

Ample Power Company



Two Engines, Two Alternators

Why One Regulator?

It is now becoming common practice to use one house bank rather than two. (See the section regarding *The Preferred System* for reasons why a single house bank is preferred.)

It is of course desirable to minimize the time it takes to fully charge the batteries, so where there are two engine alternators, connecting the alternators in parallel to charge the house bank is the best way to deliver the most Amps to the batteries.

However, if two alternators, each with their own regulator, are connected in parallel, the regulator with the lowest set-point will quit charging when the other alternator can supply all the current required by the battery and load. The *lazy* alternator is a problem when the tachometer signal for the engine is derived from the alternator.

By using a single regulator to drive both alternators, both alternators share the load and deliver according to their rating and their RPM. Thus both tachometers continue to operate correctly.

What if only one engine is running?

If only one engine is running, then the alternator on the inac-

tive engine will still have its field activated. While not immediately harmful, continuous application of field voltage on an inactive alternator will cause some amount of heat stress, detrimental over the long term.

Dual Alternator Controller

To solve the problems associated with driving two alternators in parallel, Ample Power regulators have been designed extra heavy duty so they are able to drive two fields.

An additional device, called the Dual Alternator Controller, or DAC, is provided to connect the regulator to alternators which are active. The DAC also has additional circuitry to reduce system noise, and protect against damaging transient voltages.

Alternators in Parallel

The alternator outputs are connected in parallel at the positive distribution terminal. If desired, a shunt can be placed in the output lead of each alternator so that there is an indication of output from each. The two alternators can also be connected together at the input side of a shunt where only one ammeter is used.

