



# Aftersales Field Action Bulletin

Document ID: 8-23-GL-00-003

Bulletin Title: Battery Chiller O-ring replacement & AC Compressor oil addition

Released by: Aftersales Operations

Date of issue: EN Version 1.0 / 06 May 2023

Applies to: VF Aftersales, Dealers and Showrooms

## CHANGE HISTORY

| Version | Status | Effective Date | Handled by            | Approved by     | Comments                |
|---------|--------|----------------|-----------------------|-----------------|-------------------------|
| 1.0     | Final  | 06 May 2023    | Satishkumar Rajagopal | Nguyễn Phi Hùng | Initial English Release |

### 1.0) Overview

This technical bulletin describes the procedure, which VinFast dealerships and showrooms must follow to update the affected vehicles, identified within the Dealer Management System (DMS) as “Open” for field action 8-23-GL-00-003.

This is a **Customer Satisfaction Quality** field action. VinFast will **send** customer communications (C-App/SMS/email/telephone call) relating to this field action. Dealerships and Showrooms shall apply this update to applicable vehicles (identified within DMS), when the applicable vehicle is presented via customer communication, regular service and / or an unrelated repair.

| Action           | Field Action title                 | Model     | Market                                                                                           |
|------------------|------------------------------------|-----------|--------------------------------------------------------------------------------------------------|
| Field Action - 1 | Battery Chiller O-ring replacement | VF8 & VF9 | <ul style="list-style-type: none"><li>VF8 US</li><li>VF8 Viet Nam</li><li>VF9 Viet Nam</li></ul> |
| Field Action - 2 | AC Compressor oil addition         | VF8 & VF9 | <ul style="list-style-type: none"><li>VF8 US</li><li>VF9 Viet Nam</li></ul>                      |

## 2.0) Programs and Model Years Impacted

The following programs and model years are impacted by this bulletin:

*The following VIN's in table impacted by this field action 8-23-GL-00-003.*

| Bulletin Applicable                 | Program | Model Year Start | Model Year End | VIN Range                         | Affected VIN | Affected Markets |
|-------------------------------------|---------|------------------|----------------|-----------------------------------|--------------|------------------|
| Field Action - 1 & Field Action - 2 | VF8_US  | MY2023           | MY2023         | <a href="#">VIN list attached</a> | 999          | North America    |
| Field Action - 1                    | VF8_VN  | MY2022           | MY2023         | <a href="#">VIN list attached</a> | 4349         | Viet Nam         |
| Field Action - 1 & Field Action - 2 | VF9_VN  | MY2023           | MY2023         | <a href="#">VIN list attached</a> | 93           | Viet Nam         |

**Note:**

- Several vehicles are already in customer ownership, others still at dealer/showroom location/Port.
- For vehicles at dealer/showroom location/Port, immediate repair is required prior to customer hand-over.
- Aftersales Operations team will support affected dealers/showrooms/Port.

## 3.0) Terms, Definitions & Abbreviations

- OBC – On Board Charger
- IGBT – Insulated-gate bipolar transistor
- AC – Air Conditioner
- PAG - Polyalkylene Glycol
- PVE - Polyvinyl ether

## 4.0) Issue Description

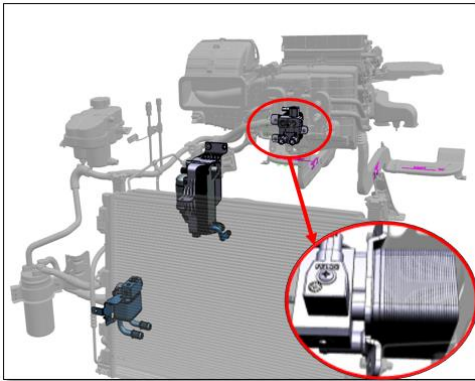
### Field Action 1: **Battery Chiller O-ring replacement**

Air conditioning system lost its cooling function inside the passenger compartment due to refrigerant leak in the CHILLER zone.

- **Model effected:** All variant VF8 & VF9
- **Part Name:** PWT30203002/06-BATT\_CHILLER [Common with All variant VF8/ VF9]

#### **Root Cause:**

The internal component O-ring sealing between the Expansion valve & Chiller is poor, which is the probable root cause for the Refrigerant leak.



**Leakage position in vehicle view - Batt Chiller**



**Leakage confirmed with Sniffer and Air bubble**



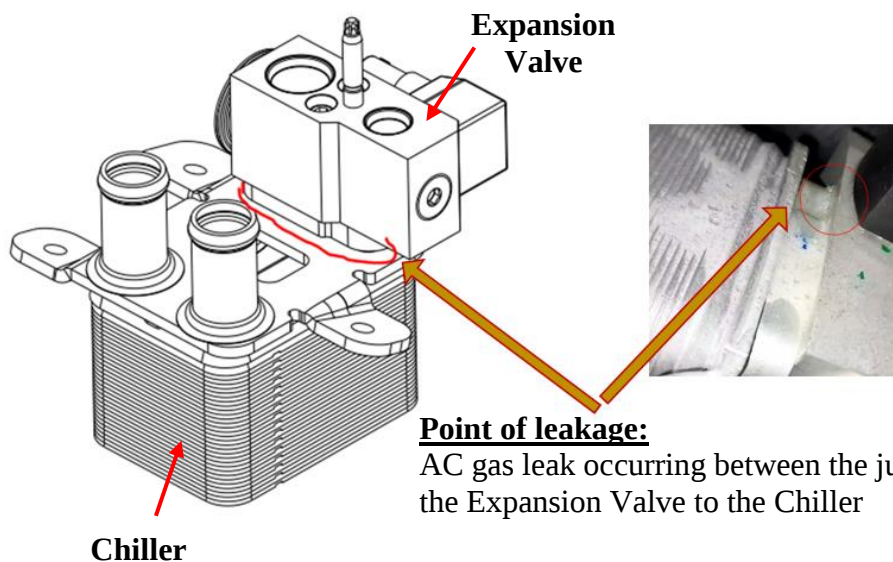
**Sniffer**



**Bubble check**

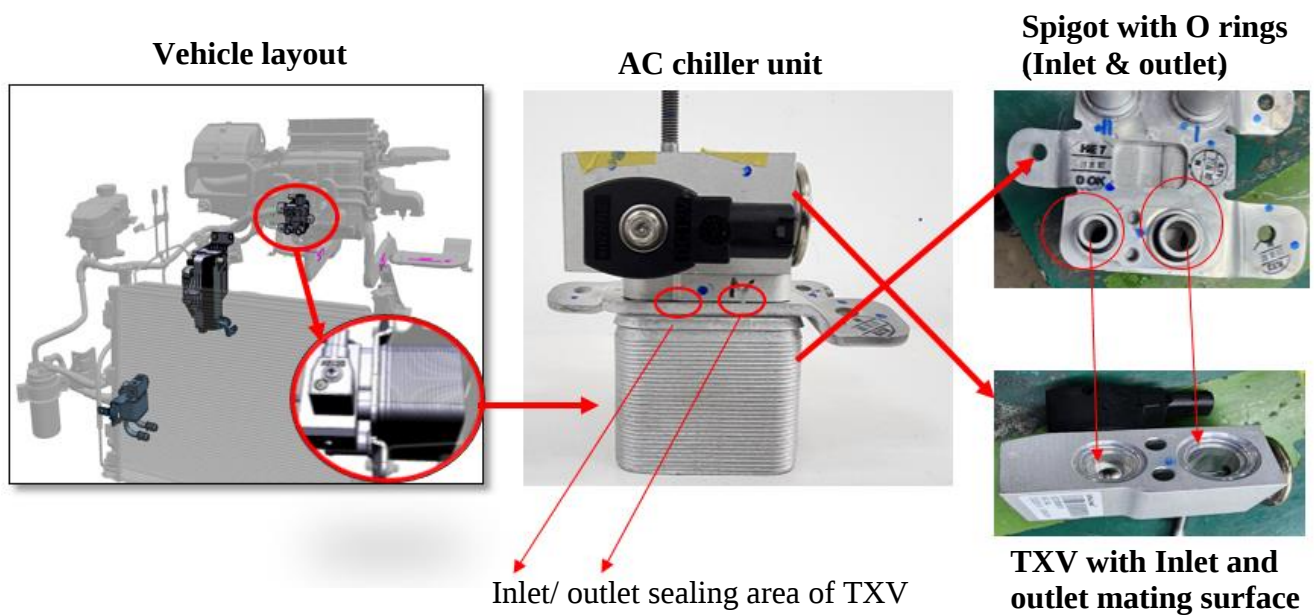
#### **Leak between Expansion Valve and Chiller**

Part Number: PWT30203002



#### **Point of leakage:**

AC gas leak occurring between the junctions of the Expansion Valve to the Chiller

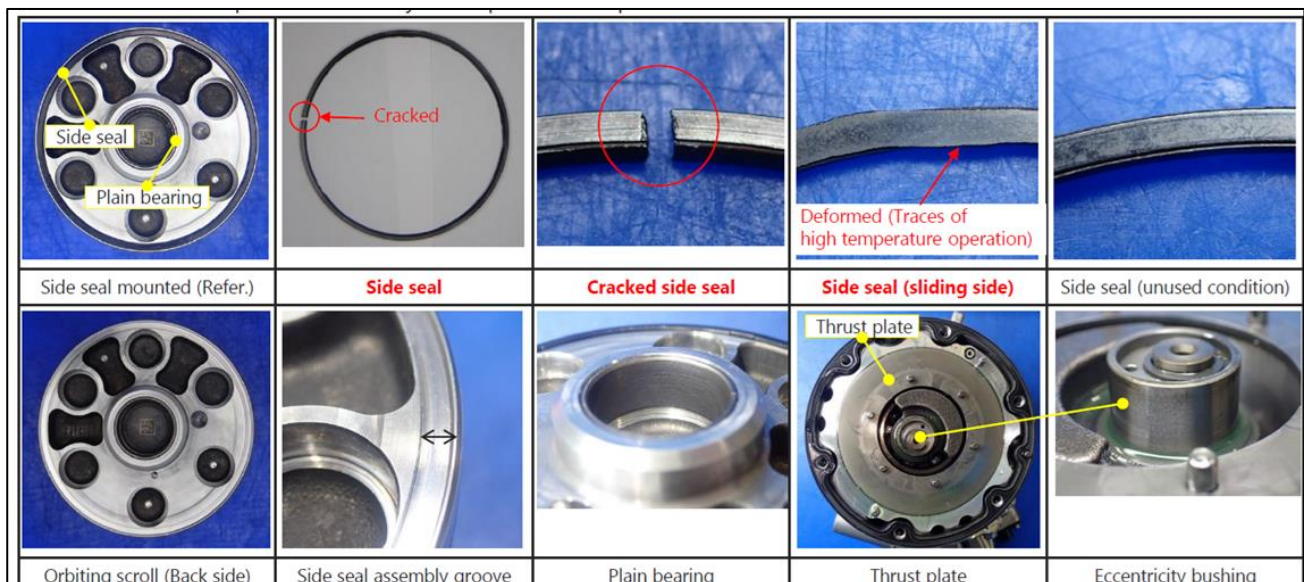


## Field Action 2: **AC Compressor oil addition**

Refrigerant system compressor oil [PAG ISO 46] capacity of **120ml +/-15ml** in the vehicle is not sufficient to maintain the temperature & pressure. Therefore, after starting the vehicle, the discharge pressure raises immediately and compressor stopped by overheat.

### Root Cause:

1. Low refrigerant flow rate & poor cooling for IGBT due to circuit block.
2. Temperature rise on all sliding parts which leads to decreased strength in side seal and gets cracked.

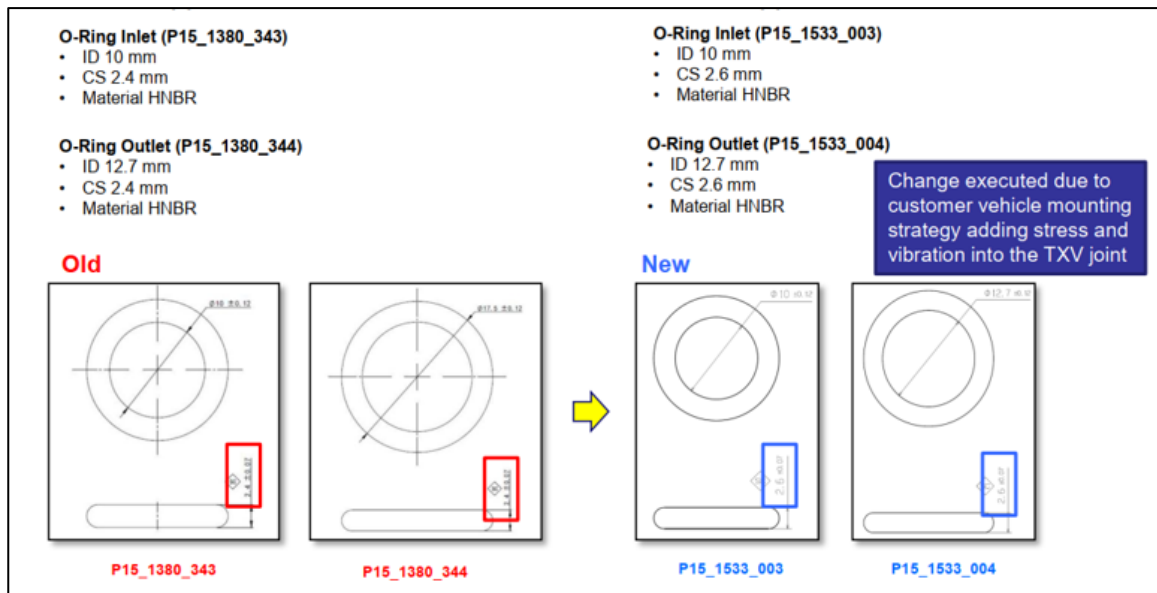


## 5.0) Solution Summary

### Field Action 1: Battery Chiller O-ring replacement

Replace new O-rings on vehicle with increased cross-sectional thickness (for both inlet and outlet).

**Important:** Ensure to use the correct Refrigerant & Refrigerant oil details as mentioned below during Recovery & Recharging.



### Field Action 2: AC Compressor oil addition

To **add 100ml of oil** to the AC compressor in additional to 120 ml of oil, which is already presented in the compressor [Total fluid capacity in compressor: 120 ml (existing) + 100 ml (add) = 220 ml].

**Important:** Ensure to use the correct Refrigerant oil details as mentioned below during Recovery & Recharging.

### Refrigerant Oil:

#### VF8\_ROW & VF9\_Viet Nam:

| Applicable for All markets:   |                    |
|-------------------------------|--------------------|
| Oil type                      | PAG ISO 46         |
| Specified type                | SP – A2            |
| VF part number                | SVC30000215        |
| Total system PAG oil capacity | 120 ml (+/- 15 ml) |

**220 ml (+/- 15ml) for  
VF8\_Row &  
VF9 Vietnam**

**VF8\_Viet Nam:**

Applicable for VN markets:

|                               |                    |
|-------------------------------|--------------------|
| Specified type                | PVE                |
| VF part number                | FLU20050003        |
| Total system PVE oil capacity | 120 ml (+/- 15 ml) |

**Refrigerant details:****VF8\_ROW:**

Refrigerant Type:

Applicable for US, EU, CA markets:

|                |                  |
|----------------|------------------|
| Refrigerant    | R1234yf          |
| VF part number | FLU30110005      |
| A/C capacity   | 575 g (+/- 20 g) |

**VF8\_Viet Nam:**

Refrigerant Type:

Applicable for VN markets:

|                |                  |
|----------------|------------------|
| Refrigerant    | R134a            |
| VF part number | FLU10006075      |
| A/C capacity   | 675 g (+/- 10 g) |

**VF9\_Viet Nam:**

Refrigerant for VN Market:

|                                 |                  |
|---------------------------------|------------------|
| Refrigerant                     | R134a            |
| VF part number                  | FLU10006075      |
| A/C capacity for VN market ECO  | 500 g (+/- 20 g) |
| A/C capacity for VN market PLUS | 975 g (+/- 20 g) |

## 6.0) Technical Instructions

Strictly follow all requirements in this document.

Location: <https://stp.vinfastauto.com>

Type: VF – BEV

Model: VF8 & VF9

### **WARNING: Refrigerant System hazard**

Failure to follow specified procedures may result in serious injury due to freezing temperatures associated with leaking refrigerant:

1. Only properly trained and authorized persons may carry out work on air conditioning systems.
2. Always use personal protective equipment (PPE).
3. Always read and understand the A/C Service Station operator manual before operating the machine.
4. Warning – At higher temperatures, R-1234yf is flammable!
5. R-1234yf is a hazardous liquid and can cause serious injury if handled incorrectly. Protective clothing must be worn, consisting of safety glasses, lint-free gloves and overalls. Do not use the A/C Service Machine in the vicinity of spilled or open containers of flammable liquids. BE AWARE OF FIRE HAZARDS.
6. Do not breathe refrigerant and lubricant vapor/mist. Exposure may cause personal injury to eyes and respiratory system. All work to be performed in a well-ventilated area. If accidental discharge occurs, ventilate the work area before recommencing work. Further safety information can be found on A/C work equipment being used, refrigerant and lubricant containers. Refer to their instruction manuals and MSDS (Material Safety Data Sheets).
7. All open A/C components must be sealed immediately. Care must be taken to make sure all A/C components are clean.
8. An Oil Balance is to be conducted on parts that are replaced. Refer to Approximate Fluid Capacities and Specifications – [1005782](#)
9. Only use VinFast specified refrigerant and the correct refrigerant oil specified for that vehicle. Vietnam market uses R-134a. US/Europe market uses R-1234yf. The Air Conditioning Service Station should only be used on VinFast vehicles with specified refrigerant. DO NOT MIX Refrigerant types such as R-134a and R1234yf. DO NOT MIX Refrigerant Oil types such as PAG Oil, PVE Oil and POE Oil. Each VinFast vehicle uses different Refrigerant Oil. VFe36 with R-1234yf (US/Europe) uses PAG Oil. For Refrigerant Oil type and specification refer to Approximate Fluid Capacities and Specifications – [1005782](#)
10. If the Air Conditioning Service Station is not solely dedicated to a VinFast Model such as VFe36, then before every service the machine must undergo an internal self-flushing of the A/C lines to prevent cross-contamination. Refer to the Operation Manual of the A/C Service Station on how to conduct the self-flushing procedure.

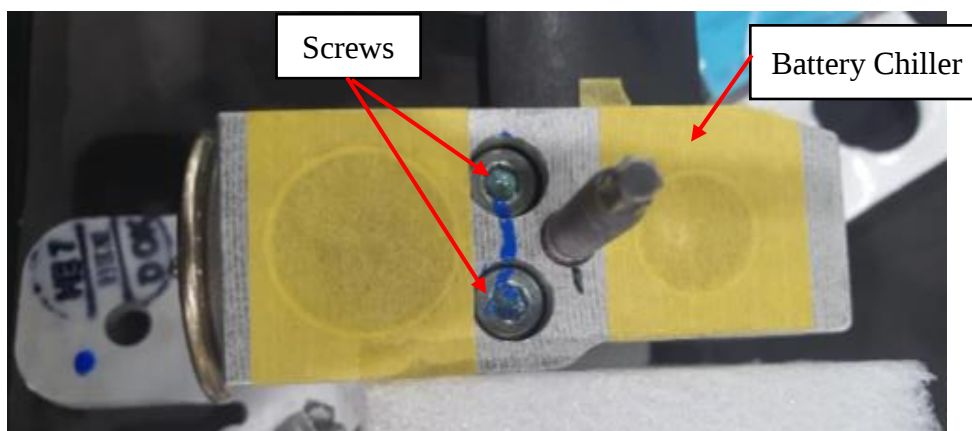
## Field Action 1: Battery Chiller O-ring replacement

### Step 1: Battery Chiller Removal instruction

- i. **VF8:** Refer to [Air Conditioning Battery Chiller Removal and Installation/Replacement – 1003754](#) for the Replacement/Installation of the part.
- ii. **VF9:** Refer to [Air Conditioning Battery Chiller Removal and Installation/Replacement – 1005603](#) for the Replacement/Installation of the part.

### Step 2: O-ring replacement

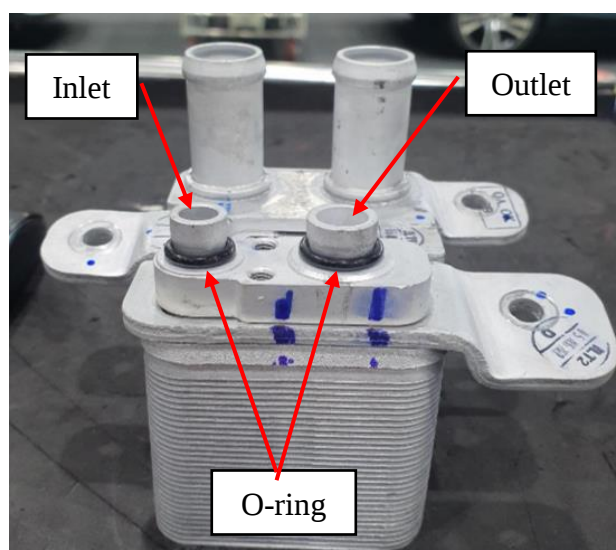
- i. Remove two hexagon screws inside the Chiller (*Torque: 5Nm*) for separating the Chiller & Expansion valve unit (as shown in below figure)



- ii. Remove two O-ring from chiller and replace with new O-rings carefully.

**Important:** Pay attention & gently fix the O-ring without any scratches/damages to the O-ring & Inlet/outlet surface. If any detected, notify the Service manager & replace the Parts.

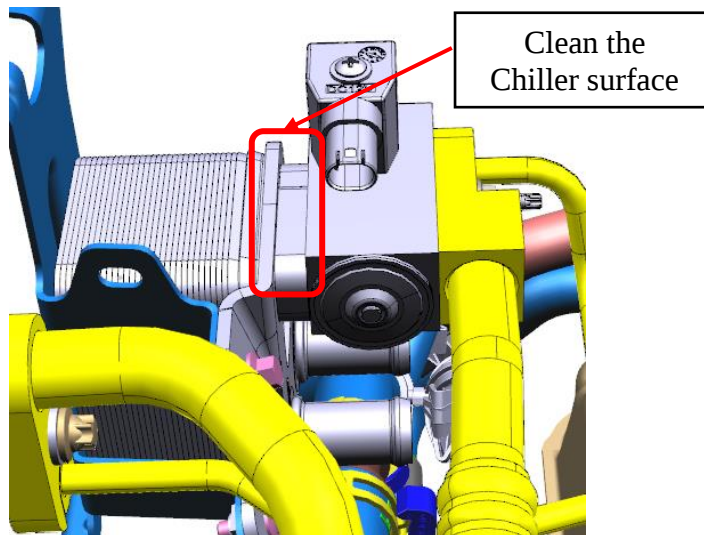
**Note:** Do not leave the O-ring to dry. If dried, soak in oil before use.



### Step 3: Installation of component & Battery Chiller

- i. Reassemble/Install the Chiller component unit by following the reverse of above removal procedure.
- ii. Install the Battery Chiller unit & other parts by following the reverse of above removal procedure according to VF8 & VF9 model.

**Note:** Pay attention to clean the Chiller surface as shown in below figure.



### Step 4: Inspection:

- i. Start the vehicle, Turn 'ON' the Air Conditioner and select "Maximum" mode on the MDU control screen. Ensure to close all the windows & doors & let the Air Conditioner run stable for at least one minute.
- ii. **Use sniffer** to conduct a test at the junction between Chiller & Exchange valve by slowly moving the probe from left to right and then back to left again to perform 2 rounds.  
**Note:** Ensure probe tip should not touch the component during the test.
  1. If listen to continuous beep sound & device displays RED light → Result NOK → Go to step-1 of Field action-1 **Battery Chiller O-ring replacement**
  2. If listen to NO beep sound → Result OK
- iii. **Use to spray soap foam solution** at the junction between Chiller & Exchange valve & pay attention to observe the area for minimum of one minute.
  1. If bubbles developed & continuously floating → Result NOK → Go to step-1 of Field action-1 **Battery Chiller O-ring replacement**
  2. If NO bubbles → Result OK
- iv. If both the Sniffer & Foam solution test results are OK → Vehicle is OK

### Step 5: Finish

## Field Action 2: AC Compressor oil addition

### Step 1: To add AC compressor oil

- i. **VF8**: Refer to [Refrigerant Recovery and Recharging \(R-1234y\) – 1004727](#) for the addition of 100ml compressor oil to the Compressor [120ml (existing) + 100ml (add) = 220 ml (total)].
- ii. **VF9**: Refer to [Refrigerant Recovery and Recharging \(R-1234y\) – 1006677](#) for the addition of 100ml compressor oil to the Compressor. [120ml (existing) + 100ml (add) = 220 ml (total)].

### Step 2: Finish

## 7.0) Parts Information

The following service parts information applies to this bulletin:

| Part Number | Description                                             | Variant |        |        | Quantity/<br>Vehicle                    | Usage            |
|-------------|---------------------------------------------------------|---------|--------|--------|-----------------------------------------|------------------|
|             |                                                         | VF8 US  | VF9 VN | VF8 VN |                                         |                  |
| SVC30000215 | SPA2_PAG_REFRIG_R1234 YF_500ML_BTL                      | x       | x      | -      | 100 ml (addition)                       | Required         |
| FLU20050003 | REFRIGERANT_OIL_POL YVINYL_ETHER_(PVE)_9 50ml_BOTTLE_AS | -       | -      | x      | As mentioned in Refrigerant Oil details | Only if required |
| FLU30110005 | REFRIGERANT_R1234YF                                     | x       | -      | -      | As mentioned in Refrigerant details     | Only if required |
| FLU10006075 | REFRIGERANT_R134A                                       | -       | x      | x      | As mentioned in Refrigerant details     | Only if required |
| PWT30111055 | O-RING D8.6X1.78                                        | x       | x      | x      | 1                                       | Only if required |
| PWT30111057 | O-RING D13.6X2.43                                       | x       | x      | x      | 1                                       | Only if required |
| P151533003  | O-RING (INLET) D10X2.6                                  | x       | x      | x      | 1                                       | Required         |
| P151533004  | O-RING (OUTLET) D12.7X2.6                               | x       | x      | x      | 1                                       | Required         |

## 8.0) Warranty Claim Information

The following warranty claim information applies to this bulletin:

| Labour Code | Description                                                     | Model       | Hour(s) |
|-------------|-----------------------------------------------------------------|-------------|---------|
| 99300000    | Battery Chiller O-ring replacement & AC Compressor oil addition | VF8 US      | 3.0     |
| 99300102    | Battery Chiller O-ring replacement & AC Compressor oil addition | VF9 VietNam | 2.6     |
| 99300101    | Battery Chiller O-ring replacement                              | VF8 VietNam | 3.0     |