

The F Gas Regulation and its Impact on the MAC Aftermarket



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European
MAC Industry

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Challenge

- Assumption: Significant F-Gas emissions during vehicle life
- Existing vehicle park population with R134a systems until impact of alternative refrigerant use
- How to limit refrigerant emissions in workshops and the role of the F- Gas regulation regarding training and certification
- Handling of cars with abnormal leakage rates

Europe's F-gas Legislation

- On training and certification the F-Gas Regulation and the Directive on emissions from automotive a/c systems propose:

Regulation:

Article 4:

- Proper Recovery by certified personnel ... to ensure recycling, reclamation, or destruction
- F-Gases contained in other products including mobile equipment...shall, to the extent that it is technically feasible and does not entail disproportionate cost, be recovered by appropriately qualified personnel...

Europe's F-gas Legislation

Article 5:

- ...the Commission shall establish...minimum requirements and the conditions for mutual recognition in respect of training programs for the relevant personnel...
- ...Member States shall establish or adapt their own training and certification requirements and...shall notify the Commission..
- The operator...shall ensure that the relevant personnel have obtained the necessary certification...which implies appropriate knowledge...as well as competence in emission prevention and recovery...
- ...companies...shall only take delivery of F gases where the relevant personnel hold the certificates mentioned...

F-Gas Directive: Training and Certification

Directive

Article 6 Retrofitting and Refilling:

Service providers offering service and repair for air conditioning systems shall not fill such equipment with F-gases if an abnormal amount of the refrigerant has leaked from the system, until the necessary repair has been completed.

Implementation Phase

- Currently EU Commission performs study on minimum qualifications for personnel responsible for recovery in garages: ICF Consultancy
- Discussion partners: organizations from SAC and MAC industry, MACP Europe, governmental organizations
- Member states have obligation of implementation. Harmonization among states of high importance

MAC Service Aftermarket: Players

- OE Car Dealers
- Independent Service Workshop (gas & go)
- Franchised Service Workshop
- Independent A/C Specialist Workshop
- Niche Market Service Shops for Agricultural, Heavy Duty etc.

MAC Service Market: Service Industry

- Vehicle Dealers:
 - Good diagnostic tools and data base
 - Sufficient know-how + experience
 - Well equipped
- MAC Specialists:
 - Average OE info access
 - Excellent know-how & all makes experience
 - Well equipped
- MAC Service Shop incl. franchise:
 - Basic equipment
 - Basic access to OE data
 - Sometimes insufficient know-how and practice
 - Focus on maintenance only

MAC Service Aftermarket: Increasingly Complex Workshop Environment

- High diversity of systems & models (100-150)
- Systems embedded in electronic networks
- Access vehicle data expensive, not 100% accessible, outdated
- Seasonal pressure, customer behaviour
- Limited training programmes
- Spare Part Identification and Quality of Components – Certification?
- Field Hose Assemblies and New Technology

MAC Service Market: Emissions

- Unprofessional or no recovery
- Low-quality and/or uncalibrated service equipment
- Leakages: traceable and non-traceable
- Symptomatic repairs creating repeat leakages (example: compressor)
- Low quality service work

F-Gas Regulation & Leakage Reduction

Leakage source	Efficiency F-Gas Prop.
Unprofessional or no recovery	X
Low quality and/or uncalibrated equipment	0
Traceable standard leakages	X
“Disguised” leakages	0
Low quality service work	0
Symptom repair	0

Improvement Targets

- Standards for MAC service equipment
- Code of practice for MAC service
- EU-Regulation Level certificate + voluntary industry certificate for professional vehicle a/c technicians
- Publicity campaign to consumers
- Apply IMAC technology improvements and service related leakage rate reduction proposals

Introduction MACP in short

- International MAC aftermarket org.
- European
- Members: manufacturers, distributors, service shops
- Not-for-profit
- Foundation: March 2005 Brussels
- Goal: Improving levels in workshops, saving vehicle a/c know-how

MACP: Coming to higher levels through...

- Certification
- Information exchange
- Code of practice
- Incentives for certified shops
- Consultancy activities

MACP Mastertech Certification

- 3 target groups: service shops, technicians, training institutes
- European infrastructure
- Open to free aftermarket and OE-dealer organisations
- Periodic Certification Renewal
- After certification: consumer feedback

Importance of Certification

- 2005 New study on 30 new cars: 7-14 grams/per year
- I-MAC 2005: service leaks up to 27 gr/year excl. End-of-Life emissions
- No confirmed statistics and research on origin of leakages

CO2 Systems and Service

- Not 100% finalised yet
- No recovery needed: true?
- Oil leakages due to vented CO2 has environmental aspects and service implications
- To be solved: Leak test in CO2 loaded environments
- High pressure systems
- Higher complexity for diagnostics

MACP's Position

- CO2 certification required (sensitivity of the system, environment, consumer, workshop safety)
- CO2 parts should be positioned at service friendly spots
- Information freely available to professional technicians

Conclusions

- F-gas proposal only covers part of a/c service related leakages
- Professional Service Specialist Certification Required
- Equipment in workshops requires attention
- R134a systems will be present for many years and service improvements are in the common interest
- The aftermarket induced leakage problems can be addressed and reduced
- Vehicle makers should recognize independent aftermarket

Thank you!

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Mobile Air Conditioning Partners