

OOO INDUSTRIES	PROCEDURE CONTACT SWITCH ASSEMBLY	DOCUMENT # CSA-00-0000-A
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Title: Technical Writer	Title: Production Process Engineer
Date: 10/01/2010	Date: 10/01/2010

1.0 Purpose:

To provide a reference and training document to assemble Contact Switch Assembly.

2.0 Scope:

Describes step-by-step assembly procedure for Contact Switch Assembly.

3.0 Responsibilities and Authorities:

OOO Industries owns this document and is responsible for maintaining it. Production Process Engineering and Manufacturing Operations 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:

(Text, Images, Bill-of-Materials, 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	10/10/2010	Jay J. Dave	Initial Release

9.0 Operation Procedure

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

BILL OF MATERIAL:			
Part #	Part Description	Quantity	<input checked="" type="checkbox"/>
11-1111	Contactactor-A	1	<input type="checkbox"/>
11-2222	Knob Rotator	1	<input type="checkbox"/>
11-3333	Knob Lock	1	<input type="checkbox"/>
WHEN COMPLETE: INITIAL & DATE			

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

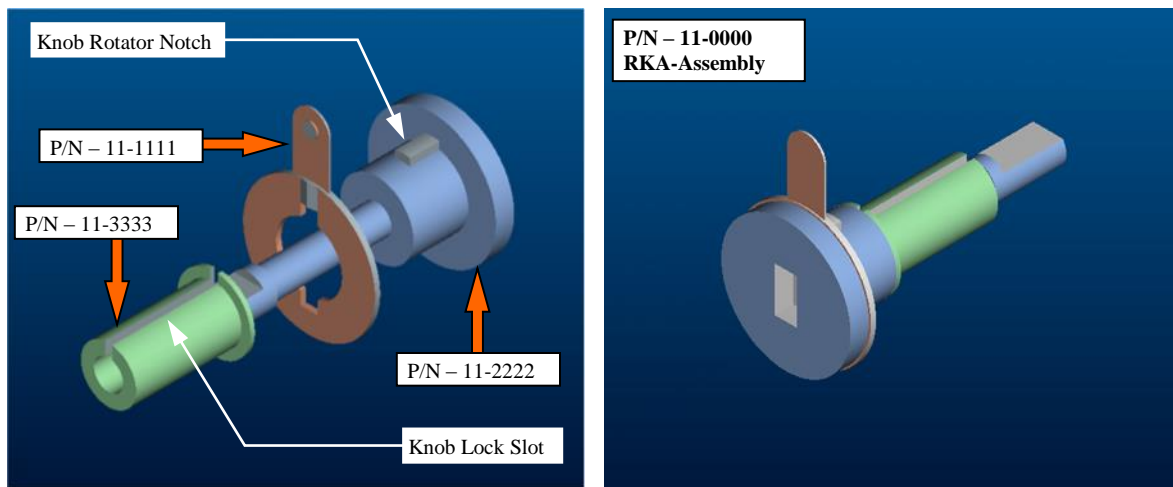


Figure 1: Rotating Knob Assembly

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

BILL OF MATERIAL:			
Part #	Part Description	Quantity	<input checked="" type="checkbox"/>
22-1111	Main Housing	1	<input type="checkbox"/>
22-2222	Stop Pin	1	<input type="checkbox"/>
22-3333	Contactactor-B	1	<input type="checkbox"/>
22-4444	Tab	11	<input type="checkbox"/>
22-5555	Resistor	9	<input type="checkbox"/>
22-6666	Tab-Screw	10	<input type="checkbox"/>
WHEN COMPLETE: INITIAL & DATE			



NOTE: Refer to *Figure 2* & *Figure 3* for 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 of the Main Housing.
- 9.2.2 Place the Tab (**22-4444, 1x**) into the slot of the Main Housing (at 1 o'clock position) and secure it with the Stop Pin (**22-2222, 1x**).
- 9.2.3 Tab & Tab-Screw Installation:
 - 9.2.3.1 Place the Tab (**22-4444, 1x**) into the slot of the Main Housing (at 2 o'clock position) 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, to install Tab and Tabs-Screw onto the Main Housing from 3 o'clock position to 11 o'clock position as shown in *Figure 3*.
- 9.2.4 Soldering of the Resistors:
 - 9.2.4.1 Place and secure the Main Housing into the Vice Clamp.
 - 9.2.4.2 Place a Resistor (**22-5555, 1x**) between the Tabs (Tab at 1 o'clock position and Tab at 2 o'clock position).
 - 9.2.4.3 Using pair of Pliers, bend leads of the Resistor (at each end) and pass them through the hole of the Tabs.
 - 9.2.4.4 Using Soldering Iron and Solder, solder the Resistor onto each Tab.
 - 9.2.4.5 Using Wire Cutter, cutoff 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, and solder resistors between Tabs (Tab at 2 o'clock position through Tab at 11 o'clock position).
 - 9.2.4.8 Place aside the Housing Assembly; it will be used later in the procedure.

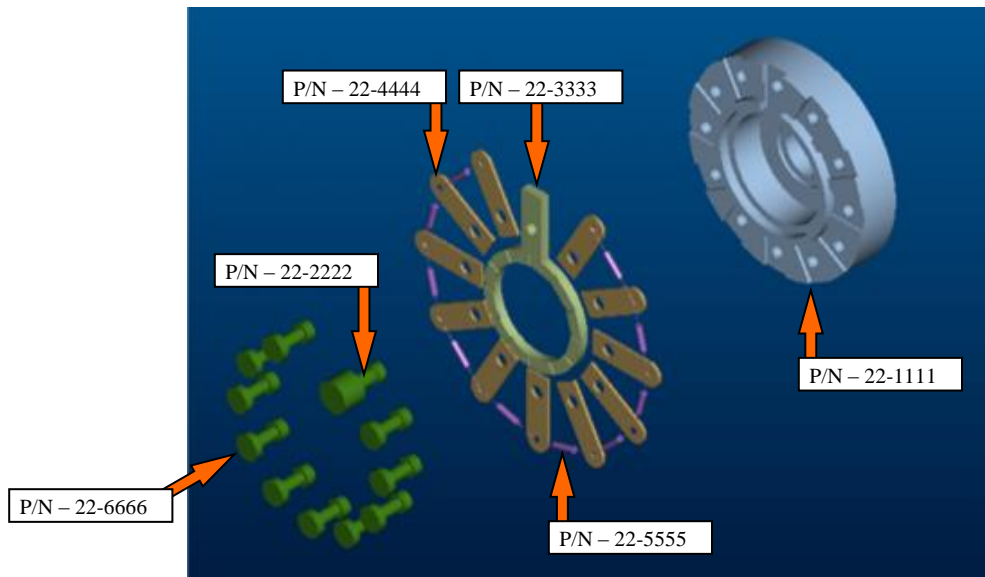


Figure 2: Housing Assembly – Exploded View

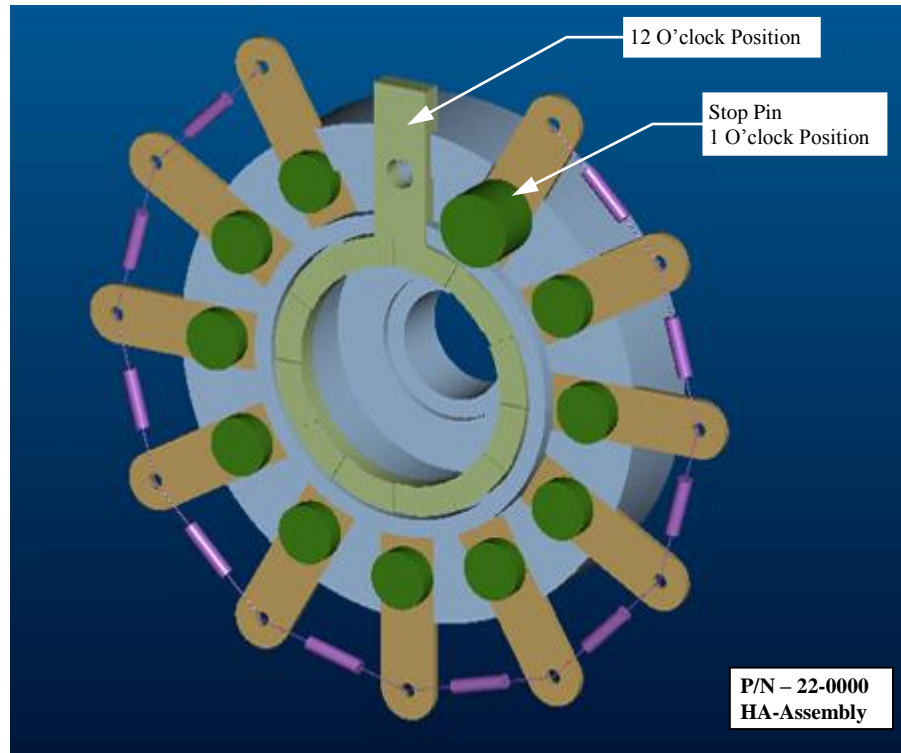


Figure 3: Housing Assembly

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

BILL OF MATERIAL:			
Part #	Part Description	Quantity	<input checked="" type="checkbox"/>
33-1111	Bracket	1	<input type="checkbox"/>
33-2222	Bracket Nut	2	<input type="checkbox"/>
33-3333	PC Board	1	<input type="checkbox"/>
33-4444	Resistor-1	2	<input type="checkbox"/>
33-5555	Resistor-2	1	<input type="checkbox"/>
33-6666	PC Board Pin	2	<input type="checkbox"/>
WHEN COMPLETE: INITIAL & DATE			



NOTE: Refer to [Figure 4](#) & [Figure 5](#), for the proper positioning of the components. Proper positioning of the component is 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 and secure 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, cut off 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.

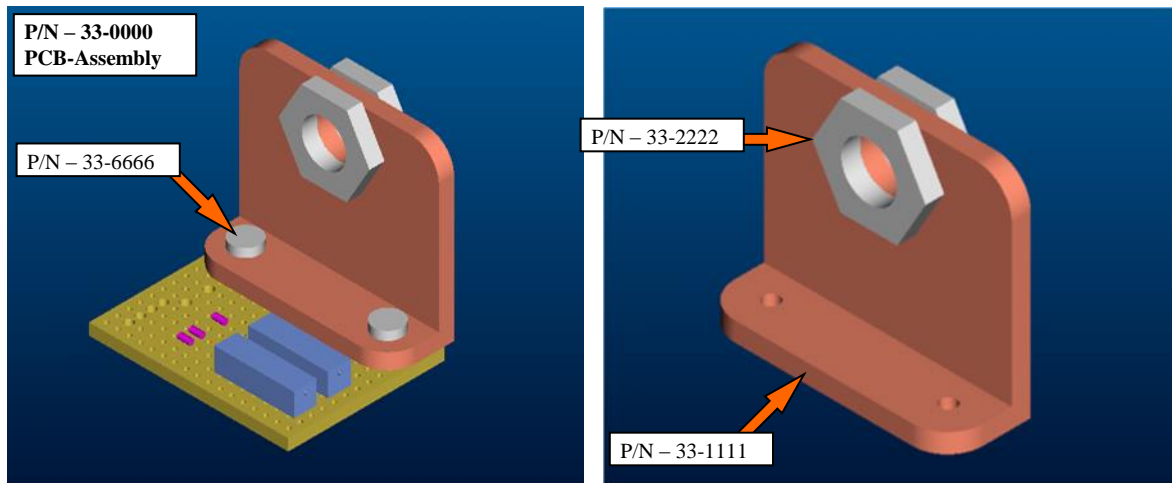


Figure 4: PCB Board Assembly

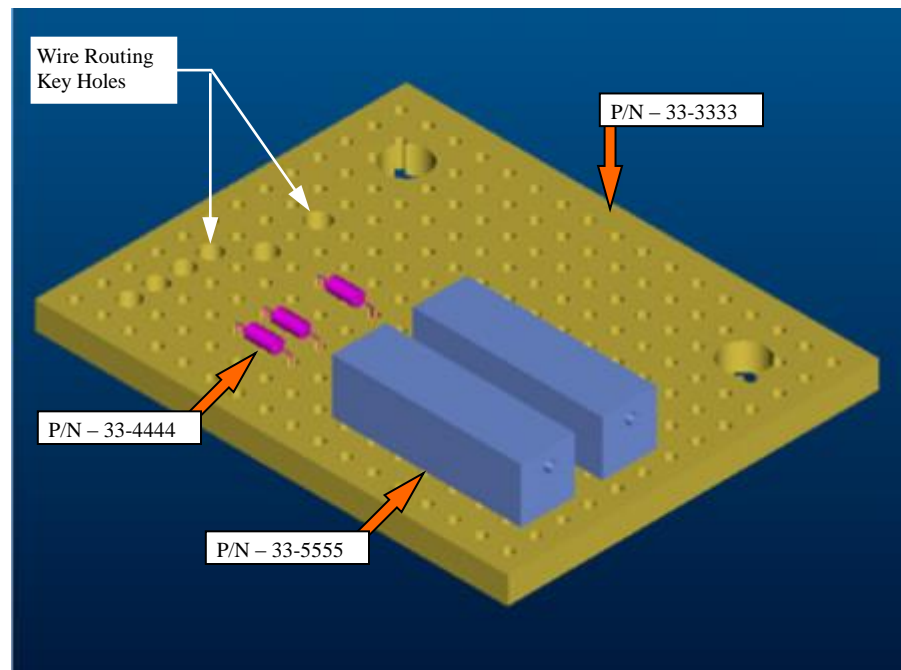


Figure 5: PCB Board Assembly

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

BILL OF MATERIAL:			
Part #	Part Description	Quantity	<input checked="" type="checkbox"/>
11-0000	Rotating Assembly	1	<input type="checkbox"/>
22-0000	Housing Assembly	1	<input type="checkbox"/>
33-0000	Bracket PCB Assembly	1	<input type="checkbox"/>
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 (**33-2222, 1x**), this will hold all three sub-assemblies together (PCB Assembly, Housing Assembly and Rotating Knob Assembly).

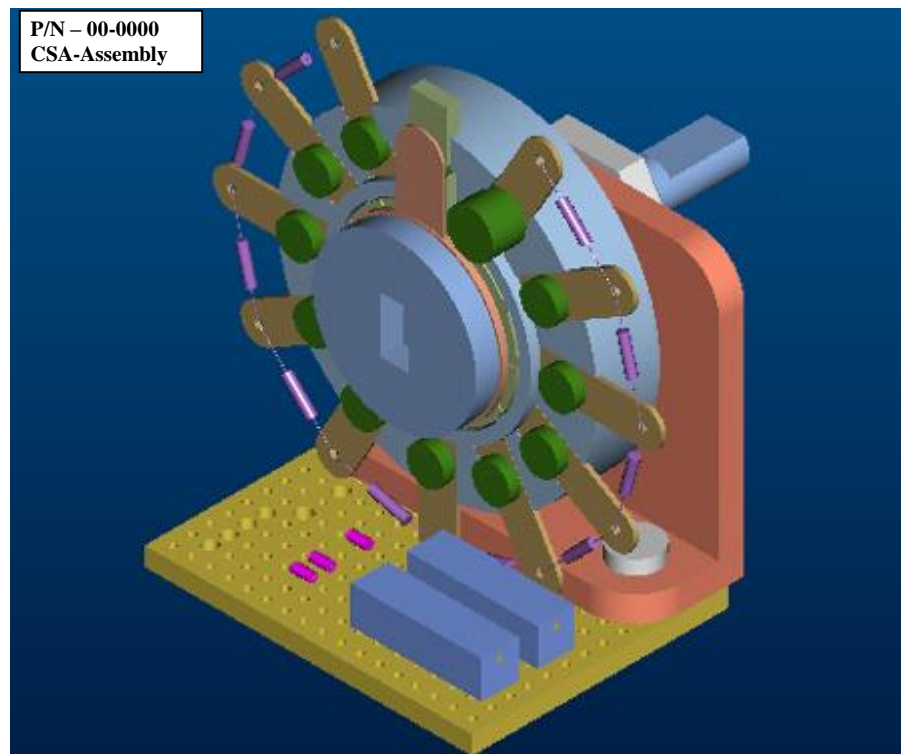


Figure 6: Contact Switch Assembly