

SHIFT TO HFO 1234-YF CONTINUES

In the Summer 2010-11 edition, we wrote about the coming change to the HFO 1234-yf refrigerant, and what that would mean for workshop owners.

IN THIS ARTICLE, we included a warning that it was likely the introduction would not go too smoothly, largely due to supply issues.

That has, unfortunately, turned out to be the case. Though the new refrigerant is required on all new cars manufactured in Europe, the manufacturers have juggled their production schedules so much that they have yet to introduce a single model

using the new gas, and it's unlikely that will change until quite late in 2011.

Commercial production of the gas is likely to start sometime late in this year, when larger-scale production in China at a jointly owned Honeywell-DuPont plant comes online. Even then, the cost of the gas is likely to be very high, and remain so through 2012. In the background are a number of legal manoeuvres by European chemical manufacturers who believe the patents held on the gas are invalid. Even given increased competition in the future, the cost of the gas is likely to remain far higher than the R134a it replaces.

Nonetheless, the new refrigerant will help carmakers to reach the average carbon-dioxide per mile emissions required for their production fleet.

On the upside, most of the new cooling units will use much less refrigerant than in the past, in an effort to control environmental damage. Systems designed to use as little as 400ml are in

the works, and most systems will use less than 600ml. Additionally, much work has gone into making these systems as pressure-tight as possible, partly for environmental reasons, and partly because the new gas is mildly flammable. These changes will help to keep the cost of replacement refrigerant down.

As it is a less efficient refrigerant than R134a, changes to refrigerant systems will be required. Carmakers will need to install internal heat exchangers (IHxs)—units that transfer heat from liquid refrigerant in the high-pressure line to the cooler refrigerant gas in the low-pressure (suction) line to the compressor.

The slow speed of adoption is a bit of a good new/bad news story for workshop managers. While there is more time to get prepared, it also makes the timing of an investment in new equipment even less certain. It certainly increases the appeal of hybrid systems, capable of handling and detecting both gases.

KONFORT 720R

JAVAC's latest innovation, the Konfort 700R Series, will allow workshops to purchase a professional service station that will give them the capability to easily deal with both refrigerants without the excessive cost of ownership. The Konfort 720R model can be purchased to operate with either R134a or the new R1234yf. Using an optional retro-fittable kit, it is easy to convert a R134a Konfort to a R1234yf Konfort.

The Konfort 720R 2 gas ready unit comes with automatic functions for the recovery and recycling of refrigerant and the recovery of oil. The quantities of oil and UV tracer are controlled by an automatic valve, leaving the operator just a few simple manual operations.



NEUTRONICS ULTIMA ID

US-based Neutronics Refrigerant Analysis has introduced the Ultima ID, an advanced system for identifying the composition of refrigerant gases in a mobile air-conditioning system. It uses Neutronics' leading edge infrared refrigerant gas analysis technology and exclusive "Blend ID" software designed to identify refrigerants such as R12, R134a, R22, HC and Air.

The device can also be upgraded in its software so that it can identify the R-1234yf refrigerant as well. Ultima ID is ergonomically designed, simple to use, and has an extra large, easy to read LCD display. It features an optional built-in printer that creates a test receipt so a shop can easily bill the customer and get paid for its work. An optional internal battery also makes the Ultima ID exceptionally portable, so it can be used anywhere.



KONFORT 780R BI GAS

This model represents the top of the 700R series range. The 780R version features two tanks and two separate circuits for recovery, recycling and refilling. This means it can be used with two refrigerants (the "old" R134a and the "new" R1234yf) simultaneously.

It includes a special process for flushing of the hydraulic circuits of the entire machine during the change of refrigerant. With this service station, the operator can carry out maintenance on vehicles with air-conditioning systems using different refrigerants; the automatic cleaning process takes approximately one minute to switch from one gas to another.

The 780R also has a colour TFT display, software database management and two 15kg gas reservoirs.

