

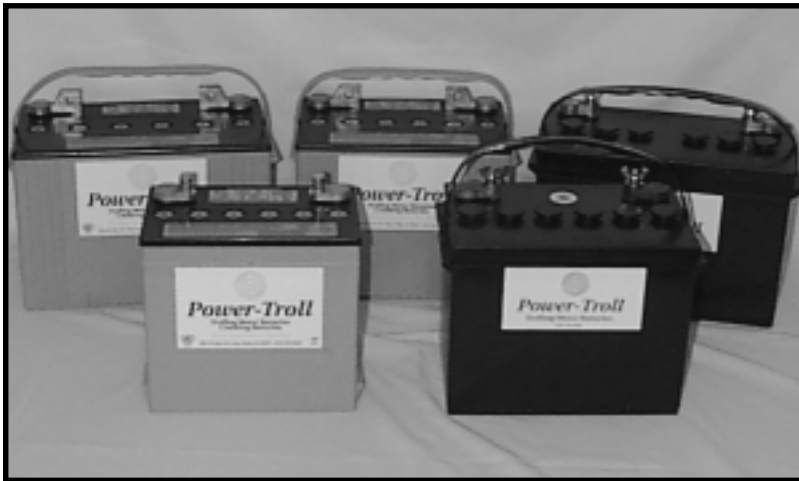
# ABSORBED GLASS MAT (AGM) TECHNOLOGY



**Power-Troll™**

Trolling Motor and Cranking Batteries

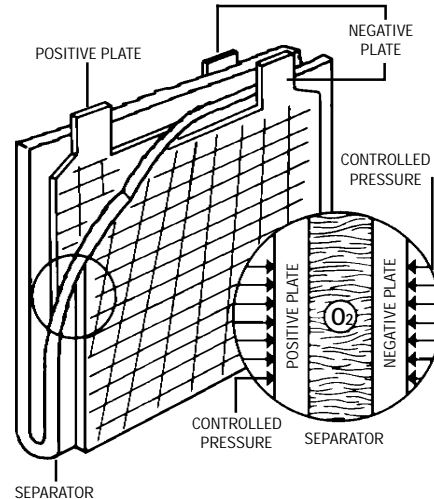
## TOURNAMENT & SPORTSMAN SERIES



**Power-Troll's** Tournament and Sportsman Series Trolling Motor and Cranking Batteries use a special absorbed electrolyte technology (Absorbed Glass Mat) that is superior to conventional lead-acid batteries. This completely sealed valve-regulated battery line eliminates dangerous gas emissions and acid leakage for longer and safer battery operation.

### How AGM Works

Unlike conventional "flooded" lead-acid batteries, AGM sealed valve-regulated technology eliminates the need for added water because the oxygen and hydrogen gases react to maintain the necessary amounts of moisture. Highly porous microfiber separators wrapped around the positive plates completely absorb and trap the electrolyte,



so there is no excess to spill or leak out of the battery. Oxygen formed from the positive plates during charging passes horizontally through the separator pores to the negative plates, where it reacts with hydrogen and changes back to water to replenish the electrolyte. Oxygen diffuses through the horizontal separator pores to the negative plate as this is the only available path.

**Power-Troll Features** - The extremely efficient design includes several unique features.

- Specially engineered safety relief valve system effectively controls critical internal gas pressure, preventing capacity loss from excessive gas seepage. This one-way valve also prevents outside air from entering the battery - a common cause of failure in most sealed valve-regulated battery designs.
- Fine microfiber glass separators are highly porous to hold electrolyte more efficiently and have extremely low electrical resistance for higher capacity.
- Power path grids are computer-cast and pasted\* to uniform thickness, allowing for the exact degree of compression needed for optimum oxygen flow between the plates and separators. (Plates compressed too tightly will impede oxygen flow, while plates packed too loosely allow valuable oxygen to escape to the top of the battery. Both conditions seriously impair performance and shorten battery life.)
- Exclusive individual tank formed plates\* provide the highest quality and most consistent performance.
- Rated non-spillable by ICAO (International Commercial Airline Organization) and DOT (Department of Transportation) definitions.

\* with the Tournament Series

**Power-Troll Benefits** - The AGM Technology offers all the advantages of "flooded" batteries without the disadvantages.

- **Maintenance-Free** construction eliminates need to add water.
- **Resists Vibration** by design for longer operating time.
- **Requires Less Charging Time** than conventional batteries.
- **Environmentally Safe, Completely Sealed** valve-regulated design eliminates acid spills and terminal corrosion.
- **High Freeze-Resistance** offers longer battery life. (Winterization is not required but is recommended for optimum performance.)
- **Safer Operation** substantially minimizes chance of acid spray, fumes and explosion hazards when charged correctly.
- **Flexible Design**, can be installed in almost any position. (However upside-down installation is not recommended.)
- **State-of-Charge** easily determined by open circuit voltage.
- **Lower Electrical Resistance** provides higher discharge rates.
- **Lightweight Construction** provides easier installation.
- **Longer Battery Operation** while on the water.

**Power-Troll®** Trolling Motor Batteries

**Power Resources, Inc.**

P.O. Box 537

Hope Valley, RI 02832

(401) 539-8699 Fax (401) 539-8656 <http://www.power troll.com>



# Technical Information

## TOURNAMENT & SPORTSMAN SERIES

### Trolling Motor and Cranking Batteries

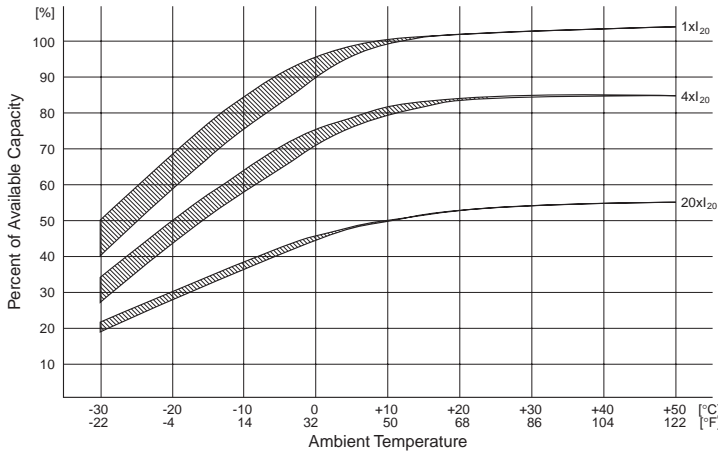
Tournament Series				Minutes/Hours Discharged At*						Discharge Rate per 12-volt battery to 1.75 VPC @ 80°F 27°C						
Group No	Part No	Color Code	Foot Notes	75 amps minutes	50 amps minutes	25 amps minutes	15 amps minutes	8 amps minutes	5 amps minutes	5 mins.	10 mins.	15 mins.	20 mins.	30 mins.	60 mins.	90 mins.
U1	BUA1	BC		10/1.7	20/3.3	54/9.0	98/1.6	200/3.3	340/5.6	110	75	60	50	39	23	16
22NF	BA22NF	BC		22/3.7	40/6.7	102/1.7	180/3.0	365/6.1	620/10.3	160	120	95	80	62	35.5	28
24	BA24	BC	H	35/5.8	60/1.0	150/2.5	280/4.7	550/9.2	900/15	220	185	130	110	85	50.5	36
27	BA27	BC	H	44/7.3	76/1.3	187/3.1	330/5.5	640/10.7	1080/18	270	200	153	130	98	59	44
Sportsman Series																
24	MC-24X	BB	H	31/5.2	56/9.3	138/2.3	258/4.3	521/8.7	885/15	240	173	132.9	108.8	80.5	47.6	34.7
27	MC-27X	BB	H	40/6.7	70/1.2	171/2.9	315/5.3	636/10.6	1075/17	288	207.6	159.5	130.5	96.6	57.1	41.6

BB - Black Top and Black Case BC - Black Top and Gray Case H - Handle Included

Group No	Part No	CCA @ 0°F	MCA @ 32°F	Reserve Capacity	Volts	Ampere Hour Capacity*					approx. weight	maximum overall dimensions inches(mm)			
						20 hr	8 hr	6 hr	3 hr	1 hr		lbs.(kgs.)	length	width	height
Tournament Series															
U1	BUA1	240	300	48	12	33.0	29.5	28.3	26.5	23.0	24.0 (10.9)	8.75 (211)	5.125 (130)	7.25 (194)	
22NF	BA22NF	280	350	90	12	55.0	50.0	48.0	45.0	35.5	38.5 (17.5)	9.375 (238)	5.50 (140)	9.25 (236)	
24	BA24	470	595	140	12	80.0	72.0	70.5	65.0	50.5	59.0 (26.8)	10.875 (276)	6.75 (171)	9.875 (251)	
27	BA27	580	730	175	12	94.0	84.9	82.5	75.0	59.0	63.0 (28.6)	12.75 (324)	6.75 (171)	9.875 (251)	
Sportsman Series (Dual Purpose)															
24	MC-24X	675	850	125	12	72.8	68.6	66.6	60.3	47.6	60.6 (27.5)	10.91 (277)	6.77 (172)	9.44 (240)	
27	MC-27X	800	1008	160	12	89.2	82.4	79.8	72.3	57.1	71.9 (32.6)	12.72 (323)	6.77 (172)	9.40 (241)	

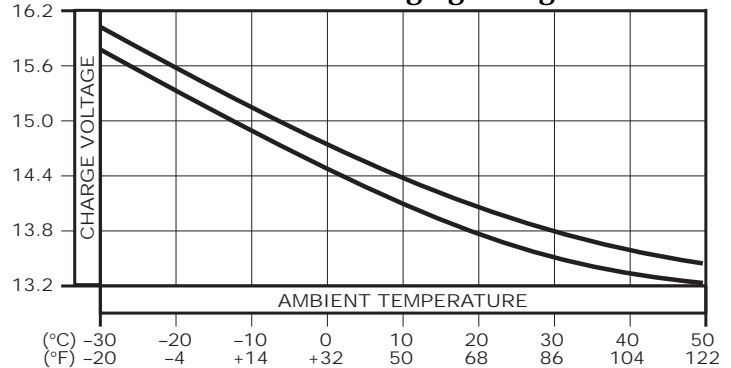
\*Nominal

### Capacity vs. Operating Temperature



Shown are the changes in capacity for a wider ambient temperature range, giving the available capacity as a percentage of the rated capacity at different ambient temperatures, for three different load examples, with uninterrupted discharge to the appropriate discharge cut-off voltage. The values for the upper edge of the curve were obtained from charging at an ambient temperature of +20°C (68°F) with a voltage limit of 2.3 V/cell. For the lower edge, charging was carried out at the specified ambient temperature. The curves show the behavior of the battery after a number of cycles.

### Constant Charging Voltage



Shown is the constant charging voltage in relation to the ambient temperature. The band width shows a tolerance of 30mV/cell. This constant voltage is suitable for continuous charging and cyclic operation. In a parallel stand-by mode, it always keeps the battery in a fully charged state; in a cyclic mode, it provides for rapid recharging and high cyclic performance.

Proper Charging is the most important maintenance that you can perform on any battery. Never use an inexpensive Constant Current or Tickle Charger. Even a small current of 1/2 amp, if left on beyond full recharge will overcharge any battery and has the potential to ruin it. Use a good quality charger.

### Power-Troll One Year Limited Warranty

Power-Troll batteries are covered by a full one year limited warranty under normal use and proper maintenance. Warranty is void if the container, covers or terminals are broken; if battery has been opened, frozen or damaged due to neglect or abuse including fire, wreckage, explosion or overcharging; if the manufacturer's code markings have been destroyed; or if the battery is used for an electrical size smaller than the one specified by the equipment manufacturer or used in applications for which it was not designed or if it was installed or charged in reverse. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Normal deterioration in the electrical qualities of batteries is to be expected and is not covered by this warranty.