

Dynamic Check

The best way to test and adjust the synchronizer is to operate it while in the CHECK mode.

1. Place the mode switch (user supplied) in the OFF position for starting.
2. Apply power to the electronic governor and start the engine according to the manufacturer's instructions.



WARNING

Be prepared to make an emergency shutdown when starting the engine, turbine, or other type of prime mover, to protect against runaway or overspeed with possible personal injury, loss of life, or property damage.

3. Go to rated speed for the specified generator frequency.
4. Place the mode switch in the CHECK position.
5. Watch the panel meter to make sure that the synchronizer is matching frequency and phase (and, in the voltage matching model, the voltage of the generator to the bus). When these are matched within the limits, the ENABLE indicator will illuminate.

IMPORTANT

The phase offset potentiometer (and on the voltage match model, the voltage match potentiometer) are calibrated at the factory. They do not normally require adjustment by the user for operation.

If the panel meters show incorrect phase or voltage matching, verify that they are calibrated and adjust if necessary.

Stability and Gain Adjustments

Place the mode switch in the OFF position. Adjust the generator approximately 1 Hz higher than the specified frequency. When the phase angle reaches 180 degrees, place the mode switch in the CHECK position. Watch the synchronizer's control action. Adjust the gain potentiometer for faster response and the stability potentiometer for minimum overshoot and settling time at 0 degrees phase angle. Return the generator to correct frequency.

Frequency Adjustment

To set an oncoming generator frequency to the system being paralleled, place the mode switch in the CHECK mode. Measure the synchronizer output with a high-impedance voltmeter. Adjust the rated speed potentiometer of the oncoming unit for 0 (zero) output voltage from the synchronizer.

An alternate method, where the system includes a synchroscope, is to leave the synchronizer in the off position and adjust the rated speed potentiometer of the oncoming unit until the synchroscope stops. The closer the frequencies are set, the better the load sharing action.