



Newsletter July 2016

Electrical Wiring Interconnection Systems
CRMA's Technical Expertise



More than 2 000 harnesses repaired per year!
CRMA is offering a [comprehensive range](#) of harnesses' repairs for GE90
and CFM56 series to meet customers' needs.



Dedicated product line

CRMA's harnesses product line is a specialized unit for engine electrical harness repairs with a dedicated production management and engineering team.

Those types of aeronautics equipment's have been grouped under the name E.W.I.S. aka 'Electrical Wiring Interconnection System' and are used for various applications:

- Information transfer between the cockpit and the engine,
- Accessories running,
- Temperature measurement,
- Fire & vibration detection,
- Power Feeder / Ignition Leads.



High quality standards

"Quality, precision and electrical knowledge are keys to successfully complete repairs work on harnesses. When receiving the wire we perform testing on a test bench to detect errors such as isolation's problems or continuity's defects. At the end of the repair process, we always perform a double check of the work, wire is tested by the operator and then by the controller so that the quality is at its maximum."



Electronic documentation on display

"Damaged wires can cause a short circuit; this is why operators are performing a very precise work by focusing on each cable. Electronic documentation is available for every working station and allows us to have in sight at the same time the technical drawings and the harness."

Serdal Er - Wiring Operator & Technical and Quality Controller

Our [capability](#) goes from CFM56 series to GE 90 series, on three main technologies:



Heat-shrinkable sheath Harnesses

Those harnesses are installed in intermediate areas of the engine (between cold and hot parts). The electrical conductors, wire, cables, are protected up to the adapter or branching box thanks to a sleeve assembly and boots in heat-shrinkable material. That protection seals the harnesses and a metallic bread sleeve, used as conductor, provides electrostatic shielding.



Wiring Bundle

Usually located on the cold parts of the engine (eg FAN), it is the harness which conductors, wires and cables are apparent and assembled by shrinking it in the form of strands. Those harnesses are often quite long (up to 10-15 meters) and with multiple connectors (> 10 connectors).



CORE Electrical Harnesses

Located near hot engine parts (CORE), those harnesses have a specific function on the engine. The conductors, wires and cables are protected up to adapters and metallic transitions with a PTFE sheath. That sheath is made of three layers: a flexible spiral conduit where the cables are unrestricted, a metallic braid surrounding it and an isolating layer for easier handling. Sheaths are assembled with other components (box, adapter, connector or metallic tapping) by crimping the clamps or ferules ensuring mechanical support and equipotential bonding of electrostatic shield.



Wiring team