

Engineering Department

Engineering Change Order (ECO)

ECO #: ECO-50074-002

Effective Date: May 11, 2016

Title: Rotating Manipulator PAM Housing and Connector Change

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Engineering Approval: AEG
Operations Approval: JJV

Date: April 27, 2016
Date: May 11, 2016
Date: May 11, 2016

Summary:

The manufacturing complexity of the Rotating Manipulator PAM/Whip Assembly (50269) made it difficult to produce. That in combination with undesirable cosmetics of the assembly gave cause for redesigning the assembly. A solid black open topped potting housing makes the assembly simple and repeatable. The solid black housing also improves the cosmetic finish of the assembly. In addition to potting difficulty this assembly was unreliable due to faulty rotating manipulator 4 pin whip (50212) parts supplied by Inukton. Inukton is providing a revised connector which has been tested and proven resistant against the previous failure conditions.

Parts Affected:

Part Number	Notes	Removed	Added	Modified
52078	PAM Potting Housing	☐	☒	☐
50212	Rotating Manipulator 4-pin Whip	☐	☐	☒

Detail:

The manufacture of the fully encapsulated PAM assembly was very complex, requiring numerous assembly steps and the molding of epoxy standoffs. The assembly was also prone to trapping air during the potting process. To address these issues a solid black plastic housing was designed with integrated wire jacket strain reliefs, reducing the number of parts in the assembly and reducing the number of leak paths. No standoffs or demolding is required, components are inserted into the housing and potted in place. A masked hole in the housing allows the LED indicator to be seen despite the opaque black housing. The Inukton supplied 50212 whip was not strain relieved internally at the connector, mild deflections of the whip would cause the wires to break internally. Inukton supplied revised connector whips which include internal strain reliefs and are not easily damaged under normal use.

Action Item:

Action	Department	Acknowledgement Initials
Acknowledge and execute assembly procedure change on all assemblies.	Production	KK
Begin stocking added PAM Potting Housing.	Purchasing	NS
Integrate PAM Potting Housing and Updated Rotating Manipulator PAM/Whip Assembly into QC process.	Quality Control	NS
Begin stocking added and modified parts.	Inventory Control	SL

Modified / Referenced Documents:

Document	Current Revision
50074-Assembly Instructions	003
52078	A
50269	A

Revision Table:

Revision	Initials	Date	Comments
001	JK	5/11/2016	Initial Release
002	JK	5/13/2016	Part Number Correction, Add Revision Table

-- END OF ORDER --