

Cummins Metropower, Inc.

Bill of Material

Four (4) new **UL 2200 Listed**, Cummins/Onan model DQKAB, rated at 2000 kW, 12.47 Kv , 3 phase, 4 wire, 60 hertz, 1800 RPM, for operation on No.2 diesel fuel. Package to include our standard accessories plus the following:

- EPA Tier II Emissions Certified Engine
- Dual Electric Starters
- Dual Engine starting batteries – lead acid type
- Dual Battery racks and cables
- Dual Battery chargers, float type, 12 amp / 24 volt
- Battery charging alternator
- PMG excitation
- Electronic isochronous governor
- Critical exhaust silencer
- Stainless steel exhaust flex
- Engine jacket water heater, 208/240/480 vac
- Engine mounted radiator rated for 122 degrees F (50 degree C) ambient environment and fan with duct flange
- Vibration isolators, seismic restraints
- Structural steel base rails

Onan **UL 508** listed PowerCommand 3201 **Paralleling** Control Panel featuring a microprocessor based digital control system, in a NEMA 3R enclosure, with the following features:

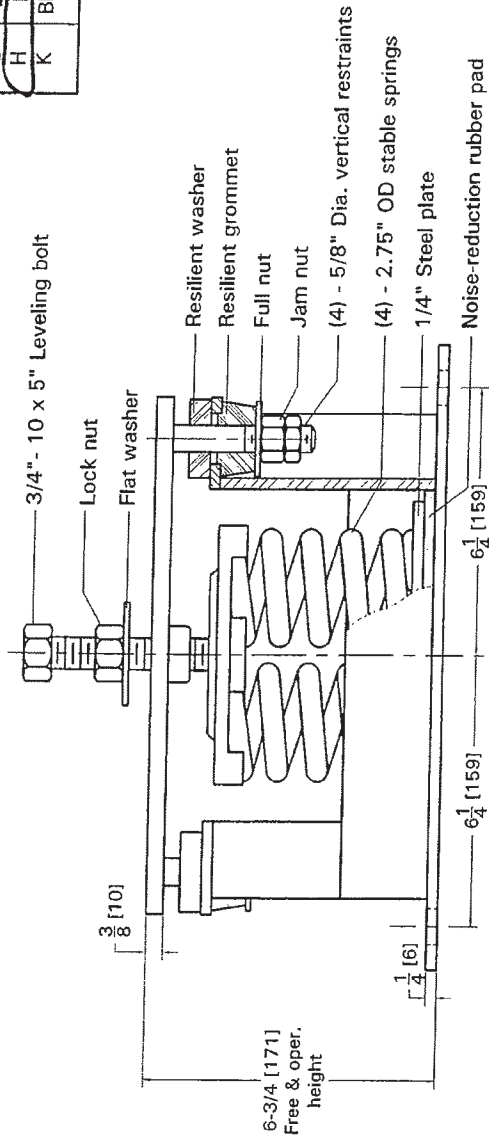
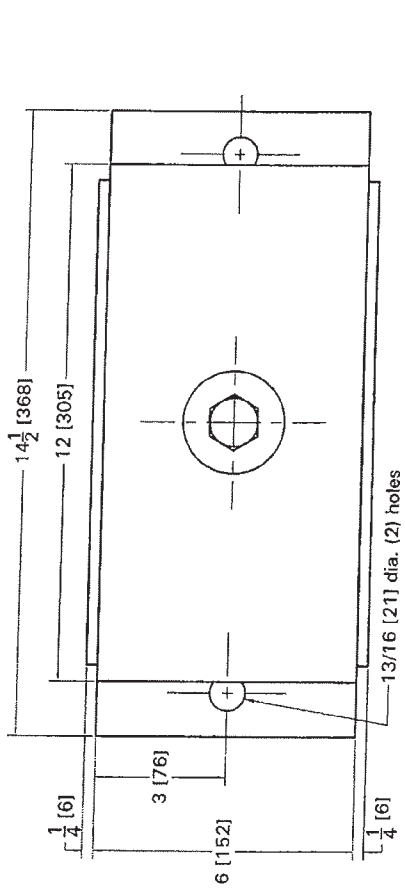
- Digital display panel
- Cyclic cranking control, adjustable
- Idle mode control
- Self diagnostics with LED's for self test
- Separate control interface box
- Run-off-auto switch

- Emergency stop switch
- Reset switch
- Menu switch
- Voltmeter/ammeter phase selector switch
- Panel lights with 10 minute auto switch
- Analog % of current meter (Amps)
- Analog % load meter (KW)
- Analog AC frequency meter
- Analog AC voltage meter
- Analog AC voltage line to line
- Analog AC current by phase
- Digital AC voltage line to line
- Digital AC current by phase
- Digital AC kilowatts
- Digital AC kilowatt hours
- Digital AC power factor
- Digital engine oil pressure
- Digital engine coolant temperature
- Digital engine oil temperature
- Digital engine RPM (tachometer)
- Digital DC battery voltage
- Digital engine starts counter
- Digital engine running hours
- Low oil pressure shutdown and pre-alarm
- High engine temperature shutdown and pre-alarm
- Low coolant level shutdown
- Overspeed shutdown
- Fail to crank shutdown
- Overcrank shutdown
- Oil pressure sender failure warning
- Water temperature sender failure warning
- Alternator overcurrent warning
- Low engine temperature warning
- Engine overload warning with load shed
- Low fuel level warning
- Low battery voltage warning
- High battery voltage warning
- Weak battery warning
- Four (4) customer selected shutdowns or warnings
- Over and under AC voltage shutdown
- Under frequency shutdown

- Weatherproof, Sound-Attenuated Drop Over Walk-In Type Enclosure. Enclosure to reduce in free field generator noise to 75 dBA at 7 meters from enclosure- 120 mph wind rating
- 5000 gallon, UL 2085 Listed, steel, dual wall sub-base fuel tank with mechanical level gauge, low fuel level indicator, and rupture basin leak detector
- 15kV Vacuum Breaker with Surge Arrestor
- Neutral Ground Resistor
- Crankcase Recovery System
- 105 degree rise alternator
- Flexible fuel lines
- PCC remote network annunciator
- Lube oil and antifreeze
- Factory Witness Test (Client travel by others)
- Factory Load Test- run at full load, maximum power, voltage regulation, transient and steady state governing, single step load pickup, and function of safety shutdowns
- CMI Start-up & 8hr load bank test
- Five (5) year comprehensive warranty
- One (1) year Preventative Maintenance Contract

Seismic Zone 2 and
IBC Ss (0.2 sec.) ≤ 45 %
Applications

Type	Color of Spring	Spring Rate lb./in.	Max. Load in lbs.	Defl. in inches
A	Gray	400	600	1.5
B	Tan	800	1040	1.3
C	Yellow	1340	1740	1.3
D	Green	2000	2200	1.1
E	Red	3120	3120	1.0
F	Silver	4280	4280	1.0
G	Brown	5600	5600	1.0
H	Black	7200	7200	1.0
K	Blk&Yel	10000	10000	1.0



E 1-29-2007

REV DATE CHANGES

PURCHASER:

ORDER NO.:

PROJECT:

FILE NO.:

Note: All dimensions are in inches (mm).

Type "824"
Spring Isolation Mounts
with 3/4" Leveling Bolt

DWN BY

SCALE None

DATE 7-16-99

DWG NO. 99A-1288

REV E

Label Configurations & Standard Bindings

NFPA110 GenSet Alarm and Status Annunciator

The following conditions are provided as standard on the annunciator:

- High Battery Voltage (A)
- Low Battery Voltage (A)
- Generator Running (G)
- Genset Supplying Load (G)
- Pre-Low Oil Pressure (A)
- Low Oil Pressure (R)
- Pre-High Coolant Temperature (A)
- High Coolant Temperature (R)
- Low Engine Temperature (A)
- Overspeed (R)
- Fail to Start (overcrank) (R)
- Not in Auto (R)
- Battery Charger Malfunction (A)
- Low Fuel (A)
- Low Coolant Level (R)
- Spare (4) (G)
- Common Alarm

(A) = Amber; (R) = Red; (G) = Green

Extended GenSet Alarm and Status Annunciator

The following conditions are provided as standard on the annunciator:

- Check Genset (R)
- Ground Fault (A)
- High AC Voltage (R)
- Low AC Voltage (R)
- Under Frequency (R)
- Overload (R)
- Over current (R)
- Short circuit (R)
- Reverse KW (R)
- Reverse kVAR (R)
- Fail to Sync (A)
- Fail to Close (R)
- Load Demand (G)
- Genset CB tripped (R)
- Utility CB tripped (R)
- Emergency Stop (R)
- Spare (4) (G)

(A) = Amber; (R) = Red; (G) = Green

8-Point (Genset)

The following conditions are provided as standard on the annunciator:

- Check Genset (A)
- Genset Supplying Load (A)
- Genset Running (G)
- Not in Auto (G)
- High/Low Engine Temp (G)
- Low Oil Pressure (A)
- Low Coolant Level (R)
- Low Fuel Level (A)
- Spare (8) (G)

(A) = Amber; (R) = Red; (G) = Green

4-Point (Genset)

The following conditions are provided as standard on the annunciator:

- Check Genset (A)
- Genset Supplying Load (A)
- Genset Running (G)
- Not in Auto (G)
- Spare (16) (G)

(A) = Amber; (R) = Red; (G) = Green

ATS-Extended

This annunciation set is often used with PLT-series equipment. The following conditions are provided as standard on the annunciator:

- Source 1 Available (G)
- Source 2 Available (G)
- Source 1 Connected (G)
- Source 2 Connected (G)
- Check ATS (R)
- ATS Not in Auto
- Test/Exercise
- Transfer Pending
- Load Shed
- Transfer Inhibit
- Fail to Close
- Fail to Disconnect
- Fail to Synchronize
- Low Battery-Controller
- Low Battery-Network

(A) = Amber; (R) = Red; (G) = Green

ATS 8-Point

The following conditions are provided as standard on the annunciator:

- Source 1 Available (G)
- Source 2 Available (G)
- Source 1 Connected (G)
- Source 2 Connected (G)
- Common Alarm (A)
- Not in Auto (R)
- Test/Exercise Mode (A)
- Low Control Battery (A)
- Spare (8) (G)

(A) = Amber; (R) = Red; (G) = Green

ATS 4-Point

The following conditions are provided as standard on the annunciator:

- Source 1 Available (G)
- Source 2 Available (G)
- Source 2 Connected (G)
- Source 1 Connected (G)

(A) = Amber; (R) = Red; (G) = Green

Custom Alarm Configuration

#	Color (R/A/G)	Label	Horn (Y/N)	#	Color (R/Y/G)	Label	Horn (Y/N)
1				11			
2				12			
3				13			
4				14			
5				15			
6				16			
7				17			
8				18			
9				19			
10				20			

Ordering Information

Part Number	Description
0541-0814-01	Network annunciator, open construction, for panel mounting.
0541-0814-02	Network annunciator including control box for surface wall mounting

A46 / A46F

ENGINE STARTING BATTERY CHARGER

WITHOUT / WITH FILTERING

A46 & A46F Models

Model Number All Models Available As A46F (1)	DC Output			AC Input Current Draw* @ 100% Load (Amps)			A46 Case No.	A46 Shipping Weight (Approximate)		A46F Case No.	A46F Shipping Weight (Approximate)	
	Amps	Volts	Fuse Size	A 120	D 208	B 240		lbs	kgs		lbs	kgs
A46-6-12V	6	12V	15A	1.5	0.9	0.8	1	28	12.7	2	39	17.8
A46-10-12V	10	12V	20A	2.5	1.4	1.3	1	30	13.6	2	41	18.7
A46-20-12V	20	12V	35A	5	2.9	2.5	2	56	25.4	7	68	31.0
A46-30-12V	30	12V	50A	7.5	4.3	3.8	2	66	29.9	3	91	41.4
A46-6-24V	6	24V	15A	3	1.7	1.5	1	38	17.2	7	50	22.8
A46-10-24V	10	24V	20A	5	2.9	2.5	2	62	28.1	7	74	33.7
A46-20-24V	20	24V	35A	10	5.8	5	2	73	33.1	7	85	38.7
A46-30-24V	30	24V	50A	15	8.7	7.5	7	108	49.0	3	127	57.8
A46-40-24V	40	24V	70A	21	12	10	7	112	50.8	3	143	65.0
A46-6-32V	6	32V	15A	4	2.3	2	2	58	26.3	7	70	31.9
A46-10-32V	10	32V	20A	6.7	3.9	3.3	2	68	30.8	7	80	36.4
A46-20-32V	20	32V	35A	14	7.7	6.7	2	74	33.6	3	92	41.9
A46-30-32V	30	32V	50A	21	12	10	7	112	50.8	3	131	59.6

All above models designed for optimal performance at 60Hz. They will operate at 50Hz with reduced performance. Consult factory for units designed specifically at 50Hz. Must specify only one battery type and number of cells. Please consult factory for other available cell ranges if desired range not shown. *AC Current Draws based @ 100% load using standard battery cells of 6L(12V), 12L(24V) and 16L(32V) Maximum Current Draw is typically 140% of ratings shown. (1) UL & CSA Listings are Pending on all A46F Units.

Battery Charger Sizing Guidelines

- Required Battery Backup Time (Hours)
- DC Output Voltage
- Ampere Hour Capacity of Battery
- Allowable Recharge Time From Full Discharge (Hours), Where Applicable
- Continuous & Intermittent DC Loads and Duration (Amps)

Case Specifications

Case No.	Overall Dimensions						Cable Entry (when facing unit)		Mounting
	Width		Depth		Height		AC Input	DC Output	
	in	mm	in	mm	in	mm			
1	10.375	264	7.875	200	16.250	413	Right	Left	Wall
2	12.812	326	10.000	254	17.125	435	Right	Left	Wall
3	15.375	391	11.000	279	23.750	603	Right	Left	Wall / Floor
7	14.250	362	10.625	270	19.875	505	Right	Left	Wall / Floor

Case sizes may differ depending on optional accessories. Please consult factory when dimensions are critical. Dimensions shown above are overall footprint. Detailed dimensions drawings are available for mounting purposes.

Ordering Information

When ordering please specify:

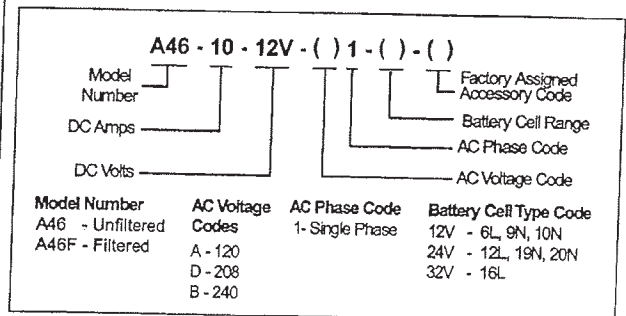
- La Marche Model Number A46 or A46F
- DC Amps
- DC Volts
- Special Frequency, When Required
- AC Voltage Code
- AC Phase Code
- Battery Cell Type
- Optional Accessories (Option Code)

Options

Circuit Breakers								
011	AC Breaker Single pole (120VAC only)	204*	C.A.P. System (Meets NFPA110) includes (1) set of form "C" contacts for AC Power Failure, Low DC Voltage, High DC Voltage, and Low DC Current.					
012	DC Breaker Single Pole							
016	AC Breaker Two Pole							
017	DC Breaker Two Pole							
	Choose options from Discrete or Combination Accessory Packages (C.A.P.)	03M*	Low/High DC Voltage Alarm & Lights with (1) set of Form "C" contacts each for Low Voltage & High Voltage w/LED's.					
	Discrete (Choose one or more of the options in this category)							
055	Float Light							
056	Equalize Light							
060	AC Pilot Light							
04J	Multi-Mode Equalize Timer & Lights Adjustable from 1-144hrs in (5) selectable modes; Standard, 7-day, 14-day, 30-day and Equalize after Low DC Voltage along with the 055 and 056.							
	Combination Accessory Packages (C.A.P.) (Choose only one of these options)							
16E*	Digital C.A.P. System (Meets NFPA 110) Features a selectable LED display along with the AC Pilot Light, Equalize Timer and many more features. (Refer to the Digital C.A.P. System data sheet for complete details.)	38J	ABS & U.S.C.G Accessories with option 060, 16E, or 16J.					
16J*	Digital C.A.P. System (Meets NFPA 110) Includes all the features of 16E package (above) plus Ground Detection Alarm. (Refer to the Digital C.A.P. System data sheet for complete details.)							
203*	C.A.P. System (Does Not Meet NFPA 110) Low Voltage DC, High DC Voltage & Low DC Current LED's, (2) sets of Form "C" contacts for Rectifier Failure and Voltage Alarm.							
			Internal Charge Dividers (consult factory may increase case size)					
		100	To charge 2 batteries with negative common					
		10U	To charge 2 batteries with a positive common					
		10I	to charge 3 batteries with a negative common					
		10V	To charge 3 batteries with positive common					

* Option 10B can be added to these Packages.

Model Number Nomenclature

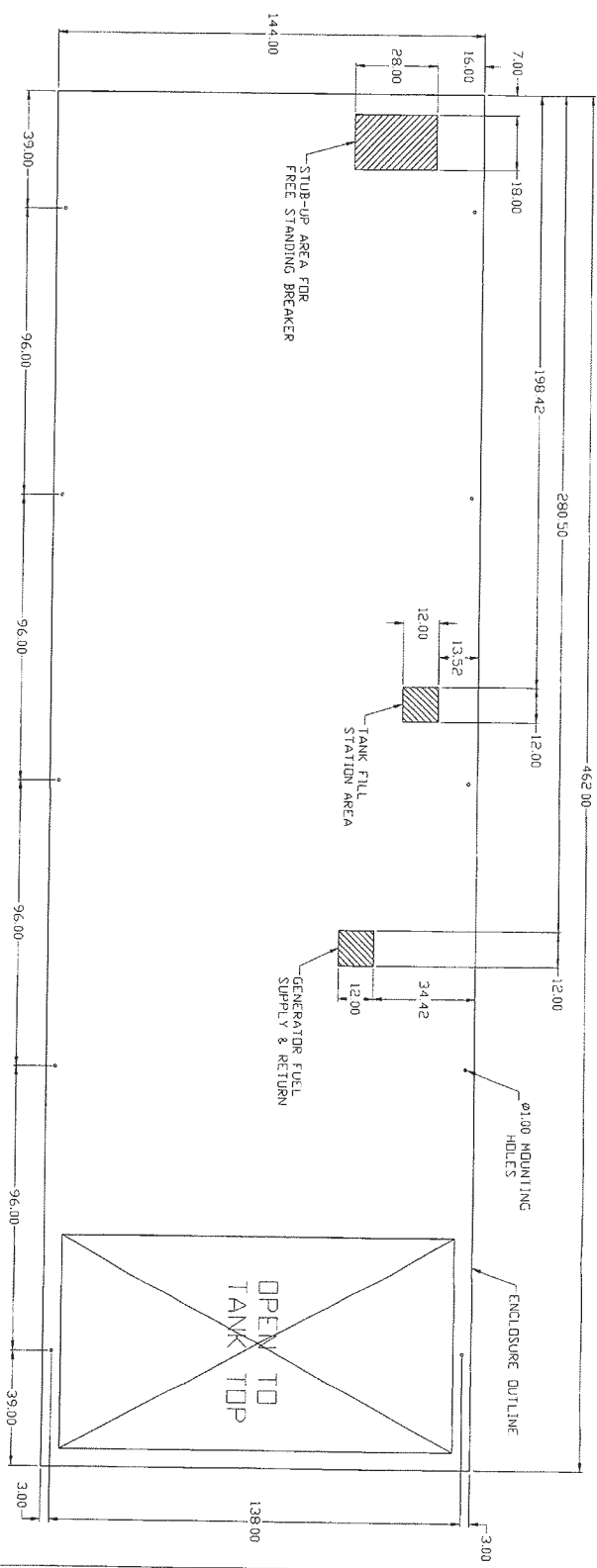


Specifications subject to change without notice.

P25-DSA46-1

ECN 16885

08-05



REV	DESCRIPTION	DATE	BY	CHK
C	ADDED NIB AND BITE STAIRS BRACKET	12/20/01	AK	
B	MONO DOOR AND DOOR AND AERO BRACKET KOS SPACED BY REC		AK	
A	ELEKTR CHANGED TO CRITICAL GRADE		AK	

REV	DESCRIPTION	DATE	BY	CHK

REV	DESCRIPTION	DATE	BY	CHK

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CUSTOMER NAME: CUMMINS DIESEL POWER

PROJECT NAME: DELL

TITLE: SKID LAYOUT

REC QUOTE #: 45571-03

SHEET # 2 of 5

DATE: 4/11/03

DESIGNER: DM

PROJECT NO: 0550-4392

DATE: 7/94-C

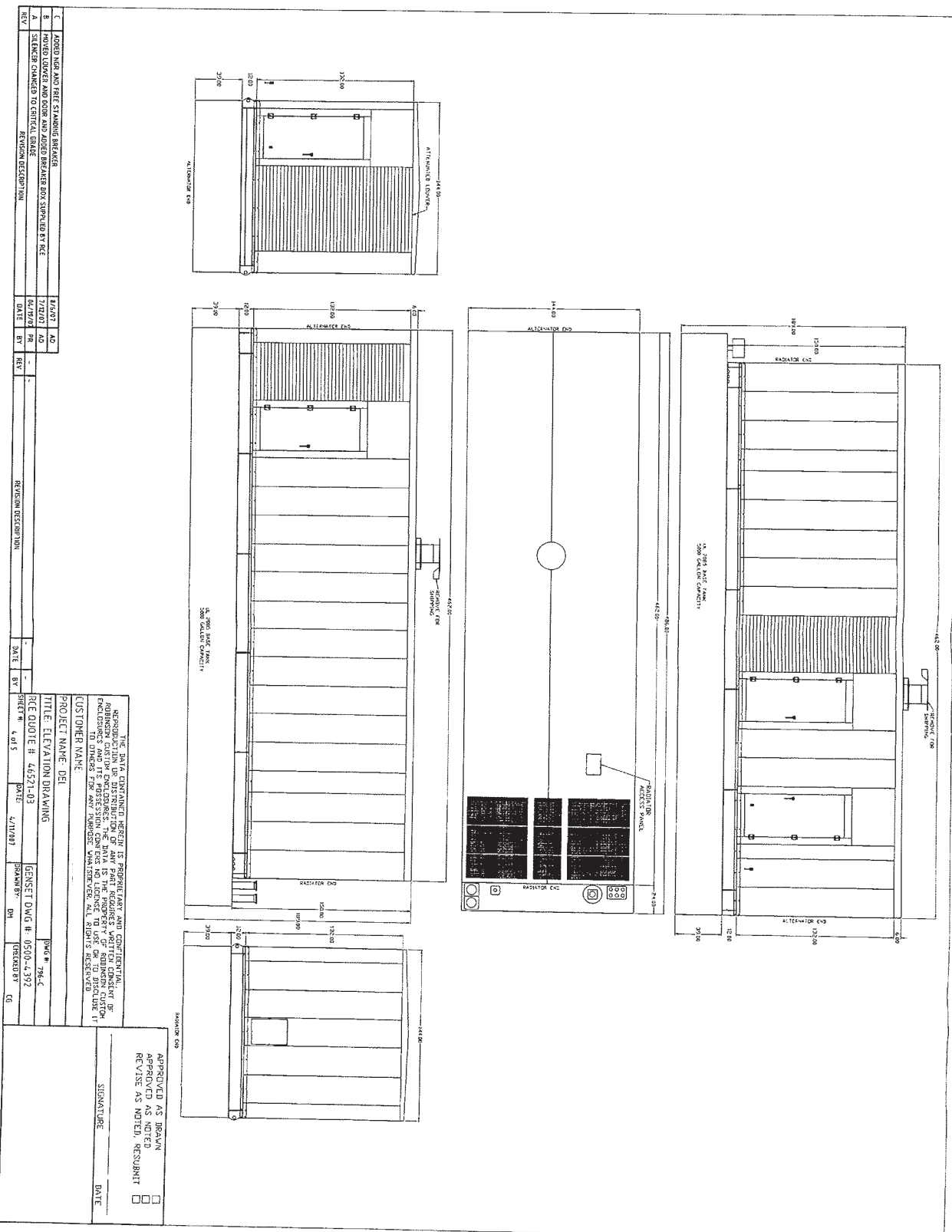
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RESUBMIT

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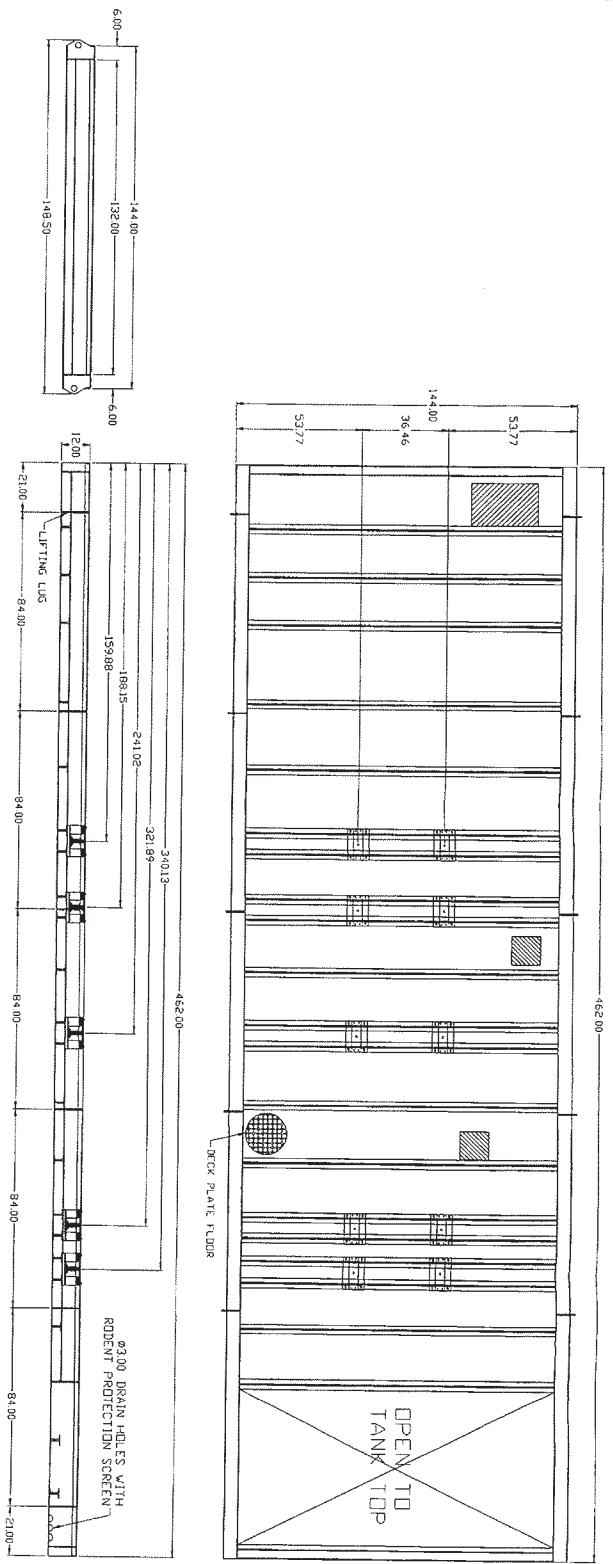


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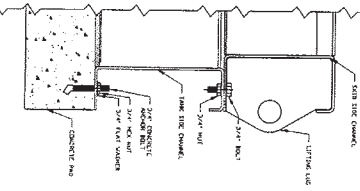
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 TITLE: ELEVATION DRAWING
 SHEET # 4 of 5
 DATE: 4/11/01
 DRAWN BY: DM
 CHECKED BY: CE

APPROVED AS DRAWN
 APPROVED AS NOTED
 REVISE AS NOTED, RESUBMIT
 SIGNATURE _____ DATE _____

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NOTE: MUST LIFT BY ALL 12 POINTS.



REV.	DATE	BY	DESCRIPTION
C	6/20/01	AD	ADDED HSB AND FREE STANDING BRACKETS
B	5/21/01	AD	MOVED DIMENSIONS AND DIMENSIONS AND DIMENSIONS
A	5/21/01	AD	SLIDER CHANGED TO CRITICAL GRADE
			REVISION DESCRIPTION

REV.	DATE	BY	DESCRIPTION
C	7/27/01	AD	ADDED DIMENSIONS AND DIMENSIONS
B	6/27/01	AD	ADDED DIMENSIONS AND DIMENSIONS
A	6/27/01	AD	ADDED DIMENSIONS AND DIMENSIONS
			REVISION DESCRIPTION

PROJECT NAME: DELL

TITLE: SKID DRAWING

DATE: 6/27/01

DESIGNER: DM

CHECKED BY: TG

DATE: 6/27/01

PROJECT NO: 0500-4392

SCALE: 3/4" = 1'-0"

DATE: 6/27/01

PROJECT NO: 0500-4392

SCALE: 3/4" = 1'-0"

DATE: 6/27/01

APPROVED AS DRAWN

APPROVED AS NOTED

REVISED AS NOTED, RESUBMIT

SIGNATURE _____ DATE _____

