



Subject: <b>A/C REFRIGERANT HOSE DE-LAMINATION</b>	TSB #: <b>34 2-10</b>					
	Date: 3/10					
Initial Once Read:						

I thought it maybe worthwhile passing on some real case diagnostic issues as seen in the field by two (2) Natrad stores.

The first issue was on the Honda CRV 01-07 model range. This was diagnosed by Paul Stirton of Motoradco, Granville, NSW.

The issue was that the Honda CRV previously had 3 compressors installed that had consequently "blown up" the last compressor was only 2 weeks after installation.

Paul was a second party to this as another shop had completed the repairs.

As part of Pauls repair the compressor, condenser, FDR, TXV were replaced along with a full system flush. The end result was a face vent temperature of 4.8C on a 34c day with a High side pressure of 1500kPa and a low pressure of 200-240kPa all good. The thing that caught Pauls eye was that the High pressure needle fluctuated very rapidly between 1500 to 1800 kpa.

He also noticed that dye was sweating through a section of the discharge hose which also seems slightly swelled. On removing and inspecting the discharge hose "de-lamination" of the inner nylon lining was evident. At higher compressor rpm this would cause a restriction or a blockage in the discharge hose and starve the compressor of both refrigerant and oil, causing internal mechanical damage to the compressor.

The discharge hose was replaced, this stopped the high side needle flickering and the compressor operation was okay. The moral to the story is that if a Honda CRV comes into your workshop with a destroyed compressor, check the discharge hose or just replace it as this will reduce the chance of system pressure issues later on causing internal compressor damage.



The second (2) issue was with a 80 series Toyota land cruiser petrol with poor A/C system performance. This diagnosis was performed by Richard Jansen of Supa Trik radiators, Dandenong, Victoria.

Pressures at idle were the low side was low but above Zero and the high side was low with slight cooling at the face vent. Above idle with engine speed increase the Low side pressure reduced to zero and the high side pressure also reduced with no cooling at the face vent. Richard had replaced the TXV previously with no change so it appeared that the evaporator could have had a restriction. The evaporator was replaced but the original issue still remained.

The only other component on the Low side that could have contributed to the issue was the Suction hose. This was removed and inspected on the outside it appeared to be okay it was only when Richard bent the hoses that a "crunching" noise was heard.

The Suction hose was cut open which revealed that the inner nylon lining had de-laminated from the hose which caused a restriction or blockage especially above idle speed when the compressor is turning faster and pulling more refrigerant from the evaporator.

In both these cases the refrigerant hoses were routed closely to the exhaust manifold and the assumption is that over time the exhaust heat had affected the hose and lead to the internal hose de-lamination.

Consider this issue when diagnosing, as your pressure gauges could indicate the same pressure readings as a blocked evaporator or TXV. Check the routing of the High and Low side hoses to see if they run close to the exhaust manifold, secure if necessary.

Ensure that as part of you're A/C system inspection that all the A/C hose clamps are fitted to prevent any hoses or tubes from being too close to the exhaust manifold or other engine ancillary components.



Toyota land cruiser suction hose nylon inner lining de-laminated from the inner rubber section.