

Basics of Automotive A/C-Systems with R134a

Course Schedule

1st day

08:45	N. N.	Hand-over of course documents
09:00	N. N.	Welcome, general remarks
09:30	N. N.	Structure and operational principles of automotive A/C-Systems
10:30	coffee break	
10:50	N. N.	Structure and operational principles of automotive A/C-Systems, continued
12:15	lunch break	
13:15	N. N.	Superheat, subcooling
14:45	coffee break	
15:05	N. N.	Introduction to the lg p, h-diagram
16:30	end of first day	

2nd day

08:00	N. N.	Discussion of supplementary exercises						
subseq.	N. N.	Expansion devices for automotive A/C-Systems						
10:00	coffee break							
10:20	N. N.	Expansion devices for automotive A/C-Systems, System design						
11:15	N. N.	Lubricants for compressors in automotive A/C-Systems (Requirements, characteristics, material compatibility)						
12:15	lunch break							
13:15		<table border="0"> <tr> <td><i>Lab exercise group 1</i></td> <td><i>Lab exercise group 2</i></td> </tr> <tr> <td>N. N.</td> <td>N. N.</td> </tr> <tr> <td>Installation of an A/C-System</td> <td>Dynamics of the refrigerant cycle (block valve)</td> </tr> </table>	<i>Lab exercise group 1</i>	<i>Lab exercise group 2</i>	N. N.	N. N.	Installation of an A/C-System	Dynamics of the refrigerant cycle (block valve)
<i>Lab exercise group 1</i>	<i>Lab exercise group 2</i>							
N. N.	N. N.							
Installation of an A/C-System	Dynamics of the refrigerant cycle (block valve)							
	20 min. coffee break ca. 14:45 o'clock							
16:45	end of second day							

3rd day

08:00	N. N.	Discussion of supplementary exercises						
subseq.	N. N.	Heat exchangers for automotive A/C-Systems						
10:15	coffee break							
10:35	N. N.	Heat exchangers for automotive A/C-Systems, continued						
11:00	N. N.	Leak testing, minimizing refrigerant emissions						
12:15	lunch break							
13:15		<table border="0"> <tr> <td><i>Lab exercise group 2</i></td> <td><i>Lab exercise group 1</i></td> </tr> <tr> <td>N. N.</td> <td>N. N.</td> </tr> <tr> <td>Installation of an A/C-System</td> <td>Dynamics of the refrigerant cycle (block valve)</td> </tr> </table>	<i>Lab exercise group 2</i>	<i>Lab exercise group 1</i>	N. N.	N. N.	Installation of an A/C-System	Dynamics of the refrigerant cycle (block valve)
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N. N.	N. N.							
Installation of an A/C-System	Dynamics of the refrigerant cycle (block valve)							
	20 min. coffee break ca. 14:45 o'clock							
16:45	end of third day							

4th day

08:00	N. N.	Discussion of supplementary exercises						
subseq.	N. N.	Compressors for automotive A/C-Systems						
10:00	coffee break							
10:20	N. N.	Compressors for automotive A/C-Systems, continued						
11:15	N. N.	Flexible hoses						
12:15	lunch break							
13:15		<table border="0"> <tr> <td>Lab exercise group 1</td> <td>Lab exercise group 2</td> </tr> <tr> <td>N. N.</td> <td>N. N.</td> </tr> <tr> <td>Condenser with integrated sub cooler</td> <td>Dynamics of the refrigerant cycle (Orifice)</td> </tr> </table>	Lab exercise group 1	Lab exercise group 2	N. N.	N. N.	Condenser with integrated sub cooler	Dynamics of the refrigerant cycle (Orifice)
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Condenser with integrated sub cooler	Dynamics of the refrigerant cycle (Orifice)							
14:45	coffee break							
15:00		<table border="0"> <tr> <td>Lab exercise group 2</td> <td>Lab exercise group 1</td> </tr> <tr> <td>N. N.</td> <td>N. N.</td> </tr> <tr> <td>Condenser with integrated sub cooler</td> <td>Dynamics of the refrigerant cycle (Orifice)</td> </tr> </table>	Lab exercise group 2	Lab exercise group 1	N. N.	N. N.	Condenser with integrated sub cooler	Dynamics of the refrigerant cycle (Orifice)
Lab exercise group 2	Lab exercise group 1							
N. N.	N. N.							
Condenser with integrated sub cooler	Dynamics of the refrigerant cycle (Orifice)							
16:30	N. N.	Discussion of further questions						
16:45	end of training course							