**EMERGENCY STOP BUTTONS**

96760312 (OPTION)

- Exist. RKS1
- Ignition
- PB1

TO ENGINE SPEED SWITCH RKS4

PB1: LEFT REAR
PB1: LEFT FRONT
PB1: RIGHT FRONT
PB1: RIGHT REAR

STOP BOX ASSEMBLY IN WKS47 (OPTION)

**BACK UP ALARM W/3 SECOND TIMER**

96780017 (OPTION)

- RESISTOR 22K
- TIMER 1/8

**REMOVE Wires 59, 62 & 63 FROM RKS5 (TRAVEL DIRECTION) AND RECONNECT AS SHOWN**

- **PLATFORM LIGHTS**
  - 96760323 (OPTION)

  - CX4-45G
  - P17-U
  - P17-V
  - P17-W
  - P17-X

**PERIMETER LIGHTS ON FRAME**

96761037 (OPTION)

- LT14
- LT15
- LT16
- LT17
- LT22
- LT23
- LT24
- LT25
- LT26
- LT27

- RESISTOR 61200061
- DIODE 29680018
- RESISTOR 61200061

**PERIMETER LIGHTS ON CAB**

- LT18
- LT19

- RESISTOR 61200061
- DIODE 29680018
- RESISTOR 61200061

**REVISION HISTORY**

LOCATED ON LAST SHEET

- PB1
- E-STOP
- IGNITION
- EXISTING CR4

**EXISTING CR1**

- 96760312
- PB1
- IGNITION
- PB1
ALL INFORMATION CONTAINED ON THIS DRAWING IS CONSIDERED TO BE BOTH CONFIDENTIAL AND PROPRIETARY BY NORDCO INC. NO USE OR REPRODUCTION THEREOF MAY BE MADE WITHOUT THE EXPRESS WRITTEN CONSENT OF NORDCO INC.

**ELECTRICAL SCHEMATIC**

**ASSEMBLY**

1. 1 wire 28 was 23; CB24 was 10A
2. 4 added GPS option; MOD INPUT DESC
3. 5 ground all com terminals
4. 6 added second monitor
5. 7 modified output descriptions
6. 8 platform lights dedicated CB22
7. 9 modified output descriptions
8. 10 MACBONE CB10 30A
9. 11 added optional CUMMINS engine
10. 12 added RKS56

**Sheet Change**

- Sheet 12 of 12
- ECO XXXXX REV -B
- Drawn by: JFQ 09/18/12
- Checked by: JFQ 12-21-11
- Approved by:

**Sheet Change**

- Sheet 11 of 12
- ECO XXXXX REV A
- Drawn by: JFQ 07/15/11
- Checked by: JFQ 12-21-11
- Approved by:

**CUSTOMARY:**

- All dimensions in inches

**MACHINING:**

- All work to be done with standard tooling

**IMPRINTS:**

- Machine finish unless otherwise stated

**TOLERANCES:**

- Fraction
  - 1/8 = .0625
  - 1/32 = .0312
  - 1/16 = .0156

**THIRD ANGLE PROJECTION**

- ECO XXXXX REV -B
- Drawn by: JFQ 09/18/12
- Checked by: JFQ 12-21-11
- Approved by:

**Electrical Schematic**

- B97231001DWG
- CRIBBER

**REV:**

- D

**Sheet No.:**

- 12/12
CRIBBER LOGIC BOX QUICK REFERENCE CHART

CIRCUIT BREAKER PANEL ASSEMBLY
53080202

SCALE  3/4
5129100 .5A RPC (RPC30,31,32)
5129105 2.0A RPC (RPC0-7,10-17,20-22,24-27,40-47)
5129110 4.0A RPC (RPC23)
5155208 RELAY SOCKET (ALL)
75060208 RETAINING CLIP (ALL)
51290105 2.0A RPC (RPC0-7,10-17,20-22,24-27,40-47)
5126110 4.0A RPC (RPC23)

RPC0
RPC1
RPC2
RPC3
RPC4
RPC5
RPC6
RPC7
RPC10
RPC11
RPC12
RPC13
RPC14
RPC15
RPC16
RPC17
RPC18
RPC20
RPC21
RPC22
RPC23
RPC24
RPC25
RPC26
RPC27
RPC30
RPC31
RPC32
RPC33
RPC34
RPC35
RPC36
RPC37
RPC40
RPC41
RPC42
RPC43
RPC44
RPC45
RPC46
RPC47

CIRCUIT BREAKERS
SEE SHEET 2

S/N230025 & UP

THIS CHART TO BE USED WITH:
1) 97231001 ELECTRICAL SCHEMATIC
2) 31440089 LOGIC BOX
3) 53080202 CIRCUIT BREAKER PANEL ASSEMBLY
CIRCUIT BREAKER PANEL ASSEMBLY
53080202
(PARTIAL VIEW)

THIS CHART TO BE USED WITH:
1) 97231001 ELECTRICAL SCHEMATIC
2) 31440089 LOGIC BOX
3) 53080202 CIRCUIT BREAKER PANEL ASSEMBLY

LEFT COLUMN OF BREAKERS
CB1 20A WORKLIGHTS, CAB PERIMETER LIGHTS
CB2 20A TRAVEL MARKER & BRAKE LIGHTS
CB3 20A WIPERS
CB4 15A STROBE, CAB DOME, FAN, DEFOGGER
CB5 10A GAUGES, PUMP, LOW AIR ALARM
CB6 15A PLC, RPC'S
CB7 OPEN
CB8 20A LOCO LIGHTS
CB9 10A PRESSURE SWITCHES
CB10 20A MACHINE AC AND PRESSURIZER
CB11 20A AC
CB12 20A AC

RIGHT COLUMN OF BREAKERS
CB13 20A TRAVEL WORK
CB14 10A LOCKS
CB15 OPEN
CB16 OPEN
CB17 10A PARKING BRAKE
CB18 30A VOLTAGE CONVERTER
CB19 OPEN
CB20 15A PLC, RPC
CB21 20A PLC, RPC
CB22 10A PLATFORM LIGHTS
CB23 25A FRAME PERIMETER LIGHTS
CB24 5A LOGIC BOX LIGHT

CIRCUIT BREAKERS CB13, CB14, CB17, AND CB18 ARE POWERED THROUGH THE ELECTRICAL INTERLOCK. ALL OF THE ELECTRICAL INTERLOCK BUTTONS MUST BE PULLED OUT FOR THESE CIRCUITS TO BE POWERED.
PLC INPUTS
FOR SCHEMATIC INFORMATION
SEE 97231001 SHEETS 4 & 5

NOTE: THE EXTENSION PLC NUMBERING ON THE FACEPLATE IS GENERIC BECAUSE MULTIPLE UNITS CAN BE CONNECTED. INPUT AND OUTPUT DESIGNATIONS SHOWN ON THIS DRAWING ARE CORRECT. THE SCREW TERMINALS ARE IN ORDER, READ FROM LEFT TO RIGHT. INPUTS ARE ON THE TOP, OUTPUTS ARE ON THE BOTTOM.

THIS CHART TO BE USED WITH:
1) 97231001 ELECTRICAL SCHEMATIC
2) 31440089 LOGIC BOX
3) 53080202 CIRCUIT BREAKER PANEL ASSEMBLY
PLC OUTPUTS
FOR SCHEMATIC INFORMATION
SEE 97231001 SHEETS 6 & 7

NOTE: THE EXTENSION PLC NUMBERING ON THE
FACEPLATE IS GENERIC BECAUSE MULTIPLE UNITS CAN
BE CONNECTED. INPUT AND OUTPUT DESIGNATIONS
SHOWN ON THIS DRAWING ARE CORRECT. THE SCREW
TERMINALS ARE IN ORDER, READ FROM LEFT TO RIGHT.
INPUTS ARE ON THE TOP, OUTPUTS ARE ON THE BOTTOM.

THIS CHART TO BE USED WITH:
1) 97231001 ELECTRICAL SCHEMATIC
2) 31440089 LOGIC BOX
3) 53080202 CIRCUIT BREAKER PANEL ASSEMBLY
**ALL INFORMATION CONTAINED ON THIS DRAWING IS CONSIDERED TO BE BOTH CONFIDENTIAL AND PROPRIETARY BY NORDCO INC. NO USE OR REPRODUCTION THEREOF MAY BE MADE WITHOUT THE EXPRESS WRITTEN CONSENT OF NORDCO INC.**

**PRODUCT:**

**ALL DIMENSIONS IN INCHES**

**MACHINE FINISH UNLESS OTHERWISE STATED**

---

**DESCRIPTION:**

**TRAVEL SCALE REV.**

**DRAWING CODE NUMBER**

**SIZE SCALE REV.**

**TOP ROW OF RPC'S**

<table>
<thead>
<tr>
<th>RPC</th>
<th>A</th>
<th>LEFT REAR SCRAPE EXTEND</th>
<th>PATTERN 1</th>
<th>LEFT REAR CRIB PATTERN EXTEND</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2A</td>
<td>LEFT REAR SCRAPE RETRACT</td>
<td>PATTERN 2</td>
<td>LEFT REAR CRIB PATTERN RETRACT</td>
</tr>
<tr>
<td>RPC</td>
<td>2A</td>
<td>LEFT FRONT SCRAPE EXTEND</td>
<td>PATTERN 3</td>
<td>LEFT FRONT CRIB PATTERN EXTEND</td>
</tr>
<tr>
<td>RPC</td>
<td>3A</td>
<td>LEFT FRONT SCRAPE RETRACT</td>
<td>PATTERN 4</td>
<td>LEFT FRONT CRIB PATTERN RETRACT</td>
</tr>
<tr>
<td>RPC</td>
<td>4A</td>
<td>RIGHT REAR SCRAPE EXTEND</td>
<td>PATTERN 5</td>
<td>RIGHT REAR CRIB PATTERN EXTEND</td>
</tr>
<tr>
<td>RPC</td>
<td>5A</td>
<td>RIGHT REAR SCRAPE RETRACT</td>
<td>PATTERN 6</td>
<td>RIGHT REAR CRIB PATTERN RETRACT</td>
</tr>
<tr>
<td>RPC</td>
<td>6A</td>
<td>RIGHT FRONT SCRAPE EXTEND</td>
<td>PATTERN 7</td>
<td>RIGHT FRONT CRIB PATTERN EXTEND</td>
</tr>
<tr>
<td>RPC</td>
<td>7A</td>
<td>RIGHT FRONT SCRAPE RETRACT</td>
<td>PATTERN 8</td>
<td>RIGHT FRONT CRIB PATTERN RETRACT</td>
</tr>
</tbody>
</table>

**BOTTOM ROW OF RPC'S**

<table>
<thead>
<tr>
<th>RPC</th>
<th>A</th>
<th>RIGHT REAR CRIB PATTERN EXTEND</th>
<th>PATTERN 9</th>
<th>RIGHT FRONT CRIB PATTERN RETRACT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2A</td>
<td>RIGHT REAR CRIB PATTERN RETRACT</td>
<td>PATTERN 10</td>
<td>RIGHT FRONT CRIB PATTERN EXTEND</td>
</tr>
<tr>
<td>RPC</td>
<td>3A</td>
<td>BRAKES ON</td>
<td>PATTERN 11</td>
<td>BRAKE LIGHTS ON</td>
</tr>
<tr>
<td>RPC</td>
<td>4A</td>
<td>BRAKE LIGHTS ON</td>
<td>PATTERN 12</td>
<td>BRAKE LIGHTS ON</td>
</tr>
<tr>
<td>RPC</td>
<td>5A</td>
<td>CYCLE COUNTER</td>
<td>PATTERN 13</td>
<td>CYCLE COUNTER</td>
</tr>
<tr>
<td>RPC</td>
<td>6A</td>
<td>AV1 TRIGGER FRONT CAMERA</td>
<td>PATTERN 14</td>
<td>AV1 TRIGGER FRONT CAMERA</td>
</tr>
<tr>
<td>RPC</td>
<td>7A</td>
<td>AV2 TRIGGER REAR CAMERA</td>
<td>PATTERN 15</td>
<td>AV2 TRIGGER REAR CAMERA</td>
</tr>
<tr>
<td>RPC</td>
<td>8A</td>
<td>SOCKET ONLY (SPARE)</td>
<td>PATTERN 16</td>
<td>SOCKET ONLY (SPARE)</td>
</tr>
<tr>
<td>RPC</td>
<td>9A</td>
<td>SOCKET ONLY (SPARE)</td>
<td>PATTERN 17</td>
<td>SOCKET ONLY (SPARE)</td>
</tr>
<tr>
<td>RPC</td>
<td>10A</td>
<td>RIGHT WING UP (JOYSTICK BACK)</td>
<td>PATTERN 18</td>
<td>RIGHT WING UP (JOYSTICK BACK)</td>
</tr>
<tr>
<td>RPC</td>
<td>11A</td>
<td>RIGHT WING DOWN (JOYSTICK FORWARD)</td>
<td>PATTERN 19</td>
<td>RIGHT WING DOWN (JOYSTICK FORWARD)</td>
</tr>
<tr>
<td>RPC</td>
<td>12A</td>
<td>RIGHT WING ROTATE CCW (EXTEND)</td>
<td>PATTERN 20</td>
<td>RIGHT WING ROTATE CCW (EXTEND)</td>
</tr>
<tr>
<td>RPC</td>
<td>13A</td>
<td>RIGHT WING ROTATE CW (RETRACT)</td>
<td>PATTERN 21</td>
<td>RIGHT WING ROTATE CW (RETRACT)</td>
</tr>
<tr>
<td>RPC</td>
<td>14A</td>
<td>LEFT WING UP (JOYSTICK BACK)</td>
<td>PATTERN 22</td>
<td>LEFT WING UP (JOYSTICK BACK)</td>
</tr>
<tr>
<td>RPC</td>
<td>15A</td>
<td>LEFT WING DOWN (JOYSTICK FORWARD)</td>
<td>PATTERN 23</td>
<td>LEFT WING DOWN (JOYSTICK FORWARD)</td>
</tr>
<tr>
<td>RPC</td>
<td>16A</td>
<td>LEFT WING ROTATE CW (EXTEND)</td>
<td>PATTERN 24</td>
<td>LEFT WING ROTATE CW (EXTEND)</td>
</tr>
<tr>
<td>RPC</td>
<td>17A</td>
<td>LEFT WING ROTATE CCW (RETRACT)</td>
<td>PATTERN 25</td>
<td>LEFT WING ROTATE CCW (RETRACT)</td>
</tr>
</tbody>
</table>

---

**LIGHT KEY**

- GREEN LIGHT INDICATES OUTPUT SIGNAL FROM PLC.
- RED LIGHT INDICATES A WIRE BREAK BETWEEN DEVICE AND SOLENOID VALVE OR LIGHT.
- RED AND GREEN LIGHTS INDICATE WIRE BREAK OR SHORT CIRCUIT BETWEEN DEVICE AND SOLENOID VALVE OR LIGHT.

---

**REMOTE POWER CONTROLLERS (RPC'S)**

---

**THIS CHART TO BE USED WITH:**

1. 97231001 ELECTRICAL SCHEMATIC
2. 31440089 LOGIC BOX
3. 53080202 CIRCUIT BREAKER PANEL ASSEMBLY

---

**DELPHI**

---

**S/N 230025 & UP**

---

**REVISION HISTORY**

LOCATED ON LAST SHEET

---

**LOGIC BOX ASSEMBLY**

---

**31440089**

---

**PARTIAL VIEW**
INTRODUCTION SCREENS

These default screens are on a loop. It rotates through * screens showing a description of how to enter the timer screens. The Nordco part number of the software, and Nordco service phone number.

To return to the introduction screens from any timer screen, hold the "ESC" button for 3 seconds.

* This will also happen automatically after 30 seconds of inactivity in the timer screens.

TIMER ADJUSTMENT INSTRUCTIONS

1. ENTER THE TIMER SCREENS.
   - THIS IS DONE BY HOLDING "OK" FOR 3 SECONDS.

2. SCROLL TO THE DESIRED TIMER.
   - THE FIRST TWO LINES ARE A BRIEF DESCRIPTION OF THE TIMER.
   - "PUSHING +" ADVANCES FORWARD ONE SCREEN.
   - "PUSHING OK" AT THE FINAL SCREEN RETURNS YOU TO TIMER 1.
   - "PUSHING ESC" GIVES BACK ONE SCREEN.

3. CHANGE THE TIMER VALUE
   - CURRENT VALUE IS DISPLAYED IN LOWER RIGHT CORNER
   - "PUSHING +" INCREASES THE TIMER
   - "PUSHING -" DECREASES THE TIMER
   - THE BUTTON CAN BE HELD DOWN FOR FASTER ADJUSTMENT
   - THE LIMITS SHOWN ON THE LEFT CAN'T BE EXCEEDED

4. REPEAT STEPS 2 AND 3 TO ADJUST MORE TIMERS.

RESETTING ALL TIMERS TO THE FACTORY SETTINGS

1. ENTER THE TIMER SCREENS AS DESCRIBED ABOVE.

2. SCROLL TO THE FACTORY RESET SCREEN WHICH IS AFTER THE LAST NUMBERED TIMER ADJUSTMENT SCREEN.

3. HOLD " + " FOR THREE SECONDS.

4. IT WILL DISPLAY "DONE" IN THE LOWER RIGHT CORNER TO INDICATE THIS ACTION HAS BEEN COMPLETED.

LVDT & ANALOG DIAGNOSTICS SCREENS

To enter the diagnostics screens press and hold "ESC" button for three seconds. An LVDT error will prompt this mode to engage automatically.

1. PRESS "ESC" TO ADVANCE ONE SCREEN
   - THESE SCREENS ARE FOR DISPLAYING INFORMATION ONLY.

2. NO ADJUSTMENTS ARE AVAILABLE.
   - IF LVDT INPUT VOLTAGE DETECTED IS OUTSIDE NORMAL RANGE WORKHEAD WILL BE DISABLED SEE SHEET 7

PLC TIMERS ADJUSTMENT DISPLAY SCREEN INSTRUCTIONS

<table>
<thead>
<tr>
<th>ADJUSTABLE TIMERS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 JOINTED RETRACT</td>
<td>IN JOINTED MODE THE RAIL CLAMPS PULL UP FIRST WHEN THE MACHINE TRAVELS IN ORDER TO CLEAR JOINT BARS. TO INCREASE HOW FAR THEY RETRACT, INCREASE THE TIMER SETTING.</td>
</tr>
<tr>
<td>2 SCRAPE TIME OUT</td>
<td>DURING EACH SCRAPE SEQUENCE IF THE TOOLS CANNOT MOVE BALLAST ALL THE WAY TO THE INTENDED POSITION THE REST OF THE SEQUENCE WILL BEGIN AFTER A TIME DELAY. DECREASE THIS TIME IF THE CYCLE IS TO SLOW, AND INCREASE THE TIMER IF THE TOOLS SEEM NOT TO HAVE ENOUGH TIME TO EXTEND TO THEIR FULL REACH.</td>
</tr>
<tr>
<td>3 SPOTTING MAXIMUM TIME</td>
<td>IF THE WORKHEAD IS AT THE SET POINT YOU CAN PROPEL THE MACHINE BRIEFLY BEFORE THE WORKHEAD RAISES AUTOMATICALLY TO PROTECT AGAINST DAMAGE. INCREASE THIS TIMER FOR A LONGER DELAY. DECREASE TIMER TO SHORTEN THE DELAY.</td>
</tr>
<tr>
<td>4 TIE PUSHER EXTEND</td>
<td>THE TIE PUSHER SEQUENCE IS CONTROLLED BY TIMER. SET THIS TO THE TIE PUSHER REACHES FULL STROKE AND PAUSES BRIEFLY BEFORE REFRACTING.</td>
</tr>
<tr>
<td>5 TIE PUSHER RETRACT</td>
<td>THE TIE PUSHER SEQUENCE IS CONTROLLED BY TIMING. INCREASE IF THE TIE PUSHER NEEDS TO RETRACT FURTHER TO CLEAR OBSTRUCTIONS.</td>
</tr>
<tr>
<td>6 REVERSE CAMERA DELAY WORK MODE*</td>
<td>IN WORK MODE THE MAIN SCREEN DISPLAYS THE TIE PUSHER CAMERA. WHEN SPOTTING THE MACHINE TO USE THE TIE PUSHER IT IS USEFUL TO KEEP THIS CAMERA DISPLAYED WHEN BACKING UP. IF YOU PROPEL LONGER THAN THIS SETTING THE REVERSE CAMERA IS DISPLAYED INSTEAD. INCREASE TIME IF YOU WANT THE TIE PUSHER CAMERA DISPLAYED LONGER AND DECREASE THE TIMER IF YOU WANT THE REVERSE CAMERA TO DISPLAY SOONER.</td>
</tr>
<tr>
<td>7 REVERSE CAMERA RESET WORK MODE*</td>
<td>THE REVERSE CAMERA IS ACTIVATED IN WORK MODE IT WILL STAY ON AS LONG AS YOU CONTINUE TO PROPEL BACKWARDS OR COAST WITH THE BRAKE OFF. WHEN YOU HAVE STOPPED REVERSING OR COASTING FOR A TIME DELAY THE MONITOR WILL SWITCH BACK TO DISPLAYING THE TIE PUSHER CAMERA. INCREASE THIS TIMER TO KEEP THE REVERSE CAMERA ON LONGER AND DECREASE THE TIMER TO TURN IT OFF SOONER.</td>
</tr>
<tr>
<td>8 REVERSE CAMERA RESET TRAVEL MODE*</td>
<td>THE REVERSE CAMERA IS ACTIVATED IN TRAVEL MODE IT WILL STAY ON AS LONG AS YOU CONTINUE TO PROPEL BACKWARDS OR COAST WITH THE BRAKE OFF. WHEN YOU HAVE STOPPED REVERSING OR COASTING FOR A TIME DELAY THE MONITOR WILL SWITCH BACK TO DISPLAYING THE FORWARD CAMERA. INCREASE THIS TIMER TO KEEP THE REVERSE CAMERA ON LONGER AND DECREASE THE TIMER TO TURN IT OFF SOONER.</td>
</tr>
<tr>
<td>9 INITIAL SCRAPE DEPTH</td>
<td>THIS IS THE DISTANCE THE WORKHEAD LIFT CYLINDERS TRAVEL FROM THE LOCKED POSITION DOWN TO THE FIRST SCRAPE. INCREASE TO DIG FURTHER INTO THE BALLAST ON THE FIRST SCRAPE AND DECREASE TO DIG LESS ON THE FIRST SCRAPE.</td>
</tr>
<tr>
<td>10 RESET ALL TO FACTORY DEFAULTS</td>
<td>USE THIS TO RESET ALL TIMERS AND SETTINGS LISTED ABOVE TO ORIGINAL FACTORY SETTINGS. AS INSTRUCTED ON THE LVDT &amp; ANALOG DIAGNOSTICS SCREEN PRESS AND HOLD THE (+) BUTTON FOR 3 SECONDS. THE MESSAGE &quot;DONE&quot; WILL APPEAR WHEN RESET IS COMPLETE.</td>
</tr>
</tbody>
</table>

* FOR BOTH WORK AND TRAVEL MODES PROMPPING FORWARD ALSO AUTOMATICALLY TURNS OFF REVERSE CAMERA AND SWIINES BACK TO THE DEFAULT CAMERA.

TIE PUSHER CAMERA IN WORK MODE AND FORWARD CAMERA IN TRAVEL MODE.

THIS CHART TO BE USED WITH:
1) 97231001 ELECTRICAL SCHEMATIC
2) 31440089 LOGIC BOX
3) 53080202 CIRCUIT BREAKER PANEL ASSEMBLY

CUSTOMARY:
<table>
<thead>
<tr>
<th>DIMENSION</th>
<th>ALLOWANCES</th>
<th>TOLERANCES</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIZE SCALE</td>
<td>REV.</td>
<td>DRAWING CODE NUMBER</td>
<td>CHART, LOGIC BOX REFERENCE</td>
</tr>
</tbody>
</table>

Nordco TM
Cribber
November 25, 2001

REVISED HISTORY
LOCATED ON LAST SHEET

S/N 30602301 & UP

DISPLAY SCREEN (MEMORY MODULE IS LOCATED BEHIND HERE)
LVDT ERROR CODES

If any or all of LVDT's are reading zero volts all workhead functions are disabled.

Possible causes of malfunctioning LVDT:
1) Tripped circuit breaker
2) Broken or loose connections
3) Bad LVDT

ALL LVDT'S

TO EVALUATE LVDT'S WITH FUNCTIONING WORKHEAD REFER TO PAGE 6.

MITSUBISHI PLC TROUBLESHOOTING

OUTPUT LED's (Normally lit):
If not lit, remove cover and check wire connection. If light, check corresponding RPC light. If RPC is lit, LED is bad.

If RPC is not lit refer to instructions in the Electrical Preface (blue sheets) of the Operation Manual.

POWER LED (Normally lit): If not lit, check the ribbon cable for proper connection.

INPUT LED's (Normally lit):
If not lit, remove cover and check wire connection. Tighten if necessary.

OUTPUT TROUBLESHOOTING

INPUT TROUBLESHOOTING

GREEN POWER LED (On while power is applied to PLC):
If LED is not lit see instructions in Electrical Preface (Blue Sheets) in the Operation Manual.

GREEN RUN LED (On while PLC is running):
If LED is not lit see instructions in Electrical Preface (Blue Sheets) in the Operation Manual.

RED BATT LED (On when battery voltage drops):
If lit, replace battery. If still lit after battery replacement contact Nordco Service.

RED ERROR LED (Normally NOT lit):
If flashing, program error, reset PLC. Power PLC OFF and ON to trigger RUN input. If LED remains lit after cycling power, CPU error, contact Nordco Service.

FX3U-4AD-ADP TROUBLESHOOTING

POWER LED (Normally lit):
If not lit, check the ribbon cable for proper connection.

FX3U-48MT-DS5 TROUBLESHOOTING

GREEN POWER LED (On while power is applied to PLC):
If LED is not lit see instructions in Electrical Preface (Blue Sheets) in the Operation Manual.

GREEN RUN LED (On while PLC is running):
If LED is not lit see instructions in Electrical Preface (Blue Sheets) in the Operation Manual.

RED BATT LED (On when battery voltage drops):
If lit, replace battery. If still lit after battery replacement contact Nordco Service.

RED ERROR LED (Normally NOT lit):
If flashing, program error, reset PLC. Power PLC OFF and ON to trigger RUN input. If LED remains lit after cycling power, CPU error, contact Nordco Service.

INPUT TROUBLESHOOTING

OUTPUT LED's (Normally lit):
If not lit, remove cover and check wire connection. Tighten if necessary.

POWER LED (Normally lit): If not lit, check the ribbon cable for proper connection.

INPUT LED's (Normally lit):
If not lit, remove cover and check wire connection. Tighten if necessary.

OUTPUT TROUBLESHOOTING

INPUT TROUBLESHOOTING

GREEN POWER LED (On while power is applied to PLC):
If LED is not lit see instructions in Electrical Preface (Blue Sheets) in the Operation Manual.

GREEN RUN LED (On while PLC is running):
If LED is not lit see instructions in Electrical Preface (Blue Sheets) in the Operation Manual.

RED BATT LED (On when battery voltage drops):
If lit, replace battery. If still lit after battery replacement contact Nordco Service.

RED ERROR LED (Normally NOT lit):
If flashing, program error, reset PLC. Power PLC OFF and ON to trigger RUN input. If LED remains lit after cycling power, CPU error, contact Nordco Service.

FX3U-4AD-ADP TROUBLESHOOTING

POWER LED (Normally lit):
If not lit, check the ribbon cable for proper connection.

FX3U-48MT-DS5 TROUBLESHOOTING

GREEN POWER LED (On while power is applied to PLC):
If LED is not lit see instructions in Electrical Preface (Blue Sheets) in the Operation Manual.

GREEN RUN LED (On while PLC is running):
If LED is not lit see instructions in Electrical Preface (Blue Sheets) in the Operation Manual.

RED BATT LED (On when battery voltage drops):
If lit, replace battery. If still lit after battery replacement contact Nordco Service.

RED ERROR LED (Normally NOT lit):
If flashing, program error, reset PLC. Power PLC OFF and ON to trigger RUN input. If LED remains lit after cycling power, CPU error, contact Nordco Service.

INPUT TROUBLESHOOTING

OUTPUT LED's (Normally lit):
If not lit, remove cover and check wire connection. Tighten if necessary.
FLIP CHART PRINTING INSTRUCTIONS

1) PRINT P/N 30602301 OMITTING THIS PAGE, FOLLOWED BY P/N 97231001, OMITTING THE LAST SHEET (REVISION HISTORY). USE LATEST REVISION OF 97231001 ACCORDING TO THE NOTES ON THE PURCHASE ORDER.

2) PRINT IN BLACK ON WHITE, 11" X 17" PAPER.

3) PRINT ON BOTH SIDES, LAMINATE, AND SPIRAL BIND AS SHOWN IN THE EXAMPLE.
<table>
<thead>
<tr>
<th>WIRE DESCRIPTION</th>
<th>END 1 LOCATION</th>
<th>END 2 LOCATION</th>
<th>WIRE #</th>
</tr>
</thead>
<tbody>
<tr>
<td>RKS2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>R002-1</td>
<td>P46-3</td>
<td>60</td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>R002-23</td>
<td>TB02-2</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WIRE DESCRIPTION</th>
<th>END 1 LOCATION</th>
<th>END 2 LOCATION</th>
<th>WIRE #</th>
</tr>
</thead>
<tbody>
<tr>
<td>RKS3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>R003-1</td>
<td>R003-28</td>
<td>58</td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>R003-28</td>
<td>TB02-2</td>
<td>11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WIRE DESCRIPTION</th>
<th>END 1 LOCATION</th>
<th>END 2 LOCATION</th>
<th>WIRE #</th>
</tr>
</thead>
<tbody>
<tr>
<td>RKS4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>R004-1</td>
<td>P46-20</td>
<td>48</td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>R004-19</td>
<td>TB02-1</td>
<td>14</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WIRE DESCRIPTION</th>
<th>END 1 LOCATION</th>
<th>END 2 LOCATION</th>
<th>WIRE #</th>
</tr>
</thead>
<tbody>
<tr>
<td>RKS10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>R010-1</td>
<td>P46-31</td>
<td>65</td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>R010-28</td>
<td>TB02-2</td>
<td>13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WIRE DESCRIPTION</th>
<th>END 1 LOCATION</th>
<th>END 2 LOCATION</th>
<th>WIRE #</th>
</tr>
</thead>
<tbody>
<tr>
<td>RKS11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>R011-1</td>
<td>P46-5</td>
<td>85</td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>R011-28</td>
<td>TB02-2</td>
<td>13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WIRE DESCRIPTION</th>
<th>END 1 LOCATION</th>
<th>END 2 LOCATION</th>
<th>WIRE #</th>
</tr>
</thead>
<tbody>
<tr>
<td>RKS14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>R014-9</td>
<td>P46</td>
<td>68</td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>R014-28</td>
<td>TB02-2</td>
<td>13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WIRE DESCRIPTION</th>
<th>END 1 LOCATION</th>
<th>END 2 LOCATION</th>
<th>WIRE #</th>
</tr>
</thead>
<tbody>
<tr>
<td>RKS15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>R015-1</td>
<td>P46-9</td>
<td>100</td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>R015-28</td>
<td>TB02-2</td>
<td>13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WIRE DESCRIPTION</th>
<th>END 1 LOCATION</th>
<th>END 2 LOCATION</th>
<th>WIRE #</th>
</tr>
</thead>
<tbody>
<tr>
<td>RKS16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>R016-1</td>
<td>P46</td>
<td>100</td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>R016-28</td>
<td>TB02-2</td>
<td>13</td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>R016-9</td>
<td>P46-8</td>
<td>100</td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>R016-28</td>
<td>TB02-2</td>
<td>13</td>
</tr>
</tbody>
</table>

**SPEEDOMETER**

<table>
<thead>
<tr>
<th>WIRE DESCRIPTION</th>
<th>END 1 LOCATION</th>
<th>END 2 LOCATION</th>
<th>WIRE #</th>
</tr>
</thead>
<tbody>
<tr>
<td>RKS40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>R040-1</td>
<td>P47-14</td>
<td>45</td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>R040-2</td>
<td>P47-15</td>
<td>47</td>
</tr>
</tbody>
</table>

**DIGITAL DIAGNOSTIC GAUGE**

<table>
<thead>
<tr>
<th>WIRE DESCRIPTION</th>
<th>END 1 LOCATION</th>
<th>END 2 LOCATION</th>
<th>WIRE #</th>
</tr>
</thead>
<tbody>
<tr>
<td>RKS45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>P005-1</td>
<td>TB02-2</td>
<td>14</td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>P005-2</td>
<td>TB02-2</td>
<td>14</td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>P005-9</td>
<td>TB02-2</td>
<td>14</td>
</tr>
<tr>
<td>10 AND BLACK</td>
<td>P005-29</td>
<td>TB02-2</td>
<td>14</td>
</tr>
</tbody>
</table>

**120 OHM RESISTOR AS CLOSE AS POSSIBLE TO GAUGE.**
### STANDARD GAUGES

#### GA6
**FUEL LEVEL**
(12 VOLT GAUGE / 24 VOLT LIGHT)

<table>
<thead>
<tr>
<th>Wire Description</th>
<th>End 1 Location</th>
<th>End 2 Location</th>
<th>Wire #</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 AWG BLACK</td>
<td>SAM-7</td>
<td>P47-9</td>
<td>40</td>
</tr>
<tr>
<td>15 AWG BLACK</td>
<td>SAM-BRND</td>
<td>T30-2</td>
<td>14</td>
</tr>
<tr>
<td>15 AWG BLACK</td>
<td>SAM-LIGHT</td>
<td>SAM-8</td>
<td>14</td>
</tr>
<tr>
<td>15 AWG BLACK</td>
<td>SAM-LIGHT-GROUN</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

#### GA7
**AIR PRESSURE**
(24 VOLT LIGHT)

<table>
<thead>
<tr>
<th>Wire Description</th>
<th>End 1 Location</th>
<th>End 2 Location</th>
<th>Wire #</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 AWG BLACK</td>
<td>SAM-LIGHT</td>
<td>SAM-8</td>
<td>14</td>
</tr>
<tr>
<td>15 AWG BLACK</td>
<td>SAM-LIGHT-GROUN</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

**GAUGE INPUT MECHANICAL**

#### PSS1

<table>
<thead>
<tr>
<th>Wire Description</th>
<th>End 1 Location</th>
<th>End 2 Location</th>
<th>Wire #</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 AWG BLACK</td>
<td>P8-1</td>
<td>P4-27</td>
<td>14</td>
</tr>
<tr>
<td>15 AWG BLACK</td>
<td>P8-2</td>
<td>M3-11</td>
<td>100</td>
</tr>
</tbody>
</table>

**BUTTON INPUT MECHANICAL**

#### ABU1

<table>
<thead>
<tr>
<th>Wire Description</th>
<th>End 1 Location</th>
<th>End 2 Location</th>
<th>Wire #</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 AWG BLACK</td>
<td>AB-1</td>
<td>P40-10</td>
<td>5</td>
</tr>
<tr>
<td>15 AWG BLACK</td>
<td>AB-2</td>
<td>P40-10</td>
<td>44</td>
</tr>
</tbody>
</table>

#### PBI

<table>
<thead>
<tr>
<th>Wire Description</th>
<th>End 1 Location</th>
<th>End 2 Location</th>
<th>Wire #</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 AWG BLACK</td>
<td>BAI-BAT</td>
<td>P40-17</td>
<td>5</td>
</tr>
<tr>
<td>15 AWG BLACK</td>
<td>BAI-BAT</td>
<td>P40-17</td>
<td>5</td>
</tr>
</tbody>
</table>

#### RSS1

<table>
<thead>
<tr>
<th>Wire Description</th>
<th>End 1 Location</th>
<th>End 2 Location</th>
<th>Wire #</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 AWG BLACK</td>
<td>BAI-30</td>
<td>BAI-36</td>
<td>41</td>
</tr>
<tr>
<td>15 AWG BLACK</td>
<td>BAI-32</td>
<td>BAI-36</td>
<td>41</td>
</tr>
</tbody>
</table>
NO. 53080198

BILL OF MATERIALS

<table>
<thead>
<tr>
<th>NO.</th>
<th>QTY.</th>
<th>PART NUMBER</th>
<th>OR MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>RH CONSOLE PANEL</td>
<td>DURANT WY-41346-402-ME</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>PLACQUE, RH CONSOLE PANEL</td>
<td>6512120</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>CONNECTOR, DEUTSCH #404-24-23-5N</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>SOCKET, DEUTSCH #404-220-15141</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>POTENTIOMETER AB 800T U-55 500K</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>SWITCH, AB #AB0805-T-56A</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>CYCLE COUNTER DURANT WY-41346-402-ME</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>SOCKET, DEUTSCH #404-220-15141</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>TERMINAL, DEUTSCH #0462-209-14-11</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>SCREW, CAPTIVE SOUTHCO #12-6-123066 57514</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>RETAINER, CAPTIVE SCREW SOUTHCO #12-6-1</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>2</td>
<td>SCREW, RD. HD. MACHINE #6-32 X 1/2 L.G.</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>LOCKWASHER SOUTHCO #6-32-3064 45216</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>1</td>
<td>NUT, HEX #6-32 23048 02817</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>CABLE TIE TYTON CORP #T18R OR EQUIV. A/R 5170 24018</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>1</td>
<td>TAPE, TRANSFER PANDUIT #T400X000VX1Y24738 010019</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>1</td>
<td>CONNECTOR, DEUTSCH #DT06-12S15166 82220</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>1</td>
<td>SOCKET, DEUTSCH #W12S15112 94221</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>1</td>
<td>OUTLET, 12V POWER, WAYTEK #110101510980022</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td>OUTLET CAP, 12V POWER, WAYTEK 1511231023</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>1</td>
<td>RESISTOR, 200K, 1/2 WATT 26120001024</td>
<td></td>
</tr>
</tbody>
</table>

NOTES:
1. WIRE TO BE STRANDED COPPER OF THE INDICATED GAUGES.
2. WIRE TO BE IDENTIFIED WITH WIRE MARKERS.
3. ALL CONNECTORS ARE TO BE SOLIDIFIED AND COVERED WITH HEAT SHRINK SLEEVING.
4. ALL COMPONENT IDENTIFICATIONS SHOWN ARE TO BE LABELED ON BACK OF PANEL WITH TEXT SHOWN.
5. ALL PLUGS ARE TO BE IDENTIFIED WITH CORRESPONDING NORDCO PART NUMBERS PRINTED ON PANDUIT THERMAL TAPE AND ASSEMBLED AS CLOSE AS POSSIBLE TO THE CONNECTOR.
6. ALL SOCKET AND PIN CONTACTS ARE TO BE SOLID TYPE.
7. FOR ELECTRICAL SCHEMATIC SEE 97231001DWG.

RH CONSOLE ASSEMBLY
<table>
<thead>
<tr>
<th>WIRE DESCRIPTION</th>
<th>END 1 LOCATION</th>
<th>END 2 LOCATION</th>
<th>WIRE #</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 AWG GREEN</td>
<td>P17-C</td>
<td>CNTR1-1</td>
<td>2</td>
</tr>
<tr>
<td>16 AWG GREEN</td>
<td>P17-B</td>
<td>RKS44-2B</td>
<td>17</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS45-2B</td>
<td>RKS44-3</td>
<td>17</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>R64-11</td>
<td>R64-12</td>
<td>17</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS44-2B</td>
<td>RKS24-2B</td>
<td>17</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS24-2B</td>
<td>R1-1</td>
<td>17</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>R1-2</td>
<td>R2-1</td>
<td>17</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>P17-A</td>
<td>RKS25-2B</td>
<td>23</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>P17-J</td>
<td>CNTR +</td>
<td>165</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>P17-L</td>
<td>PB5-1</td>
<td>50</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>P17-X</td>
<td>RKS20-2B</td>
<td>65</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>P17-H</td>
<td>P64-10</td>
<td>172</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>P17-M</td>
<td>POT1-2</td>
<td>123</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>P17-P</td>
<td>POT2-2</td>
<td>125</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>P17-N</td>
<td>RKS24-1</td>
<td>133</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>P64-1</td>
<td>RKS43-1</td>
<td>200</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>P17-T</td>
<td>RKS20-1</td>
<td>150</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>P17-S</td>
<td>RKS20-3</td>
<td>160</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>P64-4</td>
<td>RKS25-1</td>
<td>202</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>P17-D</td>
<td>RKS25-4</td>
<td>190</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>P64-6</td>
<td>R64-6</td>
<td>204</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>P64-5</td>
<td>R64-5</td>
<td>203</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>P17-F</td>
<td>R64-9</td>
<td>206</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>P64-7</td>
<td>R64-7</td>
<td>205</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS26-2B</td>
<td>RKS27-2B</td>
<td>23</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS26-2B</td>
<td>RKS27-2B</td>
<td>23</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS26-2B</td>
<td>RKS27-2B</td>
<td>23</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS26-2B</td>
<td>RKS27-2B</td>
<td>23</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS26-2B</td>
<td>RKS27-2B</td>
<td>23</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS26-2B</td>
<td>RKS27-2B</td>
<td>23</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS26-2B</td>
<td>RKS27-2B</td>
<td>23</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS26-2B</td>
<td>RKS27-2B</td>
<td>23</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS26-2B</td>
<td>RKS27-2B</td>
<td>23</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS26-2B</td>
<td>RKS27-2B</td>
<td>23</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS26-2B</td>
<td>RKS27-2B</td>
<td>23</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS26-2B</td>
<td>RKS27-2B</td>
<td>23</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS26-2B</td>
<td>RKS27-2B</td>
<td>23</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS26-2B</td>
<td>RKS27-2B</td>
<td>23</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS26-2B</td>
<td>RKS27-2B</td>
<td>23</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS26-2B</td>
<td>RKS27-2B</td>
<td>23</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS26-2B</td>
<td>RKS27-2B</td>
<td>23</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS26-2B</td>
<td>RKS27-2B</td>
<td>23</td>
</tr>
<tr>
<td>16 AWG BLACK</td>
<td>RKS26-2B</td>
<td>RKS27-2B</td>
<td>23</td>
</tr>
</tbody>
</table>
**NOTE 13**

**SEE P18**

**ALL INFORMATION CONTAINED ON THIS DRAWING IS CONSIDERED TO BE BOTH**

**PAINT ENCLOSURE, (ITEM #1), GLOSS BLACK.**

**1. RPC3, RPC14, RPC15, & RPC22-RPC27 ARE SPARES AND USE ITEM #7 ONLY.**

**ON CORRESPONDING SOCKETS (ITEM #7).**

**CONNECT 24V AND FUTURE USE GROUND FOR**

**OUTPUT MODULE, MITSUBISHI FX2N-16EYT-ESS/UL1512112943**

**NUT, HEX LOCK  #8-324304201042**

**CORD GRIP, CROUSE HINDS CGB296130**

**CONNECTOR, DEUTSCH #HD44-24-23PN1512074724**

**SCREW, #6-32 X 1/2"10283733717**

**JUMPERS CINCH 141JA/R515905112**

**CONTROLER, REM. POWER ETA E1048-602-DC24V-S426-2.0A318**

**RAIL, DIN SQUARE D #9080MH339 X 13" OR EQUIV.26**

**ANALOG MODULE,MITSUBISHI, FX3U-4AD-ADP251211325**

**MEMORY, MITSUBISHI FX3U-FLROM-16151213224**

**PLC, MITSUBISHI FX3U-48MT-DSS13**

**BIL OF MATERIALS**

**STATED UNLESS OTHERWISE**

**CUSTOMARY**

A314400891/2
1. Wire to be stranded copper of the indicated gauges.
2. Use cable ties as required.
3. All unused connector locations are to be sealed per the component manufacturer's recommended method.
4. All socket and pin connections are to be solid type.
5. All wire sizes and connections are per the wire list table.

NOTES:

1. Wire to be SXL type, GXL type, or engineering approved equivalent.
2. All wires to be identified with wire markers. Markers are to be applied on the wire not on the terminals. Terminal to be insulated type.
3. All splice connections are to be soldered and covered with heat shrink sleeving.
4. Use cable ties as required.
5. All unused connector locations are to be sealed per the component manufacturer's recommended method.
6. All socket and pin connections are to be solid type.
7. All wire sizes and connections are per the wire list table.
NOTES:
1. WIRE TO BE STRANDED COPPER OF THE INDICATED GAUGES. WIRE TO BE SOL TYPE, GXL TYPE, OR ENGINEERING APPROVED EQUIVALENT.
2. ALL WIRES TO BE IDENTIFIED WITH WIRE MARKERS. MARKERS ARE TO BE APPLIED ON THE WIRE NOT ON THE TERMINALS. TERMINAL TO BE INSULATED TYPE.
3. ALL SPLICE CONNECTIONS ARE TO BE SOLDERED AND COVERED WITH HEAT SHRINK SLEEVING.
4. USE CABLE TIES AS REQUIRED.
5. ALL UNUSED CONNECTOR LOCATIONS ARE TO BE SEALED PER THE COMPONENT MANUFACTURERS RECOMMENDED METHOD.
6. ALL SOCKET AND PIN CONNECTIONS ARE TO BE SOLID TYPE.
7. ALL WIRE SIZES AND CONNECTIONS ARE PER THE WIRE LIST TABLE.
1. All wires to be identified with wire markers to be applied on wire, not on terminals.

2. POWER RELAY, NO/NC 24V 40 AMP | ETA #1170-22-30A

3. Circuit Breaker, 30 AMP | ETA #1170-22-30A

4. WASHER, LOCK 5/16

5. WASHER, FLAT 5/16

6. TERMINAL, RING, 8 GA., #10 STUD, INSULATED

7. CONNECTOR, DEUTSCH #HDP26-24-23SN

8. BAR, BUSS 12 POSITION | ETA #Y30356311-13A

9. SURGE PROTECTOR, MCG ELECTRONICS #MCG-24A

10. WASHER, LOCK 1/4 ZINC PLATED

11. CAPSCREW, 5/16-18 UNC X 1.50LG

12. HEX NUT, 1/4-20 UNC

13. HEX NUT, 1/2-13 UNC

14. LOCK WASHER, #10

15. HEX NUT, 1/4-20 UNC

16. LOCK WASHER, 1/4 ZINC PLATED

17. CR P18

18. CRP2

19. TB3

20. CR1

21. CR2

22. RELAY, NO/NC 24V 40 AMP W BRACKET

23. CONNECTOR, DEUTSCH #HDP26-24-23SN