

VPL SERVICE TRAINING

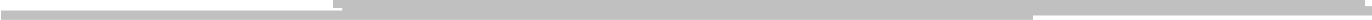




Vertical Platform Lift Service

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SHIPPING AND HANDLING INSTRUCTIONS

VPL-3200B SERIES

RECOMMENDED TOOLS and PERSONNEL

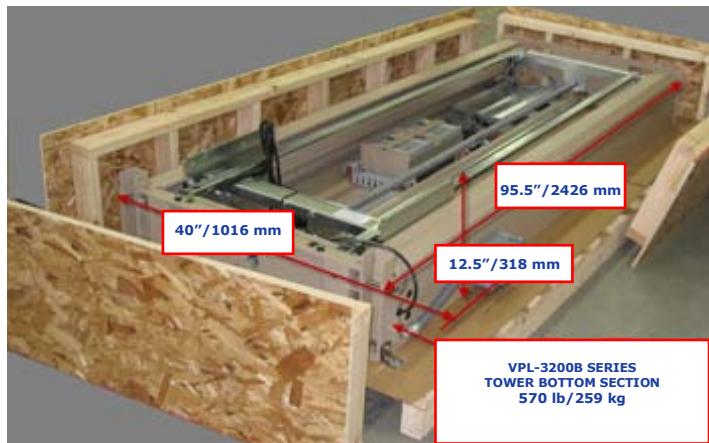
- Forklift with extended forks
(minimum 5 ft/1.5 m)

Sources for extended forks: your local forklift dealer, Grainger, McMaster-Carr, MSC, and others

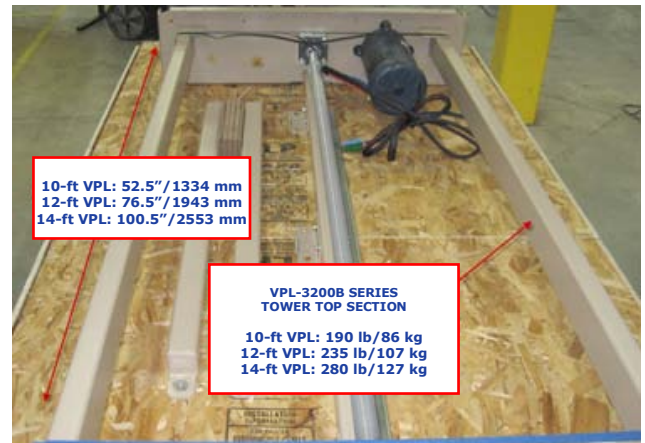


- (2) people, MINIMUM: very heavy unit

Weights and Dimensions



tower bottom section



tower top section



pallet 1 of 2
tower + packaging + pallet



pallet 2 of 2
platform + packaging + pallet

Handling



The VPL-3200B Series Vertical Platform Lifts are very heavy. To ensure safety and avoid damage to the unit and equipment, **a minimum (2) people are required** when handling/moving the units.

- Handlers must wear appropriate Personal Protective Equipment (eyewear, steel-toed safety shoes, gloves, arm protection, etc.).
- Do not exceed the rated capacities of the equipment used to handle the VPL-3200B Series units.
- Use a forklift with extended forks (5 ft/1.5 m minimum).
- With the forklift, pick up the load at the heavier end of the pallet.
- Center the load on the forklift as close to the mast as possible.
- When transporting the load on the forklift, carry the load at the lowest position possible.

Unloading

A loading dock is the preferred method to unload our VPL-3200B series lifts. A forklift with extended forks is required.

Note: It is possible to unload a VPL-3200B without a loading dock by using a truck with a lift gate, but this method requires additional people and/or equipment.

UNENCLOSED STRAIGHT THROUGH PLATFORM - NO PIT

VPL-3100/VPL-3200B SERIES VERTICAL PLATFORM LIFT

	D	E	F
48" PLATFORM	5.78	48.45	64.64
54" PLATFORM	8.78	54.45	70.64
60" PLATFORM	11.78	60.45	76.64

CIRCUIT BREAKER
BOX (VPL-3100 SERIES)

CIRCUIT BREAKER
BOX (VPL-3200B SERIES)

Q OF PLATFORM

RIGHT HAND UNIT SHOWN

VPL-3200B SERIES:
SOLID BACKING FROM
TOP OF UNIT DOWN 10"
(WALL LOADING 200 LBS.)

	A	B	C
VPL-3153	75.56	95.00	53.00
VPL-3175	99.56	117.00	75.00
VPL-3210B	148.06	165.00	123.00
VPL-3212B	172.06	189.00	147.00
VPL-3214B	196.06	213.00	171.00

TECHNICAL DATA/SPECIFICATIONS

RATED LOAD: 750 lbs maximum.

INPUT POWER SOURCE:

-AC POWERED UNIT: 110-120 Volt 15 Amp 60 Hz dedicated service.

-DC BATTERY POWERED UNIT: 110-120 Volt 3 Amp 60 Hz battery charger.

DRIVE:

-AC POWERED UNIT: 1 hp motor, 1750 rpm, single phase, 120 VAC, 1.15 service factor, continuous duty.

-DC BATTERY POWERED UNIT: VPL-3100B: 1/2 hp motor, 1750 rpm, 24 VDC, continuous duty.

INTERMEDIATE REDUCTION: VPL-3200B: 1 hp motor, 1750 rpm, 24 VDC, continuous duty.

FINAL DRIVE: Dual 4L style Poly-V belts and pulleys, 3.94:1 pulley reduction.

MOTOR CONTROLLER: VPL-3100: 1" dia. ACME screw w/bronze nut and bronze safety back up nut.

-AC POWERED UNIT: VPL-3200B: 1.25" dia. ACME screw w/bronze nut and bronze safety back up nut.

MOTOR CONTROLLER: 24 VAC Relay control.

-AC POWERED UNIT: 24 VDC Relay control.

SPEED: 9 feet per minute maximum.

-DC BATTERY POWERED UNIT: 10 feet per minute maximum.

For complete technical specifications please see
ILS-00834 "VPL-3100 Series Residential Vertical Platform Lift Technical Specification"
ILS-00986 "VPL-3200B Series Residential Vertical Platform Lift Technical Specification"

PERFORMANCE STANDARDS

USA FOOD & DRUG ADMINISTRATION: None

ANSI/ASME: A18.1-2008 Section 5 Safety Standards for Platform lifts and Stairway Chairlifts

ANSI/ASME: CSA B613-00 (JAN 2002) Private Residence Lifts for Persons with Physical Disabilities

ANSI/ASME: CSA B44.1-04/ASME-A17.5-2004 Elevator and Escalator Electrical Equipment

ILS-00932

SHEET 1 OF 4

REV. 2 (4651)(12/22/10)(DPG)

NOTES: 1) ACCESS RAMP CAN BE MOUNTED ON EITHER SIDE OF THE PLATFORM
2) SEE ILS-00938 FOR LANDING GATE DETAIL/ALIGNMENT

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UNENCLOSED STRAIGHT THROUGH PLATFORM - NO PIT

VPL-3100/VPL-3200B SERIES VERTICAL PLATFORM LIFT

ANCHOR POINT LOCATIONS/SLAB DETAIL

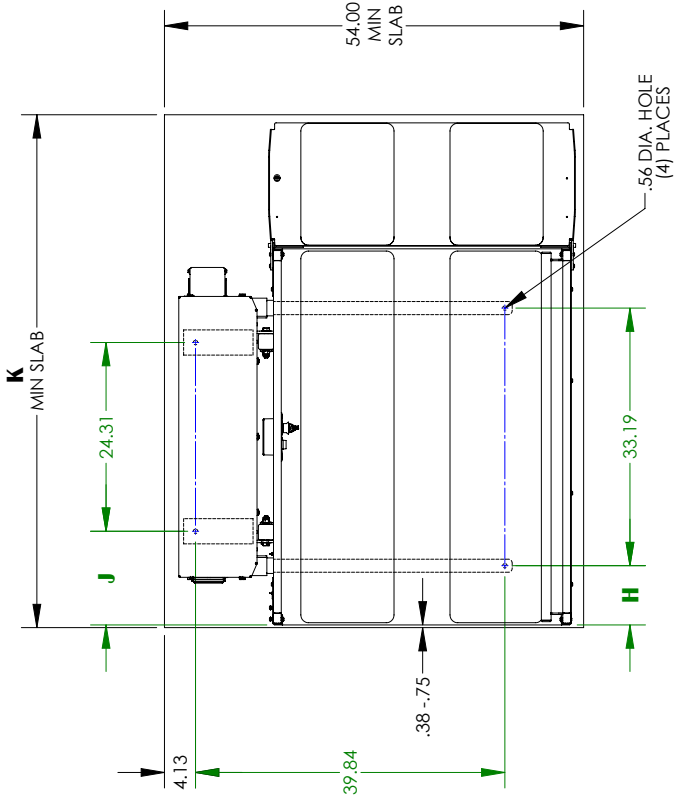
	H	J	K
48" PLATFORM	7.63	12.07	66.00
54" PLATFORM	10.63	15.07	72.00
60" PLATFORM	13.63	18.07	78.00

TECHNICAL SPECIFICATIONS

FLOOR ATTACHMENT:
VPL MUST BE FASTENED TO CONCRETE SLAB USING FOUR (4) 1/2" (3/8" BOLT)
X MINIMUM 2-1/2" LONG CONCRETE ANCHORS SUITABLE FOR THE ENVIRONMENT.
FOLLOW SELECTED CONCRETE ANCHOR MANUFACTURERS GUIDELINES AND
APPLICABLE CODES.

FLOOR REQUIREMENTS:
4" THICK 3500 PSI MINIMUM COMPRESSIVE STRENGTH, REINFORCED CONCRETE SLAB.

For complete technical specification please see
ILS-00834 "VPL-3100 Series Residential Vertical Platform Lift Technical Specification"
ILS-00986 "VPL-3200B Series Residential Vertical Platform Lift Technical Specification"



UNITS WITH STRAIGHT THROUGH PLATFORM

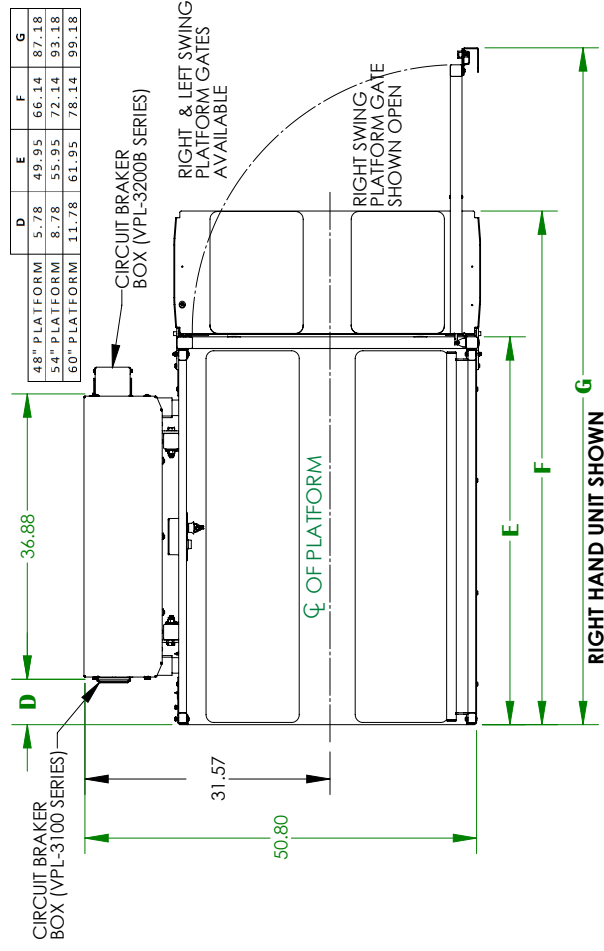
ILS-00932
SHEET 2 OF 4
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UNENCLOSED STRAIGHT THROUGH PLATFORM WITH PLATFORM GATE - NO PIT

VPL-3100/VPL-3200B SERIES VERTICAL PLATFORM LIFT



TECHNICAL DATA/SPECIFICATIONS

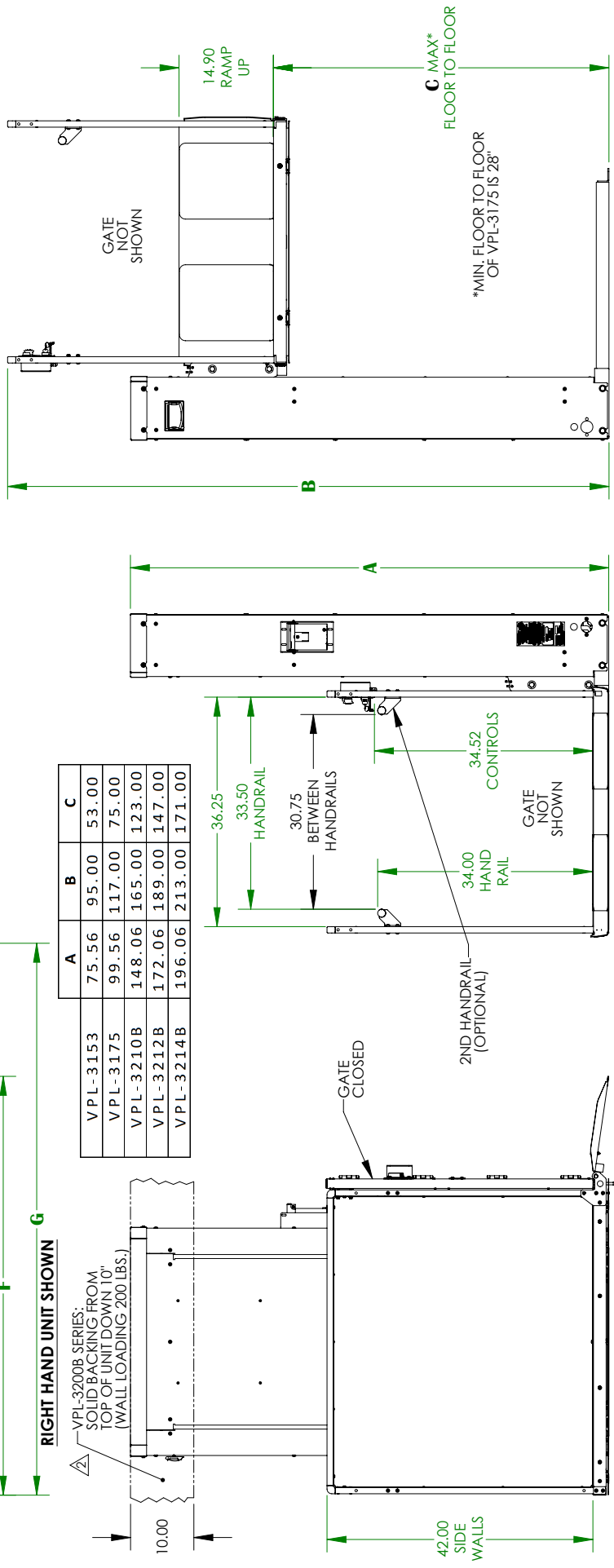
- RATED LOAD:** 750 lbs maximum.
- INPUT POWER SOURCE:**
-AC POWERED UNIT: 110-120 Volt 15 Amp 60 Hz dedicated service.
-DC BATTERY POWERED UNIT: 110-120 Volt 3 Amp 60 Hz battery charger.
- DRIVE:**
-AC POWERED UNIT: 1 hp motor, 1750 rpm, single phase, 120 VAC, 1.15 service factor, continuous duty.
-DC BATTERY POWERED UNIT: VPL-3100B: 1/2 hp motor, 1750 rpm, 24 VDC, continuous duty.
VPL-3200B: 1 hp motor, 1750 rpm, 24 VDC, continuous duty.
- INTERMEDIATE REDUCTION:** Dual 4L style Poly-V belts and pulleys, 3.94:1 pulley reduction.
- FINAL DRIVE:** VPL-3100: 1" dia. ACME screw w/bronze nut and bronze safety back up nut.
VPL-3200B: 1.25" dia. ACME screw w/bronze nut and bronze safety back up nut.
- MOTOR CONTROLLER:** 24 VAC Relay control.
- AC POWERED UNIT:** 24 VDC Relay control.
- SPEED:**
-AC POWERED UNIT: 9 feet per minute maximum.
-DC BATTERY POWERED UNIT: 10 feet per minute maximum

For complete technical specifications please see
ILS-00834 "VPL-3100 Series Residential Vertical Platform Lift Technical Specification"
ILS-00986 "VPL-3200B Series Residential Vertical Platform Lift Technical Specification"

PERFORMANCE STANDARDS

USA FOOD & DRUG ADMINISTRATION: None
ANSI/ASME: A18.1-2008 Section 5 Safety Standards for Platform lifts and Stairway Chairlifts
CSA B613-00 (JAN 2002) Private Residence Lifts for Persons with Physical Disabilities
ANSI/ASME: CSA B44.1-04/ASME-A17.5-2004 Elevator and Escalator Electrical Equipment

	A	B	C
VPL-3153	75.56	95.00	53.00
VPL-3175	99.56	117.00	75.00
VPL-3210B	148.06	165.00	123.00
VPL-3212B	172.06	189.00	147.00
VPL-3214B	196.06	213.00	171.00



- NOTES: 1) ACCESS RAMP & PLATFORM GATE CAN BE MOUNTED ON EITHER SIDE OF THE PLATFORM
2) SEE ILS-00938 FOR LANDING GATE DETAIL/ALIGNMENT

ILS-00932
SHEET 3 OF 4
REV. 2 (4651)(12/22/10)(DPG)

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UNENCLOSED STRAIGHT THROUGH PLATFORM WITH PLATFORM GATE - NO PIT

VPL-3100/VPL-3200B SERIES VERTICAL PLATFORM LIFT

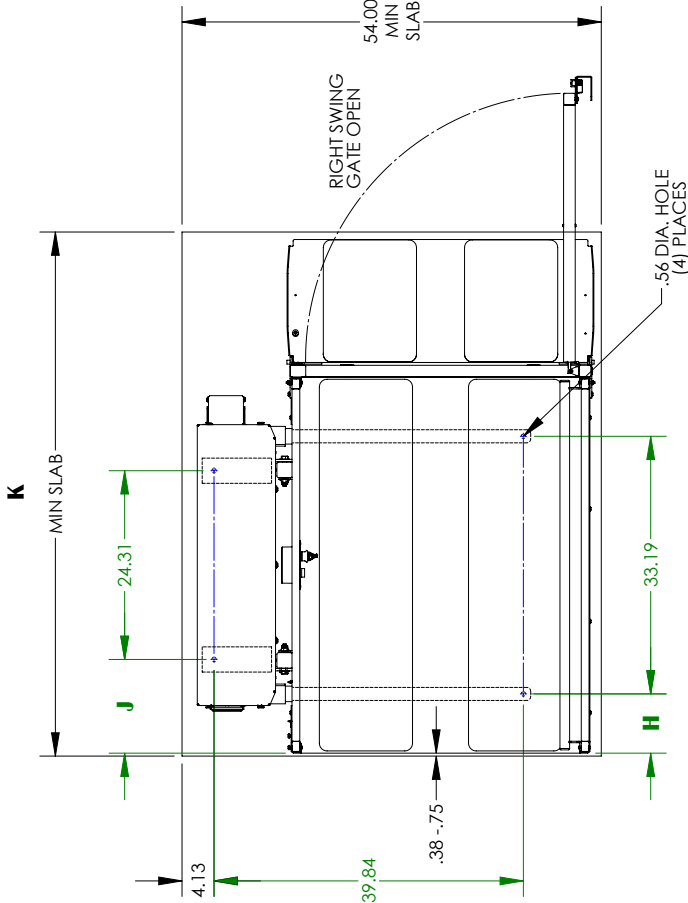
ANCHOR POINT LOCATIONS/SLAB DETAIL

	H	J	K
48" PLATFORM	7.63	12.07	67.50
54" PLATFORM	10.63	15.07	73.50
60" PLATFORM	13.63	18.07	79.50

TECHNICAL SPECIFICATIONS

- FLOOR ATTACHMENT:
VPL MUST BE FASTENED TO CONCRETE SLAB USING FOUR (4) 1/2" (3/8" BOLT)
X MINIMUM 2-1/2" LONG CONCRETE ANCHORS SUITABLE FOR THE ENVIRONMENT.
FOLLOW SELECTED CONCRETE ANCHOR MANUFACTURERS GUIDELINES AND
APPLICABLE CODES.
- FLOOR REQUIREMENTS:
4" THICK 3500 PSI MINIMUM COMPRESSIVE STRENGTH, REINFORCED CONCRETE SLAB.

For complete technical specification please see
ILS-00834 "VPL-3100 Series Residential Vertical Platform Lift Technical Specification"
ILS-00986 "VPL-3200B Series Residential Vertical Platform Lift Technical Specification"



UNITS WITH STRAIGHT THROUGH PLATFORM WITH PLATFORM GATE

ILS-00932
SHEET 4 OF 4
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UNENCLOSED STRAIGHT THROUGH PLATFORM WITH PLATFORM GATE-PIT APPLICATION

VPL-3100/VPL-3200B SERIES VERTICAL PLATFORM LIFT

TECHNICAL DATA/SPECIFICATIONS

	D	E	G
48" PLATFORM	5.78	49.95	87.18
54" PLATFORM	8.78	55.95	93.18
60" PLATFORM	11.78	61.95	99.18

RATED LOAD: 750 lbs maximum.

INPUT POWER SOURCE:
-AC POWERED UNIT: 110-120 Volt 15 Amp 60 Hz dedicated service.
-DC BATTERY POWERED UNIT: 110-120 Volt 3 Amp 60 Hz battery charger.

DRIVE:
-AC POWERED UNIT: 1 hp motor, 1750 rpm, single phase, 120 VAC, 1.15 service factor, continuous duty.
-DC BATTERY POWERED UNIT: VPL-3100B: 1/2 hp motor, 1750 rpm, 24 VDC, continuous duty.
VPL-3200B: 1 hp motor, 1750 rpm, 24 VDC, continuous duty.
Dual 4L style Poly-V belts and pulleys, 3.94:1 pulley reduction.

INTERMEDIATE REDUCTION:
FINAL DRIVE: VPL-3100: 1" dia. ACME screw w/bronze nut and bronze safety back up nut.
VPL-3200B: 1.25" dia. ACME screw w/bronze nut and bronze safety back up nut.

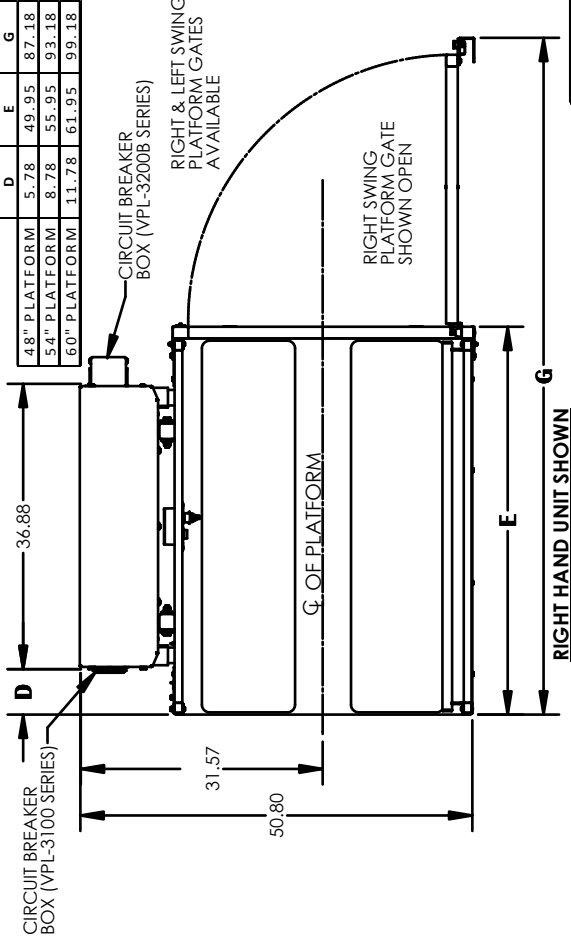
MOTOR CONTROLLER:
-AC POWERED UNIT: 24 VAC Relay control.
-DC BATTERY POWERED UNIT: 24 VDC Relay control.

SPEED:
-AC POWERED UNIT: 9 feet per minute maximum.
-DC BATTERY POWERED UNIT: 10 feet per minute maximum

For complete technical specifications please see
ILS-00834 "VPL-3100 Series Residential Vertical Platform Lift Technical Specification"
ILS-00986 "VPL-3200B Series Residential Vertical Platform Lift Technical Specification"

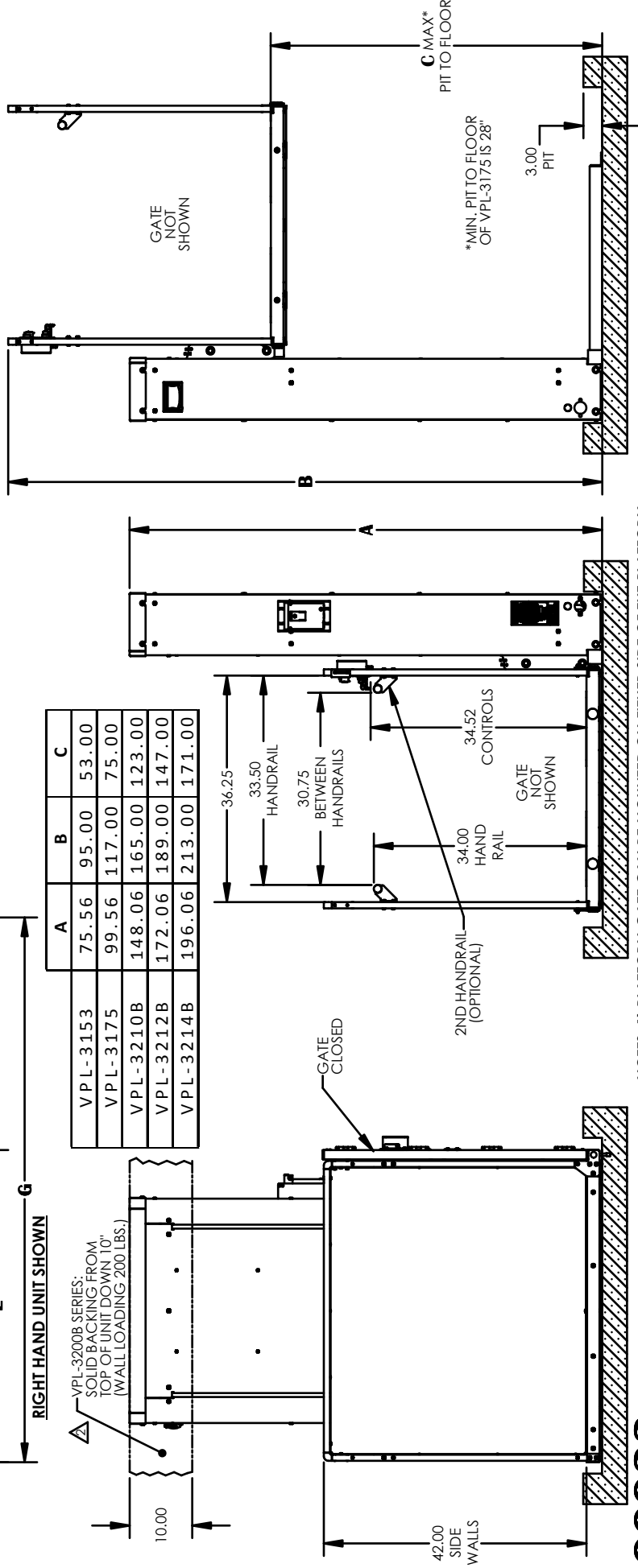
PERFORMANCE STANDARDS

USA FOOD & DRUG ADMINISTRATION: None
ANSI/ASME: A18.1-2008 Section 5 Safety Standards for Platform lifts and Stairway Chairlifts
ANSI/ASME: CSA B613-00 (JAN 2002) Private Residence Lifts for Persons with Physical Disabilities
ANSI/ASME: CSA B44.1-04/ASME-A17.5-2004 Elevator and Escalator Electrical Equipment



	A	B	C
VPL-3153	75.56	95.00	53.00
VPL-3175	99.56	117.00	75.00
VPL-3210B	148.06	165.00	123.00
VPL-3212B	172.06	189.00	147.00
VPL-3214B	196.06	213.00	171.00

VPL-3200B SERIES:
SOLID BACKING FROM
TOP OF UNIT DOWN 10"
(WALL LOADING 200 LBS.)



NOTES: 1) PLATFORM GATE CAN BE MOUNTED ON EITHER SIDE OF THE PLATFORM
2) SEE ILS-00938 FOR LANDING GATE DETAIL/ALIGNMENT

ILS-00933

SHEET 1 OF 2

REV. 2 (4651)(12/22/10)(DPG)

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UNENCLOSED STRAIGHT THROUGH PLATFORM WITH PLATFORM GATE-PIT APPLICATION

VPL-3100/VPL-3200B SERIES VERTICLE PLATFORM LIFT

ANCHOR POINT LOCATIONS/PIT DETAIL

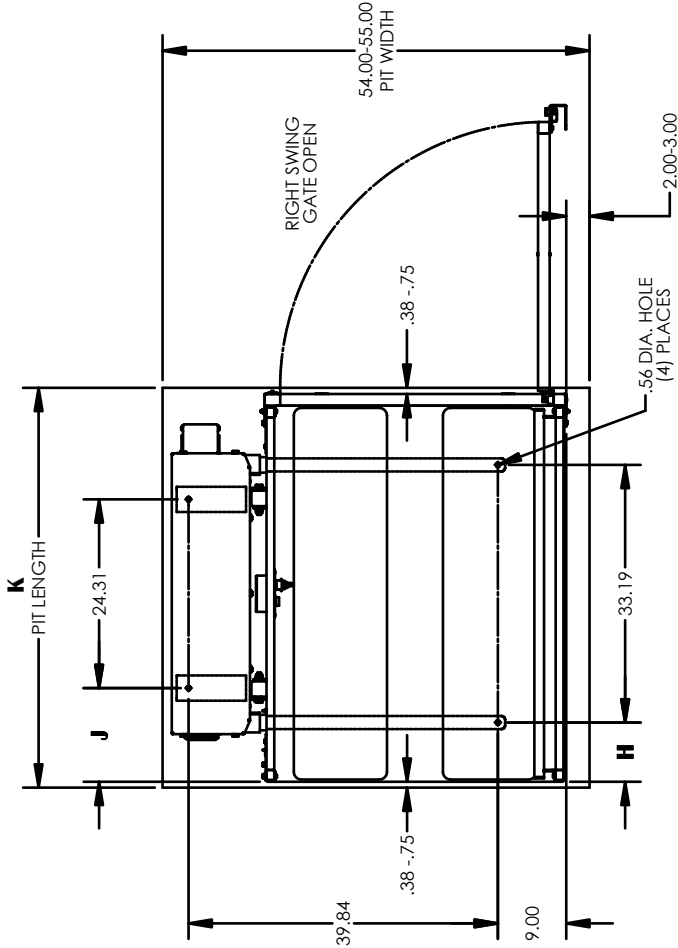
	H	J	K
48" PLATFORM	7.63	12.07	50.75 - 51.50
54" PLATFORM	10.63	15.07	56.75 - 57.50
60" PLATFORM	13.63	18.07	62.75 - 63.50

TECHNICAL SPECIFICATIONS

FLOOR ATTACHMENT:
VPL MUST BE FASTENED TO CONCRETE SLAB USING FOUR (4) 1/2" (3/8" BOLT)
X MINIMUM 2-1/2" LONG CONCRETE ANCHORS SUITABLE FOR THE ENVIRONMENT.
FOLLOW SELECTED CONCRETE ANCHOR MANUFACTURERS GUIDELINES AND
APPLICABLE CODES.

FLOOR REQUIREMENTS:
4" THICK 3500 PSI MINIMUM COMPRESSIVE STRENGTH, REINFORCED CONCRETE SLAB.

For complete technical specification please see
ILS-00834 "VPL-3100 Series Residential Vertical Platform Lift Technical Specification"
ILS-00986 "VPL-3200B Series Residential Vertical Platform Lift Technical Specification"



UNITS WITH STRAIGHT THROUGH PLATFORM WITH PLATFORM GATE
(PIT APPLICATION)

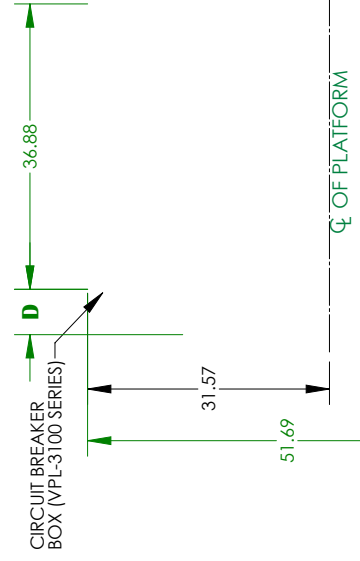
ILS-00933
SHEET 2 OF 2
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UNENCLOSED 90°/ADJACENT EXIT PLATFORM - NO PIT

VPL-3100/VPL-3200B SERIES VERTICAL PLATFORM LIFT

	D	E	F
48" PLATFORM	5.78	48.45	64.64
54" PLATFORM	8.78	54.45	70.64
60" PLATFORM	11.78	60.45	76.64



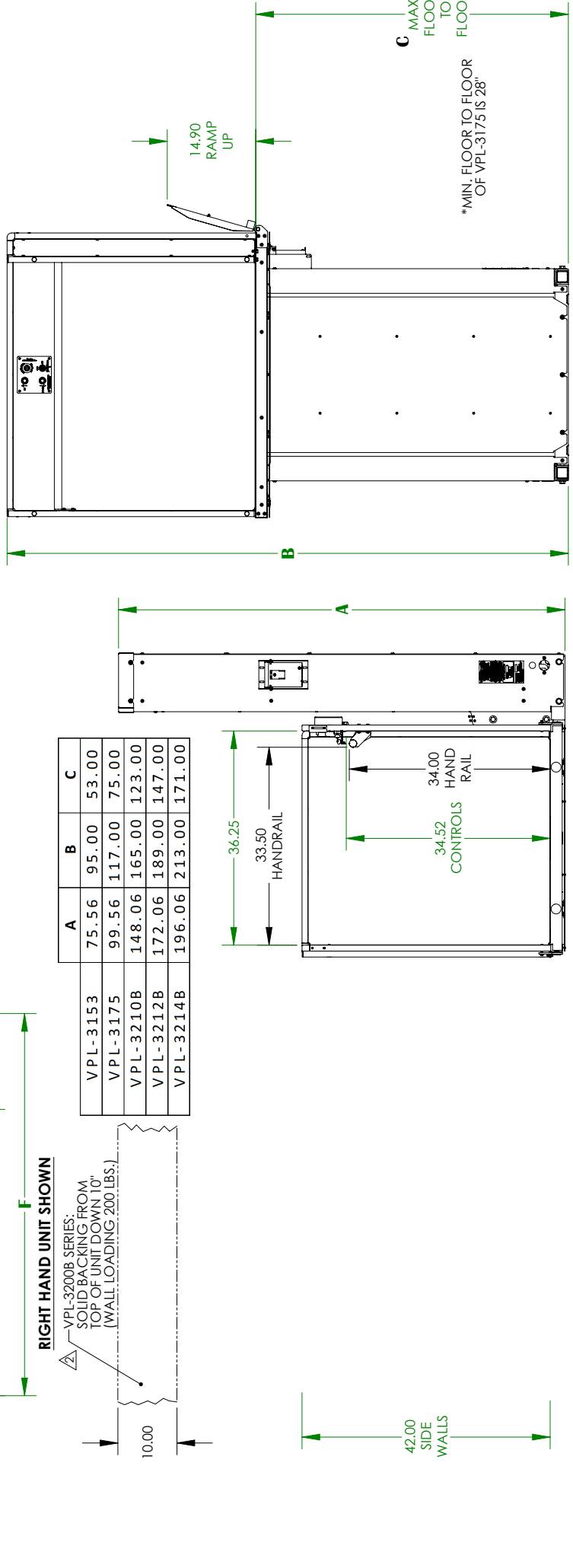
TECHNICAL DATASPECIFICATIONS

- RATED LOAD:** 750 lbs maximum.
- INPUT POWER SOURCE:**
- AC POWERED UNIT: 110-120 Volt 15 Amp 60 Hz dedicated service.
 - DC BATTERY POWERED UNIT: 110-120 Volt 3 Amp 60 Hz battery charger.
- DRIVE:**
- AC POWERED UNIT: 1 hp motor, 1750 rpm, single phase, 120 VAC, 1.15 service factor, continuous duty.
 - DC BATTERY POWERED UNIT: VPL-3100B: 1/2 hp motor, 1750 rpm, 24 VDC, continuous duty.
- INTERMEDIATE REDUCTION:**
- VPL-3200B: 1 hp motor, 1750 rpm, 24 VDC, continuous duty.
- FINAL DRIVE:**
- Dual 4L style Poly-V belts and pulleys, 3.94:1 pulley reduction.
 - VPL-3100: 1" dia. ACME screw w/bronze nut and bronze safety back up nut.
 - VPL-3200B: 1.25" dia. ACME screw w/bronze nut and bronze safety back up nut.
- MOTOR CONTROLLER:**
- AC POWERED UNIT: 24 VAC Relay control.
 - DC BATTERY POWERED UNIT: 24 VDC Relay control.
- SPEED:**
- AC POWERED UNIT: 9 feet per minute maximum.
 - DC BATTERY POWERED UNIT: 10 feet per minute maximum.

For complete technical specifications please see
ILS-00834 "VPL-3100 Series Residential Vertical Platform Lift Technical Specification"
ILS-00986 "VPL-3200B Series Residential Vertical Platform Lift Technical Specification"

PERFORMANCE STANDARDS

- USA FOOD & DRUG ADMINISTRATION: None
- ANSI/ASME: A18.1-2008 Section 5 Safety Standards for Platform lifts and Stairway Chairlifts
- ANSI/ASME: CSA B613-00 (JAN 2002) Private Residence Lifts for Persons with Physical Disabilities
- ANSI/ASME: CSA B44.1-04/ASME-A17.5-2004 Elevator and Escalator Electrical Equipment



	A	B	C
VPL-3153	75.56	95.00	53.00
VPL-3175	99.56	117.00	75.00
VPL-3210B	148.06	165.00	123.00
VPL-3212B	172.06	189.00	147.00
VPL-3214B	196.06	213.00	171.00

NOTES: 1) ACCESS RAMP CAN BE MOUNTED ON EITHER SIDE OF THE PLATFORM
2) SEE ILS-00938 FOR LANDING GATE DETAIL/ALIGNMENT

ILS-00934
SHEET 1 OF 4
REV. 2 (4651)(12/22/10)(DPG)

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UNENCLOSED 90°/ADJACENT EXIT PLATFORM - NO PIT

VPL-3100/VPL-3200B SERIES VERTICAL PLATFORM LIFT

ANCHOR POINT LOCATIONS/SLAB DETAIL

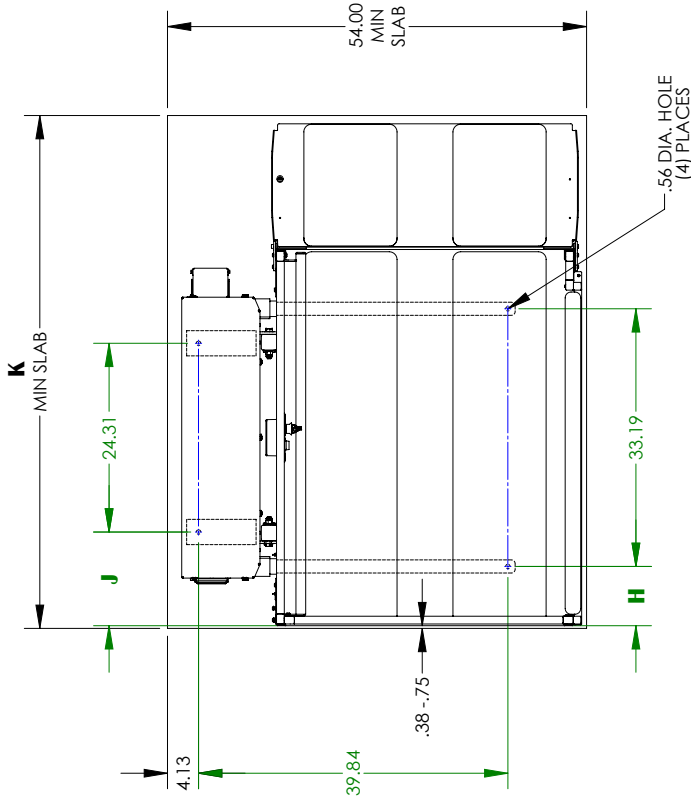
TECHNICAL SPECIFICATIONS

FLOOR ATTACHMENT:
VPL MUST BE FASTENED TO CONCRETE SLAB USING FOUR (4) 1/2" (3/8" BOLT)
X MINIMUM 2-1/2" LONG CONCRETE ANCHORS SUITABLE FOR THE ENVIRONMENT.
FOLLOW SELECTED CONCRETE ANCHOR MANUFACTURERS GUIDELINES AND
APPLICABLE CODES.

FLOOR REQUIREMENTS:
4" THICK 3500 PSI MINIMUM COMPRESSIVE STRENGTH, REINFORCED CONCRETE SLAB.

For complete technical specification please see
ILS-00834 "VPL-3100 Series Residential Vertical Platform Lift Technical Specification"
ILS-00986 "VPL-3200B Series Residential Vertical Platform Lift Technical Specifications"

	H	J	K
48" PLATFORM	7.63	12.07	66.00
54" PLATFORM	10.63	15.07	72.00
60" PLATFORM	13.63	18.07	78.00



UNITS WITH 90°/ADJACENT EXIT PLATFORM

ILS-00934
SHEET 2 OF 4
REV. 2 (4651)(12/22/10)(DPG)

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UNENCLOSED 90° / ADJACENT EXIT PLATFORM WITH PLATFORM GATE - NO PIT
VPL-3100VPL-3200B SERIES VERTICAL PLATFORM LIFT

TECHNICAL DATA/SPECIFICATIONS

	D	E	F	G
48" PLATFORM	5.78	49.95	66.14	87.18
54" PLATFORM	8.78	55.95	72.14	93.18
60" PLATFORM	11.78	61.95	78.14	99.18

RATED LOAD: 750 lbs maximum.

INPUT POWER SOURCE:
-AC POWERED UNIT: 110-120 Volt 15 Amp 60 Hz dedicated service.
-DC BATTERY POWERED UNIT: 110-120 Volt 3 Amp 60 Hz battery charger.

DRIVE:
-AC POWERED UNIT: 1 hp motor, 1750 rpm, single phase, 120 VAC, 1.15 service factor, continuous duty.
-DC BATTERY POWERED UNIT: VPL-3100B: 1/2 hp motor, 1750 rpm, 24 VDC, continuous duty.
VPL-3200B: 1 hp motor, 1750 rpm, 24 VDC, continuous duty.
Dual 4L style Poly-V belts and pulleys. 3.94" pulley reduction.
INTERMEDIATE REDUCTION: VPL-3100: 1" dia. ACME screw w/bronze nut and bronze safety back up nut.
VPL-3200B: 1.25" dia. ACME screw w/bronze nut and bronze safety back up nut.

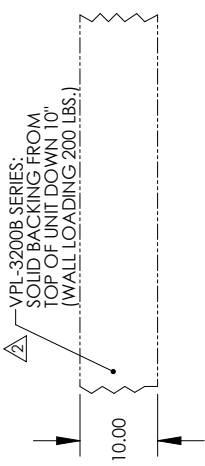
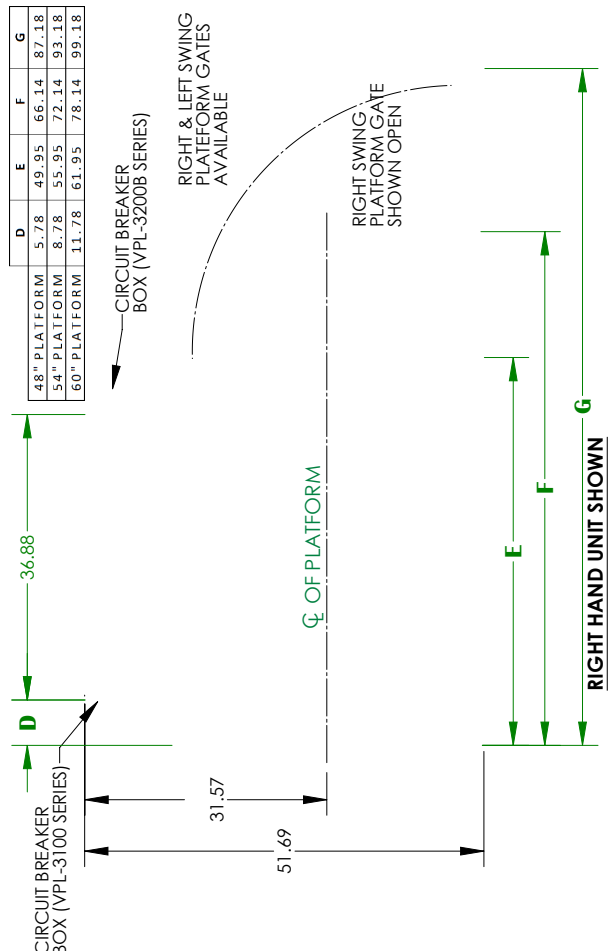
FINAL DRIVE:
MOTOR CONTROLLER:
-AC POWERED UNIT: 24 VAC Relay control.
-DC BATTERY POWERED UNIT: 24 VDC Relay control.

SPEED:
-AC POWERED UNIT: 9 feet per minute maximum.
-DC BATTERY POWERED UNIT: 10 feet per minute maximum

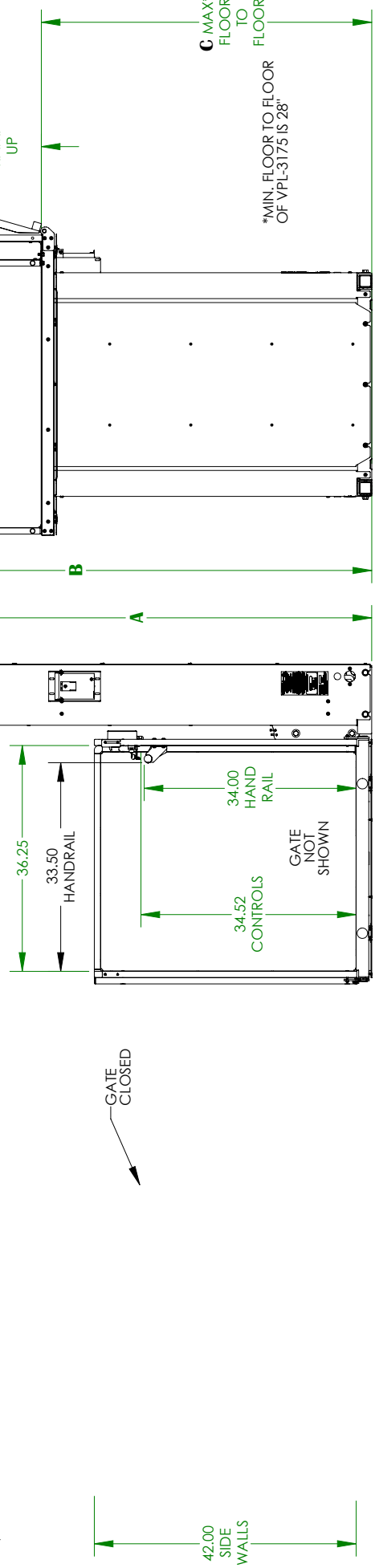
For complete technical specifications please see
ILS-00834 "VPL-3100 Series Residential Vertical Platform Lift Technical Specification"
ILS-00986 "VPL-3200B Series Residential Vertical Platform Lift Technical Specification"

PERFORMANCE STANDARDS

USA FOOD & DRUG ADMINISTRATION: None
ANSI/ASME: A18.1-2008 Section 5 Safety Standards for Platform lifts and Stairway Chairlifts
CSA B613-00 (JAN 2002) Private Residence Lifts for Persons with Physical Disabilities
ANSI/ASME: CSA B44.1-04/ASME-A17.5-2004 Elevator and Escalator Electrical Equipment



	A	B	C
VPL-3153	75.56	95.00	53.00
VPL-3175	99.56	117.00	75.00
VPL-3210B	148.06	165.00	123.00
VPL-3212B	172.06	189.00	147.00
VPL-3214B	196.06	213.00	171.00



ILS-00934
SHEET 3 OF 4
REV. 2 (4651)(12/22/10)(DPG)

NOTES: 1) ACCESS RAMP & PLATFORM GATE CAN BE MOUNTED ON EITHER SIDE OF THE PLATFORM
2) SEE ILS-00938 FOR LANDING GATE DETAIL/ALIGNMENT

Bruno Independent Living Aids, Inc., 1780 Executive Drive, P.O. Box 84, Oconomowoc, WI 53066
Phone (800) 882-8183 Fax (262) 953-5501

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UNENCLOSED 90°/ADJACENT EXIT PLATFORM WITH PLATFORM GATE - NO PIT

VPL-3100/VPL-3200B SERIES VERTICAL PLATFORM LIFT

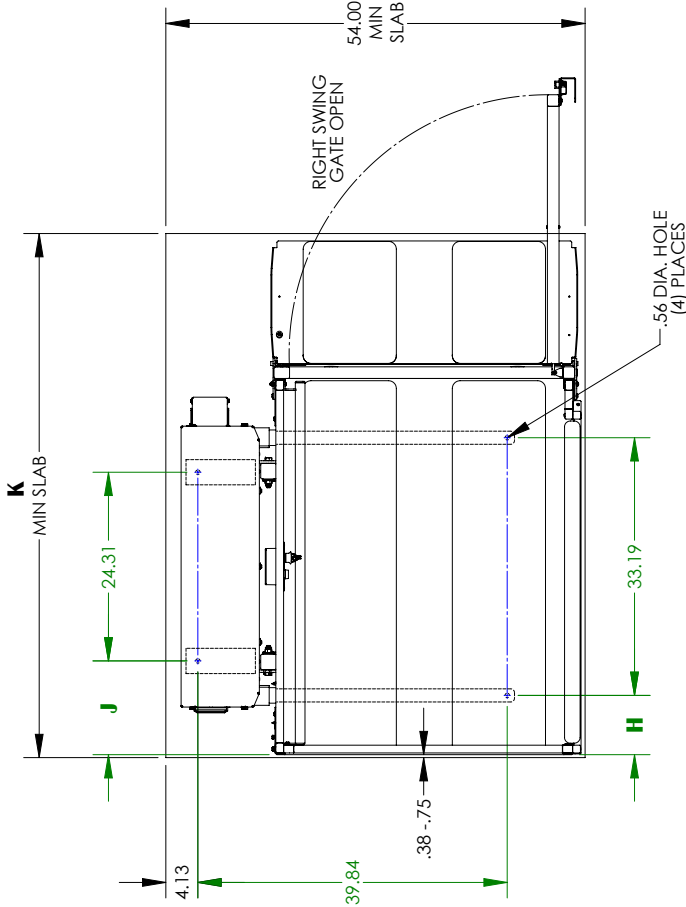
ANCHOR POINT LOCATIONS/SLAB DETAIL

	H	J	K
48" PLATFORM	7.63	12.07	67.50
54" PLATFORM	10.63	15.07	73.50
60" PLATFORM	13.63	18.07	79.50

TECHNICAL SPECIFICATIONS

- FLOOR ATTACHMENT:
VPL MUST BE FASTENED TO CONCRETE SLAB USING FOUR (4) 1/2" (3/8" BOL.T)
X MINIMUM 2-1/2" LONG CONCRETE ANCHORS SUITABLE FOR THE ENVIRONMENT.
FOLLOW SELECTED CONCRETE ANCHOR MANUFACTURERS GUIDELINES AND
APPLICABLE CODES.
- FLOOR REQUIREMENTS:
4" THICK 3500 PSI MINIMUM COMPRESSIVE STRENGTH, REINFORCED CONCRETE SLAB.

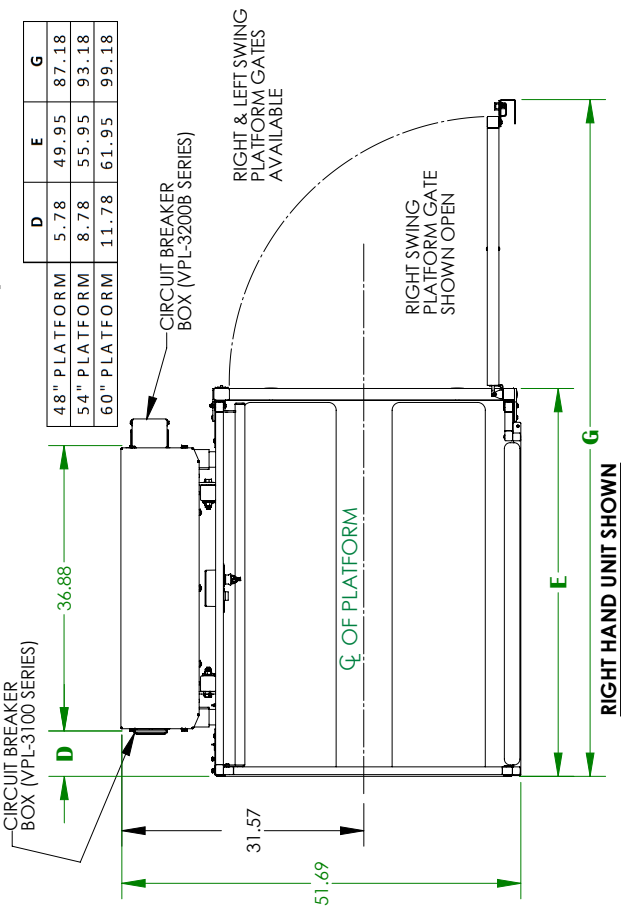
For complete technical specification please see
ILS-00834 "VPL-3100 Series Residential Vertical Platform Lift Technical Specification"
ILS-00986 "VPL-3200B Series Residential Vertical Platform Lift Technical Specification"



UNITS WITH 90°/ADJACENT EXIT PLATFORM WITH PLATFORM GATE

UNENCLOSED 90°/ADJACENT EXIT PLATFORM WITH PLATFORM GATE-PIT APPLICATION

VPL-3100/VPL-3200B SERIES VERTICAL PLATFORM LIFT



	D	E	G
48" PLATFORM	5.78	49.95	87.18
54" PLATFORM	8.78	55.95	93.18
60" PLATFORM	11.78	61.95	99.18

TECHNICAL DATA/SPECIFICATIONS

RATED LOAD: 750 lbs maximum.

INPUT POWER SOURCE:
 -AC POWERED UNIT: 110-120 Volt 15 Amp 60 Hz dedicated service.
 -DC BATTERY POWERED UNIT: 110-120 Volt 3 Amp 60 Hz battery charger.

DRIVE:
 -AC POWERED UNIT: 1 hp motor, 1750 rpm, single phase, 120 VAC; 1.15 service factor, continuous duty.
 -DC BATTERY POWERED UNIT: VPL-3100B: 1/2 hp motor, 1750 rpm, 24 VDC, continuous duty.
 VPL-3200B: 1 hp motor, 1750 rpm, 24 VDC, continuous duty.
 Dual 4L style Poly-V belts and pulleys. 3.94:1 pulley reduction.

INTERMEDIATE REDUCTION:
 FINAL DRIVE: VPL-3100: 1" dia. ACME screw w/bronze nut and bronze safety back up nut.
 VPL-3200B: 1.25" dia. ACME screw w/bronze nut and bronze safety back up nut.

MOTOR CONTROLLER:
 -AC POWERED UNIT: 24 VAC Relay control.
 -DC BATTERY POWERED UNIT: 24 VDC Relay control.

SPEED:
 -AC POWERED UNIT: 9 feet per minute maximum.
 -DC BATTERY POWERED UNIT: 10 feet per minute maximum.

For complete technical specifications please see
ILS-00834 "VPL-3100 Series Residential Vertical Platform Lift Technical Specification"
ILS-00986 "VPL-3200B Series Residential Vertical Platform Lift Technical Specification"

PERFORMANCE STANDARDS

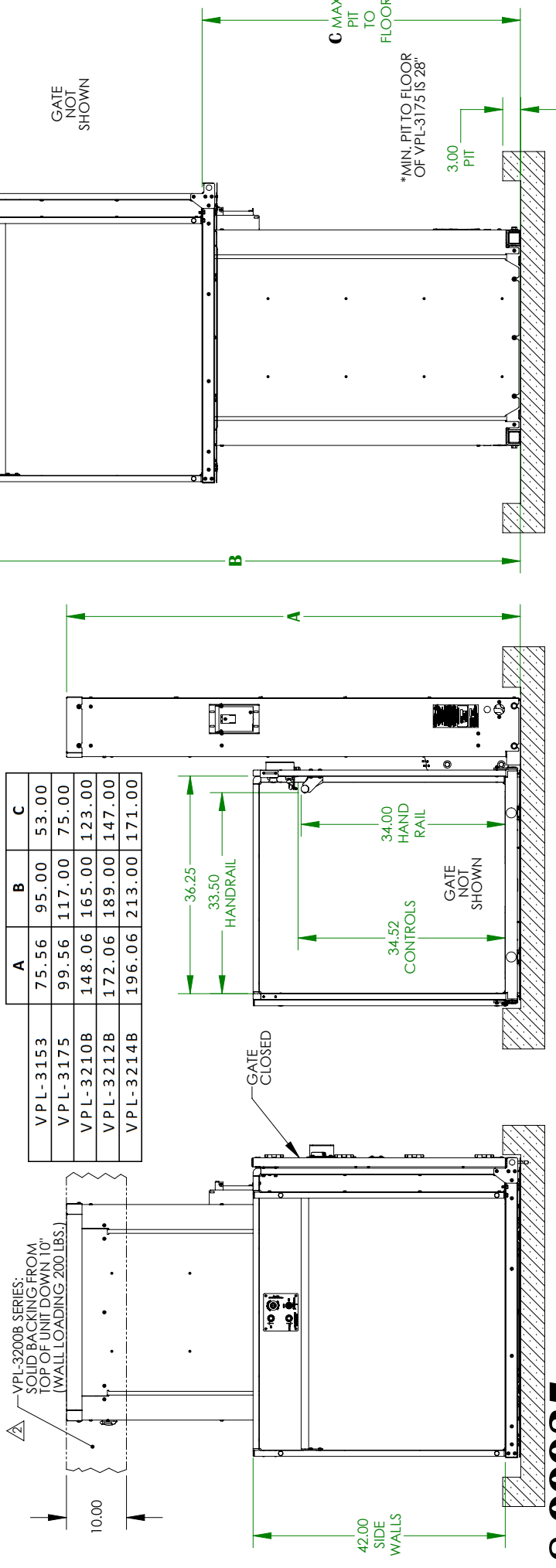
USA FOOD & DRUG ADMINISTRATION: None

ANSI/ASME: A18.1-2008 Section 5 Safety Standards for Platform lifts and Stairway Chairlifts

CSA B613-00 (JAN 2002) Private Residence Lifts for Persons with Physical Disabilities

ANSI/ASME: CSA B44.1-04/ASME-A17.5-2004 Elevator and Escalator Electrical Equipment

	A	B	C
VPL-3153	75.56	95.00	53.00
VPL-3175	99.56	117.00	75.00
VPL-3210B	148.06	165.00	123.00
VPL-3212B	172.06	189.00	147.00
VPL-3214B	196.06	213.00	171.00



UNENCLOSED 90 ° /ADJACENT EXIT PLATFORM WITH PLATFORM GATE-PIT APPLICATION

VPL-3100/VPL-3200B SERIES VERTICAL PLATFORM LIFT

ANCHOR POINT LOCATIONS/PIT DETAIL

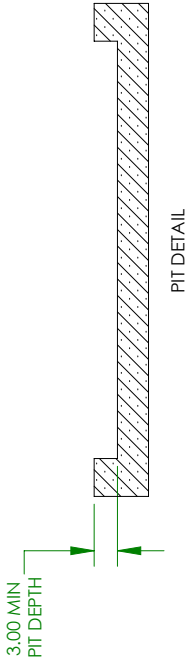
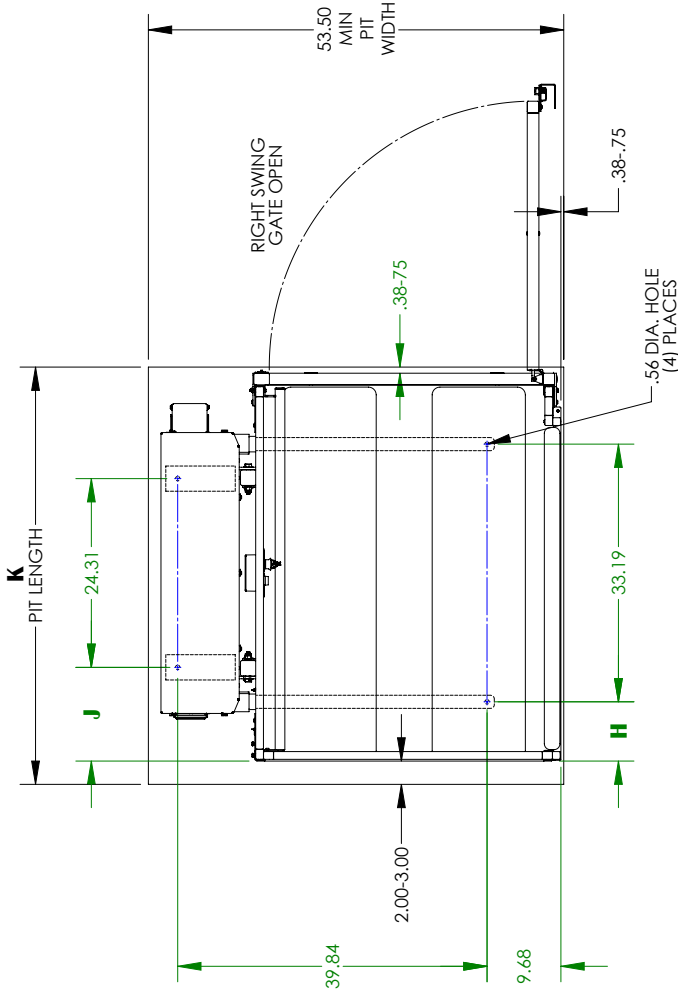
	H	J	K
48" PLATFORM	7.63	12.07	52.38 - 53.75
54" PLATFORM	10.63	15.07	58.38 - 59.75
60" PLATFORM	13.63	18.07	64.38 - 65.75

TECHNICAL SPECIFICATIONS

FLOOR ATTACHMENT:
VPL MUST BE FASTENED TO CONCRETE SLAB USING FOUR (4) 1/2" (3/8" BOLT)
X MINIMUM 2-1/2" LONG CONCRETE ANCHORS SUITABLE FOR THE ENVIRONMENT.
FOLLOW SELECTED CONCRETE ANCHOR MANUFACTURERS GUIDELINES AND
APPLICABLE CODES.

FLOOR REQUIREMENTS:
4" THICK 3500 PSI MINIMUM COMPRESSIVE STRENGTH, REINFORCED CONCRETE SLAB.

For complete technical specification please see
ILS-00834 "VPL-3100 Series Residential Vertical Platform Lift Technical Specification"
ILS-00986 "VPL-3200B Series Residential Vertical Platform Lift Technical Specification"

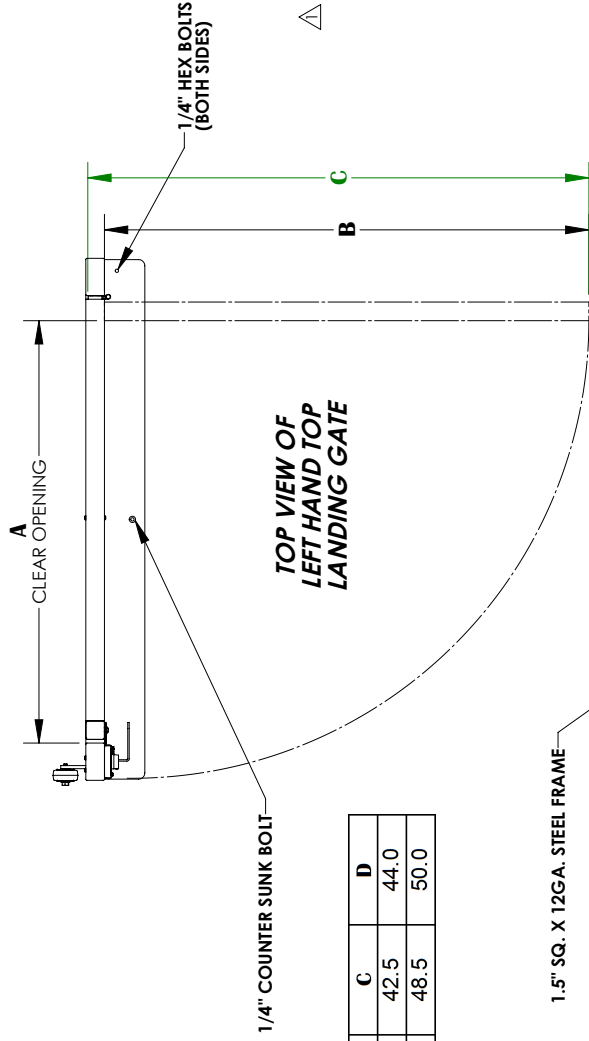


UNITS WITH 90 ° /ADJACENT EXIT PLATFORM WITH PLATFORM GATE
(PIT APPLICATION)

LANDING GATE DETAIL

VPL-3100 SERIES VERTICAL PLATFORM LIFT

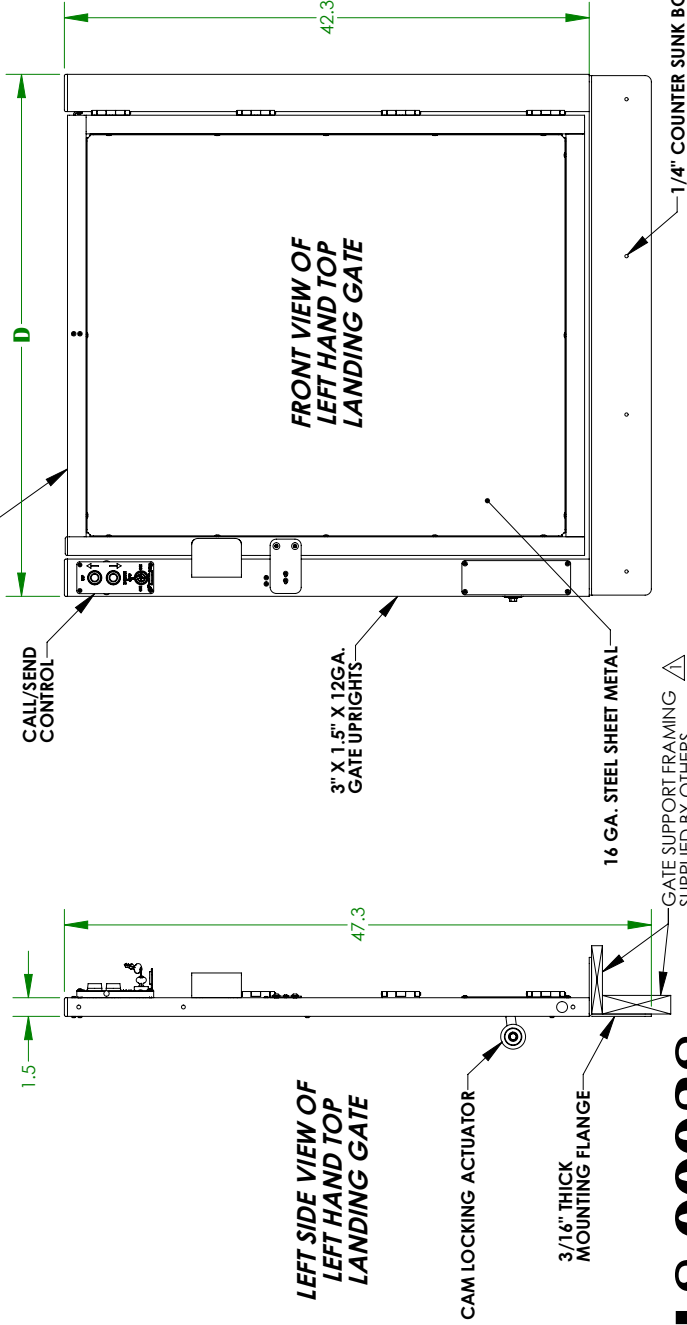
(VIEWED AT TOP LANDING)



NOTE:
(2) 11 GA INSTALLATION BRACKETS
ARE SUPPLIED FOR MOUNTING TO
SUPPORT STRUCTURE.

	A	B	C	D
36" GATE	36.0	40.5	42.5	44.0
42" GATE	42.0	46.5	48.5	50.0

1.5" SQ. X 12GA. STEEL FRAME



LEFT SIDE VIEW OF LEFT HAND TOP LANDING GATE

RIGHT SIDE VIEW OF LEFT HAND TOP LANDING GATE

ILS-00938
SHEET 1 OF 3
REV. 1 (4616)(11/23/10)(MFD)

GATE SUPPORT FRAMING
SUPPLIED BY OTHERS
NOTE: MUST BE CAPABLE OF WITHSTANDING A 200 LBS
CONCENTRATED LOAD IN ALL DIRECTIONS.

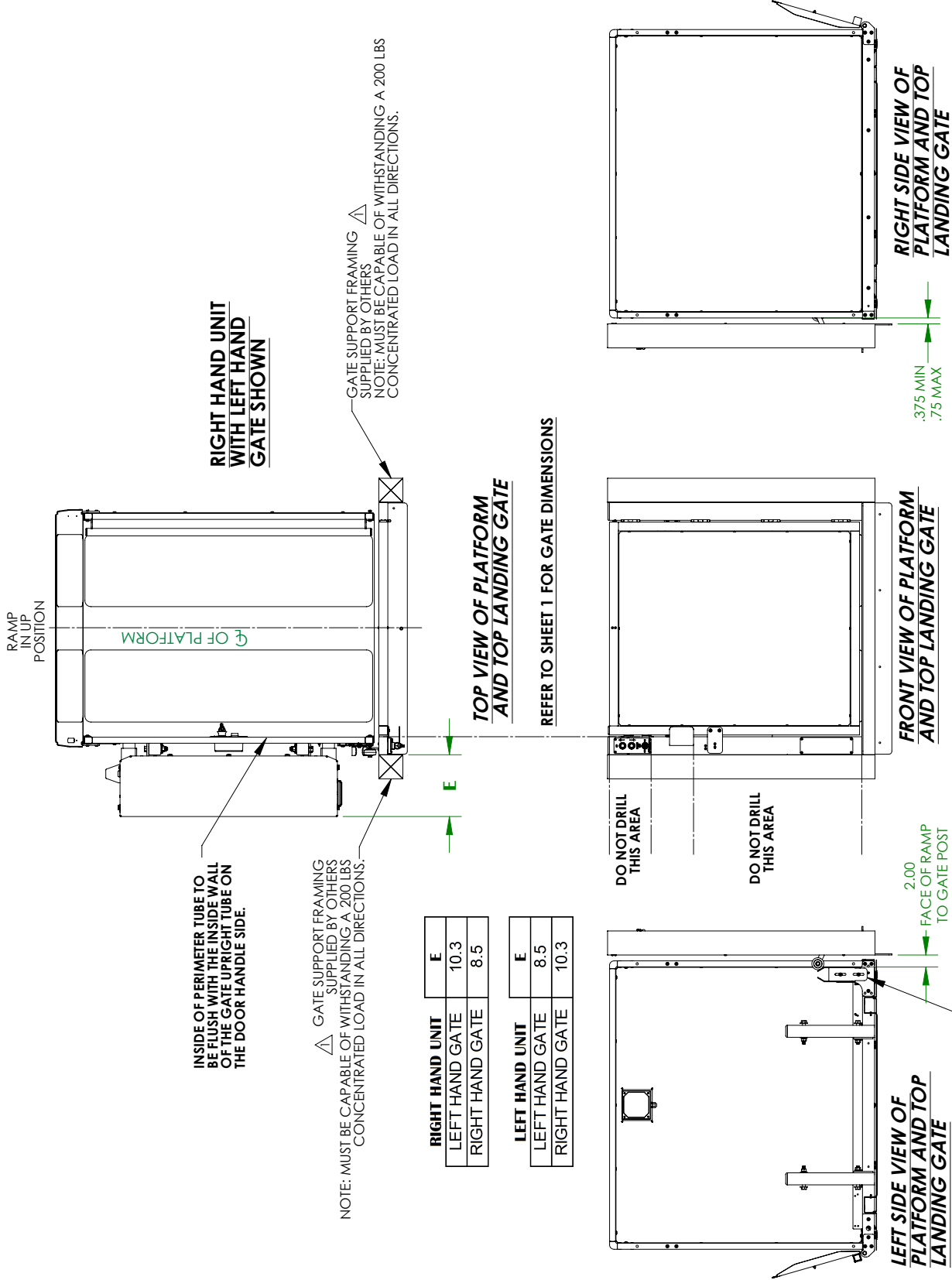
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LANDING GATE ALIGNMENT - STRAIGHT THROUGH PLATFORM

VPL-3100 SERIES VERTICAL PLATFORM LIFT

(VIEWED AT TOP LANDING)



ILS-00938
SHEET 2 OF 3
REV. 1 (4616)(11/23/10)(MFD)

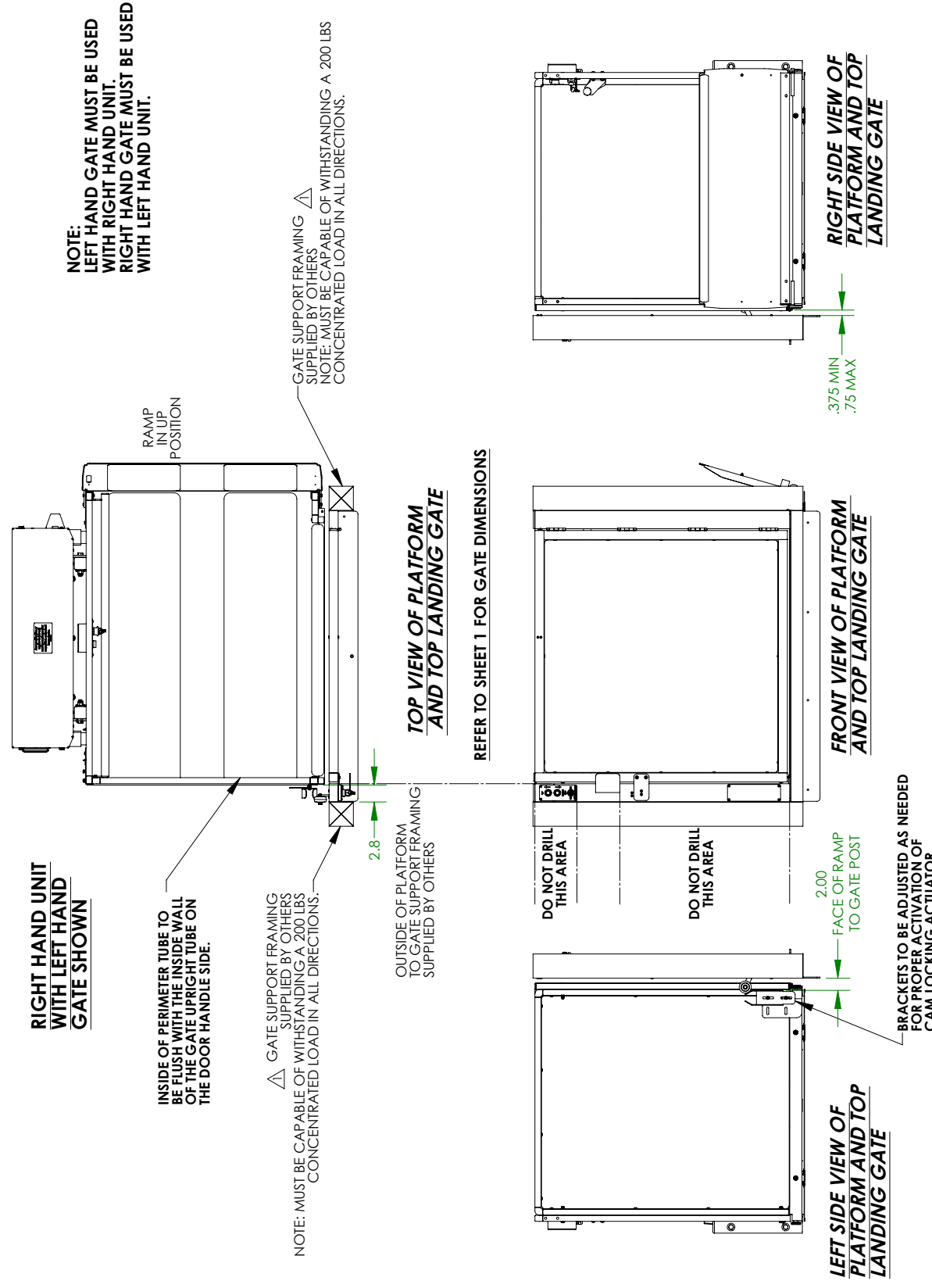
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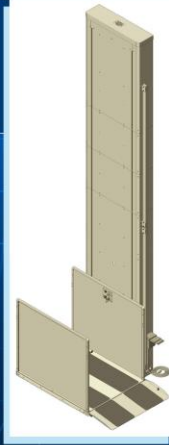
LANDING GATE ALIGNMENT - 90° / ADJACENT EXIT PLATFORM

VPL-3100 SERIES VERTICAL PLATFORM LIFT

(VIEWED AT TOP LANDING)



VPL-3100/3200 Series Installation Training



Tools & Supplies

- 1/2" dia. x 3" lg. Masonry Anchors
- Sawzall® or Similar Reciprocating Saw
- Circular Saw
- Straight and Phillips Screwdrivers (or Bits)
- Combination Wrench Sets (SAE)
- Allen Wrench Set (SAE)
- Socket Wrench Set (SAE)
- Level (4-foot) or Inclinometer
- Torque Wrench (20 lb.-ft to 133 lb.-ft)
Low-Profile, Open-End Wrench Style Preferred
- Four Wheeled Skate Dolly
- Shop Vac

Tools & Supplies *(Continued)*

- Volt/Ohm Meter and Probes
- Wire Stripper
- Crimping Tool
- Tape Measure
- Pry Bar
- Hammer and Mallets
- Extension Cord for Power Tools (50' Minimum)
- Vise-Grips®
- Appliance Dolly
- Hammer Drill
- Masonry Bits, 1/2" and 3/8"
- Reversible Drill, 3/8", and bits
- File
- Hammer Drill, 1/2" for Concrete Fasteners

Delivery

VPL-3175/VPL-3175B

- Shipped laying flat on skid
- Platform attached and one side off

VPL-3153/VPL-3153B

- Shipped with platform bolted to machine housing
- Unit is upright and bolted to the skid

Moving Unit to Site

- *On or off skid?*
- *Appliance dolly?*
 - *Cinch strap?*
- *Skate dollies?*
- *On back or upright?*
- *Pipes?*
- *Platform and legs removed?*

To Remove from Skid:

AC Version/DC Version

- You will need either manual hand crank or 120v power source to run unit
- Connect the AC plug to a 15amp power source
- Insert the key switch and turn to the on position

DC Version Only

- Push Circuit Breaker In

DC Version Only

- Connect white charger lead

AC/DC Versions

- Run unit in up direction to gain access to (4) bolts securing unit to skid
- Remove all (4) bolts using 9/16" socket and wrench

- Disconnect 120v Cord

- Slide unit off skid, close to final position

- Check machine for "Plumb" in both directions
 - *Shim if necessary*

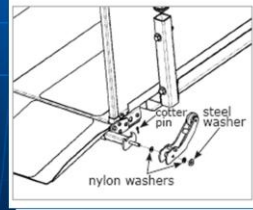
Left/Right Installation

- Switch 120v Wiring and/or Gate Harness
- Ramp Reversal
 - Remove 4 Screws Retaining Vertical Bar and Reinstall on Opposite Side

Note: VPL-3153/VPL-3153B
Shipped with Ramp Installed

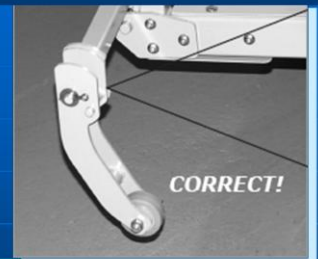
Ramp Reversal

- Remove 1-1/4" (32mm) black square plastic cap from end of ramp tube
- On actuator wheel end, remove cotter pin
- Remove (2) washers (1 steel, 1 nylon) on outside of actuator wheel bracket

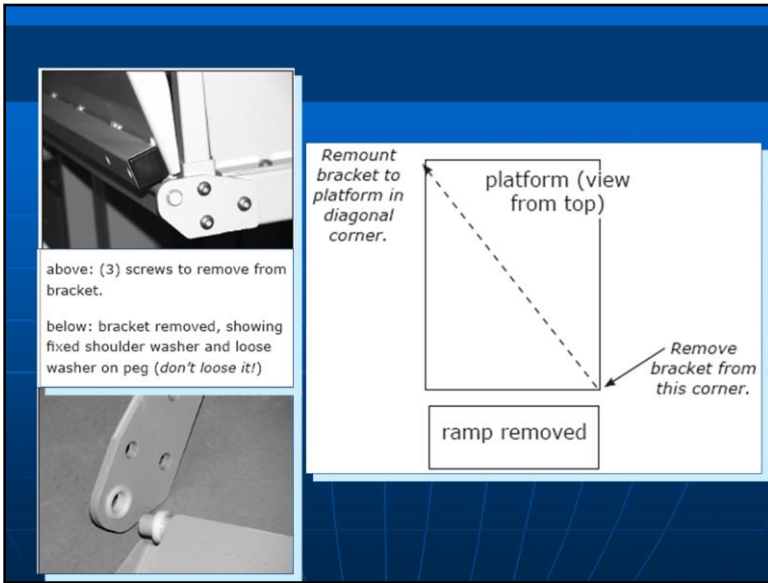


- Remove entire actuator wheel/bracket
- Remove second (*inside*) nylon washer
- Remove (2) screws securing ramp tube
- Remove ramp tube

- Reverse process for opposite side of ramp



NOTE: Orientation is important! Make sure wheel is mounted as shown



Gate Installation

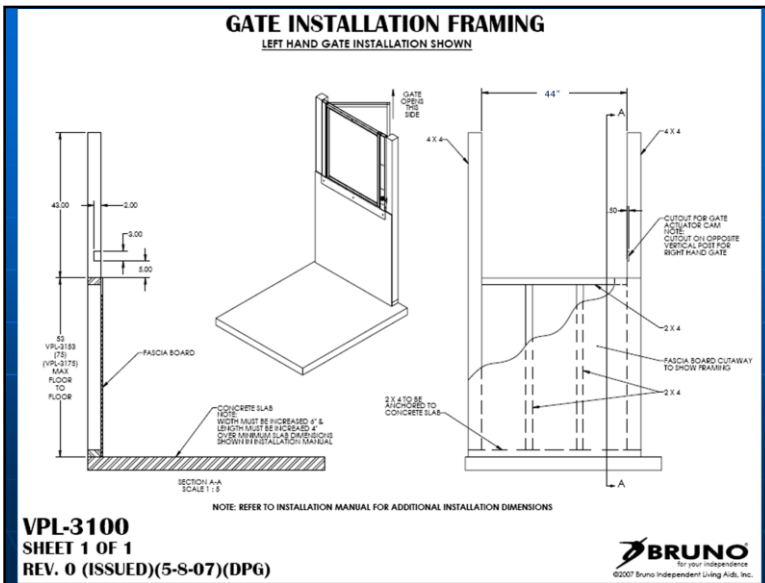
If using Bruno gate, install It now

Gate opening was set-up during "Pre-site"

- Install gate so it is "Plumb" in both directions

Gate opening was not set-up

- Move machine into position so gate can be centered on platform opening



Gate Installation *(Continued)*

- Before fastening gate to landing, determine where gate wires will be routed
- If routed out of bottom of gate, drill a hole that corresponds to gate post wire opening
- Run harness from machine through hole or chase and into gate

NOTE: No wire harnesses should run across between fascia and platform

- Fasten gate to upper landing
- Tie gate post to railing so gate does not sag - angle brackets provided
- Additional hardware and/or angle brackets may be necessary

Machine Placement

- If not already in position, move lift so running clearance between platform and fascia is 3/8" to 3/4"
- Run platform up to top landing, making sure running clearance stays consistent (*Limits are not set at this time*)
- If necessary, shim machine under legs to make machine plumb

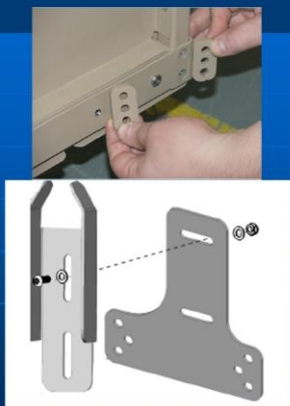
Fastening and Setting Limits

- Fasten machine to concrete using (4) 3/8" x 3" concrete fasteners
- Measure floor to floor distance
- Setting tape measure inside machine, mark floor to floor distance on limit rail
- Loosen limit switch bracket and slide switch assembly down so normal limit switch aligns with mark
- Run machine to top landing and check platform for level with landing - adjust if necessary

- Mount gate roller actuator to roller Interlock Shaft through slot in gate frame



- Loosely mount two-piece adjustable gate actuator to platform



- Run platform up to top landing, adjust cam to meet roller
Important: Cam cannot hit Roller until platform is within 1.5" of Upper Landing - If not properly adjusted, unit will stop when it unlocks



Test Unit for Safe Operation

Unit Should:

- Not run with gate open
- Not move more than 2" with gate unlocked
- Stop in down direction with Under Panel engaged
- Stop in all directions when Emergency Stop Switch is engaged

After Adjusting Cam



measure from
top of landing
to top of square
tube (platform)

VPL-3200B

■ Additional tools needed

- Hoist (chain or electric)
- Lifting harness (option available from Bruno)
- $\frac{3}{4}$ " Flex Gear Wrench for securing top half of tower to bottom half of tower



- $\frac{3}{16}$ " hex key socket for $\frac{3}{8}$ " drive

- *For any unit to be installed in a hoistway:*

- *Confirm that installation will include a flush-mounted door (if allowed by local codes)*

- *If door will not be flush mounted, installer MUST mount 60° (from horizontal) deflector shield on door*

Before you begin installation:

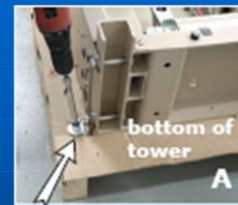
- Verify that walls and floors are level. ***They may not be more than 1/8" out of plumb***
- Verify hoistway clearances, finished openings for gates and doors, overhead clearances and electrical layout
- If using a hoist (chain or electric), its support structure must be capable of lifting rated weights indicated on specifications table in manual
- Locate and eliminate possible pinch points

UNCRATING

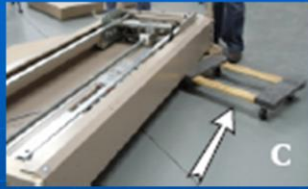
- Carefully separate top half of tower, plus parts boxes, from bottom half of tower
- Save 4' x 9' plywood panel included as part of crate structure. It will be used during installation

Uncrate the bottom half of the tower:

- At bottom of tower: remove (1) bolt from each side
- At top of tower: loosen but leave bracket and bolt in place
- Do not mount legs to unit at this time. *You will do this once the unit is in the shaftway*



- Position *bottom half of the tower in shaftway*



- Using *skate dollies (at bottom of tower) and (3) hooks (attached to top of tower)*, move *bottom half of tower into shaftway*



- While suspended from hoist, turn this section 90° (installation position)
- Carefully lower bottom tower section to ground
- Position this section so that there is a minimum gap of 1/2" (13 mm) between the back of tower and wall for cover installation



- Mount legs to lower tower section and fully tighten leg bolts
 - Legs are shipped separately but leg hardware is shipped in tower
- Position lower tower close to final position
- Check for level and shim if necessary

- Remove and discard:
 - top shipping/hoisting plate (Fig. F)

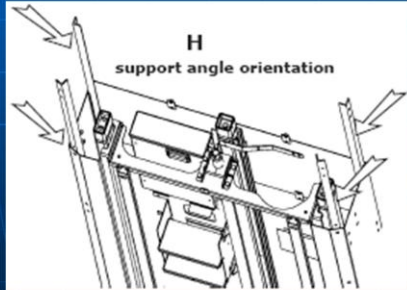


- (2) ***yellow shipping bars inside tower***

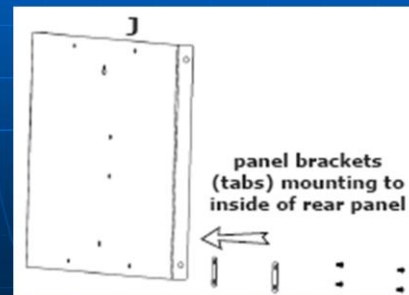


PREPARE TO MOUNT TOP SECTION

- Install (4) angle panel supports
- Note orientation of angles



Mount (2) panel brackets
(rectangular tabs) to SHORT
back cover to be installed next



- Mount SHORT back cover (plus tabs) to cover below it
- **Mount remaining back and side covers**
- *Number of each type of cover will vary depending upon height of lift being installed*
- *Make sure all seams and cover corner joints are flush*



- Place 4'x9" sheet of plywood saved from shipping crate against bottom half of tower

- Plywood will protect bottom half while hoisting top half into position



• Insert screw eyes (provided) into top of upper half

• **Two washers on top and two washers on bottom!**

• Attach (2) hoisting hooks to screw eyes on top of unit

• Using hoist, lift top section slightly above bottom section



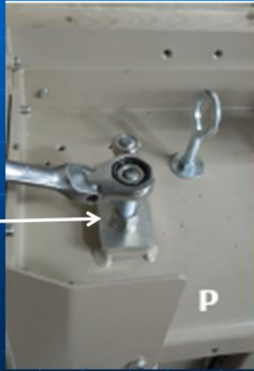
• Carefully lower top half onto bottom half aligning support tubes and drive screw



• Make sure **red marks on each half of screw align**

- Using flex gear wrench, secure top half to bottom half by tightening (4) bolts (2 on each side)

Loosen Jam nut →



- Go from side to side, first tightening top nut until drive screw and tower tubes are tight and flush
- Then tighten lower jam nut on each of (4) bolts



DOWEL INSERTION IN DRIVE SCREW

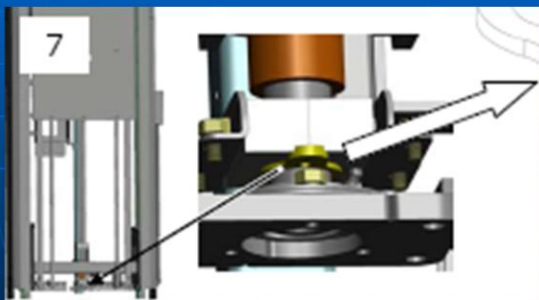
- Align marks on drive screw when putting them together
- Clean holes of any grease using cotton swab provided
- **You MUST apply supplied Loctite®648 to dowel pins**



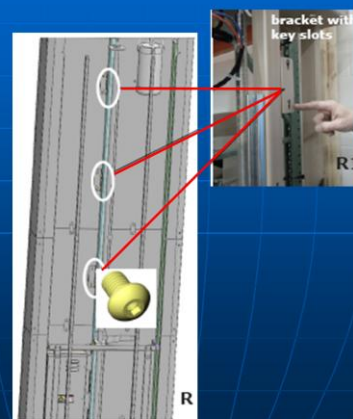
- Using a soft tip hammer, tap dowel pins into holes
- Using supplied dowel insertion tool, tap pins to depth controlled by tool
- Wipe off any Loctite remaining on drive screw
- Check depth of dowel pins
- Make sure they are not protruding into threads of drive screw



Remove yellow spacer on
bottom of drive screw



Insert button head screws through
key slots and into **back covers of
top tower**



WIRING

- Cut wire tie securing wire harnesses
- Connect Motor leads at tower joint



- Route limit switch harness and bracket assembly to top of tower
- Secure limit switch bracket assembly in channel at *approximate lifting height*

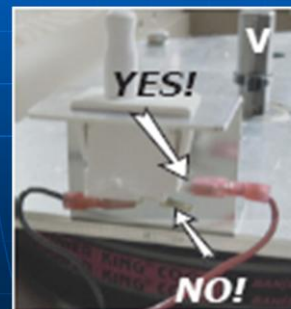


- Secure excess cabling to two brackets



- Route leads to top cover safety switch (top of tower), connect leads as shown

•Pay attention to tab location!



Connect battery charger to top battery
(white connector)

• ***Red power LED should flash***

• Plug in AC power cord

• Battery charger should initialize and
begin charging

• When you are ready to run unit, turn on
circuit breaker/disconnect switch

• Use rocker test switch assembly
(provided in a kit) to manually run unit

PLATFORM

• Center tower in hoistway

• Make sure tower is level

• Place a level vertically against side of tower
to confirm
• Shim if necessary

• Remove both platform walls

• Lay platform on a skate dolly

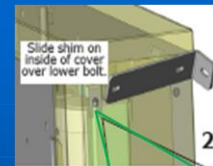
• Use dolly to roll platform to tower and over legs,
into position for installation

• Use jumper to power tower to correct position
for platform mounting

- Mount the platform to the tower by inserting the (4) bolts and nuts
- Connect the underpanel harnesses
- DO NOT connect the other wires at this time



- Power platform through its entire range of operation and verify clearances on both sides of hoistway
- **Acceptable clearance = 3/8" to 3/4" (10 to 19 mm)**
- Mount bracket to each top side cover
- Install shim in each bracket
- Secure tower to the wall by inserting provided hardware through these (2) top brackets



Final Adjustments

- Adjust upper limit switch assembly to match upper floor level
- If an upper gate is installed, temporarily install gate actuator cam and adjust as necessary
- Once cam is adjusted, remove for later installation
- Reinstall platform walls
- Reinstall gate actuator cam
- Finish electrical connections to interlocks, manual lowering switch, and call controls

FRONT COVERS

Attach bottom sections (A/B) of the telescoping poles (section with NO angled tips) to the bottom cover panel (A1)

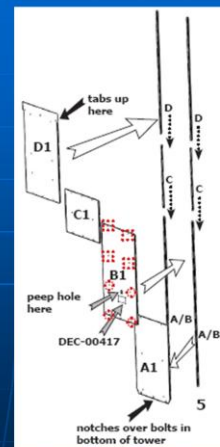
Slide the bottom cover (A1) over the bolts in the bottom of the tower

Mount (1) tab to the bottom of panel (B1) (with peep hole)

Slide panel (B1) into position on top of panel A1. Insert and tighten hardware where indicated by

Slide the sections of pole (C) into sections (A/B)

Line up the threaded holes in each pole, insert and tighten hardware



Slide the ***angled tip of pole sections (D)***
onto sections (C)

Line up the threaded holes in each pole

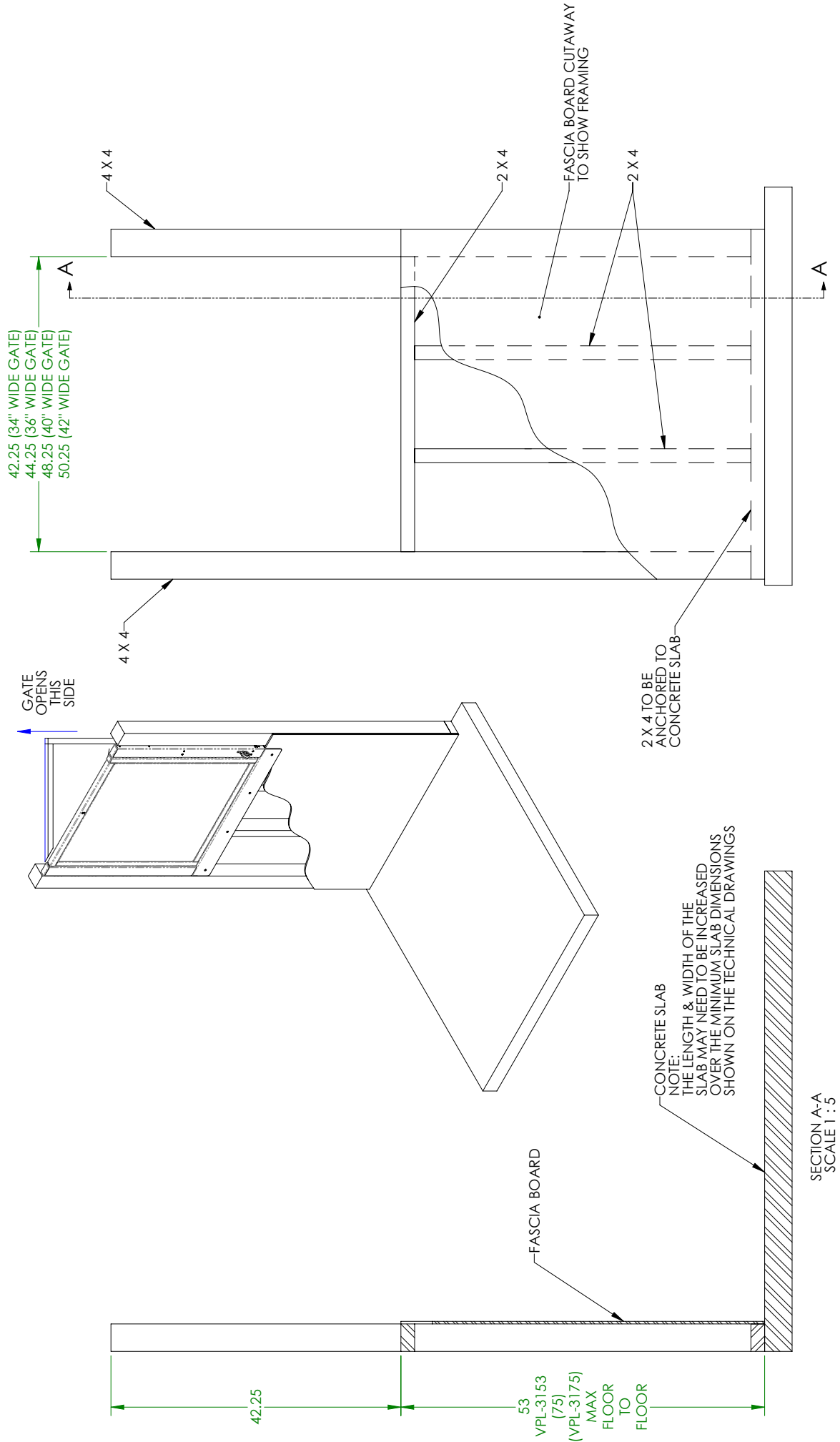
Mount a tab to the bottom of panel D1, then
slide this panel into place on top of C1 and
secure to pole sections D

Mount the top cover

NOTE: The notched side of the cover mounts to
the rear of the unit

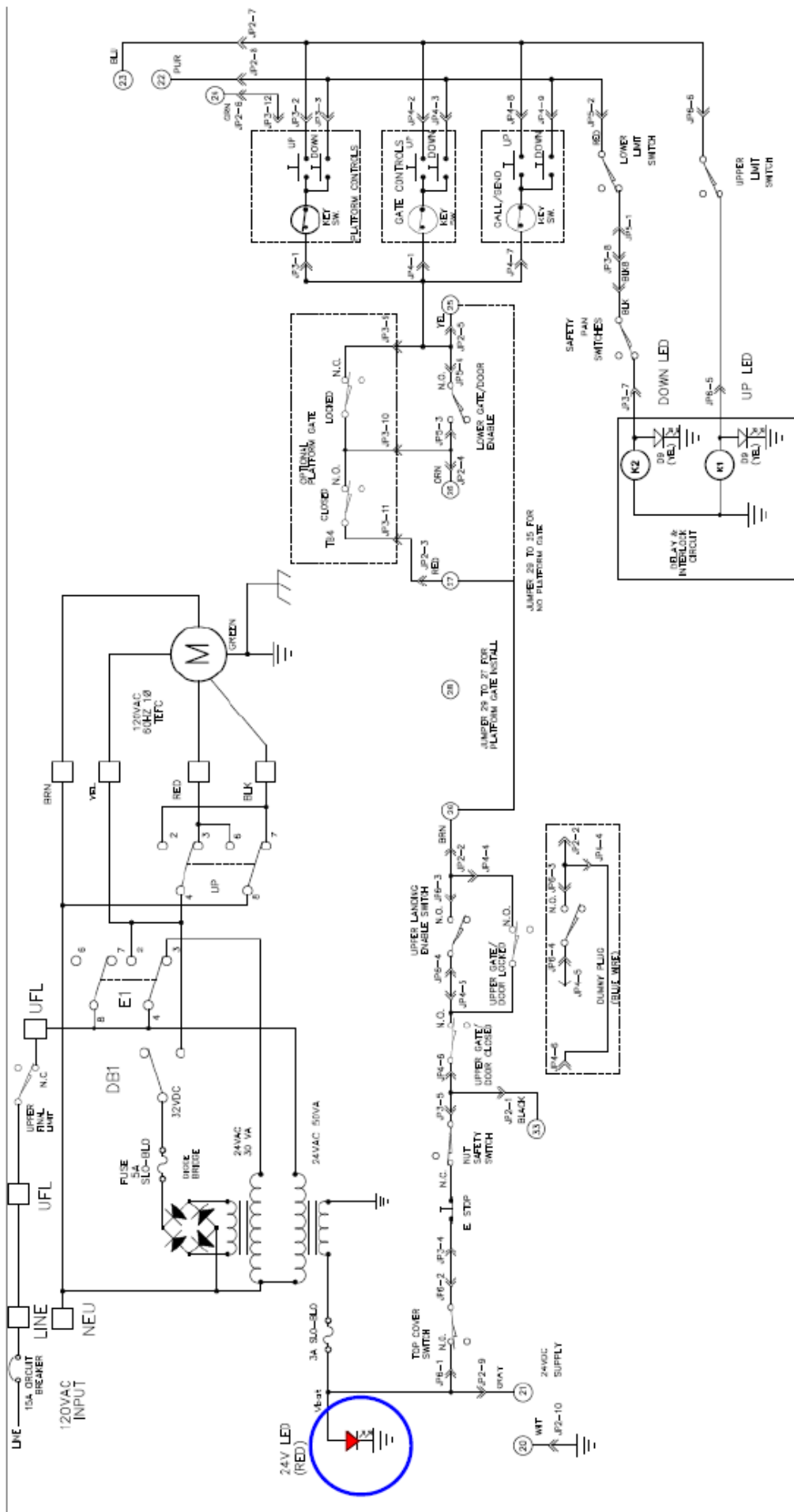
GATE INSTALLATION FRAMING

LEFT HAND GATE INSTALLATION SHOWN



NOTE: ALL FRAMING MUST BE CAPABLE OF WITHSTANDING A 200 LBS CONCENTRATED LOAD IN ALL DIRECTIONS. REFER TO THE TECHNICAL DRAWINGS FOR ADDITIONAL INSTALLATION DIMENSIONS.

ILS-00804
SHEET 1 OF 1
REV. 2 (4616)(11/23/10)(MFD)



BRUNO
Serving Industry Since 1980

1780 EXECUTIVE DRIVE, P.O. BOX 84
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FAX (262) 925-5504

Free quote by fax or e-mail: info@bruno.com
800.845.4674 or 800.845.4675

Model: 1000
Part: 1000
Rev: 1.0
Date: 5/9/92

LOW RISE AC VPL - LADDER LOGIC

Part: 1000
Rev: 1.0
Date: 5/9/92

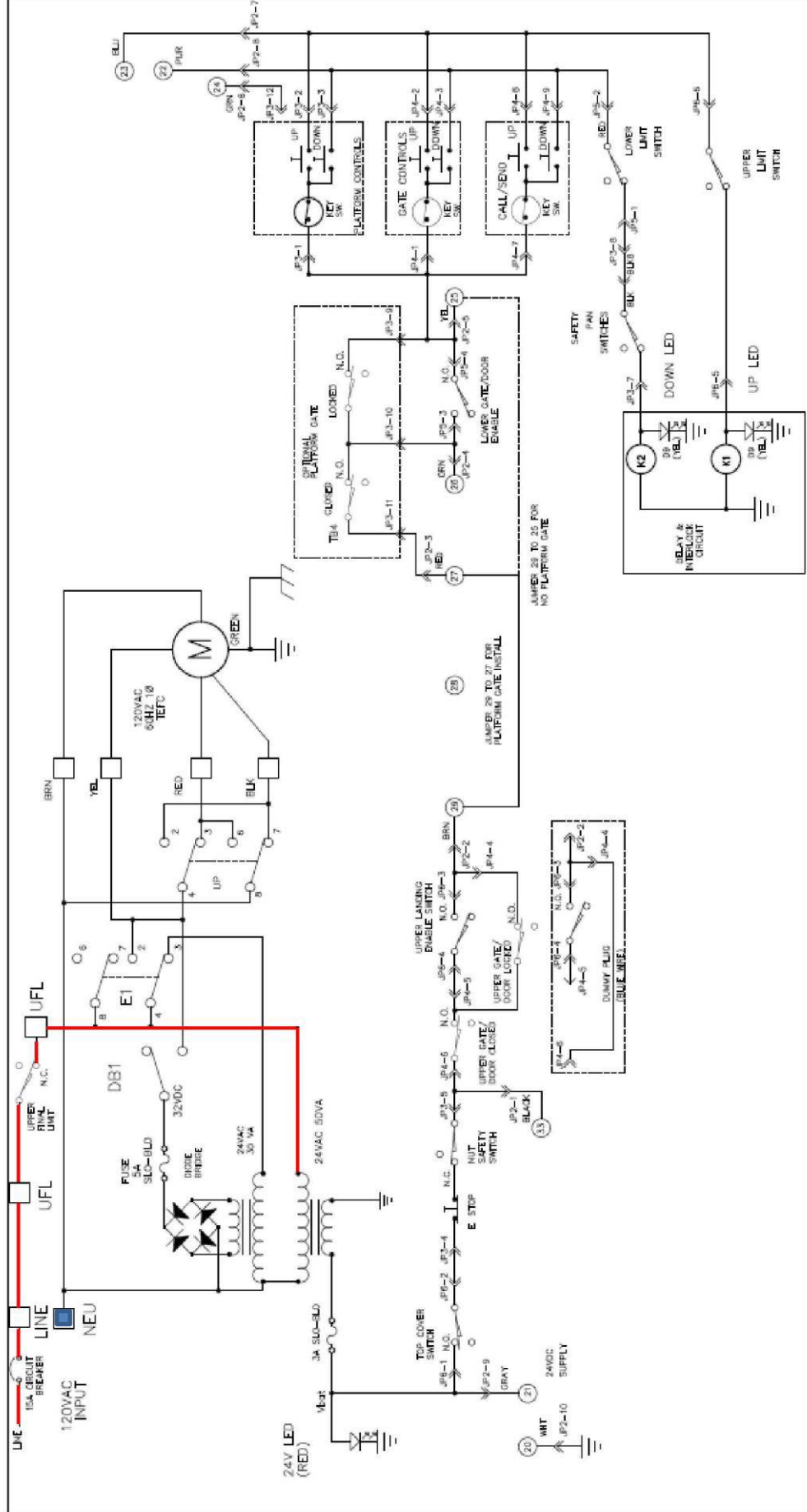
Part: 1000
Rev: 1.0
Date: 5/9/92

Rev	Rev	Rev	Rev
1.0	1.0	1.0	1.0
1.0	1.0	1.0	1.0
1.0	1.0	1.0	1.0



 SINGLE ROW CONNECTOR
 (20) TERMINAL STRIP (TB7)
 1/4" Q.C. TAB

[illegible]



- NOTES:
1. IF NO GATES OR INTERLOCKS (STD): JUMPER TERMINAL 25 TO 33
 2. UPPER LANDING GATE OR INTERLOCK: JUMPER TERMINAL 25 TO 29
 3. TERMINATIONS:
 - JP2 - EXPANSION
 - JP3 - PLATFORM CONTROLS
 - JP4 - GATE/CALL/SEND
 - JP5 - LOWER LIMITS
 - JP6 - UPPER LIMITS/COVER SW
 - JP7 - TERMINAL BLOCK (20-33)

- LEGEND:
- JP4-10 SINGLE ROW CONNECTOR
 - 20 TERMINAL STRIP (TB7)
 - 1/4" Q.C. TAB

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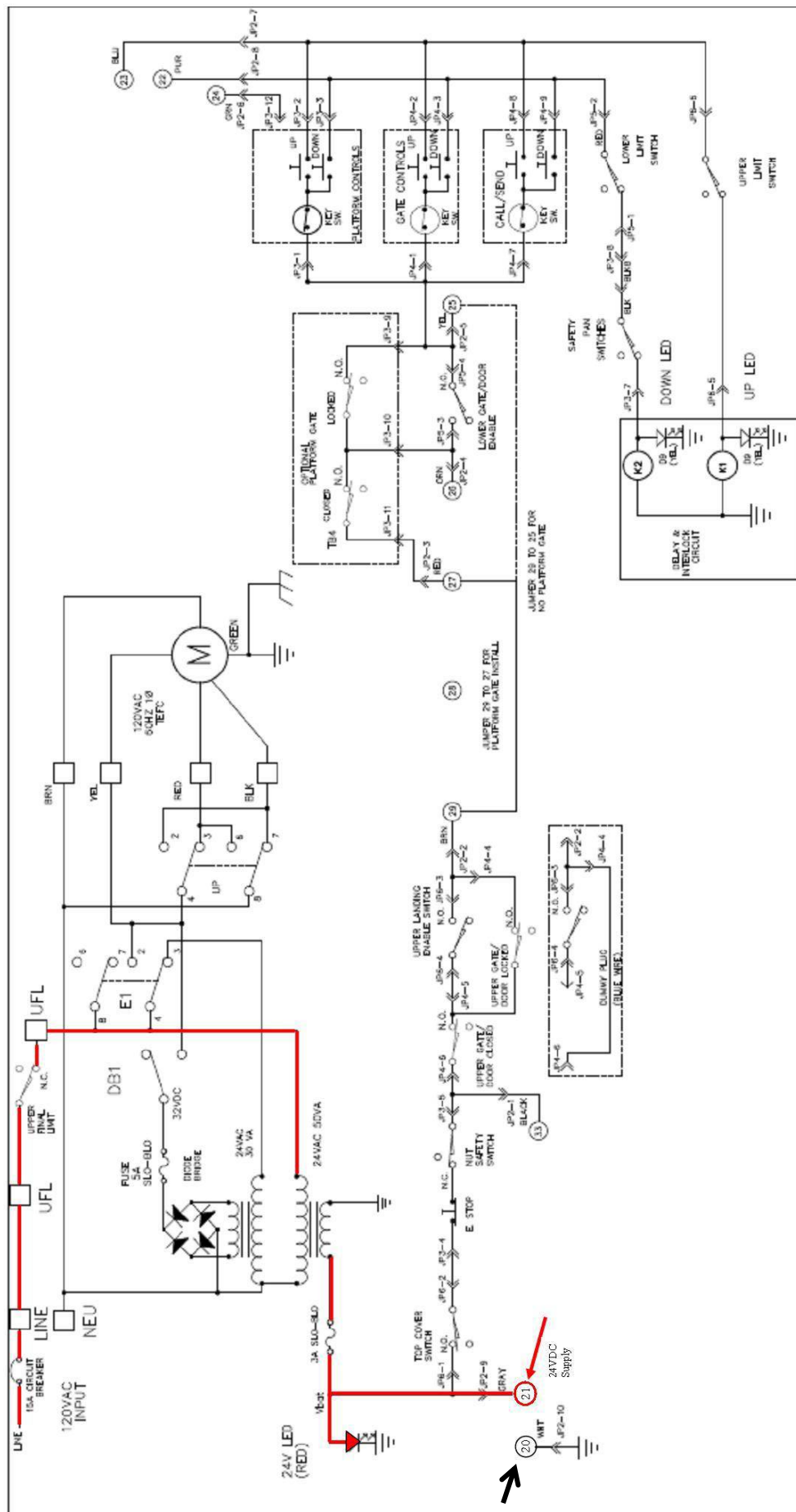
LOW RISE AC VPL - LADDER LOGIC

Rev: 5/31/92

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Rev	Rev	Rev	Rev
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32
33	34	35	36
37	38	39	40



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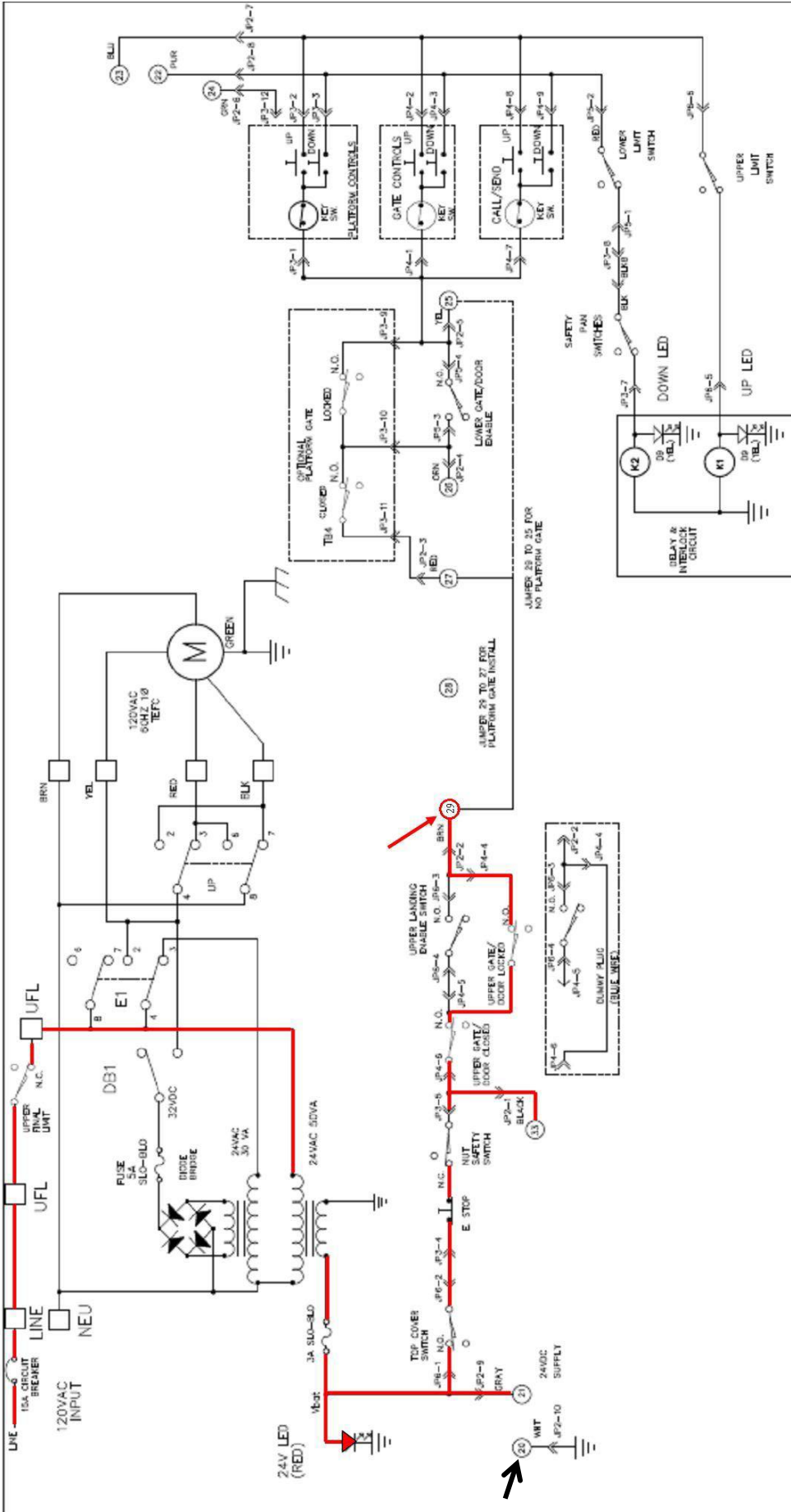
LEGEND:

- SINGLE ROW CONNECTOR
- TERMINAL STRIP (TB7)
- 1/4" Q.C. TAB

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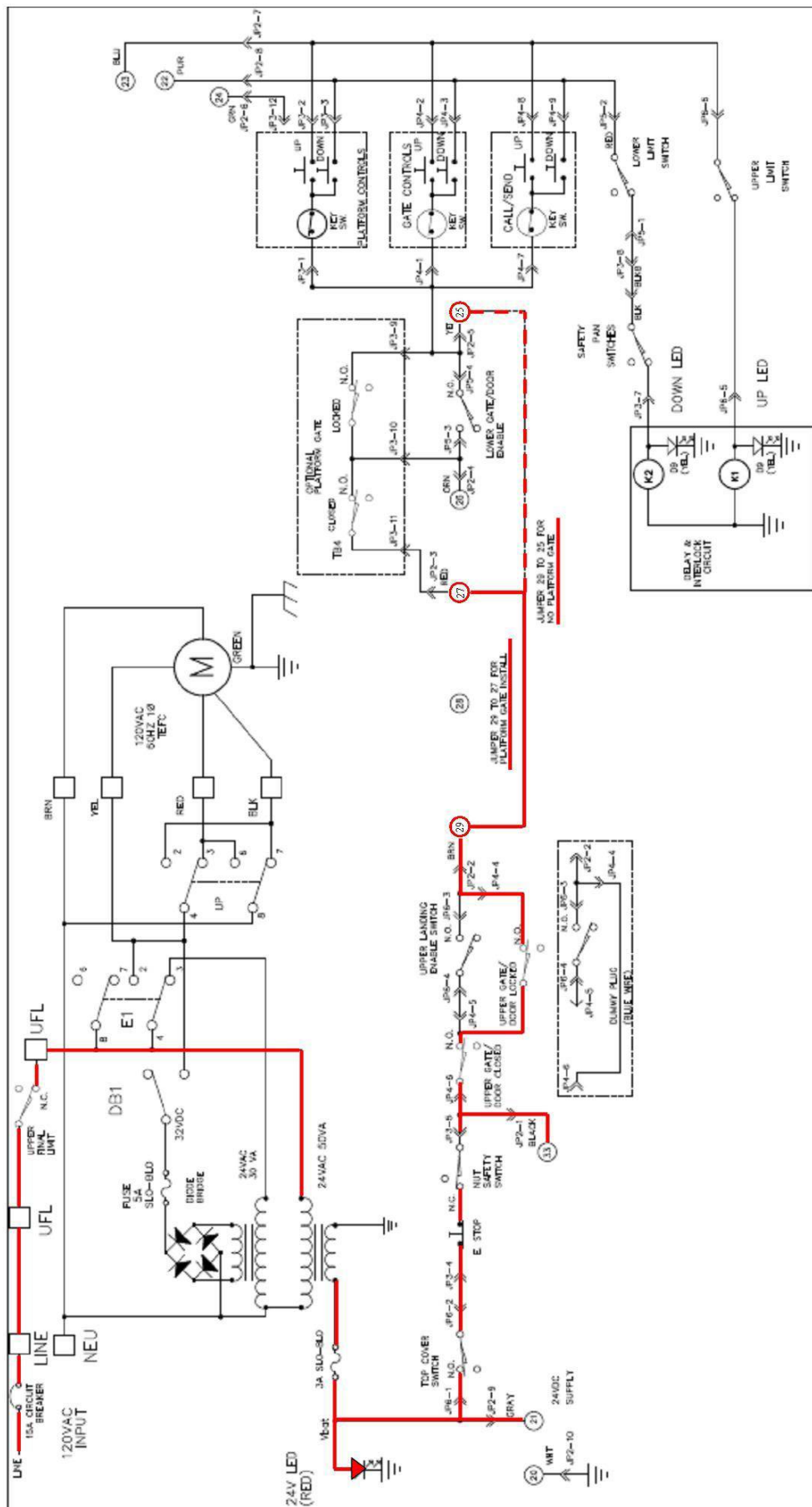
Model: 100-100
 Part: 100-100
 Date: 5/31/72
 Rev: 1
 D SCHL-00188 O

Rev	By	Date	App
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- NOTES:**
1. IF NO GATES OR INTERLOCKS (STD): JUMPER TERMINAL 25 TO 33
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 - JP5 — LOWER LIMITS
 - JP6 — UPPER LIMITS/COVER SW
 - TB7 — TERMINAL BLOCK (20-33)

BRUNO For Your Independence 1780 RESOLUTE DRIVE, P.O. BOX 84 COCONINO COUNTY, AZ 86306 (602) 927-4900 FAX (602) 953-5504		Model No. 100-100 Rev. 100-100 Date 100-100
LOW RISE AC VPL - LADDER LOGIC		Rev. 100-100 Date 100-100
Part must be used in accordance with this. Keep copies of circuit and parts.		Rev. 100-100 Date 100-100



NOTES:

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TB7 - TERMINAL BLOCK (20-33)

LEGEND:

SINGLE ROW CONNECTOR

TERMINAL STRIP (TB7)

1/4" O.C. TAB

[illegible]

1780 EXECUTIVE DRIVE, P.O. BOX 84

LOW RISE AC VPL - LADDER LOGIC

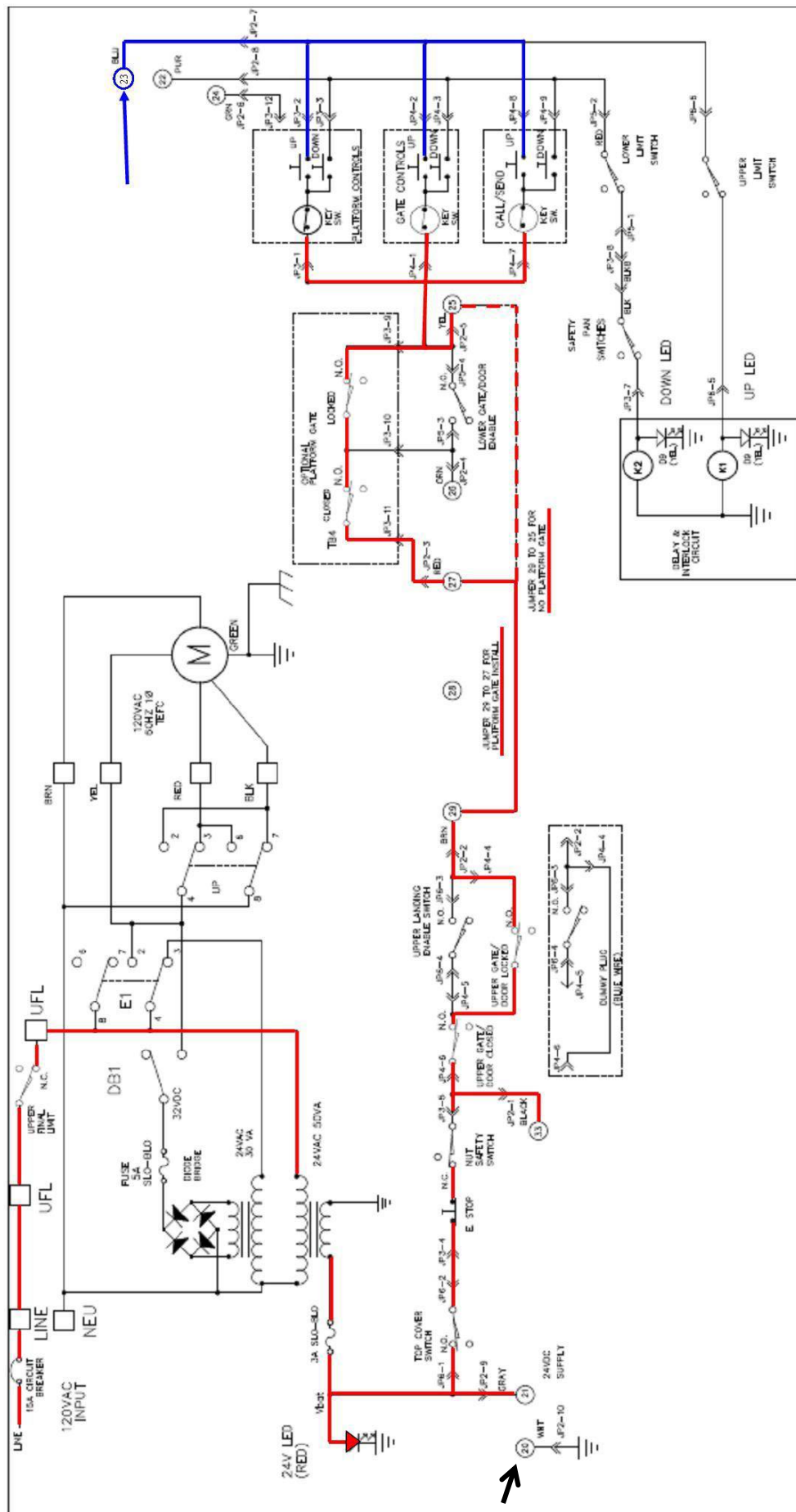
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		12/5/2012	D SCHL	001880

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JP4-10
SINGLE ROW CONNECTOR
TERMINAL STRIP (TB7)
1/4" Q.C. TAB

TABLE 1				
Year	1990	1991	1992	1993
1990	1990	1991	1992	1993
1991	1991	1992	1993	1994
1992	1992	1993	1994	1995
1993	1993	1994	1995	1996
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1997	1997	1998	1999	2000
1998	1998	1999	2000	2001
1999	1999	2000	2001	2002
2000	2000	2001	2002	2003
2001	2001	2002	2003	2004
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2003	2003	2004	2005	2006
2004	2004	2005	2006	2007
2005	2005	2006	2007	2008
2006	2006	2007	2008	2009
2007	2007	2008	2009	2010
2008	2008	2009	2010	2011
2009	2009	2010	2011	2012
2010	2010	2011	2012	2013
2011	2011	2012	2013	2014
2012	2012	2013	2014	2015
2013	2013	2014	2015	2016
2014	2014	2015	2016	2017
2015	2015	2016	2017	2018
2016	2016	2017	2018	2019
2017	2017	2018	2019	2020
2018	2018	2019	2020	2021
2019	2019	2020	2021	2022
2020	2020	2021	2022	2023
2021	2021	2022	2023	2024
2022	2022	2023	2024	2025
2023	2023	2024	2025	2026
2024	2024	2025	2026	2027
2025	2025	2026	2027	2028
2026	2026	2027	2028	2029
2027	2027	2028	2029	2030
2028	2028	2029	2030	2031
2029	2029	2030	2031	2032
2030	2030	2031	2032	2033
2031	2031	2032	2033	2034
2032	2032	2033	2034	2035
2033	2033	2034	2035	2036
2034	2034	2035	2036	2037
2035	2035	2036	2037	2038
2036	2036	2037	2038	2039
2037	2037	2038	2039	2040
2038	2038	2039	2040	2041
2039	2039	2040	2041	2042
2040	2040	2041	2042	2043
2041	2041	2042	2043	2044
2042	2042	2043	2044	2045
2043	2043	2044	2045	2046
2044	2044	2045	2046	2047
2045	2045	2046	2047	2048
2046	2046	2047	2048	2049
2047	2047	2048	2049	2050
2048	2048	2049	2050	2051
2049	2049	2050	2051	2052
2050	2050	2051	2052	2053
2051	2051	2052	2053	2054
2052	2052	2053	2054	2055
2053	2053	2054	2055	2056
2054	2054	2055	2056	2057
2055	2055	2056	2057	2058
2056	2056	2057	2058	2059
2057	2057	2058	2059	2060
2058	2058	2059	2060	2061
2059	2059	2060	2061	2062
2060	20			



NOTES:

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JP3 - PLATFORM CONTROLS
JP4 - GATE/CALL/SEND
JP5 - LOWER LIMITS
JP6 - UPPER LIMITS/COVER SW
TB7 - TERMINAL BLOCK (20-33)

LEGEND:

01-40

TERMINAL STRIP (TB7)

1/4" O.C. TAB

TABLE 1				
Year	W. G. C.	J. G. C.	J. G. C.	J. G. C.
1970				
1971				
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1780 EXECUTIVE DRIVE, P.O. BOX 84
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1990年11月

0.000 ± 0.000
0.000 ± 0.000
0.000 ± 0.000

LOW PRICE

2007

1000	1000
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CPK	10.5/3
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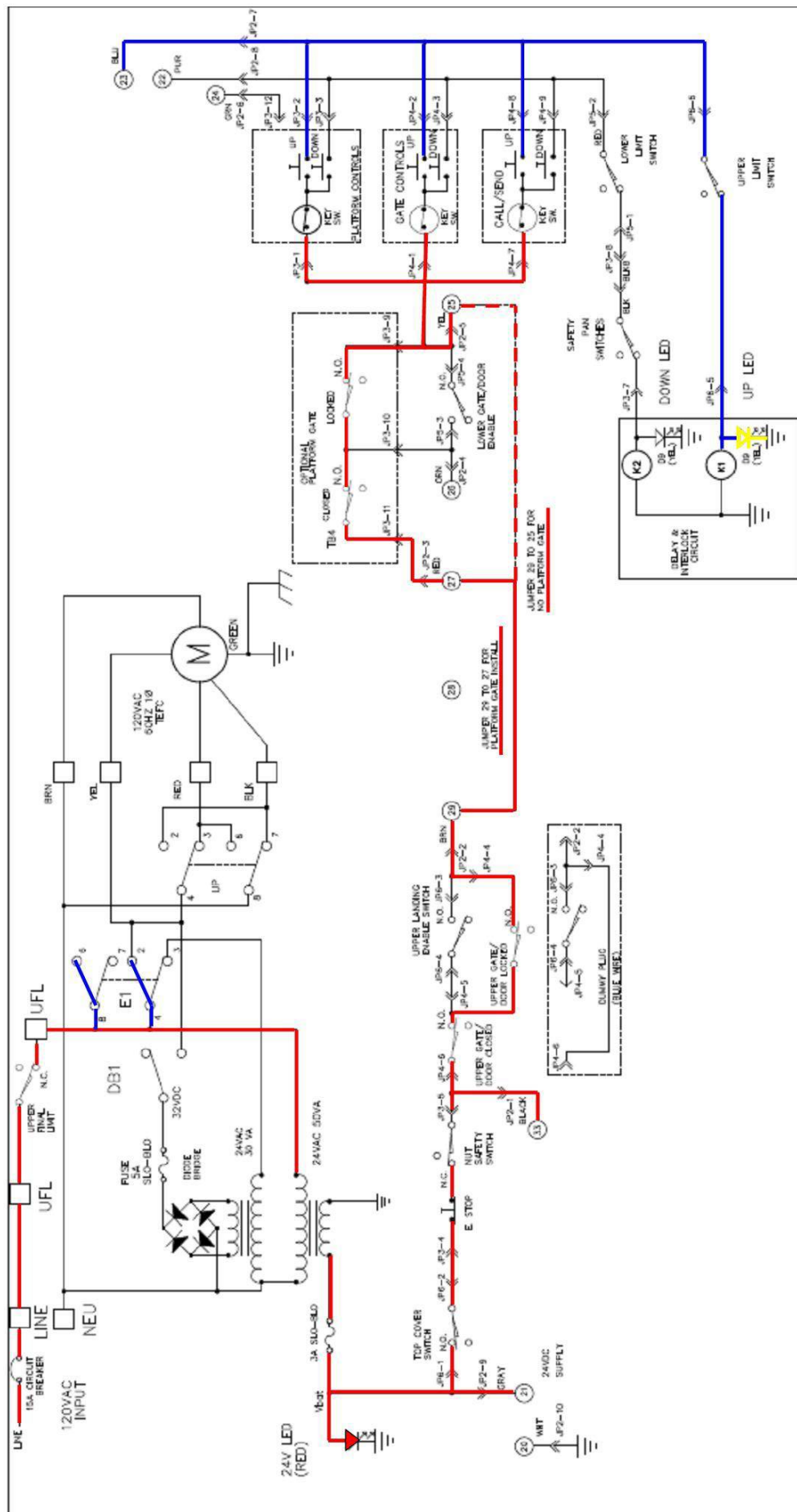
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2000 | 2001 | 2002

WFL - LADDER LOCK

	exp = 0	A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [\] ^ _ ` { } ~ . , : ; " ' & * % \$ # ! @ ? / - + = < >	total
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D SCHL-00188 O



- NOTES:
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LEGEND:

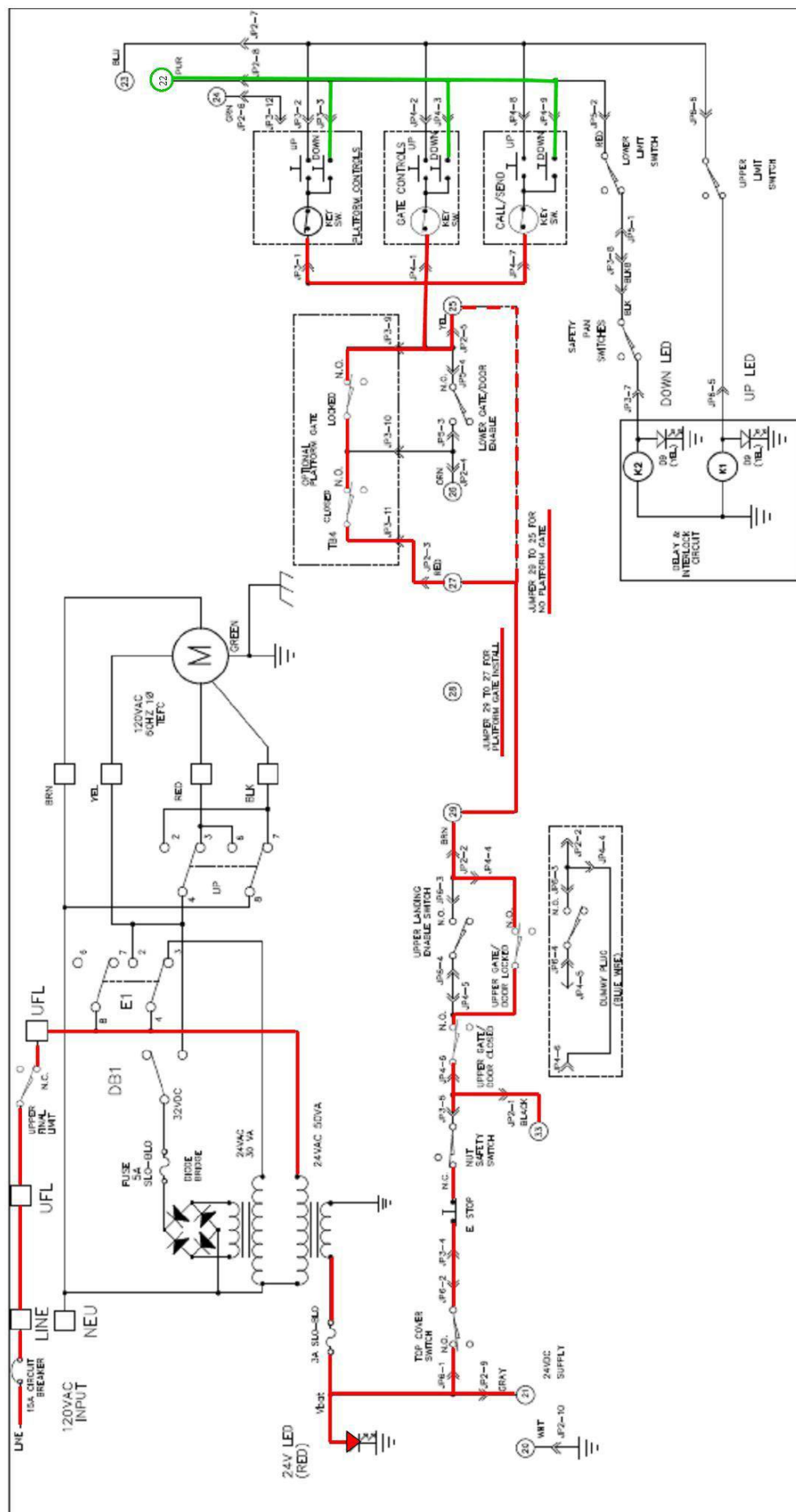
- SINGLE ROW CONNECTOR
- TERMINAL STRIP (TB7)
- 1/4" O.C. TAB

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Model: 100-100
 Date: 5/31/72
 Rev: 1.1
 Part: 100-100

LOW RISE AC VPL - LADDER LOGIC
 SCHL-00188

Rev	Date	By
1.0	5/31/72	D



NOTES:

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LEGEND:

SINGLE ROW CONNECTOR

TERMINAL STRIP (T97)

1/4" O.C. TAB

TABLE 1					
	α_0	α_1	α_2	β_{max}	k_{eff}
1	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.00
33	0.00	0.00	0.00	0.00	0.00
34	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00
36	0.00	0.00	0.00	0.00	0.00
37	0.00	0.00	0.00	0.00	0.00
38	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00
51	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.00	0.00	0.00
58	0.00	0.00	0.00	0.00	0.00
59	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00
61	0.00	0.00	0.00	0.00	0.00
62	0.00				



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(262) 567-4990
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[illegible] ± 0.05

LOW DICE

1300

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408</
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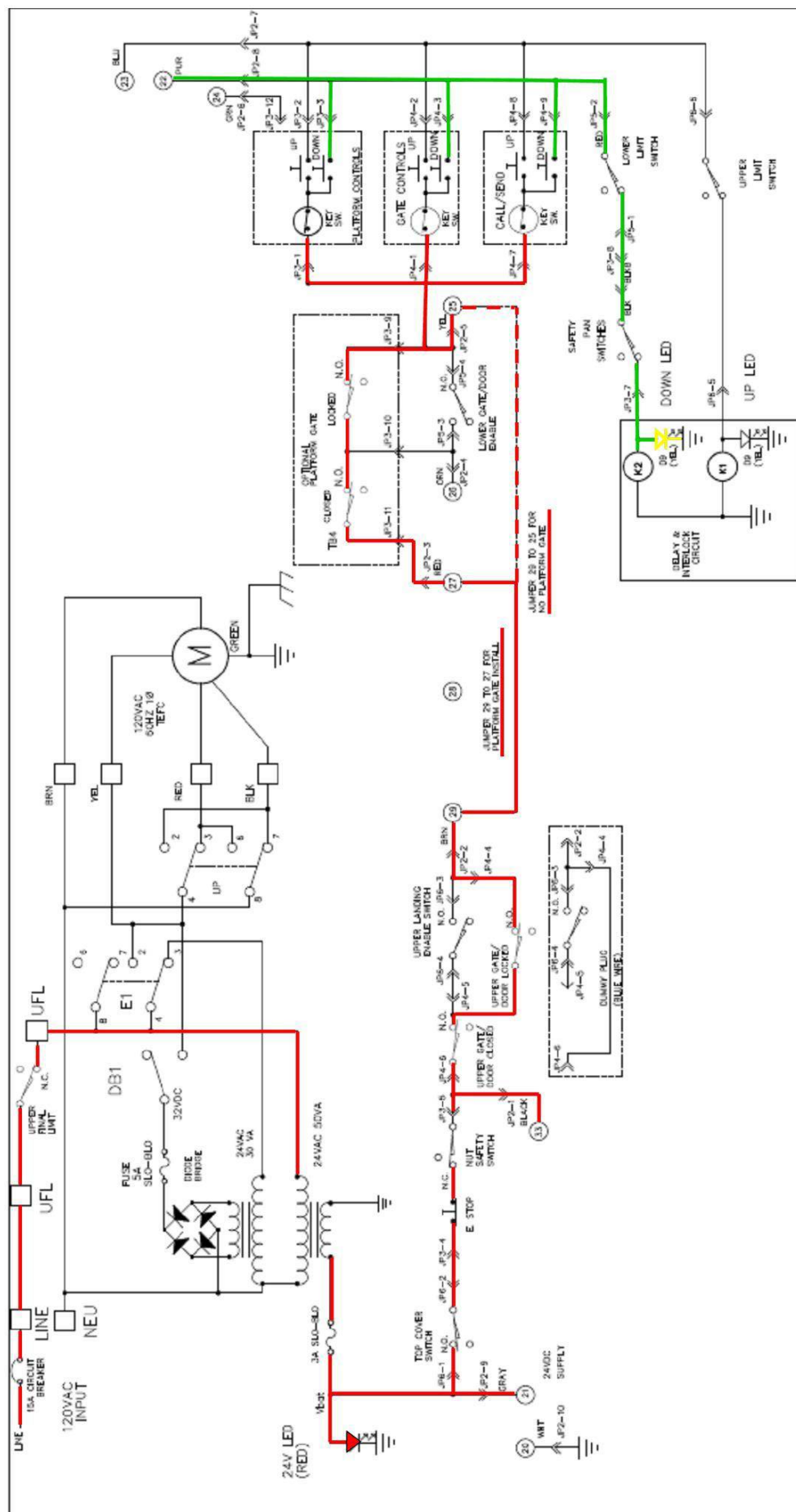
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DOI: 10.1002/anie

VPL - LADDER LOGIC

1990-1991	1991-1992	1992-1993	1993-1994	1994-1995	1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031	2031-2032	2032-2033	2033-2034	2034-2035	2035-2036	2036-2037	2037-2038	2038-2039	2039-2040	2040-2041	2041-2042	2042-2043	2043-2044	2044-2045	2045-2046	2046-2047	2047-2048	2048-2049	2049-2050	2050-2051	2051-2052	2052-2053	2053-2054	2054-2055	2055-2056	2056-2057	2057-2058	2058-2059	2059-2060	2060-2061	2061-2062	2062-2063	2063-2064	2064-2065	2065-2066	2066-2067	2067-2068	2068-2069	2069-2070	2070-2071	2071-2072	2072-2073	2073-2074	2074-2075	2075-2076	2076-2077	2077-2078	2078-2079	2079-2080	2080-2081	2081-2082	2082-2083	2083-2084	2084-2085	2085-2086	2086-2087	2087-2088	2088-2089	2089-2090	2090-2091	2091-2092	2092-2093	2093-2094	2094-2095	2095-2096	2096-2097	2097-2098	2098-2099	2099-2100	2100-2101	2101-2102	2102-2103	2103-2104	2104-2105	2105-2106	2106-2107	2107-2108	2108-2109	2109-2110	2110-2111	2111-2112	2112-2113	2113-2114	2114-2115	2115-2116	2116-2117	2117-2118	2118-2119	2119-2120	2120-2121	2121-2122	2122-2123	2123-2124	2124-2125	2125-2126	2126-2127	2127-2128	2128-2129	2129-2130	2130-2131	2131-2132	2132-2133	2133-2134	2134-2135	2135-2136	2136-2137	2137-2138	2138-2139	2139-2140	2140-2141	2141-2142	2142-2143	2143-2144	2144-2145	2145-2146	2146-2147	2147-2148	2148-2149	2149-2150	2150-2151	2151-2152	2152-2153	2153-2154	2154-2155	2155-2156	2156-2157	2157-2158	2158-2159	2159-2160	2160-2161	2161-2162	2162-2163	2163-2164	2164-2165	2165-2166	2166-2167	2167-2168	2168-2169	2169-2170	2170-2171	2171-2172	2172-2173	2173-2174	2174-2175	2175-2176	2176-2177	2177-2178	2178-2179	2179-2180	2180-2181	2181-2182	2182-2183	2183-2184	2184-2185	2185-2186	2186-2187	2187-2188	2188-2189	2189-2190	2190-2191	2191-2192	2192-2193	2193-2194	2194-2195	2195-2196	2196-2197	2197-2198	2198-2199	2199-2200	2200-2201	2201-2202	2202-2203	2203-2204	2204-2205	2205-2206	2206-2207	2207-2208	2208-2209	2209-2210	2210-2211	2211-2212	2212-2213	2213-2214	2214-2215	2215-2216	2216-2217	2217-2218	2218-2219	2219-2220	2220-2221	2221-2222	2222-2223	2223-2224	2224-2225	2225-2226	2226-2227	2227-2228	2228-2229	2229-2230	2230-2231	2231-2232	2232-2233	2233-2234	2234-2235	2235-2236	2236-2237	2237-2238	2238-2239	2239-2240	2240-2241	2241-2242	2242-2243	2243-2244	2244-2245	2245-2246	2246-2247	2247-2248	2248-2249	2249-2250	2250-2251	2251-2252	2252-2253	2253-2254	2254-2255	2255-2256	2256-2257	2257-2258	2258-2259	2259-2260	2260-2261	2261-2262	2262-
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D SCHL-00188 D



NOTES:

- NOTES:
1. IF NO GATES OR INTERLOCKS (STD): JUMPER TERMINAL 25 TO 33.
2. UPPER LANDING GATE OR INTERLOCK: JUMPER TERMINAL 25 TO 29.
3. TERMINATIONS:
JP2 - EXPANSION
JP3 - PLATFORM CONTROLS
JP4 - GATE/CALL/SEND
JP5 - LOWER LIMITS
JP6 - UPPER LIMITS/COVER SW
TB7 - TERMINAL BLOCK (20-33)

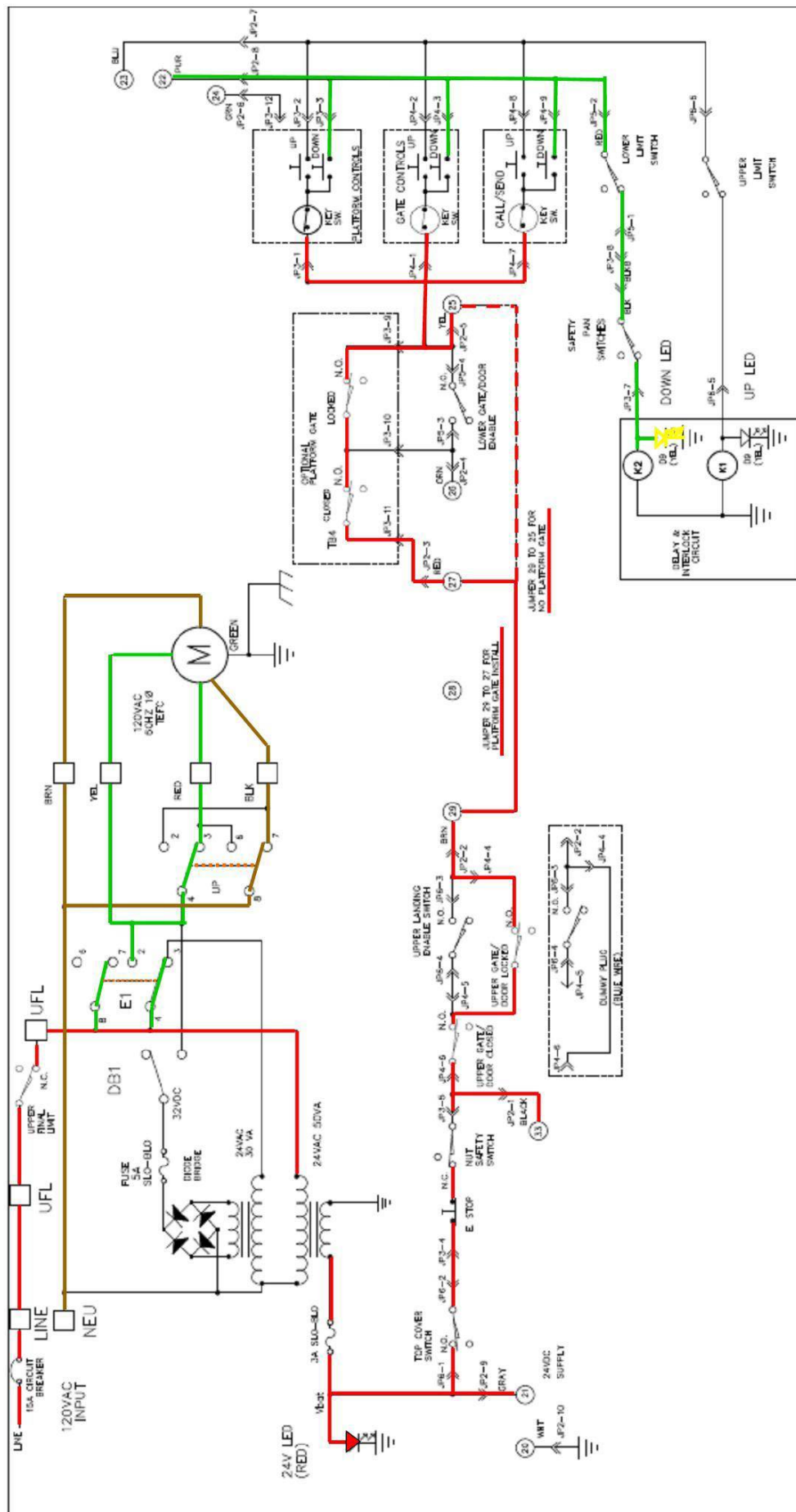
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P4-10

TERMINAL STRIP (TB7)

1/4" O.C. TAB

[illegible]



NOTES:

- NOTES:
1. IF NO GATES OR INTERLOCKS (STD), JUMPER TERMINAL 25 TO 33.
2. UPPER LANDING GATE OR INTERLOCK: JUMPER TERMINAL 25 TO 29.
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JP2 - EXPANSION
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JP6 - UPPER LIMITS/COVER SW
TB7 - TERMINAL BLOCK (20-33)

LEGEND:

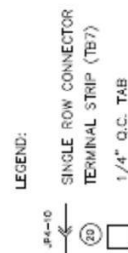
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TERMINAL STRIP (TB7)

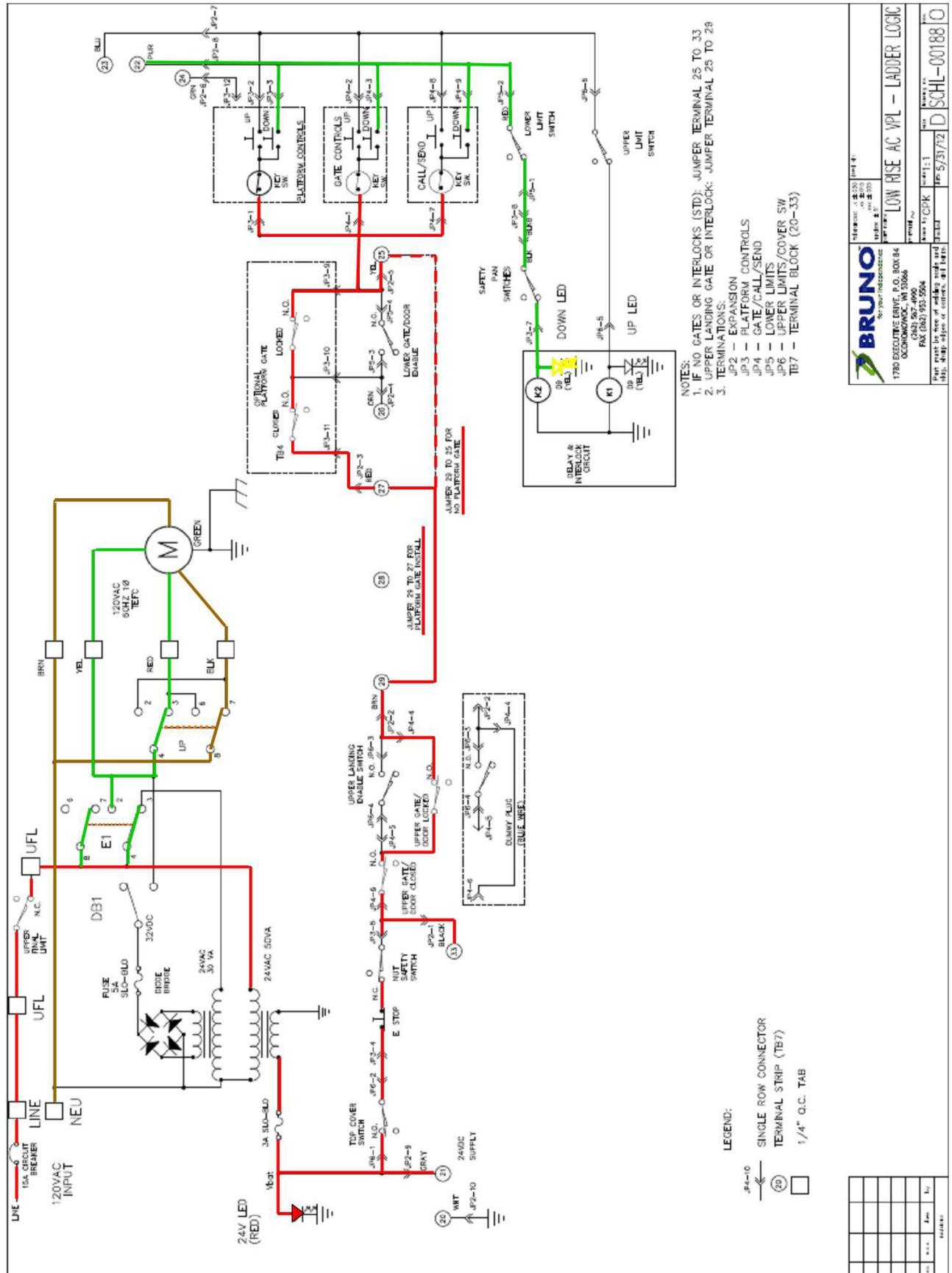
1/4" O.C. TAB

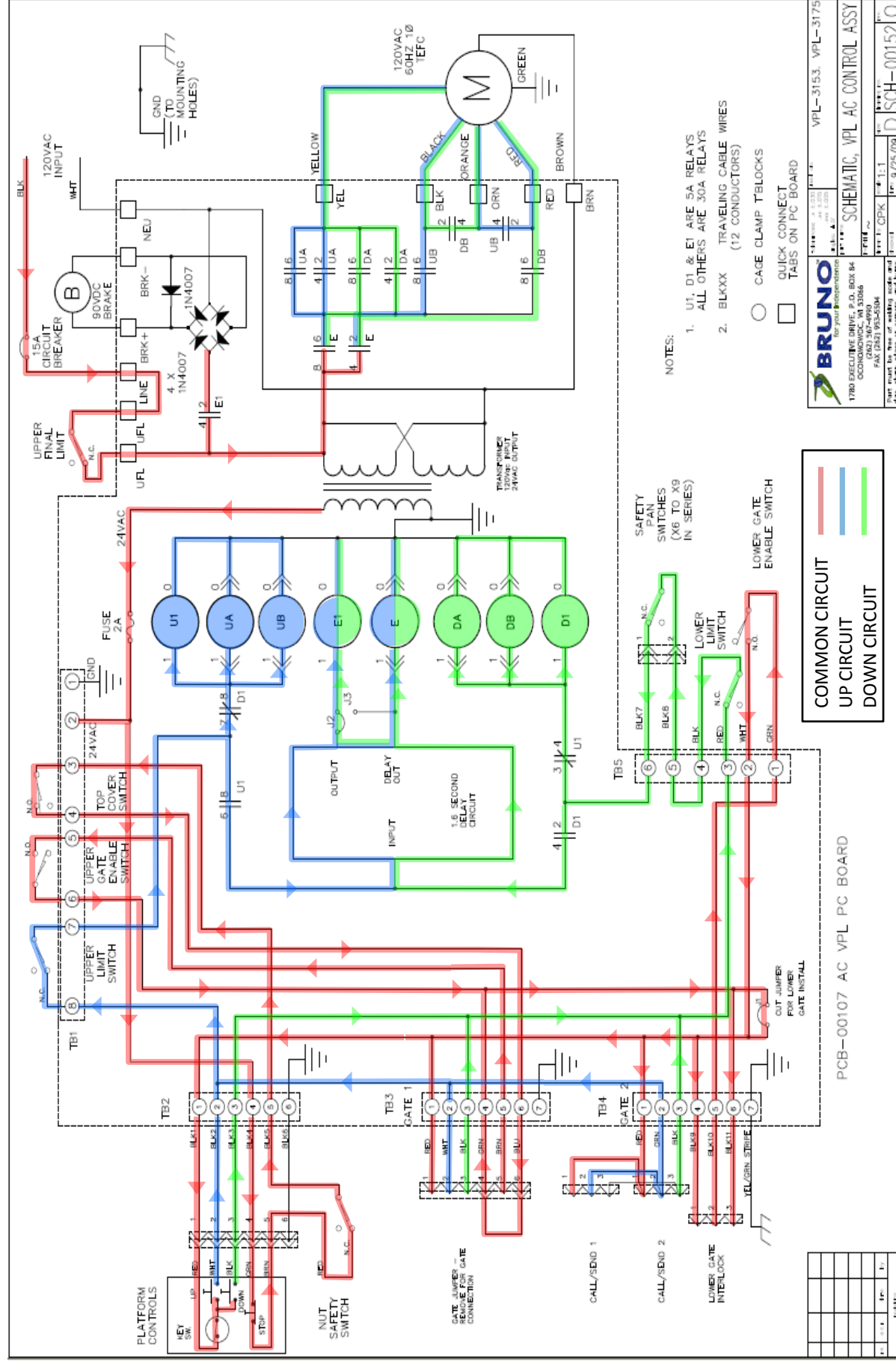
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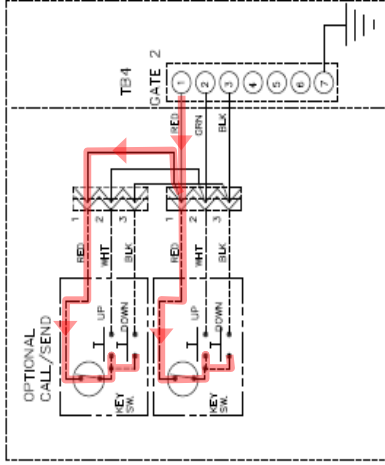
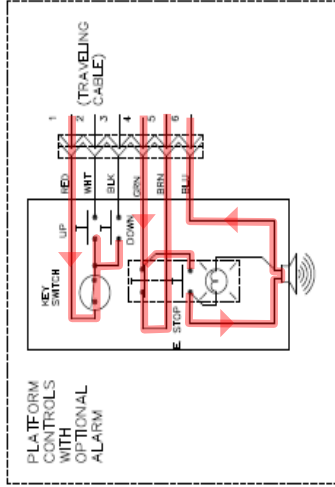
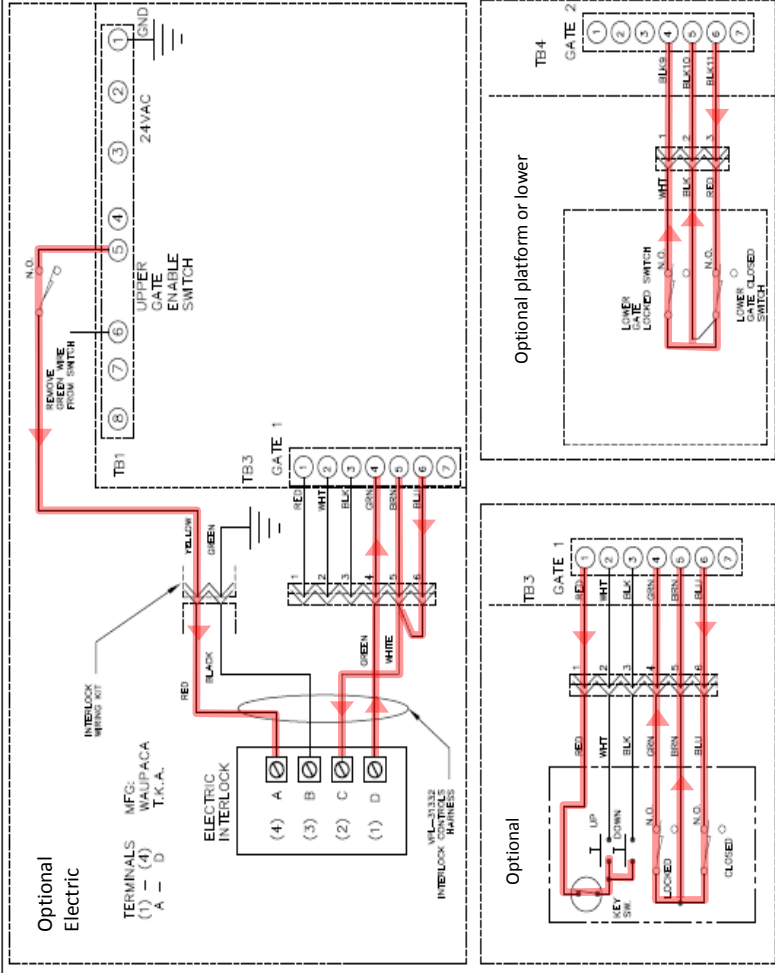
TABLE 1				
Year	W. G. C.	J. G. C.	J. G. C.	J. G. C.
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1972				
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Buckingham Palace				
Room	Area	Volume	Weight	Height
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PLATFORM LIFT OPTIONS



1780 EXECUTIVE DRIVE, P.O. BOX 84
COVINGTON, MISSISSIPPI 38430
(601) 367-6990
FAX (601) 953-5594

DATE: 9/20/09

REV: 1.1

BY: GPK

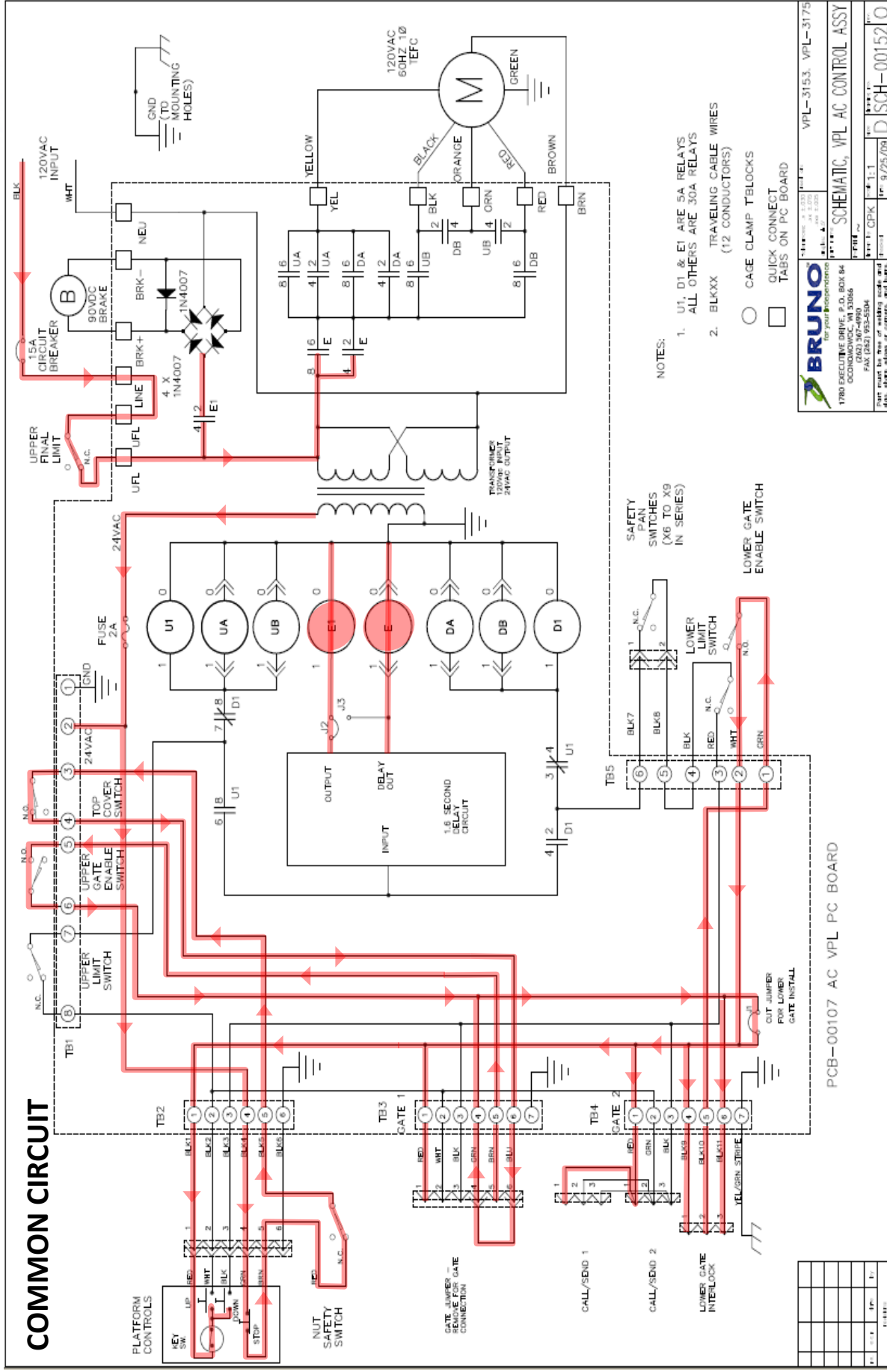
FOR: 9/20/09

PROJECT: VPL-3153
VPL-3175

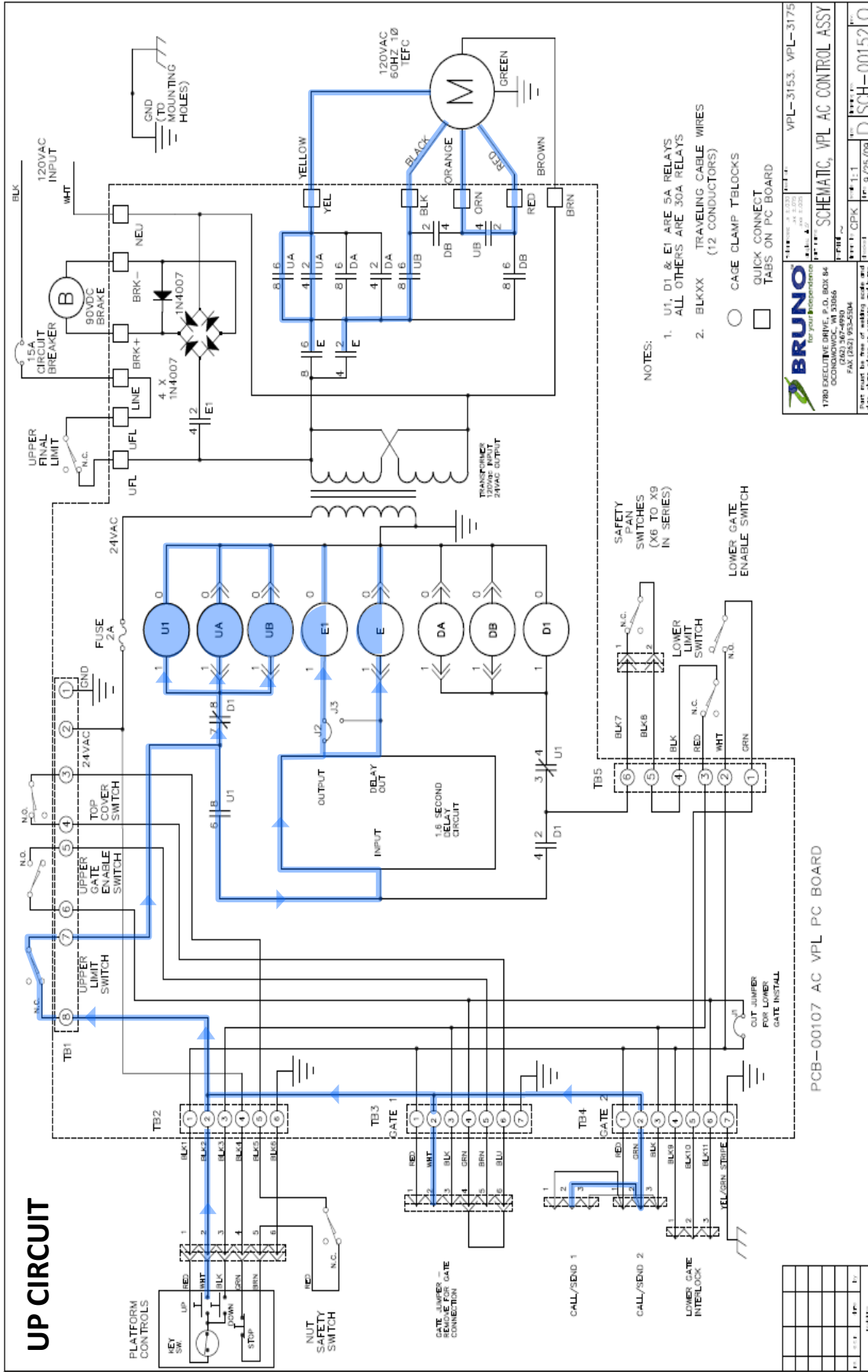
SCHEMATIC, VPL AC CONTROL ASSY

SCH-00152

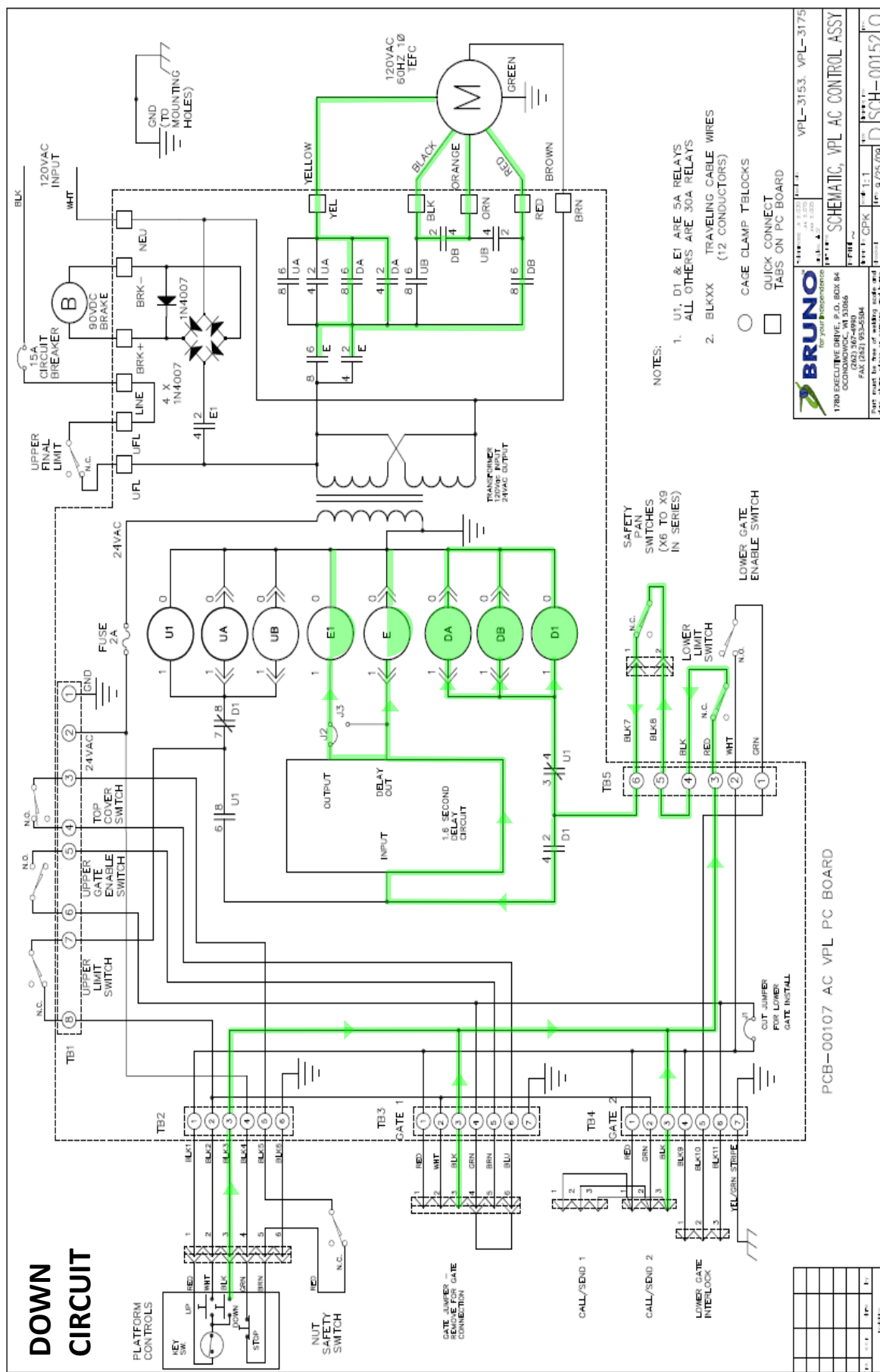
COMMON CIRCUIT

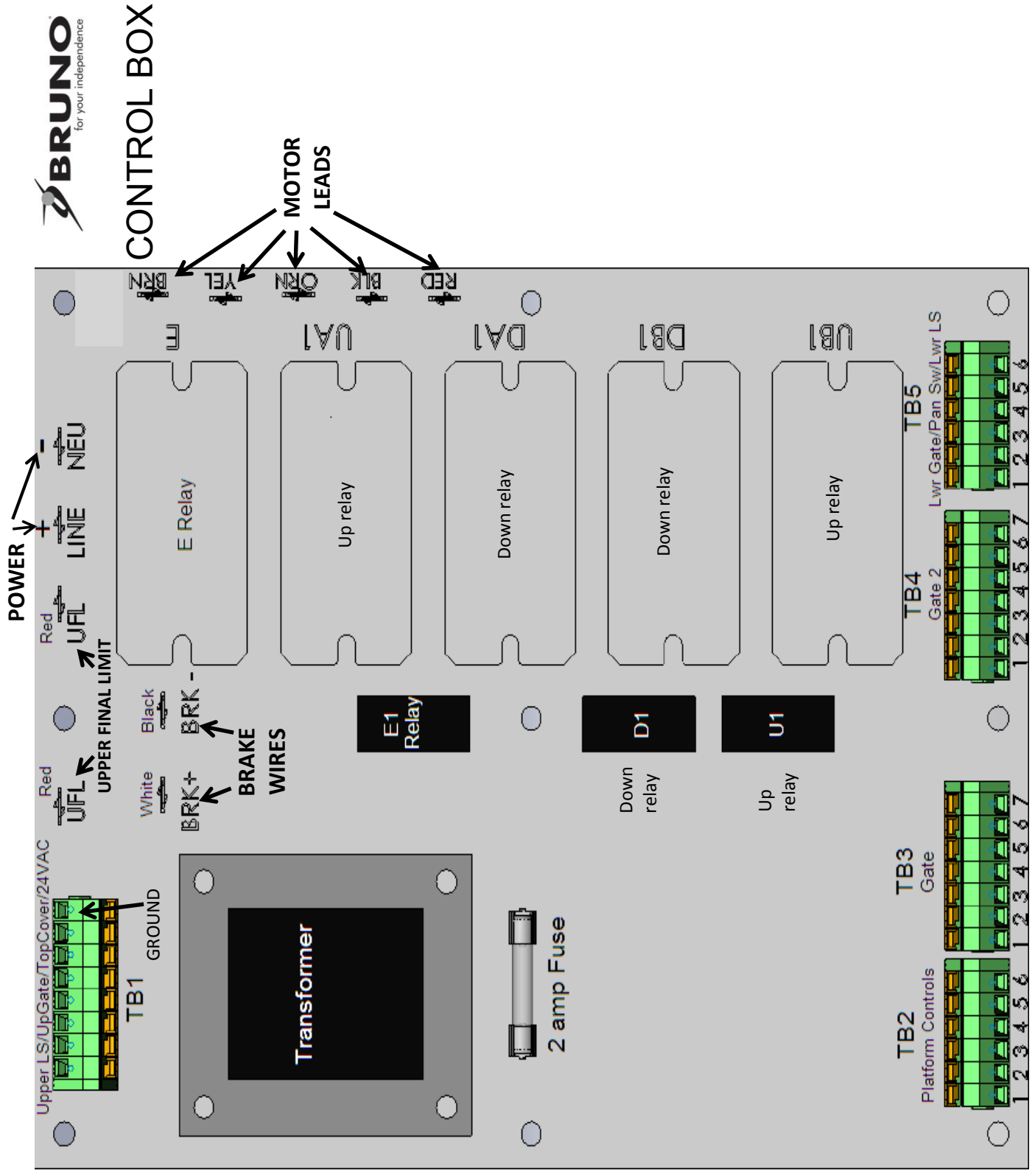


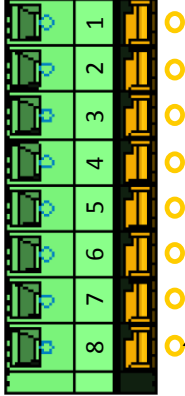
UP CIRCUIT

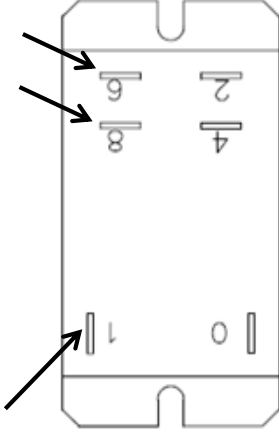
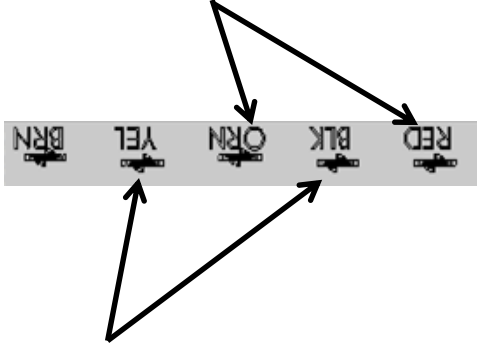


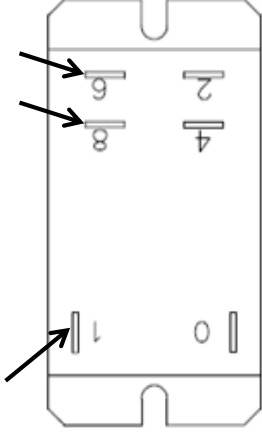
DOWN CIRCUIT

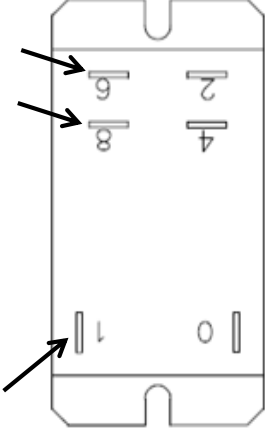




UNIT DOES NOT RUN UP OR DOWN	1	Test input voltage	Check for 120VSC (115VAC minimum voltage to operate) between the red wire on the LINE terminal and the white wire on the NEU terminal. If good voltage proceed to step #2. If no voltage, check outlet, circuit breaker, wiring, and connections.	
	2	Test upper final limit switch	Check for 120VAC between white wire on NEU terminal and red wire on UFL terminal. If good voltage proceed to step #3. If no voltage check final limit switch, wiring, and connections.	
	3	Test Fuse	Check for 24VAC between TB1-1 (ground) and TB1-2. If good voltage proceed to step #4. If no voltage, check fuse, fuse holder.	
	4	Test Platform Emergency Stop Switch and Acme Nut Safety switch.	Check for 24VAC between TB1-1 (ground) and TB2-5. The emergency stop switch on the platform must be in the pulled out position to test the circuit. If good voltage proceed to step 5. If no voltage, check wiring, connections and function of emergency switch and nut safety switch.	
	5	Test top cap switch	Check for 24 VAC between TB1-1 and TB1-4. If good voltage proceed to step 6. If no voltage, pull up on the top cap switch to make sure it is into the service position. Check wiring and connections to switch, or replace switch.	
	6	Test Upper landing gate-door closed switch	Check for 12+ VAC between TB1-1 and TB3-5 with the gate closed. If good voltage proceed to step 7. If no voltage, or half the voltage, check to make sure gate is contacting door closed switch located mid-way up inside the gate post (either the mag switch on older units or push button switch on newer models) check connections or replace switch.	
				TB1  Note: all terminal blocks on the control board have test points for you meter below each block.

UNIT DOES NOT RUN UP OR DOWN	7	Test Upper landing gate-door locked switch	Check for 24VAC between TB1-1 and TB3-4. The platform must be at the top landing with the bottom limit switch in the tower made and the gate must be closed and locked to check this circuit. If good voltage proceed to step 8. If no voltage, check wiring, connections, gate enable switch in tower.	
	8	Test Platform controls	Place a jumper between terminals TB2-1 and TB2-2, the unit should run UP bypassing the platform switch. Place the jumper between TB2-1 and TB2-3, unit will run DOWN bypassing the platform switch. If the unit runs, check the platform control wiring, keyswitch and control switches. If the unit still does not run proceed to step 9.	
	9	Test E (motor) Relay	Locate the E relay in the control box. Remove the E relay from the control board. Set your meter for continuity (Ω) and hook the meter leads to terminals 4 and 2, you should NOT have continuity. Then do the same between terminals 8 and 6, you should NOT have continuity here as well. If you have continuity on either of these sets of terminals than you will need to replace the "E" relay. You can place your meter on terminals 4 and 2, then place a jumper wire between TB1-2 and terminal 1 on the relay and then you should here the relay click when the jumper is connected, you WILL have continuity between terminals 4 and 2. Test terminals 8 and 6 in the same manner. Then the relay is good, proceed to step #10.	
	11	Test the Motor	CAUTION: When testing the motor all the safeties are bypassed so use extreme care not to damage the unit and avoid personal injury. Unplug the 115VAC power cord from the outlet. Use the hand crank to move the unit 6" from either the top or the bottom landing. Release the silver handle on the brake, or remove the brake from the unit. Disconnect the black and the yellow motor leads from the terminals on the top right hand side of the control board. Use a jumper to connect both the black and the yellow wires together. Remove the orange and the red wires from the terminals on the control box, use a jumper to tie the orange and the red wires together. Now using a jumper or alligator clip place a jumper from the LINE terminal on the board to the yellow and black wires already tied together. Place the wires jumped together out of touch and make sure they are not resting against any metal surface. Once the power cord is plugged in the unit will automatically start to run in the up direction. PLEASE USE CAUTION, BE PREPARED TO UNPLUG QUICKLY.	

UNIT DOES NOT RUN UP OR DOWN	12	Test the Brake Assy	There is a silver release handle on the brake assembly, lift up on this lever and try to run the unit. If it still does not move, remove the three Allen screws that hold the brake assembly on the drive screw. Then lift the brake assembly straight off the top of the screw and set to the side. Test to see if the unit runs. If it does, there is a problem with the brake circuit. Set your meter to 200VDC. Disconnect motor leads from the board. (so unit does not run). Put the voltmeter leads on the board terminals where the white and black brake leads are. You should see 105 + VDC across those terminals when either up or down is pushed. If you have good voltage then the brake is bad, if no voltage, then the circuit board is bad.	
	13	Test Upper Landing Limit Switch	Check for 24VAC between TB1-1 and TB1-7. If good voltage proceed to step 14. If no voltage, inspect the upper limit switch (second switch up in the cluster of three located in the tower) or the wiring to the switch and replace if necessary.	
	14	Test Platform Up switch	With the platform down 6" or more from the upper landing, place a jumper between TB2-1 and TB2-2. The unit should run the moment the jumper is touched to both terminals. If the unit works, check the platform keyswitch, UP switch, or wires and connectors to switch. If the unit does not run up proceed to step 15.	
UNIT RUNS DOWN ONLY	15	Test Up-Directional Relays (U1, UA, UB)	Locate the UP relays in the control box. Remove one relay at a time from the control board. Set your meter for continuity (Ω) and hook the meter leads to terminals 4 and 2, you should NOT have continuity. Then do the same between terminals 8 and 6, you should NOT have continuity here as well. If you have continuity on either of these sets of terminals than you will need to replace this relay. You can place your meter on terminals 4 and 2, then place a jumper wire between TB1-2 and terminal 1 on the relay and then you should here the relay click when the jumper is connected, you WILL have continuity between terminals 4 and 2. Test terminals 8 and 6 in the same manner. Then the relay is good, proceed to test the remaining relay's.	

UNIT RUNS UP ONLY	16	Test under panel safety switches	With the unit up at least 6" from the lower landing, place a jumper between TB5-5 and TB5-6 and press the down switch. If the unit runs, inspect the under panel switches or the wires to these switches. If it does not run here then proceed to step 17.	
	17	Test lower landing limit switch	With the platform up at least 6" from the lower landing, place a jumper between TB5-4 and TB5-3 and press the down switch. If the unit runs, inspect the lower landing limit switch and wiring in the tower and replace if necessary. If it does not run, then proceed to step 18.	
	18	Test Down Directional Relays (DA, DB, D1)	Locate the DOWN relays in the control box. Remove one relay at a time from the control board. Set your meter for continuity (Ω) and hook the meter leads to terminals 4 and 2; you should NOT have continuity. Then do the same between terminals 8 and 6, you should NOT have continuity here as well. If you have continuity on either of these sets of terminals than you will need to replace this relay. You can place your meter on terminals 4 and 2, then place a jumper wire between TB1-2 and terminal 1 on the relay and then you should here the relay click when the jumper is connected, you WILL have continuity between terminals 4 and 2. Test terminals 8 and 6 in the same manner. Then the relay is good, proceed to test the remaining relay's.	
	20	Test the brake assembly	SEE STEP # 12 FOR TESTING THE BRAKE	
UNIT RUNS DOWN AND LABORS OR WILL NOT RUN UP				

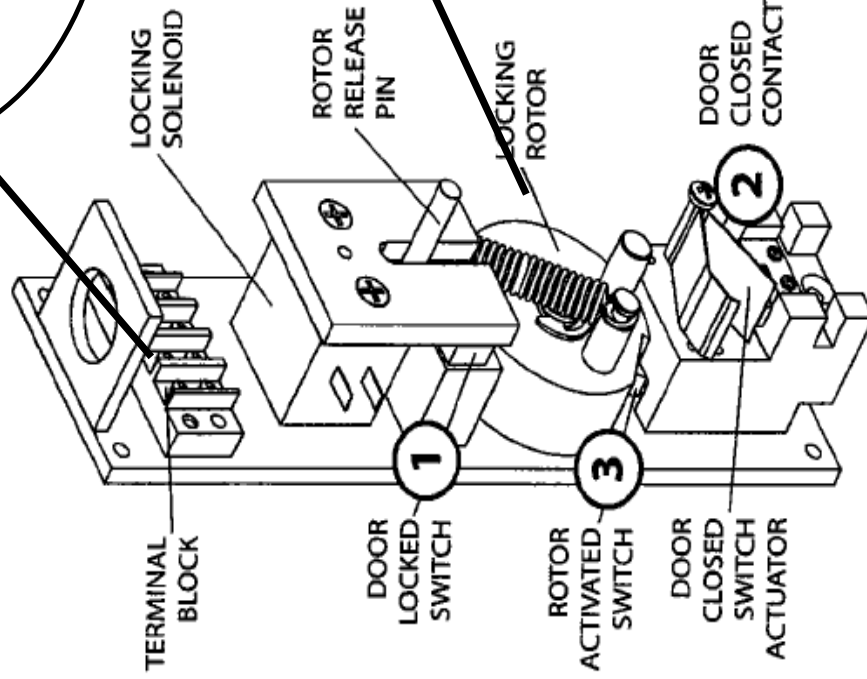
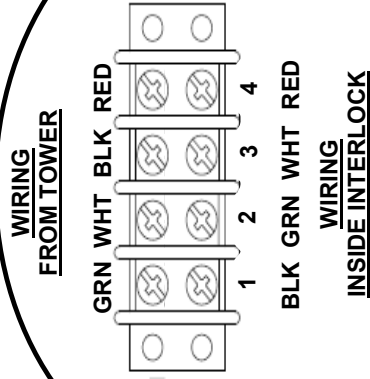
INTERLOCK... UNIT RUNS WITHOUT INTERLOCK, DOES NOT WHEN INTERLOCK IS PLUGGED IN		Test Interlock **(see page 8 interlock schematic)	Check for 24VAC voltage at terminals 3 and 4, if no voltage here check the lower limit switch in the cluster of three limits in the tower. This switch needs to be made to power the interlock. Place a jumper wire between terminals 1 and 2 in the interlock, bypassing the interlock and then try to run. If unit does not run, there is a problem with the wiring from the interlock back into the tower. If unit runs, then test the limits in the interlock. With both limits in the interlock made you should have continuity on terminals 1 and 2. Jump the wires of each switch independently to determine which switch isn't providing continuity. If one of the switches in the interlock are bad, you will need to replace the interlock.	
TIPS AND TRICKS		UNIT RUNS DOWN 2" AND STOPS (WITH GATE)	(Upper gate enable switch [below upper limit switch in tower] runs in series with lower lock switch in gate.) Check lower gate switch, it should be releasing prior to gate enable switch in tower.	
		Bypass gate	Place a jumper wire from terminals 4 and 6 on TB3 which will bypass the gate assembly. Or place jumper on blue to green wire on the gate harness connector.	
		Bypass Up	Place a jumper wire from terminals TB2-1 and TB1-7 and the unit should run in the up direction bypassing the up switch on the platform and the upper limit switch.	CAUTION: when jumping the unit will start to run immediately
		Bypass Down	Place a jumper wire from terminals TB2-1 and TB5-6 and the unit will run in the down direction bypassing the down platform control, the lower limit switch and platform panel safety switches.	CAUTION: when jumping the unit will start to run immediately
		Unit does not run in either direction, but the relays click when either direction is pushed	Since the relay's are clicking, that confirms that all the safeties are ok and you are getting power to the relays. Check the brake and motor and the "E" and "E1 relays for continuity.	

VPL ELECTRIC INTERLOCK

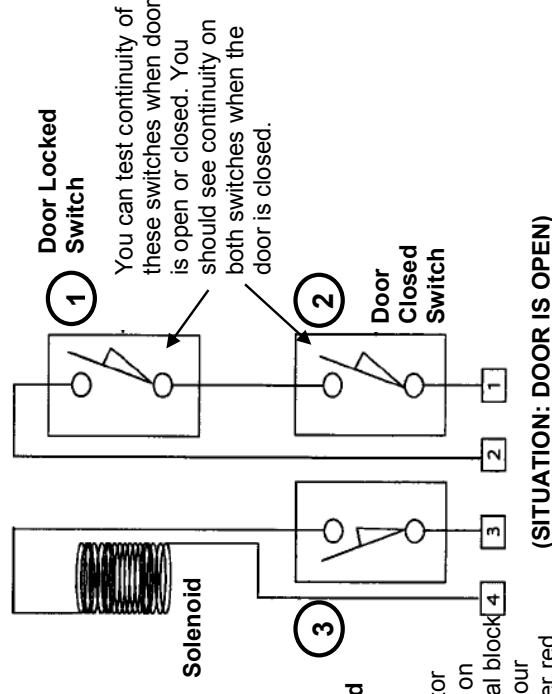
Check for 24 VAC at pins 3 & 4, if no voltage check the bottom limit switch of the 3 limit assembly in the tower..this needs to be activated to see voltage.



By jumping terminals 1 & 2 you are bypassing the interlock completely. If the unit is still not running after jumping these two pins then the problem is in the wiring.

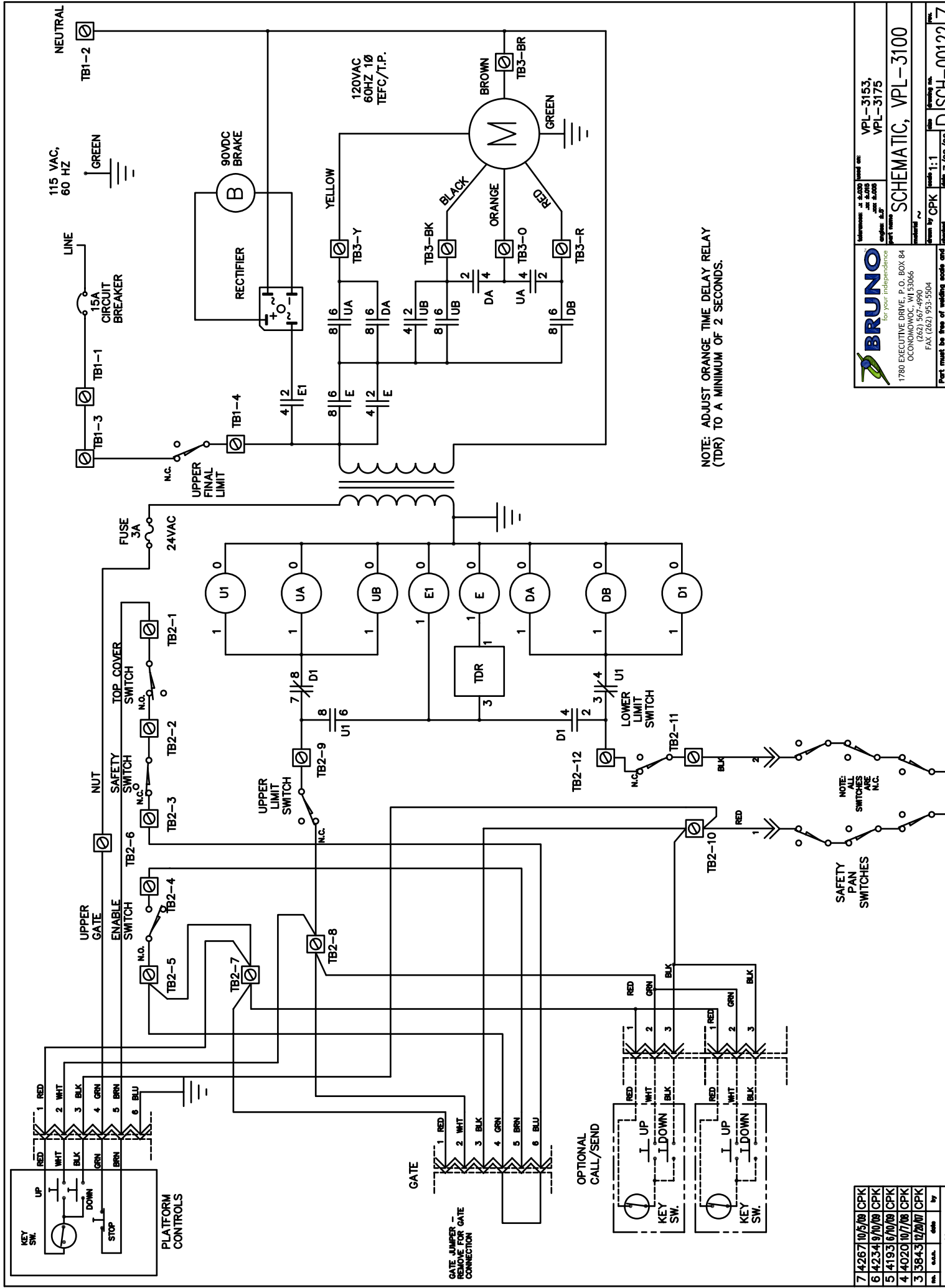


Before testing continuity on switches, make sure to disconnect power



(SITUATION: DOOR IS OPEN)

To test continuity on the rotor switch, set your meter lead on terminal three in the terminal block and your other meter lead to the lower red wire on the side of the coil. Rotate the locking rotor cam until switch is released. When switch is released it will be closed and you should see continuity.



NOTE: ADJUST ORANGE TIME DELAY RELAY (TDR) TO A MINIMUM OF 2 SECONDS.

BRUNO
for your independence

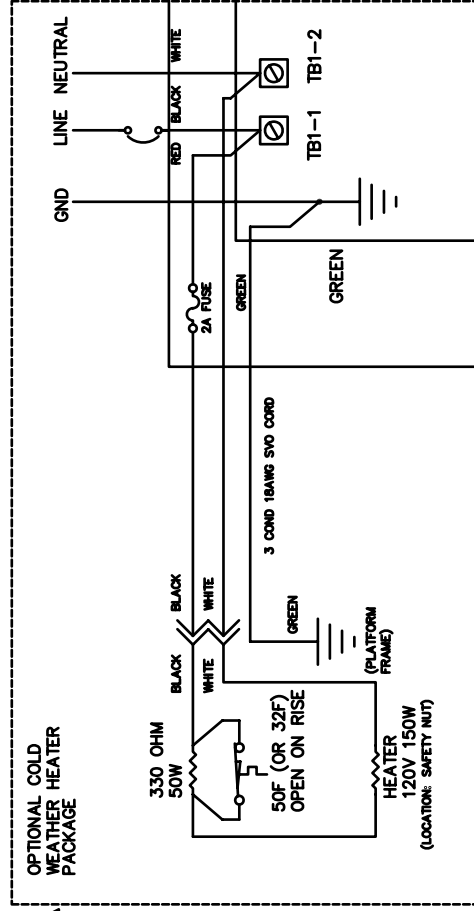
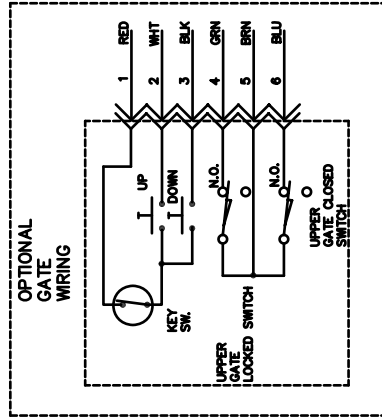
1780 EXECUTIVE DRIVE, P.O. BOX 84
OCONEWOC, WI 53066
(262) 567-4990
FAX (262) 953-5504

Information: 2 3,000
Part name: VPL-3153,
VPL-3175

Part name: SCHEMATIC, VPL-3100

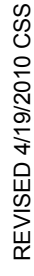
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Rev: 7

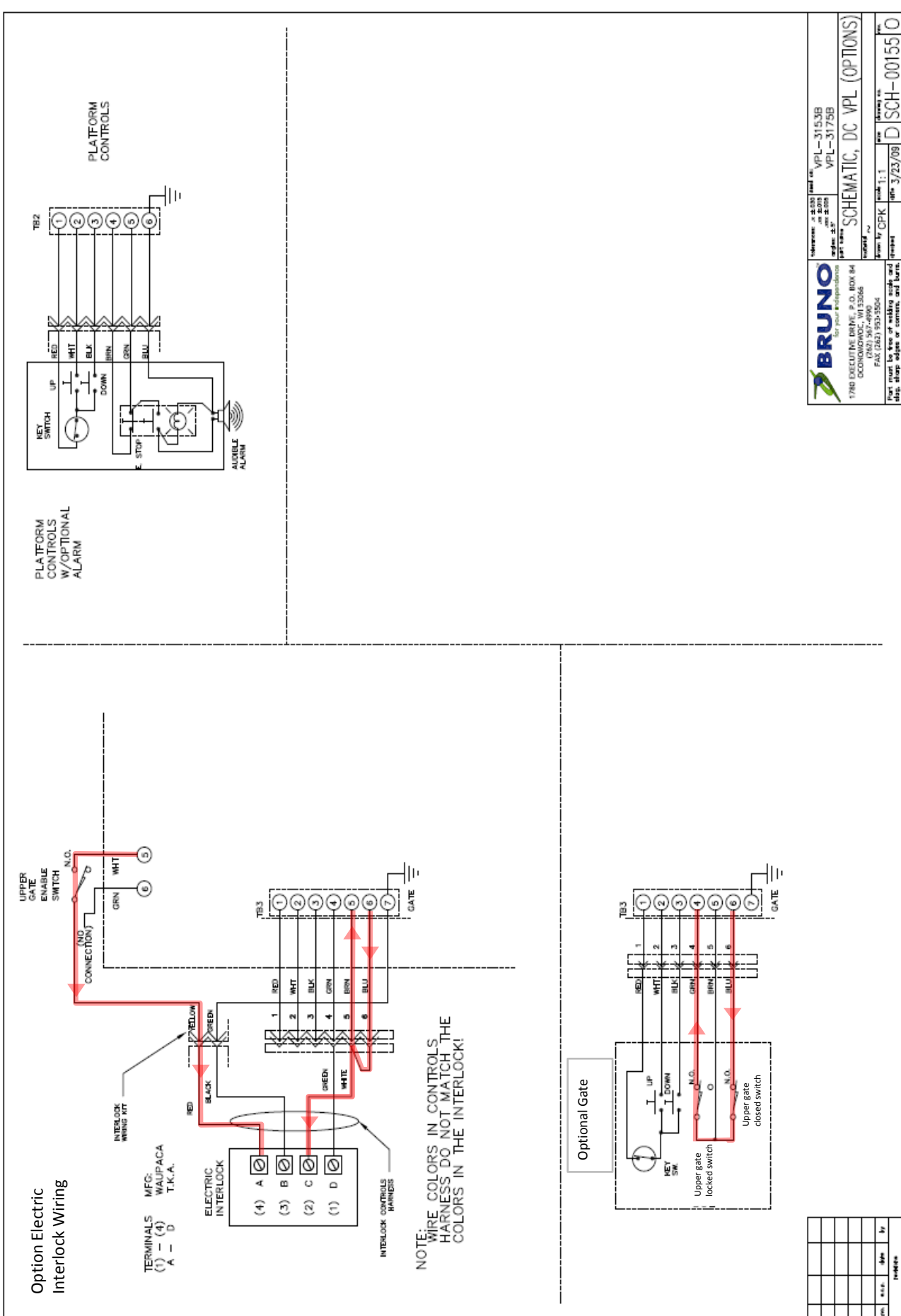
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7	4267	10/5/08	CPK
6	4234	9/10/08	CPK
5	4193	6/10/08	CPK
4	4020	10/7/08	CPK
3	3843	12/20/07	CPK



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1780 EXECUTIVE DRIVE, P.O. BOX 84 OCONOMOWOC, WI 53066 (262) 594-4560 FAX (262) 953-5504				
Part must be free of welding rods and				
Part no. Quantity req. Date Tel# 5400 part no. VPL - 3153 tel# 5400 VPL - 3175 engine 5.7" part name SCHEMATIC, VPL - 3100 OPTIONS ~~~~~ Quantity ordered Qty by GPK price 1:1 date 7/10/07 extended checked				
SCH 00122 7				

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REV	DATE	BY

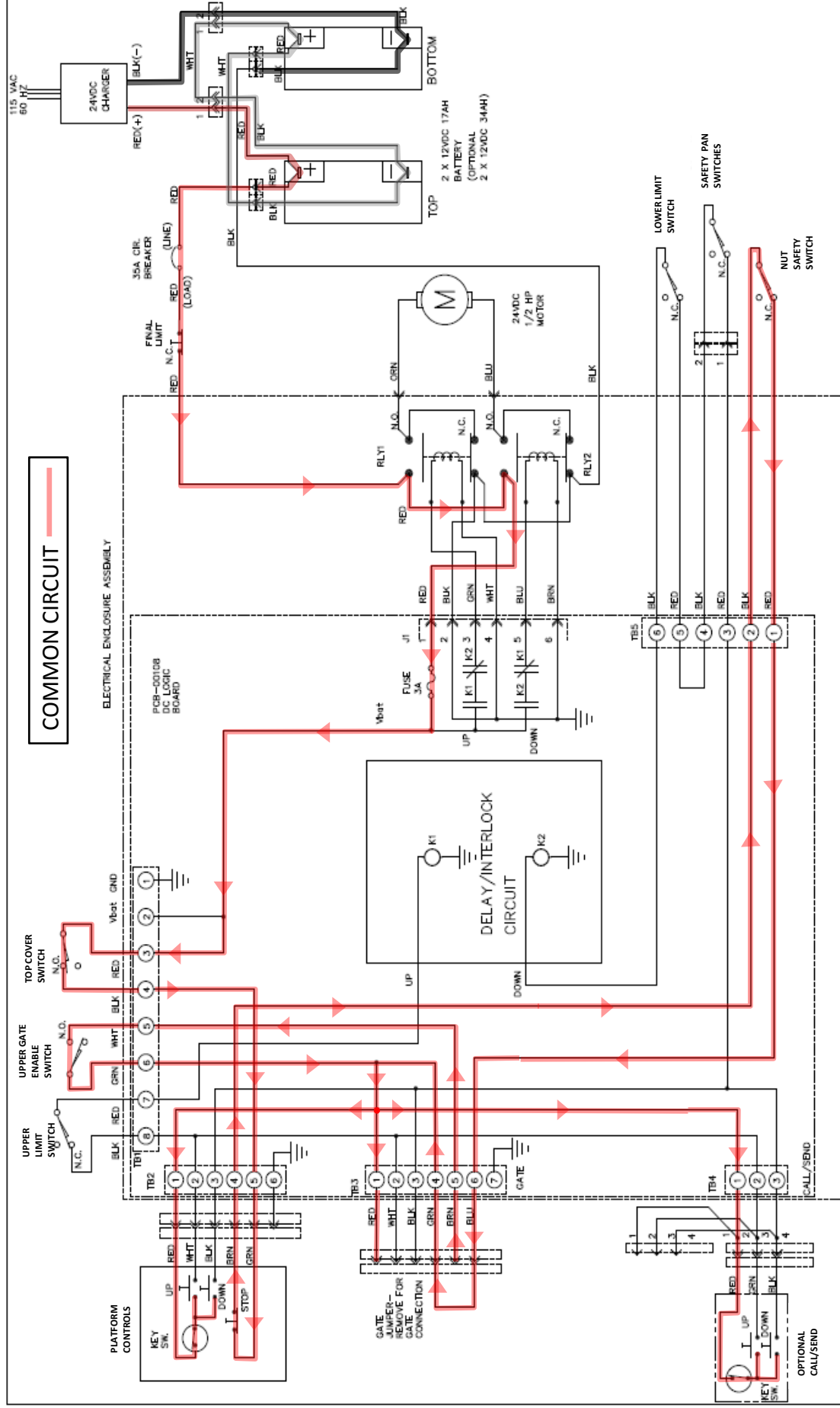
1780 EXECUTIVE DRIVE, P.O. BOX 84
COONAPONG, MS 38866
(601) 937-4993
FAX (601) 937-5554

Revised: 12-2009
Rev: 2-2010
Original: 2-2009
Scale: 2"

Drawn by: CPK
Check by: 1-1
Date: 3/23/09
Rev: 0

Project: SCH-00155

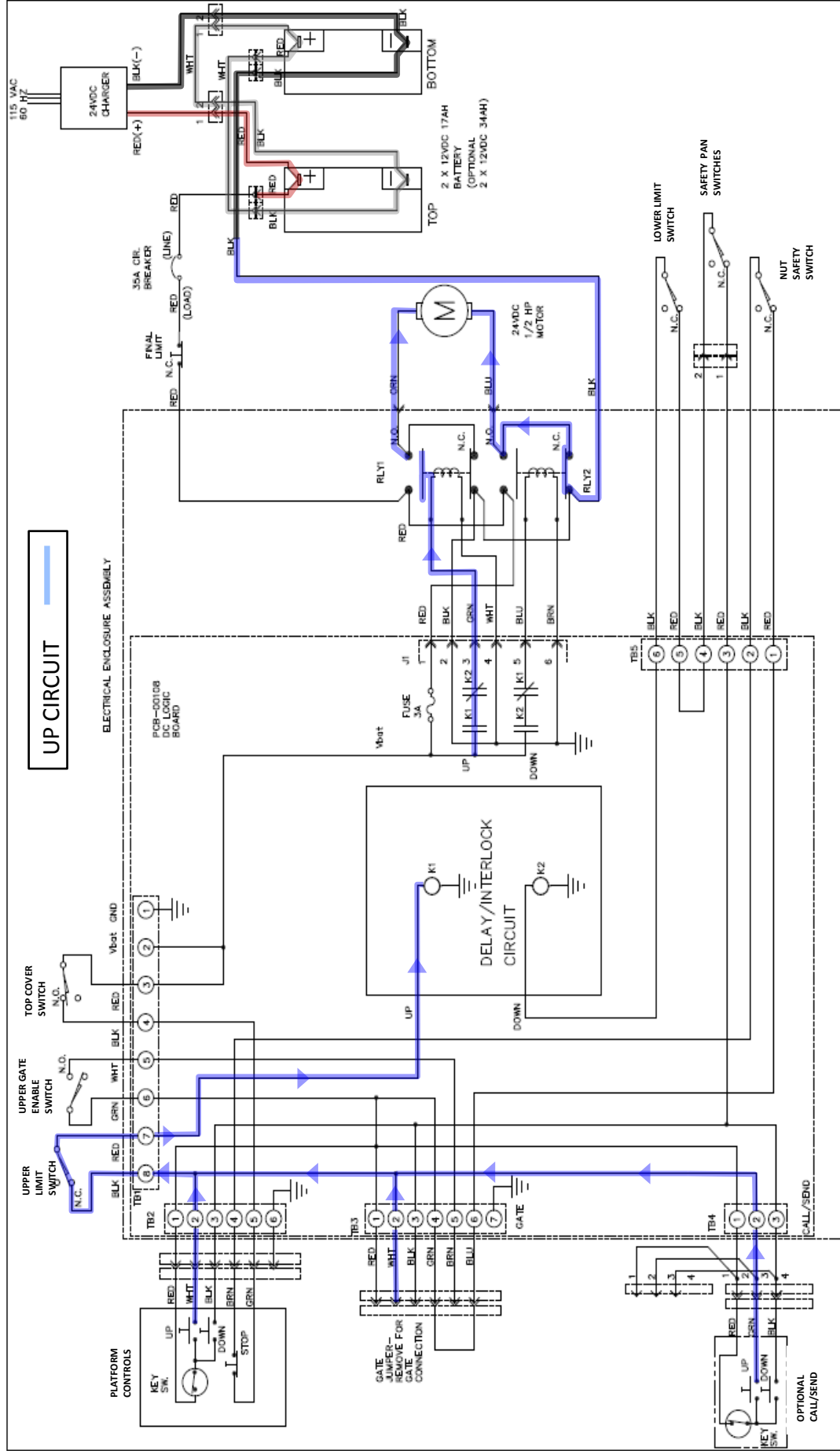
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 BRUNO <i>Run your imagination</i>	1780 EXECUTIVE DESKTOP, P.O. BOX 84 GARDEN CITY, N.Y. 11530 (212) 367-4990		1780 EXECUTIVE DESKTOP, P.O. BOX 84 GARDEN CITY, N.Y. 11530 (212) 367-4990	
	FAX (212) 953-5546 Please write to the address above		FAX (212) 953-5546 Please write to the address above	

UPDATED SCHEMATIC 3/17/09 CPK
ADDED COVER SWITCH 9/24/08 CPK

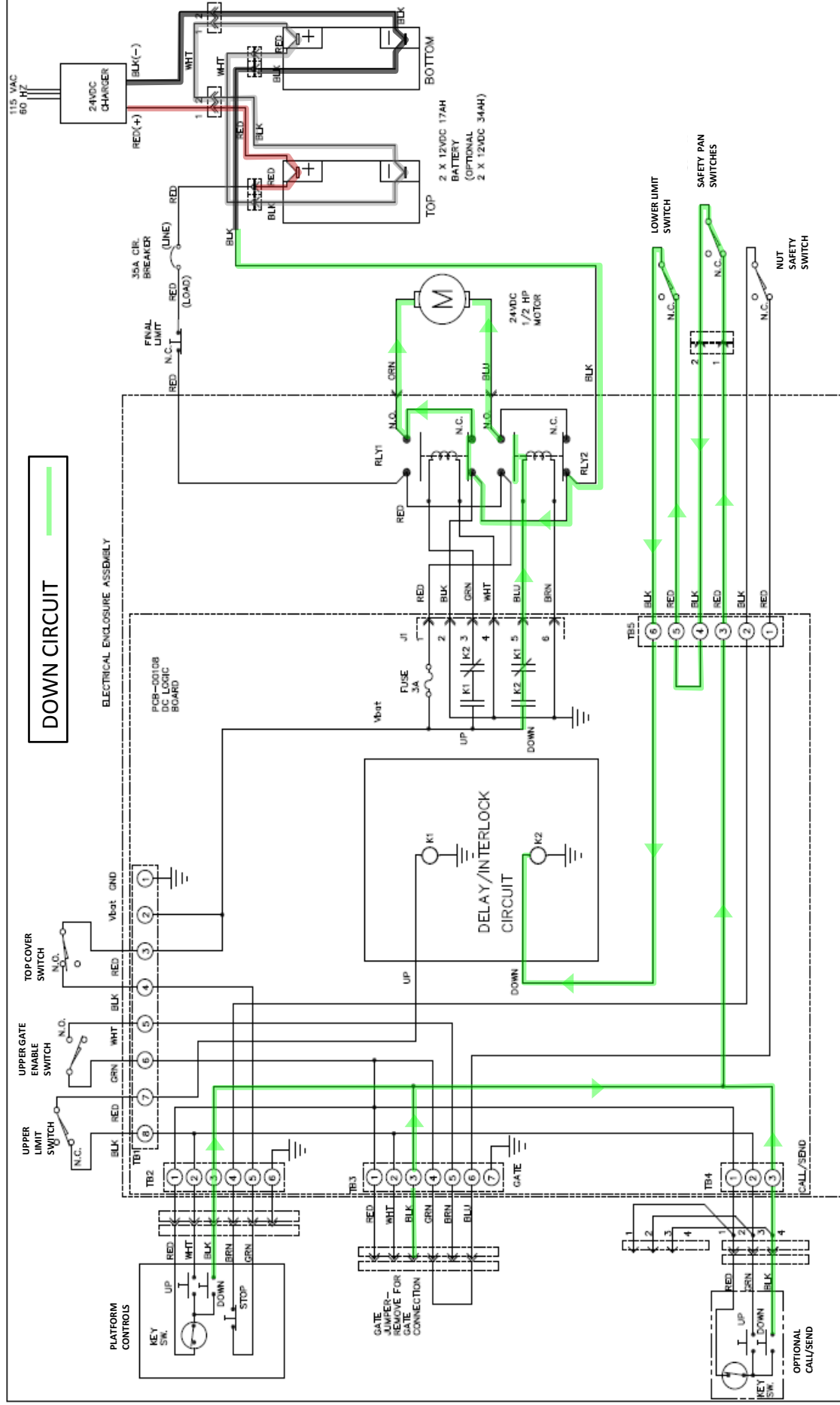
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1	2	3	4



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Tel: 770-953-5504 Fax: 770-953-5504 E-mail: info@brunopet.com	Tel: 770-953-5504 Fax: 770-953-5504 E-mail: info@brunopet.com	Tel: 770-953-5504 Fax: 770-953-5504 E-mail: info@brunopet.com	Tel: 770-953-5504 Fax: 770-953-5504 E-mail: info@brunopet.com

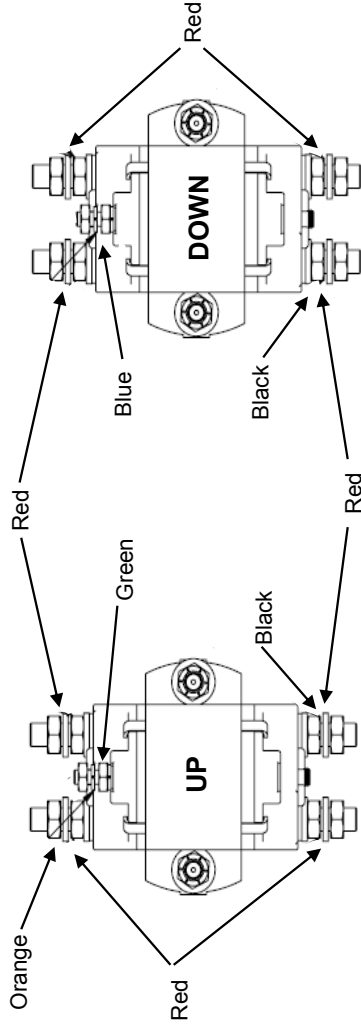
UPDATED SCHEMATIC 3/17/09 CPK
ADDED COVER SWITCH 9/24/08 CPK

Experiment				By
Date	W. D. D.	Topic		

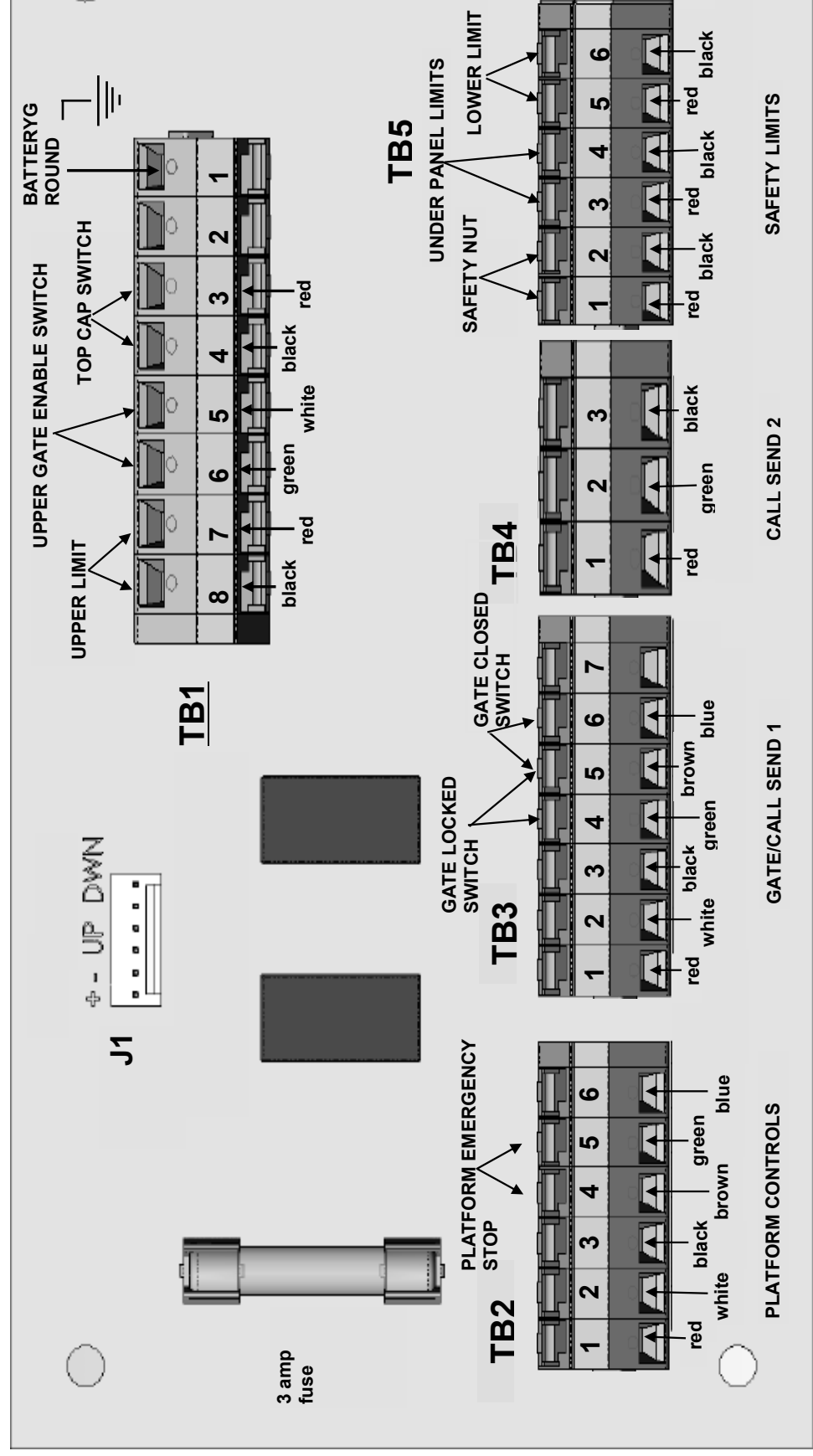
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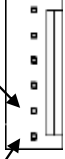
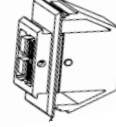
UPDATED SCHEMATIC 3/17/09 CPK
ADDED COVER SWITCH 9/24/08 CPK

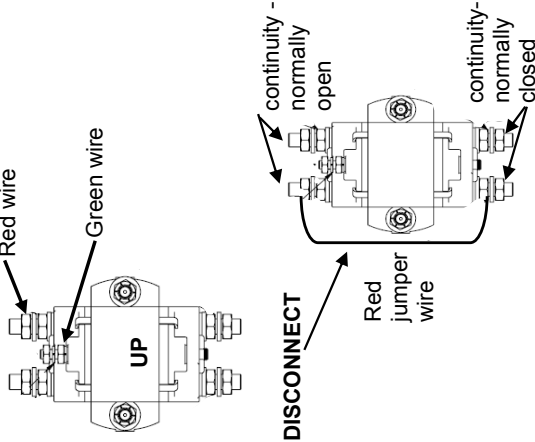
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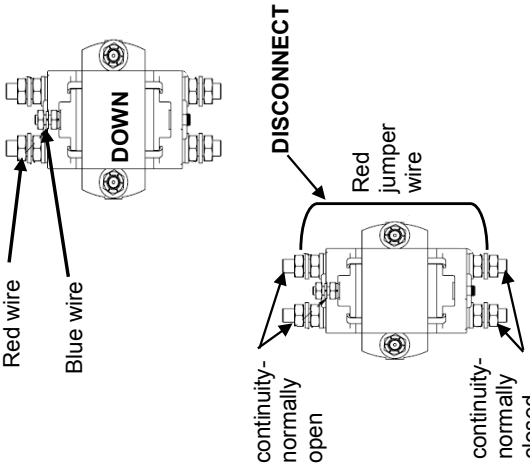


DC VPL CONTROL BOX



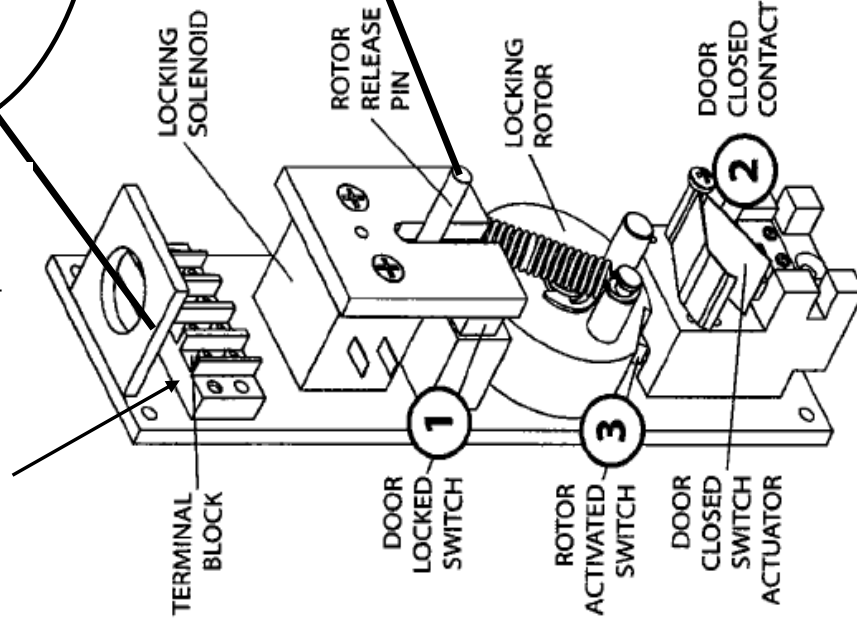
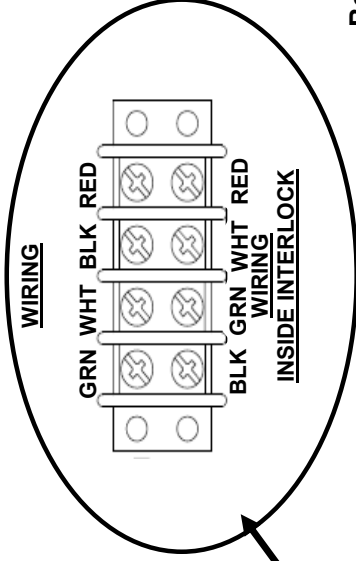
UNIT DOES NOT RUN UP OR DOWN	1	Test input voltage	Check for 24 VDC (minimum voltage to operate) between J1, black and red. If no voltage, check circuit breaker and the final limit switch, wiring, and connections. If good voltage proceed to step #2	RED BLACK  Volt meter settings AC DC TB1 
	2	Test Fuse	Check for 24 VDC between TB1-1 and TB1-2. If no voltage, check fuse, wiring, and connections. If good voltage proceed to step #3	
	3	Test top cap switch	Check for 24 VDC between TB1-1 and TB1-4 if no voltage, pull up on the top cap switch to make sure it is into the service position. Check wiring, connections, and switch. If good voltage proceed to step #4	
	4	Test Emergency Stop Switch on platform	Check for 24 VDC between TB1-1 and TB5-2. The emergency stop switch on the platform must be in the pulled out position to test the circuit. If no voltage, check wires on switch or check the switch itself. If good voltage proceed to step #5	
	5	Test Acme Nut safety switch	Check for 24 VDC between TB1-1 and TB5-1. If no voltage, check to see if the safety nut switch is engaged (located on the carriage behind the acme nut) Check wiring and connections. If good voltage proceed to step #6.	
	6	Test Upper landing gate-door closed switch	Check for 24 VDC between TB1-1 and TB3-5 with the gate closed. If no voltage, check to make sure gate is contacting door closed switch located mid-way up inside the gate post. If good voltage proceed to step #7.	
	7	Test Upper landing gate-door locked switch	Check for 24VDC between TB1-1 and TB3-4. The platform must not be at the top landing and the gate must be closed and locked to check this circuit. If good voltage proceed to step #8.	
	8	Test Platform controls	Place a jumper between terminals TB2-1 and TB1-7 the unit will run up bypassing upper limit. Place the jumper between TB2-1 and TB5-6, unit will run down bypassing lower limits. If the unit runs, go back and double check testing voltage to limit switches and checking connections. If the unit does not run proceed to step #10.	
	9	Test the Motor	Caution: When testing the motor all the safeties are bypassed so use extreme care not to damage the unit and avoid personal injury. Disconnect the motor leads from the top of the control box. Apply 12-24 VDC directly to the motor wires. Positive to the orange wire, negative to the blue, will run the unit up. Positive to the blue, negative to the orange will run the unit down. If motor runs fine, proceed to step #10.	 MOTOR CONNECTOR ON TOP OF CONTROL BOX

UNIT RUNS DOWN ONLY	10	Test Upper Landing Limit Switch	Place jumper wire between TB1-7 and TB1-8 and test. If unit works, inspect the upper limit switch (second switch up in the cluster of three located in the tower) or the wiring to the switch and replace if necessary. If the unit still does not work proceed to step #11.	
	11	Test Platform Up switch	With the platform down 6" or more from the upper landing, place a jumper between TB2-1 and TB1-8. The unit should run the moment the jumper is touched to both terminals. If the unit works, check the platform UP switch or wires and connectors to switch. If the unit still does not run proceed to step # 12.	
	12	Test UP relay	Disconnect motor leads from top of control box. Touch a jumper wire between green wire terminal on relay to the upper red wire terminal on the right side. The relay should immediately click. To check up relay contacts, disconnect batteries, disconnect motor, and then disconnect red jumper wires between contact terminals. Check for continuity between contacts, upper should be open, lower should be closed.	

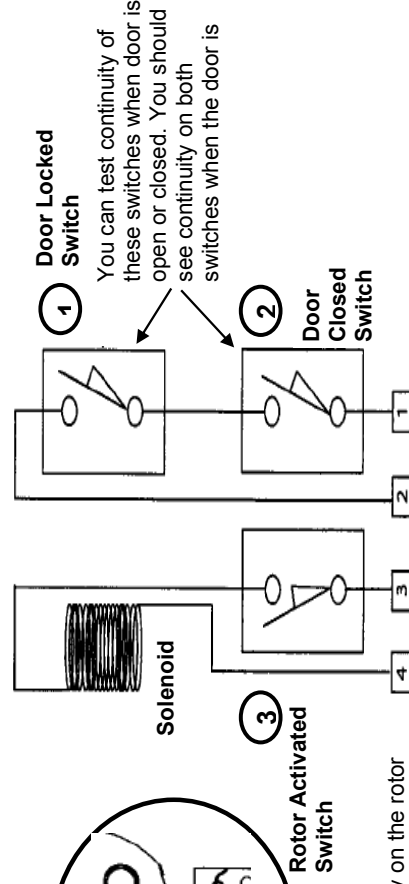
UNIT RUNS UP ONLY	13	Test under panel safety switches	With the unit up at least 6" from the lower landing, place a jumper between TB5-3 and TB5-4 and press the down switch. If the unit runs, inspect the under panel switches or the wires to these switches. If the unit does not run proceed to step #14.
	14	Test lower landing limit switch	With the platform up at least 6" from the lower landing, place a jumper between TB5-5 and TB5-6 and press the down switch. If the unit runs, inspect the lower landing limit switch and wiring in the tower and replace if necessary. If the unit does not run proceed to step #15.
	15	Test Down relay	Disconnect motor leads from top of control box. Touch a jumper wire between blue wire terminal on relay to the upper red wire terminal on the left side. The relay should immediately click. To check down relay contacts, disconnect batteries, disconnect motor, and then disconnect red jumper wire between contact terminals. Check for continuity between contacts, upper should be open, lower should be closed. 

UNIT RUNS WITHOUT INTERLOCK, DOES NOT WHEN INTERLOCK IS PLUGGED IN	16	Test Interlock **(see page 5 interlock schematic)	Check for 24 VDC voltage at terminals 3 and 4, if no voltage here check the lower limit switch in the cluster of three limits in the tower. This switch needs to be made. Place a jumper wire between terminals 1 and 2 on interlock and test. If unit does not run, there is a problem with the wiring from the interlock back into the tower. If unit runs, then test the limits in the interlock. With both limits in the interlock made you should have continuity on terminals 1 and 2. Jump the wires of each switch independently to determine which switch isn't providing continuity.		
UNIT RUNS DOWN 2" AND STOPS (WITH GATE)	17		(Upper gate enable switch [below upper limit switch in tower] runs in series with lower lock switch in gate.) Check lower gate switch, it should be releasing prior to gate enable switch in tower.		
LIGHTS ON CHARGER FLASHING (all four lights, power & fault lights)	18	Reset Charger	Unplug charger from the AC outlet and unplug charger from the batteries in the unit. Let charge sit unplugged for approximately a minute and then reconnect to see if the charger reset. If the charger did not reset, and the lights are still flashing, then the charger would need to be replaced.		
LIGHTS ON CHARGER FLASHING (power light flashing)	19		If just the red power light on the charger flashes, AC voltage has been lost, doublecheck outlet or charger plug.		
TIPS AND TRICKS					
		Bypass gate	Place a jumper wire from terminals 4 and 6 on TB3 which will bypass the gate assembly. Or place jumper on blue to green wire on the gate harness connector.		
		Bypass Up	Place a jumper wire from terminals TB2-1 and TB1-7 and the unit should run in the up direction bypassing upper limit switch.		CAUTION: when jumping the unit will start to run immediately
		Bypass Down	Place a jumper wire from terminals TB2-1 and TB5-6 and the unit will run in the down direction bypassing .		CAUTION: when jumping the unit will start to run immediately

↑ This wire terminal block **MUST** be on the top of the interlock, if the dealer mounted on the bottom it **WILL NOT** operate!!



Before testing continuity on switches, make sure to disconnect power



To test continuity on the rotor switch, set your meter lead on terminal three in the terminal block at the top of interlock and your other meter lead to the lower red wire on the side of the coil. Rotate the locking rotor cam until switch is released. When switch is released it will be closed and you should

(SITUATION: DOOR IS OPEN)

You can test continuity of these switches when door is open or closed. You should see continuity on both switches when the door is

2 & 1 BRUNO GOLD LIMITED WARRANTY
2 Years Major Components — 1 Year Parts
for
Bruno Vertical Platform Lift

Bruno Independent Living Aids, Inc. ("Bruno"), warrants to the original purchaser of a Bruno Vertical Platform Lift that the Bruno Vertical Platform Lift is free from defects in material and workmanship for a period of one year from date of purchase. In addition, Bruno warrants that the motor, Acme screw and drive nut, brake, pulleys, belt and screw bearings (the "Major Components") will be free from defects in materials and workmanship for a period of two years from the date of purchase.

The exclusive remedy for a defect in a Bruno Vertical Platform Lift shall be the repair or replacement, at the option of Bruno, of the defective part or component. After the first 30 days of this warranty, only parts and components are covered. This warranty does not cover labor and other services after the initial 30 days. If repair or replacement of a Bruno Vertical Platform Lift is not commercially practical or cannot be timely made, Bruno may elect to refund the purchase price of the Bruno Vertical Platform Lift instead of repairing or replacing the Bruno Vertical Platform Lift.

IN NO EVENT SHALL BRUNO BE RESPONSIBLE FOR INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, WHETHER SUCH DAMAGES ARISE FROM CLAIMS BASED ON CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR PRODUCT LIABILITY. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

ALL IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN THEIR DURATION TO THE LENGTH OF THE WARRANTY STATED ABOVE FOR THE AFFECTED COMPONENT. Some states do not allow limitations on how long an implied warranty lasts so the above limitation may not apply to you.

To obtain warranty service, you must follow these procedures:

1. Obtain return authorization by calling your local Bruno dealer;
2. Return the Bruno Vertical Platform Lift, freight prepaid, to the address provided by your Bruno dealer or Bruno with proof of purchase indicating the date purchased.

Bruno will pay for shipping back to the purchaser within the continental United States and Canada if a defect in material or workmanship is discovered. Return freight and repair charges will be the responsibility of the purchaser if the problem is not covered by warranty.

This warranty does not cover damage or failure caused by misuse, abuse, accidents, physical damage, modifications not made by Bruno, damage in shipment, or repairs undertaken by anyone other than Bruno factory employees or authorized distributors. The "original purchaser" of a Bruno Vertical Platform Lift that is leased or rented shall be the person or entity acting as the lessee or rental provider.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Bruno specifically does not authorize any person to extend the time or scope of this warranty.

For further information regarding this limited warranty, please contact Bruno by calling 1-800-882-8183 or writing to Bruno at the following address:

Bruno Independent Living Aids, Inc.
Attention: Service Department
1780 Executive Drive, P.O. Box 84
Oconomowoc, WI 53066 USA