



# **Safe Working Practices**

## **Electromagnetic Fields Regulations**

**July 2016**

# Guidance on Safe Working Practices Regarding Electromagnetic Fields (EMF)

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As a result of EU directives the UK government has until 1st July 2016 to bring the requirements into UK law.

In the Vehicle Body Repair Industry this will relate to the level of EMF emitted by equipment used in our member's workshops.

This will include the following equipment;

- **Resistance Spot Welders**
- **Induction Heaters**
- **Plasma Cutters (Low Risk)**
- **MIG/MAG Welders (Low Risk)**

HSE is developing EMF Guidance for use by all UK employers; the draft guidance is now available on HSE's non-ionising web pages. (The final version of HSE Guidance will be available from July 2016.)

It is expected that going forwards, all new equipment will be manufactured so as to reduce the levels of EMF they produce during operation.

# Medical Issues

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You must give special consideration to operatives with active implanted medical devices, such as heart pacemakers, as EMF could interfere with the correct operation of the implant.

You must also consider staff with metal implants e.g. orthopaedic joints, pins or plates, as it is possible workers could receive injuries as a result of EMF interacting with the implant causing it to heat up, which may lead to injury in the surrounding tissue.

If in doubt, workers should obtain information from the manufacturer of the device and from a suitably qualified medical professional.

Current research suggests that the effects of EMF are momentary, non-cumulative or lasting, and carry no known long-term health risks.



# Incorrect Cable Positioning: MIG/MAG Welders

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Ensure all cables and connections are in good condition, with complete insulation covering and sound connections.

During welding operations ensure the operative **never** works inside the two cables of the equipment; the earth and power (earth lead and welding torch) cables. (See image.)

Doing so would mean they would be (incorrectly) working in the area of the strongest EMF emitted from cables, transformer & gun.



Note: the pictures are posed only to show the positioning of the cables and no other H&S or practical welding skills inference should be drawn from them.

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# Correct Cable Positioning: MIG/MAG Welders

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Positioning both the earth cable and gun cable to one or other side of the operative ensures that they are NOT working within an electromagnetic field.

This reduces any potential risk to the operative.



Note: the pictures are posed only to show the positioning of the cables and no other H&S or practical welding skills inference should be drawn from them.

# Incorrect Cable Positioning: Resistance Welders

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Technicians should never put the supply cables across their torso or over their shoulder as seen here.

This places any electromagnetic field generated close to the head or the vital organs.



Note: the pictures are posed only to show the positioning of the cables and no other H&S or practical welding skills inference should be drawn from them.

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# Correct Cable Positioning: Resistance Welders

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Technicians should put the supply cables to one side or the other of their body and where possible as far away from their heads and torso as is practicably possible, using gun support cables to carry the weight of the welding equipment.



Note: the pictures are posed only to show the positioning of the cables and no other H&S or practical welding skills inference should be drawn from them.

# Incorrect Cable Positioning: Induction Heaters

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Technicians should never put the supply cables across their torso or over their shoulder as seen here.

This places any electromagnetic field generated close to the head or the vital organs.



Note: the pictures are posed only to show the positioning of the cables and no other H&S or practical welding skills inference should be drawn from them.

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# Correct Cable Positioning: Induction Heaters

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The cable should be as far away from the operative's head and torso as is practicably possible to reduce the effects of any electromagnetic fields on the head or vital organs.



Note: the pictures are posed only to show the positioning of the cables and no other H&S or practical welding skills inference should be drawn from them.

# Important Information

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As we have already stated, it is likely that new equipment will eventually be manufactured to reduce the EMF produced during operation.

You **can continue to use your existing equipment** by adopting the safe working practices outlined in this document thereby reducing the risk to your staff.

You should already carry out a Risk Assessment for each welding operation or type of machine in use within your business and this will be the same after 1st July 2016.

**Induction Training** should be carried out for all new equipment and staff in the correct use of the equipment to minimise exposure to EMF.

**Suppliers** must carry out induction training on delivery of any new resistance spot welder or Induction Heater before use.

**When speaking with any welding equipment supplier we suggest you ask:**

- 1 Do they publish the EMF output of their equipment?**
- 2 Do/Can they provide a 'safe working practice' demonstration or training at the point of delivery?**

The HSE guidance provides additional information and details of employer's duties under the Control of Electromagnetic Field Regulation 2016.

## Beware!

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There is no evidence that you will need to change any of your existing equipment, nor do you need to pay for expensive 'consultants' to measure the EMF being emitted by your equipment.

As of 1st July 2016, you will be required to have in place a risk assessment with regards to the potential exposure of your staff to EMF; referring to the information and tables in the HSE EMF guidance will help you with this. In most cases, you should not need to measure the EMF produced.



**If you have any doubts please contact our membership helpline by either:**

Emailing: [bodyshops@rmif.co.uk](mailto:bodyshops@rmif.co.uk)

or

Calling: 0345 305 4239

The information contained within this publication is for guidance only and is subject to revision pending any information issued by the HSE.

# Acknowledgement Form

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I, \_\_\_\_\_, by signing this document, acknowledge that I have read and understood the potential risk associated with the use of MIG/MAG and resistance spot welding equipment and also the use of induction heaters.

The appropriate working practices in terms of cable positioning and the proximity of those cables to my head and upper body have been explained to me and I acknowledge that I am responsible for working to health and safety best practice in all areas of my employment.

Technician Name: \_\_\_\_\_

Technician Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Manager/Trainer's Name: \_\_\_\_\_

Manager/Trainer's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Note: One copy of this document to be retained by the technician and one copy to be placed on the technician's personnel file.**