



# Systems Operation

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## **Connection Diagrams: SR4 and SR4B Generators, Voltage Regulators, Options**

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## Important Safety Information

Most accidents that involve product operation, maintenance and repair are caused by failure to observe basic safety rules or precautions. An accident can often be avoided by recognizing potentially hazardous situations before an accident occurs. A person must be alert to potential hazards. This person should also have the necessary training, skills and tools to perform these functions properly.

**Improper operation, lubrication, maintenance or repair of this product can be dangerous and could result in injury or death.**

**Do not operate or perform any lubrication, maintenance or repair on this product, until you have read and understood the operation, lubrication, maintenance and repair information.**

Safety precautions and warnings are provided in this manual and on the product. If these hazard warnings are not heeded, bodily injury or death could occur to you or to other persons.

The hazards are identified by the "Safety Alert Symbol" and followed by a "Signal Word" such as "DANGER", "WARNING" or "CAUTION". The Safety Alert "WARNING" label is shown below.



The meaning of this safety alert symbol is as follows:

**Attention! Become Alert! Your Safety is Involved.**

The message that appears under the warning explains the hazard and can be either written or pictorially presented.

Operations that may cause product damage are identified by "NOTICE" labels on the product and in this publication.

**Caterpillar cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this publication and on the product are, therefore, not all inclusive. If a tool, procedure, work method or operating technique that is not specifically recommended by Caterpillar is used, you must satisfy yourself that it is safe for you and for others. You should also ensure that the product will not be damaged or be made unsafe by the operation, lubrication, maintenance or repair procedures that you choose.**

The information, specifications, and illustrations in this publication are on the basis of information that was available at the time that the publication was written. The specifications, torques, pressures, measurements, adjustments, illustrations, and other items can change at any time. These changes can affect the service that is given to the product. Obtain the complete and most current information before you start any job. Caterpillar dealers have the most current information available. For a list of the most current publication form numbers available, see the Service Manual Contents Microfiche, REG1139F.

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## Systems Operation Section

### SR4 and SR4B Generators for All Engines Except SR4B for 3500 Engines

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#### General Information (All Except SR4B for 3500 Engines)

**SMCS Code:** 4450

#### Introduction

The diagrams that follow apply to the SR4 Generators and the SR4B Generators (except for the SR4B used with 3500 Engines).

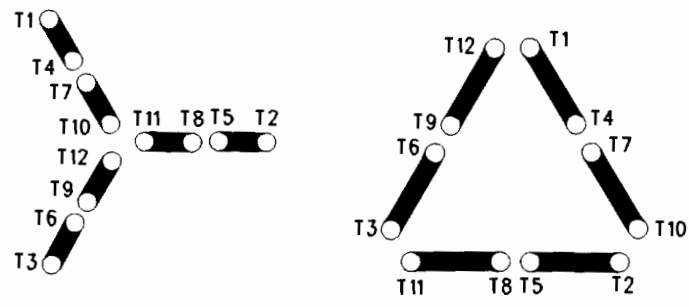
**Note:** Diagrams for the SR4B used with 3500 Engines appear later in this manual.

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# Main Stator and Voltage Sensing Lead Connections (All Except SR4B for 3500 Engines)

SMCS Code: 4453

## 12 Lead, Wye and Delta Connection



WYE CONNECTION					REGULATOR SENSING			
VOLTAGE	L1 U	L2 V	L3 W	N	TIE TOGETHER			
LOW	(T1,T7)	(T2,T8)	(T3,T9)	(T4,T5,T6, T10,T11,T12)		20	22	24
HIGH	T1	T2	T3	(T10,T11,T12)	(T4,T7)	(T5,T8)	(T6,T9)	T9 17 18

DELTA CONNECTION				REGULATOR SENSING		
L1 U	L2 V	L3 W	TIE TOGETHER			
(T1,T12)	(T2,T10)	(T3,T11)	(T4,T7)	(T5,T8)	(T6,T9)	T1 12 13

Illustration 1

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## 10 Lead Wye Connection

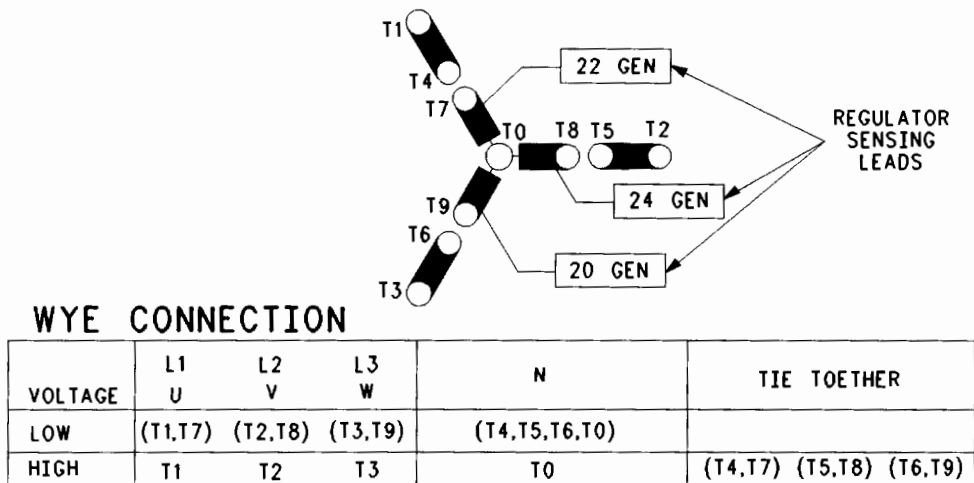


Illustration 2

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## 6 Lead Wye Connection

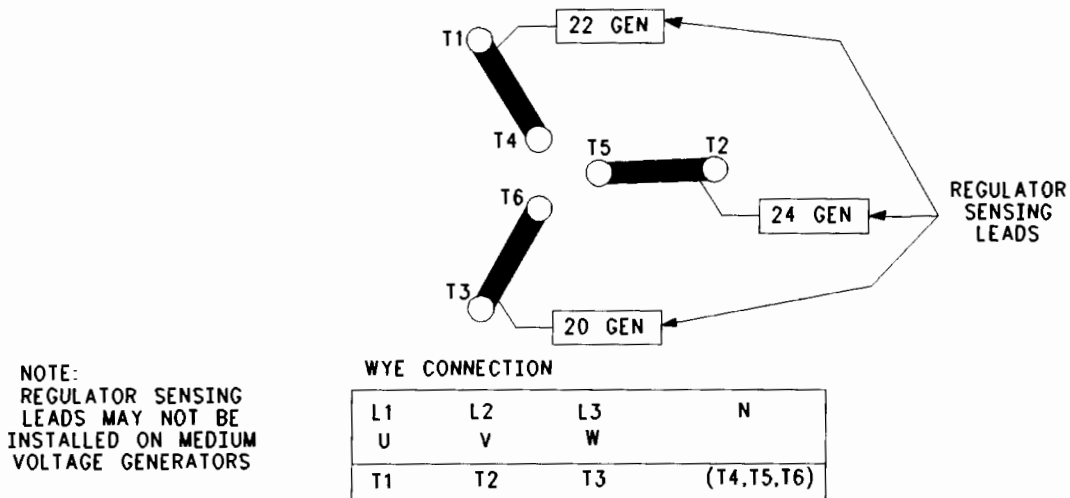
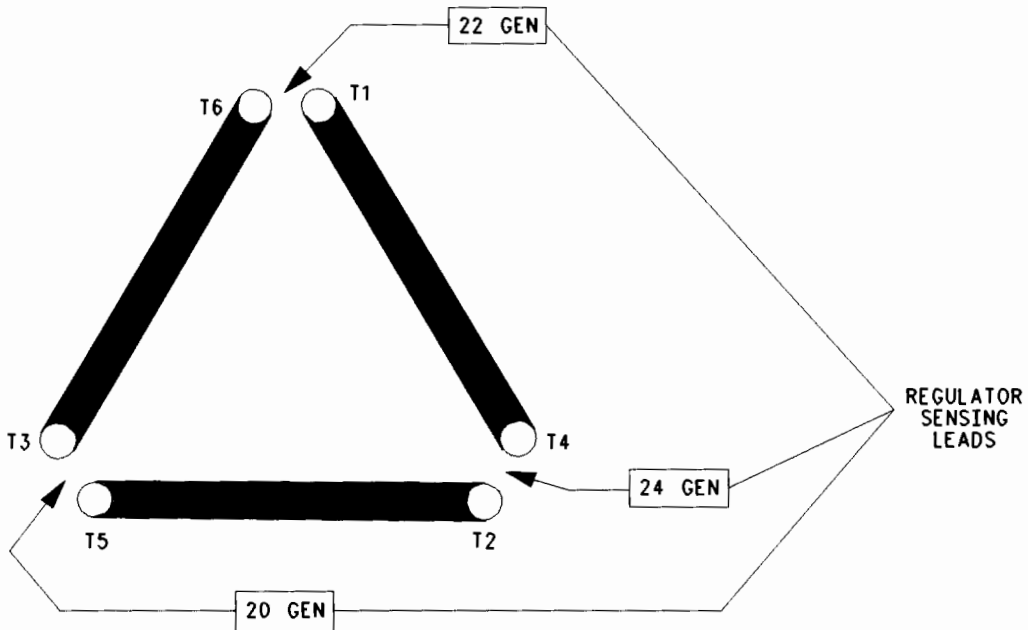


Illustration 3

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### 6 Lead Delta Connection



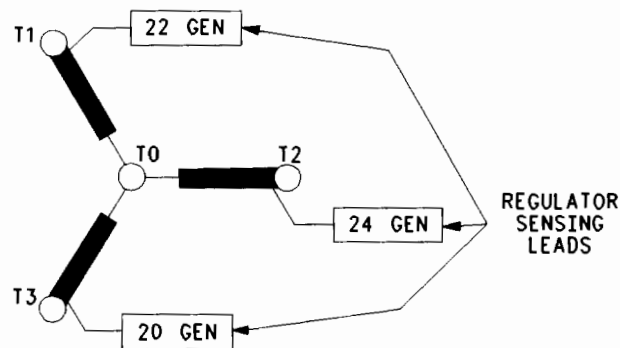
DELTA CONNECTION			REGULATOR SENSING		
L1	L2	L3			
U	V	W	20	22	24
(T1,T6)	(T2,T4)	(T3,T5)	T3	T1	T2

NOTE:  
REGULATOR SENSING  
LEADS MAY NOT BE  
INSTALLED ON MEDIUM  
VOLTAGE GENERATORS

Illustration 4

g00700323

### 4 Lead Wye Connection



NOTE:  
REGULATOR SENSING  
LEADS MAY NOT BE  
INSTALLED ON MEDIUM  
VOLTAGE GENERATORS

WYE CONNECTION

L1	L2	L3	N
U	V	W	
T1	T2	T3	T0

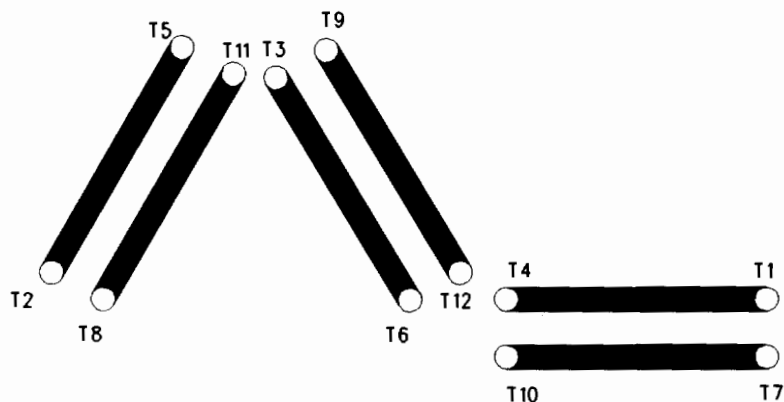
Illustration 5

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# Caterpillar Connection Diagrams Sr4 Sr4b Option System Operation

Full download: <http://manualplace.com/download/caterpillar-connection-diagrams-sr4-sr4b-option-system-operation/>  
 Systems Operation Section

## 12 Lead, Single Phase Connection



GENERATOR CONNECTION			CONNECT TOGETHER	REG SENSE LEADS	
L1 U	L2 V	N W		20	24
(T2,T8)	(T1,T7)	(T4,T6,T10,T12)	(T3,T5,T9,T11)	T2	T1

NOTE: FOR PARRALLEL OPERATION, T8 LEAD GOES THROUGH WINDOW OF DROOP TRANSFORMER

WITH VR-3 VOLTAGE REGULATOR, CONNECT JUMPER WIRE BETWEEN VOLTAGE REGULATOR TERMINALS 20 AND 28.

WITH VR-4 VOLTAGE REGULATOR, JUMPER WIRE IS NOT REQUIRED.