Jason Guidi

Director - Regulatory & Compliance

April 14, 2020

To: All U.S. and Canadian Volvo Retailers
Subject: Service Action – S10011

Volvo Car USA LLC and Volvo Car of Canada Ltd (Volvo) on behalf of Volvo Car Corporation, has decided to launch Service Action S10011 on certain model year 2020 - 2021 XC40 vehicles.

Volvo has identified that the A/C system refrigerant charge values are too high. As a result, in higher ambient temperatures the customer may experience no cold air flow in the interior cabin and inconsistent or strange behavior of the cooling fan.

The corrective action is to drain the A/C system and recharge with correct amount of refrigerant.

Service Action S10011 affects 2,034 vehicles in the U.S and 200 in Canada.

OWNER NOTIFICATION
No owner notification is planned at this time.

RETAILER RESPONSIBILITIES
Retailers must perform this service action on eligible vehicles regardless of miles / kilometers or vehicle age. All work performed under this service action is free of charge to the owner.

Your regional representative will follow up to ensure that Service Action S10011 is proceeding smoothly.

Volvo Car USA LLC
270 Three Point Drive
Ridgeville, SC 29472-7373

Telephone +1-201-768-7300 volvocars.us

A complete description of the service action requirements and claim submission procedures will follow.

It is the retailer's responsibility to review the details provided in the materials listed below with all involved personnel.

- Quality Bulletin
- Shop Equipment Bulletin

Your cooperation in completing Service Action S10011 is greatly appreciated.

All vehicles should be checked for any other incomplete actions.

If you have any questions about this or any other field service action, please contact me or any member of the Regulations and Compliance office.

Drive Safely,

Jason Guidi
Director - Regulatory & Compliance
201-768-7300

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VOLVO CAR
SERVICE AND PARTS BUSINESS

Quality Bulletin

TITLE:

Service Action S10011: A/C Refrigerant Model Year 2020 – 2021 XC40

GROUP:	CAT/NO:	ISSUING DEPARTMENT:	CAR MARKET:
87	S10011	Regulatory and Compliance	United States and Canada

REVISIONS:	ISSUE DATE:	STATUS DATE:
Version 2 – edits to C. and E.	2020-05-15	2020-06-03

Service Personnel: Read and initial	SERVICE MANAGER	SERVICE WRITER	WARRANTY ADMINISTRATOR	Page 1 of 3

"Right first time in Time"

A. SERVICE ACTION S10011 DESCRIPTION

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Service Action S10011 affects 2,034 vehicles in the U.S and 200 in Canada.

RETAILER MUST CONFIRM VEHICLE ELIGIBILITY PRIOR TO BEGINNING THE REPAIR FOR THIS ACTION.
Vehicles in retailer inventory must be upgraded prior to sale.

Produced and printed in the USA and available as an electronic document.

B. VEHICLES INVOLVED

NOTE: RETAILER MUST CONFIRM VEHICLE ELIGIBILITY PRIOR TO BEGINNING THE REPAIR FOR THIS SERVICE ACTION. VEHICLES IN RETAILER INVENTORY MUST BE UPGRADED PRIOR TO SALE.

Vehicle eligibility must be confirmed:

- Vehicle Inquiry - Vehicle Warranty where the message “Service Action S10011 AC Refrigerant” will appear for eligible vehicles.

All vehicles should be checked for any incomplete recalls, service campaigns or service upgrades. All open Recall, Service Campaign or Service Action repairs should be completed.

C. PARTS INFORMATION / PARTS RETURN

In some circumstances, if a retailer is performing an elevated number of A/C refrigerant extractions, it may become necessary for the service shop to have or obtain an additional recovery tank to house the excessive refrigerant. For recommended parts, refer to “Recovery Tank Procedure”.

PARTS RETURN

No parts are required to be returned to TMA for this service action.

D. SHOP EQUIPMENT

If your Volvo service facility has not purchased this shop equipment, it is recommended you refer to Shop Equipment Bulletin; No. 006, Status Date 08.20.19 Title: **A/C Refrigerant Management for R1234yf**.

E. PROCEDURE

Refer to the “Recovery Tank Procedure” if necessary, on how to off load refrigerant from your RRR unit to a Recovery Tank.

F. OWNER NOTIFICATION

No owner notification is planned at this time.

G. VEHICLES IN RETAILER INVENTORY

Vehicles in retailer inventory must be completed prior to sale.

H. RETAILER RESPONSIBILITY

Retailers must check eligibility prior to completing this service action. All eligible vehicles must have this service action completed prior to customer delivery.

I. TECHNICIAN COMPETENCY REQUIREMENT

The technician competency requirement for this repair is Level 3 Master Certified Technician.

J. CLAIM INSTRUCTIONS

Labor reimbursement is effective at time of release and may change in the future.

Claim Type: S10011
Cause Code: 02
CSC Code: XW
Main OP: 97687
Failed Part:

Operation Number	Repair Description	Qty	Labor Time
97687	Refrigerant drain and fill acc to QB-210011	1	1.1

Issue	Date	Reason
1	2020-03	First issue

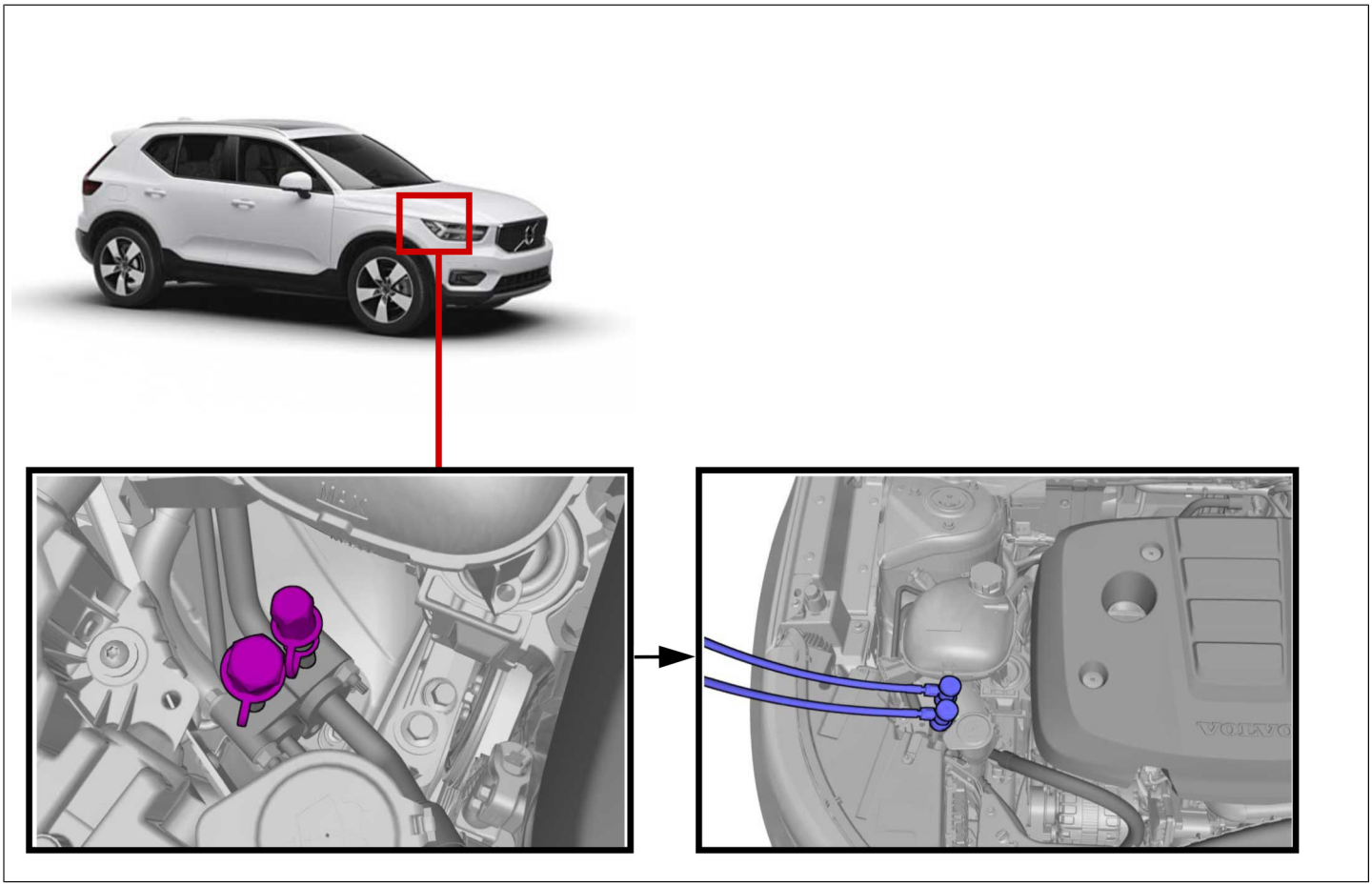
Affected vehicles

Model year	Model
2020	XC40

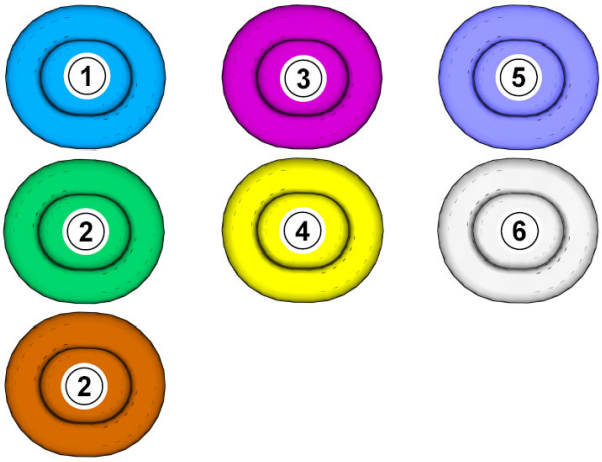
Equipment

Designation	Part No.
Recovery unit AC	

Orientation view



Color symbols



Note! This colour chart displays (in colour print and electronic version) the importance of the different colours used in the images of the method steps.

1 . Used for focused component, the component with which you will do something.
2 . Used as extra colors when you need to show or differentiate additional parts.
3 . Used for attachments that are to be removed/installed. May be screws, clips, connectors, etc.
4 . Used when the component is not fully removed from the vehicle but only hung to the side.
5 . Used for standard tools and special tools.
6 . Used as background color for vehicle components.

Safety information

	See information about refrigerant , refer to: General Safety Information 8 - Body and interior 87 - Climate units 870 - general

	See information about air conditioning system , refer to: General Safety Information 8 - Body and interior 87 - Climate units 870 - general

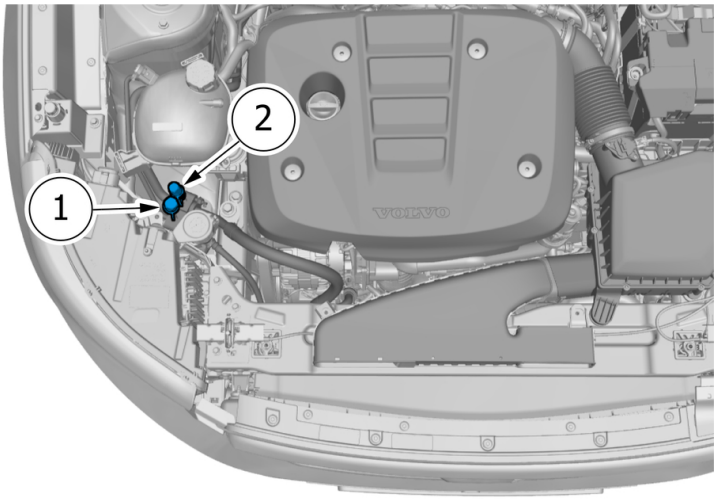
	See information about the A/C system , refer to: General Information 8 - Body and interior 87 - Climate units 870 - general

Preparation

	Open the hood.

	Caution! Make sure to check which coolant is present in the A/C system.

	Note! Always follow the manufacturer's instructions when handling the equipment.

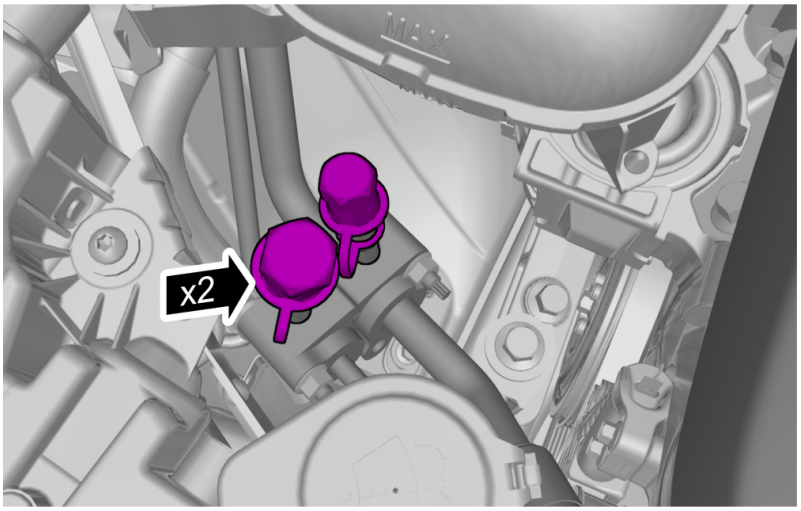


Note! Orientation view

1 . Service valve high pressure
2 . service valve low pressure

Removal

Warning! Wear safety goggles and protective gloves.

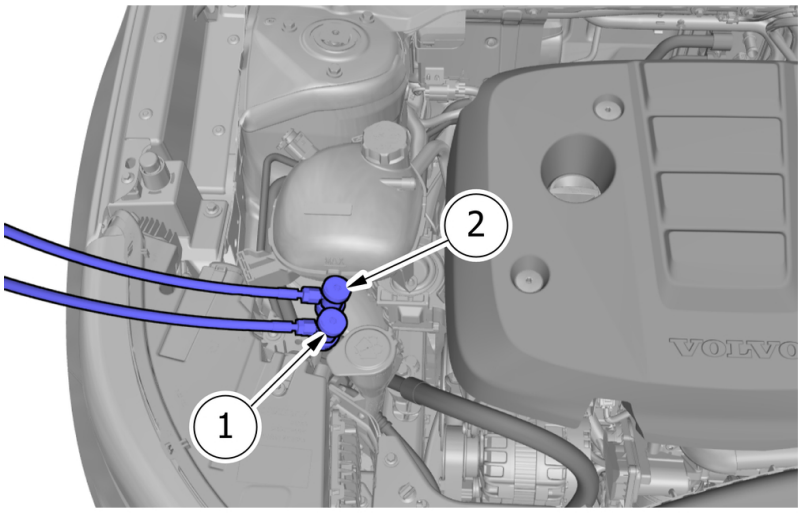


Remove the marked part.

1 . **Torque:**
Valve cap (grey), to Service valve , 3 Nm

2 . **Torque:**
Valve cap (black), to Service valve , 6 Nm

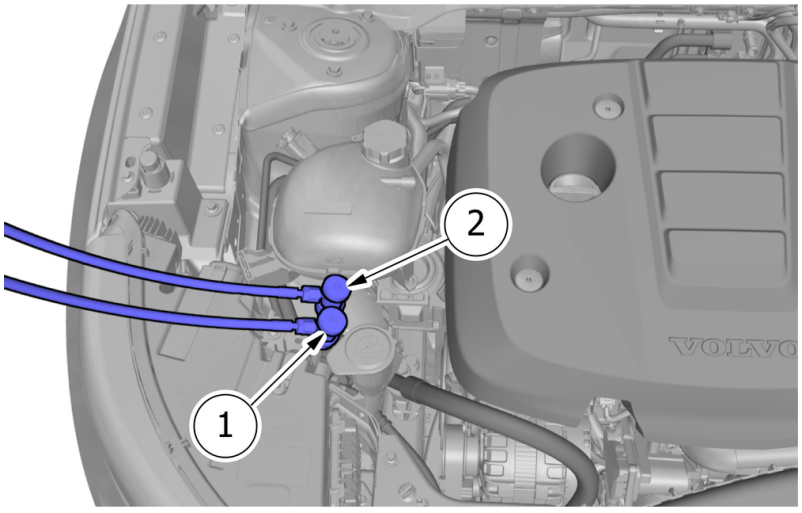
Draining



Note! When draining, the recovery unit must be connected to both the high pressure side's (1) and low pressure side's (2) service valves at the same time.

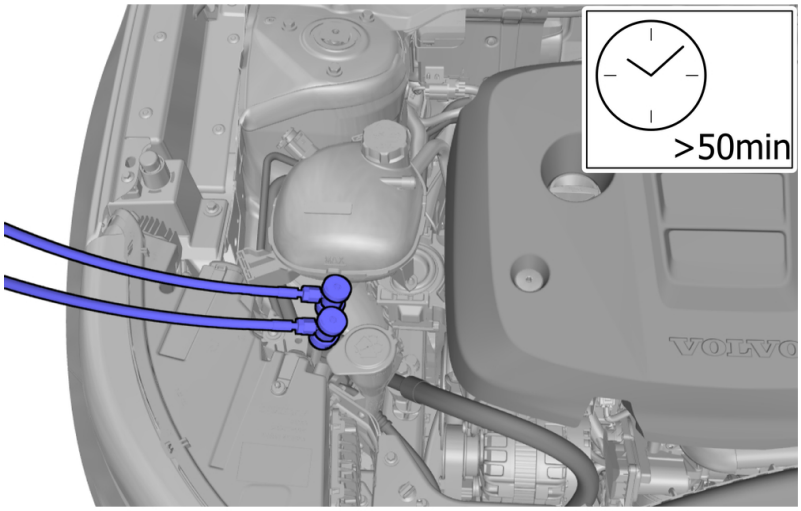
Use: Recovery unit AC

vacuum pumping



Note! When vacuum pumping, the recovery unit must be connected to both the high pressure side's (1) and low pressure side's (2) service valves at the same time.

Use: Recovery unit AC



Note! Ensure not to undercut the time specified in the image.

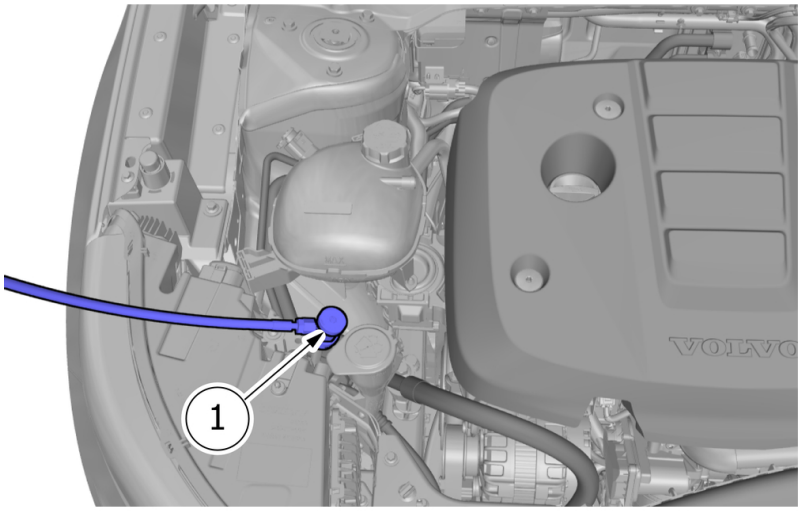
Filling

Note! A label in the engine compartment indicates the amount of refrigerant in the AC system.

Note! If information about current refrigerant amount is missing in the engine compartment, see the following information.

See information about refrigerant and oil grade , refer to:

Specifications, mechanical
8 - Body and interior
87 - Climate units
870 - general

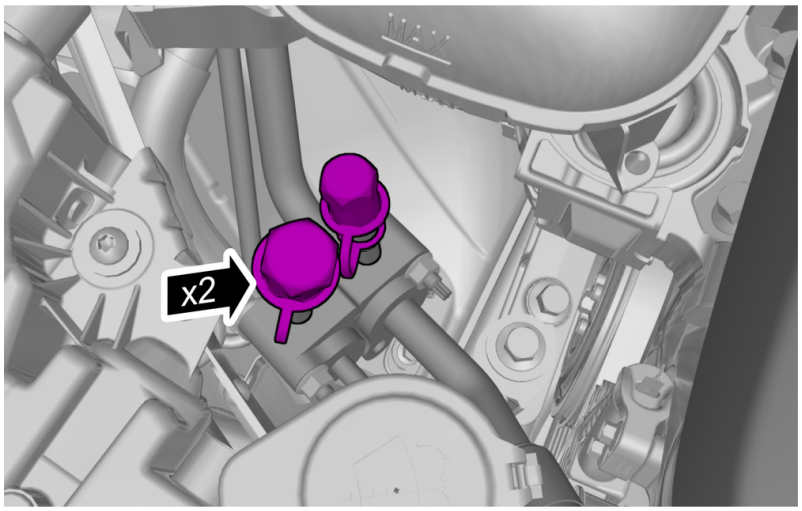


Note! Only top up refrigerant via the high pressure side's (1) service valve.

Use: Recovery unit AC

Remove the equipment.

Installation



Install the marked component.

1 . **Torque:**
Valve cap (grey), to Service valve , 3 Nm

2 . **Torque:**
Valve cap (black), to Service valve , 6 Nm

To install, reverse the removal procedure.

VOLVO 1234YF Off Loading Refrigerant from your RRR unit to a Recovery Tank.

Use Case #1: Off-loading refrigerant – Charging refrigerant tank	Use Case #2: Reusing refrigerant from refrigerant tank
	
See details further on in this technical information for more detailed illustrations.	

Issue: When the internal storage vessel (ISV) of the 1234yf RRR unit is full to capacity, recovering excess refrigerant from a vehicle is not possible. The Internal RRR vessel must be partially discharged to a recovery tank unit to allow space in the internal vessel to allow additional recovery from the vehicle. You cannot offload to a Freon tank. These are equipped with a one way check valve and are a 1 time use cylinder. You must use a recovery tank.

Note: The brand of RRR unit is not an issue for these procedures. All fittings are to industry standards. Therefore all hose or quick couplings are compatible. You will be using the low pressure discharge side of your RRR unit to offload refrigerant to the recovery tank. Similar to charging a vehicle.

Caution: The recovery tank must not be overfilled. Room for thermal expansion is necessary. The tank must be weighed both before for tare weight and as it is filled. Likewise, the internal vessel must not be offloaded completely.

Guidelines: The internal RRR tank must have a minimum refrigerant weight of 3.5KG. (7.7 lbs.) to operate properly. Anything in excess of this can be offloaded.

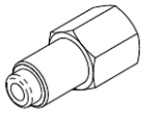
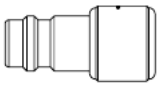
The 30LB. recovery tank can take in 9KG (20Lbs) of refrigerant after the tare weight is calculated. Recovery tanks cannot exceed 80% charge so if you have an empty 30LB. cylinder tare weight of 17LBs, when fully charged should not exceed 41 lbs.

Example 30 lbs. cylinder – 20% (= 24 lbs.) +17 lbs. tare weight = 41 lbs. total weight

DO NOT EXCEED THIS TOTAL WEIGHT WITH A 30LB. RECOVERY CYLINDER!!

Always pull a vacuum on a new recovery tank for 20 minutes to eliminate any Argon or Nitrogen shipping gas. This will enable you to reuse the recovered refrigerant at a later date. It will have been cleaned and filtered by the RRR unit.

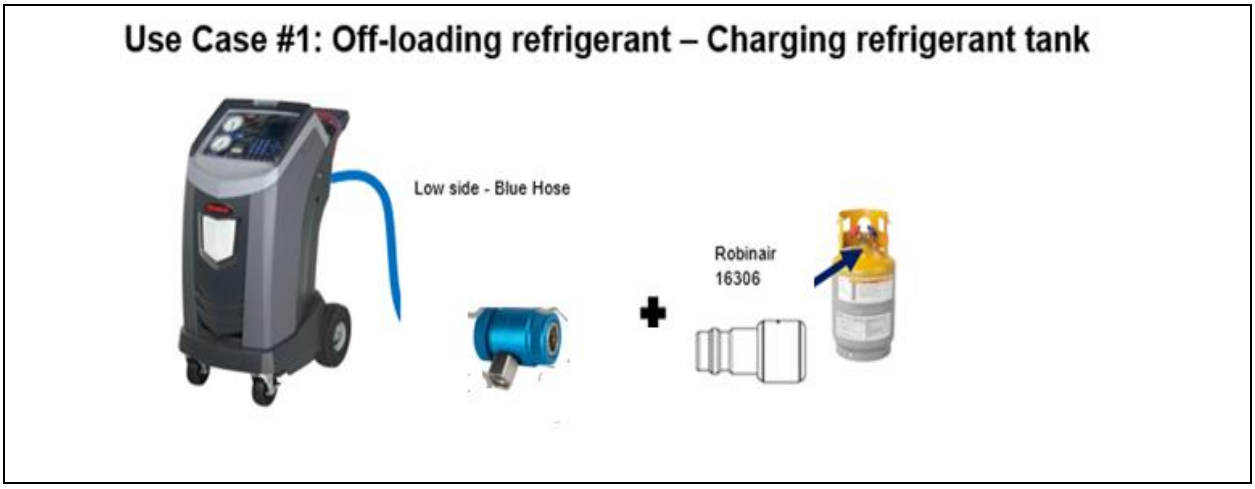
Recommended Parts Required:

Robinair 42-1234-6 RRR unit or equivalent	
Robinair 30LB. Recovery Cylinder 42-17990	
14055 Adapter (LH Thread) Purchased from OTC tools 800 345 2233 Or sourced locally	
16303 Adapter Purchased from OTC Tools 800 345 2233 Or sourced locally	
Robinair refrigerant scale 42-TIF9010A	

Off Loading Refrigerant

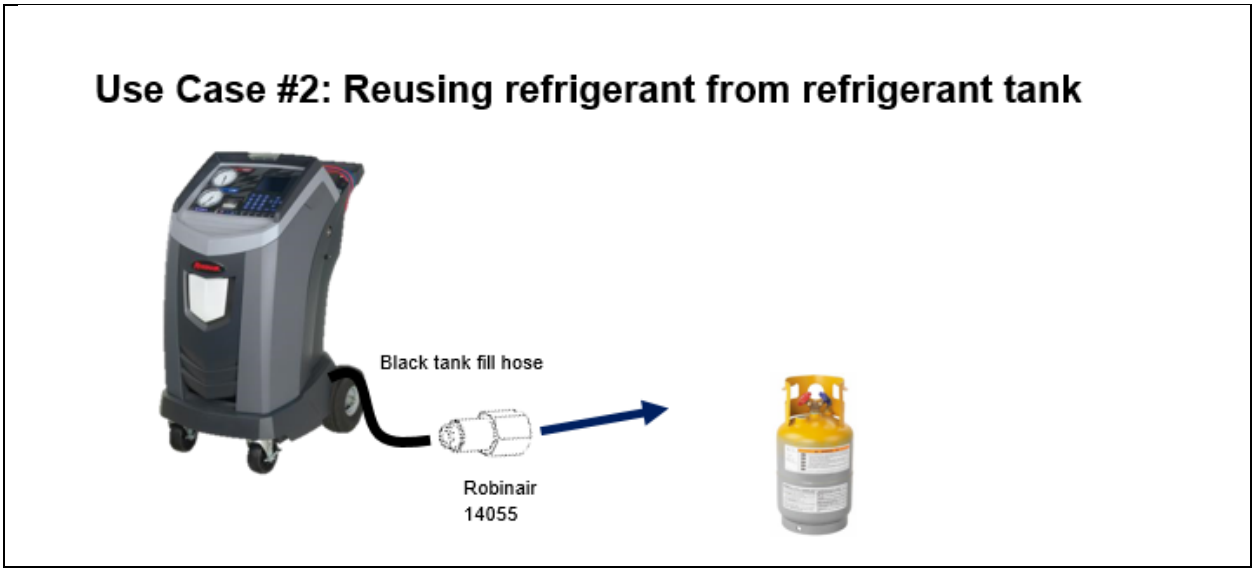
1. Once the RRR unit is at full capacity, using the low pressure coupling, attach the coupler to the recovery unit using the 16306 adapter.
2. Prior to any connections being done, weigh the recovery cylinder to establish the tare (empty) weight.
3. Set the RRR unit to “charge” the recovery tank with enough refrigerant to bring the internal storage vessel to 7.7 Lbs.

4. Most likely you will be able to offload the internal storage vessel several times before the Recovery cylinder reaches full 80% capacity.
5. Once the recovery cylinder is at “full weight” using the formula, an additional recovery cylinder may be required.
6. Save this recovered refrigerant for future use



<u>To add the refrigerant back into the RRR unit internal storage vessel for use</u>.

1. Verify the weight of the internal storage vessel to be sure of your charge weight.
2. Connect the storage vessel charge hose to the recovery tank high pressure fitting (Red) using the adapter 14055.
3. Turn on the RRR unit and follow the manufacturers procedures to fill the Internal storage vessel to the recommended pressure or weight



Shop Equipment Bulletin

TITLE:

A/C Refrigerant Management for R1234yf

NO:	ISSUE DATE: 2019-07-22	CAR MARKET:	Page 1 of 6
006	STATUS DATE: 2019-08-20	United States and Canada	

"Right first time in Time"

A/C Refrigerant Management for R1234yf

A/C Equipment	R1234yf Recover, Recycle, Recharge A/C Machine Robinair (Option 1)	42-AC1234-4	X
A/C Equipment	ArctcPro ACX1280 - R1234yf Air Conditoning Service System Mahle ASS (RTI) (Option 2)	362-460 80386 00	X

Recovery

- Recovery capacity min — 0.030 kg/min (0.06614 lbs/min.)
- Recovery minimum — 95 %
- Measure accuracy — ± 30 g (1,0582 oz.)

Evacuation

- Vacuum capacity min — 1.5 m3/h (0,88 cu ft./min)
- Vacuum capability min — 0.33 mbar (abs.) (24,75 mmHg)

Recharge

- Filling accuracy — ± 15g (0,5291 oz.)

Refrigerant identifier

- Refrigerant identifier is mandatory
- It is not needed to comply with the specification in standards SAE J2843

Certification

- CE , TÜV, UL1963, GS or other local demand

Service Personnel: Read and initial	SERVICE MANAGER	PARTS MANAGER	WORKSHOP FOREMAN	SERVICE TECHNICIANS									

Standard

- The equipment must comply with SAE J2843

Hose length

- Service hose length compensation
- Minimum 2.5 m hose (SAE J2888)

- **It is mandatory to have equipment only for R1234yf. Equipment combining R1234yf with other refrigerants are not allowed.**

Recommendation

- The equipment shall be able to separate and measure manually or automatically the amount of system / compressor lubricant that is recovered from the system.
- Technician operating manual nearly describe the method how to operate the AC-Refrigerant Management System.
- The equipment should be able to flush the hoses from compressor lubricant.
- The machine should be easy to use (Operator friendly).

Automatic preferred – in order to meet Volvo standard time (VST).