

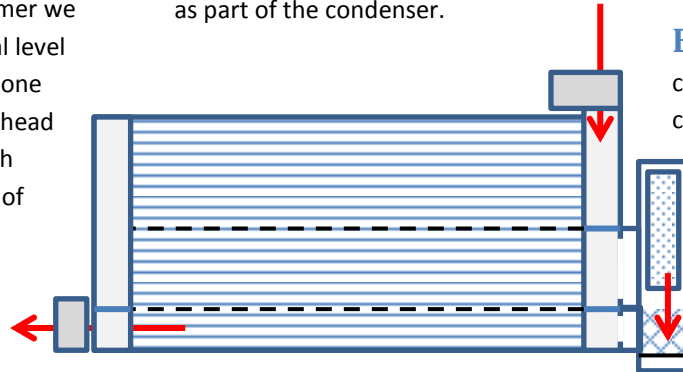
Drier, Drier, System on Fire

In this issue of A/C Tech Talk we will be getting back to basics and discussing head pressure problems and receiver drier faults. Over the many months of this hot summer we have had a higher than normal level of “come backs” and many phone calls related to unexplainable head pressure problems. After much research we found that many of these reported high pressure problems have been associated with simply not replacing the receiver drier or incorrectly servicing the newer style desiccant sock systems integrated into the condenser.

Head pressure problems are typically caused by either a blockage in the system or cooling inefficiencies. It is crucial that the receiver drier be replaced after major component changes and at every major AC service as it is solely responsible for filtering debris from the system and can easily become blocked. This considered, high pressure problems are expected when the drier has not been changed, and this is why warranty terms by all suppliers are voided if it is not. So why do some new systems still show high pressure problems when the service has been performed correctly?

Looking at the new style of ‘serviceable’ receiver drier systems, we have identified that many head pressure problems are due to incorrect replacement of desiccant socks and/or cleaning of the filtering screen. The reason I refer to this as a serviceable receiver drier is that in comparison to a traditional system where you simply replace the filter drier canister (leaving no chance for error) you individually remove,

replace and repair the components. With the newer style ‘serviceable’ system, the filter and drier come apart separately and are integrated as part of the condenser.



As you can see in the picture above, refrigerant moves through the parallel flow condenser and into the canister where it flows past the desiccant sock (drier) and finally through the filter and out the final run of the condenser. Looking at the real life cross section below, you can see how separate the desiccant sock and filter are.



Error 1: The most common error causing high side pressure is when the desiccant sock is replaced with one that is too large, causing a restriction in the system. The Sock is not the ‘filter’ part of the filter drier and as such it does not have to be tight in the canister. Next time you remove a desiccant sock from its canister observe how it is a loose fit (also pictured above), this is how the new sock should fit. Never force a

larger sock into the canister as in most situations it will cause a restriction in the flow of refrigerant resulting in head pressure problems.

Error 2: The Second most common high pressure problem is caused by partially blocked filter screens. Do not mistake the drier bag as the filter, this is not the case. Many filters are attached to the bung of the serviceable drier and when removed go unnoticed, but this is one of the most crucial parts of the system.

Any debris from the system is stopped here, so the filter must be well cleaned to ensure there are no blockages that commonly cause head pressure.

It is important to note that the above two errors will not always result in high head pressures under normal testing conditions; instead they will cause slightly abnormal variances of about 30-50psi on the high side. Although this might be thought of as acceptable, we must remember that once the car is subject to high heat loads in traffic on a hot day the pressures can rise to a level that will cause damage to the compressor and other components.

A standard desiccant sock will only cost you on average \$5. This is cheap insurance against the possibility of an angry customer and costly come back! Do it right, do it once.

These Tech Talks are bought to you by CoolCompressors and MrCool Automotive. Written by Ben Perry.