BCI Group Numbers and Dimensions

BCI GRP. NO.	BCI FIG. NO.	VOLTS	MAXIMUM OVERALL DIMENSIONS in INCHES and (MM) L		W		H	
1	2	6	9⅛	(232)	7⅛	(181)	9⅜	(238)
2	2	6	10⅜	(264)	7⅛	(181)	9⅜	(238)
2E	5	6	19 7/16	(492)	4⅛	(105)	9⅛	(232)
2N	1	6	10	(254)	5 5/16	(141)	8 15/16	(227)
3	2	6	11¾	(298)	7⅛	(181)	9⅜	(238)
3D	2	6	20⅜	(518)	8¾	(222)	10	(254)
3EE	9	12	19 5/16	(491)	4⅜	(111)	8⅞	(225)
3EH	5	6	19 5/16	(491)	4⅜	(111)	9 13/16	(249)
3ET	9	12	19 5/16	(491)	4⅜	(111)	9 13/16	(249)
4	2	6	13⅛	(334)	7⅛	(181)	9⅜	(238)
4B	8	12	21¼	(540)	11⅛	(283)	10⅞	(276)
4D	8	12	20¾	(527)	8¾	(222)	9⅞	(250)
4DLT	16L	12	20	(508)	8 3/16	(208)	7 15/16	(202)
4EH	5	6	19 5/16	(491)	5	(127)	9 13/16	(249)
5D	2	6	13¾	(349)	7⅛	(181)	9⅜	(238)
6D	8	12	20¾	(527)	10	(254)	10¼	(260)
7D	2	6	16¼	(413)	7⅛	(181)	9⅜	(238)
8D	8	12	20¾	(527)	11⅛	(283)	9⅞	(250)
12T	10	12	7 1/16	(179)	6 15/16	(177)	7 15/16	(202)
16TF	10F	12	16 9/16	(421)	7⅛	(181)	11⅛	(283)
17HF	2B	6	7⅞	(187)	6⅞	(175)	9	(229)
17TF	11L	12	17 1/16	(433)	6 15/16	(177)	7 15/16	(202)
19L	2	6	8¼	(210)	6¾	(171)	7½	(191)
21	10	12	8 3/16	(208)	6 13/16	(173)	8¾	(222)
21R	11	12	8 3/16	(208)	6 13/16	(173)	8¾	(222)
22F	11F	12	9½	(241)	6⅞	(175)	8 5/16	(211)
22HF	11F	12	9½	(241)	6⅞	(175)	9	(229)
22NF	11F	12	9 7/16	(240)	5½	(140)	8 15/16	(227)
22R	11	12	9	(229)	6⅞	(175)	8 9/16	(211)
24	10	12	10¼	(260)	6 13/16	(173)	8⅞	(225)
24F	11F	12	10¾	(273)	6 13/16	(173)	9	(229)
24H	10	12	10¼	(260)	6 13/16	(173)	9⅜	(238)
24R	11	12	10¼	(260)	6 13/16	(173)	9	(229)
24T	10	12	10¼	(260)	6 13/16	(173)	9¾	(248)
25	10	12	9 1/16	(230)	6⅞	(175)	8⅞	(225)
26	10	12	8 3/16	(208)	6 13/16	(173)	7¾	(197)
26R	11	12	8 3/16	(208)	6 13/16	(173)	7¾	(197)
27	10	12	12 1/16	(306)	6 13/16	(173)	8⅞	(225)
27F	11F	12	12½	(318)	6 13/16	(173)	8 15/16	(227)
27H	10	12	11¾	(298)	6 13/16	(173)	9¼	(235)
28	18	12	10 5/16	(261)	6 13/16	(173)	9 1/16	(240)
29H	10	12	13⅛	(334)	6¾	(171)	9⅛	(232)
29NF	11F	12	13	(330)	5½	(140)	8 15/16	(227)
30H	10	12	13½	(343)	6 13/16	(173)	9¼	(235)
31	18	12	13	(330)	6 13/16	(173)	9 1/16	(240)
33	11F	12	13 5/16	(338)	6 13/16	(173)	9⅜	(238)
34	10	12	10¼	(260)	6 13/16	(173)	7⅞	(200)
34R	11	12	10¼	(260)	6 13/16	(173)	7⅞	(200)
35	11	12	9 1/16	(230)	6⅞	(175)	8⅞	(225)
36R	19	12	10⅜	(263)	7¼	(183)	8⅛	(206)
39	15	12	8⅛	(206)	6⅞	(175)	7	(178)
40R	15	12	10 15/16	(277)	6⅞	(175)	6⅞	(175)
41	15	12	11 5/16	(293)	6⅞	(175)	6⅞	(175)
42	15	12	9 9/16	(243)	6 13/16	(173)	6 13/16	(173)
43	15	12	13⅛	(334)	6⅞	(175)	8 1/16	(205)

BCI GRP. NO.	BCI FIG. NO.	VOLTS	MAXIMUM OVERALL DIMENSIONS in INCHES and (MM) L		W		H	
45	10F	12	9 7/16	(240)	5½	(140)	8 15/16	(227)
46	10F	12	10¾	(273)	6 13/16	(173)	9	(229)
47	24	12	9 11/16	(246)	6⅞	(175)	7½	(190)
48	24	12	12 1/16	(306)	6⅞	(175)	7 9/16	(192)
49	24	12	15	(381)	6⅞	(175)	7 9/16	(192)
50	10	12	13½	(343)	5	(127)	10	(254)
51	10	12	9⅜	(238)	5 1/16	(129)	8 13/16	(223)
51R	11	12	9⅜	(238)	5 1/16	(129)	8 13/16	(223)
52	10	12	7 5/16	(186)	5 13/16	(147)	8¼	(210)
53	14	12	13	(330)	4 11/16	(119)	8¼	(210)
54	19	12	7 5/16	(186)	6 1/16	(154)	8⅜	(212)
55	19	12	8⅝	(218)	6 1/16	(154)	8⅜	(212)
56	19	12	10	(254)	6 1/16	(154)	8⅜	(212)
57	22	12	8 1/16	(205)	7 3/16	(183)	6 15/16	(177)
58	26	12	10 1/16	(255)	7 3/16	(183)	6 15/16	(177)
58R	19	12	10 1/16	(255)	7 3/16	(183)	6 15/16	(177)
59	21	12	10 1/16	(255)	7⅝	(193)	7¾	(196)
60	12	12	13 1/16	(332)	6 5/16	(160)	8⅞	(225)
61	20	12	7 9/16	(192)	6⅜	(162)	8⅞	(225)
62	20	12	8⅞	(225)	6⅜	(162)	8⅞	(225)
63	20	12	10 3/16	(258)	6⅜	(162)	8⅞	(225)
64	20	12	11 11/16	(296)	6⅜	(162)	8⅞	(225)
65	21	12	12 1/16	(306)	7½	(192)	7 9/16	(192)
66	13	12	12 1/16	(306)	7 9/16	(192)	7⅝	(194)
70	17	12	8 3/16	(208)	7 1/16	(179)	7 11/16	(196)@
71	17	12	8 3/16	(208)	7 1/16	(179)	8½	(216)
72	17	12	9 1/16	(230)	7 1/16	(179)	8¼	(210)
73	17	12	9 1/16	(230)	7 1/16	(179)	8½	(216)
74	17	12	10¼	(260)	7¼	(184)	8¾	(222)
75	17	12	9 1/16	(230)	7 1/16	(179)	7 11/16	(196)@
76	17	12	13⅛	(334)	7 1/16	(179)	8½	(216)@
78	17	12	10¼	(260)	7 1/16	(179)	7 11/16	(196)@
79	17	12	12 1/16	(306)	7 1/16	(179)	7⅞	(188)
85	11	12	9 1/16	(230)	6 13/16	(173)	8	(203)
86	10	12	9 1/16	(230)	6 13/16	(173)	8	(203)
90	24	12	9 11/16	(246)	6⅞	(175)	6⅞	(175)
91	24	12	11	(280)	6⅞	(175)	6⅞	(175)
92	24	12	12½	(317)	6⅞	(175)	6⅞	(175)
93	24	12	15	(354)	6⅞	(175)	6⅞	(175)
94R	24	12	12⅜	(315)	7½	(190)	6⅞	(175)
95R	24	12	15 5/16	(394)	6⅞	(175)	7½	(190)
96R	15	12	9 9/16	(242)	6 13/16	(173)	6⅞	(175)
97R	15	12	9 15/16	(252)	6⅞	(175)	7½	(190)
98R	15	12	11 3/16	(283)	6⅞	(175)	7½	(190)
99	34	12	8 3/16	(207)	6⅞	(175)	6⅞	(175)
GC2	2	6	10⅜	(264)	7 3/16	(183)	10⅝*	(270)
U1	10	12	7¾	(197)	5 5/16	(132)	7 5/16	(186)
U1R	11	12	7¾	(197)	5 5/16	(132)	7 5/16	(186)
U2	10	12	6 5/16	(160)	5 5/16	(132)	7⅛	(181)

* Height may vary with different terminal types.

@ Maximum height dimension shown includes batteries with raised quarter cover design. Flat-top design model height (minus quarter covers) reduced by approximately 3/8 inch (10 mm).

Assembly Numbers, Cell Layouts and Terminals*

BY BCI NUMBERS SHOWN IN PARENTHESIS

6-VOLT ASSEMBLIES – TERMINAL POSITIONS & CELL LAYOUTS

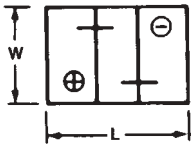


FIG. 1 (2N)

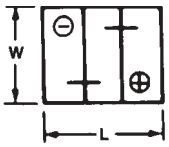


FIG. 2 (1, 2, 3, 3D, 4, 5D, 7D, 19L, GC2, GC2H)

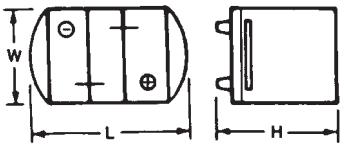


FIG. 2B (17HF)

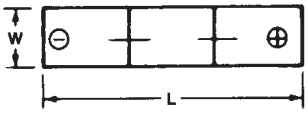


FIG. 5 (2E, 3EH, 4EH)

12-VOLT ASSEMBLIES – TERMINAL POSITIONS & CELL LAYOUTS

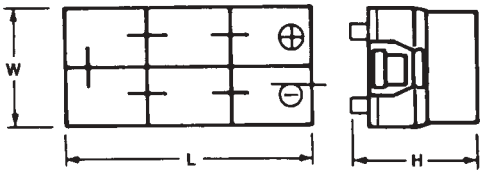


FIG. 8 (4B[3], 4D, 6D, 8D[3])

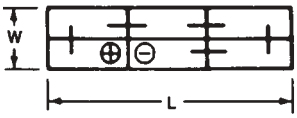


FIG. 9 (3EE, 3ET)

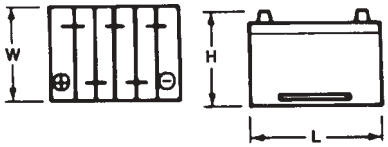


FIG. 10 (12T, 21, 24, 24H, 24T, 25, 26, 27, 27H, 29H, 30H, 34, 50, 51, 52, 86, U1[4], U2[4])

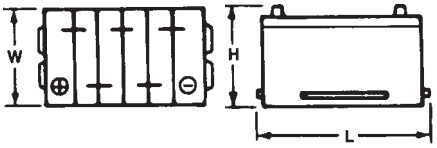


FIG. 10F (16TF, 45, 46)

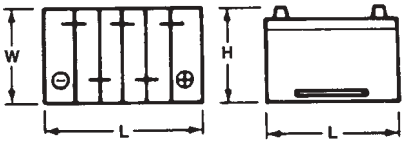


FIG. 11 (21R, 22NL[1], 22R, 24R, 26R, 27R, 29HR, 30HR, 34R, 35, 51R, 85, U1R[4])

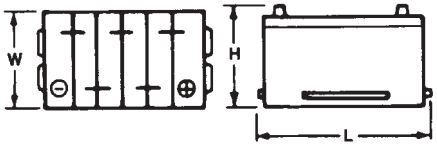


FIG. 11F (22F, 22HF, 22NF, 24F, 27F, 27HF, 29NF, 33)

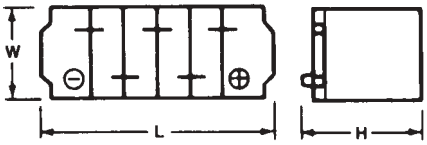


FIG. 11L (17TF)

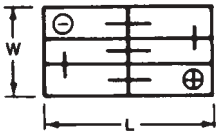


FIG. 12 (60)

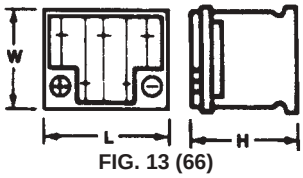


FIG. 13 (66)

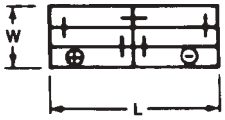


FIG. 14 (53)

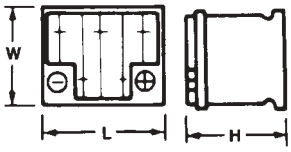


FIG. 15 (40R, 41, 42, 43, 96R, 97R, 98R)

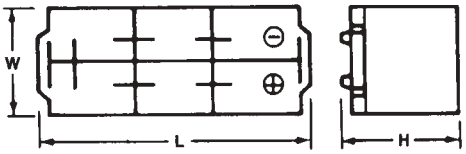


FIG. 16L (4DLT)

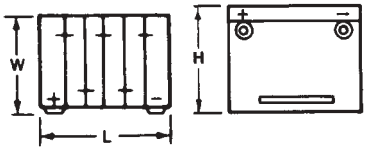


FIG. 17 (70, 71, 72, 73, 74, 75, 76, 77, 78, 101)

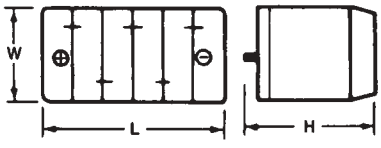


FIG. 18 (28, 31[2])

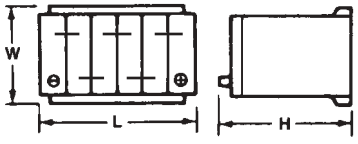


FIG. 19 (36R, 54, 55, 56, 58R)

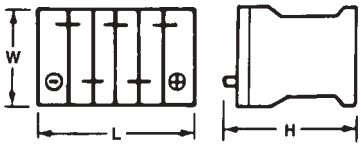


FIG. 20 (61, 62, 63, 64)

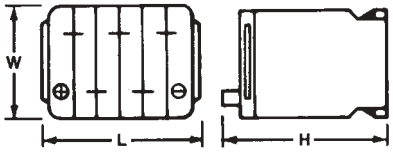


FIG. 21 (59, 65)

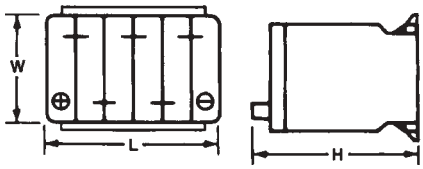


FIG. 22 (57)

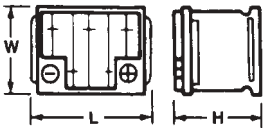


FIG. 24 (47, 48, 49, 90, 91, 92, 93, 94R, 95R)

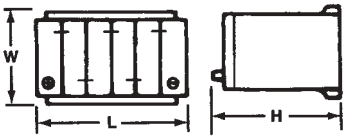


FIG. 26 (58)

Footnotes for Cell Layout Section

[1] Pencil posts supplied as O.E.

[2] SAE or 3/8" stud posts.

[3] SAE or special "bus" side terminals

[4] Special lawn mower "L" terminals.

** Source: Battery Council International*

BCI Group Size to CATERPILLAR Part Number

CROSS REFERENCE AND SUBSTITUTION CHART

BCI GRP.	BCI FIG. NO.	VOLTS	REPLACEMENT PART NO. (Batteries should meet or exceed O.E. Cranking Amps. Some modifications may be necessary.)
1	2	6	8C-3617, 8T-9734
2	2	6	153-5690, 8C-3629, 8C-3617, 8T-9734
2E	5	6	8C-3632
2H	1	6	153-5690
2L	1	6	8C-3617 (1), 8T-9734 (1)
2N	1	6	153-5690 (5), 8C-3629 (5)
3	2	6	153-5690, 8T-9732, 8C-3630, 8C-3629, 8C-3617, 8T-9734
3D	2	6	8T-9730, 8C-3635, 8T-9731
3EE	9	12	8C-3620
3EH	5	6	8C-3632
3ET	9	12	8C-3620
4	2	6	8C-3633, 8T-9733
4B	8	12	153-5720, 101-4000, 8C-3624, 153-5700, 153-5710, 9X-9720, 8C-3623
4D	8	12	153-5700, 9X-9730, 9X-9720, 8C-3623, 153-5710
4DLT	16L	12	8C-3622, 153-5700 (1,5), 153-5710, 9X-9720 (1,5)
4EH	5	6	8C-3632
5D	2	6	8C-3633, 8C-3602
6D	8	12	153-5700, 153-5710, 9X-9720, 8C-3623
7D	2	6	8C-3635, 8T-9731, 8C-3633, 8T-9733
8D	8	12	153-5720, 101-4000, 8C-3624
8V	2	8	8C-3640
9D	2	6	8T-9730
12T	10	12	See Group 24
16TF	10F	12	N.A.
17HF	2B	6	8C-3617 (3), 8T-9734 (3)
17TF	11L	12	N.A.
19L	2	6	See Group 1 (5)
20H	10	12	8C-3636 (With SAE adapter or change cable)
21	10	12	8C-3600
21R	11	12	8C-3600(4)
22F	11F	12	3T-5859, 9X-1384
22HF	11F	12	3T-5859, 9X-1384
22NF	11F	12	See Group 22F (2)
22NL	11	12	See Group 22F (2), Watch post clearance!
22R	11	12	See Group 22F.
23	11L	12	See Group 24F.
24	10	12	153-5656, 3T-5857, 9X-1383, 127-0824, 127-0826
24M	10	12	8C-3638
24F	11F	12	3T-5858, 9X-1382, 127-0824, 127-0826
24H	10	12	See Group 24.
24R	11	12	See Group 24F.
24T	10	12	See Group 24.
25	10	12	145-4517, 8C-3600
26	10	12	145-4517, 8C-3600
26R	11	12	145-4517, 8C-3600 (4)
27	10	12	153-5656, 8C-3601, 3E-8925, 127-0824, 127-0826, 130-1978
27F	11F	12	8C-3602, 127-0824, 127-0826, 143-4084
27H	10	12	See Group 27.
27HF	11F	12	See Group 27F.
27M	10	12	8C-3639
28	18	12	153-5656 (8), 8C-3638 Watch Height Clearance!
29H	10	12	8C-3627, 9X-1379 See Group 31 (SAE)
29HR	11	12	See Group 31 (SAE).
29NF	11F	12	See Group 24F (2).
30H	10	12	See Group 29H.
30HR	11	12	See Group 31 (SAE).
31	18	12	175-4360, 175-4370, 175-4390
31 (SAE)	18	12	115-2422, 115-2421, 9X-3404, 3T-5760 See GR 29H
33	11F	12	115-2421, 115-2422
34	10	12	127-0826, 153-5656 (1), 3T-5857 (1), 9X-1383 (1)
34R	11	12	127-0826 (4)
35	11	12	3T-5859 (7), 9X-1384 (7)
41	15	12	8C-3605
42	15	12	8C-3605 (7)
43	15	12	8C-3605
44	15	12	8C-3605
45	10F	12	N.A.
46	10F	12	127-0824
47	24	12	8C-3605 (3)
48	24	12	N.A.
49	24	12	8C-3605 (6)
50	10	12	N.A.
51	10	12	N.A.
51R	11	12	N.A.
52	10	12	N.A.
53	14	12	N.A.
54	19	12	8C-3611
55	19	12	8C-3611
56	19	12	8C-3611
57	22	12	175-4280
58	26	12	175-4280
58R	19	12	175-4280
60	12	12	N.A.
61	20	12	8C-3611
62	20	12	8C-3611
63	20	12	8C-3611
64	20	12	8C-3611
65	21	12	230-6368
70	17	12	153-5660 (7), 7X-6100 (5)
71	17	12	Refer to Group 70.
72	17	12	Refer to Group 70.
73	17	12	Refer to Group 70.
74	17	12	153-5660, 7X-6100, 127-0824, 127-0826
75	17	12	7X-6100, 127-0826
76	17	12	127-0824 (1)
77	17	12	See Group 74.
78	17	12	153-5660 (1), 127-0826 (1)
85	11	12	See Group 22F.
86	10	12	8C-3600
91	24	12	8C-3605 (6)
92	24	12	8C-3605 (6)
GC2	2	12	8C-3641
GC2H	2	12	See Group GC2
LM	11	12	N.A.
U1	10	12	8C-3636
U1R	11	12	8C-3636 (4)

Cross Reference Chart Footnote Codes:

(1) Replacement battery is taller than O.E. **Check height clearance carefully before closing hood or cover!**

(2) Replacement battery is wider than O.E. Hold-down and/or tray replacement may be necessary.

(3) Replacement battery is longer than O.E. Hold-down and/or tray replacement may be necessary.

(4) O.E. battery has reverse terminals. **WATCH POLARITY!** Cable replacement may be necessary.

(5) Replacement battery is longer and wider than O.E. Hold-down and/or tray replacement may be necessary.

(6) Check O.E. CCA requirements. Replacement CCA may not be sufficient.

(7) Replacement battery is longer and taller than O.E. **Check height clearance carefully.** Hold-down and/or tray replacement may be necessary.

(8) Battery hold-down may need to be replaced and/or modified.

IMPORTANT NOTE: Always check for proper polarity and sufficient clearances before connecting cables and closing hood or covers! ALWAYS WEAR SAFETY GLASSES WHEN WORKING AROUND BATTERIES!

BCI / DIN / EN REFERENCE CHART

		EUROPEAN REFERENCE INFORMATION								
BCI GROUP NUMBER	BCI ASSEMBLY FIGURE	DIMENSIONS (MM)			HOLD-DOWN (see below)	LIFTING LEDGE	POSITIVE TERMINAL LOCATION	DIN CODE		EN CODES
		LENGTH	WIDTH	HEIGHT						
40R	15	278	175	175	B1	NO	RIGHT	T6	LB3	66LB
41	15	293	175	175	B4	NO	RIGHT	T65	N/A	54LB
42	15	242	175	175	B2	NO	RIGHT	T5	LB2	45LB
47	24	242	175	190	B3	YES	RIGHT	H5	L2	55L2
48	24	278	175	190	B3	YES	RIGHT	H6	L3	66L3
49	24	354	175	190	B3	YES	RIGHT	H8	L5	88L5
66	13	306	192	194	B8	YES	LEFT	N/A	N/A	N/A
90	24	242	175	175	B3	YES	RIGHT	T5	LB2	45LB
91	24	278	175	175	B3	YES	RIGHT	T6	LB3	66LB
92	24	315	175	175	B3	YES	RIGHT	T7	LB4	77LB
93	24	354	175	175	B3	YES	RIGHT	T8	LB5	88LB
94R	24	315	175	190	B3	YES	RIGHT	H7	L4	77L4
95R	24	394	175	190	B3	YES	RIGHT	H9	L6	
96R	15	242	175	175	B1	NO	RIGHT	T5	LB2	45LB
97R	15	252	175	190	B4	NO	RIGHT	H5	L2	55L2
98R	15	283	175	190	B4	NO	RIGHT	H6	L3	66L3
99	34	207	175	175	B1	YES	LEFT	T4	LB1	36LB
N/A	N/A	175	175	190	B3	YES	RIGHT	H3	L0	32L0
N/A	N/A	207	175	190	B3	YES	RIGHT	H4	L1	45L1
N/A	N/A	175	175	175	B3	YES	RIGHT	T3	LB0	

CAUTION

These are common hold-down types but others may be used.

Hold-down descriptions:

B1 - 10.5 mm high with 3 or 5 notches on sides only

B2 - 10.5 mm high with 2 notches on front and 1 on back or sides only

B3 - 10.5 mm high on sides only with 3 or 5 notches on sides and 3 notches on ends

B4 - 19.0 mm high on sides only with 3 or 5 notches on sides only

B6 - 29.0 mm high without notches on ends only

B8 - 13.5 mm high without notches on sides only

B9 - Bottom slots on sides and 29.0 mm high without notches on ends

BATTERIES ARE RECYCLABLE!

Imagine the environmental damage that can be caused by carelessly discarding 18 pounds of lead, two pounds of plastic, and a gallon of acid: the contents of a lead-acid battery. Now imagine that damage compounded by 75,000,000: the number of lead-acid batteries available for recycling each year in the United States.

Fortunately, scrap lead-acid batteries can be safely recycled. In fact, they have been recycled since the 1920s, and today these batteries have a higher recycling rate than other waste products such as aluminum, paper, and beverage containers made of glass or plastic, just to name a few. Over 98% of all used batteries are recycled today.

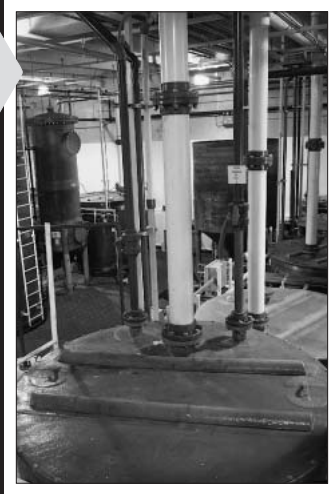
This is an E.P.A.-permitted recycling system, which is important for you to know because hazardous disposal laws place heavy penalties on offenders and considerable paper work burden on everyone. You can be assured that your scrap is being recycled in an environmentally safe manner.

Scrap lead-acid batteries are disassembled in a ventilated battery breaker, where the lead, plastic and acid are safely separated.

The lead is processed and smelted in the reverberatory furnace, producing metal which goes to the refinery. There it is placed in kettles, combined with reagents, and alloyed into lead for use in new batteries.

The recycled plastic from the battery cases and tops is reclaimed in the plastic recovery plant, where it is cleaned and separated into polypropylene and lead-bearing materials. Polypropylene is recycled to make cases and covers for new batteries and other plastic products.

Battery acid is recycled in a patented acid reclamation plant. This one-of-a-kind, computer-controlled facility allows recycling of used battery acid for use in the production of new batteries. Tests show no difference in the performance of batteries using recycled sulfuric acid when compared to batteries using new acid.



APPLICATION NOTES

APPLICATION NOTES

APPLICATION NOTES

APPLICATION NOTES

APPLICATION NOTES

CATERPILLAR®

PEGP7801-05