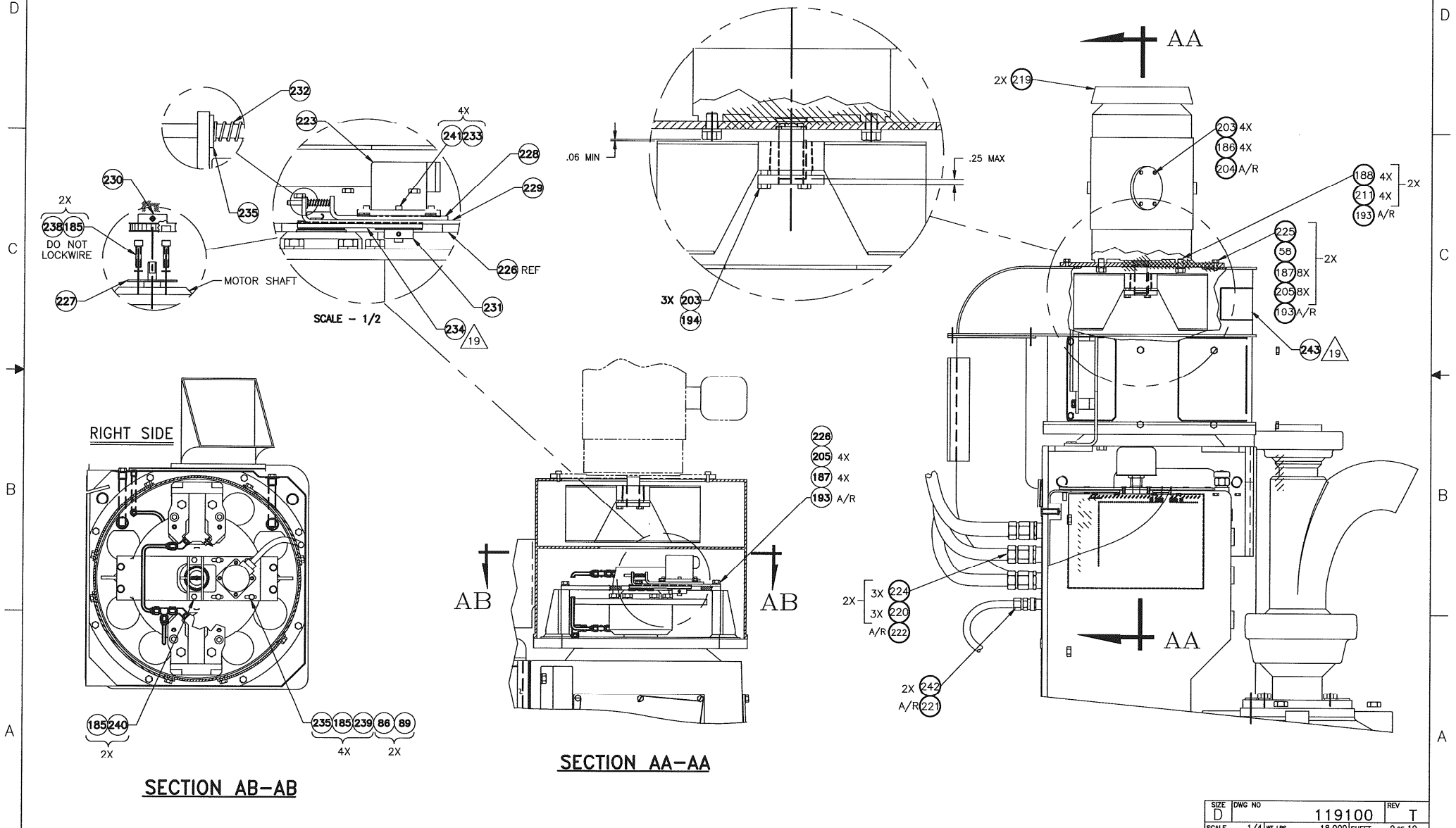
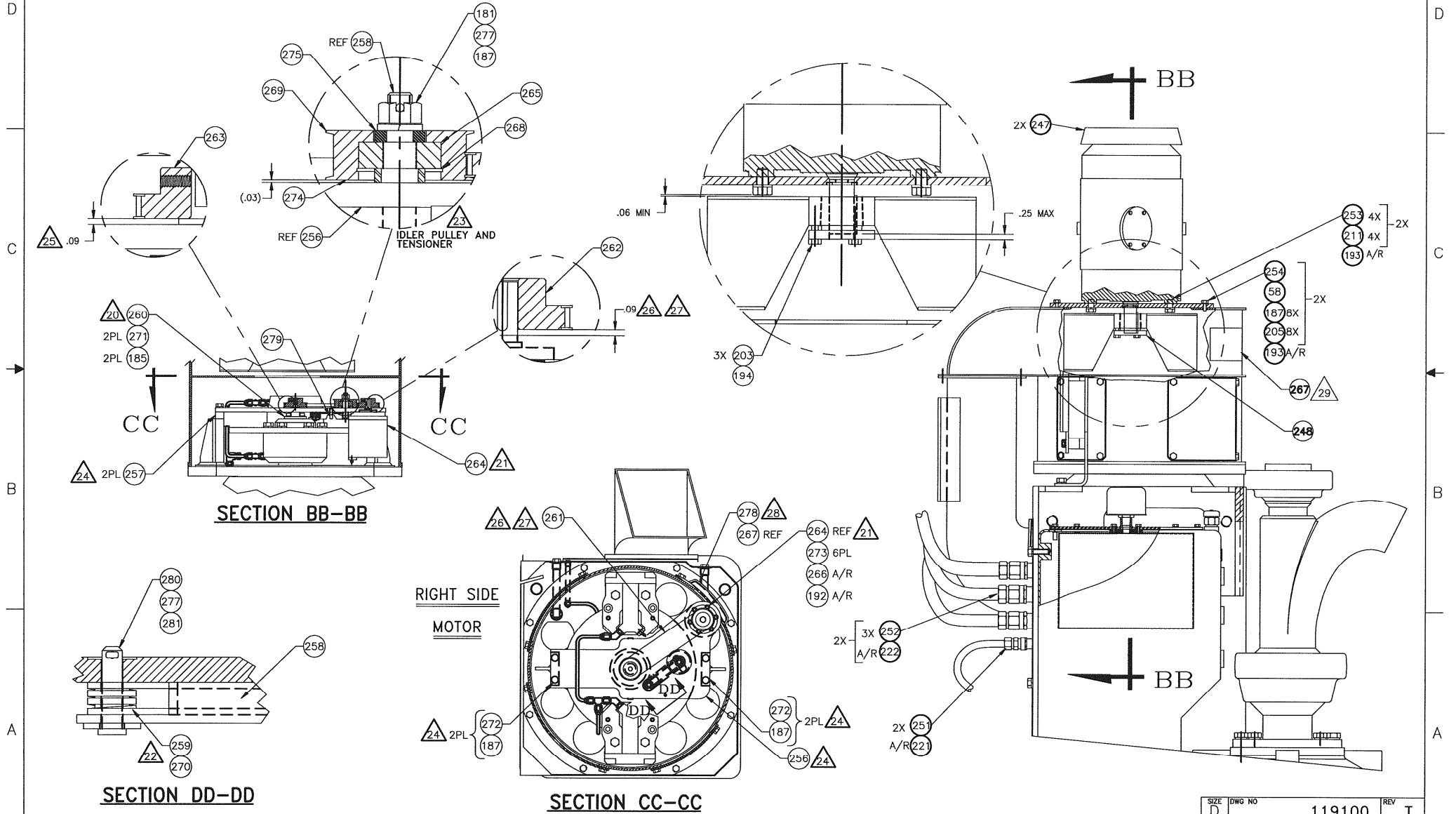


-UL BLOWER AND ENCODER CONFIGURATION



SIZE	DWG NO	REV
D	119100	T
SCALE	1/4 WT LBS	18,000 SHEET
		9 OF 10

-EX BLOWER AND ENCODER CONFIGURATION



SIZE	DWG NO	REV
D	119100	T
SCALE	1/4" WT LBS	18,000 SHEET
		10 OF 10

NOTE: UNLESS OTHERWISE SPECIFIED

- REFERENCE DWG 119585 FOR TDS-10S SYSTEM SCHEMATIC OF VARCO DRILLERS' CONSOLE (120546-40-X-XXX).
REFERENCE DWG 124222 FOR TDS-9S/-11S SYSTEM SCHEMATIC OF VARCO DRILLERS' CONSOLE (120546-60-X-XXX).

- REPLACE EXISTING 1 WATT LAMPS IN ITEM 18 & 19 WITH ITEM 20 LAMPS (2 WATTS).
- THOROUGHLY CLEAN ALL WASHERS AND SEALS.
- APPLY GREASE, ITEM 60, TO ALL WASHERS AND SEALS.
- APPLY TEFLON TAPE, ITEM 56, TO ALL PIPE THREAD JOINTS BEFORE CONNECTION.
- APPLY LOCKTITE, ITEM 58, TO SCREWS, ITEMS 39 AND 46.
- SECURE LABEL, ITEM 49, WITH RIVETS, ITEM 50 APPROX. WHERE SHOWN.
- SECURE NAMPLATES, ITEMS 63, 64, 65, 66, 74 OR 75 TO WELDMENT, ITEM 1, WITH LOCKTITE, ITEM 59.
- FILL VOID WITH RTV, ITEM 57.
- COAT ENTIRE SURFACE OF BLOCK WITH RTV, ITEM 57, PRIOR TO ASSEMBLY.
- PARTS NOT CALLED OUT ARE THE SAME USED ON -1 CONFIGURATION.
- SECURE GASKET, ITEM 2, TO ENCLOSURE, ITEM 1, WITH RTV, ITEM 57.

13 IMPRESSION STAMP WITH VARCO SERIAL NUMBER USING .25 HIGH CHARACTERS, APPROXIMATELY WHERE SHOWN.
A VARCO SERIAL NUMBER (VSN) IS A MULTIPLE CHARACTER FORMAT CONSISTING OF SIGNIFICANT MODIFIERS TO INDICATE EQUIPMENT TYPE, DATE OF MANUFACTURE, AND ASCENDING SERIAL NUMBER.

FOR EXAMPLE: VDC40B0101001

TYPE
VDC40=TDS-10S
(40K FT LB TORQUE METER)

VDC60=TDS-9S/-11S
(60K FT LB TORQUE METER)

MONTH OF MANUFACTURE
"A" = JANUARY
"B" = FEBRUARY
"C" = MARCH
ETC. . .

DAY OF MANUFACTURE
YEAR OF MANUFACTURE
99 = 1999
00 = 2000
01 = 2001
ETC. . .

NUMBER OF UNIT MANUFACTURED BEGINNING WITH 001

14 USE #30 DRILL TO MOUNT RIVET, ITEM 50.

120546-XX-X-XXX-X

CONNECTORIZED PIGTAIL OPTION
-N = OMIT CONNECTORIZED PIGTAIL (ITEM 27)

CERTIFICATION OPTION (SEE TABLE III)
-UL = UL CERTIFICATION (WITH HORN)
-CSA = CSA CERTIFICATION (W/O HORN)

NAMEPLATE OPTION (SEE TABLE II)
-1 = STANDARD VDC
-2 = STANDARD VDC, VERTICALLY MOUNTED
-3 = STANDARD VDC PLUS STANDJUMP
-4 = STANDARD VDC PLUS STANDJUMP AND ELEVATOR
-5 = STANDARD VDC VERT. MOUNT. PLUS ELEVATOR AND STANDJUMP
-6 = STANDARD VDC PLUS STANDJUMP AND BX ELEVATOR

TOP DRIVE OPTION (SEE TABLE I)
-40 = 0-40K FT LB TORQUE METER (TDS-10S)
-60 = 0-60K FT LB TORQUE METER (TDS-9S/-11S)

QTY REQD	PART NO.	DESCRIPTION	MATERIAL	ITEM NO.
1	2 88050-200228	GROMMET, 5/8 I.D.		71
-	1 88663	J-BOX, HORN		70
-	1 87124	HORN, 24 VDC		69

TABLE III (CERTIFICATION OPTION)

QTY REQD	PART NO.	DESCRIPTION	MATERIAL	ITEM NO.
1	- - - - - 30087708-17	PUSHBUTTON, ILLUMINATED, AMBER, W/ GUARD		76
1	- - - - - 30121239-6	NAMEPLATE, VDC, STANDJUMP AND BX ELEVATOR		75
-	1 - - - - - 30121239-7	NAMEPLATE, VDC, VERTICAL, ELEVATOR AND STANDJUMP		74
3	3 3 3 3 2 2 30087708-26	SWITCH, SEL.-2 POS, MAINTAINED		68
3	4 4 3 3 3 3 30087708-36	SWITCH, SEL. 3 POS, MAINTAINED		67
-	- 1 - - - - - 30121239-4	NAMEPLATE, VDC, WITH ELEVATOR AND STANDJUMP		66
-	- - - 1 - - - - 30121239-3	NAMEPLATE, VDC, WITH STANDJUMP		65
-	- - - - 1 - - - 30121239-2	NAMEPLATE, VDC, VERTICALLY MOUNTED		64
-	- - - - - 1 30121239-BSC	NAMEPLATE, VDC, STANDARD		63

TABLE II (NAMEPLATE OPTION)

QTY REQD	PART NO.	DESCRIPTION	MATERIAL	ITEM NO.
1	- 96219-11	METER, TORQUE, TDS-9S/-11S (0-60K FT LB)		62
-	1 96219-10	METER, TORQUE, TDS-10S (0-40K FT LB)		61

TABLE I (TOP DRIVE OPTION)

1	53001-02-S	PLUG, PIPE, 1/8-27 NPT	STAINLESS STEEL	73
2	55203-S	NUT, HEX, 1/8-32	STAINLESS STEEL	72
AR	88650	GREASE, LITHIUM BASED		60
AR	53200-454	COMPOUND, LOCKING (CLEAR)		59
AR	53200-242	COMPOUND, LOCKING (BLUE)		58
AR	78910-BSC	RTV, 108, CLEAR		57
AR	53227	TEFLON TAPE		56
1	80430	TUBING, 1/4	POLYETHYLENE	55
1	52002-12-B	NIPPLE, PIPE, 1/8 NPT X 1.5 LNG		54
1	88491	ELBOW, MALE, 1/4 X 1/8		53
1	88493	ELBOW, FEMALE, 1/4 X 1/8		52
1	81778	SWITCH, DIFFERENTIAL PRESSURE		51
4	110869	RIVET, SEALING, CLOSED END	STAINLESS STEEL	50
1	96206-3	LABEL, NFPA 496 Z PURGE	STAINLESS STEEL	49

LIST OF MATERIAL

QTY REQD	PART NO.	DESCRIPTION	MATERIAL	ITEM NO.
2	50202-B	NUT, HEX, 8-32	BRASS	48
2	50204-B	NUT, HEX, 1/4-20	BRASS	47
2	50604-6-S	SCREW, MACHINE, FLAT HD, 1/4-20	STAINLESS STEEL	46
2	50902-S	WASHER, LOCK, NO. 8	STAINLESS STEEL	45
2	50802-R-S	WASHER, FLAT, NO. 8	STAINLESS STEEL	44
2	50202-S	NUT, HEX, 8-32	STAINLESS STEEL	43
4	50903-S	WASHER, LOCK, NO. 10	STAINLESS STEEL	42
4	50803-R-S	WASHER, FLAT, NO. 10	STAINLESS STEEL	41
2	50649-61	SCREW, MACHINE, PAN HD, 10-32	STAINLESS STEEL	40
8	50649-68	SCREW, MACHINE, PAN HD, 10-32	STAINLESS STEEL	39
2	85145-6-021	MARKERS, HORIZONTAL (#21-30)		38
2	85145-6-011	MARKERS, HORIZONTAL (#11-20)		37
2	85145-6-001	MARKERS, HORIZONTAL (#1-10)		36
4	90153	END CLAMP		35
1	85039	ENDPLATE, TERMINAL		34
21	85038-UL-2.5	TERMINAL BLOCK		33
1	125041	H-RAIL, 33 INCH		32
1	78317-25	LOCKNUT, 25mm	BRASS	31
1	86872-25-S	LOCKWASHER, INT STAR, 25mm	STAINLESS STEEL	30
1	86871-25	WASHER, SEALING, 25mm	NYLON	29
1	83444-05	CLAND, 25mm, ARMORED	BRASS	28
1	122443-9-H	CABLE , PIGTAIL, 5 TSP, CONNECTORIZED		27
10	78725-05	FERRULE, 12 AWG.		26
100	78725-03	FERRULE, 18 AWG.		25
10	78725-02	FERRULE, 20 AWG.		24
4	56610-01	TERMINAL, WIRE-SPADE		23
15 FT	87975	CABLE, 2 TWISTED PAIR		22
100 FT	56621-18-8	WIRE, STRANDED, HOOK-UP		21
7	30087708-44	INDICATING LAMP, 2 WATT		20
6	30087708-38	INDICATING LIGHT, RED		19
1	30087708-40	INDICATING LIGHT, AMBER		18
3	30087708-02	SWITCH, PUSHBUTTON		17
1	30087708-30	SWITCH, SEL.-3 POS, SPRING RTN TO CENTER		16
1	30087708-33	SWITCH, SEL.-3 POS, SPRING RTN FROM RIGHT		15
1	30087708-67	PUSHBUTTON, E-STOP, MUSHROOM		14
2	30087708-46	POTENTIOMETER OPERATOR		13
2	81736-2	POTENTIOMETER, 10K		12
1	116551	RHEOSTAT ASSY, THROTTLE		11
1	96218-3	METER, RPM, 0-10VDC (0-250 RPM)		10
1	96290	REG. MODULE, +24VDC/+5VDC		9
3	122627-34	BUS CONNECTOR (PROFIBUS)		8
2	122627-57	REMOTE I/O BASE, ANALOG		7
1	122627-58	REMOTE I/O BASE, DIGITAL		6
1	122627-47	REMOTE 4 ANALOG OUTPUT		5
1	122627-45	REMOTE 4 ANALOG INPUT		4
1	122627-46	REMOTE 24 DI/DO, 24VDC		3
1	121010-1	GASKET, ENCLOSURE		2
1	121732	WELDMENT, ENCLOSURE		

LIST OF MATERIAL

UNLESS OTHERWISE SPECIFIED

INTERPRET DIM TOL PER ASME Y14.5M
DIMENSIONS ARE IN INCHES
X ± .1 .XX ± .03 .XXX ± .010
ANGLES ± °
DO NOT SCALE DRAWING

TDS-AC

APPLICATION
UNLESS OTHERWISE SPECIFIED
MATERIAL 250 MAX
TOLERANCE 1000 MAX

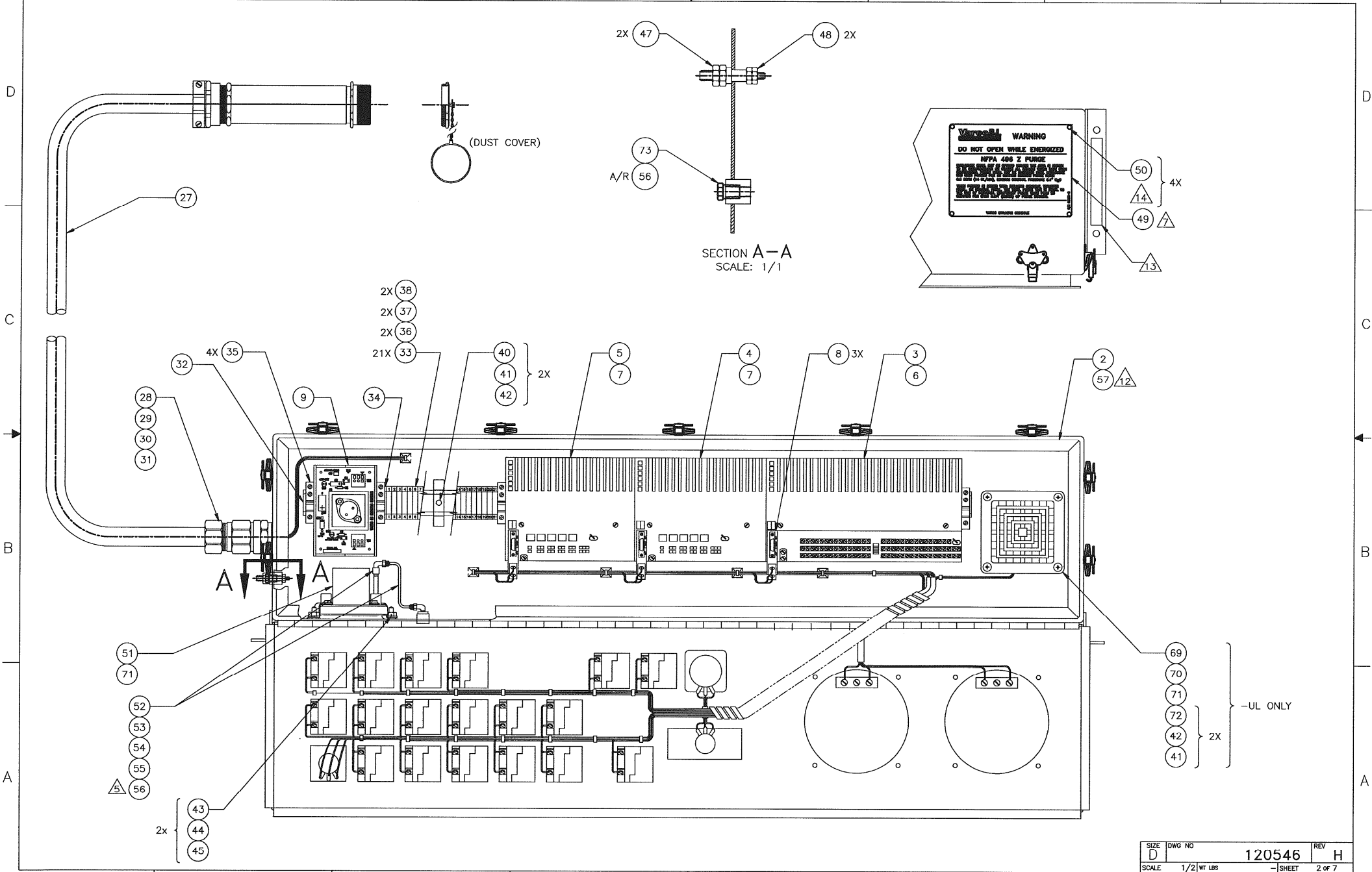
CHECKED R. HOLLADAY
APPROVED M. MASLYAR
DATE 10/27/06

CURRENT J. HENSLEY
INITIAL L. MOLLETT
L. MOLLETT

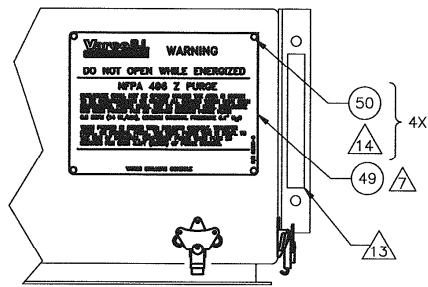
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DRAWING NUMBER: 120546 REVISION: H

RIG SOLUTIONS
10000 RICHMOND AVE.
HOUSTON, TEXAS 77042 U.S.A.
(713) 346-7500

NATIONAL OILWELL VARCO
DRILLER'S CONSOLE
ASSEMBLY

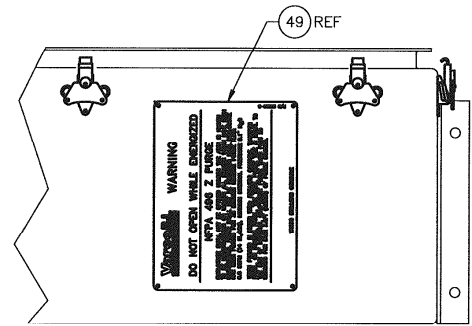
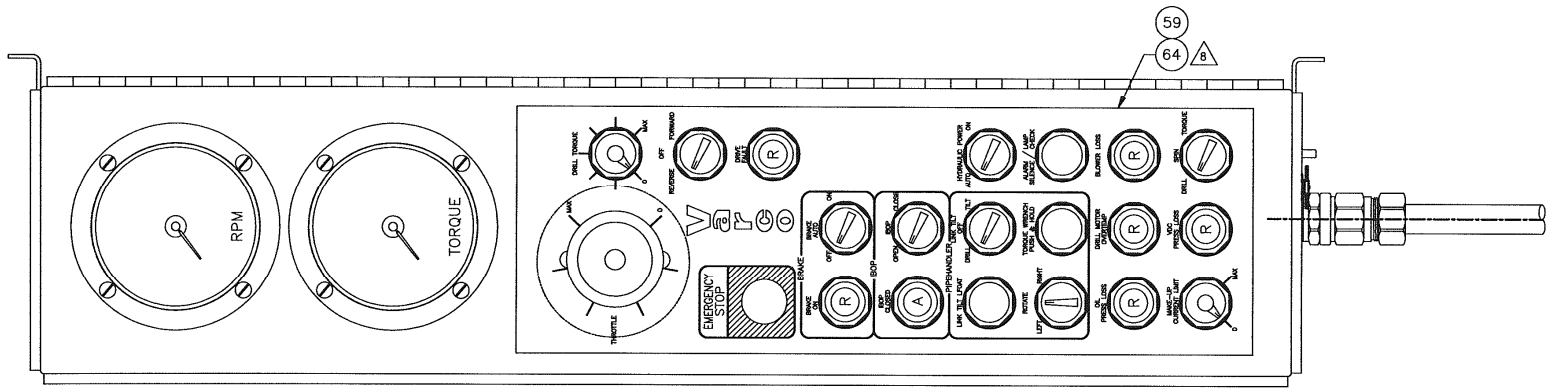


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- 2X (37)
- 2X (36)
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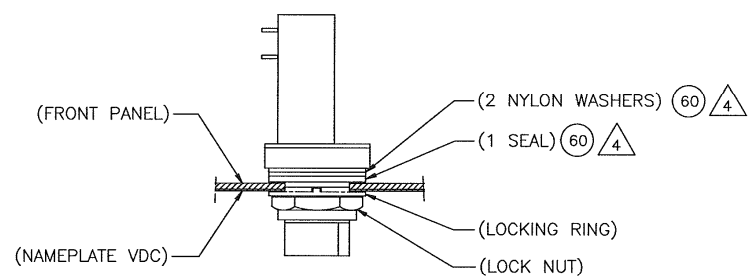


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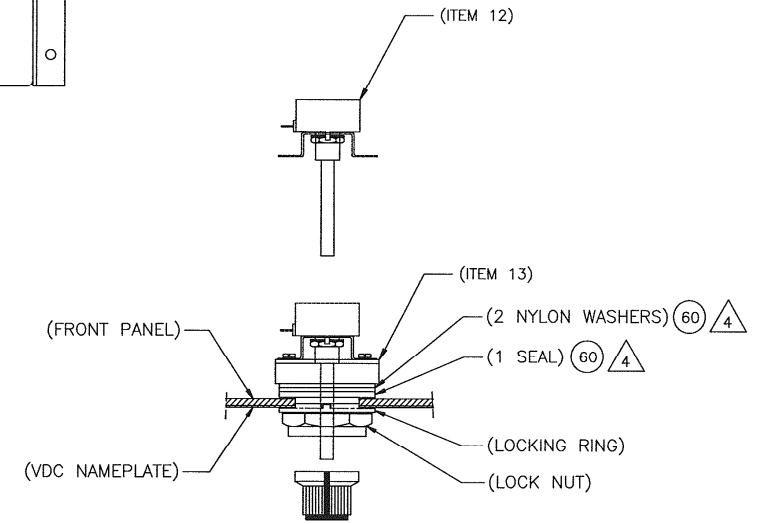
SIZE	DWG NO	REV
D	120546	H
SCALE	1/2 WT LBS	- SHEET 2 OF 7



-2 CONFIGURATION \triangle



TYPICAL INSTALLATION OF SWITCHES AND INDICATING LIGHTS



TYPICAL INSTALLATION OF ITEM 12 & 13

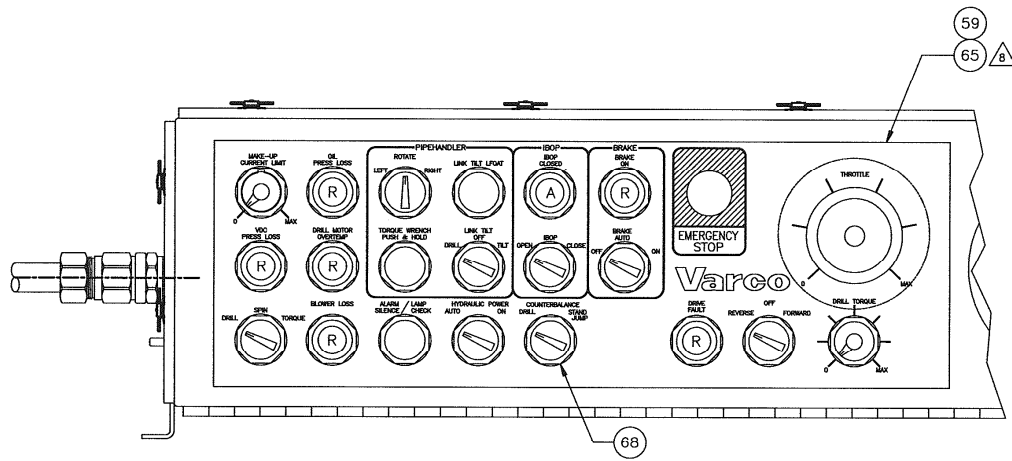
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D	120546	H
SCALE	1/2" WT LBS	- SHEET 4 OF 7

D

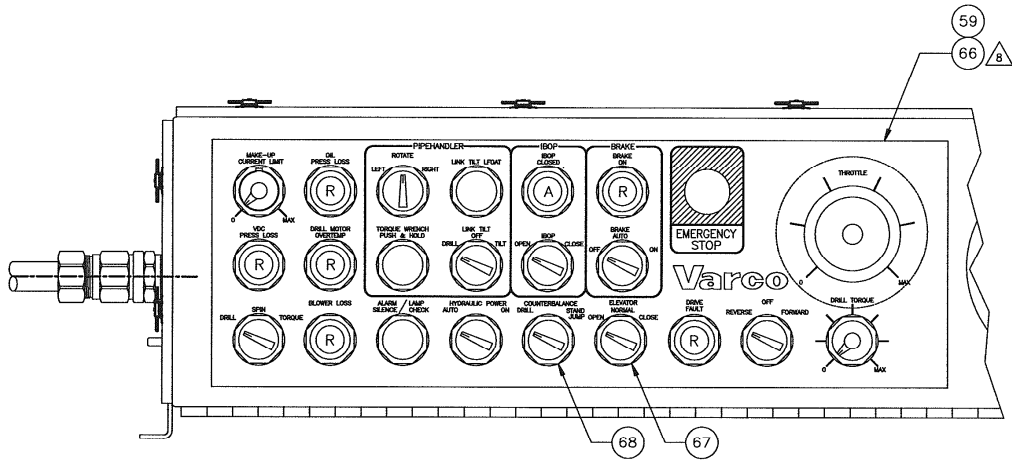
C

B

A



-3 CONFIGURATION



-4 CONFIGURATION

SIZE	DWG NO	REV
D	120546	H
SCALE	1/2" WT. LBS	- SHEET 5 of 7

D

D

C

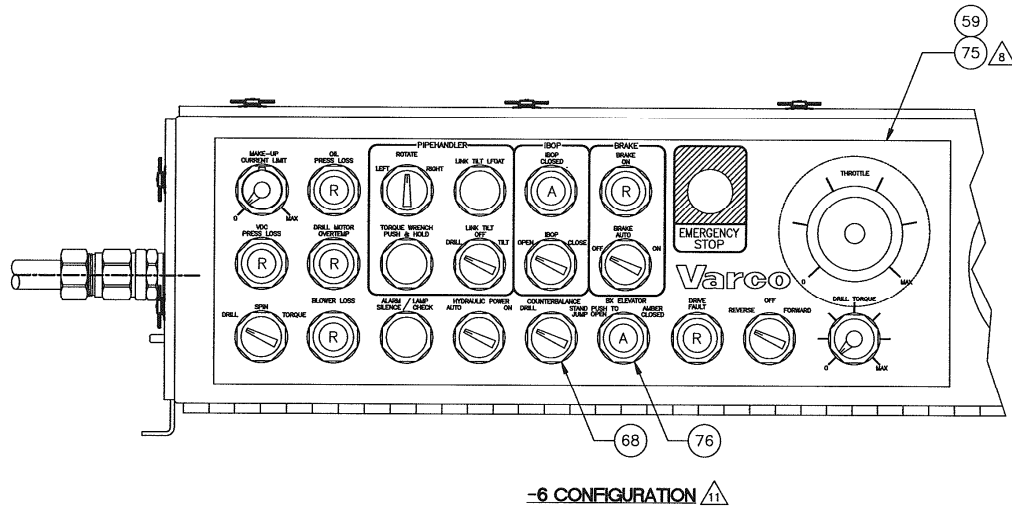
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A



-6 CONFIGURATION

SIZE D	DWG NO 120546	REV H
SCALE 1/2" WT LBS	- SHEET 7 of 7	

NOTES: UNLESS OTHERWISE SPECIFIED.

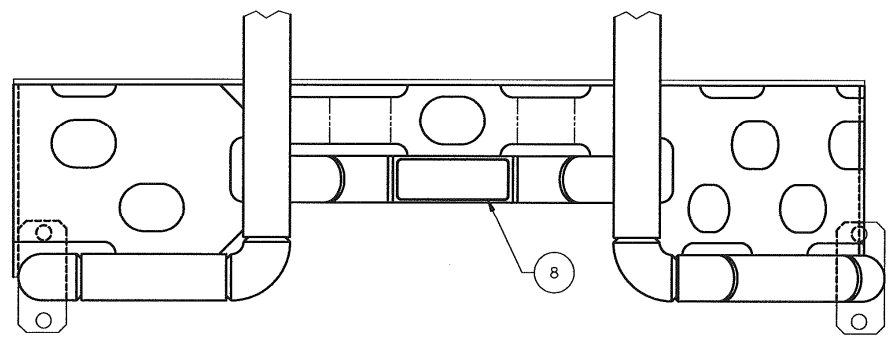
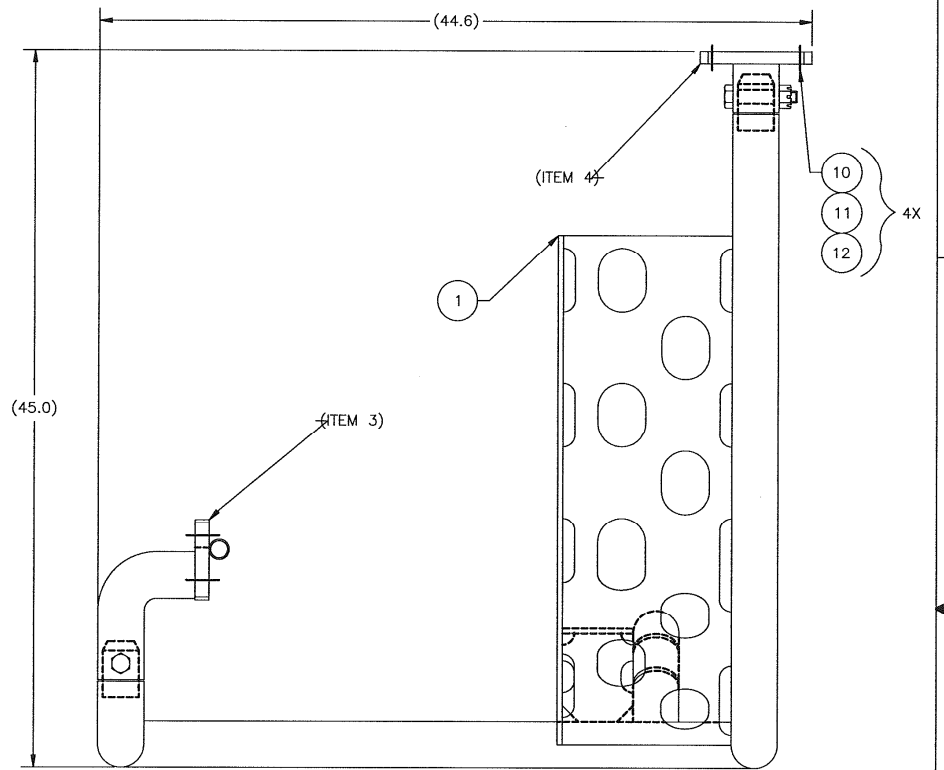
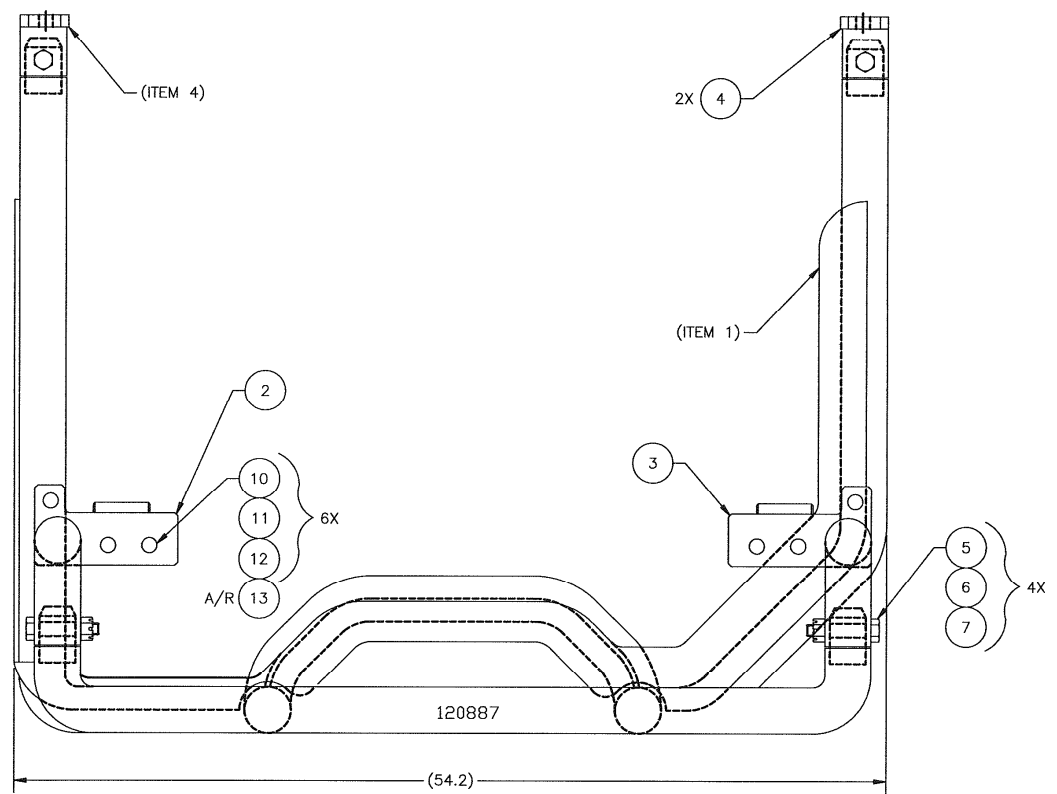
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CONFIGURATION TABLE	
-BSC	STANDARD FOR 30.0, 33.75 & 39.50 SET BACKS
-395	USED FOR TWO 39.50 SET BACK ORDERS ONLY SEE CC 128597 & 128952

A/R/A/R	QTY REQD	PART NO.	DESCRIPTION	MATERIAL	ITEM NO.
		Z6001	LOCKWIRE ϕ .051		13
10	10	50812-N-C	WASHER, FLAT		12
10	10	50912-C	WASHER, LOCK-REGULAR		11
10	10	50012-18-C5D	SCREW, CAP-HEX HD		10
2	-	117089-395	SUPPORT, LOWER		9
1	1	121483	LABEL, LINK INSTALLATION		8
4	4	51402-12	COTTER PIN (1/8 NOM)		7
4	4	50512-C	NUT, HEX - SLOTTED		6
4	4	30177155	SCREW, CAP - HEX HEAD		5
-	2	117089	SUPPORT, LOWER		4
1	1	30171318-501	WELDMNT SUPPORT, UPPER GUARD/WEDGE		3
1	1	30171318-500	WELDMNT SUPPORT, UPPER GUARD/WEDGE		2
1	1	120887	GUARD, MOTOR HOUSING		1

PART FLAGS		DIMENSIONS (UNLESS OTHERWISE SPECIFIED)		SURFACE FINISHES		Varco Systems	
<input type="checkbox"/> DIMENSIONAL	ARE IN	<input type="checkbox"/> FINISHES	RESERVED FOR USE	<input type="checkbox"/> FINISHES	RESERVED FOR USE	TITLE GUARD, MOTOR HOUSING, PACKAGE	
<input type="checkbox"/> MATERIAL	DO NOT	<input type="checkbox"/> DIMENSIONS	DO NOT	<input type="checkbox"/> DIMENSIONS	DO NOT		
<input type="checkbox"/> TOLERANCES	DO NOT	<input type="checkbox"/> DIMENSIONS	DO NOT	<input type="checkbox"/> DIMENSIONS	DO NOT	DRAWN BY: JPSJ	
<input type="checkbox"/> SURFACE FINISHES	DO NOT	<input type="checkbox"/> DIMENSIONS	DO NOT	<input type="checkbox"/> DIMENSIONS	DO NOT	DATE: 02/15/05	
<input type="checkbox"/> DIMENSIONS	DO NOT	<input type="checkbox"/> DIMENSIONS	DO NOT	<input type="checkbox"/> DIMENSIONS	DO NOT	SCALE: 1/4	
<input type="checkbox"/> DIMENSIONS	DO NOT	<input type="checkbox"/> DIMENSIONS	DO NOT	<input type="checkbox"/> DIMENSIONS	DO NOT	SHEET NO: 1	
<input type="checkbox"/> DIMENSIONS	DO NOT	<input type="checkbox"/> DIMENSIONS	DO NOT	<input type="checkbox"/> DIMENSIONS	DO NOT	TOTAL SHEETS: 3	

D
C
B
A



BSC

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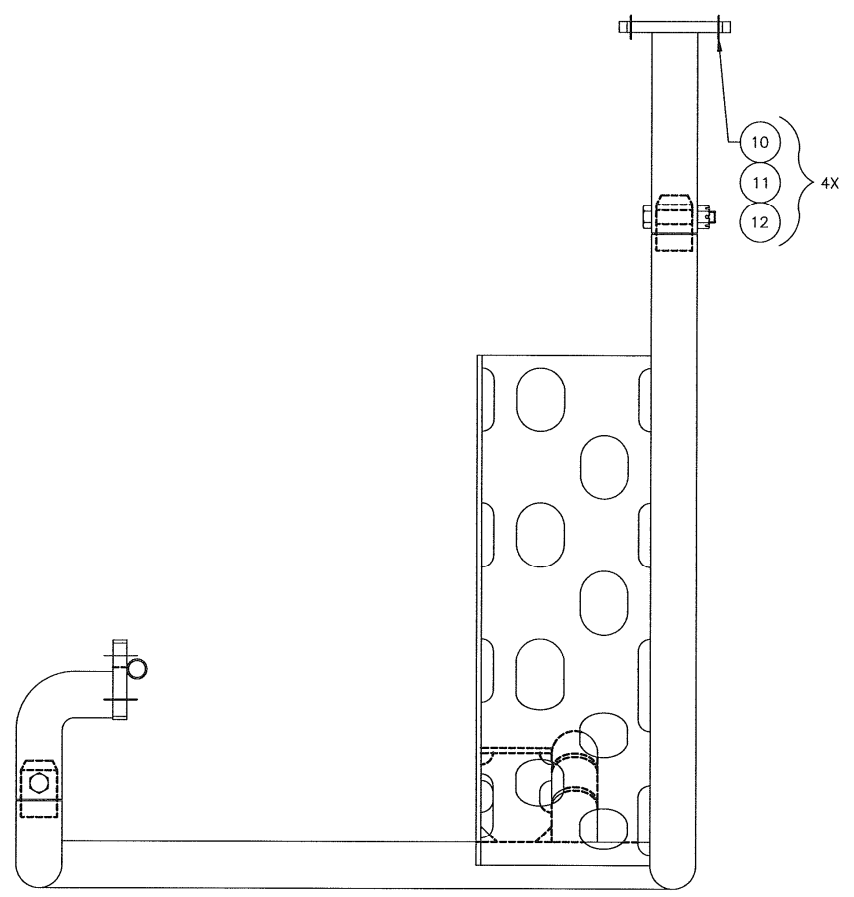
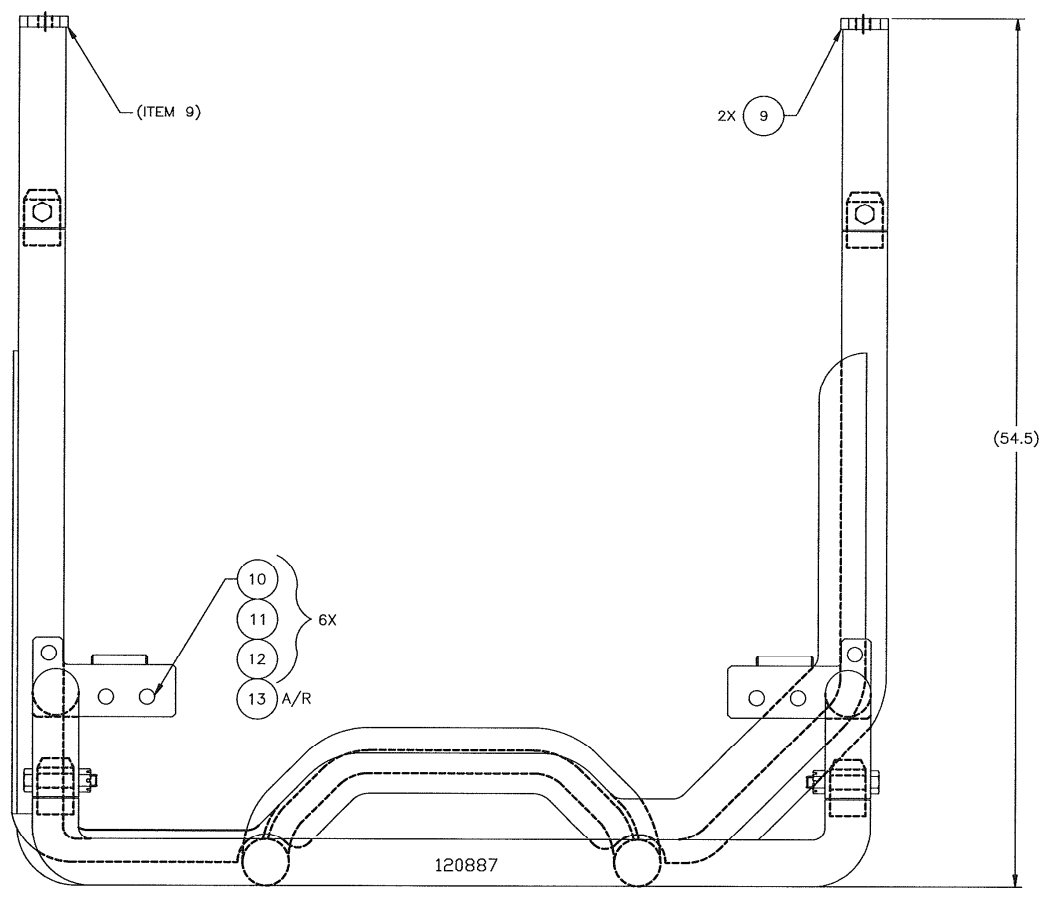
TITLE	GUARD, MOTOR HOUSING, PACKAGE	SIZE	D	DOCUMENT NO.	120917	REVISION	C
SCALE	1/4	SHEET	2	OF	3		

Released - 06/05/2003 10:48:16A

DCFO022 (REV B)

D
C
B
A

D
C
B
A



-395

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TITLE	GUARD, MOTOR HOUSING, PACKAGE	SIZE	D	DOCUMENT NO.	120917	REVISION	G
SCALE	1/4	SHEET	3	OF	3		

Released - 06/05/2003 10:49:15A

DCF0022 (REV B)

NOTES: UNLESS OTHERWISE SPECIFIED

1. APPLY ANTI-SEIZE AND TORQUE ALL BOLTS PER DS00008 AND LOCKWIRE.

2. REFERENCE DIMENSION IS NOMINAL SIZE. FIT DATA IS FOR ASSEMBLY PURPOSES. T = TIGHT FIT.

3. DRILL .125Ø DIAGONAL HOLES THROUGH EDGE OF LUG TO ACCOMMODATE SAFETY WIRE FOR EACH OF THE FOUR LUG MOUNTING SCREWS APPROX. WHERE SHOWN.

4. STANDARD AND LOW TEMPERATURE MATERIALS ARE THE SAME PER MS00003, GRADE A. THEREFORE, THE -3LT VERSION IS NO LONGER REQUIRED.

QTY REQD		PART NO.	DESCRIPTION	MATERIAL	ITEM NO.
1	- - -	30178669	BAIL, MODIFIED, 500 TON, 120" LONG	△ ₄	16
-	- - -	109505-3LT	BAIL, 500 TON-120.0" LONG, LOW TEMP	△ ₄	15
A/R	- A/R A/R	Z6001	LOCKWIRE Ø.051		14
A/R	- A/R A/R	Z6000.9	LOCKWIRE Ø.047		13
4	- 4 4	110070	BUTTON, COUNTERBALANCE		12
2	- 2 2	110077	LUG, COUNTERBALANCE		11
4	- 4 4	50912-C	WASHER, LOCK-REGULAR		10
2	- 2 2	50908-C	WASHER, LOCK-REGULAR		9
2	- 2 2	50008-9-C5D	SCREW, HEX HEAD CAP		8
4	- 4 4	50012-20-C5D	SCREW, HEX HEAD CAP		7
2	- 2 2	53201	FITTING, GREASE-.125-27NPT		6
2	- 2 2	109507	BUSHING, BAIL PIN		5
1	- 1 1	110123	RETAINER, BAIL PIN (CARRIAGE)		4
2	- 2 2	109506	PIN, BAIL (CARRIAGE)		3
-	- 1 -	109505-3	BAIL, 500 TON-120.0" LONG	△ ₄	2
-	- - 1	109505-4	BAIL, 500 TON-88.0" LONG	△ ₄	1

PART FLAGS <input checked="" type="checkbox"/> TRACEABILITY <input checked="" type="checkbox"/> CRITICAL LOAD <input checked="" type="checkbox"/> PART ITEM <input checked="" type="checkbox"/> CERTIFICATION REQUIRED	UNLESS OTHERWISE SPECIFIED INTERPRET DIM/TOL PER ASME Y14.5M DIMENSIONS ARE IN INCHES .X ± .1 .XX ± .03 .XXX ± .010 ANGLES ± .5° DO NOT SCALE DRAWING		COPYRIGHT © VARCO INTERNATIONAL, INC. ALL RIGHTS RESERVED. THIS DOCUMENT MAY NOT BE COPIED OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF VARCO. VARCO OWNS ALL RIGHTS TO THIS WORK AND INTENDS TO ENFORCE ITS RIGHTS UNDER THE COPYRIGHT LAWS AS A PUBLISHED WORK.	
	APPLICATION UNLESS OTHERWISE SPECIFIED MACHINED TORCH CUT 250 MAX 1000 MAX	MATERIAL FINISH / HEAT TREAT	THIRD ANGLE PROJECTION	DRAWN J. JENSEN H. OLSTYNSKI
SPARE PART <input type="checkbox"/> COMMISSIONING <input type="checkbox"/> OPERATIONAL <input checked="" type="checkbox"/> INSURANCE	TITLE BAIL PACKAGE TDS-9S/11S		CHECKED B. SHUMSKI JPSJ	DATE 2/14/06 05/02/97
SCALE 1/10 WT LBS 1400 SHEET 1 OF 2		DWG NO 121442 REV F		



D

C

B

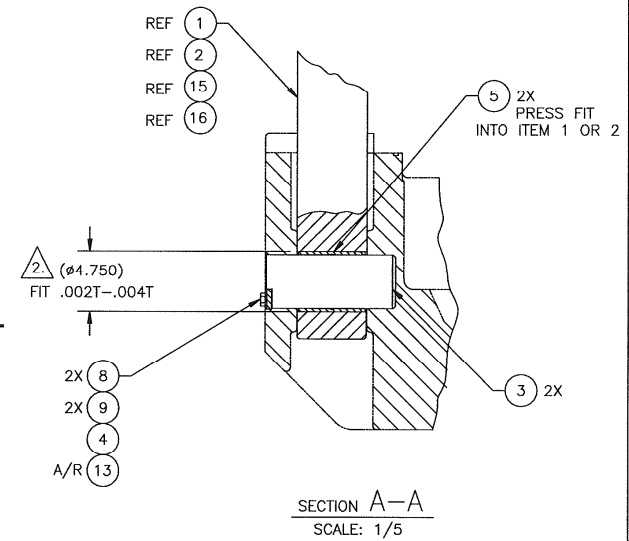
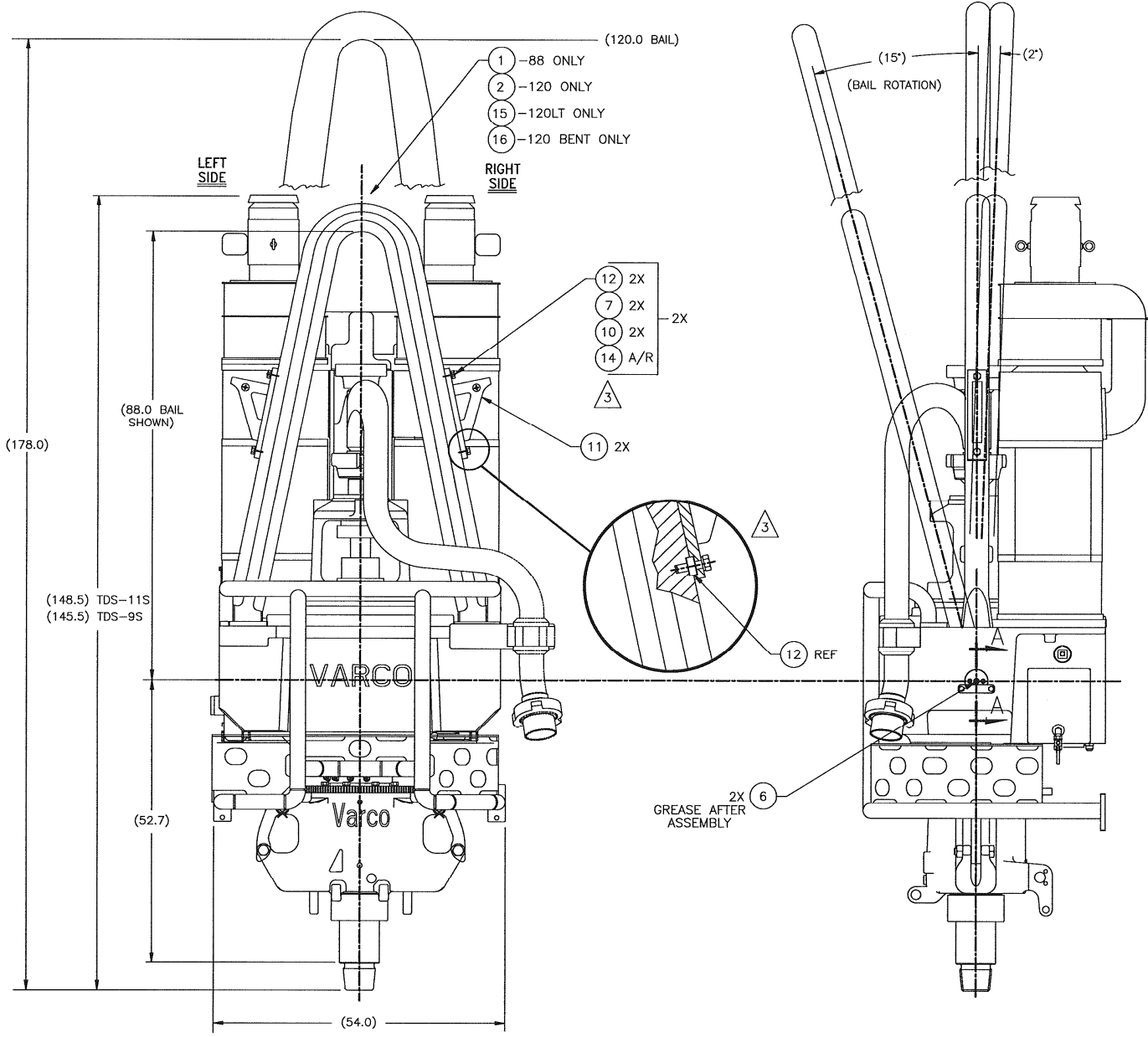
A

D

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B

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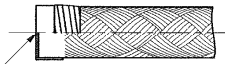


SIZE	DWG NO	REV
D	121442	F
SCALE	1/10 WT LBS	1400 SHEET 2 OF 2

NOTES: UNLESS OTHERWISE SPECIFIED

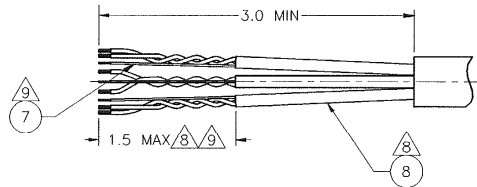
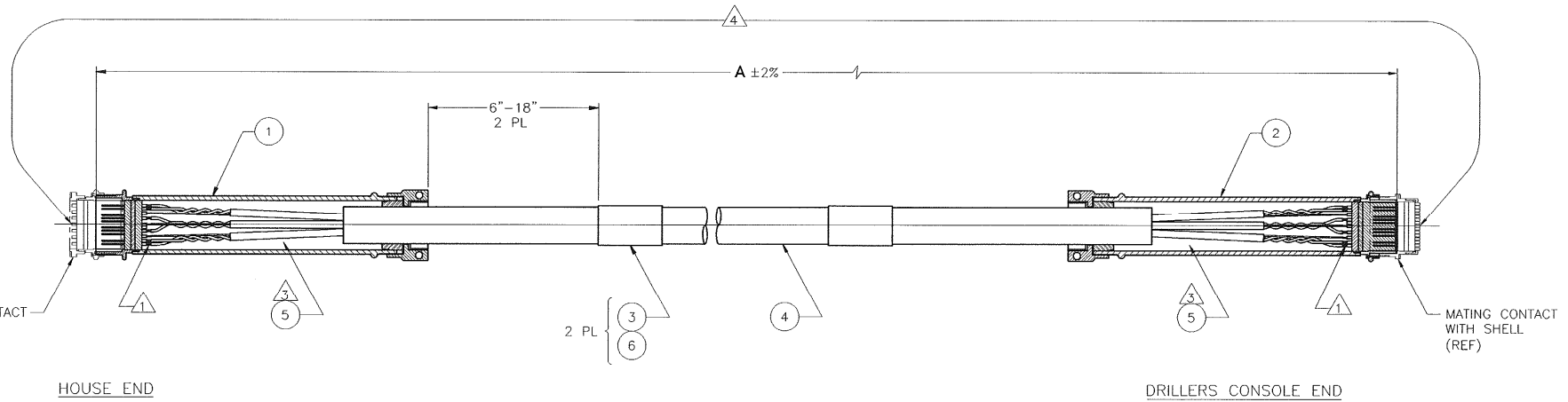
- 1. CONNECTORS TO BE CRIMPED ONTO CONDUCTORS PER CONNECTOR MFG. SPECIFICATION.
- 2. ALL SHELL THREADED MEMBERS TO BE TIGHTENED PER MANUFACTURERS SPECIFICATION.
- 3. POT CONNECTORS USING ITEM 5 PER MANUFACTURERS SPECIFICATION.
- 4. AFTER ASSEMBLING CONNECTOR AND POTTING HAS CURED, THE FOLLOWING ELECTRICAL TESTS ARE TO BE PERFORMED ON EACH CONDUCTOR. A SIGNED CERTIFICATE OF TEST CONFORMANCE IS TO BE PROVIDED WITH EACH ASSY.
 - a. PERFORM A CONTINUITY CHECK THROUGH THE MATING CONNECTOR PAIRS. THE TEST SHOULD UTILIZE AN AUDIBLE OR VISUAL CONTINUITY INDICATOR.
 - b. PERFORM A STANDARD MEGGER CHECK THROUGH THE MATING CONNECTOR PAIRS. THE TEST SHOULD BE PERFORMED AT 500VDC MINIMUM. VERIFY CABLE INSULATION INTEGRITY TO CONNECTOR SHELLS AT BOTH ENDS; MUST BE 10 MEGOHMS MINIMUM.
 - c. ALL TESTING TO BE CONDUCTED THROUGH A MATING CONNECTOR HALF.

- 5. ALL CABLE ASSEMBLIES TO BE SUPPLIED WITH CONNECTOR DUST CAPS INSTALLED AND TIGHTENED PER MANUFACTURERS SPECIFICATION.
- 6. CABLE ASSEMBLIES TO BE SUPPLIED IN A BOX NO LARGER THAN 48" SQUARE X 24" HIGH. BOX IS TO BE IDENTIFIED WITH VARCO PART NO (INCLUDING DASH NO) AND TEST CERTIFICATE.
- 7. CONNECTORS MUST CONFORM TO VARCO DRAWING NO 114729. CABLE MUST CONFORM TO VARCO DRAWING NO 56626.
- 8. FOIL SHIELDS TO COVER CONDUCTORS TO DIMENSION SHOWN. CLEAR HEAT SHRINK (ITEM 8) TO COVER FOIL SHIELD ENTIRELY.
- 9. APPLY CLEAR HEAT SHRINK (ITEM 7) OVER SHIELD DRAIN WIRES.
- 10. FOR CABLES WITH ONE CONNECTOR, MEASURE DIM. A FROM CONNECTOR END TO CABLE END.



IF NO CONNECTOR, CABLES TO BE CUT TO LENGTH SHOWN. END OF CABLE TO BE CAPPED TO PREVENT INGRESS OF WATER.

TYPICAL ALL CABLE ENDS



DASH NO	DIM A	CABLE LENGTH	QTY		WEIGHT LB
			ITEM #1	ITEM #2	
-50-B	50'	50'	1	1	32
-100-B	100'	100'	1	1	64
-150-B	150'	150'	1	1	96
-175-B	175'	175'	1	1	112
-200-B	200'	200'	1	1	128
-50-D	50'	50'	-	1	30
-100-D	100'	100'	-	1	62
-150-D	150'	150'	-	1	94
-175-D	175'	175'	-	1	110
-200-D	200'	200'	-	1	126
-9-H	9'	9'	1	-	10

122443-XXX-X
CONNECTOR DESIGNATORS:
B = BOTH SIDES
D = CONNECTOR ON VDC END ONLY
H = CONNECTOR ON HOUSE END ONLY

LENGTH (IN FEET)
(SEE TABLE 1)

BASIC PART NUMBER

SPECIFICATION CONTROL DWG

6	84514-16-1	TUBING, HEAT SHRINK - CLR	8	
6	84514-08-1	TUBING, HEAT SHRINK - CLR	7	
2	84514-96-1	TUBING, HEAT SHRINK - CLR	6	
1	77992-1080	POTTING COMPOUND	5	
*	56626-05	CABLE, TWISTED PAIRS	4	
2	114725	LABEL	3	
*	114729-SL-655-18	CONNECTOR, INLINE SOCKET	2	
*	114729-PL-655-18	CONNECTOR, INLINE PIN	1	
PART NO.		DESCRIPTION	MATERIAL	ITEM NO.

*SEE TABLE 1
*SEE TABLE 1
*SEE TABLE 1

LIST OF MATERIAL				TITLE	
QTY REQD	DESCRIPTION	MATERIAL	ITEM NO.	CABLE ASSEMBLY	
PART FLAGS				5 TSP (TDS-10S)	
<input type="checkbox"/> TRACKABILITY	ASST IN INCHES	UNLESS OTHERWISE SPECIFIED	SURFACE FINISHES	Varco Systems	
<input type="checkbox"/> CRITICAL LOAD	DO NOT SCALE	REFER TO DIMENSIONS & TOLERANCES PER ANSI Y14.5 & ABREVIATIONS PER ANSI Y11.1 X, R, L CAN BE TYPED OUT XX ± 0.030 XXX ± 0.010 ANGULAR TOLERANCE SEE 30°	MACHINED ±.0030/±.0025	E USA Company	
<input type="checkbox"/> IDENTIFICATION REQUIRED	SCALE	SCALE	TDS-10S	REVISION	
<input type="checkbox"/> COMMISSIONING	DATE	DATE	TDS-10S	122443	
<input type="checkbox"/> OPERATIONAL	PREPARED BY	CHECKED BY	DATE	SCALE	WEIGHT LB
<input type="checkbox"/> INSURANCE	D. R. MATERON	M. MASLYAR	10/8/01	1/2	SHEET
<input type="checkbox"/> THIRD PARTY REVIEW	J. ROMERO	S. CURLEE	8/11/97	TABLE 1	1 OF 2

D

C

B

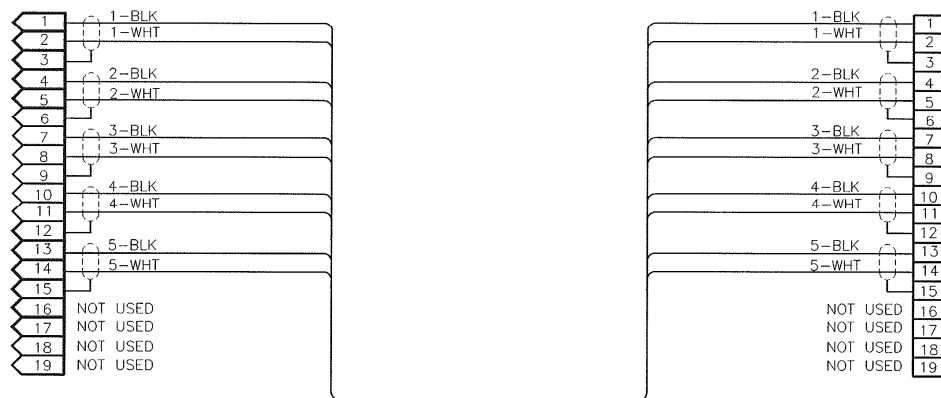
A

D

C

B

A



WIRING DIAGRAM

HOUSE END

DRILLERS CONSOLE END

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TITLE
CABLE ASSEMBLY
5 TSP (TDS-10S)

SIZE D	DOCUMENT NO. 122443	REVISION D
SCALE 1/2	SHEET 2	OF 2

20011010.07315718

1

DCF0022 (REV B)

D

D

C

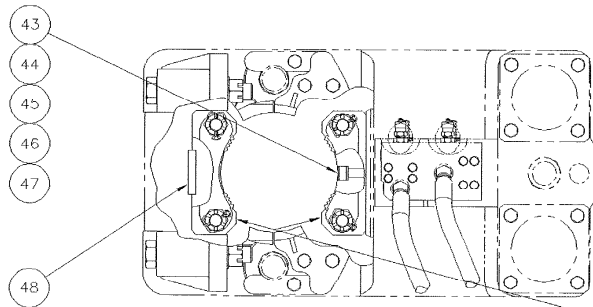
C

B

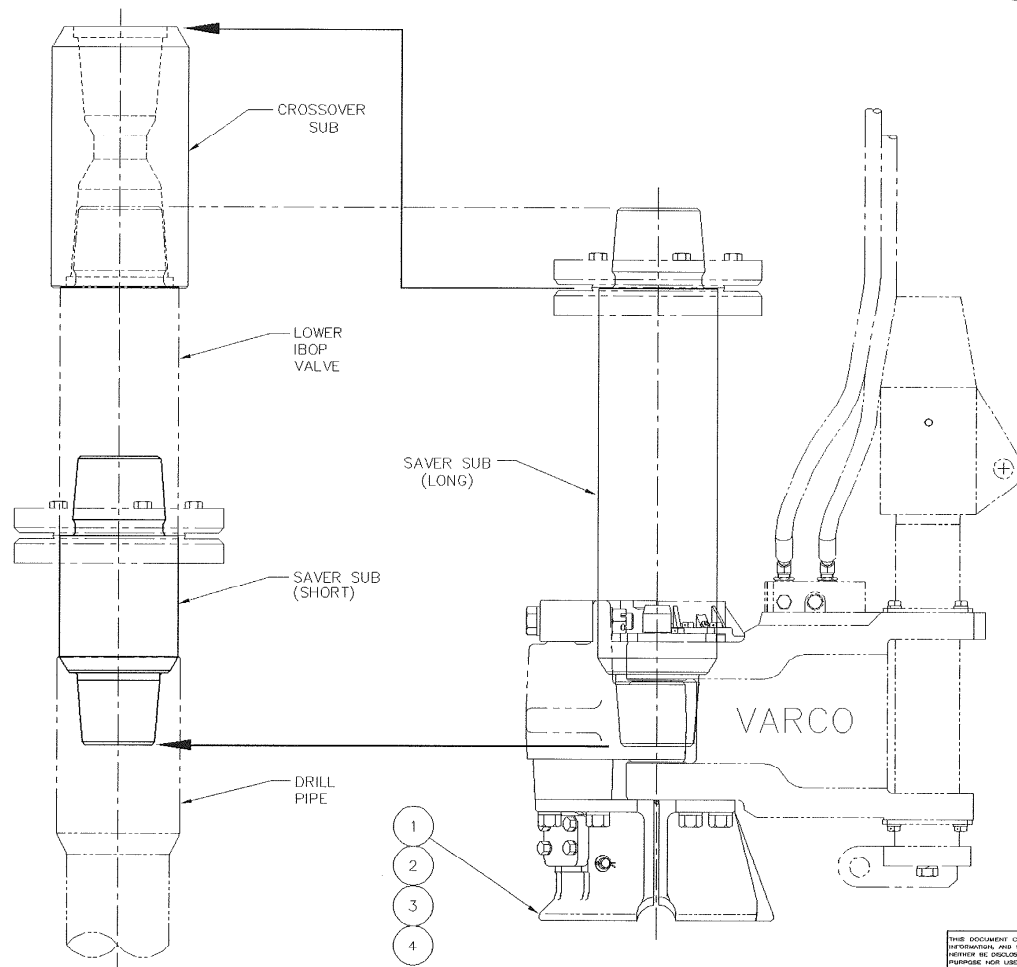
B

A

A



- 6
- 7
- 8
- 9



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Varco
Systems
A Varco Company

TITLE
ADAPTER KIT,
PH50 TOOL JOINT

SIZE D	DOCUMENT NO. 122747	REVISION F
SCALE 1/4	SHEET 2	OF 2

Released - 10/03/2003 03:06:06P

DCFO022 (REV B)

NOTE: UNLESS OTHERWISE SPECIFIED

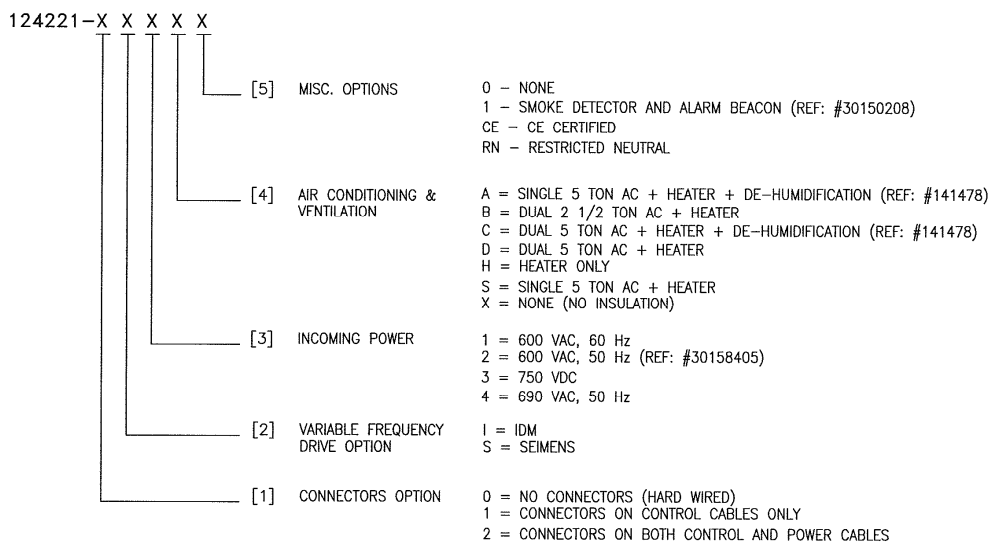
- SIEMENS CONTROL HOUSE TO BE WIRED PER VARCO SCHEMATIC 124222, OR RIG SPECIFIC DRAWING PER CONFIGURATION. IDM CONTROL HOUSE TO BE WIRED PER VARCO SCHEMATIC 128215.
- MOUNT NAMEPLATES APPROXIMATELY WHERE SHOWN. CENTER NAMEPLATES ON HOLE CENTERLINE. MOUNT NAMEPLATES TO CLEAR PLUG FLANGES .12 MIN.
- REFER TO VARCO DS-00050 TDS VARIABLE FREQUENCY DRIVE SYSTEM SPECIFICATION.

4 VARCO SERIAL NUMBER (VSN) IS A MULTIPLE CHARACTER FORMAT CONSISTING OF SIGNIFICANT MODIFIERS TO INDICATE EQUIPMENT TYPE AND DATE OF MANUFACTURE.
 EXAMPLE IDM FREQ DRIVE: VCHAB1291I007
 VCH INDICATES A VARCO CONTROL HOUSE,
 A INDICATES TDS-9/11 HOUSE
 B1291 INDICATES FEBRUARY 12, 1991, AND 'I007' INDICATES THE SEVENTH UNIT SERIALIZED IN THE IDM SERIES.

EXAMPLE SIEMENS FREQ DRIVE: VCHAB1291S002
 VCH INDICATES A VARCO CONTROL HOUSE,
 A INDICATES TDS-9/11 HOUSE
 B1291 INDICATES FEBRUARY 12, 1991, AND 'S002' INDICATES THE SECOND UNIT SERIALIZED IN THE SIEMENS SERIES.

- REFER TO:
 DETAILED HOUSE ASSEMBLY, SIEMENS, TDS-9S/11S - 30157587
 DETAILED HOUSE ASSEMBLY, IDM, TDS-9S/11S - 30157588

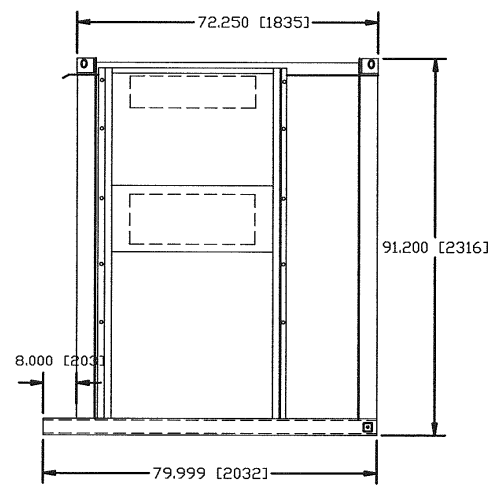
6. VENDOR IS REQUIRED TO DO A CONTINUITY CHECK AND COMPLETE TEST BEFORE SHIPMENT.



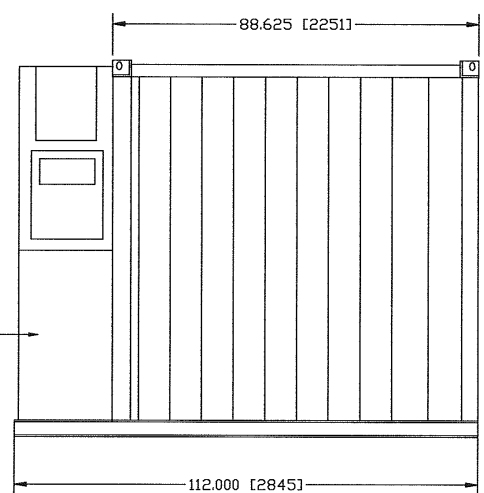
D
C
B
A

D
C
B
A

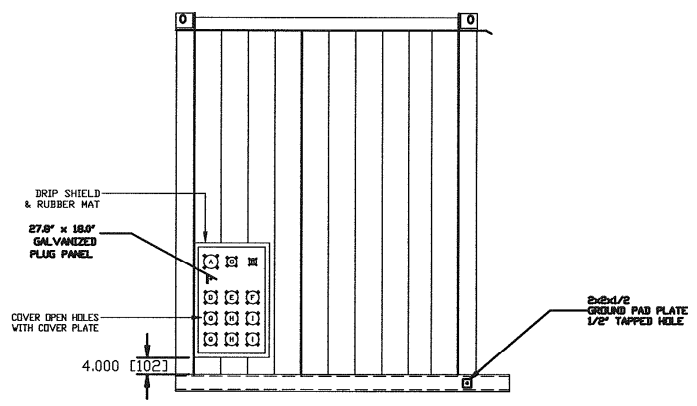
PART FLAGS <input type="checkbox"/> TRACEABILITY <input type="checkbox"/> CRITICAL LOAD <input type="checkbox"/> PATH TECH <input type="checkbox"/> CERTIFICATION REQUIRED		UNLESS OTHERWISE SPECIFIED INTERPRET DIM/TOL PER ASME Y14.5M DIMENSIONS ARE IN INCHES .X ±.1 .XX ±.03 .XXX ±.010 ANGLES ±.5° DO NOT SCALE DRAWING		COPYRIGHT © VARCO INTERNATIONAL, INC. ALL RIGHTS RESERVED THIS DOCUMENT MAY NOT BE COPIED OR REPRODUCED IN ANY WAY WITHOUT THE WRITTEN CONSENT OF VARCO. VARCO DOES ALL RIGHTS TO THIS WORK AND INTENDS TO ENFORCE ITS RIGHTS UNDER THE COPYRIGHT LAWS AS A PUBLISHED WORK.	
APPLICATION TDS-9S/11S NEXT ASSY USED ON		MATERIAL FINISH / HEAT TREAT		TITLE HOUSE ASSEMBLY TDS-9S/11S	
SPARE PART UNLESS OTHERWISE SPECIFIED <input type="checkbox"/> COMMISSIONING <input type="checkbox"/> OPERATIONAL <input type="checkbox"/> INSURANCE		TORQ ANGLE PROJECTION MACHINED 250 MAX TORCH CUT 1000 MAX		DRAWN R. HOLLADAY R. GONZALEZ CHECKED M. MASLYAR M. MASLYAR APP'VD M. MASLYAR M. MASLYAR DATE 11/22/04 1/12/98	
		FINISH / HEAT TREAT		SIZE DWG NO 124221 SCALE N/A/WT LBS 8,000 SHEET 1 OF 8	



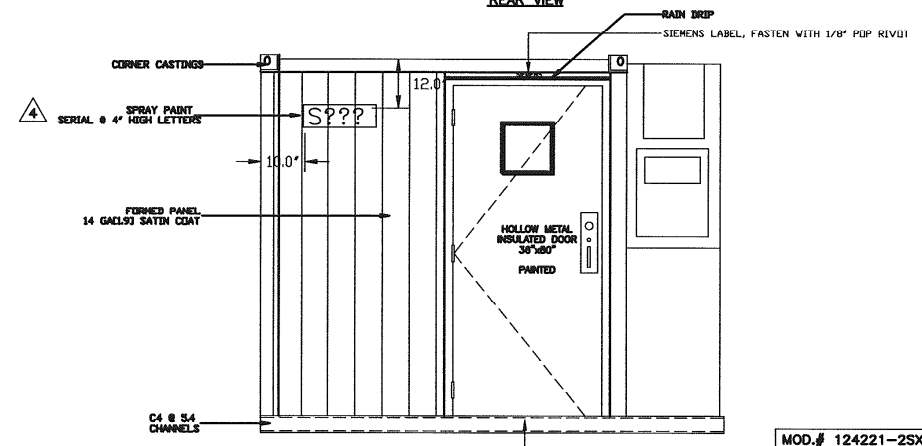
RIGHT SIDE VIEW



REAR VIEW



LEFT SIDE VIEW



FRONT VIEW

- ADD YELLOW LAMACOID LABELS 1\"/>
 - A- COMPOSITE CONNECTOR
 - B- SERIAL CONNECTOR
 - C- AUX. POWER CONNECTOR
 - D- U INCOMING 575VAC
 - E- V INCOMING 575VAC
 - F- W INCOMING 575VAC
 - G- U OUTGOING 575VAC
 - H- V OUTGOING 575VAC
 - I- W OUTGOING 575VAC

SIEMENS 50/60Hz
(VARCO P/N 124221-2SXS)

MOD.# 124221-2SXS
SER.# -S7???

YELLOW LAMACOID 2\"/>

SIZE	DWG NO	REV
D	124221	J
SCALE	N/A	VT LBS
8,000		SHEET 2 OF 8

5

4

3

2

1

D

D

C


C

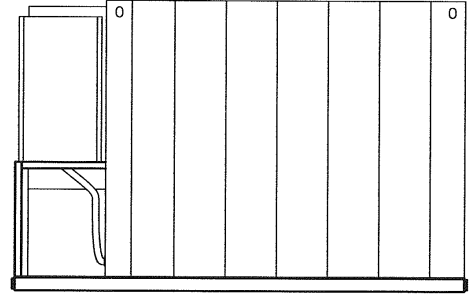
B

B

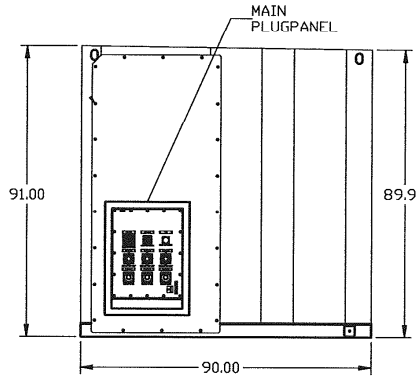
A

A

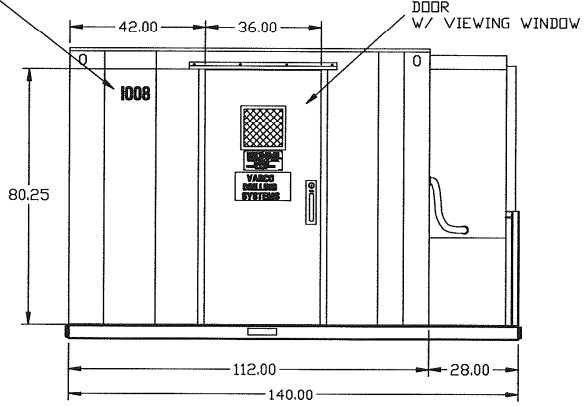

 PAINT LAST 3 CHARACTERS
 OF SERIAL NO. APPROX
 WHERE SHOWN USING
 4.0 HIGH BLACK CHARACTERS
 IN ACCORDANCE WITH VPS00001
 (VPS=VARCO PAINT SPECIFICATION)
 2 PL
 (LEFT & RIGHT SIDES)



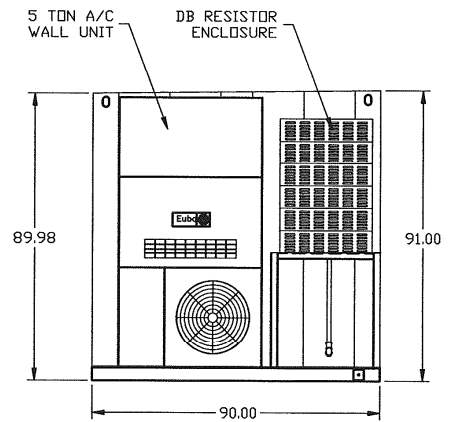
REAR ELEVATION



LEFT END ELEVATION



FRONT ELEVATION



RIGHT END ELEVATION

IDM

(VARCO P/N 124221-2IXS)

SIZE	DWG NO	REV
D	124221	J
SCALE	N/A	WT LBS
	8,000	SHEET
		3 OF 8

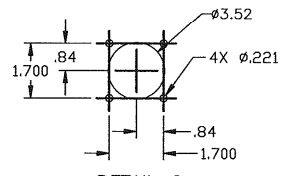
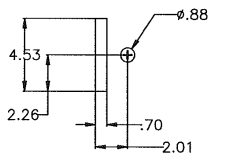
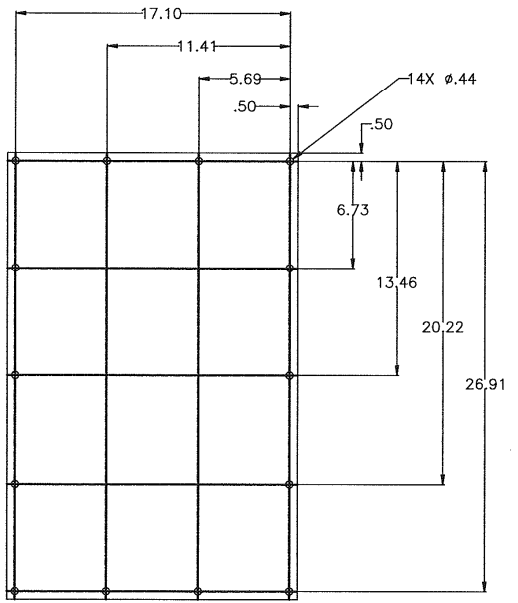
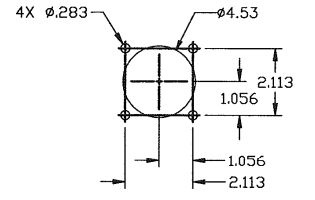
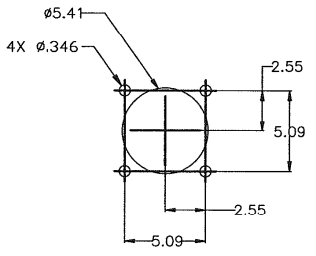
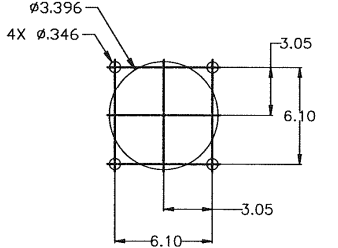
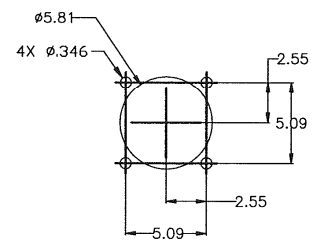
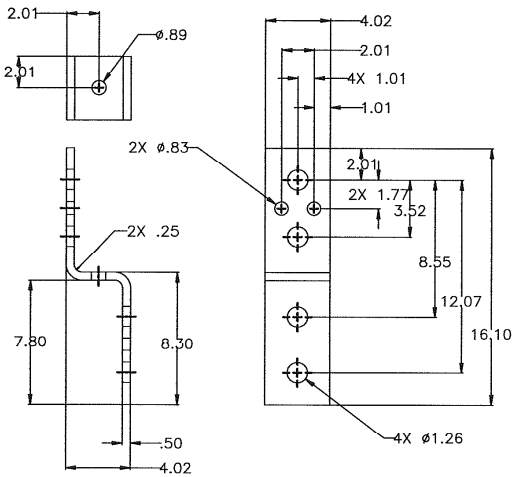
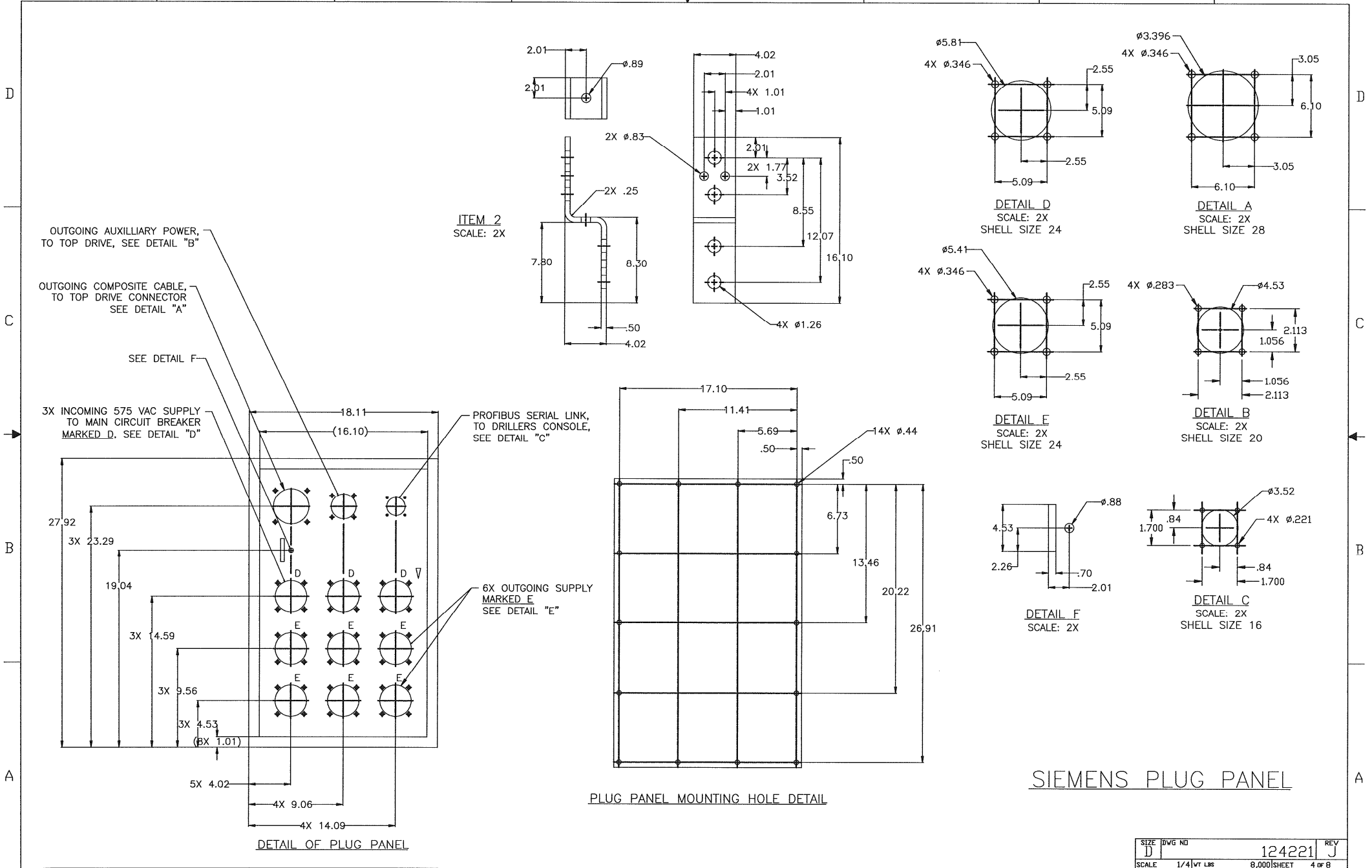
5

4

3

2

1



SIZE	DWG NO	REV
D	124221	J
SCALE	1/4" = 1" (VT LBS)	8,000 SHEET 4 OF 8

D

C

B

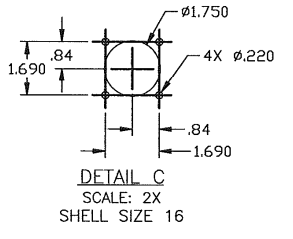
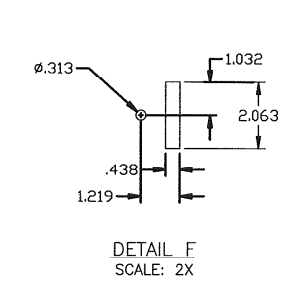
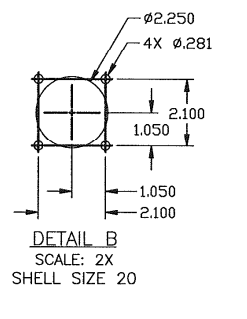
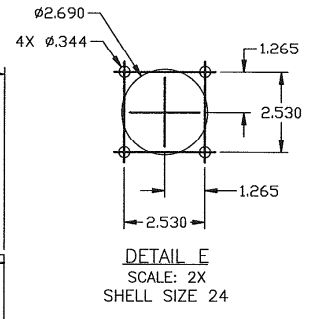
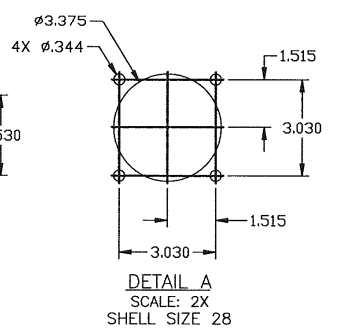
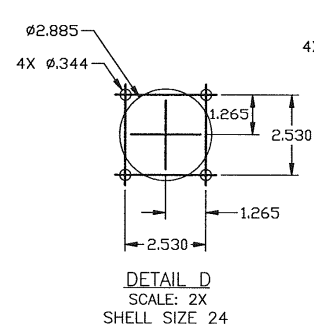
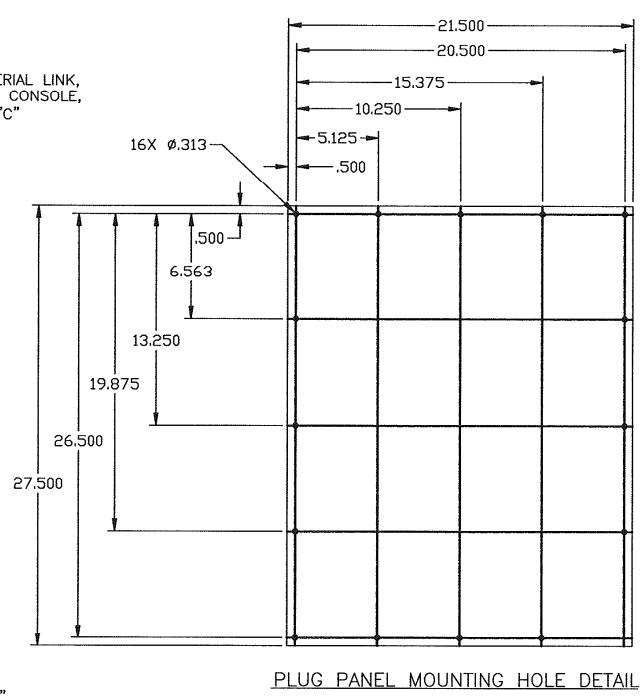
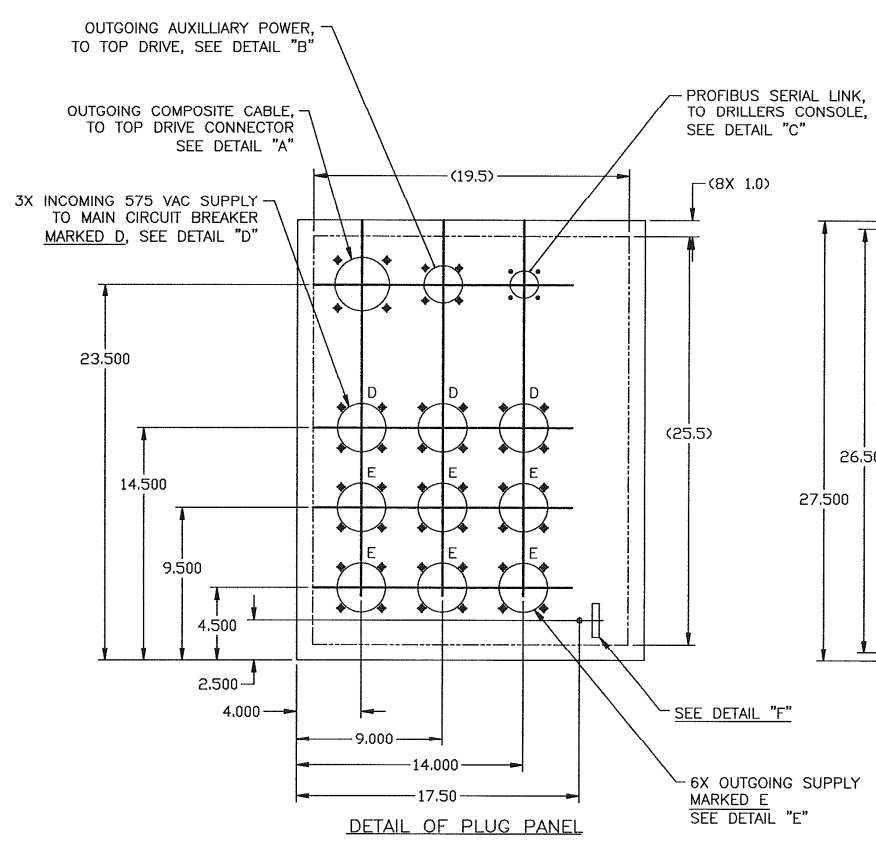
A

D

C

B

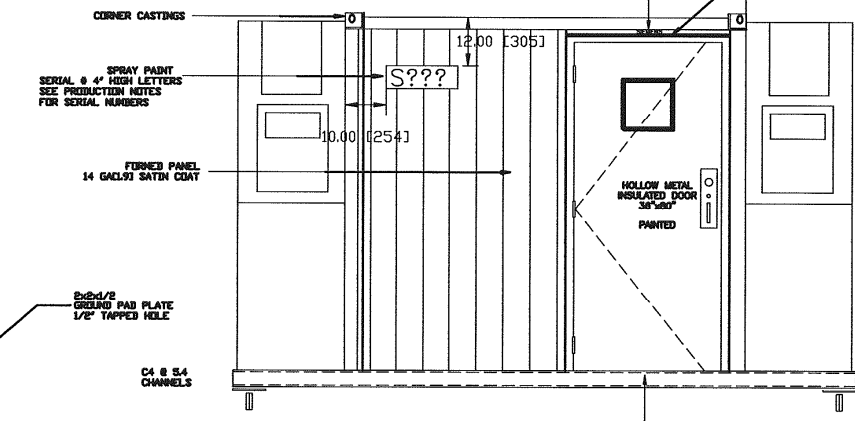
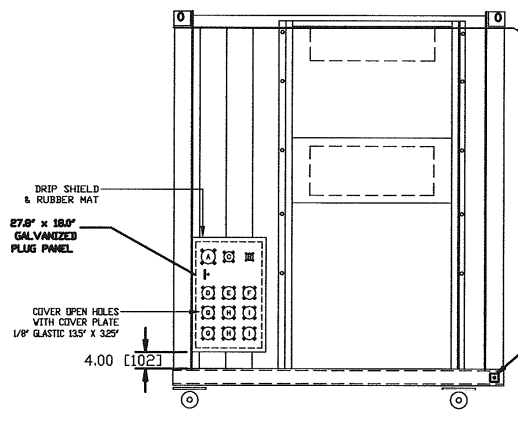
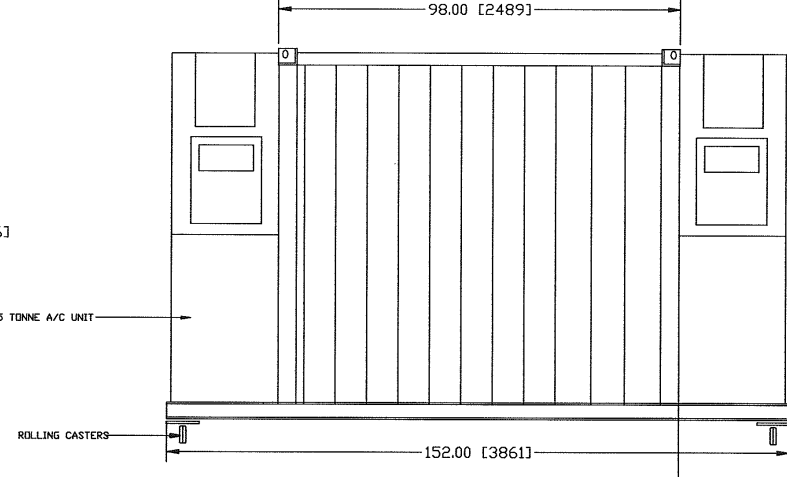
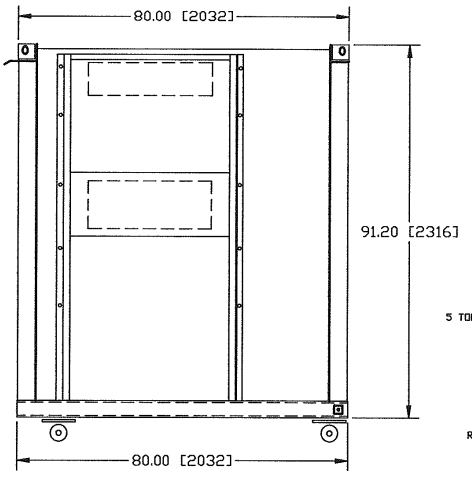
A



IDM PLUG PANEL

SIZE	DWG NO	REV
D	124221	J
SCALE	1/4" = 1" (VT LBS)	8,000 SHEET 5 OF 8

- ADD YELLOW LAMACOID LABELS 1" X 3" TO PLUG PANEL:
 A- COMPOSITE CONNECTOR
 B- SERIAL CONNECTOR
 C- AUX. POWER CONNECTOR
 D- U INCOMING 575VAC
 E- V INCOMING 575VAC
 F- W INCOMING 575VAC
 G- U OUTGOING 575VAC
 H- V OUTGOING 575VAC
 I- W OUTGOING 575VAC



DRIP SHIELD & RUBBER MAT
 27 1/2" x 18 1/2" GALVANIZED PLUG PANEL
 COVER OPEN HOLES WITH COVER PLATE 1/8" GLASSIC 13 1/2" X 3 1/2"

2x2x1/2 GROUND PAD PLATE 1/2" TAPPED HOLE
 C4 & S4 CHANNELS

SPRAY PAINT SERIAL & 4" HIGH LETTERS SEE PRODUCTION NOTES FOR SERIAL NUMBERS

CORNER CASTINGS

FORMED PANEL 14 GA(1.9) SATIN COAT

RAIN DRIP
 SIEMENS LABEL, FASTEN WITH 1/8" POP RIVOT

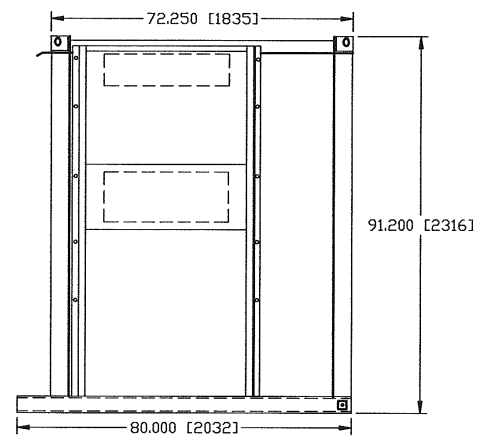
HOLLOW METAL INSULATED DOOR 36" x 60" PAINTED

MOD. 124221-2SXD
 SER. - SEE PRODUCTION NOTES

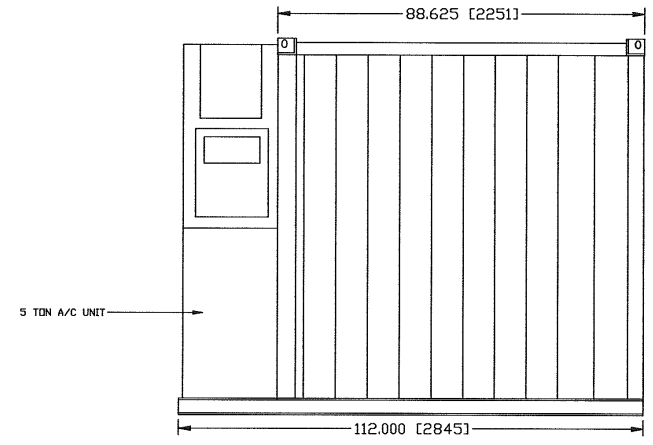
YELLOW LAMACOID 2" X 7", BLACK 0.5" LETTERS, FASTENED WITH SCREWS
 VARCO PART NUMBER & SERIAL NUMBER

SIEMENS 50/60Hz
 (VARCO P/N 124221-2SXC, -2SXD)

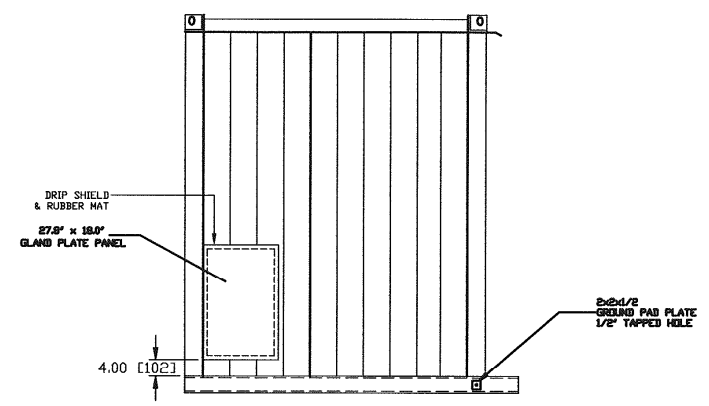
SIZE	DWG NO	REV
D	124221	J
SCALE	N/A	VT LBS
	8,000	SHEET 6 OF 8



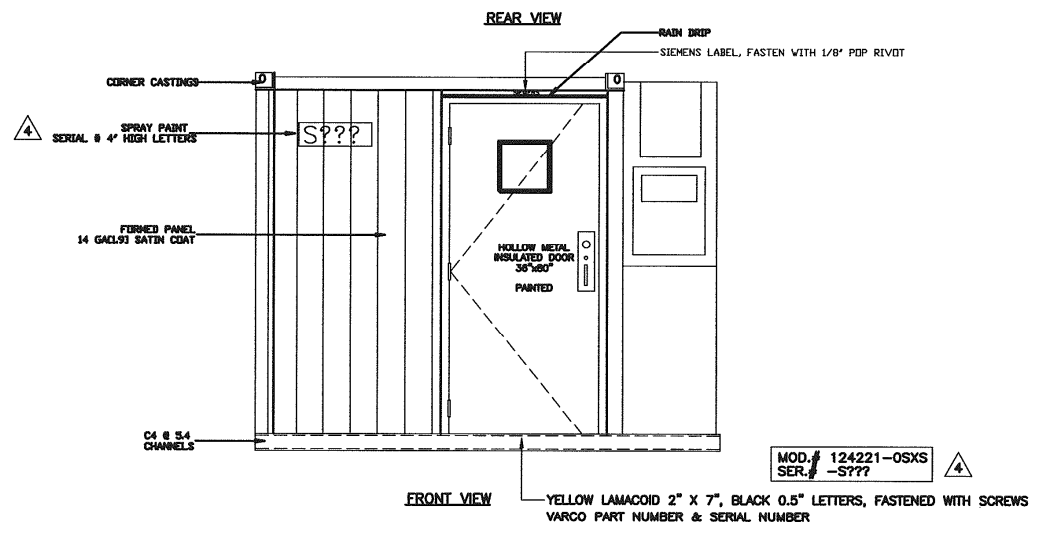
RIGHT SIDE VIEW



FRONT VIEW



LEFT SIDE VIEW

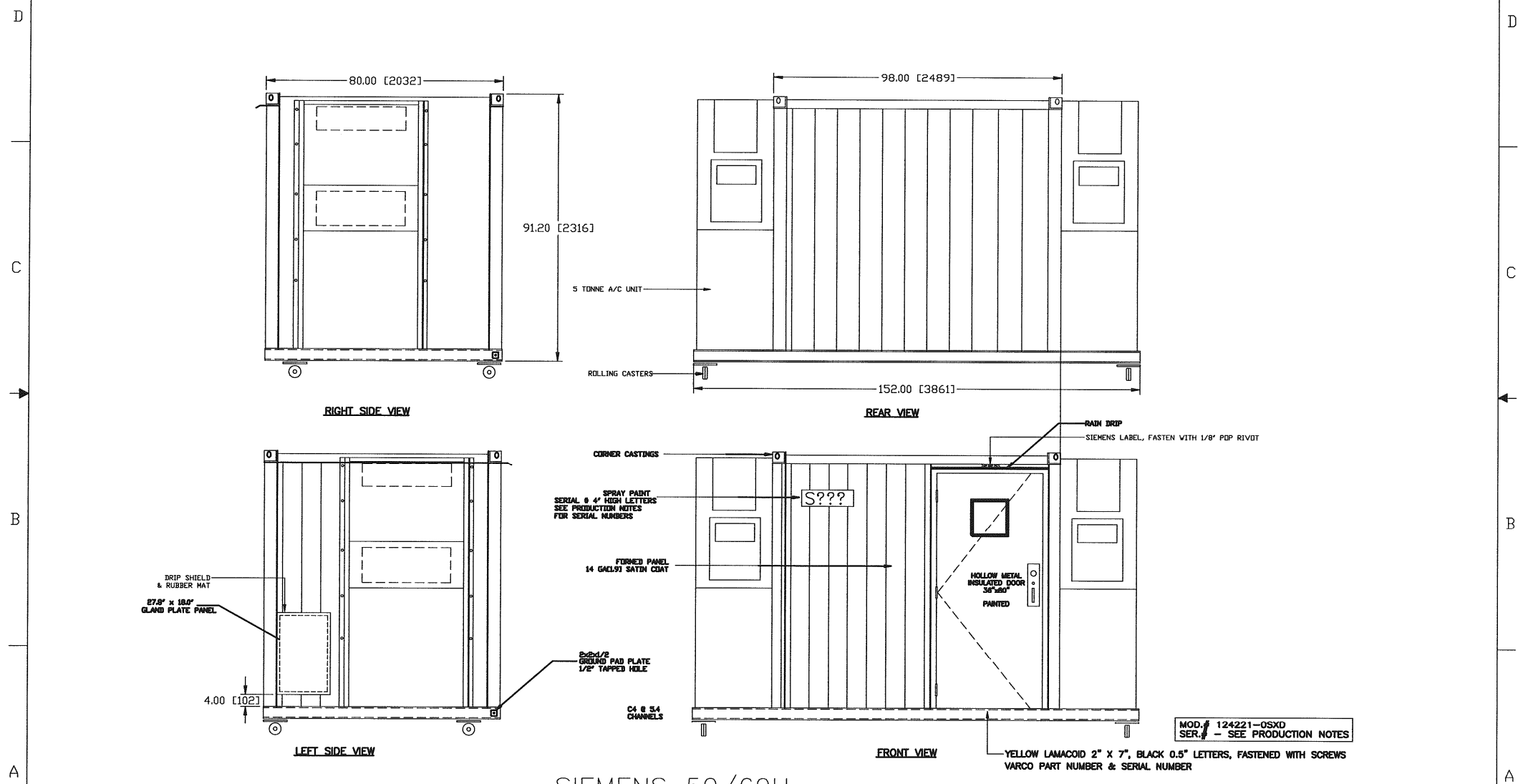


REAR VIEW

MOD.# 124221-OSXS
SER.# -S???

SIEMENS 50/60Hz
(VARCO P/N 124221-OSXS)

SIZE	DWG NO	REV
D	124221	J
SCALE	N/A	WT LBS
	8,000	SHEET 7 OF 8



SIEMENS 50/60Hz
 (VARCO P/N 124221-0SXC, -OSXD)

MOD. # 124221-OSXD
 SER. # - SEE PRODUCTION NOTES

SIZE	DWG NO	REV
D	124221	J
SCALE	N/A	WT LBS
	8,000	SHEET 8 OF 8

NOTES: UNLESS OTHERWISE SPECIFIED

- 1. CABLES TO BE IDENTIFIED (BOTH ENDS) WITH APPROPRIATE CABLE I.D. NO.
- 2. ALL WIRES TO BE IDENTIFIED WITH WIRE NUMBER.
- 3. CLEAR SHRINK WRAP ON SHIELDS.
- 4. CONNECTORS STANDARD/HARDWIRED J-BOXES OPTIONAL.

- 5. THROTTLE "ON" SWITCH IS MECHANICALLY ATTACHED TO THROTTLE CONTROL. SWITCH IS CLOSED WHEN THROTTLE IS AT ZERO.
- 6. 600VAC FEED FROM HOUSE DISTRIBUTION CIRCUIT BREAKER.
- 7. ALL ITEMS THAT ARE DESIGNATED BY HIDDEN LINES ARE OPTIONAL.

- 8. OPTIONS AVAILABLE FOR POWER LOOP:
 - TDS-9S - 1-646MCM / PHASE
 - TDS-11S -1-777MCM / PHASE
 - 2-444MCM / PHASE

- 9. INVERTER FAN SUPPLY IS 240V FOR 50 CYCLE INPUT
- INVERTER FAN SUPPLY IS 190V FOR 60 CYCLE INPUT

10. JUMPERS OMITTED WHEN NOT REQUIRED

11. SMALL INVERTER USED FOR AUX MOTORS WHEN INCOMING POWER IS 50 HZ.

12. TERMINALS LOCATED IN A/C UNIT

13. THESE AREAS NEED WIRING COVERED WITH RUBBER INSULATION TO PREVENT CHAFING AGAINST COVER/PANEL DOOR.

14. WIRING FOR DBR COOLING FANS WHEN SUPPLIED.

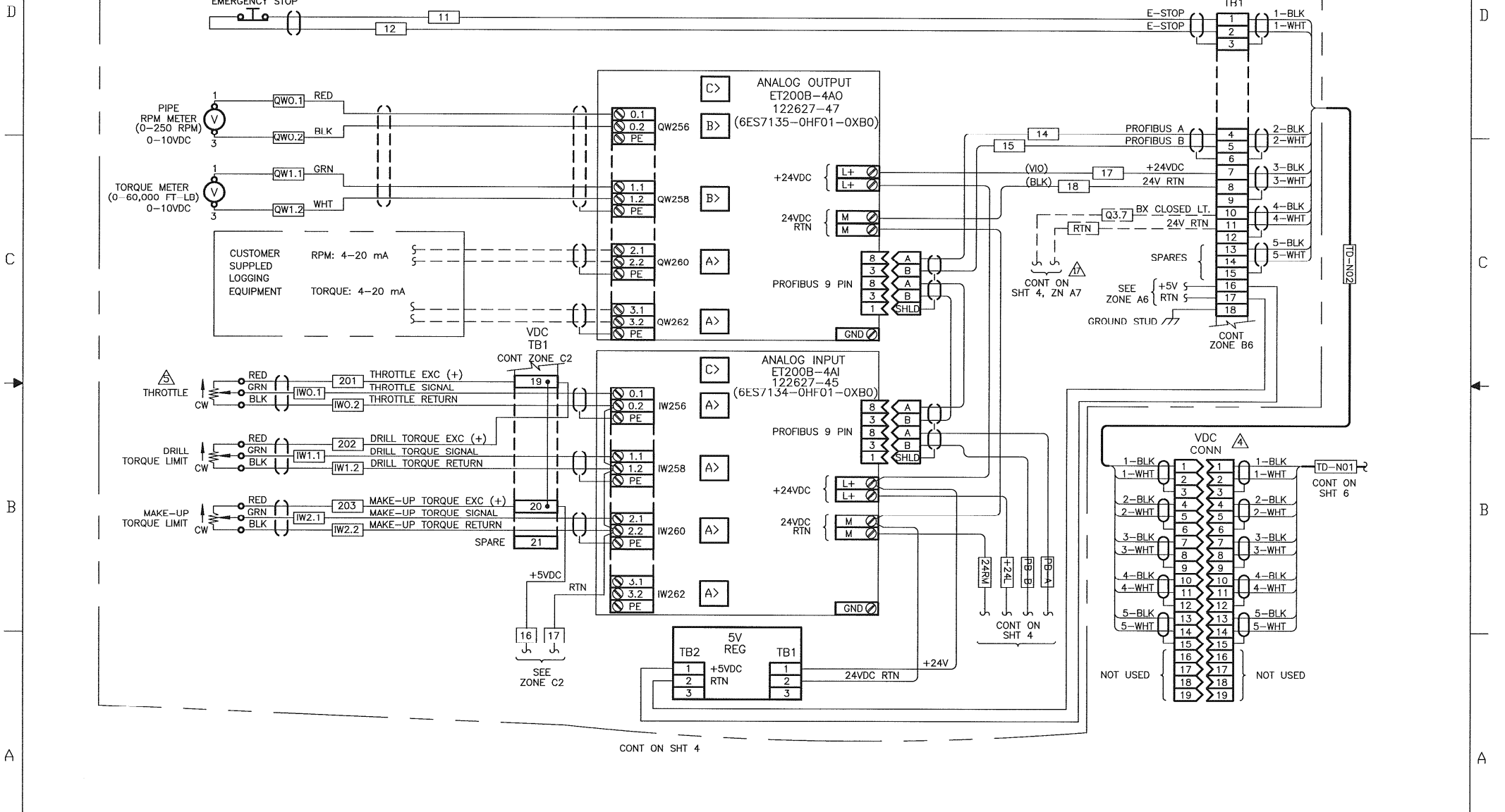
15. FOR TWO-5 TON AC UNITS USE 30KVA TRANSFORMER
FOR TWO-2.5 TON AC UNITS USE 15KVA TRANSFORMER

16. OPTIONAL COMPONENTS REQUIRED FOR BX ELEVATOR OPERATION.
- ILLUMINATED PUSHBUTTON INSTALLED ON VDC (P/N 120546-XX-6-XX).
THE VDC LIGHT IS POWERED BY AN OUTPUT FROM THE VFD HOUSE PLC.
- BX ELEVATOR PRESSURE SWITCH WIRED TO I5.3 AS SHOWN.
- BX ELEVATOR OPEN SOLENOID WIRED TO Q3.6 AS SHOWN.

17. THE 24VDC REQUIREMENT FOR THE DB CHOPPER IS FOR MODELS MADE AFTER AUGUST, 2006 ONLY.

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INTERPRET DIM/TOL PER ASME Y14.2		DIMENSIONS ARE IN INCHES		TITLE	
.X ± .1 .XX ± .03 .XXX ± .010		ANGLES ± 5°		SYSTEM INTERCONNECT	
DO NOT SCALE DRAWING		DO NOT SCALE DRAWING		SIEMENS, TDS-9/11SA (UL)	
NEXT ASSY	USED ON	CURRENT	INITIAL	SCALE	1/1
APPLICATION	DRAWN	S. CURLEE	R. GENZALE'S	PROJECTION	1ST ANGLE
UNLESS OTHERWISE SPECIFIED	CHECKED	M. MASLYAR	M. MASLYAR	SIZE	D
MACHINED	APPVD	M. MASLYAR	M. MASLYAR	SHEET	1 of 13
TORCH CUT	DATE	10/31/06	3/21/98	REVISED	K
250 MAX				DRAWING NUMBER	124222
1000 MAX					
✓					

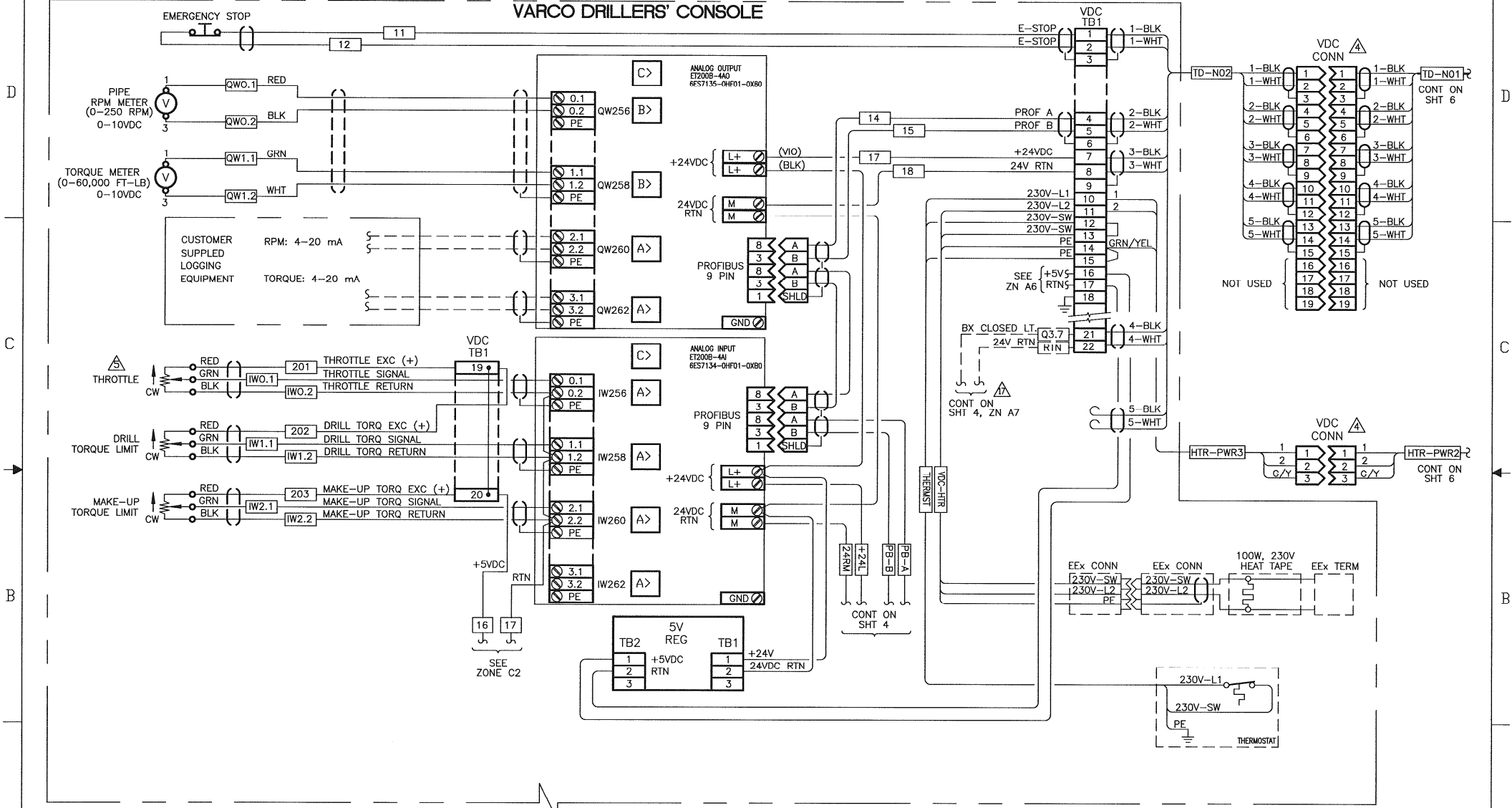
VARCO DRILLERS' CONSOLE



VARCO DRILLERS' CONSOLE WITHOUT HEATER

SIZE	DWG NO	REV
D	124222	K
SCALE	1/1 VT LBS	SHEET 2 OF 13

VARCO DRILLERS' CONSOLE



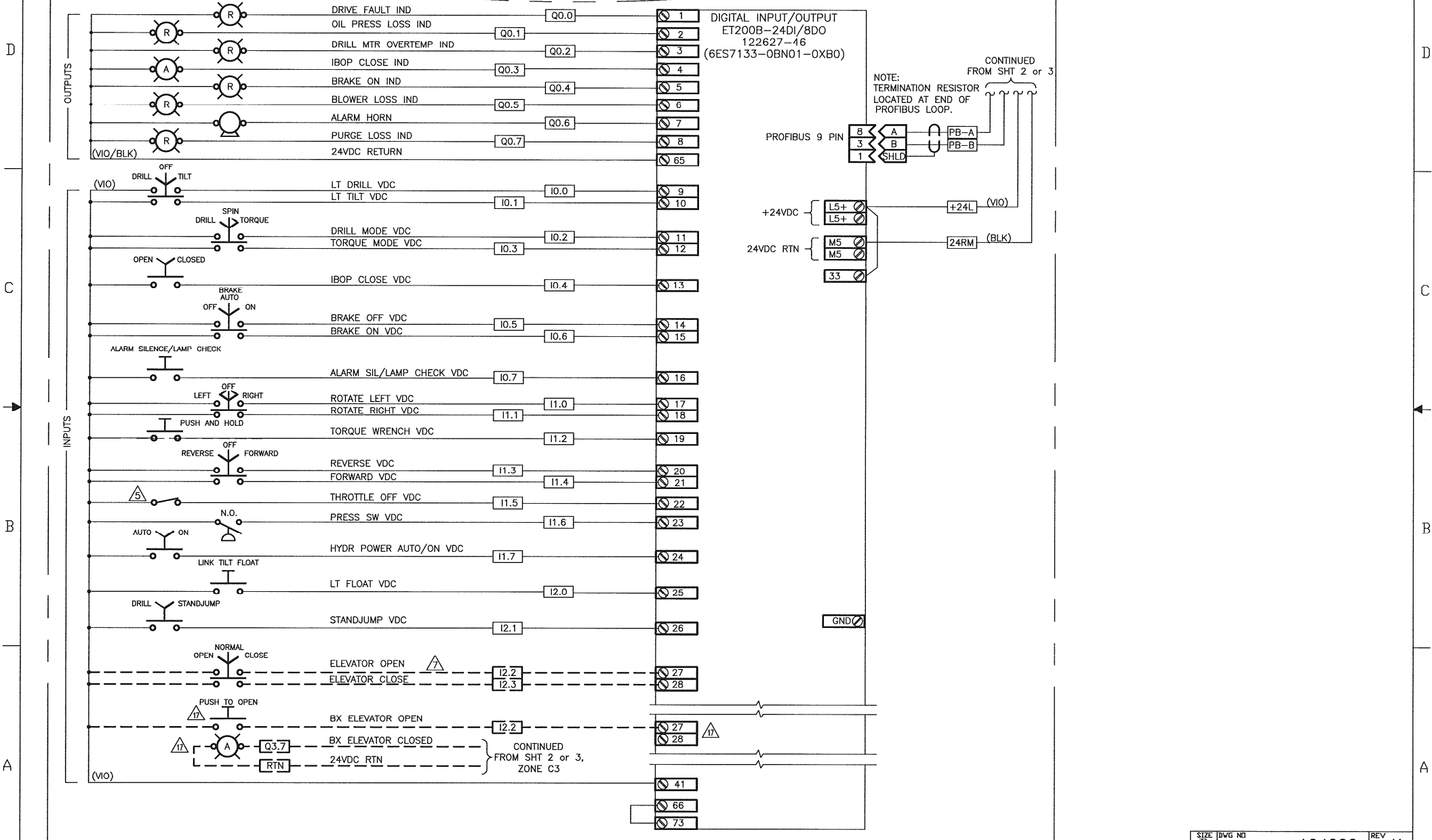
CONT ON SHT 4

VARCO DRILLERS' CONSOLE WITH HEATER

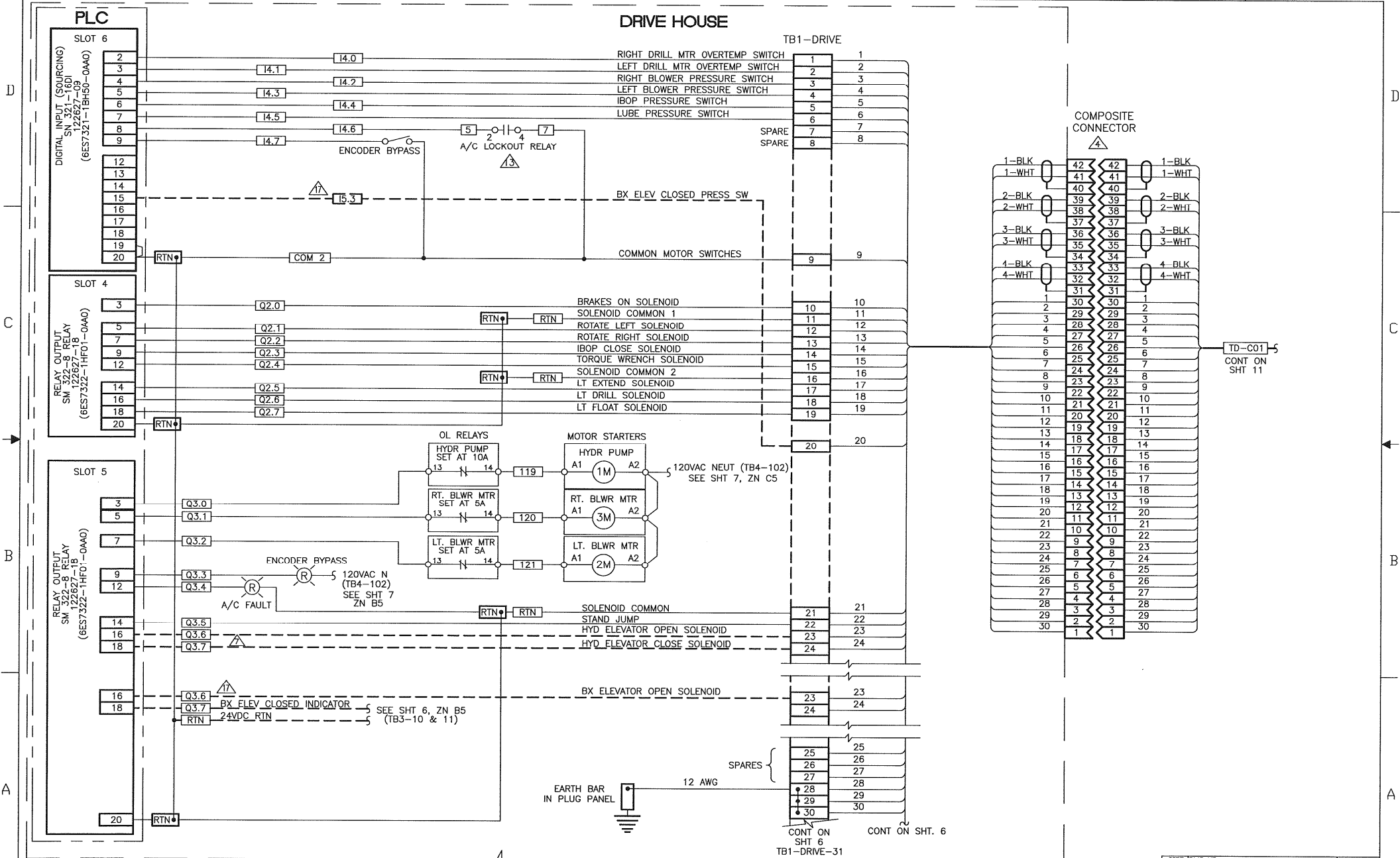
SIZE	DWG NO	REV
D	124222	K
SCALE	1/1" = 1' - 1/8"	SHEET 3 OF 13

VARCO DRILLERS' CONSOLE

CONT FROM SHT 2 or 3



SIZE	DWG NO	REV
D	124222	K
SCALE	1/1 (VT LBS)	- SHEET 4 OF 13



CONT ON SHEET 6

SIZE	D	REV	K
SCALE	1/1	SHEET	5 of 13

D

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B

A

D

C

B

A

CONT FROM SHT 5

DRIVE HOUSE

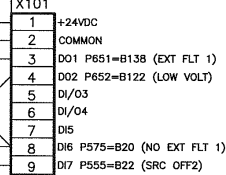
CONT FROM 24V RTN
SEE SHT 7, ZN A1

CONT FROM SHT 5, ZN A4

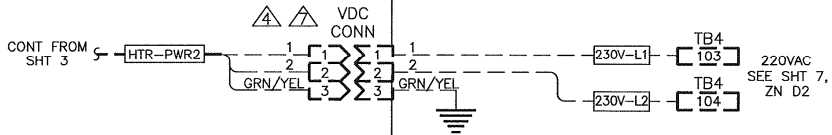
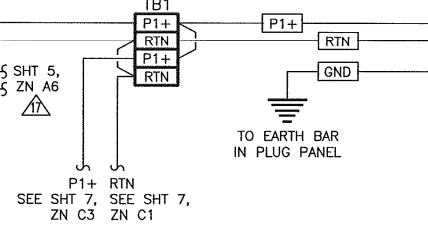
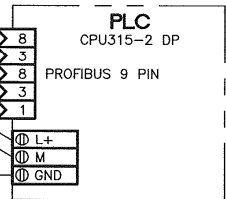
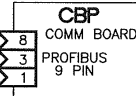
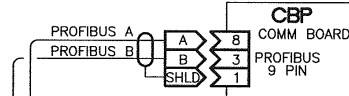
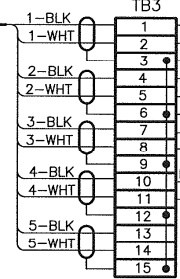
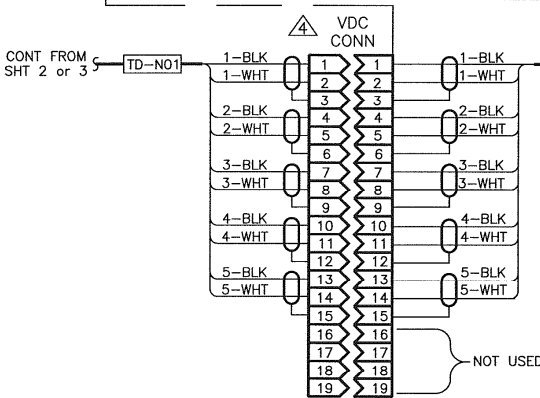
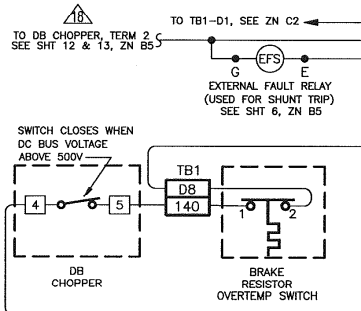
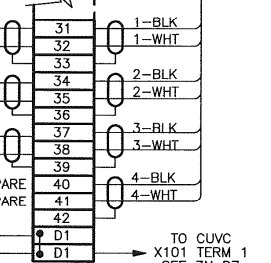
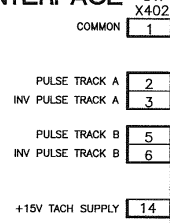
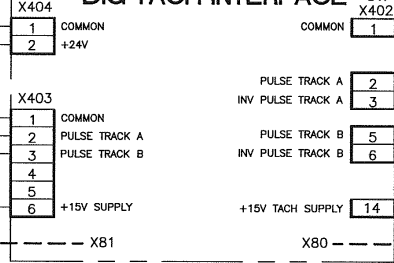
CONT FROM SHT 5, ZN A3

+24VDC SEE SHT 7, ZN A3

X101

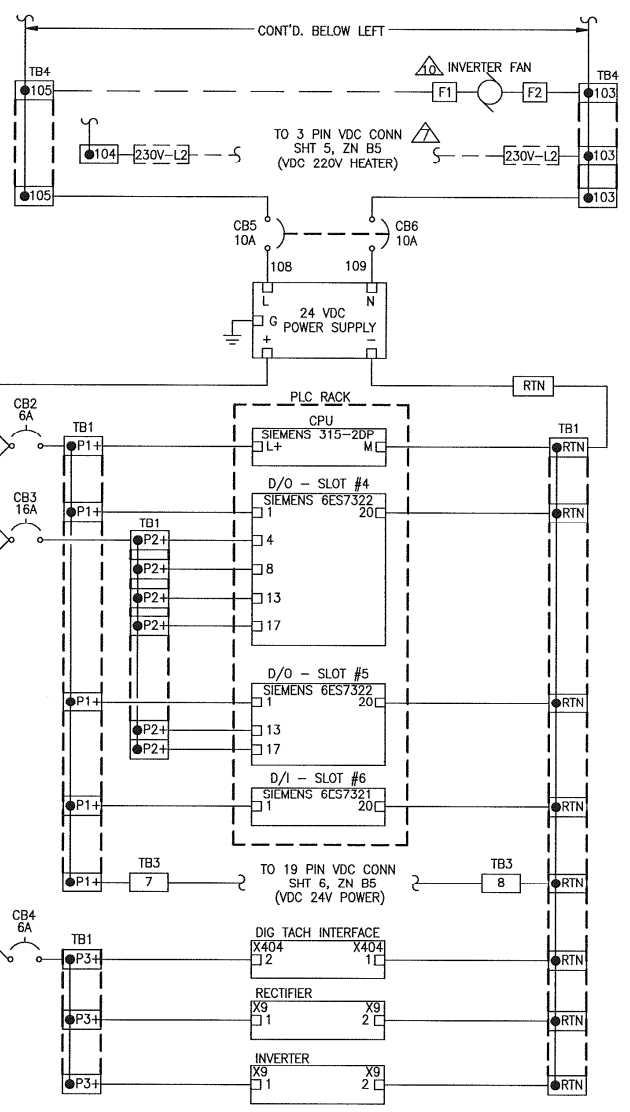
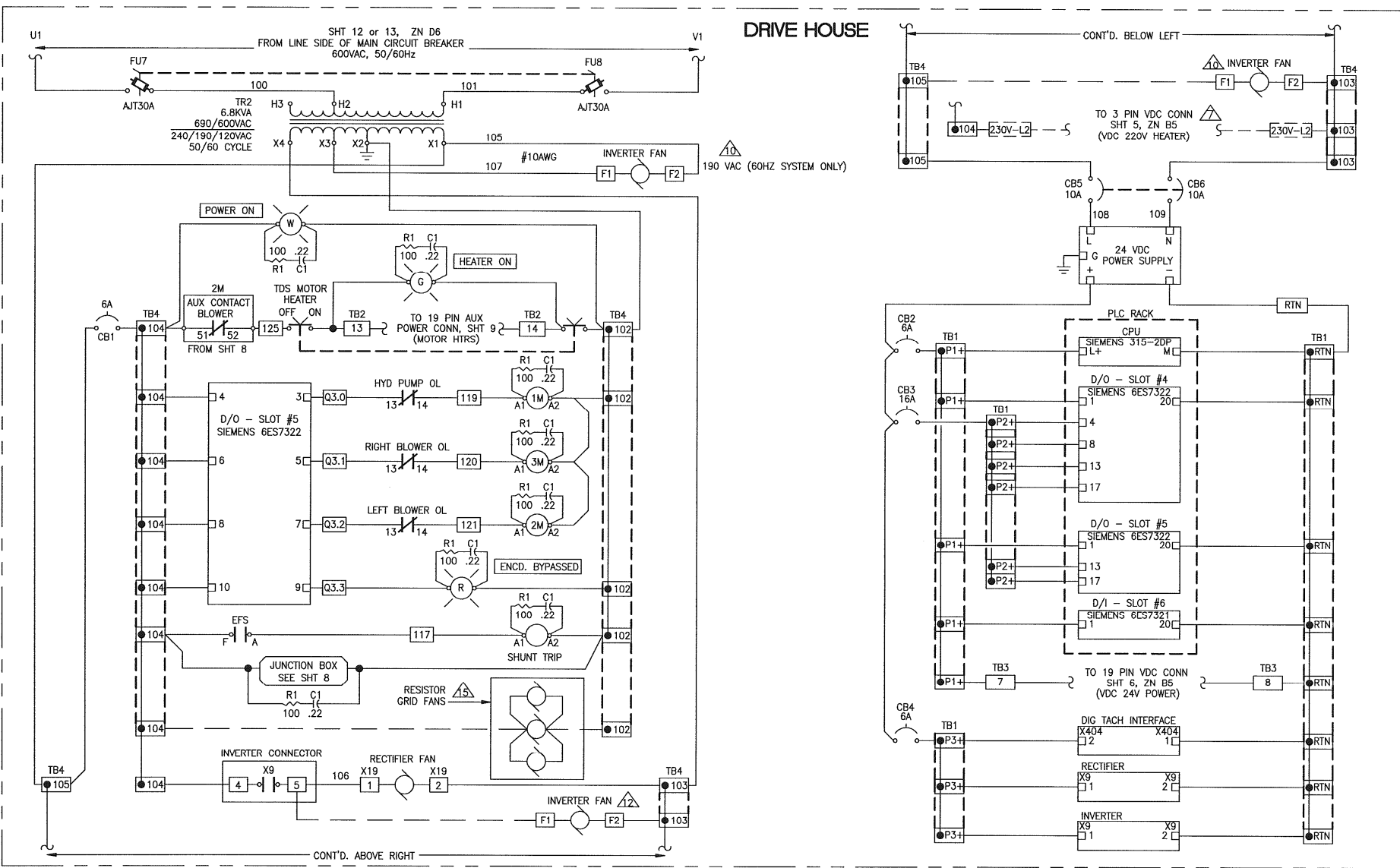


DIG TACH INTERFACE



SIZE	DWG NO	REV
D	124222	K
SCALE	1/1 VLT LBS	SHEET 6 OF 13

DRIVE HOUSE



SIZE	DWG NO	REV
D	124222	K
SCALE	1/1 (VT LBS)	- SHEET 7 of 13

FROM SHT 7, ZONE A6

120VAC SUPPLY
BY SIEMENS

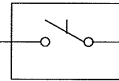
104

102

JUNCTION BOX
120 VAC SUPPLY
TO LTS/RECPTS

E-HOUSE WIRING, IN EMT
CONDUIT, BY E-HOUSE VENDOR

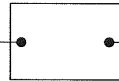
WALL MOUNTED
SWITCH



INCANDESCENT
100W LIGHT

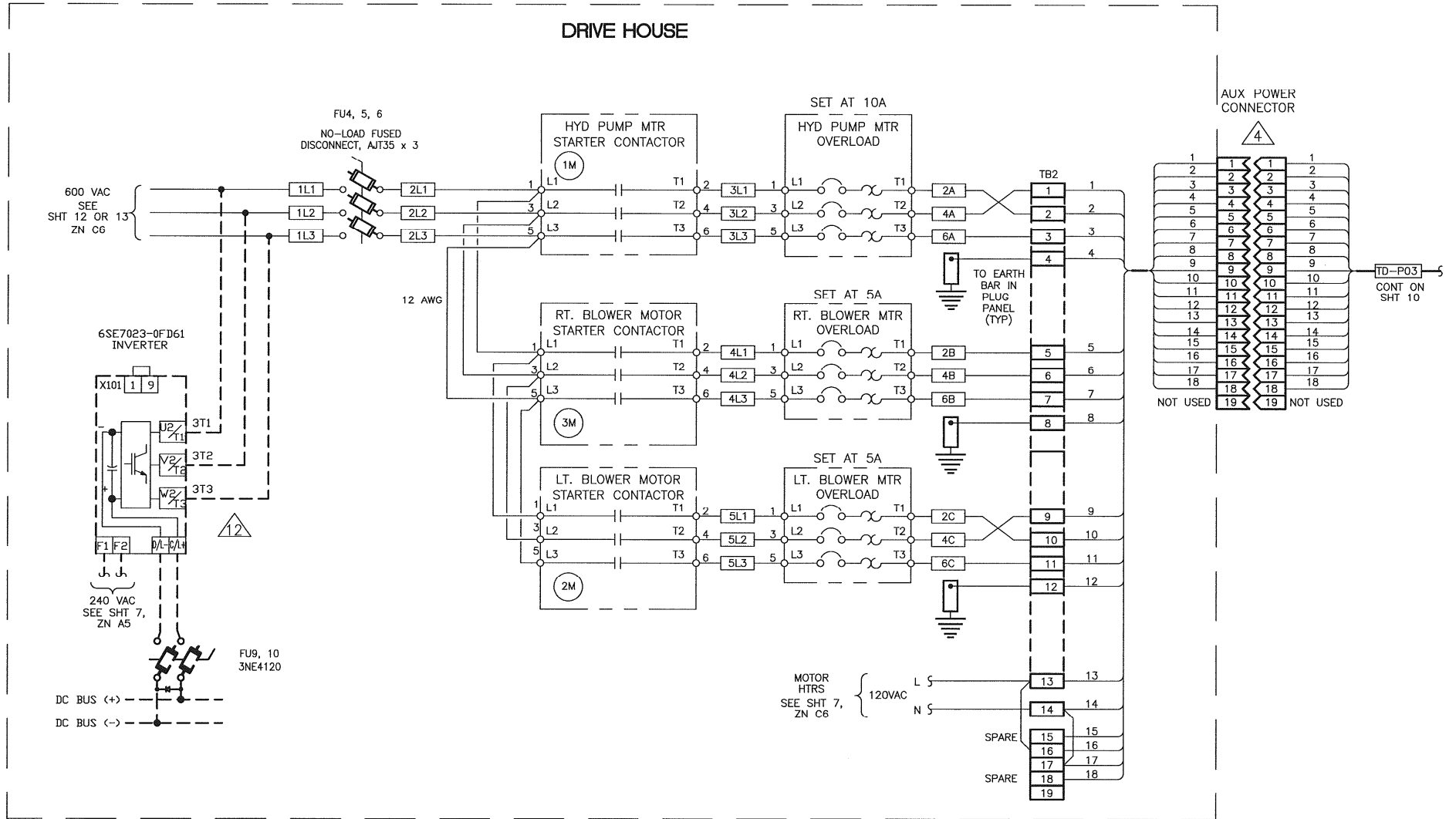
INCANDESCENT
100W LIGHT

WALL MOUNTED
120V RECEPTACLE

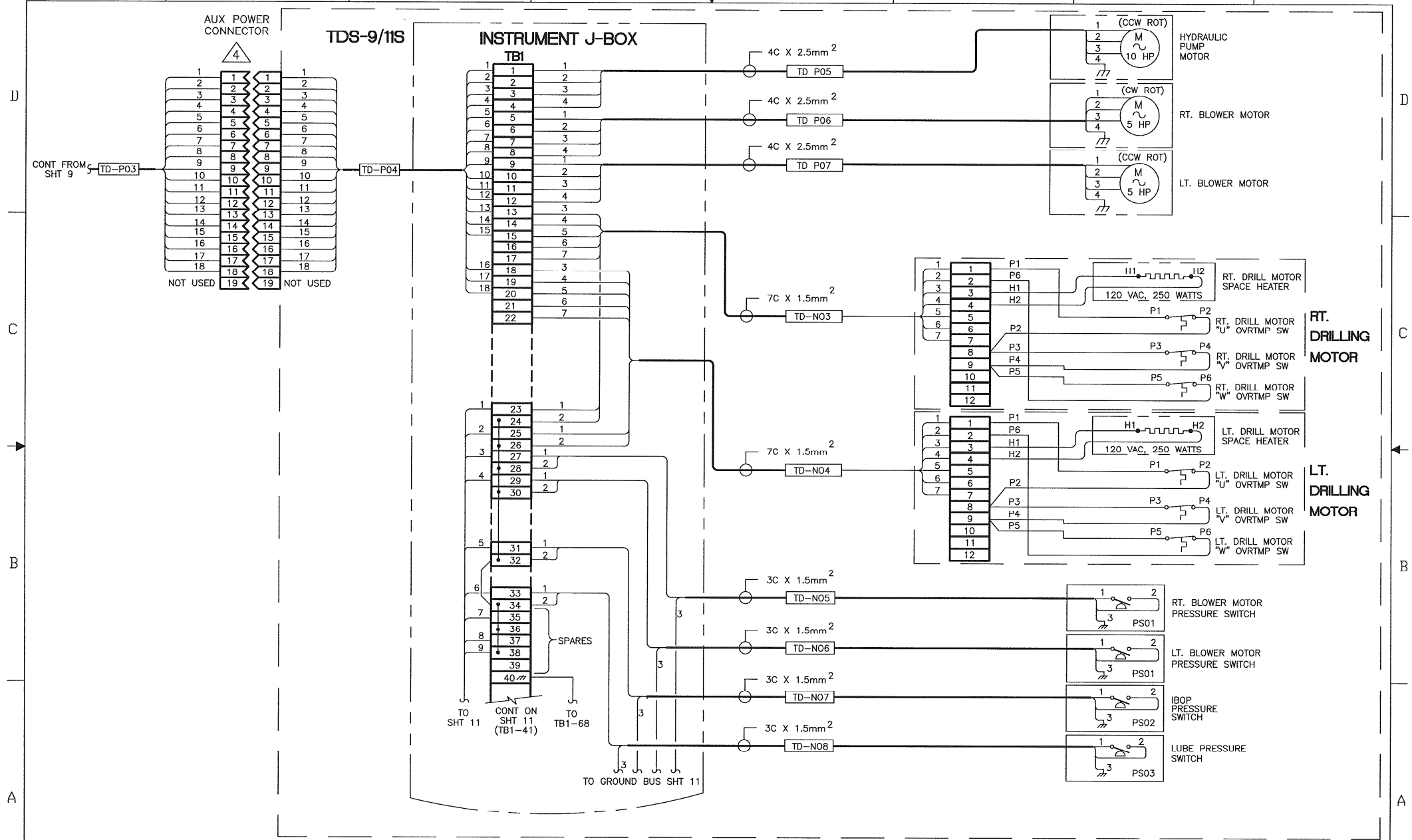


SIZE	DWG NO	REV
D	124222	K
SCALE	1/1" = 1' - 0"	SHEET 8 OF 13

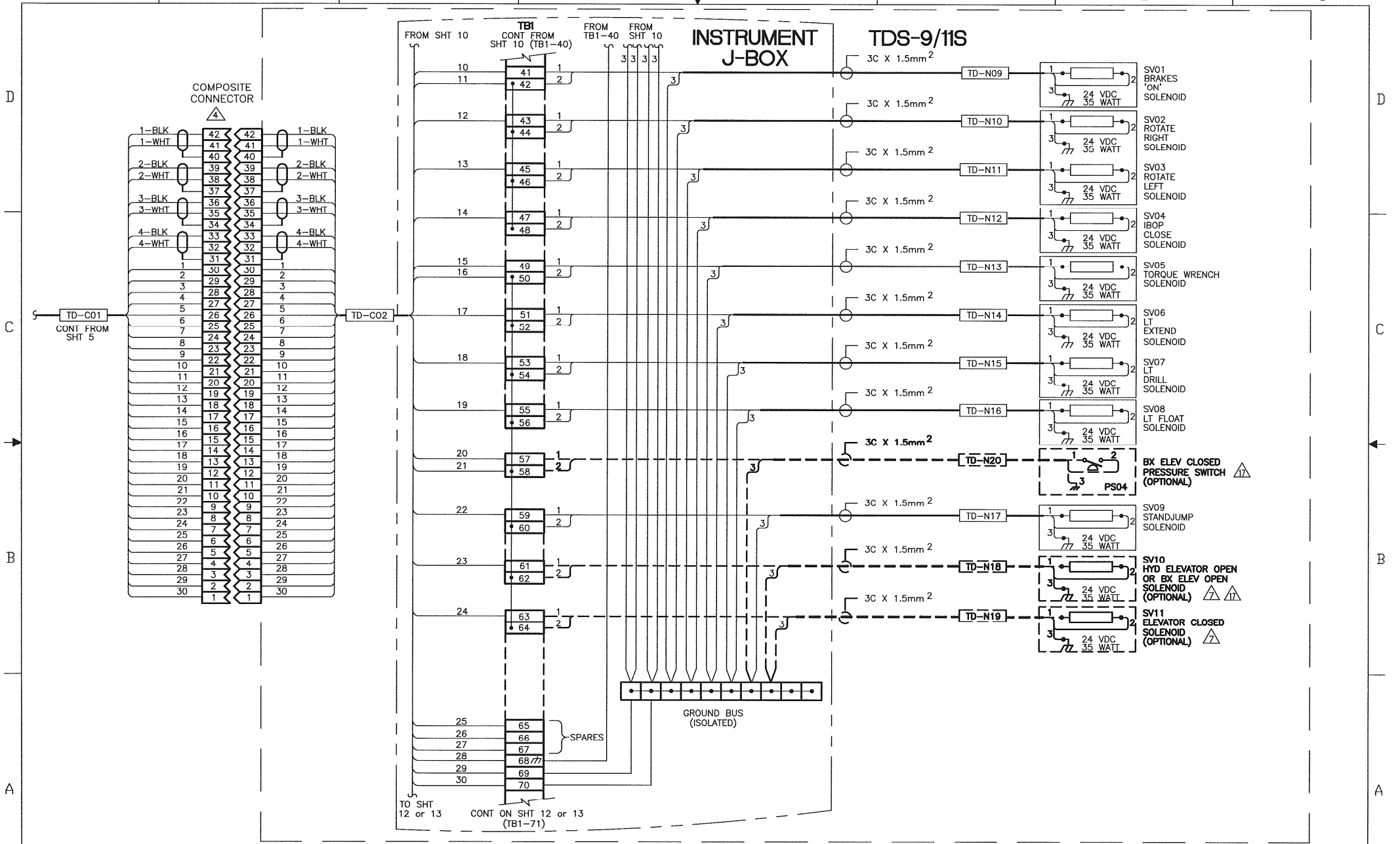
DRIVE HOUSE



SIZE	DWG NO	REV
D	124222	K
SCALE	1/1	SHEET 9 OF 13



SIZE	DWG NO	REV
D	124222	K
SCALE	1/1 WT LBS	- SHEET 10 OF 13



D

C

B

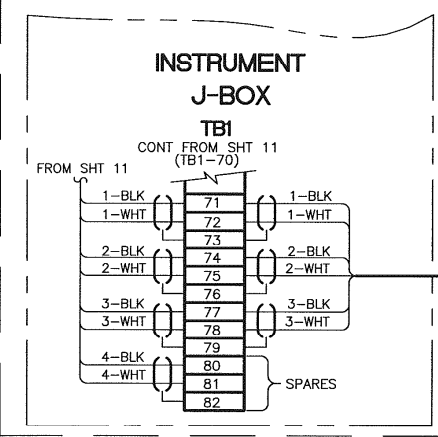
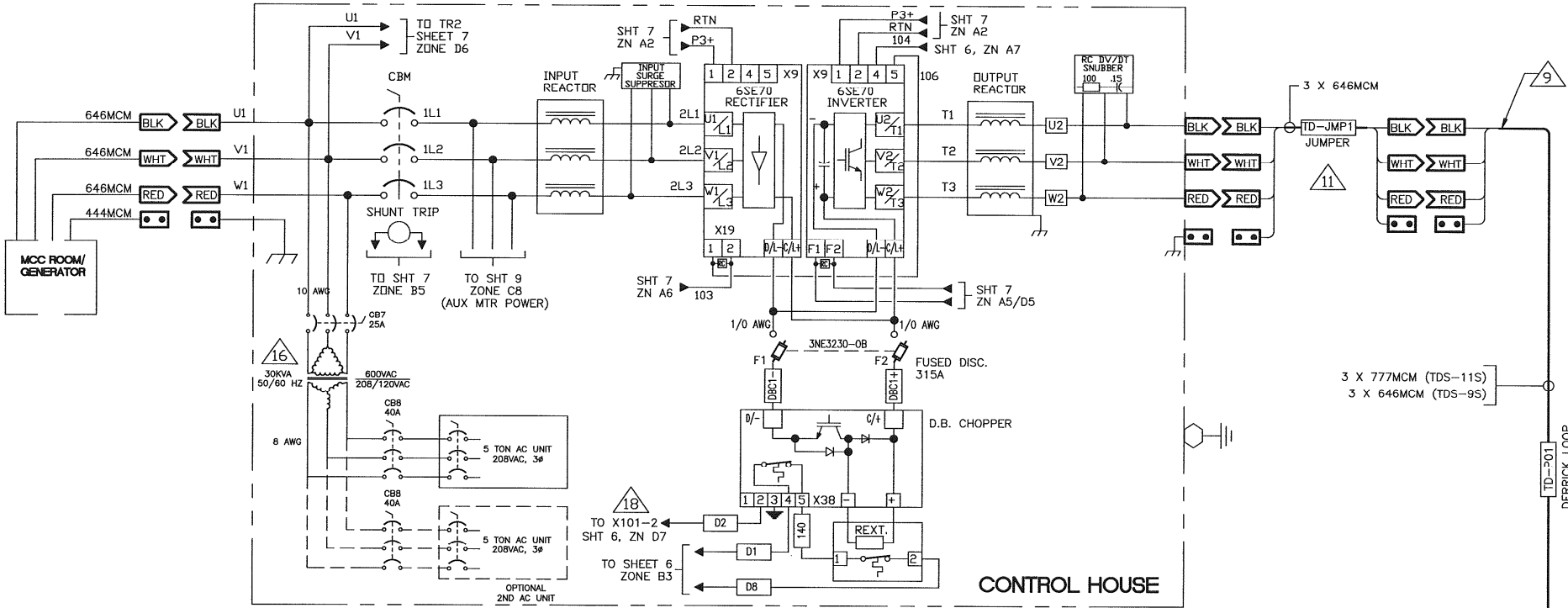
A

D

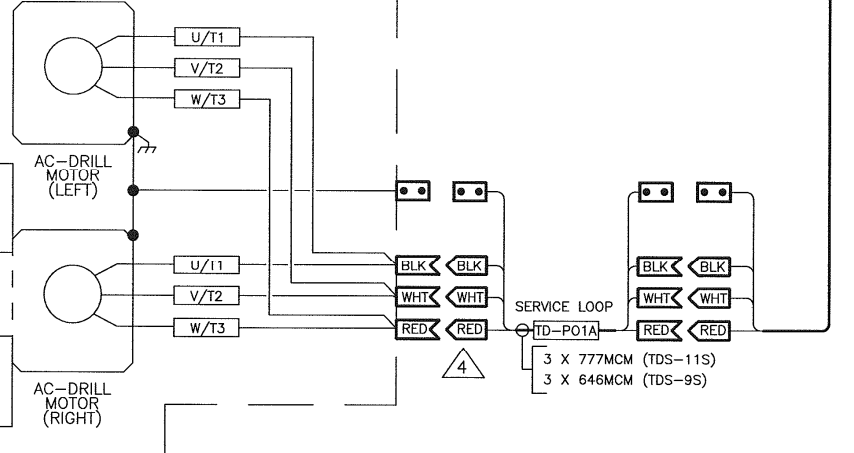
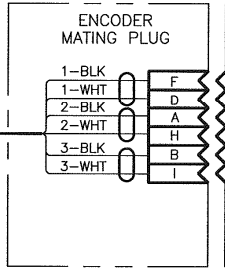
C

B

A



TDS-9S/11S
(WITH SINGLE POWER LOOP AND STANDARD ENCODER)



SIZE	DWG NO	REV
D	124222	K
SCALE	1/1"=1'-0"	SHEET 12 OF 13

D

C

B

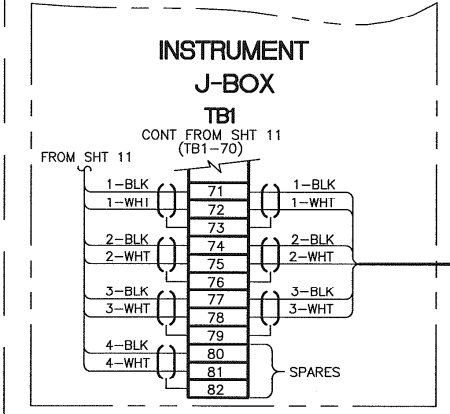
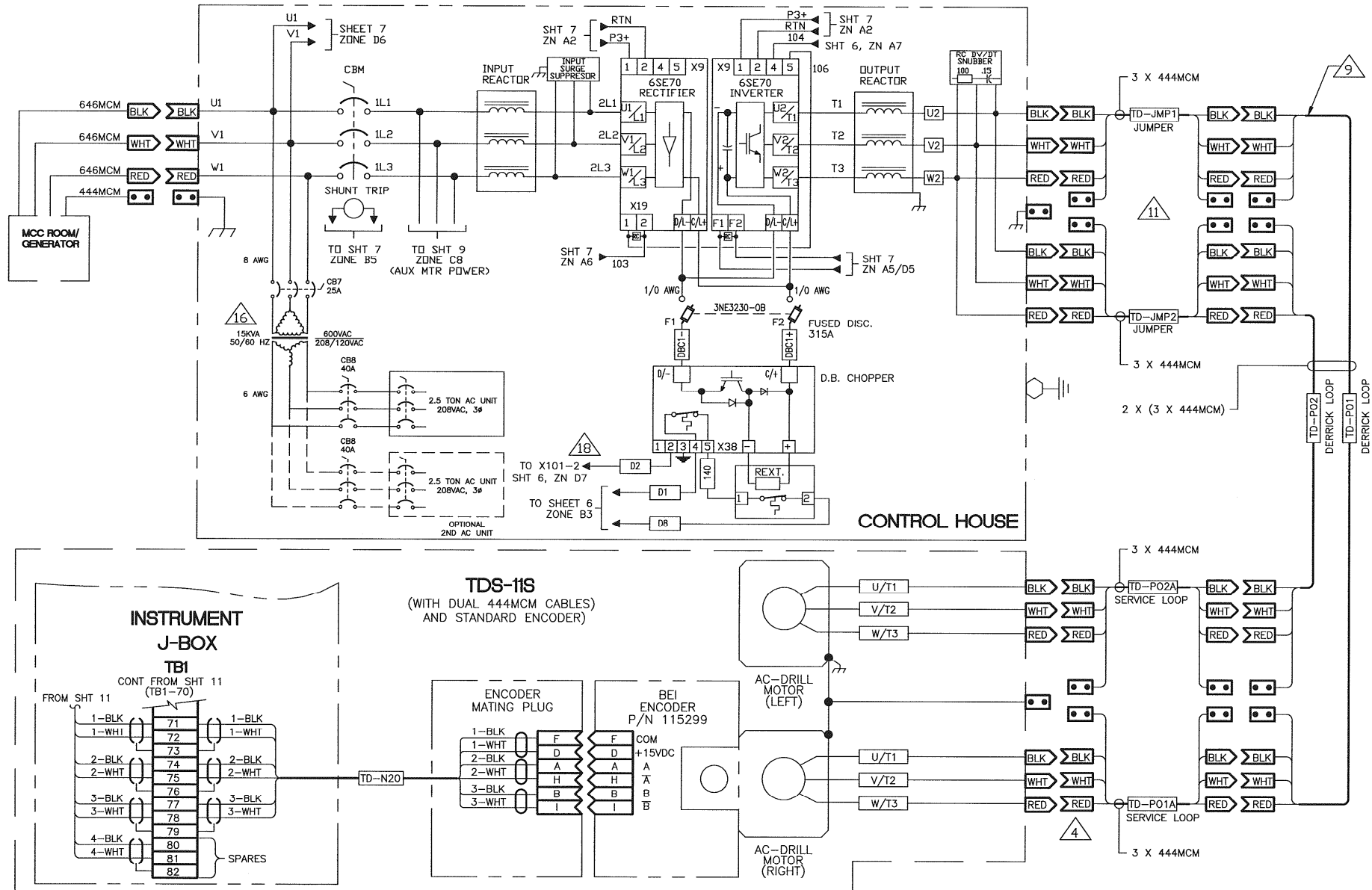
A

D

C

B

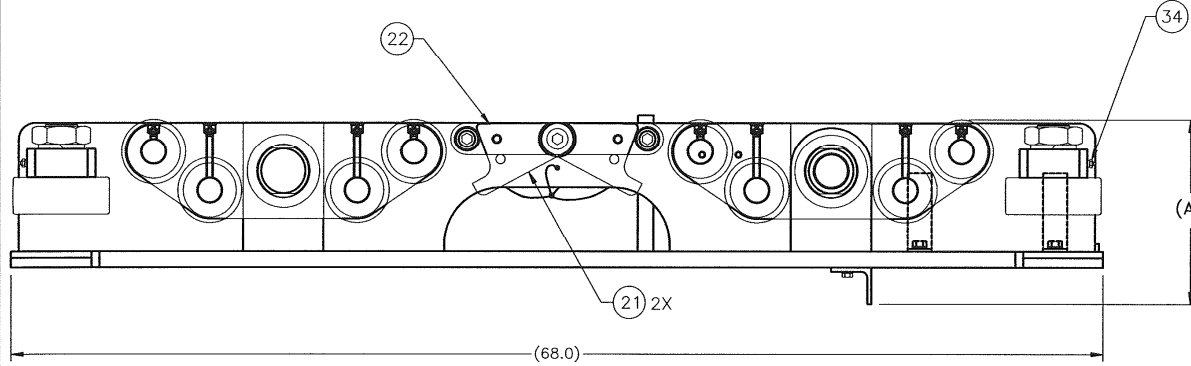
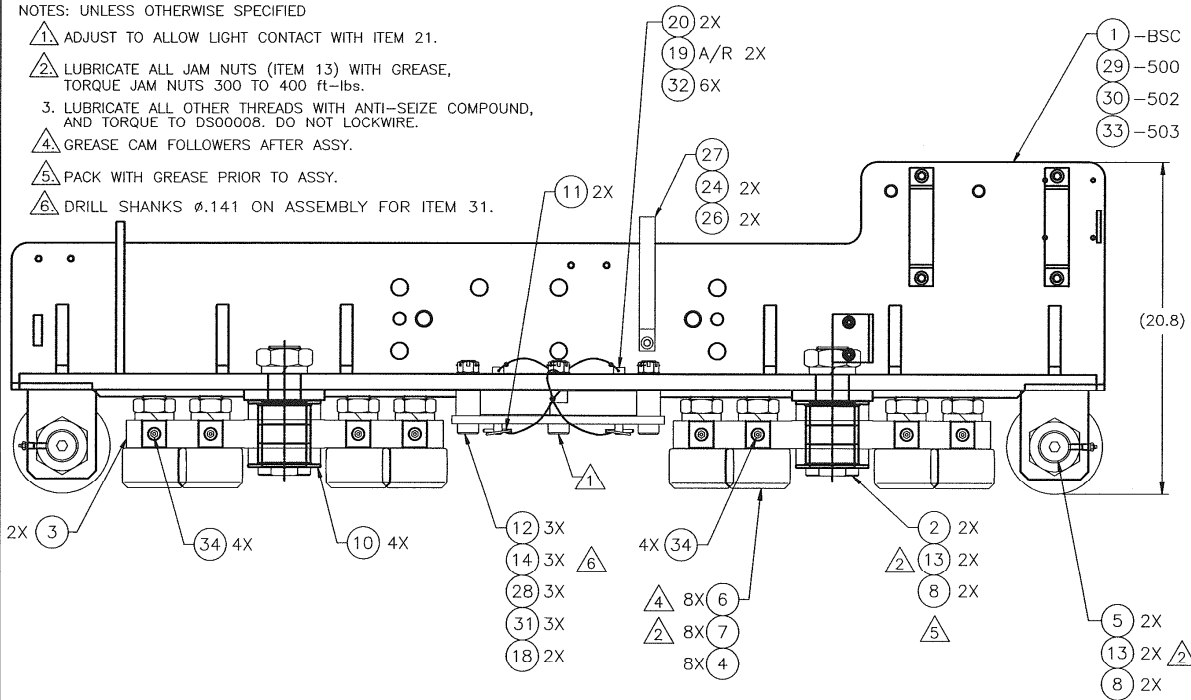
A



SIZE	DWG NO	REV
D	124222	K
SCALE	1/1 VT LBS	- SHEET 13 OF 13

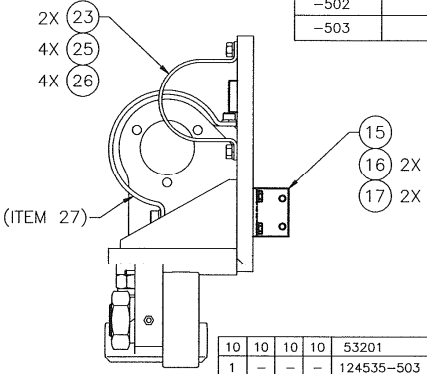
NOTES: UNLESS OTHERWISE SPECIFIED

- 1. ADJUST TO ALLOW LIGHT CONTACT WITH ITEM 21.
- 2. LUBRICATE ALL JAM NUTS (ITEM 13) WITH GREASE, TORQUE JAM NUTS 300 TO 400 ft-lbs.
- 3. LUBRICATE ALL OTHER THREADS WITH ANTI-SEIZE COMPOUND, AND TORQUE TO DS00008. DO NOT LOCKWIRE.
- 4. GREASE CAM FOLLOWERS AFTER ASSY.
- 5. PACK WITH GREASE PRIOR TO ASSY.
- 6. DRILL SHANKS ϕ .141 ON ASSEMBLY FOR ITEM 31.



CONFIG BSC SHOWN

CONFIGURATION TABLE			
DASH NO	SETBACK	DESCRIPTION	REF DIM A
-BSC	30.00	USED WITH ADDITIONAL SPACER FOR SPECIAL 39.50" SETBACK	9.2
-500	33.75		13.0
-502	39.50	STD FOR 39.50" SETBACKS	18.7
-503	41.00		20.2



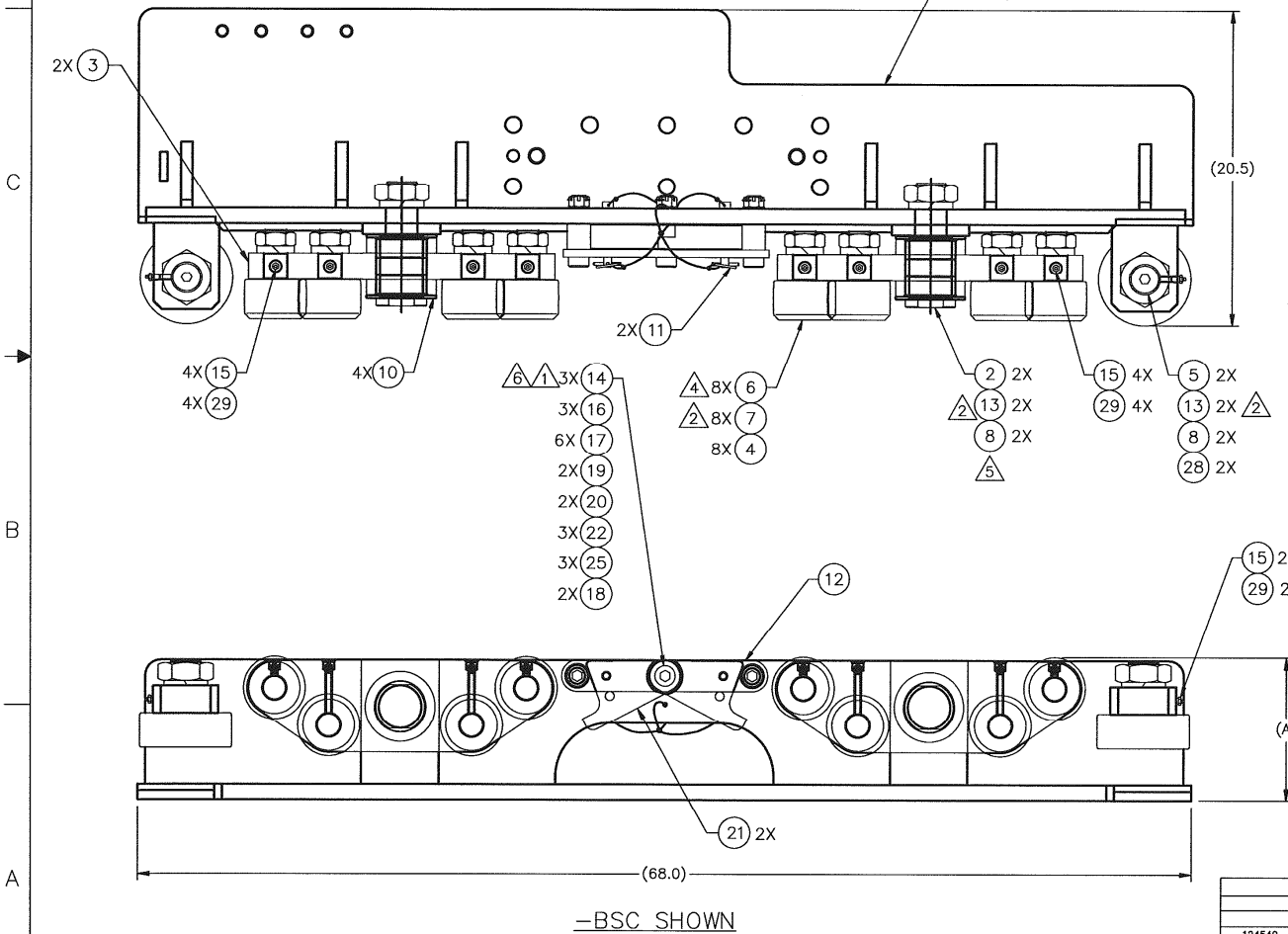
QTY REQD	ITEM NO.	DESCRIPTION	ITEM NO.			
10	10	10	10			
1	-	-	53201	FITTING, GREASE (1/8"-27 NPT)	34	
1	-	-	124535-503	CARRIAGE, (LEFT), 41.00" SETBACK	33	
6	6	6	51219-2	FERRULE, CABLE	32	
3	3	3	51402-12-S	PIN, COTTER	31	
-	1	-	124535-502	CARRIAGE, (LEFT), 39.50" SETBACK	30	
-	-	1	124535-500	CARRIAGE, (LEFT), 33.75" SETBACK	29	
3	3	3	50812-N-C	WASHER, FLAT	28	
1	1	1	113370	STRAP, ACCUMULATOR, ϕ 6"	27	
6	6	6	50908-C	WASHER, LOCK-REGULAR	26	
4	4	4	50008-10-C5D	SCREW, HEX HD. CAP. 1/2 UNC X 1.25	25	
2	2	2	50108-10-CD	SCREW, CAP-SOCKET HD. 1/2 UNC X 1.25	24	
2	2	2	88710	STRAP	23	
1	1	1	125727-2	PLATE	22	
2	2	2	125727-1	PLATE	21	
2	2	2	50152845	PIN	20	
1	1	1	51220-2	CABLE RETAINING ϕ .063 72" LONG	19	
2	2	2	125727-3	FERRULE BAR	18	
2	2	2	50906-C	WASHER, LOCK-REGULAR	17	
2	2	2	50006-5-C5D	SCREW, HEX HD. CAP	16	
1	1	1	129375	BRACKET, ANGLE	15	
3	3	3	30179918	BOLT, SHOULDER SOCKET HD (UNC-3A) (MODIFIED)	14	
4	4	4	80569	NUT, JAM, 2"-12 UN-2B	13	
3	3	3	50512-C	NUT, HEX SLOTTED	12	
2	2	2	30157306	PIN, LINCX ϕ .188	11	
4	4	4	109944	BUSHING, FLANGED, 2.75 ID	10	
4	4	4	51132-C	WASHER, LOCK, HI-COLLAR, 2" DIA.	9	
8	8	8	55324-C	NUT, HEX-JAM (1.50-12 UNF-2B)	7	
8	8	8	30158767-04	BEARING, CAM FOLLOWER	6	
2	2	2	30155438	CAM FOLLOWER 6" DIA	5	
8	8	8	51024-C	WASHER, LOCK - 1.5"	4	
2	2	2	124537	BOGEY	3	
2	2	2	112875	PIN, BOGEY PIVOT	2	
-	-	1	124535	CARRIAGE, (LEFT), 30.00" SETBACK	1	
-503	-502	-500	BSC	PART NO.	DESCRIPTION	ITEM NO.

UNLESS OTHERWISE SPECIFIED		INTERPRET DIM/TOL PER ASME Y14.5M		DIMENSIONS ARE IN INCHES		X \pm .1		XX \pm .03		XXX \pm .010		ANGLES \pm .5°		DO NOT SCALE DRAWING	
NEXT ASSY	USED ON	CURRENT	INITIAL	THIS DOCUMENT CONTAINS PROPRIETARY AND CONFIDENTIAL INFORMATION WHICH BELONGS TO NATIONAL OILWELL VARCO, L.P. IT IS TO BE USED ONLY AS PART OF THE OILWELL VARCO PRODUCT OR IN PART OF THE OILWELL VARCO SERVICE. IT 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, WITHOUT THE WRITTEN PERMISSION OF NATIONAL OILWELL VARCO, L.P. THE OILWELL VARCO, L.P. LOGO, SERVICE MARK, AND ALL OTHER TRADEMARKS OF THE OILWELL VARCO COMPANY ARE HEREBY IDENTIFIED AND PROTECTED BY THE OILWELL VARCO, L.P. COMPANY. THE OILWELL VARCO, L.P. COMPANY IS THE SOLE PROPRIETOR OF THE OILWELL VARCO, L.P. COMPANY.								NOV NATIONAL OILWELL VARCO TITLE: CARRIAGE ASSEMBLY, LEFT			
APPLICATION	DRAWN	M. CLARK	JOHN MARTINEZ	SCALE:	1/4	WT LBS:	650	PROJECTION:		SIZE:	D	SHEET:	1	OF 1	
UNLESS OTHERWISE SPECIFIED	CHECKED	H. LIM	NEIL WEST	DATE:	3/30/07	RIG SOLUTIONS	10000 RICHMOND AVE.	HOUSTON, TEXAS 77042 U.S.A.	(713) 346-7500	DRAWING NUMBER:	124538	REVISION:	W		

NOTES: UNLESS OTHERWISE SPECIFIED

- ⚠ ADJUST TO ALLOW FREE MOTION OF ITEM 21.
- ⚠ LUBRICATE ALL JAM NUTS (ITEM 13) WITH GREASE, TORQUE JAM NUTS 300 TO 400 ft-lbs.
- 3. LUBRICATE ALL OTHER THREADS WITH ANTI-SEIZE COMPOUND, AND TORQUE TO DS00008. DO NOT LOCKWIRE.
- ⚠ GREASE CAM FOLLOWERS AFTER ASSY.
- ⚠ PACK WITH GREASE PRIOR TO ASSY.
- ⚠ DRILL SHANKS ϕ .141 ON ASSEMBLY FOR ITEM 25.
- 7. (OBSOLETE DWG 124539) CARRIES REVISION HISTORY FOR THIS DWG

CONFIGURATION TABLE			
DASH NO	SETBACK	DESCRIPTION	REF DIM A
-BSC	30.00 & 39.50	USED WITH ADDITIONAL SPACER FOR SPECIAL 39.50" SETBACK	9.2
-500	33.75		13.0
-502	39.50	STD FOR 39.50" SETBACKS	18.7
-503	41.00		20.2



QTY REQD	PART NO.	DESCRIPTION	ITEM NO.
10	10	GREASE CAP	29
2	2	53000-2-C	28
1	-	124536-503	27
		DELETED	26
3	3	51402-12-S	25
-	1	124536-502	24
-	1	124536-500	23
3	3	50812-N-C	22
2	2	125727-1	21
2	2	30152845	20
4	4	51220-2	19
2	2	125727-3	18
6	6	51219-2	17
3	3	50512-C	16
10	10	53201	15
3	3	30179918	14
4	4	80569	13
1	1	125727-2	12
2	2	30157306	11
4	4	109944	10
			9
4	4	51132-C	8
8	8	55324-C	7
8	8	30158767-04	6
2	2	30155438	5
8	8	51024-C	4
2	2	124537	3
2	2	112875	2
-	-	124536	1

UNLESS OTHERWISE SPECIFIED
 INTERPRET DIM/TOL PER ASME Y14.5M
 DIMENSIONS ARE IN INCHES
 X ± .1 .XX ± .03 .XXX ± .010
 ANGLES ± 5°
 DO NOT SCALE DRAWING

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NATIONAL OILWELL VARCO

TITLE: **CARRIAGE ASSEMBLY, RIGHT**

124540 TDS-9S
 NEXT ASSY USED ON CURRENT INITIAL
 DRAWN M.CLARK JOHN MARTINEZ
 CHECKED H.LIM NEIL WEST
 APPVD H.LIM NEIL WEST
 DATE 3/30/07 03/17/98

UNLESS OTHERWISE SPECIFIED
 MACHINED TO MAX TOLERANCE
 TORCH CUT TO MAX TOLERANCE

RS SOLUTIONS
 10000 RICHMOND AVE.
 HOUSTON, TEXAS 77042 U.S.A.
 (713) 346-7500

SCALE: 1/4" = 1" WT LBS: 650 PROJECTION: 1st ANGLE SIZE: D SHEET: 1 of 1
 DRAWING NUMBER: 30124539 REVISION: T

NOTES: UNLESS OTHERWISE SPECIFIED

1. CONNECTORS AND LUGS TO BE CRIMPED ONTO CONDUCTORS PER CONNECTOR MFG. SPECIFICATION.
2. ALL SHELL THREADED MEMBERS TO BE TIGHTENED PER MANUFACTURER'S SPECIFICATION.
3. POT CONNECTORS USING ITEM 9 PER MANUFACTURER'S SPECIFICATION.
4. AFTER ASSEMBLING CONNECTOR AND POTTING HAS CURED, THE FOLLOWING ELECTRICAL TESTS ARE TO BE PERFORMED ON EACH CONDUCTOR. A SIGNED CERTIFICATE OF TEST CONFORMANCE IS TO BE PROVIDED WITH EACH ASSY.
 - a. PERFORM A CONTINUITY CHECK THROUGH THE MATING CONNECTOR PAIRS. THE TEST SHOULD UTILIZE AN AUDIBLE OR VISUAL CONTINUITY INDICATOR.
 - b. PERFORM A STANDARD MEGGER CHECK THROUGH THE MATING CONNECTOR PAIRS. THE TEST SHOULD BE PERFORMED AT 500VDC MINIMUM. VERIFY CABLE INSULATION INTEGRITY TO CONNECTOR SHELLS AT BOTH ENDS; MUST BE 10 MEGOHMS MINIMUM.
 - c. ALL TESTING TO BE CONDUCTED THROUGH A MATING CONNECTOR HALF.
5. ALL CABLE ASSEMBLIES TO BE SUPPLIED WITH CONNECTOR DUST CAPS INSTALLED AND TIGHTENED PER MANUFACTURER'S SPECIFICATION.
6. SHIPPING BOX IS TO BE IDENTIFIED WITH VARCO PART NO (INCLUDING DASH NO) AND TEST CERTIFICATE.
7. STAINLESS STEEL ARMORED BRAID TO BE SECURED INTERNALLY TO CONNECTOR SHELL POTTING COMPOUND (ITEM 9).
8. STAINLESS STEEL ARMORED BRAID TO BE SECURED EXTERNALLY TO GROUND LUG (ITEM 7) AFTER LUG IS CRIMPED ONTO GROUND WIRE.
9. USE THOMAS & BETTS DIE NUMBER 99 TO CRIMP ITEM 7.
10. INSTALL ITEM 10, HEAT SHRINK, AFTER SECURING ARMORED BRAID.

DASH NO.	A (FT)	B (FT)	C (FT)	QUANTITY							PART NO ITEM 8	ESTIMATED WEIGHT (LBS)
				ITEM 1	ITEM 2	ITEM 3	ITFM 4	ITFM 5	ITFM 6	ITEM 7		
-135-25-4-B	135	25	4	1	1	1	1	1	1	2	125106	1690
-150-25-4-B	150	25	4	1	1	1	1	1	1	2	125106-150	1845

PART NO. CONFIGURATION:

124975-XXX-XX-X-X

- CONNECTOR CONFIGURATION
 - B = BOTH ENDS
 - H = HOUSE END ONLY
 - D = DERRICK END ONLY
- DERRICK PIGTAIL LENGTH (FT)
(SEE TABLE FOR ACTUAL LENGTH)
- HOUSE PIGTAIL LENGTH (FT)
(SEE TABLE FOR ACTUAL LENGTH)
- SHEATHED LENGTH
- BASIC PART NUMBER

SEE TABLE 1 FOR AVAILABLE OPTIONS

QTY REQD	PART NO.	DESCRIPTION	ITEM NO.
2	84514-96-0	TUBING, HEAT SHRINK, BLK	10
A/R	77992-1080	POTTING COMPOUND	9
1	SEE TABLE 1	HARNESS, CABLE	8
S	124358-14	LUG, (444 MCM)	7
E	114869-PL-RED	CONNECTOR, POWER, SINGLE PIN (646 MCM)	6
E	114869-PL-WHT	CONNECTOR, POWER, SINGLE PIN (646 MCM)	5
T	114869-PL-BLK	CONNECTOR, POWER, SINGLE PIN (646 MCM)	4
A	114869-SL-RED	CONNECTOR, POWER, SINGLE SOCKET (646 MCM)	3
B	114869-SL-WHT	CONNECTOR, POWER, SINGLE SOCKET (646 MCM)	2
L	114869-SL-BLK	CONNECTOR, POWER, SINGLE SOCKET (646 MCM)	1
E			
I			

PART FLAGS		DIMENSIONS UNLESS OTHERWISE SPECIFIED		SURFACE FINISHES		Varco Systems	
<input type="checkbox"/> TRACEABILITY	ARC BY	INCHES	INTERPRET DIMENSIONS & TOLERANCES PER ANSI Y14.5 & ABBREVIATIONS PER ANSI Y14.1	MASURED	*TURB CHUT	TITLE	
<input type="checkbox"/> CRITICAL LOAD PATH ITEM	DO NOT SCALE	SCALE	xx ±0.50 xxx ±0.10	250/MAX	1000/MAX	DERRICK LOOP ASSY. POWER (W/CONNECTORS)	
<input type="checkbox"/> CERTIFICATION REQUIRED	DOCUMENTED	ANGULAR TOLERANCE	±0.5°			SIZE	DOCUMENT NO.
<input type="checkbox"/> COMMISSIONING	OPERATIONAL	INSURANCE				D	124975
<input type="checkbox"/> TIME AND PROJECTOR	PREPARED BY	CHECKED BY	APPROVED BY	DATE	DATE	SCALE	WEIGHT LB SHEET
	A. S. CURLEE	M. MASLYAR	M. MASLYAR	3/8/02	5/18/98	1/4	1 OF 2
	T. PHAM	S. CURLEE	S. CURLEE				

D

D

C

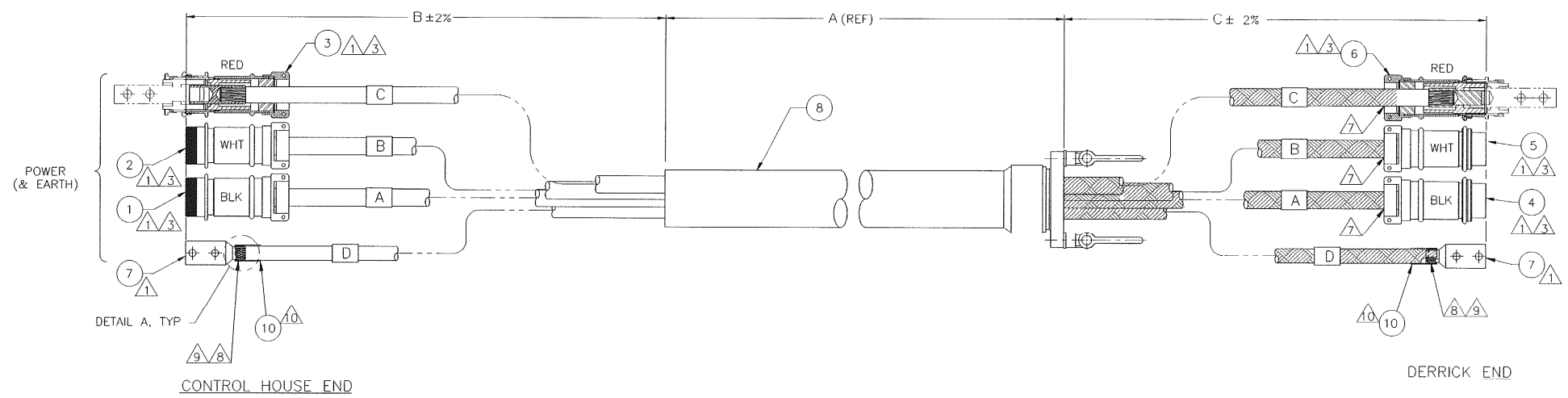
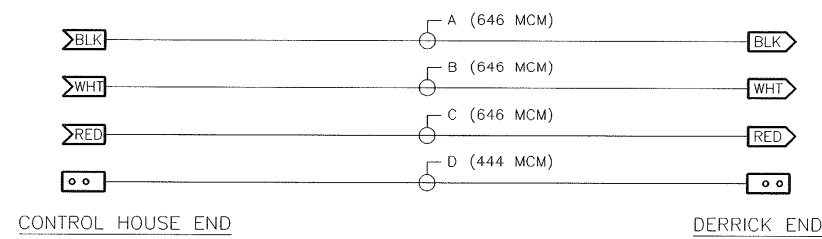
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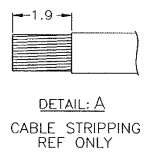
B

A

A



IF NO CONNECTOR, CABLES TO BE CUT TO LENGTH SHOWN. END OF CABLE TO BE CAPPED TO PREVENT INGRESS OF WATER.
 TYPICAL ALL CABLE ENDS



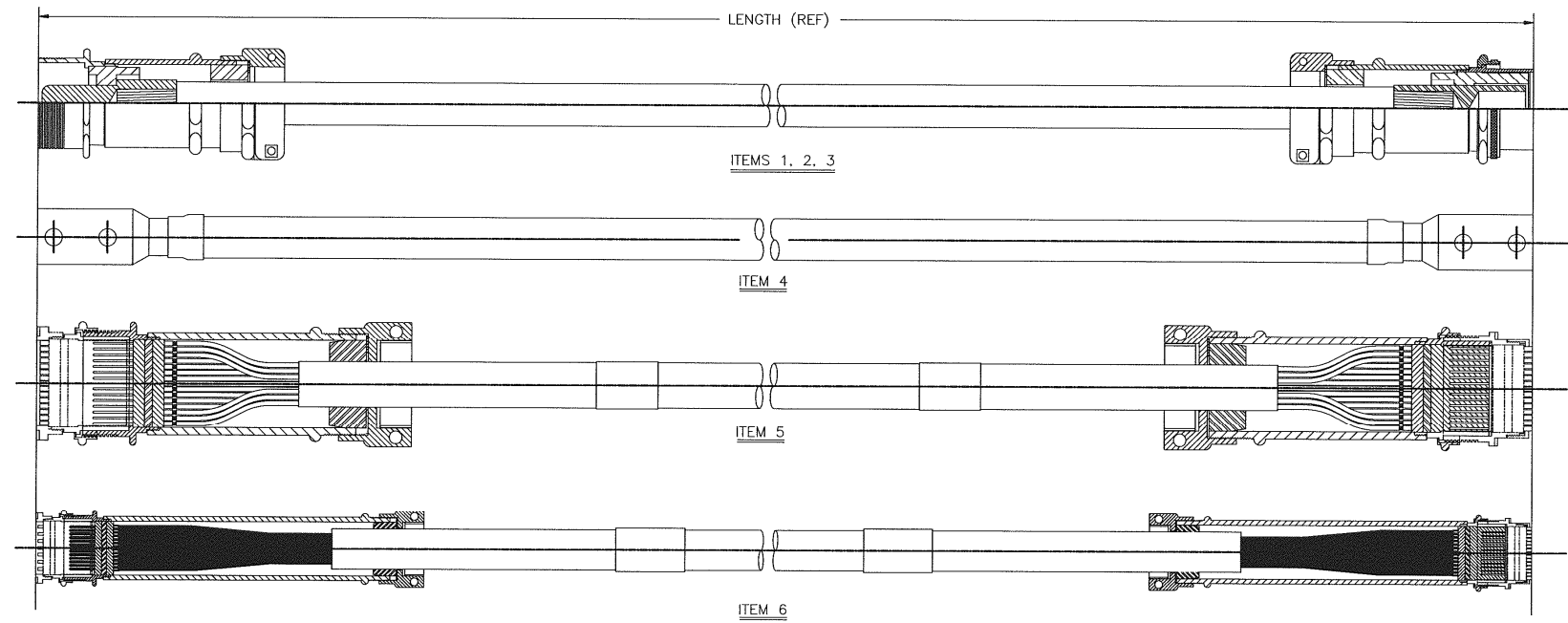
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND SUCH INFORMATION MAY BE RELEASED TO OTHERS FOR ANY PURPOSES FOR USE FOR MANUFACTURING PURPOSES WITHOUT WRITTEN PERMISSION FROM VARCO INTERNATIONAL, INC.



TITLE: DERRICK LOOP ASSY. POWER (W/CONNECTORS)

SIZE: D	DOCUMENT NO.: 124975	REVISION: A
SCALE: 1/4"	SHEET: 2	OF: 2

NOTES: UNLESS OTHERWISE SPECIFIED
 1. ALL ITEMS TO BE SHIPPED LOOSE IN THEIR ORIGINAL CONTAINERS.
 2. USE ITEMS 7, 8, 9, AND 10 TO ATTACH ITEM 4 TO EARTH CONDUCTOR.



VARCO DASH NO.	CABLE LENGTH (FT)	TOTAL WEIGHT (LB)
-50	50	450
-75	75	675
-100	100	900
-125	125	1125
-150	150	1400
-175	175	1650
-200	200	1800

124977-XXX-XX
 — MC (MULTICONDUCTOR CABLES ONLY)
 — CABLE LENGTH (SEE TABLE I)
 — BASIC P/N

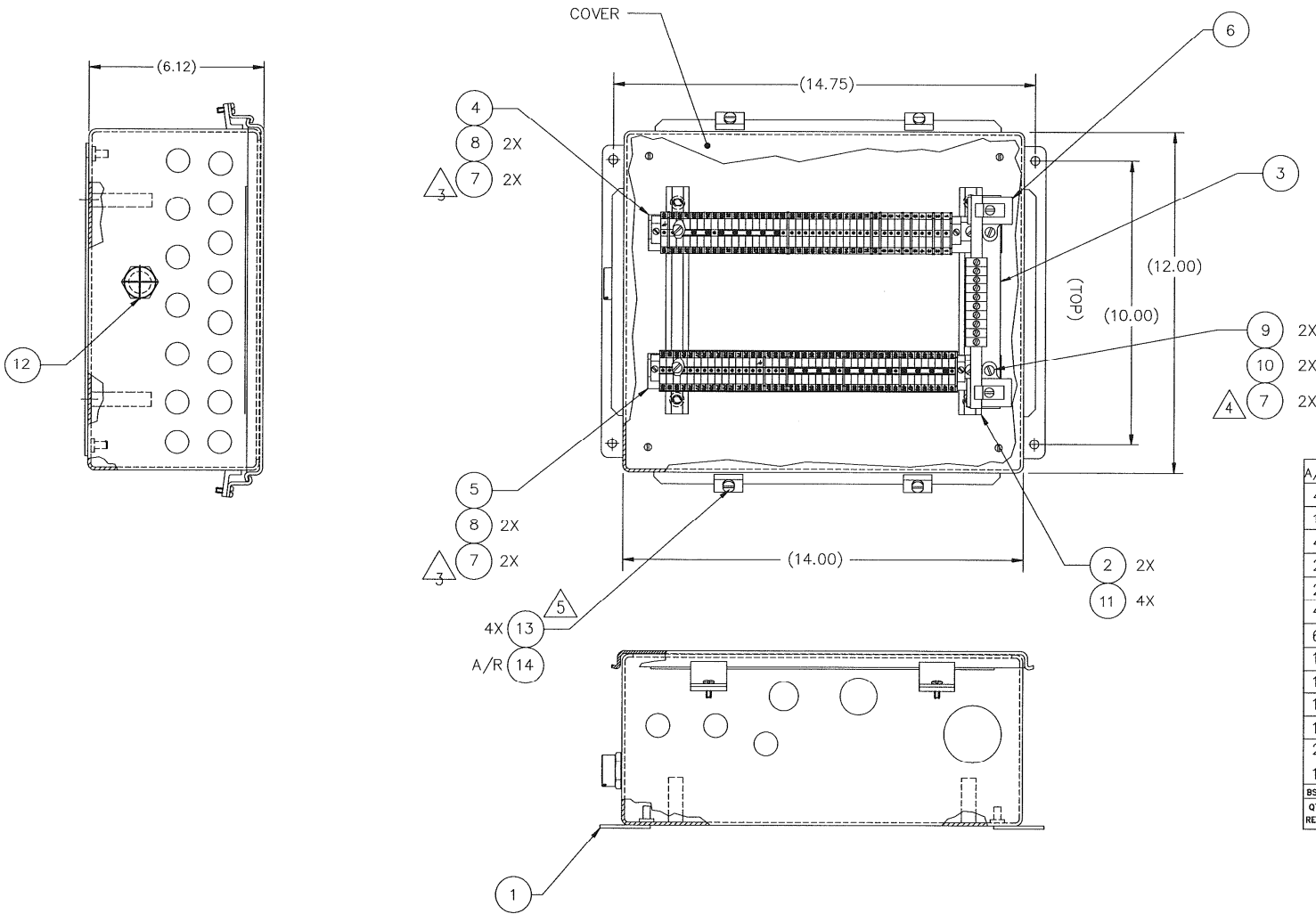
QTY	PART NO.	DESCRIPTION	ITEM NO.
2	78310-1	WASHER, BELLEVILLE, 1/2"	10
2	50808-R-S	WASHER, FLAT, 1/2"	9
2	50208-S	NUT, SELF-LOCKING, 1/2"	8
2	50008-12-S	SCREW, HEX 1/2"X 1 1/2"	7
1	124458-XXX-B	CABLE ASSY, AUX POWER (18 COND.)	6
1	123985-XXX-B	CABLE ASSY, COMPOSITE (42 COND.)	5
-	125093-XXX	CABLE ASSY, EARTHING (444 MCM)	4
-	114724-RED-XXX	CABLE ASSY, POWER, W/CONNECTOR, RED (646 MCM)	3
-	114724-WHT-XXX	CABLE ASSY, POWER, W/CONNECTOR, WHT (646 MCM)	2
-	114724-BLK-XXX	CABLE ASSY, POWER, W/CONNECTOR, BLK (646 MCM)	1

UNLESS OTHERWISE SPECIFIED INTERPRET DIM/TOL PER ASME Y14.5 DIMENSIONS ARE IN INCHES .X ± .1 .XX ± .03 .XXX ± .010 ANGLES ± .5° DO NOT SCALE DRAWING		THIS DOCUMENT CONTAINS PROPRIETARY AND CONFIDENTIAL INFORMATION WHICH IS TO BE KEPT UNCLASSIFIED AND NOT REPRODUCED OR DISCLOSED IN ANY MANNER WITHOUT THE EXPRESS WRITTEN CONSENT OF NATIONAL OILWELL VARCO. THE RECIPIENT IS TO BE RETURNED TO NATIONAL OILWELL VARCO UPON REQUEST AND IN ANY EVENT SHALL BE DESTROYED IMMEDIATELY UPON THE RECEIPT OF THE WRITTEN INSTRUCTIONS OF NATIONAL OILWELL VARCO.			
TDS-9/115A		DRAWN R. HOLLADAY T. PHAM		CABLE KIT, JUMPER (HOUSE TO DERRICK LOOP)	
NEXT ASSY USED ON		CURRENT INITIAL		SCALE: 1/4" = 1" LBS. TABLE PROJECTION: 1st Angle SIZE: D SHEET: 1 OF 1	
APPLICATION		CHECKED M. MASLYAR S. CURLEE		DRAWING NUMBER: 124977	
UNLESS OTHERWISE SPECIFIED MACHINED TORCH CUT 250 MAX 1000 MAX		APPROVD M. MASLYAR L. MOLLET		REVISION: 1	
DATE 10/4/06		04/23/98		10000 RICHMOND AVE. HOUSTON, TEXAS 77042 U.S.A. (713) 346-7500	

NOTES: UNLESS OTHERWISE SPECIFIED

1. REMOVE ALL BURRS AND SHARP EDGES.
2. TAG WITH VARCO PART NUMBER.

- ③ DISCARD SCREWS FROM ITEM 7, REPLACE WITH ITEM 8 (P/N 96371).
- ④ DISCARD SCREWS FROM ITEM 7, REPLACE WITH ITEM 9 (P/N 50067-040-F-07).
- ⑤ DISCARD EXISTING SCREWS, REPLACE WITH ITEM 13 (P/N 30173254-08), AND LOCKWIRE.



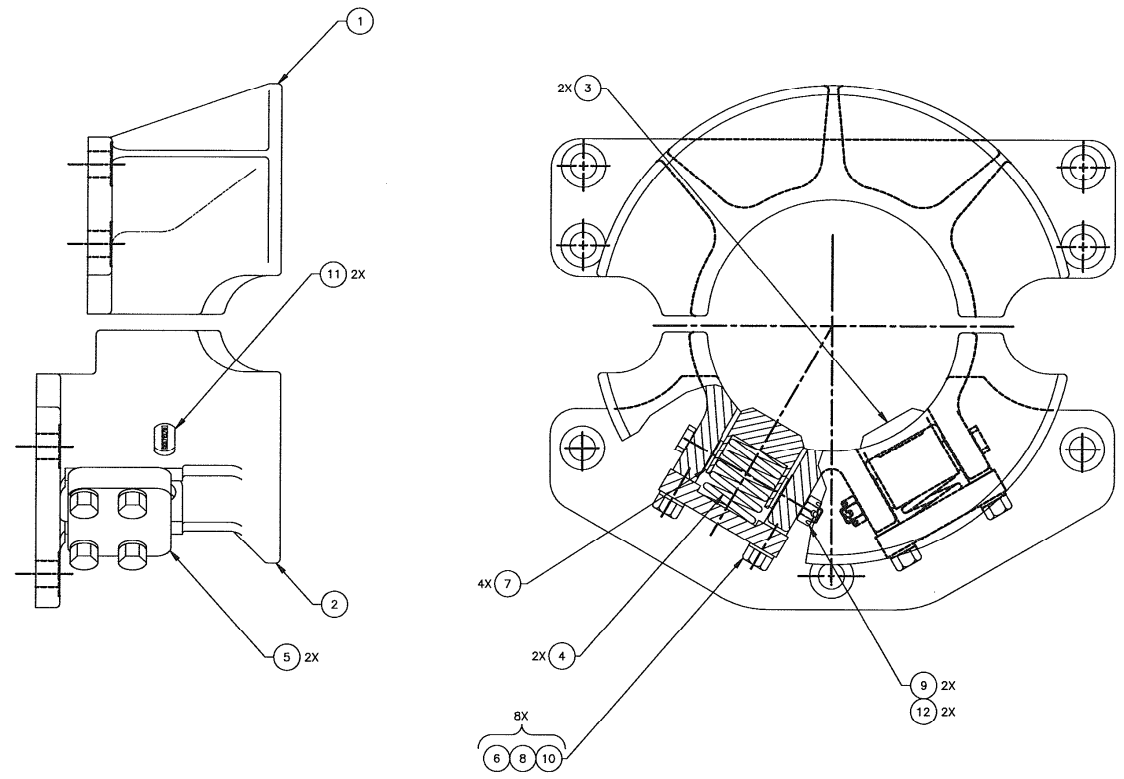
A/R	QTY	PART NO.	DESCRIPTION	MATERIAL	ITEM NO.
		Z6001-8	LOCKWIRE ϕ .032		14
4		30173254-08	FILLISTER HEAD SCREW, DRILLED		13
1		30158431	BREATHER DRAIN		12
4		50649-60	SCREW, PAN HEAD, 10-32		11
2		50803-N-S	WASHER, FLAT		10
2		50067-040-F-07	SCREW, CAP-HEX (METRIC)		9
4		96371	SCREW, FLAT HEAD (METRIC)		8
6		78916	FIXING NUT AND SCREW (METRIC)		7
1		123220	TERMINAL ASSEMBLY (GND BUS BAR)		6
1		123294-3	TERMINAL ASSEMBLY		5
1		123294-2	TERMINAL ASSEMBLY		4
1		78927-6	SUPPORT RAIL		3
2		78927-3	SUPPORT RAIL		2
1		124993	J-BOX (MACHINING)		1

BSC	QTY	PART NO.	DESCRIPTION	MATERIAL	ITEM NO.
REOD					

PART FLAGS		DIMENSIONS UNLESS OTHERWISE SPECIFIED		SURFACE FINISHES		TITLE	
<input type="checkbox"/>	TRACABILITY	ARE IN	INCHES	MAXIMUM	100% MAT		
<input type="checkbox"/>	CRITICAL LOAD	INTERPRET DIMENSIONS & TOLERANCES PER ANSI Y14.5 & 3.1					
<input type="checkbox"/>	POST IT/DI	DO NOT SCALE					
<input type="checkbox"/>	CERTIFICATION REQUIRED	DO NOT SCALE					
<input type="checkbox"/>	SPARE PART	DOCUMENT	ANGULAR TOLERANCE $\pm 30^\circ$	124970	TDS-11S		
<input type="checkbox"/>	COMMISSIONING				TDS-9S		
<input type="checkbox"/>	OPERATIONAL						
<input type="checkbox"/>	INSURANCE						
<input type="checkbox"/>	WARRANTY PROGRAM						

PREPARED BY	CHECKED BY	APPROVED BY	DATE	SCALE	HEIGHT IN SHEET	OF	REVISION
LTR	S. CURLEE	L. MOLLETT	5/8/03	1/2	25	1	C

NOTES: (UNLESS OTHERWISE SPECIFIED)
 1. ITEM 4, SPRING, TO BE COMPRESSED .35 AS INSTALLED
 2. STORE AS A SET



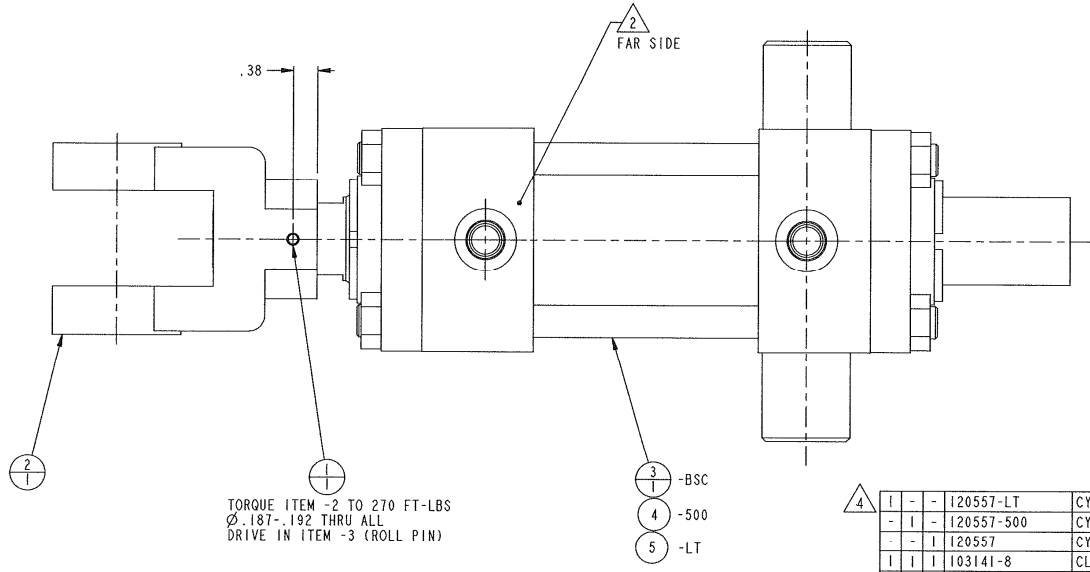
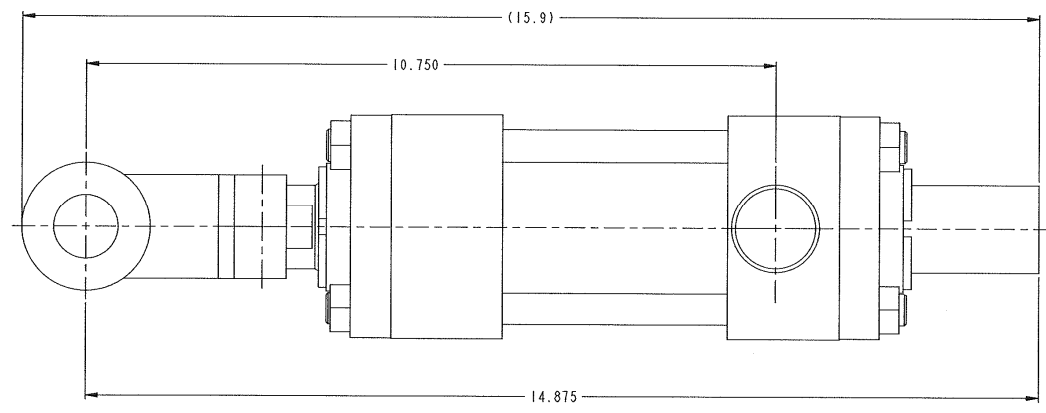
QTY REQD	PART NO.	DESCRIPTION	MATERIAL	ITEM NO.
2	50508-C	NUT, HEX SLOTTED		12
2	30172178	PIN, GUIDE ARM		11
A/R	Z6001	WIRE, LOCK, .051 DIA		10
2	51402-8-S	PIN, COTTER		9
8	50908-C	WASHER, LOCK REG SERIES		8
4	50810-N-S	WASHER, FLAT, NARROW		7
8	50008-13-C5D	CAP SCREW, HEX DRILLED HEAD		6
2	76445	RETAINER		5
2	76443	SPRING		4
2	76442	GUIDE, ARM		3
1	125059	GUIDE, STABBING, GATE		2
1	125057	GUIDE, STABBING, CLAMP CYL		1

LIST OF MATERIALS

<input type="checkbox"/> TRACEABILITY	<input type="checkbox"/> DIMENSIONS UNLESS OTHERWISE SPECIFIED	<input type="checkbox"/> SURFACE FINISHES	Varco Systems
<input type="checkbox"/> MOUNTING LOAD	<input type="checkbox"/> INTERPRET DIMENSIONS & TOLERANCES PER ANSI Y14.1	<input type="checkbox"/> SURFACE FINISHES	
<input type="checkbox"/> CERTIFICATION	<input type="checkbox"/> DO NOT SCALE	<input type="checkbox"/> DO NOT SCALE	
<input type="checkbox"/> SPARE PART	<input type="checkbox"/> DOCUMENT NUMBER TOLERANCE 400 507	30157287 PH-75	TITLE STABBING GUIDE ASSY.
<input type="checkbox"/> COMPRESSION	<input type="checkbox"/> FOR DIMENSIONS PER ANSI Y14.1	30122000 PH-100	#6.25-7.50 TOOL JOINT
<input type="checkbox"/> OPERATIONAL	<input type="checkbox"/> DIMENSIONS BY METHOD AS SPECIFIED IN THIS DOCUMENT OR AS SPECIFIED IN THE DRAWING		(NC 50 - 5 1/2 FH)
<input type="checkbox"/> INSURANCE			
<input type="checkbox"/> USE FILE NUMBER			
PREPARED BY: K. NGUYEN	CHECKED BY: D. SENEVIRATNE	APPROVED BY: D. SENEVIRATNE	DATE: 5/12/08
LTR	1/2		
			SCALE: 1/2
			WEIGHT LB: 1
			SHEET: 1

NOTES UNLESS OTHERWISE SPECIFIED

- 1) PAINT PER VPS0001, YELLOW.
CLEAN WITH SOLVENT PER SECTION 2.3,
DO NOT CLEAN BY MECHANICAL MEANS
SUCH AS WIRE BRUSH OR SAND BLAST.
- 2) STAMP VARCO P/N AND REV LETTER, USING .25 HIGH
CHARACTERS WHERE SHOWN
- 3) 125594-BSC USES A HI-LOAD PISTON AND SEALS FOR
APPLICATIONS WHERE HYDRAULIC OPERATING
PRESSURE DOES NOT DROP BELOW 500 PSI.
125594-500 USES A LIPSEAL PISTON AND SEALS.
125594-LT USES A LIPSEAL PISTON AND SEALS.
- 4) -40°C OPERATING/STORAGE TEMPERATURE.



REV	DESCRIPTION	ITEM NO.
1	120557-LT CYLINDER, DOUBLE ROD WITH LIP SEALS	5
-	120557-500 CYLINDER, DOUBLE ROD WITH LIP SEALS	4
-	120557 CYLINDER, DOUBLE ROD	3
1	103141-8 CLEVIS, ROD FEMALE	2
1	51603-12-S PIN, ROLL	1

PART NO.	DESCRIPTION
125594	ASSY, HYD CYL, IBOP ACTUATOR

REV	DESCRIPTION	DATE	BY	CHKD	APP'D
1	REV I	5/13/97	SENIVARTNE	SENIVARTNE	SENIVARTNE

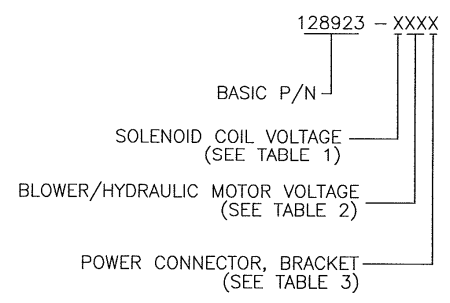
NOTES - UNLESS OTHERWISE SPECIFIED:

1. REF: SYSTEM SCHEMATIC 124222.
2. LUBRICATE ALL BOLTS WITH ANTI-SEIZE COMPOUND. TORQUE ALL BOLTS PER VARCO SPEC. DS00008 AND LOCKWIRE.
- 3 (RP) = REPLACEMENT PART, 1 YEAR SPARES.
- 4 PRESSURE SWITCH SETTINGS:
 OIL PRESSURE SWITCH - 18 PSI +0, -2 PSI (FALLING).
 IBOP PRESURE SWITCH - 1000 PSI ±100 PSI (RISING).
 AIR PRESSURE SWITCH - 4"WC ±.5"WC (FALLING).
- 5 POT ALL RECEPTACLES WITH POTTING COMPOUND (ITEM 63) PER INSTRUCTIONS (INCLUDED WITH POTTING COMPOUND).
6. MEGGER ALL AC-MOTOR LEADS AFTER ASSEMBLY. MINIMUM RESISTANCE: 2 MEGOHMS.
- 7 DELETED AT REV G.
- 8 BLOWER MOTOR ASSEMBLED AT MOTOR/HOUSING ASSEMBLY LEVEL REFERENCE DRAWING NO. 120900.
- 9 REPLACES EXISTING HARDWARE
- 10 MOVED TO SUB-ASSY 30182634. QTY SHOWN ARE FOR REFERENCE ONLY.

TABLE 1			
SOLENOID COIL VOLTAGE			
DESIGNATOR	VOLTAGE & FREQUENCY	VARCO P/N	ITEM NO.
A	24VDC	114174	10
B	-	-	-

TABLE 2					
BLOWER/HYDRAULIC MOTOR VOLTAGE					
DESIGNATOR	VOLTAGE & FREQUENCY	QTY	VARCO P/N:	DESCRIPTION	ITEM NO.
60	575VAC 60 Hz (TEFC)	1	114113-2	PUMP/MOTOR ASSY	1
		REF	30172028-1	BLOWER MOTOR	8

TABLE 3				
SERVICE LOOP/POWER CONNECTOR BRACKET				
DESIGNATOR	QTY	VARCO P/N:	DESCRIPTION	ITEM NO.
R (RIGHT HAND)	1	120997	BRKT, SERVICE LOOP	56
	1	127652-501	BRACKET, CONNECTOR	80
L (LEFT HAND)	1	120997-1	BRKT, SERVICE LOOP	57
	1	127652-502	BRACKET, CONNECTOR	81



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INTERPRET DIM/TOL PER ASME Y14.5M DIMENSIONS ARE IN INCHES X ± .1 .XX ± .03 .XXX ± .010 ANGLES ± .5° DO NOT SCALE DRAWING		TITLE ELECTRICAL PACKAGE, TDS-11SA			
119954	TDS-11S	DRAWN: D.HIRULKAR CHECKED: B.RICE APPVD: H.LIM DATE: 12/12/06	INITIAL: J.LANGSKI R.SHUMSKI R.SHUMSKI 10/13/99		
APPLICATION: TORCH CUT MACHINED 250 MAX 1000 MAX		RIG SOLUTIONS 10000 RICHMOND AVE. HOUSTON, TEXAS 77042 U.S.A. (713) 346-7200			
SCALE: 1/8 WT LBS: 900 PROJECTION:		SIZE: D SHEET: 1 of 4 REVISION: L DRAWING NUMBER: 128923			

D

C

B

A

QTY REQD	PART NO.	DESCRIPTION	ITEM NO.
1	30182634	ELEC/MANIFOLD SUB-ASSY	147
1	119888-100-38	CABLE TRAY	146
2	50810-R-C	WASHER, FLAT	145
4	51803-C	NUT	144
4	50003-6-C5D	SCREW, CAP-HEX HEAD	143
9	50649-61	SCREW	142
18	56609-11	TERMINAL WIRE RING	141
2	56612-01	SPICE NUT	140
1	56611-8	ELBOW, 45° INT ELECT	139
-	DELETED		138
-	DELETED		137
3	55008-12-C5D	SCREW, HEX HEAD CAP	136
12	50182-8-03	SCREW, CAP-BUTTON HEAD	135
1	56531-8-S	PLUG, O-RING BOSS	134
3	56609-25	TERMINAL, WIRE-RING	133
-	DELETED		132
28	51804-C	NUT, HEX-SELF LKG (UNC-2B)	131
20	50004-8-C5	SCREW, HEX HEAD CAP	130
-	DELETED		129
8	50008-12-C5D	SCREW, HEX HEAD CAP	128
-	DELETED		127
16	50006-12-C5D	SCREW, HEX HEAD CAP	126
-	DELETED		125
-	DELETED		124
-	DELETED		123
-	DELETED		122
-	DELETED		121
-	DELETED		120
-	DELETED		119
-	DELETED		118
-	DELETED		117
-	DELETED		116
-	DELETED		115
-	DELETED		114
-	DELETED		113
-	DELETED		112
-	DELETED		111
-	DELETED		110
-	DELETED		109
-	DELETED		108
-	DELETED		107
-	DELETED		106
4	50004-14-C5D	SCREW, CAP-HEX HEAD	105
1	110022-1R	CONNECTOR, SINGLE PIN, POWER, RED	104
1	110022-1W	CONNECTOR, SINGLE PIN, POWER, WHT	103
1	110022-1B	CONNECTOR, SINGLE PIN, POWER, BLK	102
5	83444-03	GLAND, CABLE, ARMORED, 20mm	101
1	83444-07	GLAND, CABLE, ARMORED, 32mm	100
1	78317-32	LOCKNUT	99
1	86872-32-S	LOCKWASHER, INTERNAL STAR	98
1	86871-32	WASHER, NYLON SEALING	97
1	124459-01-20	CABLE, PIGTAIL ASSY COMP (18 COND)	96

QTY REQD FOR BSC ASSY
REF QTY ONLY ITEMS ARE IN SUB-ASSY 30182634

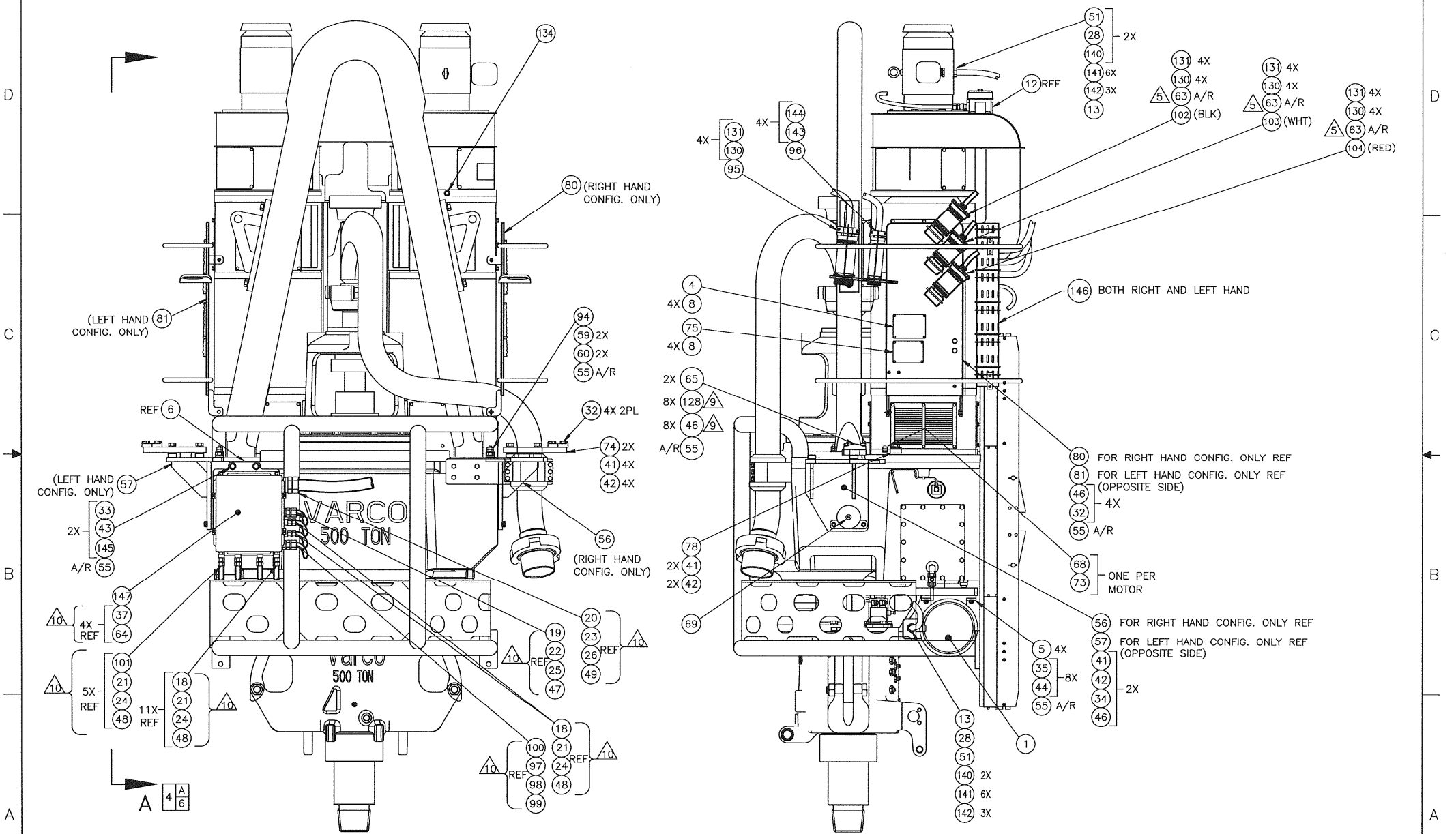
QTY REQD	PART NO.	DESCRIPTION	ITEM NO.
1	122718-01-20	CABLE, PIGTAIL ASSY COMP (42 COND)	95
1	118866	EARTHING BAR ASSY	94
4	94872-4	LUG, COPPER CONNECTOR	93
-	DELETED		92
16	50804-R-C	WASHER, FLAT-REGULAR	91
8	50004-10-C5D	SCREW, CAP-HEX HEAD	90
1	115911	CABLE TRAY	89
1	115910	BRACKET, MOUNTING, CABLE TRAY	88
1	115909	BRACKET, MOUNTING, CABLE TRAY	87
15FT	118993	CABLE, 70mm ² YELLOW W/ GREEN TRACER	86
2	87074-8-B	WASHER, LOCK - STAR (BRASS)	85
2	50910-S	WASHER, LOCK	84
-	DELETED		83
4	50206-B	NUT, HEX - BRASS	82
SEE TABLE 3	BRACKET, CONNECTOR-LEFT HAND		81
SEE TABLE 3	BRACKET, CONNECTOR-RIGHT HAND		80
-	DELETED		79
1	78002	CLAMP, SERVICE LOOP BRACKET	78
4	50008-16-C5D	SCREW, CAP-HEX HEAD	77
4	50008-8-C5D	SCREW, CAP-HEX HEAD	76
1	115720	LABEL, CONNECTOR	75
1	107714	MOUNT, CONTROL & ENCODER LOOP	74
A/R	53200-242	COMPOUND, LOCKING (BLUE)	73
-	DELETED		72
-	DELETED		71
1	53219-3	FITTING, GREASE-STRAIGHT EXTENDED	70
2	116427	STUD, GROUNDING	68
-	DELETED		67
A/R	Z6000.8	LOCKWIRE #.031 (NOT SHOWN)	66
2	56541-32	KIT, SPLIT FLANGE (INCLUDES HARDWARE)	65
4	50905-C	WASHER, LOCK-REGULAR	64
A/R	127386	3M POTTING COMPOUND	63
3	56606-8	ELBOW, CAPPED	62
-	DELETED		61
2	50912-C	WASHER, LOCK-REGULAR	60
2	50012-16-C5D	SCREW, CAP-HEX HEAD	59
-	DELETED		58
SEE TABLE 3	BRKT, SERVICE LOOP-LEFT HAND		57
SEE TABLE 3	BRKT, SERVICE LOOP-RIGHT HAND		56
A/R	Z6001	LOCKWIRE #.051 (NOT SHOWN)	55
A/R	Z6000.9	LOCKWIRE #.047 (NOT SHOWN)	54
10	110078-L18	CABLE, SAFETY (#.032) (NOT SHOWN)	53
10	110078-FL2	CABLE, SAFETY (FERRULE) (NOT SHOWN)	52
3	86625-02	GLAND, CABLE - JACKETED (UL)	51
4	86625-01	GLAND, CABLE - JACKETED (UL)	50
9	86872-50-S	LOCKWASHER, INTERNAL STAR	49

QTY REQD FOR BSC ASSY
REF QTY ONLY ITEMS ARE IN SUB-ASSY 30182634

QTY REQD	PART NO.	DESCRIPTION	ITEM NO.
18	86872-20-S	LOCKWASHER, INTERNAL STAR	48
1	86872-25-S	LOCKWASHER, INTERNAL STAR	47
20	50908-C	WASHER, LOCK-REGULAR	46
16	50904-C	WASHER, LOCK-REGULAR	45
2	50906-C	WASHER, LOCK-REGULAR	44
5	50910-C	WASHER, LOCK-REGULAR	43
8	50912-C	WASHER, LOCK-REGULAR	42
8	50012-16-C5D	SCREW, CAP-HEX HEAD	41
2	50606-8-C	SCREW, CAP-FLAT HEAD	40
2	50010-52-C5D	SCREW, CAP-HEX HEAD	39
-	DELETED		38
4	50005-4-C5D	SCREW, CAP-HEX HEAD	37
8	50004-8-C5D	SCREW, CAP-HEX HEAD	36
12	50006-8-C5D	SCREW, CAP-HEX HEAD	35
2	50008-20-C5D	SCREW, CAP-HEX HEAD	34
2	50010-10-C5D	SCREW, CAP-HEX HEAD	33
4	50008-10-C5D	SCREW, CAP-HEX HEAD	32
1	50010-44-C5D	SCREW, CAP-HEX HEAD	31
2	50006-10-C5D	SCREW, CAP-HEX HEAD	30
-	DELETED		29
3	56600-16-12	BUSHING, REDUCING, ELECTRICAL	28
4	56600-12-8	BUSHING, REDUCING, ELECTRICAL	27
1	86871-50	WASHER, NYLON SEALING	26
1	86871-25	WASHER, NYLON SEALING	25
18	86871-20	WASHER, NYLON SEALING	24
1	78317-50	LOCKNUT	23
1	78317-25	LOCKNUT	22
18	78317-20	LOCKNUT	21
1	129991-07	GLAND, EEXe ARMORED CABLE, 50mm	20
1	83444-05	GLAND, EEXe ARMORED CABLE, 25mm	19
13	83444-01	GLAND, EEXe ARMORED CABLE, 20mm	18
-	DELETED		17
25FT	56620-03	CABLE, SHIPBOARD-TWISTED/SHIELDED	16
159FT	56625-1.5-03	CABLE, SHIPBOARD-MULTICORE	15
241FT	56625-1.5-03	CABLE, SHIPBOARD-MULTICORE	15
-	DELETED		14
66FT	56625-2.5-04	CABLE, SHIPBOARD-MULTICORE	13
2	76841	PRESSURE SWITCH, AIR	12
4	112711	PLATE, MOTOR	5
1	87541-1	PRESSURE SWITCH, OIL	11
1	83095-1	PRESSURE SWITCH, IBOP	10
-	DELETED		9
8	53301-10-6	SCREW, DRIVE-TYPE U	8
-	DELETED		7
1	110143	PLATE, MOUNTING-J-BOX/MANIFOLD	6
4	112711	PLATE, MOTOR	5
1	115202	NAMEPLATE, CONNECTOR WARNING	4
1	124994	J-BOX ASSEMBLY	3
1	SEE TABLE 1	MANIFOLD ASSY	2
1	SEE TABLE 2	PUMP/MOTOR ASSY	1

QTY REQD FOR BSC ASSY
REF QTY ONLY ITEMS ARE IN SUB-ASSY 30182634

SIZE	DWG NO	REV
D	128923	L
SCALE	1/8" = 1" UNLESS OTHERWISE SHOWN	SHEET 2 OF 4



SIZE	DWG NO	REV
D	128923	L
SCALE	1/8" WT LBS	SHEET 3 OF 4