

# A c term paper

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HOOF-iffy has the acceptable stability and the compatibility properties with HOFF-AAA. It is also mildly flammable but not as flammable as previous refrigerant. This is why company's such as Volkswagen who has refused to use the new refrigerant. This new product also has a low toxicity level.

Comparing the two refrigerants of HOFF-AAA and HOOF-iffy the AAA is a hydro fluorocarbon while the iffy is a hydrofluoric-olefin refrigerant. HOFF refrigerants are have one single bong while the HOOF refrigerant is bonded with at least one double bond between the carbon atoms.

HOOF-iffy has the same physical properties as HOFF-AAA therefore iffy may be used in current AAA systems without making many modifications to the system. According to DuPont iffy has the potential to be retrofitted to the existing HOFF-AAA systems. The only problem with this that it can cause is that HOOF-iffy is said to be tens times more expensive then the existing HOFF-AAA which then brings the idea of shops recharging the system with " HOOF-iffy" but actually refilling it with the cheaper HOFF-AAA since they will be so similar. Studies have proved that HOOF-iffy has improved performance beating the HOFF-AAA.

HOOF-iffy will have a lower total contribution to climate change. It has a more environmentally sustainable refrigerant for automobiles that has a 99. 7% better GAP score than the currently used refrigerants, test have also proved that it will lead to better fuel efficiency. Thus also leading it to be more efficient in warmer climates rather than using CO. Performance Test First begin doing your test with selecting your temperature knob to cold then your selector to Max LLC. This will now recalculate the cabin air without letting outside air thus resulting in colder temperature.

Then turn blower switch to full blast. Now start engine, put pressure on gas pedal until reaching two thousand RPM. Now make sure to close all windows and doors. The next step would be to place an auxiliary fan in front of the car facing the condenser. Allow the system to stabilize which will take approximately five to ten minutes. Now begin to place a thermometer in the register closet to the evaporator and check the temperature. When you read the temperature it should be around thirty-five to forty degrees Fahrenheit with an ambient air temperature of eighty degrees Fahrenheit.

At this time if you have a set of gauges, this would be a good time to put them on to read your pressures and see when the compressor is cycling or cycling at all in some cases. If outlet temperature is high, check compressor cycling time. After this process now first check the cycling clutch switch operation. Second and final step for this process, is if clutch is energize continuously, discharge the system and check for missing orifice tube, plugged inlet screen, or any other restrictions in the suction line. Diagnosis using Manifold Gauge Test 1 . ) Low side should read 30 SSI and high side should read 200 SSI.

This is considered a normal pressurized system. 2. ) Low side reads 12 SSI and high side reads 200 SSI. When the gauges read this, this will cause the clutch to cycle more often thus resulting in the clutch having to be bypassed to be diagnosed. Your diagnosis should conclude with a possible partial restriction in the metering device, screen clogged, or moisture in the system or a possible kinked hose on the low pressure side. You should visually inspect to see if there faulty blower or a faulty cycling switch. Also check to

see if the evaporator so dirty or the filter and to see if it is iced. . ) Low side will read very low around Pepsi. High side will read normal at first but then drop. Your diagnosis will conclude that you are low on refrigerant. First perform a leak test to see if that is why your refrigerant is so low. Then check and see if there is a total restriction on the low side. Another possibility is the TXT being stuck closed. If so warm the sensing bulb and check pressure, sensing bulb may have lost its charge. 4. ) Low side will read low. High side will read high. This will mean there is restriction in the discharge line. 5. ) Low side will read high or equalized.

High side will read low or equalized. If equalized check hand valves to make sure they are open all the way. Possible electrical problem with the clutch not engaging. Also check fuses, clutch coil, wires, relay, switches, and compressor to see if there are any defects. Check to see if the clutch is engaged, valves are open and rings, belt, bearings and seal are in good working condition. 6. ) Low side will read high. High side will read normal. In this case the TXT will be stuck open. Sensing bulb may not be insulated or loose. Also could have a flooded evaporator. 7. ) Low side will read high. High side will read high.

This will result in a overcharged system or air contamination. Also a oil overcharge or dye overcharge. Also check to see if the condenser is blocked. Check for dirt, plastic bags, bent fins. Could need to be cleaned and replace broken fans if need be. Now check the electrical side such as the fans, clutch, and check to see if the engine is overheating because of poor air flow. Suggests that could be caused from the timing being off or

contaminated refrigerant. Leak Detection To first do leak detection you will need to get your system to at least Pepsi for a minimum. Second you must I. D your refrigerant.

One detection method is a Halide torch. This will only work on Cuff's and Hooch's. You will need propane and a search hose. Next heat your reactor plate until it is red hot. The color of the flame will change once it finds a leak depending on the size of the leak. The second method of doing leak detection is the Soap Solution. Use a premixed soap solution mixed with water then spray on Joints and suspected areas of possible leaks, now look for leaks. A third method is the fluorescent dye. Take dye and inject into system while it is in vacuum. Let the dye cycle through the system for three to four days then bring back in to check for leaks.

This method does not harm the systems performance, once back not the shop check system for leaks with a black light. The dye comes in two colors which are yellow and red. The drawback of using this method is the dye stains and will never come out. The fourth method of leak detection is using an electronic leak detector. A new and old type of these systems. The older year detects the chlorine in R-12 and the newer models can detect both. They are self-calibrating and can self I. D leak rates as low as . Jazz per year. Once you hear a beep that's when it has found a leak. You never want to touch the leak detector to the refrigerant.