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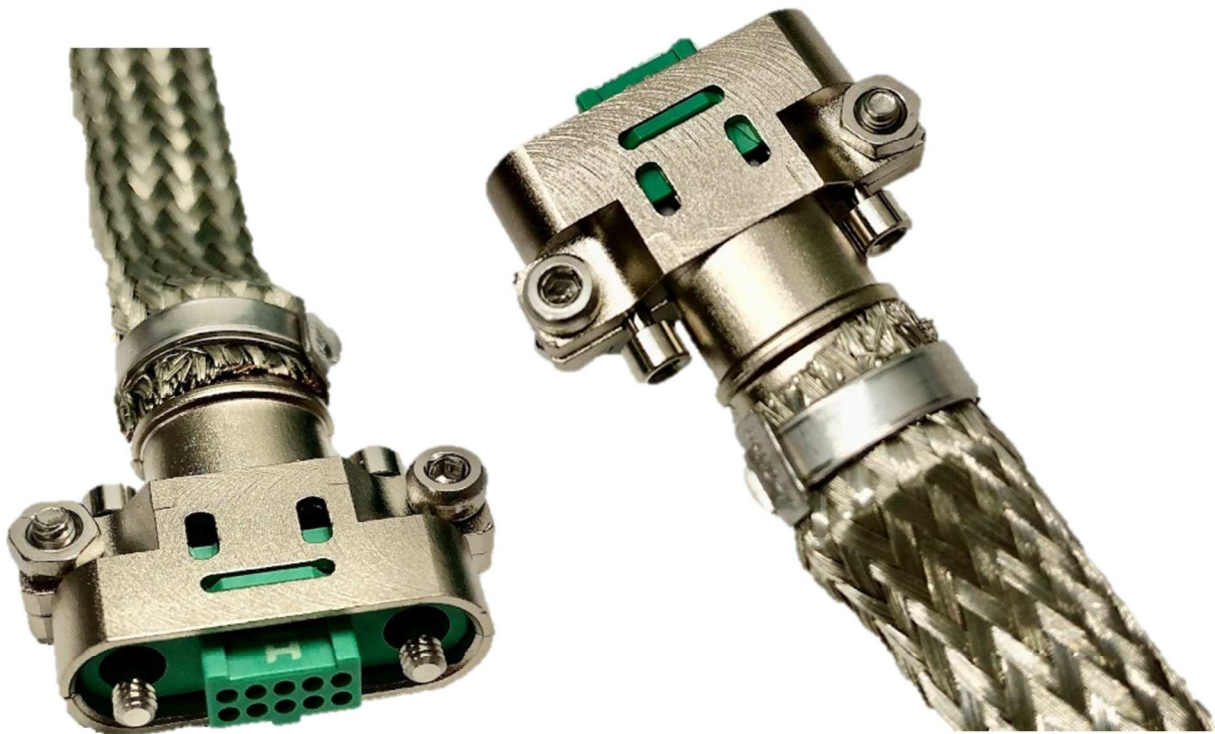
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Instruction Sheet

IS-45

Assembly Procedure for Gecko-SL Metal Backshells



INTRODUCTION

This instruction sheet is designed to demonstrate the assemble of metal backshells available for Gecko-SL female and male crimp connectors or cable assemblies. This document will provide details on adding the jackscrews and braid for a complete cable assembly solution.



Female backshell kit



Male backshell kit

Applicable Backshell products

- **G125-964xxF1** – Gecko-SL metal backshell kit for Female connectors, with hex socket screw-loks
- **G125-964xx00** – Gecko-SL metal backshell kit for Male connectors

Applicable Connector products

The metal backshells can be fitted to the following Gecko-SL housings and cable assemblies:

- **G125-224xx00** – Gecko-SL Female crimp housings, no screw-loks
- **G125-324xxM1** – Gecko-SL Male crimp housings fitted with internally threaded screw-loks
- **G125-FCxxx05FO-xxxxL** – Gecko-SL Female single-ended cable assemblies, no screw-loks
- **G125-FCxxx05FO-xxxxFO** – Gecko-SL Female double-ended cable assemblies, no screw-loks
- **G125-MCxxx05M1-xxxxFO** – Gecko-SL Female-to-Male double-ended cable assemblies, no screw-lok on the female
- **G125-MCxxx05M1-xxxxL** – Gecko-SL Male single-ended cable assemblies
- **G125-MCxxx05M1-xxxxM1** – Gecko-SL Male double-ended cable assemblies

The metal backshells can also be fitted to the Gecko-MT housings and cable assemblies with the same screw-lok variations.

- **G125-2249600-01-08-01** – Gecko-MT Female crimp housings, no screw-loks (equivalent to 16-contact Gecko-SL)
- **G125-2249600-02-08-02** – Gecko-MT Female crimp housings, no screw-loks (equivalent to 26-contact Gecko-SL)
- **G125-32496M1-01-08-01** – Gecko-MT Male crimp housings fitted with internally threaded screw-loks (equivalent to 16-contact Gecko-SL)
- **G125-32496M1-02-08-02** – Gecko-MT Male crimp housings fitted with internally threaded screw-loks (equivalent to 26-contact Gecko-SL)

PREPARATION

Please consult the “Applicable Backshell products” to confirm the correct backshell kit is selected for the required connector gender. This instruction sheet uses assembly of **G125-96416F1** to a ready-made cable assembly **G125-FC11605F0-0150L** as an example.

Additional Tooling and Products

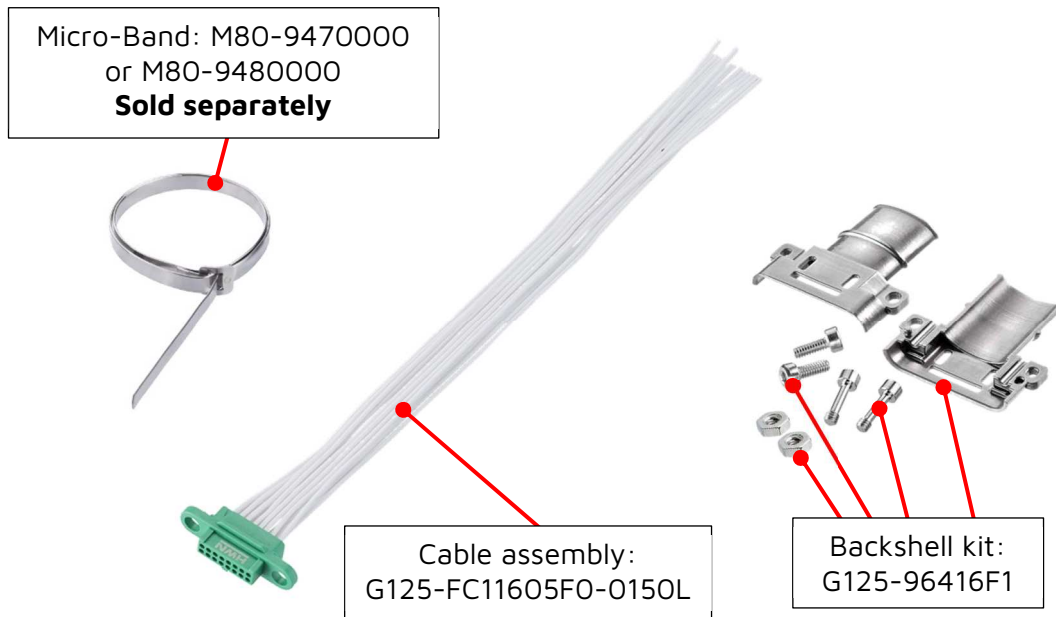
The cable assembly should be manufactured before adding the backshell. If you are manufacturing your own custom cable assembly, you will need the Z125-900 crimp tool with Z125-901 positioner, plus the assembly tooling Z125-902 for the contacts - see [IS-37](#) and [IS-38](#) for full details.

For assembling the backshell, we recommend the additional tooling:

- Z9952-00, or Z9950-00 with a ¼” screwdriver handle.
- BAND-IT Tie-Dex II A30199 Micro Band tool (to fix the Micro-band if you are adding braid) – this tool is not sold by Harwin.
- 4mm open-ended spanner– this tool is not sold by Harwin.



ASSEMBLY METHOD

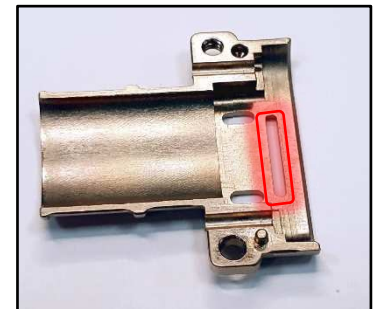


Typical kit, ready for assembly

The instructions also cover the copper braid being assembled, which provides EMC shielding, wear prevention and cable management.

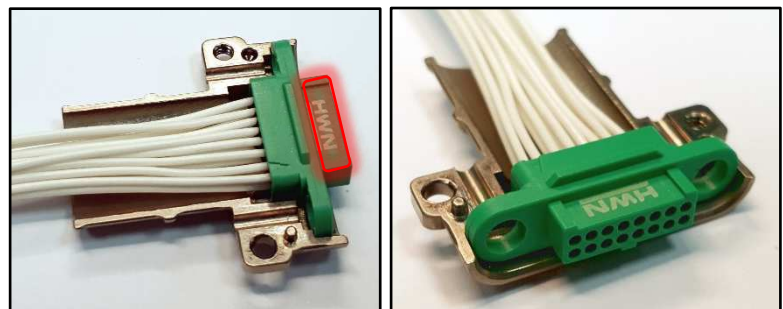
1. Take one half of the Gecko backshell and lay flat as shown on a clean working surface.

Note: Pay attention to the slot highlighted in red as this is important in step 2.

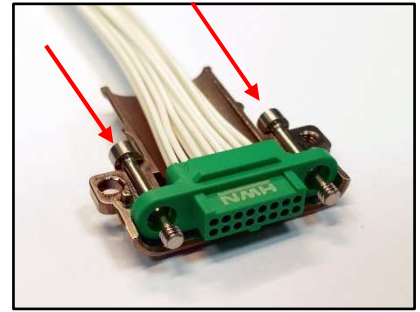


2. Place the cable assembly into the backshell.

Note: Ensure the ledge highlighted in red sits into the slot shown in step 1. There is one each side of the connector body.

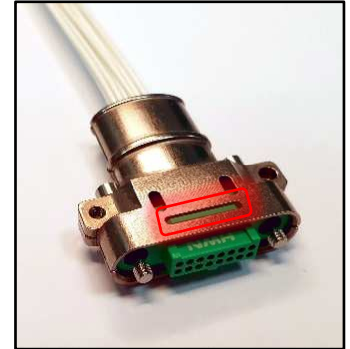


3. Insert both jackscrews supplied in the kit from the rear of the connector and lay into the groove in the backshell as shown.

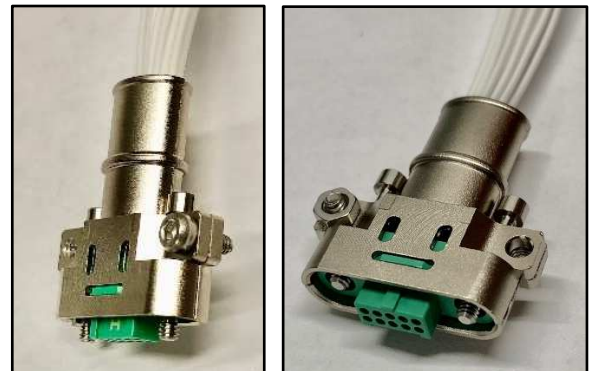


4. Place the second side of the backshell over the assembly.

Note: Ensure the ledge highlighted in red sits into the slot and press together.



5. Take one of the M2 hex socket screws and M2 hexagonal nuts and assemble to the two backshell halves, tightening loosely by hand.



6. Secure the M2 hexagonal nut with the 4mm open-ended spanner, using Z9950-00 or Z9952-00 to tighten the M2 hex socket screw to 18Ncm-23Ncm.



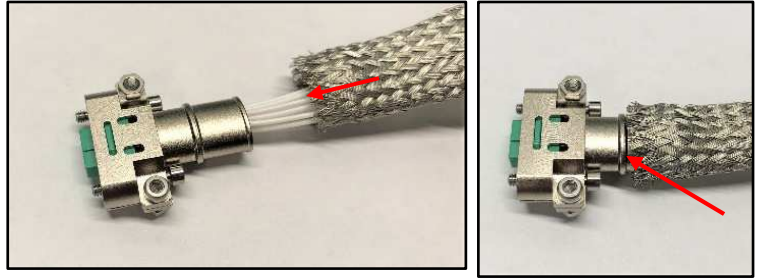
7. Turn connector over and repeat steps 5 & 6.



Adding Braid (if required)

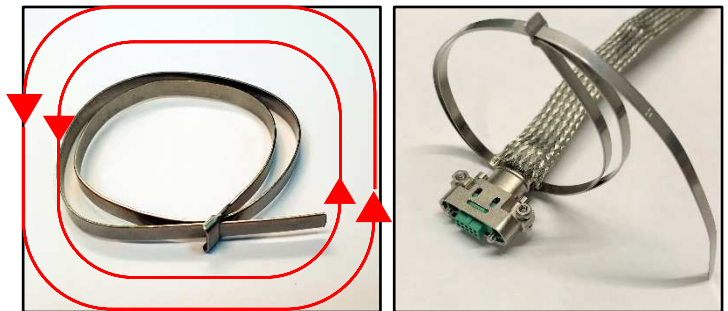
1. Feed braiding over the wire and push up to the second ridge on the cable exit of the backshell as shown.

Note: tape over the end of the loose cables may assist with this operation.

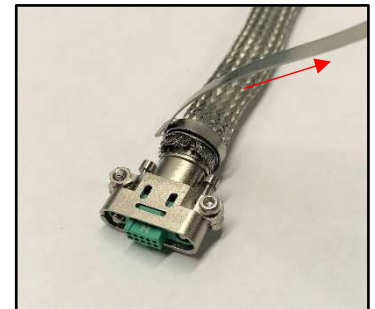


2. The micro-band is supplied straight. It must be coiled up around the cable assembly as shown.

*Note: Micro-band end must pass through the buckle **two-times**.*



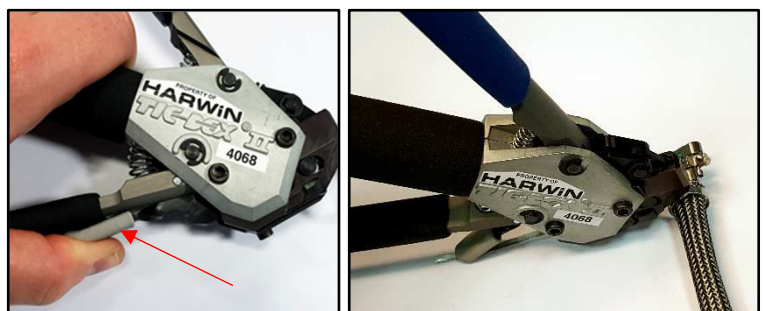
3. Pull end of band through buckle and remove slack.



4. Open tool by flipping the retaining straps out of the way.

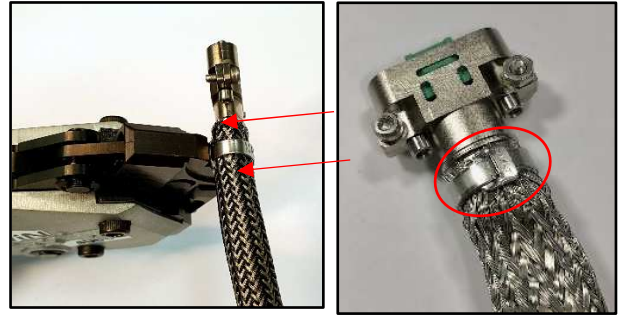


5. Depress the short finger toggle to allow the micro-band tail to pass through the tool. Once inserted to the full depth (buckle touches tool) then release the short grey lever.

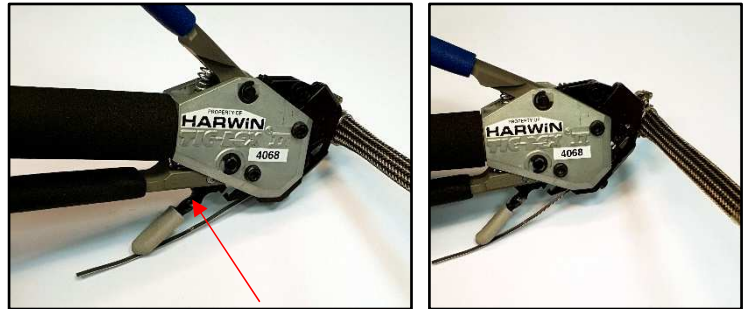


6. Position the buckle of the micro-band in the center of the two ridges of the backshell cable exit.

*Note: Rotate the buckle of the band-it tie to be **centrally** orientated on the longest side of the backshell as shown. This is important to achieve uniform clamping of braid.*



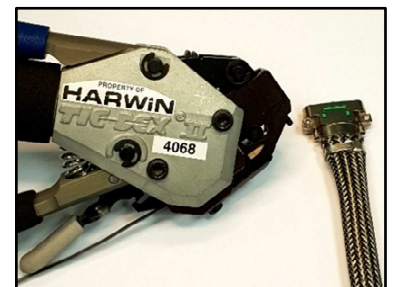
7. Once the micro-band is correctly positioned, squeeze the two black handles together and release. Repeat until the smaller handle will not return and remains locked.



8. To trim off the micro-band and complete the assembly process, squeeze the blue handle and the surplus tie will be trimmed off.



9. Remove the excess from the tool by pressing on the small grey handle and pull out the tail of the micro-band from the tool to the rear.





OTHER ASSEMBLY OPTIONS

The Gecko metal backshell range is expected to be used with metal braid, for EMC/RFI purposes. However, it is also possible to use polymer and glass-fibre braid types, depending on the desired result and application.

- For full EMC/RFI shielding, Harwin recommend nickel-coated copper braid, using a Micro-band to secure it on the backshell.
- For mechanical protection such as strain relief and abrasion protection, lightweight polymer braid can be used. Either a micro-band can be used to secure it to the backshell, or a miniature plastic cable tie can also be used. The plastic tie should have a width of 1.6 to 2.5mm, with a head that does not exceed 5.2mm.
- For heat protection, polyurethane-impregnated braided fibreglass can be used. As with the option above, either the micro-band or a miniature plastic cable tie (same dimensions as above) can be used to secure the braid to the backshell.



If you would like Harwin to offer a full cable assembly service, please contact us on technical@harwin.com with your full requirements and volumes.

