



ABOUT BATTERIES

Batteries are the power source for the air conditioning / heating system and therefore the type, quantity and quality of the batteries used is very important.

Arctic Wolf strongly recommends the use of group 31 Absorbed Glass Mat (AGM) deep cycle batteries to power our system. We recommend one battery that we feel will give the quickest recharge times and longest service life:

Make	Trojan
Model	OverDrive AGM31
Size	13.44”L x 6.81” W x 9.25” H
Weight	69 lbs
Web:	www.trojanbattery.com

Advantages of high quality AGM batteries:

- Faster and more efficient charging,
- 2 year limited warranty
- No off gassings- allows the batteries to be mounted anywhere, even under a bunk or seat,
- Greater # of discharge cycles,
- Up to 3X longer service life, and
- No maintenance required – no water top ups and level checking to do.

The number of batteries required to operate the air conditioning / heater system depends on the run times required and a host of environmental factors, like number and size of windows, level of insulation of the cab, color of cab, etc.

The amount of power a battery can store remains relatively constant between manufacturers and battery types (i.e. wet cell, AGM, Gel, etc). The usable capacity of a battery is 1.15 amp hrs @ 12.5 volts per pound of battery weight.

The following chart will give a good indication of the number of batteries needed for different run times. This chart assumes the use of group 31 AGM batteries weighing 75 lbs. each.

# of Batteries	Weight	100% Compressor run time	60% Compressor run time
4	276 lbs	8.1 hrs	13.1 hrs
5	345 lbs	10.3 hrs	16.3 hrs
6	414 lbs	12.4 hrs	19.5 hrs
7	483 lbs	14.6 hrs	22.9 hrs
8	552 lbs	16.7 hrs	26.3 hrs

These run times do not account for any other possible draws on the batteries like interior lights, radios, CBs, laptops, fridges, etc. If your truck has other power draws, you should factor them into the number of batteries you may require.

A/C System Performance Enhancers

- 1) On hot days, you can reduce the heat load by:
 - a) Parking in a shady area,
 - b) Covering windows with heat reflecting shades,
 - c) Turning off heat producing appliances,
 - d) Keeping doors and windows closed,
 - e) Ensuring the cabin is pre-cooled, before turning off the main engine and AC system.
- 2) Make sure the evaporator has unrestricted air flow and is not blocked by pillows, blankets or other objects.
- 3) Make sure the condensate drain is not plugged, so water can flow freely out of the evaporator drain pan.
- 4) Check the condenser unit and clean any debris out to maintain good air flow across the condenser coil.

Alternators

We recommend an alternator with a minimum 200 amp rating be used on systems with six or less batteries. We recommend a 240 amp alternator be used on systems with more than six batteries. A high output alternator, with an external regulator acting as a 3 stage battery charger, is the best option. Most new trucks already come with an alternator that will meet the minimum requirements, for six or fewer batteries.