

AW

# AERIAL WORK PLATFORM/ACCESS



# Trojan<sup>®</sup>

BATTERY COMPANY

*Clean energy for life<sup>™</sup>*

**Made in the USA**



# *Maximum Productivity...*

## *Worry Free Operation*

WHETHER CHANGING A LIGHT BULB IN A SCHOOL GYMNASIUM OR WASHING THE WINDOWS OF A 50-FOOT OFFICE BUILDING, RELIABILITY OF THE BATTERIES POWERING YOUR LIFT EQUIPMENT MAKE ALL THE DIFFERENCE IN GETTING TO THOSE HARD-TO-REACH PLACES. TROJAN DEEP-CYCLE BATTERIES PROVIDE AERIAL WORK PLATFORM (AWP) AND ACCESS EQUIPMENT WITH RELIABLE PERFORMANCE AND MORE PRODUCTIVE HOURS ON THE JOB.

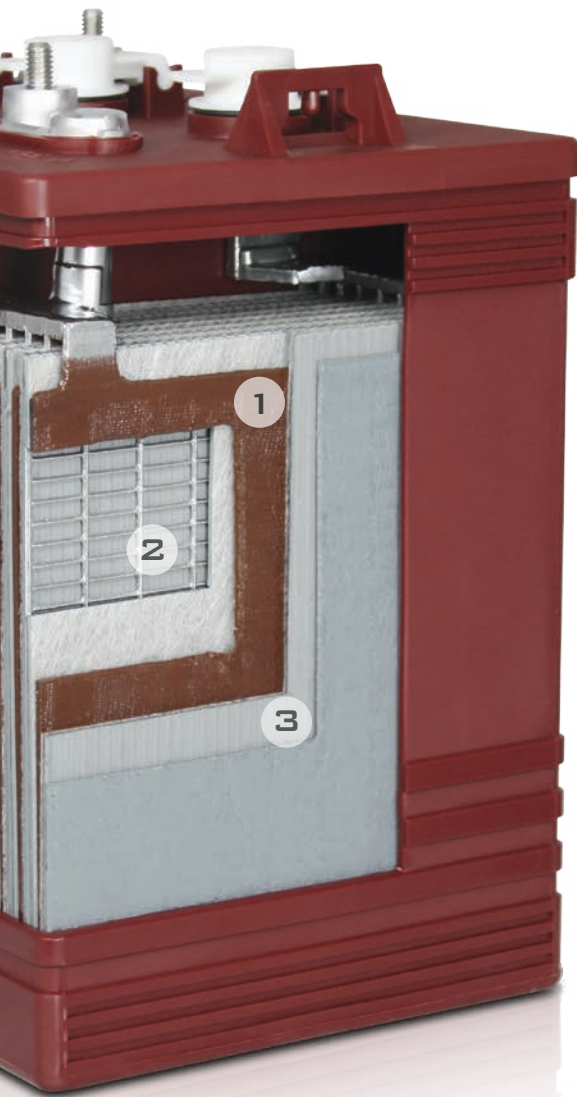
WITH MORE THAN 85 YEARS OF EXPERIENCE IN THE BATTERY INDUSTRY, TROJAN DELIVERS THE WORLD'S MOST POWERFUL AND DURABLE DEEP-CYCLE BATTERIES FOR USE IN AWP AND ACCESS EQUIPMENT. OUR BROAD PORTFOLIO OF DEEP-CYCLE FLOODED AND MAINTENANCE-FREE AGM AND GEL BATTERIES ENABLE INDUSTRIAL EQUIPMENT TO OPERATE AT PEAK LEVELS OF PERFORMANCE IN EVEN THE HARSHTEST CONDITIONS OR MOST CHALLENGING LOCATIONS. WITH TROJAN DEEP-CYCLE BATTERIES, YOU'LL ACHIEVE MAXIMUM UPTIME ON THE JOB SITE WHICH MEANS MORE PROFITS FOR YOUR COMPANY.



# Deep-Cycle Flooded Batteries...

## *Rugged Durability and Long Life*

Trojan's deep-cycle flooded batteries are the flagship of Trojan's product portfolio. Engineered to provide rugged durability, outstanding performance and long life, Trojan's deep-cycle flooded batteries are perfectly suited for use in a variety of AWP and access applications. An all-around power house, the deep-cycle flooded batteries feature Trojan's historically-proven engineering with T2 Technology™, an advanced battery technology for maximum sustained performance, longer life and increased total energy.



### 1 **Alpha Plus® Paste with T2 Technology™** *Maximum Operating Performance*

Trojan's Alpha Plus Paste is a proprietary, high density paste formulation engineered to deliver outstanding battery performance. It optimizes porosity development in the active material utilizing the active material more effectively resulting in sustained battery performance over a longer period of time. Trojan's T2 Technology introduces a patent-pending T2 metal agent into Alpha Plus Paste strengthening its electrochemical processing capabilities. Alpha Plus Paste with T2 Technology increase both sustained capacity and total overall ampere-hours resulting in more operating power. It's a key reason why Trojan batteries consistently outperform the competition.

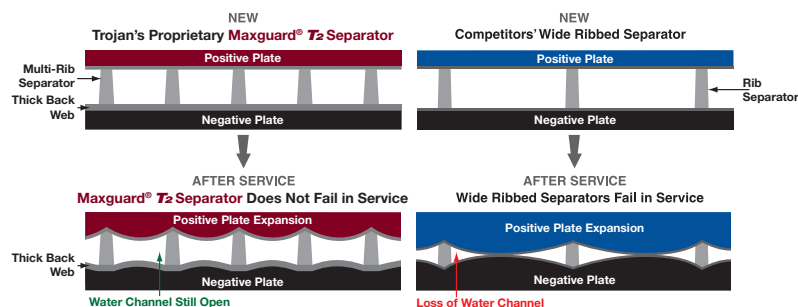
### 2 **Trojan Grid Technology** *Reduced Downtime*

Trojan's grid technology is a lead antimony alloy grid mixture formulated specifically for use with Trojan's Alpha Plus Paste with T2 Technology. The grid formulation provides exceptional structural adhesion between the Alpha Plus Paste and the grid frame. Thick grids reinforce the strength of the frame and reduce overall corrosion. The grid configuration is optimized to enhance current flow through the grid network providing exceptional battery performance, reducing downtime and lowering overall maintenance costs.

### 3 **Maxguard® T2 Separator** *Longer Battery Life*

Exclusively available in Trojan batteries is our Maxguard T2 advanced separator. Its multi-rib geometry design keeps acid channels open longer enhancing electrochemical processing while reducing the risk of stratification. Maxguard's proprietary rubber-based material formulation inhibits antimony transfer between the positive grids and negative plates; a protection not available in many other competitor batteries. A newly fortified, thick back web provides even greater separator strength resulting in a more robust battery with increased protection against failures caused by separator degradation. Trojan's Maxguard T2 advanced separator sustains performance, provides longer battery life and significantly lowers operating costs.

#### THE MAXGUARD® T2 SEPARATOR DIFFERENCE



# HydroLink™ Watering System



## Battery Watering Made Easy

Proper maintenance and periodic watering are important factors in maximizing the performance and life of Trojan deep-cycle, flooded batteries. Battery maintenance can be a costly, time-consuming and messy job. With Trojan's HydroLink™ advanced, single-point watering system, precise battery watering is made easy saving valuable time and money.

## Convenient Installation

Trojan's HydroLink watering system is specifically designed to work with Trojan's 6-volt, 8-volt and 12-volt flooded batteries\* and takes the guess work out of properly watering flooded batteries. In addition, the design of the HydroLink watering system prevents direct access to a battery's electrolyte and reduces acid splash, enhancing safety during the battery watering process. With a simple installation of the HydroLink manifolds and tubing, the system is ready for use. Once installed, a complete set of batteries can be filled in less than 30 seconds.

## HydroLink™ Vent Assembly

The HydroLink™ vent assembly is unique and features an independent water level indicator, valve shut off and dual flame arrestors.

### Independent Water Level Indicator

Maintaining the proper electrolyte level can extend the performance and life of Trojan flooded batteries. However, determining the correct level can be a challenge. Trojan's HydroLink vent features an independent water level indicator that accurately displays whether a battery needs watering. A white indicator signals that the battery needs water. A black indicator signals that the battery has enough water...it's that simple.

### Valve Shut Off

The valve shut off accurately controls cell electrolyte levels. Using a balanced valve design, the shut off valves automatically cut the water flow into the individual cells eliminating the potential of overflow or acid splash caused by overfilling. HydroLink's valve shut off works in conjunction with the hose end assembly and flow indicator to provide precise battery watering.

### Dual Flame Arrestors

The HydroLink system is equipped with dual flame arrestors, an important safety feature not standard on many other watering systems. The internal flame arrestors prevent internal sparks from passing through the watering system to neighboring cells while the external flame arrestor prevents external sparks from entering the Trojan battery.

## Snake™ or Clampless Tubing

The HydroLink system offers a patented Snake™ tubing assembly. This one-piece unit eliminates the need for multi connections resulting in fewer parts and quicker watering. HydroLink is also available with clampless tubing for customizable configurations.

## Warranty

HydroLink™ watering system comes with a four-year, limited warranty.

Independent Water Level Indicator



Water Indicator Signal



Snake™ Tubing



Clampless Tubing



Coupler Connection with Water Flow Indicator





# *Sealed Maintenance-Free Batteries... Outstanding Performance and Reliability*

For AWP and access applications sealed, maintenance-free batteries offer an ideal power solution. Trojan's full line of sealed, maintenance-free, deep-cycle batteries include AGM and gel products engineered for optimum performance and reliability.

## *Deep-Cycle AGM Batteries*

Trojan's deep-cycle absorbed glass mat (AGM) sealed, maintenance-free batteries feature a number of design elements to provide optimum performance. Robust plates extend the life cycle of Trojan's deep-cycle AGM batteries. A separator of glass fibers serves to isolate the positive and negative plates while acting as a blotter to absorb the electrolyte. The separator is maintained under compression between plates to assure contact with plate surfaces. A computer-generated grid design is optimized for high-power density. Low calcium grid alloy reduces gas emissions and a flame arresting, one-way pressure relief vent prevents buildup of excessive pressure. Trojan's deep-cycle AGM batteries are low-temperature tolerant, shock and vibration resistant and have a low internal resistance for higher discharge current and higher charging efficiency. Designed with advanced battery technology, Trojan AGM batteries deliver dependable power with long battery life.



## *Deep-Cycle Gel Batteries*

Trojan's deep-cycle gel batteries are sealed, maintenance-free batteries that deliver superior power in demanding AWP and access applications. Engineered for rugged durability, outstanding performance and long battery life, Trojan's deep-cycle gel batteries feature a number of important design characteristics that provide significant advantages over competing gel products. The gelled electrolyte is a proprietary formulation containing sulfuric acid, fumed silica, pure demineralized, deionized water and a phosphoric acid additive. This exclusive formulation produces a homogenous gel that delivers consistent performance and dramatically long cycle life. The heavy duty thick grids lock active material onto the grid network to efficiently deliver more concentrated energy to the terminals. Premium grade, double-insulated separators allow maximum charge flow between the plates for optimum performance. Durability, reliability and performance are the traits of a quality battery and that's what Trojan's gel series of batteries delivers.





# Product Specification Guide

BCI GROUP SIZE	TYPE	CAPACITY <sup>A</sup> Minutes		CAPACITY <sup>B</sup> Amp-Hours (AH)				ENERGY (kWh)		TERMINAL Type <sup>G</sup>	DIMENSIONS <sup>C</sup> Inches (mm)			WEIGHT lbs. (kg)	HydroLink™ or Single-Point Watering Kit <sup>H</sup>
		@25 Amps	@75 Amps	5-Hr Rate	10-Hr Rate	20-Hr Rate	100-Hr Rate	100-Hr Rate	Length		Width	Height <sup>F</sup>			
<b>6 VOLT DEEP-CYCLE FLOODED BATTERIES - WITH T2 TECHNOLOGY™</b>															
GC2	T-605	383	105	175	193	210	232	1.39	1, 2, 3, 4	10.30 (262)	7.11 (181)	11.07 (281)	58 (26)	HydroLink	
GC2	T-105	447	115	185	207	225	250	1.50	1, 2, 3, 4	10.30 (262)	7.11 (181)	11.07 (281)	62 (28)	HydroLink	
GC2	T-105 Plus	447	115	185	207	225	250	1.50	1, 2, 3	10.30 (262)	7.11 (181)	11.07 (281)	62 (28)	Single-Point	
GC2	T-125	488	132	195	221	240	266	1.60	1, 2, 3, 4	10.30 (262)	7.11 (181)	11.07 (281)	66 (30)	HydroLink	
GC2	T-125 Plus	488	132	195	221	240	266	1.60	1, 2, 3	10.30 (262)	7.11 (181)	11.07 (281)	66 (30)	Single-Point	
GC2H	T-145	530	145	215	239	260	287	1.72	1, 2, 3, 4	10.30 (262)	7.11 (181)	11.90 (302)	72 (33)	HydroLink	
GC2H	T-145 Plus	530	145	215	239	260	287	1.72	1, 2, 3	10.30 (262)	7.11 (181)	11.90 (302)	72 (33)	Single-Point	
901	J250G	475	130	195	216	235	261	1.57	7	12.17 (309)	6.85 (174)	11.43 (290)	67 (30)	HydroLink	
901	J250P*	540	135	215	230	250	278	1.67	6	11.66 (296)	6.94 (176)	11.54 (293)	72 (33)	Single-Point	
902	J305E-AC	645	160	250	280	305	339	2.03	7	12.27 (312)	6.85 (174)	14.41 (366)	83 (38)	HydroLink	
902	J305G-AC	678	175	258	290	315	350	2.10	7	12.27 (312)	6.85 (174)	14.41 (366)	88 (40)	HydroLink	
902	J305P-AC*	711	195	271	304	330	367	2.20	6	11.66 (296)	6.94 (176)	14.42 (366)	96 (44)	Single-Point	
902	J305H-AC*	781	215	295	331	360	400	2.40	6	11.66 (296)	6.94 (176)	14.42 (366)	98 (45)	Single-Point	
903	L16E-AC	766	185	303	340	370	411	2.47	7	12.25 (311)	6.85 (174)	16.41 (417)	100 (46)	HydroLink	
903	L16G-AC	789	200	320	359	390	433	2.60	7	12.25 (311)	6.85 (174)	16.41 (417)	103 (47)	HydroLink	
903	L16P-AC*	850	220	344	386	420	467	2.80	6	11.66 (296)	6.94 (176)	16.74 (425)	114 (52)	Single-Point	
903	L16H-AC*	935	245	357	400	435	483	2.89	7	11.66 (296)	6.94 (176)	16.74 (425)	125 (57)	Single-Point	



# Product Specification Guide

BCI GROUP SIZE	TYPE	CAPACITY <sup>A</sup> Minutes		CRANKING Performance		CAPACITY <sup>B</sup> Amp-Hours (AH)				ENERGY (kWh)	TERMINAL Type <sup>G</sup>	DIMENSIONS <sup>C</sup> Inches (mm)			WEIGHT lbs. (kg)	HydroLink™ or Single-Point Watering Kit <sup>H</sup>
		@25 Amps	@75 Amps	C.C.A. <sup>D</sup> @0°F	C.A. <sup>E</sup> @32°F	5-Hr Rate	10-Hr Rate	20-Hr Rate	100-Hr Rate	100-Hr Rate		Length	Width	Height <sup>F</sup>		
<b>12 VOLT DEEP-CYCLE AGM BATTERIES</b>																
27	27-AGM	158	-	550	660	77	82	89	99	1.19	6	12.05 (306)	6.84 (174)	9.32 (237)	64 (29)	N/A
31	31-AGM	177	-	600	720	82	92	100	111	1.33	6	13.73 (349)	6.80 (173)	9.16 (233)	69 (31)	N/A
<b>6 VOLT DUAL PURPOSE AGM BATTERIES</b>																
GC2	6V-AGM	385	-	1100	1400	154	184	200	221	1.33	6	10.28 (261)	7.08 (180)	10.74 (273)	65 (29)	N/A









BCI GROUP SIZE	TYPE	CAPACITY <sup>A</sup> Minutes		CAPACITY <sup>B</sup> Amp-Hours (AH)				ENERGY (kWh)	TERMINAL Type <sup>G</sup>	DIMENSIONS <sup>C</sup> Inches (mm)			WEIGHT lbs. (kg)	HydroLink™ or Single-Point Watering Kit <sup>H</sup>
		@25 Amps	@75 Amps	5-Hr Rate	10-Hr Rate	20-Hr Rate	100-Hr Rate	100-Hr Rate		Length	Width	Height <sup>F</sup>		
<b>6 VOLT DEEP-CYCLE GEL BATTERIES</b>														
GC2	6V-GEL	394	-	154	167	189	198	1.19	6	10.25 (260)	7.08 (180)	10.82 (275)	68 (31)	N/A
DIN	TE35-GEL	479	-	180	193	210	220	1.32	8	9.62 (244)	7.49 (190)	10.70 (272)	69 (31)	N/A
<b>12 VOLT DEEP-CYCLE GEL BATTERIES</b>														
27	27-GEL	179	-	76	84	91	100	1.20	7	12.73 (323)	6.38 (162)	9.26 (235)	63 (29)	N/A
31	31-GEL	200	-	85	94	102	108	1.30	7	12.94 (329)	6.82 (173)	9.64 (245)	70 (32)	N/A
DIN	5SHP-GEL	250	-	110	115	125	137	1.64	8	13.53 (345)	6.72 (171)	10.99 (279)	85 (39)	N/A

\* Polyon™ Case



- A. The number of minutes a battery can deliver when discharged at a constant rate at 80°F (27°C) and maintain a voltage above 1.75 V/cell. Capacities are based on peak performance.
- B. The amount of amp-hours (AH) a battery can deliver when discharged at a constant rate at 80°F (27°C) for the 20-Hour and 86°F (30°C) for the 5-Hour rate and maintain a voltage above 1.75 V/cell. Capacities are based on peak performance.
- C. Dimensions are based on nominal size. Dimensions may vary depending on type of handle or terminal. Batteries to be mounted with .5 inches (12.7mm) spacing minimum.
- D. C.C.A. (Cold Cranking Amps) - the discharge load in amperes which a new, fully charged battery can maintain for 30 seconds at 0°F at a voltage above 1.2 V/cell.
- E. C.A. (Cranking Amps) - the discharge load in amperes which a new, fully charged battery can maintain for 30 seconds at 32°F at a voltage above 1.2 V/cell. This is sometimes referred to as marine cranking amps @ 32°F or M.C.A. @ 32°F.
- F. Dimensions taken from bottom of the battery to the highest point on the battery. Heights may vary depending on type of terminal.
- G. Terminal images are representative only.
- H. N/A = Not Available. For more information on the Single-Point Watering Kit (SPWK), please contact your Trojan Battery representative. Trojan's battery testing procedures adhere to both BCI and IEC test standards.

## Terminal Configurations

			
<b>1 ELPT</b> Embedded Low Profile Terminal	<b>2 EHPT</b> Embedded High Profile Terminal	<b>3 EAPT</b> Embedded Automotive Post Terminal	<b>4 EUT</b> Embedded Universal Terminal
			
<b>5 LT</b> L-Terminal	<b>6 DT</b> Automotive Post & Stud Terminal	<b>7 UT</b> Universal Terminal	<b>8 AP</b> Automotive Post Terminal







## Experience The Trojan Difference – Reputation Built on Quality, Leadership and Innovation

### Leadership

Founded in 1925 by co-founders George Godber and Carl Speer, Trojan Battery Company is the world's leading manufacturer of deep-cycle batteries. From deep-cycle flooded batteries to deep-cycle AGM and gel batteries, Trojan has shaped the world of deep-cycle battery technology with over 85 years of battery manufacturing experience. With the invention of the golf car battery for the Autoette vehicle in 1952, Trojan pioneered the development of deep-cycle battery technology for the golf industry; successfully introducing mobilization to the game of golf. For Trojan, this began a legacy of leadership and innovation that prevails today in the global, deep-cycle markets spanning applications for aerial work platforms, transportation, renewable energy, golf, floor machines, marine and recreational vehicles. Today, Trojan batteries are available worldwide through our global network of master distributors.

Headquartered in Santa Fe Springs, CA, Trojan's operations include ISO 9001:2008 certified manufacturing plants in California and Georgia, two advanced research and development centers dedicated exclusively to deep-cycle battery technologies and international offices located in Europe, UAE and Asia. Trojan is a proud member of the Battery Council International (BCI) and a technical research partner with the Bulgarian Academy of Sciences.

### Research and Development

Quality and innovation are the cornerstones of our product development. Engineering teams, backed by over 200 years of deep-cycle development expertise, work together to innovate and bring to market advanced battery technologies that exceed our customers' expectations for outstanding battery performance.

To ensure the quality and superior performance of our batteries, Trojan applies the most rigorous testing procedures in the industry to test for cycle life, capacity, charger algorithms and both physical and mechanical integrity. Trojan's battery testing procedures adhere to both BCI and IEC test standards. Trojan's state-of-the-art R&D facilities include charger characterization and analytical labs, battery prototype and evaluation labs and battery autopsy centers all dedicated to providing you with a superior battery that you can rely on.



Prototype development and evaluation

### Environmental Stewardship

At Trojan Battery, when we say, "Clean energy for life™," we mean every word. As proactive supporters of environmental sustainability, our environmental stewardship focuses on clean energy initiatives and recycling programs.

- Trojan batteries are 97% recyclable. The container plastic, battery lead and electrolyte from old deep-cycle batteries can be recycled to produce new Deep-Cycle batteries.
- Through its partnership with Southern California Edison (SCE) Trojan saves over 8 million kilowatt hours and cuts CO2 emissions by over 12 million pounds significantly reducing our annual energy consumption and carbon foot print.



**TROJAN BATTERY  
COMPANY WITH  
QUALITY SYSTEM  
CERTIFIED BY DNV  
=ISO 9001:2008 =**



Your Local Trojan Battery Representative:

**For more information,  
call 800.423.6569  
or + 1.562.236.3000  
or visit [www.trojanbattery.com](http://www.trojanbattery.com)**

