Magnum 260
Magnum 290
Magnum 315
Magnum 340
TIER 3
Tractor

SERVICE MANUAL

Part number 47681312
English
May 2017

CASE IH
AGRICULTURE

Link Product / Engine

Product	Market Product	Engine
Magnum™ 260 18x4, with cab, tier 3	Latin America	F2CFP614E*H003
Magnum™ 290 18x4, com cabine, Tier 3	Latin America	F2CFP614D*H003
Magnum™ 315 18x4, with cab, tier 3	Latin America	F2CFP614C*H003
Magnum™ 340 18x4, with cab, tier 3	Latin America	F2CFP614B*H003

Contents

INTRODUCTION

Foreword - How to use and navigate through this manual

This manual has been produced by a new technical information system. This new system is designed to deliver technical information electronically through web delivery (eTIM), DVD, and paper manuals. A coding system called SAP has been developed to link the technical information to other Product Support functions, e.g., Warranty.

Technical information is written to support the maintenance and service of the functions or systems on a customer's machine. When a customer has a concern on their machine it is usually because a function or system on their machine is not working at all, is not working efficiently, or is not responding correctly to their commands. When you refer to the technical information in this manual to resolve that customer's concern, you will find all the information classified using the SAP coding, according to the functions or systems on that machine. Once you have located the technical information for that function or system, you will then find all the mechanical, electrical or hydraulic devices, components, assemblies, and sub assemblies for that function or system. You will also find all the types of information that have been written for that function or system: the technical data (specifications), the functional data (how it works), the diagnostic data (fault codes and troubleshooting), and the service data (remove, install adjust, etc.).

By integrating SAP coding into technical information, you will be able to search and retrieve just the right piece of technical information you need to resolve that customer's concern on his machine. This is made possible by attaching 3 categories to each piece of technical information during the authoring process.

The first category is the Location, the second category is the Information Type and the third category is the Product:

- LOCATION - the component or function on the machine, that the piece of technical information is going to describe (e.g., Fuel tank).
- INFORMATION TYPE - the piece of technical information that has been written for a particular component or function on the machine (e.g., Capacity would be a type of Technical Data describing the amount of fuel held by the fuel tank).
- PRODUCT - the model for which the piece of technical information is written.

Every piece of technical information will have those three categories attached to it. You will be able to use any combination of those categories to find the right piece of technical information you need to resolve that customer's concern on their machine.

That information could be:

- the procedure for how to remove the cylinder head
- a table of specifications for a hydraulic pump
- a fault code
- a troubleshooting table
- a special tool

Manual content

This manual is divided into Sections. Each Section is then divided into Chapters. Contents pages are included at the beginning of the manual, then inside every Section and inside every Chapter. An alphabetical Index is included at the end of each Chapter. Page number references are included for every piece of technical information listed in the Chapter Contents or Chapter Index.

Each Chapter is divided into four Information types:

- Technical Data (specifications) for all the mechanical, electrical or hydraulic devices, components, assemblies or sub-assemblies.
- Functional Data (how it works) for all the mechanical, electrical or hydraulic devices, components, assemblies or sub-assemblies.
- Diagnostic Data (fault codes, electrical and hydraulic troubleshooting) for all the mechanical, electrical or hydraulic devices, components, assemblies or sub-assemblies.
- Service Data (remove disassemble, assemble, install) for all the mechanical, electrical or hydraulic devices, components, assemblies or sub-assemblies.

Sections

Sections are grouped according to the main functions or a systems on the machine. Each Section is identified by a number (00, 35, 55, etc.). The Sections included in the manual will depend on the type and function of the machine that the manual is written for. Each Section has a Contents page listed in alphabetic/numeric order. This table illustrates which Sections could be included in a manual for a particular product.

	PRODUCT				
	Tractors				
	Vehicles with working arms: backhoes, excavators, skid steers, ….				
	Combines, forage harvesters, balers, ….				
	Seeding, planting, floating, spraying equipment, ….				
SECTION	Mounted equipment and tools, ….				
00 - Maintenance	X	X	X	X	X
05 - Machine completion and equipment	X	X	X	X	X
10 - Engine	X	X	X	X	
14 - Main gearbox and drive	X	X	X	X	
18 - Clutch	X	X	X		
21 - Transmission	X	X	X	X	
23 - Four wheel drive (4WD) system	X	X	X	X	
25 - Front axle system	X	X	X	X	
27 - Rear axle system	X	X	X	X	
29 - Hydrostatic drive	X	X	X	X	
31 - Power Take-Off (PTO)	X		X		
33 - Brakes and controls	X	X	X	X	
35 - Hydraulic systems	X	X	X	X	
36 - Pneumatic system	X	X	X	X	
37 - Hitches, drawbars and implement couplings	X		X	X	
39 - Frames and ballasting	X	X	X	X	X
41 - Steering	X	X	X	X	
44 - Wheels	X	X	X	X	
46 - Steering clutches					
48 - Tracks and track suspension	X	X	X		
50 - Cab climate control	X	X	X	X	
55 - Electrical systems	X	X	X	X	X
56 - Grape harvester shaking					
58 - Attachments/headers			X		
60 - Product feeding			X		

61 - Metering system				X		
62 - Pressing - Bale formation			X			
63 - Chemical applicators				X		
64 - Chopping			X			
66 - Threshing			X			
68 - Tying/Wrapping/Twisting			X			
69 - Bale wagons						
70 - Ejection			X			
71 - Lubrication system	X	X	X	X	X	
72 - Separation			X			
73 - Residue handling			X			
74 - Cleaning			X			
75 - Soil preparation/Finishing						
76 - Secondary cleaning / Destemmer						
77 - Seeding				X		
78 - Spraying				X		
79 - Planting				X		
80 - Crop storage / Unloading			X			
82 - Front loader and bucket	X	X				
83 - Telescopic single arm	X	X				
84 - Booms, dippers and buckets	X	X				
86 - Dozer blade and arm	X	X				
88 - Accessories	X	X	X	X	X	
89 - Tools	X	X	X	X	X	
90 - Platform, cab, bodywork and decals	X	X	X	X		

Chapters

Each Chapter is identified by a number e.g. Engine - Engine and crankcase - 10.001. The first number is identical to the Section number i.e. Chapter 10.001 is inside Section 10, Engine. The second number is representative of the Chapter contained within the Section.

CONTENTS

The Chapter Contents lists all the technical data (specifications), functional data (how it works), diagnostic data (fault codes and troubleshooting), and service data (remove, install, adjust, etc.), that have been written in that Chapter for that function or system on the machine.

Contents

ENGINE

ENGINE - Engine and crankcase – 10.001

INDEX

The Chapter Index lists in alphabetical order all the types of information (called information units) that have been written in that Chapter for that function or system on the machine.

Index

ENGINE - 10

ENGINE

SERVICE MANUAL

Engine

Magnum™ 260 18x4, with cab, tier 3
Magnum™ 290 18x4, with cab, TIER 3
Magnum™ 315 18x4, with cab, tier 3
Magnum™ 340 18x4, with cab, tier 3

Engine - Remove

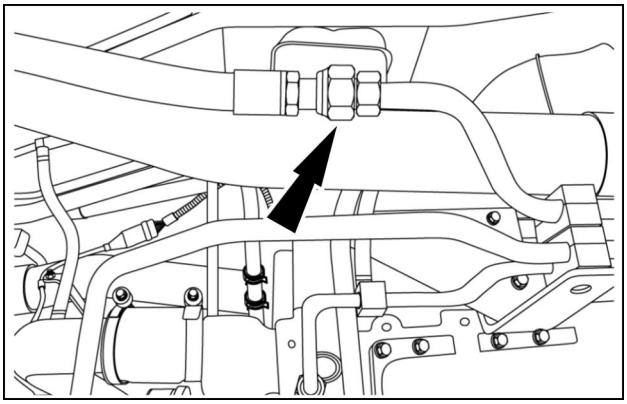
Prior operation:
Battery - Disconnect (55.302)
Prior operation:
Side shield - Remove (90.102)
Prior operation:
Hood - Remove (90.100)
Prior operation:
Engine cooling system - Emptying (10.400)
Prior operation:
Air conditioning - Recover (50.200)

NOTE: *During the disassembly of components with O-ring seals, the seals should be discarded and new seal installed during assembly.*

NOTE: *Cap all fittings and plug all lines and hoses as they are disconnected.*

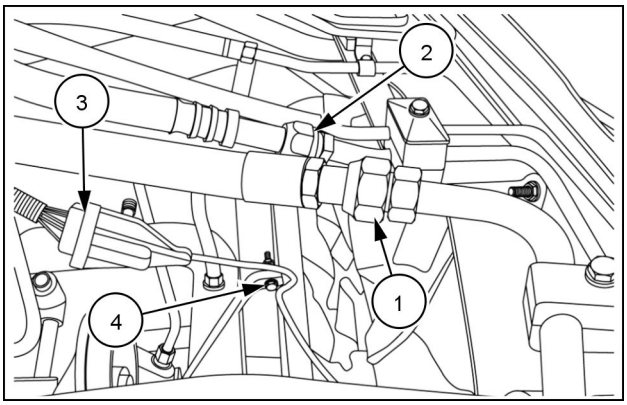
1. Disconnect the hydraulic cooling line connection on the right side (from oil cooler).

NOTE: *Be prepared to collect some hydraulic oil by placing a pan under the fitting.*



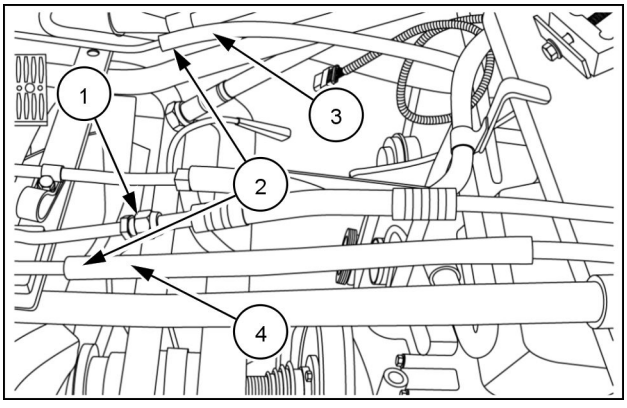
RCPH10CCH771AAB 1

2. Disconnect the hydraulic line **(1)** on the left side (to oil cooler) . Disconnect the engine cooling fan drive harness connector **(3)**
3. Disconnect the air conditioning low pressure hose to line fitting (return from condenser) **(2)**.
4. Remove the bolt that secures the wiring harness P-clamp **(4)**.



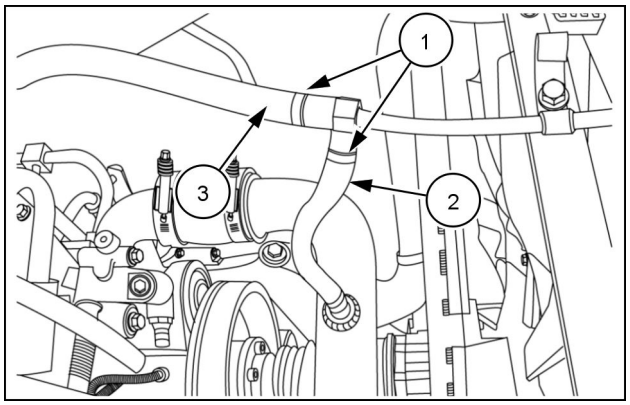
RCPH10CCH772AAB 2

5. Disconnect the air conditioning high pressure hose to tube fitting **(1)**.
6. Disengage the hose clamps **(2)**, and disconnect the cooler hoses **(3)** **(4)**.



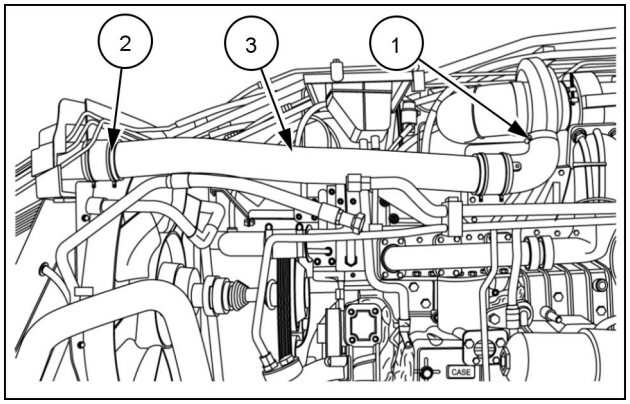
RCPH10CCH773AAB 3

7. Disengage the hose clamps **(1)** and disconnect the air vent hose **(2)** and the hose **(3)** from the deaeration tank to the recovery bottle.



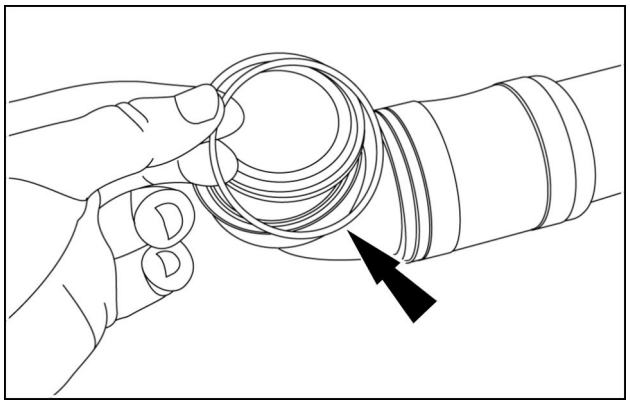
RCPH10CCH774AAB 4

8. Loosen the turbocharger clamp **(1)**.
9. Loosen the air cooler inlet hose clamp **(2)**.
10. Remove the tube **(3)**. Set the tube aside.
11. Repeat for the right side air to air tube from the cooler to the intake manifold (not shown).



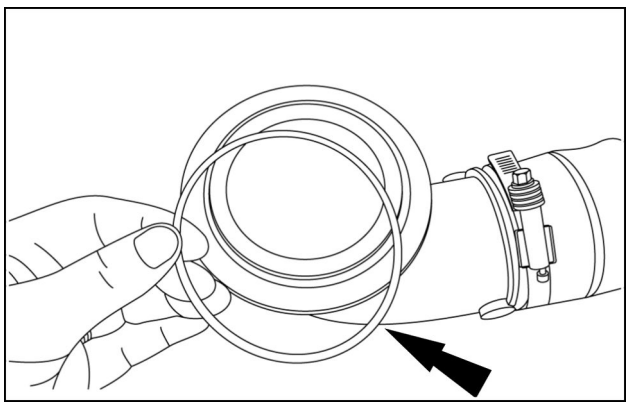
RCPH10CCH775AAB 5

12. Remove and discard O-ring face seal from elbow.



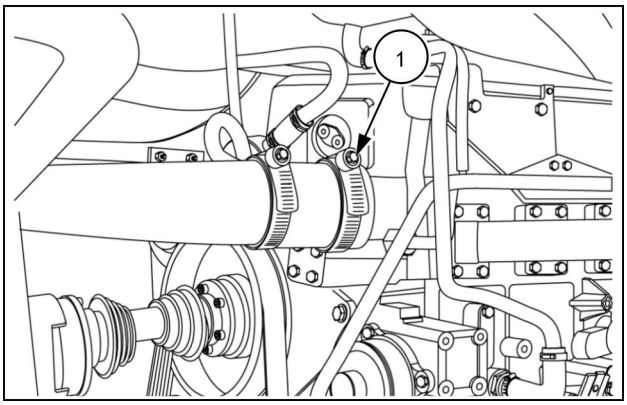
RCPH10CCH778AAB 6

13. Remove and discard O-ring face seal from elbow.



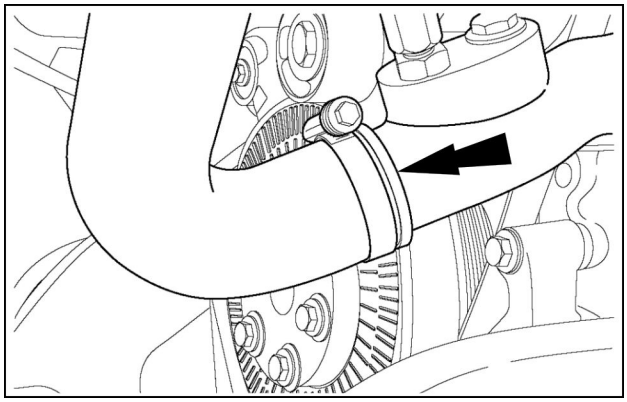
RCPH10CCH777AAB 7

14. Loosen the hose clamp **(1)** at the engine coolant outlet and disconnect the hose from the thermostat housing.



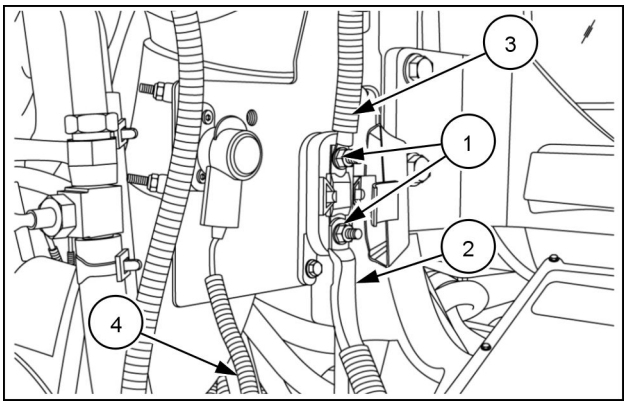
RCPH10CCH776AAB 8

15. Loosen the hose clamp and disconnect the coolant line into the engine hose.



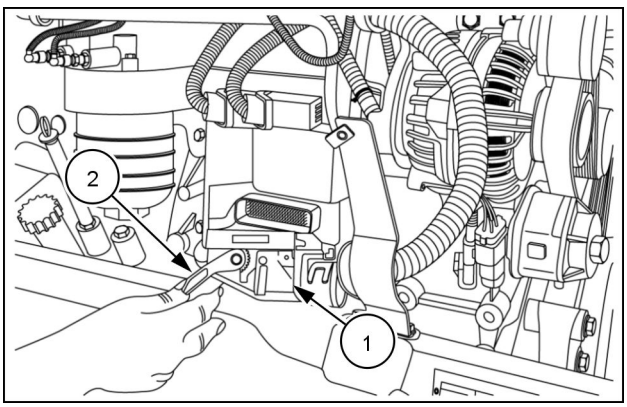
RCPH10CCH580AAB 9

16. Remove the nuts **(1)** and disengage the engine heater grid cables **(2) (3)** to the fuse block.
17. Disconnect the harness connector **(4)** for the **12 V** auxiliary power connection .



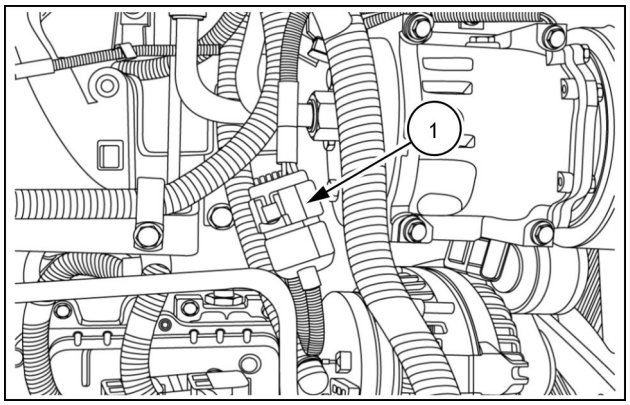
RCPH10CCH779AAB 10

18. Disconnect the ECM (engine control module) connector **(1)** by moving the locking handle **(2)** from the right (locked position) to the left (unlocked position).



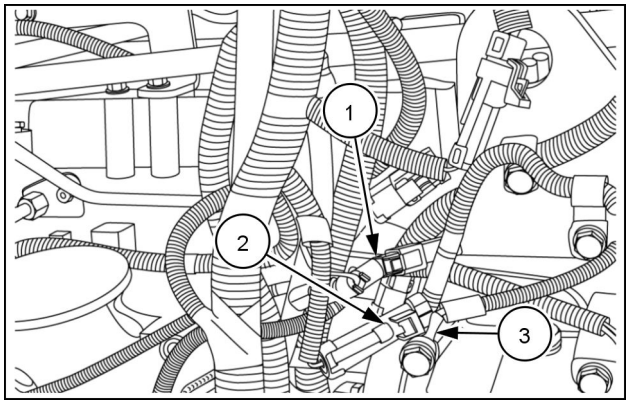
RCPH10CCH780AAB 11

19. Disconnect the tractor to engine harness connectors **(1)**.



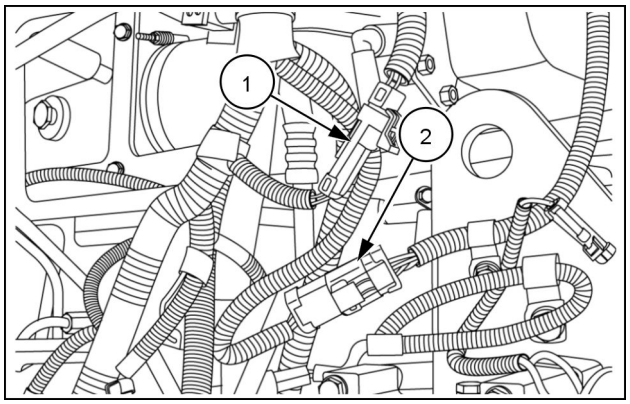
RCPH10CCH781AAB 12

20. Disconnect the harness connectors to the alternator **(1)** and the A/C compressor clutch **(2)**.
21. Remove the upper left A/C compressor bolt and remove the ground wire **(3)**.



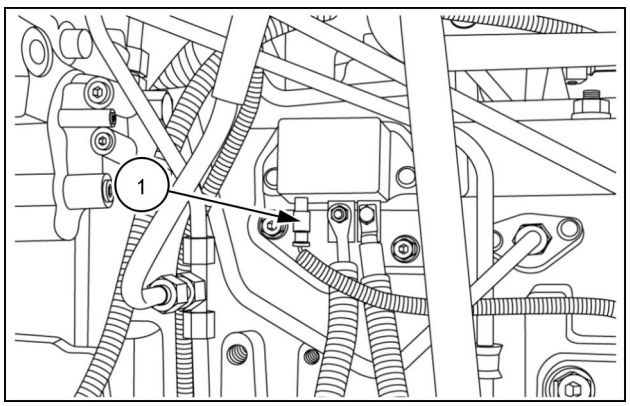
RCPH10CCH782AAB 13

22. Disconnect the harness connectors to the A/C high pressure switch **(1)** and the engine cooling fan drive **(2)**.



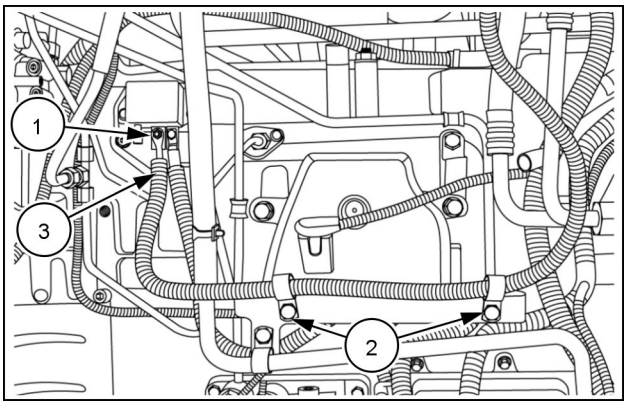
RCPH10CCH783AAB 14

23. Disconnect the harness connector **(1)** to the grid heater controller.



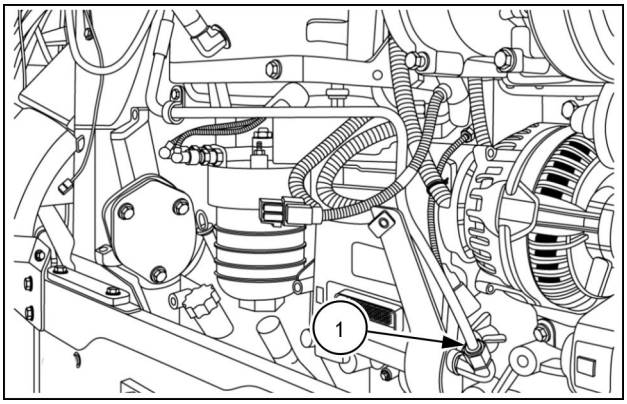
RCPH10CCH784AAB 15

24. Remove the nut **(1)** and the clamp bolts **(2)**. Disengage the power cable **(3)**.



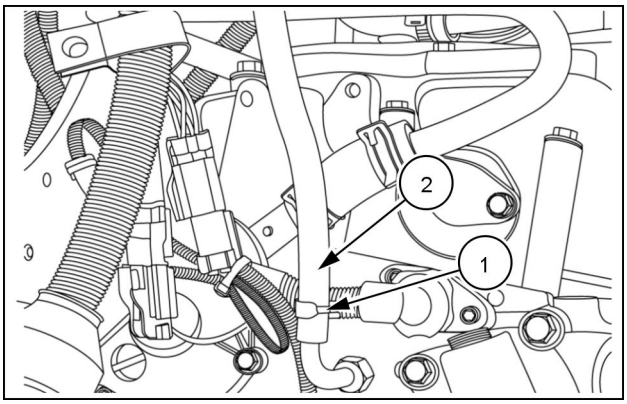
RCPH10CCH785AAB 16

25. Loosen the nut **(1)** and disconnect the fuel supply line to the EMC cooler



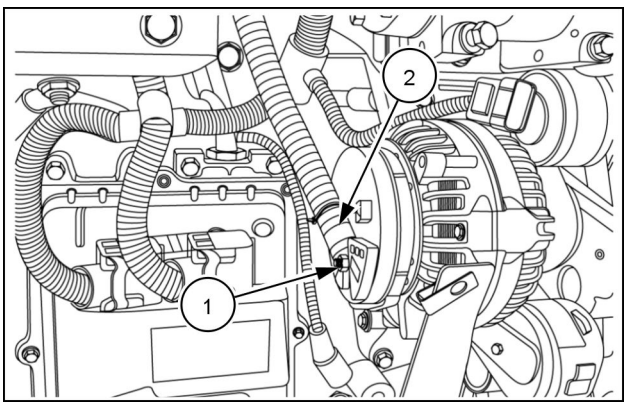
RCPH10CCH787AAB 17

26. Disengage the clamp **(1)** and disconnect the fuel return hose **(2)** from the pipe.



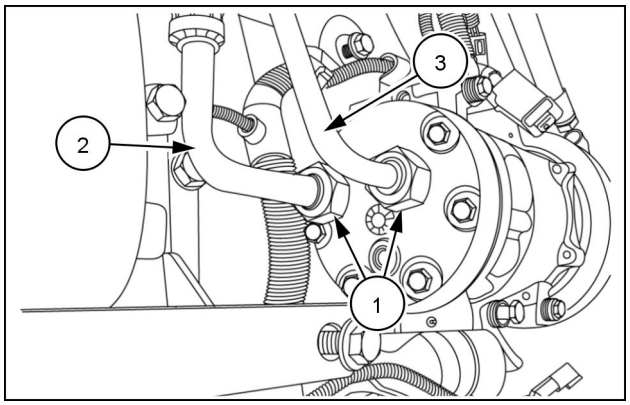
RCPH10CCH786AAB 18

27. Remove the nut **(1)** and disengage the alternator output cable **(2)**.



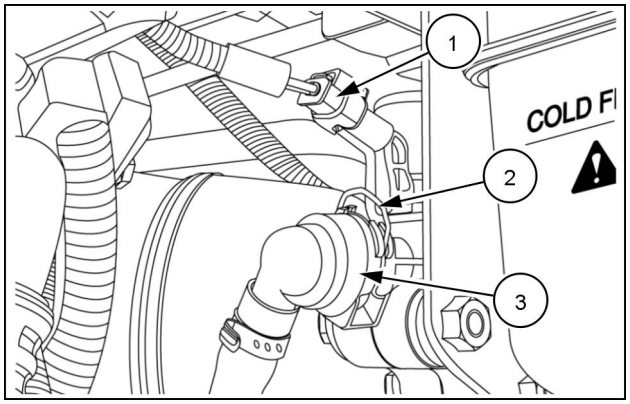
RCPH10CCH788AAB 19

28. Loosen the nuts **(1)** and disconnect the compressor inlet **(2)** and outlet **(3)** tubes.



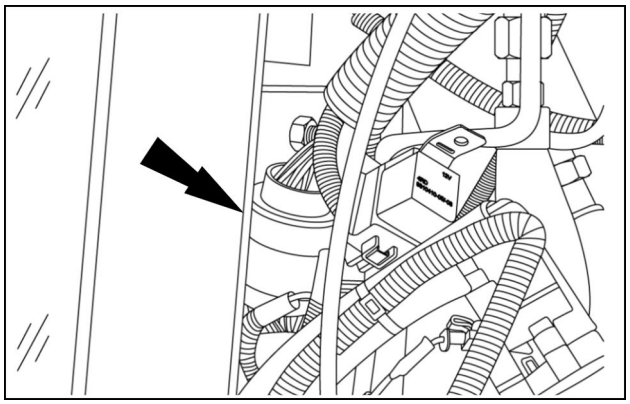
RCPH10CCH789AAB 20

29. Disconnect the harness connector to the SCR heater control valve solenoid **(1)**.
30. Raise the locking wire **(2)** and disconnect the heater supply connector **(3)** from the valve.
31. Repeat for the outlet hose connection (located on the right side of the valve).



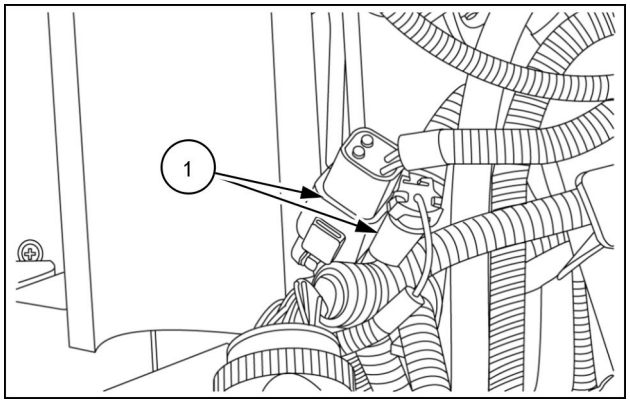
RCPH10CCH790AAB 21

32. Disconnect the main engine to chassis harness connector.



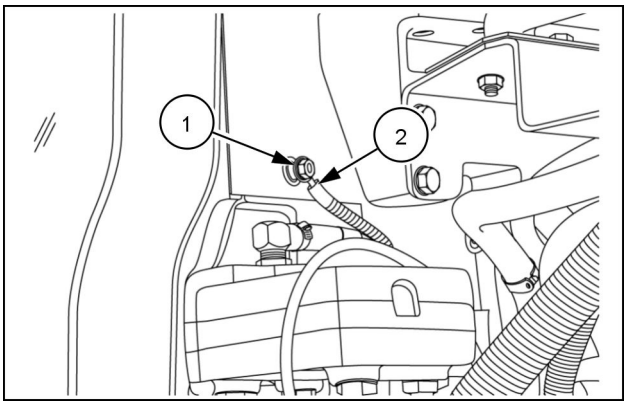
RCPH10CCH791AAB 22

33. Disconnect the auxiliary engine to chassis harness connectors **(1)**.



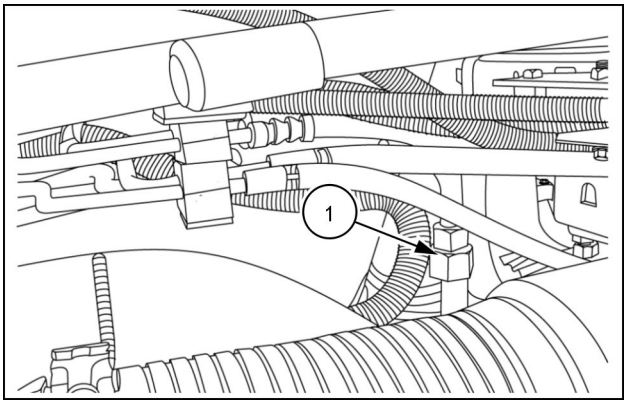
RCPH10CCH792AAB 23

34. Remove the holding nut **(1)** and disengage the ground wire **(2)**.



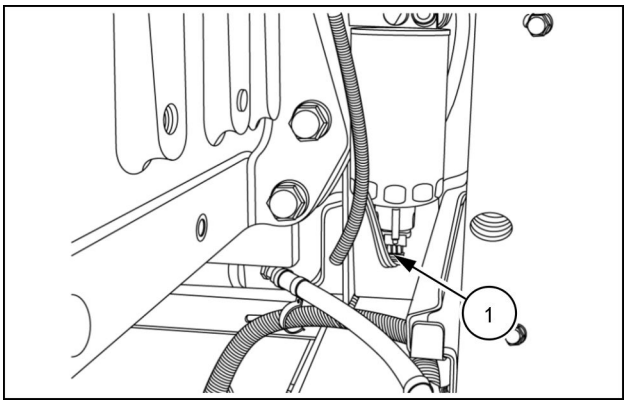
RCPH10CCH793AAB 24

35. Loosen the fitting and disconnect the hydraulic oil line **(1)** (right side of engine).



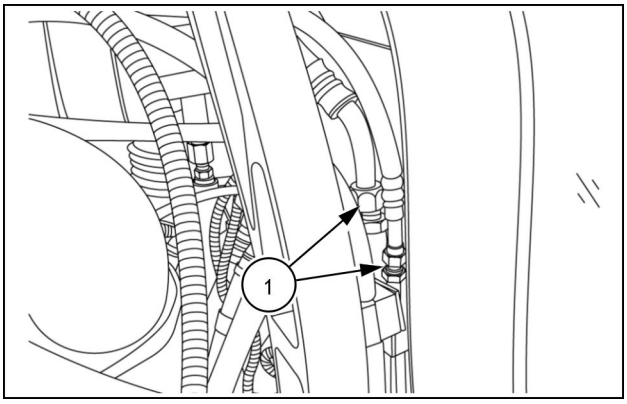
RCPH10CCH798AAB 25

36. Disconnect the water in fuel sensor connector **(1)** from the primary fuel filter.



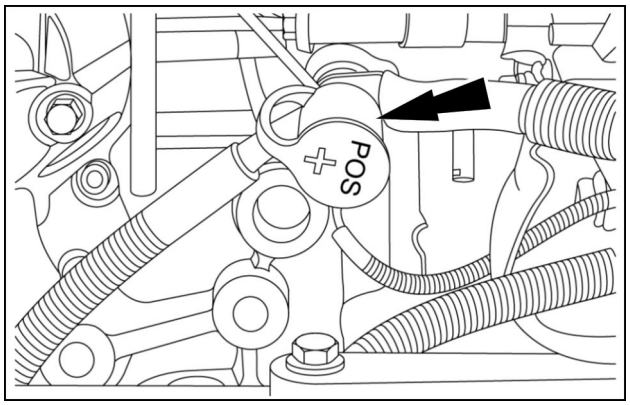
RCPH10CCH794AAB 26

37. Loosen the nuts **(1)** and disconnect the A/C lines located between the hood support and the cab.



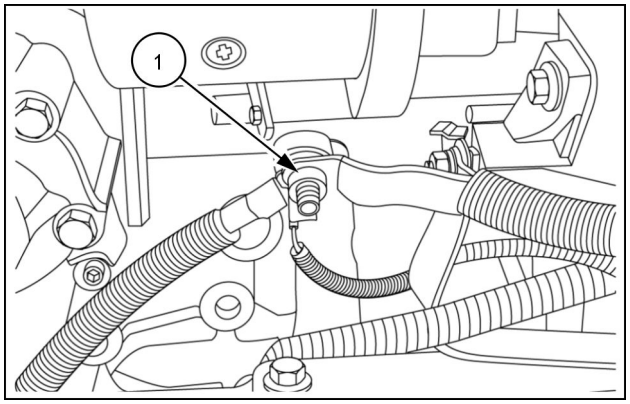
RCPH10CCH799AAB 27

38. Remove the jump start stud.



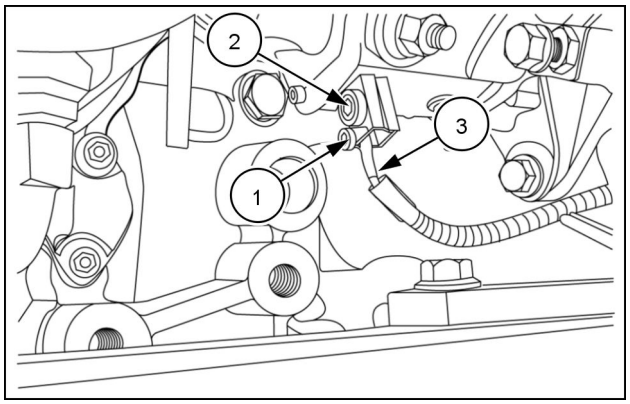
RCPH10CCH796AAB 28

39. Remove the nut **(1)** and disengage the cables from the starter.



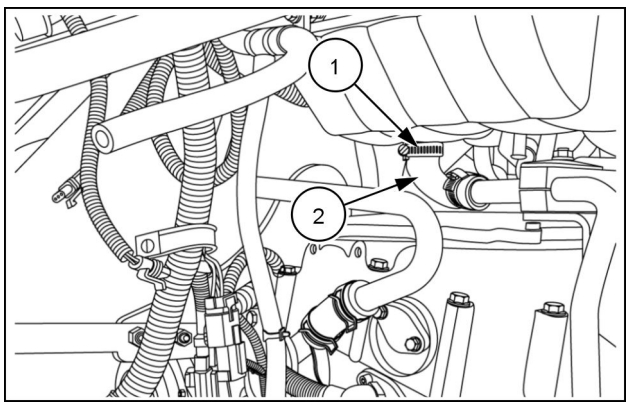
RCPH10CCH797AAB 29

40. Remove the plug **(1)**, remove the attaching screw **(2)** and remove the starter solenoid wire **(3)**.



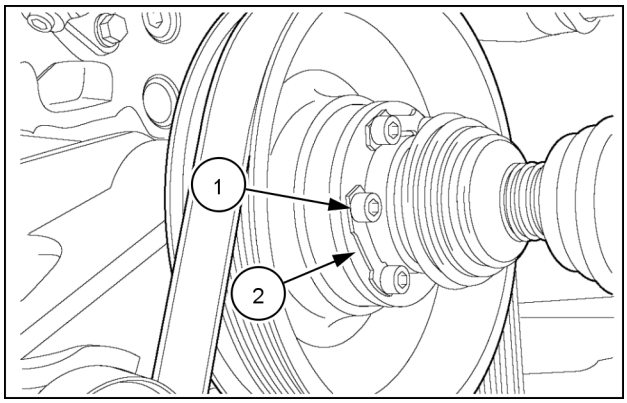
RCPH10CCH818AAB 30

41. Loosen the hose clamp **(1)** and disconnect the fill hose elbow **(2)**.



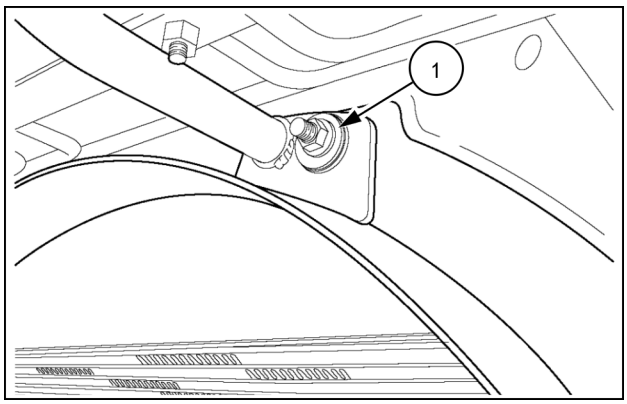
RCPH10CCH795AAB 31

42. Remove the six socket head bolts **(1)** and three backing plates **(2)** securing the drive shaft assembly to the engine drive pulley. Disengage the drive from the pulley.



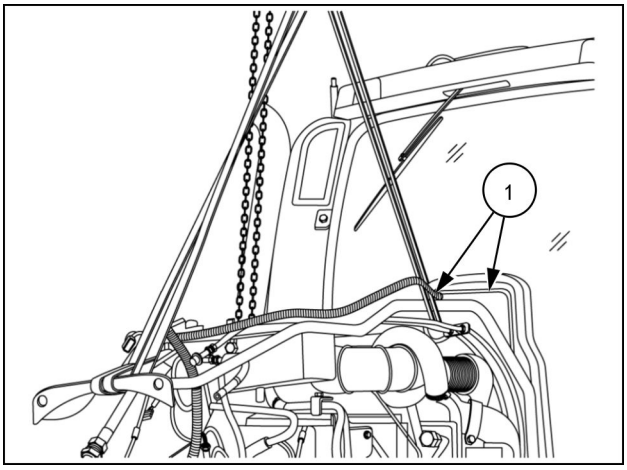
RCPH10CCH562AAB 32

43. Remove the nuts and washers **(1)** from the cooling assembly support bracket on the left and right sides.



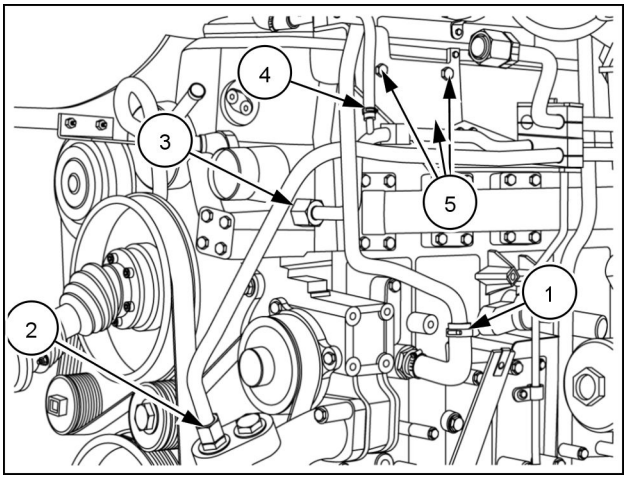
RCPH10CCH572AAB 33

44. Properly support the bracket, and remove the four bolts **(1)** securing the bracket to the hood support. Remove the assembly. Set the assembly aside.



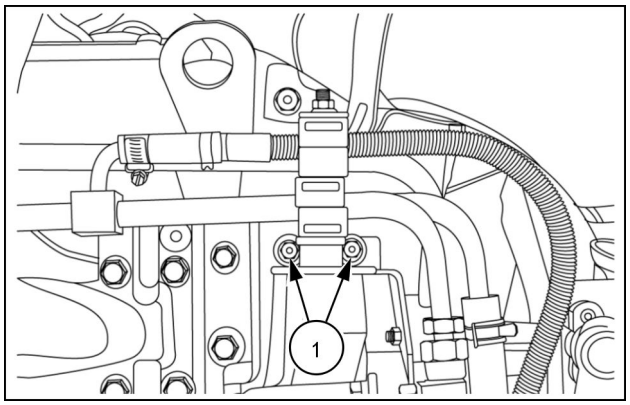
RCPH10CCH037BAB 34

45. Loosen the clamp **(1)** and disconnect the coolant fill line.
46. Loosen the nuts **(2)** and **(3)** and disconnect the cab heater supply and return lines.
47. Disengage the clamp **(4)** and remove the air bleed hose.
48. Remove the three bolts **(5)** securing the front support bracket.



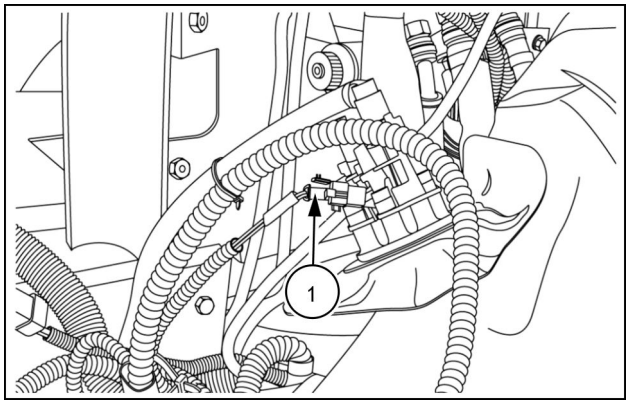
RCPH10CCH038BAB 35

49. Remove the two bolts **(1)** securing the rear support bracket.



RCPH10CCH800AAB 36

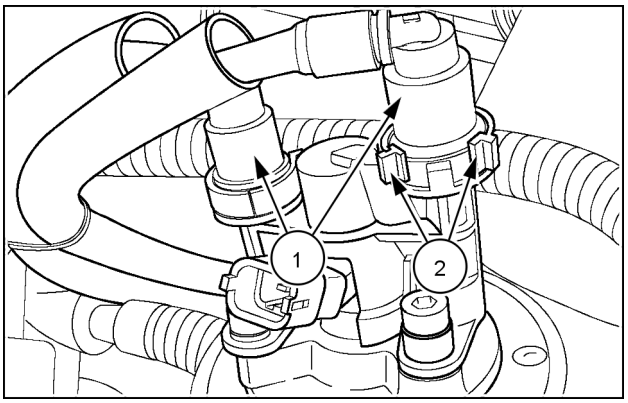
50. Disconnect the harness connector **(1)** to the dosing valve.



RCPH10CCH801AAB 37

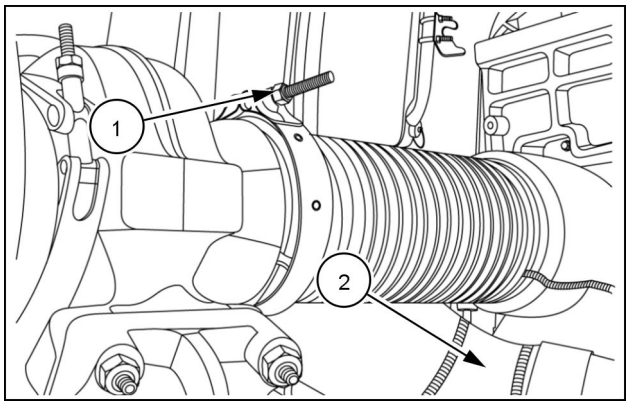
51. Disconnect the DEF supply and return hoses **(1)**.

NOTE: *Squeeze the locking tabs **(2)** together and pull straight upward on the elbow.*



RCPH10CCH359AAB 38

52. Remove the clamp **(1)** at the turbocharger. Repeat for clamp at the other end of the pipe **(2)**. Remove the pipe and set aside.



RCPH10CCH806AAB 39

Suggest:

If the above button click is invalid.

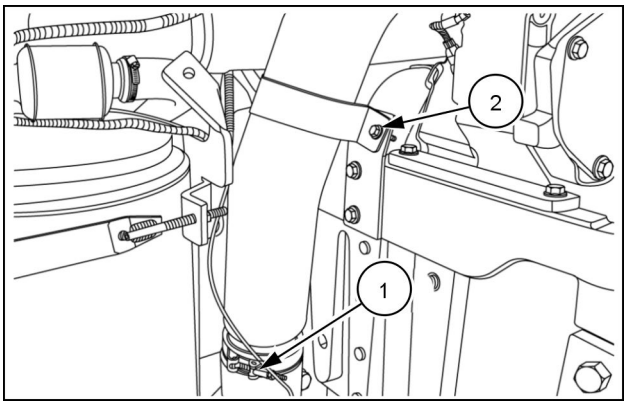
Please download this document

first, and then click the above link

to download the complete manual.

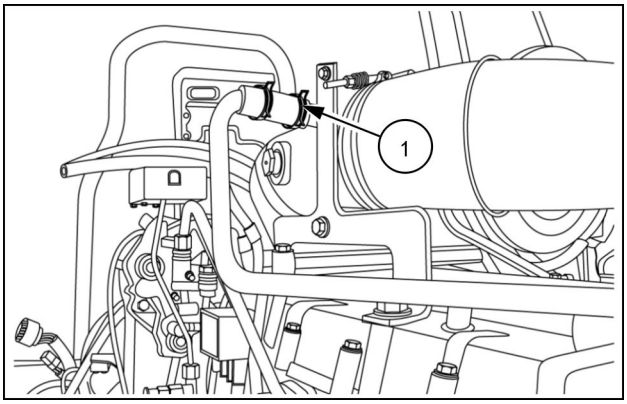
Thank you so much for reading

53. Remove the clamp **(1)** at the SCR muffler. Remove the attaching bolts **(2)** securing the support bracket. Remove the pipe and set aside.



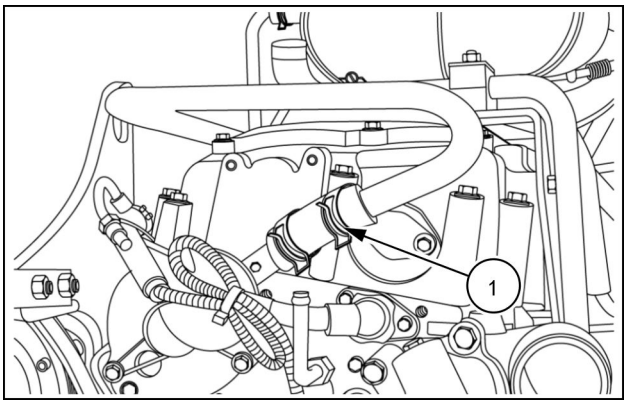
RCPH10CCH803AAB 40

54. Disengage the engine blow-by hose clamp **(1)** at the intake pipe. Disconnect from the intake pipe.



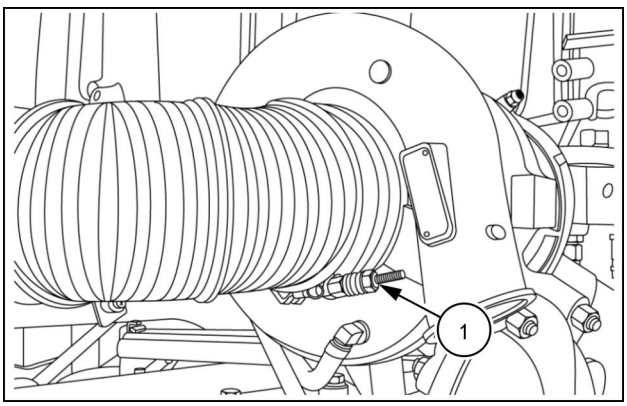
RCPH10CCH805AAB 41

55. Disengage the engine blow-by hose clamp **(1)** at the engine. Remove the pipe and set aside.



RCPH10CCH807AAB 42

56. Loosen the clamp **(1)** securing the intake pipe elbow to the turbocharger. Disconnect from the turbo.



RCPH10CCH809AAB 43