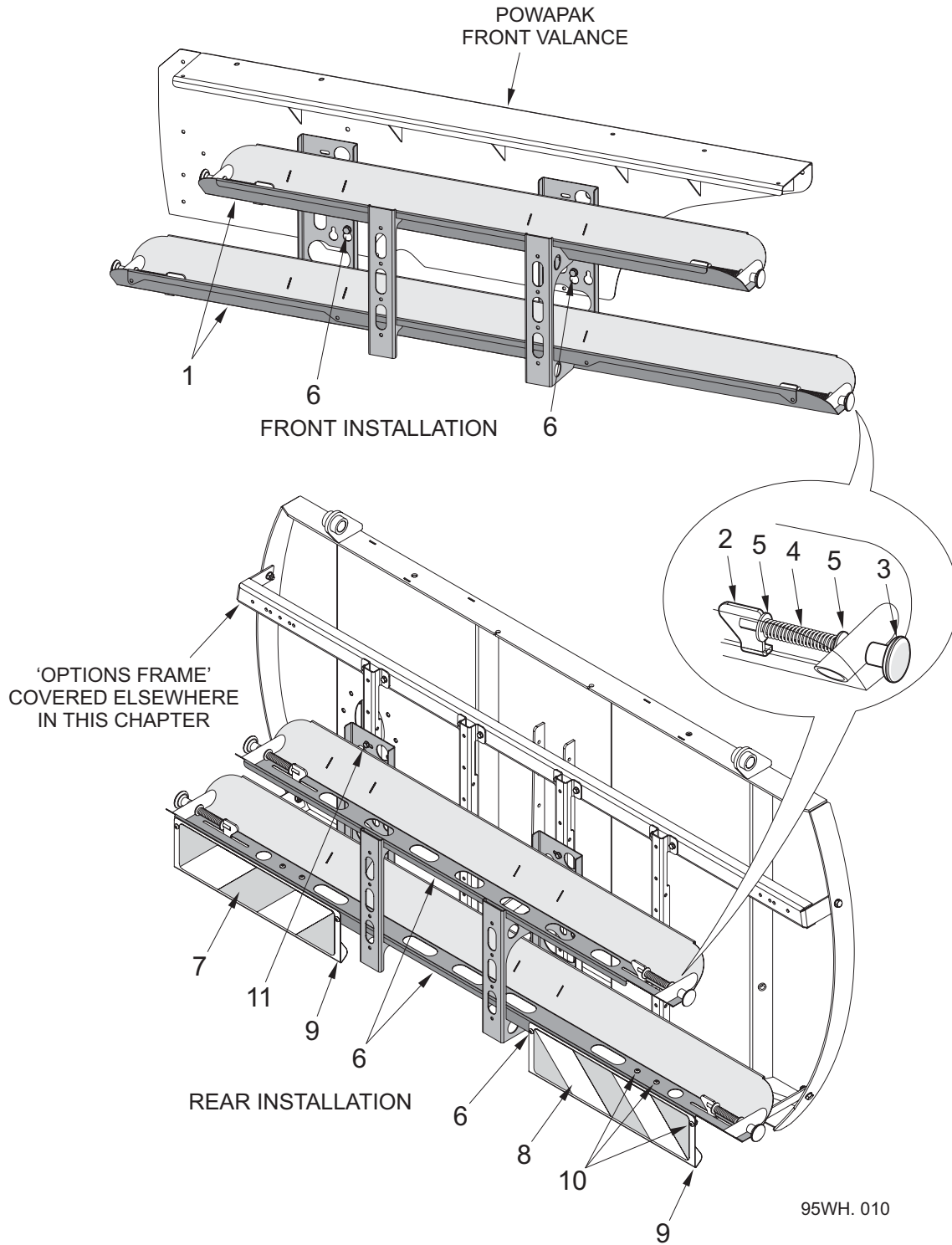
Wanderhoses - Stowage and Trunkings

Stowage - BoM 951321 and 961321

Item No.	Part No.	Description	Quantity	
			Ø150	Ø200
18	40781-1	Grab - Spring Balanced Only	1	1
19	40207-1	Hook	1	1
20	294120-1	Boom Support - Powaboom only	1	1
21	420-18	Nut M16	2	2
22	282739-1	Stowage Boss)	1	1
23	282738	Plate)	1	1
24	124-137	Screw M8 x 25) V 500, 605 only	2	2
	455-10	Washer - Plain)	2	2
	425-14	Nut - Nyloc M8)	2	2
25	42463-1	Anchor Bracket - V 605, 650	1	1
	61044-1	Anchor Bracket - V 800 only	1	1
26	135-57	Screw M8 x 20	2	2
	460-10	Washer	2	2
	420-14	Nut M8	2	2
27	42462-1	Anchor	1	-
	42738-1	Anchor	-	1
28	124-169	Screw M10 x 25	2	2
	460-11	Washer	2	2
29	5688-1	Rubber Disc	1	-
	5688-2	Rubber Disc	-	1
30	6043-1	Retaining Plate	1	1
31	124-103	Screw M6 x 20	1	1
	460-8	Washer	1	1
	420-13	Nut M6	1	1
Spare Parts Items				
32		Coupling Assemblies Item 3 comprising:		
	5992-1	Sleeve Ø150 - V 605, 650	1	-
	15895-1	Sleeve Ø200 - V 605, 650	-	1
	61063-1	Sleeve Ø150 - V 800 only	1	-
	61046	Sleeve Ø200 - V 800 only	-	1
	5999-1	Catch	2	2
	58-6	Pin	2	2
	6002-1	Spring	2	2
	193-8	Screw Pan Head	6	6
33	6216-1	Spring Clip	2	2

Extension Hose Stowage Trays

Standard on V 500 and 800 machines, optional on 605/650 machines
(500 and 800 bodies have no side lockers)



Extension Hose Stowage Trays

BoM KT 05795

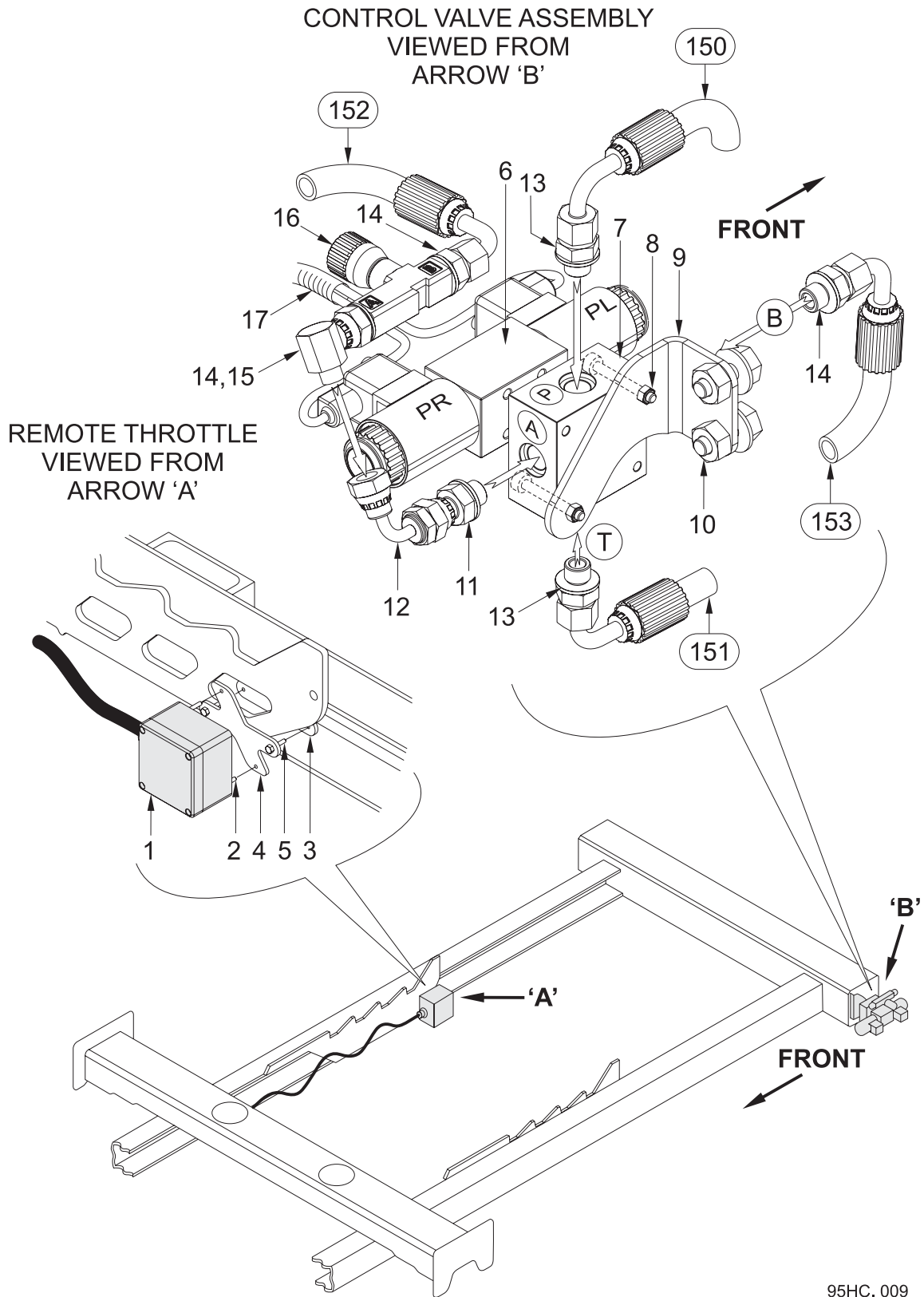
Item No.	Part No.	Description	Quantity	
			Front	Rear
	282867-1	Front Installation	✓	-
	281995-1	Rear Installation	-	✓
1	282698-1	Hose Tray Assembly	1	1
2	282879-1	Plunger	4	4
3	282880-1	Knob	4	4
4	285-27	Spring	4	4
5	457-5	Washer - Large	8	8
* 6	124-169	Screw M10 x 25	6	-
	455-10	Washer - Plain	6	-
+ 7	20674-1	L.H. Reflective Marker	-	1
+ 8	20674-2	R.H. Reflective Marker	-	1
+ 9	282704-1	Marker Mounting Bracket	-	2
+ 10	138-122	Screw - Socket Hd. Button M8 x 16	-	8
	455-10	Washer - Plain	-	8
	425-14	Nut - Nyloc M8	-	8
11	124-137	Bolt M8 x 25	-	6
	455-10	Washer - Plain	-	6
	425-14	Nut - Nyloc M8	-	6

Notes

* Item 6 - These are the existing screws and washers used to fix the front valance to the Powapak cradles.

+ Items 7 to 10 are only required on UK spec. machines.

Powaboom Controls - Installation



95HC. 009

Powaboom Controls - Installation

BoM KT 07595

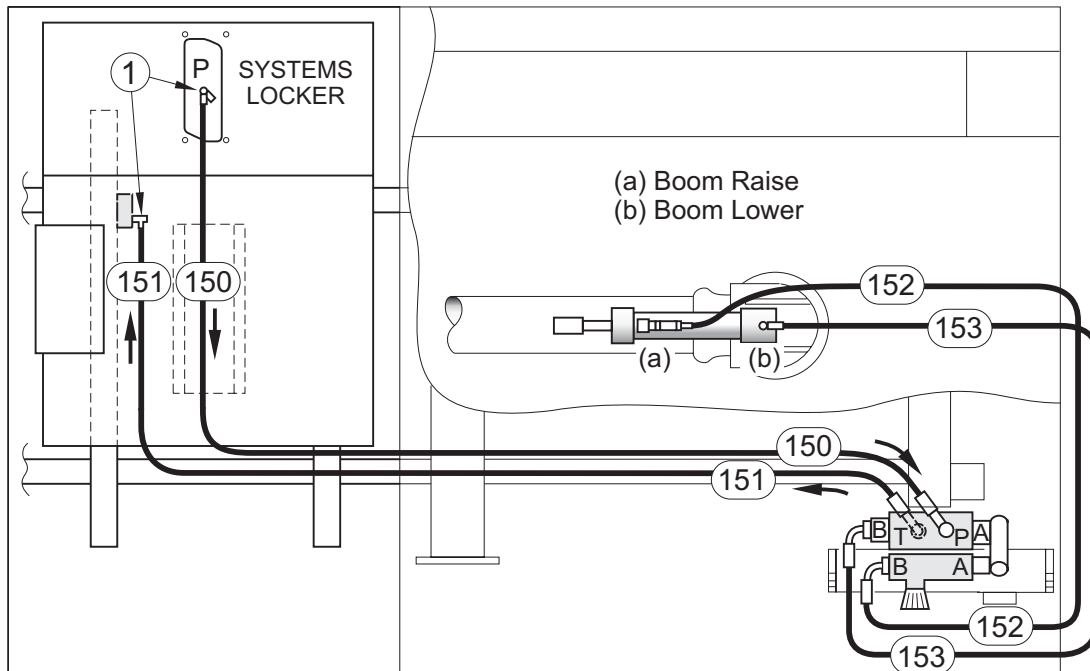
Item No.	Part No.	Description	Quantity
	282055-1	Powaboom Control 12v	
	282055-2	Powaboom Control 24v	
		Throttle Installation Items 1to 5:	
1	-	Throttle Loom - See Item 17	1
2	129-36	Screw - Socket Head M4 x 20	2
	425-11	Nut - Nyloc M4	2
3	282056-1	Throttle Mount Plate Clamp	1
4	282057-1	Throttle Mount Plate	1
5	124-71	Bolt M5 x 20	2
	425-12	Nut - Nyloc M5	2
		Control and Lock Valves Installation Items 6 to 16:	
6	78352-1	Solenoid Valve 12v	1
	200833-1	Solenoid Valve 24v	1
7	201098-1	Solenoid Base	1
8	129-71	Screw - Socket Head M5 x 35	2
	425-12	Nut - Nyloc M5	2
9	282533-1	Mounting Bracket	1
10	123-104	Screw M8 x 30	2
	455-10	Washer Ø8	2
	425-14	Nut - Nyloc M8	2
11	267-2	1/4" Swivel Adaptor	1
	451-17	Washer - Sealing 1/4"	1
12	262-2	1/4" Adaptor 90°	1
13	263-2	1/4" Adaptor	2
	451-17	Washer - Sealing 1/4"	2
14	463-2	1/4" Adaptor	3
	451-17	Washer - Sealing 1/4"	3
15	242-2	1/4" Swivel Elbow	1
16	241-150	Regulator	1
17	-	Looms - See over page	
150 to 153		Hoses - See over page	

Notes

* Hose item numbers correspond with those in hydraulic diagram SH527z01 in Chapter 8.

Powaboom - Hydraulic Hoses

. Drg 282055



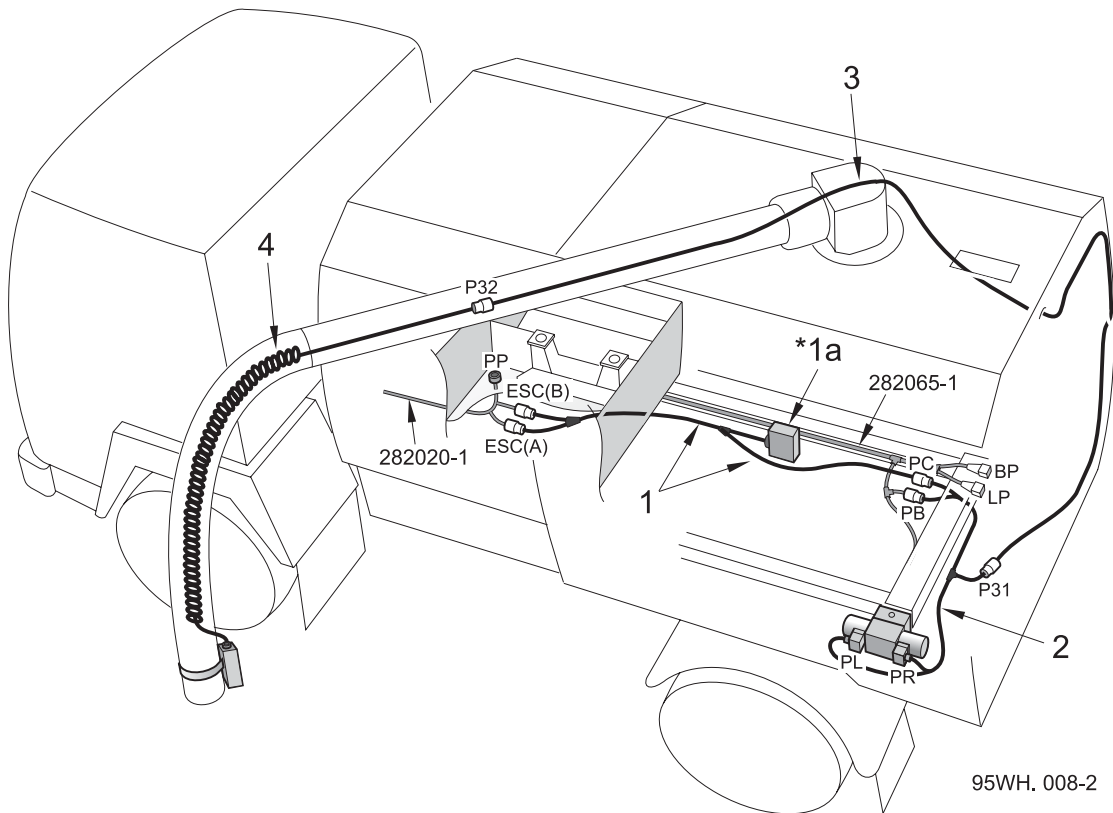
95HC. 010

KT07595

Item No.	Part No.	Description	Quantity
1	255-30	Swivel Tee	2
150	HC04002-430	Hydraulic Hose 1/4"	1
151	HC04002-324	Hydraulic Hose 1/4"	1
152	HC04002-730	Hydraulic Hose 1/4"	1
153	HC04002-600	Hydraulic Hose 1/4"	1

Notes

Hose item numbers correspond with those in hydraulic diagram SH527z01 in Chapter 8



KT07595 - Control Valves

Item No.	Part No.	Description	Quantity
* 1	282060-1	Remote Throttle Loom	1
2	282062-1	Powaboom Loom	1

BoM 951330 - Dressing

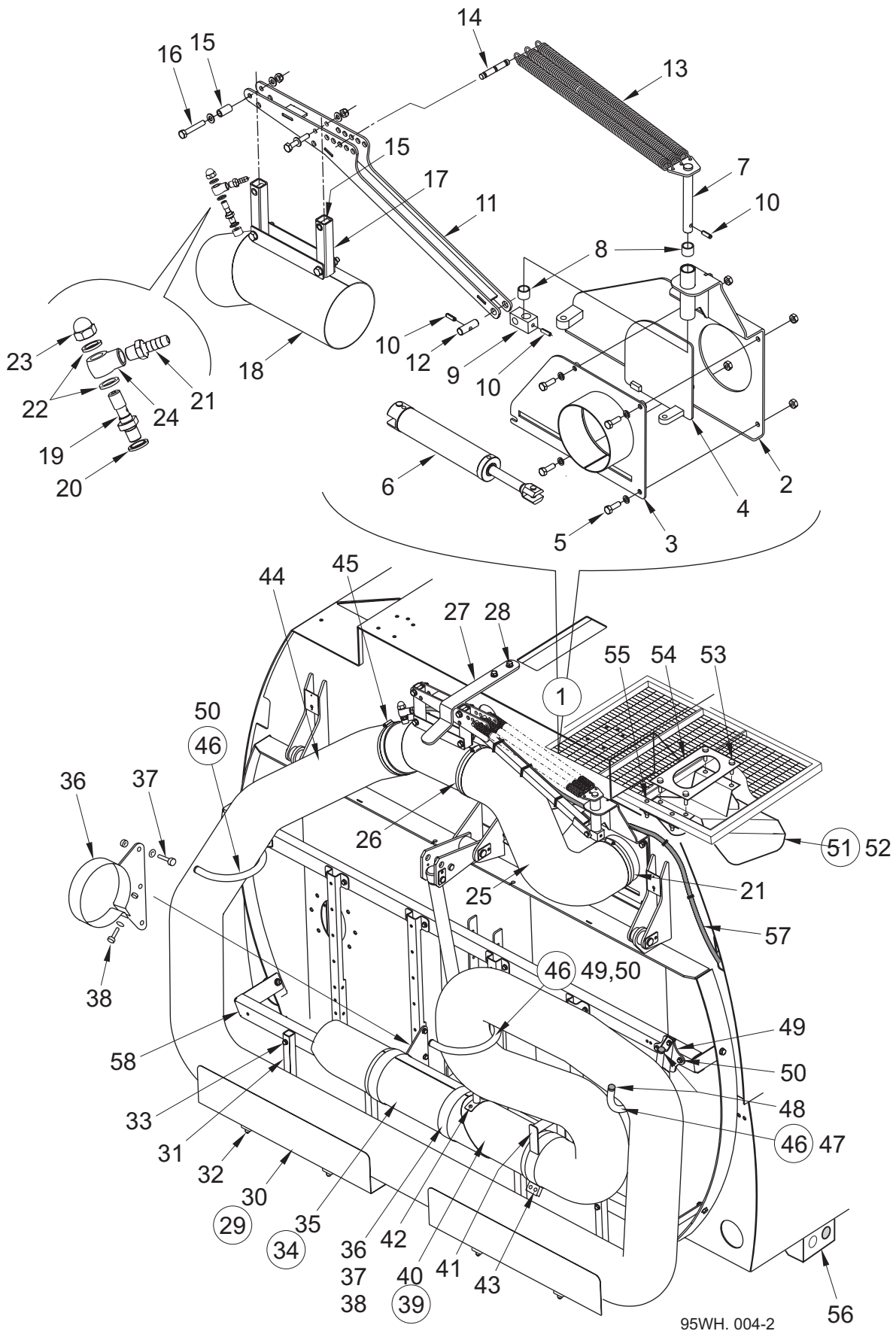
3	282063-1	Extension Loom
4	282061-1	Control Loom VT Series
	282061-2	Control Loom VS Series

Notes

* The remote throttle loom relay box, item 1a, must be adapted to suit VS or 12v / 24v VT applications. Refer to drawing 282140 for further details

For electrical circuit see diagram SE568z01 in Chapter 9

Littasnatch



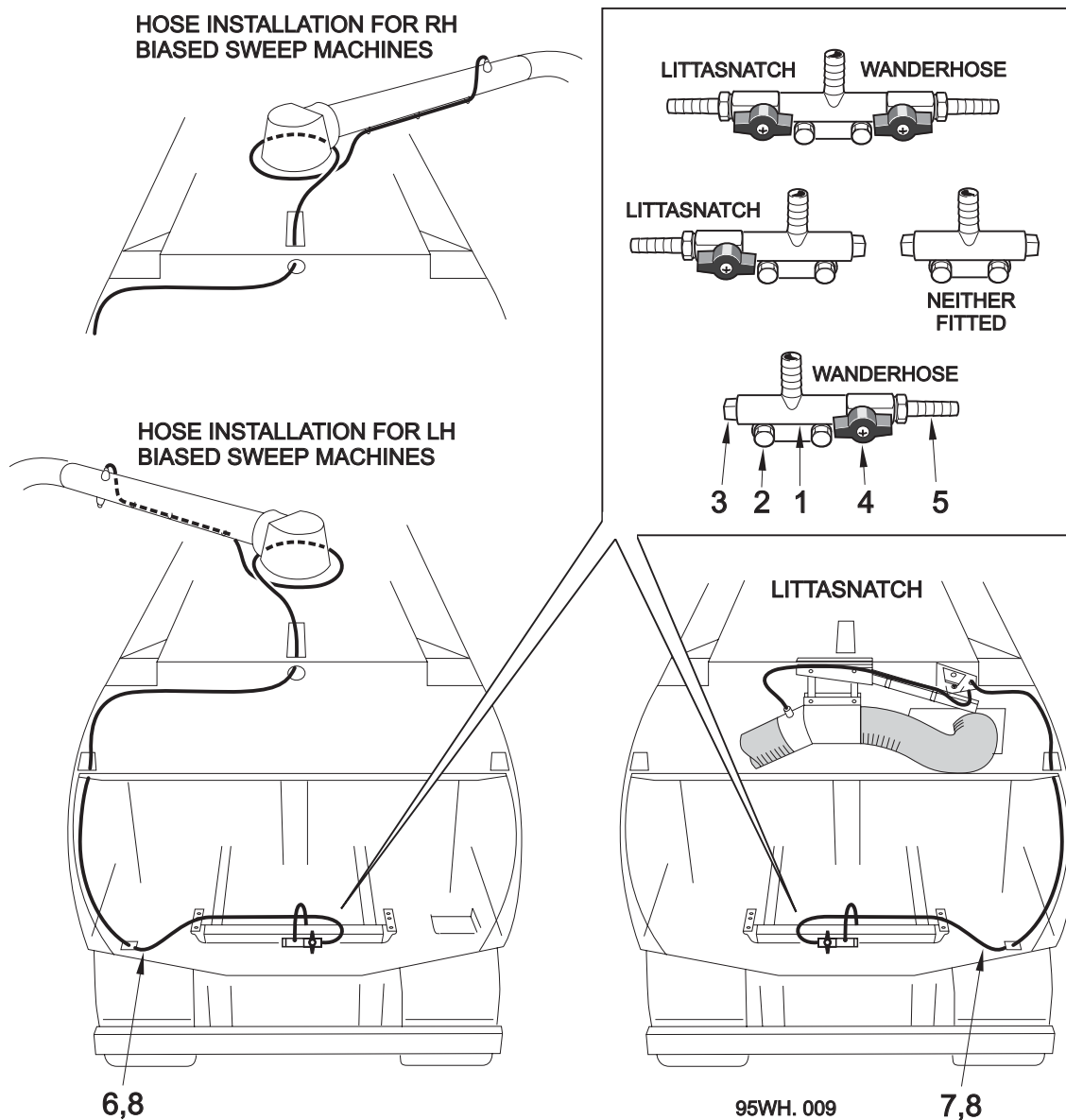
BoM KT04795

Item No.	Part No.	Description	Quantity
1	282476-1	Cassette Assembly comprising items 2 to 26	
2	281365-1	Inner Plate	1
3	281375-1	Outer Plate	1
4	281370-1	Gate	1
5	118-171	Screw M10 x 30 Stainless Steel	4
	458-10	Washer - Spring M10 Stainless Steel	4
	420-15	Nut M10	4
6	63449-1	Cylinder - See Chapter 29	1
7	60303-1	Pivot Pin	1
8	29128-1	Bush	2
9	60309-1	Universal Joint	1
10	59-8	Tension Pin	2
11	282990-1	Davit	1
12	60317-1	Pivot Pin	1
13	3637-1	Spring	3
14	60326-1	Location Pin	1
15	60734-1	Spacer	4
16	123-132	Bolt M10 x 60	4
	455-11	Washer - Plain M10	8
	425-15	Nut - Nyloc M10	4
17	60724-1	Link Tube - Suspension	2
18	60697-1	Tube - Hose Connection	1
19	40755-1	Water Jet M12	1
20	451-17	Washer - Sealing G1/4"	1
21	46382-3	Hose Adaptor	1
22	453-1	Fibre Washer	2
23	418-12	Domed Nut - M12 Stainless Steel	1
24	26997-1	Banjo	1
25	60744-1	Duct	1
26	504-51	Hose Clip	2
27	280821-1	Stowage Plate -VT650	1
	281101-1	Stowage Plate - VT800	1
28	118-169	Screw M10 x 25 Stainless Steel	2
	458-10	Washer - Spring M10 Stainless Steel	2
>	454-10	Washer - Plain M10 Stainless Steel	2
29	282482-1	Trough Assembly comprising items 30 to 33	2
30	801928-1	Trough	1
31	281580-1	Post	2
32	138-123	Screw Button Head M8 x 20	4
	455-10	Washer - Plain M8	4
	425-14	Nut - Nyloc M8	4
33	123-110	Bolt M8 x 50	2
	455-10	Washer - Plain M8	2
	425-14	Nut - Nyloc M8	2

Littasnatch
BoM KT04795

Item No.	Part No.	Description	Quantity	
34	282484-1	Holster Assembly comprising items 35 to 38	1	
35	280560-1	Holster	1	
36	282483-1	Support	2	
37	124-137	Screw M8 x 25	6	
	455-10	Washer - Plain M8	6	
	425-14	Nut - Nyloc M8	6	
38	123-82	Bolt M6 x 30	4	
	455-8	Washer - Plain M6	4	
	425-13	Nut - Nyloc M6	4	
>	39	282448-2	Suction Tube Assembly comprising items 40 to 43	1
>	40	60739-2	Section Tube	1
>	41	60716-2	Handle	1
	42	138-94	Screw Button Head M6 x 20	2
		457-2	Washer - Large M6	2
		425-13	Nut - Nyloc M6	2
	43	124-105	Screw M6 x 25	2
		455-8	Washer - Plain M6	2
		425-13	Nut - Nyloc M6	2
	44	60744-2	Duct	1
	45	504-51	Hose Clip	1
	46	282504-1	Hook Assembly comprising items 47 and 48	3
	47	280563-1	Hook	1
	48	220-65	Plastic Plug	2
	49	281579	Star Plate	2
	50	124-137	Screw M8 x 25	10
		455-10	Washer - Plain M8	20
		425-14	Nut - Nyloc M8	10
	51	280423-1	Baffle Installation comprising items 52 and 53	
	52	280360-1	Baffle	1
	53	118-135	Screw M8 x 20	4
		454-10	Washer - Plain M8	8
		425-14	Nut - Nyloc M8	4
	54	282881-1	Spreader Plate	1
	55	127-137	Screw Csk. Head M8 x 25	2
		288-33	Round Insert	2
	56	282523-3	Pneumatic Controls - Covered elsewhere in this chapter	
	57	-	Water Hose - Covered elsewhere in this chapter	
	58	-	Mounting Frame - Covered elsewhere in this chapter.	

Wanderhose/Littasnatch - Water Hose Installation



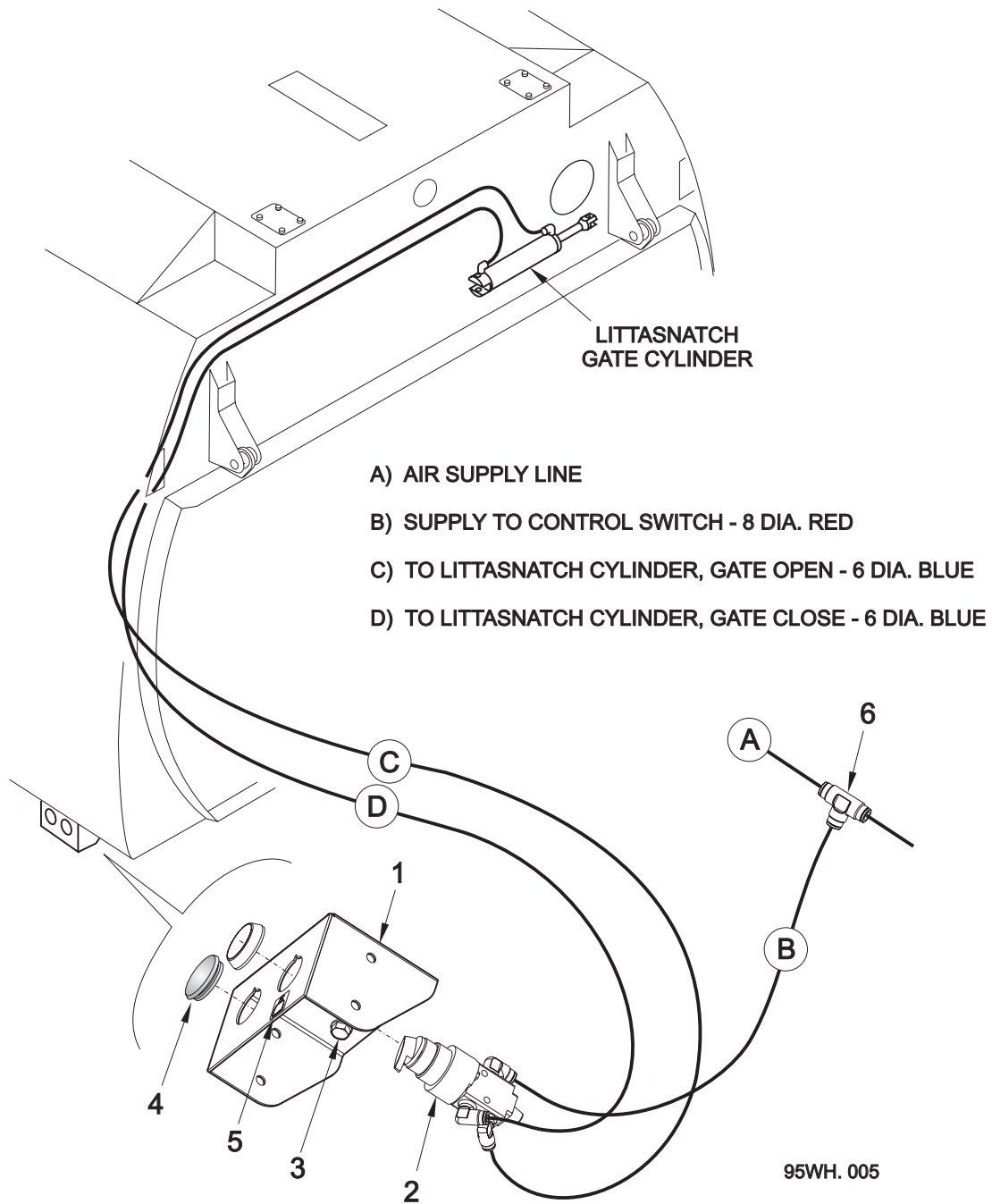
BoM 950714 - Subframe Services

Item No.	Part No.	Description	Quantity
1	281076-1	Manifold	1
2	124-134	Screw M8 x 16	2
	460-10	Washer - Spring Ø8	2
3	18892	Plug R3/8"	As Req'd

BoM 951330 - Wanderhose, KT04795 - Littasnatch

4	88-5	Ball Valve	As Req'd
5	41006-2	Adaptor - Hose Tail	As Req'd
6	39444	Hose Ø10 - Wanderhose	7m
7	39444	Hose Ø10 - Littasnatch	5m
8	501-1	Hose Clip	2

Littasnatch Controls



- A) AIR SUPPLY LINE
- B) SUPPLY TO CONTROL SWITCH - 8 DIA. RED
- C) TO LITTASNATCH CYLINDER, GATE OPEN - 6 DIA. BLUE
- D) TO LITTASNATCH CYLINDER, GATE CLOSE - 6 DIA. BLUE

NOTE

L.H. INSTALLATION SHOWN
FOR R.H. INSTALLATION SWITCH BOX AND PIPEWORK MIRRORED.

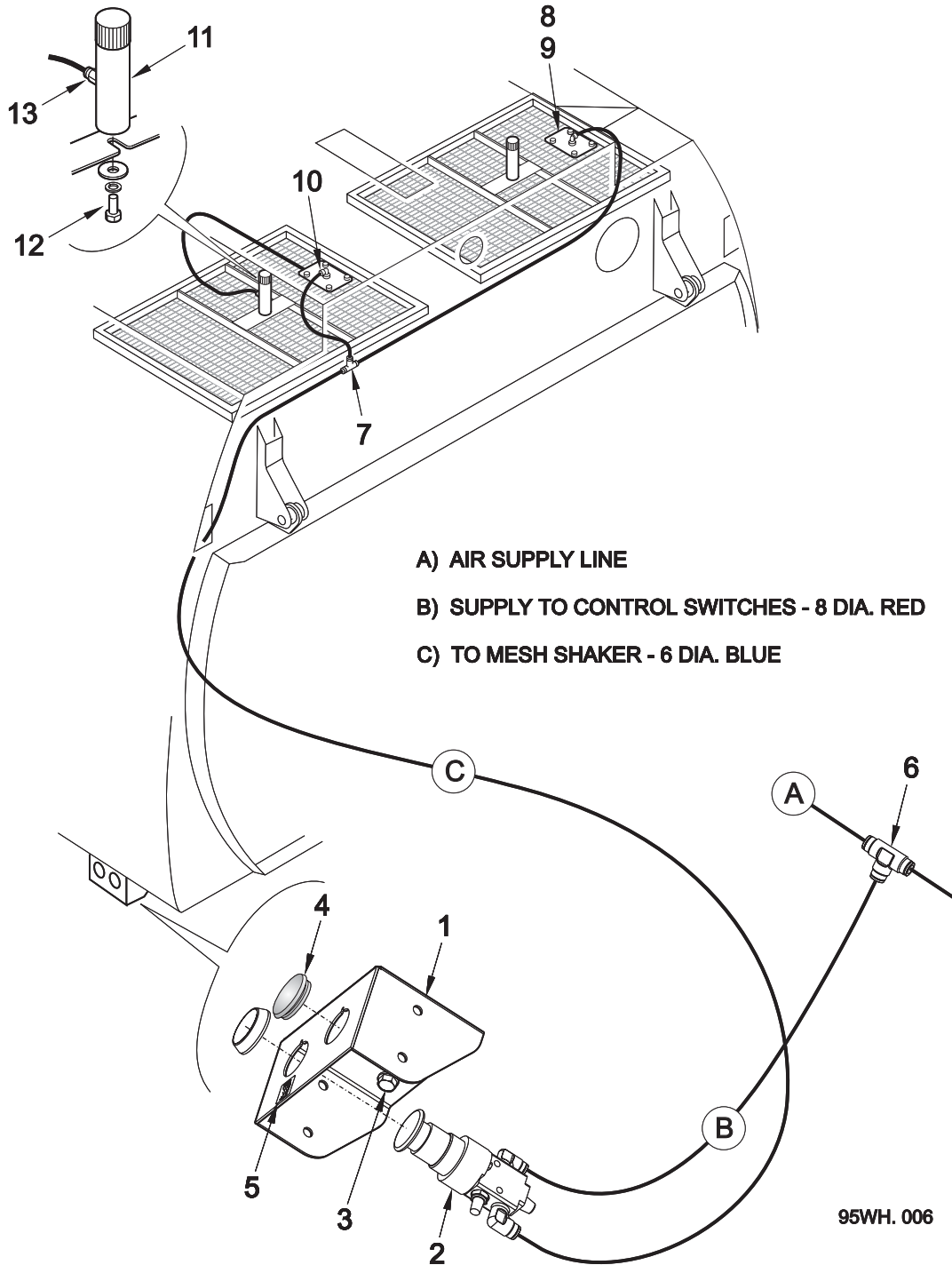
Littasnatch Controls

BoM KT04795-1

Item No.	Part No.	Description	Quantity
	282523-3	Pneumatic Controls comprising items:	
1	282522-1	Switch Box	1
2	72-50	Air Switch	1
3	124-135	Screw M8 x 20	2
	455-10	Washer - Plain M8	4
	425-14	Nut - Nyloc M8	2
4	288-28	Grommet	1
5	282458-1	Littasnatch Label No. 2.14 - See Chapter 34	1
> 6	559-8	Tee Ø8	
Tubing			
A	-	See Pneumatics Chapter 29	
B	273-23	Tube - Red Ø8	2m
C & D	273-20	Tube - Blue Ø6	10m

Notes

Mesh Shaker



NOTE: L.H. INSTALLATION SHOWN - R.H. IS MIRROR IMAGE

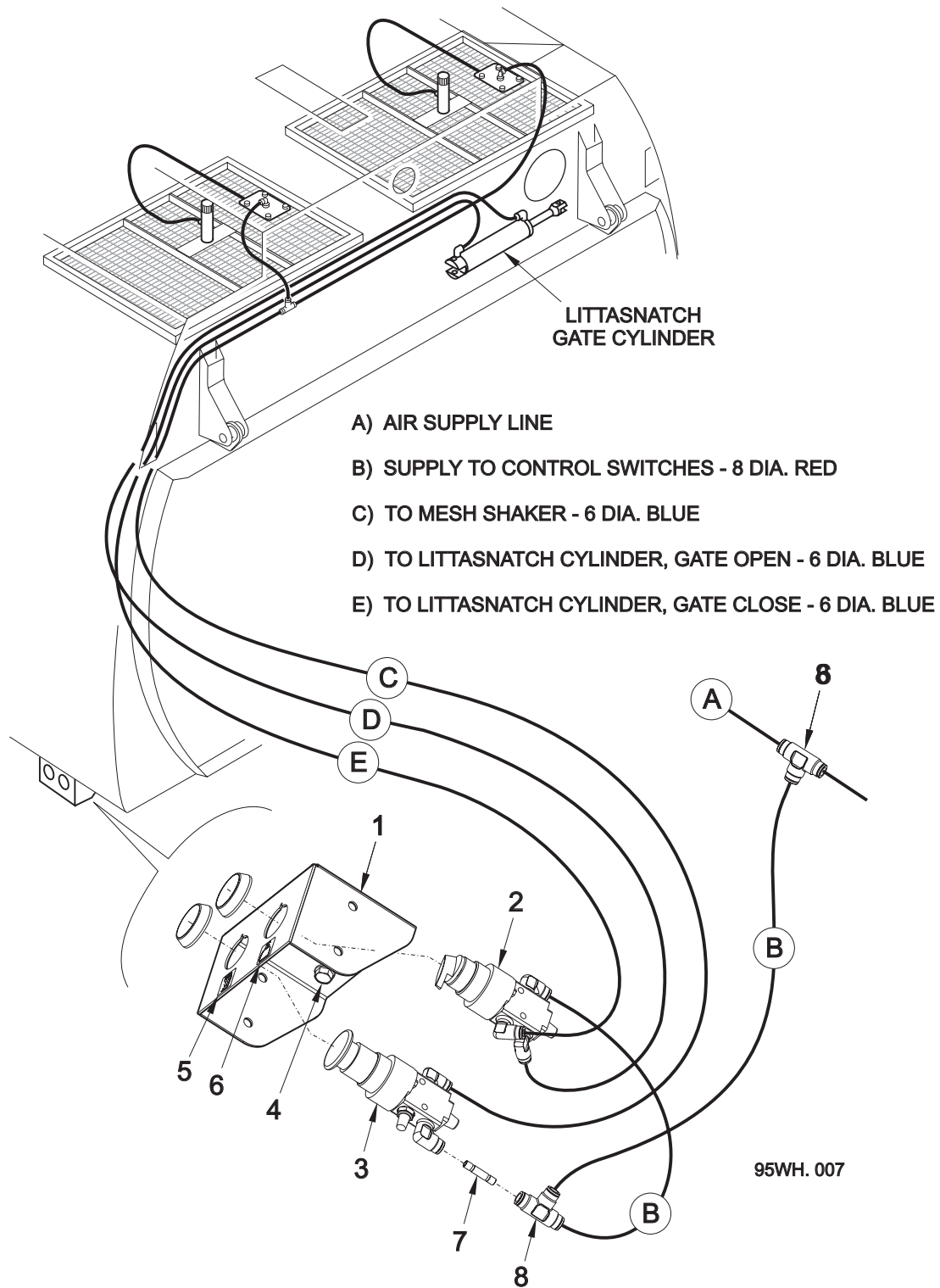
Mesh Shaker

BoM KT03195

Item No.	Part No.	Description	Quantity
	282523-2	Pneumatic Controls comprising items 1 to 8 plus tubing	
1	282522-1	Switch Box	1
2	72-51	Push Button	1
3	124-135	Screw M8 x 20	2
	455-10	Washer - Plain M8	4
	425-14	Nut - Nyloc M8	2
4	288-28	Grommet	1
5	282458-1	Mesh Shaker Label No. 2.13 - See Chapter 34	1
> 6	559-8	Tee Ø8	1
7	554-3	Tee Ø6	1
Tubing			
A	-	See Pneumatics Chapter 29	
B	273-23	Tube - Red Ø8	2m
C	273-20	Tube - Blue Ø6	20m
	282519-1	Mesh Shaker Installation comprising items 8 to 13	
8	282515-2	Connection Plate (4003)	2
9	118-135	Screw M8 x 20)	8
	454-10	Washer - Plain M8) Stainless Steel	8
	460-10	Washer - Spring M8)	8
10	555-3	Bulkhead Adaptor Ø6	2
	551-1	Stem Elbow Ø6	4
11	282520-1	Vibrator	2
12	118-201	Screw M12 x 25)	2
	460-12	Washer - Spring M12) Stainless Steel	2
	457-6	Washer - Large M12)	2
13	537-3	Adaptor G1/8"	2

Notes

Littasnatch Combined Mesh Shaker Controls



NOTE: L.H. INSTALLATION SHOWN - R.H. IS MIRROR IMAGE

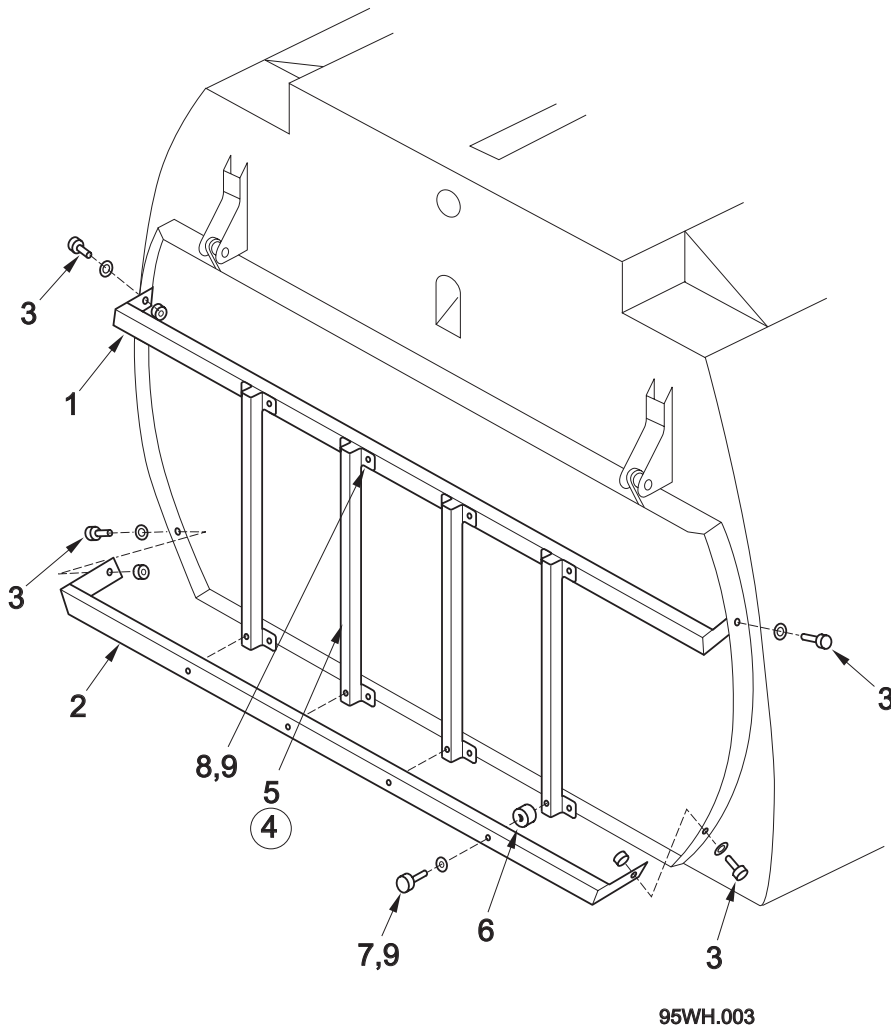
Littasnatch Combined Mesh Shaker Controls

BoM's KT04795, KT03195

Item No.	Part No.	Description	Quantity
	282523-1	Pneumatic Controls comprising items 1 to 8 plus tubing	
1	282522-1	Switch Box	1
2	72-50	Air Switch	1
3	72-51	Push Button	1
4	124-135	Screw M8 x 20	2
	455-10	Washer - Plain M8	4
	425-14	Nut - Nyloc M8	2
5	282458-1	Littasnatch Label No. 2.14) See	1
6	282458-1	Mesh Shaker Label No. 2.13) Chapter 34	1
7	549-4	Stem Ø8	1
> 8	559-8	Tee Ø8	2
Tubing			
A	-	See Pneumatics Chapter 29	
B	273-23	Tube - Red Ø8	2.5m
C,D,E	273-20	TUbe - Blue Ø6	30m

For Mesh Shaker Installation see previous page

Notes

Options Frame

BoM KT01695

Item No.	Part No.	Description	Quantity	
	282437-1	Options Frame Assembly comprising items 1 to 9		
1	282432-1	Upper Cross Member	1	
2	282433-1	Lower Cross Member	1	
3	124-171	Screw M10 x 30	4	
	455-11	Washer - Plain M10	8	
	425-15	Nut - Nyloc M10	4	
4	282439-1	Vertical Strut Assembly comprising items 5 to 9	4	
	5	282435-1	Strut	1
>	6	282438-37	Spacer	1
	7	123-110	Bolt M8 x 50	1
	8	124-137	Screw M8 x 25	2
	9	455-10	Washer - Plain M8	6
	425-14	Nut - Nyloc M8	3	

CHAPTER

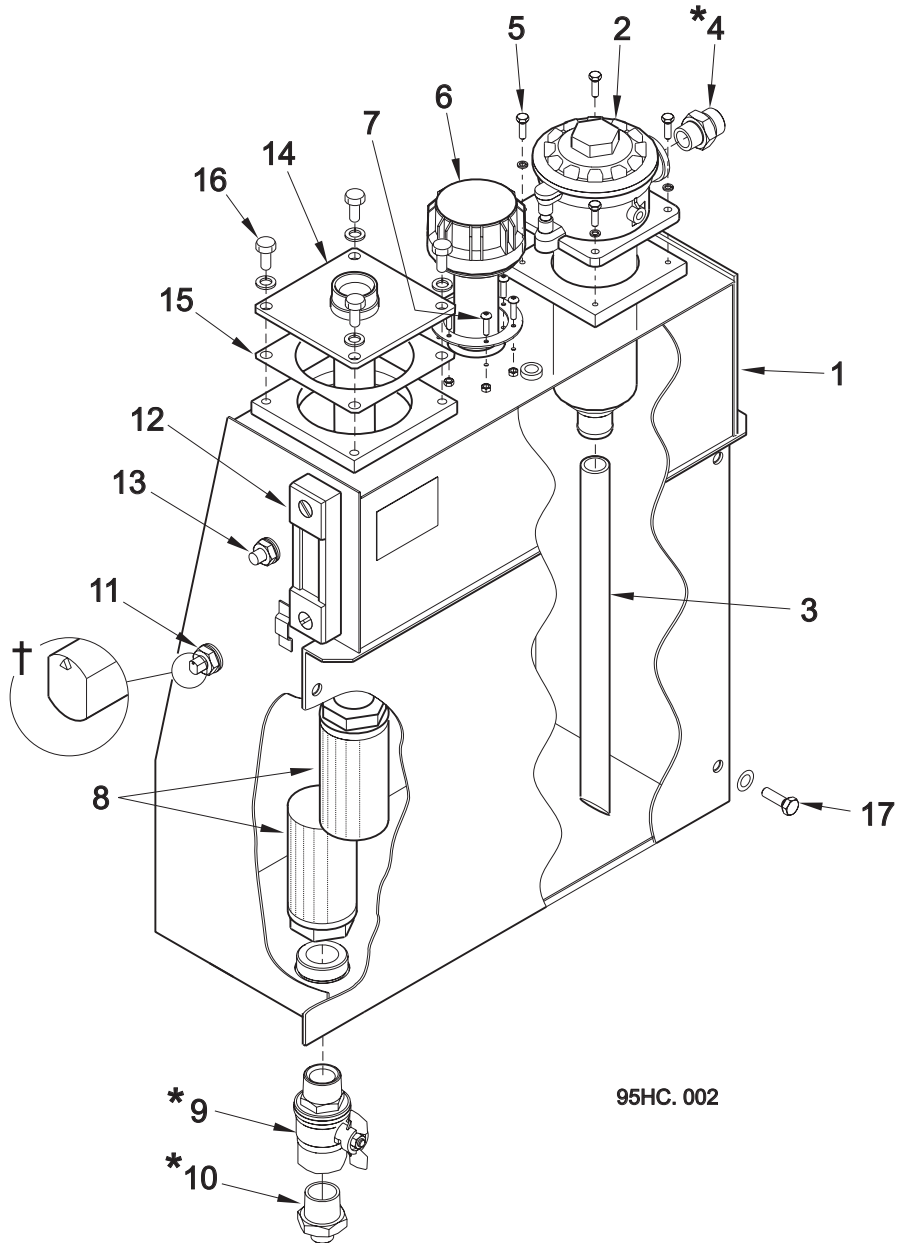
28

Hydraulics

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Hydraulic Tank Assembly - VT Range



Hydraulic Tank Assembly - VT Range

BoM 950514

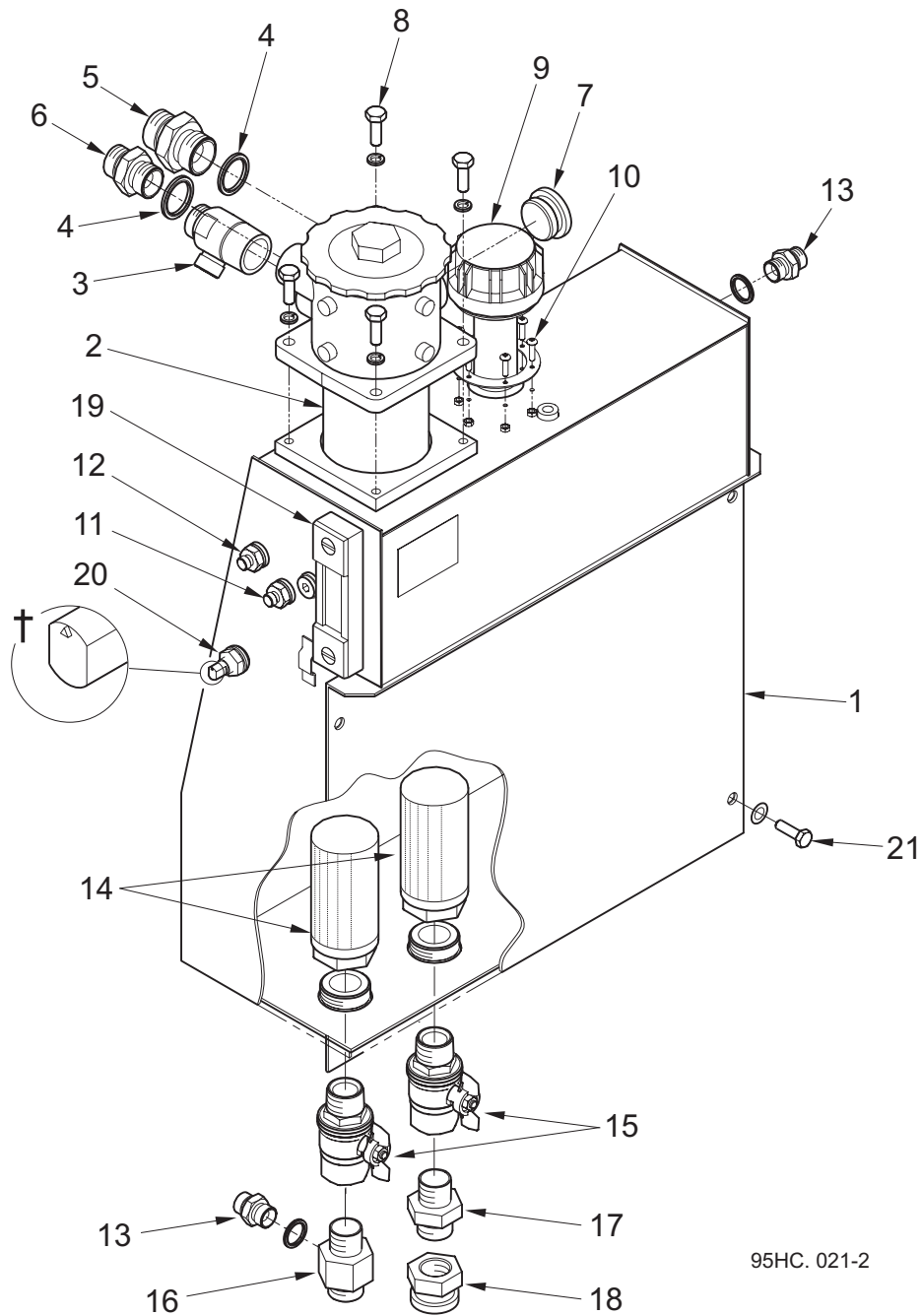
Item No.	Part No.	Description	Quantity
	281761-1	Hydraulic Tank Assembly Comprising Items 1 to 16:	1
1	281640-1	Tank	1
2	282852-1	Multiflow Filter	1
3	42206-1	Return Pipe	1
4	266-6	Adaptor G3/4"	1
5	124-103	Screw M6 x 20	4
	460-8	Washer - Spring M6	4
6	69-30	Filler Breather	1
7	134-59	Screw Pan Head M5 x 20	6
	425-12	Nut - Nyloc M5	6
8	15411	Filter	2
9 *	89-15	Valve R1" x G1"	1
10 *	277-137	Adaptor G 1/2" x R1"	1
11	48-328	Level Switch with Connector	1
12	87-1	Level Gauge	1
13	265-2	Adaptor G1/4" x 3/8"	1
	451-18	Washer - Sealing G3/8"	1
14	281960-1	Suction Pipe	1
15	281965-1	Gasket	1
16	124-167	Screw M10 x 20	4
	460-11	Washer - Spring M10	4
Mounting Screws			
17	124-167	Screw M10 x 20	4
	457-5	Washer - Large M10	4

Notes

† Arrow on level switch, Item 11, must point towards top of tank as shown.

* Apply Loctite 542 to tapered threads on Items 4, 9 and 10.

Hydraulic Tank Assembly - VS Range



95HC. 021-2

Hydraulic Tank Assembly - VS Range

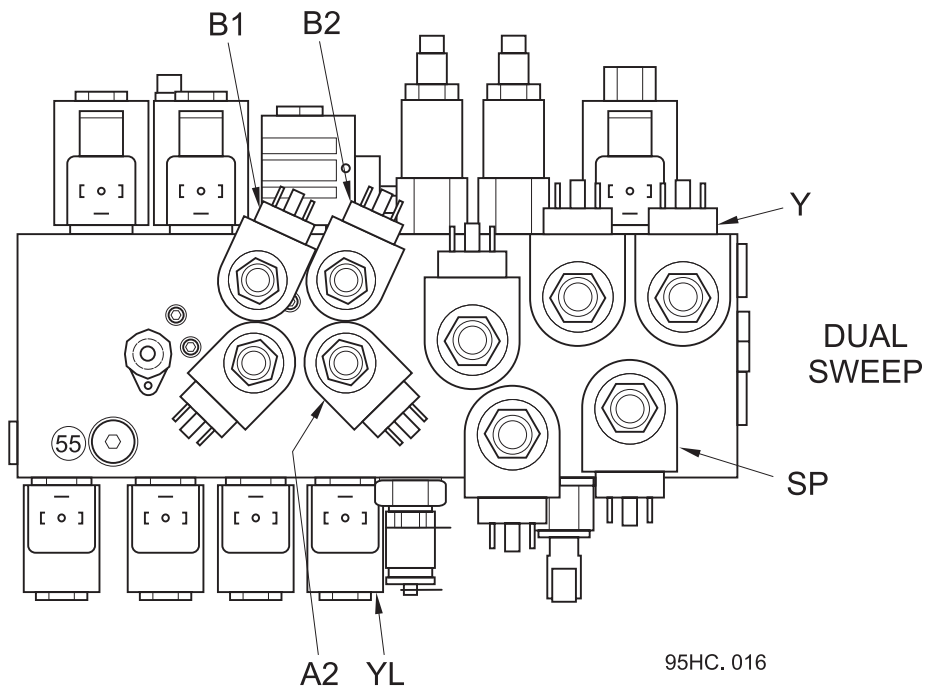
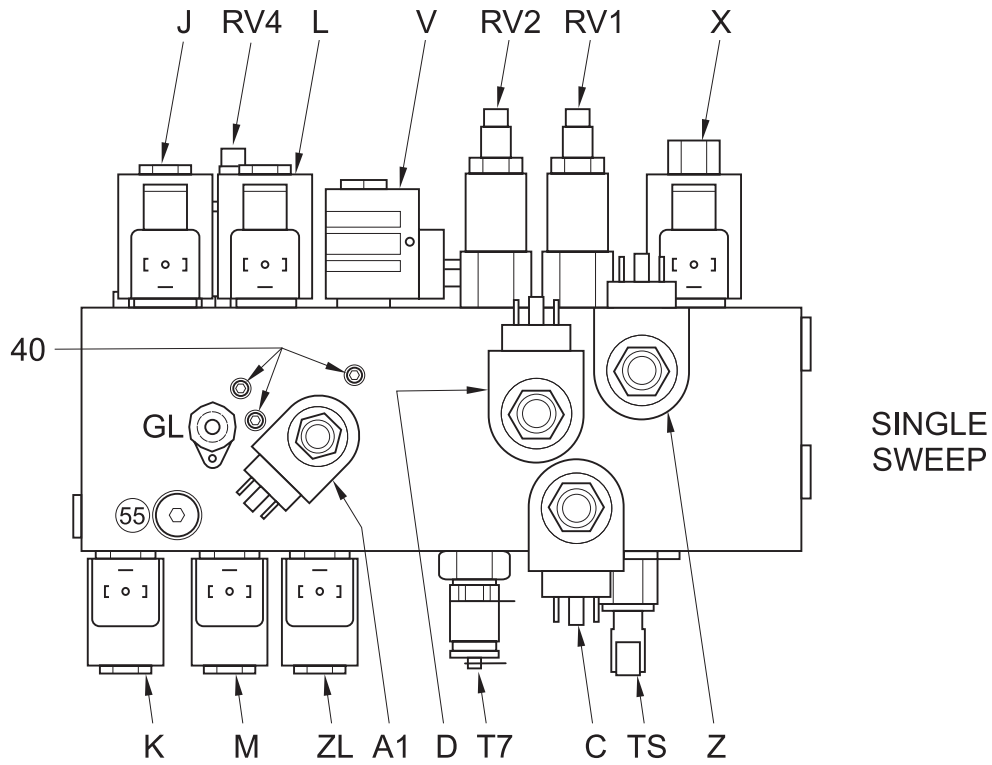
BoM 950514

Item No.	Part No.	Description	Quantity	
>	281880-1	Tank Assembly comprising:-		
1	281635-1	Tank	1	
2	281779-1	Suction/Return Filter Filter Element	1	
3	66105-1	Adaptor R1 1/4" x G1 x G3/4"	1	
4	451-22	Washer - Sealing 1" BSP	2	
5	265-11	Adaptor G1 1/4" x G1	1	
6	263-7	Adaptor G1"	1	
7	54-7	Collar Plug 1 1/4"	1	
8	124-171	Screw M10 x 30	4	
	460-11	Washer - Spring	4	
>	9	69-30	Filler/Breather	1
10	134-59	Screw M5 x 20	6	
	425-12	Nut - Nyloc M5	6	
11	54-3	Collar Plug 3/8"	1	
12	265-2	Adaptor G1 1/4" x G3/8"	2	
	451-18	Washer - Sealing 3/8"	2	
13	264-4	Adaptor G1/2"	2	
	451-19	Washer - Sealing 1/2"	2	
14	15411	Suction Filter	2	
15	89-15	1" Valve	2	
16	66162-1	Adaptor R1" x G1" x G1/2"	1	
17	266-7	Adaptor R1" x G1"	1	
18	68-26	Swivel Blanking Cap G1"	1	
>	19	87-1	Level Gauge	1
20	48-328	Level Switch	1	
21	124-167	Mounting Screws Screw M10 x 20	4	
	457-5	Washer - Large M10	4	

Notes

† Arrow on level switch, Item 18, must point towards top of tank as shown.

Main Valve Block - In Systems Locker



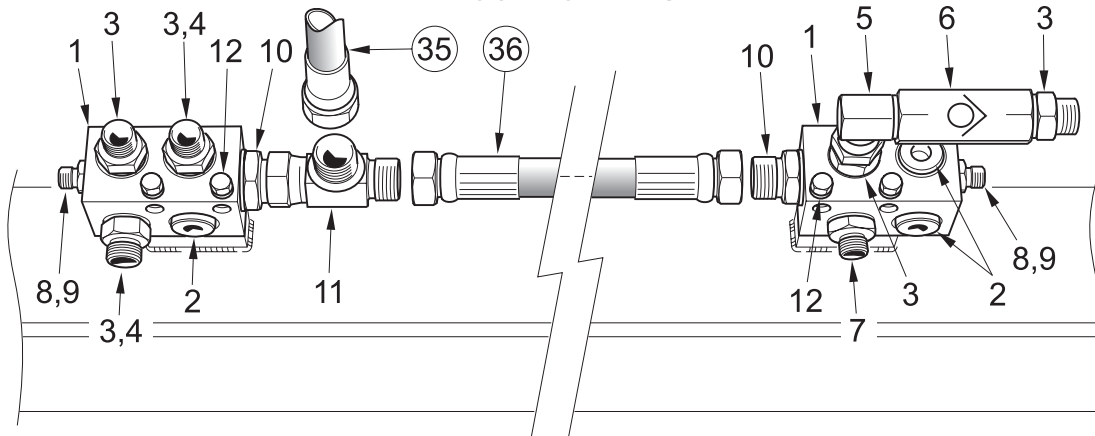
95HC.016

Main Valve Block - In Systems Locker

	Part No.	Description	
	281885-1	Main Valve Block - 12v Single Sweep	
	281885-2	Main Valve Block - 24v Single Sweep	
	281886-1	Main Valve Block - 12v Dual Sweep	
	281886-2	Main Valve Block - 24v Dual Sweep	
Valve	Part No.	Description	
A1, A2, B1, B2	241-171	Valve - Spool (3W 2P)	
	241-176	Seal Kit	
	241-180	Coil 12v	
	241-181	Coil 24v	
C, Y, Z	241-154	Valve - Spool (2W NC)	
	241-163	Seal Kit	
	241-01	Coil 12v	
	241-02	Coil 24v	
D, X, SP	241-153	Valve - Spool (2W NO)	
	241-163	Seal Kit	
	241-161	Coil 12v	
	241-162	Coil 24v	
J, L	241-166	Valve - Spool (4W 2P)	
	241-163	Seal Kit	
	241-01	Coil 12	
	241-02	Coil 24v	
V	241-172	Valve - Spool (4W 2P Criss-Cross)	
	241-177	Seal Kit	
	241-180	Coil 12	
	241-181	Coil 24v	
K, M, YL, ZL	241-175	Valve - Spool (2W NC)	
	241-177	Seal Kit	
	241-180	Coil 12v	
	241-181	Coil 24v	
	RV1	241-165	Relief Valve - 175 BAR
	RV2	241-276	Relief Valve - 225 BAR
	RV4	241-156	Relief Valve - 80 BAR
>	40	241-280	Plug - Size 02
	55	241-278	Check Valve Cartridge
	TS	282920	Temperature Switch (See TB 1225)
T7, GL	665-18	Test Point G1/4"	
	451-17	Washer - Sealing G1/4"	

Return Manifolds

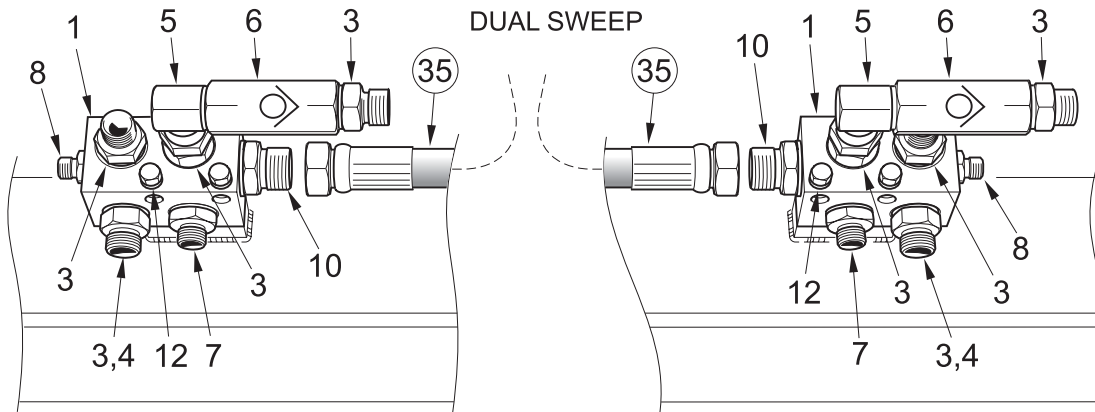
COMPONENTS



← FUEL TANK SIDE

SYSTEM LOCKER SIDE →

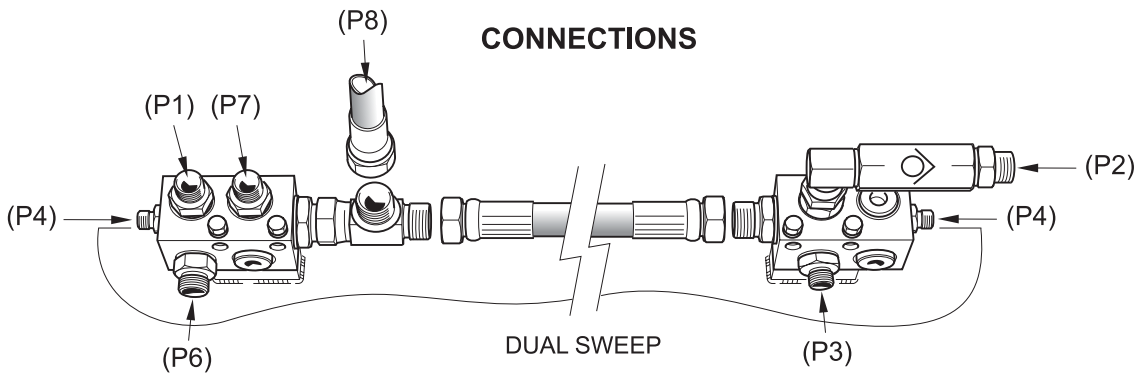
DUAL SWEEP



L.H. SINGLE SWEEP

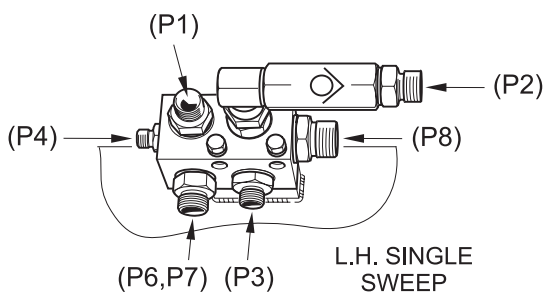
R.H. SINGLE SWEEP

CONNECTIONS

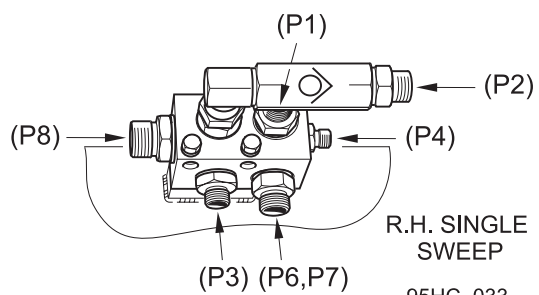


← FUEL TANK SIDE

SYSTEM LOCKER SIDE →



L.H. SINGLE SWEEP



R.H. SINGLE SWEEP
95HC. 033

Return Manifolds

BoM 940713, 950713

Components

Item No.	Part No.	Description	Quantity	
			Single	Dual
	282336	Manifold Installation Drawing		
1	281548-1	Return Manifold	1	1
2	54-4	Plug 1/2"	-	3
3	263-4	Adaptor 1/2"	4	5
	451-19	Washer - Sealing 1/2"	4	5
4	68-17	Cap - Sealing G1/2" - Req'd when Tandem Pump is not fitted.	1	2
5	262-4	Swivel Elbow 90° 1/2"	1	1
6	241-3	Check Valve - 4.5 Bar	1	1
7	265-4	Adaptor 1/2" x 3/8"	1	1
	451-19	Washer - Sealing 1/2"	1	1
8	263-2	Adaptor 1/4"	1	2
	451-17	Washer - Sealing 1/4"	1	2
9	68-19	Cap - Sealing G1/4" - Fitted to Fuel Tank side on R.H. Sweep and Systems Locker side on L.H. Sweep	-	1
10	263-6	Adaptor 3/4"	1	2
	451-21	Washer - Sealing 3/4"	1	2
11	255-15	Tee Adaptor	-	1
12	124-147	Screw M8 x 60	2	4
	460-10	Washer - Spring M8	2	4
* 35	HE12003-80	Hydraulic Hose 3/4"	1	1
* 36	HE12003-38	Hydraulic Hose 3/4"	-	1

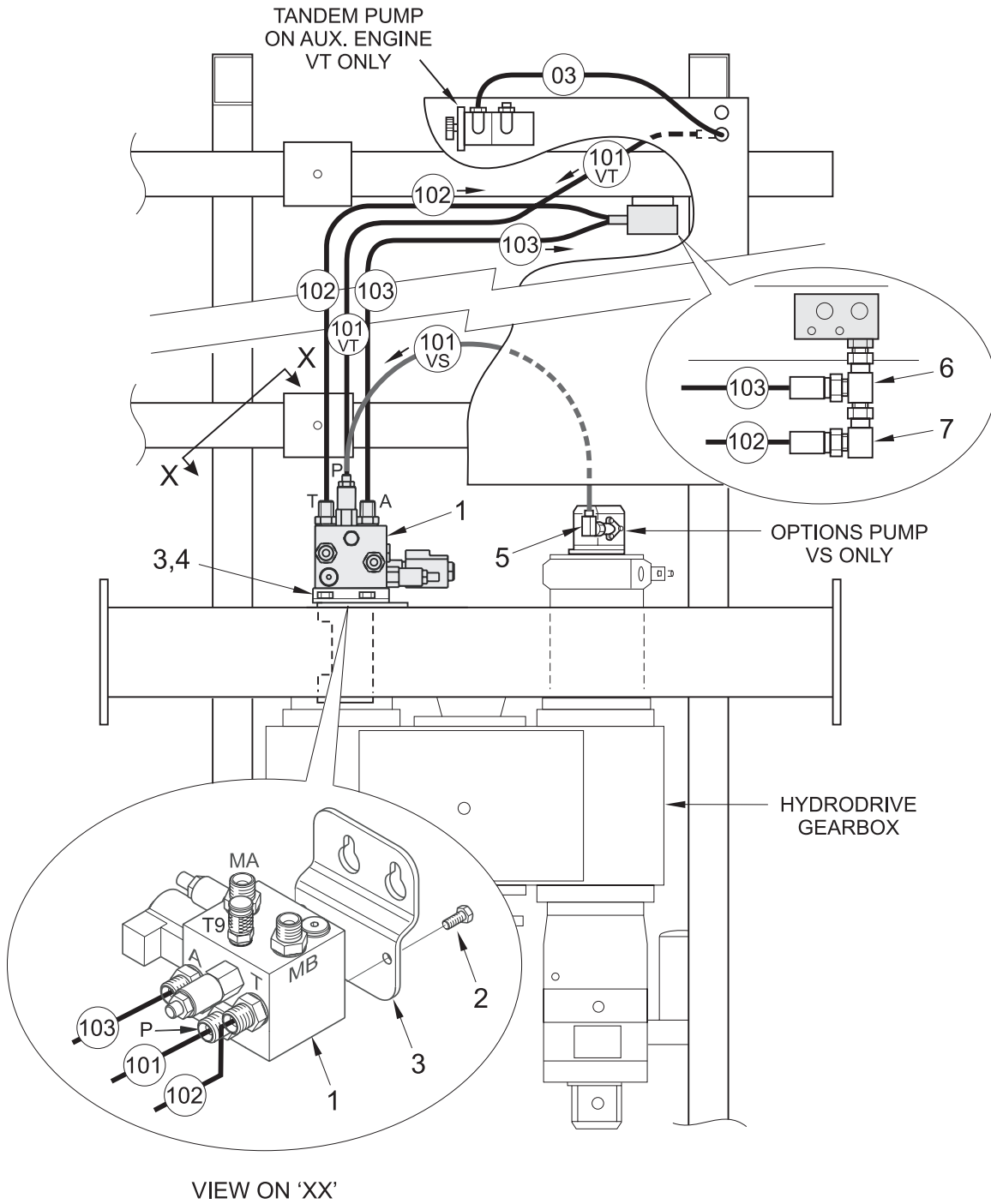
* Hose numbers correspond with those in diagrams SH521a01 and b01 in Chapter 8


Connections

Port	Connection
(P1)	From port 'T' on Systems Locker Main Valve Block (Hose 41)
(P2)	From Channel Brush motor (Hose 81 Single Sweep, Hose 82 Dual Sweep)
(P3)	From Channel Brush Speed Control in cab (Hose 84)
(P4)	From WSB Motor Drain (Hose 74) - Fuel Tank side, R.H. Sweep - Systems Locker side, L.H. Sweep
(P5)	-
(P6)	From Tandem/Options Pump Valve Block port 'T' (Hose 102)
(P7)	From Tandem/Options Pump Valve Block port 'A' (Hose 103) See Tandem/Options Pump Valve Block, over page for single sweep fittings.
(P8)	VT Series - From Hydraulic Tank Return Filter via hose 04 and Powapak floor plate. See Engine PTO Pump Installations, Chapter 22. VS Series - From Oil Cooler via hose 203 and Powapak floor plate. See Fan Tub - Hydraulic Hoses, Chapter 22.HI.

Port numbers correspond with those in diagrams SH521a01 and b01 in Chapter 8

Current Tandem/Options Pump Valve Block Installation





Note

The previous Valve Block Installation is shown in the 'Superseded Parts' section at the back of this chapter.

95HC. 006-4

Current Tandem/Options Pump Valve Block Installation

BoM 950514 - Valve and Hoses

Item No.	Part No.	Description	Quantity
1	282996-12	Valve Block Assembly 12v	1
	282996-24	Valve Block Assembly 24v	1
2	124-135	Screw M8 x 20	2
	455-10	Washer - Plain Ø8	2
	460-10	Washer - Spring Ø8	2
3	282984-1	Mounting Bracket	1
4	124-171	Screw M10 x 30 - See Emergency Discharge Pump elsewhere in this chapter.	2
03 ^	See Chapters 22.EI, EJ and EP - Tandem PTO Pumps		-
101VT *	HC08001-200	Hydraulic Hose 1/2"	1
102 *	HC08000-168	Hydraulic Hose 1/2"	1
103 *	HC08000-168	Hydraulic Hose 1/2"	1

BoM 950414 - Hoses, VS Hydrodrive Gearbox

5	262-4	Swivel Elbow 90° 1/2"	1
101VS *	HC08001-245	Hydraulic Hose 1/2"	1

BoM 950713 - Return Manifold (also see previous page)

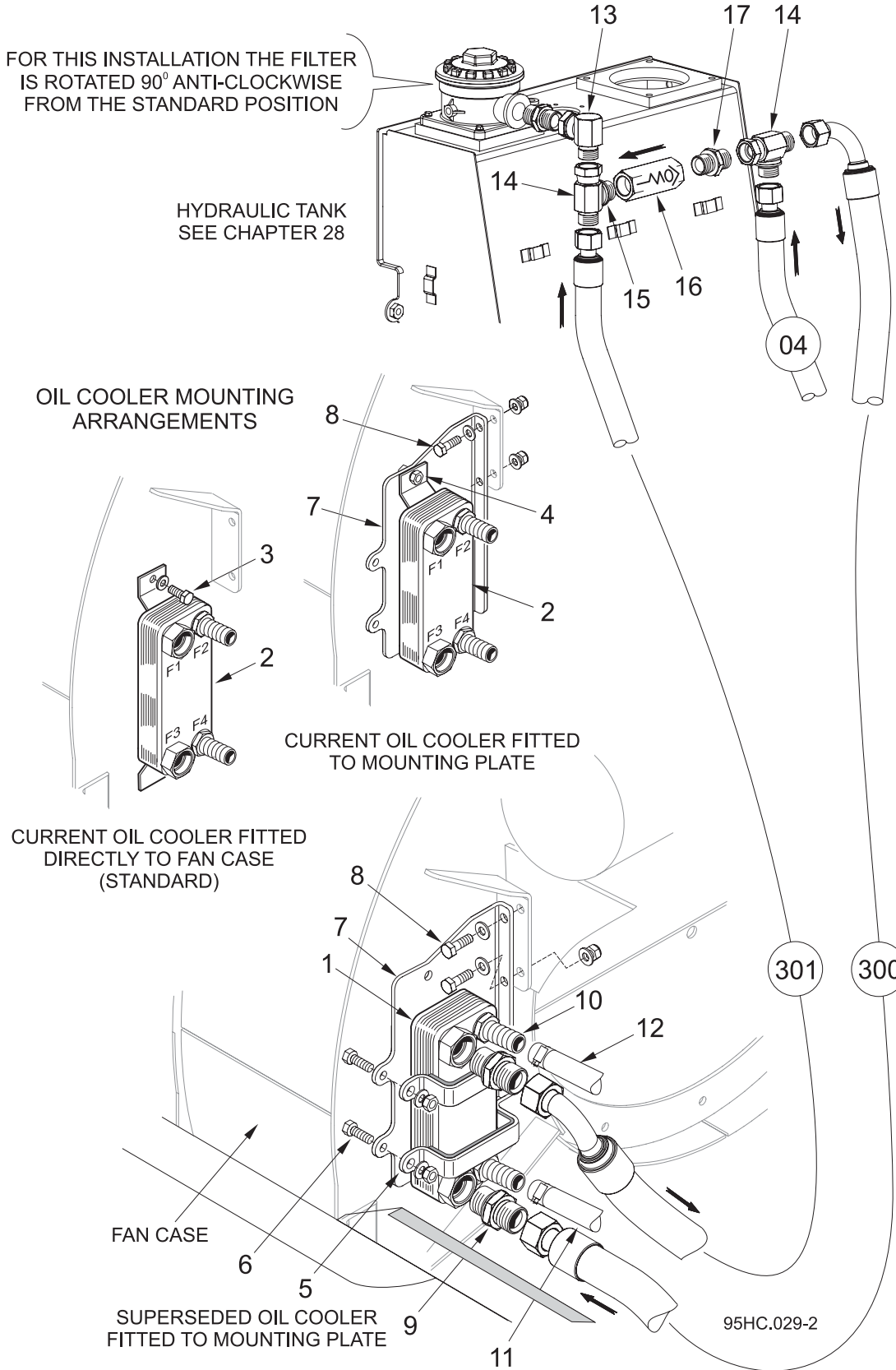
6	255-13	Swivel Tee 1/2"	1
7	262-4	Swivel Elbow 90° 1/2"	1

Note

* Hose item numbers correspond with those in hydraulic diagram SH528a01 in Chapter 8.

^ Hose item number corresponds with that in hydraulic diagram SH531a01 in Chapter 8.

Tandem Pump Circuit Oil Cooler Installation



Tandem Pump Circuit Oil Cooler Installation

BoM 950514

Item No.	Part No.	Description	Quantity
	282971-1	Oil Cooler Installation Kit	
1	282963-1	Hydraulic Oil Cooler - Superseded	1
2	282963-2	Hydraulic Oil Cooler - Current	1
3	124-135	Screw M8 x 20	2
	460-10	Washer - Spring M8	2
4	124-135	Screw M8 x 20	2
	460-10	Washer - Spring M8	2
	420-14	Nut - M8	2
5	282973-1	Retaining Brace	2
	217-35	Rubber Strip x 0.25m	2
6	124-137	Screw M8 x 25	4
	455-10	Washer - Plain	4
	425-14	Nut - Nyloc M8	4
7	282972-1	Mounting Plate	1
8	124-139	Screw M8 x 30	2
	455-10	Washer - Plain	2
	425-14	Nut - Nyloc M8	2
9	263-6	Adaptor 3/4" BSP	2
	451-21	Washer - Sealing 3/4" BSP	2
10	231-43	Hosetail Adaptor	2
11	497-H12	Hose 3/4"	1.0m
	501-3	Hose Clip	2
12	497-H12	Hose 3/4" - Existing Pump Feed) See Water Hoses	0.5m
	501-3	Hose Clip) Chapter 30	2
13	262-6	Swivel Elbow 3/4" x 90°	1
14	255-15	Swivel Tee 3/4" BSP	2
15	451-21	Washer - Sealing 3/4" BSP	1
16	241-277	Check Valve 4.5 Bar	1
17	263-6	Adaptor 3/4" BSP	1
* 04	HE12001-122	Hydraulic Hose 3/4"	1
* 300	HE12002-180	Hydraulic Hose 3/4"	1
* 301	HE12002-180	Hydraulic Hose 3/4"	1

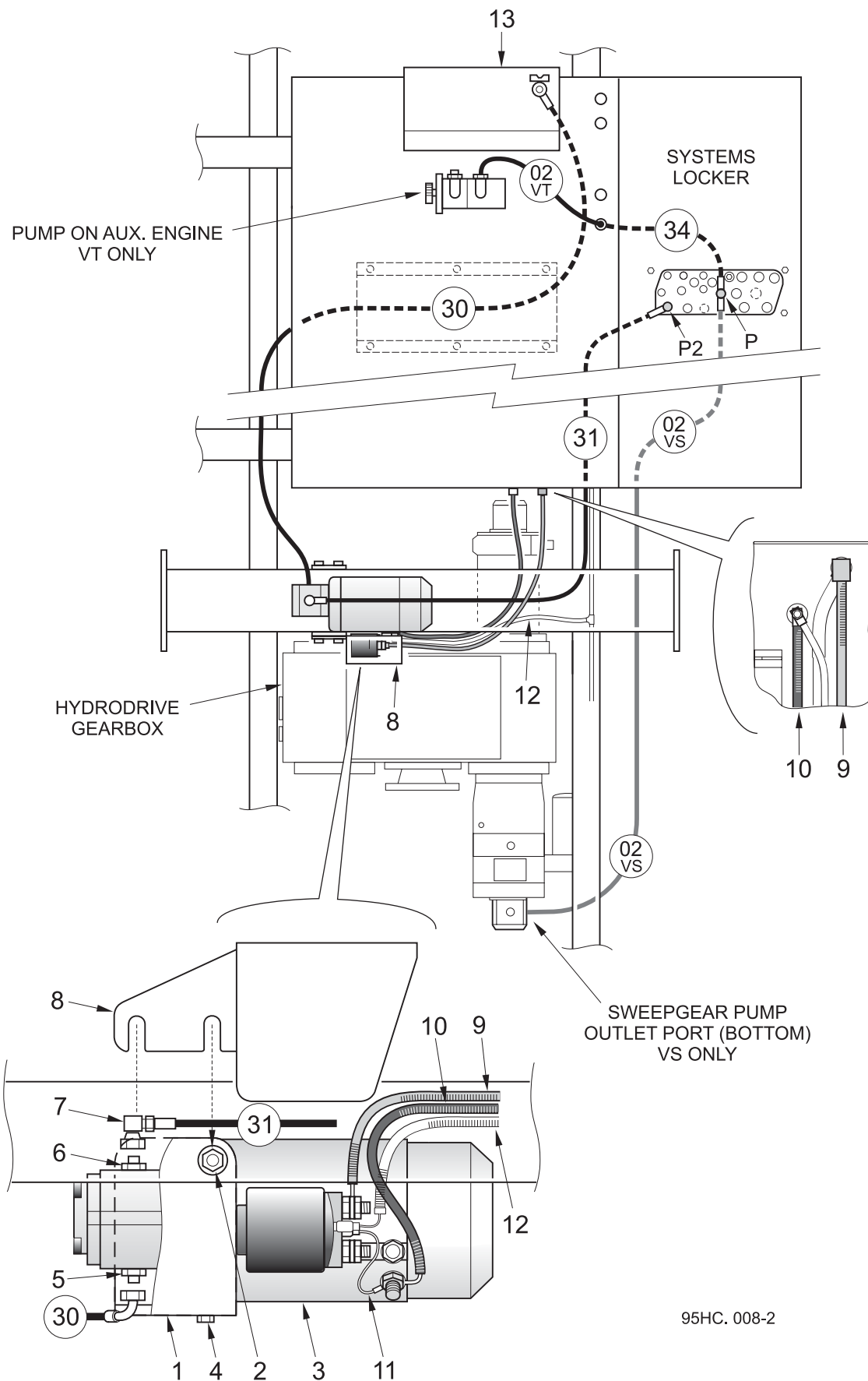
Notes

* Hose item numbers correspond with those in hydraulic diagram SH521a01 in Chapter 8.

See Technical Bulletin TB 1224 for Supawash Oil Cooler Retro-fit kit

See Technical Bulletin TB 1244 for Supawash Oil Cooler mounting arrangements.

Emergency Discharge Pump



95HC. 008-2

Emergency Discharge Pump

BoM 950714

Item No.	Part No.	Description	Quantity
1	281653-1	Pump Mounting Bracket	1
2	124-171	Screw M10 x 30	4
	455-11	Washer - Plain Ø10	4
	460-11	Washer - Spring Ø10	4
3	281938-1	Pump/Motor Assembly 12v	1
	281938-2	Pump/Motor Assembly 24v	1
4	124-169	Screw M10 x 25	2
	460-1	Washer - Plain Ø10	2
	460-11	Washer - Spring Ø10	2
5	265-4	Adaptor 1/2" x 3/8"	1
	451-18	Washer - Sealing 3/8"	2
6	265-2	Adaptor 1/4" x 3/8"	1
	451-18	Washer - Sealing 3/8"	1
7	262-2	Swivel Elbow 1/4" x 90°	1
8	202687-1	Solenoid Cover	1
9	282036-1	Pump Cable - Red	1
10	282036-2	Pump Cable - Black	1
11		Earth Cable	1
12	-	Subframe Loom	Ref.
13	-	Hydraulic Tank - covered elsewhere in this chapter	
30 *	HC08001-224	Hydraulic Hose 1/2"	1
31 *	HC04001-194	Hydraulic Hose 1/4"	1

BoM 950713 - VT Hoses

34 *	HC08001-49	Hydraulic Hose 1/2"	1
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BoM 950515 - VT Hoses

02VT	See Chapters 22.EI, EJ, and EP - Pump Installations		
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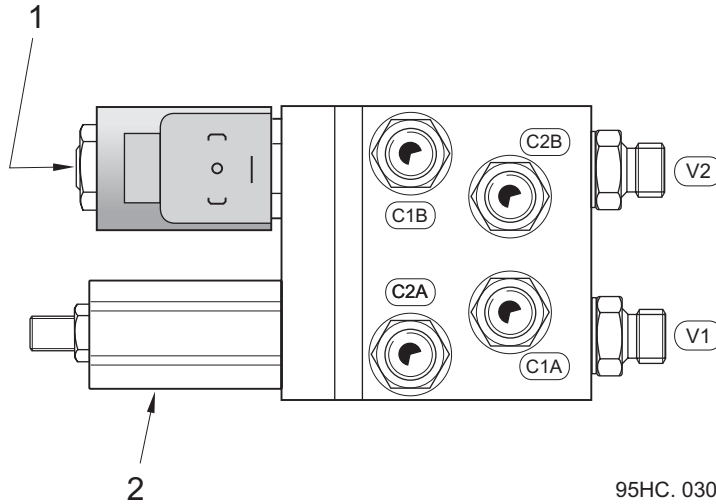
BoM 950414 - VS Hoses

02VS ^	HC08001-239	Hydraulic Hose 1/2"	1
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Notes

* Hose item numbers correspond with those in hydraulic diagram SH531a01 in Chapter 8.

^ Hose item number corresponds with that in hydraulic diagram SH531b01 in Chapter 8.

Sequence Valve - Rear Door Locking
SPARES ITEMS


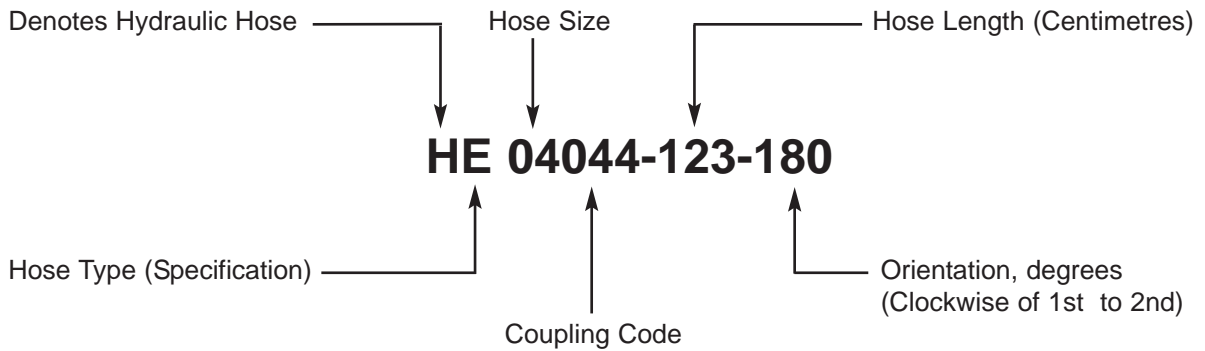
Item No.	Part No.	Description	Quantity
	281907-1	12v Sequence Valve/Manifold Assembly	
	281907-2	24v Sequence Valve/Manifold Assembly	
1	241-175	Valve Cartridge (2 Way NC)	
	241-180	Coil - 12v	
	241-181	Coil - 24v	
2	241-156	Sequence Valve	

Notes

Valve fitted to rear of subframe - See Chapter 21 for fitting details

Hydraulic Hose Part Numbering System

Example



Denoted by

B
C
E
F
K

JEL hose type**

Type B
Type C
Type E
Type F
Type K

Gates

MegaSpiral Plus (6 Braid)
Megaflex (M1T)
Sng. Braid (BE7)
Twinflex (CM2T)
MegaSpiral (4 Braid)

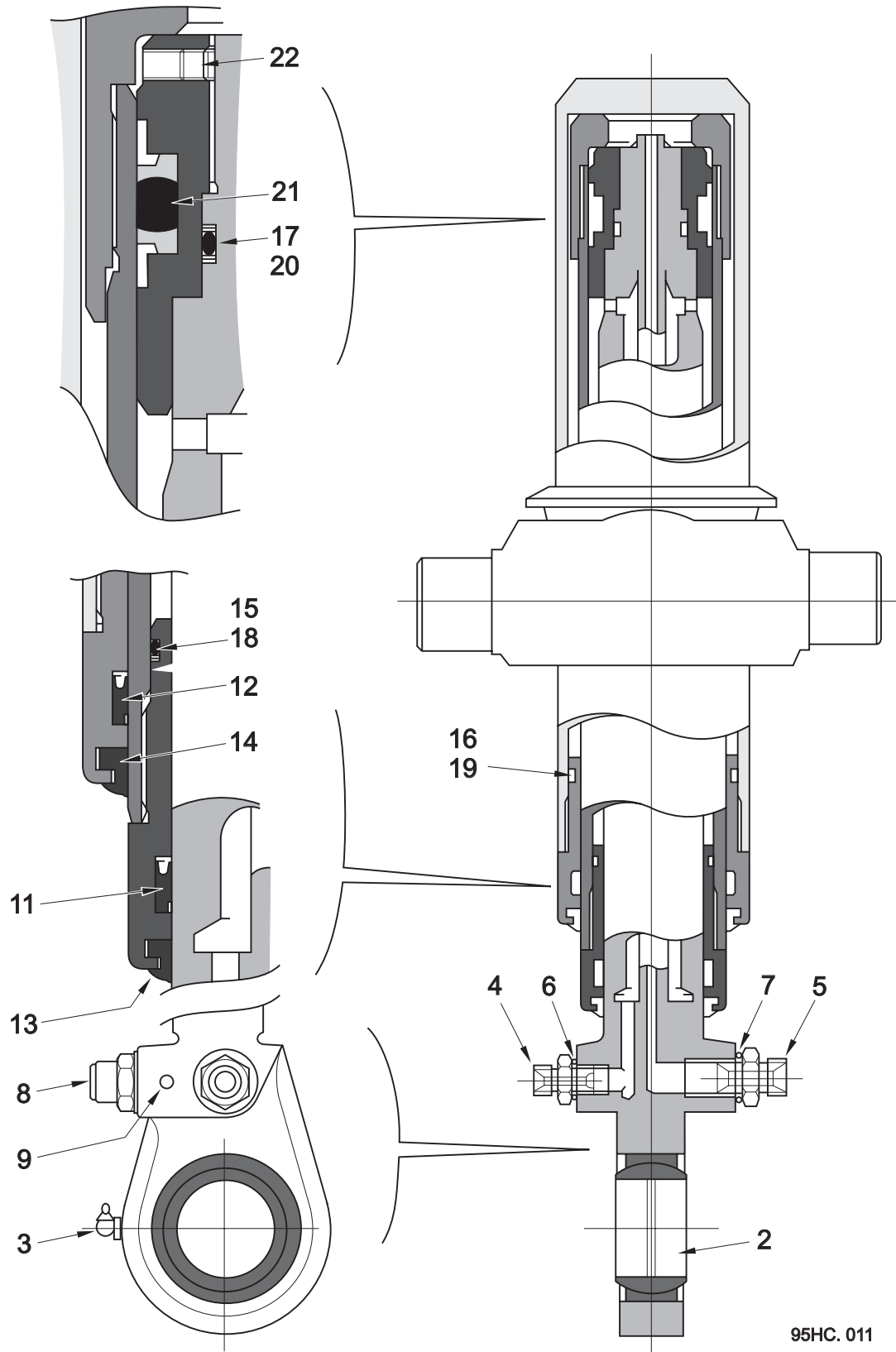
**B497 :- For full specification of hose.

Hose Diameter (Bore Size)

03 :- Denotes 3/16" Hose.
04 :- Denotes 1/4" Hose.
05 :- Denotes 5/16" Hose.
06 :- Denotes 3/8" Hose.
08 :- Denotes 1/2" Hose.

12 :- Denotes 3/4" Hose.
16 :- Denotes 1" Hose.
20 :- Denotes 1¼" Hose.
24 :- Denotes 1½" Hose.
32 :- Denotes 2" Hose.

Body Tip Cylinder



Body Tip Cylinder

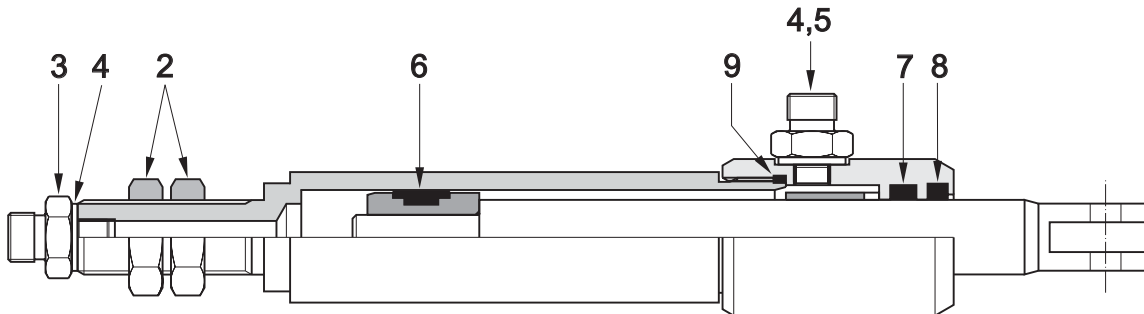
BoM 950611 Drg. 28940

Item No.	Part No.	Description	Quantity	
	500/605/650 800			
1	28940-4	28940-5	Body Tip Cylinder Assembly	1
2	29100-7	<	Spherical Bearing	1
3	38-8	<	Grease Nipple 1/8" 90°	1
4	263-2	<	Adaptor 1/4"	1
5	263-4	<	Adaptor 3/8" x 1/2"	1
6	451-17	<	Washer - Sealing 1/4"	1
7	451-19	<	Washer - Sealing 1/2"	1
8	241-265	<	Valve - Over Centre	1
9	5259	<	Plug 1/8"	1

Seal Kit 28940-500 comprising:

Item No	Description	Quantity
11	Seal - 2nd Stage Rod	1
12	Seal - 1st Stage Rod	1
13	Wiper Seal - 2nd Stage Rod	1
14	Wiper Seal - 1st Stage Rod	1
15	'O' Ring	1
16	'O' Ring	1
17	'O' Ring	1
18	Spirol Back-up Ring	1
19	Spirol Back-up Ring	1
20	Spirol Back-up Ring	2
21	Seal - 2nd Stage Piston	1
22	Grub Screw	1

Notes

Body Prop Cylinder


95HC. 013

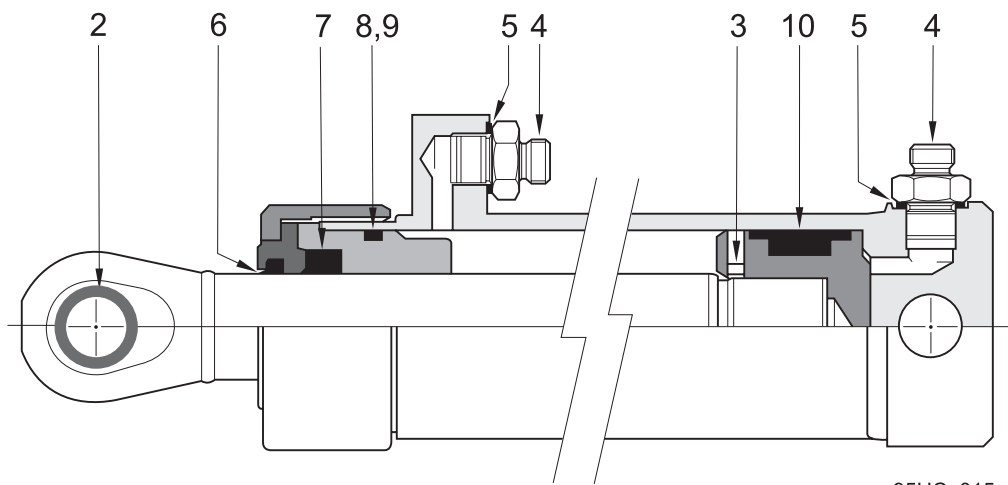
Item No.	Part No.	Description	Quantity
	29345-1	Body Prop Cylinder Assembly	
2	421-7	Locknut M20	2
3	265-1	Adaptor 1/8" x 1/4"	1
4	451-4	Washer - Sealing	2
5	29332-1	Special Adaptor 1/8" x 1/4"	1

Seal Kit 29345-50 comprising:

Item No.	Description	Quantity
6	Piston Seal	1
7	Rod Seal	1
8	Wiper Seal	1
9	'O' Ring	1

Notes

Rear Door and Powaboom Cylinders



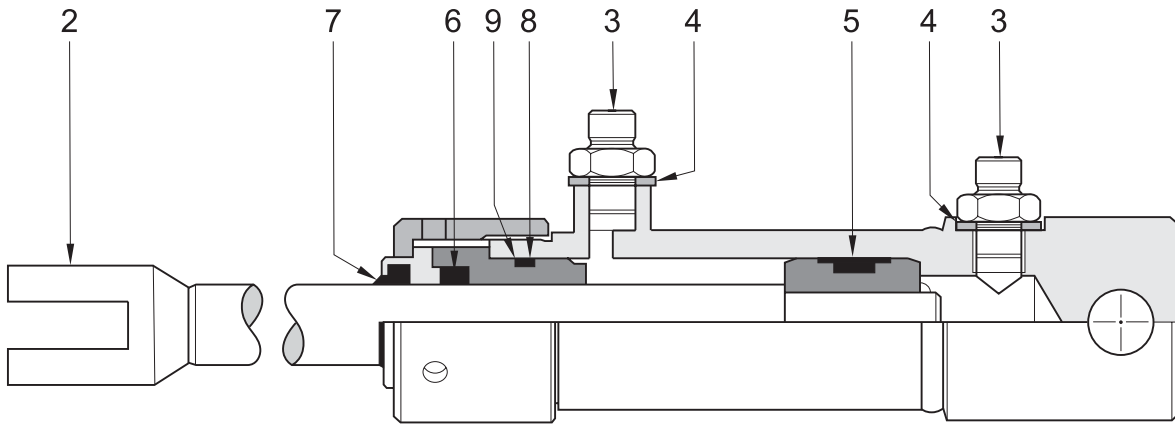
95HC. 015

Item No.	Part No.	Description	Quantity
	29170-1	Rear Door Cylinder	
	29170-20	Powaboom Cylinder	
2	29128	Bush	2
3	135-2	Grubscrew M6c x 6mm	1
4	265-2	Adaptor 1/4" x 3/8"	2
5	451-18	Washer - Sealing 3/8"	2

Seal Kit 29170-500 comprising:

Item No.	Description	Quantity
2	Bush	2
6	Wiper Seal	1
7	Rod Seal	1
8	'O' Ring	1
9	Back-up Ring	1
10	Piston Seal	1

Notes

Rear Door Clamping Cylinder


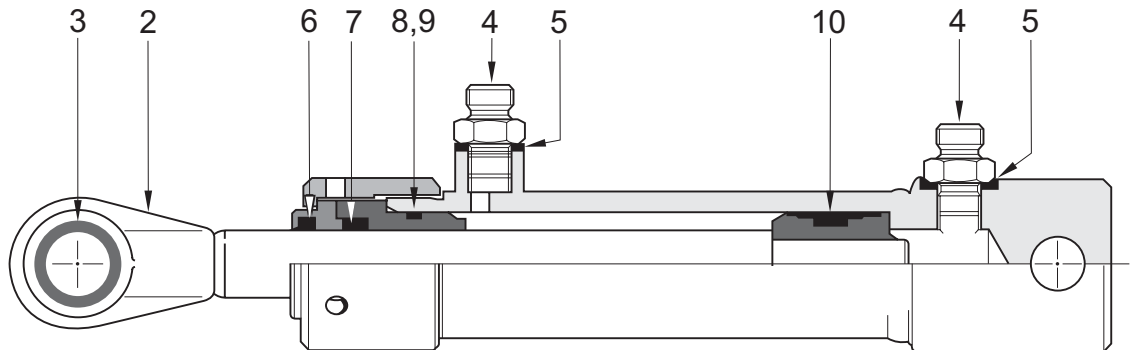
95HC. 014

Item No.	Part No.	Description	Quantity
	281565-1	Cylinder Assembly	
2	28929-1	Fork End	1
3	263-2	Adaptor	2
4	451-17	Washer - Sealing	2

Seal Kit 29465-500 comprising:

Item No.	Description	Quantity
5	Piston Seal	1
6	Rod Seal	1
7	Wiper Seal	1
8	'O' Ring	1
9	Back-up Ring	1

Notes



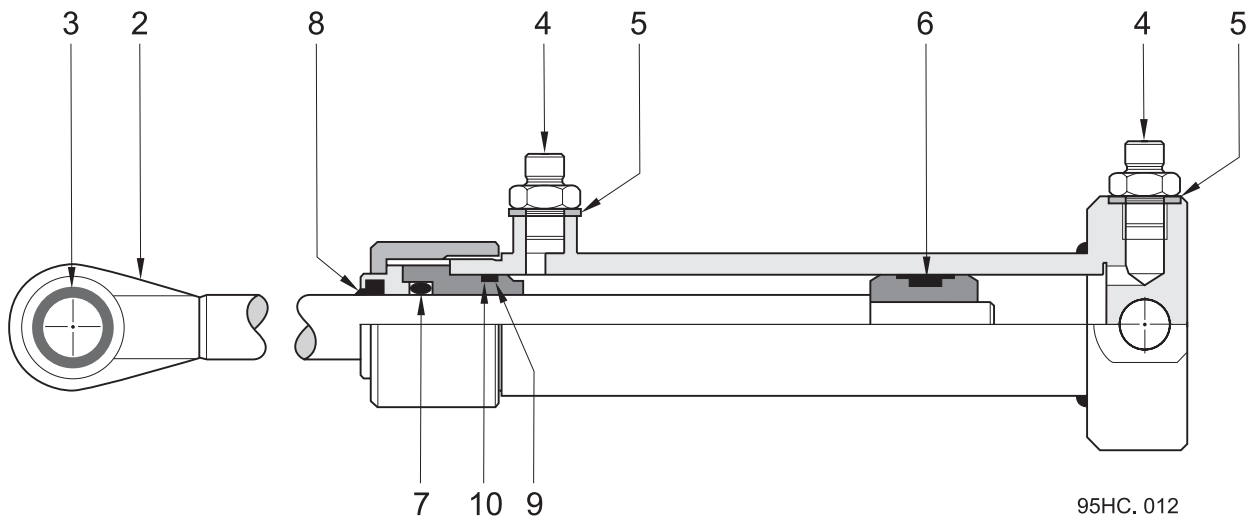
HC. 0014-2

Item No.	Part No.	Description	Quantity
1	29160-1	Wide Sweep Brush Slew Cylinder	
2	28928-1	Eye	1
3	29128-1	Bush	1
4	263-2	Adaptor 1/4"	2
4	451-17	Washer - Sealing 1/4"	2

Seal Kit 29160-500 comprising:

Item No.	Description	Quantity
3	Bush	1
6	Wiper Seal	1
7	Rod Seal	1
8	Back-up Ring	1
9	'O' Ring	1
10	Piston Seal	1

Notes

Channel Brush Pivot Cylinder


Item No.	Part No.	Description	Quantity
	281601-1	Cylinder Assembly	1
2	28928-1	Eye	1
3	29128-1	Bush	1
4	263-2	Adaptor 1/4"	2
5	451-17	Washer - Sealing	2

Seal Kit 29160-500 comprising:

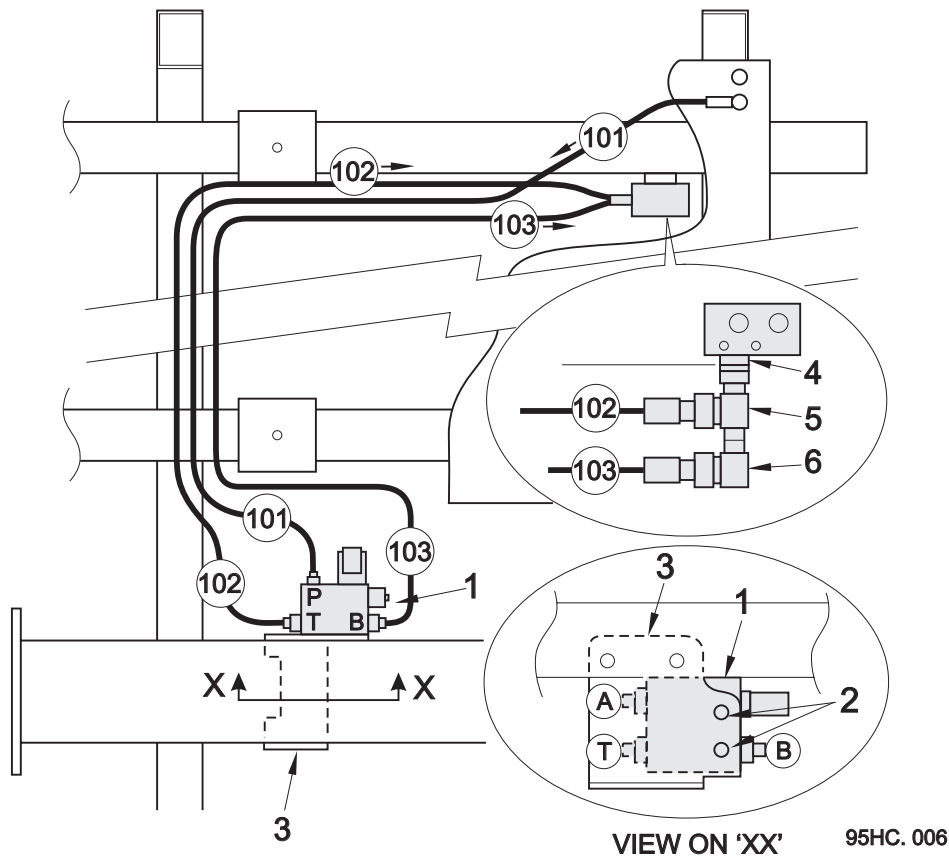
Item No.	Description	Quantity
3	Bush	1
6	Piston Seal	1
7	Rod Seal	1
8	Wiper Seal	1
9	'O' Ring	1
10	Back-up Ring	1

Notes

Superseded Parts

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Section	Page
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Superseded Valve Block Installation - Tandem Pump

BoM 950514 - Valve and Hoses

Item No.	Part No.	Description	Quantity
1	282301-1	Valve Block Assembly 12v	1
	282301-2	Valve Block Assembly 24v	1
2	124-135	Screw M8 x 20	2
	455-10	Washer - Plain Ø8	2
	460-10	Washer - Spring Ø8	2
3	-	Mounting Bracket covered elsewhere in this chapter	
101 *	HC08001-200	Hydraulic Hose 1/2"	1
102 *	HC08002-170	Hydraulic Hose 1/2"	1
103 *	HC08002-170	Hydraulic Hose 1/2"	1

BoM 950713 - Return Manifold

4	263-4	Adaptor 1/2"	1
	451-19	Washer - Sealing 1/2"	1
5	255-13	Swivel Tee	1
6	264-4	Swivel Elbow	1

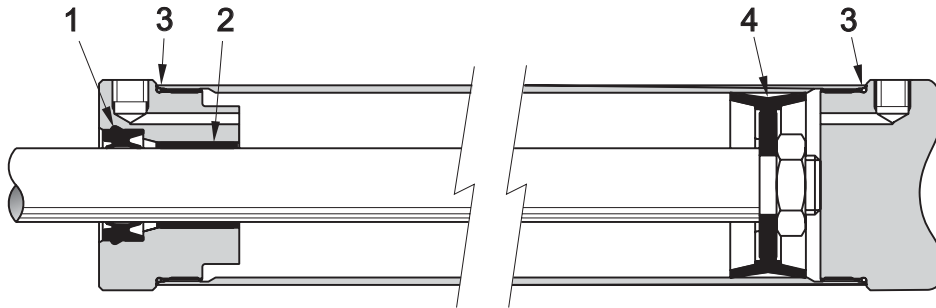
Note : * Hose item numbers correspond with those in hydraulic diagram SH528a01 in Chapter 8.

CHAPTER

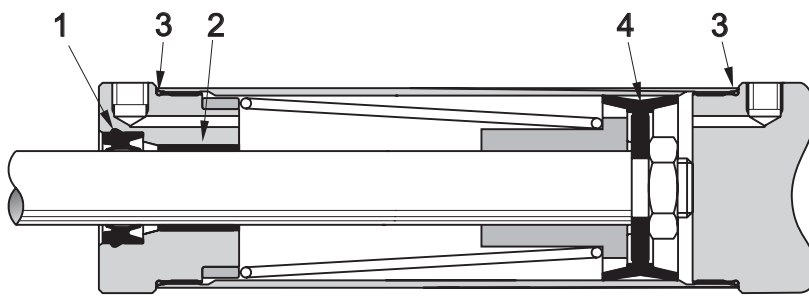
29**Pneumatics****Table of Contents**

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3-Station Valve Assemblies	29 : 6
Regulators	29 : 8
FRL Unit	29 : 9
Pressadrain Purge Block (WDT)	29 : 10
WSB Selector Valve (PV51)	29 : 11

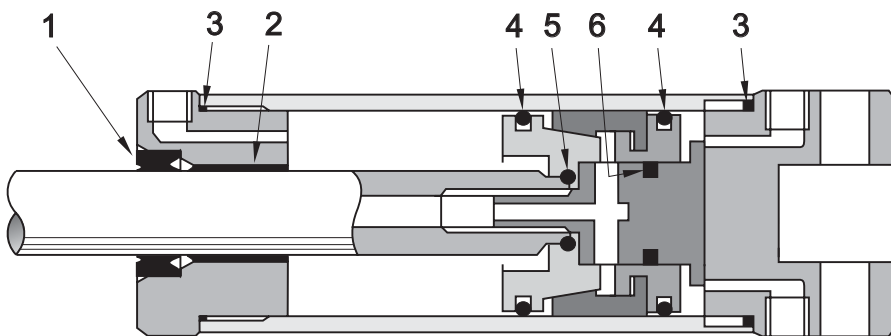
Cylinder Seal Kits



Ø 70mm Bore Cylinder - A
Ø 50mm Bore Cylinders - B, E, F, and G



Ø 50mm Bore Cylinder - C



Ø 50mm Bore Cylinder - D

95PC.002

Cylinder Seal Kits

Channel Brush Cylinders

Cylinder Letter	Cylinder Part No.	Cylinder Description	Seal Kit Part No.
A	200355-1	Lift Cylinder	200355-500
Not Shown	281614-1	Latch Cylinder	Not Repairable

Nozzle Cylinders

B	28903-1	Lift Cylinder	290001-500
C	290001-1	Maxigap Cylinder	290001-500
D	290002-1	Varagap Cylinder	290002-500

Wide Sweep Brush Cylinders

E	29284-2	Lift Cylinders	290001-500
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Littasnatch Cylinder

F	63449-1	Gate Cylinder (6")	290001-500
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Intake Flap Cylinder

G	280840-1	Flap Cylinder	290001-500
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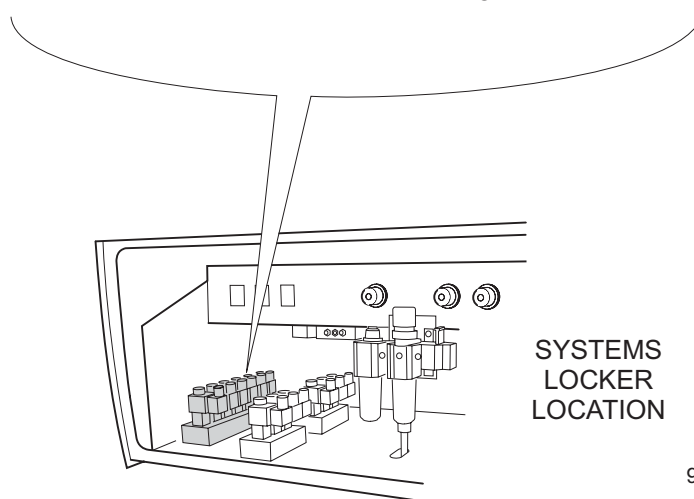
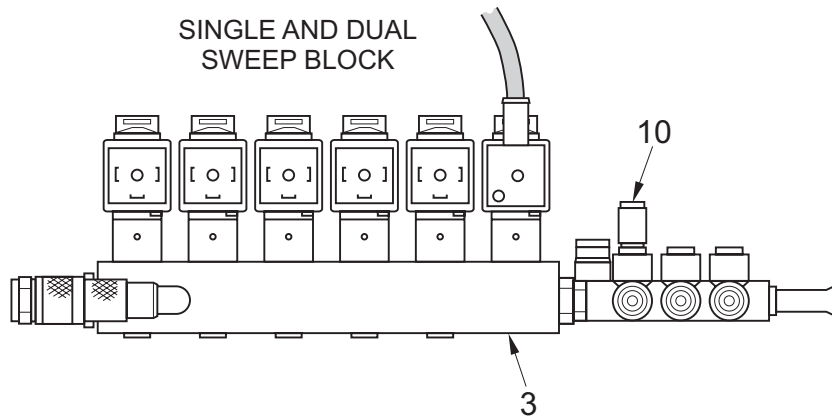
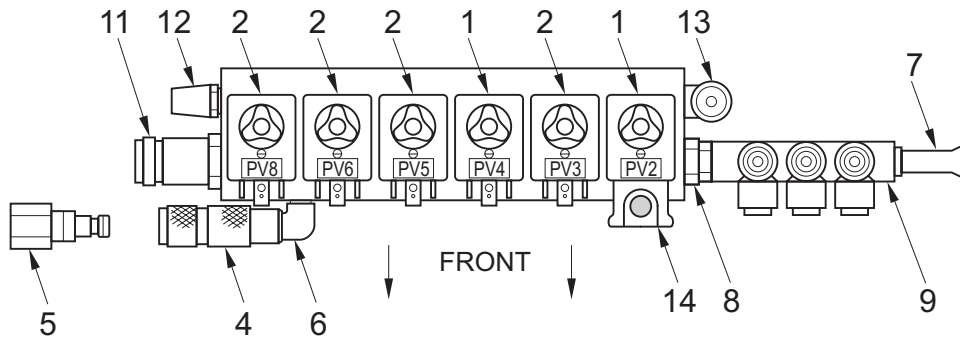
Seals Included in Kits 290001-500 and 200355-500

Item No.	Description	Quantity	Item No.	Description	Quantity
1	Rod Seal	1	3	'O' Ring	2
2	Bearing	1	4	Piston Seal	1

Seals Included in Kit 290002-500

Item No.	Description	Quantity	Item No.	Description	Quantity
1	Rod Seal	2	4	Piston Seal Ø50	2
2	Bearing	1	5	'O' Ring	1
3	'O' Ring	2	6	Piston Seal Ø25	1

12v and 24v 6-Station Valve Assembly



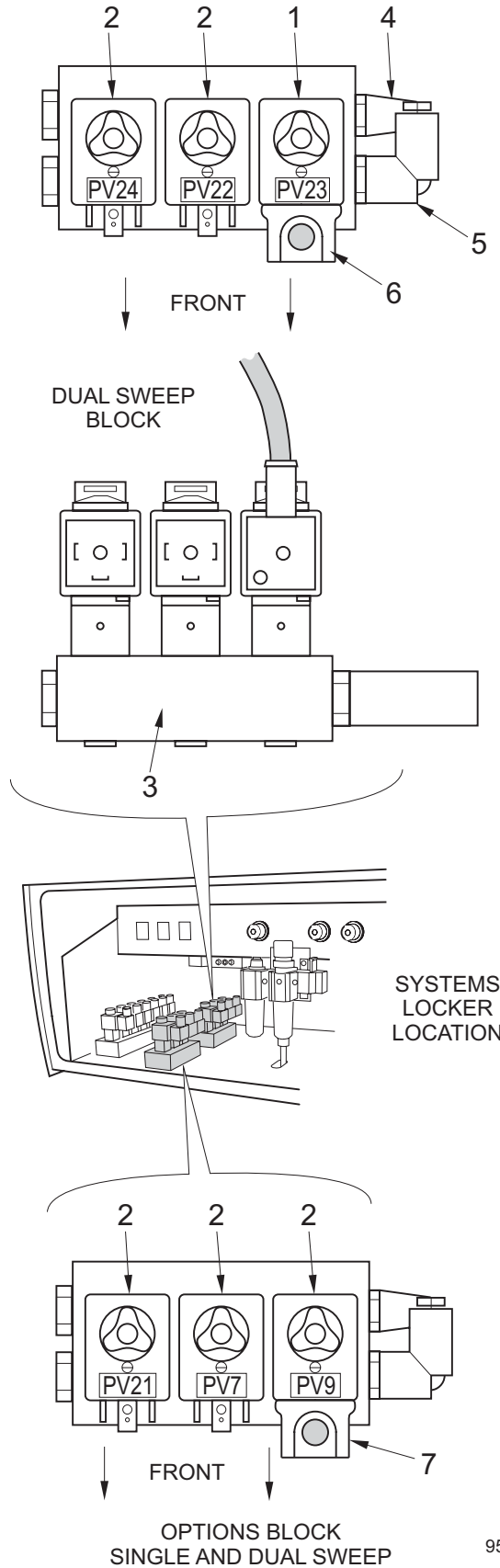
95PC. 003-2

12v and 24v 6-Station Valve Assembly

Item No.	Part No.	Description	Quantity	
	282930-12	6 Station Valve Assembly 12V		
	282930-24	6 Station Valve Assembly 24V		
1	241-270	24v Valve N.O.	2	
	241-272	12v Valve N.O.	2	
2	241-271	24v Valve N.C.	4	
	241-273	12v Valve N.C.	4	
3	282931-1	Manifold	1	
4	72-57	Quick Release Socket	1	
5	72-58	Quick Release Plug	1	
6	72-60	Elbow 1/4"	1	
}	7	559-40	Plug	1
	8	559-30	Expander	1
	9	559-20	Manifold	1
	10	548-10	Reducer	2
	11	665-26	Test Point	1
	12	72-20	Silencer 1/4"	1
	13	538-9	Swivel Elbow x Ø8mm	1
14	282932-1	Electrical Harness		

Notes

12v and 24v 3-Station Valve Assemblies

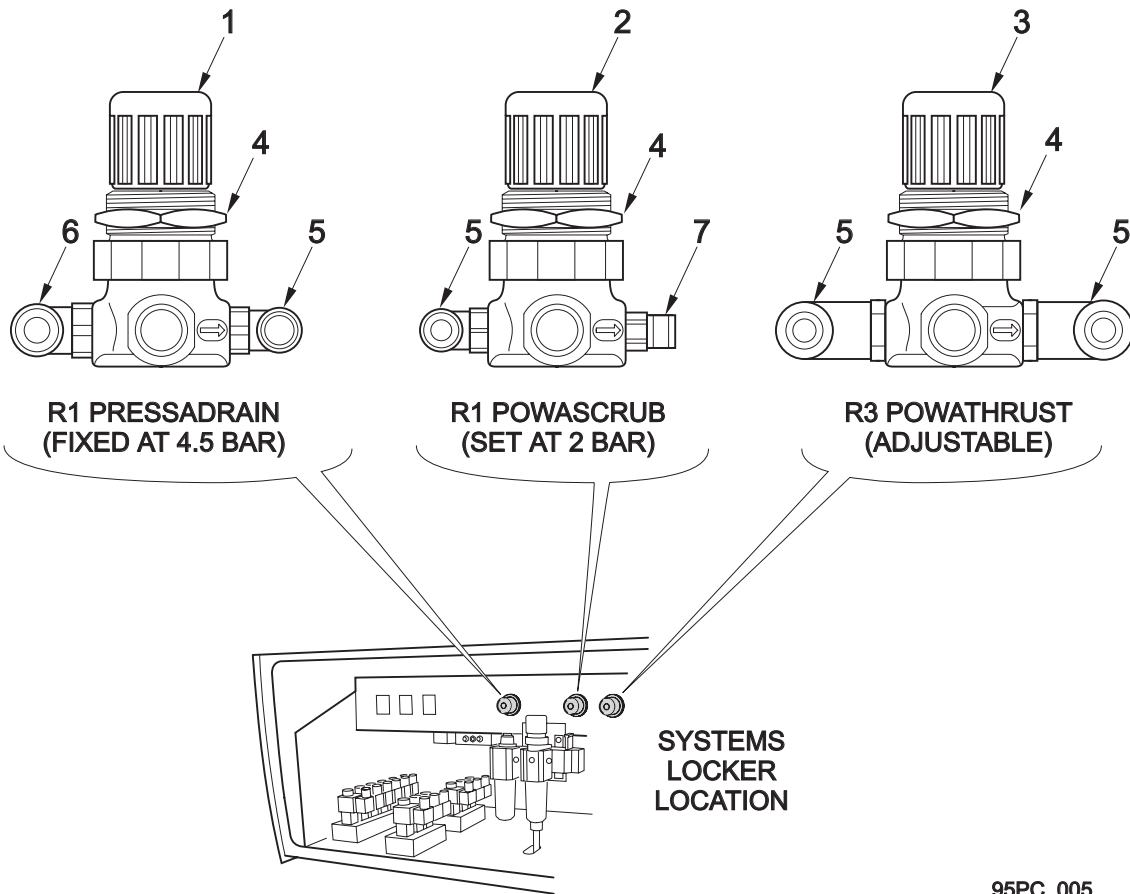


95PC. 004-2

12v and 24v 3-Station Valve Assemblies

Item No.	Part No.	Description	Quantity	
	282935-12	3 - Station Valve Assembly - Dual Sweep Block 12V	✓	
	282935-24	2 - Station Valve Assembly - Dual Sweep Block 24V	✓	
	282936-12	3 - Station Valve Assembly - Options Block 12V		✓
	282936-24	3 - Station Valve Assembly - Options Block 24V		✓
1	241-270	24v Valve N.O.	1	-
	241-272	12v Valve N.O.	1	-
2	241-271	24v Valve N.C.	2	3
	241-273	12v Valve N.C.	2	3
3	282937-1	Manifold	1	1
4	72-20	Silencer 1/4"	1	1
5	538-9	Swivel Elbow x Ø8	1	1
6	282938-1	Electrical Harness	1	-
7	282939-1	Electrical Harness	-	1

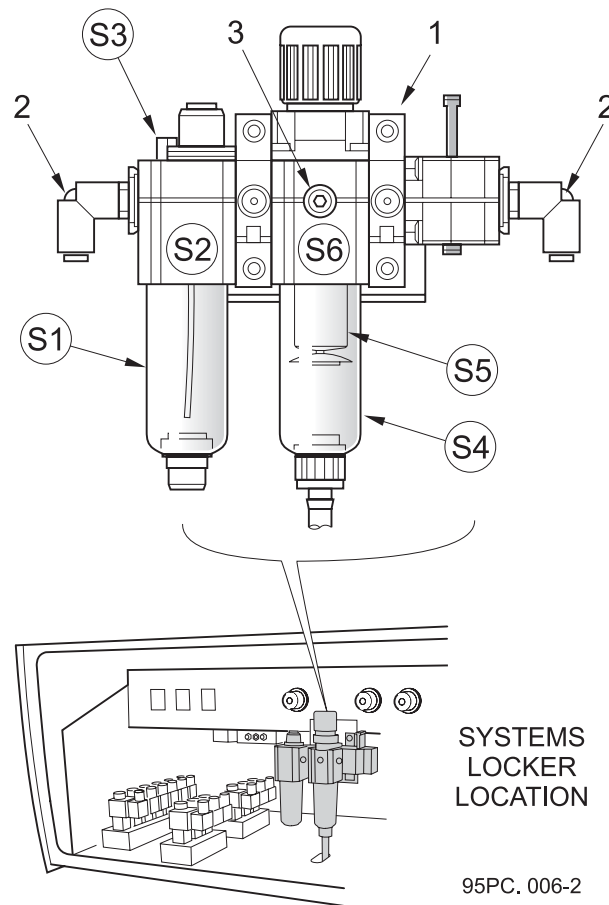
Notes

Regulators


95PC. 005

Item No.	Part No.	Description	Quantity		
			R1	R2	R3
1	72-14PS	Pre-set Regulator	1	-	-
2	72	Set Regulator	-	1	-
3	72-14	Standard Regulator	-	-	1
4	72-15	Panel Nut	1	1	1
5	538-3	Swivel Elbow 1/8" x Ø6	1	1	2
6	538-4	Swivel Elbow 1/8" x Ø8	1	-	-
7	537-3	Straight Adaptor 1/8" x Ø6	-	1	-

Notes

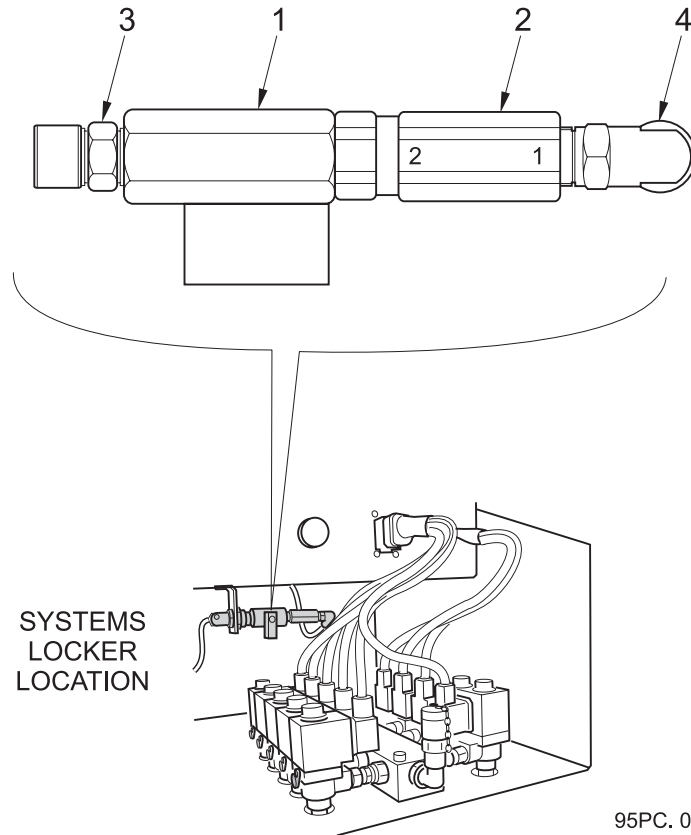


95PC.006-2

Item No.	Part No.	Description	Quantity
	282994-1	FRL Assembly comprising:-	
1	72-24	Filter Unit	1
2	538-9	Swivel Elbow	2
3 *	72-71	Pressure Switch and Connector	1
	-	Adaptor 1/8" NPTF to BSP	1
Spares Items for Filter Unit			
S1	72-28	Lubricator Bowl	
S2	72-27	Gasket Kit - Lubricator Section, Not Shown	
S3	72-42	Oil Filler Screw	
S4	72-30	Air Filter Bowl	
S5	72-39	Air Bowl Filter	
S6	72-29	Gasket Kit - Air Filter Section, Not Shown	

Notes

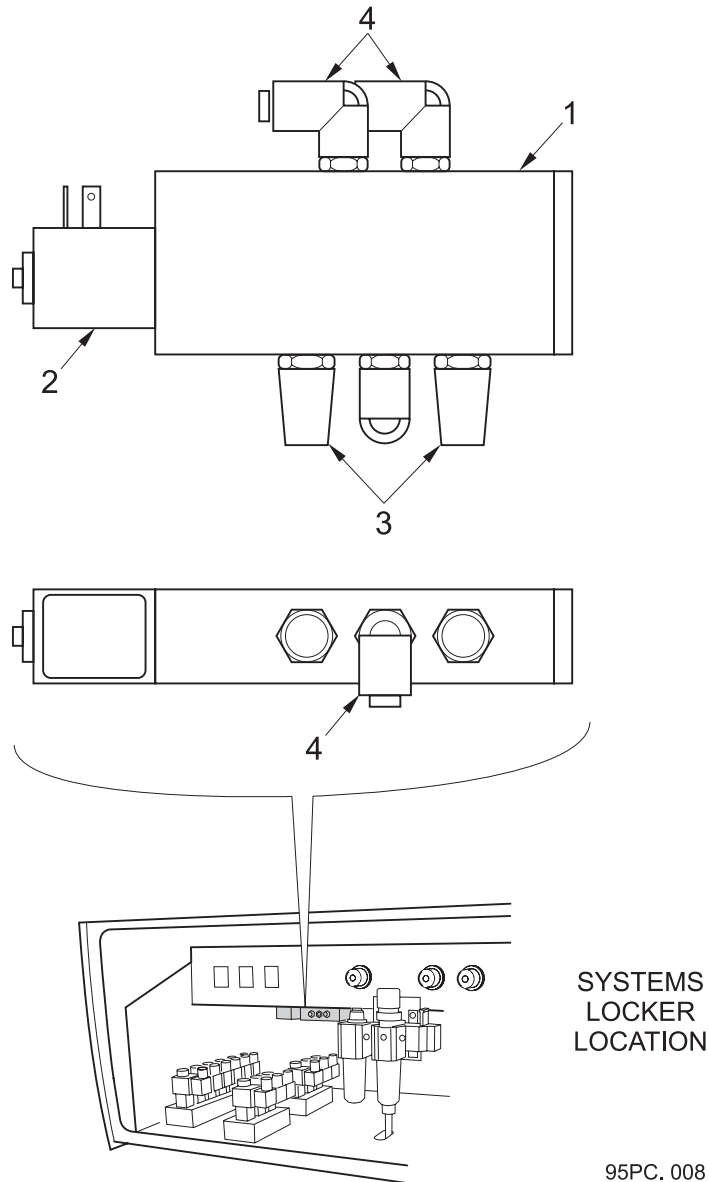
* Item 3, Pressure Switch etc, is fitted to the opposite side of the unit so cannot be seen in this view.

Pressadrain Purge Block Assembly (WDT)


Item No.	Part No.	Description	Quantity
	282995-1	Pressadrain Assembly comprising:-	
1	-	Ball Valve	1
2	-	Non-Return Valve	1
3	-	Adaptor 1/8" BSP	1
4	538-3	Swivel Elbow 1/8" BSP x Ø6	1

Notes

WSB Selector Valve (PV51) Dual Sweep Only



Item No.	Part No.	Description	Quantity
1	254-134	Solenoid Spring Valve	1
2	254-133	Coil 12v	1
	254-133	Coil 24v	1
3	72-17	Silencer	2
4	538-3	Swivel Elbow 1/8" x Ø6	3

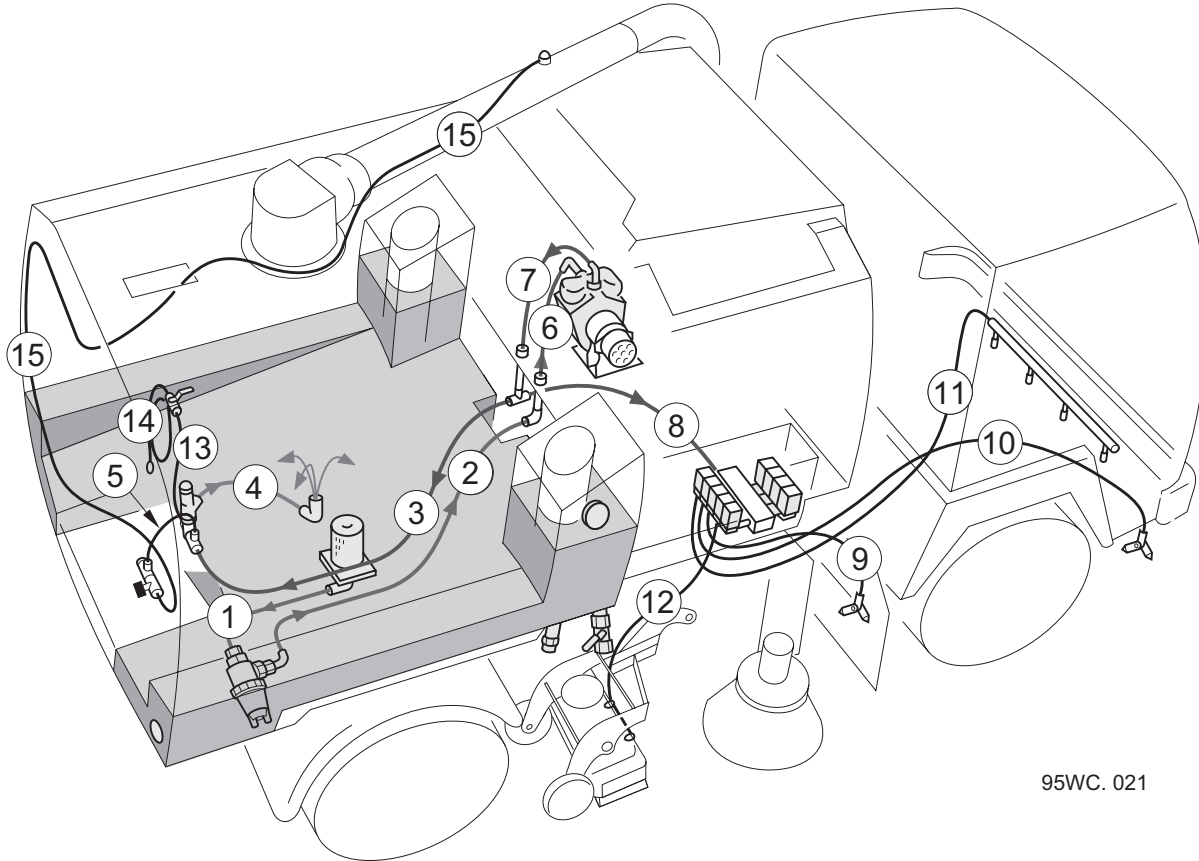
CHAPTER

30

Water System

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Water Hoses - Basic System


95WC. 021

BoM 950714 - Subframe Services

Item No.	Part No.	Description	Quantity
> 1	497-H24	Hose 1 1/2"	1.5m
	501-4	Hose Clip	2
2	6117	Hose 1"	2.0m
	501-4	Hose Clip	2
	24-1	Cable Tie	3
3	497-H12	Hose 3/4"	2.5m
	501-3	Hose Clip	2
	24-1	Cable Tie	4
4	497-H12	Hose 3/4"	1.2m
	501-3	Hose Clip	2
5	6111	Hose 1/2"	0.4m
	501-2	Hose Clip	2

Water Hoses - Basic System

BoM 950512 - Powapak Tub

Item No.	Part No.	Description	Quantity
6	6117	Hose 1" - Pump Suction	0.7m
	501-4	Hose Clip	2
	24-1	Cable Tie	2
7	497-H12	Hose 3/4" - Pump Feed	0.5m
	501-3	Hose Clip	2
8	497-H12	Hose 3/4"	1.0m
	501-3	Hose Clip	2

BoM 951220 - C.B. Installation, See Chapter 24

9	39444	Hose 3/8" - R.H. Brush Spray (Shown)	3.0m
	501-1	Hose Clip	2
	39444	Hose 3/8" - L.H. Brush Spray	5.0m
	501-1	Hose Clip	2
10	39444	Hose 3/8" - R.H. Gutter Spray (Shown)	6.2m
	501-1	Hose Clip	2
	39444	Hose 3/8" - L.H. Gutter Spray	11.3m
	501-1	Hose Clip	2

BoM 951020 - W.S.B. Installation, See Chapter 26

11	39444	Hose 3/8"	5.0m
	501-1	Hose Clip	2

BoM 951120 - Nozzle Installation, See Chapter 25

12	39444	Hose 3/8" - R.H. Nozzle Sprays (Shown)	5.0m
	501-1	Hose Clip	2
	39444	Hose 3/8" - L.H. Nozzle Sprays	8.0m
	501-1	Hose Clip	2

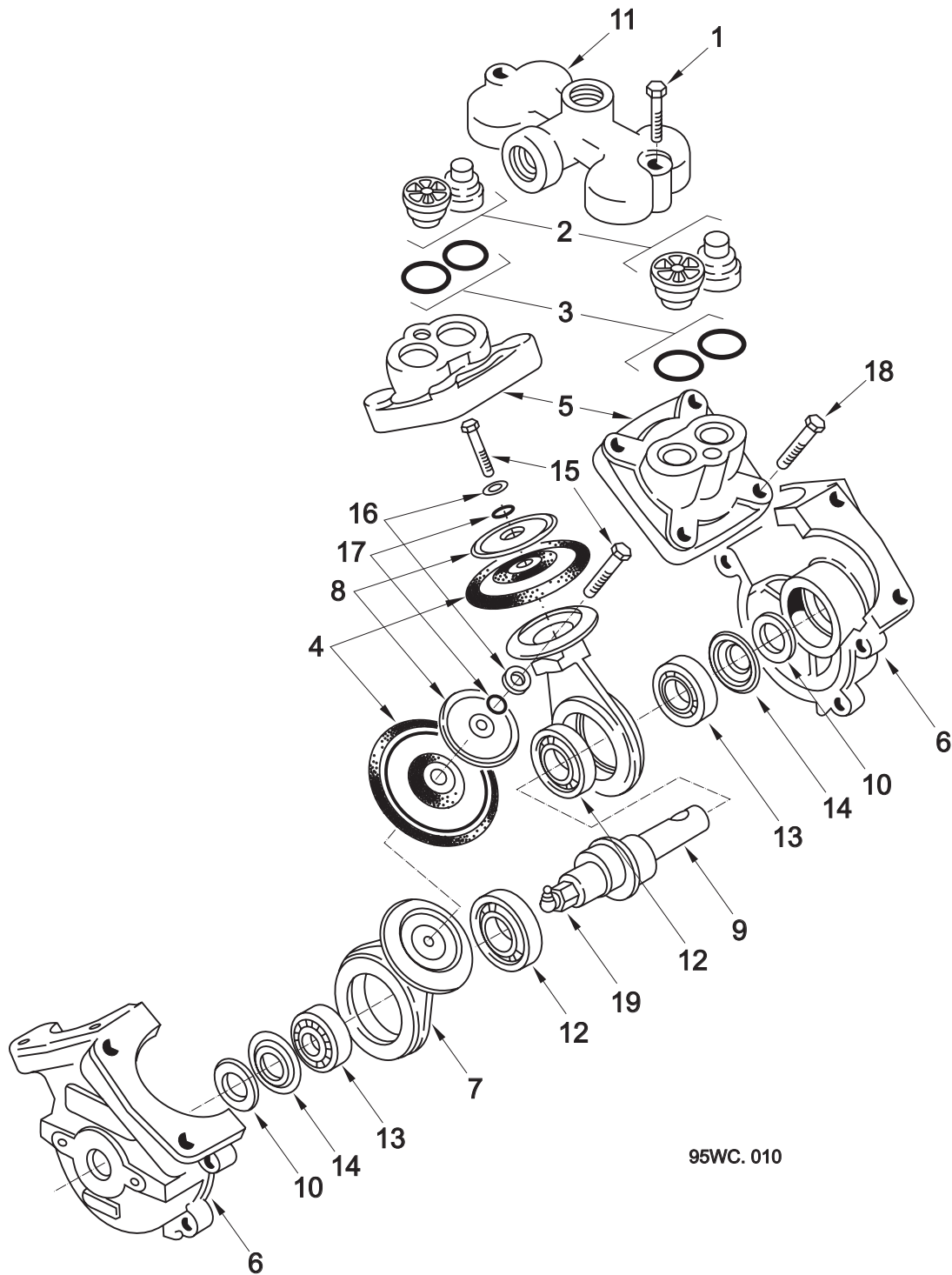
Drg. 807839 - Washdown Hose, See this Chapter

13	6111	Hose 1/2"	1.0m
	501-2	Hose Clip	2
14	6111	Hose 1/2"	6.0m
	501-2	Hose Clip	2

BoM 951330 - Wanderhose Installation, See Chapter 27

15	39444	Hose 3/8"	7.0m
	501-1	Hose Clip	2

Pump Assembly



95WC. 010

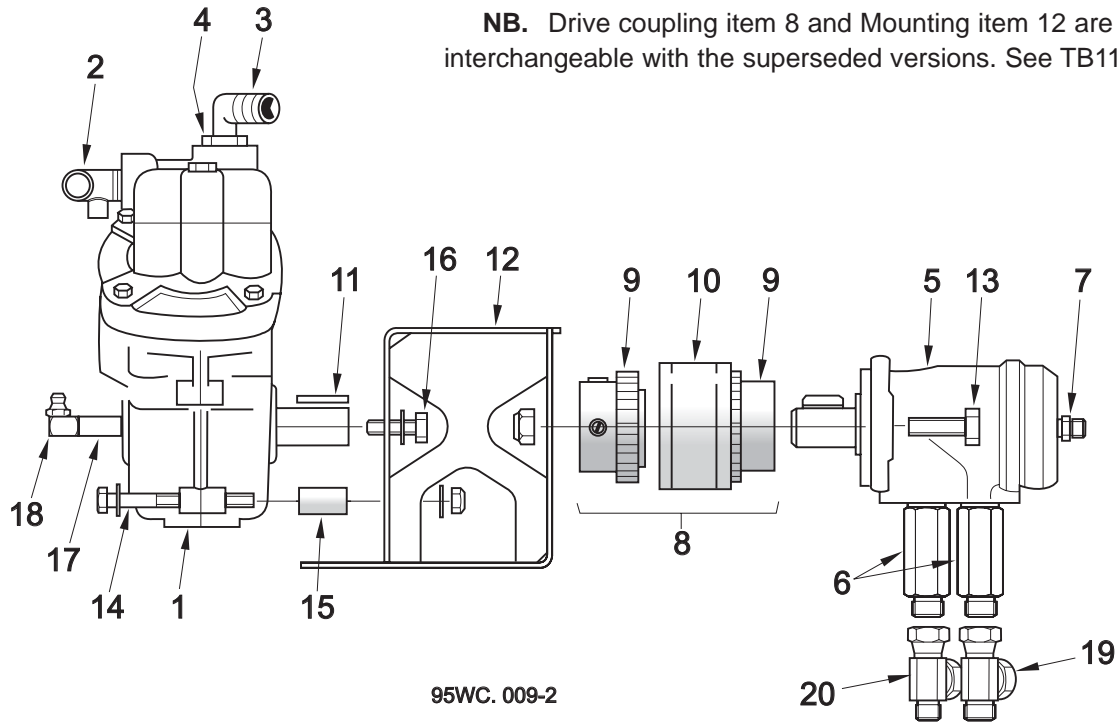
Pump Assembly

Item No.	Part No.	Description	Quantity
	22599-1	Water Pump Assembly comprising:	
1	15824-2	Bolt	4
2	15824-3	Valve Assembly	4
3	15824-4	'O' Ring	4
4	15824-5	Diaphragm	2
5	15824-7	Cylinder Head	2
6	15824-8	Crankcase	1 Pair
7	15824-9	Connecting Rod	2
8	15824-10	Tension Pad	2
9	22599-2	Crankshaft	1
10	15824-12	Felt Ring	2
11	15824-13	Manifold	1
12	14-18	Bearing - Connecting Rod	2
13	14-32	Bearing - Crankshaft	2
14	15824-16	Dust Cover	2
15	15824-17	Bolt - Tension Pad	2
16	15824-18	Washer	2
17	15824-19	'O' Ring	2
18	15824-2	Bolt	8
19	-	See Pump Installation over page	-
	15824-6	Repair Kit comprising items 2, 3 and 4	

Notes

Water Pump Installation

Drg 282812



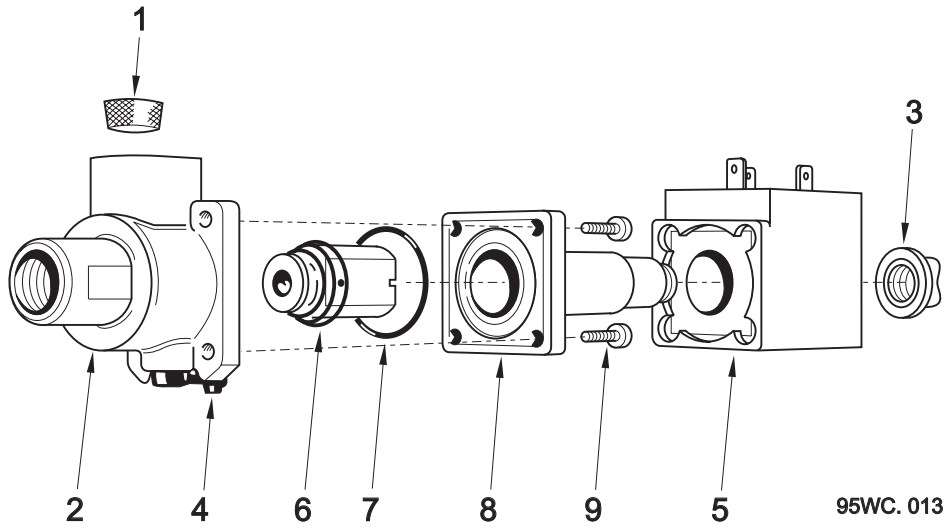
Item No.	Part No.	Description	Quantity
>	282812-1	Water Pump Assembly comprising:	
1	22599-1	Water Pump	1
2	49827-1	Elbow	1
3	277-30	Elbow	1
4	13164	Bush	1
5	244-10	Hydraulic Motor	1
	244-500	Motor Seal Kit	
	11879	Key	
6	281916-1	Adaptor 1/2"	2
	451-126	Copper Washer - Sealing 1/2"	2
7	263-2	Adaptor 1/4"	1
	451-17	Washer - Sealing 1/4"	1
8	282809-1	Drive Coupling comprising:	1
9	282809-2	Drive Coupling	] Spares] Items
10	282809-3	Drive Coupling - Sleeve	
11	282817-1	Key	1
12	282811-1	Mounting	1
13	124-207	Screw M12 x 40	2
	455-12	Washer Ø12	2
	425-16	Nut - Nyloc M12	2

Water Pump Installation

Drg 282812

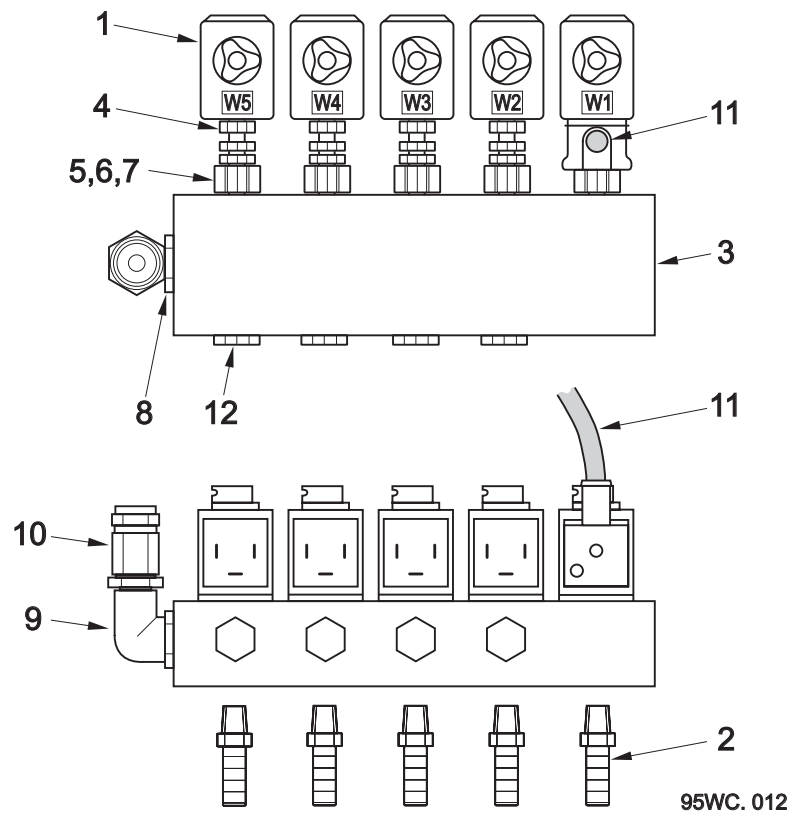
Item No.	Part No.	Description	Quantity
14	123-120	Bolt M8 x 90	2
	455-10	Washer Ø8	4
	425-14	Nut - Nyloc M8	2
15	282815-1	Spacer	2
16	103-38	Bolt 3/8 UNC	2
	450-9	Washer	2
17	95780-1	Adaptor	1
18	38-8	Grease Nipple 1/8" x 90°	1
BoM 950512			
19	255-13	Swivel Tee 1/2"	1
20	255-13	Swivel Tee 1/2" - VS only	1
	277-56	Swivel Tee 1/2" x 1/2" x 3/8" - VT only	1

Notes

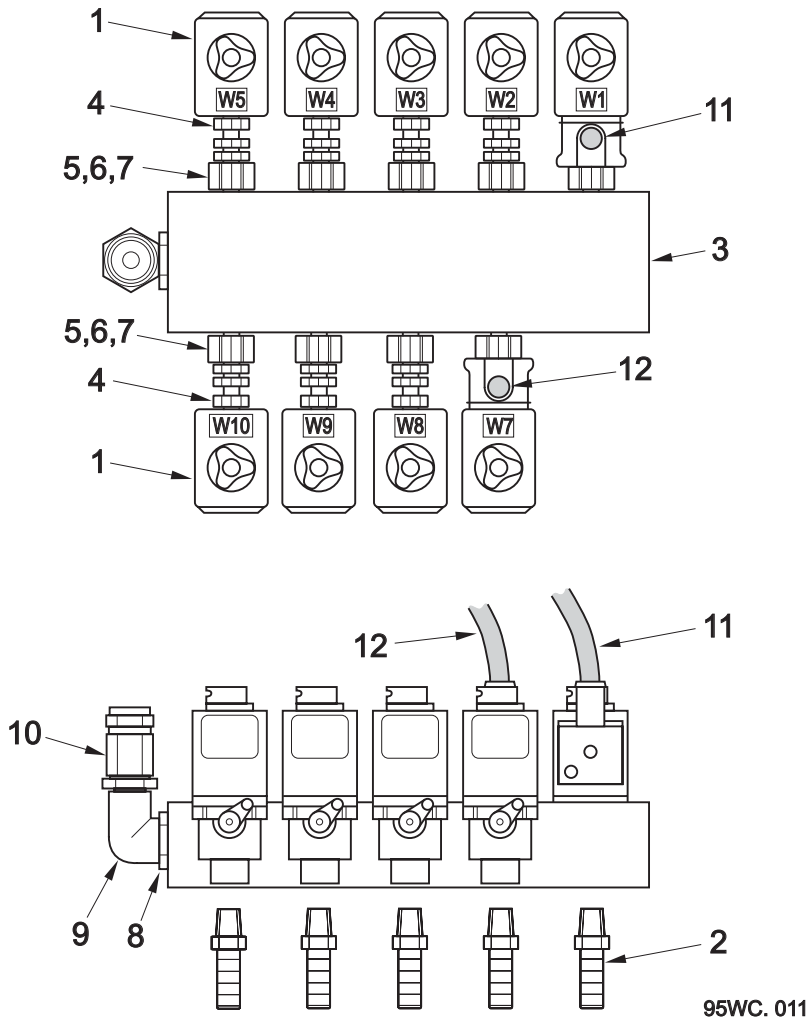
Solenoid Valve Assembly


Item No.	Part No.	Description	Quantity
	281372-1	Water Valve Assembly 12v	
	281372-2	Water Valve Assembly 24v	
		Each comprising:	
1	13170	Filter	1
2	NSS	Base	1
3	281372-5	Lock Nut	1
4	40664-13	Lever Kit comprising: Lever, 'O' Ring and Circlip	
5	281372-12	Coil 12v	1
	281372-24	Coil 24v	1
6	NSS	Armature	1
7	NSS	'O' Ring	1
8	NSS	Armature Housing	1
9	NSS	Setscrews	4
	281372-3	Overhaul Kit comprising items 1, 2, 4, 6, 7, 8 and 9	
	281372-4	Seal Kit comprising items 6 and 7	

Valves and Manifold - Single Sweep



Item No.	Part No.	Description	Quantity
	282940-12	Water Manifold Assembly - Single Sweep 12V	
	282940-24	Water Manifold Assembly - Single Sweep 24V	
1	281372-1	Valve 12v	5
	281372-2	Valve 24v	5
2		Hose Tail	5
3	282942-1	Manifold	1
4	532-13	Stem 1/4" x Ø8	5
5	516-11	Adaptor 1/4" x Ø8	5
6	511-4	Olive	5
7	510-4	Nut	5
8		Reducer 3/8" x 1/4"	1
9		Elbow 1/4"	1
10		Test Point	1
11	282943-1	Loom - 6 Point	1
12		Plug 1/4"	4

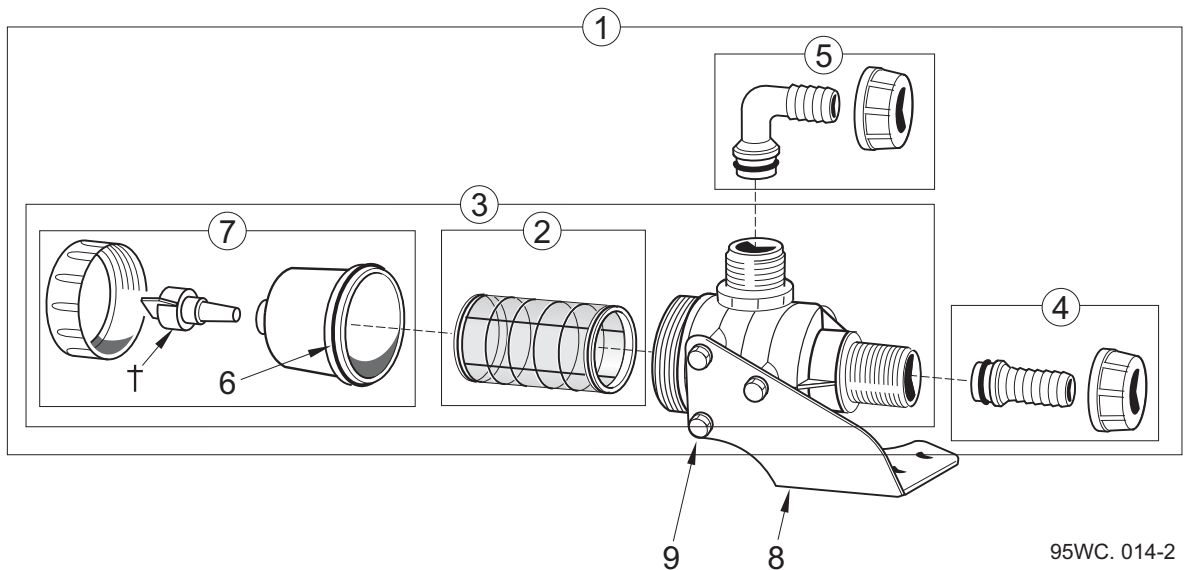
Water Valve and Manifold - Dual Sweep


95WC. 011

Item No.	Part No.	Description	Quantity
	282941-12	Water Manifold Assembly - Dual Sweep 12V	
	282941-24	Water Manifold Assembly - Dual Sweep 24V	
1	281372-1	Valve 12v	5
	281372-2	Valve 24v	5
2		Hose Tail	5
3	282942-1	Manifold	1
4	532-13	Stem 1/4" x Ø8	5
5	516-11	Adaptor 1/4" x 1/4"	5
6	511-4	Olive	5
7	510-4	Nut	5
8		Reducer 3/8" x 1/4"	1
9		Elbow 1/4"	1
10		Test Point	1
11	282943-1	Loom - 6 Point	1
12	282944-1	Loom - 3 Point	1

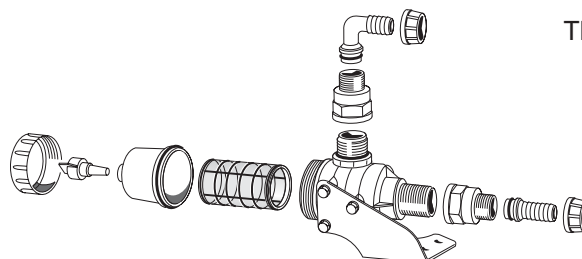
Rear Water Filter - Current

Current Filter has a Red Plunger †
Superseded Filter has a Yellow Plunger



Item No.	Part No.	Description	Quantity
> 1	* 281750-15	Water Filter Assembly comprising items 2 to 7	1
	281750-2	Filter Element with 'O' Rings	Spares Item
	281750-3	Filter Body comprising items 2, 6, 7	1
> 4	281750-9	Straight Connector Assembly 1 1/2" Feed	1
	281750-6	90° Connector Assembly	1
	80-139	'O' Ring	Spares Item
	281750-8	Bowl Assembly - Red Plug	Spares Item
	281905-1	Mounting Bracket	1
	124-132	Screw M8 x 12	3
	460-10	Washer - Spring Ø8	3
>	* Filter Assembly 281750-1 with 1" Feed connector 281750-5, item 4, was used up to Manufacturing Sequence number 0410525		

Note

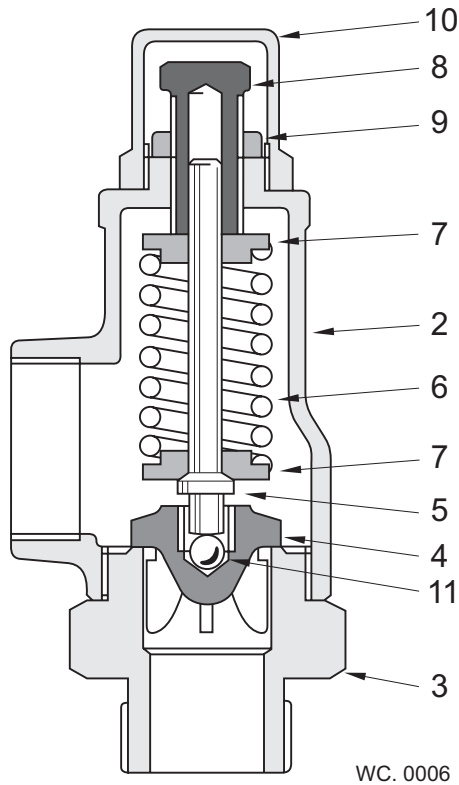


The original Filter, with yellow plunger, is shown in the 'Superseded Parts' section at the end of this chapter.

See Technical Bulletin TB 1211

95WC. 014-3

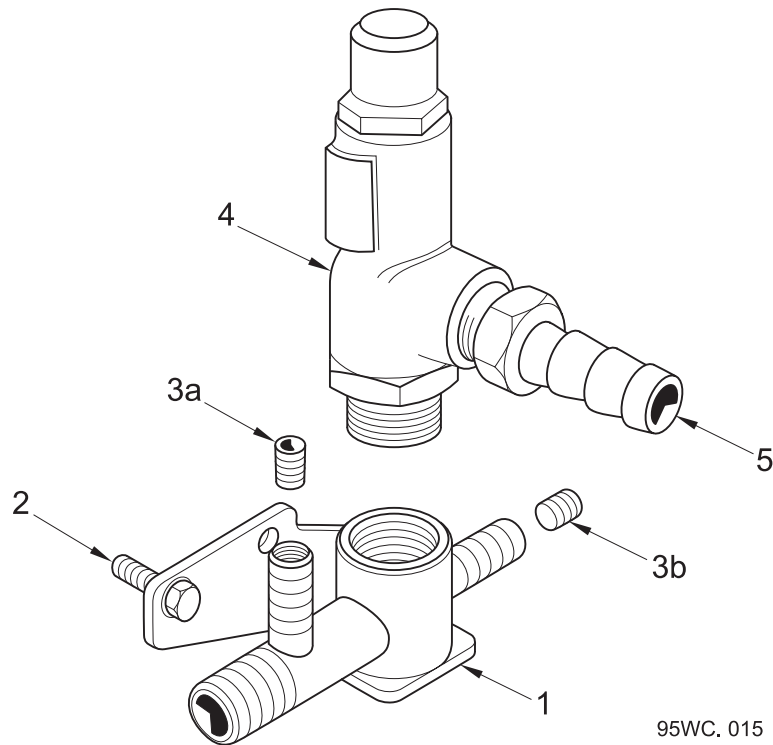
Relief Valve Assembly



BoM 950714

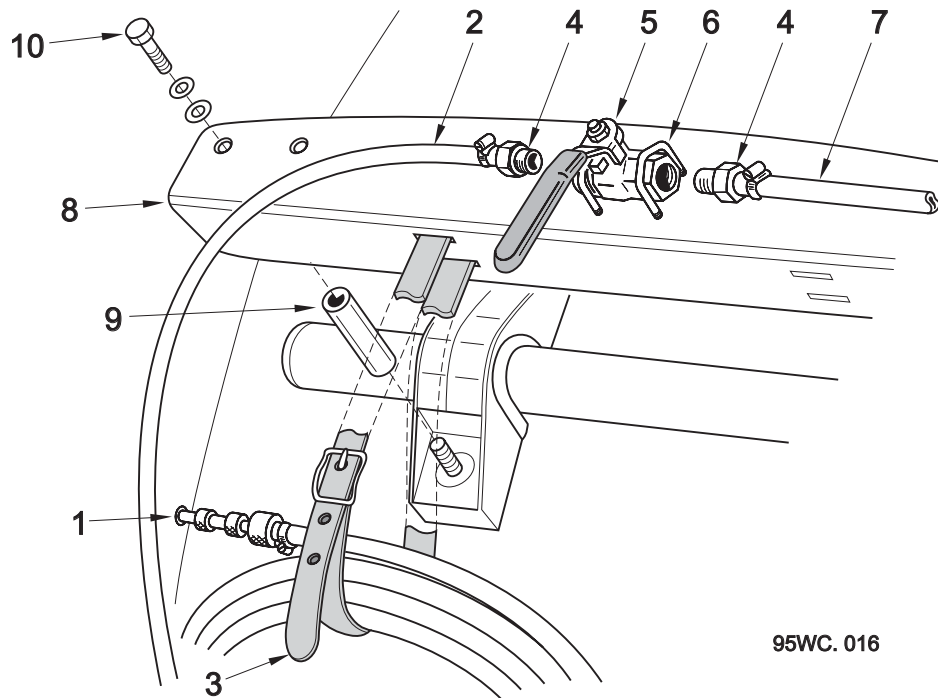
Item No.	Part No.	Description	Quantity
1	3698-11	Relief Valve Assembly comprising:	1
2	3698-2	Body	1
3	3698-12	Seat	1
4	3698-4	Valve	1
5	3698-5	Spindle	1
6	3698-6	Spring	1
7	3698-7	Spring End Plate	2
8	3698-8	Adjusting Screw	1
9	3698-9	Locknut	1
10	3698-10	Dome	1
11	22-1	Ball	1

Relief Valve Installation



Subframe Services BoM 950714

Item No.	Part No.	Description	Quantity
1	281075-1	Manifold	1
2	124-134	Screw M8 x 16	2
	460-10	Washer - Spring Ø8	2
3a	9757	Plug - Used when Wanderhose/Littasnach is not fitted	1
3b	9757	Plug - Used to blank off washdown port when Supawash is fitted	1
4	3698-11	Relief Valve - See previous page	1
5	231-19	Hose Adaptor	1

Washdown Hose - Not fitted with Supawash Option


95WC. 016

Item No.	Part No.	Description	Quantity
1	6137	Spray Nozzle	1
2	6111	Hose 1/2" Bore	6m
	501-2	Hose Clip	2
3	3786	Strap and Buckle	1
4	41006-1	Hose Adaptor	2
5	89-1	Valve 3/8" BSP	1
6	6105-1	'U' Bolt	2
	455-8	Washer - Plain	4
	425-13	Nut - Nyloc M6	4
7	6111	Hose 1/2" Bore x 1m	1
	501-2	Hose Clip	2
8,9,10	-	See notes below	

Notes

Items 8,9,10 - valve mounting and hose stowage are chassis dependant. Contact the Johnston Parts Department, quoting the machine serial number, for further information.

These parts are not supplied with a standard ESU.

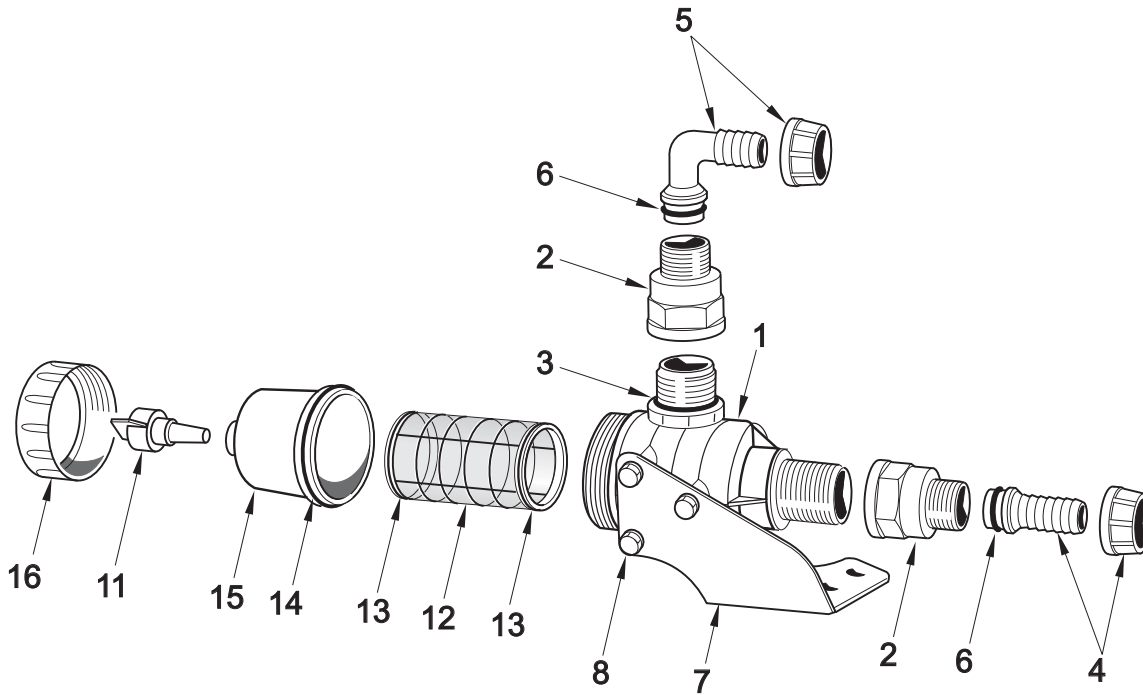
Superseded Parts

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Superseded Rear Water Filter

Identified by the Yellow Plunger, item 11



95WC. 014

Item No.	Part No.	Description	Quantity
1	281750-1	Water Filter Assembly comprising items 1 to 8:	
1	277-142	Filter Complete With Element	1
2	277-138	Reducing Bush	2
3	277-151	'O' Ring	1
4	277-139	Hose Tail - Straight and Nut	1
5	277-140	Hose Tail - 90° and Nut	1
6	277-141	'O' Ring	2
7	281905-1	Mounting Bracket	1
8	124-132	Screw M8 x 12	3
	460-10	Washer - Spring Ø8	3
9 - 10	-	-	
Spares Kit			
	281750-2	Stainless Steel Filter Kit comprising items 11 to 14:	
11	277-143	Plunger Assembly - Yellow	Ref.
12	277-145	No. 50 'Blue' Stainless Element	1
13	277-146	'O' Ring - Filter	2
14	277-144	'O' Ring - Hood	1
15	277-177	Hood	1
16	277-176	Securing Ring	1

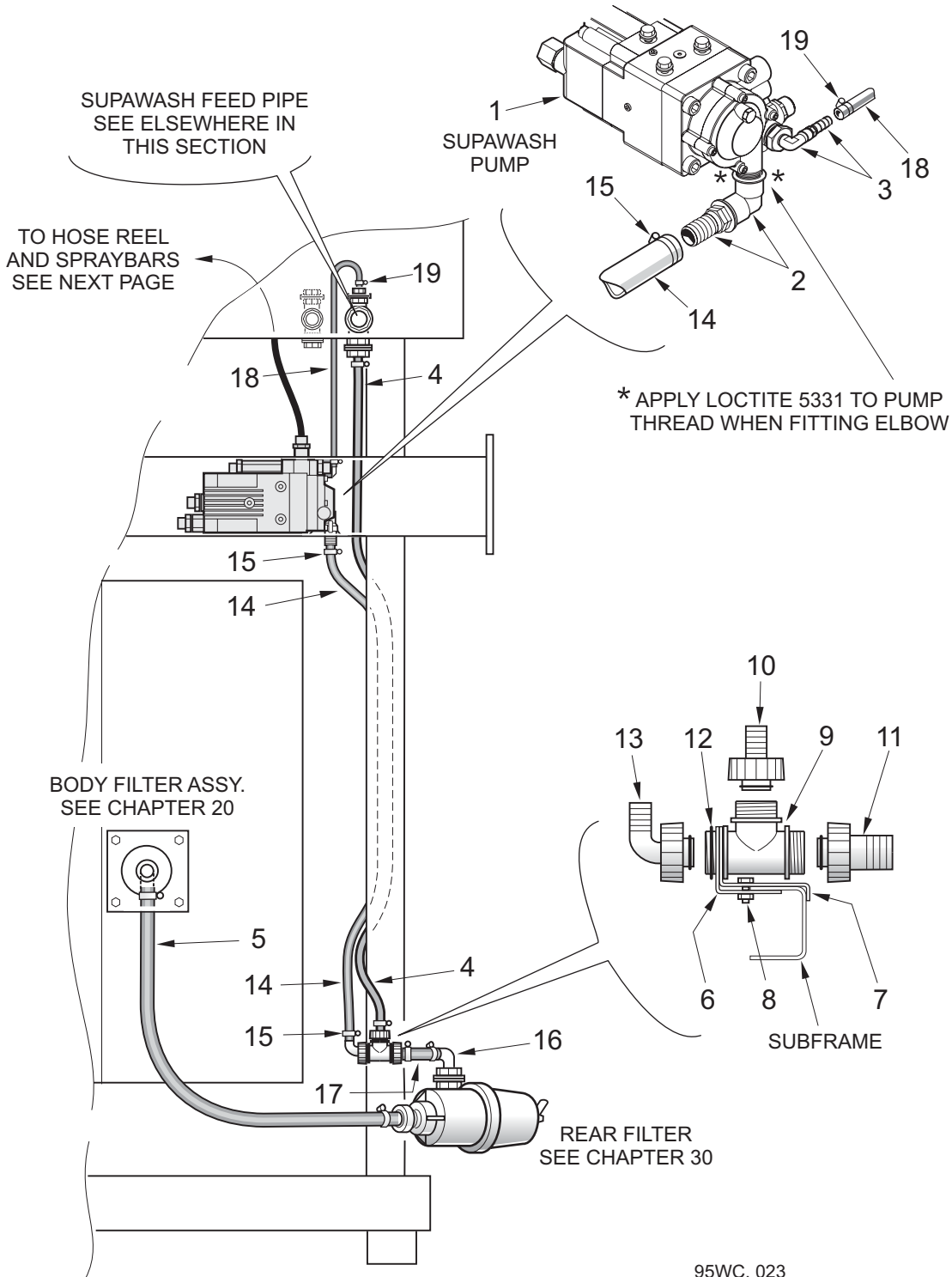
30.SW

Supawash Option

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Circuit and Hoses - Feed and Bypass



95WC. 023

Circuit and Hoses - Feed and Bypass

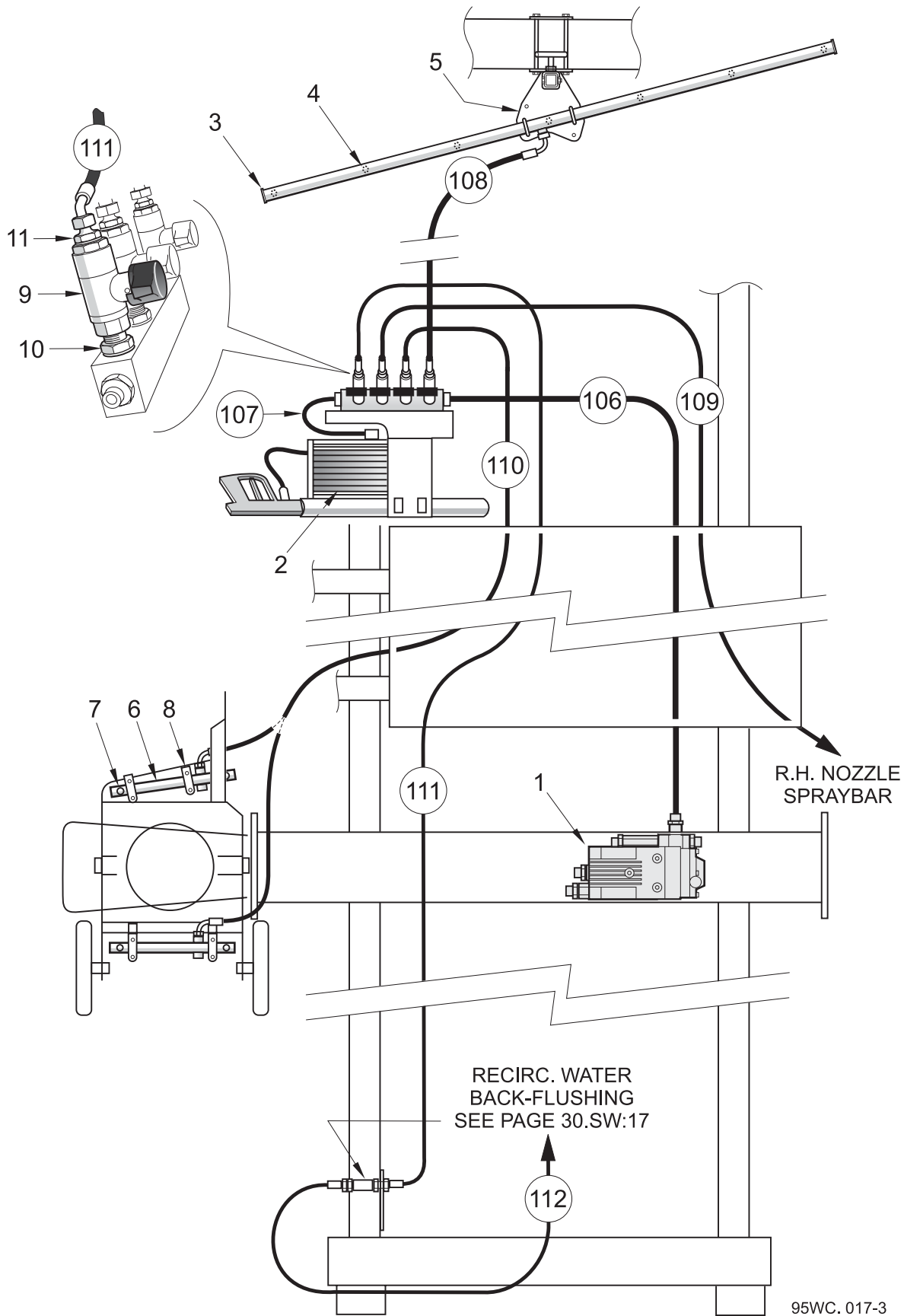
BoM KT00195

Item No.	Part No.	Description	Quantity
1, 2, 3	-	Pump and Fittings - See Page 30.SW:8	
4	-	See Chapter 30 - Water Hoses, Item 1	
5	-	See Chapter 30 - Water Hoses, Item 2	
6	283196-1	Bracket	1
7	283197-1	Bracket	1
8	124-137	Screw M8 x 25	1
	425-14	Nut - Nyloc M8	1
9	277-215	Equal Tee 1 1/2" BSP	1
10	281750-5	Hose Tail 1" Straight and Flynut	1
11	281750-9	Hose Tail 1 1/2" Straight and Flynut	1
12	277-214	Gasket 1 1/2" BSP	1
13	281750-6	Hose Tail 90° x 1" Elbow + Flynut (From Filter Unit)	1
14	6117	Hose 1" NB x 1.5m	1
15	501-4	Hose Clip	2
16	277-213	Hose Tail 90° x Ø1 1/2"	1
	277-170	Flynut 1 1/2" BSP	1
	277-171	'O' Ring	1
17	497-H24	Hose 1 1/2" NB x 0.25m	1
	501-5	Hose Clip	2
18	6111	Hose 1/2" NB x 0.5m	1
	501-2	Hose Clip	2

Notes

Machines with the earlier the Supply Pipe arrangement should be updated in line with TB. 1235 for V650 or TB. 1238 for V500 and V800.

Circuit and Hoses - Hose Reel and Spraybars



95WC.017-3

Circuit and Hoses - Hose Reel and Spraybars

BoM KT00195 - Supawash Pump

Item No.	Part No.	Description	Quantity
1	-	Pump Installation - See Page 30.SW:8	

BoM KT06195 - Hose Reel

2	-	Hose Reels - See Pages 30.SW:10 to 14	
106	HC08002-320	Hydraulic Hose 1/2" BSP - V 605, 650, 800	1
107	HC06043-51-190	Hydraulic Hose 3/8" BSP - V 605, 650	1
	HC06002-51-30	Hydraulic Hose 3/8" BSP - V 800	1

BoM KT05995 - Front Spraybar

3	282466-1	Front Spraybar	1
4	21-31	Spray Jet	7
5	-	Front Spraybar Installation - See Page 30.SW:16	
108	HC08002-372	Hydraulic Hose 1/2" BSP	1

BoM KT02595 - Nozzle Spraybars

6	282240-1	Nozzle Spraybar	1/2
7	21-31	Spray Jet	2/4
8	-	Nozzle Spraybar Installation - See Page 30.SW:18	
109	HC06002-400	Hydraulic Hose 3/8" BSP	1
110	HC06002-320	Hydraulic Hose 3/8" BSP	1

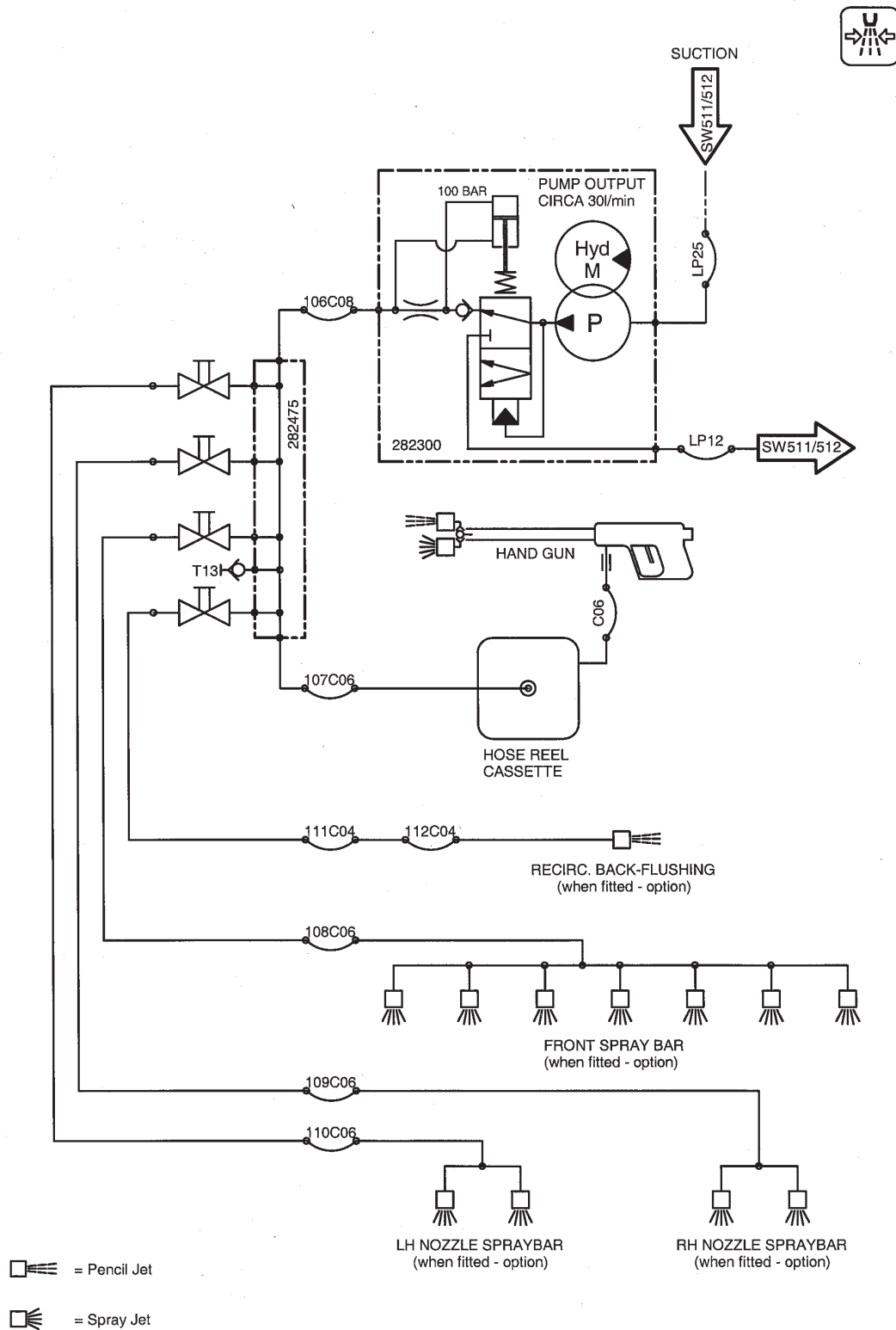
BoM KT05895 - Recirc. Backflushing

}	9	88-33	Valve 1/2" BSPF	1
	10	266-4	Adaptor 1/2" BSP x 1/2" BSPT	1
		451-19	Washer - Sealing 1/2" BSP	1
	11	265-3	Adaptor 1/2" x 1/4" BSP	1
		451-19	Washer - Sealing 1/2" BSP	1
	111	HC04001-454	Hydraulic Hose 1/4" BSP	1
>	112	HC04002-290	Hydraulic Hose 1/4" BSP	1

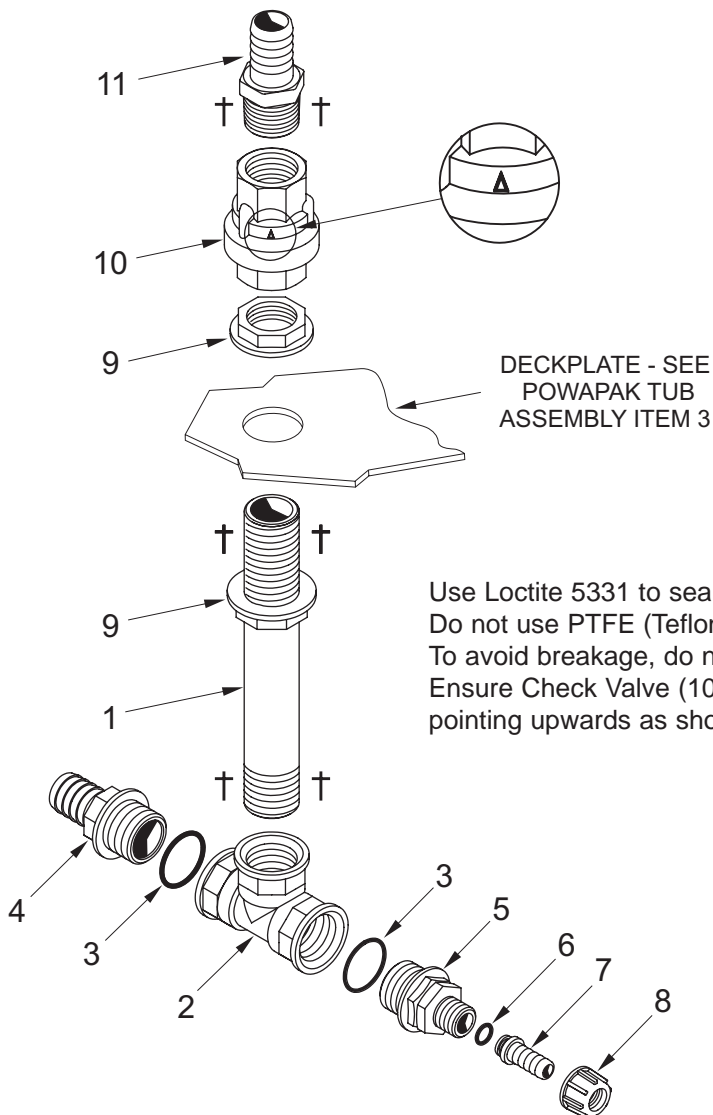
Notes

Hose item numbers correspond with those on Supawash diagram SW513a01 on the next page.

Circuit Diagram SW513a01



1" Water Pump Feed Pipe Assembly

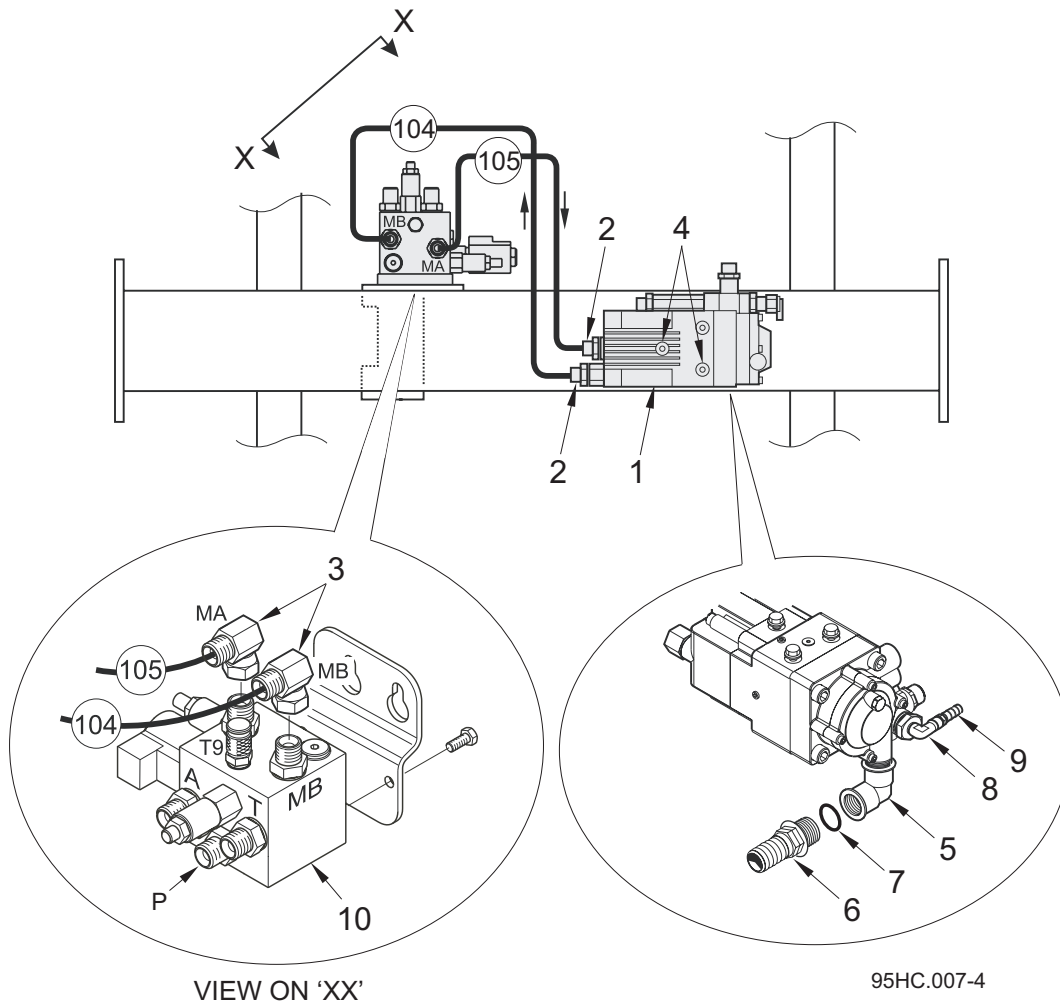



95WC.006-3

BoM KT00195

Item No.	Part No.	Description	Quantity
	293280-2	1" Pump Feed Pipe Assembly for Supawash	
1	281667-1	Pipe - Water 1"	1
2	277-128	Tee 1" BSP	1
3	277-149	'O' Ring	2
4	277-125	Hosetail 1" BSP / 1" NB Hose	1
5	277-216	Reducer 1" x 1/2" BSP	1
6	277-149	'O' Ring	1
7	277-217	Hosetail	1
8	277-218	Flynut 1/2" BSP	1
9	277-165	Backnut 1"	2
10	277-174	Check Valve 1" x 1" BSP	1
11	277-219	Hosetail 1" BSP	1

Supawash Pump Installation - Hydraulics





Note

The installation using the previous Valve Block 282301, is shown in the 'Supawash Superseded Parts' section at the back of this chapter.

Supawash Pump Installation - Hydraulics

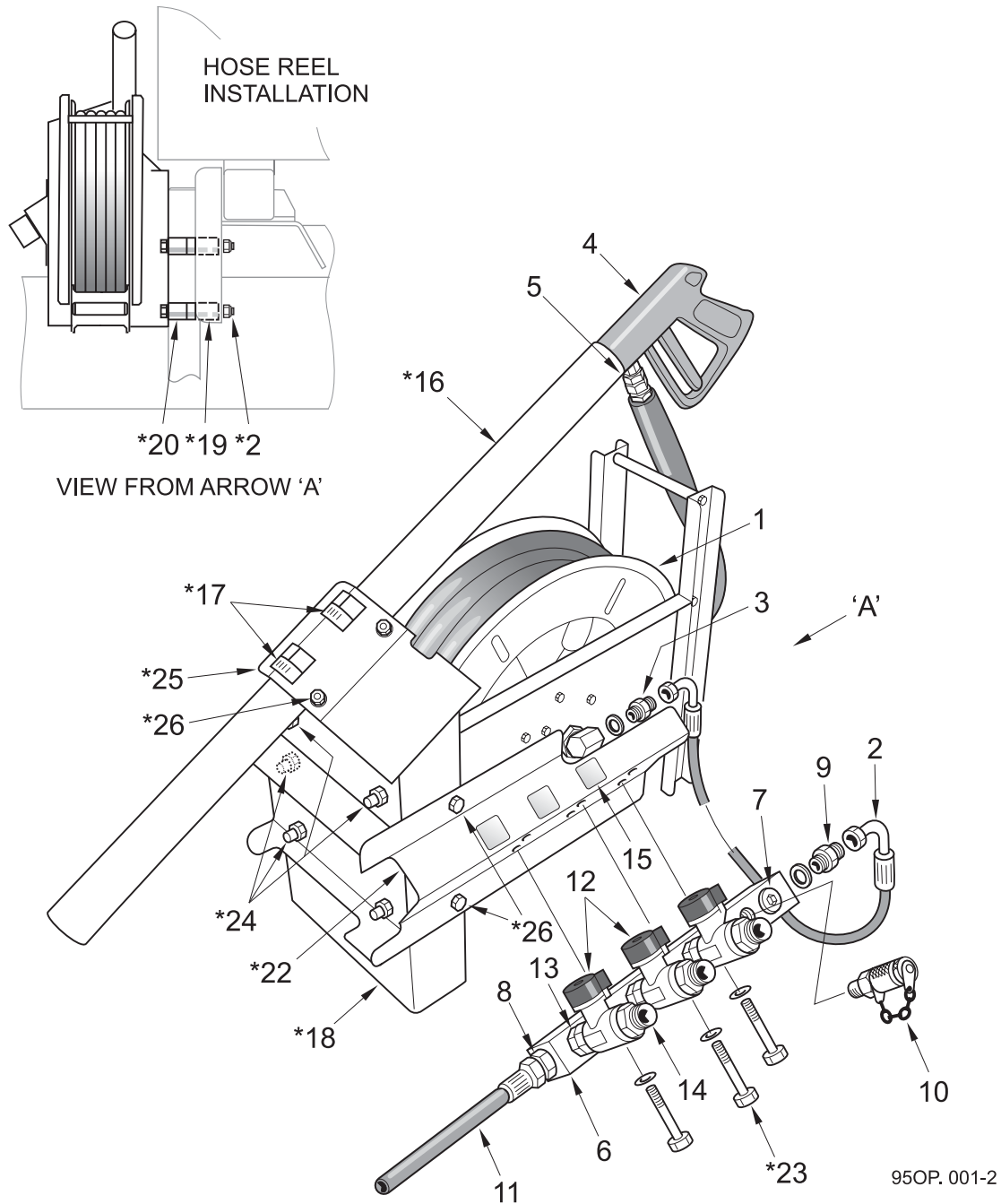
BoM KT00195

Item No.	Part No.	Description	Quantity
1	282300-1	Pump - Supawash	1
2	263-4	Adapter 1/2" BSP	2
	451-19	Washer - Sealing 1/2" BSP	2
3	262-4	Swivel Elbow 1/2" BSP	2
4	124-212	Screw M8 x 20	2
	455-10	Washer - Plain Ø8	2
	460-10	Washer - Spring Ø8	2
5	277-222	Elbow 3/4" BSP x 90	1
6	277-223	Hose Tail 3/4" BSP x 1" NB	1
7	277-148	'O' Ring Ø3/4"	1
8	277-225	Elbow 3/8" x 3/8" BSP	1
9	40096-1	Hosetail 3/8" BSP x 3/8" NB	1
> 10	-	Valve Block - See Chapter 28, Valve Block Installation	
104 *	HC08003-76	Hydraulic Hose 1/2"	1
105 *	HC08003-76	Hydraulic Hose 1/2"	1

Notes

* Hose item numbers correspond with those in hydraulic diagram SH528a01 in Chapter 8.

**Supawash Lance & Reel - V 605, 650, Left Hand Installation
Iveco 13 and 15 Tonne Chassis only**



Supawash Lance & Reel - V 605, 650, Left Hand Installation
Iveco 13 and 15 Tonne Chassis only

BoM KT 06195

Item No.	Part No.	Description	Quantity
1	667-49	Hose Reel	1
2	-	Hydraulic Hose - See item 107 on page 30.SW:4	1
3	263-3	Adaptor 3/8" BSP	1
	451-18	Washer - Sealing 3/8" BSP	1
4	21-306	Lance	1
5	267-20	Swivel Adaptor	1
	451-18	Washer - Sealing	2
	282475-1	Manifold Assembly comprising items 5 to 9	
6	282229-1	Water Manifold	1
7	54-4	Collared Plug (Remove as Required - See item 11)	6
8	263-4	Adaptor 1/2" BSP	1
	451-19	Washer - Sealing 1/2" BSP	1
9	265-4	Adaptor 1/2" x 3/8" BSP	1
	451-19	Washer - Sealing 1/2" BSP	1
10	665-8	Test Point	1
11	-	Hydraulic Hose - See item 106 on page 30.SW:4	1
Valves and Decal Quantities, Items 11 to 14, depend on Supawash equipment fitted			
12	88-33	Valve 1/2" BSPF	As Req'd
13	266-4	Adaptor 1/2" x 1/2" BSPT	1 per Valve
	451-19	Washer - Sealing	1 per Valve
14	265-4	Adaptor 1/2" x 3/8" BSP	1 per Valve
	451-19	Washer - Sealing 1/2"	1 per Valve
15	-	Decals - See Chapter 34	
*16 - *26	-	See notes below	

Notes

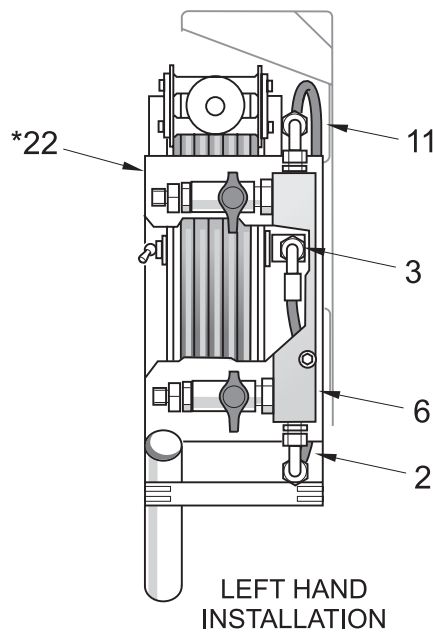
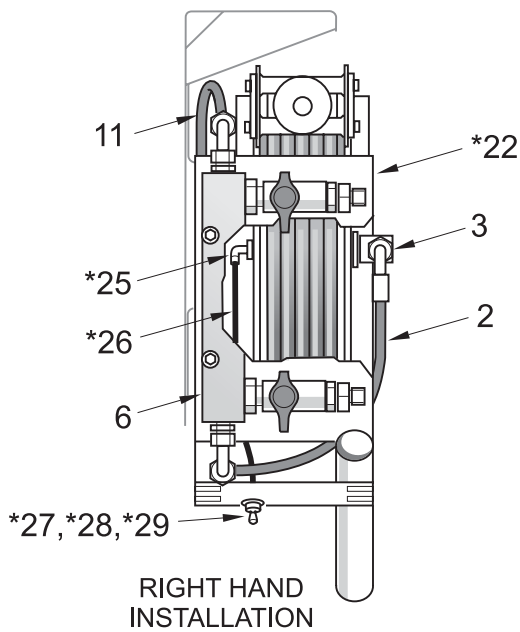
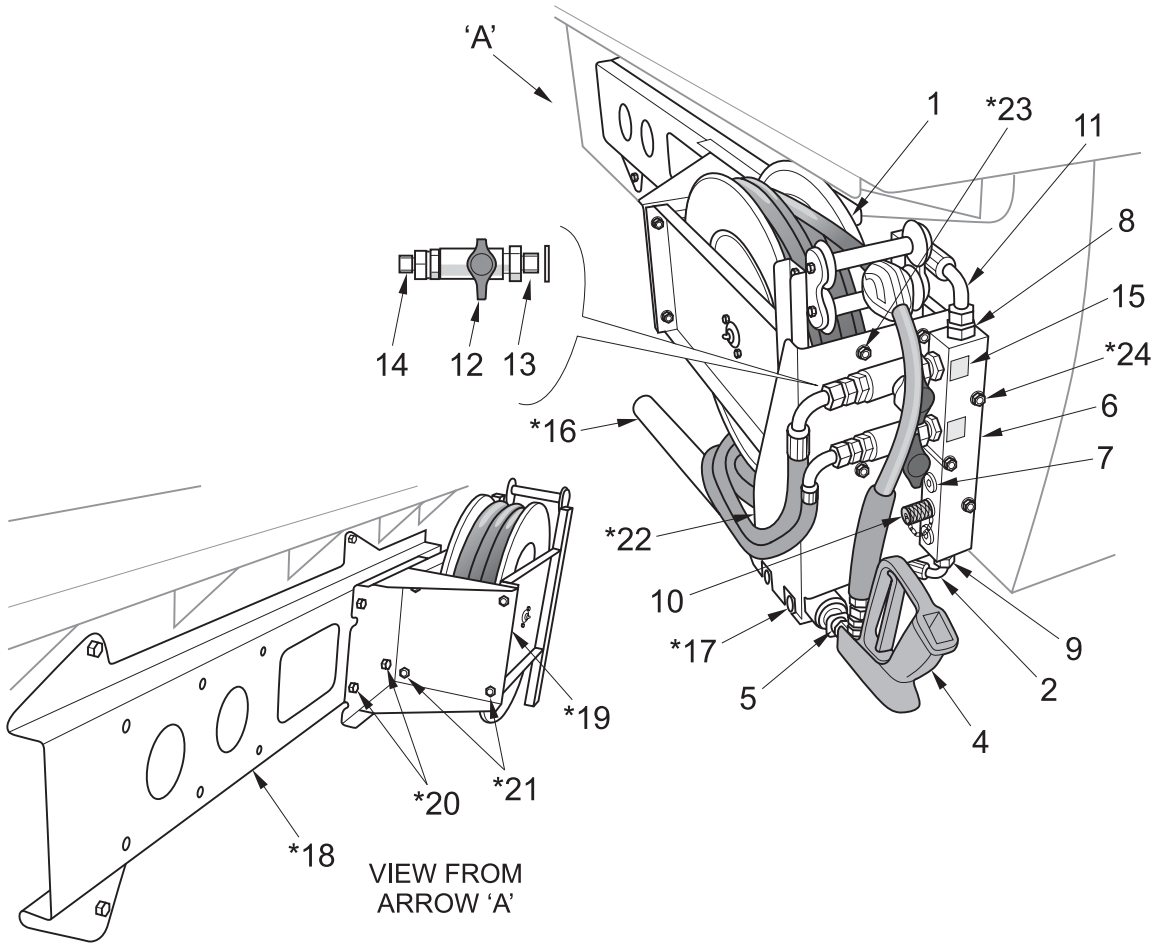
* Items 16 to 26 - Hose reel and hand lance installation parts are chassis related. Contact the Johnston Parts Department, quoting the machine serial number, for further information.

These parts are not supplied with standard ESU's.

Johnston reference drawings:

The relevant installation drawing can be found via the Chassis Drawing Matrix shown in chapter 33 page 33:2.

**Supawash Lance & Reel - V 605, 650, Multiuse Left and Right Hand Installations
Used on most chassis except Ivecos**



VIEWS SHOWN WITH ITEMS 19 AND 22 CUT AWAY FOR CLARITY 950P.002-2

**Supawash Lance & Reel - V 605, 650, Multiuse Left and Right Hand Installations
Used on most chassis except Ivecos**

BoM KT 06195

Item No.	Part No.	Description	Quantity
1	667-49	Hose Reel	1
2	-	Hydraulic Hose - See item 107 on page 30.SW:4	1
3	263-3	Adaptor 3/8" BSP	1
	451-18	Washer - Sealing 3/8" BSP	1
4	21-306	Lance	1
5	267-20	Swivel Adaptor	1
	451-18	Washer - Sealing	2
	282475-1	Manifold Assembly comprising items 5 to 9	
6	282229-1	Water Manifold	1
7	54-4	Collared Plug (Remove as Required - See item 11)	6
8	263-4	Adaptor 1/2" BSP	1
	451-19	Washer - Sealing 1/2" BSP	1
9	265-4	Adaptor 1/2" x 3/8" BSP	1
	451-19	Washer - Sealing 1/2" BSP	1
10	665-8	Test Point	1
11	-	Hydraulic Hose - See item 106 on page 30.SW:4	1
Valves and Decal Quantities, Items 12 to 15, depend on Supawash equipment fitted			
12	88-33	Valve 1/2" BSPF	As Req'd
13	266-4	Adaptor 1/2" x 1/2" BSPT	1 per Valve
	451-19	Washer - Sealing	1 per Valve
14	265-4	Adaptor 1/2" x 3/8" BSP	1 per Valve
	451-19	Washer - Sealing 1/2"	1 per Valve
15	-	Decals - See Chapter 34	
*16 - *29	-	See notes below	

Notes

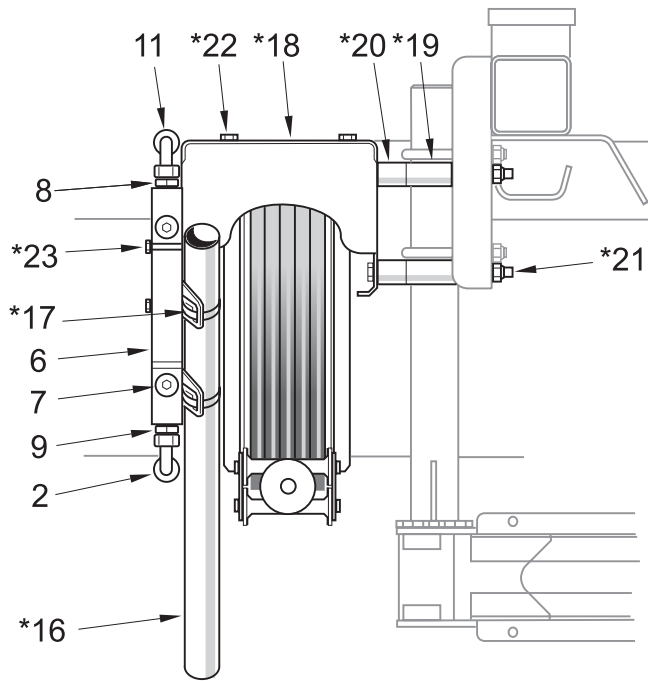
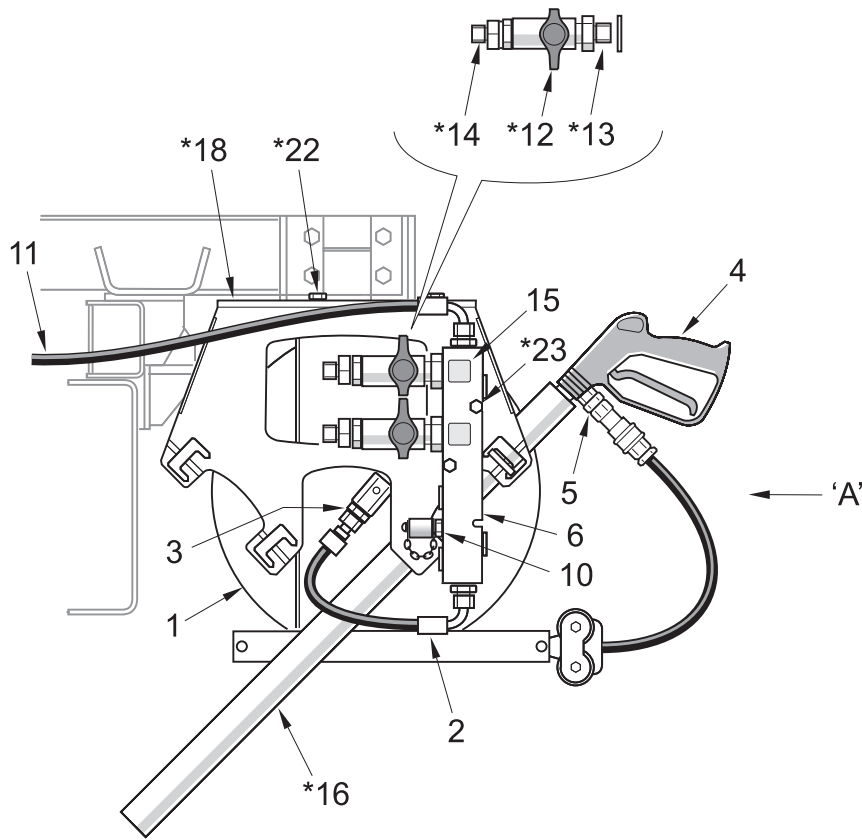
* Items 16 to 29 - Hose reel and hand lance installation parts are chassis related. Contact the Johnston Parts Department, quoting the machine serial number, for further information.

These parts are not supplied with standard ESU's.

Johnston reference drawings:

The relevant installation drawing can be found via the Chassis Drawing Matrix shown in chapter 33 page 33:2.

Supawash Lance & Reel - V 650, 800 Multiuse Installation



95OP.003-2

Supawash Lance & Reel - V 650, 800 Multiuse Installation

BoM KT 06195

Item No.	Part No.	Description	Quantity
1	667-49	Hose Reel	1
2	-	Hydraulic Hose - See item 107 on page 30.SW:4	1
3	263-3	Adaptor 3/8" BSP	1
	451-18	Washer - Sealing 3/8" BSP	1
4	21-306	Lance	1
5	267-20	Swivel Adaptor	1
	451-18	Washer - Sealing	2
	282475-1	Manifold Assembly comprising items 5 to 9	
6	282229-1	Water Manifold	1
7	54-4	Collared Plug (Remove as Required - See item 11)	6
8	263-4	Adaptor 1/2" BSP	1
	451-19	Washer - Sealing 1/2" BSP	1
9	265-4	Adaptor 1/2" x 3/8" BSP	1
	451-19	Washer - Sealing 1/2" BSP	1
10	665-8	Test Point	1
11	-	Hydraulic Hose - See item 106 on page 30.SW:4	1
Valves and Decal Quantities, Items 12 to 15, depend on Supawash equipment fitted			
12	88-33	Valve 1/2" BSPF	As Req'd
13	266-4	Adaptor 1/2" x 1/2" BSPT	1 per Valve
	451-19	Washer - Sealing	1 per Valve
14	265-4	Adaptor 1/2" x 3/8" BSP	1 per Valve
	451-19	Washer - Sealing 1/2"	1 per Valve
15	-	Decals - See Chapter 34	
*16 - *23	-	See notes below	

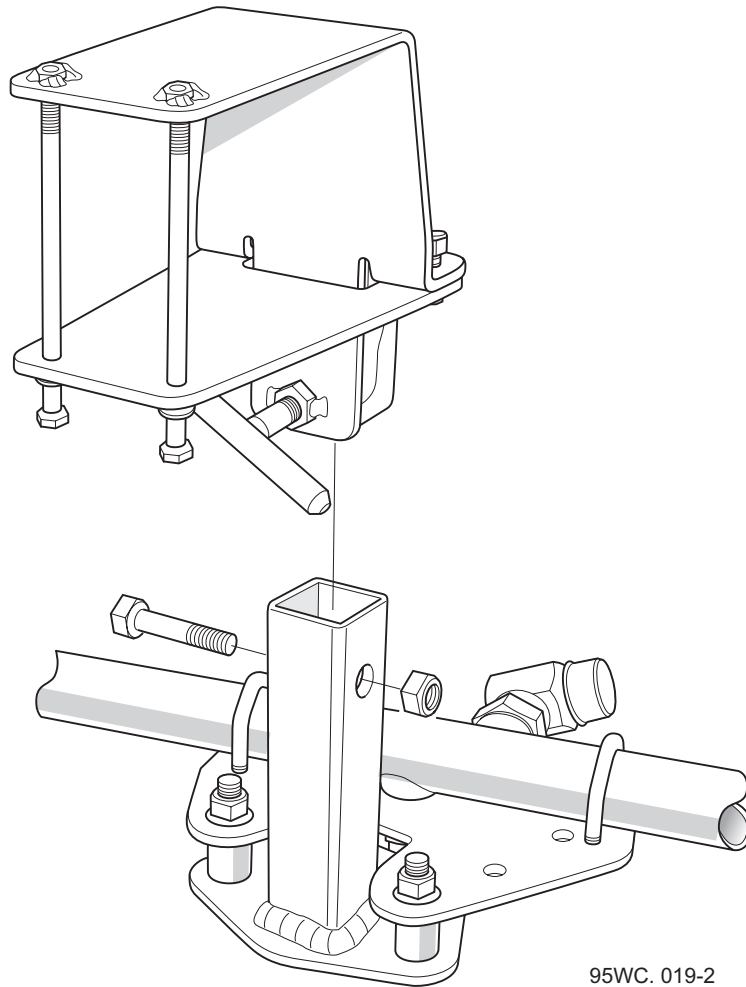
Notes

* Items 16 to 23 - Hose reel and hand lance installation parts are chassis related. Contact the Johnston Parts Department, quoting the machine serial number, for further information.

These parts are not supplied with standard ESU's.

Johnston reference drawings:

The relevant installation drawing can be found via the Chassis Drawing Matrix shown in chapter 33 page 33:2.

Front Spraybar Installation

95WC. 019-2

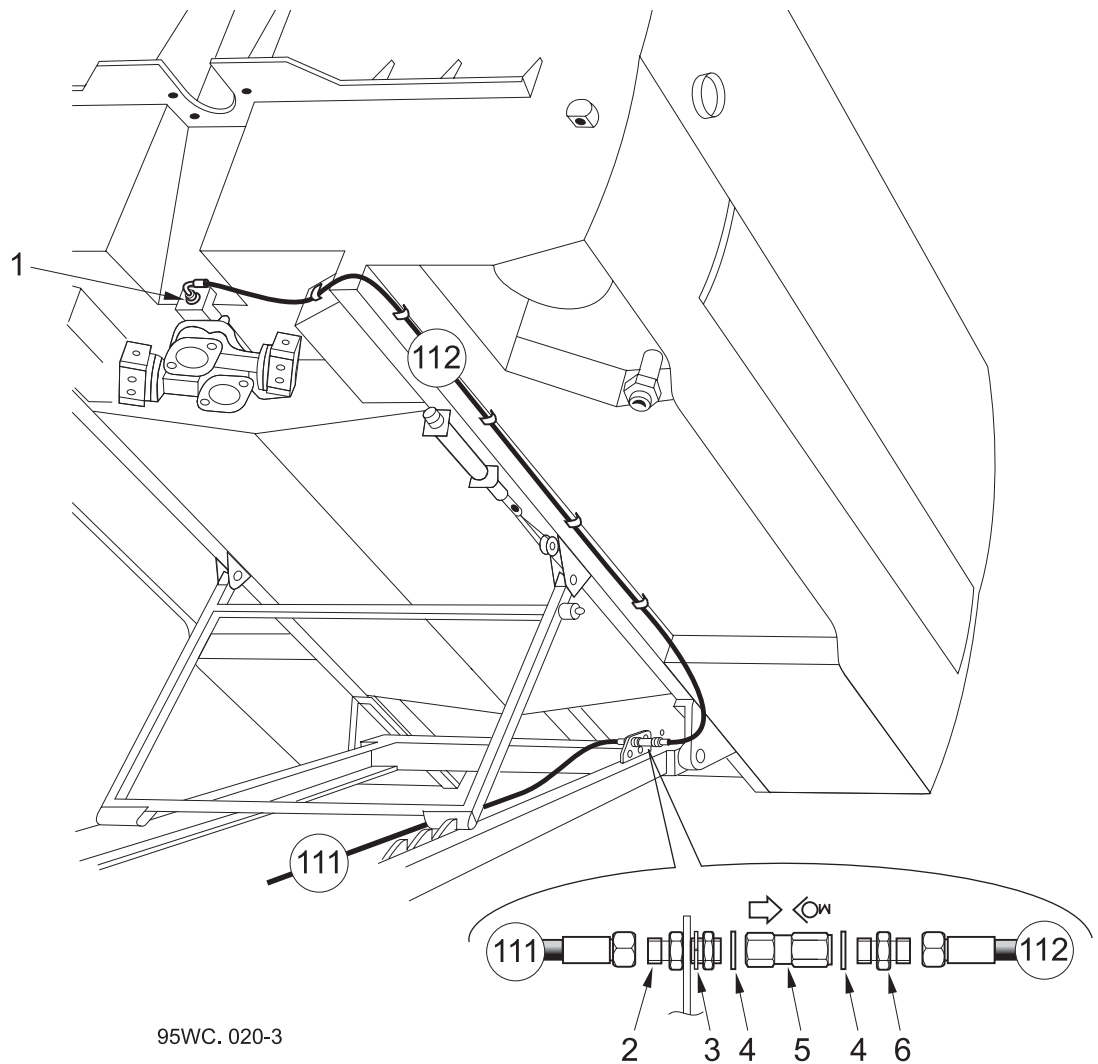
The Front Spraybar Installation parts are chassis related. Contact the Johnston Parts Department, quoting the machine serial number, for further information.

These parts are not supplied with standard ESU's.

Johnston reference drawings:

The relevant installation drawing can be found via the Chassis Drawing Matrix shown in chapter 33 page 33:2.

Recirculating Water Option - Backflushing Installation



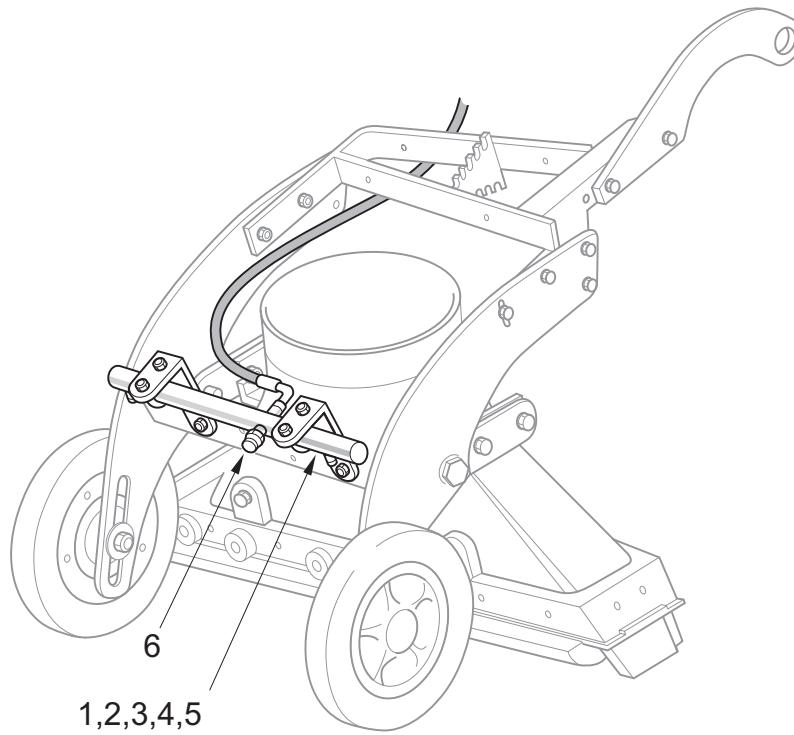
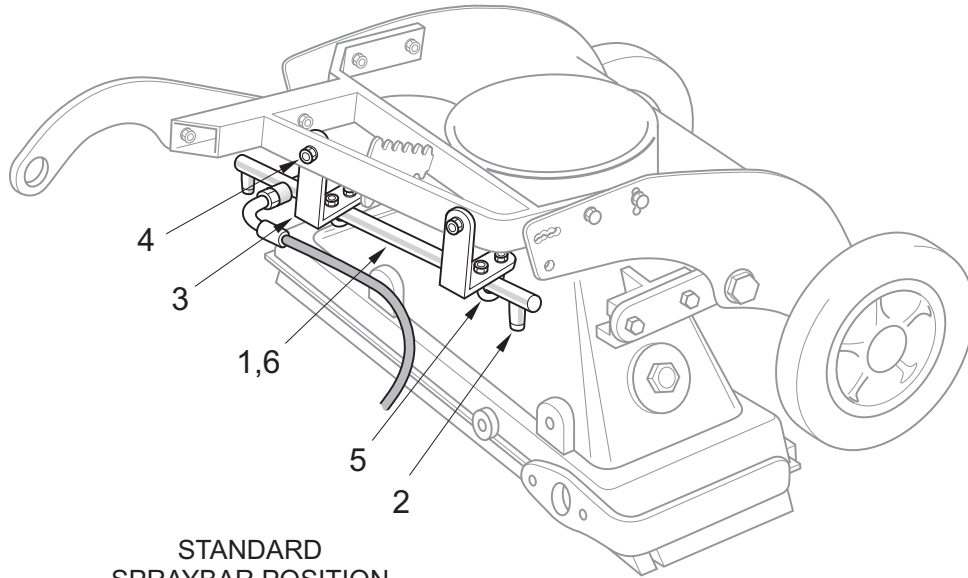
95WC. 020-3

BoM KT 05895

Item No.	Part No.	Description	Quantity
1	265-3	Adaptor 1/2" x 1/4" BSP	1
	451-19	Washer - Sealing 1/2" BSP	1
2	264-2	Bulkhead Adaptor	1
3	460-13	Washer - Spring M14	1
4	451-17	Washer - Sealing 1/4" BSP	2
5	241-279	Check Valve 1/4" BSP	1
6	263-2	Adaptor 1/4" BSP	1
111	-	Hydraulic Hose - See Circuit and Hoses page 30.SW:4	
112	-	Hydraulic Hose - See Circuit and Hoses page 30.SW:4	

Hose item numbers correspond with those on Supawash diagram SW513a01 on page 30.SW:6.

Nozzle Spraybar Installation



95WC. 018

REAR MOUNTED POSITION REQUIRED WHEN
PM10 MICROTRAP SPRAY OPTION IS FITTED

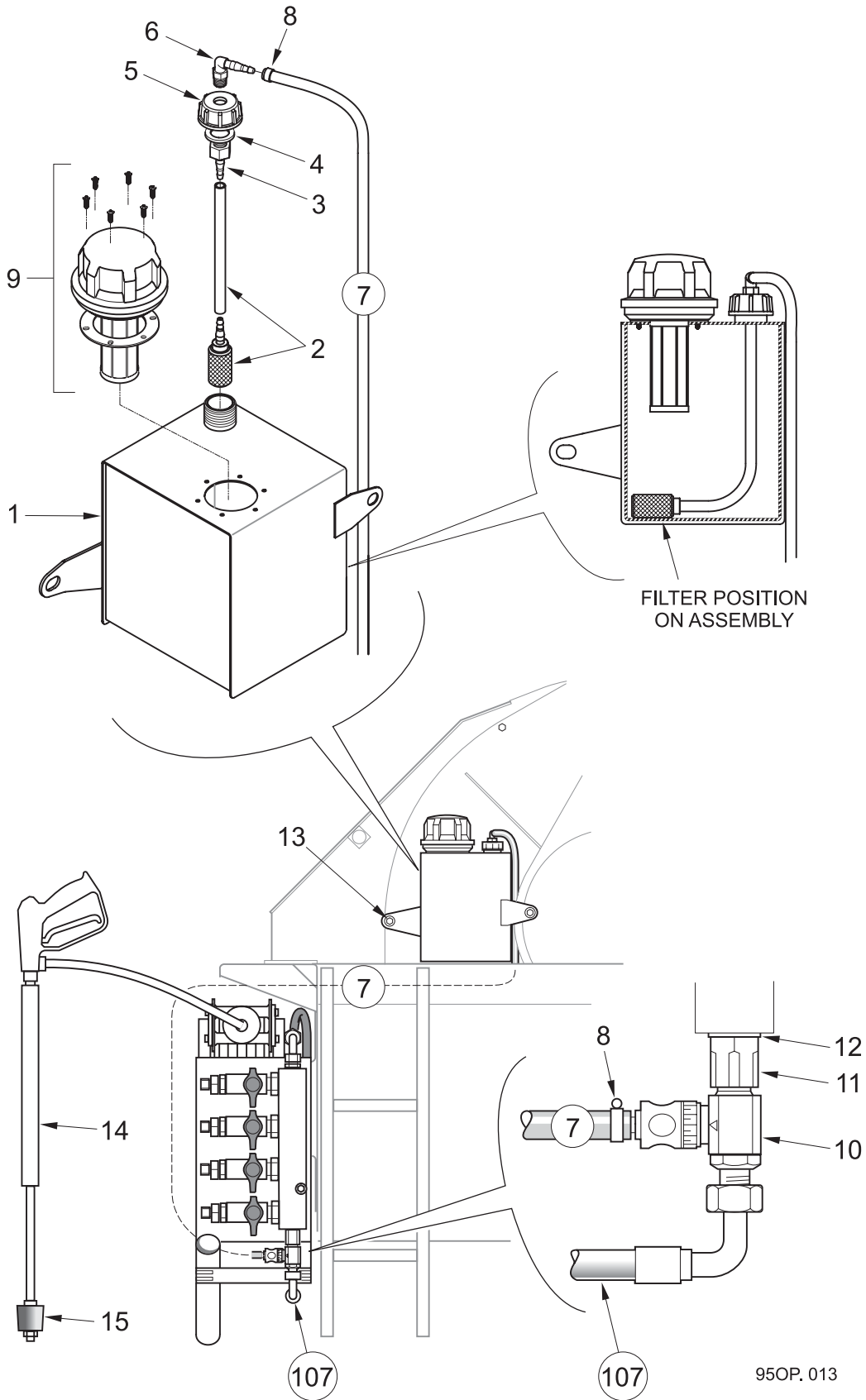
Nozzle Spraybar Installation

BoM KT 02595

Item No.	Part No.	Description	Quantity
	282240-1	Spraybar Installation comprising items 1 to 5	
1	282231-1	Spraybar	1
2	21-31	Spray Jet	2
3	282238-1	Mounting Bracket	2
4	124-137	Screw M8 x 25	2
>	455-10	Washer - Plain M8	2
>	425-14	Nut - Nyloc M8	2
5	6105-1	'U' Bolt M6	2
	455-8	Washer - Plain	4
	425-13	Nut - Nyloc M6	4
6	68-18	Swivel Blanking Cap	1

Notes

Supawash Optional Detergent Injection System



Supawash Optional Detergent Injection System

BoM KT 10795, 10796

Item No.	Part No.	Description	Quantity
	283314-1	Tank Assembly comprising items 1 to 9:-	
1	283313-1	Detergent Tank - 6 Litre	1
2	21-351	Filter and Hose	1
3	277-233	Hosetail - Straight	1
4	740-3	Washer	1
5	277-221	Cap	1
6	277-232	Hosetail - 90°	1
7	272-4	Water Hose - Clear Ø8 I.D.	2m
8	501-1	Hose Clip	2
9	69-30	Filler Breather - 10 Micron	1
	283315-1	System Installation - V650)	Comprising items 10 to 15:-
	283315-2	System Installation - V800)	
10	21-350	Chemical Injector	1
11	492-13	Adaptor	1
12	451-19	Washer - Sealing 1/2" BSP	1
13	124-137	Screw M8 x 25	1
14	-	Lance - See "Supawash Lance and Reel" elsewhere in this chapter.	1
15	21-352	Adjustable Pressure Head - Specific for this application.	1
* 107	HC06043-60-190	Hydraulic Hose 3/8" BSP - V650	1
	HC06002-60-30	Hydraulic Hose 3/8" BSP - V800	1

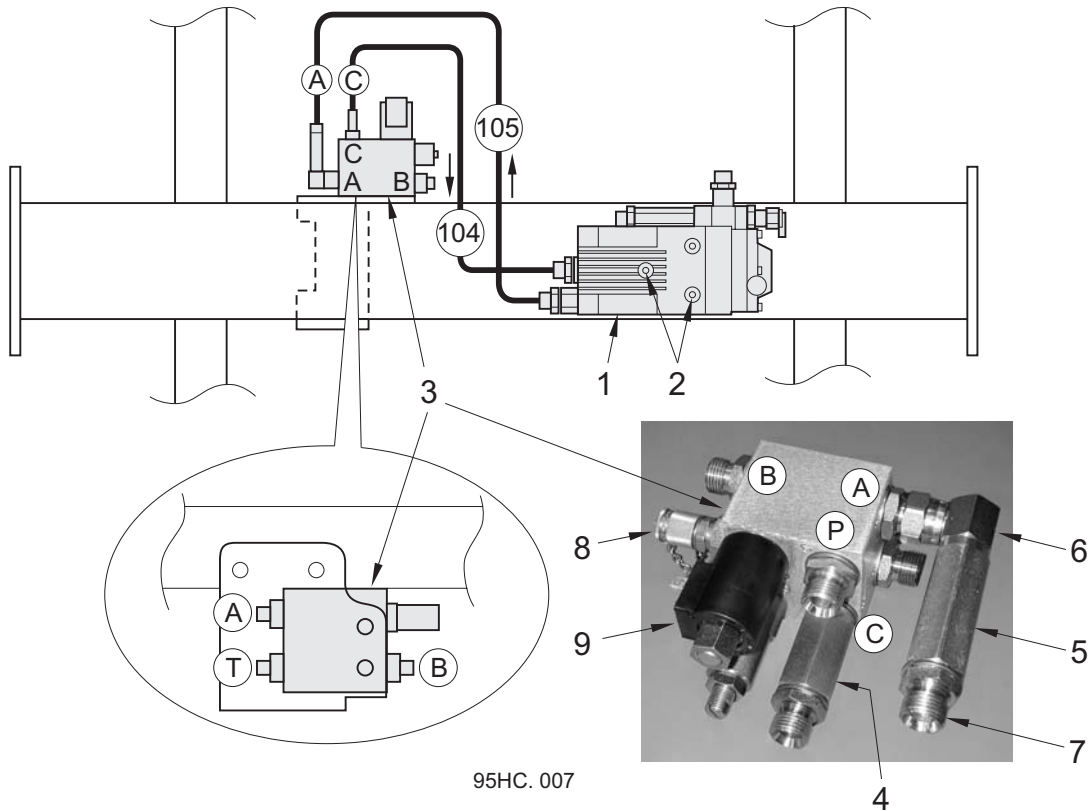
Notes

* Item 107 - These hoses replace the standard ones listed on page 30.SW:4

Supawash Superseded Parts

Table of Contents

Section	Page
Supawash Pump Installation - Hydraulics	30.SW : 24

Superseded Supawash Pump Installation - Hydraulics

BoM KT00195

Item No.	Part No.	Description	Quantity
1	282300-1	Pump - Supawash	1
2	124-135	Screw M8 x 20	3
	455-10	Washer - Plain Ø8	3
	460-10	Washer - Spring Ø8	3
3	282301-1	Valve Block Assembly 12v	1
	282301-2	Valve Block Assembly 24v	1
4	241-264	Pressure Compensator Flow Valve - 25 l/min	1
	451-19	Washer - Sealing 1/2"	1
5	71457-1	Check Valve 1/2"	1
6	262-4	Swivel Elbow 1/2"	1
7	263-4	Adaptor 1/2"	1
	451-19	Washer - Sealing	1
8	665-8	Test Point	1
104 *	HC08003-76	Hydraulic Hose	1
105 *	HC08003-76	Hydraulic Hose	1
Spares Items			
9	241-1	Coil - 12v	
	241-2	Coil - 24v	

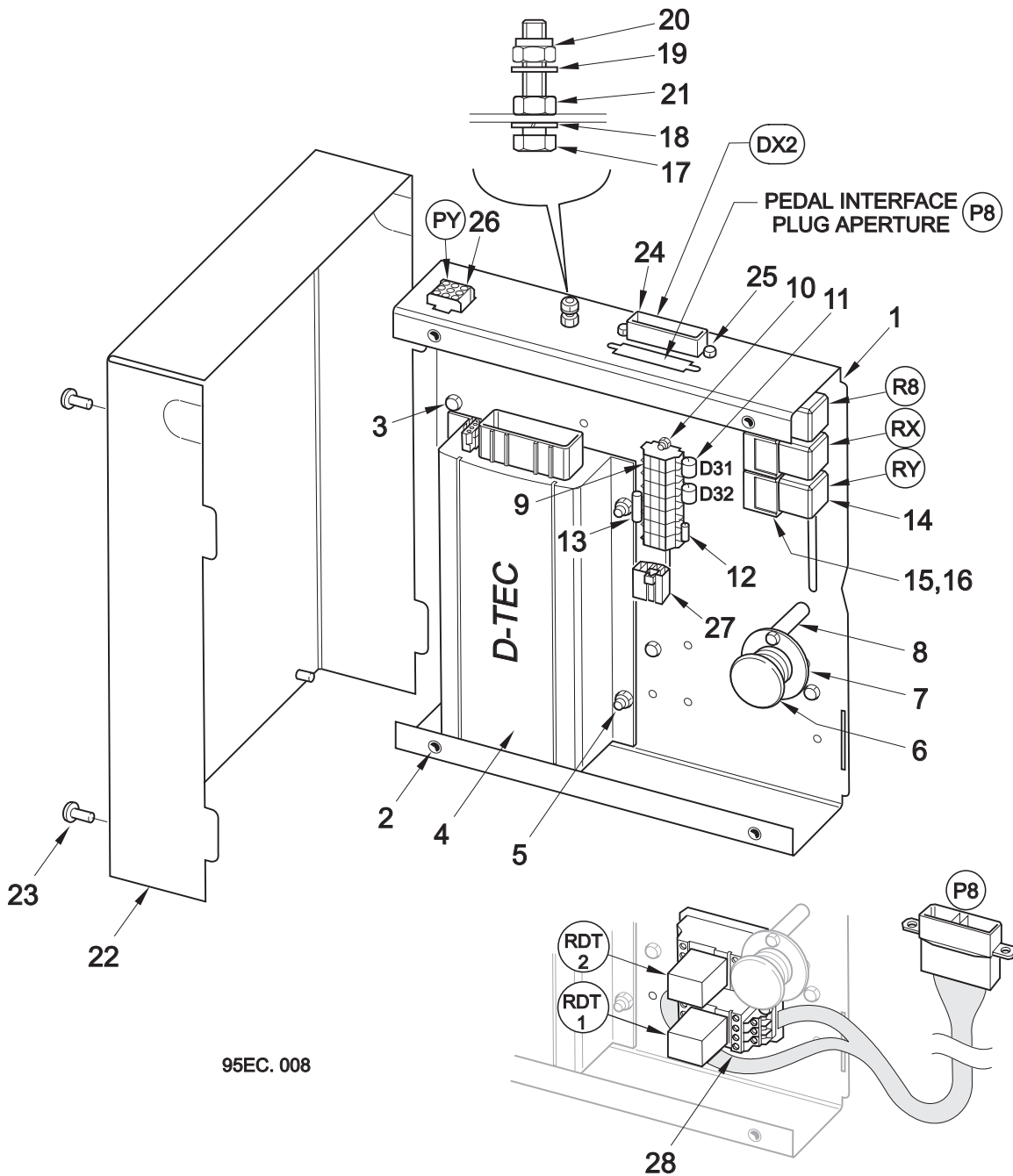
Note : *Hose item numbers correspond with those in hydraulic diagram SH528a01 in Chapter 8.

CHAPTER

31**Electrical System****Table of Contents**

VS Section	Page
Hydrodrive Control Box Core Module	31 : 2
Mercedes Hydrodrive Control Box Module	31 : 4
VT & VS Section	
Relay Box	31 : 6
Lights	
Beacons, Lights and Looms	31 : 10
> Spares Items	
Systems Wafer Wiring Looms	31 : 14

VS Hydrodrive Control Box Core Module



95EC. 008

Note

The Control Box Module assemblies listed below comprise the core module, pt.no.282916-1 shown on this page, plus a specific Foot Pedal Module, item 28. Also shown are drawings listing the various looms, switches etc. required for the installation.

Chassis Type	Module Assembly	Core Module	Foot Pedal Module	Installation Drawing
MAN	282925-1	comprising 282916-1	+ 282912-1	808340
DAF	282926-1	comprising 282916-1	+ 282911-1	808342
Renault	282927-1	comprising 282916-1	+ 282154-1	808343
Iveco	282928-1	comprising 282916-1	+ 282912-1	808341

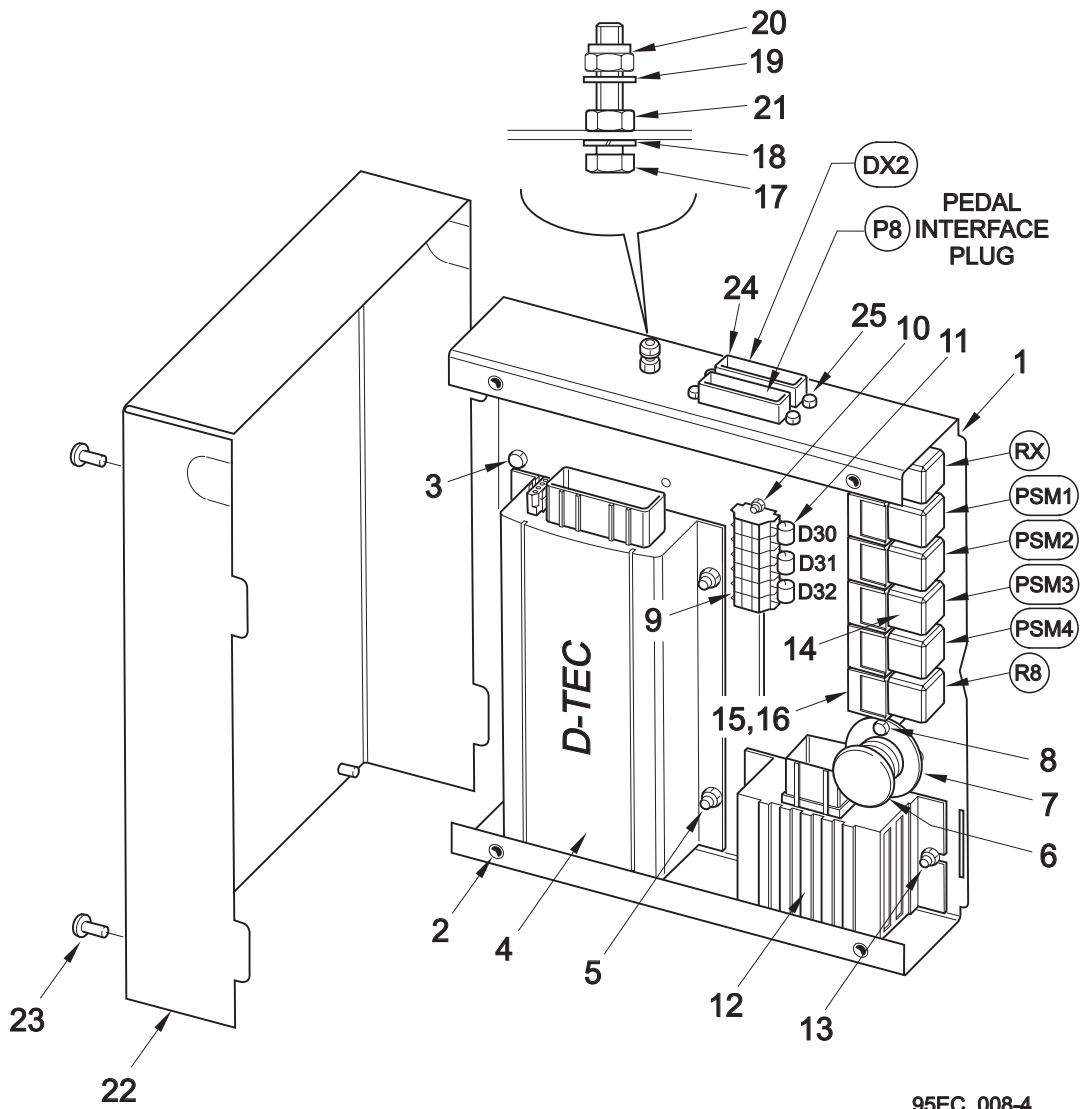
The Mercedes box is unique and is shown over the page.

VS Hydrodrive Control Box Core Module

BoM 950420

Item No.	Part No.	Description	Quantity
	282916-1	Control Box Core Module comprising:-	
1	282823-1	Base	1
2	433-2	Clufix fastening M6	4
3	124-100	Bolt M6 x 12	4
4	200469-4	D-Tec 910 V04 Unit - See over page	1
5	124-102	Bolt M6 x 16	4
	455-8	Washer - Plain	4
	425-13	Nut - Nyloc M6	4
6	99-29	Override Button	1
	99-2	Body Contact N.C.	1
7	282857-1	Support Plate	1
8	42774-5	Spacer	2
	124-100	Bolt M6 x 12	4
9	30-256	Dual Terminal Block	7
	30-254	End Plate	1
10	124-4	Bolt M3 x 12	2
	455-3	Washer - Plain	2
	425-10	Nut - Nyloc M3	2
11	13984	Diode 6A	2
12	30-229	Resistor 2k2 21watt	1
13	30-173	Resistor 300 Ohm 6watt	1
14	13194	Relay 24V	3
15	48-89	Relay Base	3
16	124-67	Bolt M5 x 10	3
	455-7	Washer - Plain	3
	425-12	Nut - Nyloc M5	3
17	124-113	Bolt M6 x 50	1
18	460-8	Washer - Spring	1
19	455-8	Washer - Plain	4
20	420-13	Nut M6	1
21	425-13	Nut - Nyloc M6	1
22	282824-1	Lid	1
23	138-91	Socket Button Head Bolt	4
24	31-218	Plug - 17 Way	1
25	124-69	Bolt M5 x 14	2
26	31-391	Plug Housing - 9 - Way	1
27	31-127	Receptacle Housing - 7 Way (DTO1, loose item)	1
28	-	Foot Pedal Module - Typical not part of Core Module	

VS Mercedes Hydrodrive Control Box



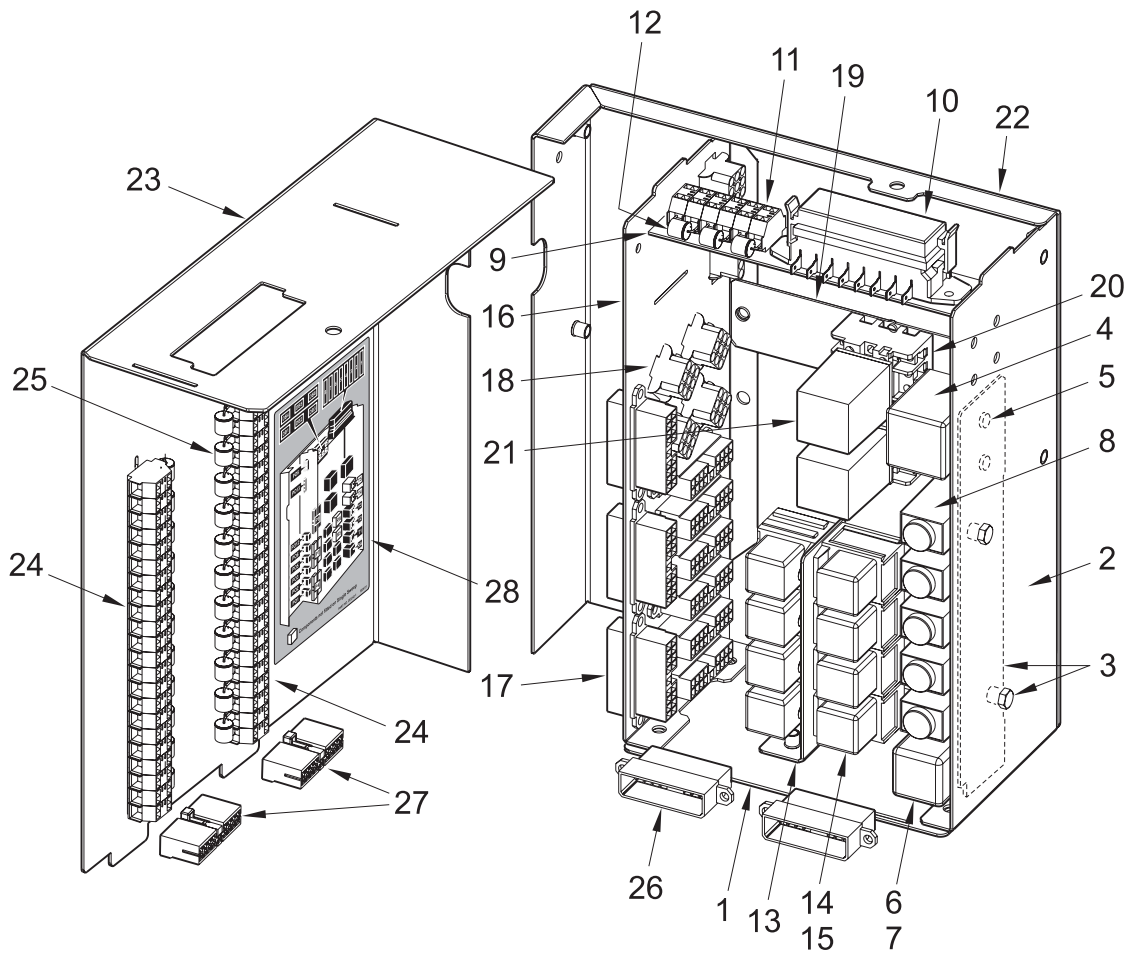
95EC. 008-4

VS Mercedes Hydrostatic Control Box Module

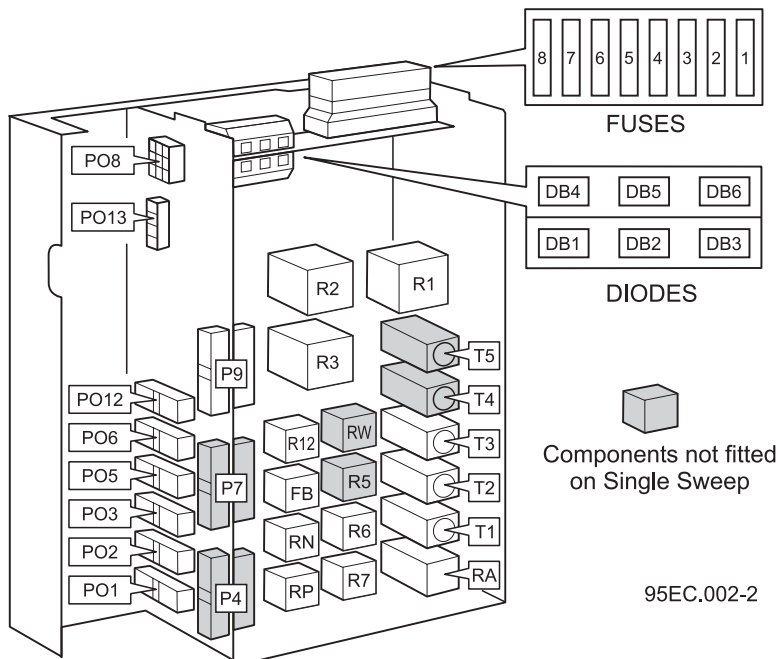
BoM 950420

Item No.	Part No.	Description	Quantity
	282864-1	Mercedes Control Box Module comprising:-	
1	282823-1	Base	1
2	433-2	Clufix fastening M6	4
3	124-100	Bolt M6 x 12	4
4	200441-1	D-Tec 910 V04 Unit	1
5	124-102	Bolt M6 x 16	4
	455-8	Washer - Plain	4
	425-13	Nut - Nyloc M6	4
6	99-29	Override Button	1
	99-2	Body Contact N.C.	1
7	282857-1	Support Plate	1
8	42774-5	Spacer	2
	124-100	Bolt M6 x 12	4
9	30-256	Dual Terminal Block	7
	30-254	End Plate	1
10	124-4	Bolt M3 x 12	2
	455-3	Washer - Plain	2
	425-10	Nut - Nyloc M3	2
11	13984	Diode 6A	2
12	200440-1	Pedal Interface	1
13	124-68	Bolt M5 x 12	2
	455-7	Washer - Plain	2
	425-12	Nut - Nyloc M5	2
14	13194	Relay 24V	3
15	48-89	Relay Base	3
16	124-67	Bolt M5 x 10	3
	455-7	Washer - Plain	3
	425-12	Nut - Nyloc M5	3
17	124-113	Bolt M6 x 50	1
18	460-8	Washer - Spring	1
19	455-8	Washer - Plain	4
20	420-13	Nut M6	1
21	425-13	Nut - Nyloc M6	1
22	282824-1	Lid	1
23	138-91	Socket Button Head Bolt	4
24	31-218	Plug - 17 Way	2
25	124-69	Bolt M5 x 14	4

Relay Box - VT & VS



COMPONENT IDENTIFICATION CODES



Relay Box - VT & VS

BoM 950311

Item No.	Part No.	Description	Quantity	
			Single	Dual
1	282108-1	Base Plate	1	1
2	282114-1	Side Wall	1	1
	433-2	Clufix Threaded Insert M6	4	4
>	138-91	Screw M6 x 12	2	2
3	282117-1	Relay Plate	1	1
	433-2	Clufix Threaded Insert M6	2	2
>	138-91	Screw M6 x 12	2	2
4	48-360	Relay 12v	1	1
	48-361	Relay 24v	1	1
5	181-1	Screw Pozidriv M5 x 10	2	2
	420-12	Nut M5	2	2
6	48-89	Relay - Base	1	1
	181-1	Screw Pozidriv M5 x 10	1	1
	420-12	Nut M5	1	1
7	48-252	Audible Warning Relay 12v	1	1
	48-253	Audible Warning Relay 24v	1	1
8	13981	Relay - Timer 12v	3	5
	13982	Relay - Timer 24v	3	5
	13983	Timer Relay - Base	3	5
9	281904-1	Arm - Fuse Box Support	1	1
	433-2	Clufix Insert M6	2	2
>	138-91	Screw M6 x 12	2	2
10	30-151	Fuse Box (8 way)	1	1
	30-45	Fuse 15 Amp	8	8
	181-3	Screw Pozidriv M5 x 16	2	2
	460-7	Washer - Spring M5	2	2
	420-12	Nut M5	2	2
11	30-254	End Plate - Terminal Block	1	1
	30-256	Terminal Block (4 way)	3	3
>	124-7	Screw - M3 x 20	2	2
	420-10	Nut M3	2	2
12	13984	Diode	3	3
13	282115-1	Relay Support Plate	1	1
	433-2	Clufix Insert M6	2	2
>	138-91	Screw M6 x 12	2	2

Relay Box - VT & VS

Item No.	Part No.	Description	Quantity	
			Single	Dual
14	48-89	Relay - Base	6	6
	181-1	Screw Pozidriv M5 x 10	4	4
	420-12	Nut M5	4	4
15	13193-1	Relay 12v	6	8
	13194-1	Relay 24v	6	8
16	282112-1	Plate - Plug Mounting	1	1
	433-2	Clufix Insert M6	4	4
	138-91	Screw M6 x 12	2	2
17	31-218	Connector - Housing (17 way)	7	9
	181-1	Screw Pozidriv M5 x 10	14	18
	420-12	Nut M5	14	18
18	31-391	Receptacle Housing (9 way)	4	4
	31-393	Receptacle Housing (4 way)	1	1
19	281903-1	Plate - Tee Relay Mounting	1	1
	433-2	Clufix Insert M6	2	2
	138-91	Screw M6 x 12	2	2
20	39353	Relay - Base	2	2
	134-46	Screw Pan Hd. M4 x 30	4	4
	420-11	Nut M4	4	4
21	12904	Relay - 3 Channel 12v	2	2
	13867	Relay - 3 Channel 24v	2	2
22	282109-1	Back Plate	1	1
	138-91	Screw M6 x 12	4	4
	283-14	Clip	1	1
23	282110-1	Front Plate	1	1
	283-16	Fastener	1	1
	283-15	Retainer	1	1
24	30-254	End Plate - Terminal Block	1	1
	30-256	Terminal Block (4 way)	28	44
	138-6	Screw - Pan Hd. M3 x 16	4	4
	420-10	Nut M3	4	4
25	13984	Diode	14	22
26	31-131	Plug - Housing (17 way)	1	1
	31-146	Connector (13 way)	1	1
	31-130	Connector (17 way)	-	1

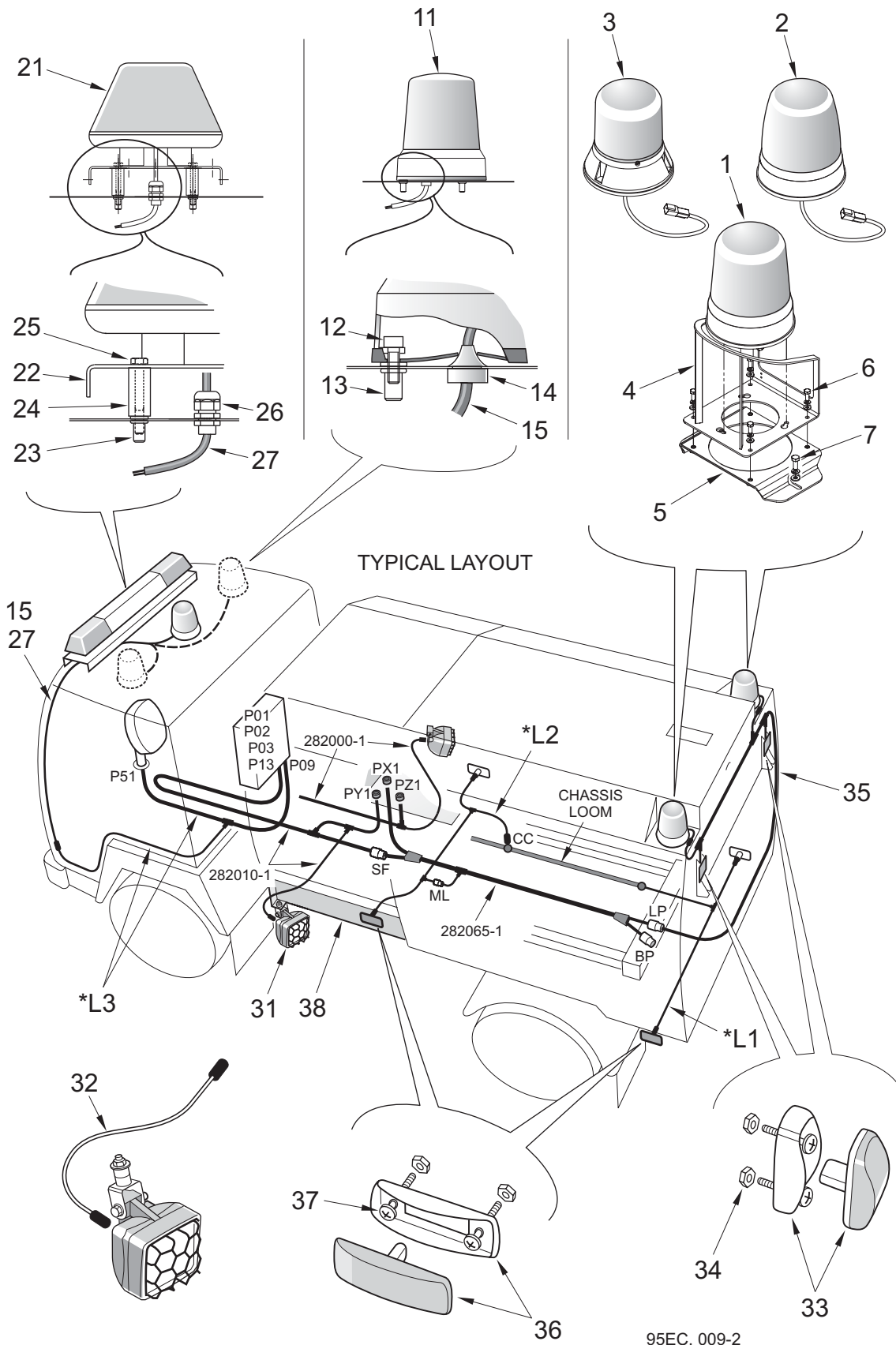
Relay Box - VT & VS

Item No.	Part No.	Description	Quantity	
			Single	Dual
27	31-130	Connector (17 way)	1	1
	31-149	Plug - Housing (13 way)	1	1
	31-131	Plug - Housing (17 way)	-	1
28	283242-1	Label	1	1

Notes

Beacons, Lights and Looms

Note: Beacons, Marker and Work lights are not supplied on standard ESU's. They are available as options.



95EC. 009-2

Beacons, Lights and Looms

BoM KT 01195 - Rear Beacons

Item No.	Part No.	Description	Quantity
1	282793-1	Beacon 12v - Rotating	2
	282793-2	Beacon 24v - Rotating	2
2	282462-1	Beacon 24v - Xenon	2
3	282959-1	Beacon 12v - Airport Flashing	2
	282959-2	Beacon 24v - Airport Flashing	2

Rear Beacon Installation Drawings:-

	282791	Rotating Beacon	
	282792	Xenon Beacon	
	282960	Airport Flashing Beacon	
		Each comprising a beacon, item 1, 2 or 3, plus items 4 to 7	
4	282733-1	Cage	1
5	282731-1	Base	1
6	124-102	Screw M6 x 16	4
	460-8	Washer - Spring	4
	455-8	Washer - Plain	4
7	124-102	Screw M6 x 20	2
	460-10	Washer - Spring	2
	455-10	Washer - Plain	2
8 - 10	-	-	-

BoM KT 070999 - Front Beacons

11	46-15-24	Beacon 24v - Rotating	1 or 2
	46-265	Beacon 24v - Xenon	1 or 2
	46-264	Beacon 24v - Airport	1 or 2

Front Beacon Installation Drawings:-

	807193-1	24v Rotating Beacon (Includes Wiring, Item15)	
	807193-2	24v Xenon Beacon (Includes Wiring, Item15)	
	807193-3	24v Airport Flashing Beacon (Includes Wiring, Item15)	
		Each comprises a beacon, item 11, plus items 12 to 15:-	
12	129-94	Capscrew M6 x 20	3 per beacon
13	433-11	Blind Rivet M6	3 per beacon
14	86-23	Cable Gland	1 per beacon
15	32-17	Cable x 3m (Fittings listed on 807193)	1 per beacon
16 - 20	-	-	-

Front Beacon Positioning Drawings:-

	807198	Single Beacon - Cab Mounted
	807199	Dual Beacons - Cab Mounted

Beacons, Lights and Looms
BoM KT 070999 - Front Beacon Bars

Item No.	Part No.	Description	Quantity
21	46-290	Beacon Bar 24v - Rotating	1
	46-291	Beacon Bar 24v - Xenon	1
	46-292	Beacon Bar 4 Mod	1
	46-289	Beacon Bar LED	1

Front Beacon Bar Installation Drawings:-

	807195-1	24v Rotating Beacon (Includes Wiring, Item 27)	
	807195-2	24v Xenon Beacon (Includes Wiring, Item 27)	
	807195-3	24v 4 Mod Beacon (Includes Wiring, Item 27)	
	807195-4	24v 3 LED Beacon (Includes Wiring, Item 27)	
	Each comprises a beacon bar, item 21, plus items 22 to 27:-		
22	807232-1	Support Plate	1
23	433-12	Blind Rivet M8	4
24	56569-4	Spacer	4
25	123-116	Screw M8 x 80	4
	460 - 10	Washer - Spring	4
	455-10	Washer - Plain	4
26	86-20	Cable Gland	1
27	32-78	Cable (Fittings listed on 807195)	3m
28 - 30	-	-	-

950342/001 - Worklights

31	283230-1	Worklight - 12V	As req'd
	47-10	Bulb 12v - 55 Watt	
	283230-2	Worklight - 24V	As req'd
	47-9	Bulb 24v - 70 Watt	
32	283256-1	Extension Loom - Spares item only. Required when replacing a superseded 'round' worklamp with the current 'square' lamp shown here.	

807418/1/INST - Rear Marker Lights

33	46-270	Marker Light	2
34	124-103	Screw Pan Head M3 x 15	4
	425-13	Nut M3	4
35	282013-1	Loom	1

807412/1/INST - Side Marker Lights

36	46-267	Marker Light	4
37	134-42	Screw Pan Head M4 x 12	2 per light
	455-5	Washer - Plain	2 per light
	425-11	Nut - Nyloc M4	2 per light

Beacons, Lights and Looms

BoM 950324 - Valance and Fittings

Item No.	Part No.	Description	Quantity
> 38	808576-1	Fuel Tank Valance (LH Side) - Shown	1
	124-166	Screw M10 x 16) Valance to	4
	460-11	Washer - Spring M10) Fuel Tank	4
	808575-1	Systems Locker Valance (RH Side)	1
	124-103	Screw M6 x 20)	4
	455-8	Washer - Plain M6) Valance to	4
	425-13	Nut - Nyloc M6) Systems Locker	4

Notes

* Looms L1, L2 and L3 are chassis specific. If a replacement is required quote the machine serial number when ordering.

Reference Drawings

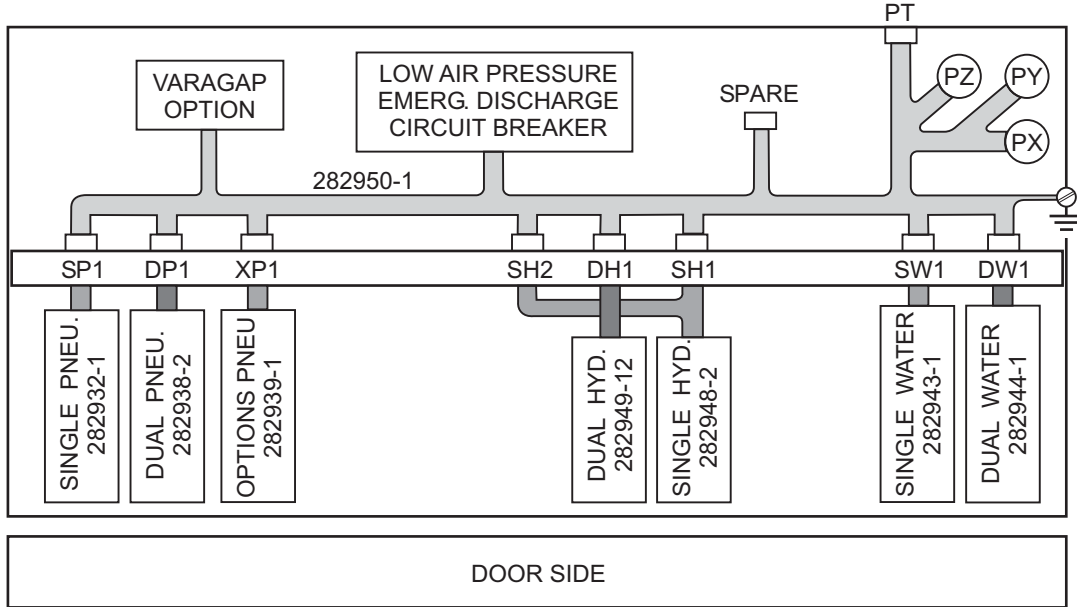
Side Marker Light Looms L1 and L2 Installations

Chassis	Drg. Number	Chassis	Drg. Number
Iveco 13/5	807740	Scania 18	807568
DAF 13/5	807612	MAN 15	807909
Volvo 15/8	807616	Renault 12	807963

Chassis Interface Looms L3

Chassis	VS	VT
DAF	282169-1	282142-1
Renault	283227-1	282149-1
Iveco	283223-1	282143-1
Mercedes	282136-1 & 808259-1	282144-1
Scania	-	282145-1
Volvo	-	282146-1
E. S. Unit	-	282147-1

System Wafer Wiring Looms - Spares Items



95EC. 010

Notes

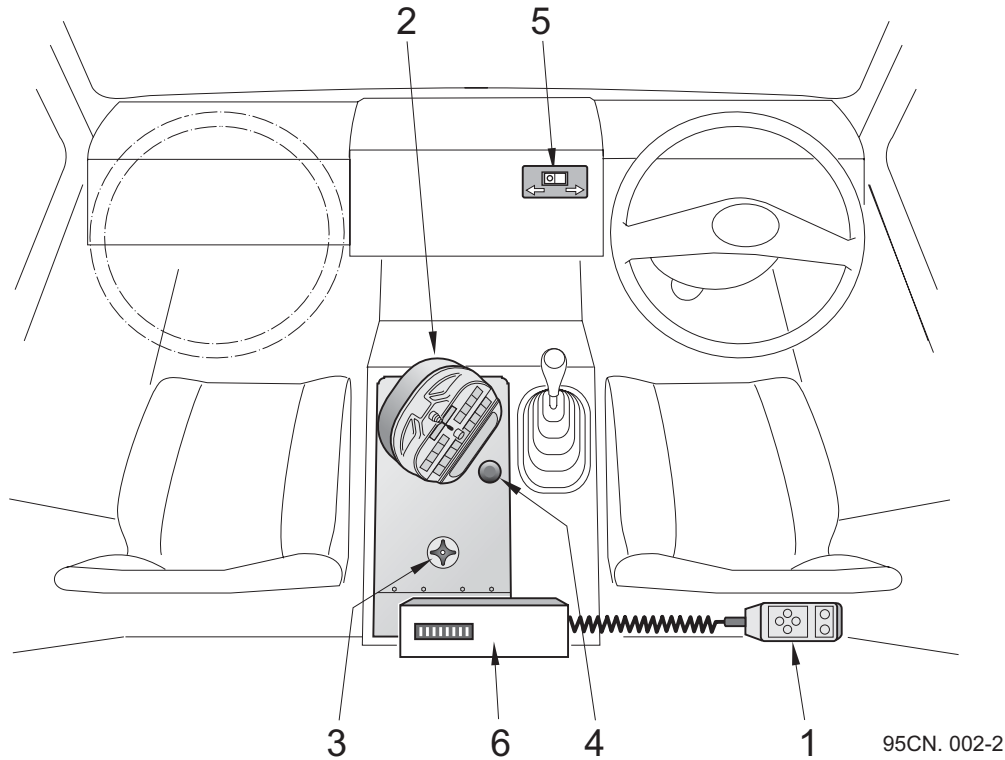
CHAPTER

32

Cab Controls

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Powapak Control Panel - VS Range	32 : 10
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Dual Steer	
Dual Steer Changeover Control	32 : 13

Cab Mounted Controls


95CN. 002-2

Item No.	Description	Page
1	Load Discharge Pendant	32 : 3
* 2	Switch Panel	32 : 4
* 3	Channel Brush Speed Control	32 : 10
* 4	Powasave Pressure Control	32 : 11
* 5	Dual Steer Changeover Control	32 : 13
6	Control Relay Box	Chapter 31

Note

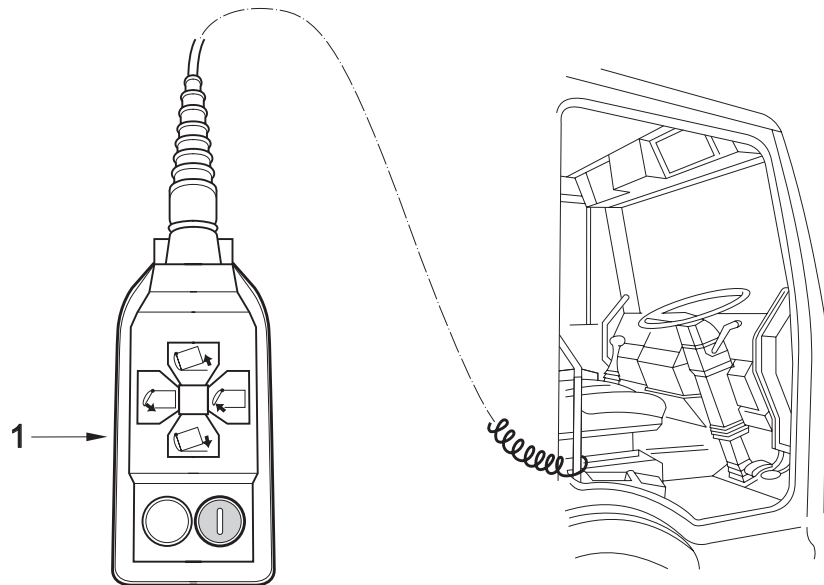
* The Mountings and positions of these controls are chassis related. Contact the Johnston Parts Department, quoting the machine serial number, for further information.

The Mounting Parts are not supplied with standard ESU's.

Johnston reference drawings:

The relevant installation drawing can be found via the Chassis Drawing Matrix shown in chapter 33 page 33:2.

Load Discharge Pendant



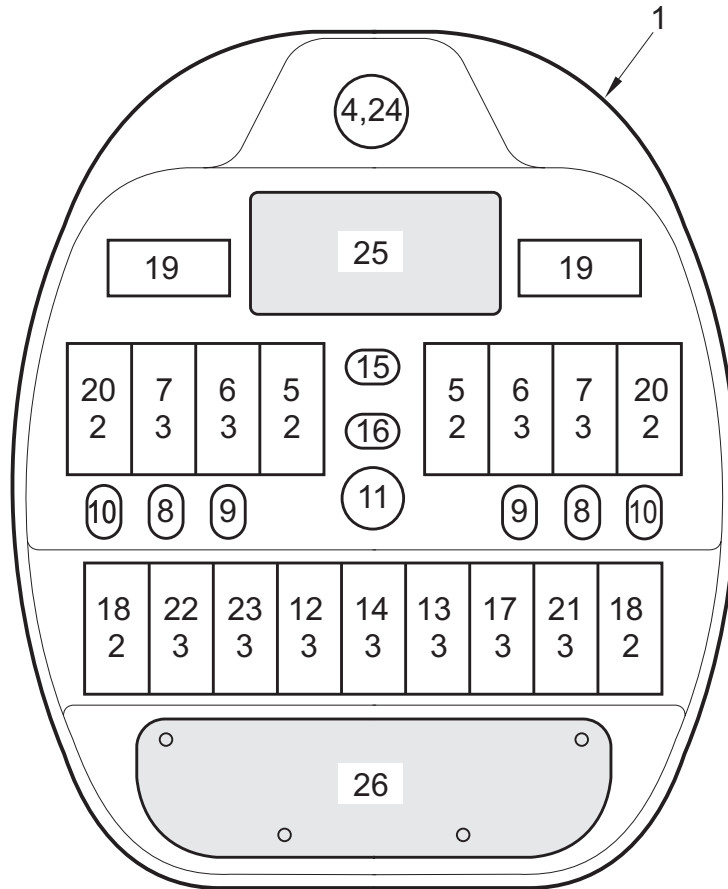
95CN.006

BoM 950321

Item No.	Part No.	Description	Quantity
> 1	282199-1	Discharge Pendant Assembly	1

Notes

Switch Panel



95CN. 003-2

BoM 950310

VT Panels

Part No.

Description

950312-021 to 024
950312-009 to 012

Iveco NA 24v Switch Panels
Iveco Turbo 24v Switch Panels

950312-005 to 008

Perkins 24v Switch Panels.

> 950312-001 to 004
950312-025 to 028

John Deere 12v 'LP' (Mechanical) Switch Panels
John Deere 12v 'HP' (Electronic) Switch Panels

VS Panels

950312-013 to 016
950312-017 to 020

Hydrodrive 12v Switch Panels
Hydrodrive 24v Switch Panels

Note

Quote machine serial number when ordering a replacement panel.

Switch Panel

Assembly List 282191-282194

Item No.	Part No.	Description	Quantity	
			Single	Dual
1	282350-1	Switch Panel Casing	1	1
> 2	48-170	Switch Frame - End Piece	6	6
3	48-171	Switch Frame - Centre Piece	11	11
4		Maxigap:		
	99-95	Joystick - 2 position	1	1
	99-1	Body Contact	1	1
5		Wide Sweep Brush:		
	42-11	Switch - 3 position 12v	1	2
	42-21	Switch - 3 position 24v	1	2
	42-103	Decal - Wide Sweep Brush	1	2
	48-19	Blanking Plate	1	-
6		Nozzle:		
	42-11	Switch - 3 position 12v	1	2
	42-21	Switch - 3 position 24v	1	2
	42-102	Decal - Nozzle	1	1
	48-19	Blanking Plate	1	-
7		Channel Brush:		
	42-11	Switch - 3 position 12v	1	2
	42-21	Switch - 3 position 24v	1	2
	42-101	Decal - Channel Brush	1	1
	48-19	Blanking Plate	1	-
8		Gutter Spray:		
	43-100	Switch - Low Pressure Water 12v	1	2
	43-200	Switch - Low Pressure Water 24v	1	2
	43-1	Blanking Plate	1	-
9		Inlet Flap:		
	43-102	Switch - Inlet Flap 12v	-	2
	43-202	Switch - Inlet Flap 24v	-	2
	43-1	Blanking Plate	2	-
10		Work Lamp:		
	43-101	Switch - Work Lamp 12v	1	2
	43-201	Switch - Work Lamp 24v	1	2
	43-1	Blanking Plate	1	-
11		Programme Switch:		
	99-92	Base + Light 12v	1	1
	99-93	Base + Light 24v	1	1
	99-4	Contact - N.O.	1	1
	99-94	Operating Head	1	1
12		Discharge Select:		
	42-16	Switch - 3 position 12v	1	1
	42-26	Switch - 3 position 24v	1	1
	42-115	Decal - Discharge Select	1	1

Switch Panel

Item No.	Part No.	Description	Quantity		
			Single	Dual	
13	42-12	Beacon: Switch - 2 position 12v	1	1	
	42-22	Switch - 2 position 24v	1	1	
	42-108	Decal - Beacon	1	1	
14	42-16	Low Water/Speed Selector: Switch - 3 position 12v	1	1	
	42-26	Switch - 3 position 24v	1	1	
	42-121	Decal - Low Water/Speed Select	1	1	
Options					
> 15	43-103	Powathrust - KT00395 Switch 12v	1	1	
	43-204	Switch 24v	1	1	
	43-1	Blanking Plate (when not fitted)	1	1	
> 16	43-104	Powascrub - KT00495 Switch 12v	1	1	
	43-203	Switch 24v	1	1	
	43-1	Blanking Plate (when not fitted)	1	1	
17	42-12	Supawash - KT06595 Switch 12v	1	1	
	42-22	Switch 24v	1	1	
	42-106	Decal - Supawash	1	1	
	48-19	Blanking Plate (when not fitted)	1	1	
18	42-12	Recirculation Water - KT07795 Switch 12v	1	2	
	42-22	Switch 24v	1	2	
	42-107	Decal - Recirculation Water	1	2	
	49-19	Blanking Plate	1	-	
		Blanking Plate (when not fitted)	2	2	
19	42-13	Variabrush - KT00295 Switch - Spring Centred 12v	LHS 1	RHS 1	Dual 2
	42-23	Switch - Spring Centred 24v	1	1	2
	42-110	Decal - LH Variabrush	1	-	1
	42-111	Decal - RH Variabrush	-	1	1
	48-19	Blanking Plate (when not fitted)	1	1	2
20	42-13	Rototilt - KT07695 Switch - Spring Centred 12v	1	1	2
	42-23	Switch - Spring Centred 24v	1	1	2
	42-104	Decal - LH Rototilt	1	-	1
	42-105	Decal - RH Rototilt	-	1	1
	48-19	Blanking Plate (when not fitted)	1	1	2

Switch Panel

Item No.	Part No.	Description	Quantity	
			Single	Dual
21		Additional Lights - KT08195		
	42-12	Switch 12v	1	1
	42-22	Switch 24v	1	1
	> 42-120	Decal - Additional Lights	1	1
	48-19	Blanking Plate (when not fitted)	1	1
22		Additional Work Light - KT07995		
	42-12	Switch 12v	1	1
	42-22	Switch 24v	1	1
	42-118	Decal - Additional Work Light	1	1
	48-19	Blanking Plate (when not fitted)	1	1
23		Additional WSB Water - KT08095		
	42-12	Switch - 12v	1	1
	42-22	Switch - 24v	1	1
	42-119	Decal - Additional WSB Water	1	1
	48-19	Blanking Plate (when not fitted)	1	1
24		Varagap - KT07895		
	99-96	Joystick - 3 position, Spring Return	1	1
	99-1	Body Contact	1	1

BoM 950312

25	282237-1	Instrument Panel - Perkins Engines	1
	282237-2	Instrument Panel - Iveco Euro 3 Turbo Engines	1
	282237-3	Instrument Panel - VS Hydrodrive	1
	282237-4	Instrument Panel - Iveco Nat. Asp. and John Deere Engines	1
26		Powapak Control Panel - See over page	

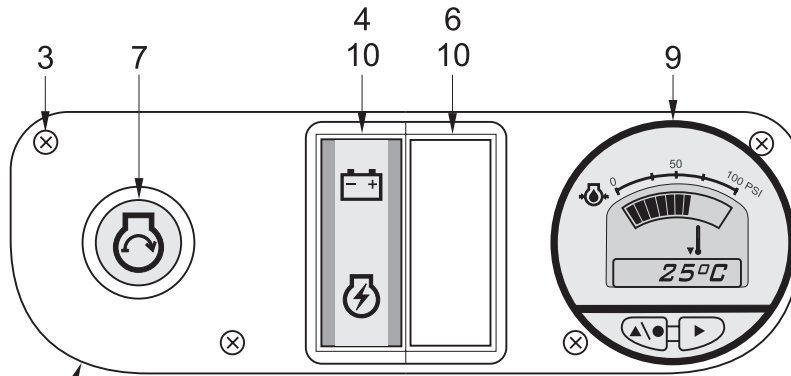
Notes

Instrument panels, item 25, have a code number on a label on the back. Quote this number when ordering a replacement.

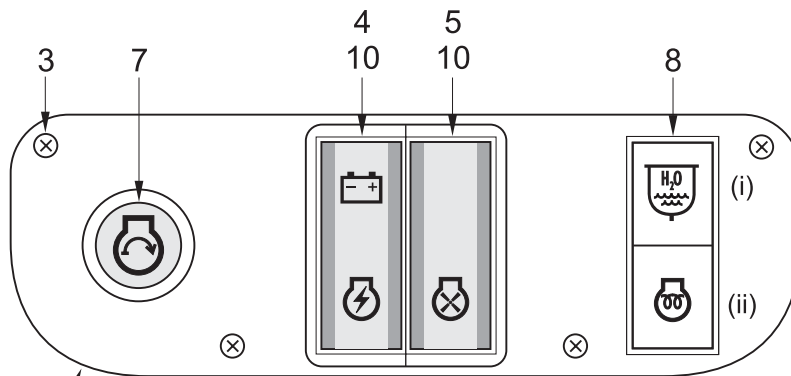
The numbers are:-

- Perkins - Code No.0002
- Iveco E3 - Code No.0003
- Hydrodrive - Code No.0005
- Iveco NA &
John Deere - Code No.0004

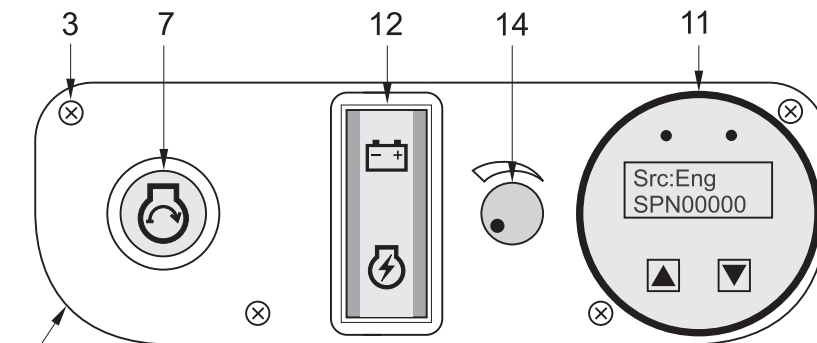
VT Range Powapak Control Panels



282181-01 John Deere 12v - 'LP' Mechanical
 282182-01 Perkins 24v
 282183-01 Iveco Nat. Asp. 24v



282184-01 Iveco Euro 3 Turbo 24v



282956-1 John Deere 12v - 'HP' Electronic (Less Gauge 11)

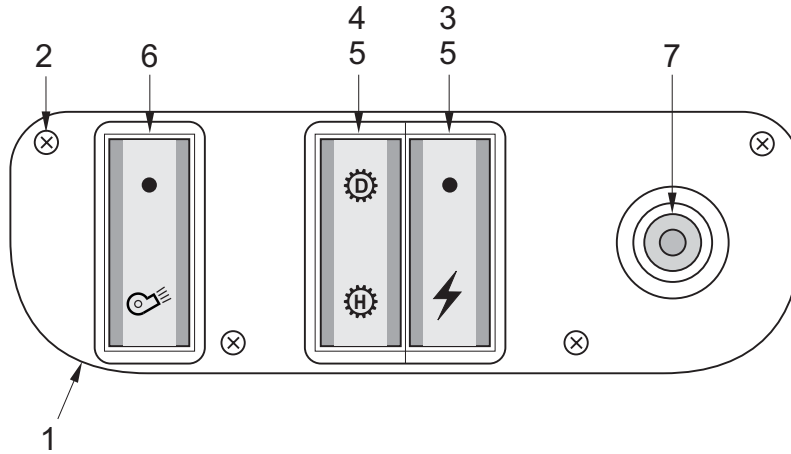
95CN. 004-4

VT Range Powapak Control Panels

Item No.	Part No.	Description	Quantity
1	282353-1	Plate - Iveco Euro 3 only	1
2	282353-2	Plate - All Other Engines	1
3	135-151	Screw Pan Hd. M4 x16	4
4		Engine Ignition	
	42-14	Switch - 3 position 12v (John Deere 'LP' only)	1
	42-24	Switch - 3 position 24v (All others)	1
	42-125	Insert - Engine Ignition/Alternator	1
5		PTO Resume - Iveco Euro 3 only	
	42-26	Switch - 3 position 24v	1
	42-116	Insert - Auxiliary Engine PTO	1
6	43-1	Blanking Plate	1
7		Engine Start	
	99-92	Base + Light 12v (John Deere only)	1
	99-93	Base + Light 24v (All others)	1
	99-4	Contact - N.O.	1
	99-67	Operating Head	1
	99-81	Decal - Engine Start	1
8		Warning Lights - Iveco Euro 3 only	
	48-10	Pilot Light 24v	1
	48-336	Decal (i) Water in Fuel	1
	48-337	Decal (ii) Thermostart	1
9		Optional Gauge Pack - KT00695	
	282740-1	Water Temperature/Oil Pressure Gauge	1
>	12705	Blanking Plate (when not fitted)	1
10	48-170	Switch Frame - End Piece	2
11	282934-1	Diagnostics Gauge	1
12	42-12	Switch - 2 position 12v	1
	42-125	Insert - Engine Ignition/Alternator	1
* 13	282353-4	Plate	1
* 14	31-495	Potentiometer 4k7 - Engine Speed Control	1

Notes

* Items 13 and 14 are part of Control Panel Loom 282947-1

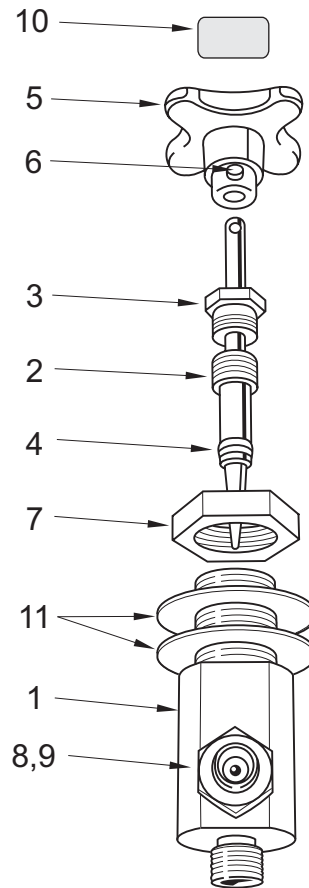
VS Range Powapak Control Panel


282185-12 HydroDrive 12v
 282185-24 HydroDrive 24v

95CN. 004-5

Item No.	Part No.	Description	Quantity
1	282353-3	Plate - Hydrodrive	1
2	135-151	Screw Pan Hd. M4 x 16	4
3	42-16	Switch - 3 position 12v	1
	42-26	Switch - 3 position 24v	1
	42-109	Insert - Master Switch	1
4	42-16	Switch - 3 position 12v	1
	42-26	Switch - 3 position 24v	1
	42-113	Insert - Gearbox Engage	1
5	48-170	Switch Frame - End Piece	2
6	42-11	Switch - 3 position 12v	1
	42-21	Switch - 3 position 24v	1
	42-114	Insert - Suction Fan	1
7	48-83	Joystick, Forward/Neutral/Reverse	1
	48-85	Contact	2

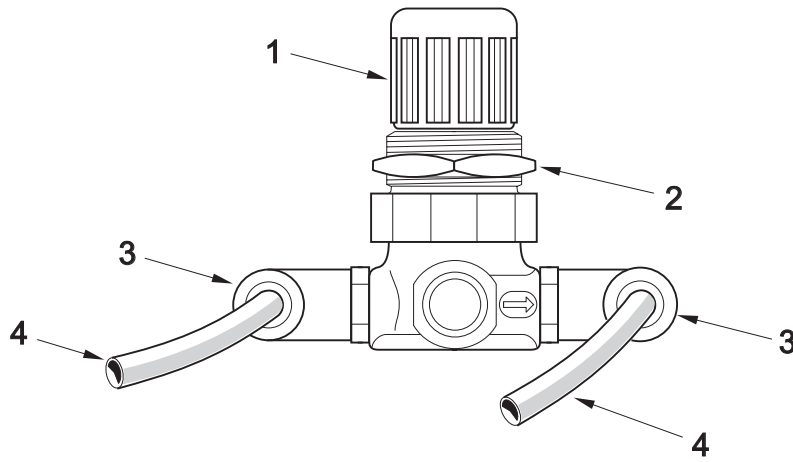
Channel Brush Speed Control



95CN. 005-2

BoM 950322

Item No.	Part No.	Description	Quantity
	3730-1	Flow Control Valve comprising:	1
1	26106-1	Body	1
2	26107-1	Spindle	1
3	26108-1	Gland	1
4	79-52	'O' Ring	2
5	41045-2	Handwheel	1
6	135-9	Grubscrew M6c x 8	1
7	410-18	Nut - Mounting 3/4"	1
8	265-2	Adaptor - Reducing 3/8" x 1/4" BSP	1
9	451-17	Washer - Sealing 1/4" BSP	1
> 10	-	Label 2:12 on Decals Chapter 34	-
11	450-16	Washer - Plain, for mounting valve	2

Powasave Pressure Control - Option


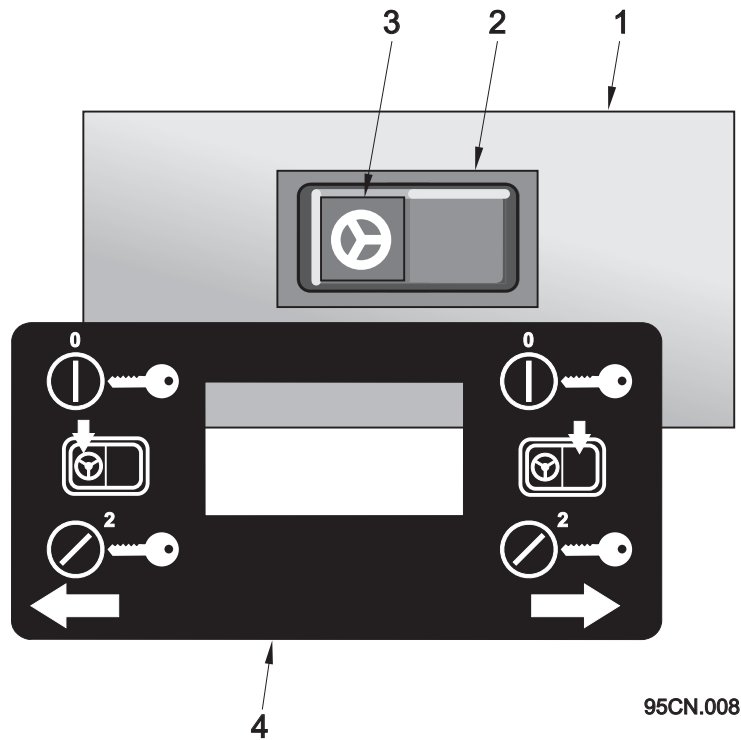
95PC. 009

KT00395

Item No.	Part No.	Description	Quantity
	282627	Regulator Assembly comprising items 1 to 3:	
1	72-14	Regulator	1
2	72-15	Panel Nut	1
3	538-3	Swivel Elbow 1/8" x Ø6	2
4	273-21	Tube - Red Ø6	12m

Notes

Dual Steer Changeover Control



KT 10095

Item No.	Part No.	Description	Quantity
	808013-1	Power Switch Assembly Comprising:-	
1	808014-1	Blank - Cab Facia	1
2	48-88	Rocker Switch	1
3	48-111	Lens Insert	1
4	808045-1	Label	1

Notes

CHAPTER

33**Chassis Application****Table of Contents**

Section	Page
Introduction	
Chassis Related Parts	33 : 2
Components	
Weight Load Indicator - Steel Suspension	33 : 3
Weight Load Indicator - Air Suspension	33 : 5
Fuel Tank Access Ladder	33 : 6
VS Hydrodrive	
Clutch Safety Switch Installation	33 : 7

Chassis Related Parts

The items listed below vary depending on what chassis the Johnston sweeper equipment is mounted to.

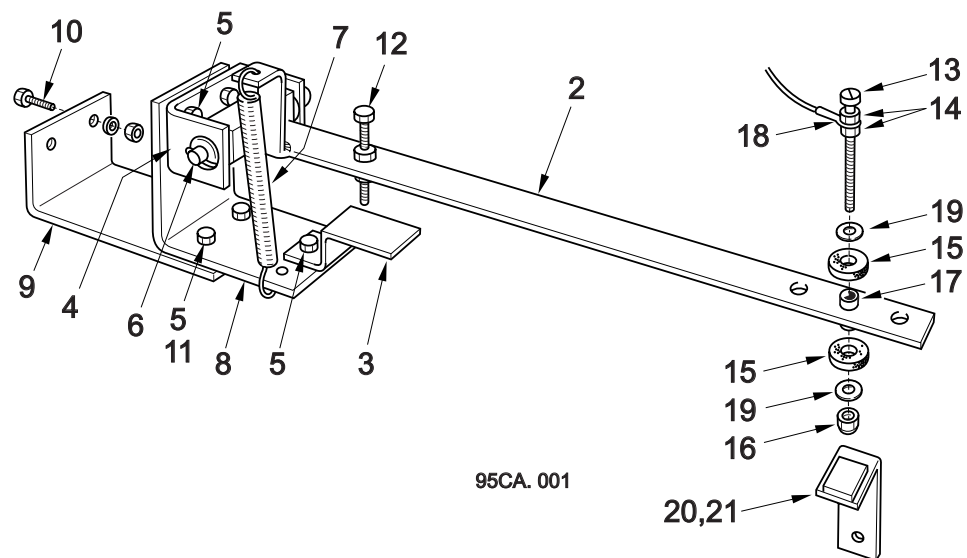
If any parts for these areas are required, contact the Johnston Parts Department quoting the machine serial number shown on the plate fitted to the subframe crossmember below the body rear door.

- Batteries and battery mounting
- Cab - Sweep control installations (Chapters 24 and 32)
- Cab - single and dual steer parts
- Body discharge interlock
- Rear mounted fuel tank
- Gutter and wide sweep brush water spraybar mountings (Chapters 24 and 26)
- Supawash hose reel and front bumper spraybar mountings (Chapter 30.SW)
- Rear underrun bumper
- Rear mudguards and mudflaps
- Subframe to chassis mounts
- Work lights (Chapter 31)
- Channel brush pivot frame support posts (Chapter 24)
- Channel brush hydraulic hoses 75 and 84 (Chapter 24)
- Wide sweep brush hydraulic hoses 70 to 74 (Chapter 26)
- Customer options i.e. autolube, special beacons, reversing camera, handwash etc.

Chassis Specification Sheets plus Drawing Lists covering the above components are as follows:

Chassis	Chassis Spec. No.		Chassis Matrix List No.	
	*T	*S	*T	*S
DAF FA LF45 12 Tonne	C201	-	CM202	-
DAF FA LF55 13 Tonne	C202	-	CM202	-
DAF FA LF55 15 Tonne	C203	C103	CM203	CM103
DAF FA LF55 18 Tonne	C204	-	CM204	-
IVECO ML 130E 13 Tonne Tector	C209	-	CM209	-
IVECO ML 150E 15 Tonne Tector	C210	-	CM210	-
IVECO ML 180E 18 Tonne Tector	C211	-	CM211	-
IVECO ML 120E 12 Tonne Tector	C212	C112	CM212	CM112
MAN 15.225 LK 15 Tonne	C216	C116	CM216	CM116
MERCEDES ATEGO 10.5 Tonne, KO	C219	-	CM219	-
MERCEDES ATEGO 13.5 Tonne, LKO	C220	-	CM220	-
MERCEDES ATEGO 15 Tonne, LKO	C221	-	CM221	-
MERCEDES ATEGO 18 Tonne, K	C222	C122	CM222	CM122
RENAULT MIDLUM 220-12 'Balayeuse'	C223	C123	CM223	CM123
RENAULT MIDLUM 220-14 'Balayeuse'	C224	-	CM224	-
RENAULT MIDLUM 220-15 'Balayeuse'	C225	C125	CM225	CM125
SCANIA P94DB NZ	C227	-	CM227	-
VOLVO FLH 15 Tonne	C228	-	CM228	-
VOLVO FLE 18 Tonne	C229	-	CM229	-

Weight Load Indicator - Steel Suspension Chassis



Chassis Matrix - Various

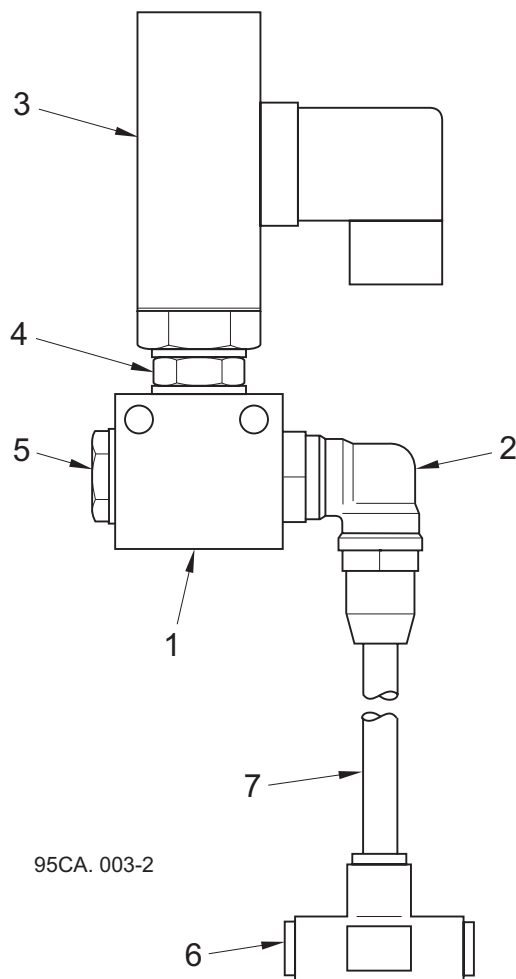
Item No.	Part No.	Description	Quantity
	807336-1	Load Indicator - Short, comprising items 1 and 20	
	807336-2	Load Indicator - Long, comprising items 1 and 21	
1	20724-1	Weight Load Indicator Assembly comprising items 2 to 19	
2	281745-1	Arm	1
3	281739-1	Stop Plate	1
4	281738-1	Support Bracket	1
5	124-103	Screw M6 x 20	5
	460-8	Washer - Spring M6	5
	420-13	Nut M6	5
6	281742-1	Pin	1
	455-10	Washer - Plain M8	4
	500-70	Split Pin	2
7	6275-1	Spring	1
8	20723-1	Support Link	1
9	20722-1	Support Bracket	1
10	124-105	Screw M6 x 25	2
	460-8	Washer - Spring M6	2
	420-13	Nut M6	2
11	455-8	Washer - Plain M6	2
12	124-113	Screw M6 x 50	1
	420-13	Nut M6	2

Weight Load Indicator Switch - Steel Suspension Chassis

Item No.	Part No.	Description	Quantity
13	124-113	Setscrew M6c x 50	1
14	410-27	Nut - M6c x 50	2
15	6272-10	Washer - Fibre	2
16	425-13	Nut - Nyloc M6c	1
17	17369	Insulator - Nylon Tube x Ø10	1
18	50-43	Ring Terminal	1
19	457-2	Washer - Large M6	2
20	6369-1	Contact Bracket - Short	
21	6369-9	Contact Bracket - Long	

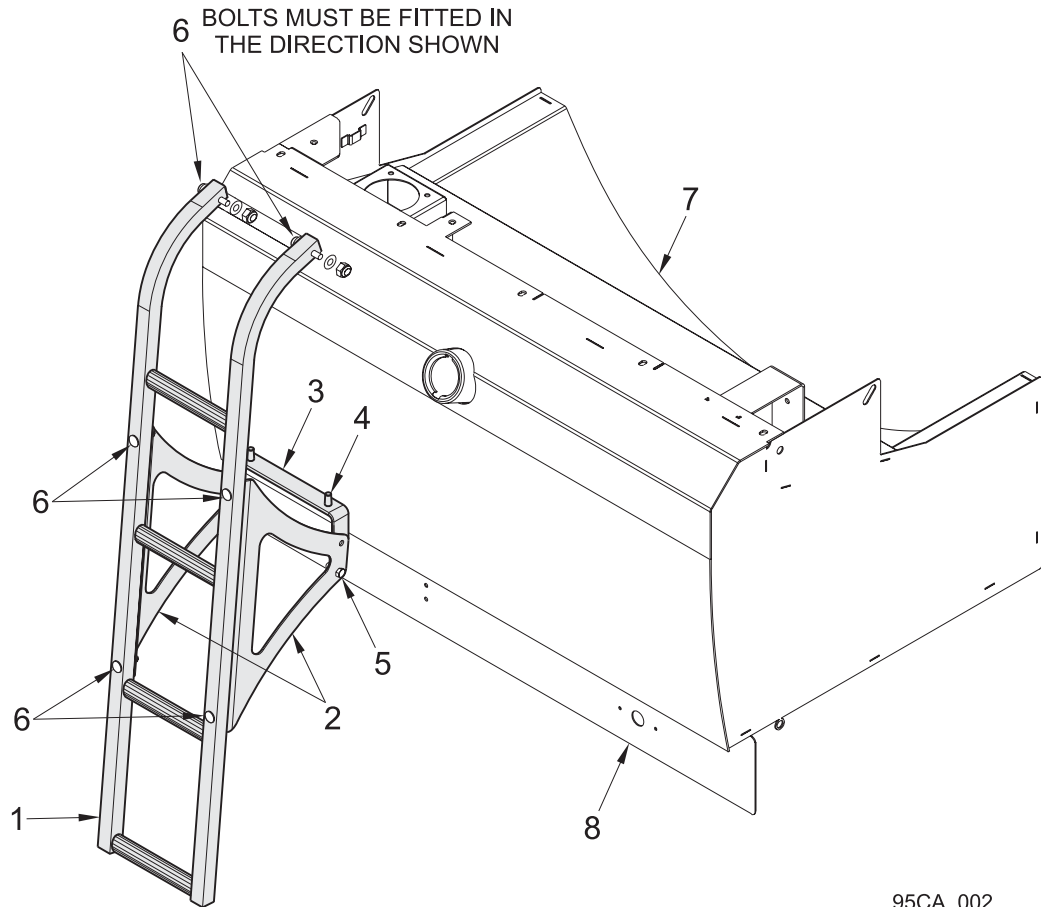
Notes

Weight Load Indicator Switch - Air Suspension Chassis



Chassis Matrix - Various

Item No.	Part No.	Description	Quantity
	802780-2	Air Switch Assembly comprising:	
1	802779-1	Air Switch Block	1
2	4505-469	Elbow x Ø8 Tube	1
3	72-52	Air Pressure Switch	1
4	263-2	Adaptor 1/4" BSP	1
	451-17	Washer - Sealing 1/4" BSP	2
5	54-12	Collar Plug	1
	451-17	Washer - Sealing 1/4" BSP	1
6	277-54	Equal Tee x Ø8 Tube	1
7	39394	Air Brake Tube	As Req'd

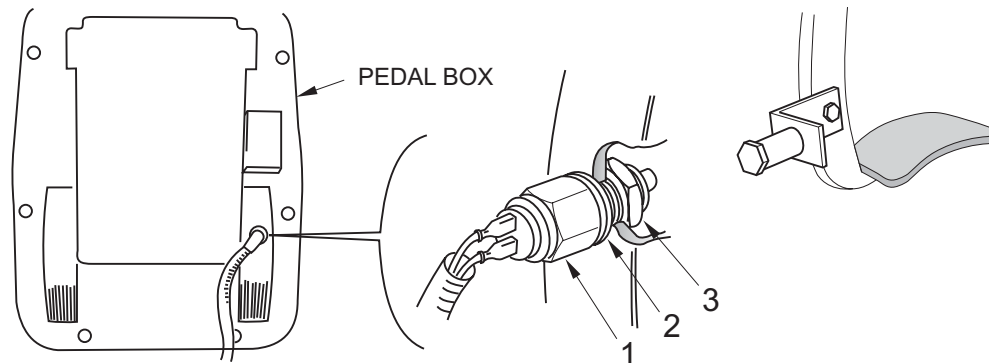
Access Ladder


95CA. 002

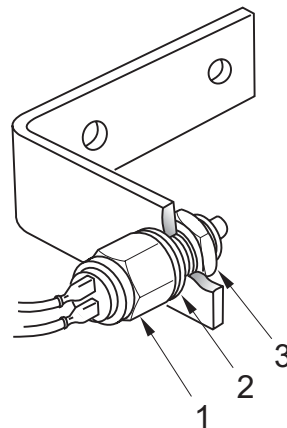
Chassis Matrix - Various

Item No.	Part No.	Description	Quantity
	282440	Installation Drawing comprising items 1 to 6	
1	282561-1	Access Ladder	1
2	200517-1	Stay	2
3	282575-1	Bottom Mount	1
4	124-169	Screw M10 x 25	2
	460-11	Washer - Spring	2
5	124-137	Screw M8 x 25	2
	455-10	Washer - Plain	2
	425-14	Nut - Nyloc M8	2
6	136-22	Carriage Bolt M8 x 40	6
	455-10	Washer - Plain	6
	425-14	Nut - Nyloc M8	6
7	-	Fuel Tank - See Chapter 22	-
8	281214-1	Valance	Reference

VS Clutch Switch Safety Feature



TYPICAL INSTALLATIONS



95CN. 009

Item No.	Part No.	Description	Quantity
* 1	48-149	Sensor Switch	1
* 2	457-6	Washer - Plain Ø12	2
* 3	410-33	Lock Nut	1

Note

* These parts are chassis related. Contact the Johnston Parts Department, quoting the machine serial number, for further information.

The above parts are not supplied with standard ESU's.

Johnston reference drawings:

The relevant installation drawing can be found via the Chassis Drawing Matrix shown in chapter 33 page 33:2.

CHAPTER

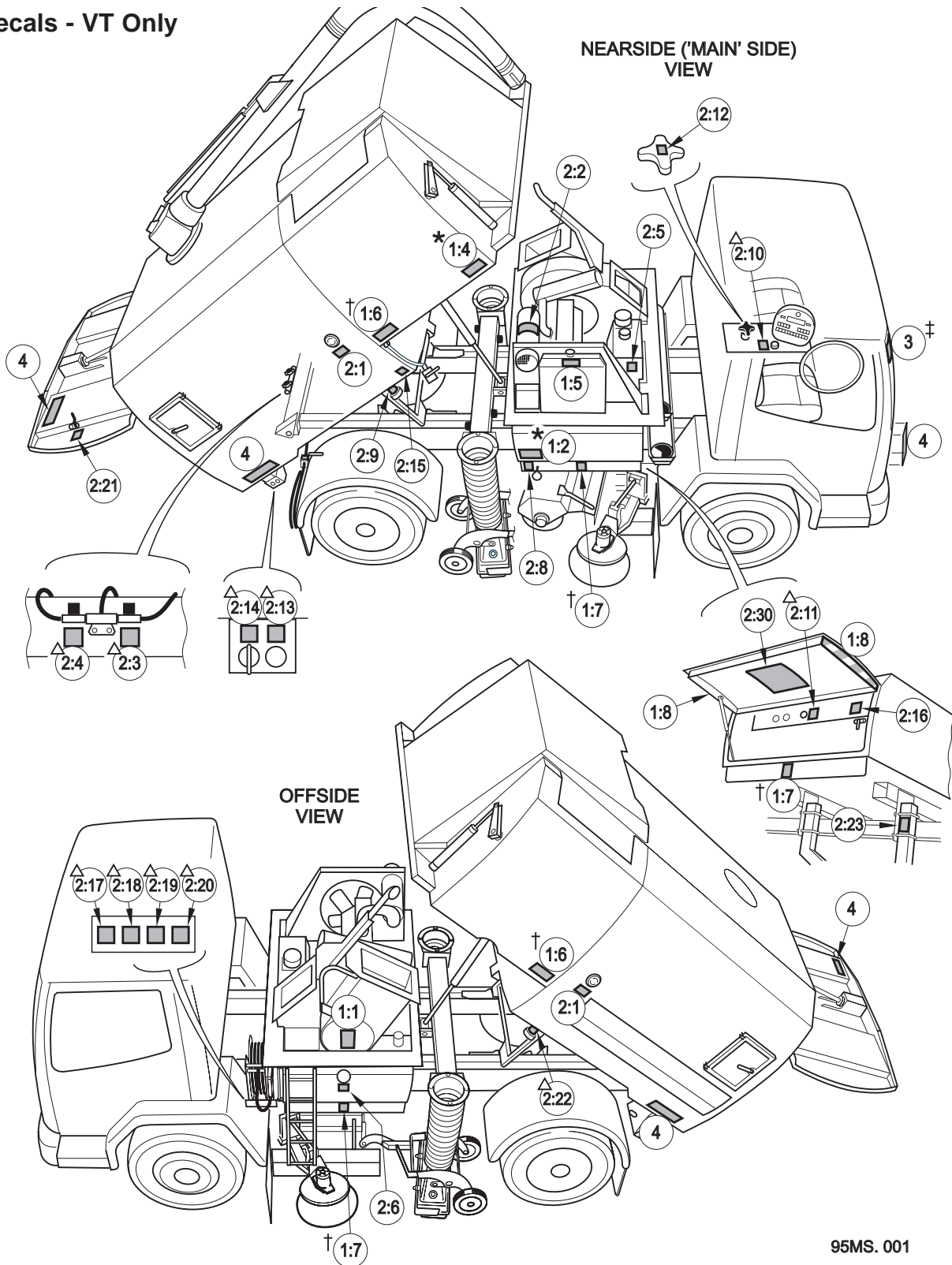
34

Miscellaneous

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Decals - VT Only



95MS.001

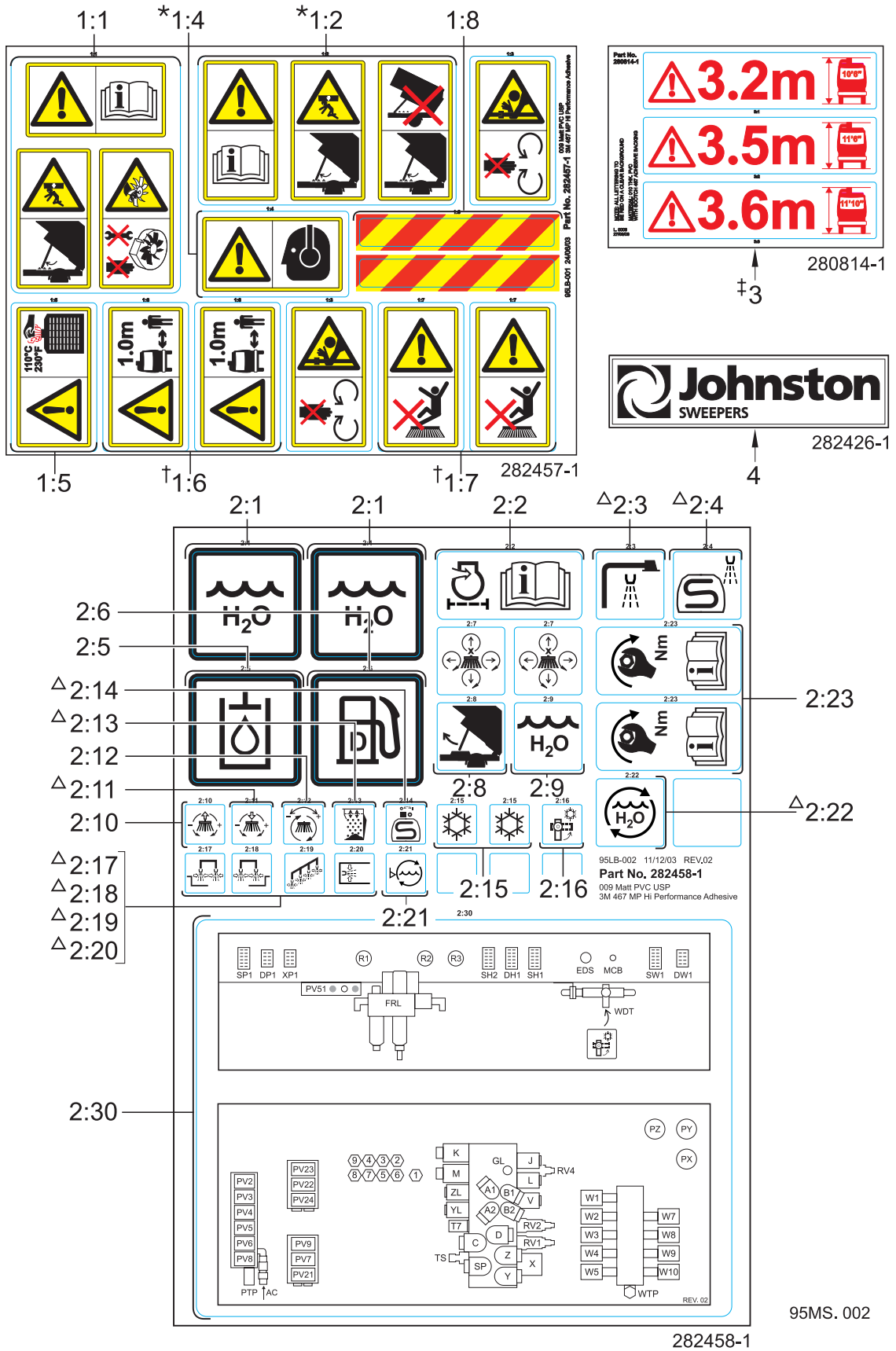
* 1:2 & 1:4 Fit to 'main' side of machine, i.e. R.H. dual sweep machine R.H. side (As shown)

† 1:6 & 1:7 Fit to both sides of machine, single & dual sweep machines.

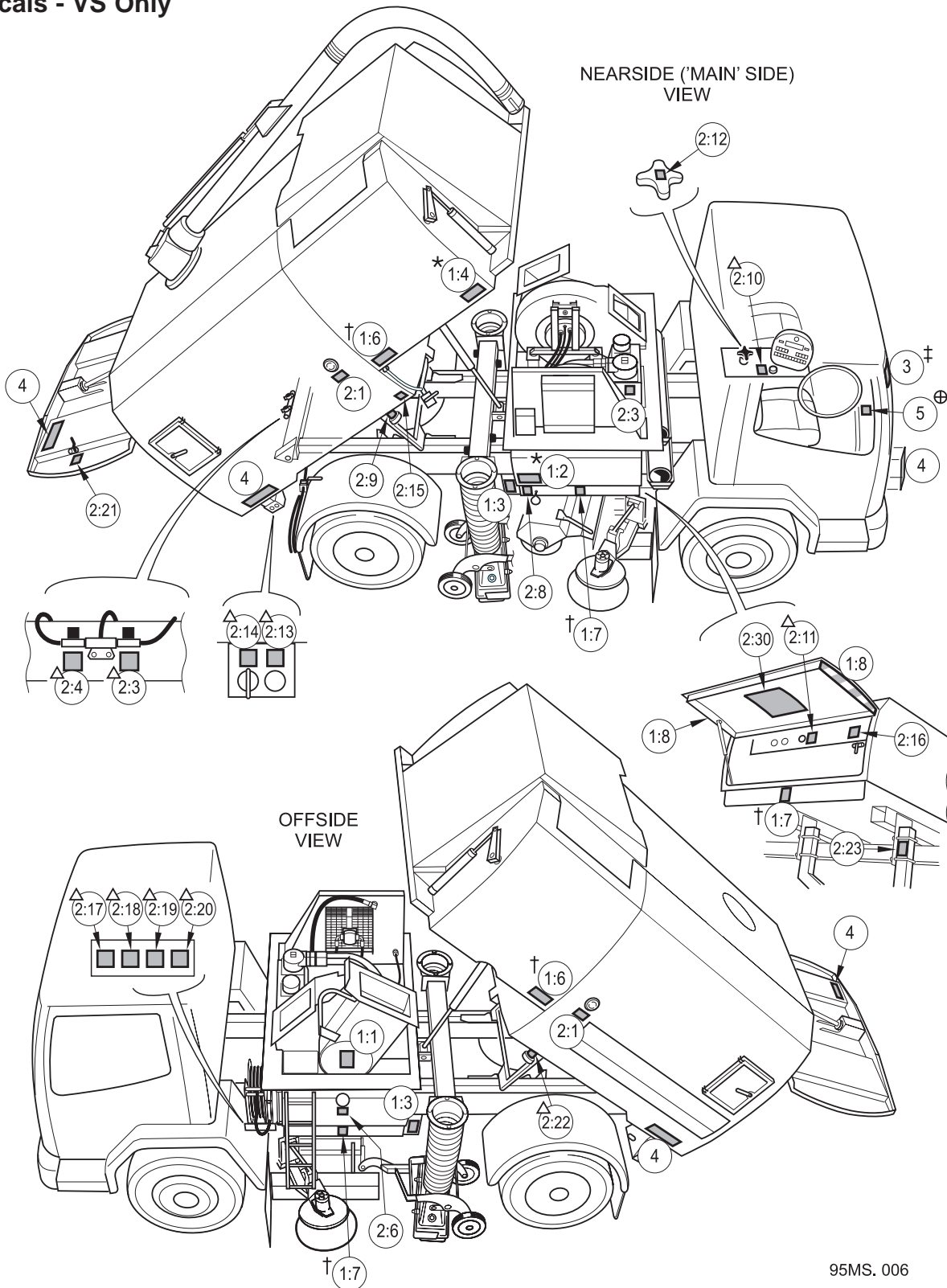
‡ 3 Fit label appropriate to vehicle height + 50mm.

△X:XX Optional equipment.

BoM 951811



Decals - VS Only



95MS. 006

* 1:2 & 1:4 Fit to 'main' side of machine, i.e. R.H. dual sweep machine R.H. side (As shown)

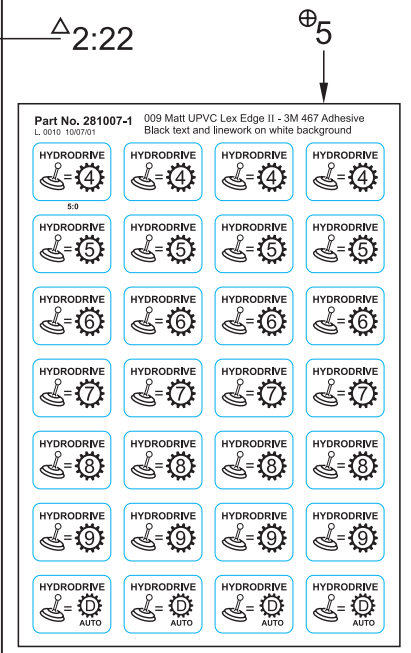
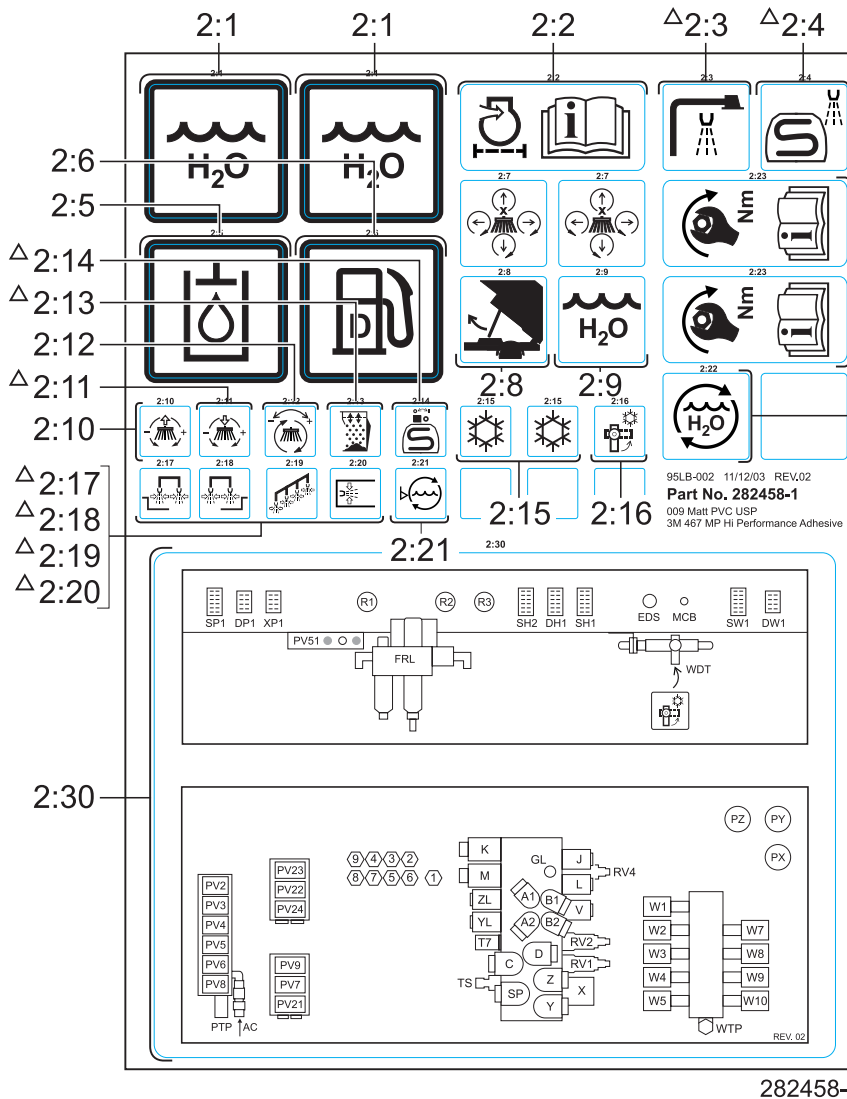
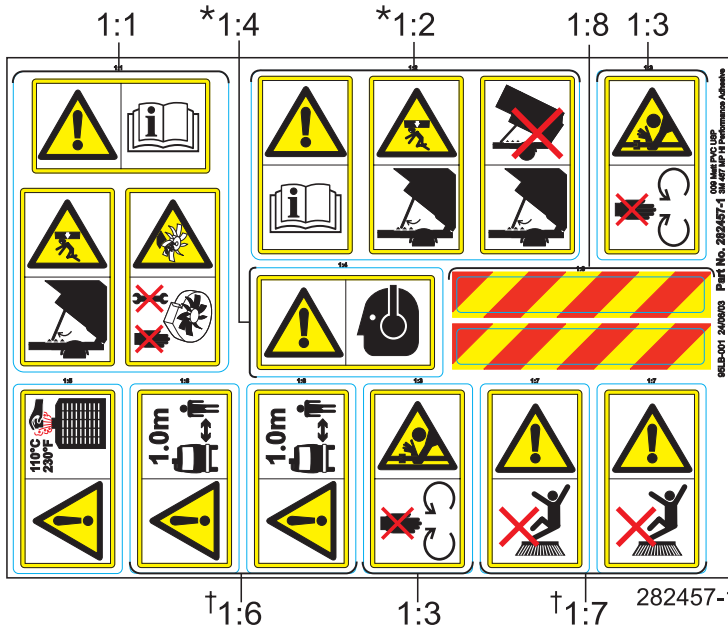
† 1:6 & 1:7 Fit to both sides of machine, single & dual sweep machines.

‡ 3 Fit label appropriate to vehicle height + 50mm.

⊕ 5 Chassis gearbox direct (1:1) drive. Actual gear depends on chassis.

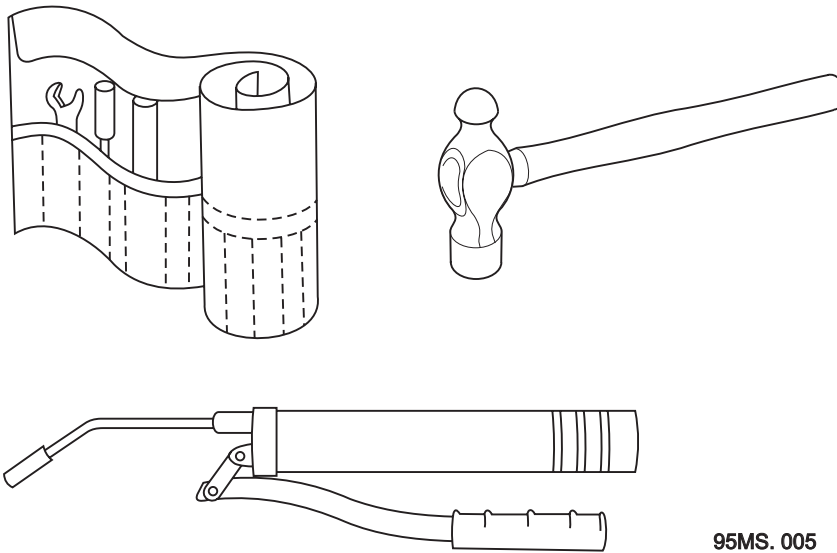
ΔX:XX Optional equipment.

BoM 951811



Lubricants

Part No.	Description	Quantity
39671	Vitaliser Fluid	Top Up Bottle
39672-5	Hydraulic Oil	5 Litre Can
39673-5	Fluid Flywheel Oil	5 Litre Can
39675-5	Automatic Transmission and Power Steering Fluid	5 Litre Can
39676-5	Engine Oil	5 Litre Can
39677-5	Gearbox Oil	5 Litre Can
39678-5	Antifreeze	5 Litre Can

Tool Kit - KT03995

95MS.005

Part No.	Description
282499-1	Tool Kit

CHAPTER

35

Optional Equipment

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Water System	
PM10 Water Spray System	35.WS : 1
Water Recirculation System	35.WS : 5

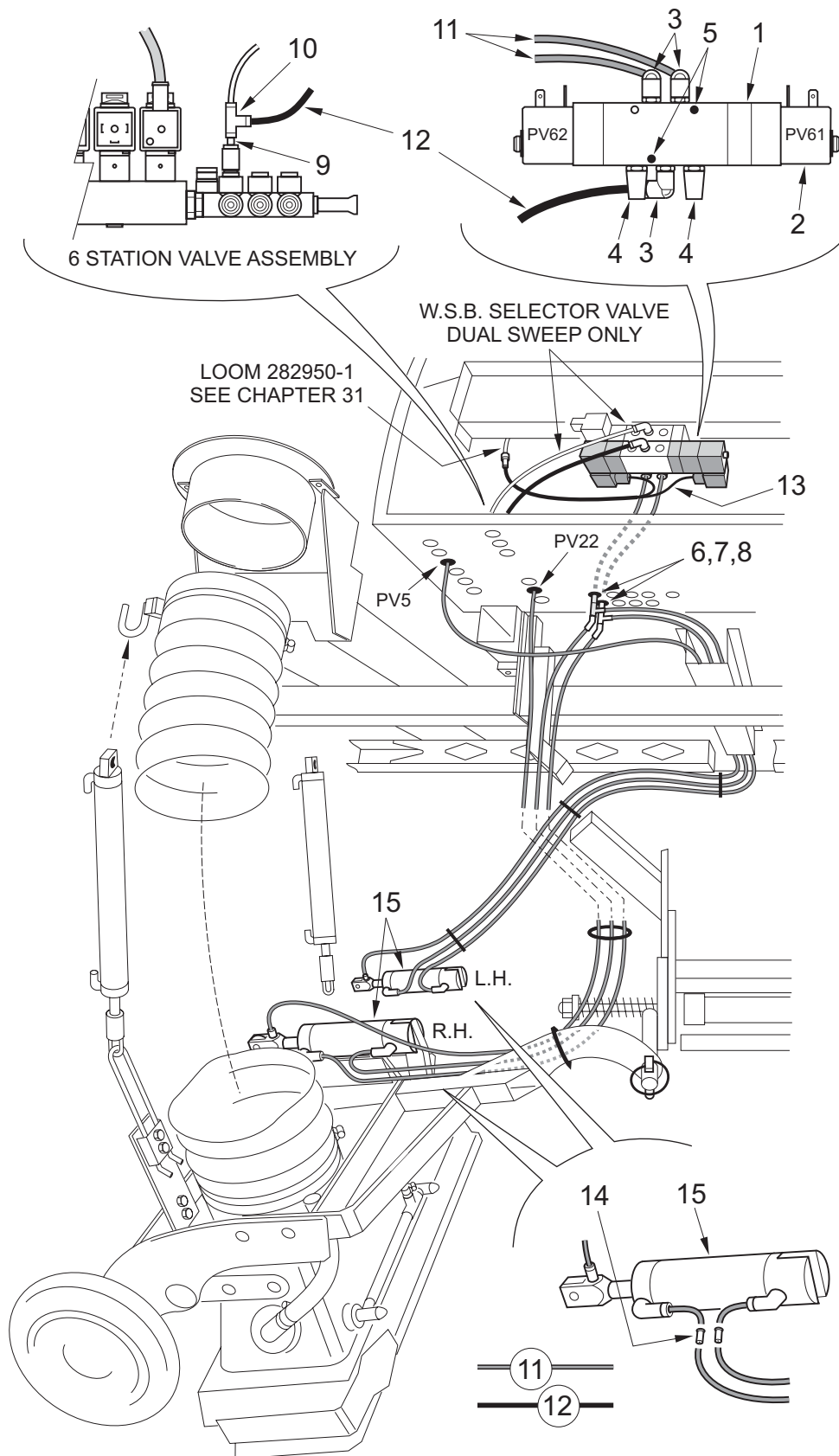
35.SG

Sweep Gear - Varagap Nozzle

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Varagap Nozzle Installation



95NZ. 004-2

DUAL SWEEP INSTALLATION SHOWN

Varagap Nozzle Installation

BoM KT 07895

Item No.	Part No.	Description	Quantity Dual Sweep
1	72-54	Pneumatic Solenoid Valve 24v	1
	72-55	Pneumatic Solenoid Valve 12v	1
2	245-133	Coil 24V	2
	245-	Coil 12V	2
3	538-3	Swivel Elbow	3
4	72-17	Exhaust Silencer	2
5	135-10	Screw M4c x 55	2
6	555-3	Bulkhead Adaptor	2
7	549-3	Stem Adaptor	2
8	554-3	Tee Adaptor	2
9	549-3	Stem Adaptor) Not required on	1
10	554-3	Tee Adaptor) Single Sweep	1
11	273-20	Pneumatic Pipe Ø6 Blue	18m
12	273-21	Pneumatic Pipe Ø6 Red	0.5m
13	282070-1	Loom	1
14	41041-1	Restrictor Ø6 Pipe	4
BoM 951113			
15	290002-1	Varagap Cylinder	2

Notes

For Varagap Joystick Control see Switch Panel chapter 32.

For Varagap Cylinder Seal Kit see chapter 29.

Refer to Electrical Diagram SE574z01 in chapter 9

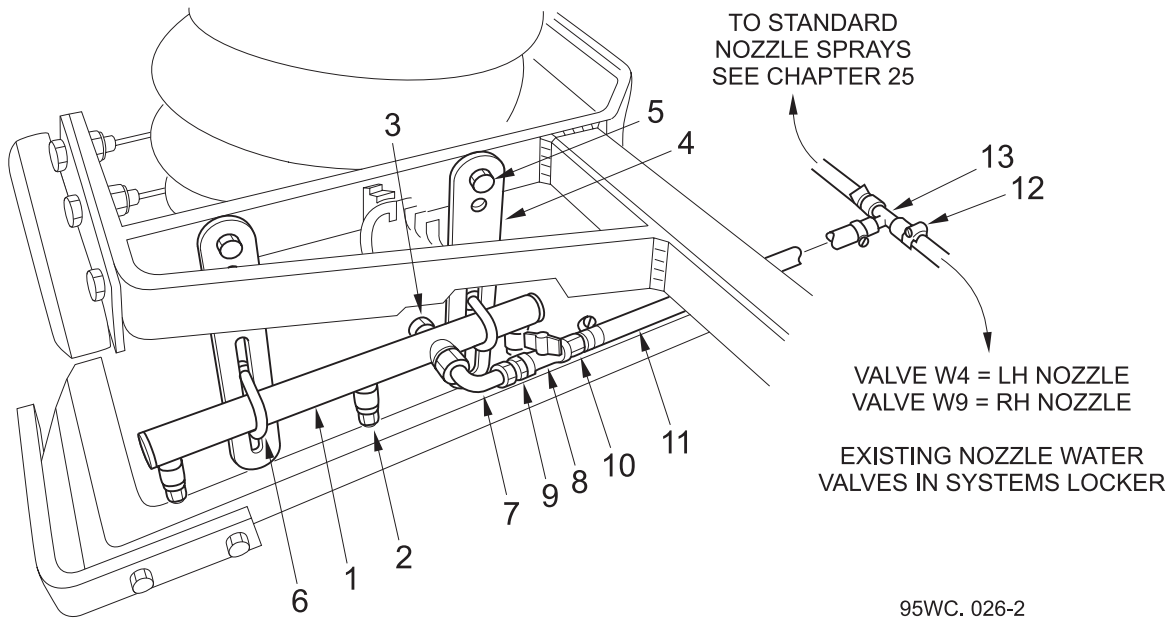
Refer to Pneumatic Diagram SP547a01 in chapter 11

35.WS

Water System - PM10 Water Sprays

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	100 Micron Spraybar Installation - C.B. Pivot Frame	35.WS : 4

200 Micron Water Spray Bar Installation - Nozzle Draw Bar


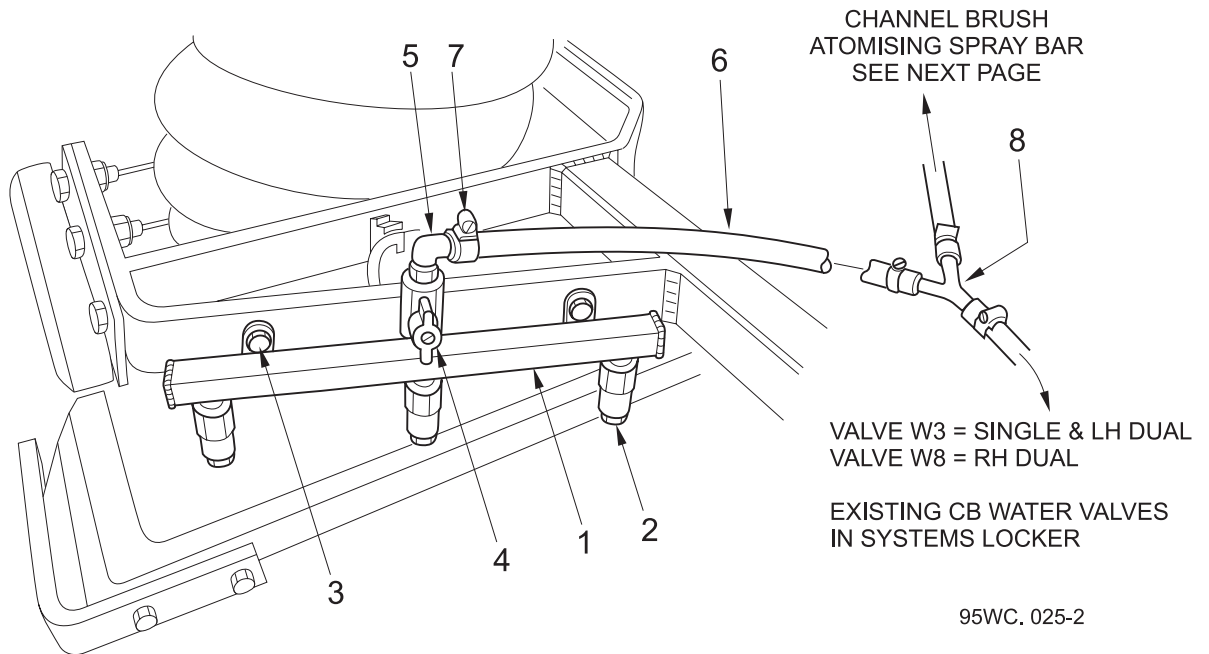
95WC. 026-2

BoM KT01995

Item No.	Part No.	Description	Quantity
1	63584-1	Spray Bar	1
2	263-2	Adaptor 1/4" BSP	3
	60690-1	Nozzle Jet	3
	60689-1	Clamp - Jet	3
	68-18	Blanking Cap	1
4	201232-1	Mounting Plate	2
	124-138	Screw M8 x 28	2
	425-14	Nut - Nyloc M8	2
6	6105-1	U-Bolt M6	2
	457-2	Washer - Plain Large M6	4
	425-13	Nut - Nyloc M6	4
	242-51	Elbow 3/8" BSP - Swivel	1
7	88-4	Tap	1
8	265-2	Adaptor 1/4" x 3/8" BSP	1
9	46382-3	Hose Adaptor	1
10	39444	Hose	As Req'd
11	501-1	Hose Clip	4
12	277-2	Tee Connector	1

For Water Circuit diagrams see SW511b01 (Single) and SW512b011 (Dual) in Chapter 10

**100 Micron (Atomising) Spray Bar Installation
Nozzle Draw Bar**



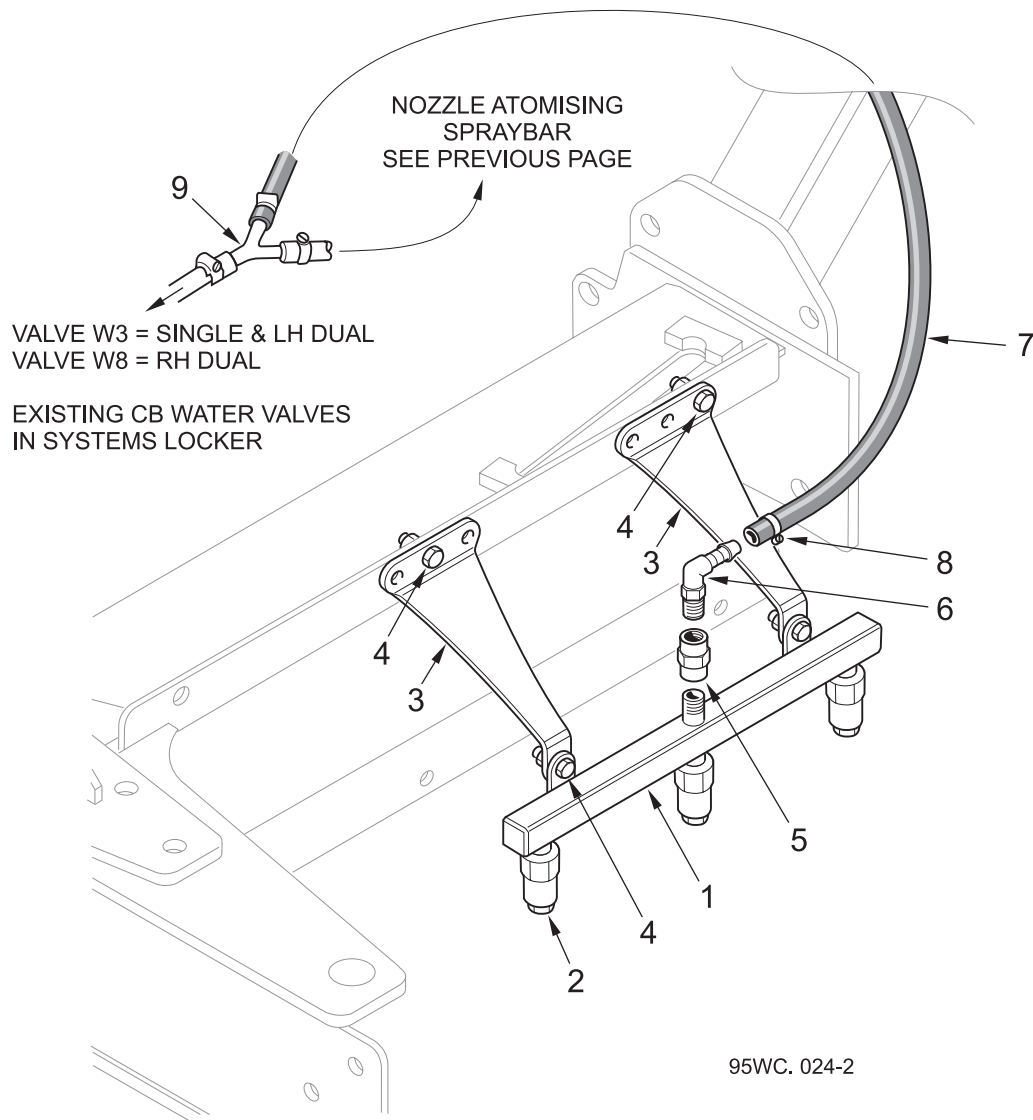
BoM KT01995

Item No.	Part No.	Description	Quantity
1	201076-1	Spray Bar	1
2	21-319	Nozzle Jet	3
> 3	124-138	Screw M8 x 28	2
	425-14	Nut - Nyloc M8	2
4	88-4	Tap	1
5	277-20	Elbow - Hose Connector	1
6	39444	Hose 3/8" Bore	As Req'd
7	501-1	Hose Clip	2
> 8	39640	'Y' Connector	1

Notes

For Water Circuit diagrams see SW511b01 (Single) and SW512b011 (Dual) in Chapter 10

100 Micron (Atomising) Spray Installation Channel Brush Pivot Frame



BoM KT01995

Item No.	Part No.	Description	Quantity
1	201076-1	Spray Bar	1
2	21-319	Nozzle - Water Atomising	3
3	283317-1	Mounting Bracket	2
> 4	124-138	Setscrew M8 x 28	4
	425-14	Nut - Nyloc M8	4
5	66-36	Adaptor G1/4"	1
6	277-20	Hose Connector Elbow R1/4" x Ø10	1
7	39444	Hose 3/8" Bore	As Req'd
8	501-1	Hose Clip	1
9	-	'Y' Connector (See Nozzle Atomising Spraybar on previous page)	1

For Water Circuit diagrams see SW511b01 (Single) and SW512b011 (Dual) in Chapter 10

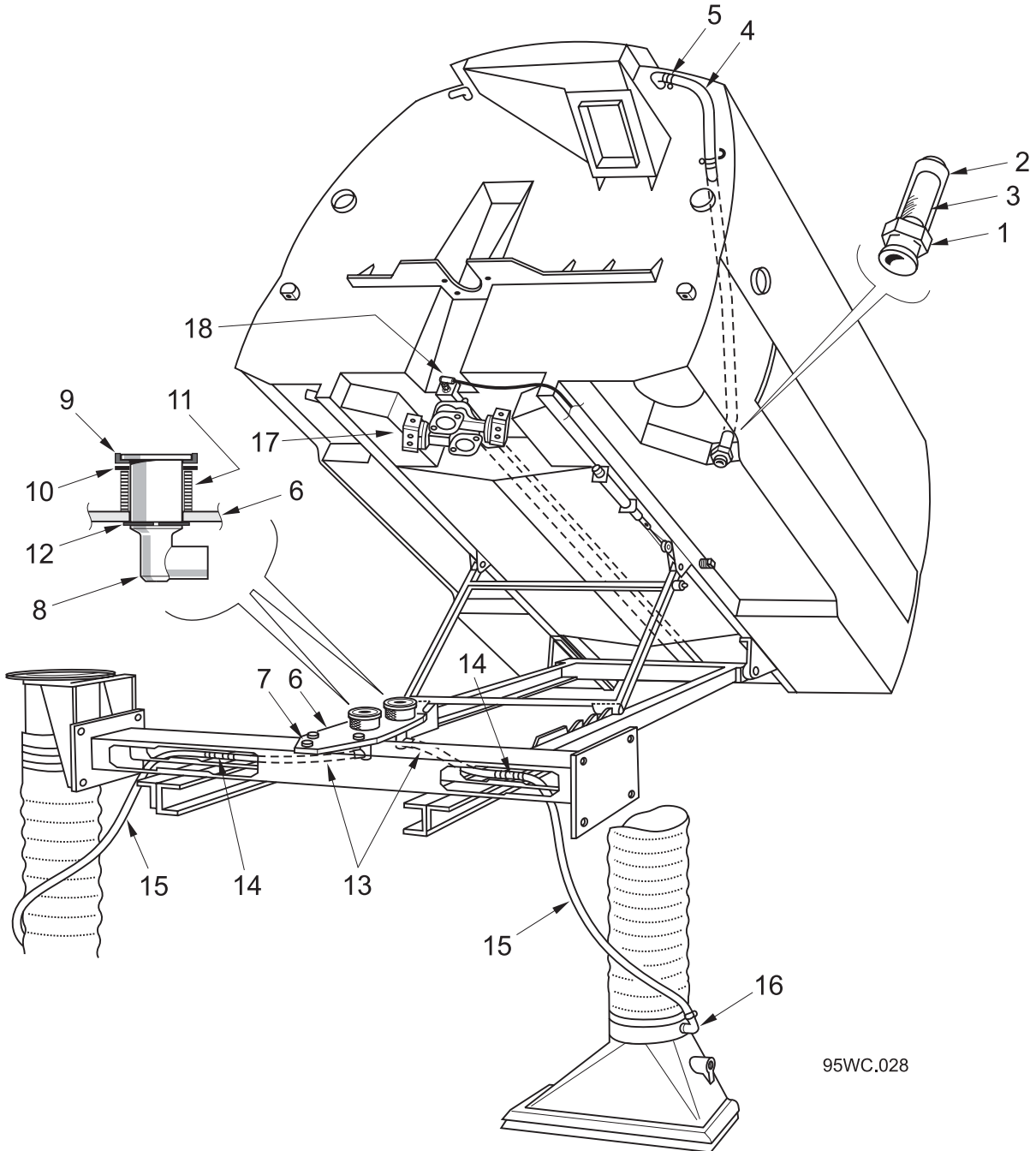
35.WS

Water System - Water Recirculation

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Recirculation System Components



95WC.028

Recirculation System Components

BoM KT09195

Item No.	Part No.	Description	Quantity	
			Single	Dual
1	667-31	Hydrant Coupling - Stortz	1	1
	186481-1	Hydrant Coupling - UK Machines only	1	1
2	42119-1	Body - Hydrant Filler Filter	1	1
3	39402	Filter Element	1	1

BoM KT05495

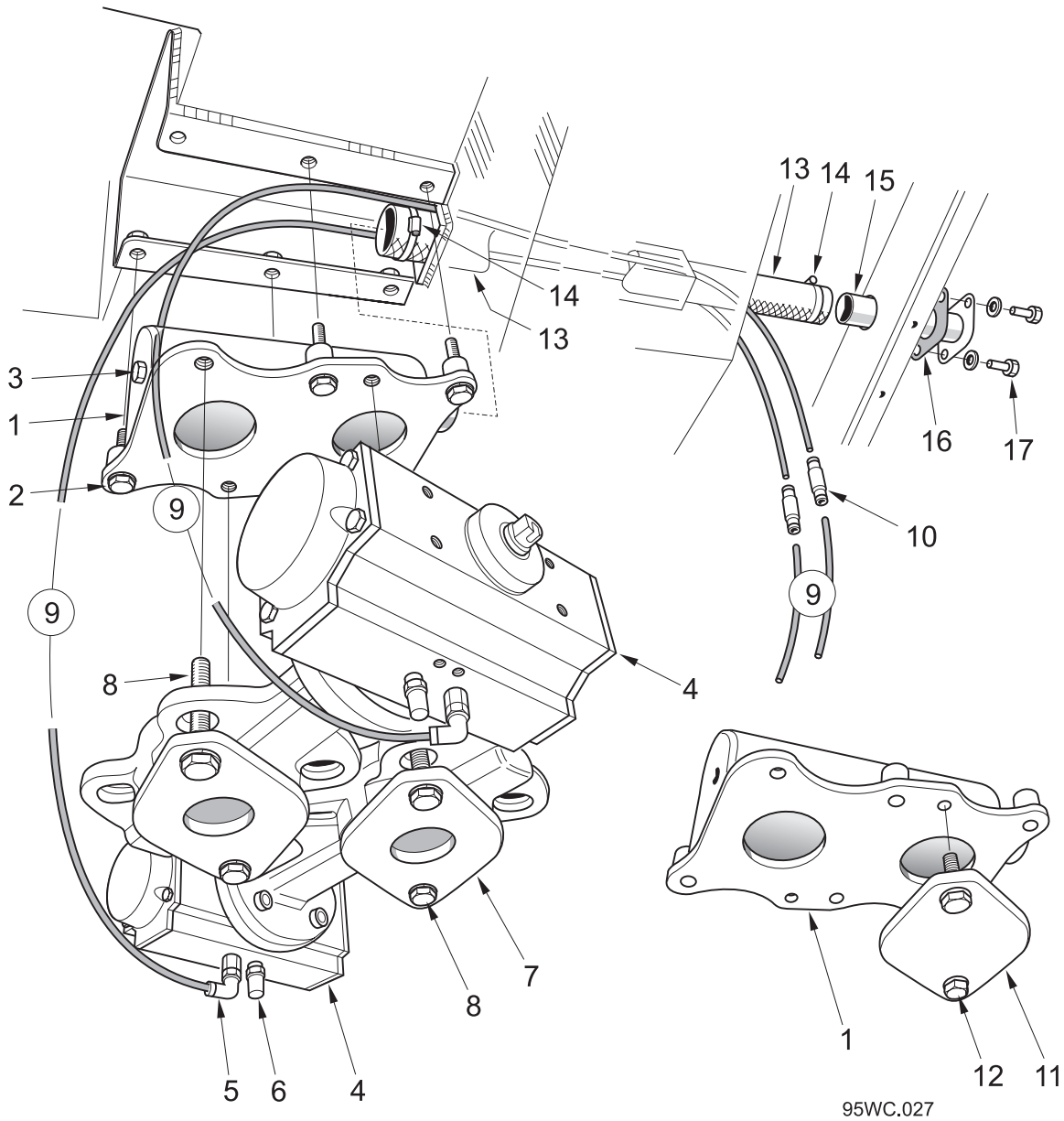
4	272-21	Hose 'Lay Flat' x 750mm long	1	1
5	501-4	Hose Clip	2	2
6	200429-1	Mounting Plate	1	1
7	124-169	Screw M10 x 25	3	3
	455-11	Washer - Plain	3	3
	460-11	Washer - Spring	3	3
		Make and Break Seal comprising items 8 to 12		
8	282751-1	Stem	1	2
9	282765-1	Seal	1	2
10	282752-1	Seal Support	1	2
11	200174-1	Wave Spring	1	2
12	27-5	Circlip	1	2
13	272-20	Hose - Clear	0.4m	0.8m
	501-4	Hose Clip	2	4
14	281576-1	Support	1	2
	124-135	Screw M8 x 20	1	2
	455-10	Washer - Plain	1	2
	425-14	Nut - Nyloc M8	1	2

BoM KT05595

15	272-20	Hose - Clear	1.5m	3.0m
	501-4	Hose Clip	2	4
16	200493-1	Elbow	1	2
	410-57	Locknut	1	2
17	-	Valves - See next page	-	-
18	-	Supawash Backflush System - See Supawash Section 30.SW		

Notes

Valve Installation



Valve Installation

BoM KT05495

Item No.	Part No.	Description	Quantity	
			Single	Dual
1	280586-2	Valve Box	1	1
2	123-129	Bolt M10 x 45	4	4
	460-11	Washer - Spring M10	4	4
3	54-4	Plug G 1/2" Brass - Used when Supawash Backflush is not fitted. See Chapter 30.SW	1	1
4	200402-1	Butterfly Valve - Pneumatic	1	2
5	552-3	Elbow G 1/8" x Ø6	1	2
6	72-17	Exhaust	1	2
7	200431-1	Clamp Plate	1	2
8	124-181	Screw M10 x 70	2	4
	460-11	Washer - Spring M10	2	4
9	273-20	Tubing - Blue Ø6	10m	20m
10	547-3	Straight Connector	1	2
11	200788-1	Blanking Plate - Seals redundant port on singles	1	-
12	124-166	Screw M10 x 16	2	-
	460-11	Washer - Spring M10	2	-
13	272-15	Flexible Tube x Ø50 Bore	2m	2m
14	504-6	Hose Clip	2	2
15	280581-2	Stub Tube	1	1

BoM 950611, 960611

16	282574-1	Gasket	1	1
17	118-169	Screw M10 x 25 - Stainless Steel	2	2
	451-6	Washer - Sealing M10	2	2

Notes

For Pneumatic Circuit see diagram SP543a01 in Chapter 11

