 Swift Construction Co. WORK INSTRUCTION	Title: AIRCRAFT WIRELESS COIL ASSEMBLY	
	Doc. # 20000001_WI	Rev. 1
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1 Purpose

To provide instructions for the construction of Part # 20000001 (IND,AIRCRAFT WIRELESS,830UH).

2 Scope

This work instruction shall be used for the referenced part number only. This document is not acceptable for providing to a 3rd-party contract assembler.

2.1 Definitions

Ferrite	A powdered, compressed and sintered magnetic material having high resistivity. The high resistance makes eddy current losses low at high frequencies.
VOM	Volt-Ohm-Meter

2.2 Records Retention

No records are required.

3 Responsibility and Authority

The Director, Manufacturing, has responsibility and authority for maintaining this work instruction. The assembler is responsible for correct assembly of devices according to this work instruction.

4 Procedure

4.1 Health and Safety Concerns

Safety glasses must be worn as the ferrite rod can shatter if dropped or mishandled.

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4.2 Required Equipment

Vice	Bench-type vice having copper jaw pads.
Hacksaw	<p>Typical hand hacksaw with sharp blade.</p> <p><i>It may be possible to use a rotating hand power-tool with a cutoff blade (e.g., a Dremel), but this is outside the scope of this document.</i></p>

4.3 Assemble Coil

- 1 Refer to the Bill of Materials and pick the assembly kit. If there are cores already cut to length in the ferrite bin you may use them, otherwise first cut sufficient cores for the build.
 - 1.1 Mark the ferrite rod into 35mm divisions using an HB pencil.
 - 1.2 Gently clamp the ferrite rod in a bench vice in such a way that it is possible to cut along a division mark.

The bench vice must have copper jaw cushions in place. Be careful to only tighten the vice enough to hold the rod (the rod will shatter if clamped too tight).
 - 1.3 Cut along a division mark using a hacksaw and sharp blade.
 - 1.4 Check that the length is 3.5mm +/- 3mm.
- 2 Remove 10mm of insulating varnish from one end of the wire using sandpaper.
- 3 Lay the wire across one end of the rod with 80 mm of loose wire extending away from the ferrite rod. Refer to Illustration 1.

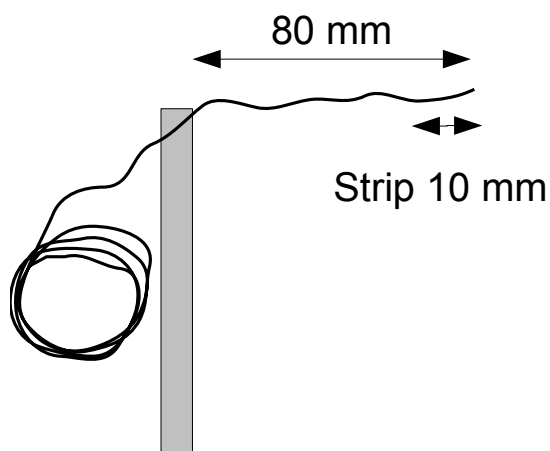


Illustration 1: Strip and lay wire across ferrite

- 4 Apply 2 wraps of insulating tape over the end of the rod and wire to hold the wire in place. Refer to Illustration 2.

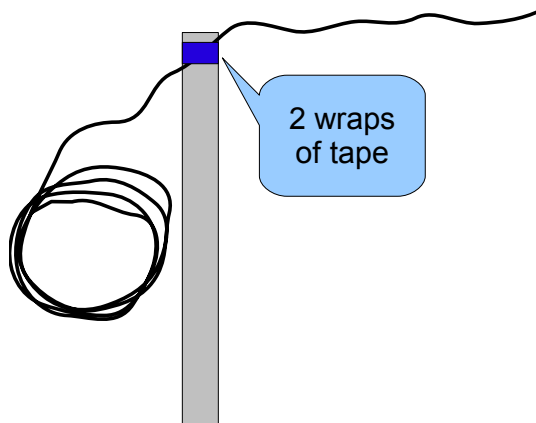


Illustration 2: Fix start of wire in place

- 5 Wrap 416 turns of wire around the ferrite rod. Continually push the turns together as you add each wrap - there must be no gaps or over-wraps. Refer to Illustration 3.

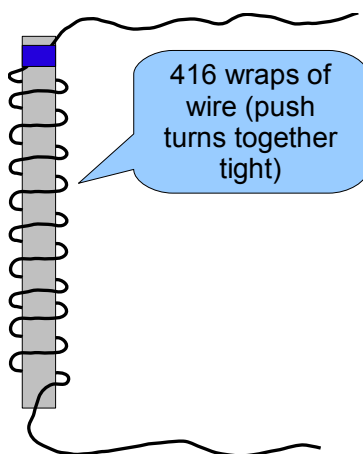


Illustration 3: Wrap wire around ferrite

- 6 Cut the wire leaving approximately 80 mm of loose wire extending away from the ferrite rod. Refer to Illustration 4.
- 7 Apply 2 wraps of insulating tape over the end of the rod and wire to hold the wire in place. Refer to Illustration 4.

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- 8 Remove 10mm of insulating varnish from one end of the wire using sandpaper. Refer to Illustration 4.

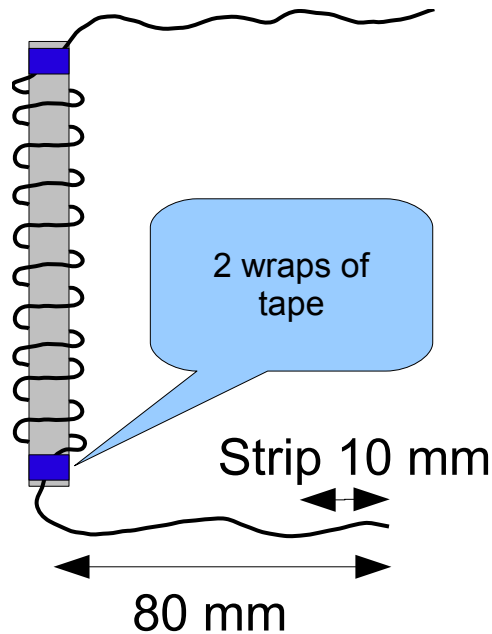


Illustration 4: Cut and strip end of wire

- 9 Measure the resistance of the coil using a digital VOM set to the 200 Ohm range (or equivalent). The coil resistance must be between 22 Ohms and 25 Ohms. If it is within the acceptable range, mark the “bottom” of the ferrite rod with yellow paint. Refer to Illustration 5

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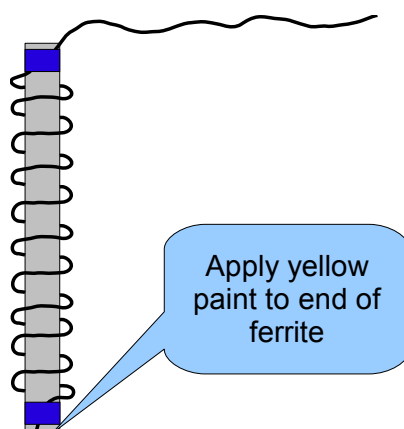


Illustration 5: Apply yellow paint after passing resistance test

- 10 Deliver coils that pass the resistance test to the Incoming Inspection Clerk (if a coil does not pass the resistance test, remove the wire from coil and re-wind it using new wire).

5 Related and Support Documentation

None.

6 Revision History

Date	Name	Change Description
2013-01-01	Hank Baldwin	Creation
2013-01-02	Hank Baldwin	Updated document format to current standard.