Causes of noise

Hints for fault diagnosis of noises and compressor exchange

The following notes should be observed for fault diagnosis (noise sources) and before every compressor exchange:

- Check all the retaining bails and mounting points for cracks, missing bolts or nuts. Any vibration can cause excessive compressor noise. Lever gently against the brackets and mounting points with a tyre lever for example, to see if the noise changes pitch. If it does, the noise is not caused by the compressor.

- Check the hoses to see if they are transferring the engine vibration back to the passenger compartment, causing the noise. Grip the hoses tightly in your hand to see if the noise changes.

- Check all drive belts, idlers, pulleys and tensioners for exessive movement, ease of rotation and alignment. The extra movement can be caused by worn parts, which create the excessive noise.

- Excessive high pressure can cause abnormal compressor noise. If the high pressure service port is located after a blockage, the real pressure can be much greater as shown on the gauge. Checking the temperature of the condenser will help diagnose the problem.

- An overcharge of refrigerant, or charging with contaminated refrigerant will cause excessivley high pressure, causing compressor noises. Refrigerant that contains excessive levels of non-condensable gases (air) will also cause noise.

- Insufficient airflow across the condenser will cause excessive high pressure, which might cause compressor noise. If air is inadequately fed to the condenser, the refrigerant cannot condense sufficiently and the high pressure rises excessively. This can cause abnormal noises. Be sure that the fan/fans are transporting enough air to the condenser. Check also the condenser and radiator fins for any fouling.

- Often noises can be caused by dirty expansion valves or orifice tubes often. This can arise from pollutants in the form of, e.g. metal particles. Through this, the refrigerant flow is reduced and this leads to an increase of the high pressure. Faulty expansion valves can produce various clatter-, whistle- or roaring noises for example. These can be also readily noticed inside the car.