All the material in Form 9161 applies to Governor EG-105 except that pertaining to the speed indicator circuit. The speed indicator in Governor EG-105 is equipped with a "Hi-Lo" switch.

Refer to Figure 3 in Form 9161. Notice that the speed indicator is in series with a single resistor, R-107. Now refer to Figure 1 on this page. Here the speed indicator is in series with two resistors, R-107 and R-108. A switch, SW-103, is connected in parallel across resistor R-108.

The purpose of this arrangement is to increase the readability of the speed indicator at low speed settings. As outlined in Form 9161, the speed indicator shows full scale deflection when the motor is run at top speed. But for many applications, you never operate the motor at high speeds. A speed of less than half of "top speed" is sometimes "full speed" for an operation. With the "Hi-Lo" switch, you can "expand" the lower part of the indicator scale when you operate at low speeds. This permits more accurate speed settings.

When the switch is in the "Hi" position, full resistance is in series with the speed indicator. The indicator shows full scale deflection for top motor speed.

When the switch is in the "Lo" position, resistor R-108 is shorted out. This reduces the resistance in series with the indicator. More current can flow through the indicator - giving greater deflection - for a given motor speed. Top motor speed would now give 2-1/2 times full scale deflection if the needle could travel that far. (Since the "Lo" range should be used only at low motor speeds, there should be no reason for the needle actually going off scale.)

Hence, the "Lo" scale is for operating at low motor speeds. In effect, throwing the switch to "Lo" expands the lower 4/10ths of the scale to full scale. If the speeds for an operation are to be less than 4/10ths full motor speed, you can throw the switch to "Lo" and make speed settings with greater precision.

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**FIG. 1 - SCHEMATIC DIAGRAM REVISION**
# Replacement Parts List

**FOR**

"LINDE" ELECTRONIC GOVERNOR TYPE EG-105 PART NO. 38V10

## HOW TO ORDER REPLACEMENT PARTS

1. Replacement parts can be identified on the keyed illustrations which follow this parts list. Each part bears a name and a number. The majority of parts also show in parentheses the symbol number (R-101, C-103) which identifies the part on the circuit diagram. When ordering parts from LINDE, order by part number and part name as given on the illustrations. **DO NOT ORDER BY PART NUMBER ALONE, OR BY SYMBOL NUMBER.**

2. Be sure that your order specifies the quantity of each part needed.

3. Always state the series of serial number of the governor on which the part is to be used. When available, list the governor symbol also. (This information appears on the governor nameplate.)

4. Indicate any special shipping instructions.

5. When ordering parts from LINDE, use the LINDE district office nearest you.

**IMPORTANT:** Almost all parts used in this governor are standard commercial parts. In an emergency you can order them from LINDE. However, in will save you time and money to purchase these parts from a local electronics outlet, or directly from the manufacturer. (Full descriptions of the parts are given in the list below.) When doing so, use the manufacturer's part number or designations. The LINDE part number is for use only when ordering from LINDE.

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>SYMBOL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>04N32</td>
<td></td>
<td>Cabinet</td>
</tr>
<tr>
<td>04N33</td>
<td></td>
<td>Chassis</td>
</tr>
<tr>
<td>04N46</td>
<td></td>
<td>Governor Guard</td>
</tr>
<tr>
<td>92W23</td>
<td></td>
<td>Bottom Plate - Bud Radio, Inc. No. BP-667</td>
</tr>
<tr>
<td>90W10</td>
<td></td>
<td>Fuse Mount</td>
</tr>
<tr>
<td>92W26</td>
<td>TR101</td>
<td>Transformer - Standard Transformer Co. No. P-3024</td>
</tr>
<tr>
<td>92W27</td>
<td>C103, C104, C105</td>
<td>Condenser - Mallory No. FP-357</td>
</tr>
<tr>
<td>92W28</td>
<td>TR102</td>
<td>Transformer - United Transformer Co. No. FT-2</td>
</tr>
<tr>
<td>92W29</td>
<td></td>
<td>Socket - American Phenolic Corp. No. 78RS8 (2 used)</td>
</tr>
<tr>
<td>92W30</td>
<td></td>
<td>Socket - Johnson No. 123-209B</td>
</tr>
<tr>
<td>92W31</td>
<td></td>
<td>Tube Clip - National Radio Products Type 12</td>
</tr>
<tr>
<td>92W32</td>
<td></td>
<td>Rectifier - Federal Selenium Rectifier No. 439D4200 500</td>
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<tr>
<td>89W60</td>
<td>R106</td>
<td>Resistor - Ohmite 25 Watt, 25 Ohm Resistor No. 0365</td>
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<tr>
<td>92W33</td>
<td></td>
<td>Battery Eveready 4-1/2 V No. 781</td>
</tr>
<tr>
<td>92W34</td>
<td>R101</td>
<td>Resistor - International Resistance Co. BTA-56,000 ohms</td>
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<tr>
<td>92W35</td>
<td>R104</td>
<td>Resistor - International Resistance Co. BTA-510,000 ohms</td>
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<td>92W36</td>
<td>R103</td>
<td>Resistor - International Resistance Co. BTA-1,800 ohms</td>
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<tr>
<td>92W37</td>
<td>R105</td>
<td>Resistor - International Resistance Co. BT2-1,000 ohms</td>
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<tr>
<td>92W38</td>
<td>R102</td>
<td>Resistor - Ohmite &quot;Brown Devil&quot; - 10 Watt - 1 Ohm</td>
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<tr>
<td>92W39</td>
<td>C102</td>
<td>Condenser - Mallory No. TP-408 .005 MFD 600 WVDC</td>
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<tr>
<td>92W40</td>
<td>C101</td>
<td>Condenser - Mallory No. TP-426 .05 MFD 400 WVDC</td>
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<td>Terminal Plate - Miller Mfg. Co. No. 450</td>
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<td>92W42</td>
<td>TD101</td>
<td>Time Delay Relay - Amperite Co. No. 2N030</td>
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<td>92W43</td>
<td>T102</td>
<td>Voltage Regulator Tube - RCA No. OC3VR105</td>
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<tr>
<td>92W44</td>
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<td>Battery Clamp, Weston Part No. 72901</td>
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<tr>
<td>92W45</td>
<td>F101, F102</td>
<td>Fuse - 2 Amp. No. 3 AG &quot;Sio-Blo&quot; Littlefuse Co. Cat. No. 313002 (2 used)</td>
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<td>92W46</td>
<td>T101</td>
<td>Thyatron Tube - Electrons, Inc. No. EL C3J</td>
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<tr>
<td>92W47</td>
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<td>Terminal Strip - H.B. Jones Co. No. 12-140</td>
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<tr>
<td>04N34</td>
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<td>Terminal Strip Mounting Plate</td>
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<tr>
<td>80W85</td>
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<td>Grommet</td>
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<td>92W50</td>
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<td>Grommet, Atlantic India Rubber Works - Cat. No. 1070</td>
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<td>88W70</td>
<td></td>
<td>Connector - Steel City Electric, Pitts., Pa. Cat. No. 522 (2 used)</td>
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<tr>
<td>05206</td>
<td>SW103</td>
<td>Switch &quot;Hi-Lo&quot;</td>
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<tr>
<td>04N99</td>
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<td>Reversing Switch</td>
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<tr>
<td>92W76</td>
<td>SW102</td>
<td>Speed Ind.</td>
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<td>92W77</td>
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<td>Meter</td>
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<td>92W78</td>
<td>R107</td>
<td>Resistor</td>
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<td>92W75</td>
<td>P101</td>
<td>Potentiometer</td>
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<td>92W65</td>
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<td>Knob</td>
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<td>92W83</td>
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<td>Dial Plate</td>
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<tr>
<td>92W79</td>
<td>R108</td>
<td>Resistor</td>
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<tr>
<td>93W31</td>
<td></td>
<td>Condenser Socket</td>
</tr>
<tr>
<td>93W32</td>
<td></td>
<td>Connector Strip</td>
</tr>
</tbody>
</table>

*All circuit wiring is #16 AWG stranded type SHIR except filament leads on tube T101. These are type TW #12 stranded building code wire.*

*The term "Linde" is a registered trade-mark of Union Carbide and Carbon Corporation.*

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9290-2-D5
FIG. 4 - BOTTOM VIEW WITH BOTTOM PLATE REMOVED
INDUSTRIAL GASES
LINDE Oxygen, Nitrogen, Argon, Neon, Helium, Krypton, Xenon, Hydrogen
PREST-O-LITE Acetylene
CALCIUM CARBIDE
UNION Carbidc
CARBIC Processed Carbidc

OXY-ACETYLENE EQUIPMENT
OXYWELD Apparatus for Cutting, Joining, Treating, and Forming Metals
Acetylene Generators
Manifolds, Regulators and Valves
Welding Rods and Supplies
PRES-T-O-WELD Welding and Cutting Apparatus
PUROX Welding and Cutting Apparatus
PRES-T-O-LITE Air-Acetylene Apparatus and Small Tanks
CARBIC Acetylene Flood Lights
Acetylene Generators

ELECTRIC WELDING EQUIPMENT
UNIONMELT Automatic Welding Apparatus and Supplies
HELARC Welding Torches
LINDE Sigma Welding Equipment

SPECIAL EQUIPMENT
LINDE Jet-Piercing Equipment
Plate-Edge Preparation Equipment
Polyethylene Powder and Flame-Spraying Equipment
Steel-Conditioning Machines
Sub-Zero Cold Treatment Equipment

OXYWELD Oxy-Acetylene Cutting Machines
Pressure-Welding Machines

OXYGEN THERAPY SUPPLIES
LINDE Oxygen U.S.P.
Oxygen Therapy Regulators
Oxygen Therapy Manifolds and Valves

SYNTHETIC CRYSTALS
LINDE Synthetic Sapphire, Ruby, Spinel, and Titania
Synthetic Calcium- and Cadmium Tungstates
Fine Alumina Abrasive

ORGANOSILICONs
LINDE Silane Monomers
Polysiloxane Polymers and Resins


LINDE AIR PRODUCTS COMPANY
A DIVISION OF UNION CARBIDE AND CARBON CORPORATION

DOMINION OXYGEN COMPANY, LIMITED, TORONTO

General Office
30 East 42nd Street, New York 17, N.Y.

Eastern States
Baltimore 18, MD.
532 East 25th Street
Boston 16, MASS.
441 Stuart Street
Buffalo 2, N.Y.
250 Delaware Ave.
Charleston 1, W.VA.
2 Virginia Street
New York 17, N.Y.
205 East 42nd Street
Philadelphia 22, PA.
1443 North Broad Street
Pittsburgh 19, PA.
511 Ross Street

Central States
Chicago 1, ILL.
330 North Michigan Avenue
Cincinnati 29, Ohio
709 Main Street
Cleveland 14, OHIO
1513-17 Superior Avenue
Detroit 2, Mich.
6-500 General Motors Building
Indianapolis 4, IND.
729 North Pennsylvania Street
Milwaukee 46, WIS.
1623 South 38th Street
Minneapolis 2, MINN.
827 Second Avenue, South
St. Louis 6, MO.
4228 Forest Park Boulevard

Southern States
Atlanta 1, GA.
310 Peachtree Street, N. L.
Birmingham 5, Ala.
4001-13 South 22nd Street
Jacksonville 3, FLA.
2410 Dennis Street
Memphis 5, Tenn.
48 West McLemore Avenue
New Orleans 13, LA.
628-32 Howard Avenue

Southwestern States
Dallas 1, Texas
2626 Commerce Street
Denver 9, Colo.
685 South Broadway
Houston 11, Texas
6119 Harrisburg Boulevard
Kansas City 6, MO.
910 Baltimore Avenue
Tulsa 3, Okla.
614 National Bank of Tulsa Bldg.

Western States
El Paso, Texas
810 Texas Street
Los Angeles 5, Calif.
2724 Lemon Boulevard
Phoenix, Ariz.
401 East Buchanan Street
Portland 9, Ore.
1205 Northwest Marshall Street
Salt Lake City 1, Utah
562 Pierpont Avenue
San Francisco 6, Calif.
22 Battery Street
Seattle 4, Wash.
2901 First Avenue, South
Spokane 12, Wash.
2023 West Maxwell Avenue

In Canada
Dominion Oxygen Company, Limited
Toronto 5, Montreal 7
Winnipeg 4, Vancouver 2

A. F.

In Canada
Dominion Oxygen Company, Limited
Toronto 5, Montreal 7
Winnipeg 4, Vancouver 2

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