

REMOVE ALL SHARP EDGES IF IN DOUBT ASK DO NOT SCALE DRAWING CAST, STAMP OR STENCIL PART NUMBER IN SUITABLE LOCATION ORIGINAL CREATED ON WSTI SOLID MODELING WORKSTATION

SERVICE AND EMERGENCY BRAKE SYSTEMS CHASSIS PIPING

1 FOLD

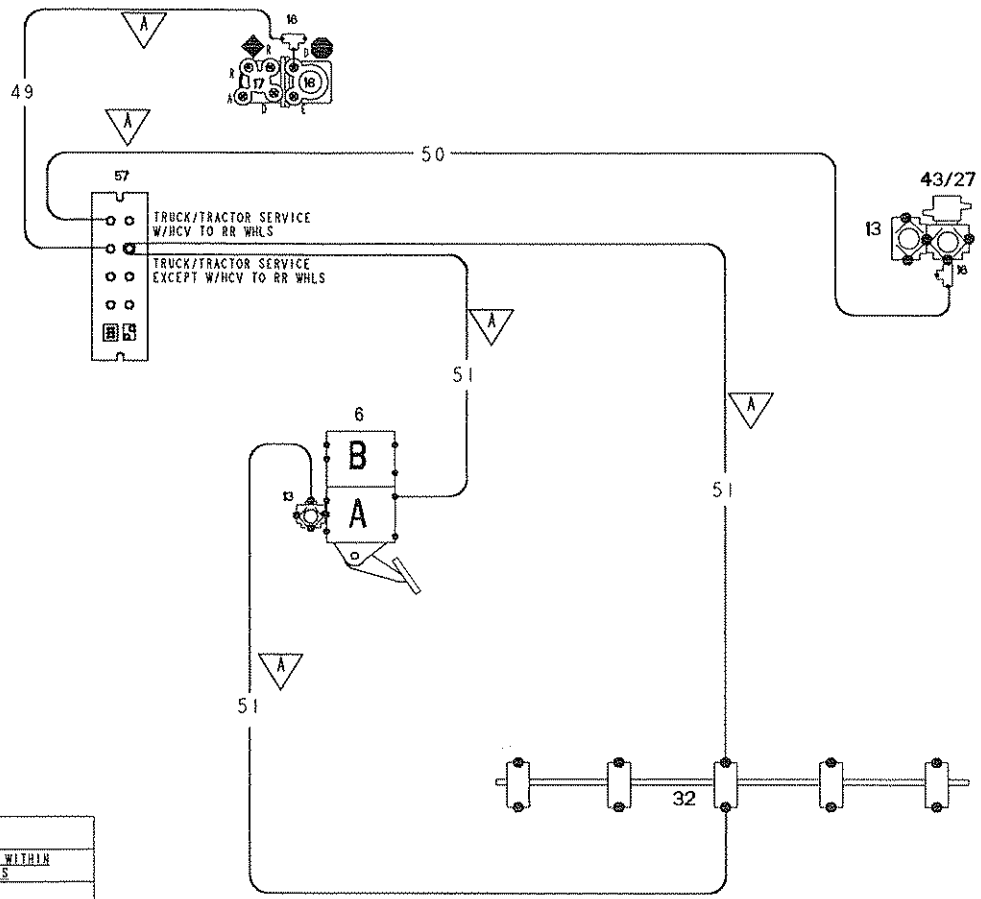
 WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.	
DIVIDER PAGE	REV. NEW
	SHT 1 OF 1

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	FRONT AXLE RATIO VALVE
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QR1-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2
57	PX MODULE (PRESSURE/VACUUM TRANSDUCER)

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOM'S WITHIN THESE MASTER REFERENCES
CHASSIS PIPING	2328 'B'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'

LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
	1/4	# 4
	3/8	# 6
	1/2	# 8
	5/8	# 10
	3/4	# 12
	3/4 COPPER	
	1/8	-

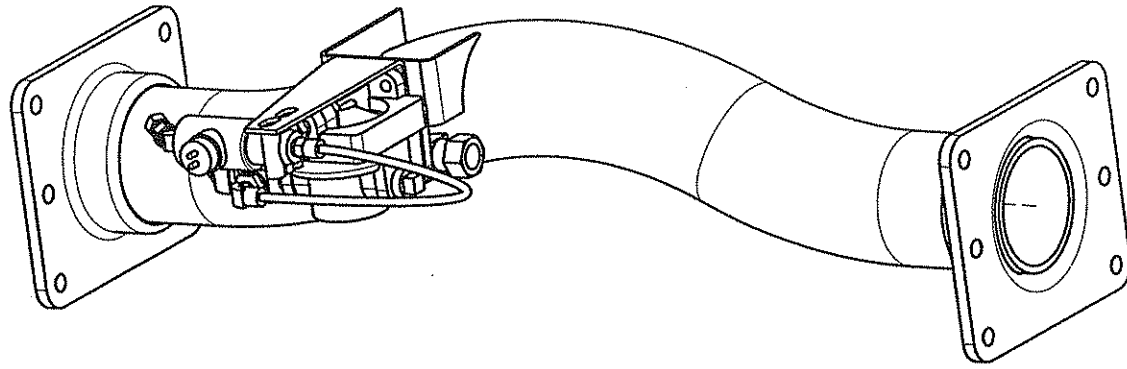
PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR
A	ACCESSORY



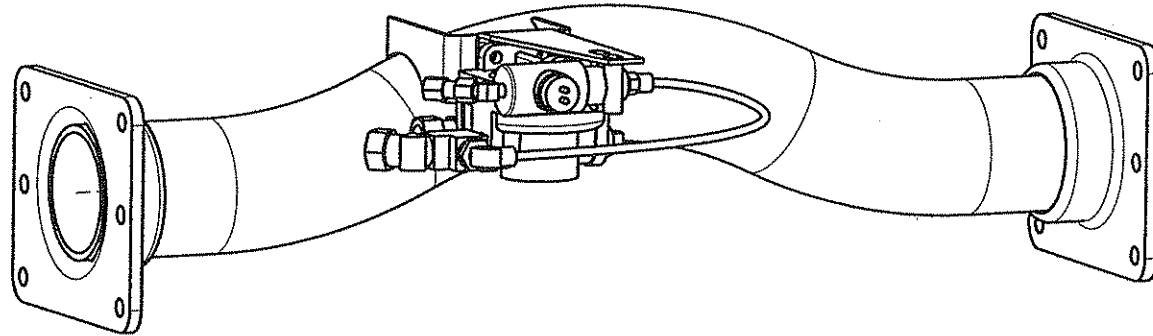
NOTES:
1. THIS SCHEMATIC IS SPECIFIC TO THE STAR GAUGE INSTALLATION.
FOR TELEFLEX INSTALLATION SEE 721B1-3401.

REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
		WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
TOLERANCES UNLESS NOTED:		BY	DATE	
MACHINING	±	DWN	FWS	15MAY80
HOLE CENTERS	±	CKD		
HOLE DIAMETERS	±	APVD	SER	15MAY80
LINEAR	±	ECO		106773-9
ANGULAR	±	SCALE		NONE
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND ITS USE SHALL NOT BE USED OR REPRODUCED OR ITS CONTENTS DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., KELOWNA, BC				
APPLICATION PART NO.	AIR SYSTEM PIPING		MR NO. 2328	
	AIR APPLICATION GAUGE		721B1-3402	SHT 1 OF 1

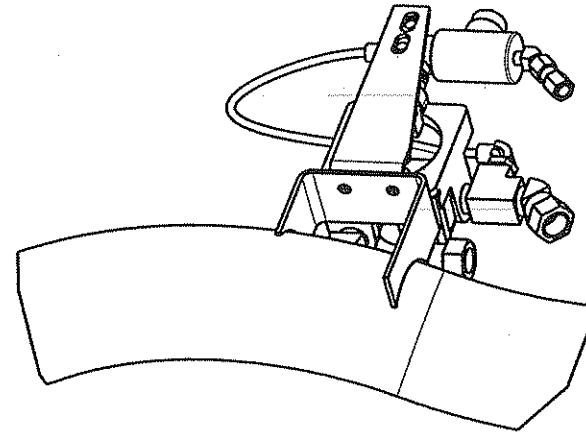
721B1-3402
PART ISSUE DATE
SER 1



VIEW FROM REAR, RIGHT HAND SIDE



VIEW FROM REAR, LEFT HAND SIDE



PARTIAL VIEW FROM FRONT, TOP

SAMPLE PICTORIAL VIEWS SHOWING INSTALLATION
OF SINGLE RELAY INSTALLATION ON CROSSMEMBER
AHEAD OF SUSPENSION

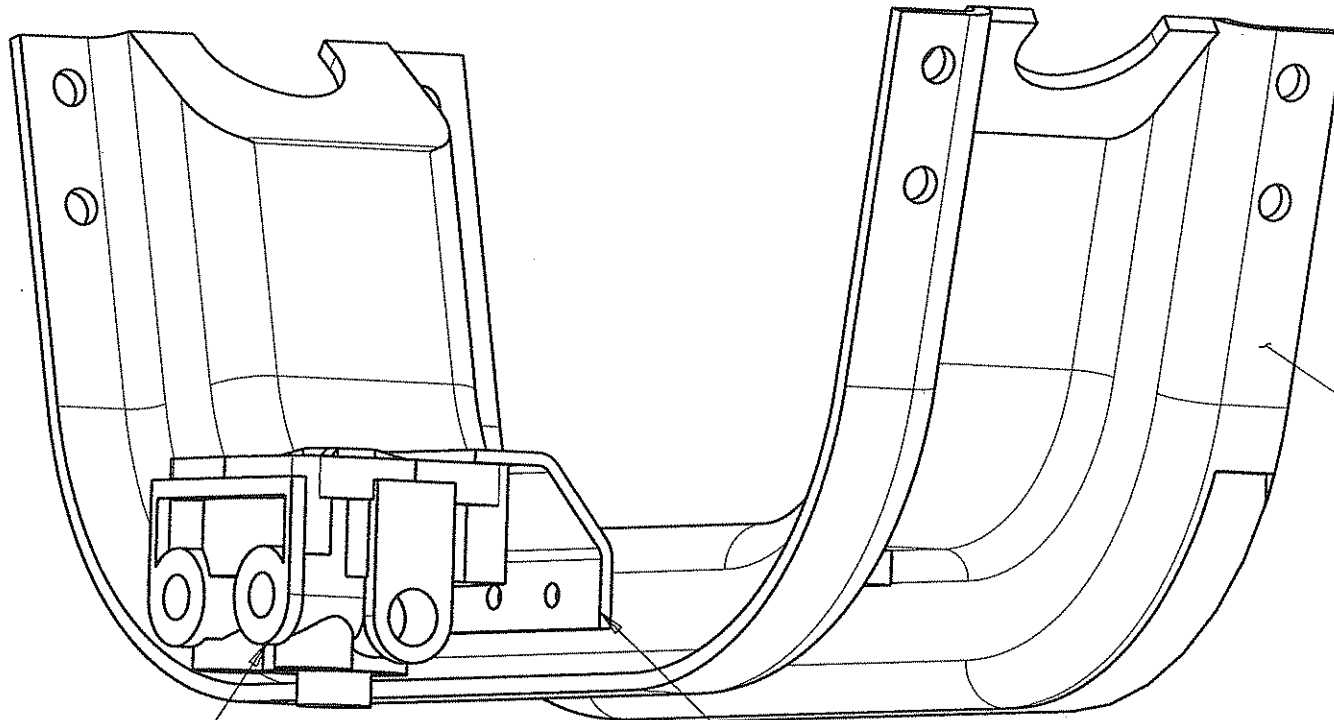
 WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS MELONNA, B.C.	
INSTR "B" - SINGLE RELAY FOR ABS ON CHR. AHEAD OF SUSPENSION	REV: NEW 722A1-3402
	SHY 1 OF 1

REMOVE ALL SHARP EDGES DO NOT SCALE DRAWING
IF IN DOUBT ASK

CAST, STAMP OR STENCIL PART NUMBER
& REVISION LETTER IN SUITABLE LOCATION

ORIGINAL CREATED ON WSTI
SOLID MODELING WORKSTATION

ECO	CHG	CHANGE	BY	DATE	CKD	APVD
91230	A	RELAY/BRKT WERE 72201-3412/72202-3414	WCS	18JUN97		



PART # 72201-3407
BENDIX R-12 RELAY VALVE

BRACKET PART #72202-3415

TYPICAL FRONT ENGINE
CROSSMEMBER

722A1-3403
PRINT ISSUE DATE
A CHG
SHT 1
OF 1

1 FOLD

REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
		WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
	TOLERANCES UNLESS NOTED:		BY	DATE
	MACHINING	DWN	WCS	21FEB97
	HOLE CENTERS	CKD		
	HOLE DIAMETERS	APVD	FWS	25FEB97
	LINEAR	ECO		90249
	ANGULAR	SCALE		NONE
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR ITS CONTENTS DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., KELOWNA, BC				
APPLICATION	INSTALLATION - RELAY ON FRT ENG CROSSMEMBER		MR NO. 2378	
			722A1-3403	SHT 1 OF 1

REMOVE ALL SHARP EDGES
IF IN DOUBT ASK

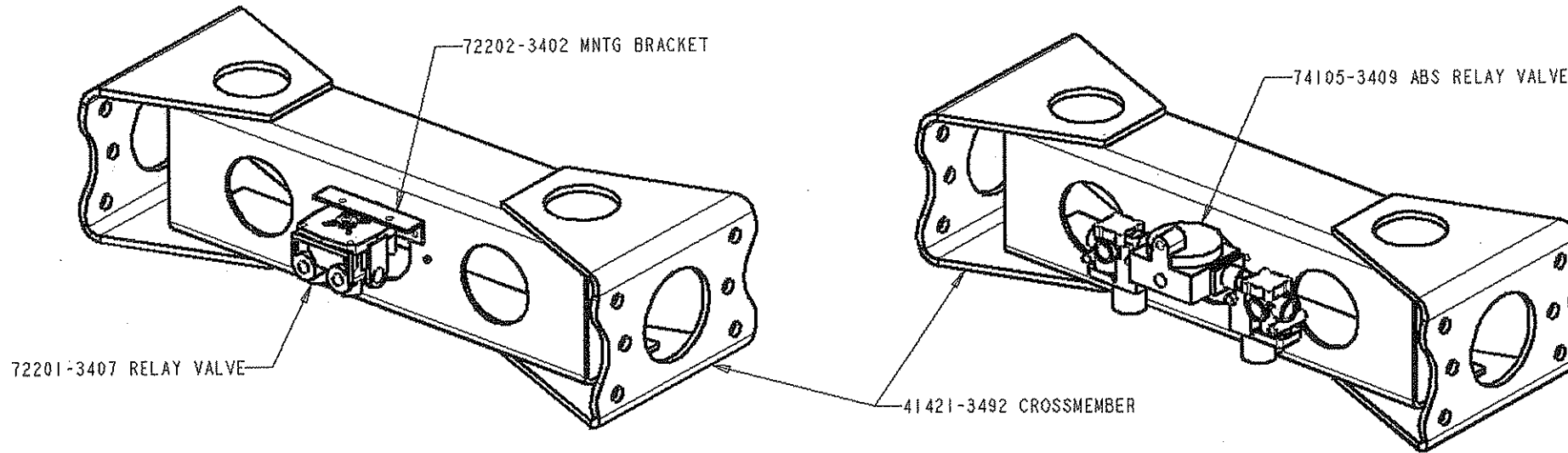
DO NOT SCALE DRAWING

CAST, STAMP OR STENCIL PART NUMBER
& REVISION LETTER IN SUITABLE LOCATION

ORIGINAL CREATED ON WST1
SOLID MODELING WORKSTATION

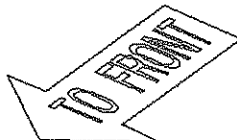
ECO CHG CHANGE

BY DATE CKD APVD



NON ABS R-12 RELAY VALVE ON
LIGHTWEIGHT HAS CROSSMEMBER

ABS RELAY VALVE ON
LIGHTWEIGHT HAS CROSSMEMBER

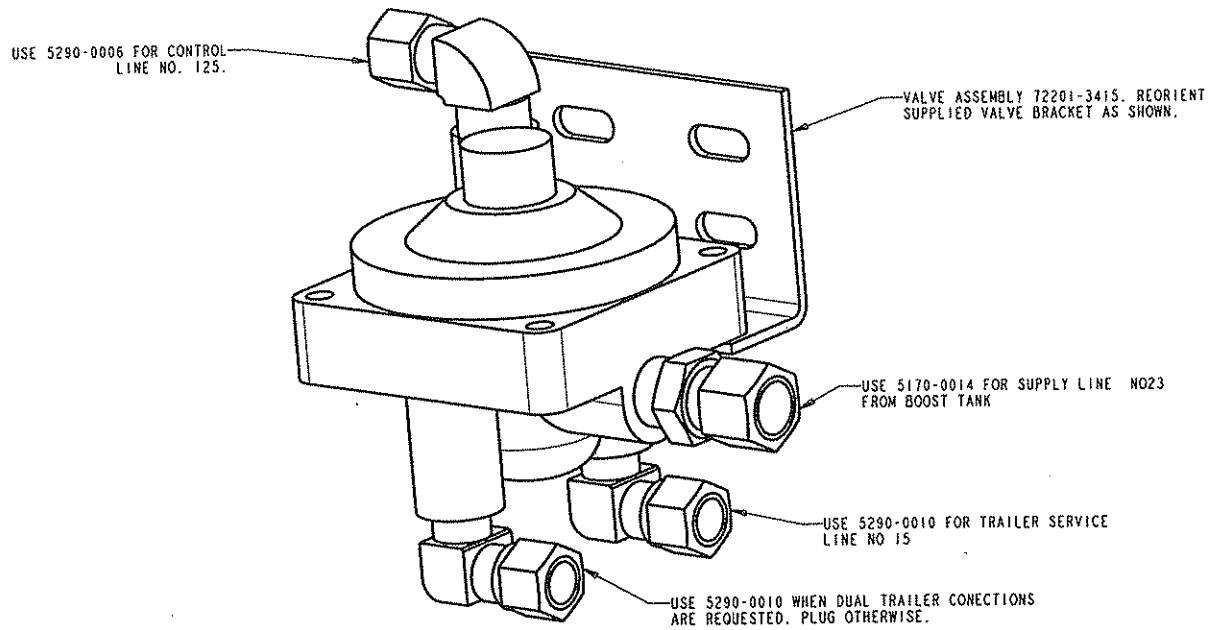


722A1 - 3404
PRINT ISSUE DATE
NEW

1 FOLD

REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
	WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.			
	TOLERANCES UNLESS NOTED:		BY	DATE
	MACHINING	INCH DWN	WCS	09DEC97
	HOLE CENTERS	INCH	CKD	
	HOLE DIAMETERS	INCH	APVD	
	LINEAR	INCH	ECO	93265
	ANGULAR		SCALE	NONE
<small>THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR ITS CONTENTS DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., KELOWNA, BC</small>				
APPLICATION PART NO.			MR NO. 2378	
INSTALLATION - RELAY VALVE LIGHTWEIGHT HAS CROSSMEMBER			722A1-3404	SHT 1 OF 1

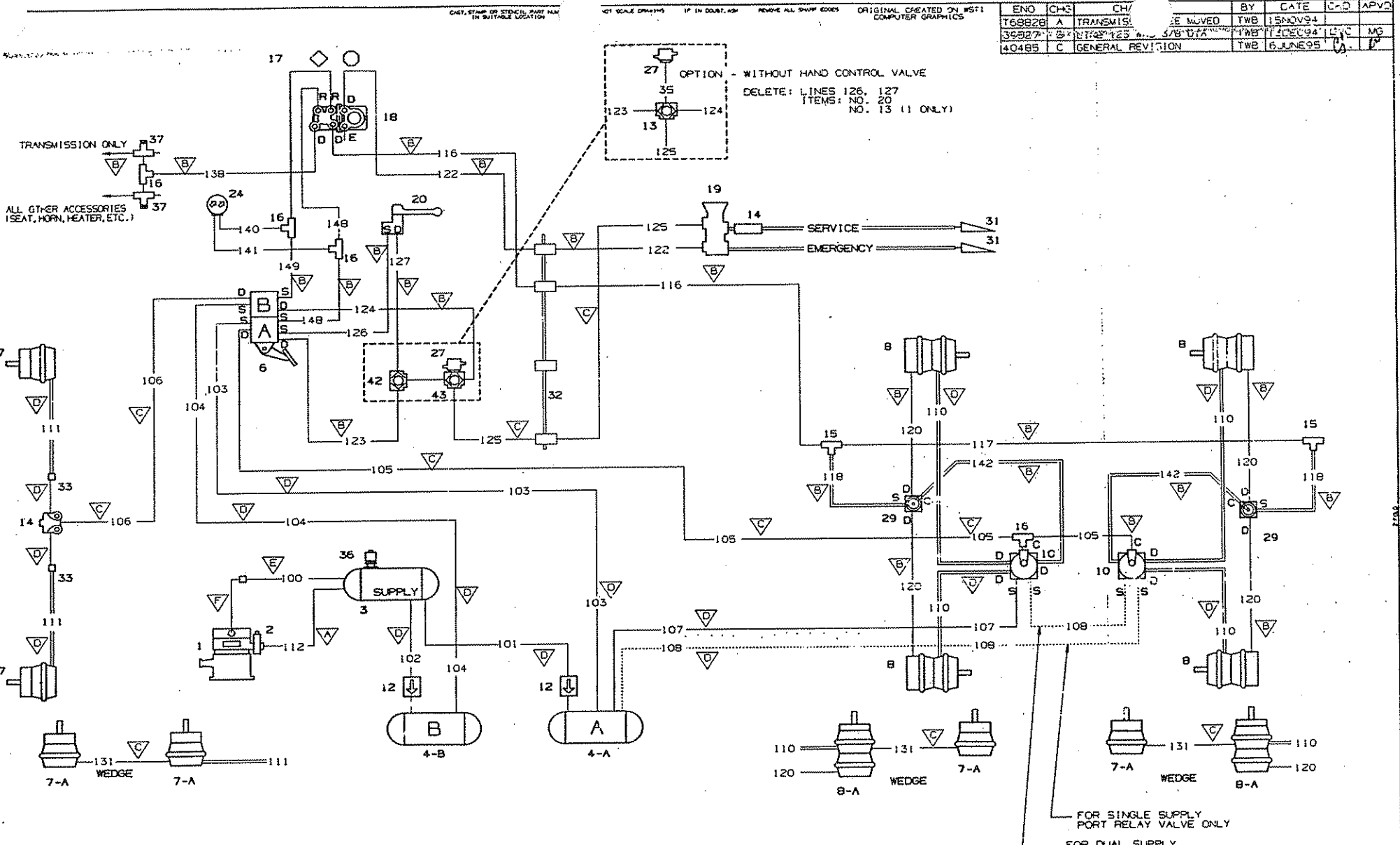
Printed on: February 4, 1998



728A1-3403	SHT 1
PRINTY ISSUE DATE	OF 1
	CHG
	NEW

NEW	REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
		WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.			
		TOLERANCES UNLESS NOTED:			
		MACHINING	± .02 INCH	DWN	MLW 1997/12/01
		HOLE CENTERS	± .02 INCH	CKD	
		HOLE DIAMETERS	± .02 INCH	APVD	
		LINEAR	± .06 INCH	ECO	95025
		ANGULAR	± 1/2 °	SCALE	NONE
		THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR ITS CONTENTS DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., KELOWNA, BC			
AUSTRALIA	APPLICATION	INSTALLATION TRAILER SUPPLY RELAY VALVE			MR NO. 2320
				728A1-3403	SHT 1 OF 1

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QR-DC)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-RT)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2



LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
▽	1/4	• 4
▽	3/8	• 6
▽	1/2	• 8
▽	5/8	• 10
▽	-	• 12
▽	3/4 COPPER	-
▽	1/8	-

PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR

- NOTES:
- 1/. APPLICATION: 6X4 TRACTOR
 - 2/. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - 3/. DOUBLE LINES DENOTE FLEXIBLE DROP LINES

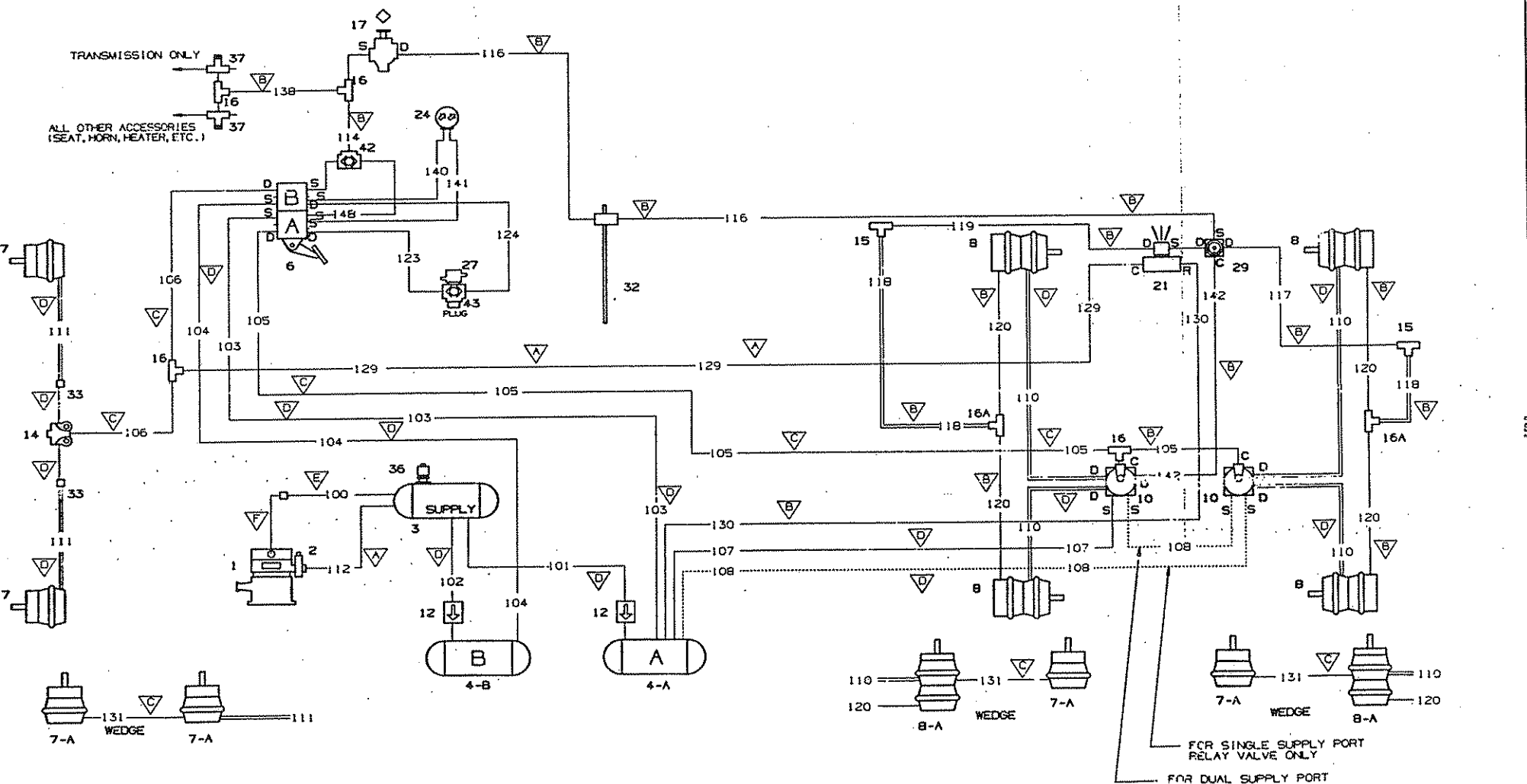
72801-3470

604 CAB

COMP. NO.	DESCRIPTION	SIZE	MATERIAL
WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS MELBOURNE, B.C.			
TOLERANCES (UNLESS NOTED):			
MACHINING	±.02 IN.	DWN	TWB
HOLE CNTRS	±.02 IN.	CKD	DVC
HOLE DIAM	±.02 IN.	NPV	JRR
LINEAR	±.03 IN.	ENO	T68591
ANGULAR	±1/2°	SCALE	NTS
AIR LINE DIAG			MR NO. 2320
-BRAKING SYST			72801-3470

ENO	CHK	CH	BY	DATE	C-D	APV
T6882B	A	TRANSMISSION MOVED	TWB	15NOV94		
36927	B	W/22/25 MOD. 5/8" DIA	TWB	11DEC94	12	MG
40485	C	GENERAL REVISION	TWB	6JUNE95	13	P

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
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13	DOUBLE CHECK VALVE
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16	TEE
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19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (ORI-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DS-4
43	DOUBLE CHECK VALVE DS-2



LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
▽	1/4	• 4
▽	3/8	• 6
▽	1/2	• 8
▽	5/8	• 10
▽	-	• 12
▽	3/4 COPPER	
▽	1/8	-

PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR

- NOTES:
- 1/. APPLICATION: 6X4 TRUCK
 - 2/. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - 3/. DOUBLE LINES DENOTE FLEXIBLE DROP LINES

728B1-3478

604 CAB

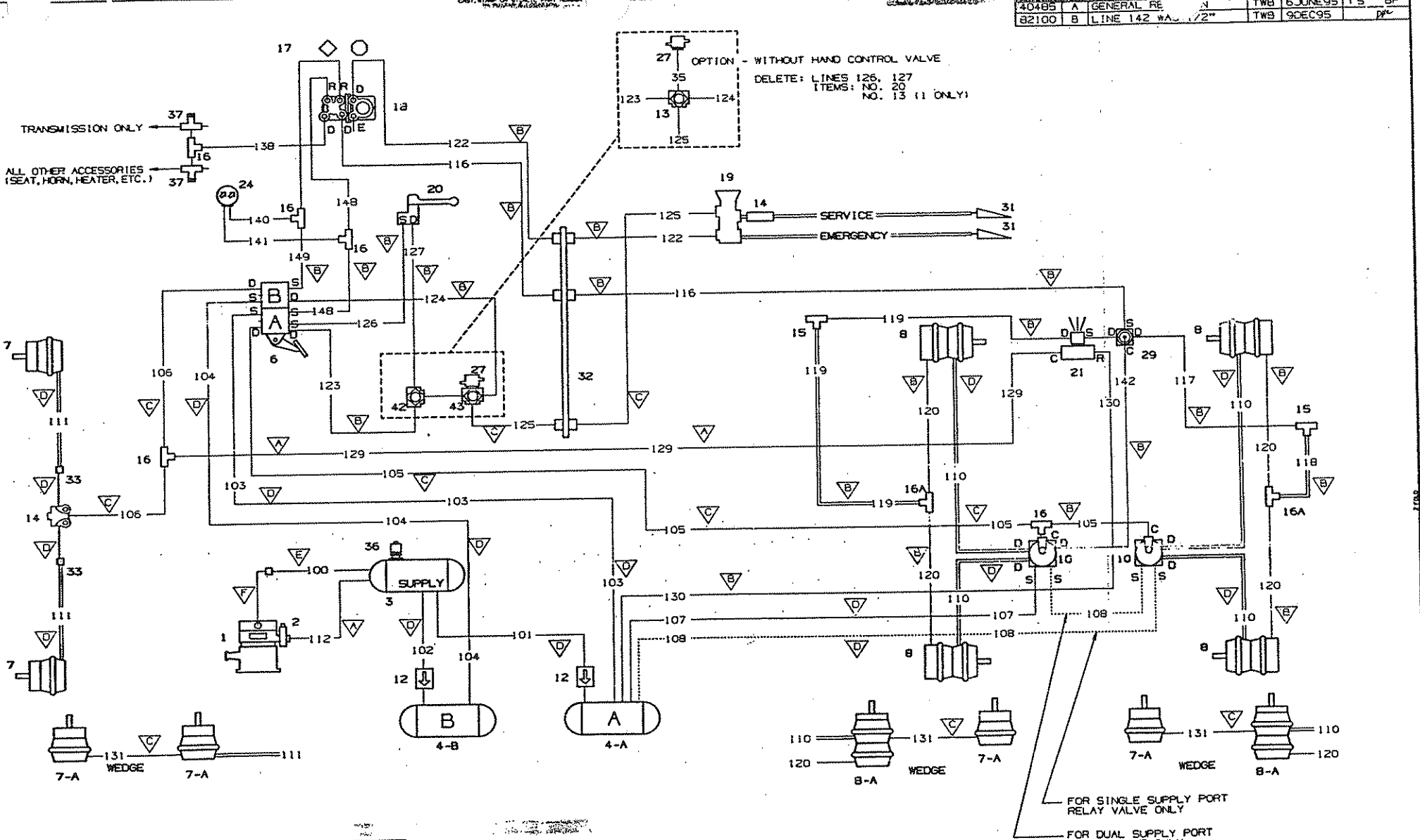
COMP. NO.	DESCRIPTION	SIZE	MATERIAL
728B1-3478	AIR LINE DIAG - BRAKING SYST		

WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS WELDON, B.C.			
TOLERANCES (UNLESS NOTED)	BY	DATE	
MACHINING ±.02 IN.	DWN	TWB	15NOV94
HOLE CNTRS ±.02 IN.	CKD	CS	20JUNE95
HOLE DIAM ±.02 IN.	APVCI		
LINEAR ±.03 IN.	ENO	T68828	
ANGULAR ±1/2°	SCALE	NTS	

ENO	CHG	CHI	BY	DATE	CKD	APVD
39527	A	TRANSMISS	E	MOVED	TWB	13DEC94
40485	B	LINE 129	LOC. CORRECTED	TWB	4APR95	
40485	C	GENERAL REVISION	TWB	7JUNE95	CS	RP
B2100	D	LINE 129	REMOVED FROM CAB MANIFOLD	TWB	9DEC95	DW

ORIGINAL CREATED ON MST1
 DT SCALE DRAWING IF IN COURT, AND REMOVE ALL SWAMP EGGS

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
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19	TRACTOR PROTECTION VALVE
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21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (ORI-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2



LINE SIZE LEGEND			PORT LEGEND	
SYMBOL	NYLON	HOSE	SYMBOL	DESC.
▽	1/4	• 4	S	SUPPLY
▽	3/8	• 6	D	DELIVERY
▽	1/2	• 8	C	CONTROL
▽	5/8	• 10	E	EXHAUST
▽	-	• 12	R	RESERVOIR
▽	3/4 COPPER			
▽	1/8			

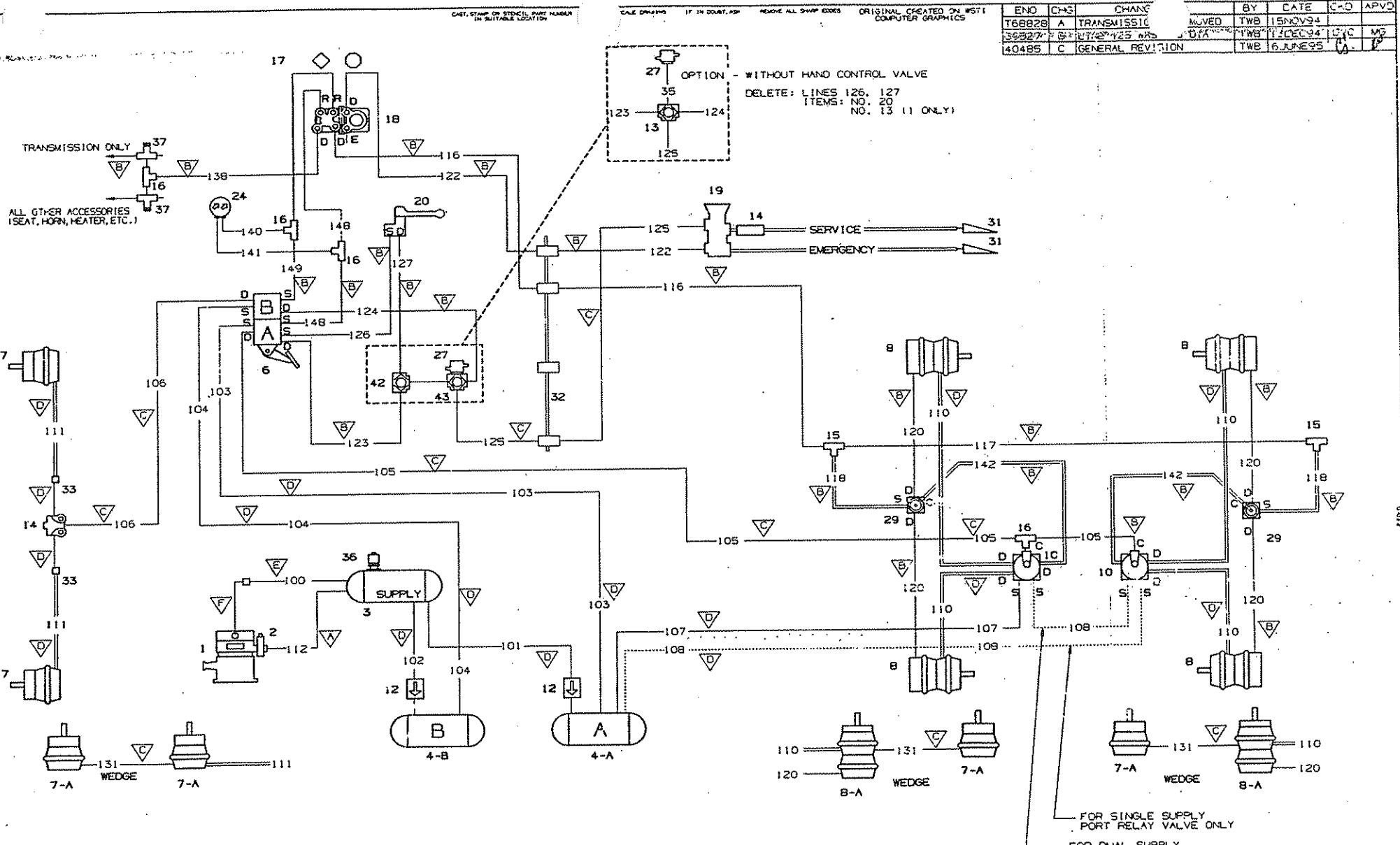
- NOTES:
- 1/. APPLICATION: 6X4 TRUCK/TRACTOR WITH TRACTOR PROTECTION & INV VALVE
 - 2/. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - 3/. DOUBLE LINES DENOTE FLEXIBLE DROP LINES

728B1-3481
PRINT ISSUE DATE FOR B

604 CAB

COMP. NO.	DESCRIPTION	SIZE	MATERIAL
728B1-3481	AIR LINE DIAG - BRAKING SYST		
WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KEDONIA, S.C.			
TOLERANCES (UNLESS NOTED)			
MACHINING	±.02 IN.	DWN	TWB 15DEC94
HOLE CNTRS	±.02 IN.	CKD	DVC 16DEC94
HOLE DIAM	±.02 IN.	APVD	MG 16DEC94
LINEAR	±.03 IN.	ENO	T69059
ANGULAR	±1/2°	SCALE	NTS
MATERIAL SPECIFICATION			MR NO. 2328

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
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20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QRC)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DC-2



LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
	1/4"	# 4
	3/8"	# 6
	1/2"	# 8
	5/8"	# 10
	-	# 12
	3/2" COPPER	
	1/8"	-

PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR

- NOTES:
- 1/. APPLICATION: 6X4 TRACTOR
 - 2/. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - 3/. DOUBLE LINES DENOTE FLEXIBLE DROP LINES

728B1-3470
PRINT THIS DATE FIRST

604 CAB

COMP. NO.	DESCRIPTION	SIZE	MATERIAL
WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELLOWA, B.C.			
TOLERANCES (UNLESS NOTED)		BY	DATE
MACHINING	±.02 IN.	DWN TWB	27 JUNE 94
HOLE CNTRS	±.02 IN.	CKD DVC	29 JUNE 94
HOLE DIAM	±.02 IN.	APV/JRR	29 JUNE 94
LINEAR	±.03 IN.	ENO	T695B1
ANGULAR	±1/2°	SCALE	NTS
AIR LINE DIAG - BRAKING SYST			MR NO. 2520
			728B1-3470

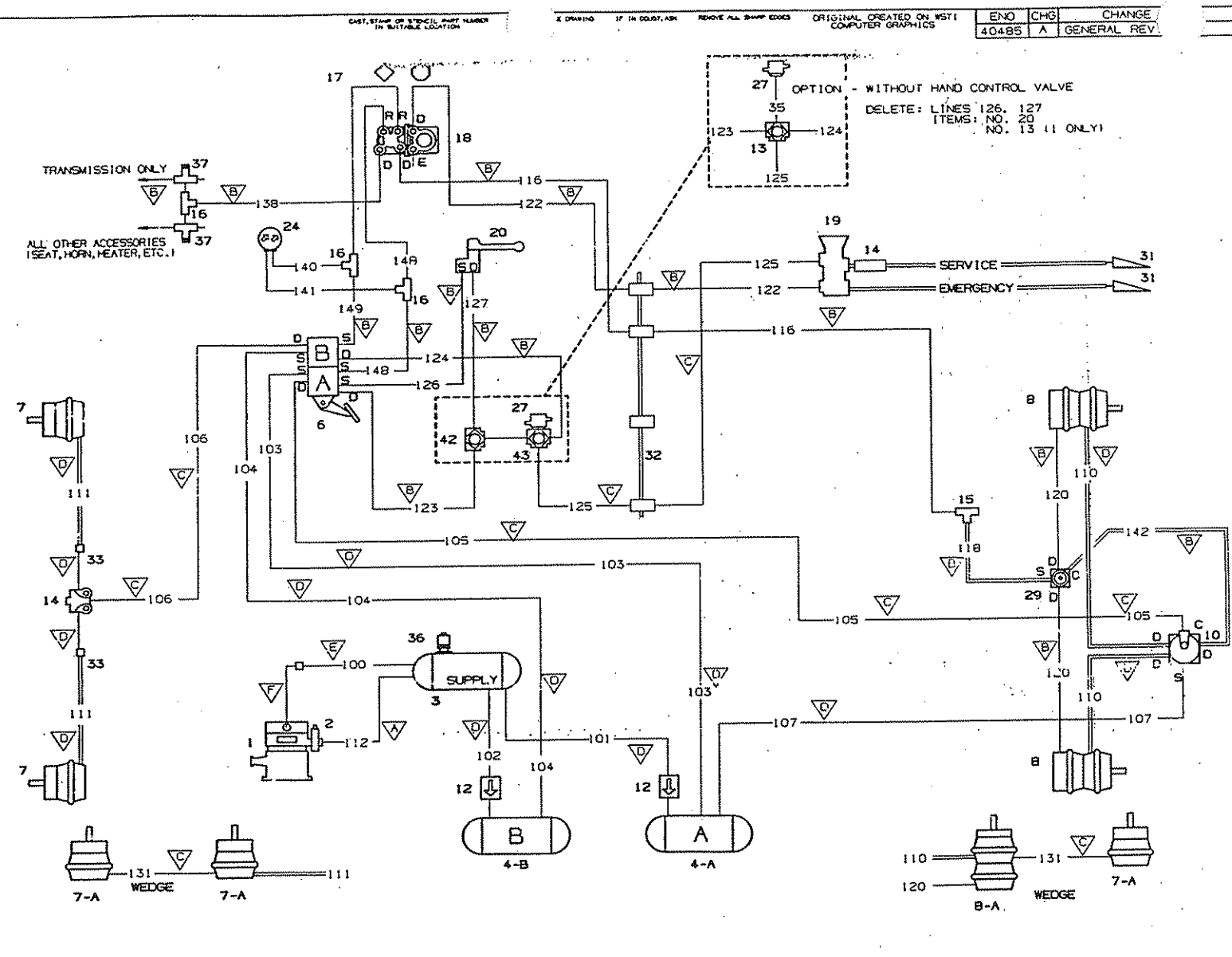
END	CHG	CHANGE	MOVED	BY	DATE	C-O	APVD
T6682B	A	TRANSMISSIC		TWB	15 NOV 94		
36527	B	11723 WBS		TWB	11 DEC 94	CKD	MS
40485	C	GENERAL REV:ION		TWB	6 JUNE 95		

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
B	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QRI-DC)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	
39	ADJUSTABLE PRESSURE REGULATOR
40	PRESET PRESSURE REGULATOR
41	BOBTAIL VALVE (BP-R11)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2

LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
	1/4	• 4
	3/8	• 6
	1/2	• 8
	5/8	• 10
	-	• 12
	-	-
	1	-

PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR

- NOTES:
- 1/. APPLICATION: 4X2 TRACTOR
 - 2/. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - 3/. DOUBLE LINES DENOTE FLEXIBLE DROP LINES



728B1-3491
PRINTED ON ONE SIDE

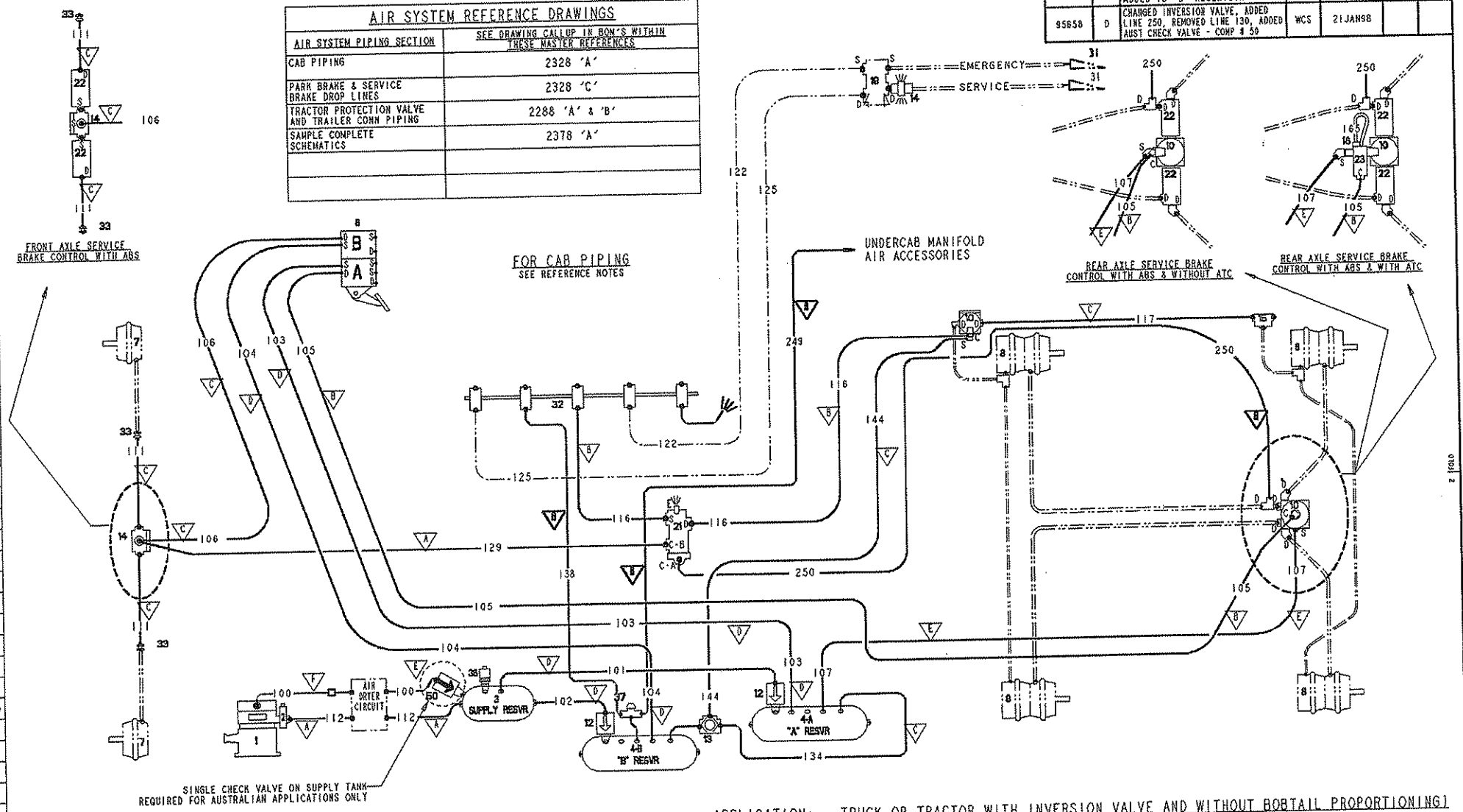
604 CAB

COMP. NO.	DESCRIPTION	SIZE	MATERIAL
728B1-3491	WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
TOLERANCES (UNLESS NOTED)			
MACHINING	±.02 IN.	DWN	TWB 3/8/95
HOLE CNTRS	±.02 IN.	CKD	1/1 5/20/20
HOLE DIAM	±.02 IN.	APVD	
ANGULAR	±1/2°	SCALE	NTS
AIR LINE DIAG - BRAKING SYST			MR NO. 2320
			728B1-3491

ECO	CHG	CHANGE	SYMBOL	SYMBOL	DATE	BY
84306	A	SYMBOL 21	SYMBOL 19	WCS	27MAR96	
87741-4	B	LINE B'S LN 129 R ADDED RE: LN 122 & LN 125 LN WT CHG'D	USED TO LHM 111. REVISED. NOTES APPLN	WCS	13JAN07	
92743	C	1TH -37(1), LINE 138, LINE 249 ADDED TO 'B' RESERVOIR		CAS	25JULY97	
95650	D	CHANGED INVERSION VALVE, ADDED LINE 250, REMOVED LINE 130, ADDED AUST CHECK VALVE - COMP # 59		WCS	21JAN98	

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PHV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QR1-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2
50	SUPPLY TANK SINGLE CHECK VALE

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOX'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'



LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
△	1/4	# 4
▽	3/8	# 6
◇	1/2	# 8
▽	5/8	# 10
▽	3/4	# 12
▽	3/4 COPPER	
▽	1/8	

PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR
A	ACCESSORY

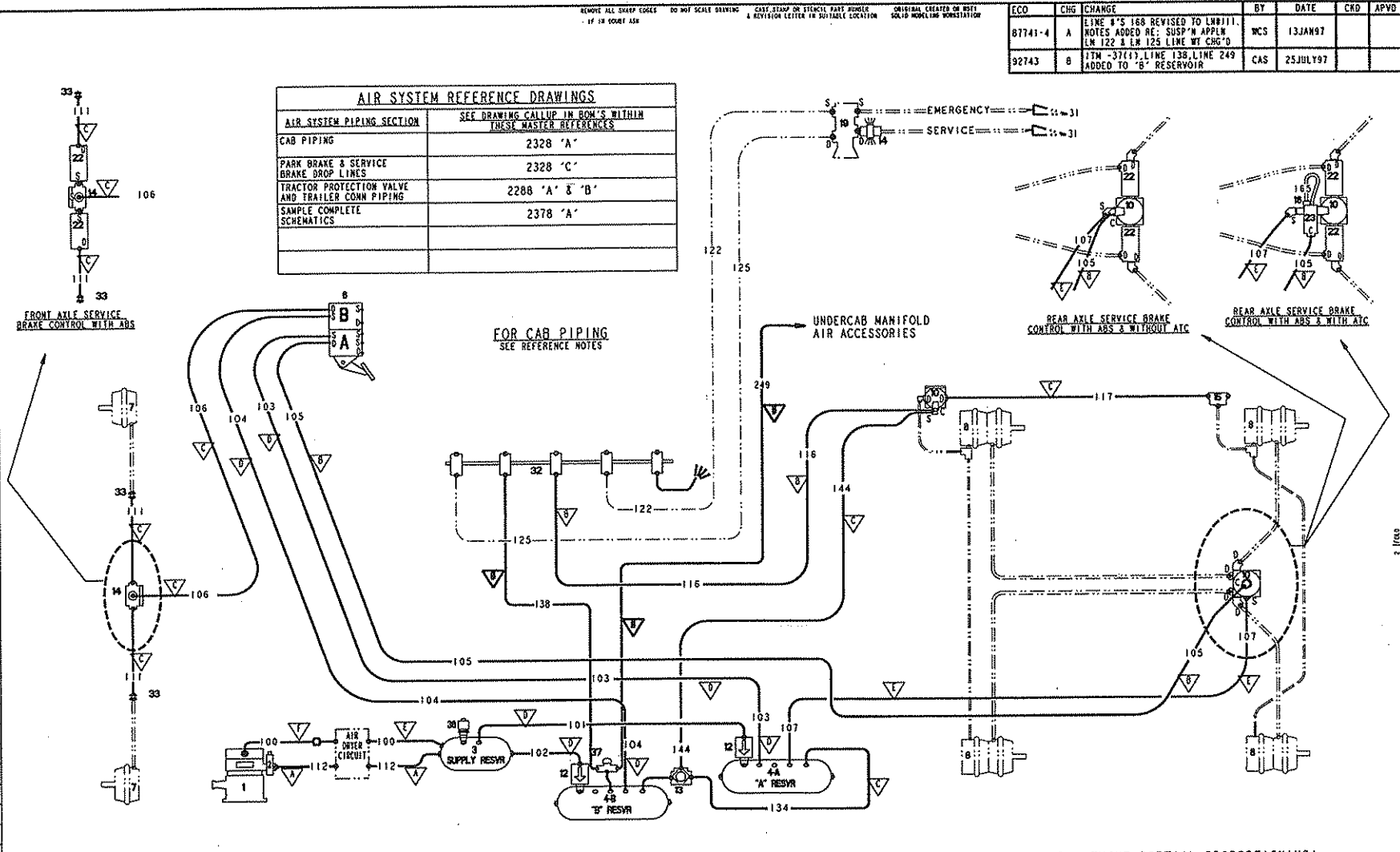
- NOTES:**
- 1/. PRIMARY SYSTEM AS SHOWN IS NON ABS SERVICE BRAKE CONTROL ONLY. OPTIONAL ABS PIPING IS SHOWN IN SECONDARY VIEWS. SYSTEM AS SHOWN IS INTENDED FOR USE WITH AIR & SPRING SUSPENSIONS; FOR WALKING BEAM SUSPENSION TYPES SEE 728B1-3528 & -3529
 - 2/. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - 3/. DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 - 4/. ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

APPLICATION: TRUCK OR TRACTOR WITH INVERSION VALVE AND WITHOUT BOBTAIL PROPORTIONING
 - WITH OR WITHOUT ABS (ANTI-LOCK BRAKE SYSTEM) OR ATC (AUTO TRACTION CONTROL)

728B1-3504
 PART 1 OF 1
 31 FOLD

REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
		WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
TOLERANCES UNLESS NOTED: BY DATE				
		MACHINING ± .02 INCH DWN WCS 20FEB96		
		HOLE CENTERS ± .02 INCH CRD		
		HOLE DIAMETERS ± .02 INCH APVD		
		LINEAR ± .06 INCH ECO 83316		
		ANGULAR ± 1/2° SCALE NONE		
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR THE CONTENTS DISCLOSED TO WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., KELOWNA, BC				
AIR SYSTEM PIPING CHASSIS PIPING SECTION 728B1-3504				SHT 1 OF 1

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PHV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QRI-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2



AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOM'S WITHIN THESE PARTIAL REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'

LINE SIZE LEGEND			PORT LEGEND	
SYMBOL	NYLON	HOSE	SYMBOL	DESC.
▽	1/4	# 4	S	SUPPLY
▽	3/8	# 6	D	DELIVERY
▽	1/2	# 8	C	CONTROL
▽	5/8	# 10	E	EXHAUST
▽	3/4	# 12	R	RESERVOIR
▽	3/4	COPPER	A	ACCESSORY
▽	1/8			

- NOTES:
- PRIMARY SYSTEM AS SHOWN IS NON ABS SERVICE BRAKE CONTROL ONLY. OPTIONAL ABS PIPING IS SHOWN IN SECONDARY VIEWS. SYSTEM AS SHOWN IS INTENDED FOR USE WITH AIR & SPRING SUSPENSIONS; FOR WALKING BEAM SUSPENSION TYPES SEE 72881-3526 & -3527
 - SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 - ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

ECO	CHG	CHANGE	BY	DATE	CRD	APVD
87741-4	A	LINE 8'S 168 REVISED TO LHM111. NOTES ADDED RE: SUSP'N APPLN LN 122 & LN 125 LINE WT CHG'D	WCS	13JAN97		
92743	B	ITM -37(1), LINE 138, LINE 249 ADDED TO "B" RESERVOIR	CAS	25JULY97		

APPLICATION: TRACTOR WITHOUT INVERSION VALVE AND WITHOUT BOBTAIL PROPORTIONING.
WITH OR WITHOUT ABS(ANTI-LOCK BRAKE SYSTEM) OR ATC(AUTO TRACTION CONTROL)

COMP. NO.	DESCRIPTION	SIZE	MATERIAL
1	WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELLOWNA, B.C.		
TOLERANCES UNLESS NOTED:			
MACHINING	± .02 INCH	DWN	WCS 20FEB96
HOLE CENTERS	± .02 INCH	CKD	
HOLE DIAMETERS	± .02 INCH	APVD	
LINEAR	± .06 INCH	ECO	83316
ANGULAR	± 1/2°	SCALE	NONE
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR IN ANY MANNER DISCLOSED IN PUBLIC OR BY ANY MEANS WITHOUT THE WRITTEN CONSENT OF WESTERN STAR TRUCKS INC.			
AIR SYSTEM PIPING CHASSIS PIPING SECTION			MR NO. 2320 'B'
			72881-3505

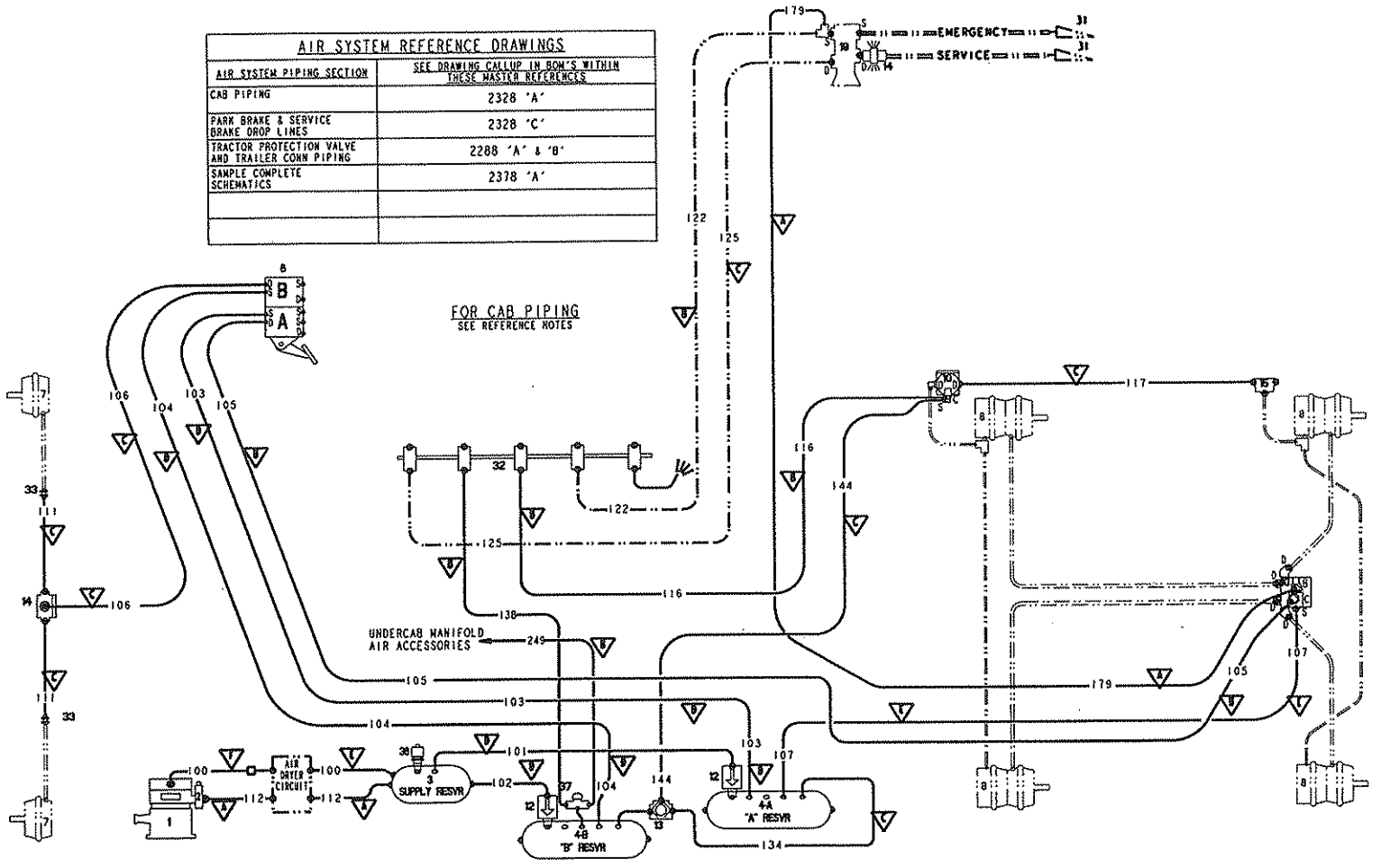
72881-3505
PRINTED DATE: 11/97
604 CAB
3/2000

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PHV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QR-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2

LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
	1/4	ø 4
	3/8	ø 6
	1/2	ø 8
	5/8	ø 10
	3/4	ø 12
	3/4 COPPER	
	1/8	

PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR
A	ACCESSORY
B	BOBTAIL CONTROL

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOM'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'



APPLICATION: TRACTOR WITH BOBTAIL PROPORTIONING AND WITHOUT INVERSION VALVE

- NOTES:**
- PRIMARY SYSTEM AS SHOWN IS NON ABS SERVICE BRAKE CONTROL ONLY.
 - SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 - ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

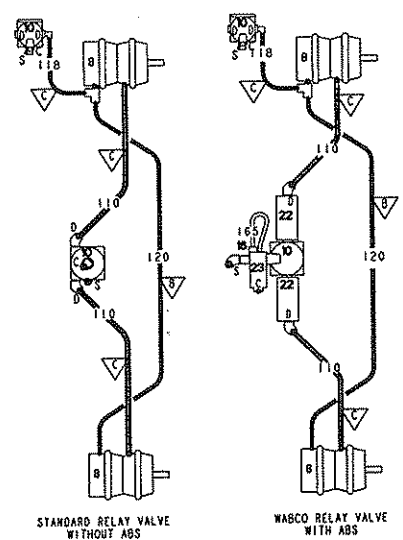
728B1-3506
 PART RESOR DATE
 604 CAB
 1 FOLD

REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
1		WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS WELDONA, B.C.		
TOLERANCES UNLESS NOTED:				
MACHINING		± .02 INCH	DWN	WCS 20FEB88
HOLE CENTERS		± .02 INCH	CKD	
HOLE DIAMETERS		± .02 INCH	APVD	
LINEAR		± .06 INCH	ECO	83376
ANGULAR		± 1/2 °	SCALE	NONE
<small>THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IS NOT TO BE USED FOR ANY OTHER PURPOSES WITHOUT THE WRITTEN PERMISSION OF WESTERN STAR TRUCKS INC., WELDONA, BC</small>				
AIR SYSTEM PIPING CHASSIS PIPING SECTION				HR NO. 2328 'B'
				728B1-3506

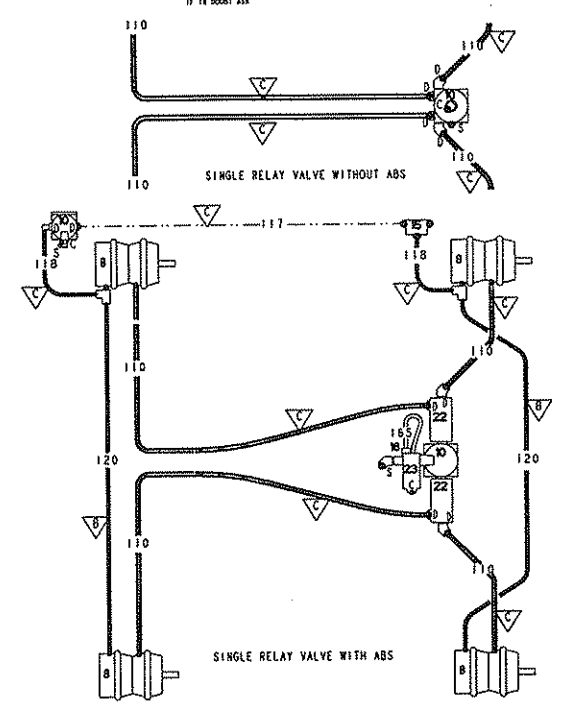
ECO	CNG	CHANGE	BY	DATE	CKD	APVD
92743	A	17M - 37(1), LINE 130, LINE 249 ADDED TO 'B' RESERVOIR	CAS	25JULY97		

REMOVE ALL SHARP EDGES DO NOT SCALE DRAWING
 CASEY STAMP ON STEEL PART NUMBER & REVISION LETTER IN SUITABLE LOCATION
 ORIGINAL CREATOR OR REVISION TO ADDITIONAL WORKSTATION

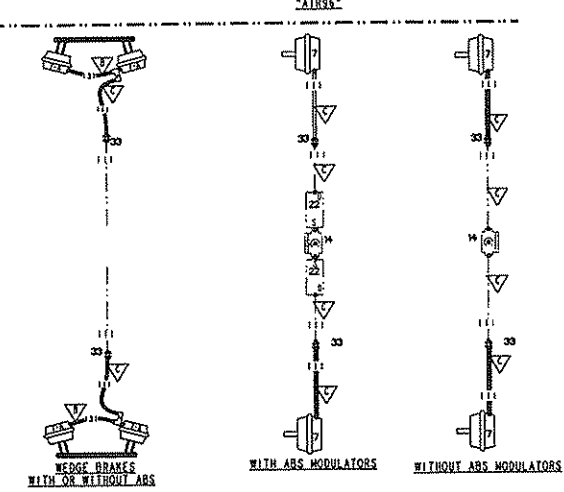
NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QRT-C)
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31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOSTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2



TYPICAL SERVICE & PARK BRAKE DROP LINE INSTALLATION FOR SINGLE REAR AXLE "AIR96"



TYPICAL SERVICE & PARK BRAKE DROP LINE INSTALLATION FOR TANDUM REAR AXLES (NON SISA ON AIR SUSPENSION (MFGD HAS OR NEWAY AD OR AD)) "AIR96"



TYPICAL FRONT AXLE SERVICE BRAKE DROP LINE INSTALLATION - FOR TANDUM FRONT AXLE ON TRUCKS WITH AUTO TRANS VALVING & PLUMBING THE COMPONENTS INSIDE THE RAIL MAY VARY. THE DROP LINES FROM THE FRAME BULKHEAD OUTWARD WILL REMAIN SAME AS SHOWN

LINE SIZE LEGEND			PORT LEGEND	
SYMBOL	NYLON	HOSE	SYMBOL	DESC.
	1/4	# 4	S	SUPPLY
	3/8	# 6	D	DELIVERY
	1/2	# 8	C	CONTROL
	5/8	# 10	E	EXHAUST
	3/4	# 12	R	RESERVOIR
	3/4 COPPER		A	ACCESSORY
	1/8			

ECO	CHG	CHANGE	BY	DATE	CRD	APVD
87170	A	SHEET 2 ADDED; NOTES RE: ADD 'L' INFO ON OTHER SHEETS ADDED; INSTL 'MS FOR 4-SPRING AND CHALMERS ADDED; NOTE REV'D ON MAIN BR INSTL'M TO RESTRICT FOR AIR SUSPNS ONLY	WCS	20AUG96		FWS
87741	B	REVISED DROP LINES INSTL'M FOR CHALMERS WALKING BEAM & ADDED HENDRICKSON RS/RT TO VIEW ON SHT 2	WCS	26SEP96		FWS
87741-2	C	ABS SINGLE REAR AXLE ADDED, SHT 1: HERITAGE CAB NON "AIR96" AXLE ADDED SHT 2; NOTE RE: "AIR96" ADDED; ALL SINGL NON DROP LINES CO'D TO PHANTOM; NOTE RE: TANDUM FRONT AXLE ADDED; FRONT AXLE WEDGE BRAKES ADDED	WCS	24DEC96		FWS
90592	D	ADDED SHEET 3. CHANGED PIPING OF SPRING BRAKE. ADDED TEE TO AXLE BOMBS FOR HD SERVICE. LINE 149, 151 CHANGE FROM 1/2 TO 3/8 HOSE. LINE 131 CHANGE FROM 1/2 TO 3/8 HOSE	HJA	01APR97		
93701	E	ADDED SHEET 4. ADDED SOLUTIONS FOR SISO AXLES WITH REAR AD SUSPENSION. REORGANIZED SHEET 1 TO ALLOW ROOM FOR CHANGES BLOCK. VARIOUS COSMETIC CORR'S DONE	WCS	17SEP97		

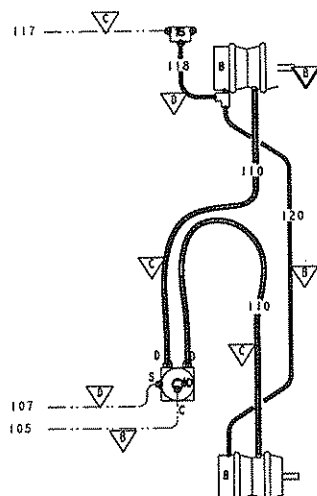
FOR MORE REAR SUSPENSION INSTALLATIONS SEE SHEET 2, 3 OR 4

COMP. NO.	DESCRIPTION	SIZE	MATERIAL
1	WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
TOLERANCES UNLESS NOTED:			
MACHINING	± 0.2 INCH	DWN	WCS 21FEB96
HOLE CENTERS	± 0.2 INCH	CRD	
HOLE DIAMETERS	± 0.2 INCH	APVD	FWS 21FEB96
LINEAR	± 0.6 INCH	ECO	83316
ANGULAR	± 1/2 °	SCALE	NONE
AIR SYSTEM PIPING			
TYPICAL DROP LINE INSTL 'MS 728B1-3507			

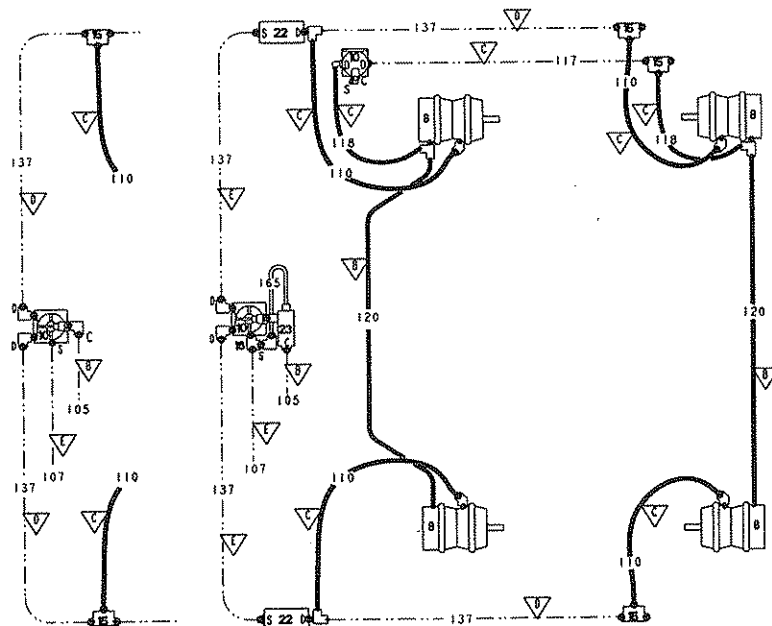
728B1-3507
PRINTED DATE: 1/97

REMOVE ALL SHARP EDGES DO NOT SCALE DRAWING COPY, STAMP OR STENCIL PART NUMBER ORIGINAL CREATED ON 08/11/11 SOLID MODELING MODIFICATION
 IF IN DOUBT USE A REVISION KLIPPER IN SUITABLE LOCATION

ECO CHG CHANGE BY DATE CKD APVD



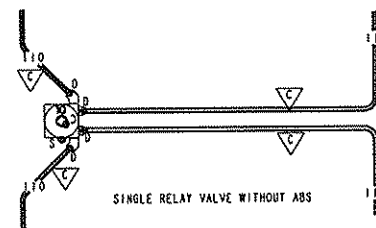
TYPICAL SERVICE & PARK BRAKE DROP LINE INSTALLATION FOR ALL REAR AXLES ON NON-AIR96 CONSTELLATION CAR OR HERITAGE CAR AIR SYSTEM INSTALLATIONS - NOT SUSPENSION DEPENDANT



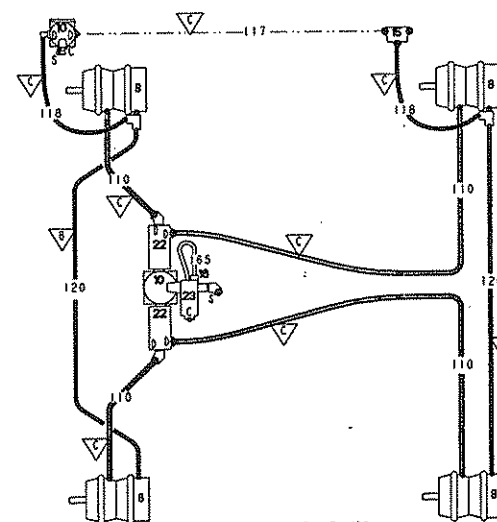
SINGLE RELAY VALVE WITHOUT ABS SINGLE RELAY VALVE WITH ABS

TYPICAL SERVICE & PARK BRAKE DROP LINE INSTALLATION FOR TANDEM REAR AXLE ON ALL CHALMERS, HICHOLSON BT/RS/R & HAYDON AIR LINE WALKING BEAM SUSPENSIONS

"AIR96"



SINGLE RELAY VALVE WITHOUT ABS



SINGLE RELAY VALVE WITH ABS

TYPICAL SERVICE & PARK BRAKE DROP LINE INSTALLATION FOR TANDEM REAR AXLES ON 4-SPRING SUSPENSION (HFS OR RCYCO) "AIR96"

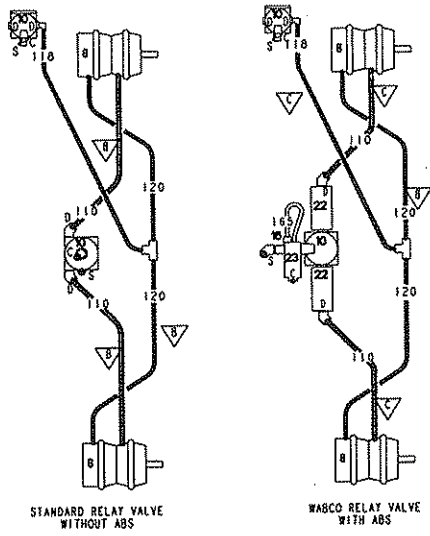
FOR OTHER DROP LINE INSTALLATIONS SEE SHEET 1, 3 OR 4

NOTES:

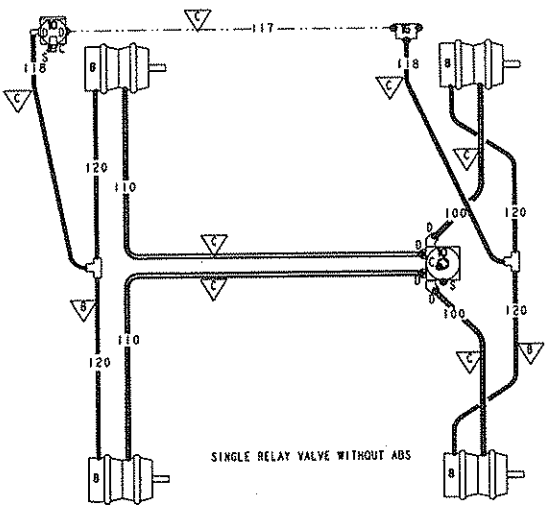
17. APPLICATION: ALL TRUCKS, TRACTORS OR TRUCK TRACTORS WITH ALL TYPES OF RELAY VALVES OR OTHER SERVICE BRAKE ACTUATOR.
27. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER) (SHOWN IN PHANTOM)
37. DOUBLE LINES DENOTE FLEXIBLE DROP LINES
47. "AIR96" IS THE NAME OF THE PROGRAM WHICH CONVERTED TANDEM REAR AXLE GROUPS FROM DUAL SERVICE BRAKE RELAY VALVES TO SINGLE SERVICE BRAKE RELAY VALVES

72881-3507
 PRINTED ON DATE 10/28/1997

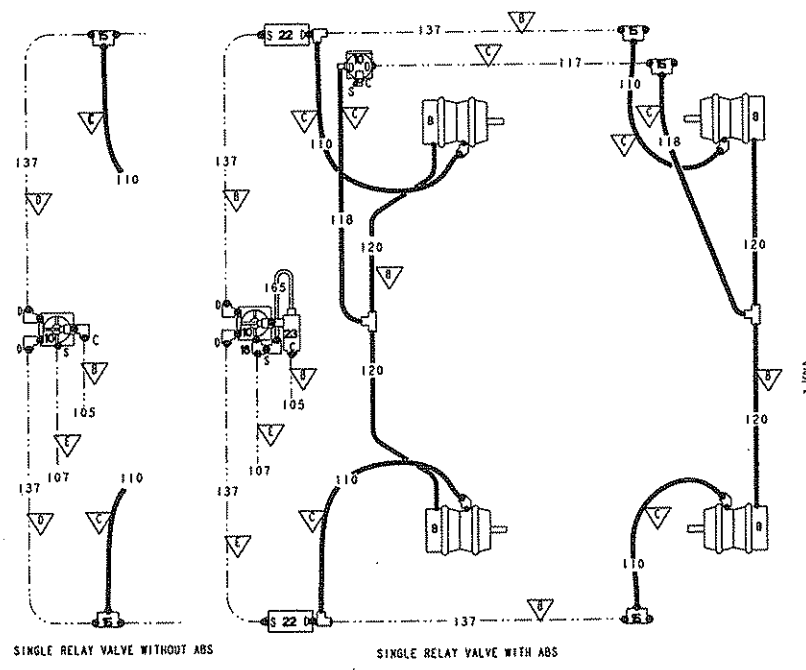
WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.			
TOLERANCES UNLESS NOTED:		BY DATE	
MACHINING	± INCH	DWN	WCS 21FEB96
HOLE CENTERS	± INCH	CKD	
HOLE DIAMETERS	± INCH	APVD	FWS 21FEB96
LINEAR	± INCH	ECO	
ANGULAR	±	SCALE	NONE
<small>THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IS TO BE KEPT CONFIDENTIAL. IT IS THE PROPERTY OF WESTERN STAR TRUCKS INC. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.</small>			
AIR SYSTEM PIPING TYPICAL DROP LINE INSTL 'MS			72881-3507
			2 OF 2



TYPICAL SERVICE & PARK BRAKE DROP LINE INSTALLATION FOR SINGLE REAR AXLE PROP LINE FOR OFF HIGHWAY ONLY "AIR96"



TYPICAL SERVICE & PARK BRAKE DROP LINE INSTALLATION FOR TANDEN REAR AXLES PROP LINE ON AIR SUSPENSION (HEND, HAS, OR HEWAY AB OR AD) FOR OFF HIGHWAY APPLICATIONS ONLY "AIR96"



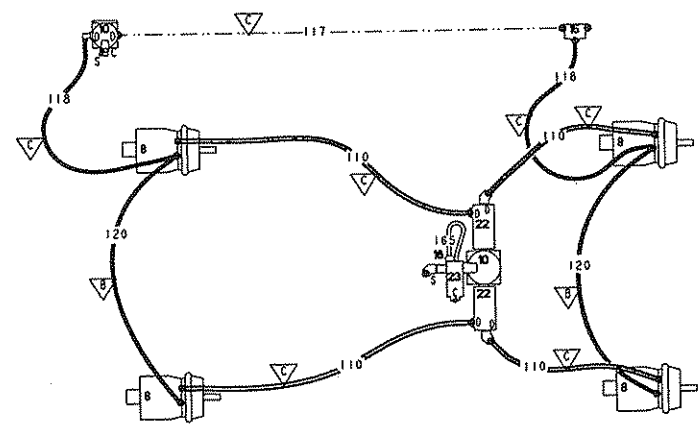
TYPICAL SERVICE & PARK BRAKE DROP LINE INSTALLATION FOR TANDEN REAR AXLES PROP LINE ON ALL CHALMERS, HENDRICKSON RT/RS/R & RAYDAN AIR LINE WALKING BEAM SUSPENSIONS, FOR OFF HIGHWAY "AIR96"

FOR OTHER DROP LINE INSTALLATIONS SEE SHEET 1, 2 OR 4

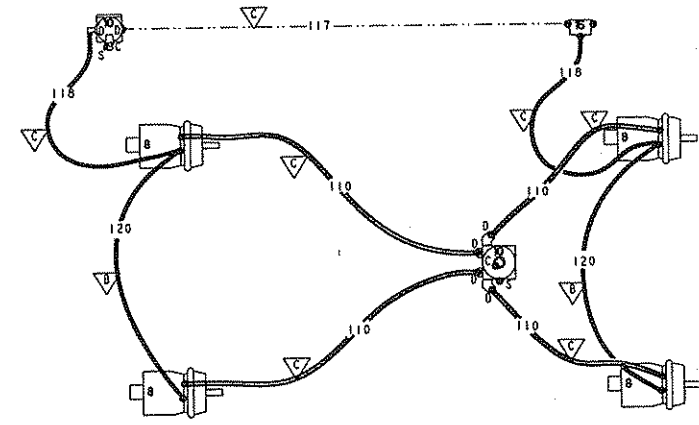
- NOTES:
17. APPLICATION: ALL TRUCKS, TRACTORS OR TRUCK TRACTORS WITH ALL TYPES OF RELAY VALVES OR OTHER SERVICE BRAKE ACTUATOR.
 27. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER) (SHOWN IN PHANTOM)
 37. DOUBLE LINES DENOTE FLEXIBLE DROP LINES.
 47. "AIR96" IS THE NAME OF THE PROGRAM WHICH CONVERTED TANDEN REAR AXLE GROUPS FROM DUAL SERVICE BRAKE RELAY VALVES TO SINGLE SERVICE BRAKE RELAY VALVES

72881-3507 PART ISSUE DATE

COMP. NO.	DESCRIPTION	SIZE	MATERIAL
WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.			
TOLERANCES UNLESS NOTED:		BY DATE	
MACHINING	± .02 INCH	DWN	MCS 21FEB96
HOLE CENTERS	± .02 INCH	CKD	
HOLE DIAMETERS	± .02 INCH	APVD	EFWS 21FEB96
LINEAR	± .06 INCH	ECO	83316
ANGULAR	± 1/2 °	SCALE	NONE
NOTE: DOCUMENT IS COMPUTER GENERATED INFORMATION AND IT SHALL NOT BE USED FOR DIMENSIONING UNLESS SPECIFICALLY NOTED TO DO SO IN THE DRAWING. THIS DRAWING IS THE PROPERTY OF WESTERN STAR TRUCKS INC. KELOWNA, BC.			
ABS SYSTEM PIPING			NR NO. 2320 °C
TYPICAL PROP LINE INSTL'NS			72881-3507



SINGLE RELAY VALVE WITH ABS



SINGLE RELAY VALVE WITHOUT ABS

TYPICAL SERVICE & PARK BRAKE DROP LINE INSTALLATION FOR TANDEM REAR SHU AXLES ON HEWAT AD AIR SUSPENSION "AIR96"

FOR OTHER DROP LINE INSTALLATIONS SEE SHEET 1, 2 OR 3

- NOTES:
17. APPLICATION: ALL TRUCKS, TRACTORS OR TRUCK TRACTORS WITH ALL TYPES OF RELAY VALVES OR OTHER SERVICE BRAKE ACTUATOR.
 27. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER) (SHOWN IN PHANTOM)
 37. DOUBLE LINES DENOTE FLEXIBLE DROP LINES.
 47. "AIR96" IS THE NAME OF THE PROGRAM WHICH CONVERTED TANDEM REAR AXLE GROUPS FROM DUAL SERVICE BRAKE RELAY VALVES TO SINGLE SERVICE BRAKE RELAY VALVES

728B1-3507
PART ISSUE DATE
CNG
E

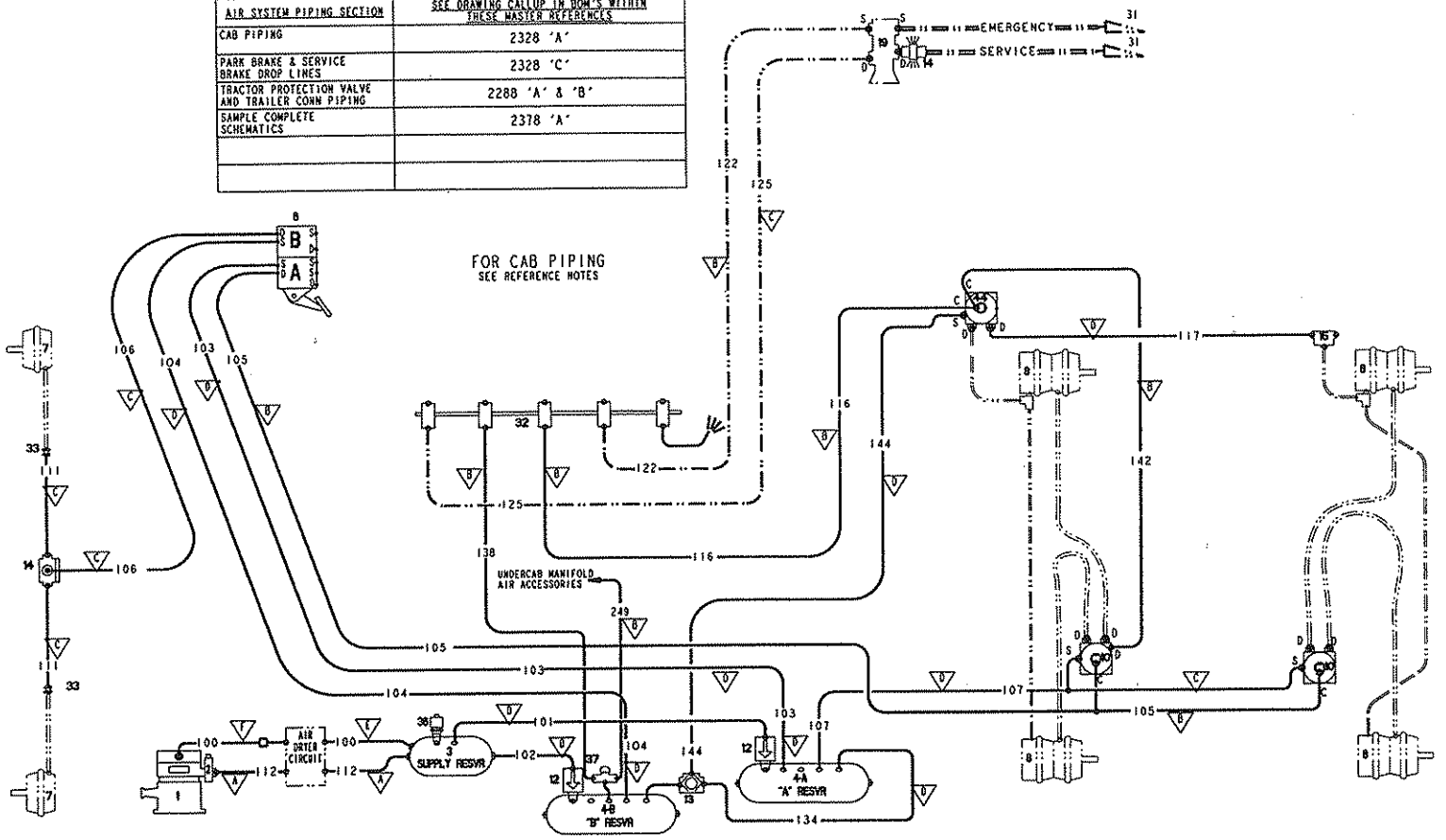
COMP. NO.	DESCRIPTION	SIZE	MATERIAL
WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELLOWNA, B.C.			
TOLERANCES UNLESS NOTED:		BY DATE	
MACHINING	DWN	WCS	23FEB96
HOLE CENTERS	CKD		
HOLE DIAMETERS	APVD	EFWS	23FEB96
LINEAR	ECO		83316
ANGULAR	SCALE	NONE	
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AIR SYSTEM PIPING			HR. NO. 2320 "C"
TYPICAL DROPLINE INSTALLATIONS			728B1-3507 SH 4 OF 4

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PHV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QR-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2
44	ANTI-COMPOUNDING RELAY (R-14)

REMOVE ALL SHARP EDGES IF IN DOUBT ASK
 DO NOT SCALE DRAWING
 CALL STAMP OR STENCIL PART NUMBER & REVISION LETTER IN CORRECT LOCATION
 ORIGINAL CREATED ON THIS DATE
 SOLID MODELING REPRESENTATION

ECO	CHG	CHANGE	BY	DATE	CHK	APVD
87376	A	CORRECTED PIPING AT R-14 VALVE PLUS LINE CODE TAGS	WCS	04OCT86		
92743	B	TRM-37(1), LINE 138, LINE 249 ADDED TO "B" RESERVOIR	CAS	28JULY97		

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOM'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'



FOR CAB PIPING
 SEE REFERENCE NOTES

APPLICATION: TRACTOR WITHOUT INVERSION VALVE OR BORTAL PROPORTIONING & WITH DUAL RELAY (NON AIR96) WITH HI-VOL BRAKE RELEASE
 WITHOUT ABS ONLY

LINE SIZE LEGEND			PORT LEGEND	
SYMBOL	NYLON	HOSE	SYMBOL	DESC.
	1/4	ø 4	S	SUPPLY
	3/8	ø 6	D	DELIVERY
	1/2	ø 8	C	CONTROL
	5/8	ø 10	E	EXHAUST
	3/4	ø 12	R	RESERVOIR
	1/8		A	ACCESSORY

- NOTES:
- PRIMARY SYSTEM AS SHOWN IS NON ABS SERVICE BRAKE CONTROL ONLY.
 - SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 - ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

728B1-3521
 PRINT ISSUE DATE
 604 CAB
 1/2000

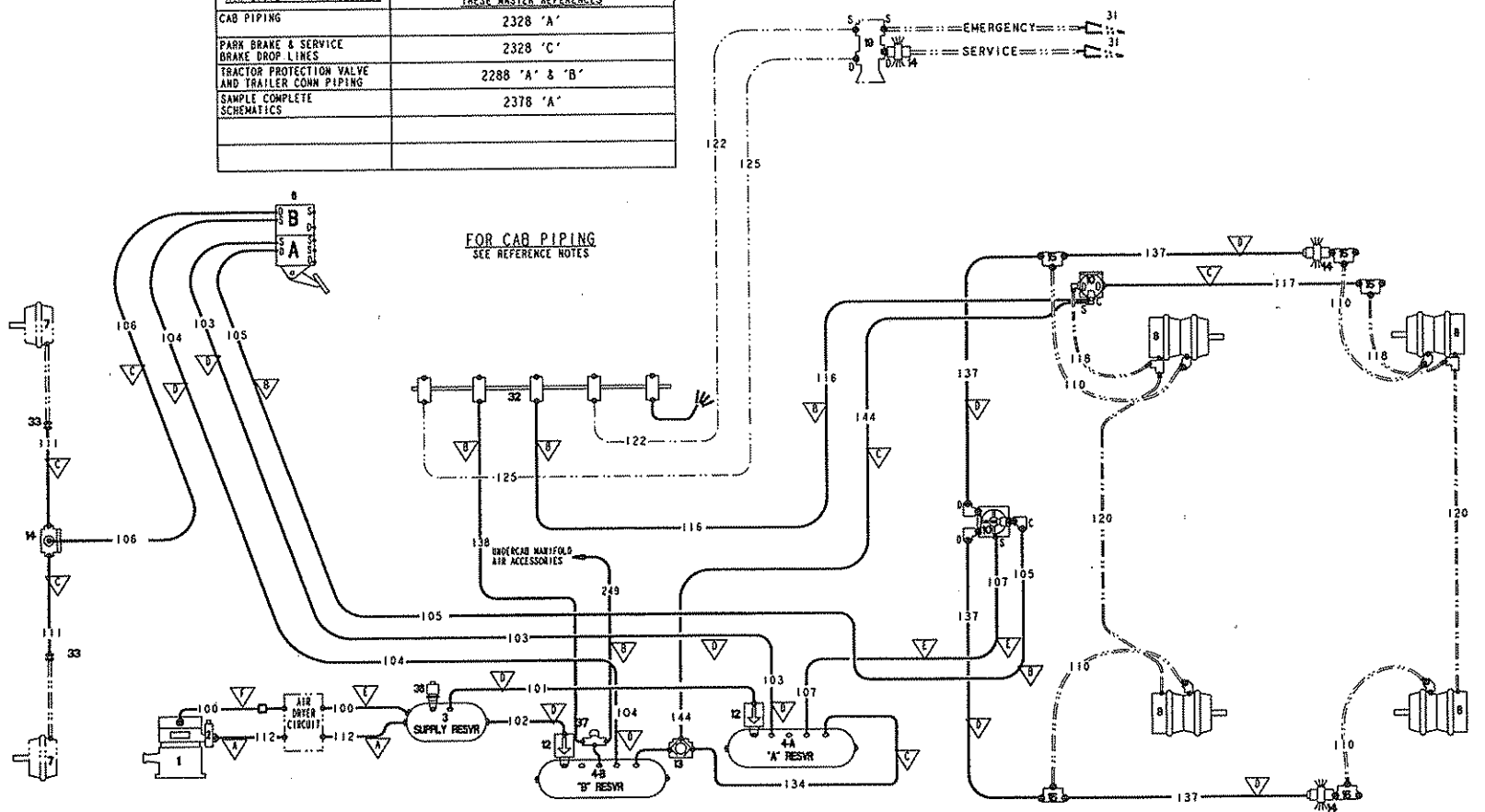
REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
1	1	WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
TOLERANCES UNLESS NOTED:		BY	DATE	
MACHINING	± .02 INCH	DWH	WCS	08AUG96
HOLE CENTERS	± .02 INCH	CKD		
HOLE DIAMETERS	± .02 INCH	APVD		
LINEAR	± .05 INCH	CCO		87112
ANGULAR	± 1/2°	SCALE		NONE
AIR SYSTEM PIPING CHASSIS PIPING SECTION		MR. NO. 2320 'B'		
		728B1-3521		

REMOVE ALL SHARP EDGES DO NOT SCALE DRAWING CHECK STAMP OR STENCIL PART NUMBER ORIGINAL CREATED ON SETTING & REVISION LISTED IN SUITABLE LOCATION 17 IS ROBOT ASSE

ECO	CHG	CHANGE	BY	DATE	CRD	APVD
91327	A	QUICK RELEASE VALVES ADDED AT REAR DROP LINE TEE	WCS	01MAY97		
92743	B	1 1/4" - 3/16" LINE 138 LINE 249 ADDED TO "B" RESERVOIR	CAS	28JULY97		

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (ORI-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOM'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER COUPLER PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'



APPLICATION: TRACTOR WITHOUT INVERSION VALVE AND WITHOUT BOBTAIL PROPORTIONING WITHOUT ABS (ANTI-LOCK BRAKE SYSTEM)

LINE SIZE LEGEND			PORT LEGEND	
SYMBOL	NYLON	HOSE	SYMBOL	DESC.
▽	1/4	8 4	S	SUPPLY
▽	3/8	8 6	D	DELIVERY
▽	1/2	8 8	C	CONTROL
▽	5/8	8 10	E	EXHAUST
▽	3/4	8 12	R	RESERVOIR
▽	3/4 COPPER		A	ACCESSORY
▽	1/8			

- NOTES:
1. PRIMARY SYSTEM AS SHOWN IS INTENDED FOR USE ON WALKING BEAM TYPE SUSPENSIONS ONLY. SEE 728B1-3505 FOR AIR SUSPENSION & 4-SPRING SUSPENSION APPLICATIONS. SEE ALSO 728B1-3527 FOR WALKING BEAM TYPE SUSPENSION W/ABS.
 2. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER).
 3. DOUBLE LINES DENOTE FLEXIBLE DROP LINES.
 4. ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS. SEE AIR SYSTEM REFERENCE DRAWING TABLES.

FOR CONSTELLATION CAB ONLY

728B1-3526
PART 1
PUMP/RESERVOIR
B

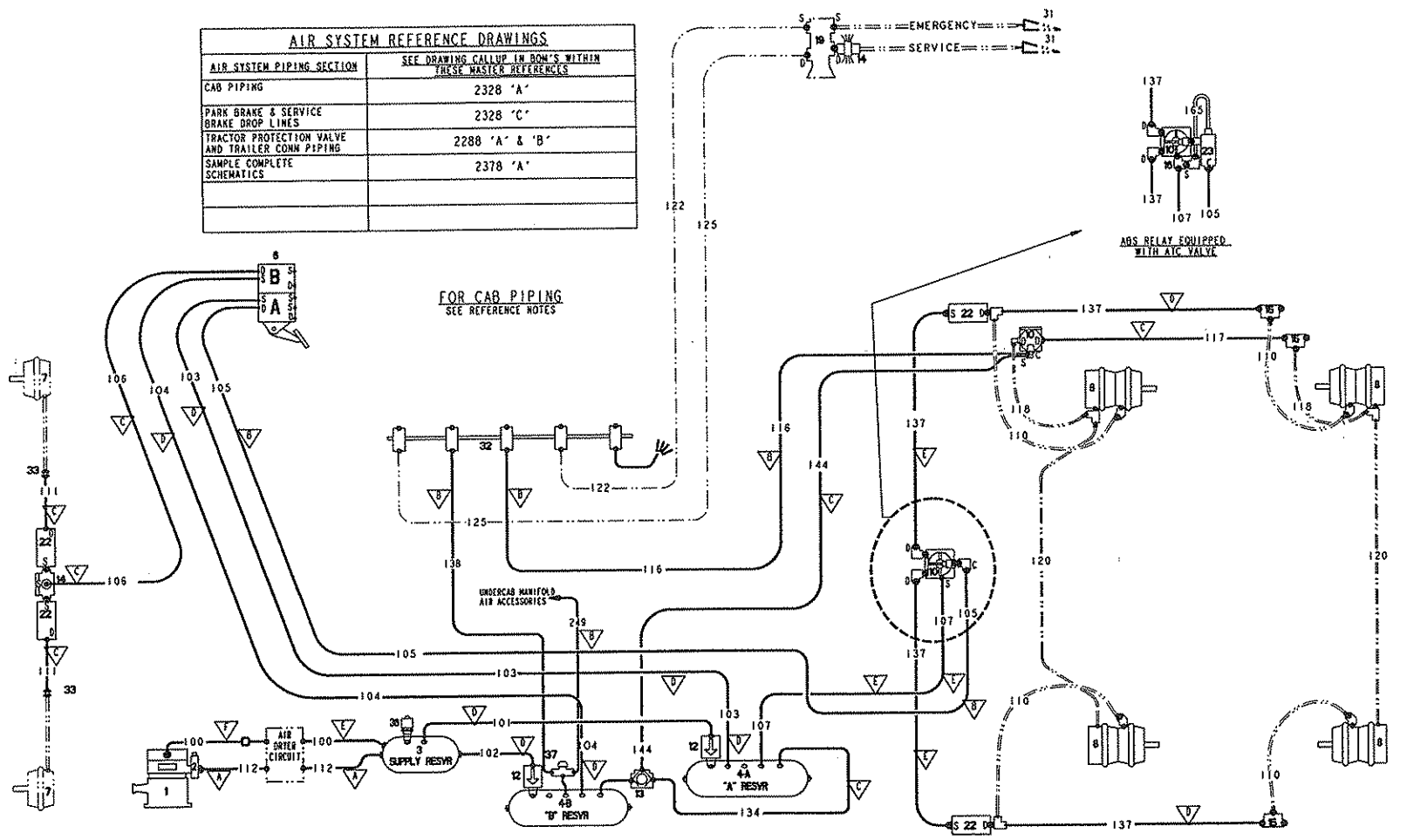
COMP. NO.	DESCRIPTION	SIZE	MATERIAL
1	WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
TOLERANCES UNLESS NOTED:			
MACHINING	±	DWN	WCS 13JAN97
HOLE CENTERS	±	CKD	
HOLE DIAMETERS	±	APVD	
LINWEAR	±	ECO	87741-4
ANGULAR	±	SCALE	NONE
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AIR SYSTEM PIPING CHASSIS PIPING SECTION			MR NO. 2328 "B"
			728B1-3526 SKY 1 of 1

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QR-C)
30	LOW PRESSURE SWITCH
31	GLAO HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2

LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
	1/4	# 4
	3/8	# 6
	1/2	# 8
	5/8	# 10
	3/4	# 12
	3/4 COPPER	
	1/8	

PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR
A	ACCESSORY

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN ROW'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'



APPLICATION: TRACTOR WITHOUT INVERSION VALVE AND WITHOUT BOBTAIL PROPORTIONING!
 WITH ABS(ANTI-LOCK BRAKE SYSTEM)
 & WITH OR WITHOUT ATC(AUTO TRACTION CONTROL)

- NOTES:
- PRIMARY SYSTEM AS SHOWN IS INTENDED FOR USE ON WALKING BEAM TYPE SUSPENSIONS ONLY. SEE 728B1-3505 FOR AIR SUSPENSION & 4-SPRING SUSPENSION APPLICATIONS. SEE ALSO 728B1-3526 FOR WALKING BEAM TYPE SUSPENSION W/O ABS.
 - SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER).
 - DOUBLE LINES DENOTE FLEXIBLE DROP LINES.
 - ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS. SEE AIR SYSTEM REFERENCE DRAWING TABLES.

FOR CONSTELLATION CAB ONLY

728B1-3527
 PART NUMBER
 A

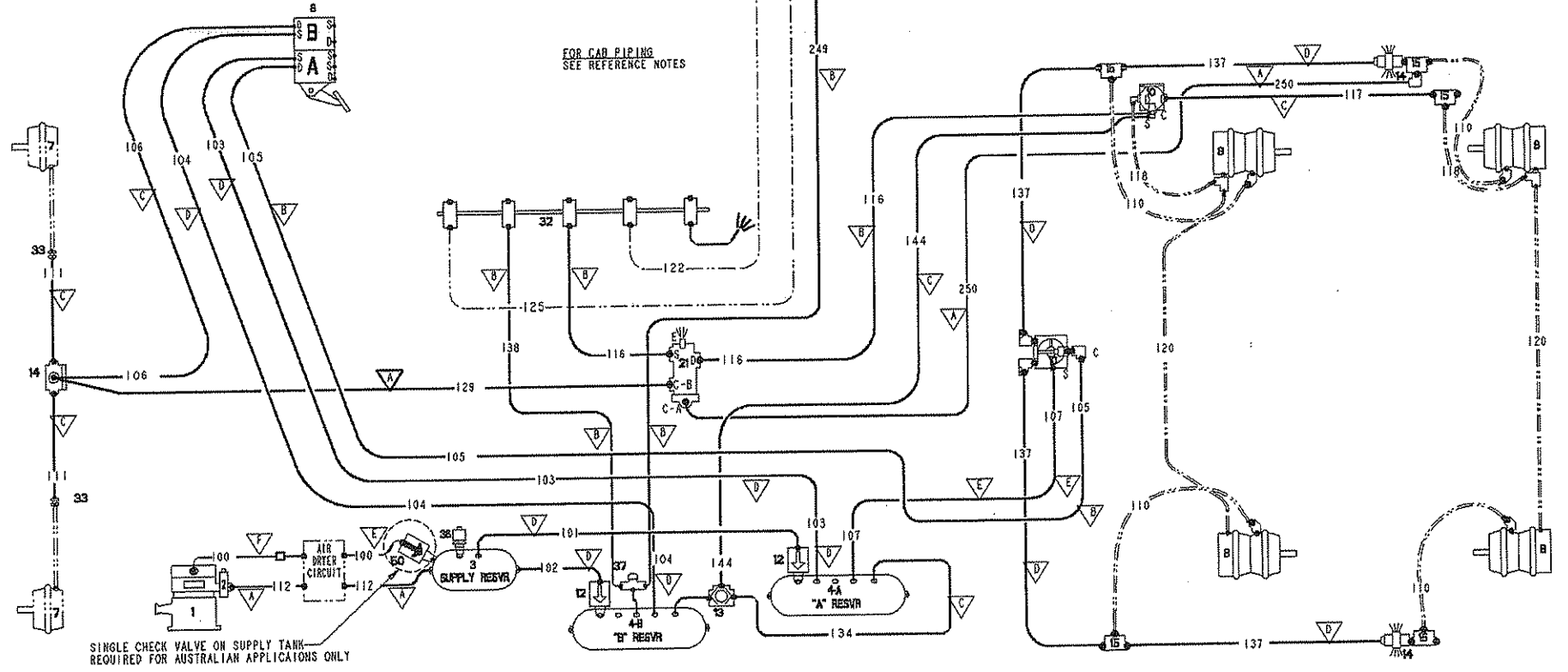
COMP. NO.	DESCRIPTION	SIZE	MATERIAL
1	WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
TOLERANCES UNLESS NOTED:			
MACHINING	±	OWN	WCS 13JAN97
HOLE CENTERS	±	CKD	
HOLE DIAMETERS	±	APVD	
LINEAR	±	ECCO	87741-4
ANGULAR	±	SCALE	NONE
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AIR SYSTEM PIPING CHASSIS PIPING SECTION			MR NO. 2328 "B" SHT 1 OF 1

ECO	ENG	CHANGE	BY	DATE	CRD	APVD
92743	A	17N-37(1), LINE 138, LINE 249 ADDED TO "B" RESERVOIR	CAS	28JUL97		

REMOVE ALL SHARP EDGES DO NOT SCALE DRAWING CALL STAMP OR STENCIL PART NUMBER ORIGINAL CREATED OR WITH A REVISION LETTER IN SUITABLE LOCATION SOLID HOLES TO BE WORKSHIPPED

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QRI-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-RI)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2
50	SUPPLY TANK SINGLE CHECK VALVE

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOM'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'



LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
A	1/4	# 4
B	3/8	# 6
C	1/2	# 8
D	5/8	# 10
E	3/4	# 12
F	3/4 COPPER	
G	1/8	

PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR
A	ACCESSORY

- NOTES:
- 1/. PRIMARY SYSTEM AS SHOWN IS INTENDED FOR USE ON WALKING BEAM TYPE SUSPENSIONS ONLY. SEE 728B1-3504 FOR AIR SUSPENSION & 4-SPRING SUSPENSION APPLICATIONS. SEE ALSO 728B1-3529 FOR WALKING BEAM TYPE WITH ABS. 1
 - 2/. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - 3/. DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 - 4/. ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

FOR CONSTELLATION CAB ONLY

728B1-3528
PART ISSUE DATE
REV 1
C

REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
		WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
TOLERANCES UNLESS NOTED:		BY DATE		
MACHINING	±	DWN WCS	13 JAN 97	
HOLE CENTERS	±	CKD		
HOLE DIAMETERS	±	APVD		
LINEAR	±	ECO	87741-4	
ANGULAR	±	SCALE	NONE	
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR IN ANY MANNER DISCLOSED, IN WHOLE OR IN PART, WITHOUT THE PRIOR WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., KELOWNA, BC.				
AIR SYSTEM PIPING CHASSIS PIPING SECTION			MR. NO. 2328 'B'	SHEET 1 OF 1

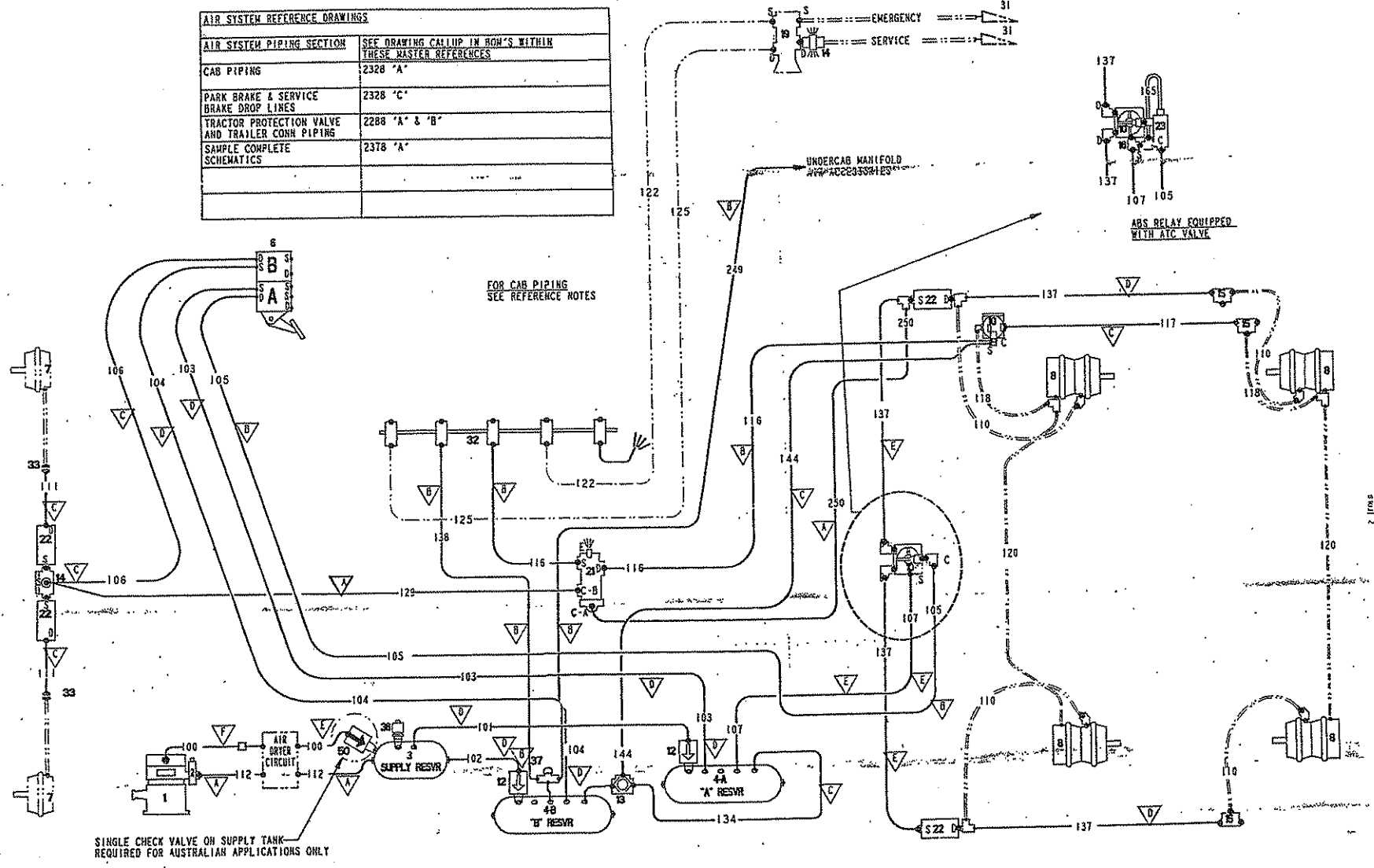
3 | FOLD

1 | FOLD

ECO	CHG	CHANGE	BY	DATE	CHK	APVD
91327	A	QUICK RELF VALVES ADDED AT REAR DROP LIN	WCS	01MAY97		
92743	B	17H-35 138 LINE 249 ADDED TO RESERVOIR	CAS	28JUL97		FWS
95658	C	CHANGED INVERSION VALVE, ADDED LINE 250, REMOVED LINE 130, ADDED AUST CHECK VALVE	SER	16JAN98		WCS

NO.	DESC.
1	COMPL. ...
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QRI-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2
50	SUPPLY TANK SINGLE CHECK VALVE

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOH'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 "A"
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 "C"
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 "A" & "B"
SAMPLE COMPLETE SCHEMATICS	2378 "A"



LINE SIZE LEGEND			PORT LEGEND	
SYMBOL	NYLON	HOSE	SYMBOL	DESC.
A	1/4	# 4	S	SUPPLY
B	3/8	# 6	D	DELIVERY
C	1/2	# 8	C	CONTROL
D	5/8	# 10	E	EXHAUST
E	3/4	# 12	R	RESERVOIR
F	3/4	COPPER	A	ACCESSORY
G	1/8			

- NOTES:
1. PRIMARY SYSTEM AS SHOWN IS INTENDED FOR USE ON WALKING BEAM TYPE SUSPENSIONS ONLY. SEE 7281-3504 FOR AIR SUSPENSION & 4-SPRING SUSPENSION APPLICATIONS. SEE ALSO 7281-3528 FOR WALKING BEAM TYPE W/O ABS.
 2. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 3. DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 4. ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

APPLICATION: TRUCK OR TRACTOR WITH INVERSION VALVE AND WITHOUT BOBTAIL PROPORTIONING
 WITH ABS (PART 102-00000-0172280) WITH OR WITHOUT ATC (AUTO TRACTION CONTROL)

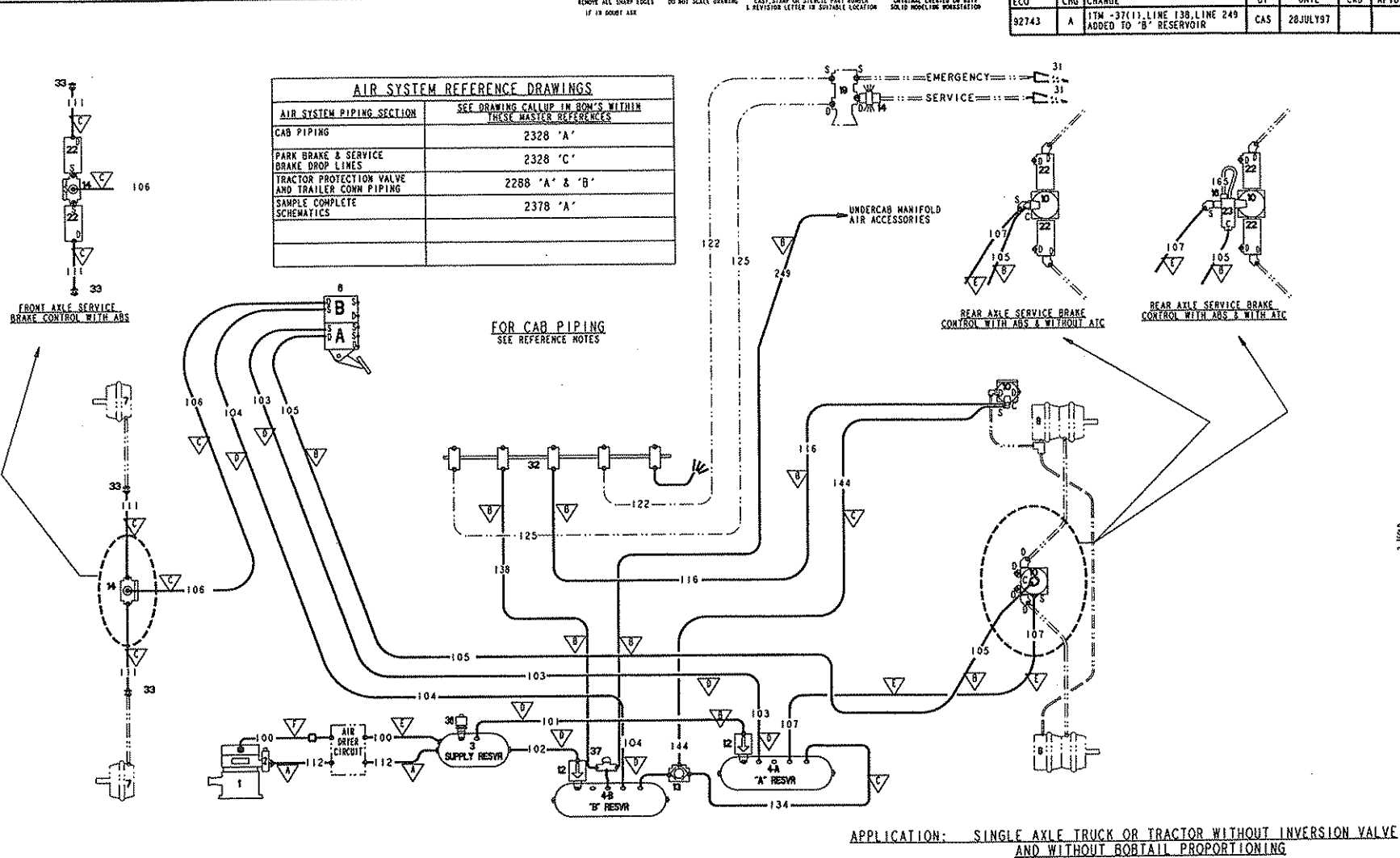
FOR CONSTELLATION CAB ONLY

7281-3529
 PART 1
 PRINTED DATE 1987

REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
		WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
		TOLERANCES UNLESS NOTED:	BY DATE	
		MACHINING ±	DWH WCS 13JAN87	
		ROLE CENTERS ±	CKD	
		HOLE DIAMETERS ±	APVD	
		LINEAR ±	ECO	87741-4
		ANGULAR ±	SCALE	NONE
		THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL BE KEPT SECRET UNLESS OTHERWISE INDICATED IN WRITING BY THE COMPANY OR BY THE TERMS OF A SEPARATE AGREEMENT.		
		AIR SYSTEM PIPING CHASSIS PIPING SECTION	MR NO. 2328 "B"	SHEET 1 OF 1
			7281-3529	

3 FOLD

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QR-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2



LINE SIZE LEGEND			PORT LEGEND	
SYMBOL	NYLON	HOSE	SYMBOL	DESC.
	1/4	# 4	S	SUPPLY
	3/8	# 6	D	DELIVERY
	1/2	# 8	C	CONTROL
	5/8	# 10	E	EXHAUST
	3/4	# 12	R	RESERVOIR
	3/4 COPPER		A	ACCESSORY
	1/8			

- NOTES:
- PRIMARY SYSTEM AS SHOWN IS NON ABS SERVICE BRAKE CONTROL ONLY. OPTIONAL ABS PIPING IS SHOWN IN SECONDARY VIEWS. SYSTEM AS SHOWN IS INTENDED FOR USE WITH AIR & SPRING SUSPENSIONS
 - SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 - ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

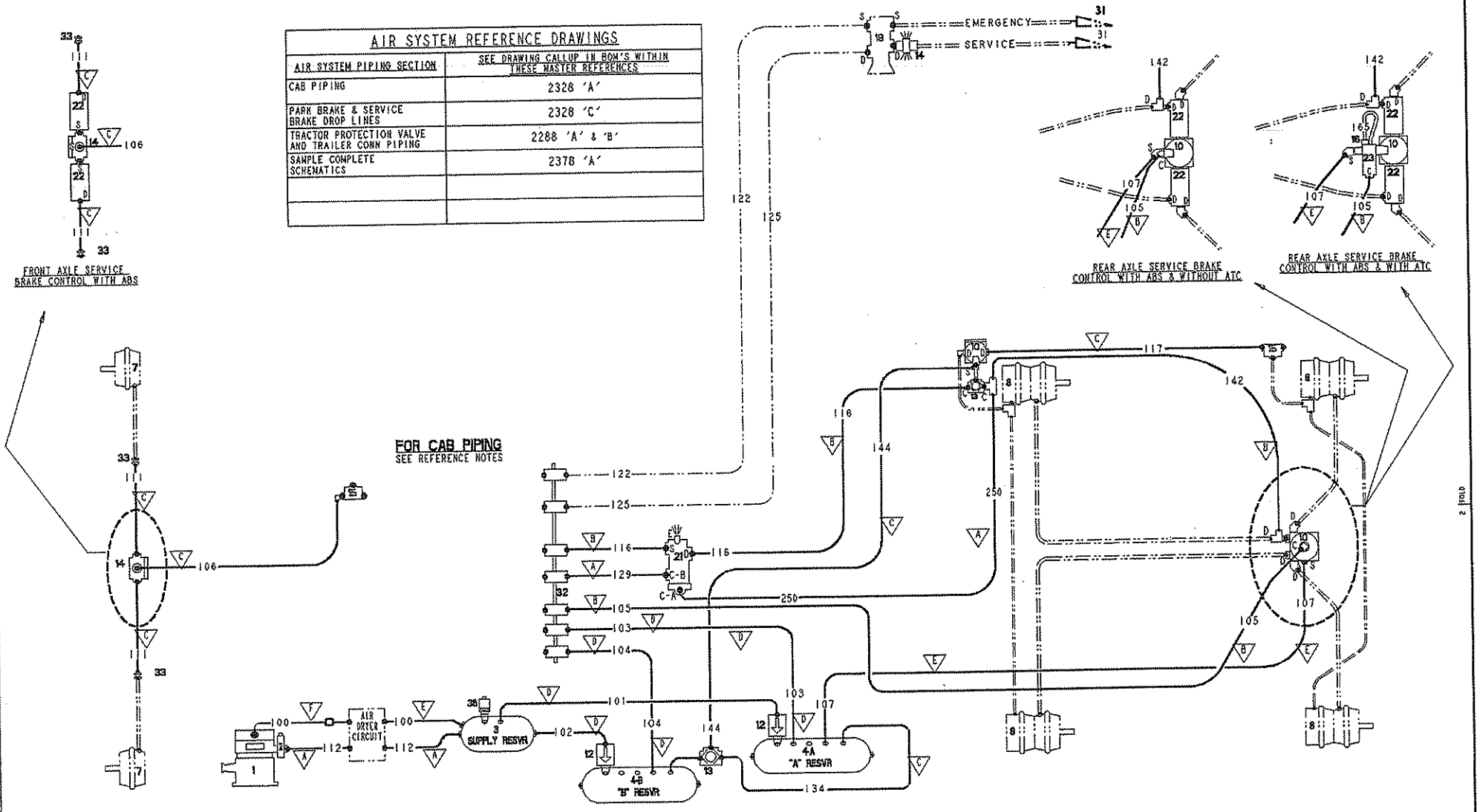
728B1-3530
 PRINTED DATE
 604 CAB
 3/00

ECO	CHG	CHANGE	BY	DATE	CKD	APVD
92743	A	11W-37(1) LINE 138, LINE 249 ADDED TO "B" RESERVOIR	CAS	28JULY97		

COMP. NO.	DESCRIPTION	SIZE	MATERIAL
728B1-3530	AIR SYSTEM PIPING CHASSIS PIPING SECTION		
WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.			
TOLERANCES UNLESS NOTED:		BY DATE	
MACHINING	DWN	MCS	14JAN97
HOLE CENTERS	CKD		
HOLE DIAMETERS	APVD		
LINEAR	FECO		87741-4
ANGULAR	SCALE		NONE
AIR SYSTEM PIPING CHASSIS PIPING SECTION		HR NO. 2328 "B"	
728B1-3530		SH 1	

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (ORI-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOM'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'



FOR CAB PIPING
SEE REFERENCE NOTES

APPLICATION: TRUCK OR TRACTOR WITH INVERSION VALVE AND WITHOUT BOBTAIL PROPORTIONING!
 - WITH OR WITHOUT ABS (ANTI-LOCK BRAKE SYSTEM) OR ATC (AUTO TRACTION CONTROL)

LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
	1/4	# 4
	3/8	# 6
	1/2	# 8
	5/8	# 10
	3/4	# 12
	3/4 COPPER	
	1/8	

PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR
A	ACCESSORY

- NOTES:
- PRIMARY SYSTEM AS SHOWN IS NON ABS SERVICE BRAKE CONTROL ONLY. OPTIONAL ABS PIPING IS SHOWN IN SECONDARY VIEWS. SYSTEM AS SHOWN IS INTENDED FOR USE WITH AIR & SPRING SUSPENSIONS; FOR WALKING BEAM SUSPENSION TYPES SEE 728B1-3534 & -3535
 - SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 - ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

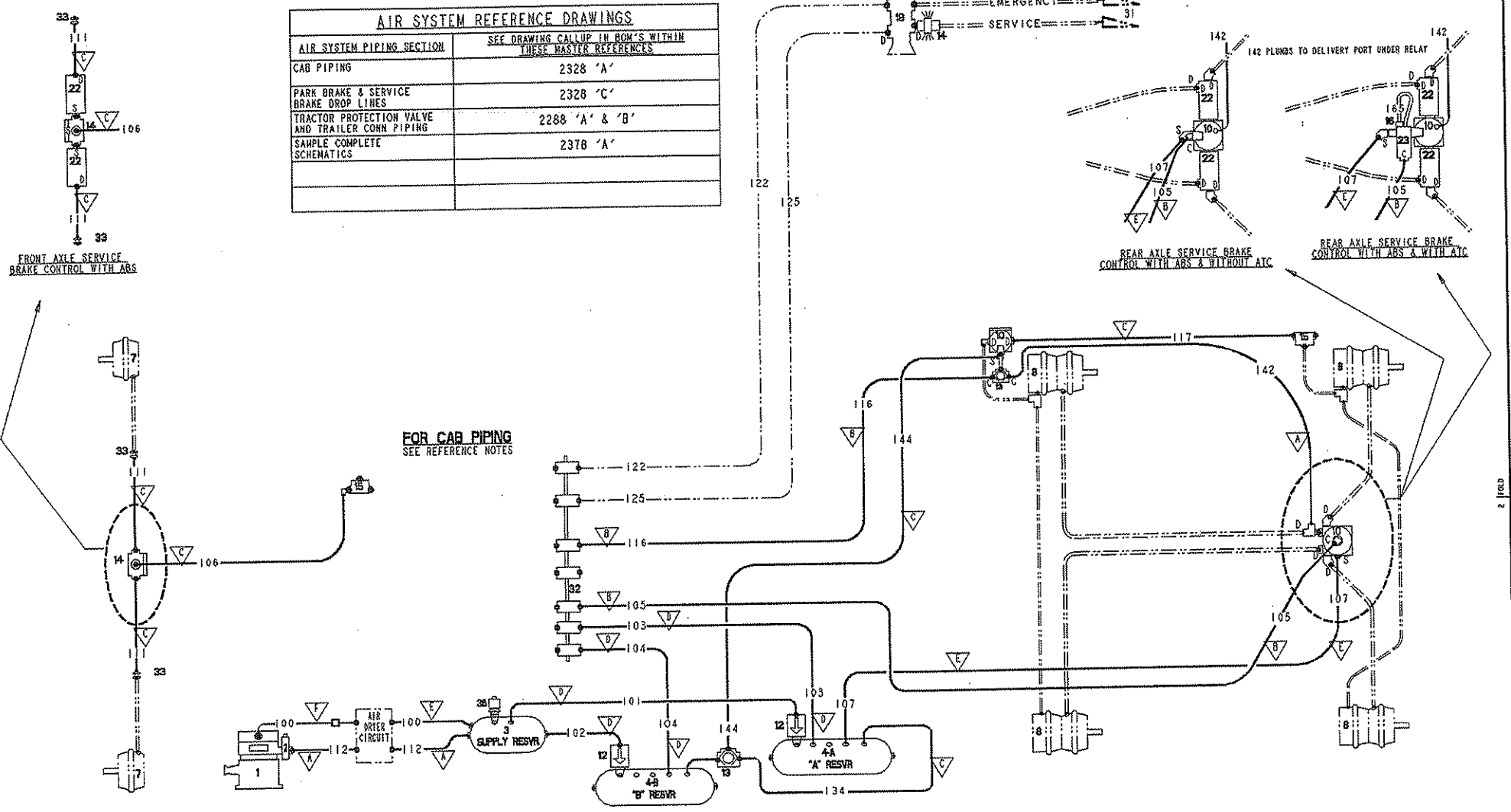
HERITAGE CAB

728B1-3531
 PART ISSUE DATE
 SHEET 1 OF 1

COMP. NO.	DESCRIPTION	SIZE	MATERIAL
1	WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
TOLERANCES UNLESS NOTED:		BY	DATE
MACHINING	DWN	WCS	19JAN97
HOLE CENTERS	CRD		
HOLE DIAMETERS	APVD	FWS	12JAN97
LINEAR	ECO		69575
ANGULAR	SCALE		NONE
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR ITS CONTENTS DISCLOSED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., KELOWNA, BC			
AIR SYSTEM PIPING CHASSIS PIPING SECTION			MR NO. 2320 'B'
728B1-3531			SHEET 1 OF 1

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QRI-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-RI)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOM'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'



FOR CAB PIPING
SEE REFERENCE NOTES

APPLICATION: TRACTOR WITHOUT INVERSION VALVE AND WITHOUT BOBTAIL PROPORTIONING!
 WITH OR WITHOUT ABS (ANTI-LOCK BRAKE SYSTEM) OR ATC (AUTO TRACTION CONTROL)

LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
	1/4	# 4
	3/8	# 6
	1/2	# 8
	5/8	# 10
	3/4	# 12
	3/4 COPPER	
	1/8	

PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR
A	ACCESSORY

- NOTES:
- PRIMARY SYSTEM AS SHOWN IS NON ABS SERVICE BRAKE CONTROL ONLY. OPTIONAL ABS PIPING IS SHOWN IN SECONDARY VIEWS. SYSTEM AS SHOWN IS INTENDED FOR USE WITH AIR & SPRING SUSPENSIONS; FOR WALKING BEAM SUSPENSION TYPES SEE 728B1-3533 & -3534
 - SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 - ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

HERITAGE CAB

728B1-3532
 PART ISSUE DATE: 1/97

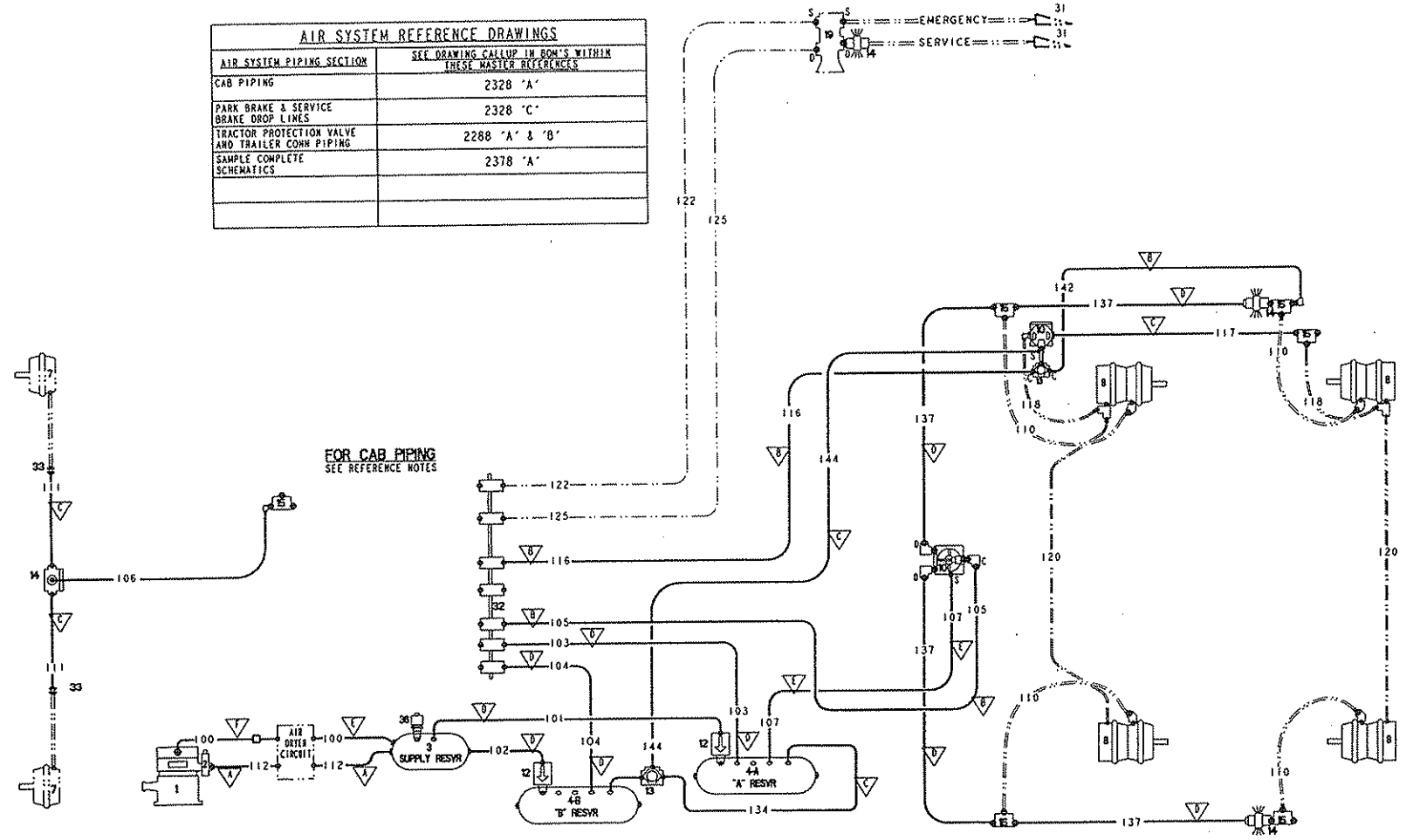
REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL	
		WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.			
		TOLERANCES UNLESS NOTED:	BY	DATE	
		MACHINING	DWH	WCS	19JAN97
		HOLE CENTERS	CHD		
		HOLE DIAMETERS	APVD		
		LINEAR	ECO	89575	
		ANGULAR	SCALE	NONE	
		THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR ITS CONTENTS DISCLOSED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., KELOWNA, BC			
		AIR SYSTEM PIPING CHASSIS PIPING SECTION 728B1-3532		MR NO. 2320 "B"	
				SHEET 1 OF 1	

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (ORI-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2

LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
	1/4	# 4
	3/8	# 6
	1/2	# 8
	5/8	# 10
	3/4	# 12
	3/4 COPPER	
	1/8	

PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR
A	ACCESSORY

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOM'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'



- NOTES:
- PRIMARY SYSTEM AS SHOWN IS INTENDED FOR USE ON WALKING BEAM TYPE SUSPENSIONS ONLY. SEE OTHER SCHEMATIC 728B1-3532 FOR AIR SUSPENSION & 4-SPRING SUSPENSION APPLICATIONS. SEE ALSO 728B1-3534 FOR WALKING BEAM TYPE WITH ABS.
 - SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER).
 - DOUBLE LINES DENOTE FLEXIBLE DROP LINES.
 - ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

FOR HERITAGE CAB ONLY

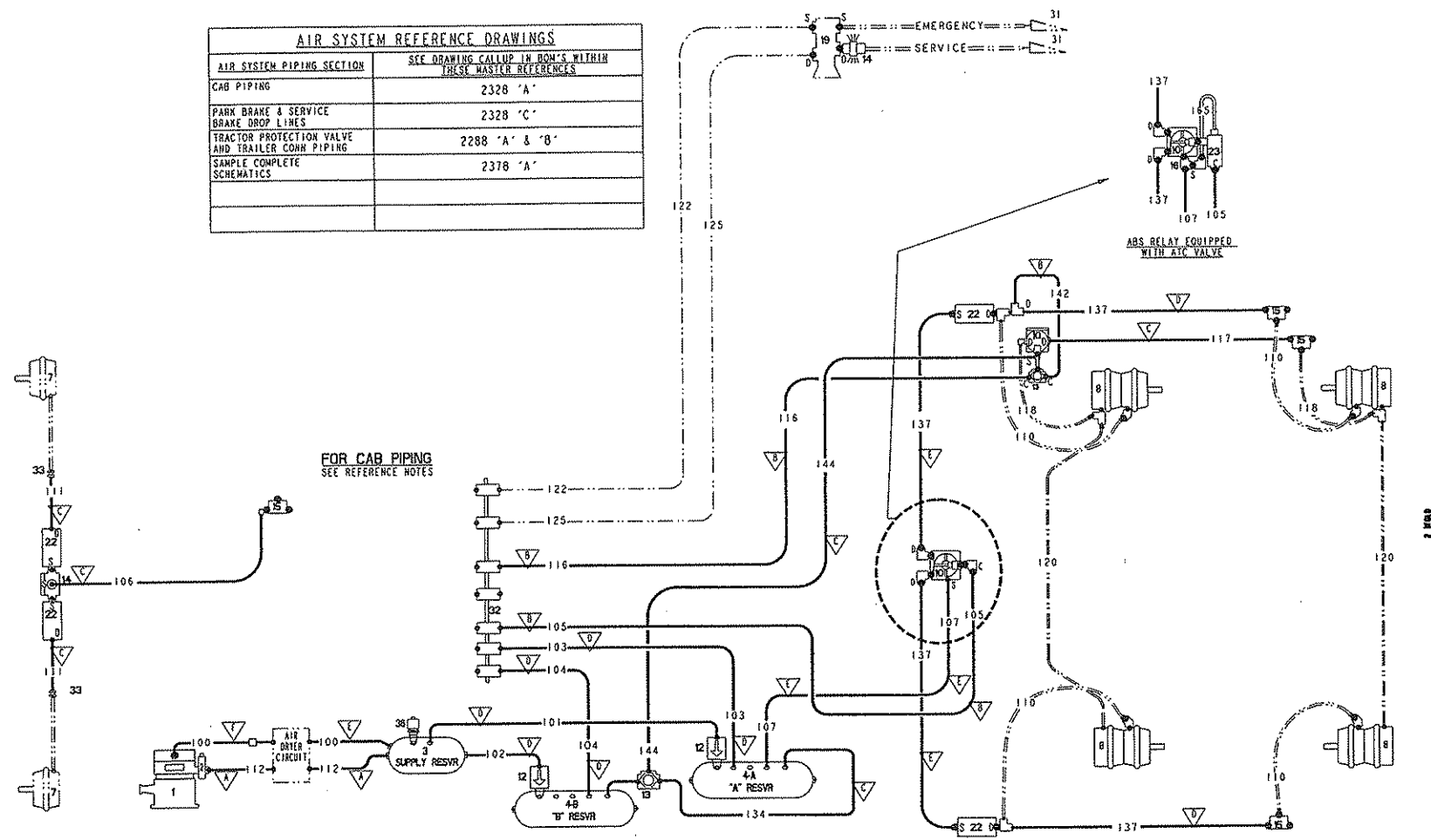
728B1-3533
PART
DATE
REV

ECD	CHG	CHANGE	BY	DATE	CKD	APVD
91327	A	QUICK RELEASE VALVES ADDED AT REAR DROP LINE TEE; LM 142 RELOCATED	MCS	01MAY97		

COMP. NO.	DESCRIPTION	SIZE	MATERIAL
1	WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELONKA, B.C.		
TOLERANCES UNLESS NOTED:		BY DATE	
MACHINING	±	DWH	MCS 19JAN97
HOLE CENTERS	±	CKD	
HOLE DIAMETERS	±	APVD	
LINEAR	±	ECD	89575
ANGULAR	±	SCALE	NONE
APPLICATION PART NO.		MR NO. 2320 'B'	
AIR SYSTEM PIPING		728B1-3533	
CHASSIS PIPING SECTION		PART 1	

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QR-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOM'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'



APPLICATION: TRACTOR WITHOUT INVERSION VALVE AND WITHOUT BOBTAIL PROPORTIONING!
WITH ABS (ANTI-LOCK BRAKE SYSTEM)
& WITH OR WITHOUT ATC (AUTO TRACTION CONTROL)

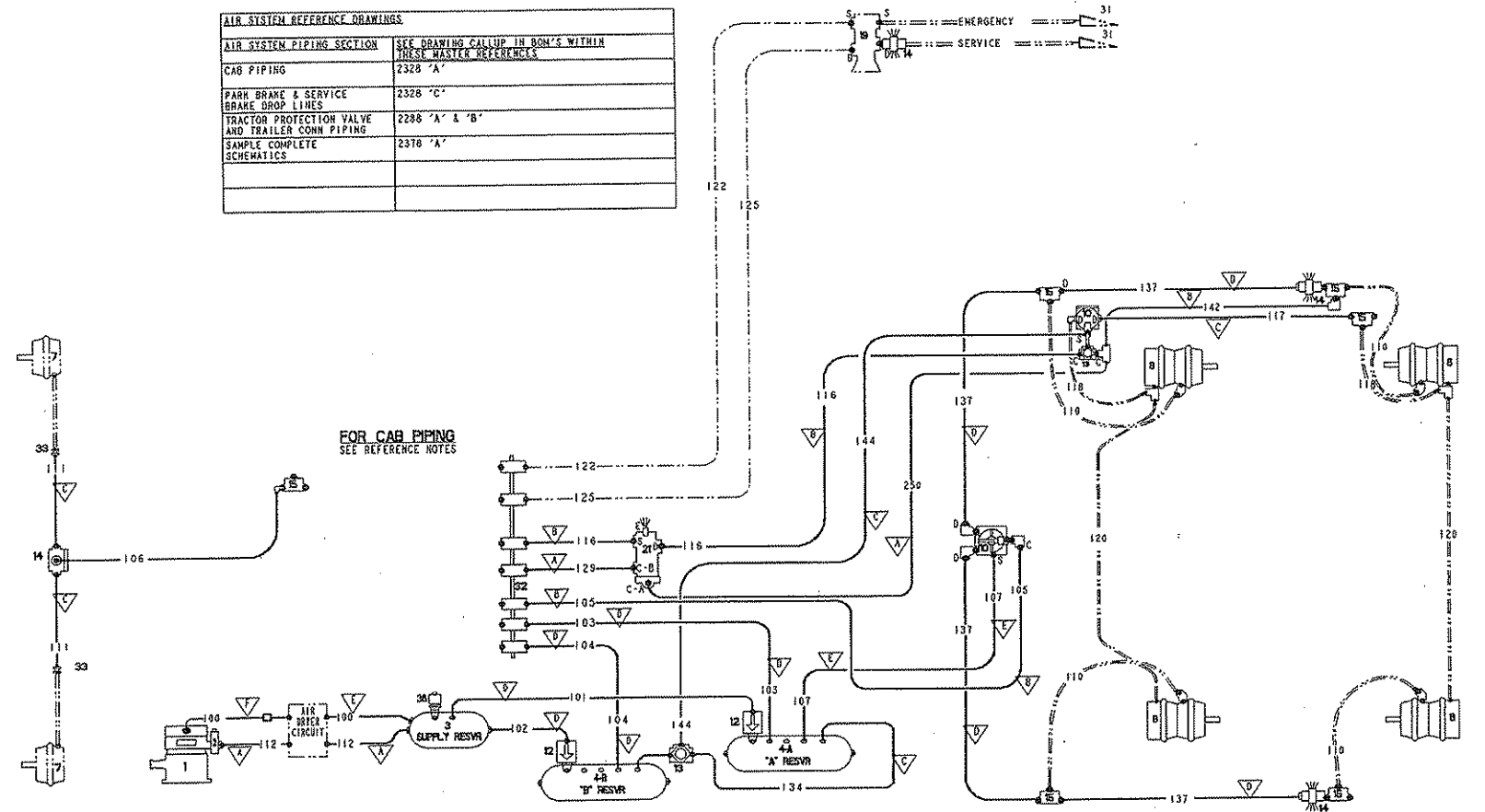
LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
	1/4	ø 4
	3/8	ø 6
	1/2	ø 8
	5/8	ø 10
	3/4	ø 12
	1	ø 14
	1 1/8	ø 16
	1 1/4	ø 18
	1 1/2	ø 20
	1 3/4	ø 22
	2	ø 24
	2 1/2	ø 28
	3	ø 32
	3 1/2	ø 36
	4	ø 40
	4 1/2	ø 44
	5	ø 48
	5 1/2	ø 52
	6	ø 56
	6 1/2	ø 60
	7	ø 64
	7 1/2	ø 68
	8	ø 72
	8 1/2	ø 76
	9	ø 80
	9 1/2	ø 84
	10	ø 88
	10 1/2	ø 92
	11	ø 96
	11 1/2	ø 100
	12	ø 104
	12 1/2	ø 108
	13	ø 112
	13 1/2	ø 116
	14	ø 120
	14 1/2	ø 124
	15	ø 128
	15 1/2	ø 132
	16	ø 136
	16 1/2	ø 140
	17	ø 144
	17 1/2	ø 148
	18	ø 152
	18 1/2	ø 156
	19	ø 160
	19 1/2	ø 164
	20	ø 168
	20 1/2	ø 172
	21	ø 176
	21 1/2	ø 180
	22	ø 184
	22 1/2	ø 188
	23	ø 192
	23 1/2	ø 196
	24	ø 200
	24 1/2	ø 204
	25	ø 208
	25 1/2	ø 212
	26	ø 216
	26 1/2	ø 220
	27	ø 224
	27 1/2	ø 228
	28	ø 232
	28 1/2	ø 236
	29	ø 240
	29 1/2	ø 244
	30	ø 248
	30 1/2	ø 252
	31	ø 256
	31 1/2	ø 260
	32	ø 264
	32 1/2	ø 268
	33	ø 272
	33 1/2	ø 276
	34	ø 280
	34 1/2	ø 284
	35	ø 288
	35 1/2	ø 292
	36	ø 296
	36 1/2	ø 300
	37	ø 304
	37 1/2	ø 308
	38	ø 312
	38 1/2	ø 316
	39	ø 320
	39 1/2	ø 324
	40	ø 328
	40 1/2	ø 332
	41	ø 336
	41 1/2	ø 340
	42	ø 344
	42 1/2	ø 348
	43	ø 352
	43 1/2	ø 356
	44	ø 360
	44 1/2	ø 364
	45	ø 368
	45 1/2	ø 372
	46	ø 376
	46 1/2	ø 380
	47	ø 384
	47 1/2	ø 388
	48	ø 392
	48 1/2	ø 396
	49	ø 400
	49 1/2	ø 404
	50	ø 408
	50 1/2	ø 412
	51	ø 416
	51 1/2	ø 420
	52	ø 424
	52 1/2	ø 428
	53	ø 432
	53 1/2	ø 436
	54	ø 440
	54 1/2	ø 444
	55	ø 448
	55 1/2	ø 452
	56	ø 456
	56 1/2	ø 460
	57	ø 464
	57 1/2	ø 468
	58	ø 472
	58 1/2	ø 476
	59	ø 480
	59 1/2	ø 484
	60	ø 488
	60 1/2	ø 492
	61	ø 496
	61 1/2	ø 500
	62	ø 504
	62 1/2	ø 508
	63	ø 512
	63 1/2	ø 516
	64	ø 520
	64 1/2	ø 524
	65	ø 528
	65 1/2	ø 532
	66	ø 536
	66 1/2	ø 540
	67	ø 544
	67 1/2	ø 548
	68	ø 552
	68 1/2	ø 556
	69	ø 560
	69 1/2	ø 564
	70	ø 568
	70 1/2	ø 572
	71	ø 576
	71 1/2	ø 580
	72	ø 584
	72 1/2	ø 588
	73	ø 592
	73 1/2	ø 596
	74	ø 600
	74 1/2	ø 604
	75	ø 608
	75 1/2	ø 612
	76	ø 616
	76 1/2	ø 620
	77	ø 624
	77 1/2	ø 628
	78	ø 632
	78 1/2	ø 636
	79	ø 640
	79 1/2	ø 644
	80	ø 648
	80 1/2	ø 652
	81	ø 656
	81 1/2	ø 660
	82	ø 664
	82 1/2	ø 668
	83	ø 672
	83 1/2	ø 676
	84	ø 680
	84 1/2	ø 684
	85	ø 688
	85 1/2	ø 692
	86	ø 696
	86 1/2	ø 700
	87	ø 704
	87 1/2	ø 708
	88	ø 712
	88 1/2	ø 716
	89	ø 720
	89 1/2	ø 724
	90	ø 728
	90 1/2	ø 732
	91	ø 736
	91 1/2	ø 740
	92	ø 744
	92 1/2	ø 748
	93	ø 752
	93 1/2	ø 756
	94	ø 760
	94 1/2	ø 764
	95	ø 768
	95 1/2	ø 772
	96	ø 776
	96 1/2	ø 780
	97	ø 784
	97 1/2	ø 788
	98	ø 792
	98 1/2	ø 796
	99	ø 800
	99 1/2	ø 804
	100	ø 808
	100 1/2	ø 812
	101	ø 816
	101 1/2	ø 820
	102	ø 824
	102 1/2	ø 828
	103	ø 832
	103 1/2	ø 836
	104	ø 840
	104 1/2	ø 844
	105	ø 848
	105 1/2	ø 852
	106	ø 856
	106 1/2	ø 860
	107	ø 864
	107 1/2	ø 868
	108	ø 872
	108 1/2	ø 876
	109	ø 880
	109 1/2	ø 884
	110	ø 888
	110 1/2	ø 892
	111	ø 896
	111 1/2	ø 900
	112	ø 904
	112 1/2	ø 908
	113	ø 912
	113 1/2	ø 916
	114	ø 920
	114 1/2	ø 924
	115	ø 928
	115 1/2	ø 932
	116	ø 936
	116 1/2	ø 940
	117	ø 944
	117 1/2	ø 948
	118	ø 952
	118 1/2	ø 956
	119	ø 960
	119 1/2	ø 964
	120	ø 968
	120 1/2	ø 972
	121	ø 976

REMOVE ALL GROUP LINES DO NOT SCALE DRAWING COPY STAMP OR STENCIL PART NUMBER & REVISION LETTER IN APPROPRIATE LOCATION ORIGINAL CREATED OR WITH SOLID MODELING REPLICATION

ECO	CHG	CHANGE	BY	DATE	CKD	APVD
91327	A	QUICK RELEASE VALVES ADDED AT REAR DROP LINE TEE: LH 142 RELOCATED	WCS	01MAY97		FWS
95658	B	CHANGED INVERSION VALVE & LINE 142, ADDED LINE 250, REMOVED LINE 130	SER	21JAN98	WCS	

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (ORI-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-RI)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOM'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2286 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2376 'A'



FOR CAB PIPING
SEE REFERENCE NOTES

APPLICATION: TRUCK OR TRACTOR WITH INVERSION VALVE AND WITHOUT BOBTAIL PROPORTIONING WITHOUT ABS(ANTI-LOCK BRAKE SYSTEM).

LINE SIZE LEGEND			PORT LEGEND	
SYMBOL	NYLON	HOSE	SYMBOL	DESC.
	1/4	# 4	S	SUPPLY
	3/8	# 6	D	DELIVERY
	1/2	# 8	C	CONTROL
	5/8	# 10	E	EXHAUST
	3/4	# 12	R	RESERVOIR
	3/4 COPPER		A	ACCESSORY
	1/8			

- NOTES:
1. PRIMARY SYSTEM AS SHOWN IS INTENDED FOR USE ON WALKING BEAM TYPE SUSPENSIONS ONLY. SEE OTHER SCHEMATIC 728B1-3531 FOR AIR SUSPENSION & 4-SPRING SUSPENSION APPLICATIONS. SEE ALSO 728B1-3535 FOR WALKING BEAM TYPE WITH ABS
 2. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 3. DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 4. ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

FOR HERITAGE CAB ONLY

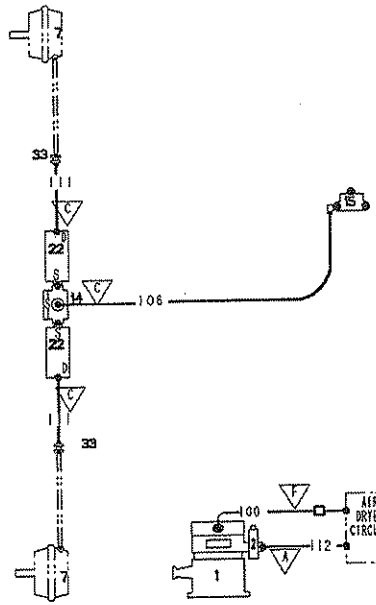
728B1-3535
728B1-3535
728B1-3535

REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
		WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
TOLERANCES UNLESS NOTED:				
		BY	DATE	
		DWN	WCS	19JAN97
		CKD		
		APVD		
		ECO		09575
		SCALE		NONE
AIR SYSTEM PIPING CHASSIS PIPING SECTION 728B1-3535 (REV. B)				

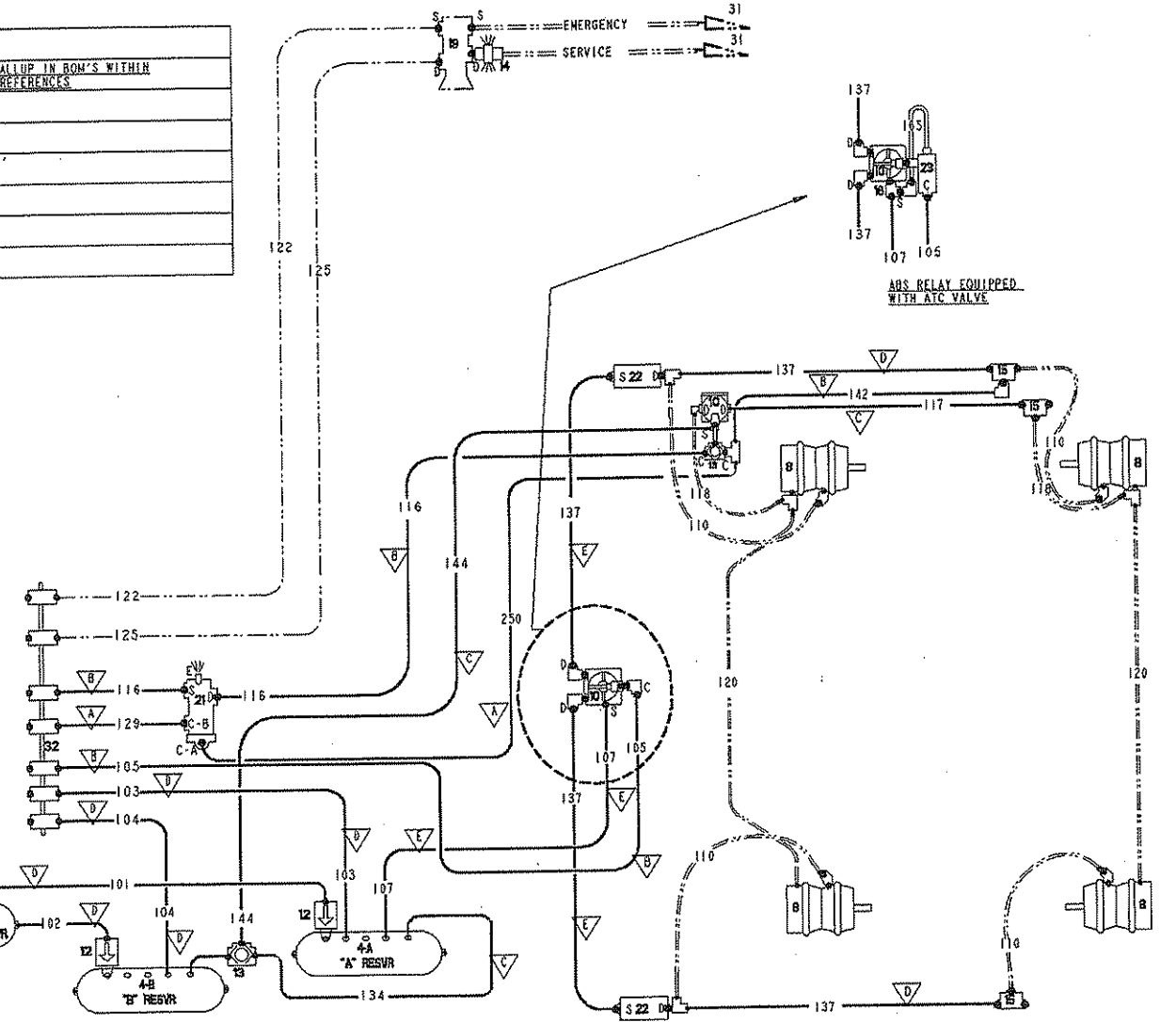
Printed on: February 4, 1998

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QR1-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BORTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN ROM'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'



FOR CAB PIPING
SEE REFERENCE NOTES



APPLICATION: TRUCK OR TRACTOR WITH INVERSION VALVE AND WITHOUT BORTAIL PROPORTIONING)
WITH ABS(ANTI-LOCK BRAKE SYSTEM)
& WITH OR WITHOUT ATC(ANTI TRACTION CONTROL)

LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
A	1/4	# 4
B	3/8	# 6
C	1/2	# 8
D	5/8	# 10
E	3/4	# 12
F	3/4 COPPER	
G	1/8	

PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR
A	ACCESSORY

- NOTES:
- PRIMARY SYSTEM AS SHOWN IS INTENDED FOR USE ON WALKING BEAM TYPE SUSPENSIONS ONLY. SEE OTHER SCHEMATIC 728B1-3531 FOR AIR SUSPENSION 4 & SPRING SUSPENSION APPLICATIONS. SEE ALSO 728B1-3535 FOR WALKING BEAM TYPE WITHOUT ABS
 - SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 - ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

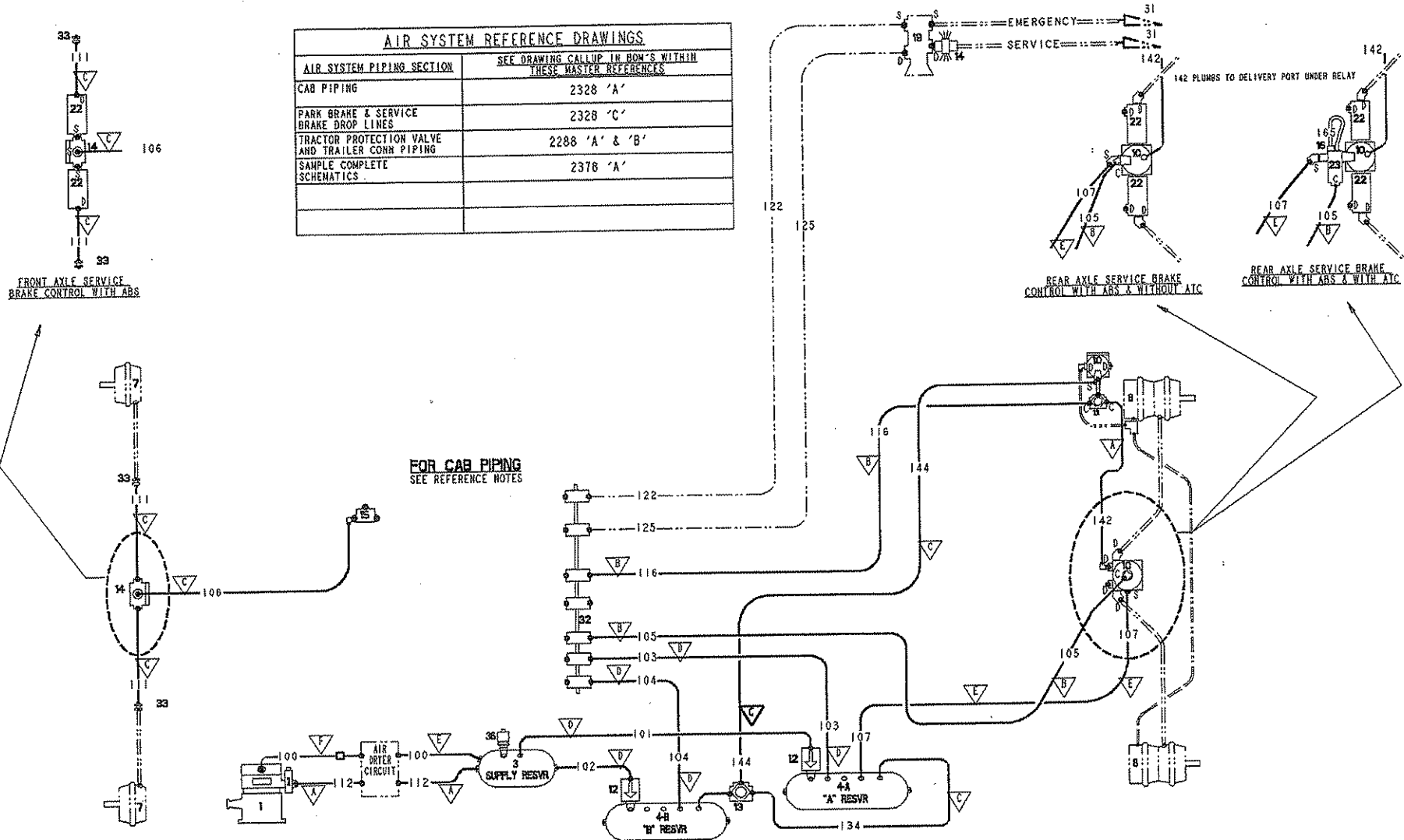
FOR HERITAGE CAB ONLY

728B1-3536
WESTERN STAR TRUCKS
DATE: 1997
REV: A

REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
		WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
TOLERANCES UNLESS NOTED:		BY	DATE	
MACHINING	±	DWN	WCS	19JAN97
HOLE CENTERS	±	CND	APVD	FWS 27JAN98
HOLE DIAMETERS	±	APVD	FWS	27JAN98
LINEAR	±	ECO	89575	
ANGULAR	±	SCALE NONE		
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR IN ANY MANNER DISCLOSED TO THE PUBLIC OR IN PART WITHOUT THE PRIOR WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., KELOWNA, BC				MR NO. 2320 'B'
AIR SYSTEM PIPING				SHT 1 OF 1
CHASSIS PIPING SECTION 728B1-3536				

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QRI-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOX WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'



APPLICATION: SINGLE AXLE TRUCK OR TRACTOR WITHOUT INVERSION VALVE AND WITHOUT BOBTAIL PROPORTIONING

WITH OR WITHOUT ABS(ANTI-LOCK BRAKE SYSTEM) OR ATC(AUTO TRACTION CONTROL)

FOR HERITAGE CAB ONLY

LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
A	1/4	# 4
B	3/8	# 6
C	1/2	# 8
D	5/8	# 10
E	3/4	# 12
F	3/4 COPPER	
G	1/8	-

PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR
A	ACCESSORY

- NOTES:
- PRIMARY SYSTEM AS SHOWN IS NON ABS SERVICE BRAKE CONTROL ONLY. OPTIONAL ABS PIPING IS SHOWN IN SECONDARY VIEWS. SYSTEM AS SHOWN IS INTENDED FOR USE WITH AIR & SPRING SUSPENSIONS
 - SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 - ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

72881-3537
PRINTED DATE: 04/03/98
SHEET 1 OF 1

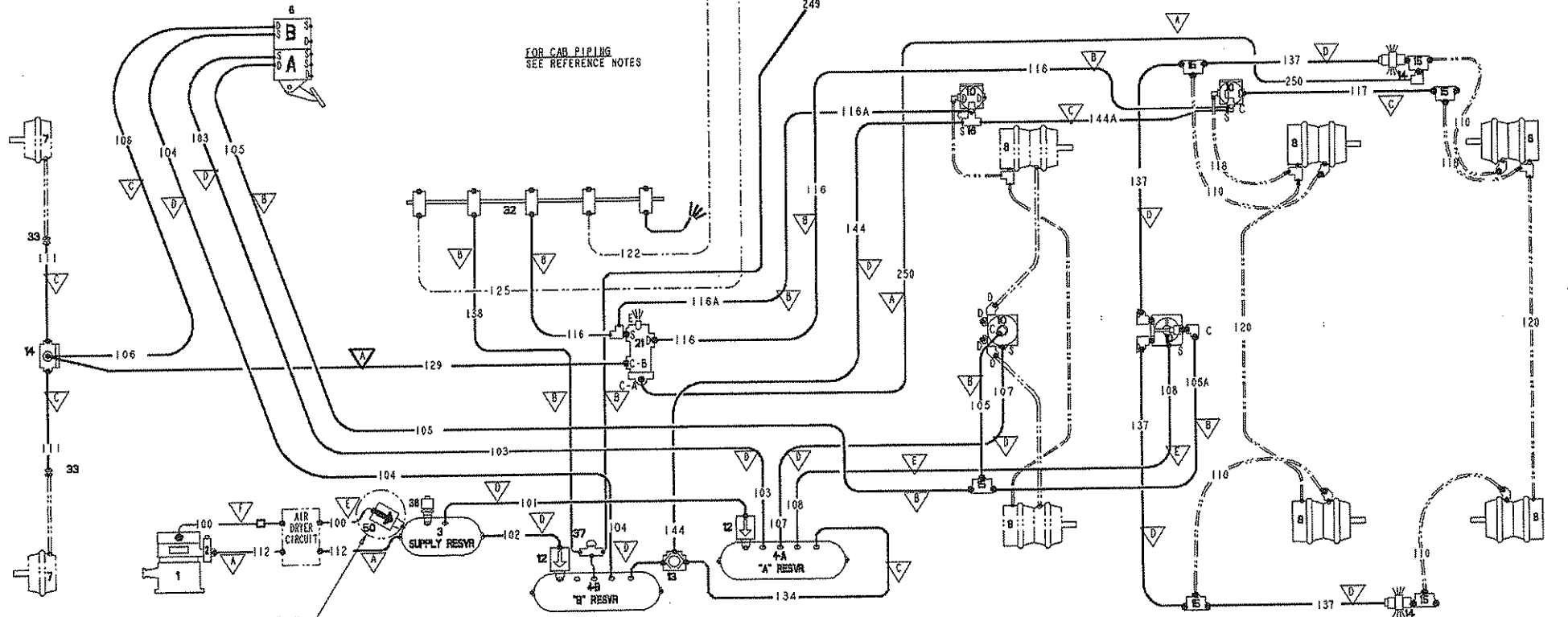
COMP. NO.	DESCRIPTION	SIZE	MATERIAL
WESTERN STAR TRUCKS INC.	COMPUTER GRAPHICS KELOWNA, B.C.		
TOLERANCES UNLESS NOTED:		BY	DATE
MACHINING	DWH	WCS	19JAN97
HOLE CENTERS	ICH		
HOLE DIAMETERS	APVD		
LINEAR	ECO		88575
ANGULAR	SCALE		NONE
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AIR SYSTEM PIPING CHASSIS PIPING SECTION		72881-3537	SHEET 1 OF 1

REMOVE ALL SHARP EDGES DO NOT SCALE DRAWING ORIGINAL CREATED ON WEST ORIGINAL CREATED ON WEST SOLID MODELING WORKSTATION
 EAST STAMP OR STENCIL PART NUMBER A REVISION LETTER IN SUITABLE LOCATION IF IN DOUBT ASK

ECD	CHG	CHANGE	BY	DATE	CKD	APVD
91327	A	QUICK RELEASE VALVES ADDED AT REAR	WCS	01MAY97		
92743	B	17K-3, RE 130, LINE 249 ADDED TO RESERVOIR	CAS	28JULY97		FWS
95658	C	CHANGED INVERSION VALVE, ADDED LINE 250, REMOVED LINE 130, ADDED AUST CHECK VALVE	SER	20JULY98		WCS

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (ORI-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-RI)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2
50	SUPPLY TANK SINGLE CHECK VALVE

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOM'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'



SINGLE CHECK VALVE ON SUPPLY TANK REQUIRED FOR AUSTRALIAN APPLICATIONS ONLY

APPLICATION: TRI-DRIVE TRUCK OR TRACTOR WITH INVERSION VALVE AND WITHOUT BOBTAIL PROPORTIONING OR WITHOUT ABS(ANTI-LOCK BRAKE SYSTEM)

LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
▽	1/4	# 4
▽	3/8	# 6
▽	1/2	# 8
▽	5/8	# 10
▽	3/4	# 12
▽	3/4 COPPER	
▽	1/8	

PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR
A	ACCESSORY

- NOTES:
1. PRIMARY SYSTEM AS SHOWN IS INTENDED FOR USE ON WALKING BEAM TYPE TANDEN SUSPENSION COMBINED WITH A SINGLE AXLE AIR SUSPENSION
 2. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 3. DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 4. ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

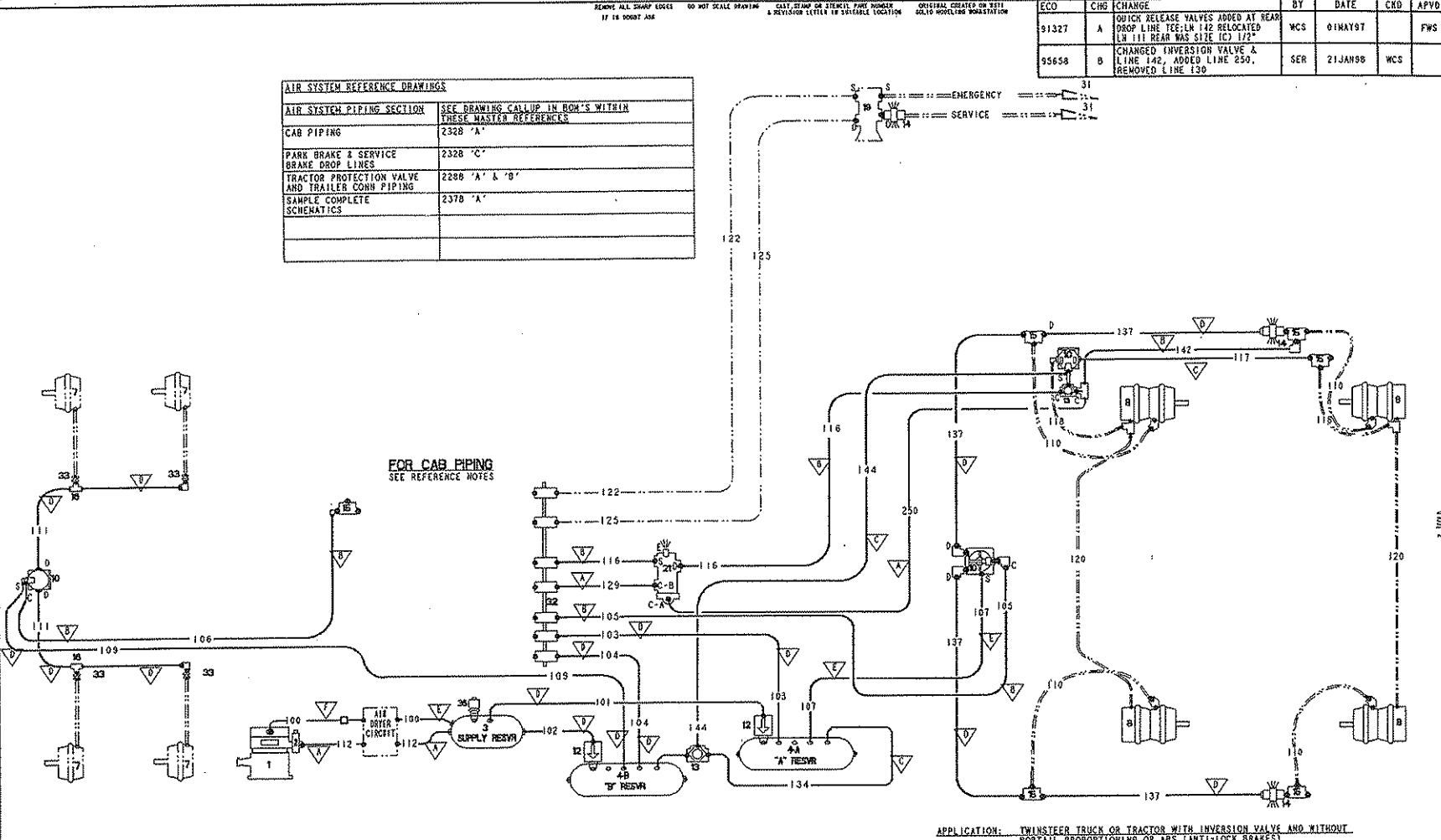
FOR CONSTELLATION CAB ONLY

728B1-3538
 PART ISSUE DATE
 C

COMP. NO.	DESCRIPTION	SIZE	MATERIAL
WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.			
TOLERANCES UNLESS NOTED:		DWN	WCS
MACHINING	±		
HOLE CENTERS	±	CRD	
HOLE DIAMETERS	±	APVD	
LINEAR	±	ECO	99155
ANGULAR	±	SCALE	NONE
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., KELOWNA, BC			
AIR SYSTEM PIPING		MR. NO. 2328 'B'	
CHASSIS PIPING SECTION		728B1-3538	SHT 1 OF 1

Printed on: February 4, 1998

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PNV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QR-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2



AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOM'S WITHIN THESE DRAWING REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'

LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
▽	1/4	# 4
▽	3/8	# 6
▽	1/2	# 8
▽	5/8	# 10
▽	3/4	# 12
▽	1/8	
▽		

PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR
A	ACCESSORY

- NOTES:
1. PRIMARY SYSTEM AS SHOWN IS INTENDED FOR USE ON TWIN STEER WITH WALKING BEAM TYPE SUSPENSIONS ONLY.
 2. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 3. DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 4. ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

FOR HERITAGE CAR ONLY

728B1 - 3539
THIRD REVISION
BY: [Signature]

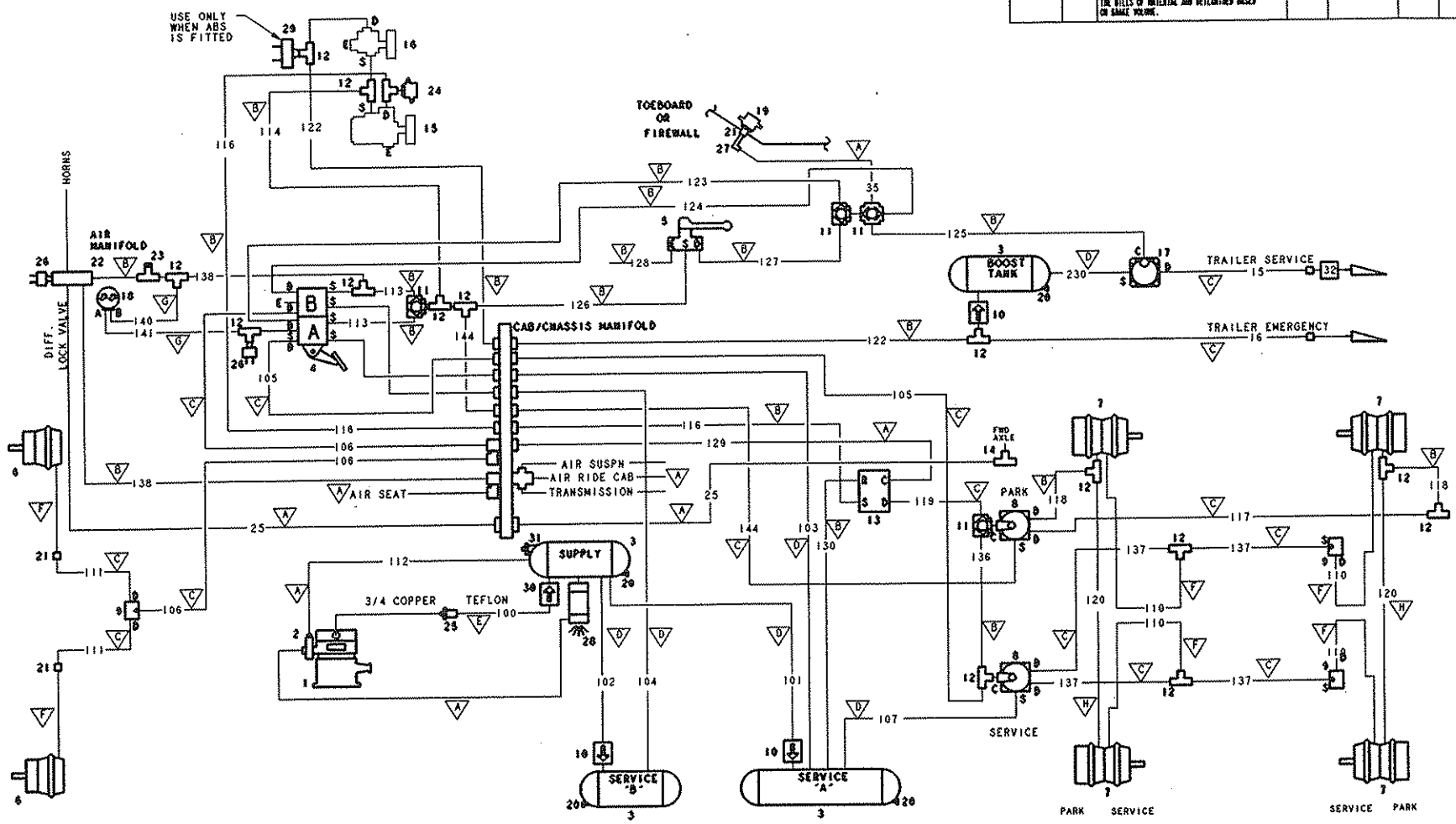
ECO	CHG	CHANGE	BY	DATE	CRD	APVD
91327	A	QUICK RELEASE VALVES ADDED AT REAR DROP LINE TEE: LN 142 RELOCATED LH 111 REAR WAS SIZE (C) 1/2"	WCS	01MAY97		FWS
95658	B	CHANGED INVERSION VALVE & LINE 142, ADDED LINE 250, REMOVED LINE 130	SER	21JAN98	WCS	

COMP. NO.	DESCRIPTION	SIZE	MATERIAL
1	WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS		MELONH.A.B.C.
TOLERANCES UNLESS NOTED:			
MACHINING	±	BY	DATE
HOLE CENTERS	±	DWM	WCS 20JAN97
HOLE DIAMETERS	±	CKD	
LINEAR	±	APVD	
ANGULAR	±	ECO	90249
		SCALE	NONE
AIR SYSTEM PIPING CHASSIS PIPING SECTION 728B1 - 3539 SHEET 1 OF 1			

CERT. STAND. OR SPEC. WILL TAKE PRECEDENCE OVER THIS DRAWING. DO NOT SCALE DRAWING. IF IN DOUBT, ASK. REMOVE ALL SHARP EDGES. ORIGINAL CREATED ON WESTI COMPUTER GRAPHICS

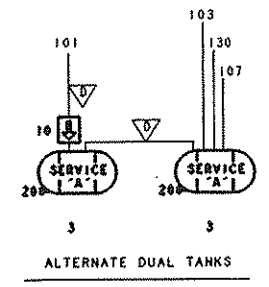
ENO	CHG	CHANGE	BY	DATE	CRD	APVD
93409	A	REVISED THE TANK SIZES AS IT IS SPECIFIED IN THE BILLS OF MATERIAL AND DETERMINED BASED ON TANK VOLUME.	MLM	10DEC97		

NO.	QTY	DESCRIPTION
1	1	COMPRESSOR
2	1	GOVERNOR
3	4	AIR RESEVOIR
4	1	FOOT BRAKE VALVE
5	1	HAND BRAKE VALVE
6	2	SERVICE BRAKE CHAMBERS
7	4	SERVICE & SPRING BRAKE CHAMBERS
8	2	RELAY VALVE
9	3	QUICK RELEASE VALVE
10	4	SINGLE CHECK VALVE
11	4	DOUBLE CHECK VALVE
12	12	TEE
13	1	INVERSION VALVE
14	1	AXLE TEE
15	1	PARK BRAKE CONTROL VALVE
16	1	TRACTOR PROTECTION CONTROL VALVE
17	1	TRACTOR PROTECTION RELAY VALVE
18	1	DUAL AIR GAUGE
19	1	STOP LAMP SWITCH
20	4	SPITTER VALVE/DRAIN COCK
21	3	FRAME FITTING
22	1	AIR MANIFOLD
23	1	PRESSURE PROTECTION VALVE
24	1	PRESS SW PARK BRAKE WARNING
25	1	ADAPTOR-TEFLON TO HOSE
26	2	SWITCH - LOW AIR WARNING
27	1	ELBOW
28	1	MOISTURE EJECTOR
29	1	SWITCH-ABS TRLR WARN. LT DISABLE
30	1	H.D. CHECK VALVE
31	1	RELIEF VALVE
32	1	QUICK RELEASE VALVE(*FASTBREAK*)



LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
A	1/4	ø 4
B	3/8	ø 6
C	1/2	ø 8
D	5/8	ø 10
E	-	ø 12
F	ø10 PARKER BRAKE HOSE	
G	1/8	ø 2
H	ø 8 PARKER BRAKE HOSE	

POST LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR



NOTE: THIS SCHEMATIC MUST COMPLY TO ADR 35

COMP. NO.	DESCRIPTION	SIZE	MATERIAL
WESTERN STAR TRUCKS INC.	COMPUTER GRAPHICS	RELOWNA, B.C.	
TOLERANCES (UNLESS NOTED)	BY	DATE	
MACHINING ±.02 IN.	DWN	MLM	29APR97
HOLE CNTRS ±.02 IN.	CKD		
HOLE DIAM ±.02 IN.	APVD		
LINEAR ±.03 IN.	ECO		91360
ANGULAR ±1/2°	SCALE	NTS	

72881-3540

72881-3540

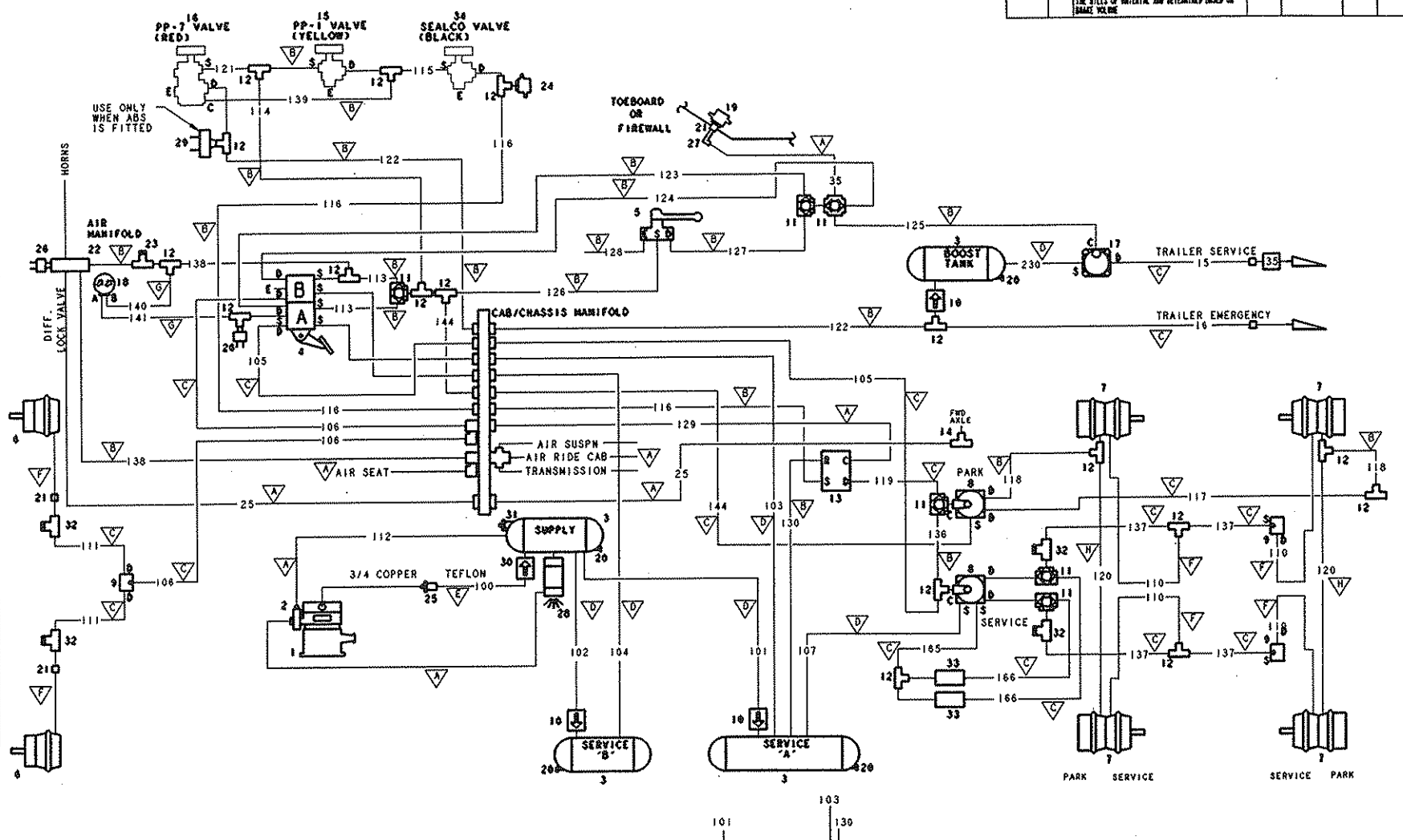
MR NO. 2320

6x4 TRACTOR W/INVERSION 72881-3540

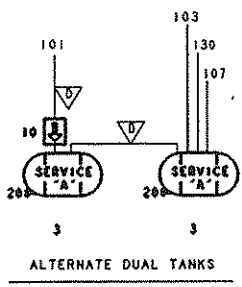
CAST, STAMP OR SPECIAL PART NUMBER DO NOT SCALE DRAWING IF IN BOMBY, USE REMOVE ALL SHARP EDGES ORIGINAL CREATED ON WSTI COMPUTER GRAPHICS

ENO	CHG	CHANGE	BY	DATE	CKD	APVD
95409	A	REVISED THE TUBE SIZES AS IT IS SPECIFIED IN THE BILLS OF MATERIAL AND RETIRED BASED ON TUBE VALUE	WLM	18DEC97		

NO.	QTY	DESCRIPTION
1	1	COMPRESSOR
2	1	GOVERNOR
4	1	AIR RESEVOIR
4	1	FOOT BRAKE VALVE
5	1	HAND BRAKE VALVE
6	2	SERVICE BRAKE CHAMBERS
7	4	SERVICE & SPRING BRAKE CHAMBERS
8	2	RELAY VALVE
9	3	QUICK RELEASE VALVE
10	4	SINGLE CHECK VALVE
11	6	DOUBLE CHECK VALVE
12	13	TEE
13	1	INVERSION VALVE
14	1	AXLE TEE
15	1	PARK BRAKE CONTROL VALVE
16	1	TRACTOR PROTECTION CONTROL VALVE
17	1	TRACTOR PROTECTION RELAY VALVE
18	1	DUAL AIR GAUGE
19	1	STOP LAMP SWITCH
20	4	SPITTER VALVE/DRAIN COCK
21	3	FRAME FITTING
22	1	AIR MANIFOLD
23	1	PRESSURE PROTECTION VALVE
24	1	PRESS SW PARK BRAKE WARNING
25	1	ADAPTOR-TEFLON TO HOSE
26	2	SWITCH - LOW AIR WARNING
27	1	ELBOW
28	1	MOISTURE EJECTOR
29	1	SWITCH-ABS TRLR WARN. LT DISABLE
30	1	H.D. CHECK VALVE
31	1	RELIEF VALVE
32	4	ABS PRESSURE MODULATING VALVE
33	2	ABS ATC VALVE
34	1	TRACTOR PARK BRAKE VALVE
35	1	QUICK RELEASE VALVE(*FASTBREAK*)



LINE SIZE LEGEND			PORT LEGEND	
SYMBOL	NYLON	HOSE	SYMBOL	DESC.
A	1/4	# 4	S	SUPPLY
B	3/8	# 6	D	DELIVERY
C	1/2	# 8	C	CONTROL
D	5/8	# 10	E	EXHAUST
E	-	# 12	R	RESERVOIR
F	B10 PARKER BRAKE HOSE			
G	1/8	# 2		
H	# 8 PARKER BRAKE HOSE			



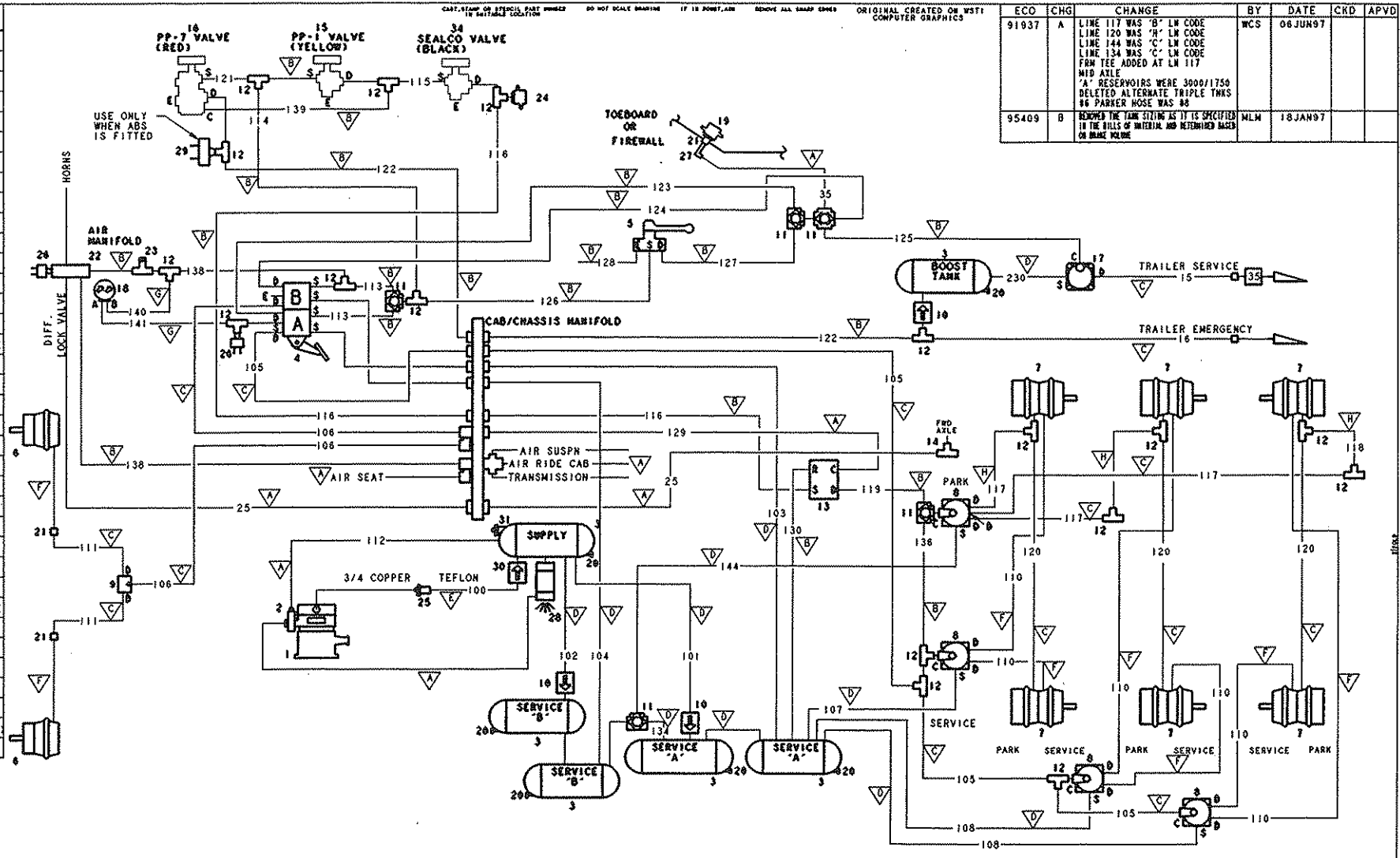
NOTE: THIS SCHEMATIC MUST COMPLY TO ADR 35 AND ADR 64.5

COMP. NO.	DESCRIPTION	SIZE	MATERIAL
72881-3541	WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
TOLERANCES (UNLESS NOTED)	BY	DATE	
MACHINING ±.02 IN.	DWN	18MAY97	
HOLE CNTRS ±.02 IN.	CKD		
HOLE DIAM ±.02 IN.	APVD		
LINEAR ±.03 IN.	ECO	91360	
ANGULAR ±1/2°	SCALE	NTS	
MR NO. 2320			
AIR LINE DIAGRAM			72881-3541
6x4, 8-DOUBLE, ABS			

72881-3541
PRINT ISSUE DATE

CONFIRMATION OF SPECIAL PART NUMBER DO NOT SCALE DRAWING IF IN POINT, AIR REMOVE ALL SHARP EDGES ORIGINAL CREATED ON WEST COMPUTER GRAPHICS

NO.	QTY	DESCRIPTION
1	1	COMPRESSOR
2	1	GOVERNOR
3	4	AIR RESEVOIR
4	1	FOOT BRAKE VALVE
5	1	HAND BRAKE VALVE
6	2	SERVICE BRAKE CHAMBERS
7	4	SERVICE & SPRING BRAKE CHAMBERS
8	4	RELAY VALVE
9	1	QUICK RELEASE VALVE
10	4	SINGLE CHECK VALVE
11	5	DOUBLE CHECK VALVE
12	12	TEE
13	1	INVERSION VALVE
14	2	AXLE TEE
15	1	PARK BRAKE CONTROL VALVE
16	1	TRACTOR PROTECTION CONTROL VALVE
17	1	TRACTOR PROTECTION RELAY VALVE
18	1	DUAL AIR GAUGE
19	1	STOP LAMP SWITCH
20	4	SPLITTER VALVE/DRAIN COCK
21	3	FRAME FITTING
22	1	AIR MANIFOLD
23	1	PRESSURE PROTECTION VALVE
24	1	PRESS SW PARK BRAKE WARNING
25	1	ADAPTOR-TEFLON TO HOSE
26	2	SWITCH - LOW AIR WARNING
27	1	ELBOW
28	1	MOISTURE EJECTOR
29	1	SWITCH-ABS TRLR WARN. LT DISABLE
30	1	H.D. CHECK VALVE
31	1	RELIEF VALVE
32	0	ABS PRESSURE MODULATING VALVE
33	0	ABS ATC VALVE
34	1	TRACTOR PARK BRAKE VALVE
35	1	QUICK RELEASE VALVE ("FASTBREAK")



ECO	CHG	CHANGE	BY	DATE	CKD	APVD
91937	A	LINE 117 WAS 'B' LN CODE LINE 120 WAS 'H' LN CODE LINE 144 WAS 'C' LN CODE LINE 134 WAS 'C' LN CODE FRM TEE ADDED AT LN 117 MID AXLE 'A' RESERVOIRS WERE 3000/1750 DELETED AT TEE/TATE TRIPLE TMS 'B' PARKER HOSE WAS 'B'	WCS	06 JUN 97		
95409	B	REMOVED THE TANK STYLING AS IT IS SPECIFIED IN THE BILLS OF MATERIAL AND RETURNED BASED ON BUILT VALUE	MLM	18 JAN 97		

LINE SIZE LEGEND			PORT LEGEND	
SYMBOL	NYLON	HOSE	SYMBOL	DESC.
	1/4	# 4	S	SUPPLY
	3/8	# 8	D	DELIVERY
	1/2	# 8	C	CONTROL
	3/8	# 10	E	EXHAUST
	-	# 12	R	RESERVOIR
	#10 PARKER BRAKE HOSE			
	1/8	# 2		
	# 6 PARKER BRAKE HOSE			

NOTE: THIS SCHEMATIC MUST COMPLY TO ADR 35 AND ADR 84.5

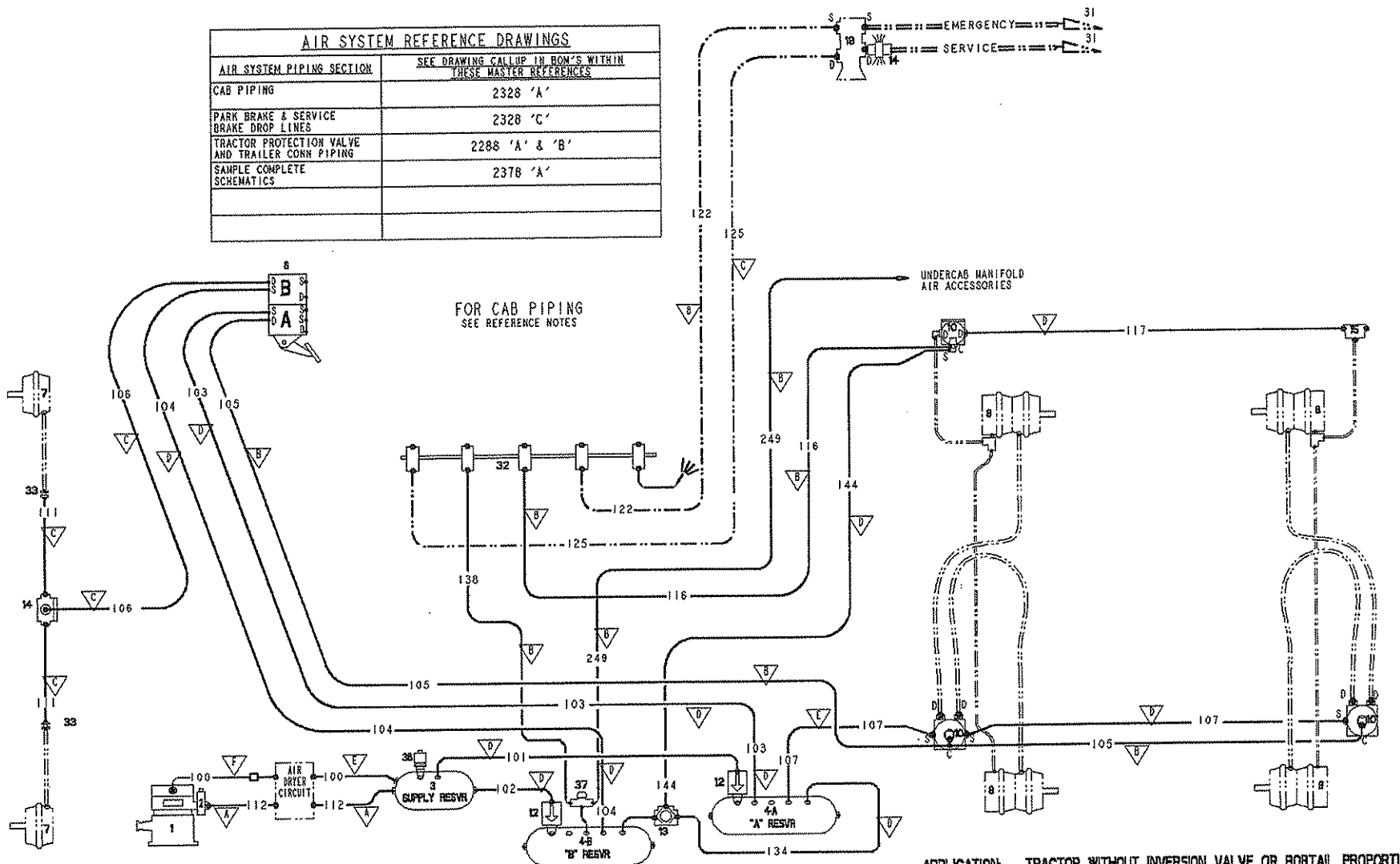
COMP. NO.	DESCRIPTION	SIZE	MATERIAL
7281-3543	WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
TOLERANCES (UNLESS NOTED)			
		BY	DATE
		DWN	MLM 19970501
		CKD	
		APVD	
		ECO	91360
		SCALE	NONE
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL ONLY BE USED FOR THE PURPOSES OF THE CONTRACT UNDER WHICH IT WAS PREPARED.			
AIR LINE DIAGRAM			MR NO. 2320
316 TRACTOR W/IRV - AUST			7281-3543

7281-3543
PRINTED DATE FEB 97

ECO	CHG	CHANGE	BY	DATE	CKD	APVD
95658	A	ADDED PT & LN 24	WCS	21 JAN 98		

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
28	QUICK RELEASE/DOUBLE CHECK VALVE (QR1-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-RI)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2
44	ANTI-COMPOUNDING RELAY (R-14)

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOM'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'



FOR CAB PIPING
 SEE REFERENCE NOTES

APPLICATION: TRACTOR WITHOUT INVERSION VALVE OR BOBTAIL PROPORTIONING & WITH DUAL RELAY VALVES FOR USE ON TRUCKS WITH TYPE 36 CHAMBERS & TANDEN AXLES (AIR96)
 WITHOUT ABS ONLY
 604 CAB

LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
A	1/4	# 4
B	3/8	# 6
C	1/2	# 8
D	5/8	# 10
E	3/4	# 12
F	3/4	COPPER
G	1/8	

PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR
A	ACCESSORY

- NOTES:
- 1/. PRIMARY SYSTEM AS SHOWN IS NON ABS SERVICE BRAKE CONTROL ONLY.
 - 2/. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - 3/. DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 - 4/. ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

72881-3545
 PRINT ISSUE DATE
 A

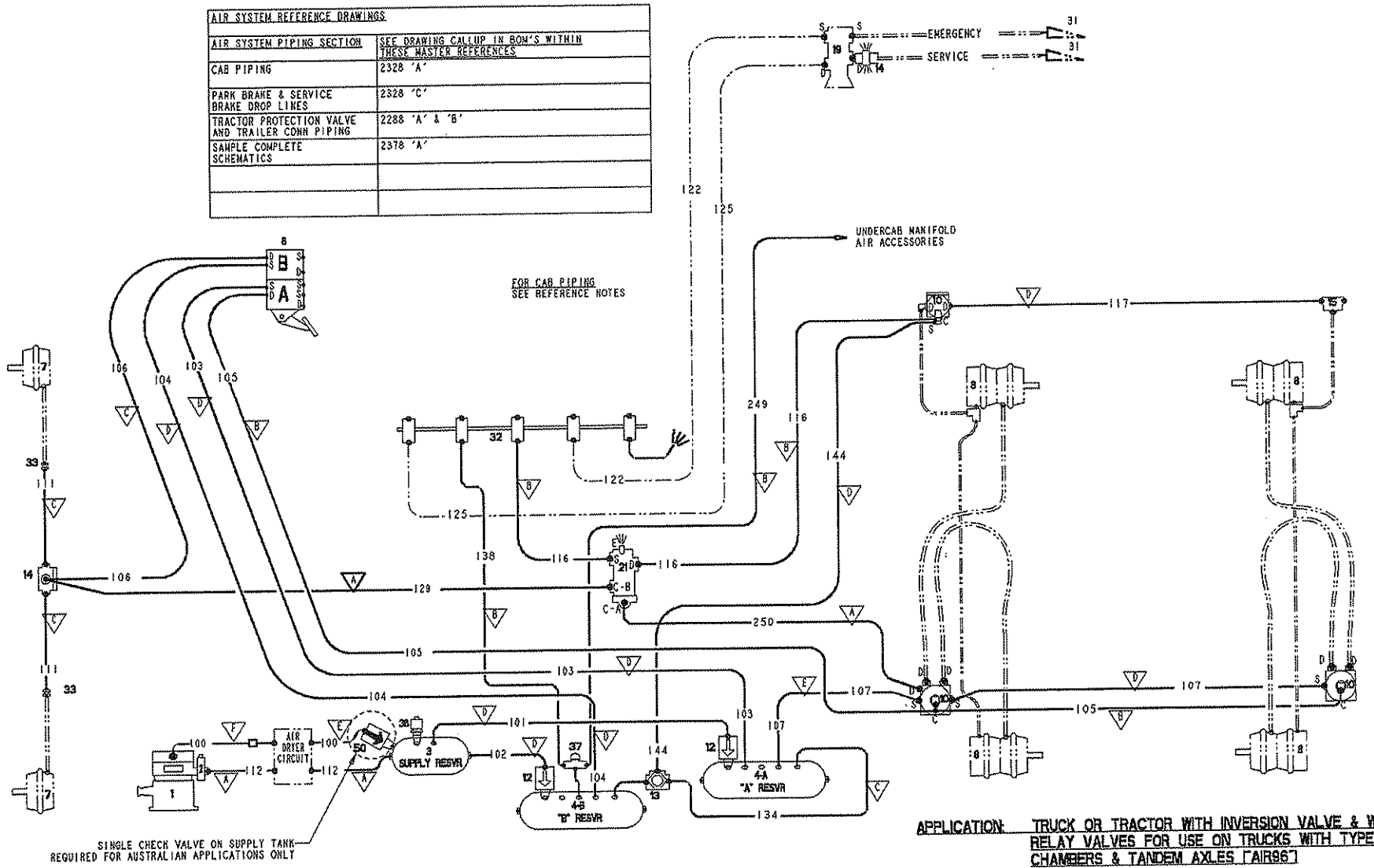
REV.	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
		WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS - KELOWNA, B.C.		
TOLERANCES UNLESS NOTED:		BY DATE		
MACHINING		± .02 INCH	DWN	WCS 14MA197
HOLE CENTERS		± .02 INCH	CKD	
HOLE DIAMETERS		± .02 INCH	APVD	
LINEAR		± .06 INCH	ECO	9111
ANGULAR		± 1/2 °	SCALE	NONE
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR ITS CONTENTS DISCLOSED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., KELOWNA, BC				
AIR SYSTEM PIPING				MR NO. 2328 'B'
CHASSIS PIPING SECTION				72881-3545

REMOVE ALL SHARP EDGES DO NOT SCALE DRAWING IF IN DOUBT ASK
 CAST STAMP OR STENCIL PART NUMBER & REVISION LETTER IN SUITABLE LOCATION ORIGINAL CREATED BY WEST ORIGINAL MODELING REPRESENTATION

ECO	CHG	CHARGE	BY	DATE	CRD	APVD
95658	A	ADDED 1" N VALVE, LN 138 & LN 2 CHANGE 1" N VALVE, ADDED LINE 250, ADDED LINE 130, ADDED AUST CHECK VALVE - COMP 450	WCS	21 JAN 98		

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (ORI-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-RI)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2
50	SUPPLY TANK SINGLE CHECK VALVE

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOM'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 "A"
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 "C"
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 "A" & "B"
SAMPLE COMPLETE SCHEMATICS	2378 "A"



APPLICATION: TRUCK OR TRACTOR WITH INVERSION VALVE & WITH DUAL RELAY VALVES FOR USE ON TRUCKS WITH TYPE 36 CHAMBERS & TANDEM AXLES (AIR96) WITHOUT ABS ONLY FOR CONSTELLATION CAB ONLY

LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
A	1/4	# 4
B	3/8	# 6
C	1/2	# 8
D	5/8	# 10
E	3/4	# 12
F	3/4 COPPER	
G	1/8	

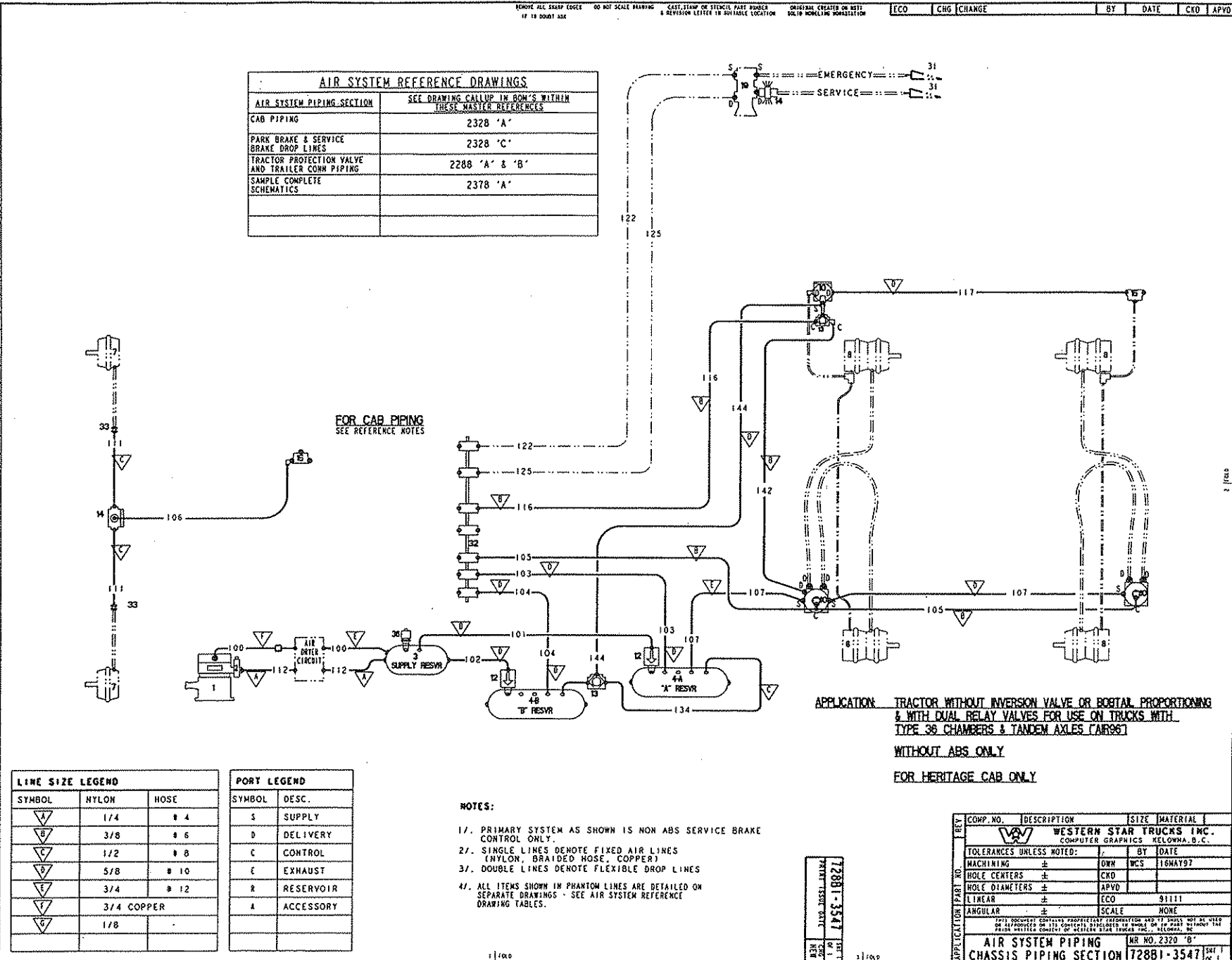
PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR
A	ACCESSORY

- NOTES:
- 1/. PRIMARY SYSTEM AS SHOWN IS NON ABS SERVICE BRAKE CONTROL ONLY.
 - 2/. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - 3/. DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 - 4/. ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

728B1-3546
 PART ISSUE DATE
 A

COMP. NO.	DESCRIPTION	SIZE	MATERIAL
WESTERN STAR TRUCKS INC.	COMPUTER GRAPHICS KELOWNA, B.C.		
TOLERANCES UNLESS NOTED:		BY	DATE
MACHINING	±	DWN	WCS 15MAY97
HOLE CENTERS	±	CRD	
HOLE DIAMETERS	±	APVD	
LINEAR	±	ECO	91111
ANGULAR	±	SCALE	NONE
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR ITS CONTENTS DISCLOSED TO ANYONE OR IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., KELOWNA, BC.			
AIR SYSTEM PIPING CHASSIS PIPING SECTION			MR NO. 2328 "B"
728B1-3546			SHEET 1 OF 1

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QR-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2



APP. PART NO.	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
		WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS MELONNA, B.C.		
		TOLERANCES UNLESS NOTED:	BY DATE	
		MACHINING ±	DWN WCS 18MAY97	
		HOLE CENTERS ±	CKD	
		HOLE DIAMETERS ±	APVD	
		LINEAR ±	ECO	91111
		ANGULAR ±	SCALE	NONE
		COPY RIGHTS RESERVED PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR IN ANY MANNER, WITHOUT THE WRITTEN PERMISSION OF WESTERN STAR TRUCKS INC., MELONNA, B.C.		
		AIR SYSTEM PIPING	MR NO. 2320 'B'	
		CHASSIS PIPING SECTION	72881-3547	

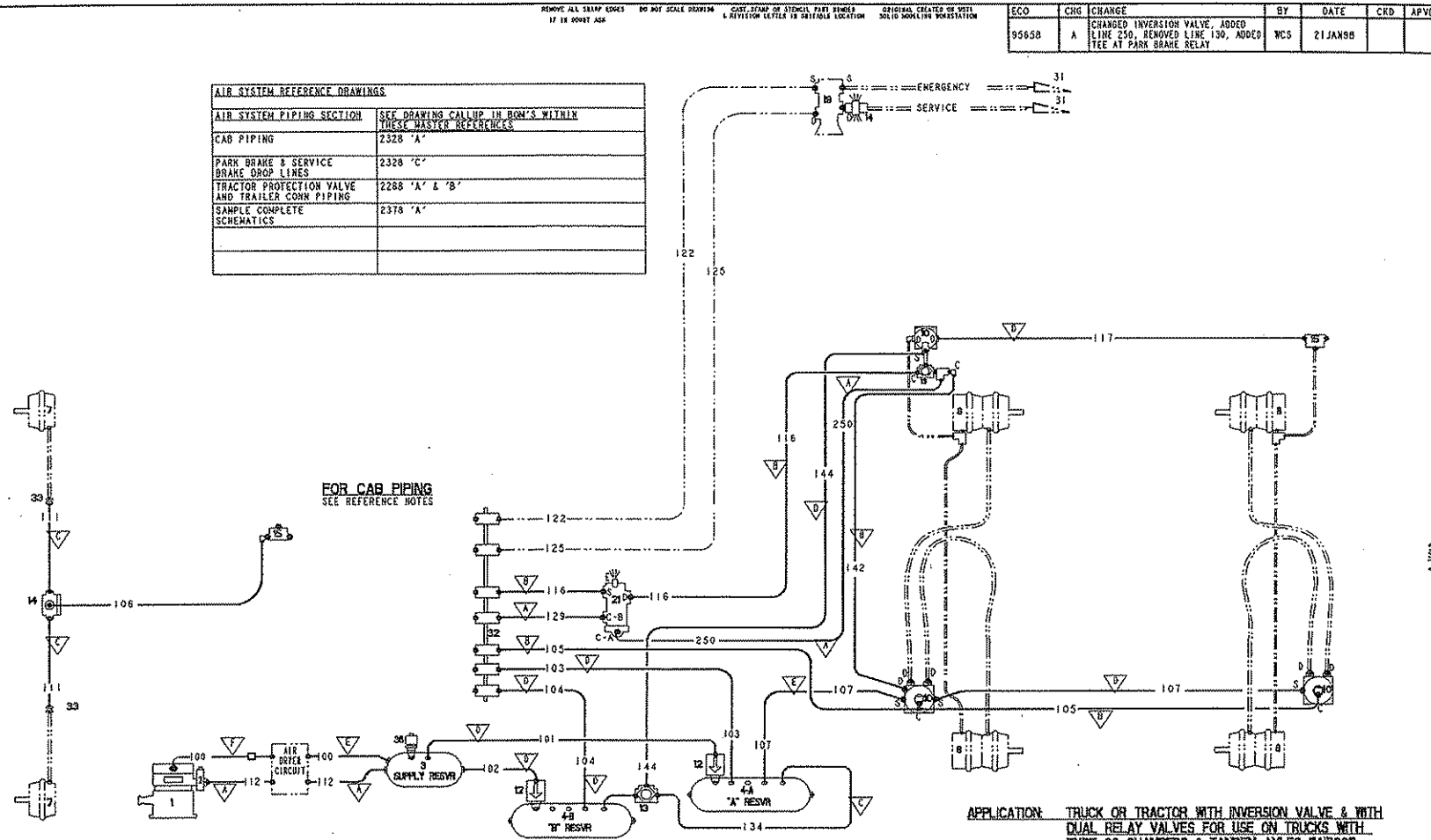
Rev A

Printed on: February 4, 1998

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QR1-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2

LINE SIZE LEGEND			PORT LEGEND	
SYMBOL	NYLON	HOSE	SYMBOL	DESC.
	1/4	4	S	SUPPLY
	3/8	6	D	DELIVERY
	1/2	8	C	CONTROL
	5/8	10	E	EXHAUST
	3/4	12	R	RESERVOIR
	3/4 COPPER		A	ACCESSORY
	1/8			

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOM'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 "A"
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 "C"
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 "A" & "B"
SAMPLE COMPLETE SCHEMATICS	2378 "A"

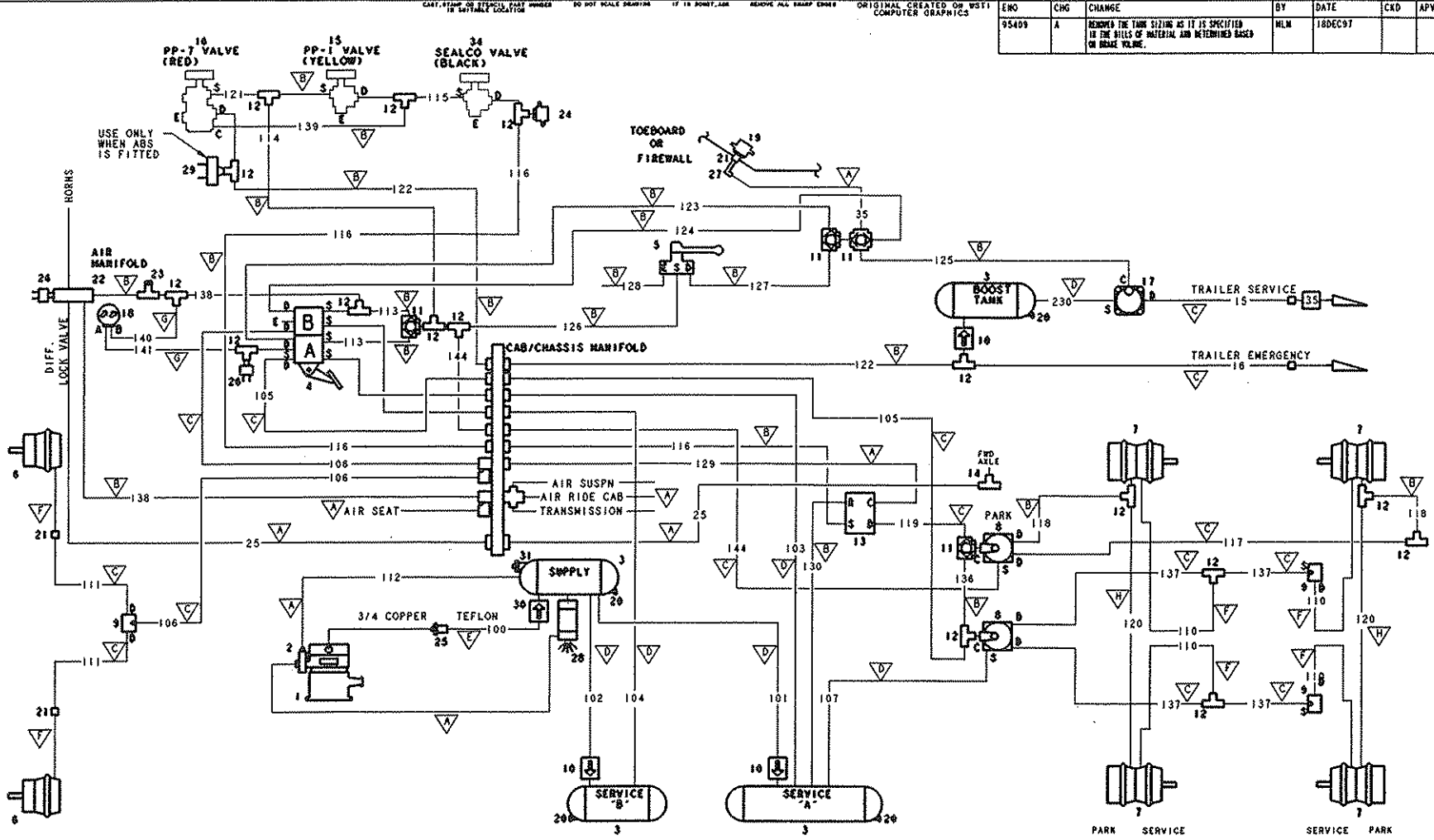


- NOTES:
- 1/. PRIMARY SYSTEM AS SHOWN IS NON ABS SERVICE BRAKE CONTROL ONLY.
 - 2/. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - 3/. DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 - 4/. ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

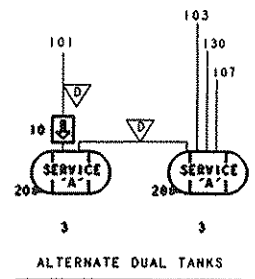
728B1-3548
WESTERN STAR TRUCKS INC.

COMP. NO.	DESCRIPTION	SIZE	MATERIAL
1	COMPRESSOR		
2	GOVERNOR		
3	RESERVOIR - SUPPLY		
4A	RESERVOIR - "A"		
4B	RESERVOIR - "B"		
4C	RESERVOIR - "C"		
4D	RESERVOIR - "D"		
5	RESERVOIR - "EXTRA"		
6	BRAKE VALVE		
7	CHAMBER, SERVICE, CAM		
7A	CHAMBER, SERVICE, WEDGE		
8	CHAMBER, SERVICE, PARK, CAM		
8A	CHAMBER, SERVICE, PARK, WEDGE		
9			
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)		
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)		
12	SINGLE CHECK VALVE		
13	DOUBLE CHECK VALVE		
14	QUICK RELEASE VALVE		
15	FRAME TEE		
16	TEE		
16A	AXLE TEE		
17	PARK CONTROL VALVE-SYSTEM		
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY		
19	TRACTOR PROTECTION VALVE		
20	HAND CONTROL VALVE		
21	SPRING BRAKE/INVERSION VALVE		
22	ABS PRESS. MOD. VLV (PMV)		
23	ABS ANTISPIN VALVE (ATC)		
24	AIR PRESSURE GAUGE, DUAL		
24A	AIR PRESSURE GAUGE, SINGLE		
25	DRAIN VALVE - (SPITTER VALVE)		
26	DRAIN COCK		
27	STOP LAMP SWITCH		
28	AIR DRYER		
29	QUICK RELEASE/DOUBLE CHECK VALVE (QR1-C)		
30	LOW PRESSURE SWITCH		
31	GLAD HAND		
32	CAB TO CHASSIS MANIFOLD		
33	BULKHEAD FITTING		
34	FRONT LIMITING VALVE		
35			
36	PRESSURE RELIEF VALVE		
37	PRESSURE PROTECTION VALVE		
38	ADJUSTABLE PRESSURE REGULATOR		
39	PRESET PRESSURE REGULATOR		
40	CONTROL VALVE		
41	BOBTAIL VALVE (BP-R1)		
42	DOUBLE CHECK VALVE DC-4		
43	DOUBLE CHECK VALVE DS-2		

NO.	QTY	DESCRIPTION
1	1	COMPRESSOR
2	1	GOVERNOR
3	4	AIR RESEVOIR
4	1	FOOT BRAKE VALVE
5	1	HAND BRAKE VALVE
6	2	SERVICE BRAKE CHAMBERS
7	4	SERVICE & SPRING BRAKE CHAMBERS
8	2	RELAY VALVE
9	3	QUICK RELEASE VALVE
10	4	SINGLE CHECK VALVE
11	4	DOUBLE CHECK VALVE
12	12	TEE
13	1	INVERSION VALVE
14	1	AXLE TEE
15	1	PARK BRAKE CONTROL VALVE
16	1	TRACTOR PROTECTION CONTROL VALVE
17	1	TRACTOR PROTECTION RELAY VALVE
18	1	DUAL AIR GAUGE
19	1	STOP LAMP SWITCH
20	4	SPITTER VALVE/DRAIN COCK
21	3	FRAME FITTING
22	1	AIR MANIFOLD
23	1	PRESSURE PROTECTION VALVE
24	1	PRESS SW PARK BRAKE WARNING
25	1	ADAPTOR-TEFLON TO HOSE
26	2	SWITCH - LOW AIR WARNING
27	1	ELBOW
28	1	MOISTURE EJECTOR
29	1	SWITCH-ABS TRLR WARN. LT DISABLE
30	1	H.D. CHECK VALVE
31	1	RELIEF VALVE
34	1	TRACTOR PARK BRAKE VALVE
35	1	QUICK RELEASE VALVE ("FASTBREAK")



LINE SIZE LEGEND			PORT LEGEND	
SYMBOL	NYLON	HOSE	SYMBOL	DESC.
	1/4	ø 4	S	SUPPLY
	3/8	ø 6	D	DELIVERY
	1/2	ø 8	C	CONTROL
	5/8	ø 10	E	EXHAUST
	-	ø 12	R	RESERVOIR
	ø 10 PARKER BRAKE HOSE			
	ø 8 PARKER BRAKE HOSE			



NOTE: THIS SCHEMATIC MUST COMPLY TO ADR 35 AND ADR 64.5

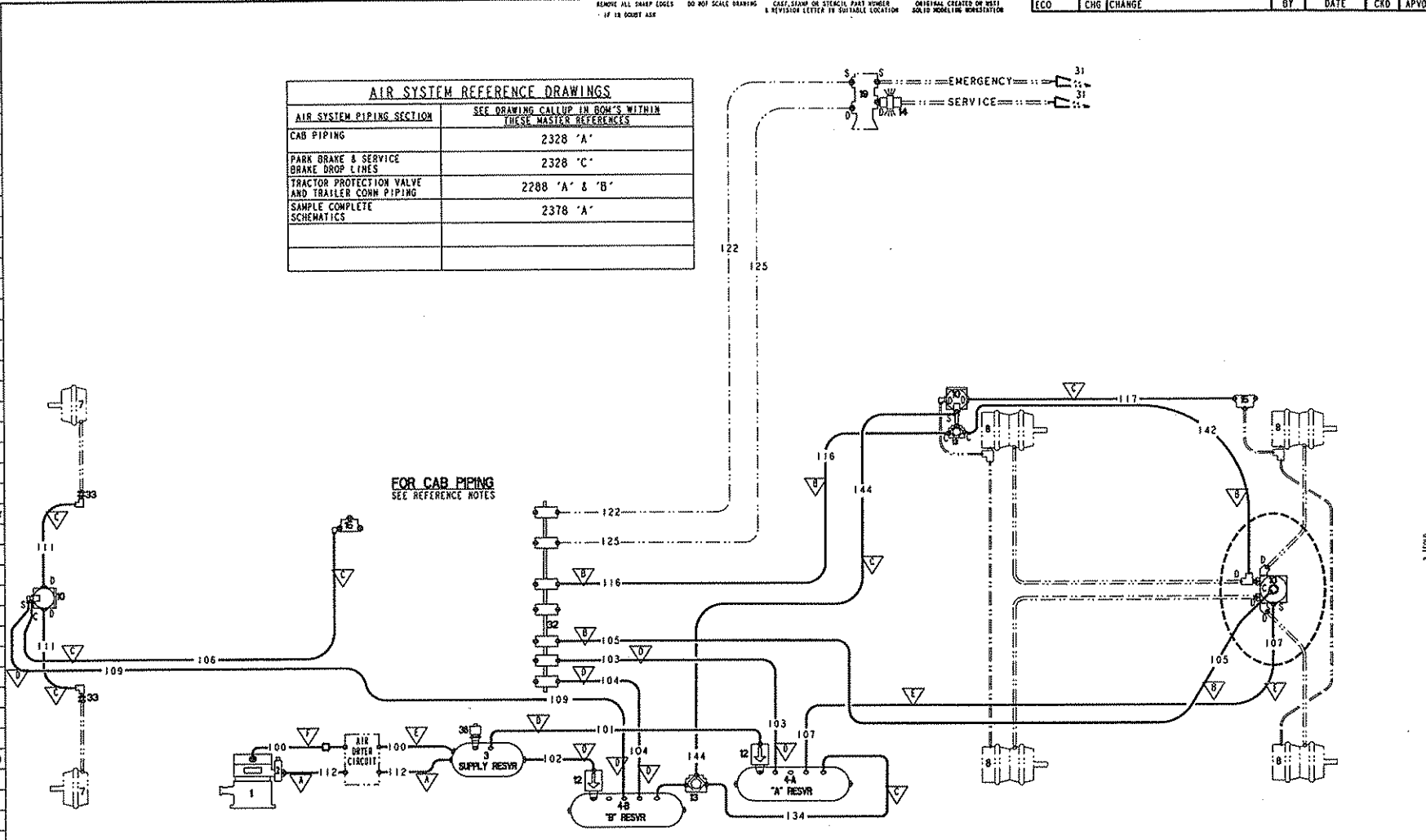
COMP. NO.	DESCRIPTION	SIZE	MATERIAL
7281-3549	WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS, KELLOWNA, B.C.		
TOLERANCES (UNLESS NOTED):			
MACHINING	±.02 IN.	DWN	MLM 02JUN97
HOLE CNTRS	±.02 IN.	CKD	
HOLE DIAM	±.02 IN.	APVD	
LINEAR	±.03 IN.	ECO	91360
ANGULAR	±1/2°	SCALE	NTS
AIR LINE DIAGRAM			
			WR NO. 2320
			7281-3549

ENO	CHG	CHANGE	BY	DATE	CKD	APVD
95409	A	REMOVED THE TANK SIZING AS IT IS SPECIFIED IN THE BILLS OF MATERIAL AND DETERMINED BASED ON HOSE VOLUME.	MLM	18DEC97		

7281-3549
WESTERN STAR TRUCKS INC.
A

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QR-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN ROW'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER COUPLER PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'



APPLICATION: TRACTOR WITH R-12 RELAY AT FRONT AXLE (SINGLE FRONT AXLE) WITHOUT ABS, INVERSION VALVE OR BOBTAIL PROPORTIONING

LINE SIZE LEGEND			PORT LEGEND	
SYMBOL	NYLON	HOSE	SYMBOL	DESC.
△	1/4	# 4	S	SUPPLY
▽	3/8	# 6	D	DELIVERY
◇	1/2	# 8	C	CONTROL
▽	5/8	# 10	E	EXHAUST
▽	3/4	# 12	R	RESERVOIR
▽	3/4 COPPER		A	ACCESSORY
▽	1/8			

- NOTES:
- 1/. PRIMARY SYSTEM AS SHOWN IS NON ABS SERVICE BRAKE CONTROL ONLY.
 - 2/. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - 3/. DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 - 4/. ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

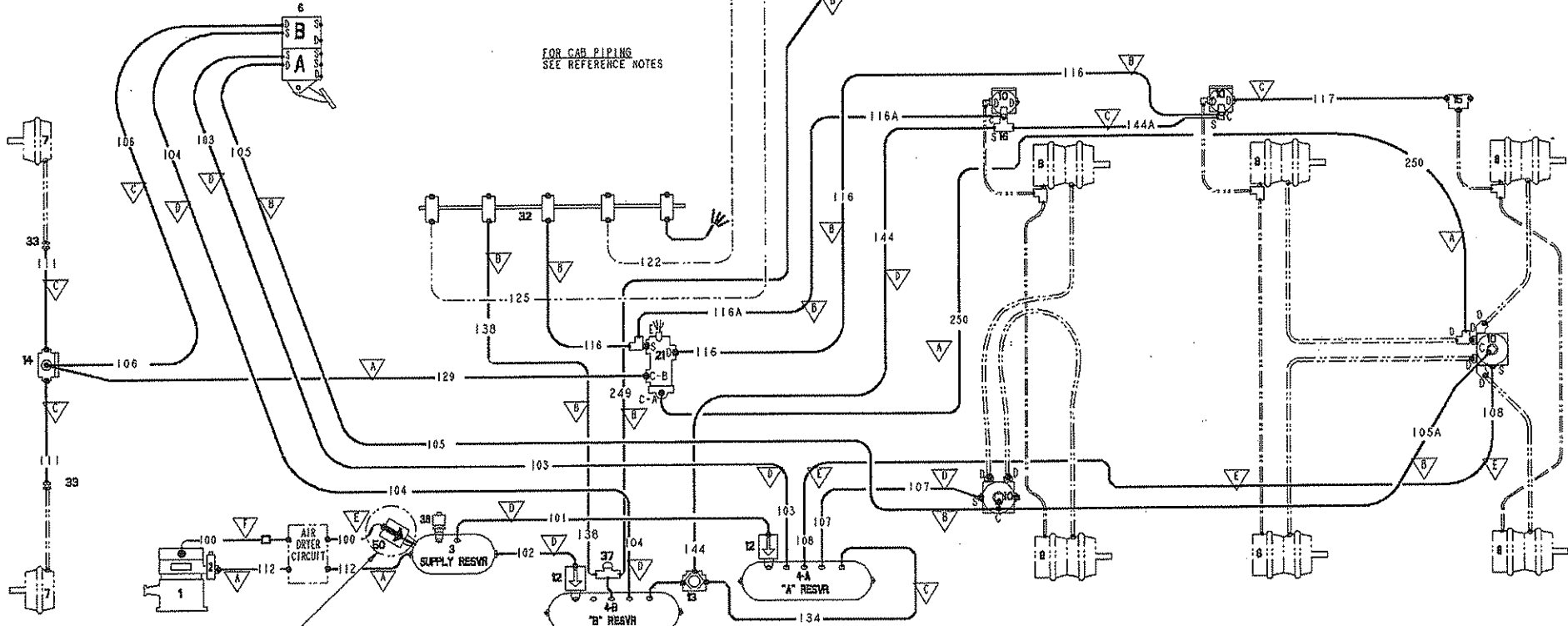
HERITAGE CAR

72881-3550
PRINTED DATE: 11/81
NEW

COMP. NO.	DESCRIPTION	SIZE	MATERIAL
1	WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELLOWNA, B.C.		
TOLERANCES UNLESS NOTED:			
MACHINING	DWN	INCS	13JUN97
HOLE CENTERS	CRD		
HOLE DIAMETERS	APVD		
LINEAR	ECO		51230
ANGULAR	SCALE		NONE
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR IN ANY MANNER DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., KELLOWNA, BC			
AIR SYSTEM PIPING CHASSIS PIPING SECTION			MR NO. 2328 'B'
			72881-3550

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (ORI-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-RI)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2
50	SUPPLY TANK SINGLE CHECK VALVE

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOM'S WITH THESE MASTER REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'



LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
A	1/4	# 4
B	3/8	# 6
C	1/2	# 8
D	5/8	# 10
E	3/4	# 12
F	3/4 COPPER	
G	1/8	

PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR
A	ACCESSORY

- NOTES:
- 1/. PRIMARY SYSTEM AS SHOWN IS INTENDED FOR USE WITH AN AIR OR SPRING TANDEN SUSPENSION COMBINED WITH A SINGLE AXLE AIR SUSPENSION
 - 2/. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - 3/. DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 - 4/. ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

APPLICATION: TRI-DRIVE TRUCK OR TRACTOR WITH INVERSION VALVE AND WITHOUT BOBTAIL PROPORTIONING OR WITHOUT ABS (ANTI-LOCK BRAKE SYSTEM)

FOR CONSTELLATION CAB ONLY

728B1-3551
PART ISSUE DATE

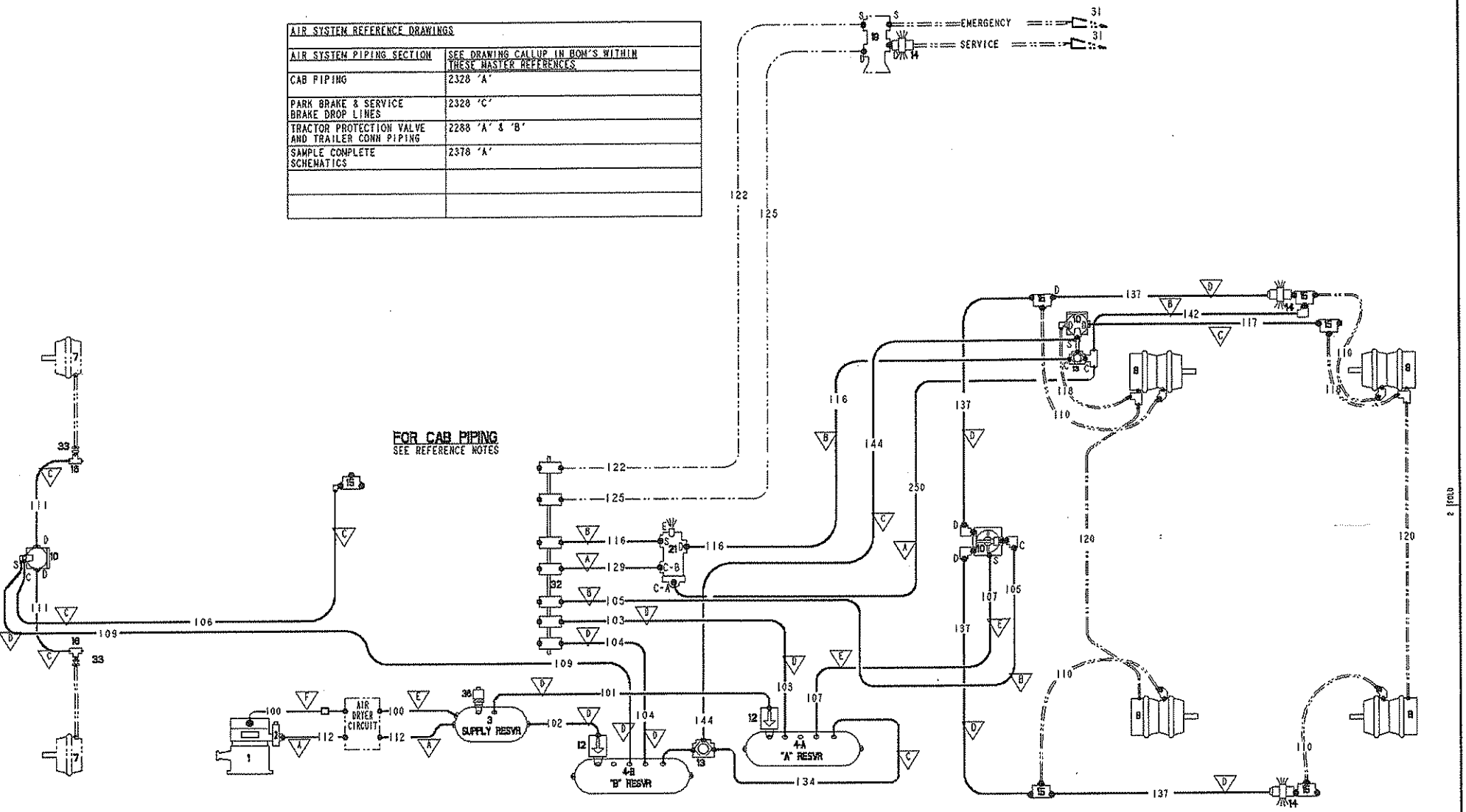
REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
		WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
		TOLERANCES UNLESS NOTED:		BY DATE
		MACHINING ±	OWN	WCS 31 JUL 97
		HOLE CENTERS ±	CKD	
		HOLE DIAMETERS ±	APVD	FWS 11 AUG 97
		LINEAR ±	ECCO	92867
		ANGULAR ±	SCALE	NONE
		THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE REPRODUCED OR IN ANY MANNER DISCLOSED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., KELOWNA, BC		
		AIR SYSTEM PIPING		MR NO. 2328 'B'
		CHASSIS PIPING SECTION 728B1-3551		SHEET 1 OF 1

ECO	CHG	CHANGE	BY	DATE	CKD	APVD
95658	SER	CHANGED LINE 21 ADDED A.	SER	21 JAN 98	WCS	
		ON VALVE, ADDED JED LINE 130				
		CRK VALVE				

REMOVE ALL SHARP EDGES DO NOT SCALE DRAWING CAST, STAMP OR STENCIL PART NUMBER & REVISION LETTER IN SUITABLE LOCATION ORIGINAL CREATED ON 07/11/87 11 IN QUART ANS

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QR1-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2

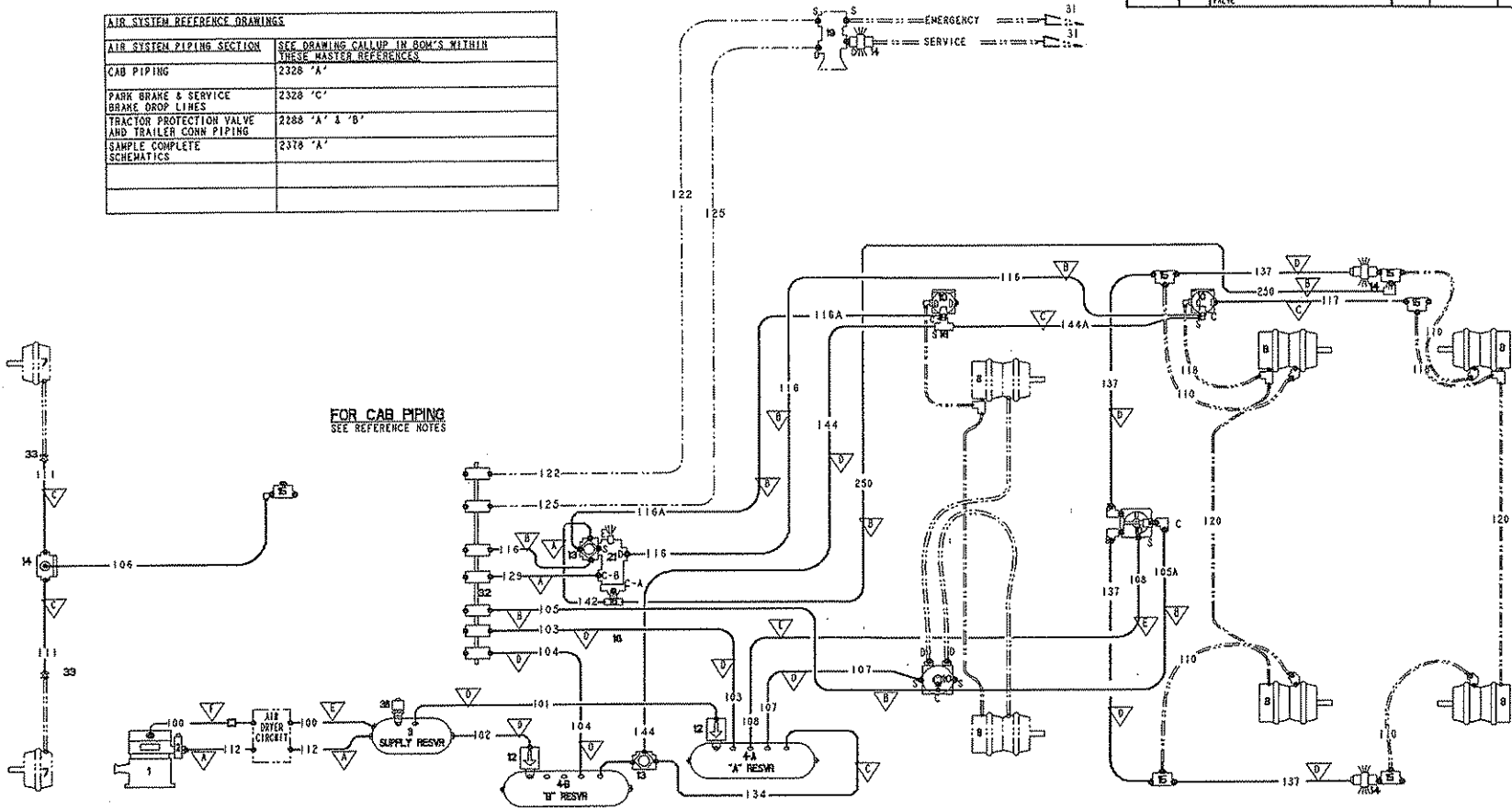
AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOM'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'



Printed on: February 4, 1998

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PHV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QR-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIGHTING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOM'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 "A"
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 "C"
TRACTOR PROTECTION VALVE AND TRAILER COHN PIPING	2288 "A" & "B"
SAMPLE COMPLETE SCHEMATICS	2378 "A"



FOR CAB PIPING
SEE REFERENCE NOTES

LINE SIZE LEGEND			PORT LEGEND	
SYMBOL	NYLON	HOSE	SYMBOL	DESC.
▽	1/4	4	S	SUPPLY
▽	3/8	6	D	DELIVERY
▽	1/2	8	C	CONTROL
▽	5/8	10	E	EXHAUST
▽	3/4	12	R	RESERVOIR
▽	3/4 COPPER		A	ACCESSORY
▽	1/8			

- NOTES:
- PRIMARY SYSTEM AS SHOWN IS INTENDED FOR USE ON WALKING BEAM TYPE TANDEN SUSPENSION COMBINED WITH A SINGLE AXLE AIR SUSPENSION
 - SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 - ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

FOR HERITAGE CAB ONLY

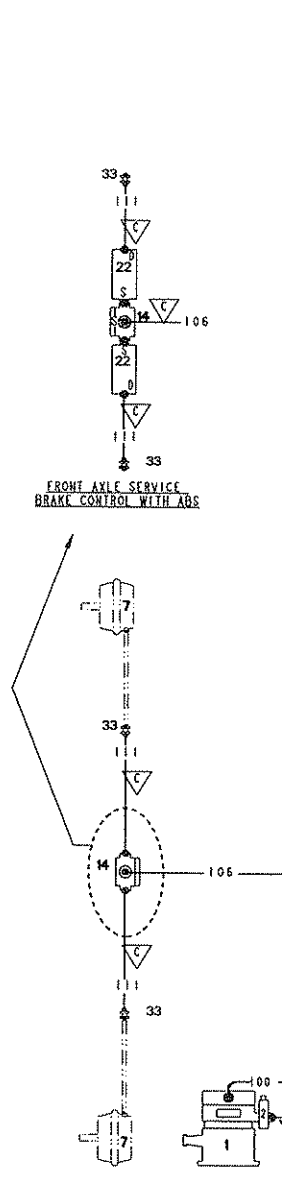
728B1-3553
PART NO.
REV. B

ECO	CHG	CHANGE	BY	DATE	CXD	APVD
94182	A	ADDED EBL CHECK VALVE, LN 142	SEE	03OCT97		
95958	B	CHANGED INVERSION VALVE, ADDED LINE 250 MOVED LINE 139, MOVED LINE 110, MOVED LINE 142, ADDED TEE AT INVERSION VALVE	WCS	21JAN98		

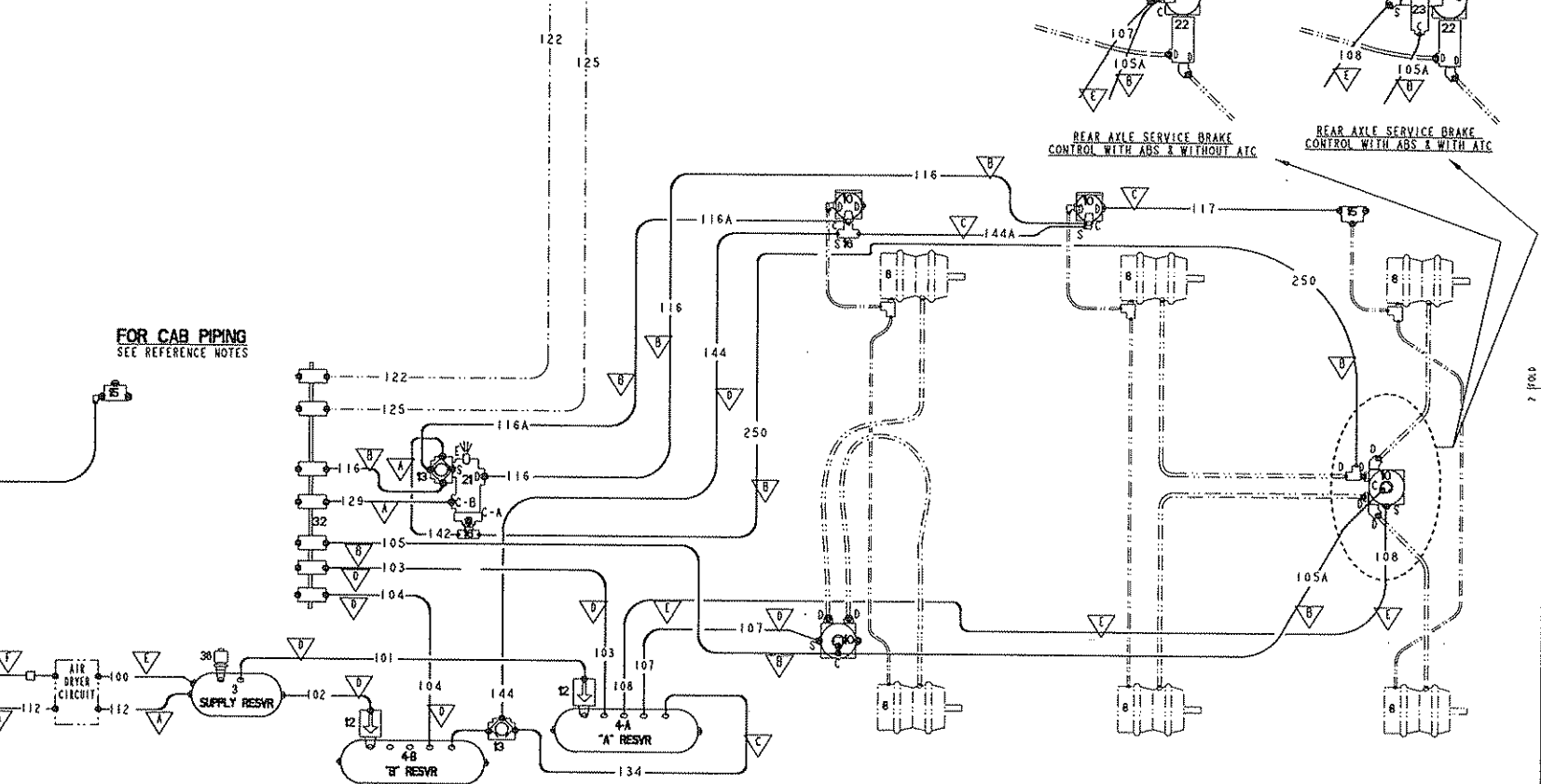
APPLICATION: TRI-DRIVE TRUCK OR TRACTOR WITH INVERSION VALVE AND WITHOUT BOBTAIL PROPORTIONING OR WITHOUT ABS/ANTI-LOCK BRAKE SYSTEM.

REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
		WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS		REL. 08/94, B.C.
		TOLERANCES UNLESS NOTED:		BY DATE
		MACHINING ±	DWN	SEE 24SEP97
		HOLE CENTERS ±	CKD	
		HOLE DIAMETERS ±	APVD	FWS 26SEP97
		LINEAR ±	ECO	93B76
		ANGULAR ±	SCALE	NONE
		THIS DRAWING CONTAINS PROPRIETARY INFORMATION AND IS MADE UP OF SEVERAL PAGES. IT IS THE USER'S RESPONSIBILITY TO CHECK THE ENTIRE DRAWING FOR CORRECTNESS OF INFORMATION AND TO OBTAIN THE NECESSARY PERMISSIONS FROM WESTERN STAR TRUCKS INC. BEFORE REPRODUCING OR TRANSMITTING IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.		
		AIR SYSTEM PIPING CHASSIS PIPING SECTION		DR. NO. 2320-1E
		728B1-3553		SHT 1 OF 1

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QRI-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2



AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN ROW'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 "A"
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 "C"
TRACTOR PROTECTION VALVE AND TRAILER COHN PIPING	2288 "A" & "B"
SAMPLE COMPLETE SCHEMATICS	2378 "A"



LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
▽	1/4	# 4
▽	3/8	# 6
▽	1/2	# 8
▽	5/8	# 10
▽	3/4	# 12
▽	3/4 COPPER	
▽	1/8	-

PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR
A	ACCESSORY

- NOTES:
- 1/. PRIMARY SYSTEM AS SHOWN IS INTENDED FOR USE WITH AN AIR OR SPRING TANDEM SUSPENSION COMBINED WITH A SINGLE AXLE AIR SUSPENSION. SEE ALSO 728B1-3553 FOR TRIDEM REAR WITH WALKING BEAM TANDEM SUSPENSION COMBINED WITH A SINGLE AXLE AIR SUSPENSION.
 - 2/. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - 3/. DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 - 4/. ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

APPLICATION: TRI-DRIVE TRUCK OR TRACTOR WITH INVERSION VALVE AND WITHOUT BOBTAIL PROPORTIONING, WITH OR WITHOUT ABS (ANTI-LOCK BRAKE SYSTEM) OR ATC (AUTO TRACTION CONTROL)

FOR HERITAGE CAB ONLY

728B1-3554
FIRST TRIM PART
C

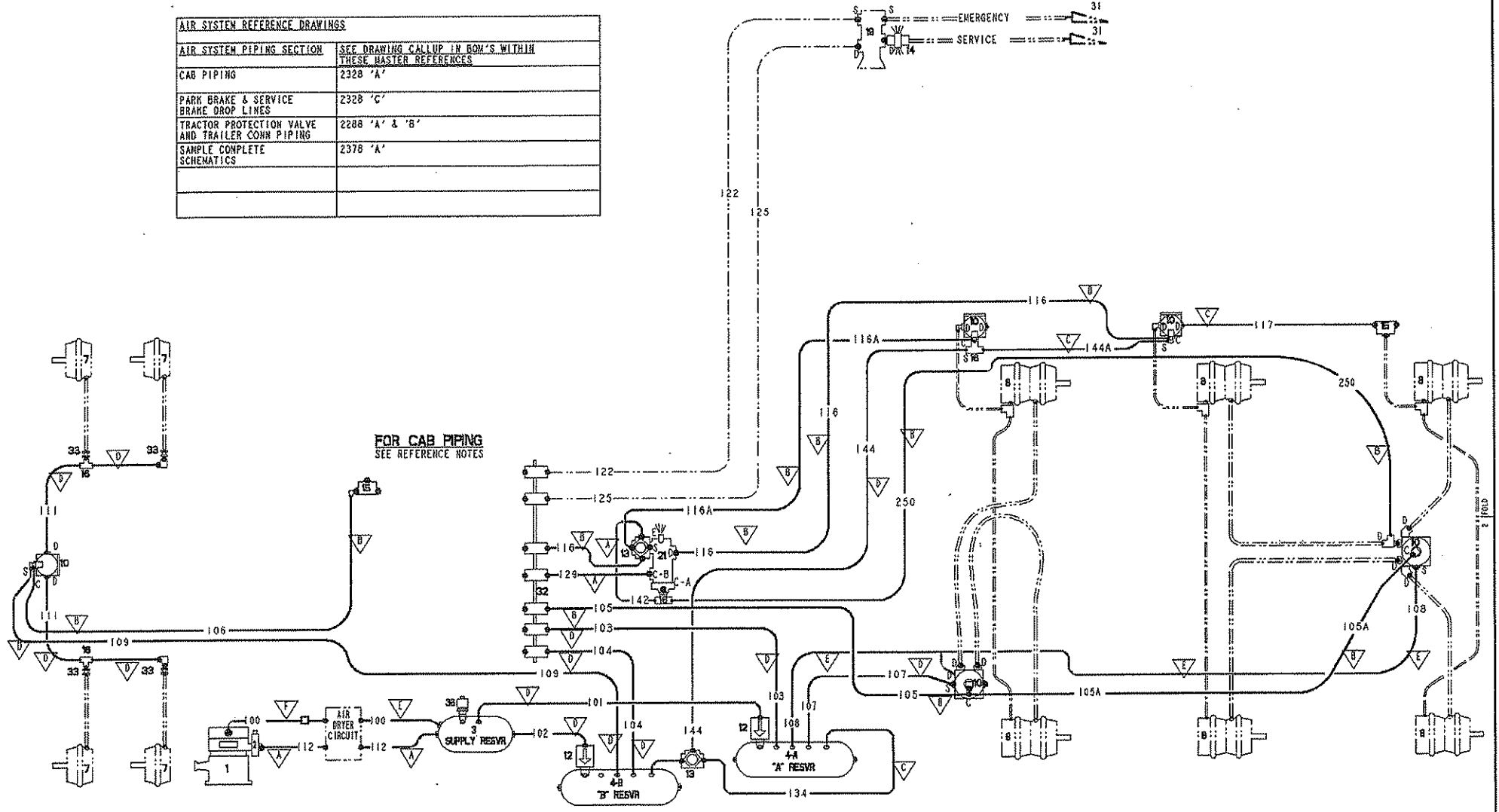
ECO	CRG	CHANGE	BY	DATE	CRD	APVD
94116	A	ADD CHECK VALVE, LN 142	SEE	01OCT97		
95658	B	CRA INVERSION VALVE, ADDED LINE, MOVED LINE 110, MOVED LINE 142, ADDED TEE AT INVERSION VALVE	WCS	21JAN98		FWS
105877	C	ADDED ABS VALVES AND PIPING VIEWS AND INFO. REVISED APPLICATION NOTE.	EWN	28SEP99		WCS

COMP. NO.	DESCRIPTION	SIZE	MATERIAL
WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS - KELOWA, B. C.			
TOLERANCES UNLESS NOTED:			
MACHINING	±	DWN	SEE 25SEP97
HOLE CENTERS	±	CKD	
HOLE DIAMETERS	±	APVD	FWS 27SEP97
LINEAR	±	ECO	43924
ANGULAR	±	SCALE	NONE
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR ITS CONTENTS DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN CONSENT OF WESTERN STAR TRUCKS, INC. - KELOWA, BC			
AIR SYSTEM PIPING			MR NO. 2320 "B"
CHASSIS PIPING SECTION			728B1-3554 SHT 1 OF 1

ECO	CHG	CHANGE	BY	DATE	CKD	APVD
95658	A	CHANGE LINE 2 LINE 11. ON VALVE, ADDED LINE 110. MOVED LINE 142. ADDED TEE AT INVERSION VALVE	WCS	21JAN98		

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QR1-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOB'S WITH THESE MASTER REFERENCES
CAB PIPING	232B 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	232B 'C'
TRACTOR PROTECTION VALVE AND TRAILER COHN PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'



LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
A	1/4	# 4
B	3/8	# 6
C	1/2	# 8
D	5/8	# 10
E	3/4	# 12
F	3/4 COPPER	
G	1/8	-

PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR
A	ACCESSORY

- NOTES:
- PRIMARY SYSTEM AS SHOWN IS INTENDED FOR USE ON TWIN STEER WITH AIR OR SPRING TANDEM SUSPENSION COMBINED WITH A SINGLE AXLE AIR SUSPENSION.
 - SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 - ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

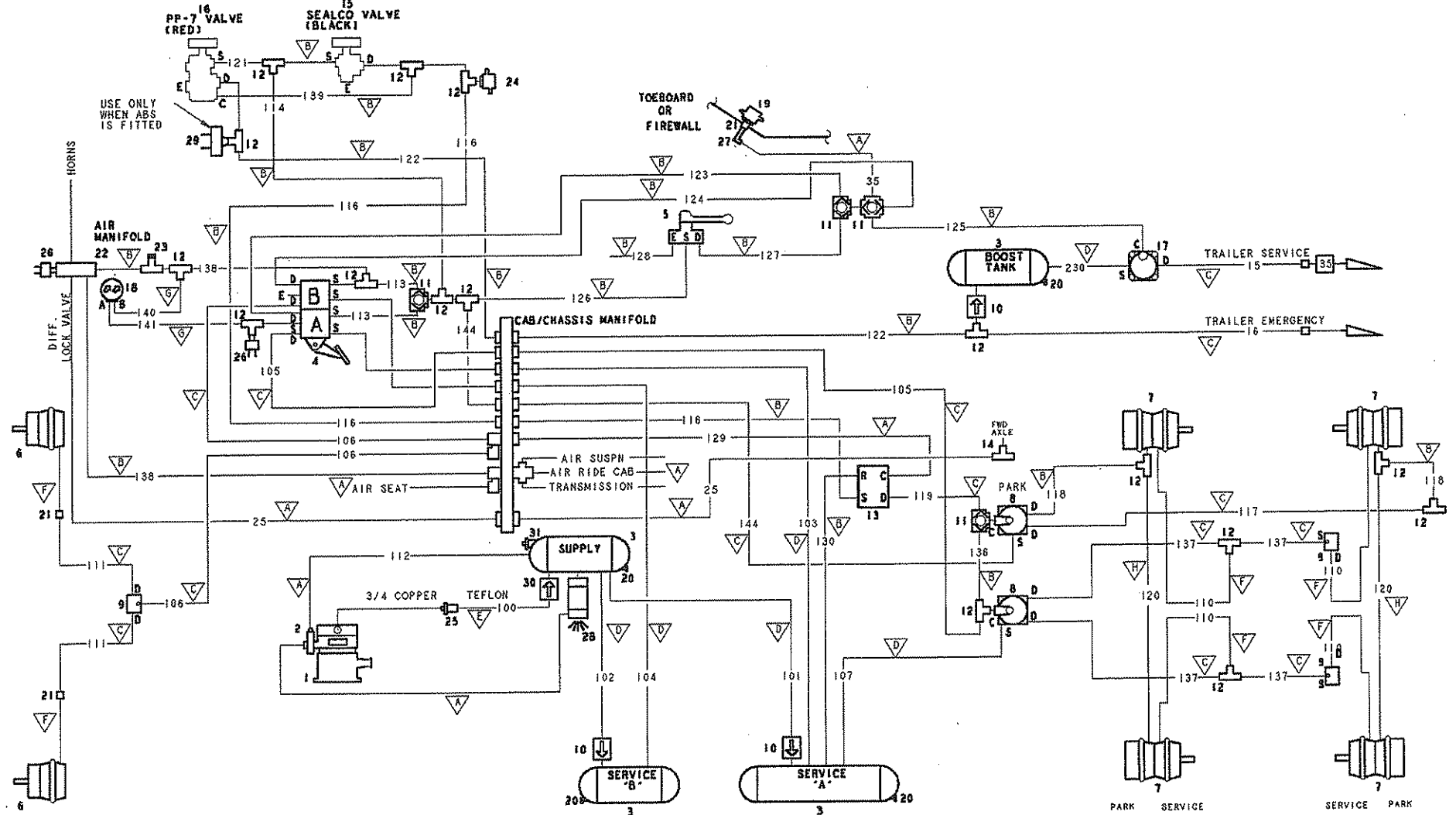
APPLICATION: TWIN STEER/TRI-DRIVE TRUCK OR TRACTOR WITH INVERSION VALVE AND WITHOUT BOBTAIL PROPORTIONING OR ABS (ANTI-LOCK BRAKE SYSTEM).

FOR HERITAGE CAB ONLY

72881-3555
TRUCK ISSUE DATE
REV. 1
A

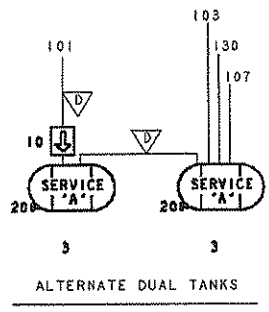
REV.	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
		WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
		TOLERANCES UNLESS NOTED:	BY	DATE
		MACHINING ±	DWN	SEE 13NOV97
		HOLE CENTERS ±	CKD	
		HOLE DIAMETERS ±	APVD	
		LINEAR ±	ECO	94836
		ANGULAR ±	SCALE	NONE
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR COPIED OR EITHER IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., KELOWNA, BC				
AIR SYSTEM PIPING CHASSIS PIPING SECTION				MR NO. 2320 'B'
72881-3555				SHT 1 OF 1

NO.	QTY.	DESCRIPTION
1	1	COMPRESSOR
2	1	GOVERNOR
3	4	AIR RESERVOIR
4	1	FOOT BRAKE VALVE
5	1	HAND BRAKE VALVE
6	2	SERVICE BRAKE CHAMBERS
7	4	SERVICE & SPRING BRAKE CHAMBERS
8	2	RELAY VALVE
9	3	QUICK RELEASE VALVE
10	4	SINGLE CHECK VALVE
11	4	DOUBLE CHECK VALVE
12	13	TEE
13	1	INVERSION VALVE
14	1	AXLE TEE
15	1	PARK BRAKE CONTROL VALVE
16	1	TRACTOR PROTECTION CONTROL VALVE
17	1	TRACTOR PROTECTION RELAY VALVE
18	1	DUAL AIR GAUGE
19	1	STOP LAMP SWITCH
20	4	SPITTER VALVE/DRAIN COCK
21	3	FRAME FITTING
22	1	AIR MANIFOLD
23	1	PRESSURE PROTECTION VALVE
24	1	PRESS SW PARK BRAKE WARNING
25	1	ADAPTER-TEFLON TO HOSE
26	2	SWITCH - LOW AIR WARNING
27	1	ELBOW
28	1	MOISTURE EJECTOR
29	1	SWITCH-ABS TRLR WARN. LT DISABLE
30	1	HEAVY DUTY CHECK VALVE
31	1	RELIEF VALVE
32	1	QUICK RELEASE VALVE("FASTBREAK")



LINE SIZE LEGEND			PORT LEGEND	
SYMBOL	NYLON	HOSE	SYMBOL	DESCR.
A	1/4	#4	S	SUPPLY
B	3/8	#6	D	DELIVERY
C	1/2	#8	C	CONTROL
D	5/8	#10	E	EXHAUST
E	-	#12	R	RESERVOIR
F	#10 PARKER BRAKE HOSE			
G	1/8	#2		
H	#8 PARKER BRAKE HOSE			

NOTE: THIS SCHEMATIC MUST COMPLY TO ADR 35 AND ADR 64.5

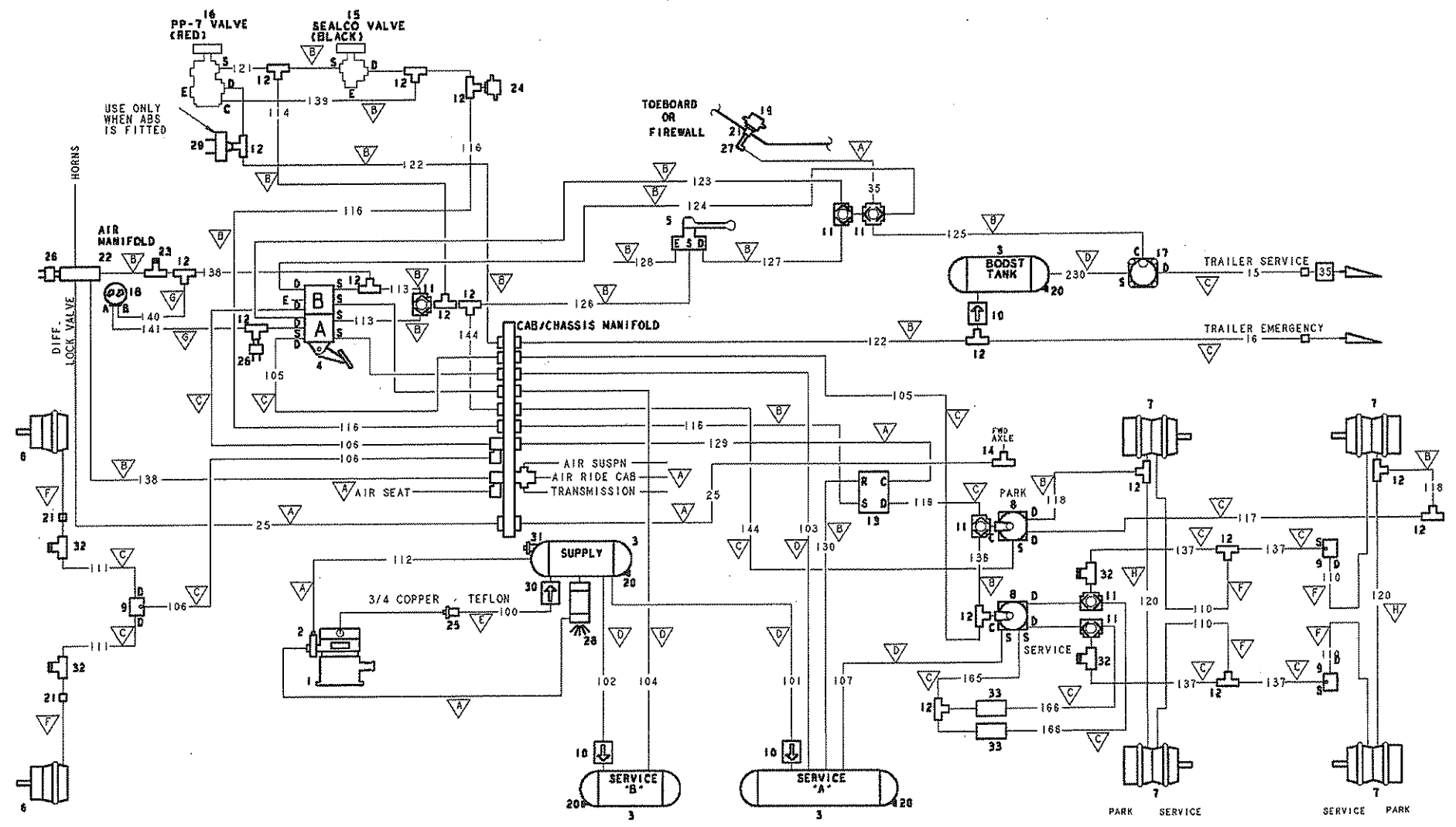


ALTERNATE DUAL TANKS

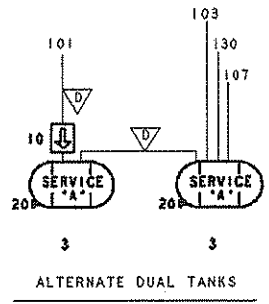
72881-3561
1993-1997
TRUCKS DATE NEW

COMP. NO.	DESCRIPTION	SIZE	MATERIAL
72881-3561	WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
TOLERANCES UNLESS NOTED: BY DATE			
MACHINING	±.02 INCH	DOWN	MLW 10MAR98
HOLE CENTERS	±.02 INCH	CKD	
HOLE DIAMETERS	±.02 INCH	APVD	
LINEAR	±.06 INCH	ECO	96529
ANGULAR	± 1/2°	SCALE	NONE
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR ITS CONTENTS DEVELOPED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., KELOWNA, BC			
AIR LINE DIAGRAM			MR NO. NONE
6x4 TRACTOR W/INVERSION			72881-3561

NO.	QTY	DESCRIPTION
1	1	COMPRESSOR
2	1	GOVERNOR
3	4	AIR RESERVOIR
4	1	FOOT BRAKE VALVE
5	1	HAND BRAKE VALVE
6	2	SERVICE BRAKE CHAMBERS
7	4	SERVICE & SPRING BRAKE CHAMBERS
8	2	RELAY VALVE
9	3	QUICK RELEASE VALVE
10	4	SINGLE CHECK VALVE
11	4	DOUBLE CHECK VALVE
12	13	TEE
13	1	INVERSION VALVE
14	1	AXLE TEE
15	1	PARK BRAKE CONTROL VALVE
16	1	TRACTOR PROTECTION CONTROL VALVE
17	1	TRACTOR PROTECTION RELAY VALVE
18	1	DUAL AIR GAUGE
19	1	STOP LAMP SWITCH
20	4	SPITTER VALVE/DRAIN COCK
21	3	FRAME FITTING
22	1	AIR MANIFOLD
23	1	PRESSURE PROTECTION VALVE
24	1	PRESS SW PARK BRAKE WARNING
25	1	ADAPTER-TEFLON TO HOSE
26	2	SWITCH - LOW AIR WARNING
27	1	ELBOW
28	1	MOISTURE EJECTOR
29	1	SWITCH-ABS TRLR WARN. LT DISABLE
30	1	HEAVY DUTY CHECK VALVE
31	1	RELIEF VALVE
32	4	ABS PRESSURE MODULATING VALVE
33	2	ABS ATC VALVE
35	1	QUICK RELEASE VALVE ("FASTBREAK")



LINE SIZE LEGEND			PORT LEGEND	
SYMBOL	NYLON	HOSE	SYMBOL	DESCR.
	1/4	#4	S	SUPPLY
	3/8	#6	D	DELIVERY
	1/2	#8	C	CONTROL
	5/8	#10	E	EXHAUST
		#12	R	RESERVOIR
	#10 PARKER BRAKE HOSE			
	1/8	#2		
	#8 PARKER BRAKE HOSE			



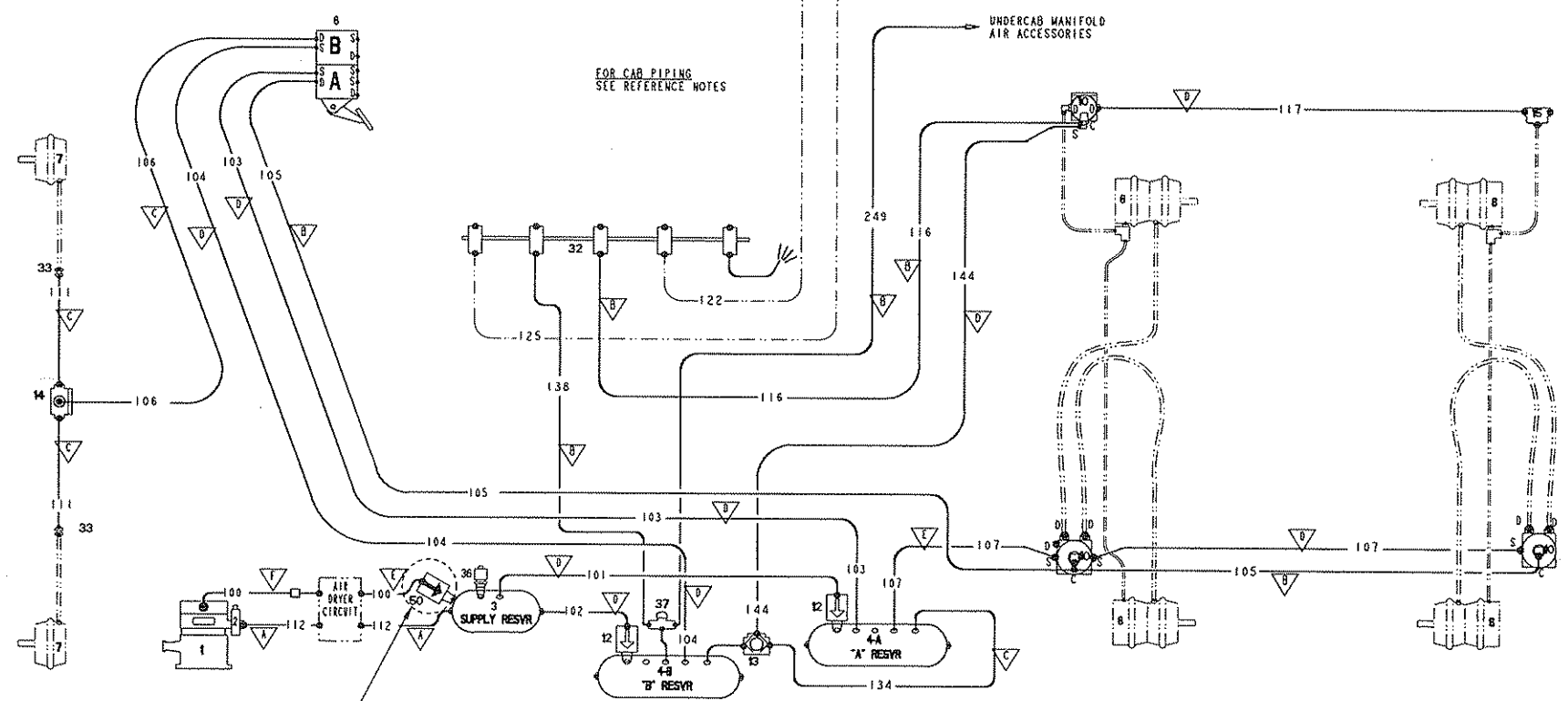
NOTE: THIS SCHEMATIC MUST COMPLY TO ADR 35/01 AND ADR 64.5

728B1-3562
 PART NUMBER
 PRINTED DATE
 NEW

COMP. NO.	DESCRIPTION	SIZE	MATERIAL
1	WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
TOLERANCES UNLESS NOTED: BY DATE			
MACHINING	± .02 INCH	DOWN	ENLW 10MAR98
SOLE CENTERS	± .02 INCH	CHD	
SOLE DIAMETERS	± .02 INCH	APVD	
LINEAR	± .06 INCH	ECO	98529
ANGULAR	± 1/2°	SCALE	NONE
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR ITS CONTENTS DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., KELOWNA, BC			
AIR LINE DIAGRAM			MR NO. NONE
6x4 TRACTOR W/INVERSION 728B1-3562			SHEET 1 OF 1

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (ORI-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2
50	SUPPLY TANK SINGLE CHECK VALVE

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOX'S WITHIN THIS MASTER REFERENCE
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 'A' & 'B'
SAMPLE COMPLETE SCHEMATICS	2378 'A'



LINE SIZE LEGEND			PORT LEGEND	
SYMBOL	NYLON	HOSE	SYMBOL	DESC.
	1/4	# 4	S	SUPPLY
	3/8	# 6	D	DELIVERY
	1/2	# 8	C	CONTROL
	5/8	# 10	E	EXHAUST
	3/4	# 12	R	RESERVOIR
	3/4 COPPER		A	ACCESSORY
	1/8			

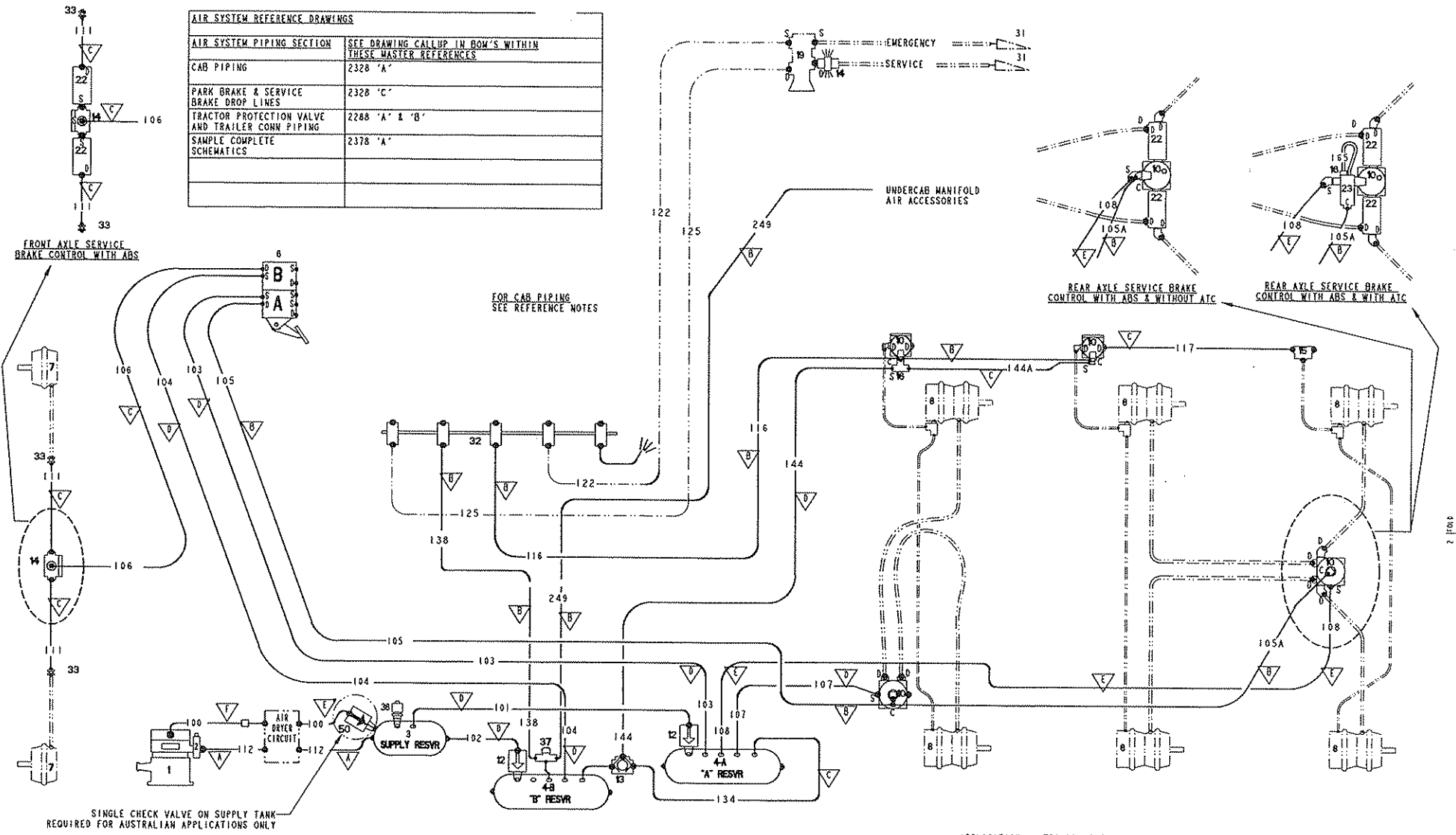
- NOTES:
- 1/. PRIMARY SYSTEM AS SHOWN IS NOW ABS SERVICE BRAKE CONTROL ONLY.
 - 2/. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - 3/. DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 - 4/. ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

APPLICATION: TRACTOR WITHOUT INVERSION VALVE, & WITH DUAL RELAY VALVES
 FOR USE ON TRUCKS WITH TYPE 36 CHAMBERS & TANDEM AXLES (AIR96)
 WITHOUT ABS ONLY
 FOR CONSTELLATION CAB ONLY

728B1-3573
 PART NUMBER
 DATE
 NEW

REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
		WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS MELOWNA, B.C.		
TOLERANCES UNLESS NOTED:		BY	DATE	
MACHINING	±	DWN	EWR	03DEC99
HOLE CENTERS	±	CKO		
HOLE DIAMETERS	±	APVD	SER	07DEC99
LINEAR	±	ECO		106912
ANGULAR	±	SCALE	NONE	
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR ITS CONTENTS DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., MELOWNA, BC				
APPLICATION PART NO.		AIR SYSTEM PIPING		NR NO. 2328 'B'
		CHASSIS PIPING SECTION		728B1-3573 SH1 1 of 1

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QRI-C)
30	LOW PRESSURE SWITCH
31	GLAD HAND
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2
50	SUPPLY TANK SINGLE CHECK VALVE



LINE SIZE LEGEND			PORT LEGEND	
SYMBOL	NYLON	HOSE	SYMBOL	DESC.
	1/4	# 4	S	SUPPLY
	3/8	# 6	D	DELIVERY
	1/2	# 8	C	CONTROL
	5/8	# 10	E	EXHAUST
	3/4	# 12	R	RESERVOIR
	3/4 COPPER		A	ACCESSORY
	1/8			

- NOTES:
- PRIMARY SYSTEM AS SHOWN IS INTENDED FOR USE WITH AN AIR OR SPRING TANDEM SUSPENSION COMBINED WITH A SINGLE AXLE AIR SUSPENSION
 - SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - DOUBLE LINES DENOTE FLEXIBLE DROP LINES
 - ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

APPLICATION: TRI-DRIVE TRACTOR WITHOUT INVERSION VALVE AND WITHOUT BOBTAIL PROPORTIONING VALVE.

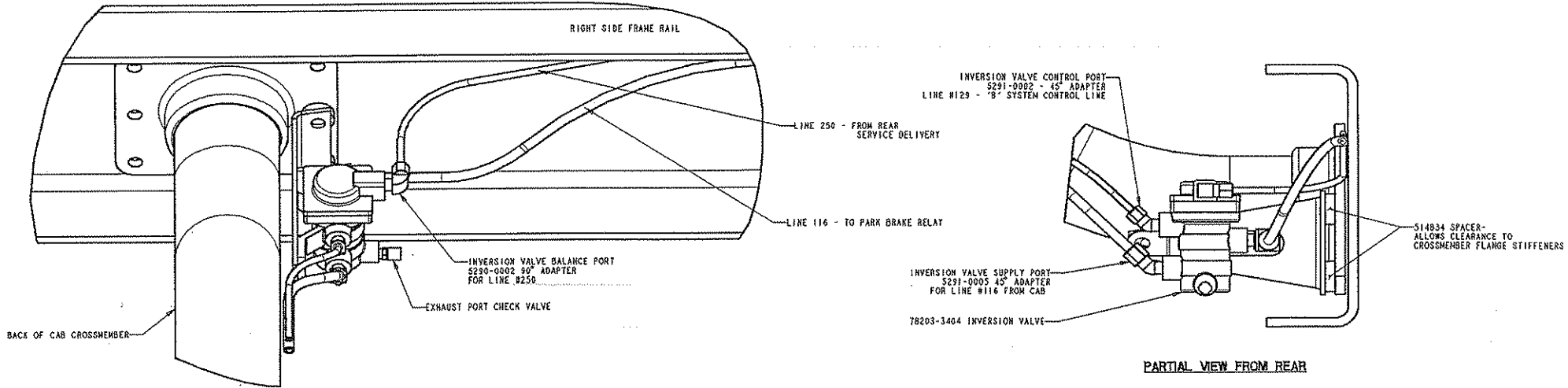
WITH OR WITHOUT ABS (ANTI-LOCK BRAKE SYSTEM).
NOTE: 4 CHANNEL ABS DOES NOT CONTROL FRONT REAR DRIVE AXLE.

FOR CONSTELLATION CAB ONLY

728B1-3574
PART ISSUE DATE
NEW

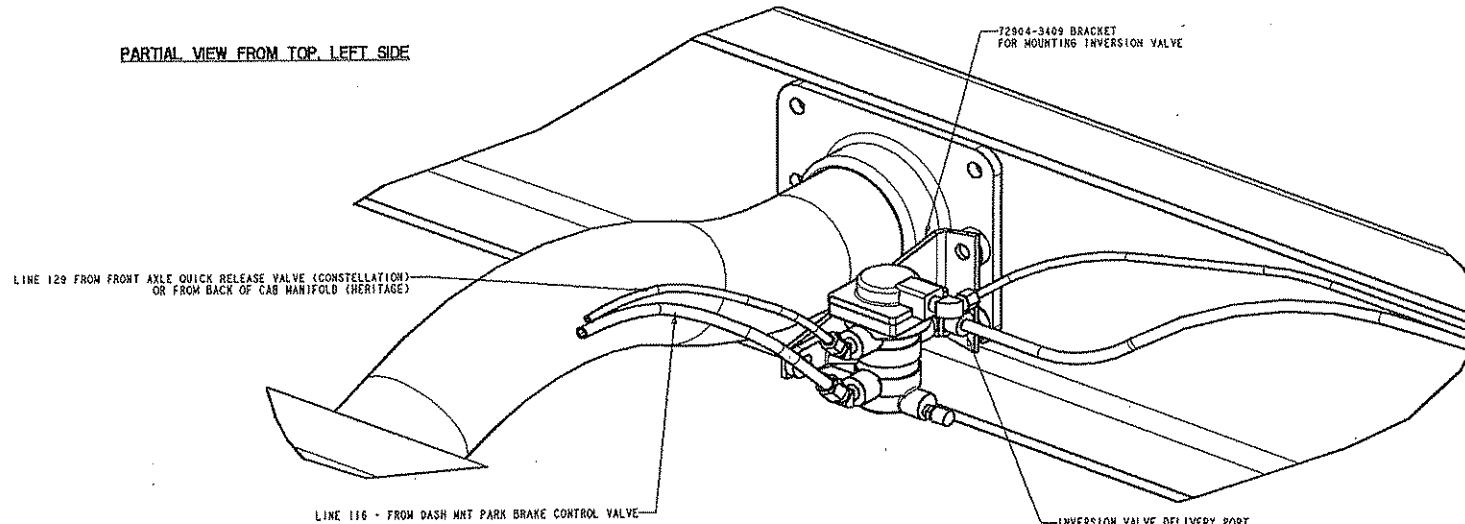
REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
		WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS MELBOURNE, B.C.		
	TOLERANCES UNLESS NOTED:		BY	DATE
	MACHINING	±	DWN	ENH 01 MAR 00
	HOLE CENTERS	±	EKD	
	HOLE DIAMETERS	±	APVD	SER 06 MAR 00
	LINEAR	±	ECO	108074
	ANGULAR	±	SCALE	NONE
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AIR SYSTEM PIPING CHASSIS PIPING SECTION				MR NO. 2328 'B'
				728B1-3574

REMOVE ALL SHARP EDGES DO NOT SCALE DRAWING CASE, START OR STOP CUT, PART NUMBER ORIGINAL CREATED OR MODIFIED SOLID MODELING VERIFICATION ECO CHG CHANGE BY DATE CKD APVD



PARTIAL VIEW FROM TOP LEFT SIDE

PARTIAL VIEW FROM REAR



PARTIAL VIEW FROM TOP REAR LEFT SIDE

APPLICATION:
 - ALL INSTALLATIONS OF INVERSION VALVE EXCEPT TRUCKS WITH EXTERNAL BACK OF CAB CROSSMEMBERS. TRIDRIVE ON HERITAGE CAB WILL HAVE DOUBLE CHECK MOUNTED ON SUPPLY PORT OF INVERSION VALVE.
 - FITTINGS SHOWN ARE FOR WILCOX CHASSIS PIPING ONLY

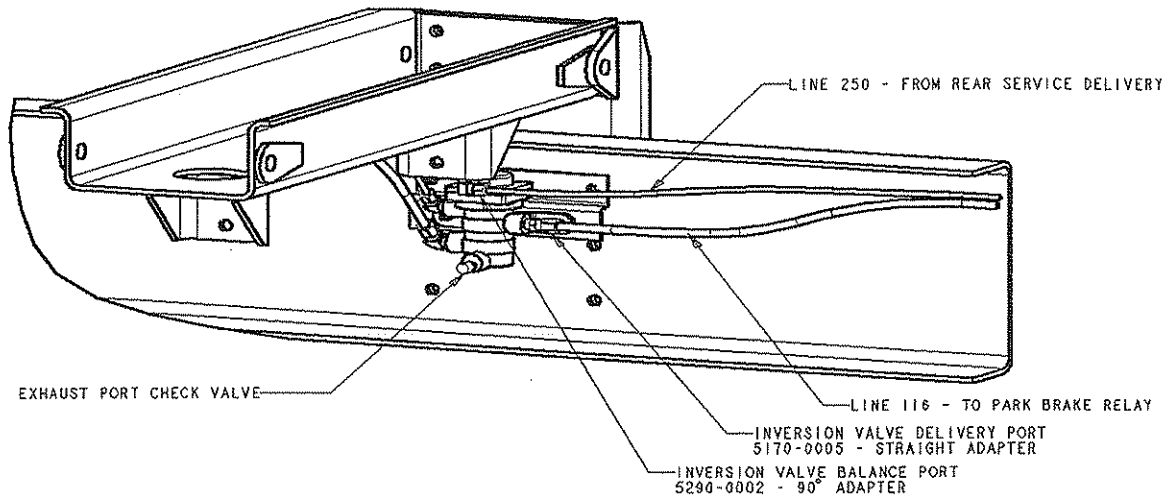
729A1-3404
 1 of 1

REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
1		WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
TOLERANCES UNLESS NOTED:		DRW	MCS	20 JAN 98
MACHINING		CRD		
HOLE CENTERS		APVD		
HOLE DIAMETERS		ECO		95638
LINEAR				
ANGULAR			SCALE	HALF
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INSTALLATION INVERSION VALVE - STD MOUNT				WSR NO. 2378A 729A1-3404

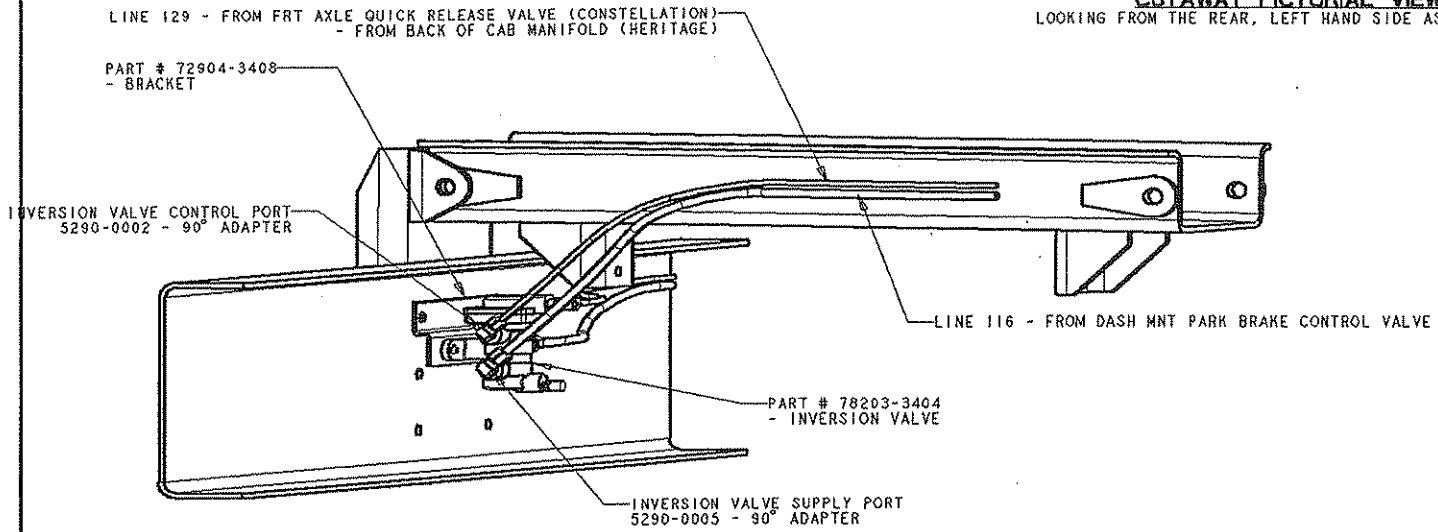
Printed on: February 4, 1998

Title: Installation Inversion Valve With External BOC Crossmember Drawing Number: 729A1 - 3405 Rev: New Sheet: 1 of 1

REMOVE ALL SHARP EDGES IF IN DOUBT ASK DO NOT SCALE DRAWING CAST STAMP OR STENCIL PART NUMBER & REVISION LETTER IN SUITABLE LOCATION ORIGINAL CREATED ON WESTI SOLID MODELING WORKSTATION ECO CHG CHANGE BY DATE CKD APVD



CUTAWAY PICTORIAL VIEW
LOOKING FROM THE REAR, LEFT HAND SIDE AS INSTALLED



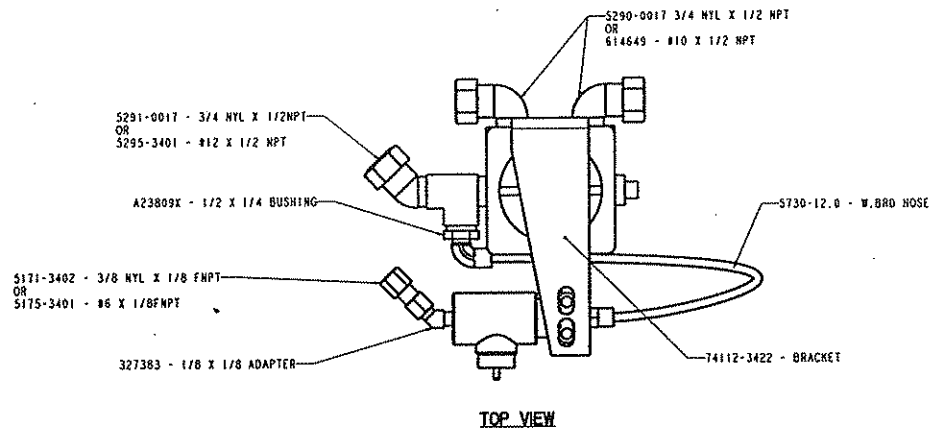
PARTIAL PICTORIAL VIEW
LOOKING FROM THE FRONT AS INSTALLED

729A1-3405	SHT 1
PRINT ISSUE DATE	DF 1
	CHG
	NEW

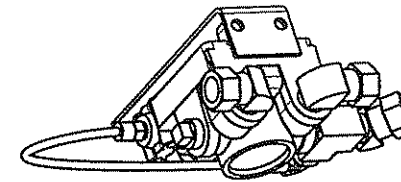
NOTE:
- SAMPLE VIEWS SHOWING INSTALLATION OF THE MIDLAND INVERSION VALVE WHEN USED WITH EXTERNAL BACK OF CAB CROSSMEMBER
- FITTINGS SHOWN ARE FOR NYLON CHASSIS PIPING ONLY

REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
	WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.			
	TOLERANCES UNLESS NOTED:		BY	DATE
	MACHINING	DWN	WCS	14JAN98
	HOLE CENTERS	CKD		
	HOLE DIAMETERS	APVD		
	LINEAR	ECO		95658
	ANGULAR	SCALE		HALF
<small>THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR ITS CONTENTS DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., KELOWNA, BC</small>				
	INSTALLATION - INVERSION VALVE WITH EXTERNAL BOC CROSSMEMBER			MR NO. 2378
	729A1-3405			SHT 1
				OF 1

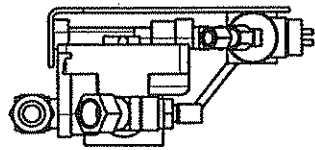
Printed on: February 4, 1998



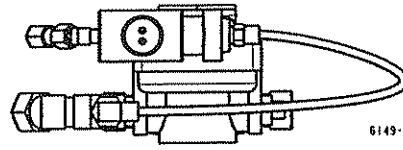
TOP VIEW



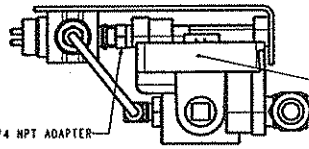
VIEW FROM FRONT, BOTTOM, RHS



VIEW FROM LHS



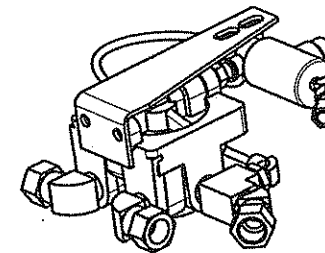
VIEW FROM REAR AS INSTALLED ON TRUCK



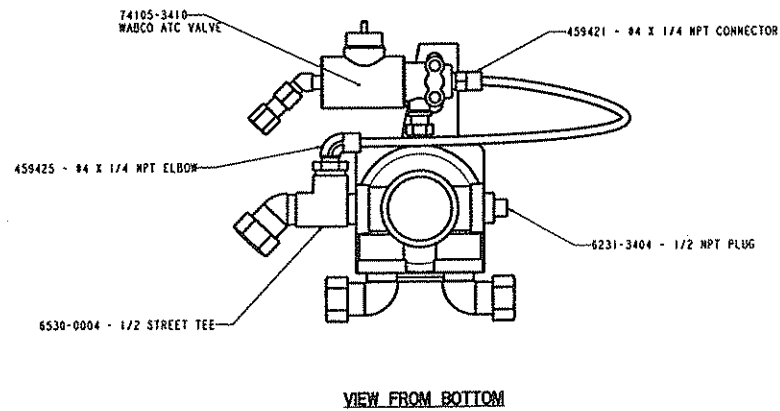
VIEW FROM RHS

6149-3413 - 3/8 X 1/4 NPT ADAPTER

72201-3413 - MIDLAND RELAY VALVE



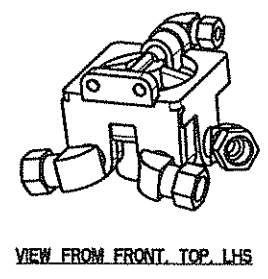
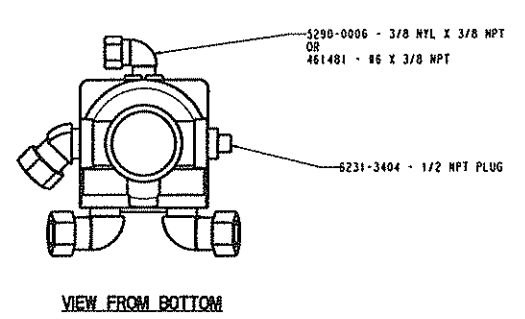
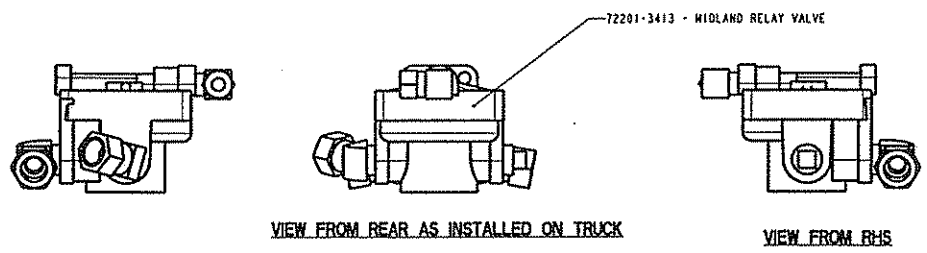
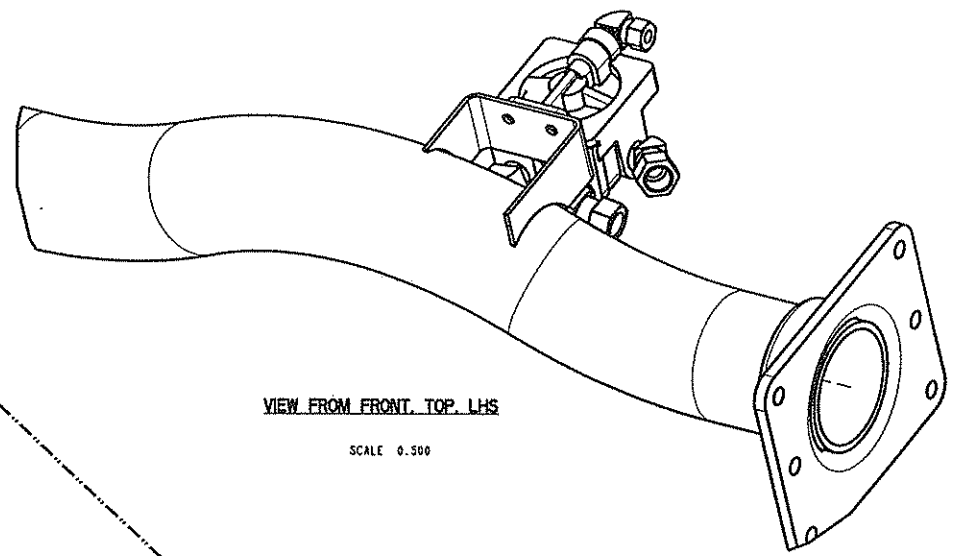
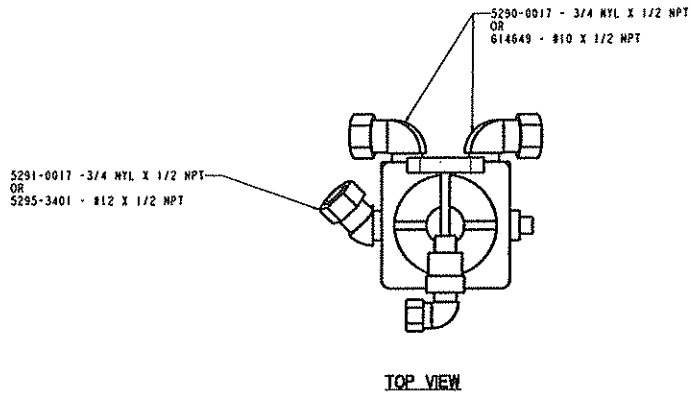
VIEW FROM FRONT, TOP, LHS



VIEW FROM BOTTOM

APPLICATION:

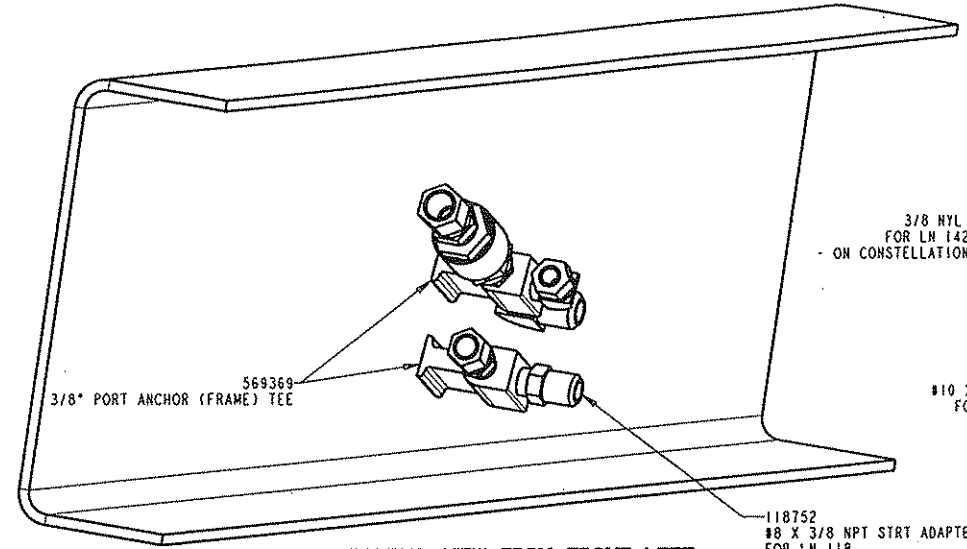
1. INSTALLATION AND ASSEMBLY OF MIDLAND RELAY WITH WABCO ATC VALVE INCLUDED.
2. FOR USE ON ALL WALKING BEAM SUSPENSIONS WITH SINGLE RELAY VALVE ABS WITH ATC



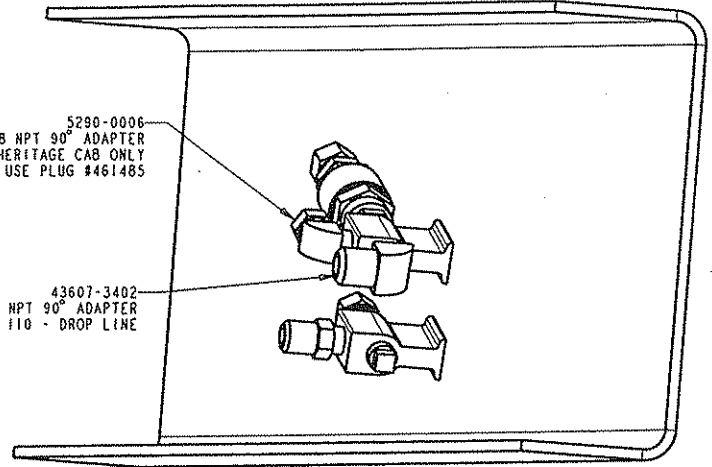
- APPLICATION:
1. INSTALLATION AND ASSEMBLY OF MIDLAND RELAY FOR USE WITH OR WITHOUT ABS. VIEW AS SHOWN IS NOT EQUIPPED FOR USE WITH ATC
 2. FOR USE ON ALL WALKING BEAM SUSPENSIONS WITH SINGLE RELAY VALVE WITH OR WITHOUT ABS.

REMOVE ALL SHARP EDGES IF IN DOUBT ASK
 DO NOT SCALE DRAWING
 CAST, STAMP OR STENCIL PART NUMBER & REVISION LETTER IN SUITABLE LOCATION
 ORIGINAL CREATED OR WESTI SOLID MODELING WORKSTATION

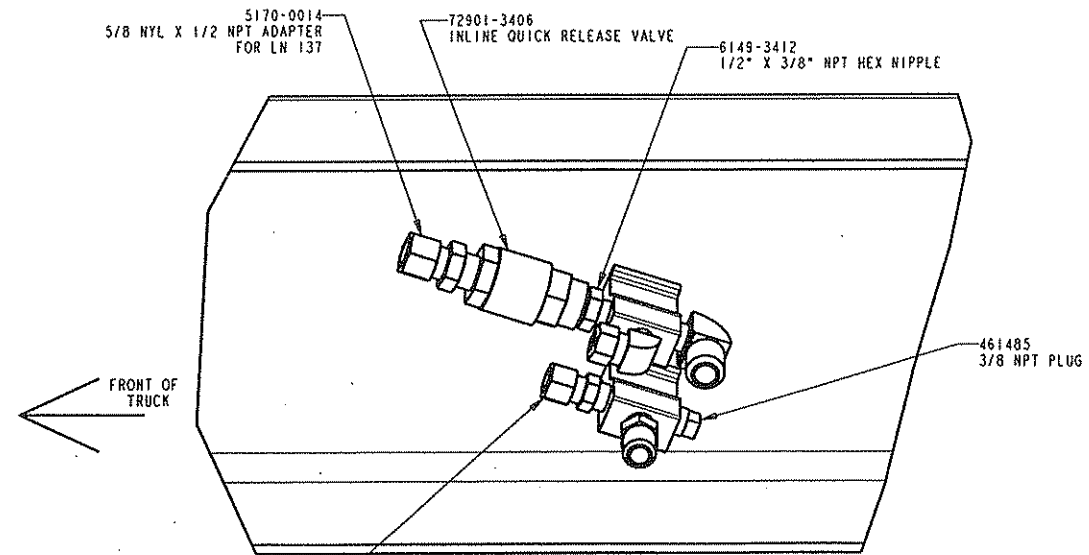
ECO	CHG	CHANGE	BY	DATE	CKD	APVD
91327	A	ASSY MODIFIED FROM ORIGINAL - REDONE USING 3/8" PORT FRAME TEES AT BOTH LOCATIONS(569369) ADDITIONAL FITTING DETAILS ADDED.	WCS	20MAY97		



PARTIAL VIEW FROM FRONT LEFT



PARTIAL VIEW FROM REAR LEFT



SIMPLIFIED PARTIAL VIEW OF QUICK RELEASE VALVE MNTD AT REAR AXLE DROP TEE

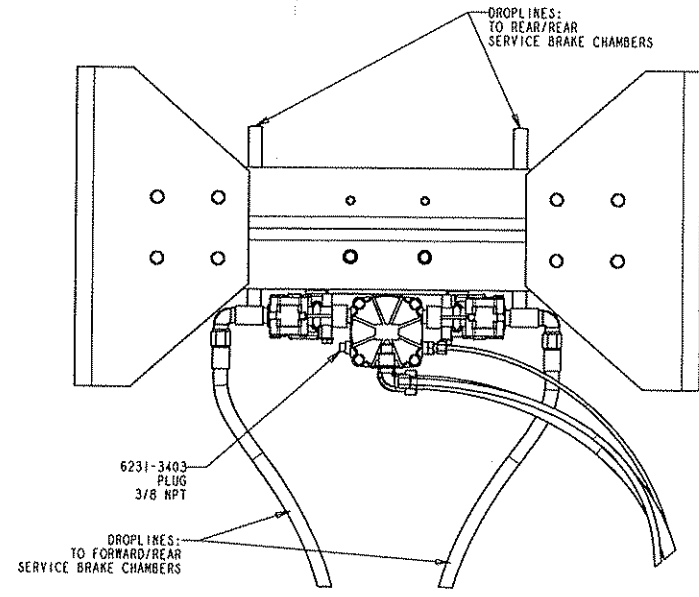
VIEW FROM TOP, LEFT SIDE

FRONT OF TRUCK

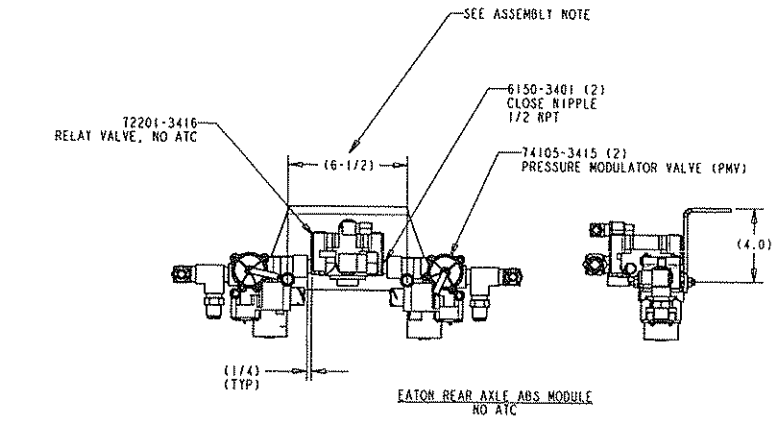
741A1-3420	SHT 1
PRTRY ISSUE DATE	OF 1
	CHG
	A

APPLICATION:
 - ASSEMBLY AS SHOWN IS FOR USE WITH ALL WALKING BEAM SUSPENSIONS WITH NYLON CHASSIS PIPING

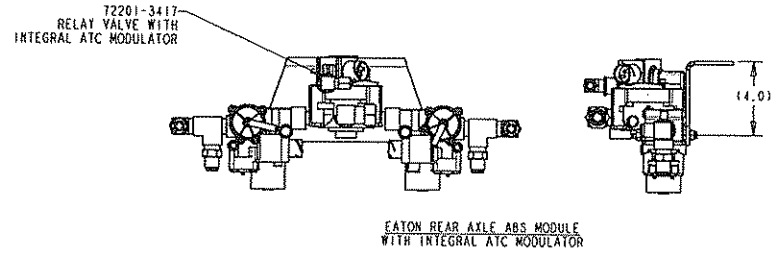
NEW	REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
			WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
		TOLERANCES UNLESS NOTED:		BY	DATE
				DWN	WCS 07MAY97
				CKD	
				APVD	
				ECO	91327
				SCALE	NONE
		THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR ITS CONTENTS DISCLOSED IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., KELOWNA, BC			
		INSTALLATION - SIMPLIFIED			MR NO. 2378 "F"
		QUICK REL VALVE - RR DROP TEE			741A1-3420
					SHT 1
					OF 1



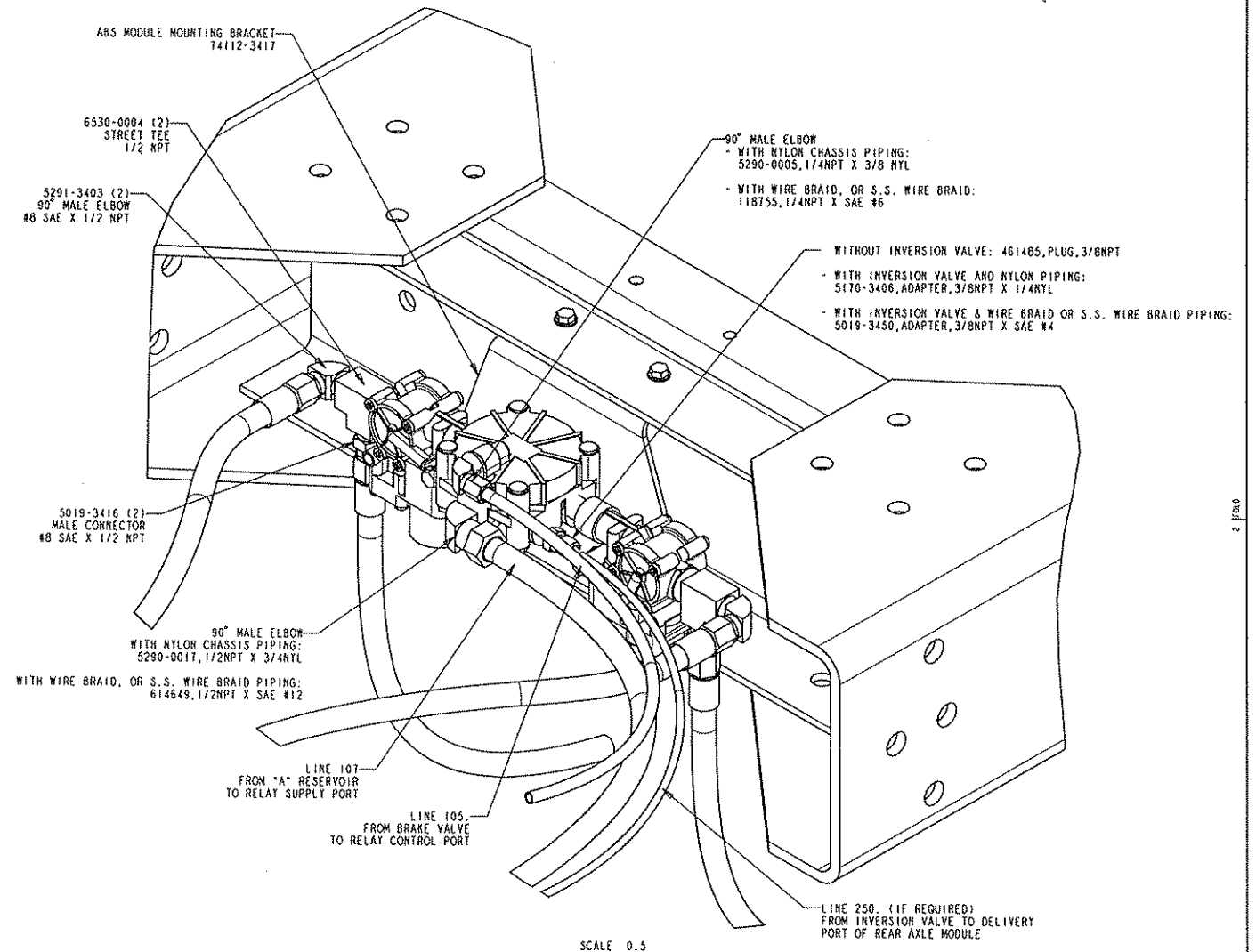
PLAN VIEW
SCALE 0.25



EATON REAR AXLE ABS MODULE NO ATC



EATON REAR AXLE ABS MODULE WITH INTEGRAL ATC MODULATOR



SCALE 0.5

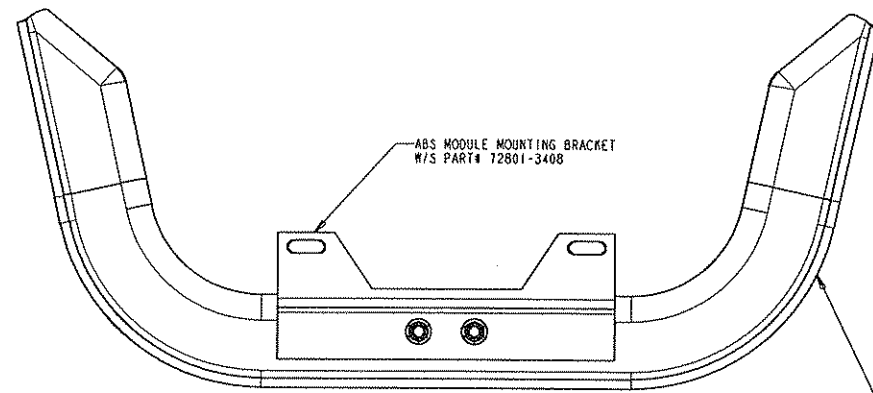
ASSEMBLY NOTE:
THE REAR AXLE ABS MODULE REQUIRES ASSEMBLY.
SEE ASSEMBLY DIMENSION.

741A1-3423
PART NO
PRINTED DATE
CHG NO
REV

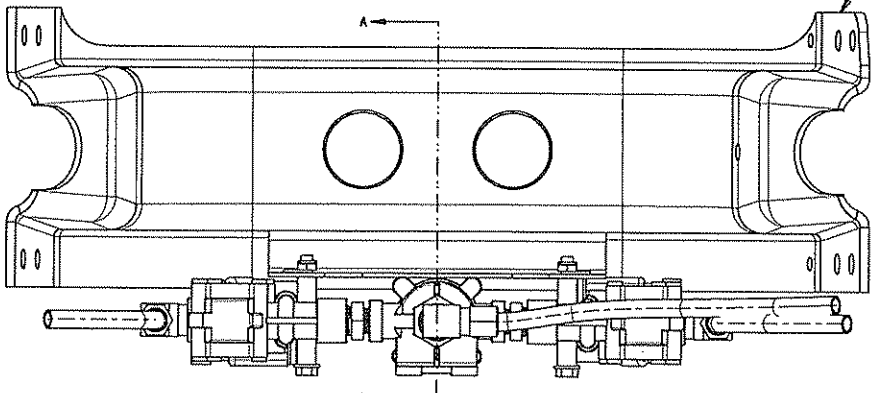
NEW	REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
			WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
TOLERANCES UNLESS NOTED:					
				BY	DATE
MACHINING		±	INCH	DWN	TJJ 28-Apr-00
HOLE CENTERS		±	INCH	CKD	
HOLE DIAMETERS		±	INCH	APVD	SER 03-May-00
LINEAR		±	INCH	ECO	107887-1
ANGULAR		±			SCALE 0.250
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INSTALL-ABS MODULE				M/REF	2378F
REAR AXLE, EATON/BOSCH				741A1-3423	SHT 1 of 1

ITEM NO.	COMPONENT	NYLON PIPING	WIRE BRAID, OR S.S. WIRE BRAID.
-1	90DEG ELBOW	1/2NPT X 1/2NPT 5290-0011	1/2NPT X SAE #8 614641
-2	90DEG ELBOW	3/8NPT X 1/2NYL 5290-0010	3/8NPT X SAE #4 118751
-3	ADAPTER	3/8NPT X 1/4NYL 5019-3463	3/8NPT X SAE #4 5019-3463
-4	BUSHING	1/2NPT X 3/8NPT A13300X	SAME AS NYLON
-5	STREET TEE	3/8" NPT 9038749	"

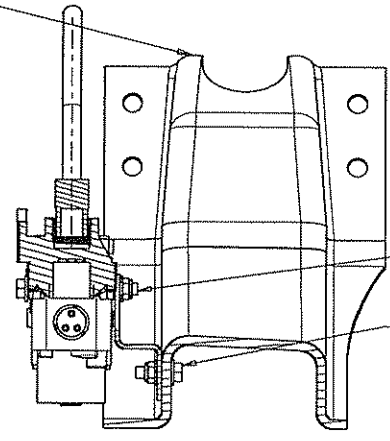
FITTINGS 2 THRU 5 ARE USED ONLY WHEN THE TRUCK IS EQUIPPED WITH AN INVERSION VALVE.



FRONT VIEW - VALVING REMOVED
SCALE 0.5
FRONT ENGINE CROSSMEMBER

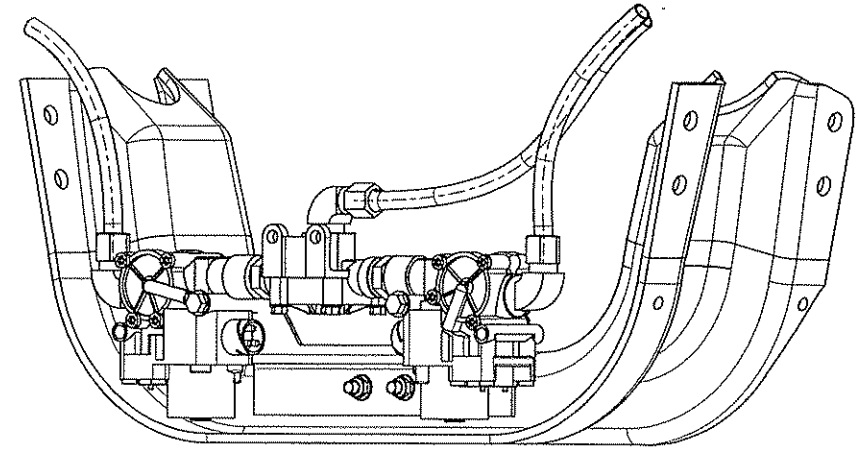


PLAN VIEW

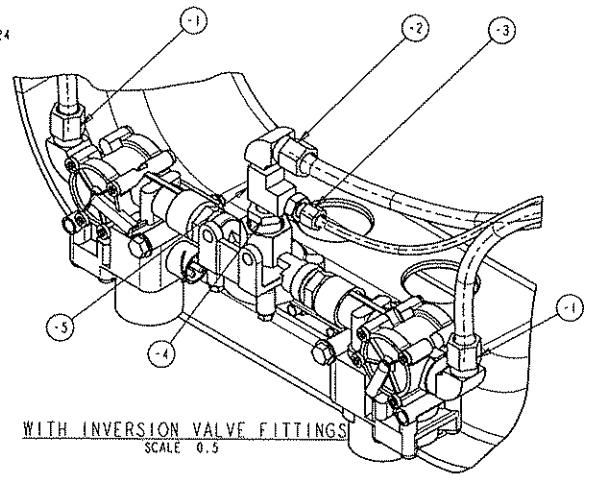


SECTION A-A
SCALE 0.5

- ABS MODULE - MOUNTING HARDWARE
 - (2) 5/16" UNF X 3" LG BOLT, #101624
 - (4) 5/16" WASHER, #120393
 - (2) 5/16" UNF NYLOC NUT, #656311
- ABS BRACKET MOUNTING HARDWARE
 - (2) 5/16" UNF X 1" LG BOLT, #101600
 - (4) 5/16" WASHER, #120393
 - (2) 5/16" UNF NYLOC NUT, #656311

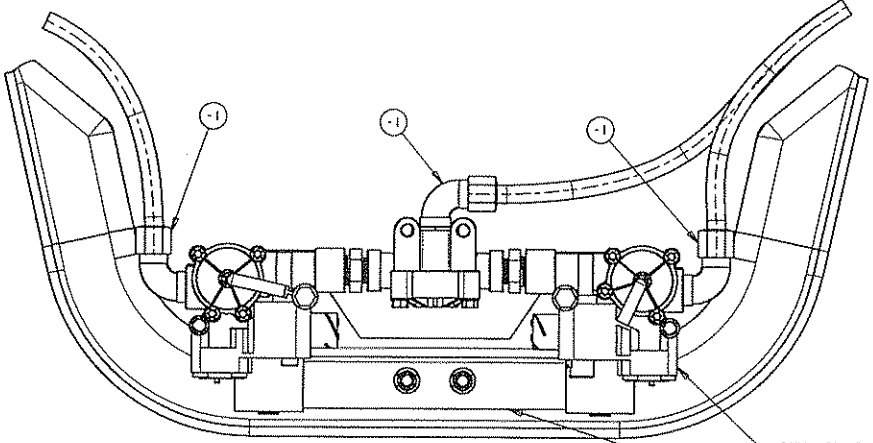


SCALE 0.5



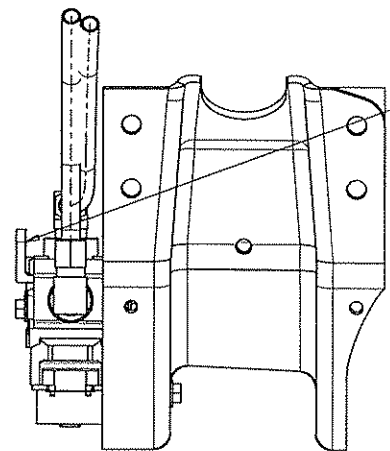
WITH INVERSION VALVE FITTINGS
SCALE 0.5

- NOTES:
 - ALL FITTINGS AND HARDWARE NOT DESCRIBED ARE CALLED UP IN NON ABS PARTS LISTS
 - EATON ABS MODULE COMES PRE-ASSEMBLED & INCLUDES (2) PRESSURE MOD. VALVES, (1) ORV, & (2) ADAPTERS



FRONT VIEW
SCALE 0.5
EATON FRONT AXLE ABS MODULE
ABS MODULE MOUNTING BRACKET (REF)

-HIDDEN LINES REMOVED
 -ABS ELECTRICAL HARNESS NOT SHOWN



LEFT SIDE VIEW

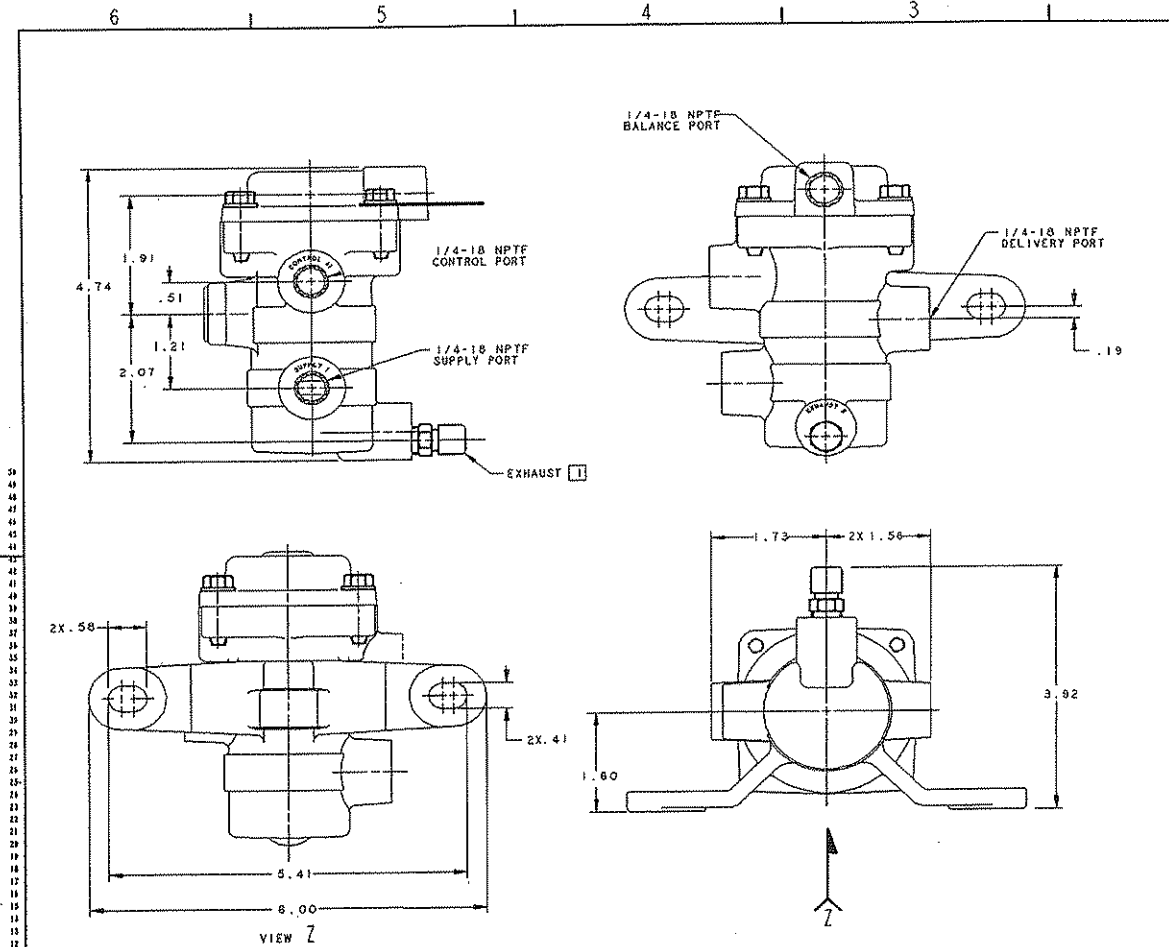
NOTE: ORV INTEGRAL BRACKET FACES TO FRONT

REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
1		WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B. C.		
TOLERANCES UNLESS NOTED:				
MACHINING	±	INCH	DWN	TJJ 26-Apr-00
HOLE CENTERS	±	INCH	CKD	
HOLE DIAMETERS	±	INCH	APVD	SER 03-May-00
LINEAR	±	INCH	ECO	107887-1
ANGULAR	±	SCALE	HALF	
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APPLICATION	INSTL 'N-EATON ABS MODULE	H/REF 2378		
	FRNT AXLE, 38/48/49/59XX	741A1-3427	SHT 1	of 1

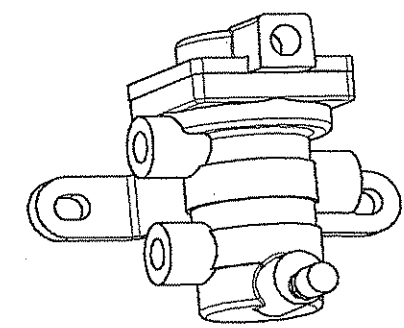
741A1-3427
 PART NUMBER
 DATE

REMOVE ALL SHARP EDGES DO NOT SCALE DRAWING CAST STUFF OR STENCH PARTS REMAIN ORIGINAL GRABER OR WEST SOLID MOUNTING TORQUESTATION ECO CHG CHANGE BY DATE CKD/APVD

Printed on: February 4, 1998



REV	DESCRIPTION	DATE	BY	CHK	APP



PICTORIAL VIEW
WESTERN STAR, PROVE APPROXIMATED MODEL
FOR USE IN ASSEMBLIES AND INSTALLATIONS
SEE PDM PART #78203-3404.WI_EXH

APPLICATION DRAWING

DIMENSIONS UNLESS OTHERWISE SPECIFIED CONFORM WITH ASME Y14.5

THIS DRAWING CONTAINS CONFIDENTIAL, PROPRIETARY INFORMATION OF WESTERN STAR TRUCKS INC. AND IS TO BE KEPT IN STRICTLY CONFIDENTIAL. ANY DISCLOSURE OF THIS DRAWING TO ANY OTHER PARTY WITHOUT THE WRITTEN PERMISSION OF WESTERN STAR TRUCKS INC. IS PROHIBITED. FOR MORE INFORMATION, CONTACT WESTERN STAR TRUCKS INC. AT 1-800-368-7280.

LR	DR		
CR	AR		
CA	PA		

DESIGNED BY: **WESTERN STAR**

DRAWN BY: **WESTERN STAR**

CHECKED BY: **WESTERN STAR**

DATE: **1998**

PART NAME: **VALVE, INVERSION**

PART NUMBER: **N-20950-CA**

MATERIAL: **88-174 AI**

MANUFACTURER: **MIDLAND BRAKE, INC. Kansas City, Missouri**

DO NOT MOUNT VALVE WITH EXHAUST PORT POINTED DOWN
COMPLETE ASSEMBLY MUST COMPLY WITH SPEC EST-3022-A
DIMENSIONS ARE FOR REFERENCE ONLY UNLESS OTHERWISE SPECIFIED
SERVICE REPAIR KIT NO. RM-10-JT

SIMPLIFIED VENDOR DRAWING - FOR DIMENSIONAL PURPOSES ONLY
"NOT A W/S CADD FILE - IGES IMPORT OF VENDOR DRAWING"
DO NOT MODIFY VENDOR PORTION

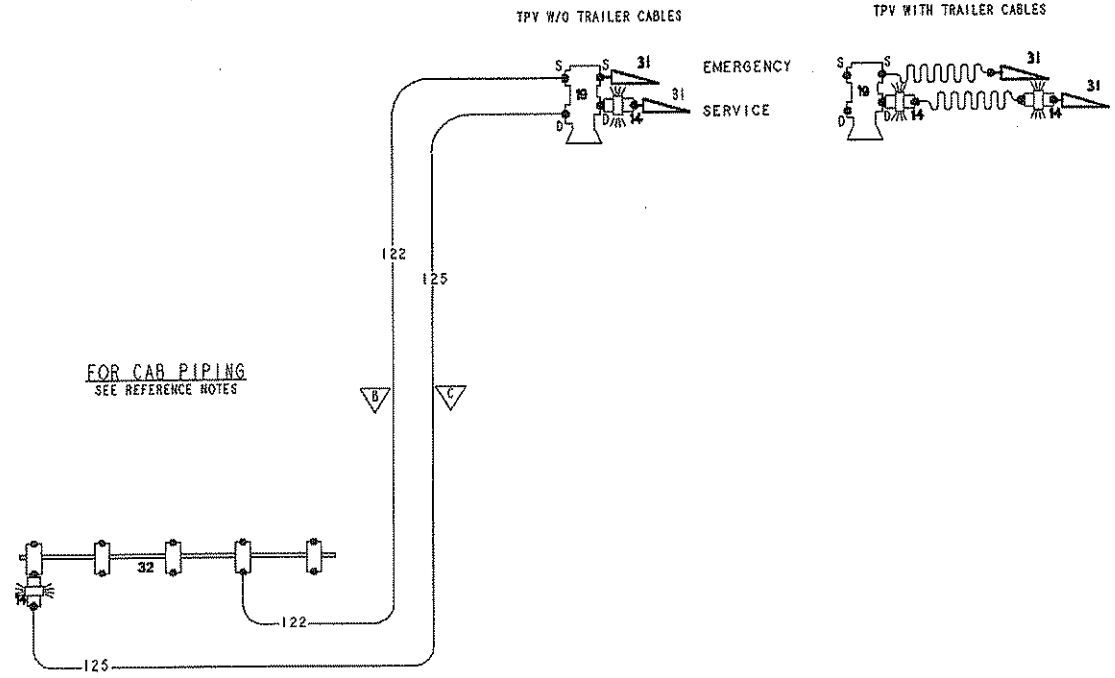
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APP	REV	7280-3404	1	1	1
APP	REV	7280-3404	1	1	1
APP	REV	7280-3404	1	1	1
APP	REV	7280-3404	1	1	1
APP	REV	7280-3404	1	1	1
APP	REV	7280-3404	1	1	1
APP	REV	7280-3404	1	1	1
APP	REV	7280-3404	1	1	1
APP	REV	7280-3404	1	1	1

NO.	DESCRIPTION
1	COMPRESSOR
2	GOVERNOR
3	RESERVOIR - SUPPLY
4A	RESERVOIR - "A"
4B	RESERVOIR - "B"
4C	RESERVOIR - "C"
4D	RESERVOIR - "D"
5	RESERVOIR - "EXTRA"
6	BRAKE VALVE
7	CHAMBER, SERVICE, CAM
7A	CHAMBER, SERVICE, WEDGE
8	CHAMBER, SERVICE, PARK, CAM
8A	CHAMBER, SERVICE, PARK, WEDGE
9	
10	RELAY VALVE DUAL SUPPLY (5.5 PSI CRACK)
11	RELAY VALVE SINGLE SUPPLY (4.0 PSI CRACK)
12	SINGLE CHECK VALVE
13	DOUBLE CHECK VALVE
14	QUICK RELEASE VALVE
15	FRAME TEE
16	TEE
16A	AXLE TEE
17	PARK CONTROL VALVE-SYSTEM
18	TRACTOR PROTECTION VALVE CONTROL-TRAILER AIR SUPPLY
19	TRACTOR PROTECTION VALVE
20	HAND CONTROL VALVE
21	SPRING BRAKE/INVERSION VALVE
22	ABS PRESS. MOD. VLV (PMV)
23	ABS ANTISPIN VALVE (ATC)
24	AIR PRESSURE GAUGE, DUAL
24A	AIR PRESSURE GAUGE, SINGLE
25	DRAIN VALVE - (SPITTER VALVE)
26	DRAIN COCK
27	STOP LAMP SWITCH
28	AIR DRYER
29	QUICK RELEASE/DOUBLE CHECK VALVE (QR1-C)
30	LOW PRESSURE SWITCH
31	BRAKE LINE COUPLING
32	CAB TO CHASSIS MANIFOLD
33	BULKHEAD FITTING
34	FRONT LIMITING VALVE
35	
36	PRESSURE RELIEF VALVE
37	PRESSURE PROTECTION VALVE
38	ADJUSTABLE PRESSURE REGULATOR
39	PRESET PRESSURE REGULATOR
40	CONTROL VALVE
41	BOBTAIL VALVE (BP-R1)
42	DOUBLE CHECK VALVE DC-4
43	DOUBLE CHECK VALVE DS-2

AIR SYSTEM REFERENCE DRAWINGS	
AIR SYSTEM PIPING SECTION	SEE DRAWING CALLUP IN BOX'S WITHIN THESE MASTER REFERENCES
CAB PIPING	2328 'A'
PARK BRAKE & SERVICE BRAKE DROP LINES	2328 'C'
TRACTOR PROTECTION VALVE AND TRAILER CONN PIPING	2288 'A' & 'B'

LINE SIZE LEGEND		
SYMBOL	NYLON	HOSE
	1/4	# 4
	3/8	# 6
	1/2	# 8
	5/8	# 10
	3/4	# 12
	3/4 COPPER	
	1/8	-

PORT LEGEND	
SYMBOL	DESC.
S	SUPPLY
D	DELIVERY
C	CONTROL
E	EXHAUST
R	RESERVOIR
A	ACCESSORY



FOR CAB PIPING
SEE REFERENCE NOTES

FOR PARK BRAKE PIPING
SEE REFERENCE NOTES

APPLICATION: ADR COMPLIANT BOC/BOS TRACTOR PROTECTION VALVE
604 CAB

- NOTES:
- 1/. SINGLE LINES DENOTE FIXED AIR LINES (NYLON, BRAIDED HOSE, COPPER)
 - 2/. ALL ITEMS SHOWN IN PHANTOM LINES ARE DETAILED ON SEPARATE DRAWINGS - SEE AIR SYSTEM REFERENCE DRAWING TABLES.

79281-3401
PART OF
DATE
NEW

REV	COMP. NO.	DESCRIPTION	SIZE	MATERIAL
		WESTERN STAR TRUCKS INC. COMPUTER GRAPHICS KELOWNA, B.C.		
		TOLERANCES UNLESS NOTED:		BY DATE
		MACHINING ± .02 INCH	DWN	MLM 17DEC97
		HOLE CENTERS ± .02 INCH	CRD	
		HOLE DIAMETERS ± .02 INCH	APVD	
		LINEAR ± .00 INCH	ECO	95137
		ANGULAR ± 1/2°	SCALE	NONE
		THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND IT SHALL NOT BE USED OR REPRODUCED OR ITS CONTENTS DISCLOSED TO WHOMEVER WITHOUT THE PRIOR WRITTEN CONSENT OF WESTERN STAR TRUCKS INC., KELOWNA, BC		
		TRACTOR PROTECTION VALVE PIPING SECTION	MR NO. 2288 'A'	
			79281-3401	SHEET 1 OF 1