

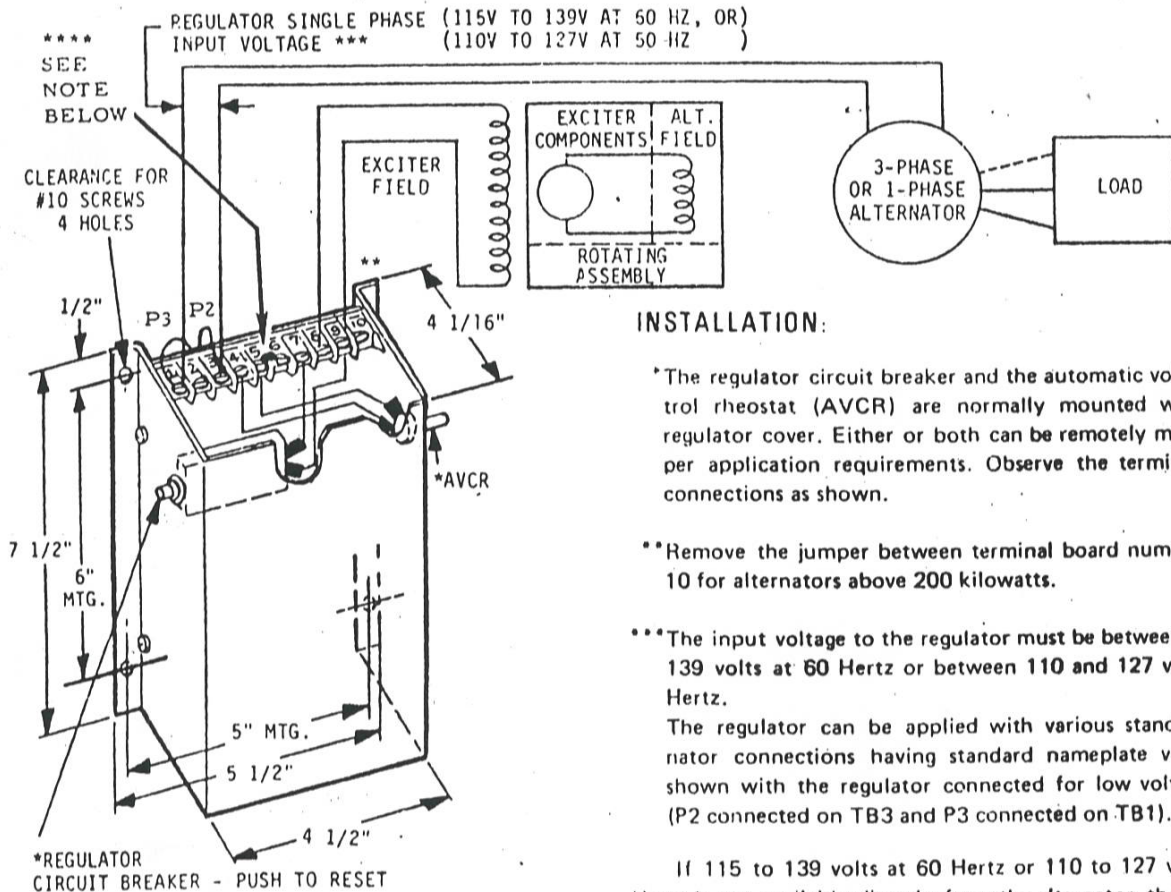
ES

INSTRUCTIONS

ES

INSTALLATION & OPERATION— **VR181** SERIES VOLTAGE REGULATOR

WITH RECONNECTABLE PRIMARY CONNECTED P2 ON TB3 & P3 ON TB1 FOR LOW VOLTAGE INPUT



INSTALLATION:

*The regulator circuit breaker and the automatic voltage control rheostat (AVCR) are normally mounted within the regulator cover. Either or both can be remotely mounted as per application requirements. Observe the terminal board connections as shown.

**Remove the jumper between terminal board number 9 and 10 for alternators above 200 kilowatts.

***The input voltage to the regulator must be between 115 and 139 volts at 60 Hertz or between 110 and 127 volts at 50 Hertz.

The regulator can be applied with various standard alternator connections having standard nameplate voltages as shown with the regulator connected for low voltage input (P2 connected on TB3 and P3 connected on TB1).

If 115 to 139 volts at 60 Hertz or 110 to 127 volts at 50 Hertz is not available directly from the alternator, the regulator can still be used if a 400 volt ampere or greater isolation transformer is used between the regulator and the alternator. The input voltage to the isolation transformer must be the same as the voltage available from the alternator and the output must be between 115 and 139 volts at 60 Hertz or 110 to 127 volts at 50 Hertz.

**** NOTE: The jumper between TB5 & TB6 must be removed if either a parallel kit or a static underspeed switch, or both, are used.

OPERATION:

1. For new installation, turn the AVCR all the way counter-clockwise so that the line voltage will be at a minimum after the engine is started.

2. Start the driving engine and adjust to rated speed of the generator.

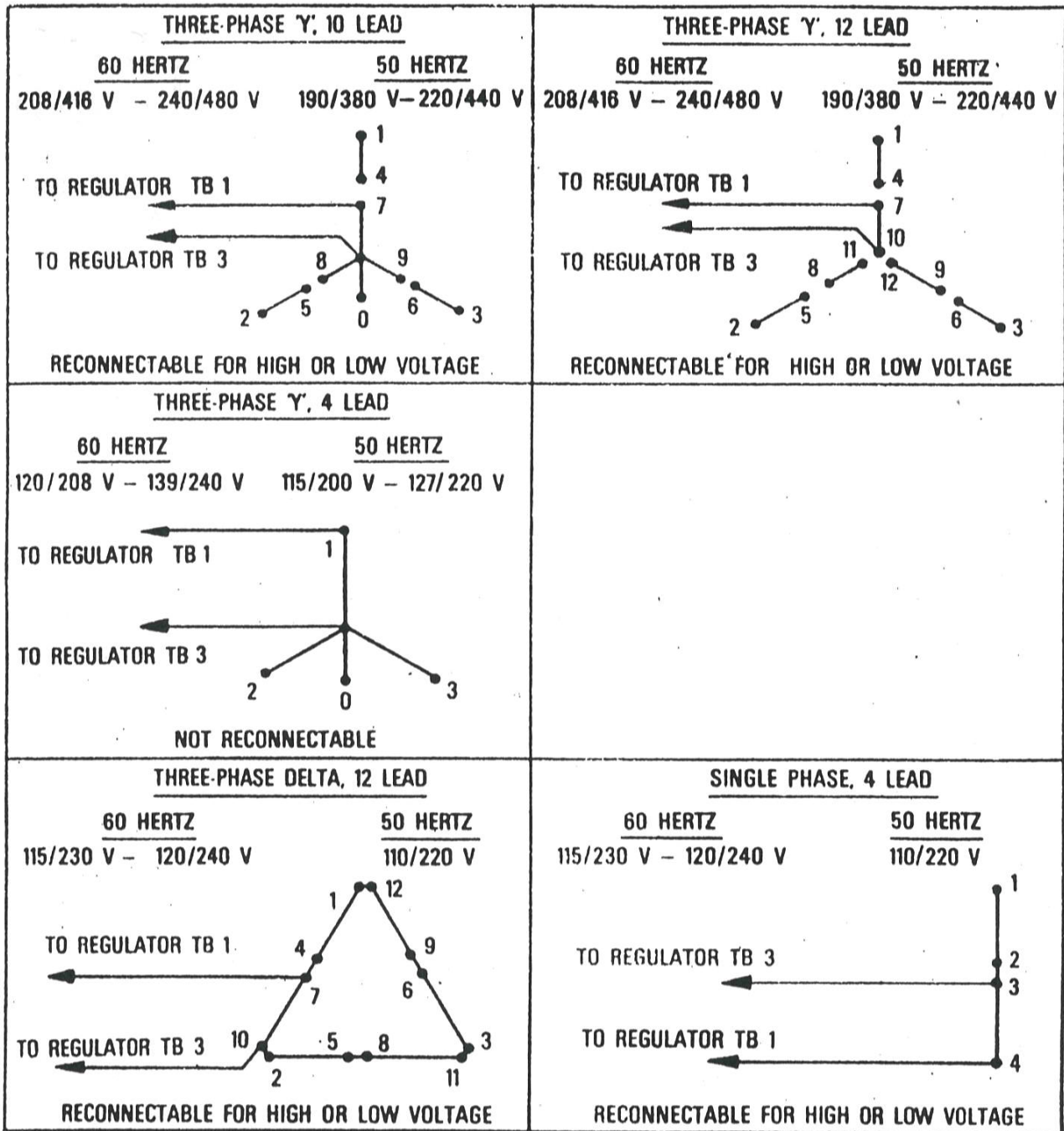
CAUTION: Generators operating with automatic voltage regulators should not be run at less than nameplate speed, unless equipped with underspeed protection. Reduced speed operation may damage regulator or generator.

4. Close the line switch or circuit breaker.

5. Check amperes, volts, and frequency to be certain values are within nameplate rating. Also, check for line balance on both voltage and current on three-phase systems.

FIELD FLASHING

CAUTION: The rectifiers in the regulator will be damaged if the generator exciter is flashed wrong. The correct polarity for field flashing is:



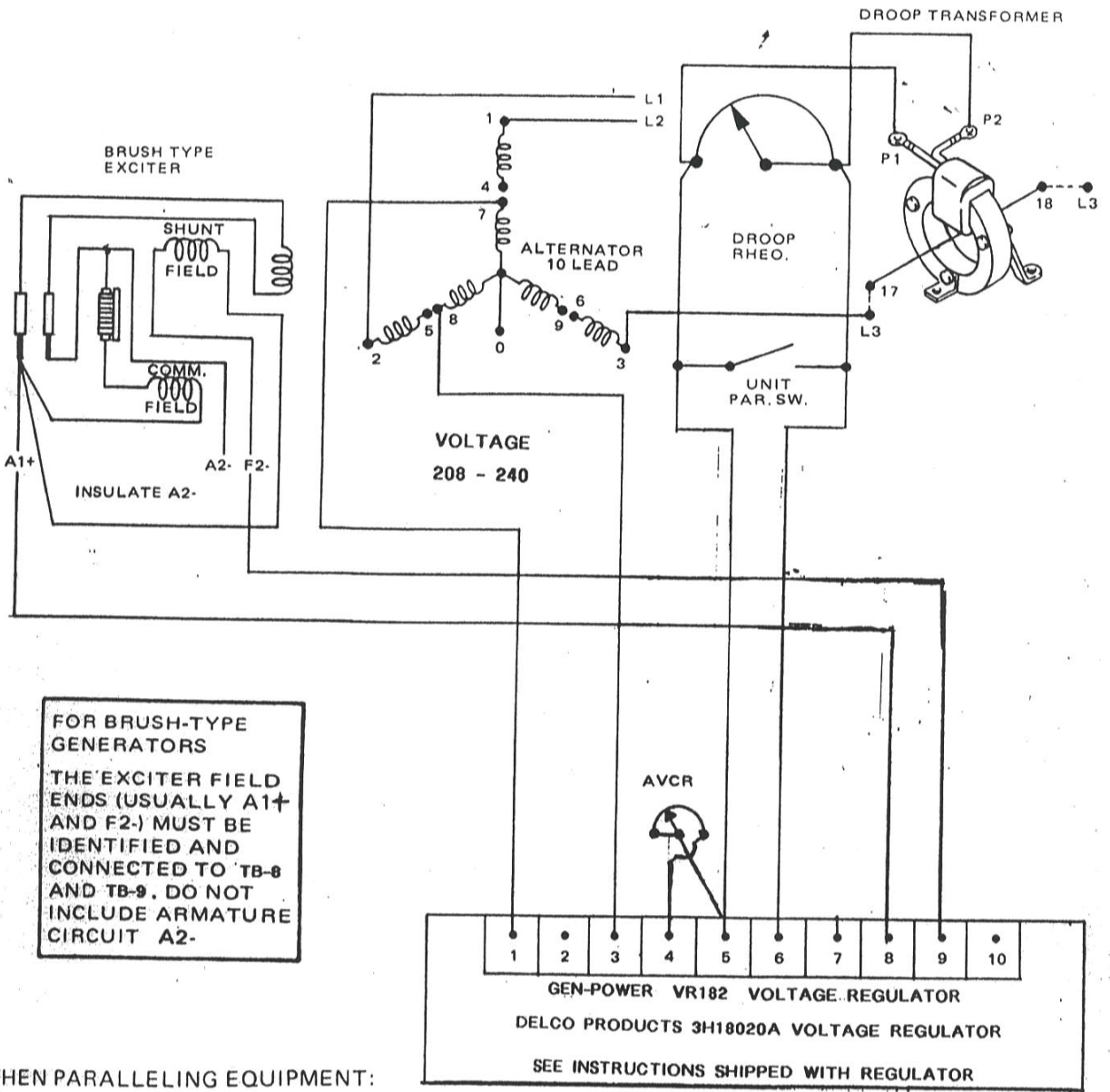
ACCESSORIES:

1. H39183C Paralleling Kit – for 1-phase, connected, 4 lead alternator less than 175 KW. Other paralleling kit available for different alternator connections, contact the factory.
2. H44000U Static Under-Speed Switch – To protect the alternator-regulator system when the frequency is more than 10% below rated frequency.
3. H43800M Manual Control – Adjustable transformer type with automatic-manual switch included.

4. 4945833 E.M.I. Kit -- Electro-magnetic interference (E.M.I.) filter. The purpose is to reduce the E.M.I. (radio noise) level.
5. H38000 Series C Triple Action Boost (TAB) -- The TAB system improves generator-regulator performance in three ways:
 - a. Strong short-circuit drive.
 - b. Improve motor starting.
 - c. Increased operating current range of regulator.

When ordering accessories, include the alternator model number.

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FOR BRUSH-TYPE GENERATORS
 THE EXCITER FIELD ENDS (USUALLY A1+ AND F2-) MUST BE IDENTIFIED AND CONNECTED TO TB-8 AND TB-9. DO NOT INCLUDE ARMATURE CIRCUIT A2-

WHEN PARALLELING EQUIPMENT:
 IS USED, REMOVE SHORT TB-5 TB-6
 IS NOT USED, SHORT TB-5 TO TB-6

TYPICAL DIAGRAM FOR A DELCO PRODUCTS 10-LEAD, BRUSH-TYPE GENERATOR WITH PARALLELING EQUIPMENT