



Insert and Center Body Contact Replacement Guide

Pad Series

Johnstech's inserts and center body contacts (CBCs) are field maintainable and replaceable. Follow these directions to make sure your insert and/or CBCs are installed properly.

Installing inserts or CBC components should be done under a 5x or greater microscope because of the small size of the parts.

The housing and CBC components are fragile; please handle with care.

Johnstech recommends using gloves or "finger-cots" when handling CBC components because the oil from human skin contaminates the contact assembly. Contamination can cause early failure of the CBC assembly. Component assembly should always be done in a clean environment typical of electronic assembly environments, free from dust, dirt, and other debris.

Required Tools

- Non-metallic tipped tweezers
- Johnstech elastomer tool
- Microscope with minimum 5x magnification (preferred) or adequate eye loop
- Non-powder, coated latex gloves or "finger-cots"

Components

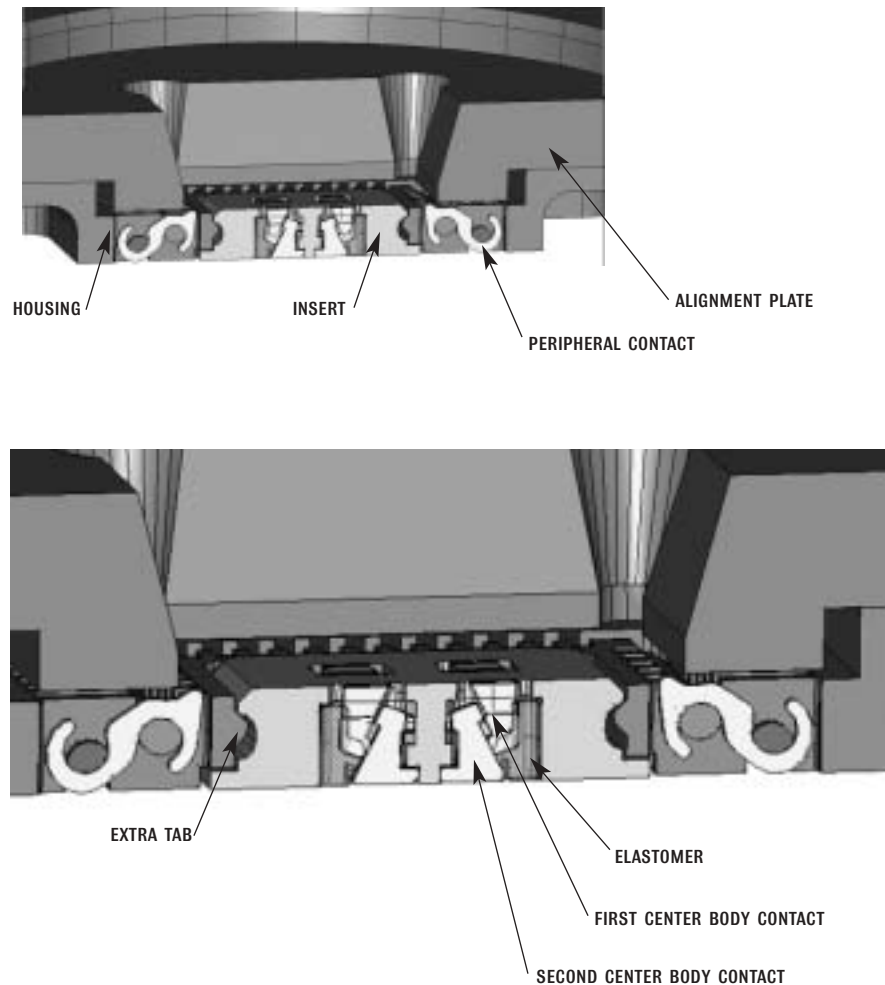
- Insert
- Housing
- Alignment plate
- Peripheral contacts
- First center body contact (DUT side)
- Second center body contact (load board side)
- Elastomer
- Extra tab

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Introduction

Pad Series Contactor Components



Insert Removal

Removing the Insert

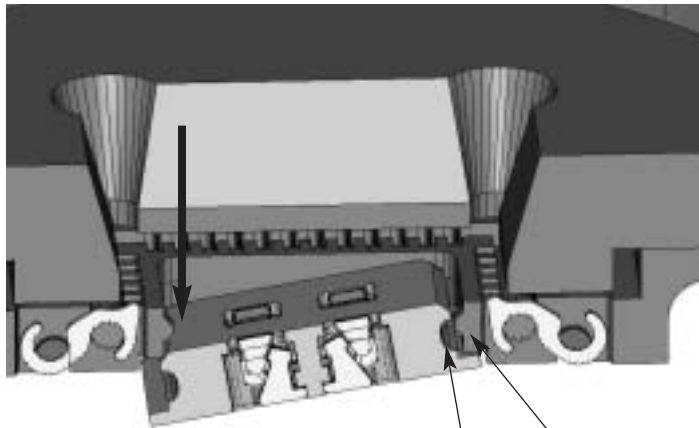


FIGURE 1 PUSH DOWN ON ONE SIDE OF THE INSERT THAT HAS AN EXTRA TAB IN THE HOUSING.

EXTRA TAB
GROOVE

Pad Series

Insert Removal

1. With a covered finger or the elastomer tool, push down on one of the two sides of the insert that has the extra tab on the DUT side of the contactor to remove it from the housing,

FIGURE 1.

- Tip: To find the extra tab in the housing, look at the housing under a microscope, FIGURE 2.
2. The insert will easily snap out of the housing.

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Insert Replacement

Insert Replacement

All inserts are designed to snap into the housing from the load board side of the contactor.

1. Line up the white orientation mark on the load board side of the insert and on the load board side of the contactor housing; the marks must align for the insert to function correctly both mechanically and electrically, **FIGURE 1**.
2. Take note of the extra tab inside of the insert hole in the contactor housing, **FIGURE 2**.
3. Place one side of the insert against the extra tab in the housing.
4. The sides of the inserts have a groove in them to hold them in the housing; the groove in the insert matches the extra tab in the contactor housing.
5. With a covered finger, push the opposite side of the insert into place; you will hear a "snap" sound when the insert is completely in the housing, **FIGURE 3**.

CAUTION: *If excessive pressure is required, the insert orientation is not correct; remove the insert and check the orientation.*

CAUTION: *The housing and/or the insert will break if all four sides of the insert are pushed into the housing at the same time.*

Orientation Markings

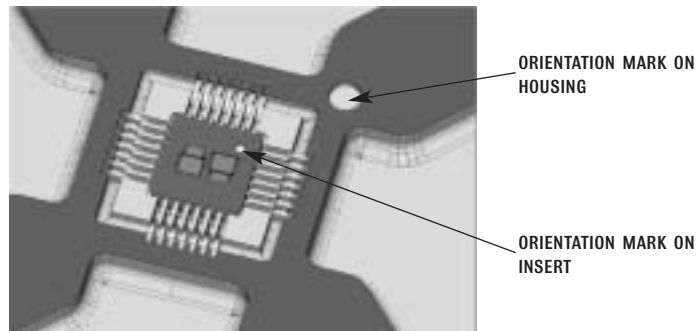


FIGURE 1 VIEW FROM OF LOAD BOARD SIDE OF CONTACTOR.

Contactor Components

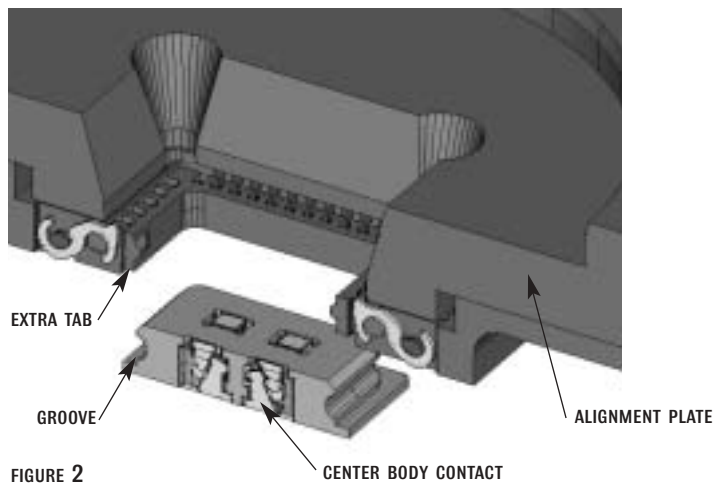


FIGURE 2

Replacing an Insert

FIRST, MATCH THE EXTRA TAB WITH THE GROOVE

SECOND, PUSH THE INSERT INTO PLACE

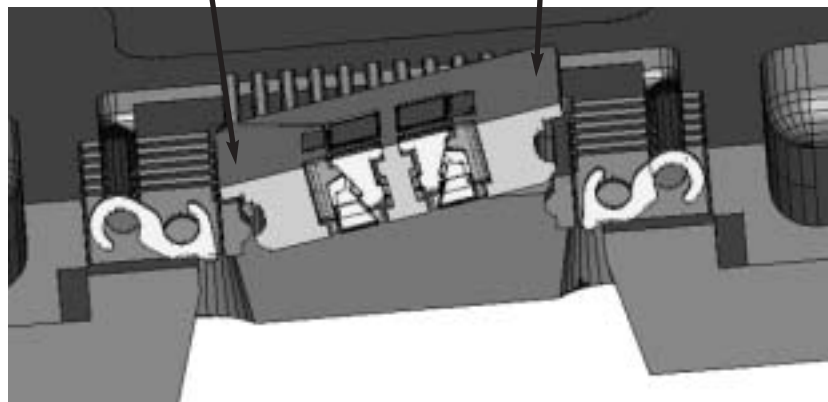


FIGURE 3

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Center Body Contact Replacement

Removing the Elastomer

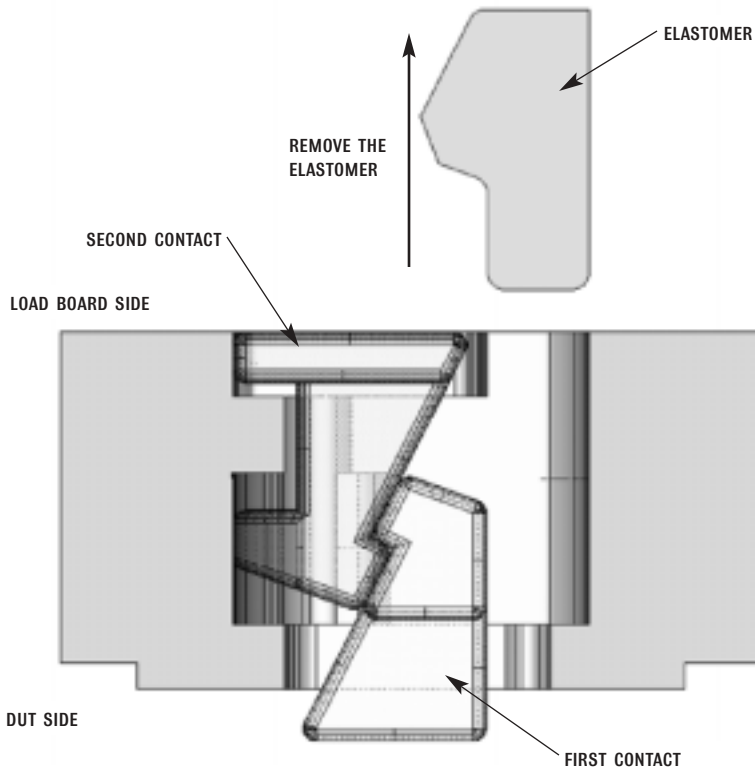


FIGURE 1

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Center Body Contact Removal

Lay the contactor with the load board side up on a flat surface. If removing CBCs from an insert, put the insert into the housing first. This makes disassembly much easier, as the housing is easier to hold and maneuver. Use a microscope if at all possible when doing this disassembly.

1. With the insert in the housing and looking through a microscope from the load board side of the housing, pull the elastomer straight out of the housing with tweezers, FIGURE 1.

Note: Removing the elastomer damages it beyond use; if you remove the elastomer after the assembly is completed, discard the elastomer and re-assemble with a new one.

2. Remove the contacts one at a time from the housing with non-metallic tweezers.

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Replacing the Center Body Contact

All components are installed from the load board side of either the contactor or insert (depending on the contactor configuration.) The components must be installed in the correct order and orientation to achieve the desired functionality and life of the assembly.

1. With the insert in the contactor, lay the DUT side of the contactor on a flat surface.

Note: To avoid damaging the contacts and elastomers, only handle the components with non-metallic tweezers.

2. Install the first contact by positioning the contact so that the sloped side faces a pocket in the bottom of the insert, **FIGURE 1**.

Tip: To pick up the contact, position the contact sloped side down on a flat surface. Pick up the wide end of the contact up with tweezers. Move the contact over the opening, allowing the contact to rotate 90° into position.

3. Install the elastomer on the straight side of the first contact; the thin end fits between the contact and the insert, or contactor housing wall, and the wider portion rests on the first contact, **FIGURES 2 AND 3**.

Tip: When properly installed, the elastomer sits flush with the load board side of the housing.

4. Make sure there are gaps between the elastomer and the wall of the insert or contactor housing; the gaps provide the necessary room for the elastomer to expand as the contact is compressed during testing.

Center Body Contact Replacement

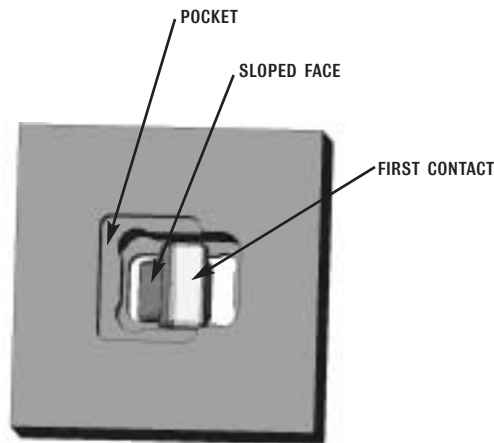


FIGURE 1 THE FIRST CONTACT PROPERLY SITS IN THE INSERT OR HOUSING.

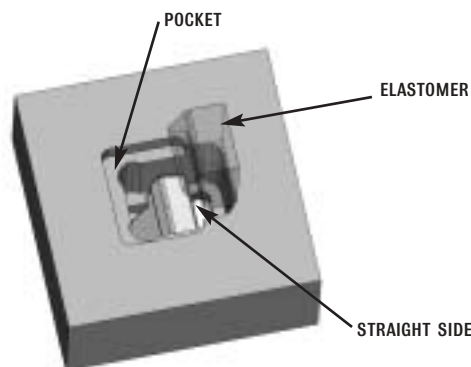


FIGURE 2 INSERT THE ELASTOMER WITH THE THIN END ON THE STRAIGHT SIDE OF THE CONTACT.

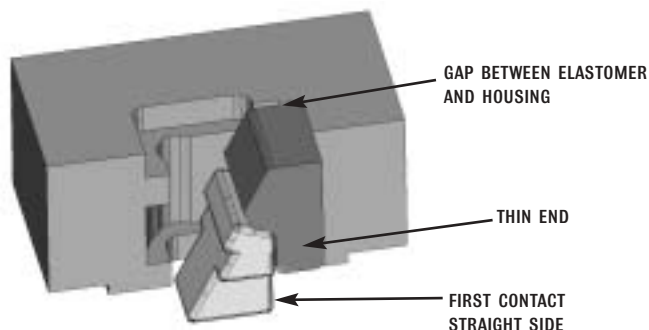


FIGURE 3 THE ELASTOMER IS BETWEEN THE CONTACT AND HOUSING, FLUSH WITH THE HOUSING.

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Center Body Contact Replacement

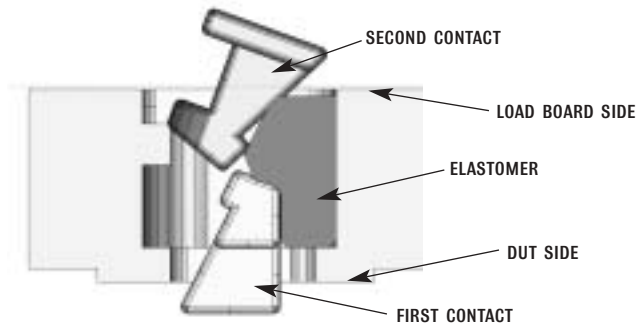


FIGURE 4 AVOID PUSHING THE SECOND CONTACT ON THE FIRST CONTACT; SLIDE THE SECOND CONTACT PAST THE FIRST.

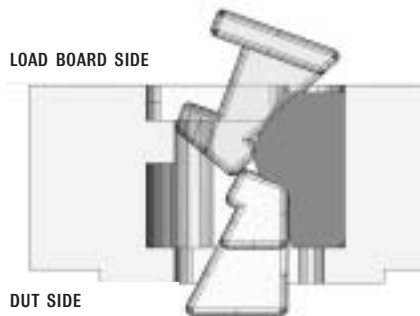


FIGURE 5 MOVE THE SECOND CONTACT PAST THE FIRST CONTACT.

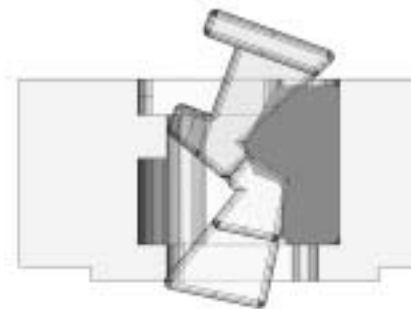


FIGURE 6 THE FIRST CONTACT PUSHES AGAINST THE ELASTOMER AS THE SECOND CONTACT SLIDES DOWN.

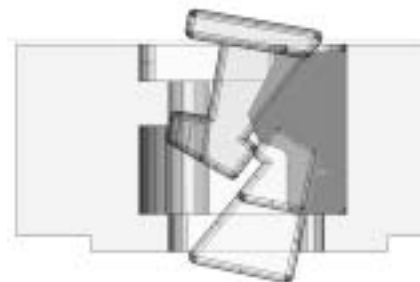


FIGURE 7 THE SECOND CONTACT SLIDES INTO PLACE.

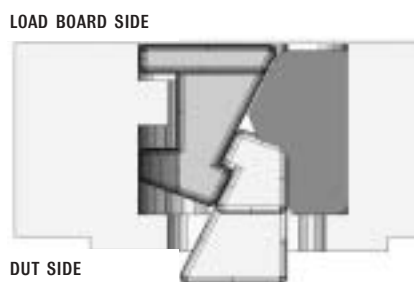


FIGURE 8 THE ASSEMBLED CENTER BODY CONTACT.

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5. Install the second contact by compressing the first contact into the elastomer with tweezers.

CAUTION: the first contact must be seated against the elastomer to avoid pushing directly on the contact, which could break the insert or housing, FIGURE 4.

6. Put the second contact in position over the first contact.
 Tip: Lay the contact sloped side down on a flat surface. Pick the wide end of the contact up with tweezers. Position the contact over the pocket and allow the contact to rotate 45° into position, FIGURES 5-8.

7. Apply force to the second contact to slide the contact nose past the first contact with the flat edge of the tweezers; the force required to slide the second contact into position is less than 2 kg.

Tip: If excessive force is required and the second contact will not slide into position, remove the second contact and re-position the first contact against the elastomer and try again.

8. With all of the components in place, flip the contactor over so the load board side is down, as it would be in the mounted state.
9. Holding the contactor firmly down on a flat surface, exercise the CBC assembly with a Johnstech elastomer tool or other non-abrasive tool to ensure that the contact is fully compliant and returns to the expected free height position of 1.60 ± 0.05 mm from the mounting surface.
10. Completely assemble each CBC assembly before assembling the next CBC to prevent losing components.

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