Tower Dryer

Wiring Diagrams Manual
PNEG-554r99

a division of
THE GSI GROUP
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<tr>
<td>J6-19</td>
<td>Jumper from J6-4</td>
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<tr>
<td>J6-18</td>
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<td>J6-16</td>
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<td>J6-13</td>
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<td>J5-8</td>
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<td>J5-6</td>
<td>Wet Conv Interlock</td>
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<td>J5-5</td>
<td>Load Switch &quot;Manual&quot;</td>
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<tr>
<td>J5-4</td>
<td>Unload Switch &quot;On&quot;</td>
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<tr>
<td>J5-3</td>
<td>BURNER SWITCH &quot;On&quot;</td>
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<td>J5-2</td>
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<tr>
<td>J5-1</td>
<td>Alarm Horn/Light Neutral</td>
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<td>Power to Inverter Light</td>
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<td>J6-14</td>
<td>Inverter Start Command</td>
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<td>Start Switch Light</td>
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<td>Ignition Trans Neutral</td>
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<td>Protect PWR After Purge</td>
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### Table: 120 Volt DC Inputs

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<td>Power to Inverter Light</td>
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<td>J6-14</td>
<td>Inverter Start Command</td>
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<tr>
<td>J6-13</td>
<td>Pilot Solenoid PWR</td>
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<td>J6-11</td>
<td>Term #4 Protectofier</td>
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<tr>
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<tr>
<td>J6-9</td>
<td>Modutrol Neutral</td>
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<td>J6-8</td>
<td>Start Switch Light</td>
</tr>
<tr>
<td>J6-7</td>
<td>Aux Dry Conv Neutral</td>
</tr>
<tr>
<td>J6-6</td>
<td>Ignition Trans Neutral</td>
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<td>J6-5</td>
<td>Aux Wet Conv Neutral</td>
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<tr>
<td>J6-4</td>
<td>BLOWER Neutral</td>
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<tr>
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<td>Protect PWR After Purge</td>
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<td>Alarm Horn/Light PWR</td>
</tr>
<tr>
<td>J5-1</td>
<td>Alarm Horn/Light Neutral</td>
</tr>
</tbody>
</table>

### Diagram:
- **Upper Exhaust Limit:** J1-1
- **Middle Exhaust Limit:** J1-3
- **Lower Exhaust Limit:** J1-5
- **Inside Exhaust Limit:** J1-7
- **Proof of Aux. Unload:** J1-9
- **Upper Exhaust Limit:** J1-1
- **Middle Exhaust Limit:** J1-3
- **Lower Exhaust Limit:** J1-5
- **Inside Exhaust Limit:** J1-7
- **Proof of Aux. Unload:** J1-9

### Notes:
- If not using aux dry conveyor, jumper J5-8 to J2-7.
- If not using aux wet conveyor, jumper J5-8 to J2-6.
- If not using proof of aux unload, jumper J5-8 to J1-20.
- If not using aux dry conveyor, jumper J6-10 to J5-10.
- If not using aux wet conveyor, jumper J6-10 to J5-10.
<table>
<thead>
<tr>
<th>Terminal #</th>
<th>Description</th>
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<td>MA5ON</td>
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<td>J7-17</td>
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<td>J8-218</td>
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<td>Blower 1 Power</td>
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<td>J8-11</td>
<td>Blower 1 Neutral</td>
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<td>J8-17</td>
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<td>4-20A</td>
<td>Current Output (Inverter)</td>
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<td>4-20C</td>
<td>Current Output (Inverter)</td>
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<td>4-20D</td>
<td>Current Output (Inverter)</td>
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<td>4-20B</td>
<td>Current Output (Modutrol)</td>
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<td>Rtd Sensor (Grain Temp)</td>
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</tbody>
</table>
SINGLE FAN AUXILIARY INTERLOCK WIRING
SINGLE FAN OVERLOAD WIRING
GSI TOWER DRYER WIRING DIAGRAMS

SINGLE FAN PROTECTOFIER/IGNITION/AIRSWITCH WIRING

[Diagram of wiring connections with labels for components such as COM, BLOWER #1 AIR, N/O, L1, L2, L3, L4, L5, L6, L7, L8, L9, L10, L11, L12, L13, MAXON, ST, ACT CHECK RELAY, ACT RELAY, ACT RELAY, ACT FLAME RELAY, ACT FLAME RELAY, ACT FLAME RELAY, ACT FLAME RELAY, PART # 14847, TRANSMISSION Transformer, TYPE 507-947, CODE 804, 5000 PSIG, 1500 PSIG, SECONDARY (NEUTRAL GROUNDED), Webster]
GSI TOWER DRYER WIRING DIAGRAMS

THREE FAN EXTERNAL WIRING

[Diagram of wiring connections and labels, not transcribed directly but indicated by the labels and terminals shown on the page.]

TERMINAL #

EXTERNAL WIRING

[Continues with detailed wiring connections, not transcribed here, focusing on labels and connections shown in the diagram.]
THREE FAN AUXILIARY INTERLOCK WIRING
THREE FAN CONTACTER COIL WIRING
THREE FAN OVERLOAD WIRING
GSI TOWER DRYER WIRING DIAGRAMS

THREE FAN PROTECTOFIER/IGNITION/AIRSWITCH WIRING
FOUR FAN WIRING
FOUR FAN AUXILIARY INTERLOCK WIRING
GSI TOWER DRYER WIRING DIAGRAMS

FOUR FAN OVERLOAD WIRING
GSI TOWER DRYER WIRING DIAGRAMS

GRAIN TEMPERATURE SENSOR WIRING

NOTE: GROUND SHIELDING WIRE IN WIRING BOX.
BINDICATOR WIRING

J9-9 BLACK  J7-5 WHITE

J5-8 RED

J2-18 YELLOW ON UPPER OR
J2-17 BROWN ON LOWER

EACH OF THE BINDICATOR WIRE THE SAME EXCEPT THAT THE UPPER BINDICATOR GOES TO J2-18 AND THE LOWER BINDICATOR GOES TO J2-17
GSI TOWER DRYER WIRING DIAGRAMS

SINGLE FAN UPPER SAFETY HIGH LIMIT WIRING

UPPER EXHAUST
HIGH LIMIT

MOUNT SENSOR AROUND
LEFT SIDE OF DRYER

●—SPlice WIRE TOGETHER HERE

RUN ALL WIRES THROUGH CONDUIT TO MIDDLE HIGH LIMIT SAFETY BOX

YELLOW

RED

BLACK

RED----J5-8
YELLOW----J1-2
BROWN----J1-6
ORANGE----J1-10
BLACK----J5-13

CAP OFF BLACK WIRE. IT IS ONLY USED FOR TESTING
MIDDLE EXHAUST HIGH LIMIT

- RED AND BLACK Wires from upper safety high limit, run to lower safety box
- SPICE WIRE TOGETHER HERE
- RUN ALL WIRES THROUGH CONDUIT TO LOWER HIGH LIMIT SAFETY BOX
- BROWN
- YELLOW, J1-2
- BLACK, J5-13
- CAP OFF BLACK WIRE, IT IS ONLY USED FOR TESTING

MOUNT SENSOR AROUND LEFT SIDE OF DRYER

RED ---- J5-8
YELLOW ---- J1-2
BROWN ---- J1-6
ORANGE ---- J1-10
BLACK ---- J5-13
GSI TOWER DRYER WIRING DIAGRAMS

SINGLE FAN LOWER SAFETY HIGH LIMIT WIRING

LOWER EXHAUST
HIGH LIMIT

MOUNT SENSOR AROUND
LEFT SIDE OF DRYER

CAP OFF BLACK WIRE.
IT IS ONLY USED
FOR TESTING

RED, YELLOW, AND BLACK WIRE TOGETHER HERE
RUN ALL WIRES THROUGH
CONDUIT TO MAIN CONTROL BOX

LOWEST LEFT

BROWN

--- SPICE WIRE TOGETHER HERE

ORANGE

BROWN

BLACK

BROWN --- J1-8
ORANGE --- J1-10
BLACK --- J5-13

RED --- J5-8
YELLOW --- J1-2
BROWN --- J1-6
ORANGE --- J1-10
BLACK --- J5-13
SINGLE FAN INSIDE SAFETY HIGH LIMIT WIRING

WIRE J10 TO MAN CONT & RED

WIRE J14 TO MAN CONT & BROWN

WIRE J17 TO MAN CONT & ORANGE

WIRING DIAGRAMS

INLET EXHAUST HIGH LIMIT

MOUNT SENSOR AROUND INSIDE OF DRYER

ADJUSTABLE PLENUM THERMOSTAT INSIDE COOLING SECTION

WIRING SHOULD RUN IN THE SAME CONDUIT AS THE INNER SAFETY HIGH LIMIT

GSI TOWER DRYER WIRING DIAGRAMS

GIA-0057-ASSEMBLY NUMBER

GIA-0059-HIGH LIMIT
GSI TOWER DRYER WIRING DIAGRAMS

THREE & FOUR FAN UPPER SAFETY HIGH LIMIT WIRING

UPPER EXHAUST HIGH LIMIT

Mount sensor around left side of dryer

Run all wires through conduit to middle high limit safety box

Cap off black wire. It is only used for testing

Upper left

Splice wire together here

Red---J5-8
Yellow---J1-2
Blue---J1-4
Black---J5-13

Upper right

Red---J5-8
Yellow---J1-2
Blue---J1-4
Brown---J1-6
Grey---J1-8
Orange---J1-10
Purple---J1-12
Black---J5-13

Mount sensor around right side of dryer
GSI TOWER DRYER WIRING DIAGRAMS

THREE & FOUR FAN MIDDLE SAFETY HIGH LIMIT WIRING

MIDDLE EXHAUST HIGH LIMIT

- Blue wire: Splice wire together here.
- Run all wires through conduit to lower high limit safety box.
- Mount sensor around left side of dryer.
- Cap off black wire; it is only used for testing.
- Middle left:
  - Blue:
  - Grey:
  - Black:
  - Blue: J1-4
  - Brown: J1-6
  - Grey: J1-8
  - Black: J5-13

- Mount sensor around right side of dryer.

- Red, yellow, and black wires from upper safety high limit. Run to lower safety box.

Red: J5-8
Yellow: J1-2
Blue: J1-4
Brown: J1-6
Grey: J1-8
Orange: J1-10
Purple: J1-12
Black: J5-13
GSI TOWER DRYER WIRING DIAGRAMS

THREE & FOUR FAN LOWER SAFETY HIGH LIMIT WIRING

LOWER EXHAUST
HIGH LIMIT

MOUNT SENSOR AROUND
LEFT SIDE OF DRYER

MOUNT SENSOR AROUND
RIGHT SIDE OF DRYER

RED, YELLOW, BLUE, BROWN, AND BLACK WIRES FROM UPPER AND MIDDLE SAFETY LIMITS, RUN TO CONTROL BOX AS SHOWN

--- SPLICE WIRE TOGETHER HERE

RUN ALL WIRES THROUGH CONDUIT TO MAIN CONTROL BOX

RED——J5-8
YELLOW——J1-2
BLUE——J1-4
BROWN——J1-6
GREY——J1-8
ORANGE——J1-10
PURPLE——J1-12
BLACK——J5-13

CAP OFF BLACK WIRE. IT IS ONLY USED FOR TESTING

LOWER LEFT

LOWER RIGHT
GSI TOWER DRYER WIRING DIAGRAMS

STANDARD FUEL TRAIN WIRING

POWER BOX TERMINAL STRIP

- J5-8 (RED)
- J3-4 (YELLOW)
- J9-9 (BLACK)
- J7-6 (WHITE)
- J7-17 (BROWN)
- J7-4 (WHITE)
- J7-1 (ORANGE)
- J7-7 (WHITE)
- 4-20C (BLACK SHIELD)
- 4-20D (WHITE SHIELD)

MODUTROL MOTOR

- DOWNEASTREAM MAXON SHUTOFF VALVE
- UPSTREAM MAXON SHUTOFF VALVE
- PILOT GAS SOLENOID (N.C.)
GSI TOWER DRYER WIRING DIAGRAMS

CONTROL PANEL FRONT PANEL LIGHT BULB VOLTAGES
GSI TOWER DRYER WIRING DIAGRAMS

SPECIAL STARTER WIRING
GSI TOWER DRYER WIRING DIAGRAMS

SINGLE FAN CUTLER HAMMER SOFT START WIRING
NOTE: REMOVE FACTORY WIRES #2 & #22 FROM OVERLOAD RELAY AND WIRE NUT TOGETHER.
GSI TOWER DRYER WIRING DIAGRAMS

THREE FAN TRI-START POWER WIRING
NOTE: Terminals 2 and 7 on each soft start must be connected together.
Terminals 1 and 10 on each soft start must be connected together.
GSI TOWER DRYER WIRING DIAGRAMS

FOUR FAN PART WINDING START CONTROL WIRING
SINGLE FAN CONTROL WIRING

- **Safeties**
  - **Upper Exhaust High Limit**
  - **Middle Exhaust High Limit**
  - **Lower Exhaust High Limit**
  - **Inner Temperature High Limit**
  - **Adjustable Plenum High Limit**
  - **BLOWER #1 Motor Overload**
  - Above safeties cause an immediate shutdown of entire dryer if opened.
- **Auxiliary Dry Safety (Overload)**
- **Auxiliary Wet Safety (Overload)**
- **Inverter Overload**
  - Above safeties cause an immediate shutdown of entire dryer if opened.
- **Blower #1 Contactor Interlock**
- **Wet Conveyor Contactor Interlock**
- **Dry Conveyor Contactor Interlock**
  - Above safeties monitor aux contacts on side of contactors.
- **Blower #1 Air Switch Input**
  - Above safety must show air flow when blowers are on.
- **Maxon Valve Proof of Closure**
  - Above safety monitors if the maxon has been turned on or not.
- **Proof of Flame Input**
  - Above safety must have 12 VDC while the burner is on.
- **Upper Grain Level Switch**
  - **Lower Grain Level Switch**
  - Above switches tell the computer if the dryer is full or empty.
- **Lower Exhaust High Limit**
  - **Upper Exhaust High Limit**
  - **Closed Slide Gate Limit**
  - **Open Slide Gate Limit**
  - Above safeties are only used on a gate fill dryer.
- **Inverter Start Command**
  - Above contacts have zero voltage. They are used to start inverter.
- **Auxiliary Wet Safety (Overload)**
  - **Auxiliary Dry Safety (Overload)**
  - Above safeties monitor the user’s aux wet and dry conveyors.
- **User’s Auxiliary Proof of Unload**
  - Above safety monitors the user’s unload conveyor.
THREE FAN CONTROL WIRING

LEFT AND RIGHT ARE DESIGNATED WHILE LOOKING AT THE SAFETY ENCLOSURE

ABOVE SAFETIES CAUSE AN IMMEDIATE SHUTDOWN OF ENTIRE DRYER IF OPENED

ABOVE WIRING DIAGRAMS

ABOVE SAFETIES MONITOR THE USER'S AUX WET AND DRY CONVEYORS

ABOVE SAFETIES ARE ONLY USED WHERE THE GAS PRESSURE IS MONITORED

ABOVE SAFETIES ARE ONLY USED ON A GATE FILL DRYER

ABOVE SAFETIES MUST HAVE 12 VDC WHILE THE BURNER IS ON

ABOVE SAFETIES MONITORS IF THE MAXON HAS BEEN TURNED ON OR NOT

ABOVE SAFETIES CAUSE AN IMMEDIATE SHUTDOWN OF ENTIRE DRYER IF OPENED

ABOVE SAFETIES MONITORS THE USER'S UNLOAD CONVEYOR

ABOVE SAFETIES MONITOR THE USER'S UNLOAD PROOF OF UNLOAD
FOUR FAN CONTROL WIRING

- Upper Exhaust High Limit (Left)
- Upper Exhaust High Limit (Right)
- Middle Exhaust High Limit (Left)
- Middle Exhaust High Limit (Right)
- Lower Exhaust High Limit (Left)
- Lower Exhaust High Limit (Right)
- Inner Temperature High Limit (Left)
- Inner Temperature High Limit (Right)
- Adjustable Furnace High Limit

- Blower #1 Motor Overload
- Blower #2 Motor Overload
- Blower #3 Motor Overload
- Blower #4 Motor Overload

- Dry Conveyor Contactor Interlock
- Wet Conveyor Contactor Interlock
- Aux Dry Safety (Overload)
- Aux Wet Safety (Overload)

- Blowers & Motors
- Inverters
- Gas Pressure Safety Switch
- Low Gas Pressure Safety Switch
- High Gas Pressure Safety Switch

- Proof of Closure
- Aux Safety Monitor
- Aux Safety Monitor

- Proofs of Flame Input
- Aux Safety Monitor

- Proofs of Inverters
- Aux Safety Monitor

- Proofs of Conveyors
- Aux Safety Monitor

- Proofs of Limit Switches
- Aux Safety Monitor

- Proofs of Interlocks
- Aux Safety Monitor

- Proofs of Interlocks
GSI TOWER DRYER WIRING DIAGRAMS

TOSHIBA VF-S7 WIRING

NOTE: 470 nF/50 VDC ELECTROLITIC CAPACITOR
GSI TOWER DRYER WIRING DIAGRAMS

SLIDE GATE CONTROL WIRING

240/480 VOLTS

15 AMP BREAKER

14 GA WIRE

SLIDE GATE OPEN CONTACOR (GE #MC0A30A1J)

SLIDE GATE CLOSED CONTACOR (GE #MC0A30A1J)

J5-7

J6-14

J6-15

J8-8

J2-20

“OPEN” SLIDE GATE LIMIT

“CLOSED” SLIDE GATE LIMIT

EXTERNAL WIRING

INTERNAL WIRING
GSI TOWER DRYER WIRING DIAGRAMS

DUAL SLIDE GATE CONTROL WIRING
GSI TOWER DRYER WIRING DIAGRAMS

TRANSFORMER WIRING/DOOR SAFETY CIRCUIT