



## TIPS AND TRICKS

### Climate Control

For  
Climate Control

#### Climate Control: Symptoms and points to check

##### Air enters, but not cold

Possible cause	Check
<b>Incorrect amount of gas in the circuit</b>	Check quantity of gas in circuit. Recover with Clim Fill station and analyze possible losses
<b>Lack of performance in the circuit with correct gas quantity</b>	<ul style="list-style-type: none"> <li>• Check the pressures. HP between 10/14 bars and LP between 2/4 bars for R134a.</li> <li>• No pressures: check compressor, switch / trinary, expansion valve / calibrated orifice</li> <li>• At incorrect pressures, check for possible pre-expansions (HP) , saturated drier (HP), open / closed expansion valve (HP &amp; LP)</li> </ul> <p><b>ATTENTION</b></p> <ul style="list-style-type: none"> <li>• The presence of non-condensables / humidity in compressors controlled by electro valve will not work properly</li> <li>• The absence of oil in the circuit will generate lack of lubrication and overheating, generating cuts in the performance of the compressor.</li> </ul>
<b>The gas does not change of state (always gaseous)</b>	<ul style="list-style-type: none"> <li>• Check the functionality of the condenser, obstructions, shocks (pre expansions)</li> <li>• Check that electric fans works at each speed</li> <li>• The presence of non-condensables / humidity will change the capacity of the gas to change the state</li> </ul>
<b>The gas does not change of state (always liquid)</b>	<ul style="list-style-type: none"> <li>• Check evaporator functionality, obstructions, dirt in the ducts</li> <li>• Check expansion valve (open)</li> <li>• The presence of non-condensables / humidity will change the capacity of the gas to change the state</li> </ul>
<b>Failure in grids (closed)</b>	In the HVAC by air weight check that the grids have not been closed due to shaft / pinion failure



Cold air flow does not enter in cabin		
Possible cause	Check	Solution
<b>Cabin air filter blocked</b>	Check cabin air filter status	Replace cabin air filter
<b>Blower electrical resistance</b>	Check all speeds of the blower. Check the electric installation (wiring)	<ul style="list-style-type: none"> <li>Replace electronic resistance and cabin air filter.</li> </ul> Remember: the failure could come due cabin air filter blocked
<b>Blower</b>	Test quantity of entering air Only one grid opened, maximum power, maximum cold, front outlet	<ul style="list-style-type: none"> <li>Replace blower and cabin air filter</li> </ul> Remember: the failure could come due cabin air filter blocked
<b>Grids failures (opened/closed)</b>	Test each grid Only one grid opened, maximum power, maximum cold, front outlet	<ul style="list-style-type: none"> <li>Replace grids actuator or grids depends the need</li> </ul> Common failure is problems in grid axle
<b>Grids blocked</b>	Remove the front grids cover and check for the presence of elements that may obstruct the air intake (leaves, dirt) Check the cabin air filter	<ul style="list-style-type: none"> <li>Remove and clean the air flow inlet</li> <li>Replace the cabin air filter</li> </ul>

## Climate Control: General recommendations in each A/C loop repair

Recommendations for each repair	Why	If I don't, what happens?
<b>Every time you open the circuit for any repair, replace the dryer or accumulator</b>	Every time the circuit is opened, humidity always enters, which will saturate the dryer and will make the system lose performance, presence of rust the compressor won't work. Gas will loss properties to change of state	<ul style="list-style-type: none"> <li>Dryer/accumulator saturation.</li> <li>Circuit obstruction.</li> <li>Compressor breakage</li> </ul>
<b>Every time you make a gas refill remember to include in the circuit the quantity and type of specific oil for compressor</b>	Remember, quantity of gas in the circuit by type of engine. Four oil viscosities each specific for each compressor technology	<ul style="list-style-type: none"> <li>Compressor breakage</li> <li>Exchangers breakage (condenser (evaporator)</li> </ul>
<b>Every time you make a gas refill check the pressures (HP&amp;LP) and the cold inlet on the grid at 8°C</b>	Having the correct quantity of gas does not ensure a correct work of the circuit Only the pressures will give us the performance of the system	<ul style="list-style-type: none"> <li>Lack of cold and second repairs</li> </ul>
<b>Grids check</b>	Test the air intake in all grids in all positions after the intervention	<ul style="list-style-type: none"> <li>Air outlet through unselected grids</li> <li>Lack of air flow</li> <li>Second repairs</li> </ul>
<b>Replace Cabin Air Filter</b>	Ensure the air flow inside the cabin	<ul style="list-style-type: none"> <li>Without air flow</li> <li>Blower breakage</li> </ul>