

# SELECTOR GUIDE



## PRECISION BUILT INDUSTRIAL BATTERIES



QUALITY SYSTEM  
CERTIFIED  
**ISO 9001**  
**IATF 16949**  
ENVIRONMENTAL  
SYSTEM CERTIFIED  
**ISO 14001**

# How To Use The Battery Selector Chart

The following data is required when placing an order for industrial truck batteries with standard construction features:

## Notes:

1. X, Y, and Z are the outside steel tray maximum length, width, and overall height and are shown in inches.
2. Dimensions listed are standard sizes; other sizes are available upon request.
3. Lifting lugs on batteries weighing more than 3000 pounds are reinforced with an added steel plate. On standard layouts, the lifting lugs are on the end, "Y" dimension.
4. Weights shown on Table # 4 are approximate total battery weight as assembled in a steel tray. The actual battery weight is stamped on the end of the battery prior to shipping. To determine the approximate shipping weight, add 5% to the service weight.
5. If requesting the receptacle to be mounted to the tray, length, width, or height may need to be adjusted to allow for the thickness of the receptacle.
6. To determine the "Cable Lead Length", measure from the outside face of the tray to the rear of the receptacle.
7. Battery restraints must be adjusted to prohibit movement of the battery to no more than 1/2" in a horizontal direction after the battery is installed in the truck.
8. When requesting voltage taps, the voltage is determined by counting from the negative terminal.

INFORMATION REQUIRED	EXAMPLE
1. Number of cells	18
2. Type of cell. (See Table #4)	D85
3. Number of plates per cell (See Table #4)	19
4. Dimensions of tray (See Table #1, 2 or 3)	X=38 3/16", Y=22 5/16", Z=22 5/8"
5. Tray with cover or no cover	No cover
6. Type of receptacle, color, and part number	SB350, Grey, 6320
7. Cable exit position (See Table #1)	Position - A
8. Cable lead length (See Note #6)	30" leads

**EXAMPLE:** One (1) 18-D85-19 battery, 38 3/16" long x 22 5/16" wide x 22 5/8" high, no cover; with grey 6320 receptacle, Position - A and 30" leads.

## Standard Tray Thickness

Battery Weight	Thickness		
	Bottom	Sides	Ends
0-400 lbs.	1/8"	1/8"	1/8"
401-800 lbs.	1/8"	1/8"	3/16"
801-1800 lbs.	3/16"	3/16"	3/16"
1801-3000 lbs.	1/4"	1/4"	1/4"
3001-5000 lbs.*	1/4"	1/4"	1/4"
Over 5000 lbs.	5/16" min.	5/16" min.	5/16" min.

\* Lift Lugs reinforced with 1/4" material

## Standard Battery Cables

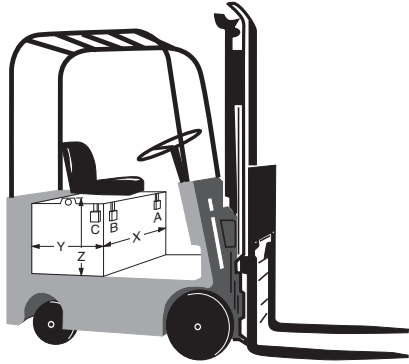
Capacity	Cable Size
0-560 A.H.	#2
561-660 A.H.	#1
661-780 A.H.	1/0
781-900 A.H.	2/0
901-1040 A.H.	3/0
Over 1040 A.H.	4/0

## Fast Charge Battery Cables

Capacity	Cable Size
0-560 A.H.	1/0
561-660 A.H.	2/0
661-900 A.H.	3/0
901 and Up *	4/0

\* On all batteries over 1150 A.H., dual leads are required to meet U.L. Fast Charge requirements.

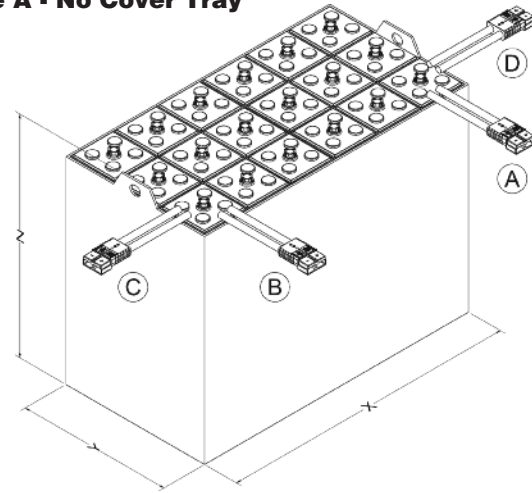
# Table #1 - Tray Design And Layout Information



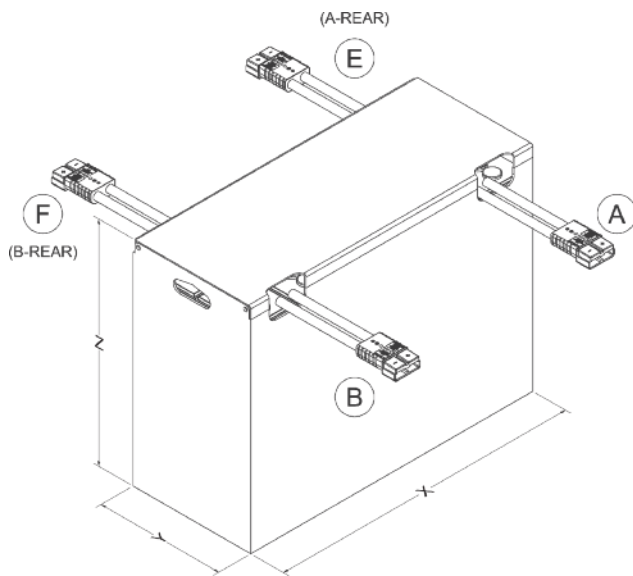
Composite drawings showing dimension references and standard terminal arrangements.

NOTE: Be sure to add for thickness when receptacle is mounted on X or Y dimensions.

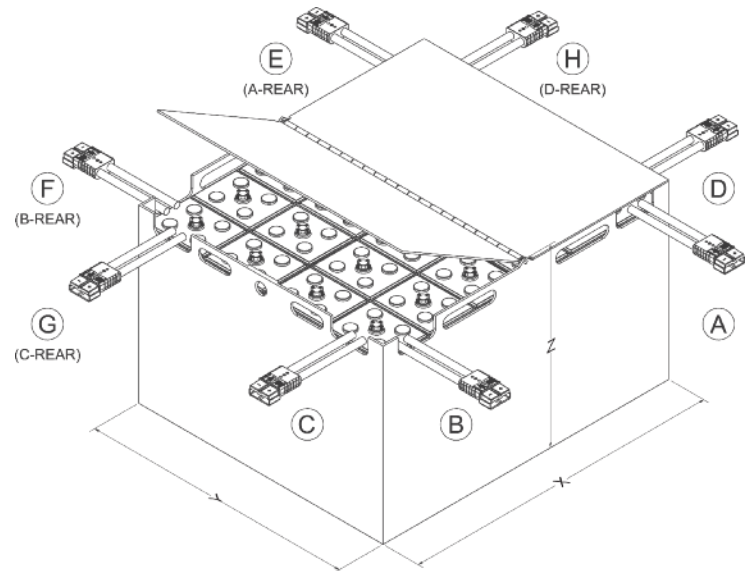
**Figure A - No Cover Tray**



**Figure B - Dome Cover Tray**



**Figure C - Flat Cover Tray**



**Standard  
Battery  
Heights**

<b>(Z) Height Dimension</b>			
<b>Type</b>	<b>No Cover</b>	<b>Dome Cover</b>	<b>Flat Cover</b>
D35, P38	12 3/8"	13"	13 1/4"
D45, P49, G45	14 7/8"	15 1/2"	15 3/4"
D55, P60	18 1/8"	18 3/4"	19"
D65, P71	20"	20 5/8"	20 7/8"
H80, G75 D85, P95	22 5/8"	23 1/4"	23 1/2"
D100, P110 M75, M85	25 5/8"	26 1/4"	26 1/2"
H120, G105 M100, D125 P140, D150 P165, D160 P170	30 1/2"	31 1/8"	31 3/8"

**Note: (Z) Height dimension given  $\pm 1/16"$ .**

Certain engineering modifications may be made to reduce the height to specific requirements. When special heights are required, contact Industrial Sales Department.

# Dimensions - Narrow Plate Batteries

Plate Types D35, D45, D55, D65, D85, D100, D125, H80, H120, M75, M85, M100, P38, P49, P60, P71, P95, P110, P140

## Table #2

Line No.	No. of Plates	6 CELL 12 Volt		9 CELL 18 Volt		12 CELL 24 Volt		18 CELL 36 Volt		24 CELL 48 Volt		36 CELL 72 Volt		40 CELL 80 Volt	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
1	5	12 <sup>11</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>8</sub>	18 <sup>5</sup> / <sub>16</sub>	6 <sup>7</sup> / <sub>16</sub>	24 <sup>9</sup> / <sub>16</sub>	6 <sup>7</sup> / <sub>16</sub>	19	12 <sup>5</sup> / <sub>16</sub>	24 <sup>15</sup> / <sub>16</sub>	12 <sup>15</sup> / <sub>16</sub>	37 <sup>13</sup> / <sub>16</sub>	12 <sup>13</sup> / <sub>16</sub>	44	12 <sup>13</sup> / <sub>16</sub>
2		12 <sup>5</sup> / <sub>16</sub>	6 <sup>7</sup> / <sub>16</sub>	19	6 <sup>1</sup> / <sub>2</sub>	19	8 <sup>5</sup> / <sub>16</sub>	18 <sup>3</sup> / <sub>4</sub>	12 <sup>15</sup> / <sub>16</sub>	25 <sup>5</sup> / <sub>16</sub>	12 <sup>5</sup> / <sub>8</sub>	31	12 <sup>15</sup> / <sub>16</sub>	35 <sup>1</sup> / <sub>16</sub>	12 <sup>15</sup> / <sub>16</sub>
3		-	-	-	-	12 <sup>13</sup> / <sub>16</sub>	12 <sup>9</sup> / <sub>16</sub>	16 <sup>7</sup> / <sub>16</sub>	14 <sup>13</sup> / <sub>16</sub>	32	10 <sup>1</sup> / <sub>2</sub>	-	-	-	-
4	7	16 <sup>3</sup> / <sub>4</sub>	6 <sup>7</sup> / <sub>16</sub>	25 <sup>1</sup> / <sub>16</sub>	6 <sup>7</sup> / <sub>16</sub>	33 <sup>9</sup> / <sub>16</sub>	6 <sup>7</sup> / <sub>16</sub>	37 <sup>11</sup> / <sub>16</sub>	8 <sup>11</sup> / <sub>16</sub>	37 <sup>11</sup> / <sub>16</sub>	11 <sup>7</sup> / <sub>16</sub>	56 <sup>5</sup> / <sub>8</sub>	11 <sup>5</sup> / <sub>16</sub>	55 <sup>7</sup> / <sub>8</sub>	12 <sup>15</sup> / <sub>16</sub>
5		12 <sup>5</sup> / <sub>16</sub>	8 <sup>1</sup> / <sub>2</sub>	19 <sup>1</sup> / <sub>8</sub>	8 <sup>9</sup> / <sub>16</sub>	25 <sup>1</sup> / <sub>4</sub>	8 <sup>9</sup> / <sub>16</sub>	25 <sup>5</sup> / <sub>16</sub>	12 <sup>3</sup> / <sub>4</sub>	31 <sup>1</sup> / <sub>2</sub>	14 <sup>7</sup> / <sub>16</sub>	42 <sup>1</sup> / <sub>4</sub>	15 <sup>11</sup> / <sub>16</sub>	31 <sup>11</sup> / <sub>16</sub>	22 <sup>5</sup> / <sub>8</sub>
6		-	-	-	-	18 <sup>15</sup> / <sub>16</sub>	11 <sup>1</sup> / <sub>2</sub>	22 <sup>9</sup> / <sub>16</sub>	15 <sup>5</sup> / <sub>16</sub>	25 <sup>5</sup> / <sub>16</sub>	16 <sup>15</sup> / <sub>16</sub>	-	-	-	-
7		-	-	-	-	17	12 <sup>7</sup> / <sub>8</sub>	18 <sup>7</sup> / <sub>8</sub>	16 <sup>15</sup> / <sub>16</sub>	-	-	-	-	-	-
8	9	21 <sup>5</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>2</sub>	32 <sup>3</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>2</sub>	37 <sup>11</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>4</sub>	37 <sup>11</sup> / <sub>16</sub>	10 <sup>15</sup> / <sub>16</sub>	37 <sup>13</sup> / <sub>16</sub>	14 <sup>9</sup> / <sub>16</sub>	64 <sup>1</sup> / <sub>8</sub>	12 <sup>7</sup> / <sub>8</sub>	62 <sup>13</sup> / <sub>16</sub>	14 <sup>9</sup> / <sub>16</sub>
9		19 <sup>1</sup> / <sub>8</sub>	7 <sup>5</sup> / <sub>16</sub>	28 <sup>13</sup> / <sub>16</sub>	7 <sup>5</sup> / <sub>16</sub>	25 <sup>5</sup> / <sub>16</sub>	10 <sup>13</sup> / <sub>16</sub>	32 <sup>1</sup> / <sub>2</sub>	12 <sup>3</sup> / <sub>4</sub>	31 <sup>1</sup> / <sub>2</sub>	17 <sup>15</sup> / <sub>16</sub>	42 <sup>11</sup> / <sub>16</sub>	19 <sup>1</sup> / <sub>8</sub>	50 <sup>1</sup> / <sub>8</sub>	19 <sup>1</sup> / <sub>8</sub>
10		12 <sup>7</sup> / <sub>8</sub>	10 <sup>7</sup> / <sub>16</sub>	19	10 <sup>13</sup> / <sub>16</sub>	21 <sup>9</sup> / <sub>16</sub>	12 <sup>5</sup> / <sub>8</sub>	25 <sup>1</sup> / <sub>2</sub>	18 <sup>3</sup> / <sub>16</sub>	28 <sup>9</sup> / <sub>16</sub>	19	37 <sup>3</sup> / <sub>4</sub>	21 <sup>1</sup> / <sub>2</sub>	35 <sup>11</sup> / <sub>16</sub>	25 <sup>5</sup> / <sub>16</sub>
11		-	-	-	-	-	-	21 <sup>7</sup> / <sub>16</sub>	19	25 <sup>9</sup> / <sub>16</sub>	21 <sup>7</sup> / <sub>16</sub>	-	-	-	-
12	11	25 <sup>15</sup> / <sub>16</sub>	6 <sup>9</sup> / <sub>16</sub>	38 <sup>13</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>2</sub>	37 <sup>11</sup> / <sub>16</sub>	8 <sup>7</sup> / <sub>8</sub>	37 <sup>13</sup> / <sub>16</sub>	13 <sup>5</sup> / <sub>16</sub>	47 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>2</sub>	56 <sup>13</sup> / <sub>16</sub>	17 <sup>7</sup> / <sub>16</sub>	63 <sup>1</sup> / <sub>2</sub>	18
13		18 <sup>1</sup> / <sub>2</sub>	8 <sup>3</sup> / <sub>4</sub>	29 <sup>9</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>4</sub>	31 <sup>7</sup> / <sub>8</sub>	10 <sup>13</sup> / <sub>16</sub>	31 <sup>1</sup> / <sub>2</sub>	17 <sup>7</sup> / <sub>16</sub>	37 <sup>3</sup> / <sub>4</sub>	17 <sup>7</sup> / <sub>16</sub>	52 <sup>1</sup> / <sub>8</sub>	19 <sup>1</sup> / <sub>8</sub>	43 <sup>3</sup> / <sub>16</sub>	25 <sup>5</sup> / <sub>16</sub>
14		13 <sup>3</sup> / <sub>16</sub>	12 <sup>13</sup> / <sub>16</sub>	19	13 <sup>1</sup> / <sub>16</sub>	26 <sup>1</sup> / <sub>16</sub>	12 <sup>3</sup> / <sub>4</sub>	26 <sup>1</sup> / <sub>8</sub>	19	34 <sup>9</sup> / <sub>16</sub>	19	38 <sup>15</sup> / <sub>16</sub>	25 <sup>5</sup> / <sub>16</sub>	37 <sup>5</sup> / <sub>16</sub>	31 <sup>13</sup> / <sub>16</sub>
15		-	-	-	-	19 <sup>3</sup> / <sub>16</sub>	17 <sup>3</sup> / <sub>8</sub>	23 <sup>3</sup> / <sub>8</sub>	21 <sup>11</sup> / <sub>16</sub>	26 <sup>3</sup> / <sub>16</sub>	25 <sup>5</sup> / <sub>16</sub>	-	-	-	-
16	13	30 <sup>9</sup> / <sub>16</sub>	6 <sup>7</sup> / <sub>16</sub>	45 <sup>13</sup> / <sub>16</sub>	7 <sup>3</sup> / <sub>4</sub>	37 <sup>9</sup> / <sub>16</sub>	10 <sup>7</sup> / <sub>16</sub>	37 <sup>13</sup> / <sub>16</sub>	15 <sup>5</sup> / <sub>16</sub>	50 <sup>7</sup> / <sub>16</sub>	15 <sup>5</sup> / <sub>16</sub>	66 <sup>7</sup> / <sub>8</sub>	19 <sup>3</sup> / <sub>4</sub>	50 <sup>7</sup> / <sub>8</sub>	25 <sup>5</sup> / <sub>16</sub>
17		19	10 <sup>5</sup> / <sub>16</sub>	30 <sup>5</sup> / <sub>16</sub>	10 <sup>3</sup> / <sub>8</sub>	30 <sup>9</sup> / <sub>16</sub>	12 <sup>3</sup> / <sub>4</sub>	30 <sup>9</sup> / <sub>16</sub>	19	37 <sup>13</sup> / <sub>16</sub>	20 <sup>9</sup> / <sub>16</sub>	45 <sup>11</sup> / <sub>16</sub>	25 <sup>5</sup> / <sub>16</sub>	40 <sup>11</sup> / <sub>16</sub>	31 <sup>5</sup> / <sub>8</sub>
18		15 <sup>5</sup> / <sub>16</sub>	12 <sup>7</sup> / <sub>8</sub>	25 <sup>7</sup> / <sub>16</sub>	11 <sup>7</sup> / <sub>16</sub>	25 <sup>5</sup> / <sub>16</sub>	15 <sup>5</sup> / <sub>16</sub>	25 <sup>9</sup> / <sub>16</sub>	24 <sup>3</sup> / <sub>16</sub>	30 <sup>11</sup> / <sub>16</sub>	25 <sup>5</sup> / <sub>16</sub>	37 <sup>13</sup> / <sub>16</sub>	30 <sup>11</sup> / <sub>16</sub>	38 <sup>3</sup> / <sub>16</sub>	36 <sup>1</sup> / <sub>8</sub>
19		-	-	19	15 <sup>7</sup> / <sub>16</sub>	20 <sup>9</sup> / <sub>16</sub>	18 <sup>7</sup> / <sub>8</sub>	-	-	-	-	-	-	-	-
20	15	35 <sup>1</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>2</sub>	31 <sup>5</sup> / <sub>16</sub>	11 <sup>15</sup> / <sub>16</sub>	38 <sup>1</sup> / <sub>16</sub>	11 <sup>7</sup> / <sub>8</sub>	38 <sup>3</sup> / <sub>16</sub>	17 <sup>13</sup> / <sub>16</sub>	46 <sup>3</sup> / <sub>4</sub>	19 <sup>9</sup> / <sub>16</sub>	76 <sup>1</sup> / <sub>8</sub>	17 <sup>13</sup> / <sub>16</sub>	82 <sup>1</sup> / <sub>8</sub>	19 <sup>7</sup> / <sub>16</sub>
21		19	11 <sup>3</sup> / <sub>4</sub>	29 <sup>3</sup> / <sub>16</sub>	12 <sup>7</sup> / <sub>16</sub>	35 <sup>1</sup> / <sub>16</sub>	12 <sup>7</sup> / <sub>8</sub>	35 <sup>1</sup> / <sub>16</sub>	19 <sup>9</sup> / <sub>16</sub>	38 <sup>3</sup> / <sub>16</sub>	23 <sup>3</sup> / <sub>16</sub>	38 <sup>3</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>16</sub>	63 <sup>5</sup> / <sub>8</sub>	23 <sup>9</sup> / <sub>16</sub>
22		17 <sup>11</sup> / <sub>16</sub>	12 <sup>3</sup> / <sub>4</sub>	19 <sup>3</sup> / <sub>16</sub>	17 <sup>11</sup> / <sub>16</sub>	25 <sup>9</sup> / <sub>16</sub>	17 <sup>11</sup> / <sub>16</sub>	31 <sup>15</sup> / <sub>16</sub>	23 <sup>3</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>16</sub>	25 <sup>1</sup> / <sub>2</sub>	-	-	40 <sup>15</sup> / <sub>16</sub>	38 <sup>3</sup> / <sub>16</sub>
23		-	-	-	-	23 <sup>9</sup> / <sub>16</sub>	19 <sup>5</sup> / <sub>16</sub>	29 <sup>5</sup> / <sub>16</sub>	25 <sup>7</sup> / <sub>16</sub>	31 <sup>15</sup> / <sub>16</sub>	29 <sup>7</sup> / <sub>16</sub>	-	-	-	-
24	17	38 <sup>1</sup> / <sub>16</sub>	6 <sup>13</sup> / <sub>16</sub>	33 <sup>1</sup> / <sub>16</sub>	12 <sup>15</sup> / <sub>16</sub>	39 <sup>9</sup> / <sub>16</sub>	12 <sup>15</sup> / <sub>16</sub>	38 <sup>3</sup> / <sub>16</sub>	20 <sup>1</sup> / <sub>16</sub>	51	20 <sup>1</sup> / <sub>16</sub>	63 <sup>5</sup> / <sub>8</sub>	26 <sup>9</sup> / <sub>16</sub>	51	33 <sup>5</sup> / <sub>16</sub>
25		19 <sup>15</sup> / <sub>16</sub>	12 <sup>7</sup> / <sub>8</sub>	19 <sup>15</sup> / <sub>16</sub>	19 <sup>9</sup> / <sub>16</sub>	38 <sup>1</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>8</sub>	33 <sup>3</sup> / <sub>16</sub>	25 <sup>5</sup> / <sub>16</sub>	38 <sup>3</sup> / <sub>16</sub>	26 <sup>11</sup> / <sub>16</sub>	39 <sup>11</sup> / <sub>16</sub>	38 <sup>3</sup> / <sub>16</sub>	44 <sup>7</sup> / <sub>16</sub>	39 <sup>11</sup> / <sub>16</sub>
26		19 <sup>3</sup> / <sub>16</sub>	13 <sup>7</sup> / <sub>16</sub>	-	-	26 <sup>9</sup> / <sub>16</sub>	19 <sup>3</sup> / <sub>16</sub>	31 <sup>15</sup> / <sub>16</sub>	26 <sup>11</sup> / <sub>16</sub>	33 <sup>1</sup> / <sub>16</sub>	31 <sup>7</sup> / <sub>8</sub>	-	-	-	-
27	19	38 <sup>1</sup> / <sub>16</sub>	7 <sup>5</sup> / <sub>8</sub>	31 <sup>11</sup> / <sub>16</sub>	14 <sup>1</sup> / <sub>16</sub>	44 <sup>3</sup> / <sub>16</sub>	13 <sup>1</sup> / <sub>16</sub>	44 <sup>11</sup> / <sub>16</sub>	19 <sup>9</sup> / <sub>16</sub>	58 <sup>7</sup> / <sub>8</sub>	19 <sup>5</sup> / <sub>16</sub>	76 <sup>1</sup> / <sub>4</sub>	22 <sup>7</sup> / <sub>16</sub>	63 <sup>1</sup> / <sub>2</sub>	29 <sup>13</sup> / <sub>16</sub>
28		22 <sup>3</sup> / <sub>16</sub>	12 <sup>7</sup> / <sub>8</sub>	22 <sup>3</sup> / <sub>16</sub>	19 <sup>9</sup> / <sub>16</sub>	38 <sup>1</sup> / <sub>16</sub>	14 <sup>7</sup> / <sub>8</sub>	38 <sup>3</sup> / <sub>16</sub>	22 <sup>5</sup> / <sub>16</sub>	50 <sup>7</sup> / <sub>8</sub>	22 <sup>5</sup> / <sub>16</sub>	57	29 <sup>13</sup> / <sub>16</sub>	50 <sup>7</sup> / <sub>16</sub>	38 <sup>3</sup> / <sub>16</sub>
29		19 <sup>3</sup> / <sub>16</sub>	14 <sup>15</sup> / <sub>16</sub>	-	-	29 <sup>5</sup> / <sub>8</sub>	19 <sup>3</sup> / <sub>16</sub>	34 <sup>15</sup> / <sub>16</sub>	25 <sup>5</sup> / <sub>16</sub>	44 <sup>3</sup> / <sub>16</sub>	25 <sup>5</sup> / <sub>16</sub>	44 <sup>5</sup> / <sub>16</sub>	38 <sup>5</sup> / <sub>16</sub>	-	-
30		-	-	-	-	25 <sup>13</sup> / <sub>16</sub>	22 <sup>5</sup> / <sub>16</sub>	31 <sup>15</sup> / <sub>16</sub>	29 <sup>11</sup> / <sub>16</sub>	38 <sup>3</sup> / <sub>16</sub>	29 <sup>11</sup> / <sub>16</sub>	-	-	-	-
31	21	38 <sup>1</sup> / <sub>8</sub>	8 <sup>9</sup> / <sub>16</sub>	32 <sup>9</sup> / <sub>16</sub>	14 <sup>3</sup> / <sub>4</sub>	38 <sup>1</sup> / <sub>16</sub>	16 <sup>3</sup> / <sub>8</sub>	48 <sup>9</sup> / <sub>16</sub>	19 <sup>9</sup> / <sub>16</sub>	50 <sup>13</sup> / <sub>16</sub>	24 <sup>9</sup> / <sub>16</sub>	48 <sup>11</sup> / <sub>16</sub>	38 <sup>3</sup> / <sub>16</sub>	50 <sup>11</sup> / <sub>16</sub>	40 <sup>11</sup> / <sub>16</sub>
32		24 <sup>3</sup> / <sub>16</sub>	12 <sup>7</sup> / <sub>8</sub>	24 <sup>3</sup> / <sub>16</sub>	19 <sup>9</sup> / <sub>16</sub>	32 <sup>11</sup> / <sub>16</sub>	19 <sup>9</sup> / <sub>16</sub>	38 <sup>3</sup> / <sub>16</sub>	24 <sup>9</sup> / <sub>16</sub>	48 <sup>11</sup> / <sub>16</sub>	25 <sup>5</sup> / <sub>16</sub>	43 <sup>5</sup> / <sub>8</sub>	43 <sup>5</sup> / <sub>8</sub>	48 <sup>13</sup> / <sub>16</sub>	44 <sup>9</sup> / <sub>16</sub>
33		19 <sup>3</sup> / <sub>16</sub>	16 <sup>1</sup> / <sub>4</sub>	-	-	25 <sup>9</sup> / <sub>16</sub>	24 <sup>7</sup> / <sub>16</sub>	31 <sup>15</sup> / <sub>16</sub>	30 <sup>15</sup> / <sub>16</sub>	38 <sup>3</sup> / <sub>16</sub>	32 <sup>11</sup> / <sub>16</sub>	-	-	-	-
34		-	-	-	-	48 <sup>9</sup> / <sub>16</sub>	12 <sup>15</sup> / <sub>16</sub>	-	-	-	-	-	-	-	-

For dimensions not shown, contact Industrial Sales Department.

\* For service weights — See Table #4

# Dimensions - Narrow Plate Batteries

Plate Types D35, D45, D55, D65, D85, D100, D125, H80, H120, M75, M85, M100, P38, P49, P60, P71, P95, P110, P140

## Table #2 (continued)

Line No.	No. of Plates	6 CELL 12 Volt		9 CELL 18 Volt		12 CELL 24 Volt		18 CELL 36 Volt		24 CELL 48 Volt		36 CELL 72 Volt		40 CELL 80 Volt	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
35	23	38 1/16	9 1/8	41 13/16	12 15/16	38 1/8	17 7/8	53 3/8	19 5/16	53 3/8	25 11/16	57 1/4	35 13/16	-	-
36		26 11/16	12 7/8	26 11/16	19 3/16	35 11/16	19 3/16	38 3/16	26 15/16	44 9/16	32 1/16	53 1/2	38 3/16	-	-
37		19 3/16	17 15/16	-	-	26 15/16	25 9/16	33 1/2	32 1/4	38 3/16	35 11/16	-	-	-	-
38	25	38 1/16	9 15/16	44 13/16	12 15/16	38 7/16	19 1/16	57 7/8	19 5/16	57 7/8	25 5/16	-	-	-	-
39		28 15/16	12 7/8	29 1/16	19 3/16	38 3/16	19 1/2	38 3/16	29 3/16	50 11/16	29 3/16	-	-	-	-
40		19 7/16	19 3/16	-	-	29 1/16	25 11/16	35 7/16	31 15/16	38 11/16	38 3/16	-	-	-	-
41	27	38 1/16	10 11/16	47 13/16	12 15/16	41 11/16	19 3/16	62 3/16	19 5/16	62 1/4	25 13/16	-	-	-	-
42		31 3/16	12 7/8	31 5/16	19 3/16	38 3/16	20 15/16	41 11/16	31 15/16	50 13/16	31 9/16	-	-	-	-
43		20 15/16	19 3/16	-	-	31 7/16	25 9/16	38 3/16	31 7/16	41 13/16	38 3/16	-	-	-	-
44	29	38 1/16	11 7/16	50 13/16	12 15/16	44 9/16	19 3/16	66 7/8	19 5/16	67	25 13/16	-	-	-	-
45		33 3/16	12 15/16	33 7/16	19 3/16	38 3/16	22 9/16	44 11/16	31 15/16	50 13/16	33 13/16	-	-	-	-
46		22 7/16	19 3/16	-	-	32	28 13/16	38 3/16	33 11/16	44 13/16	38 3/16	-	-	-	-
47	31	38 3/16	12 5/16	54	12 15/16	47 9/16	19 5/16	59 3/4	25 11/16	50 13/16	36 1/16	-	-	-	-
48		35 15/16	12 15/16	35 13/16	19 3/16	38 3/16	24 1/16	47 11/16	31 15/16	47 11/16	38 3/16	-	-	-	-
49		23 15/16	19 3/16	-	-	35 15/16	25 9/16	38 3/16	35 15/16	44 9/16	42 3/4	-	-	-	-
50	33	38 3/16	12 15/16	57	12 15/16	50 7/8	19 3/16	50 9/16	31 13/16	50 13/16	38 5/16	-	-	-	-
51		25 7/16	19 3/16	37 15/16	19 3/16	38 3/16	25 9/16	38 3/16	38 3/16	44 9/16	44 7/16	-	-	-	-

### Decimal Equivalents for your Convenience

1/16	.06	5/16	.31	9/16	.56	13/16	.81
1/8	.13	3/8	.38	5/8	.63	7/8	.88
3/16	.19	7/16	.44	11/16	.69	15/16	.94
1/4	.25	1/2	.50	3/4	.75	1	1.00

For dimensions not shown, contact Industrial Sales Department.

\* For service weights — See Table #4

# Dimensions - Wide Plate Batteries

Plate Types D150, D160,  
P165, P170

## Table #3

Line No.	No. of Plates	6 CELL 12 Volt		9 CELL 18 Volt		12 CELL 24 Volt		18 CELL 36 Volt		24 CELL 48 Volt	
		X	Y	X	Y	X	Y	X	Y	X	Y
1	9	26 <sup>5</sup> / <sub>16</sub>	7 <sup>7</sup> / <sub>16</sub>	43 <sup>11</sup> / <sub>16</sub>	7 <sup>7</sup> / <sub>16</sub>	42 <sup>9</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	52 <sup>5</sup> / <sub>16</sub>	11 <sup>1</sup> / <sub>16</sub>	43 <sup>13</sup> / <sub>16</sub>	18 <sup>1</sup> / <sub>16</sub>
2		21 <sup>7</sup> / <sub>16</sub>	9	32 <sup>1</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	35 <sup>1</sup> / <sub>16</sub>	10 <sup>15</sup> / <sub>16</sub>	43 <sup>11</sup> / <sub>16</sub>	14 <sup>7</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>16</sub>	21 <sup>1</sup> / <sub>16</sub>
3		17 <sup>11</sup> / <sub>16</sub>	10 <sup>15</sup> / <sub>16</sub>	26 <sup>5</sup> / <sub>16</sub>	10 <sup>15</sup> / <sub>16</sub>	26 <sup>5</sup> / <sub>16</sub>	14 <sup>7</sup> / <sub>16</sub>	32 <sup>1</sup> / <sub>16</sub>	17 <sup>11</sup> / <sub>16</sub>	28 <sup>11</sup> / <sub>16</sub>	26 <sup>5</sup> / <sub>16</sub>
4		-	-	-	-	21 <sup>7</sup> / <sub>16</sub>	17 <sup>11</sup> / <sub>16</sub>	26 <sup>7</sup> / <sub>16</sub>	21 <sup>7</sup> / <sub>16</sub>	-	-
5	11	26 <sup>5</sup> / <sub>16</sub>	8 <sup>15</sup> / <sub>16</sub>	43 <sup>11</sup> / <sub>16</sub>	8 <sup>15</sup> / <sub>16</sub>	35 <sup>1</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>16</sub>	43 <sup>13</sup> / <sub>16</sub>	17 <sup>9</sup> / <sub>16</sub>	43 <sup>13</sup> / <sub>16</sub>	21 <sup>13</sup> / <sub>16</sub>
6		25 <sup>15</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	38 <sup>13</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	26 <sup>7</sup> / <sub>16</sub>	17 <sup>7</sup> / <sub>16</sub>	38 <sup>15</sup> / <sub>16</sub>	17 <sup>13</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>16</sub>	21 <sup>13</sup> / <sub>16</sub>
7		17 <sup>11</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>16</sub>	26 <sup>5</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>16</sub>	25 <sup>15</sup> / <sub>16</sub>	17 <sup>11</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>16</sub>	21 <sup>13</sup> / <sub>16</sub>	34 <sup>11</sup> / <sub>16</sub>	26 <sup>5</sup> / <sub>16</sub>
8		-	-	-	-	-	-	26 <sup>9</sup> / <sub>16</sub>	26 <sup>1</sup> / <sub>16</sub>	-	-
9	13	30 <sup>7</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	45 <sup>9</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>16</sub>	15 <sup>7</sup> / <sub>16</sub>	45 <sup>11</sup> / <sub>16</sub>	17 <sup>13</sup> / <sub>16</sub>	43 <sup>13</sup> / <sub>16</sub>	25 <sup>5</sup> / <sub>16</sub>
10		26 <sup>7</sup> / <sub>16</sub>	10 <sup>7</sup> / <sub>16</sub>	40 <sup>1</sup> / <sub>16</sub>	10 <sup>7</sup> / <sub>16</sub>	30 <sup>11</sup> / <sub>16</sub>	17 <sup>13</sup> / <sub>16</sub>	43 <sup>13</sup> / <sub>16</sub>	20 <sup>5</sup> / <sub>16</sub>	40 <sup>11</sup> / <sub>16</sub>	26 <sup>5</sup> / <sub>16</sub>
11		17 <sup>11</sup> / <sub>16</sub>	15 <sup>7</sup> / <sub>16</sub>	26 <sup>7</sup> / <sub>16</sub>	15 <sup>7</sup> / <sub>16</sub>	26 <sup>9</sup> / <sub>16</sub>	20 <sup>9</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>16</sub>	25 <sup>11</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>16</sub>	30 <sup>11</sup> / <sub>16</sub>
12		-	-	-	-	-	-	30 <sup>11</sup> / <sub>16</sub>	26 <sup>5</sup> / <sub>16</sub>	-	-
13	15	35 <sup>1</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	40 <sup>13</sup> / <sub>16</sub>	11 <sup>15</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>16</sub>	17 <sup>13</sup> / <sub>16</sub>	52 <sup>5</sup> / <sub>16</sub>	17 <sup>13</sup> / <sub>16</sub>	46 <sup>11</sup> / <sub>16</sub>	26 <sup>5</sup> / <sub>16</sub>
14		26 <sup>7</sup> / <sub>16</sub>	11 <sup>15</sup> / <sub>16</sub>	26 <sup>7</sup> / <sub>16</sub>	17 <sup>11</sup> / <sub>16</sub>	26 <sup>9</sup> / <sub>16</sub>	23 <sup>9</sup> / <sub>16</sub>	43 <sup>13</sup> / <sub>16</sub>	23 <sup>11</sup> / <sub>16</sub>	43 <sup>13</sup> / <sub>16</sub>	29 <sup>7</sup> / <sub>16</sub>
15		17 <sup>11</sup> / <sub>16</sub>	17 <sup>11</sup> / <sub>16</sub>	-	-	-	-	35 <sup>3</sup> / <sub>16</sub>	26 <sup>5</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>16</sub>
16	17	39 <sup>9</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	41 <sup>11</sup> / <sub>16</sub>	13 <sup>9</sup> / <sub>16</sub>	39 <sup>11</sup> / <sub>16</sub>	17 <sup>13</sup> / <sub>16</sub>	52 <sup>5</sup> / <sub>16</sub>	20 <sup>1</sup> / <sub>16</sub>	53	26 <sup>11</sup> / <sub>16</sub>
17		26 <sup>7</sup> / <sub>16</sub>	13 <sup>7</sup> / <sub>16</sub>	26 <sup>7</sup> / <sub>16</sub>	20 <sup>1</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>16</sub>	20 <sup>1</sup> / <sub>16</sub>	39 <sup>11</sup> / <sub>16</sub>	26 <sup>5</sup> / <sub>16</sub>	43 <sup>15</sup> / <sub>16</sub>	33 <sup>5</sup> / <sub>16</sub>
18		19 <sup>15</sup> / <sub>16</sub>	17 <sup>11</sup> / <sub>16</sub>	-	-	26 <sup>11</sup> / <sub>16</sub>	26 <sup>9</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>16</sub>	33 <sup>3</sup> / <sub>16</sub>	39 <sup>13</sup> / <sub>16</sub>	35 <sup>5</sup> / <sub>16</sub>
19	19	44 <sup>1</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	42 <sup>7</sup> / <sub>16</sub>	15 <sup>1</sup> / <sub>16</sub>	44 <sup>3</sup> / <sub>16</sub>	17 <sup>13</sup> / <sub>16</sub>	52 <sup>5</sup> / <sub>16</sub>	22 <sup>5</sup> / <sub>16</sub>	59	26 <sup>11</sup> / <sub>16</sub>
20		26 <sup>7</sup> / <sub>16</sub>	14 <sup>15</sup> / <sub>16</sub>	26 <sup>5</sup> / <sub>16</sub>	22 <sup>5</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>16</sub>	22 <sup>5</sup> / <sub>16</sub>	44 <sup>3</sup> / <sub>16</sub>	26 <sup>5</sup> / <sub>16</sub>	52 <sup>3</sup> / <sub>16</sub>	29 <sup>13</sup> / <sub>16</sub>
21		22 <sup>3</sup> / <sub>16</sub>	17 <sup>11</sup> / <sub>16</sub>	-	-	29 <sup>11</sup> / <sub>16</sub>	26 <sup>9</sup> / <sub>16</sub>	36 <sup>15</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>16</sub>	44 <sup>5</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>16</sub>
22	21	48 <sup>9</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	43 <sup>5</sup> / <sub>16</sub>	16 <sup>9</sup> / <sub>16</sub>	48 <sup>11</sup> / <sub>16</sub>	17 <sup>13</sup> / <sub>16</sub>	52 <sup>3</sup> / <sub>16</sub>	24 <sup>11</sup> / <sub>16</sub>	65	26 <sup>11</sup> / <sub>16</sub>
23		26 <sup>7</sup> / <sub>16</sub>	16 <sup>7</sup> / <sub>16</sub>	26 <sup>5</sup> / <sub>16</sub>	24 <sup>9</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>16</sub>	24 <sup>9</sup> / <sub>16</sub>	48 <sup>13</sup> / <sub>16</sub>	26 <sup>11</sup> / <sub>16</sub>	52 <sup>3</sup> / <sub>16</sub>	32 <sup>13</sup> / <sub>16</sub>
24		24 <sup>7</sup> / <sub>16</sub>	17 <sup>11</sup> / <sub>16</sub>	-	-	32 <sup>11</sup> / <sub>16</sub>	26 <sup>9</sup> / <sub>16</sub>	40 <sup>13</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>16</sub>	48 <sup>13</sup> / <sub>16</sub>	35 <sup>5</sup> / <sub>16</sub>

### Decimal Equivalents for your Convenience

1/16	.06	5/16	.31	9/16	.56	13/16	.81
1/8	.13	3/8	.38	5/8	.63	7/8	.88
3/16	.19	7/16	.44	11/16	.69	15/16	.94
1/4	.25	1/2	.50	3/4	.75	1	1.00

For dimensions not shown, contact Industrial Sales Department.

\* For service weights — See Table #4

# Table #4 - Battery Capacities And Weights\*

## 6 to 40 cells

No. of Plates	Cell Type	A.H. Capacity	6 cell		9 cell		12 cell		18 cell		24 cell		36 cell		40 cell	
		6 Hr.	K.W.H.	Svc. Wt.	K.W.H.	Svc. Wt.	K.W.H.	Svc. Wt.	K.W.H.	Svc. Wt.	K.W.H.	Svc. Wt.	K.W.H.	Svc. Wt.	K.W.H.	Svc. Wt.
5	D35	70	0.81	109	1.22	163	1.62	213	2.43	313	3.24	417	4.86	630	5.40	700
	D45	90	1.04	134	1.56	199	2.08	266	3.13	391	4.17	521	6.25	787	6.95	874
	D55	110	1.27	153	1.91	229	2.55	314	3.82	461	5.10	615	7.64	927	8.49	1030
	D65	130	1.51	187	2.26	280	3.01	364	4.52	535	6.02	713	9.03	1076	10.04	1196
	D75	150	1.74	204	2.61	305	3.47	406	5.21	597	6.95	796	10.42	1201	11.58	1334
	D85	170	1.97	218	2.95	315	3.94	420	5.91	612	7.87	823	11.81	1231	13.12	1368
	D100	200	2.32	248	3.47	373	4.63	484	6.95	711	9.26	948	13.90	1431	15.44	1590
	D110	220	2.55	280	3.82	420	5.10	575	7.64	847	10.19	1129	15.29	1704	16.98	1893
	D125	250	2.90	290	4.34	435	5.79	600	8.69	882	11.58	1176	17.37	1774	19.30	1971
7	D35	105	1.22	177	1.82	266	2.43	346	3.65	509	4.86	678	7.30	1023	8.11	1136
	D45	135	1.56	180	2.34	270	3.13	351	4.69	516	6.25	688	9.38	1038	10.42	1153
	D55	165	1.91	219	2.87	328	3.82	438	5.73	644	7.64	856	11.46	1295	12.74	1439
	D65	195	2.26	244	3.39	366	4.52	497	6.77	730	9.03	973	13.55	1468	15.05	1631
	D75	225	2.61	270	3.91	405	5.21	552	7.82	811	10.42	1074	15.63	1631	17.37	1812
	D85	255	2.95	289	4.43	433	5.91	579	8.86	851	11.81	1119	17.72	1712	19.69	1902
	D100	300	3.47	325	5.21	487	6.95	659	10.42	970	13.90	1291	20.84	1952	23.16	2169
	D110	330	3.82	397	5.73	595	7.64	793	11.46	1147	15.29	1543	22.93	2253	25.48	2503
	D125	375	4.34	412	6.51	618	8.69	823	13.03	1210	17.37	1675	26.06	2341	28.95	2601
9	D35	140	1.62	194	2.43	292	3.24	372	4.86	548	6.48	730	9.73	1102	10.81	1224
	D45	180	2.08	219	3.13	328	4.17	425	6.25	637	8.34	849	12.51	1267	13.90	1408
	D55	220	2.55	273	3.82	409	5.10	533	7.64	783	10.19	1045	15.29	1575	16.98	1750
	D65	260	3.01	327	4.52	490	6.02	639	9.03	939	12.04	1252	18.06	1889	20.07	2099
	D75	300	3.47	353	5.21	529	6.95	688	10.42	1018	13.90	1373	20.84	2048	23.16	2276
	D85	340	3.94	434	5.91	651	7.87	723	11.81	1063	15.75	1429	23.62	2139	26.25	2377
	D100	400	4.63	449	6.95	673	9.26	875	13.90	1286	18.53	1766	27.79	2587	30.88	2874
	D110	440	5.10	553	7.64	730	10.19	1060	15.29	1483	20.38	1976	30.57	2983	33.97	3314
	D125	500	5.79	569	8.69	768	11.58	1111	17.37	1517	23.16	2064	34.74	3052	38.60	3391
	D150	600	6.95	683	10.42	1008	13.90	1325	20.84	1978	27.79	2637	41.69	3980	46.32	4422
D160	640	7.41	709	11.12	1081	14.82	1406	22.23	2067	29.64	2756	44.47	4159	49.41	4621	
11	D35	175	2.03	212	3.04	318	4.05	432	6.08	635	8.11	875	12.16	1278	13.51	1420
	D45	225	2.61	278	3.91	416	5.21	541	7.82	795	10.42	1060	15.63	1599	17.37	1777
	D55	275	3.18	353	4.78	529	6.37	677	9.55	988	12.74	1317	19.11	1988	21.23	2209
	D65	325	3.76	393	5.65	589	7.53	755	11.29	1119	15.05	1492	22.58	2251	25.09	2501
	D75	375	4.34	435	6.51	662	8.69	852	13.03	1226	17.37	1634	26.06	2467	28.95	2741
	D85	425	4.92	457	7.38	695	9.84	872	14.76	1288	19.69	1717	29.53	2613	32.81	2903
	D100	500	5.79	527	8.69	790	11.58	1022	17.37	1481	23.16	1974	34.74	2980	38.60	3311
	D110	550	6.37	634	9.55	947	12.74	1213	19.11	1829	25.48	2439	38.21	3681	42.46	4090
	D125	625	7.24	665	10.86	997	14.48	1251	21.71	1878	28.95	2494	43.43	3778	48.25	4198
	D150	750	8.69	838	13.03	1261	17.37	1594	26.06	2343	34.74	3123	52.11	4714	57.90	5238
D160	800	9.26	902	13.90	1344	18.53	1776	27.79	2611	37.06	3480	55.58	5253	61.76	5837	
13	D35	210	2.43	246	3.65	369	4.86	480	7.30	705	9.73	1003	14.59	1420	16.21	1578
	D45	270	3.13	308	4.69	462	6.25	591	9.38	930	12.51	1227	18.76	1871	20.84	2079
	D55	330	3.82	398	5.73	597	7.64	798	11.46	1150	15.29	1517	22.93	2314	25.48	2571
	D65	390	4.52	459	6.77	689	9.03	890	13.55	1295	18.06	1722	27.10	2605	30.11	2894
	D75	450	5.21	512	7.82	760	10.42	992	15.63	1436	20.84	1954	31.27	2889	34.74	3210
	D85	510	5.91	536	8.86	782	11.81	1042	17.72	1508	23.62	2038	35.43	3034	39.37	3371
	D100	600	6.95	615	10.42	896	13.90	1195	20.84	1749	27.79	2336	41.69	3488	46.32	3876
	D110	660	7.64	734	11.46	1072	15.29	1413	22.93	2134	30.57	2798	45.86	4197	50.95	4663
	D125	750	8.69	752	13.03	1128	17.37	1453	26.06	2188	34.74	2857	52.11	4402	57.90	4891
	D150	900	10.42	979	15.63	1454	20.84	1944	31.27	3050	41.69	4066	62.53	6137	69.48	6819
D160	960	11.12	1044	16.68	1566	22.23	2058	33.35	3229	44.47	4304	66.70	6497	74.11	7219	

\*Service Weights given are approximate and are dependent upon battery layout and tray design. Contact design engineering to determine options for critical counter balance weight situations.

Notes:

1. All K.W.H. ratings are based on an average six hour discharge voltage of 1.93 volts per cell at 77°F of a fully charged battery.
2. Approximate gel battery weights: For G45, add 10% to the D45 weight shown. For G75, add 10% to the D75 weight shown. For G105, add 6% to the D110 weight shown.
3. Approximate HydraSaver battery weights: For H80, add 2% to the D75 weight shown. For H120, add 2% to the D110 weight shown.

# Table #4 - Battery Capacities And Weights\*

## 6 to 40 cells (continued)

No. of Plates	Cell Type	A.H. Capacity	6 cell		9 cell		12 cell		18 cell		24 cell		36 cell		40 cell	
		6 Hr.	K.W.H.	Svc. Wt.	K.W.H.	Svc. Wt.	K.W.H.	Svc. Wt.	K.W.H.	Svc. Wt.	K.W.H.	Svc. Wt.	K.W.H.	Svc. Wt.	K.W.H.	Svc. Wt.
15	D35	245	2.84	291	4.26	437	5.67	568	8.51	849	11.35	1113	17.02	1708	18.91	1898
	D45	315	3.65	361	5.47	542	7.30	704	10.94	1035	14.59	1380	21.89	2082	24.32	2313
	D55	385	4.46	459	6.69	689	8.92	895	13.37	1341	17.83	1814	26.75	2698	29.72	2998
	D65	455	5.27	524	7.90	786	10.54	1022	15.81	1526	21.08	2005	31.61	3070	35.13	3411
	D75	525	6.08	553	9.12	829	12.16	1148	18.24	1740	24.32	2235	36.48	3500	40.53	3889
	D85	595	6.89	589	10.34	883	13.78	1205	20.67	1804	27.56	2335	41.34	3611	45.93	4012
	D100	700	8.11	696	12.16	1044	16.21	1356	24.32	1993	32.42	2657	48.64	4010	54.04	4456
	D110	770	8.92	825	13.37	1236	17.83	1609	26.75	2422	35.67	3174	53.50	4875	59.44	5417
	D125	875	10.13	848	15.20	1366	20.27	1653	30.40	2501	40.53	3266	60.80	5032	67.55	5591
	D150	1050	12.16	1102	18.24	1676	24.32	2242	36.48	3296	48.64	4393	72.95	6632	81.06	7369
D160	1120	12.97	1231	19.45	1785	25.94	2399	38.91	3598	51.88	4796	77.82	7239	86.46	8043	
17	D35	280	3.24	338	4.86	507	6.48	659	9.73	983	12.97	1310	19.45	1978	21.62	2198
	D45	360	4.17	429	6.25	643	8.34	837	12.51	1278	16.68	1703	25.01	2571	27.79	2857
	D55	440	5.10	517	7.64	775	10.19	1008	15.29	1504	20.38	2062	30.57	3026	33.97	3362
	D65	520	6.02	625	9.03	937	12.04	1219	18.06	1820	24.09	2426	36.13	3473	40.14	3859
	D75	600	6.95	651	10.42	976	13.90	1302	20.84	1992	27.79	2605	41.69	4008	46.32	4453
	D85	680	7.87	673	11.81	1009	15.75	1350	23.62	2079	31.50	2721	47.25	4183	52.50	4648
	D100	800	9.26	781	13.90	1171	18.53	1557	27.79	2335	37.06	3116	55.58	4698	61.76	5220
	D110	880	10.19	974	15.29	1461	20.38	1897	30.57	2779	40.76	3635	61.14	5592	67.94	6213
	D125	1000	11.58	1002	17.37	1503	23.16	1953	34.74	2853	46.32	3810	69.48	5740	77.20	6378
	D150	1200	13.90	1261	20.84	1891	27.79	2571	41.69	3837	55.58	5141	83.38	7720	92.64	8578
D160	1280	14.82	1412	22.23	2018	29.64	2753	44.47	4109	59.29	5477	88.93	8267	98.82	9186	
19	D35	315	3.65	382	5.47	573	7.30	744	10.94	1109	14.59	1478	21.89	2231	24.32	2479
	D45	405	4.69	466	7.03	699	9.38	918	14.07	1378	18.76	1837	28.14	2773	31.27	3081
	D55	495	5.73	598	8.60	897	11.46	1167	17.20	1739	22.93	2272	34.39	3499	38.21	3888
	D65	585	6.77	637	10.16	955	13.55	1316	20.32	1961	27.10	2611	40.65	3946	45.16	4384
	D75	675	7.82	745	11.72	1117	15.63	1466	23.45	2185	31.27	2876	46.90	4396	52.11	4884
	D85	765	8.86	778	13.29	1167	17.72	1532	26.58	2294	35.43	3019	53.15	4616	59.06	5129
	D100	900	10.42	872	15.63	1371	20.84	1700	31.27	2580	41.69	3404	62.53	5191	69.48	5768
	D110	990	11.46	1080	17.20	1619	22.93	2103	34.39	3098	45.86	4124	68.79	6226	76.43	6918
	D125	1125	13.03	1103	19.54	1654	26.06	2150	39.08	3225	52.11	4299	78.17	6489	86.85	7210
	D150	1350	15.63	1476	23.45	2214	31.27	2877	46.90	4288	62.53	5716	93.80	8627	104.22	9586
D160	1440	16.68	1587	25.01	2380	33.35	3094	50.03	4611	66.70	6146	100.05	9277	111.17	10308	
21	D35	350	4.05	409	6.08	614	8.11	797	12.16	1189	16.21	1585	24.32	2392	27.02	2658
	D45	450	5.21	531	7.82	797	10.42	1036	15.63	1596	20.84	2039	31.27	3211	34.74	3568
	D55	550	6.37	664	9.55	996	12.74	1295	19.11	1982	25.48	2538	38.21	3988	42.46	4431
	D65	650	7.53	724	11.29	1086	15.05	1411	22.58	2074	30.11	2825	45.16	4173	50.18	4637
	D75	750	8.69	803	13.03	1205	17.37	1573	26.06	2369	34.74	3168	52.11	4652	57.90	5169
	D85	850	9.84	853	14.76	1280	19.69	1641	29.53	2477	39.37	3310	59.06	4853	65.62	5392
	D100	1000	11.58	993	17.37	1490	23.16	1936	34.74	2863	46.32	3865	69.48	5726	77.20	6362
	D110	1100	12.74	1147	19.11	1721	25.48	2236	38.21	3336	50.95	4460	76.43	6713	84.92	7459
	D125	1250	14.48	1189	21.71	1784	28.95	2317	43.43	3458	57.90	4611	86.85	6957	96.50	7730
	D150	1500	17.37	1632	26.06	2448	34.74	3181	52.11	4754	69.48	6337	104.22	9565	115.80	10628
D160	1600	18.53	1747	27.79	2621	37.06	3406	55.58	5007	74.11	6674	111.17	10074	123.52	11193	
23	D35	385	4.46	444	6.69	666	8.92	866	13.37	1293	17.83	1724	26.75	2602	29.72	2891
	D45	495	5.73	587	8.60	881	11.46	1145	17.20	1709	22.93	2278	34.39	3438	38.21	3820
	D55	605	7.01	706	10.51	1059	14.01	1378	21.02	2056	28.02	2741	42.04	4137	46.71	4597
	D65	715	8.28	785	12.42	1178	16.56	1531	24.84	2361	33.12	3147	49.68	4750	55.20	5277
	D75	825	9.55	889	14.33	1334	19.11	1765	28.66	2619	38.21	2457	57.32	5269	63.69	5854
	D85	935	10.83	932	16.24	1398	21.65	1848	32.48	2747	43.31	3595	64.96	5527	72.18	6141
	D100	1100	12.74	1084	19.11	1626	25.48	2113	38.21	3154	50.95	4212	76.43	6346	84.92	7051
	D110	1210	14.01	1277	21.02	1916	28.02	2487	42.04	3711	56.05	4947	84.07	7467	93.41	8297
	D125	1375	15.92	1329	23.88	1994	31.85	2590	47.77	3865	63.69	5152	95.54	7776	106.15	8640

\*Service Weights given are approximate and are dependent upon battery layout and tray design. Contact design engineering to determine options for critical counter balance weight situations.

- Notes:
- 1.All K.W.H. ratings are based on an average six hour discharge voltage of 1.93 volts per cell at 77°F of a fully charged battery.
  - 2.Approximate gel battery weights: For G45, add 10% to the D45 weight shown. For G75, add 10% to the D75 weight shown. For G105, add 6% to the D110 weight shown.
  - 3.Approximate HydraSaver battery weights: For H80, add 2% to the D75 weight shown. For H120, add 2% to the D110 weight shown.



# Table #4 - Battery Capacities And Weights\*

## 6 to 36 cells

No. of Plates	Cell Type	A.H. Capacity	6 cell		9 cell		12 cell		18 cell		24 cell		36 cell	
		6 Hr.	K.W.H.	Svc. Wt.	K.W.H.	Svc. Wt.	K.W.H.	Svc. Wt.	K.W.H.	Svc. Wt.	K.W.H.	Svc. Wt.	K.W.H.	Svc. Wt.
25	D35	420	4.86	495	7.30	743	9.73	966	14.59	1443	19.45	1924	29.18	2904
	D45	540	6.25	628	9.38	942	12.51	1224	18.76	1827	25.01	2435	37.52	3676
	D55	660	7.64	788	11.46	1182	15.29	1512	22.93	2224	30.57	2964	45.86	4475
	D65	780	9.03	854	13.55	1281	18.06	167	27.10	2564	36.13	3418	54.19	5159
	D75	900	10.42	952	15.63	1428	20.84	1893	31.27	2824	41.69	3702	62.53	5682
	D85	1020	11.81	1006	17.72	1509	23.62	1990	35.43	2968	47.25	3877	70.87	5972
	D100	1200	13.90	1153	20.84	1729	27.79	2293	41.69	3423	55.58	4612	83.38	6887
	D110	1320	15.29	1398	22.93	2116	30.57	2751	45.86	4106	61.14	5473	91.71	8262
D125	1500	17.37	1496	26.06	2203	34.74	2864	52.11	4274	69.48	5697	104.22	8599	
27	D35	455	5.27	552	7.90	829	10.54	1078	15.81	1610	21.08	2147	31.61	3241
	D45	585	6.77	685	10.16	1027	13.55	1335	20.32	1992	27.10	2655	40.65	4008
	D55	715	8.28	808	12.42	1212	16.56	1575	24.84	2350	33.12	3133	49.68	4728
	D65	845	9.79	939	14.68	1408	19.57	1830	29.36	2732	39.14	3642	58.71	5497
	D75	975	11.29	1048	16.94	1572	22.58	2043	33.87	3049	45.16	4081	67.74	6135
	D85	1105	12.80	1098	19.19	1647	25.59	2140	38.39	3177	51.18	4234	76.78	6392
	D100	1300	15.05	1246	22.58	1869	30.11	2429	45.16	3626	60.22	4834	90.32	7296
	D110	1430	16.56	1494	24.84	2241	33.12	2911	49.68	4346	66.24	5793	99.36	8743
D125	1625	18.82	1556	28.23	2334	37.64	3033	56.45	4527	75.27	6034	112.91	9108	
29	D35	490	5.67	616	8.51	924	11.35	1203	17.02	1797	22.70	2396	34.05	3617
	D45	630	7.30	751	10.94	1126	14.59	1463	21.89	2184	29.18	2911	43.77	4394
	D55	770	8.92	885	13.37	1327	17.83	1725	26.75	2575	35.67	3433	53.50	5181
	D65	910	10.54	1040	15.81	1560	21.08	2027	31.61	3025	42.15	4032	63.23	6086
	D75	1050	12.16	1159	18.24	1738	24.32	2259	36.48	3371	48.64	4427	72.95	6782
	D85	1190	13.78	1211	20.67	1816	27.56	2360	41.34	3445	55.12	4585	82.68	6931
	D100	1400	16.21	1377	24.32	2065	32.42	2685	48.64	4008	64.85	5320	97.27	8064
	D110	1540	17.83	1619	26.75	2428	35.67	3108	53.50	4569	71.33	6090	107.00	9192
D125	1750	20.27	1684	30.40	2526	40.53	3233	60.80	4752	81.06	6334	121.59	9561	
31	D35	525	6.08	688	9.12	1032	12.16	1343	18.24	2006	24.32	2674	36.48	4036
	D45	675	7.82	791	11.72	1186	15.63	1542	23.45	2302	31.27	3069	46.90	4632
	D55	825	9.55	833	14.33	1399	19.11	1818	28.66	2714	38.21	3618	57.32	5461
	D65	975	11.29	1085	16.94	1627	22.58	2115	33.87	3156	45.16	4207	67.74	6350
	D75	1125	13.03	1201	19.54	1801	26.06	2341	39.08	3494	52.11	4657	78.17	7030
	D85	1275	14.76	1258	22.15	1887	29.53	2452	44.29	3660	59.06	4879	88.59	7364
	D100	1500	17.37	1461	26.06	2191	34.74	2848	52.11	4251	69.48	5667	104.22	8553
	D110	1650	19.11	1741	28.66	2612	38.21	3392	57.32	5062	76.43	6747	114.64	10185
D125	1875	21.71	1812	32.57	2718	43.43	3532	65.14	5271	86.85	7026	130.28	10605	
33	D35	560	6.48	768	9.73	1152	12.97	1498	19.45	2238	25.94	2984	38.91	4505
	D45	720	8.34	856	12.51	1284	16.68	1668	25.01	2490	33.35	3319	50.03	5010
	D55	880	10.19	1010	15.29	1515	20.38	1968	30.57	2937	40.76	3915	61.14	5909
	D65	1040	12.04	1151	18.06	1726	24.09	2243	36.13	3346	48.17	4460	72.26	6732
	D75	1200	13.90	1270	20.84	1905	27.79	2476	41.69	3696	55.58	4927	83.38	7436
	D85	1360	15.75	1331	23.62	1996	31.50	2594	47.25	3871	63.00	5160	94.49	7788
	D100	1600	18.53	1535	27.79	2302	37.06	2992	55.58	4465	74.11	5953	111.17	8984
	D110	1760	20.38	1848	30.57	2770	40.76	3596	61.14	5366	81.52	7154	122.28	10779
D125	2000	23.16	1921	34.74	2881	46.32	3745	69.48	5589	92.64	7450	138.96	11245	

\*Service Weights given are approximate and are dependent upon battery layout and tray design. Contact design engineering to determine options for critical counter balance weight situations.

**Notes:**

- All K.W.H. ratings are based on an average six hour discharge voltage of 1.93 volts per cell at 77°F of a fully charged battery.
- Approximate gel battery weights: For G45, add 10% to the D45 weight shown. For G75, add 10% to the D75 weight shown. For G105, add 6% to the D110 weight shown.
- Approximate HydraSaver battery weights: For H80, add 2% to the D75 weight shown. For H120, add 2% to the D110 weight shown.

As a percent of total battery weight, use the following guidelines to determine approximate component weights:

<b>D-Series:</b>	<b>Gel:</b>
Lead = 65%	Lead = 67%
Steel Tray = 12%	Steel Tray = 9%
Sulfuric Acid = 7%	Sulfuric Acid = 9%
Water = 11%	Water = 14%
Balance = 5%	Balance = 1%

# Table #5 - Standard Terminal Connector Data

Connector		Contact Qty.	Maximum Cable Size	Mfrs. Part #
Amp	Color			
<b>SB</b>				
50	Gray	2	#6	6319
	Red	2	#6	6331G1
175	Gray	2	1/0	6325G1
	Blue	2	1/0	6326G1
	Orange	2	1/0	6327G1
	Yellow	2	1/0	6328G1
	Red	2	1/0	6329G1
350	Gray	2	4/0	6320G2
	Blue	2	4/0	6321G2
	Red	2	4/0	6322G2
	Yellow	2	4/0	6323G2
	Green	2	4/0	6324G2
Orange	2	4/0	6400G2	

Connector		Contact Qty.	Maximum Cable Size	Mfrs. Part #
Amp	Color			
<b>SBE</b>				
160	Gray	4	1/0	E6370G2
	Blue	4	1/0	E6371G2
	Orange	4	1/0	E6372G2
	Yellow	4	1/0	E6373G2
	Red	4	1/0	E6378G2
	Green	4	1/0	E6387G2
	Black	4	1/0	E6388G2
320	Gray	4	4/0	E6340G1
	Blue	4	4/0	E6341G1
	Red	4	4/0	E6342G1
	Green	4	4/0	E6343G1
	Black	4	4/0	E6359G1
	Yellow	4	4/0	E6360G1
	Orange	4	4/0	E6368G1
	Brown	4	4/0	E6332G1
Purple	4	4/0	E6333G1	

Connector		Contact Qty.	Maximum Cable Size	Mfrs. Part #
Amp	Color			
<b>SBX</b>				
175	Gray	4	1/0	6370G1
	Blue	4	1/0	6371G1
	Orange	4	1/0	6372G1
	Yellow	4	1/0	6373G1
	Red	4	1/0	6378G1
	Green	4	1/0	6387G1
350	Gray	4	4/0	6340G1
	Blue	4	4/0	6341G1
	Red	4	4/0	6342G1
	Green	4	4/0	6343G1
	Black	4	4/0	6359G1
	Yellow	4	4/0	6360G1
Orange	4	4/0	6368G1	

Connector	Contact Qty.	Maximum Cable Size	Mfrs. Part #
<b>EURO "A" SERIES (AMERICAN)</b>			
EBC 160 (Female)	6	1/0	16550
EBC 320 (Female)	6	4/0	32504
EBC 160 (Male)	6	1/0	16450
EBC 320 (Male)	6	4/0	32404
<b>SCHALTBAU</b>			
LV320 (Battery)	6	2/0	32N70
LV320 (Battery)	6	3/0	32N95
LV320 (Battery)	6	4/0	324/0

Note: Certain plug and receptacle types are available from more than one manufacturer. East Penn Manufacturing Company reserves the right to supply alternate manufacturer's parts wherever interchangeability has been assured.

# EE Rated (Sparkproof)\* Battery Information Sheet

**\*Definition:** An EE rated (sparkproof) battery must, when cover is closed and locked, not be penetrated at any point by an object with a 1/2" diameter. Cable exit position is critical as the positive and negative cables pass through the tray wall or cover in fixed grommets to prevent penetration. The location of cable exits is determined by the vehicle manufacturer(s) or by duplication of an existing EE battery tray design. Any EE rated truck that possesses a battery compartment with a locking hood and does not violate the 1/2" object penetration requirement as stated above DOES NOT require an EE rated battery.

In an effort to expedite EE rated battery orders where the EPM tray information is not known, additional information on cable exits is required to determine the correct tray design for the application. Please send all available information.

## Replacement Info

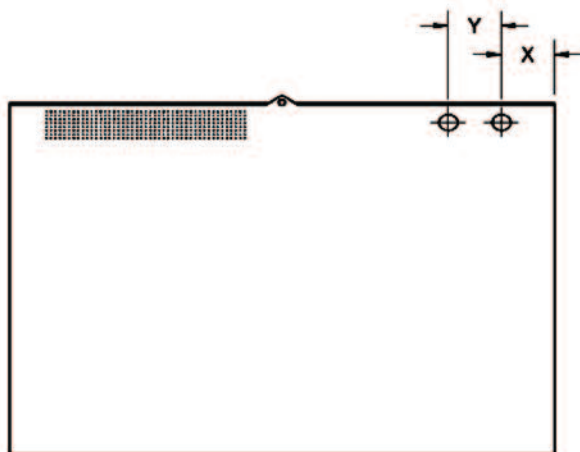
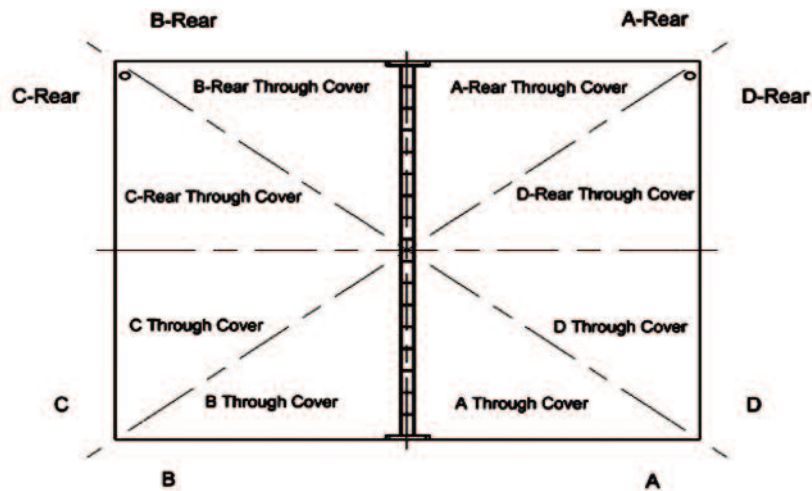
EPM EE rated tray # - IST \_\_\_\_\_ and/or serial #\*\* \_\_\_\_\_

\*\* Serial Number can be found stamped into the plastic shroud and the body of the first connector after the positive terminal.

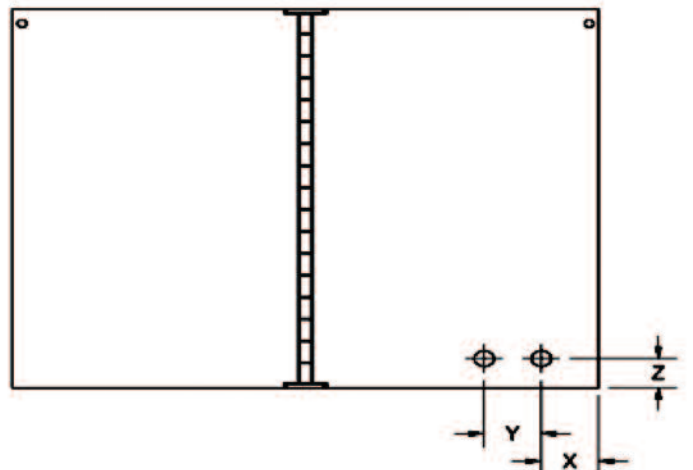
## Cable Exit Data

Position \_\_\_\_\_ X = \_\_\_\_\_ Y = \_\_\_\_\_  Through Cover? Z = \_\_\_\_\_  
See below From edge of tray to 1st hole center From 1st hole center to 2nd hole center Set back from cover edge

### Cable Positions



Example: Position A Through Side



Example: Position A Through Cover

# Connector Accessories

Description	EPM Part No.	Manufacturer's No.
Cable Clamp for SB50	IPR9900	990
Cable Clamp for SB175	IPR9450	945
Cable Clamp for SB350	IPR9961	996G1
Cable Clamp for SBX175 and SBE160	IPR9542	945G2
Cable Clamp for SBX350 and SBE320	IPR9112	911G2
Cable Clamp and Handle for SBX350 and SBE320	IPR9110	911
Manual Release for SB175 (Locking Half)	IPR9230	923
Manual Release for SB175 (Mounting/Charger Half)	IPR9240	924
Manual Release for SB350 (Locking Half)	IPR9190	919G1
Manual Release for SB350 (Mounting/Charging Half)	IPR9221	922G1
Manual Release for SBE320 (Locking Half)	IPR9934	993G1
Manual Release for SBE320 (Mounting/Charging Half)	IPR9944	994G1
Manual Release for SBX350 (Locking Half)	IPR9931	993G1
Manual Release for SBX350 (Mounting/Charging Half)	IPR9944	994G1
Manual Release for EBC320 (Locking Half)	IPR9934	993G1
Manual Release for EBC320 (Mounting/Charging Half)	IPR9944	994G1
A Frame Handle with Hardware for SB175 and SBX175	IPR9952	995G1
A Frame Handle with Hardware for SB350 and SBX350	IPR9952	995G2

## Responsibility Statement

It is important to be precise and accurate when ordering industrial batteries and submitting shipping information. Since the majority of industrial batteries are custom made, accurate specifications are vital. The responsibility for modification costs, production cancellation expenses, or excessive freight charges will be determined and that person or company will be expected to absorb them. If any of the specifications are not met or the shipping directions are not followed, it is the manufacturer's responsibility to make the appropriate adjustments at its expense.

- Manufactured in compliance with American National Standards Institute and Underwriters Laboratories Standard Number ANSI/UL583
- Federal Specification Number W-B-133D
- Complies with Industrial Truck Association Recommended Practices



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