Service Note

Date	11 Jan 2017	**Service Note #**	4300-3010	**Updated**	NA
Product	DS/EVO 4300		**Created By**	J. Yangco	
Description	Drive Motor New Encoder				

Release	☒	**Internal**	☒	**Distributors**	☒	**Customers**

Parts Required	**Serial Numbers Affected**
4300 Encoder Kit Replacement **Option #1** consists of the following: • 2700-0023 Encoder • 2700-0055 Pigtail for Encoder • 5510-1019 6-32 x 5/8 inch long Screws (x2) • 5510-0128 Shoulder Screw **Option #2** consists of the following: • 2700-0023 Encoder • WM1837 Molex Terminals (x4) • WM-1784 Molex Receptacle • Molex Hand Crimp Tool • 5510-1019 6-32 x 5/8 inch long Screws (x2) • 5510-0128 Shoulder Screw	DS/EVO 4300: 4302446 and older

Drive Motor New Encoder Replacement

Reason: A new encoder has been sourced which eliminates the need for soldering during replacement.

Pre-requisite: Proper training in servicing the instrument.

Molex Crimping Tool Part No. 63819-0900

http://www.molex.com/molex/products/datasheet.jsp?part=active/0638190900_APPLICATION_TOOLIN.xml&channel=Products

Hand Crimp Tool for Male and Female Crimp Terminals, 16-24 AWG Wire

121 North Center Drive
North Brunswick, NJ 08902 USA
P: 732-422-7585 F: 732-422-7310 TOLL FREE: 888-234-7835

Solution / Action

Before proceeding, discharge any static electricity from your body by touching a bare screw from the instrument. Turn off the instrument and disconnect the AC power cord.

Step 1	Carefully position the carriage in the forward position as shown below allowing access to the encoder. Carefully turn the autosampler onto its right side.  **Step 1**
Step 2	With the instrument on its side, locate the encoder as shown below. If unable to access the set-screw manually rotate the motor pulley until it can be accessed.  **Step 3**

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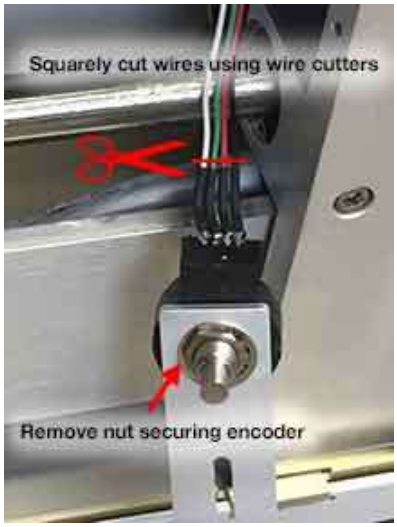
Step 3	Using a 1/16 inch hex key, loosen the set-screw about 2 to 3 full turns. Remove the screw (s) that secure the encoder bracket (legacy instruments have two screws as shown). Carefully pull the encoder assembly away from the motor pulley.  **Step 4 – shows two screws on legacy units**
Step 4	Carefully pull the encoder assembly until you can access the wiring. Cut the wires on the encoder then remove the nut that secures the encoder.  **Step 5**

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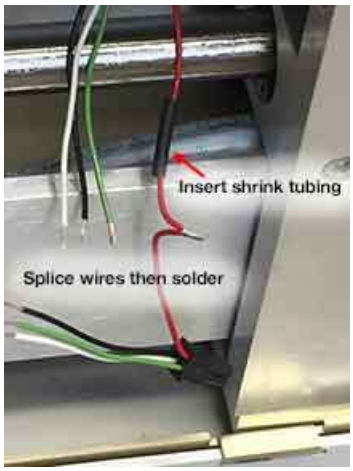
Step 5

OPTION #1

- Strip the ends of the wires approximately 0.25 inch (6.5mm) with wire stripper.
- Add shrink tubing then splice the wire ends one at a time matching the colors of the wires from the existing wires to the pigtail assembly.
- Solder the wires together using appropriate soldering technique.



Splice and solder wires

- Slide the shrink tubing so as to cover the soldered joints then use a heat gun or equivalent to shrink the tubing

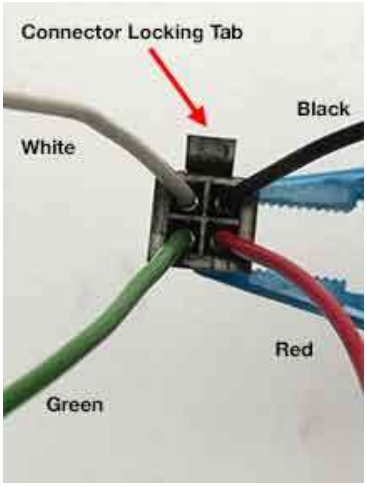
Use heat gun to shrink tubing

OPTION #2

- Strip the ends of the existing wires approximately 0.125 inch (3mm) with wire stripper.
- Using the Molex crimping tool, crimp the terminals using proper crimping techniques.

Crimp terminals with Molex crimp tool

- Insert the terminals into the connector housing by following wire placement as shown. Gently pull on each wire to make sure it is securely attached.



Insert wires into connector

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Step 6	Install the new encoder on the bracket and then attach the encoder to the pulley securing it with the set screw. Secure the bracket using the longer hardware provided as shown.  **Shows new longer hardware of newer instruments**
Step 7	Thread the new encoder wiring so it sits on the opposite side. Connect the two connectors together, making sure that the connectors' latch is secured.  **Connecting the encoder connectors**

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Step 8	Secure the wiring assembly with a tie-wrap making sure that it will not get caught when the carriage is moving back and forth.  **Securing wire assembly with tie-wrap**
Step 9	Place the instrument back on its feet and manually move the carriage back and forth making sure there is no interference associated with the movement of the carriage. This completes the service.

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