

XXX INDUSTRIES	Title: CONTACT SWITCH ASSEMBLY Page 1 of 8	Document Number: CSA-00-0000-A
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Process Owner: Jay J. Dave Title: Production Process Engineer	Approved By: Jay J. Dave Title: Production Process Manager
Signature:	Signature:
Date: 10/01/2001	Date: 10/01/2001

1.0 Purpose:

To provide a reference and training documents, for the CSA-00-0000-A, Contact Switch Assembly.

2.0 Scope:

Describes assembly procedure for CSA-00-0000-A, Contact Switch Assembly.

3.0 Responsibilities and Authorities:

XXX Industries owns this document and is responsible for maintaining it. Production Process Engineering and Manufacturing Operation are responsible for assuring the activities are carried out as described.

4.0 Definitions:

CSA	- Contact Switch Assembly
RKA	- Rotating Knob Assembly
HA	- Housing Assembly
PCBA	- PCB Bracket Assembly

5.0 Standard Tools:

Screwdrivers (Phillips/Flathead)	Allen Wrench Set
Wire Cutter/Stripper/Crimper	Crescent Wrench Sets
Soldering Iron/Heat Gun	Socket Wrench Sets

6.0 Method:

(Flowchart, Tables, Text, Images, Illustrations, Schematics, Drawings etc.)

7.0 Reference Documents:

00-0000-DWG	- Contact Switch Assembly, CAD Drawings
11-0000-DWG	- Rotating Knob Assembly, CAD Drawings
22-0000-DWG	- Housing Assembly, CAD Drawings
33-0000-DWG	- Bracket PCB Assembly, CAD Drawings
00-0000-DOC	- CSA – Final Assembly

8.0 Revision History:

Revision	Date	Originated By	History
A	01/01/2003	Jay J. Dave	Initial Release

9.0 Operation Procedure



CAUTION: READ AND UNDERSTAND THIS PROCEDURE BEFORE BEGINNING THE CONTACT SWITCH ASSEMBLY



CAUTION: Safety goggles, latex gloves and face masks are required during the Soldering process

9.1 Rotating Knob Assembly (RKA, 11-0000) (Refer to Figure 1):

BILL OF MATERIAL:

Part #	Part Description	Quantity	☒
11-1111	Contactor-A	1	☐
11-2222	Knob Rotator	1	☐
11-3333	Knob Lock	1	☐

WHEN COMPLETE: INITIAL & DATE →

- 9.1.1 Insert Contactor-A (11-1111, 1x), onto the Knob Rotator (11-2222, 1x). Make sure that slot of the Contactor-A is inserted over the notch of the Knob Rotator.
- 9.1.2 Slide the Knob Lock (11-3333, 1x) onto the Knob Rotator. Make sure that the cutout slot of the Knob Lock is aligned with the notch of the Knob Rotator.
- 9.1.3 Place aside the Rotating Knob Assembly; it will be used to build the Contact Switch Assembly later in the procedure.

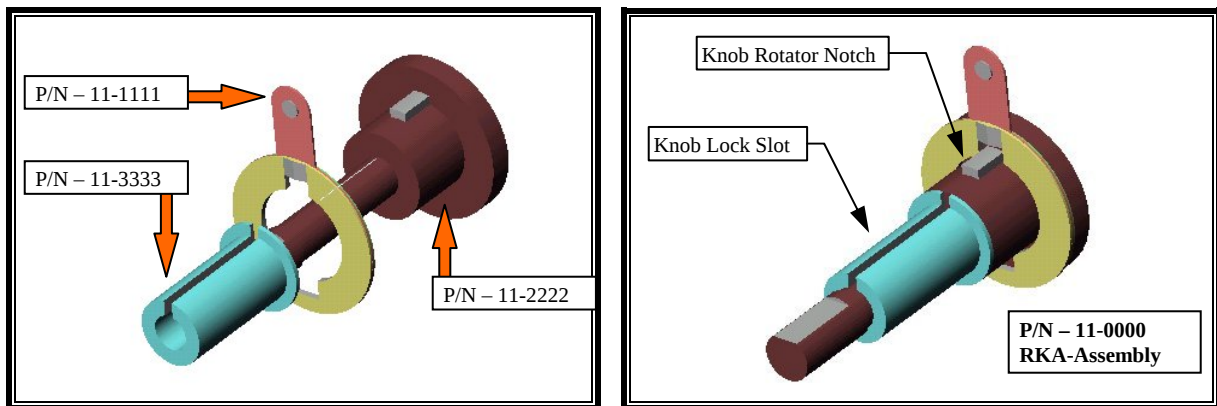


Figure 1: Rotating Knob Assembly

9.2 Housing Assembly (HA, 22-0000) (Refer to **Figure 2** & **Figure 3**):

BILL OF MATERIAL:			
Part #	Part Description	Quantity	☒
22-1111	Main Housing	1	☐
22-2222	Stop Pin	1	☐
22-3333	Contactor-B	1	☐
22-4444	Tab	10	☐
22-5555	Resistor	9	☐
22-6666	Tab Screw	10	☐
WHEN COMPLETE: INITIAL & DATE →			



NOTE: Refer to **Figure 2** & **Figure 3**, for the proper positioning of the components.
Note that on the face of the Main Housing, there are 12 slots in clockwise position

9.2.1 Insert and secure the Contactor-B (22-3333, 1x) onto the Main Housing (22-1111, 1x). Make sure Contactor-B is placed in 12 o'clock position on the Main Housing.

9.2.2 Insert and secure the Stop Pin (22-2222, 1x) onto the Main Housing at 1 o'clock position.

9.2.3 Tab & Tab Screw Installation:

9.2.3.1 Place the Tab (22-4444, 1x) into the 2 o'clock position on the Main Housing as shown in **Figure 2**. Secure the Tab onto the Main Housing using Tab Screw (22-6666, 1x).

9.2.3.2 Repeat Step 9.2.3.1, in order to install Tab and Tab Screw onto the Main Housing from 3 o'clock position to 11 o'clock position on the Main Housing.

9.2.4 Soldering Of the Resistors:

9.2.4.1 Place the Main Housing into the Vice Clamp.

9.2.4.2 Place the Resistor (22-5555, 1x) between the Tabs (Tab at 2 o'clock position and Tab at 3 o'clock position).

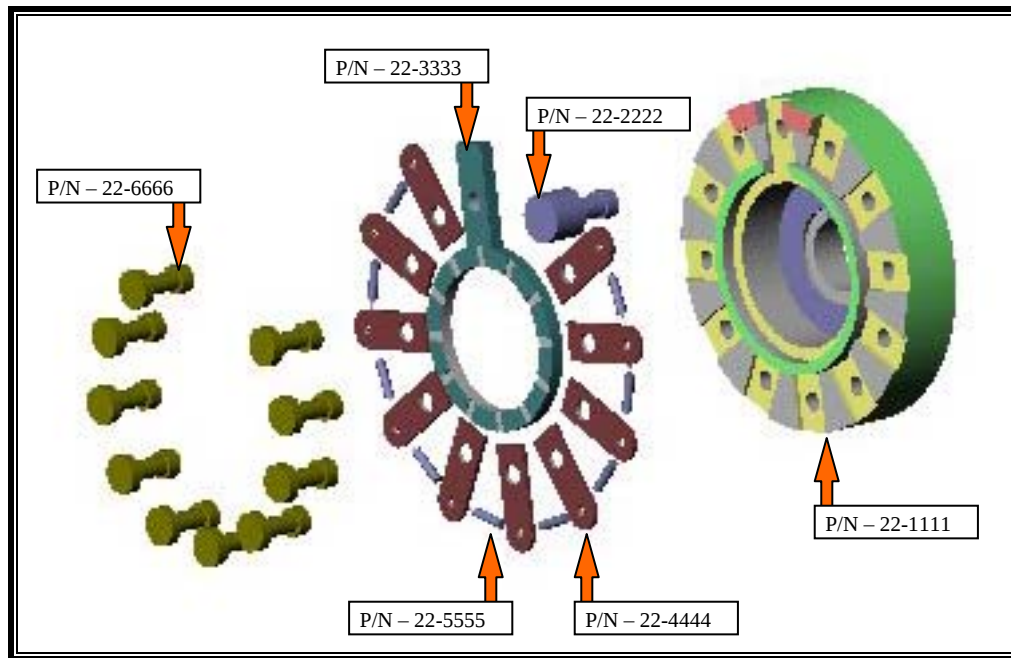
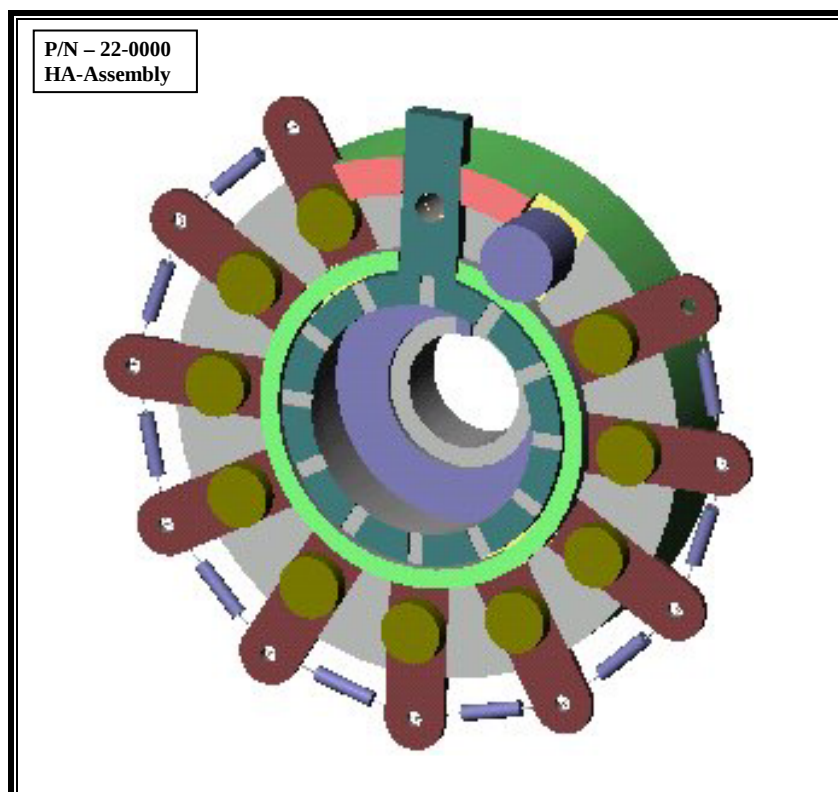
9.2.4.3 Using Pliers, bend the leads of the Resistor at each end and pass the leads of the Resistor through the Tabs.

9.2.4.4 Using Soldering Iron and Solder, solder the Resistor onto the Tabs.

9.2.4.5 Using Wire Cutter, cutoff the excess leads of the Resistor.

9.2.4.6 Using IPA Alcohol and Q-tip clean up the surfaces of the Tabs.

9.2.4.7 Repeat Steps 9.2.4.2 through 9.2.4.6, in order to solder resistor between Tabs (Tab at 3 o'clock position through Tab at 11 o'clock position).

**Figure 2: Housing Assembly – Exploded View****Figure 3: Housing Assembly**

9.3 Bracket & PCB Assembly (PCB, 33-0000) (Refer to **Figure 4** & **Figure 5**):

BILL OF MATERIAL:			
Part #	Part Description	Quantity	☐
33-1111	Bracket	1	☐
33-2222	Bracket Nut	2	☐
33-3333	PC Board	1	☐
33-4444	Resistor-1	2	☐
33-5555	Resistor-2	1	☐
33-6666	PC Board Pin	2	☐
WHEN COMPLETE: INITIAL & DATE →			



NOTE: Refer to **Figure 4** & **Figure 5**, for the proper positioning of the components. Proper positioning of the components are very important for the Final Assembly

NOTE: Make sure to solder Resistors away from the Wire Routing Key Holes

9.3.1 PCB Board Assembly:

9.3.1.1 Place the PCB Board (33-3333, 1x) into the Vice Clamp.

9.3.1.2 Using Soldering Iron and Solder, solder the following components onto the PCB Board:

- Solder Resistor-1 (33-4444, 3x) onto the PCB Board
- Solder Resistor-2 (33-5555, 2x) onto the PCB Board

9.3.1.3 Using Wire Cutter, cutoff the excess leads of the Resistor.

9.3.1.4 Using IPA Alcohol and Q-tip clean up the surfaces of the Tabs.

9.3.2 Mount the PCB Board onto the Bracket (33-1111, 1x) using PCB Board Nuts (33-6666, 2x).

9.3.3 Bracket Nuts (33-2222, 2x) will be used later in the Contact Switch Assembly.

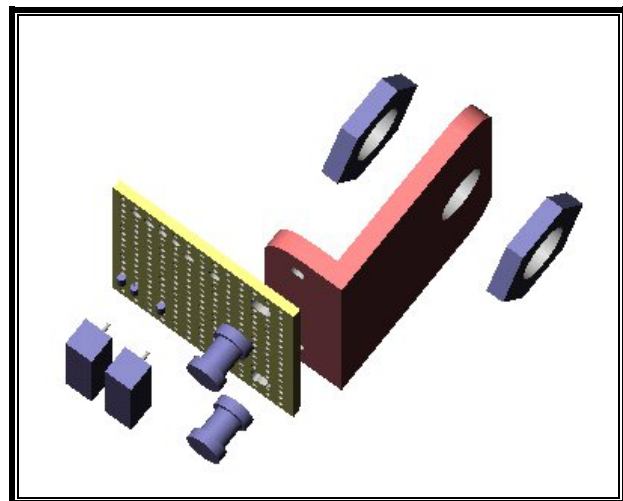
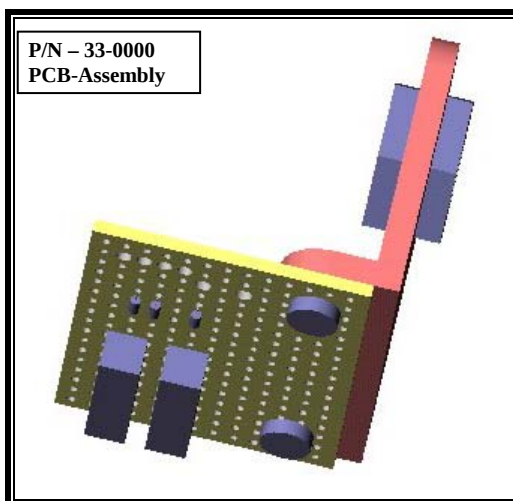
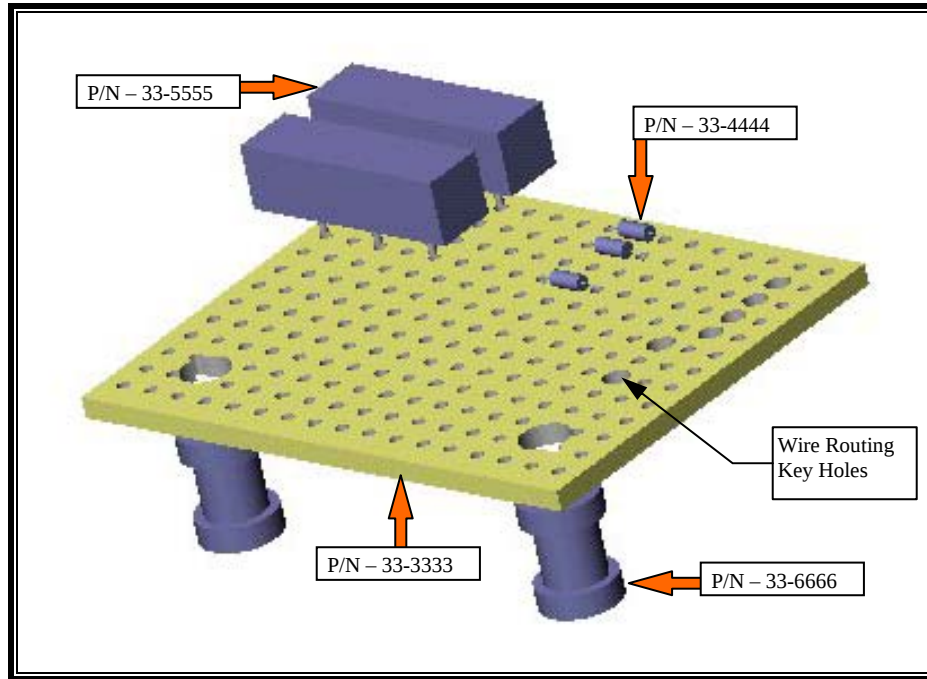


Figure 4: PCB Board Assembly

**Figure 5: PCB Board Assembly**

9.4 Contact Switch Assembly (00-0000) (Refer to **Figure 6** & **Figure 7**):

BILL OF MATERIAL:			
Part #	Part Description	Quantity	☒
11-0000	Rotating Assembly	1	☐
22-0000	Housing Assembly	1	☐
33-0000	Bracket PCB Assembly	1	☐
WHEN COMPLETE: INITIAL & DATE →			

- 9.4.1 Slide the Rotating Knob Assembly (**RKA, 11-0000**) through the Housing Assembly (**HA, 22-0000**).
- Make sure that slot of the Knob Lock (on the Rotating Knob Assembly) is aligned with the notch of the Main Housing (on the Housing Assembly).
 - Also, make sure that Contactor-A (on the Rotating Knob Assembly) is properly aligned and flushed with the Contactor-B (On the Housing Assembly).
- 9.4.2 Insert the Bracket Mounting Nut (**33-2222, 1x**) to secure the Rotating Knob Assembly onto the Housing Assembly.
- 9.4.3 Slide the Bracket (**33-1111, 1x**), of the PCB Assembly (**33-0000**) over the Knob Lock.
- 9.4.4 Secure the Bracket onto the Knob Lock using another Bracket Mounting Nut, this will hold PCB Assembly, Housing Assembly and Rotating Knob Assembly together.

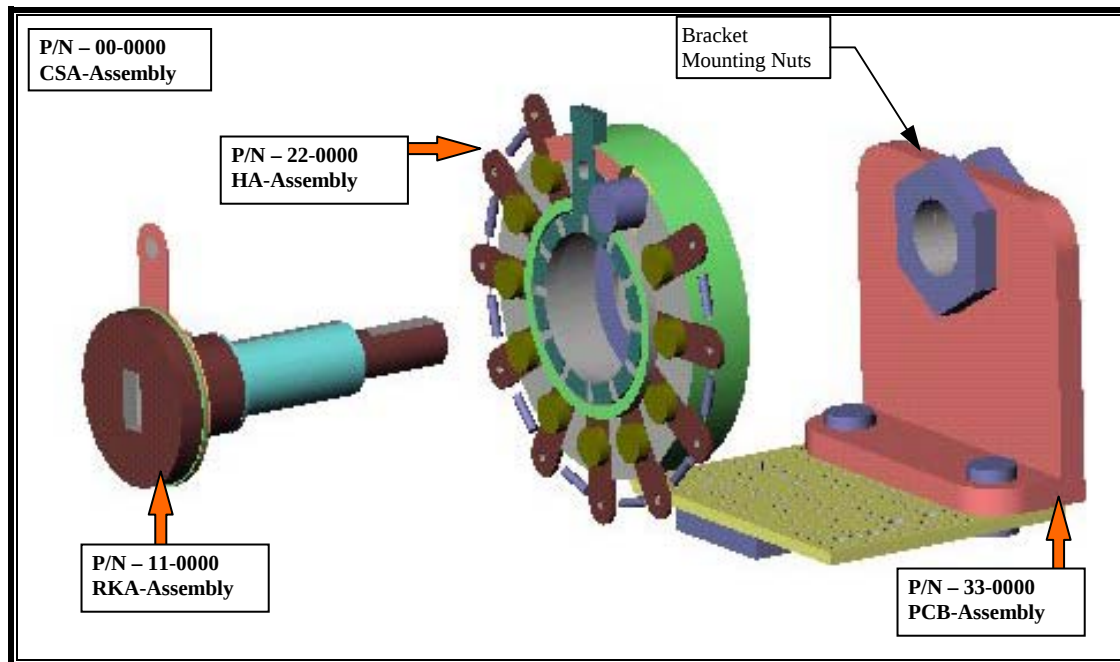


Figure 6: Contact Switch Assembly – Exploded View

P/N – 00-0000
CSA-Assembly

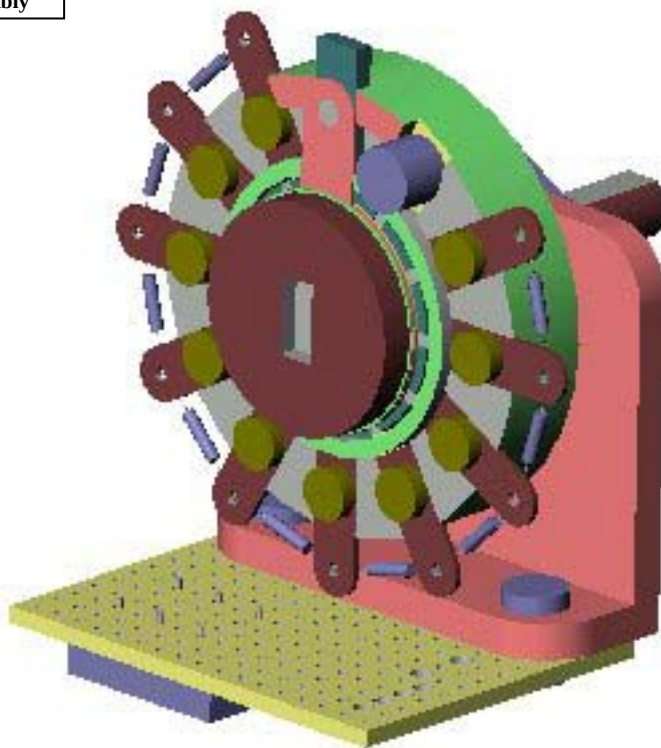


Figure 7: Contact Switch Assembly