SERVICE MANUAL

T8.320 / T8.350 / T8.380 / T8.410 / T8.380 SmartTrax™ / T8.410 SmartTrax™ Powershift Transmission (PST)

Tractor

PIN ZERE08100 and above

Part number 47748118
1st edition English
November 2014

NEW HOLLAND AGRICULTURE

SERVICE MANUAL

T8.320 696110027 PST TIER 4B [ZERE08100 -] , T8.350 696110037 PST TIER 4B [ZERE08100 -] , T8.380 696110047 PST TIER 4B [ZERE08100 -] , T8.380 SmartTrax™ 696110077 PST TIER 4B [ZERE08100 -] , T8.410 696110057 PST TIER 4B [ZERE08100 -] , T8.410 SmartTrax™ 696110087 PST TIER 4B [ZERE08100 -]

Link Product / Engine

Product	Market Product	Engine
T8.320 696110027 PST TIER 4B [ZERE08100 -]	North America	F2CFE613G*B001
T8.350 696110037 PST TIER 4B [ZERE08100 -]	North America	F2CFE614G*B002
T8.380 696110047 PST TIER 4B [ZERE08100 -]	North America	F2CFE614D*B002
T8.410 696110057 PST TIER 4B [ZERE08100 -]	North America	F2CFE614C*B002
T8.380 SmartTrax™ 696110077 PST TIER 4B [ZERE08100 -]	North America	F2CFE614D*B002
T8.410 SmartTrax™ 696110087 PST TIER 4B [ZERE08100 -]	North America	F2CFE614C*B002

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INTRODUCTION

Foreword - Important notice regarding equipment servicing

All repair and maintenance work listed in this manual must be carried out only by qualified dealership personnel, strictly complying with the instructions given, and using, whenever possible, the special tools.

Anyone who performs repair and maintenance operations without complying with the procedures provided herein shall be responsible for any subsequent damages.

The manufacturer and all the organizations of its distribution chain, including - without limitation - national, regional, or local dealers, reject any responsibility for damages caused by parts and/or components not approved by the manufacturer, including those used for the servicing or repair of the product manufactured or marketed by the manufacturer. In any case, no warranty is given or attributed on the product manufactured or marketed by the manufacturer in case of damages caused by parts and/or components not approved by the manufacturer.

The information in this manual is up-to-date at the date of the publication. It is the policy of the manufacturer for continuous improvement. Some information could not be updated due to modifications of a technical or commercial type, or changes to the laws and regulations of different countries.

In case of questions, refer to your NEW HOLLAND Sales and Service Networks.

Safety rules

Personal safety

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

Throughout this manual you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

Read and understand all the safety messages in this manual before you operate or service the machine.

DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury.

WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.

CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.

Machine safety

NOTICE: *Notice indicates a situation that, if not avoided, could result in machine or property damage.*

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine or property damage. The word Notice is used to address practices not related to personal safety.

Information

NOTE: *Note indicates additional information that clarifies steps, procedures, or other information in this manual.*

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

Safety rules - General maintenance safety

⚠ General maintenance safety⚠

Keep the area used for servicing the machine clean and dry. Clean up spilled fluids.

Service the machine on a firm, level surface.

Install guards and shields after you service the machine.

Close all access doors and install all panels after servicing the machine.

Do not attempt to clean, lubricate, clear obstructions, or make adjustments to the machine while it is in motion or while the engine is running.

Always make sure that working area is clear of tools, parts, other persons and pets before you start operating the machine.

Unsupported hydraulic cylinders can lose pressure and drop the equipment, causing a crushing hazard. Do not leave equipment in a raised position while parked or during service, unless the equipment is securely supported.

Jack or lift the machine only at jack or lift points indicated in this manual.

Incorrect towing procedures can cause accidents. When you tow a disabled machine follow the procedure in this manual. Use only rigid tow bars.

Stop the engine, remove the key, and relieve pressure before you connect or disconnect fluid lines.

Stop the engine and remove the key before you connect or disconnect electrical connections.

Scalding can result from incorrect removal of coolant caps. Cooling systems operate under pressure. Hot coolant can spray out if you remove a cap while the system is hot. Allow the system to cool before you remove the cap. When you remove the cap, turn it slowly to allow pressure to escape before you completely remove the cap.

Replace damaged or worn tubes, hoses, electrical wiring, etc.

The engine, transmission, exhaust components, and hydraulic lines may become hot during operation. Take care when you service such components. Allow surfaces to cool before you handle or disconnect hot components. Wear protective equipment when appropriate.

When welding, follow the instructions in the manual. Always disconnect the battery before you weld on the machine. Always wash your hands after you handle battery components.

Safety rules - Personal Protective Equipment (PPE)

⚠ Personal Protective Equipment (PPE) ⚠

Wear Personal Protective Equipment (PPE) such as hard hat, eye protection, heavy gloves, hearing protection, protective clothing, etc.

Safety rules - Do Not Operate tag

⚠ Do Not Operate tag ⚠

Before you start servicing the machine, attach a ‘Do Not Operate’ warning tag to the machine in an area that will be visible.

Safety rules - Ecology and the environment

Soil, air, and water are vital factors of agriculture and life in general. When legislation does not yet rule the treatment of some of the substances required by advanced technology, sound judgment should govern the use and disposal of products of a chemical and petrochemical nature.

NOTE: *The following are recommendations that may be of assistance:*

- Become acquainted with and ensure that you understand the relative legislation applicable to your country.
- Where no legislation exists, obtain information from suppliers of oils, filters, batteries, fuels, antifreeze, cleaning agents, etc., with regard to their effect on man and nature and how to safely store, use, and dispose of these substances.
- Agricultural consultants will, in many cases, be able to help you as well.

Helpful hints

- Avoid filling tanks using cans or inappropriate pressurized fuel delivery systems that may cause considerable spillage.
- In general, avoid skin contact with all fuels, oils, acids, solvents, etc. Most of them contain substances that may be harmful to your health.
- Modern oils contain additives. Do not burn contaminated fuels and or waste oils in ordinary heating systems.
- Avoid spillage when draining off used engine coolant mixtures, engine, gearbox and hydraulic oils, brake fluids, etc. Do not mix drained brake fluids or fuels with lubricants. Store them safely until they can be disposed of in a proper way to comply with local legislation and available resources.
- Modern coolant mixtures, i.e. antifreeze and other additives, should be replaced every two years. They should not be allowed to get into the soil, but should be collected and disposed of properly.
- Do not open the air-conditioning system yourself. It contains gases that should not be released into the atmosphere. Your NEW HOLLAND dealer or air conditioning specialist has a special extractor for this purpose and will have to recharge the system properly.
- Repair any leaks or defects in the engine cooling or hydraulic system immediately.
- Do not increase the pressure in a pressurized circuit as this may lead to a component failure.
- Protect hoses during welding as penetrating weld splatter may burn a hole or weaken them, allowing the loss of oils, coolant, etc.

Torque - Minimum tightening torques for normal assembly

METRIC NON-FLANGED HARDWARE

NOM. SIZE	CLASS 8.8 BOLT and CLASS 8 NUT		CLASS 10.9 BOLT and CLASS 10 NUT		LOCKNUT CL.8 W/CL8.8 BOLT	LOCKNUT CL.10 W/CL10.9 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr		
M4	2.2 N·m (19 lb in)	2.9 N·m (26 lb in)	3.2 N·m (28 lb in)	4.2 N·m (37 lb in)	2 N·m (18 lb in)	2.9 N·m (26 lb in)
M5	4.5 N·m (40 lb in)	5.9 N·m (52 lb in)	6.4 N·m (57 lb in)	8.5 N·m (75 lb in)	4 N·m (36 lb in)	5.8 N·m (51 lb in)
M6	7.5 N·m (66 lb in)	10 N·m (89 lb in)	11 N·m (96 lb in)	15 N·m (128 lb in)	6.8 N·m (60 lb in)	10 N·m (89 lb in)
M8	18 N·m (163 lb in)	25 N·m (217 lb in)	26 N·m (234 lb in)	35 N·m (311 lb in)	17 N·m (151 lb in)	24 N·m (212 lb in)
M10	37 N·m (27 lb ft)	49 N·m (36 lb ft)	52 N·m (38 lb ft)	70 N·m (51 lb ft)	33 N·m (25 lb ft)	48 N·m (35 lb ft)
M12	64 N·m (47 lb ft)	85 N·m (63 lb ft)	91 N·m (67 lb ft)	121 N·m (90 lb ft)	58 N·m (43 lb ft)	83 N·m (61 lb ft)
M16	158 N·m (116 lb ft)	210 N·m (155 lb ft)	225 N·m (166 lb ft)	301 N·m (222 lb ft)	143 N·m (106 lb ft)	205 N·m (151 lb ft)
M20	319 N·m (235 lb ft)	425 N·m (313 lb ft)	440 N·m (325 lb ft)	587 N·m (433 lb ft)	290 N·m (214 lb ft)	400 N·m (295 lb ft)
M24	551 N·m (410 lb ft)	735 N·m (500 lb ft)	762 N·m (560 lb ft)	1016 N·m (750 lb ft)	501 N·m (370 lb ft)	693 N·m (510 lb ft)

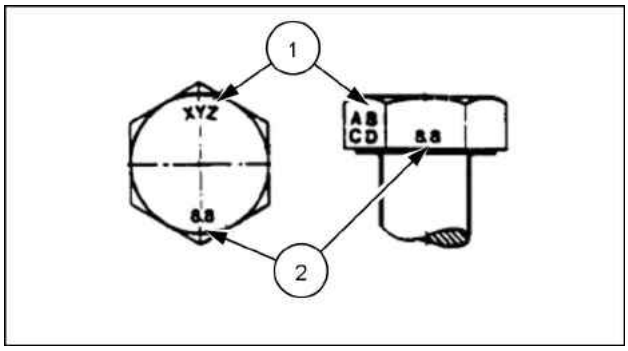
NOTE: *M4 through M8 hardware torque specifications are shown in pound-inches. M10 through M24 hardware torque specifications are shown in pound-feet.*

METRIC FLANGED HARDWARE

NOM. SIZE	CLASS 8.8 BOLT and CLASS 8 NUT		CLASS 10.9 BOLT and CLASS 10 NUT		LOCKNUT CL.8 W/CL8.8 BOLT	LOCKNUT CL.10 W/CL10.9 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr		
M4	2.4 N·m (21 lb in)	3.2 N·m (28 lb in)	3.5 N·m (31 lb in)	4.6 N·m (41 lb in)	2.2 N·m (19 lb in)	3.1 N·m (27 lb in)
M5	4.9 N·m (43 lb in)	6.5 N·m (58 lb in)	7.0 N·m (62 lb in)	9.4 N·m (83 lb in)	4.4 N·m (39 lb in)	6.4 N·m (57 lb in)
M6	8.3 N·m (73 lb in)	11 N·m (96 lb in)	12 N·m (105 lb in)	16 N·m (141 lb in)	7.5 N·m (66 lb in)	11 N·m (96 lb in)
M8	20 N·m (179 lb in)	27 N·m (240 lb in)	29 N·m (257 lb in)	39 N·m (343 lb in)	18 N·m (163 lb in)	27 N·m (240 lb in)
M10	40 N·m (30 lb ft)	54 N·m (40 lb ft)	57 N·m (42 lb ft)	77 N·m (56 lb ft)	37 N·m (27 lb ft)	53 N·m (39 lb ft)
M12	70 N·m (52 lb ft)	93 N·m (69 lb ft)	100 N·m (74 lb ft)	134 N·m (98 lb ft)	63 N·m (47 lb ft)	91 N·m (67 lb ft)
M16	174 N·m (128 lb ft)	231 N·m (171 lb ft)	248 N·m (183 lb ft)	331 N·m (244 lb ft)	158 N·m (116 lb ft)	226 N·m (167 lb ft)
M20	350 N·m (259 lb ft)	467 N·m (345 lb ft)	484 N·m (357 lb ft)	645 N·m (476 lb ft)	318 N·m (235 lb ft)	440 N·m (325 lb ft)
M24	607 N·m (447 lb ft)	809 N·m (597 lb ft)	838 N·m (618 lb ft)	1118 N·m (824 lb ft)	552 N·m (407 lb ft)	

IDENTIFICATION

Metric Hex head and carriage bolts, classes 5.6 and up



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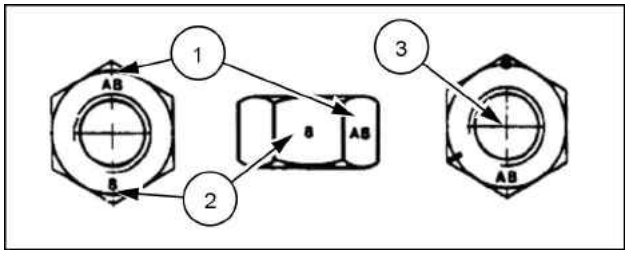
1. Manufacturer's Identification
2. Property Class

Metric Hex nuts and locknuts, classes 05 and up



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1. Manufacturer's Identification
2. Property Class
3. Clock Marking of Property Class and Manufacturer's Identification (Optional), i.e. marks **60 °** apart indicate Class 10 properties, and marks **120 °** apart indicate Class 8.

INCH NON-FLANGED HARDWARE

NOMINAL SIZE	SAE GRADE 5 BOLT and NUT		SAE GRADE 8 BOLT and NUT		LOCKNUT GrB W/ Gr5 BOLT	LOCKNUT GrC W/ Gr8 BOLT
	UN-PLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UN-PLATED or PLATED SILVER	PLATED W/ZnCr GOLD		
1/4	**8 N·m (71 lb in)**	**11 N·m (97 lb in)**	**12 N·m (106 lb in)**	**16 N·m (142 lb in)**	**8.5 N·m (75 lb in)**	**12.2 N·m (109 lb in)**
5/16	**17 N·m (150 lb in)**	**23 N·m (204 lb in)**	**24 N·m (212 lb in)**	**32 N·m (283 lb in)**	**17.5 N·m (155 lb in)**	**25 N·m (220 lb in)**
3/8	**30 N·m (22 lb ft)**	**40 N·m (30 lb ft)**	**43 N·m (31 lb ft)**	**57 N·m (42 lb ft)**	**31 N·m (23 lb ft)**	**44 N·m (33 lb ft)**
7/16	**48 N·m (36 lb ft)**	**65 N·m (48 lb ft)**	**68 N·m (50 lb ft)**	**91 N·m (67 lb ft)**	**50 N·m (37 lb ft)**	**71 N·m (53 lb ft)**
1/2	**74 N·m (54 lb ft)**	**98 N·m (73 lb ft)**	**104 N·m (77 lb ft)**	**139 N·m (103 lb ft)**	**76 N·m (56 lb ft)**	**108 N·m (80 lb ft)**
9/16	**107 N·m (79 lb ft)**	**142 N·m (105 lb ft)**	**150 N·m (111 lb ft)**	**201 N·m (148 lb ft)**	**111 N·m (82 lb ft)**	**156 N·m (115 lb ft)**
5/8	**147 N·m (108 lb ft)**	**196 N·m (145 lb ft)**	**208 N·m (153 lb ft)**	**277 N·m (204 lb ft)**	**153 N·m (113 lb ft)**	**215 N·m (159 lb ft)**
3/4	**261 N·m (193 lb ft)**	**348 N·m (257 lb ft)**	**369 N·m (272 lb ft)**	**491 N·m (362 lb ft)**	**271 N·m (200 lb ft)**	**383 N·m (282 lb ft)**
7/8	**420 N·m (310 lb ft)**	**561 N·m (413 lb ft)**	**594 N·m (438 lb ft)**	**791 N·m (584 lb ft)**	**437 N·m (323 lb ft)**	**617 N·m (455 lb ft)**
1	**630 N·m (465 lb ft)**	**841 N·m (620 lb ft)**	**890 N·m (656 lb ft)**	**1187 N·m (875 lb ft)**	**654 N·m (483 lb ft)**	**924 N·m (681 lb ft)**

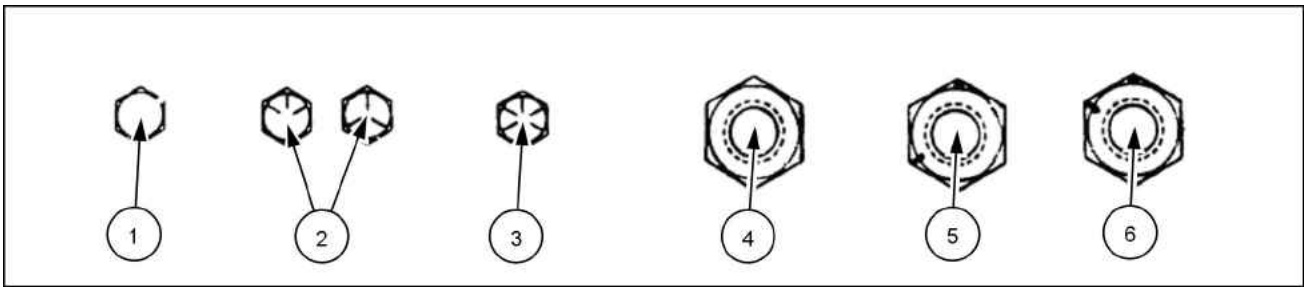
NOTE: *For Imperial Units,* ***1/4 in*** *and* ***5/16 in*** *hardware torque specifications are shown in pound-inches.* ***3/8 in*** *through* ***1 in*** *hardware torque specifications are shown in pound-feet.*

INCH FLANGED HARDWARE

NOM-INAL SIZE	SAE GRADE 5 BOLT and NUT		SAE GRADE 8 BOLT and NUT		LOCKNUT GrF W/ Gr5 BOLT	LOCKNUT GrG W/ Gr8 BOLT
	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD		
1/4	**9 N·m (80 lb in)**	**12 N·m (106 lb in)**	**13 N·m (115 lb in)**	**17 N·m (150 lb in)**	**8 N·m (71 lb in)**	**12 N·m (106 lb in)**
5/16	**19 N·m (168 lb in)**	**25 N·m (221 lb in)**	**26 N·m (230 lb in)**	**35 N·m (310 lb in)**	**17 N·m (150 lb in)**	**24 N·m (212 lb in)**
3/8	**33 N·m (25 lb ft)**	**44 N·m (33 lb ft)**	**47 N·m (35 lb ft)**	**63 N·m (46 lb ft)**	**30 N·m (22 lb ft)**	**43 N·m (32 lb ft)**
7/16	**53 N·m (39 lb ft)**	**71 N·m (52 lb ft)**	**75 N·m (55 lb ft)**	**100 N·m (74 lb ft)**	**48 N·m (35 lb ft)**	**68 N·m (50 lb ft)**
1/2	**81 N·m (60 lb ft)**	**108 N·m (80 lb ft)**	**115 N·m (85 lb ft)**	**153 N·m (113 lb ft)**	**74 N·m (55 lb ft)**	**104 N·m (77 lb ft)**
9/16	**117 N·m (86 lb ft)**	**156 N·m (115 lb ft)**	**165 N·m (122 lb ft)**	**221 N·m (163 lb ft)**	**106 N·m (78 lb ft)**	**157 N·m (116 lb ft)**
5/8	**162 N·m (119 lb ft)**	**216 N·m (159 lb ft)**	**228 N·m (168 lb ft)**	**304 N·m (225 lb ft)**	**147 N·m (108 lb ft)**	**207 N·m (153 lb ft)**
3/4	**287 N·m (212 lb ft)**	**383 N·m (282 lb ft)**	**405 N·m (299 lb ft)**	**541 N·m (399 lb ft)**	**261 N·m (193 lb ft)**	**369 N·m (272 lb ft)**
7/8	**462 N·m (341 lb ft)**	**617 N·m (455 lb ft)**	**653 N·m (482 lb ft)**	**871 N·m (642 lb ft)**	**421 N·m (311 lb ft)**	**594 N·m (438 lb ft)**
1	**693 N·m (512 lb ft)**	**925 N·m (682 lb ft)**	**979 N·m (722 lb ft)**	**1305 N·m (963 lb ft)**	**631 N·m (465 lb ft)**	**890 N·m (656 lb ft)**

IDENTIFICATION

Inch Bolts and free-spinning nuts



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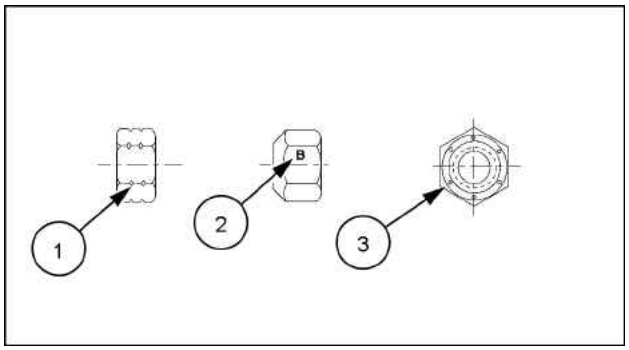
Grade Marking Examples

SAE Grade Identification			
1	Grade 2 - No Marks	4	Grade 2 Nut - No Marks
2	Grade 5 - Three Marks	5	Grade 5 Nut - Marks **120 °** Apart
3	Grade 8 - Five Marks	6	Grade 8 Nut - Marks **60 °** Apart

Inch Lock Nuts, All Metal (Three optional methods)



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Grade Identification

Grade	Corner Marking Method (1)	Flats Marking Method (2)	Clock Marking Method (3)
Grade A	No Notches	No Mark	No Marks
Grade B	One Circumferential Notch	Letter B	Three Marks
Grade C	Two Circumferential Notches	Letter C	Six Marks

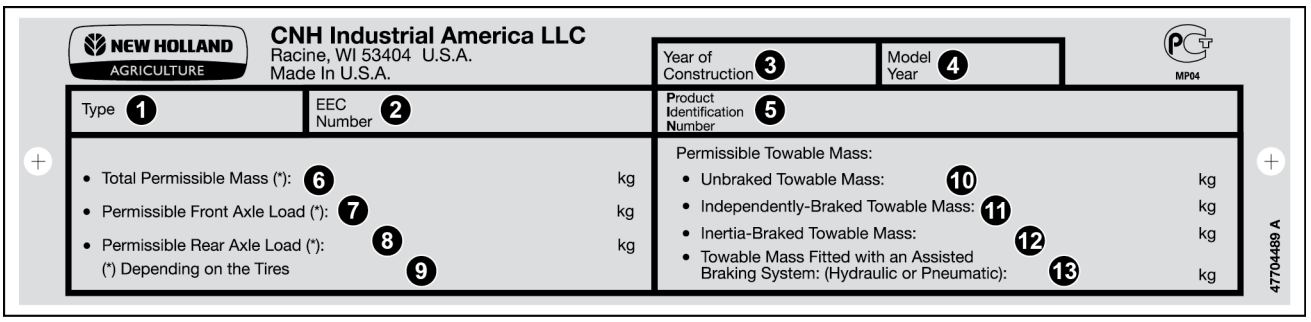
Capacities

System	Metric	U.S.	Imperial
9.0 l engine **NEW HOLLAND AMBRA UNITEK MASTERGOLD SBL CJ-4**			
Engine oil – no filter change	**25 l**	**6.6 US gal**	**5.5 UK gal**
Engine oil – with filter change	**25 l**	**6.6 US gal**	**5.5 UK gal**
Cooling system	**26.5 l**	**7 US gal**	**5.8 UK gal**
Transmission/hydraulic system – **NEW HOLLAND AMBRA MASTERTRAN® ULTRACTION**			
Wheeled Powershift with standard rear axle	**172 l**	**45.5 US gal**	**38 UK gal**
Wheeled Powershift with heavy duty rear axle	**184 l**	**48.5 US gal**	**40.4 UK gal**
Track Powershift with heavy duty rear axle	**160 l**	**42.5 US gal**	**35.2 UK gal**
Wheeled Continuously Variable transmission (CVT) with standard rear axle	**187 l**	**49.5 US gal**	**41.25 UK gal**
Wheeled Continuously Variable transmission (CVT) with heavy duty rear axle	**206 l**	**54.5 US gal**	**45.4 UK gal**
Track Continuously Variable transmission (CVT) with heavy duty rear axle	**184 l**	**48.5 US gal**	**40.4 UK gal**
Mechanical Front Drive (MFD) axles — **TUTELA HYPOIDE EP GEAR LUBE** or **NEW HOLLAND AMBRA HYPOIDE 140**			
Class 4.75 fixed and saddle suspended front axle			
Differential	**16.5 l**	**17.4 US qt**	**29.0 UK pt**
Planetary (each)	**4.3 l**	**9.1 US pt**	**7.6 UK pt**
Class 5.0 fixed and saddle suspended front axle			
Differential	**16.5 l**	**17.4 US qt**	**29.0 UK pt**
Planetary (each)	**4.5 l**	**9.5 US pt**	**8 UK pt**
Class 5.0 wide fixed and saddle suspended front axle			
Differential	**17.0 l**	**18.0 US qt**	**30.0 UK pt**
Planetary (each)	**4.5 l**	**9.5 US pt**	**8 UK pt**
Front PTO	**4.2 l**	**4.4 US qt**	--
Track undercarriage idler/roller wheel hubs			
Idler hub - SAE 50W TO 4 oil	**600 mL**	**20 US fl oz**	**21.1 UK fl oz**
Roller hub - SAE 30W engine oil	**250 mL**	**8 US fl oz**	**8.8 UK fl oz**
DEF/ADBLUE® tank	**87 l**	**23 US gal**	**23.8 UK gal**
Fuel tank			
Tractors with rear wheels	**636 l**	**168 US gal**	**140 UK gal**
Tractors with rear tracks	**662 l**	**175 US gal**	**146 UK gal**

Product identification

Tractor model and product identification number

Write your model number, product identification number (PIN) or serial number of major components on the lines provided. If needed, give these numbers to your dealer when you need parts or information for your machine.



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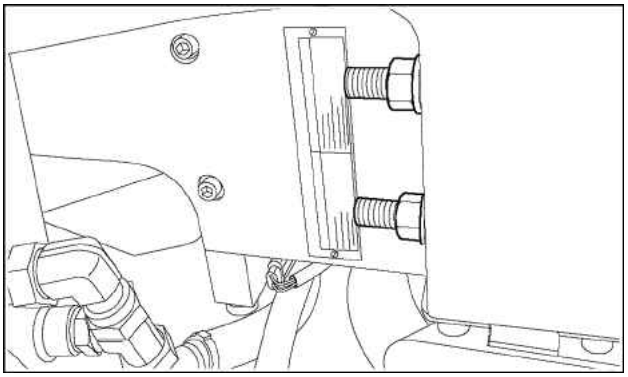
1. Type	8. Permissible rear axle load (*):
2. EEC number	9. (*) Depending on the tires
3. Year of construction	Permissible towable mass:
4. Model year	• 10. Unbraked towable mass:
5. Product identification number	• 11. Independently-braked towable mass:
6. Total permissible mass (*):	• 12. Inertia braked towable mass:
7. Permissible front axle load (*):	• 13. Towable mass fitted with an assisted braking system: (hydraulic or pneumatic)

Model :

Serial number:

NOTE: *Located on right hand front casting. Pin plate may be mounted vertically or horizontally.*



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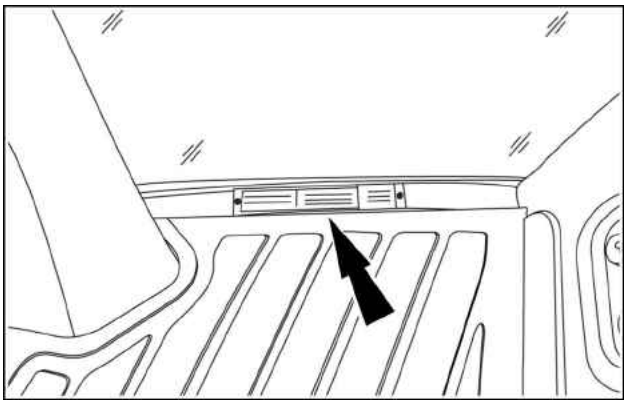
Roll Over Protective Structure (ROPS) serial number

NOTE: *Located on the right hand cab floor.*



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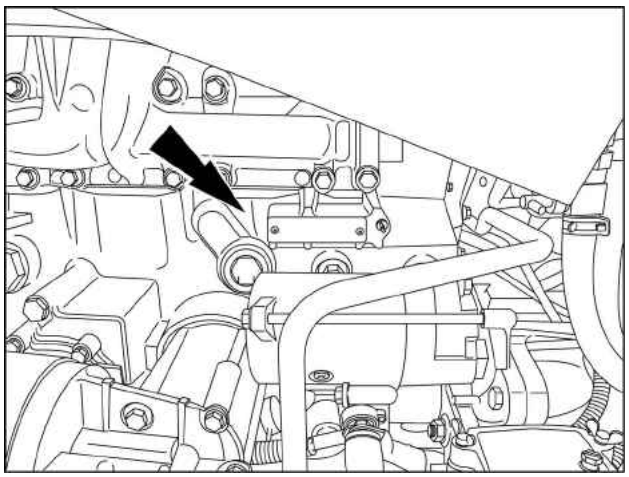
Engine serial number

NOTE: *Located on the valve cover. The serial number is also etched into the left hand side of the engine block, just below the oil cooler.*



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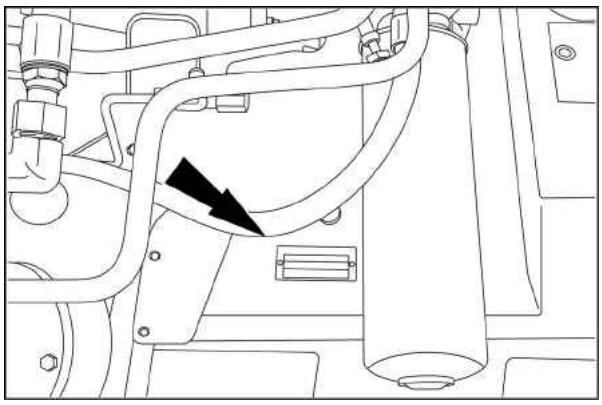
Transmission serial number

NOTE: *Located on the right hand side of the transmission to the left of the main hydraulic filter.*



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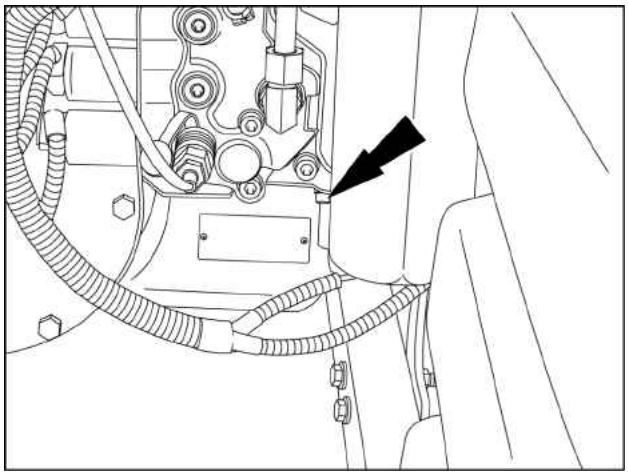
Powershift transmission

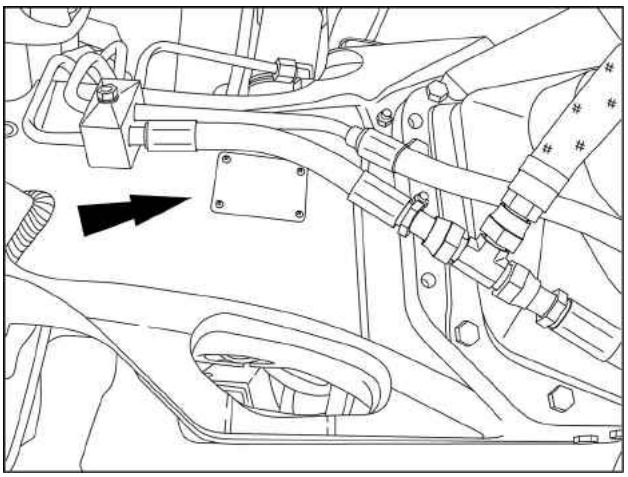


RAIL12TR02191AA 6

Auto Command

Axle serial number

Located on the rear left hand side of the class 4.75 fixed, 4.75 saddle suspended, 5.0 fixed and 5.0 saddle suspended front axle housings. (example shown)



RAIL12TR02142AA 7

SERVICE MANUAL

Engine

T8.320 696110027 PST TIER 4B [ZERE08100 -] , T8.350 696110037 PST TIER 4B [ZERE08100 -] , T8.380 696110047 PST TIER 4B [ZERE08100 -] , T8.380 SmartTrax™ 696110077 PST TIER 4B [ZERE08100 -] , T8.410 696110057 PST TIER 4B [ZERE08100 -] , T8.410 SmartTrax™ 696110087 PST TIER 4B [ZERE08100 -]

Contents

Engine - 10

Engine - 10

Engine and crankcase - 001

T8.320 696110027 PST TIER 4B [ZERE08100 -] , T8.350 696110037 PST TIER 4B [ZERE08100 -] , T8.380 696110047 PST TIER 4B [ZERE08100 -] , T8.380 SmartTrax™ 696110077 PST TIER 4B [ZERE08100 -] , T8.410 696110057 PST TIER 4B [ZERE08100 -] , T8.410 SmartTrax™ 696110087 PST TIER 4B [ZERE08100 -]

Contents

Engine - 10

Engine and crankcase - 001

SERVICE

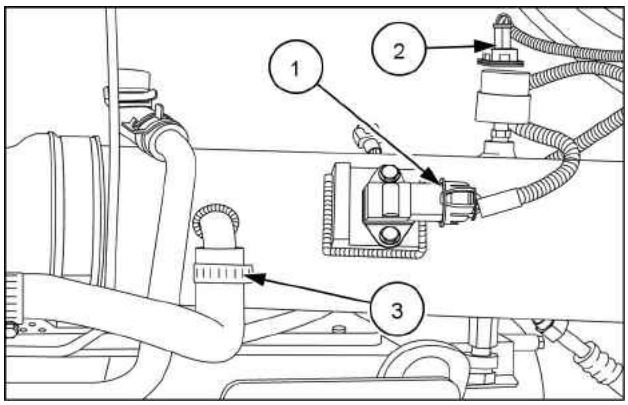
Engine - Remove

Prior operation:
Disconnect the batteries — **Battery - Disconnect (55.302)**
Prior operation:
Remove the hood — **Hood - Remove (90.100)**
Prior operation:
Side shield - Remove (90.102)
Prior operation:
Recover the refrigerant — **Air conditioning - Recover (50.200)**
Prior operation:
Drain the coolant — **Engine cooling system - Emptying (10.400)**
Prior operation:
Engine cooling system - Remove (10.400)
Prior operation:
Diesel Oxidation Catalyst (DOC) - Remove (10.500)

NOTE: *Clean all fittings before disconnecting.*

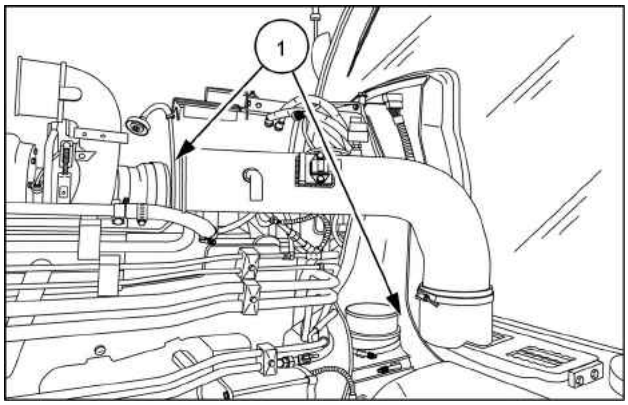
NOTE: *Cap or plug all lines and ports when disconnecting hydraulic components.*

1. Disconnect the harness connector to the humidity sensor **(1)** and the air restriction sensor **(2)**. Disengage the hose clamp **(3)** and disconnect the hose from the air intake tube.



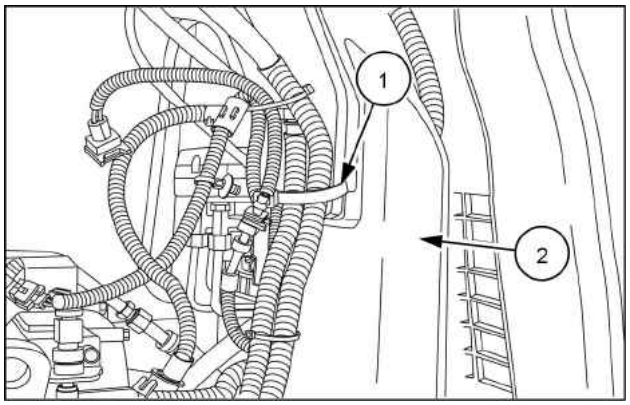
RAIL13TR04202AA 1

2. Disconnect the clamps **(1)** from each end of the air intake tube and remove the tube.



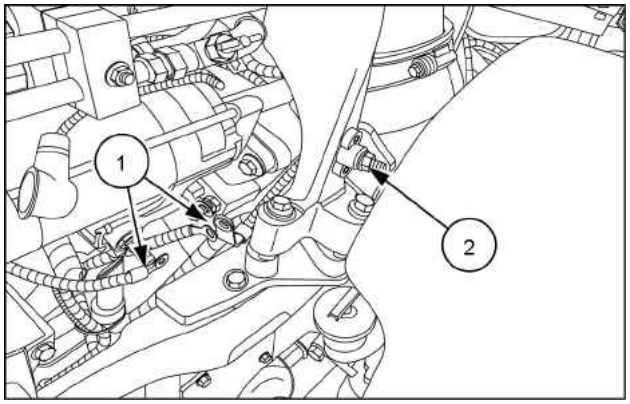
RAIL13TR04211AA 2

3. Cut the wire tie **(1)** securing the harness to the hood support **(2)**.



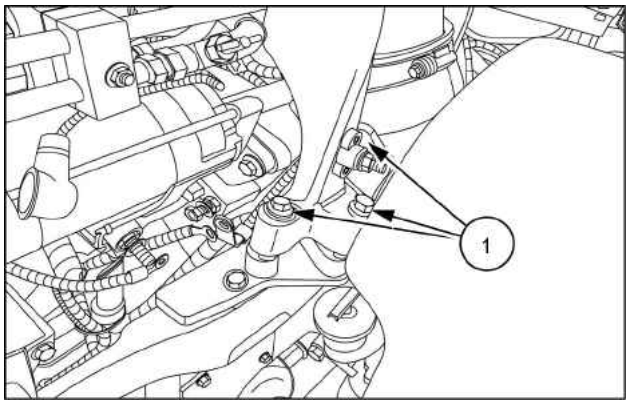
RAIL13TR04204AA 3

4. Disconnect the starter cables **(1)** and the auxiliary wire **(2)**.



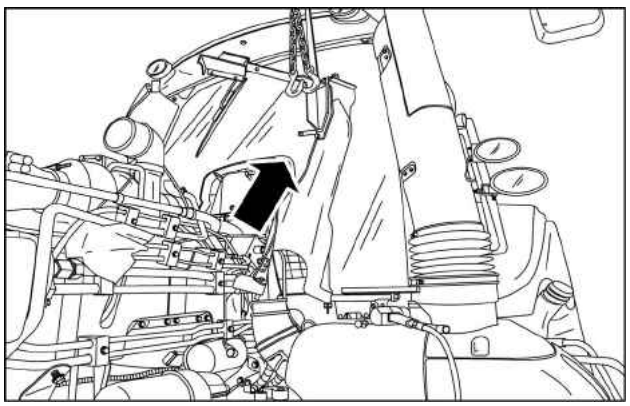
RAIL13TR04209AA 4

5. Remove the three bolts **(1)** securing the hood support to the frame.



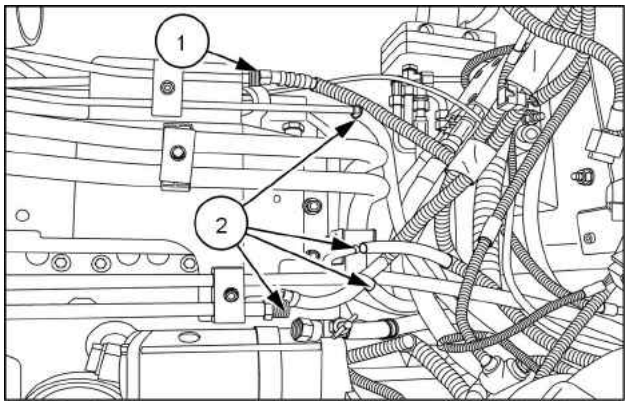
RAIL13TR04209AA 5

6. Remove the hood support.



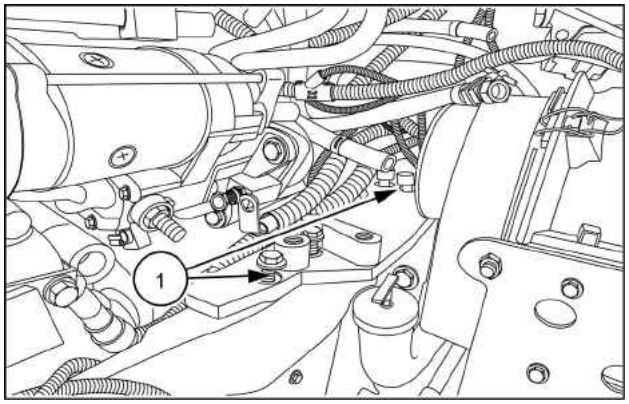
RAIL13TR04212AA 6

7. Disconnect the high pressure A/C hose **(1)** and the coolant lines **(2)**. Plug or cap all ports and lines.



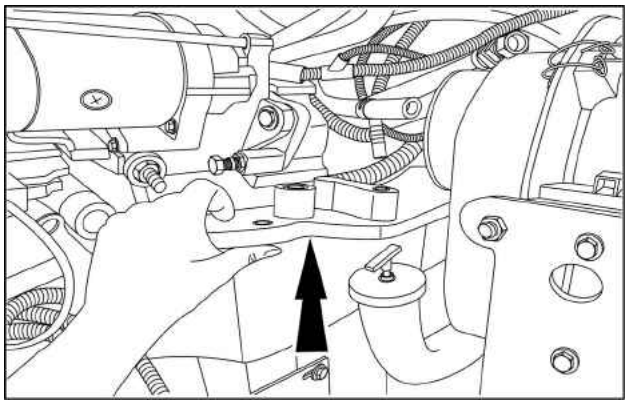
RAIL13TR04230AA 7

8. Remove the two bolts **(1)** from the rear engine mount plate.



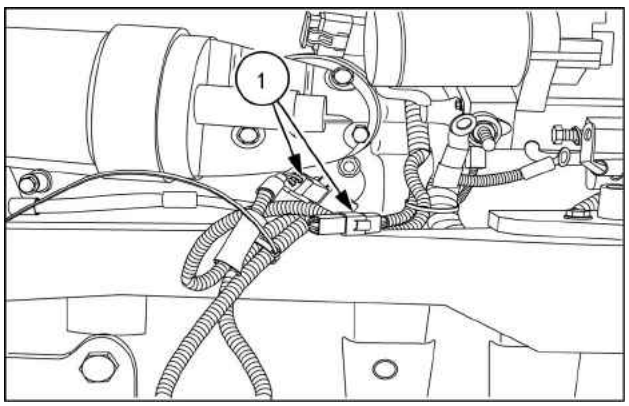
RAIL13TR04243AA 8

9. Remove the engine mount cover plate.



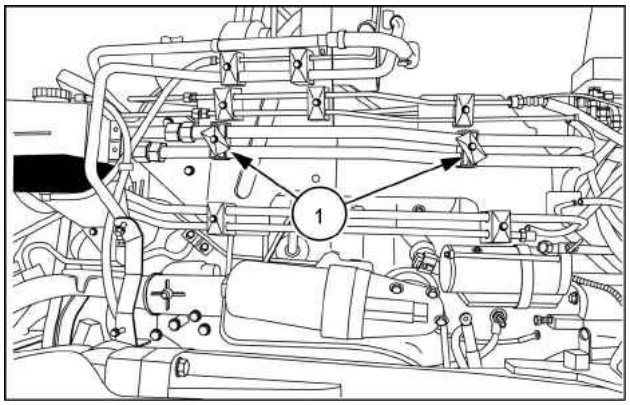
RAIL13TR04244AA 9

10. Disconnect the suspended axle electrical connectors **(1)** if equipped.



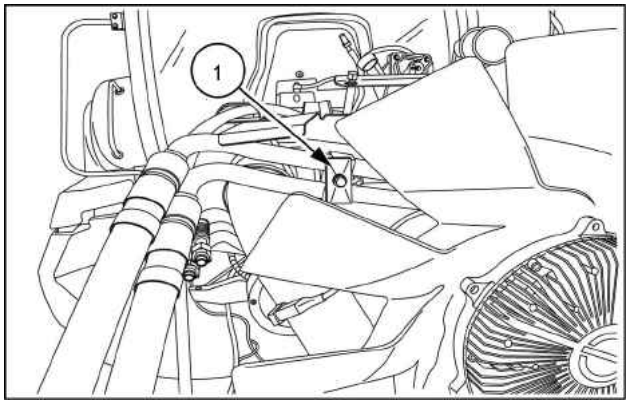
RAIL13TR04237AA 10

11. Remove the two tube clamps **(1)** securing the hydraulic cooler tubes.



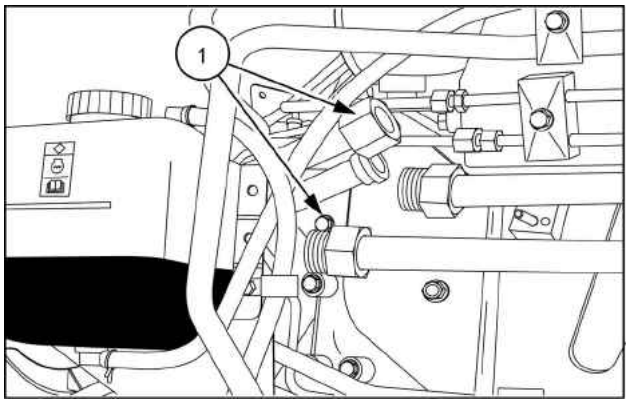
RAIL13TR04232AA 11

12. On the front of the engine, remove the tube clamp **(1)** for the oil cooler tubes.



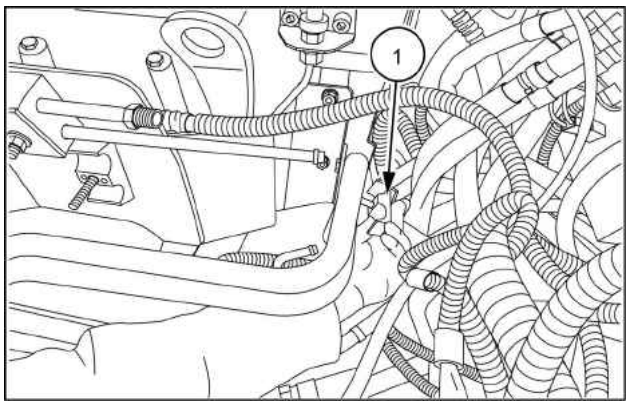
RAIL13TR04234AA 12

13. Disconnect the oil cooler tubes **(1)** and set them aside.



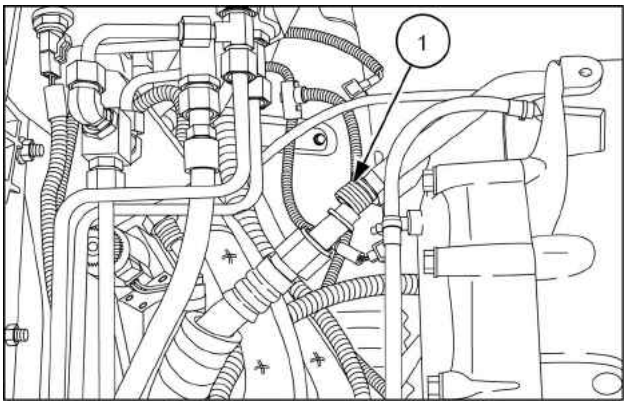
RAIL13TR04235AA 13

14. On the rear of the engine, remove the oil cooler tube clamp **(1)**.



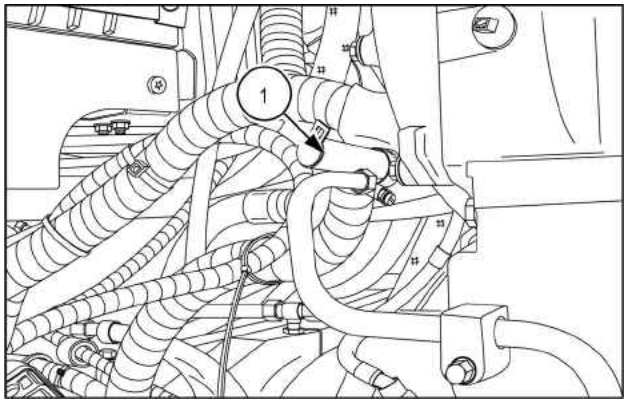
RAIL13TR04236AA 14

15. Disconnect the low pressure A/C line **(1)**. Plug or cap the fittings.



RAIL13TR04228AA 15

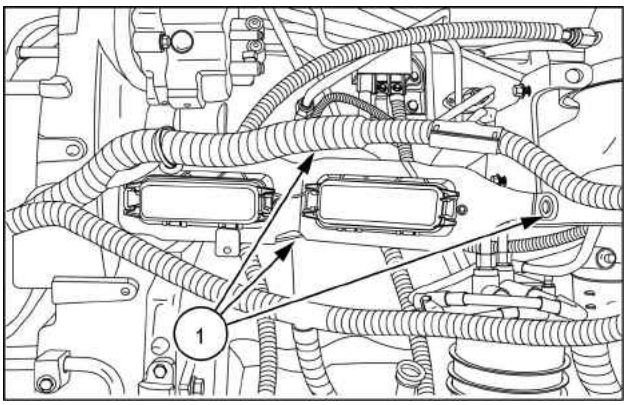
16. Disengage the hose clamp and disconnect the engine controller oil line **(1)**.



RAIL13TR04227AA 16

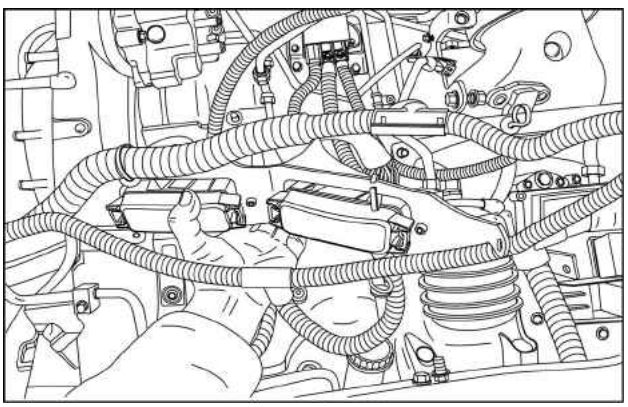
17. Remove the three mounting bolts **(1)** securing the fuse panel bracket.

NOTE: *Cut any wire ties securing the harness.*



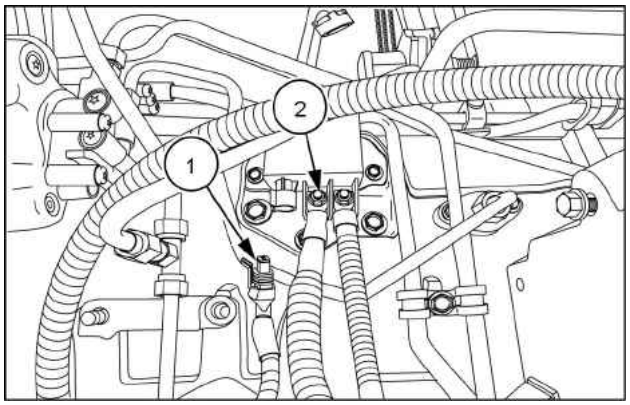
RAIL13TR04216AA 17

18. Remove the fuse panel.



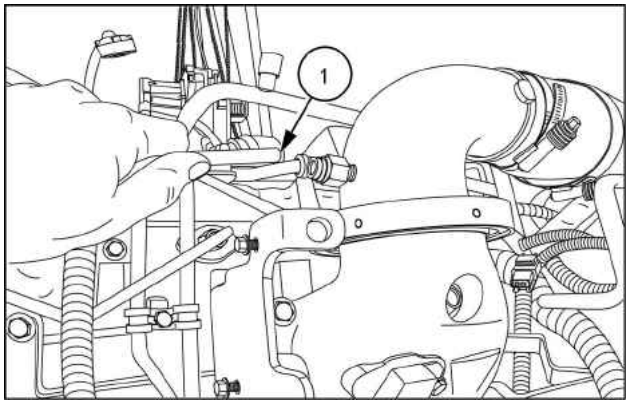
RAIL13TR04214AA 18

19. Disconnect the harness connector **(1)** for the engine grid heater and the power supply cable **(2)**.



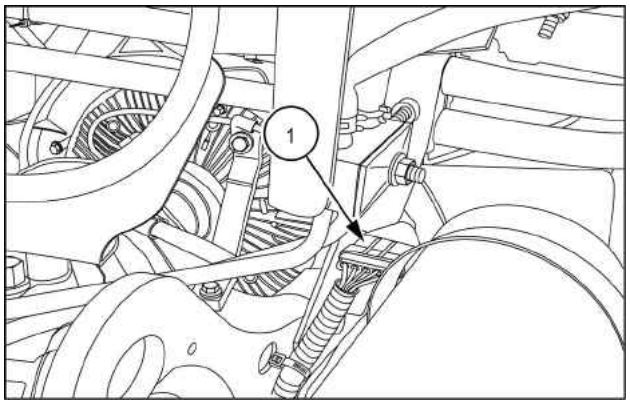
RAIL13TR04219AA 19

20. Disconnect the vent hose **(1)** from the intake manifold.



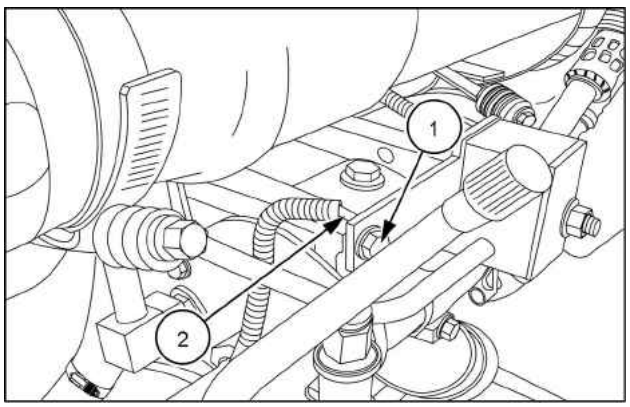
RAIL13TR04218AA 20

21. Disconnect the harness connector **(1)** for the fan drive.



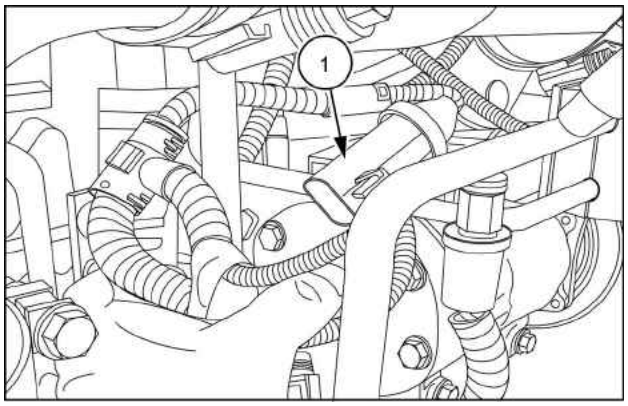
RAIL13TR04220AA 21

22. Remove the A/C compressor mounting bolt **(1)** and disconnect the ground wire **(2)**.



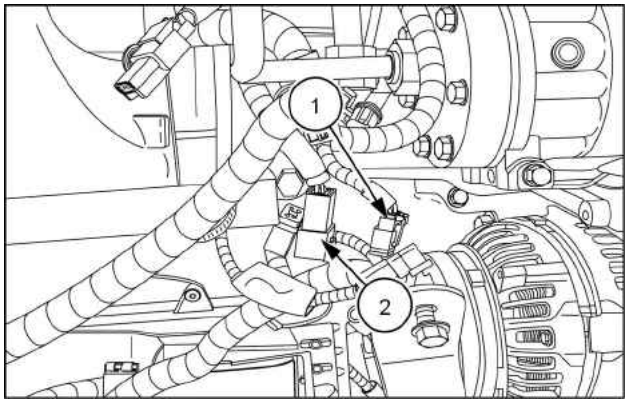
RAIL13TR04224AA 22

23. Disconnect the harness connector to the high pressure switch **(1)**.



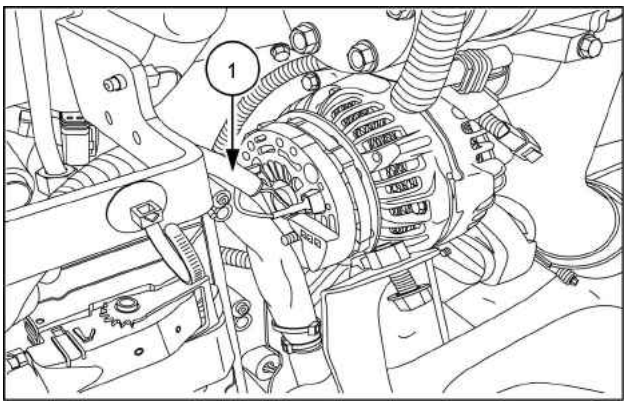
RAIL13TR04223AA 23

24. Disconnect the alternator excite wire connector **(1)** and the CAN bus connector **(2)**.



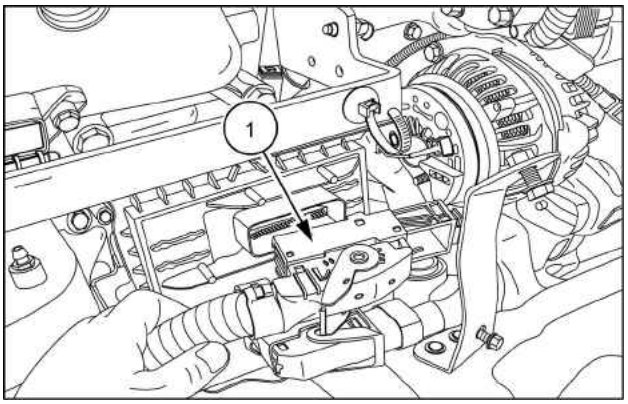
RAIL13TR04221AA 24

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



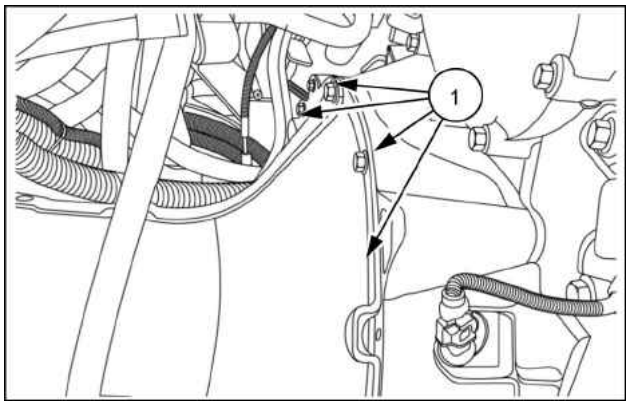
RAIL13TR04231AA 25

26. Disconnect the harness connector **(1)** to the engine controller.



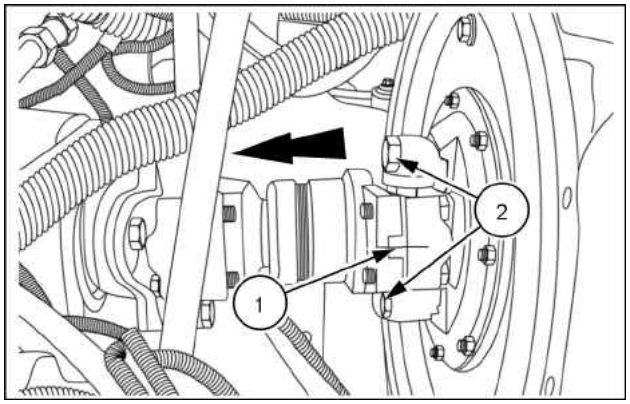
RAIL13TR04226AA 26

27. Remove the bolts **(1)** and the cover for the drop box drive shaft. Set the cover aside.



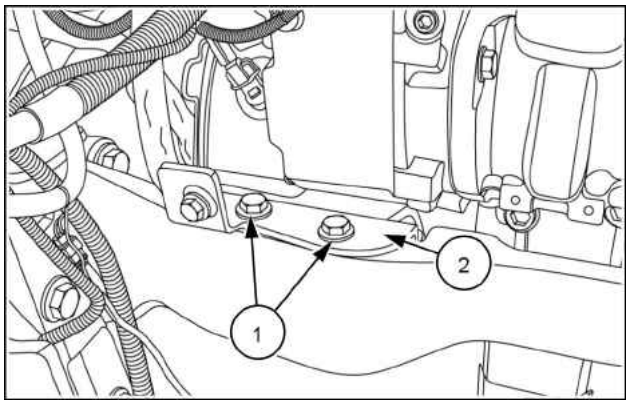
RCPH10CCH813AAB 27

28. Mark the alignment of the drive shaft **(1)**. Remove the four bolts and disengage the drive shaft from the flywheel.



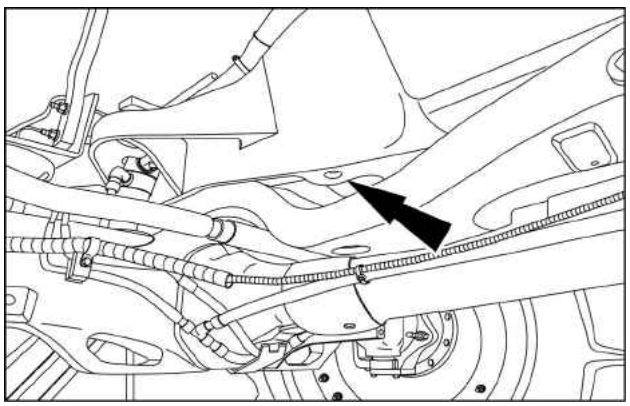
RCPH10CCH817AAB 28

29. Remove the bolts **(1)** from the plate **(2)** for the right hand rear engine mount.



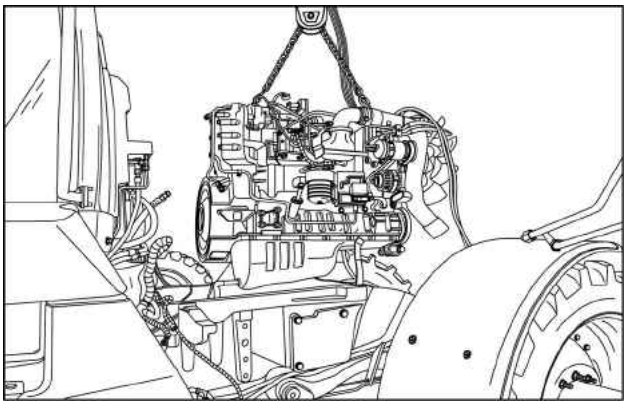
RCPH10CCH925AAB 29

30. Under the front frame, remove the front engine mount nut.



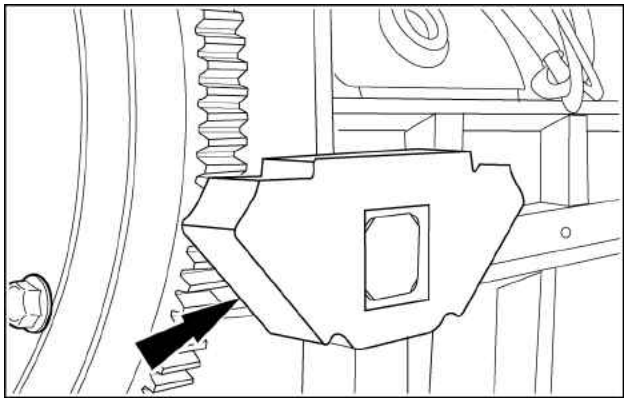
RAIL13TR04246AA 30

31. Attach appropriately rated lifting equipment to the lifting brackets on the engine. Carefully remove the engine while making certain all harnesses, lines and hoses have been disconnected.



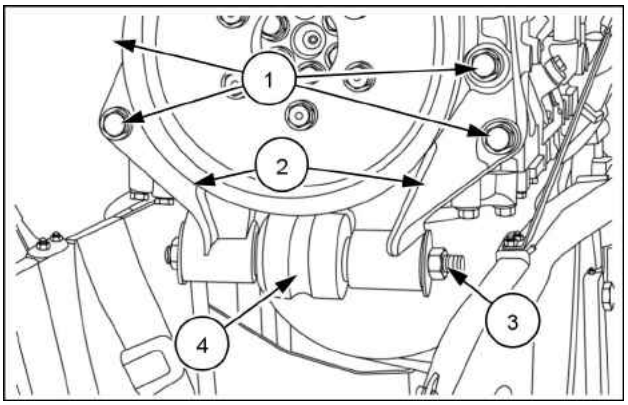
RAIL13TR04247AA 31

32. Remove the right hand ear engine mount. Inspect for wear and/or damage. Replace as required. Repeat for the left side.



RCPH07CCH166AAB 32

33. Remove the four bolts **(1)** securing the brackets **(2)** for the front engine mount.
34. Remove the bolt **(3)** securing the front engine mount **(4)**.
35. Inspect the mount for wear and/or damage. Replace as required.



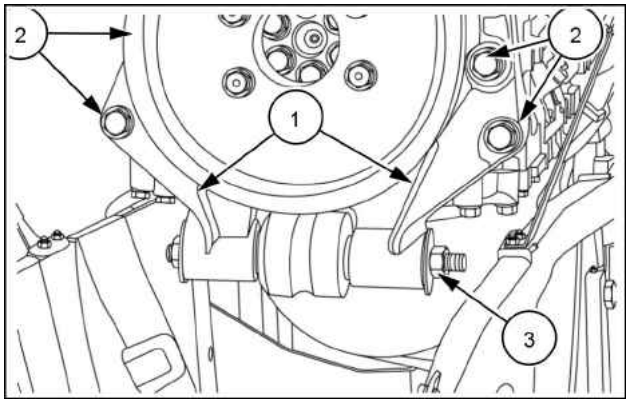
RCPH10CCH833AAB 33

Next operation:
Engine - Install (10.001)

Engine - Install

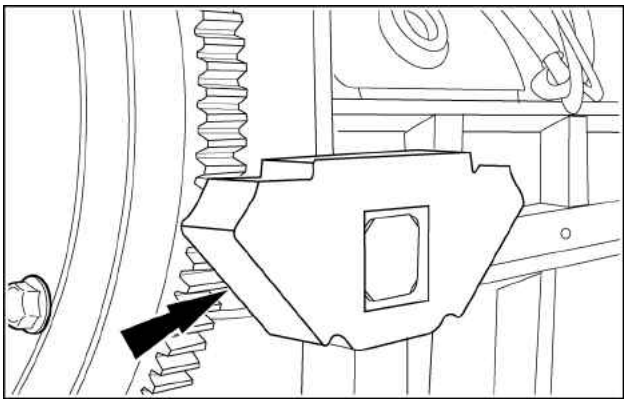
Prior operation:
Engine - Remove (10.001)

1. If removed, install the front engine mounting brackets **(1)**.
2. Torque the four mounting bolts **(2)** to **101 - 113 N·m** (**75 - 83 lb ft**).
3. Torque the ISO mount support bolt nut **(3)** to **160 - 220 N·m** (**118 - 162 lb ft**).



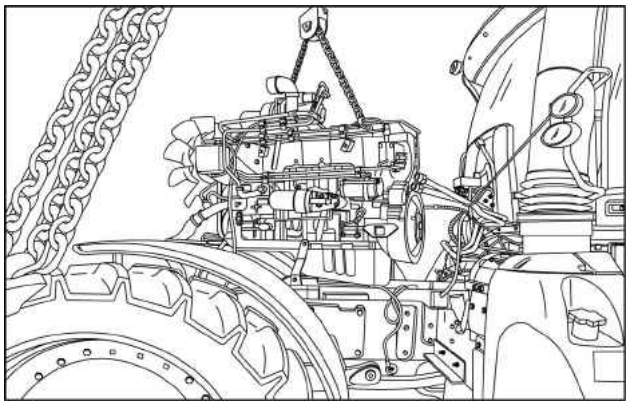
RCPH10CCH833AAB 1

4. Install the right (shown) and left rear engine ISO mounts.



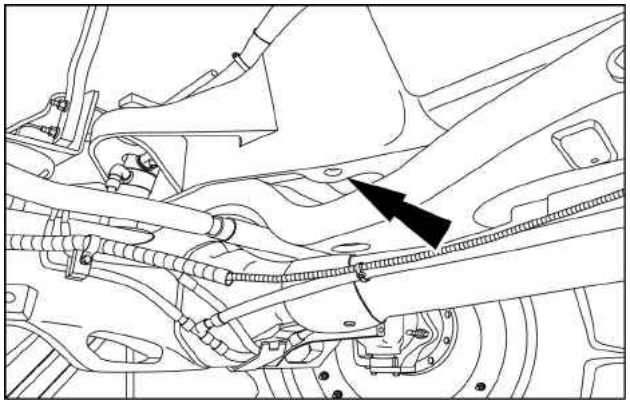
RCPH07CCH166AAB 2

5. Properly support the engine. Raise and move the engine into the front support frame.



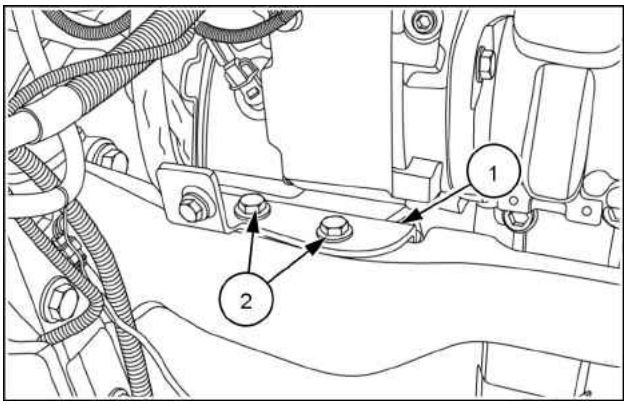
RAIL13TR04248AA 3

6. Install the front engine mounting nut.



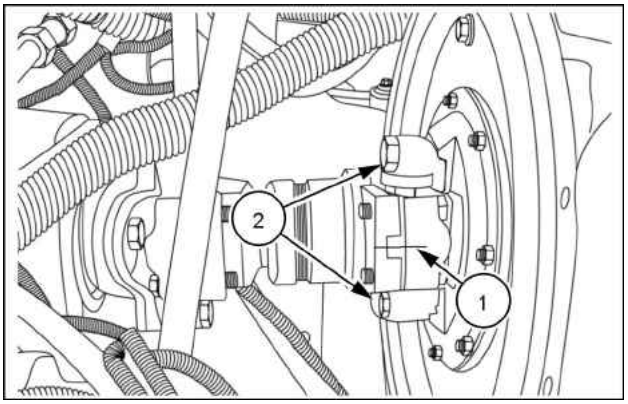
RAIL13TR04246AA 4

7. Install the plate **(1)** for the right hand rear engine mount with the bolts **(2)** removed earlier.
8. Torque the bolts to **125 - 150 N·m** (**92.2 - 110.6 lb ft**).
9. Install the bolts **(3)** removed earlier, and torque to **125 - 150 N·m** (**92 - 111 lb ft**).
10. Install the hood support bolt and washer **(4)** and torque to **125 - 150 N·m** (**92 - 111 lb ft**).



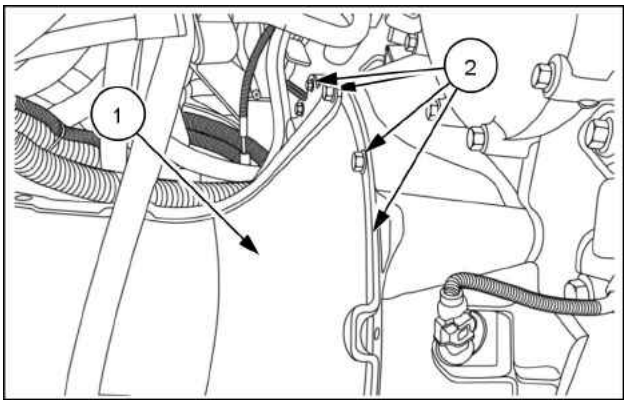
RCPH10CCH925AAB 5

11. Using the alignment marks **(1)** made earlier, attach the engine output drive shaft to the engine flywheel.
12. Using the four bolts **(2)** removed earlier to secure the drive shaft to the flywheel.
13. Torque the bolts to **101 - 113 N·m** (**75 - 83 lb ft**).



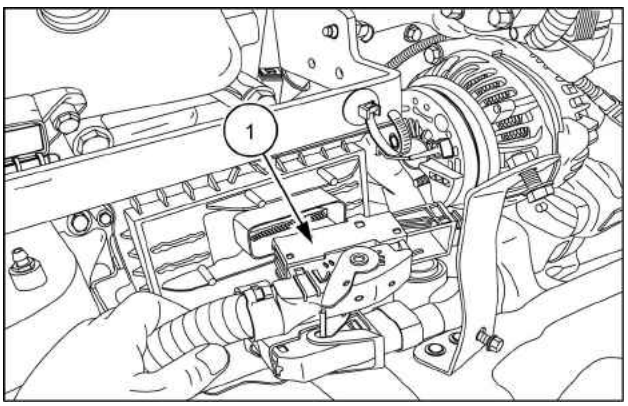
RCPH10CCH817AAB 6

14. Install the engine output drive shaft cover **(1)**. Use the bolts **(2)** removed earlier to secure the cover to the flywheel housing.



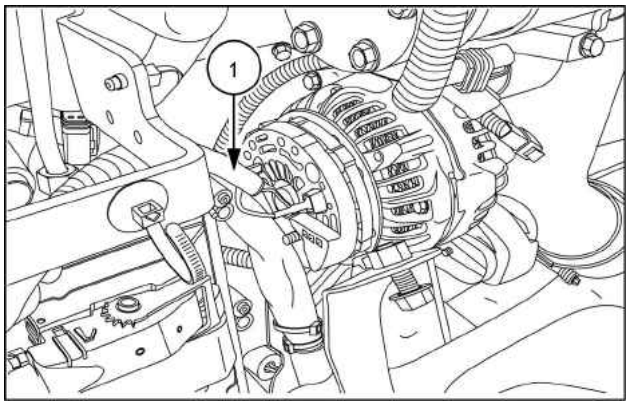
RCPH10CCH813AAB 7

15. Connect the harness connector to the engine controller **(1)**.



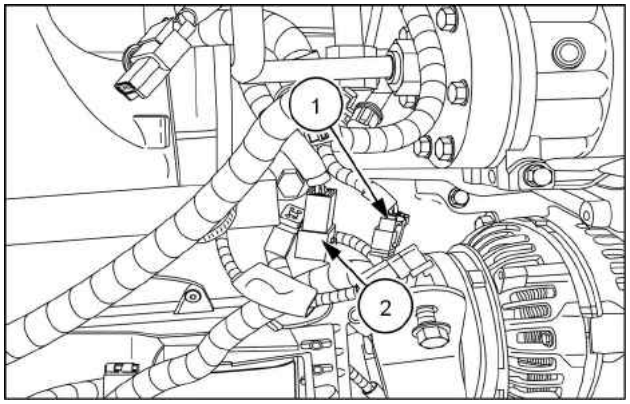
RAIL13TR04226AA 8

16. Connect the alternator output cable **(1)** and secure with the nut previously removed..



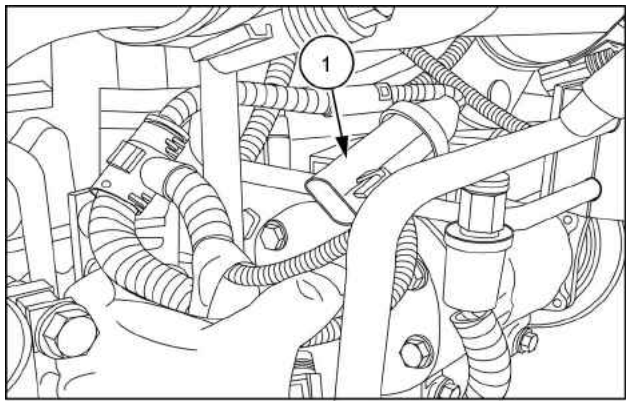
RAIL13TR04231AA 9

17. Connect the alternator excite wire connector **(1)** and the CAN bus connector **(2)**.



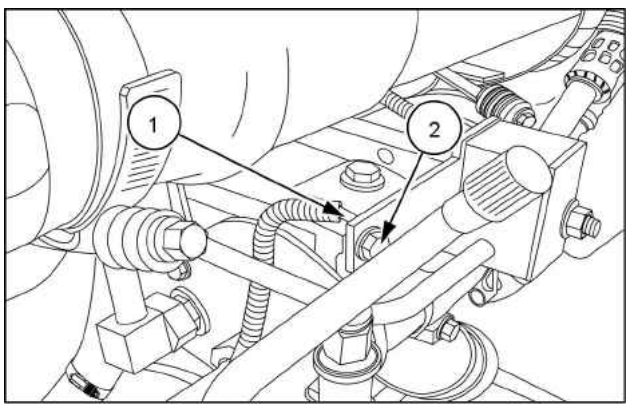
RAIL13TR04221AA 10

18. Connect the harness connector to the high pressure switch **(1)**.



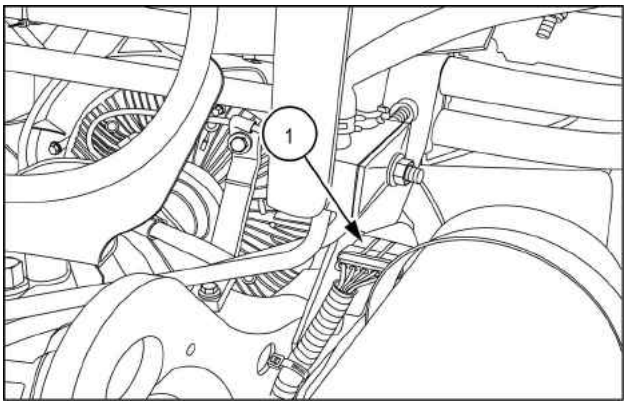
RAIL13TR04223AA 11

19. Connect the ground wire **(1)** and secure the wire with the A/C compressor mounting bolt **(2)**.



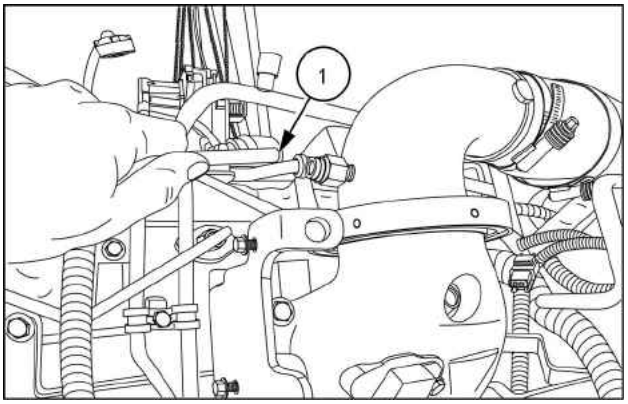
RAIL13TR04224AA 12

20. Connect the harness connector **(1)** for the fan drive.



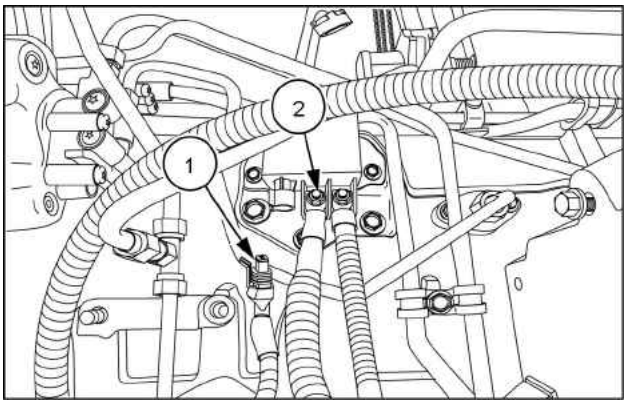
RAIL13TR04220AA 13

21. Connect the vent hose **(1)** to the intake manifold.



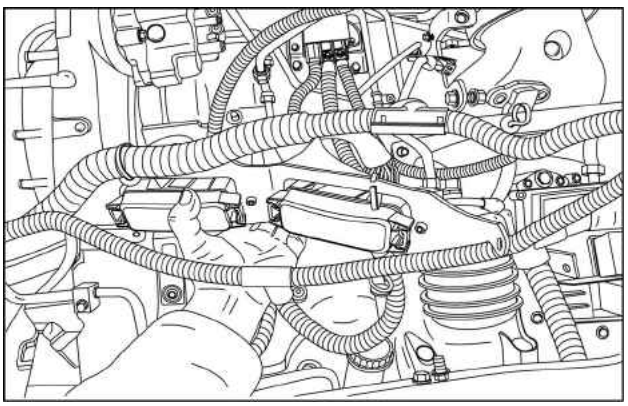
RAIL13TR04218AA 14

22. Connect the harness connector **(1)** for the engine grid heater and the power supply cable **(2)**.



RAIL13TR04219AA 15

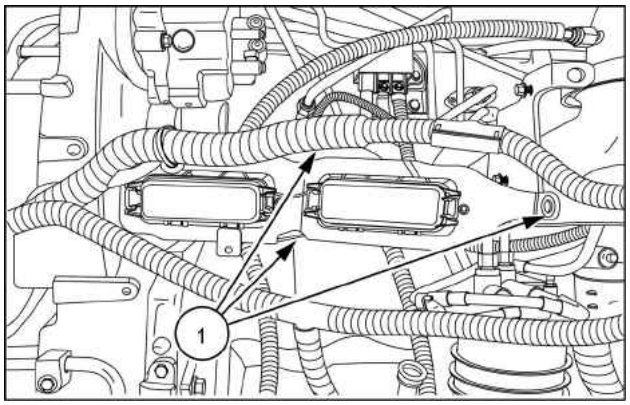
23. Install the fuse panel.



RAIL13TR04214AA 16

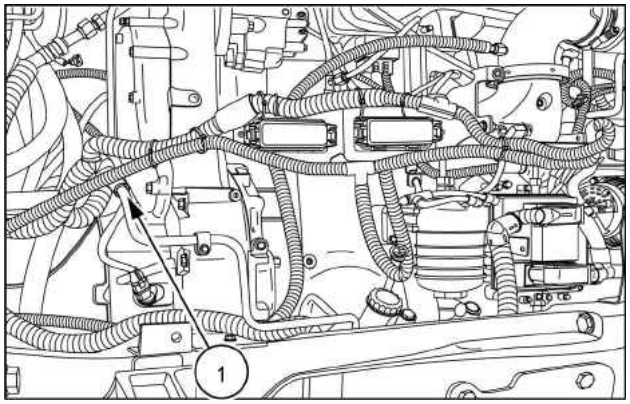
24. Secure the fuse panel bracket with the three mounting bolts **(1)** previously removed

NOTE: *Secure the harness with wire ties.*



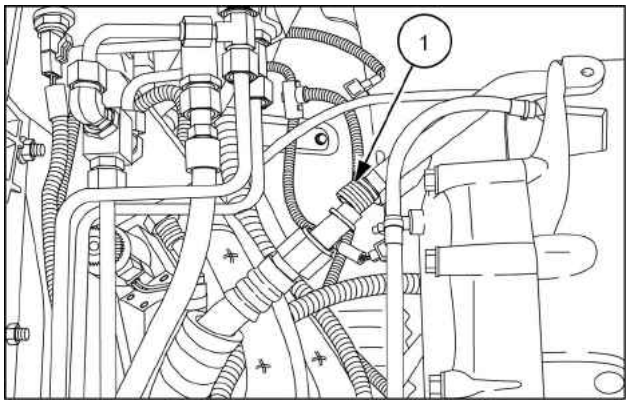
RAIL13TR04216AA 17

25. Connect the oil line **(1)** and secure with the hose clamp previously removed.



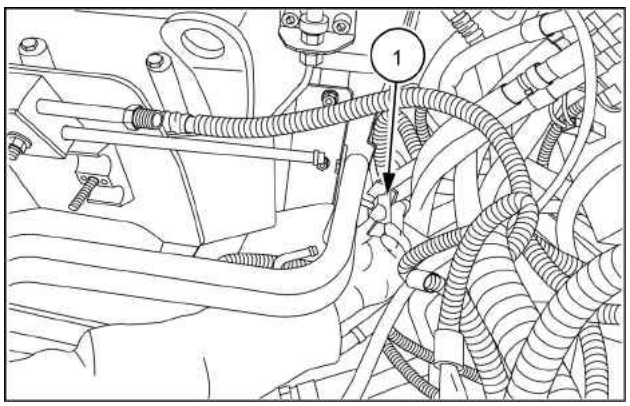
RAIL13TR04213AA 18

26. Lubricate a new O-ring with PAG or mineral and install the O-ring. Connect the low pressure A/C line **(1)**.



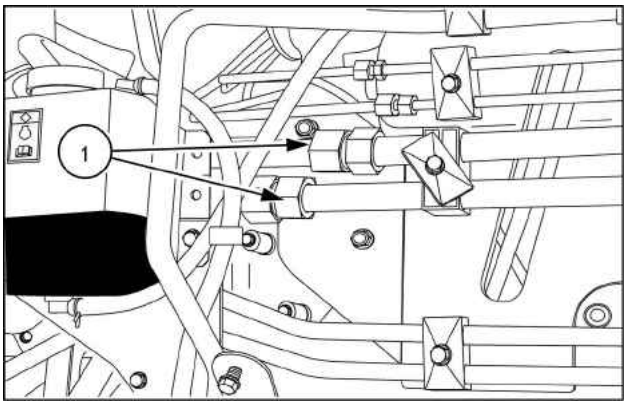
RAIL13TR04228AA 19

27. On the rear of the engine, install the oil cooler tube clamp **(1)**.



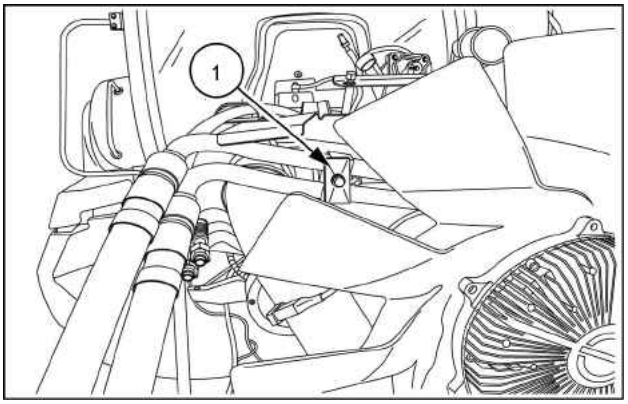
RAIL13TR04236AA 20

28. Install and connect the oil cooler tubes **(1)**



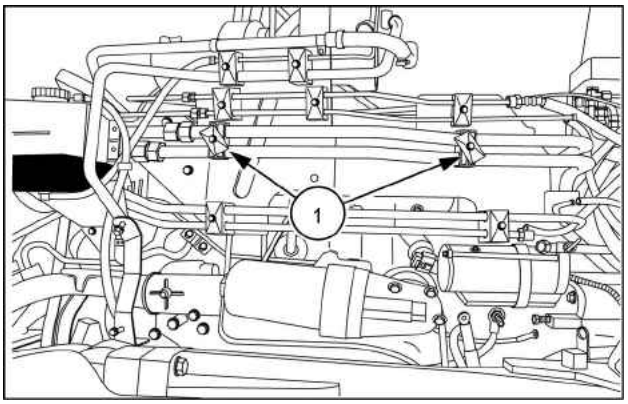
RAIL13TR04233AA 21

29. On the front of the motor, install the tube clamp **(1)** for the oil cooler tubes.



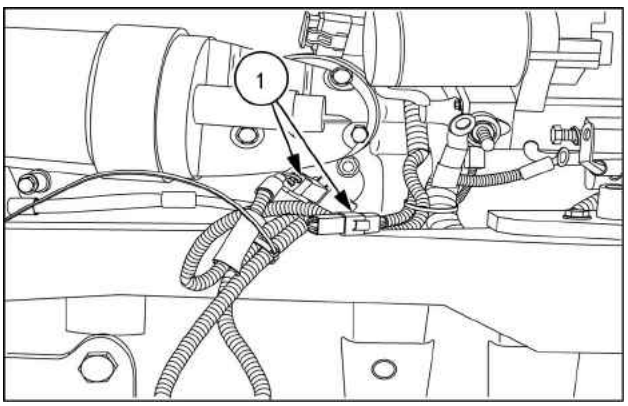
RAIL13TR04234AA 22

30. Install the two tube clamps **(1)** securing the hydraulic cooler tubes.



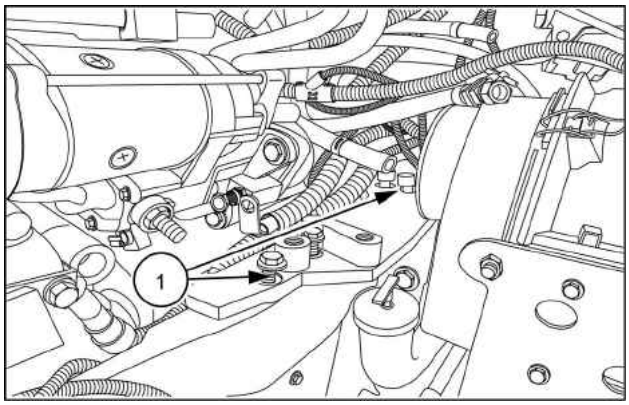
RAIL13TR04232AA 23

31. Connect the suspended axle electrical connectors **(1)** if equipped.



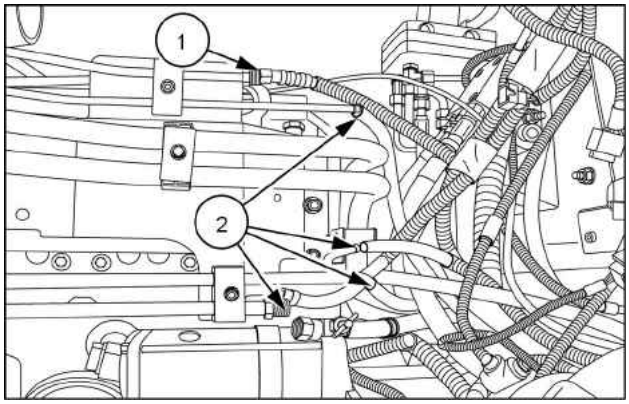
RAIL13TR04237AA 24

32. Install the left rear engine mount cover plate. Torque the bolts **(1)** to **125 - 150 N·m** (**92.2 - 110.6 lb ft**).



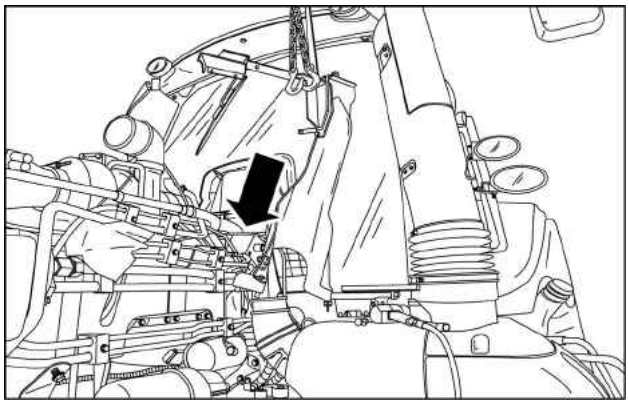
RAIL13TR04243AA 25

33. Lubricate a new O-ring with PAG or mineral and install the O-ring. Connect the high pressure A/C hose **(1)** and the coolant lines **(2)**.



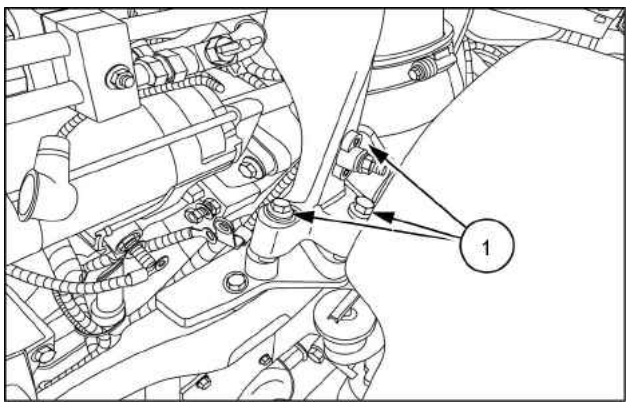
RAIL13TR04230AA 26

34. Install the hood support.



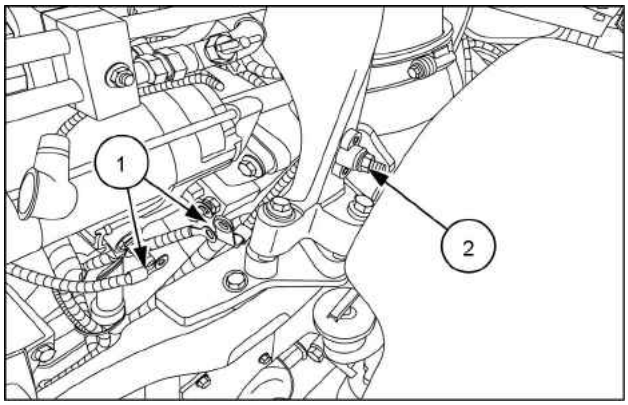
RAIL13TR04212AA 27

35. Torque the bolts **(1)** to **125 - 150 N·m** (**92.2 - 110.6 lb ft**).



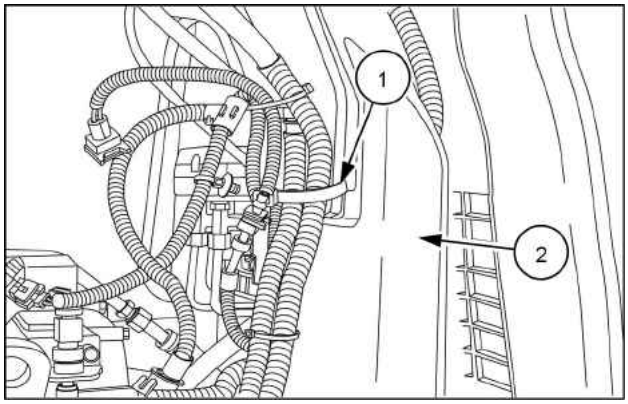
RAIL13TR04209AA 28

36. Connect the starter cables **(1)** and the auxiliary wire **(2)**.



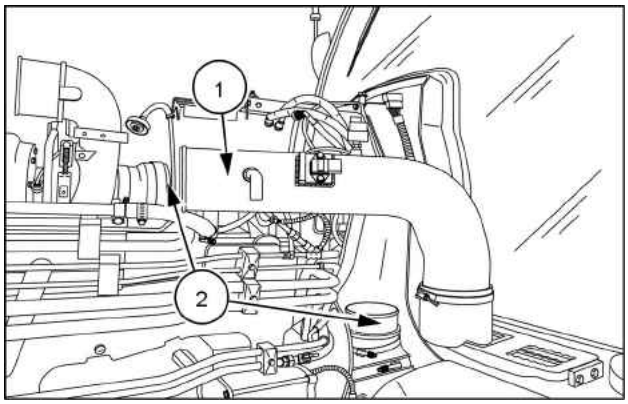
RAIL13TR04209AA 29

37. Install a wire tie **(1)** to secure the harness to the hood support **(2)**.



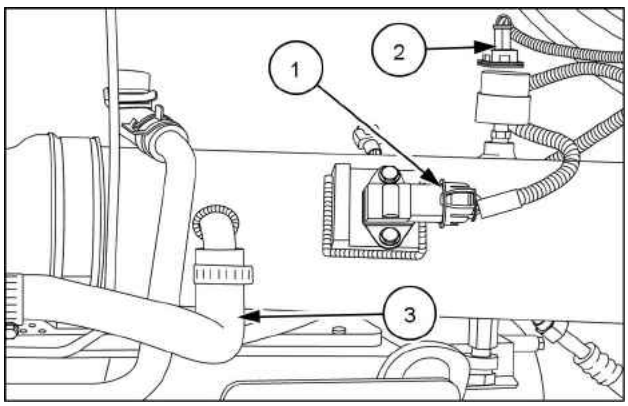
RAIL13TR04204AA 30

38. Install the air intake tube **(1)** and secure with the hose clamps **(2)** previously removed.



RAIL13TR04211AA 31

39. Connect the harness connectors to the humidity sensor **(1)** and to the air restriction sensor **(2)**. Connect the hose **(3)** to the air intake tube. Secure the hose with the hose clamp previously removed.



RAIL13TR04202AA 32

Next operation:
Diesel Oxidation Catalyst (DOC) - Install (10.500)
Next operation:

Engine cooling system - Install (10.400)
Next operation:
Engine cooling system - Filling (10.400)
Next operation:
Air conditioning - Evacuate (50.200)
Next operation:
Air conditioning - Charging (50.200)
Next operation:
Side shield - Install (90.102)
Next operation:
Hood - Install (90.100)

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Engine - 10

Engine and crankcase - 001

Engine - 10

Cylinder heads - 101

T8.320 696110027 PST TIER 4B [ZERE08100 -] , T8.350 696110037 PST TIER 4B [ZERE08100 -] , T8.380 696110047 PST TIER 4B [ZERE08100 -] , T8.380 SmartTrax™ 696110077 PST TIER 4B [ZERE08100 -] , T8.410 696110057 PST TIER 4B [ZERE08100 -] , T8.410 SmartTrax™ 696110087 PST TIER 4B [ZERE08100 -]

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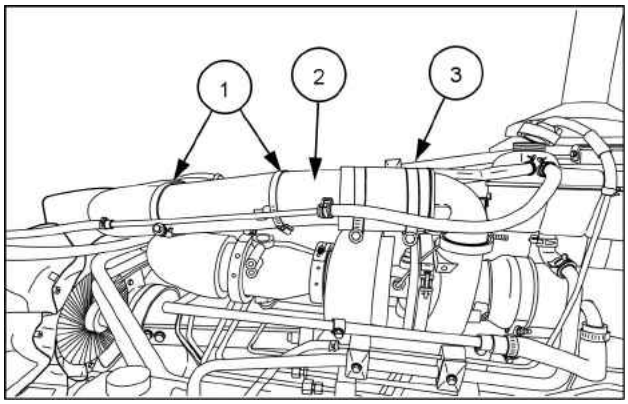
SERVICE

Valve cover - Remove - Over head components

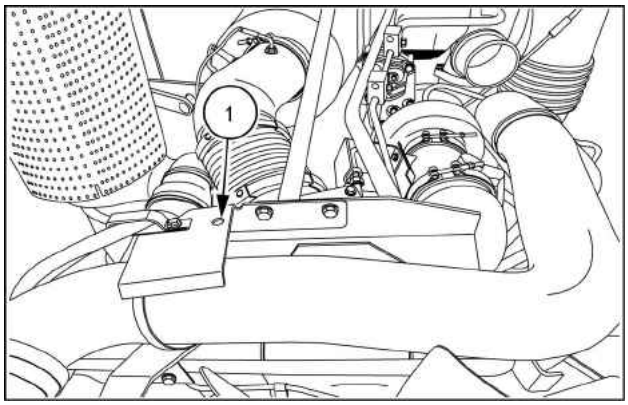
Prior operation:
Hood - Remove (90.100)
Prior operation:
Side shield - Remove (90.102)
Prior operation:
Engine cooling system - Emptying (10.400)

1. Disengage the two clamps **(1)** along the air exchange tube **(2)**. Disengage the clamp **(3)** from the turbo intake.



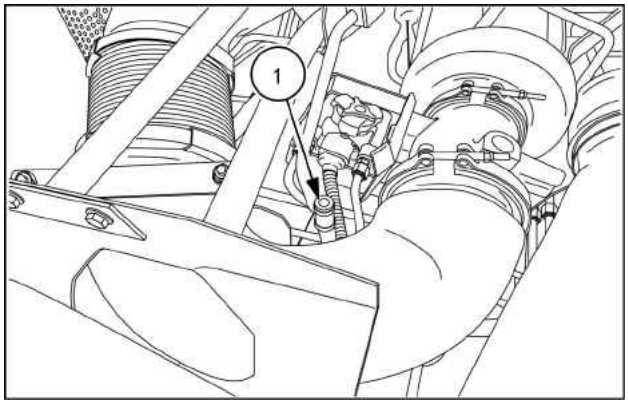
RAIL13TR04172AA 1

2. Remove the bolt **(1)** for the air exchange tube cover plate. Remove the plate.



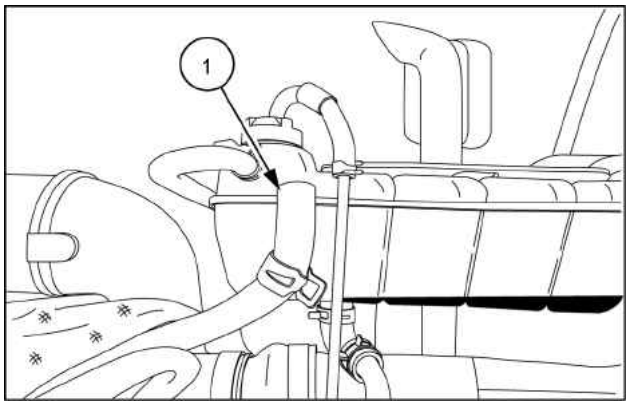
RAIL13TR04176AA 2

3. Disconnect the coolant hose **(1)** for the deairation tank.



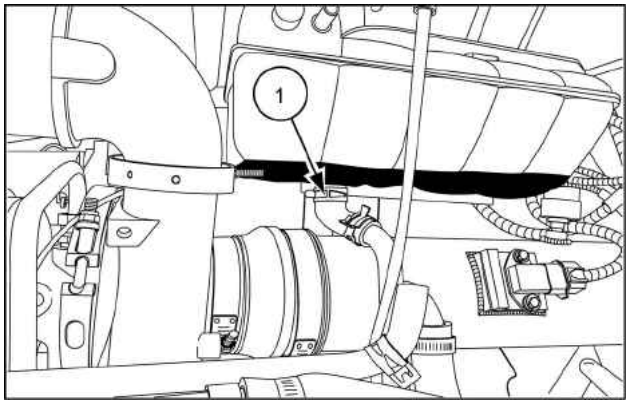
RAIL13TR04178AA 3

4. Disconnect the hose **(1)** from the deairation tank.



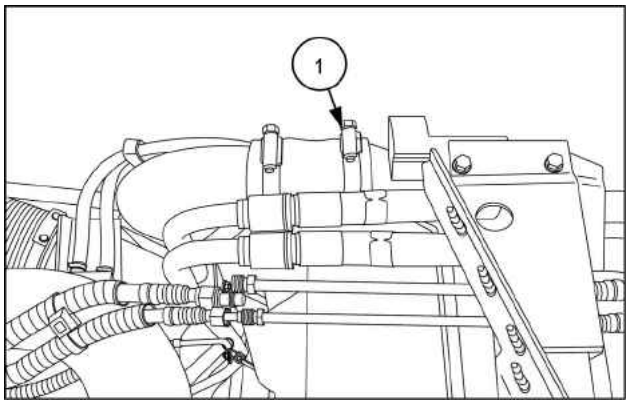
RAIL13TR04174AA 4

5. Disconnect the bottom hose **(1)** on the deairation tank.



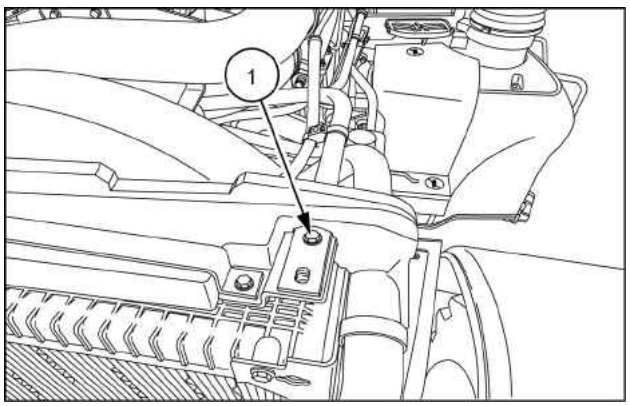
RAIL13TR04175AA 5

6. Disengage the clamp **(1)** from the air exchange tube at the air exchanger. Remove the tube.



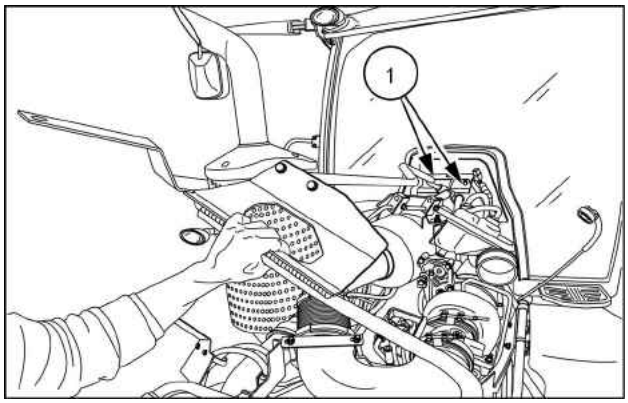
RAIL13TR03974AA 6

7. Remove the bolts **(1)** for the cooling package support bracket. (left side shown)



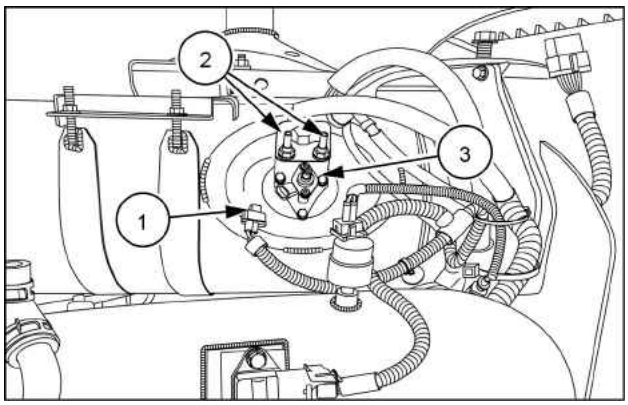
RAIL13TR04002AA 7

8. Remove the bolts **(1)** on the rear of the support bracket and remove the support bracket.



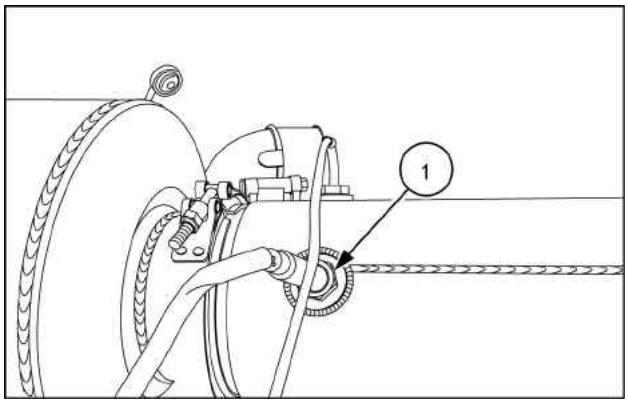
RAIL13TR04179AA 8

9. Disconnect the electrical connector **(1)**, the coolant hoses **(2)** and the DEF fluid line **(3)** from the dosing valve.



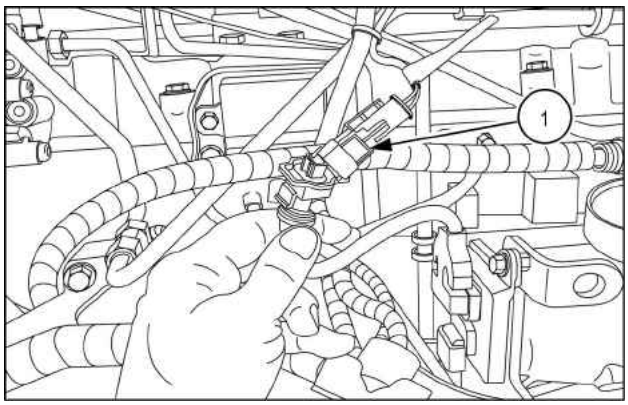
RAIL13TR04188AA 9

10. Remove the NOx sensor **(1)** from the exhaust pipe.



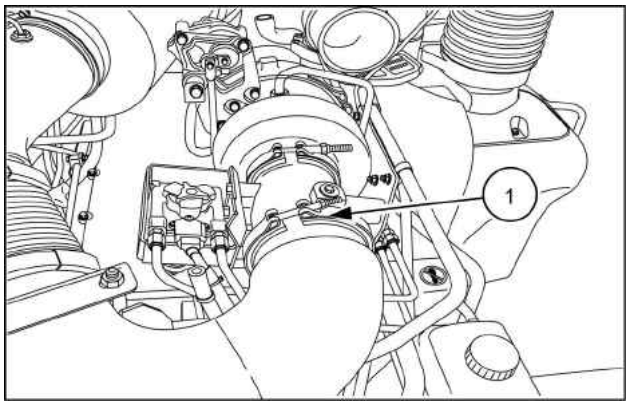
RAIL13TR04185AA 10

11. Disconnect the electrical connector **(1)** for the temperature sensor.



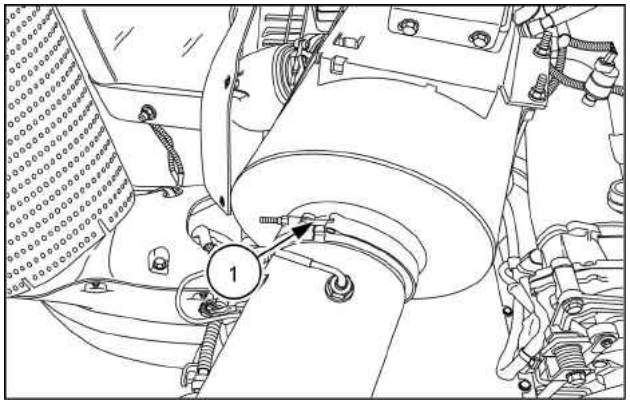
RAIL13TR04183AA 11

12. Disengage the clamp **(1)** from the exhaust pipe to the turbo.



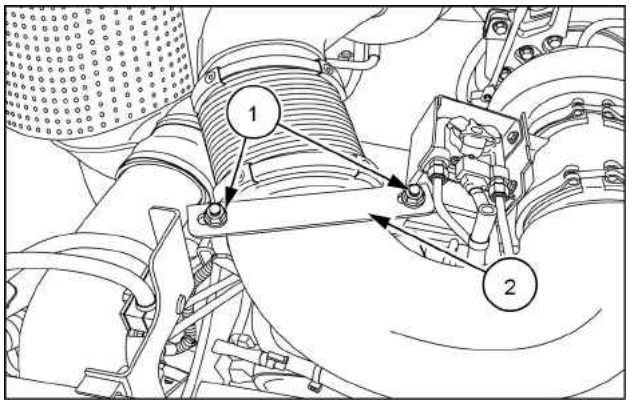
RAIL13TR04177AA 12

13. Disengage the clamp **(1)** from the exhaust pipe to the Diesel oxidation catalyst (DOC)



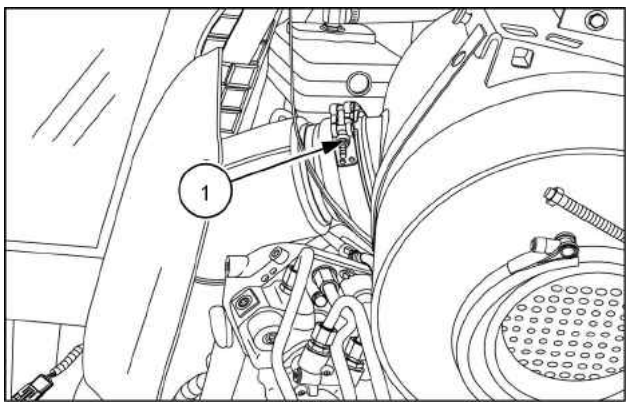
RAIL13TR04180AA 13

14. Remove the two nuts **(1)** from the C-clamp **(2)** securing the exhaust pipe. Remove the exhaust pipe and set aside.



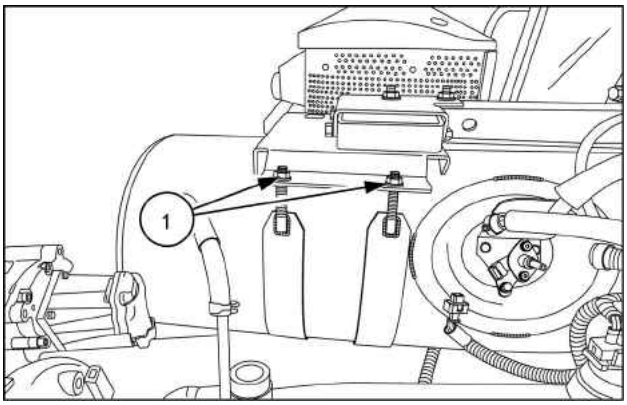
RAIL13TR04181AA 14

15. Disengage the clamp **(1)** from the outlet side of the catalyst.



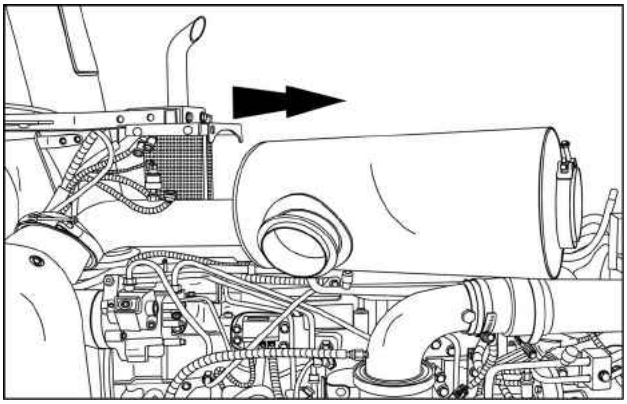
RAIL13TR04192AA 15

16. Remove the two nuts **(1)** from the catalyst mounting straps.



RAIL13TR04190AA 16

17. Slide the catalyst forward from under the support bracket. Remove the catalyst.



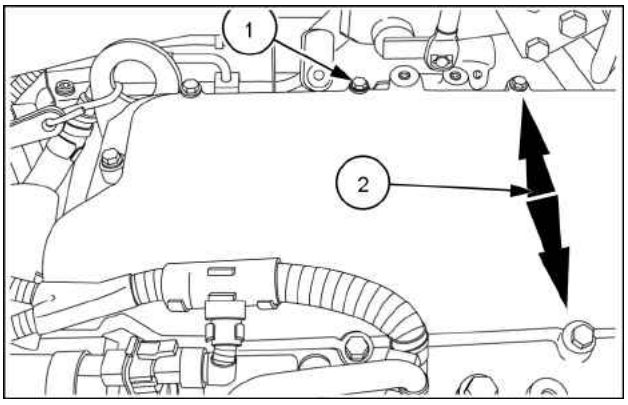
RAIL13TR04193AA 17

Next operation:
Remove the valve cover.
Next operation:
Valve cover - Install - Over head components (10.101)

Valve cover - Install - Over head components

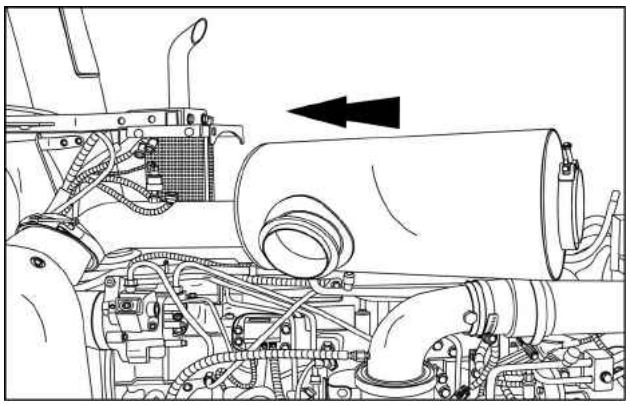
Prior operation:
Valve cover - Remove - Over head components (10.101)
Prior operation:
Install the valve cover.

1. Inspect the O-ring seal for the valve cover and replace as required.
2. Install the valve cover with the 18 bolts **(1)** removed earlier.
3. Starting at the center of the valve cover, tighten the bolts in a crossing pattern **(2)**.
4. Torque all bolts to **7 - 10 N·m** (**5.2 - 7.4 lb ft**).

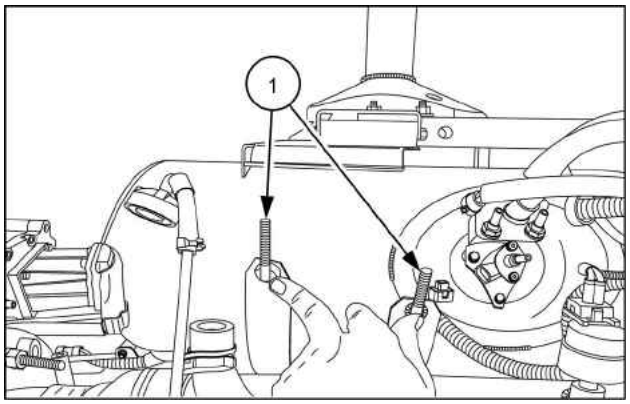


RCPH11CCH973AAB 1

5. Install the catalyst under the support bracket.

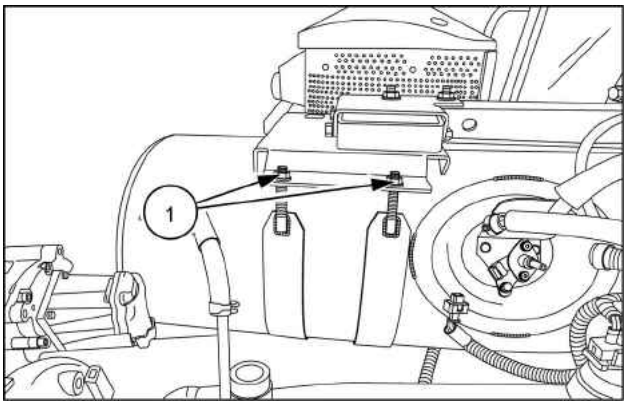

RAIL13TR04193AA 2

6. Install the two mounting straps **(1)**.



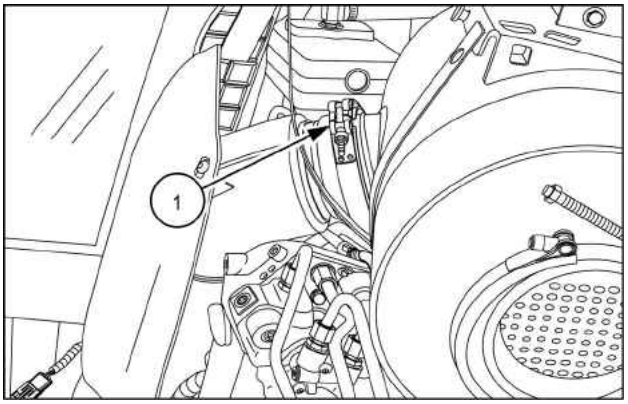
RAIL13TR04191AA 3

7. Secure the straps with the two nuts **(1)** previously removed.



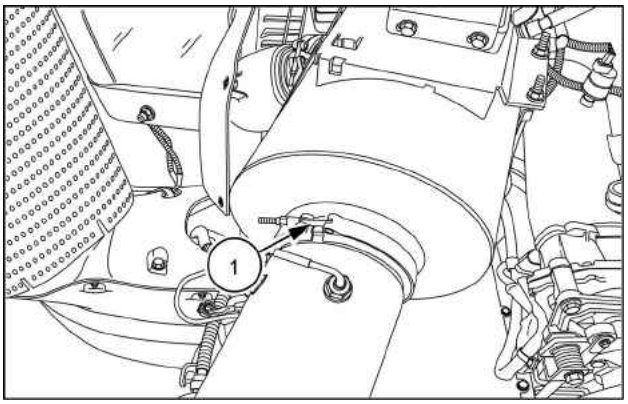
RAIL13TR04190AA 4

8. Install the clamp **(1)** on the exhaust pipe on the outlet side of the catalyst.



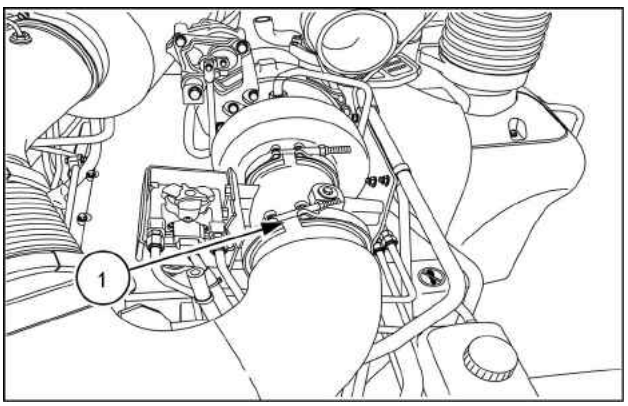
RAIL13TR04192AA 5

9. Install the exhaust pipe between the catalyst and the turbo. Secure the pipe to the catalyst with the clamp **(1)** previously removed.



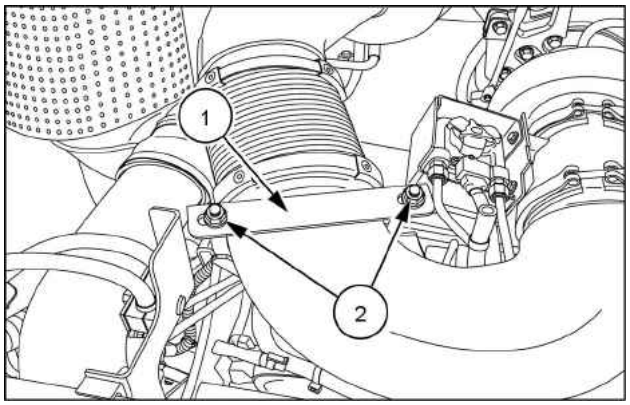
RAIL13TR04180AA 6

10. Secure the exhaust pipe to the turbo with the clamp **(1)** previously removed.



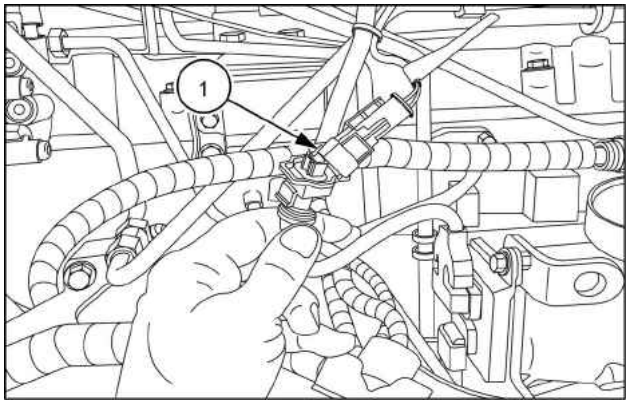
RAIL13TR04177AA 7

11. Secure the exhaust pipe with the C clamp **(1)** and secure the C clamp with the two nuts **(2)** previously removed.



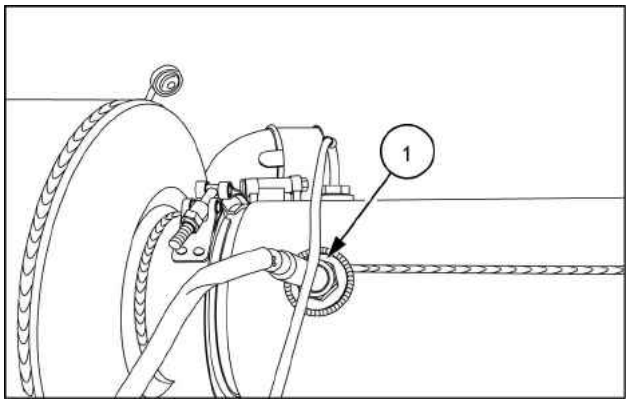
RAIL13TR04181AA 8

12. Connect the harness connector **(1)** for the temperature sensor.



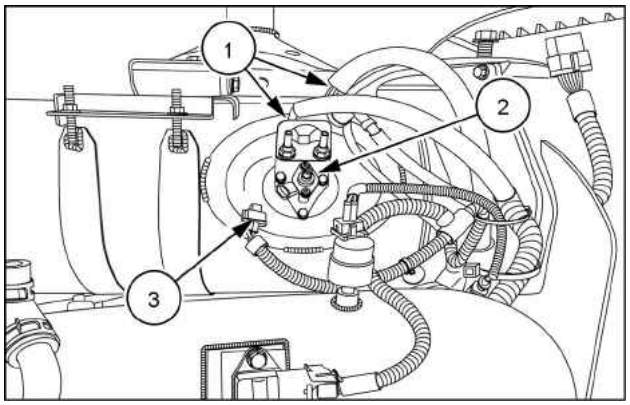
RAIL13TR04183AA 9

13. Install the NOx sensor **(1)**.



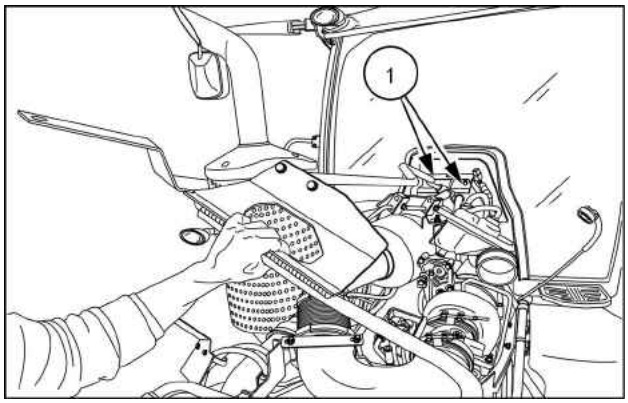
RAIL13TR04185AA 10

14. Connect the two coolant lines **(1)**, the DEF fluid line **(2)** and the electrical connector **(3)** to the dosing valve.



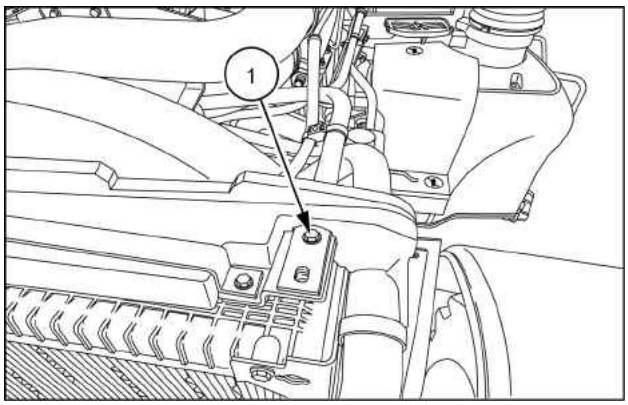
RAIL13TR04188AA 11

15. Install the support bracket and secure the rear of the bracket with the bolts **(1)** previously removed



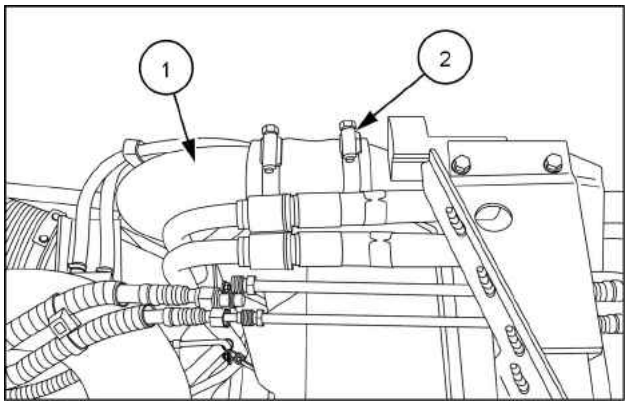
RAIL13TR04179AA 12

16. Secure the bracket to the cooling package with the bolts **(1)** (left side shown).



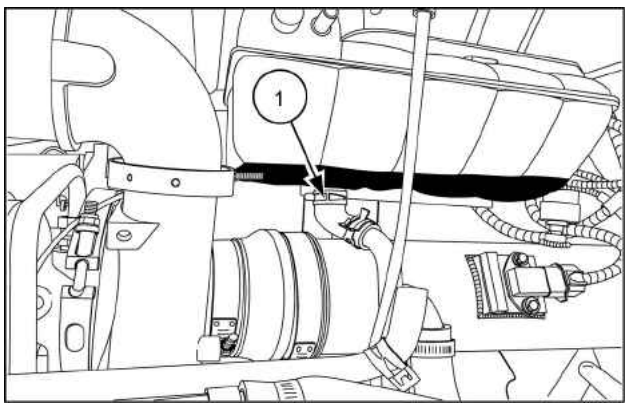
RAIL13TR04002AA 13

17. Install the air exchange pipe **(1)** to the air exchanger and secure with the clamp **(2)** previously removed.



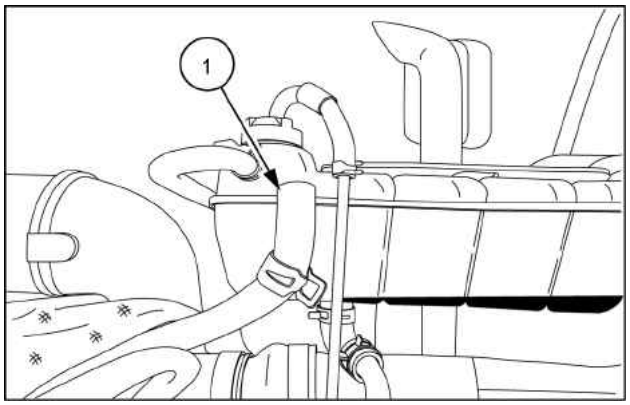
RAIL13TR03974AA 14

18. Connect the bottom hose **(1)** to the deairation tank.



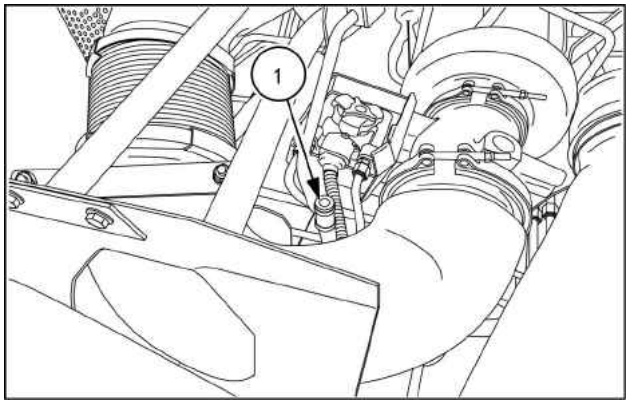
RAIL13TR04175AA 15

19. Connect the hose **(1)** to the deairation tank.



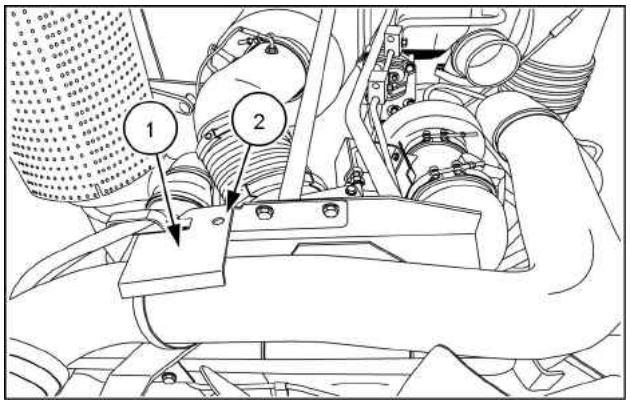
RAIL13TR04174AA 16

20. Connect the coolant hose **(1)** to the deairation tank.



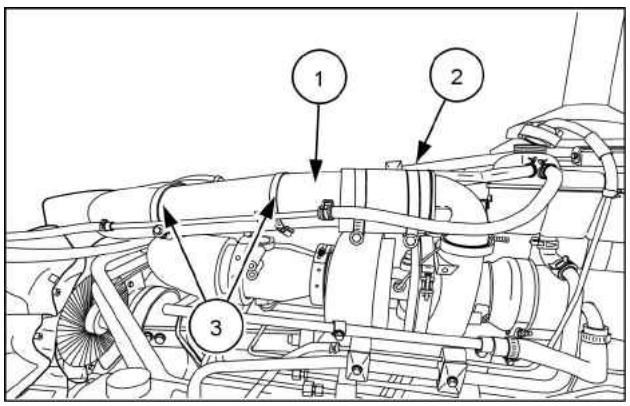
RAIL13TR04178AA 17

21. Install the plate **(1)** and secure with the bolt **(2)** previously removed.



RAIL13TR04176AA 18

22. Connect the air exchange pipe **(1)** to the turbo and secure with the clamp **(2)** previously removed. Secure the coolant line with the clamps **(3)** previously removed.



RAIL13TR04172AA 19

Next operation:
Engine cooling system - Filling (10.400)
Next operation:

Side shield - Install (90.102)
Next operation:
Hood - Install (90.100)

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Cylinder heads - 101

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Air cleaners and lines - 202

T8.320 696110027 PST TIER 4B [ZERE08100 -] , T8.350 696110037 PST TIER 4B [ZERE08100 -] , T8.380 696110047 PST TIER 4B [ZERE08100 -] , T8.380 SmartTrax™ 696110077 PST TIER 4B [ZERE08100 -] , T8.410 696110057 PST TIER 4B [ZERE08100 -] , T8.410 SmartTrax™ 696110087 PST TIER 4B [ZERE08100 -]

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Air cleaners and lines - 202

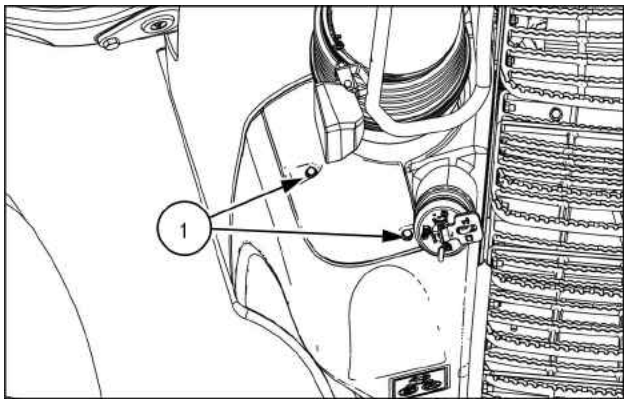
SERVICE

(*) See content for specific models

Air cleaner - Remove

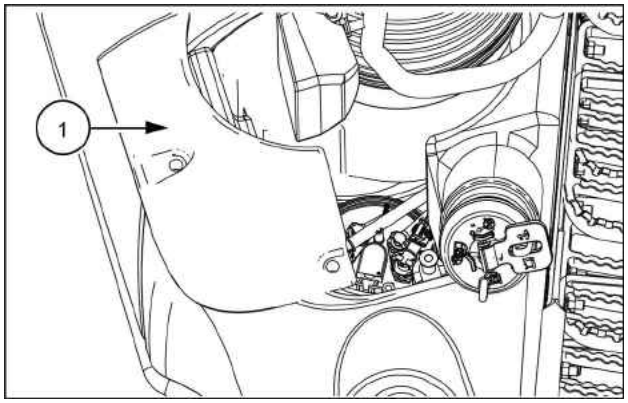
T8.320 696110027 PST TIER 4B [ZERE08100 -]	NA
T8.350 696110037 PST TIER 4B [ZERE08100 -]	NA
T8.380 696110047 PST TIER 4B [ZERE08100 -]	NA
T8.410 696110057 PST TIER 4B [ZERE08100 -]	NA

1. Remove the two cover mounting bolts **(1)** on top of the **DEF/ADBLUE®** tank.



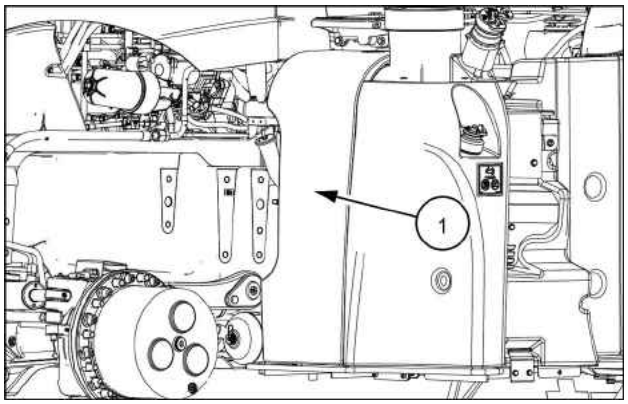
RAIL14TR00885AA 1

2. Remove the cover **(1)**.



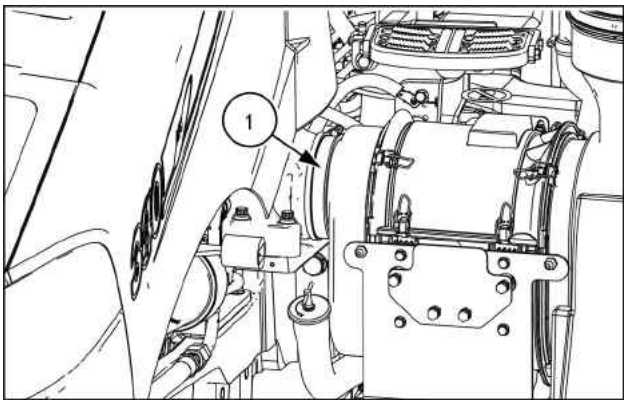
RAIL14TR00886AA 2

3. Remove the air cleaner cover panel **(1)**.



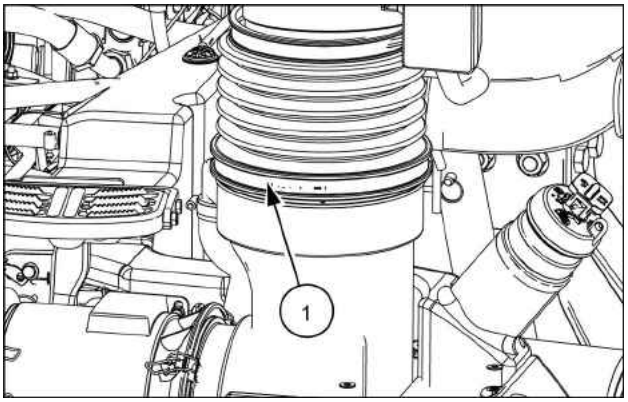
RAIL14TR00888AA 3

4. Disengage the hose clamp **(1)** from the air cleaner housing.



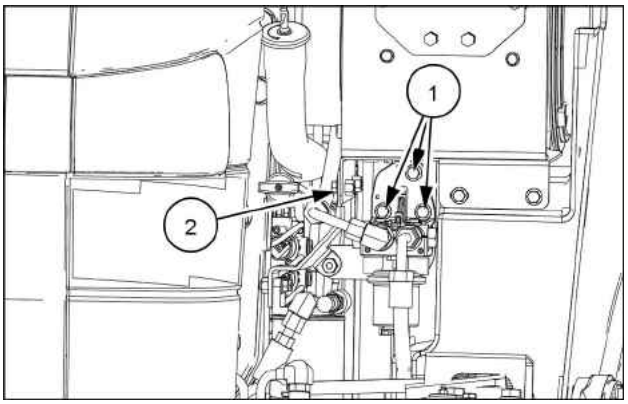
RAIL14TR00889AA 4

5. Disengage the hose clamp **(1)** from the air intake bellows to the air pre cleaner.



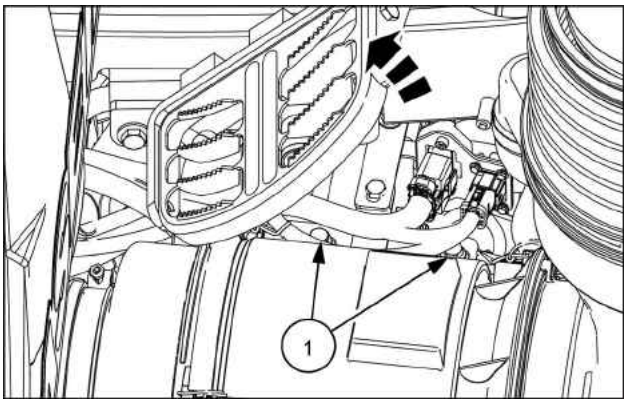
RAIL14TR00890AA 5

6. Remove the three bolts **(1)** from the fuel pump mount. Remove the two bolts **(2)** from the fuel water separator mount. Set the fuel pump and water separator to the side. (The fuel lines do not need to be disconnected).



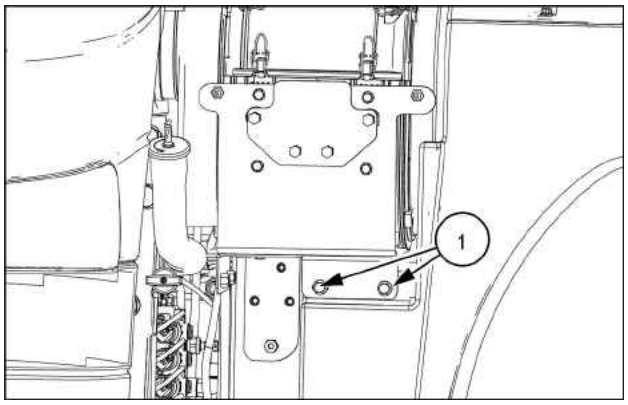
RAIL14TR00915AA 6

7. Lift the window step and remove the two bolts **(1)** from the air cleaner mounting bracket.



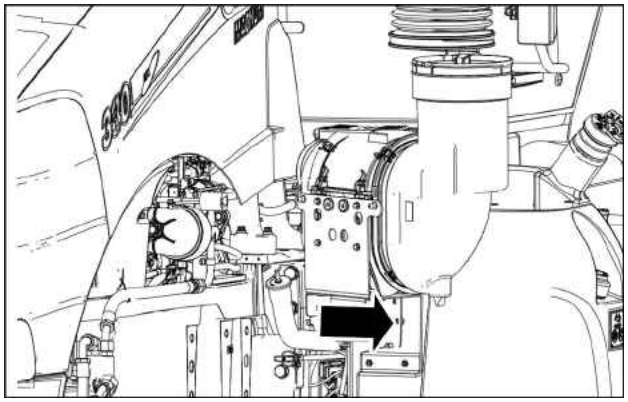
RAIL14TR00923AA 7

8. Remove the lower two bolts **(1)** from the air cleaner mounting bracket.



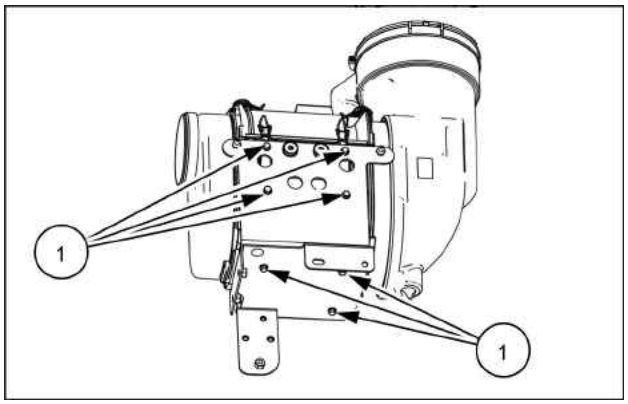
RAIL14TR00916AA 8

9. Remove the air cleaner along with the mounting bracket.



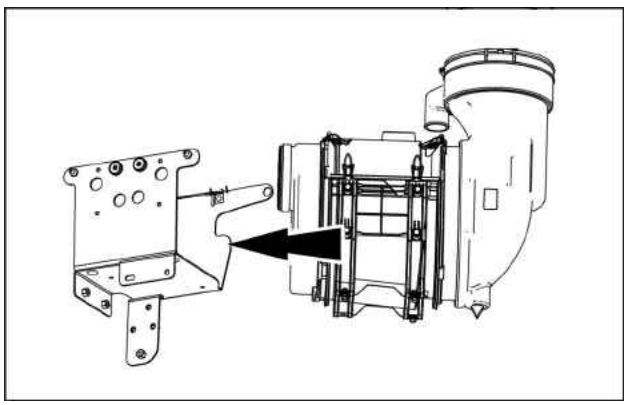
RAIL14TR00917AA 9

10. Remove the bolts **(1)** that secure the air cleaner to the mounting bracket.



RAIL14TR00922AA 10

11. Remove the mounting bracket.



RAIL14TR00921AA 11

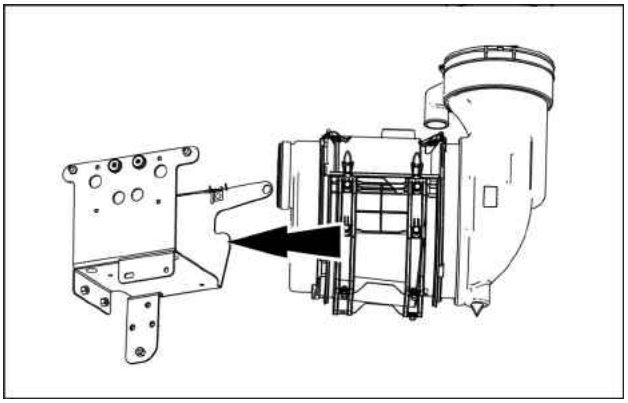
Next operation:
Air cleaner - Install (10.202)

Air cleaner - Install

T8.320 696110027 PST TIER 4B [ZERE08100 -]	NA
T8.350 696110037 PST TIER 4B [ZERE08100 -]	NA
T8.380 696110047 PST TIER 4B [ZERE08100 -]	NA
T8.410 696110057 PST TIER 4B [ZERE08100 -]	NA

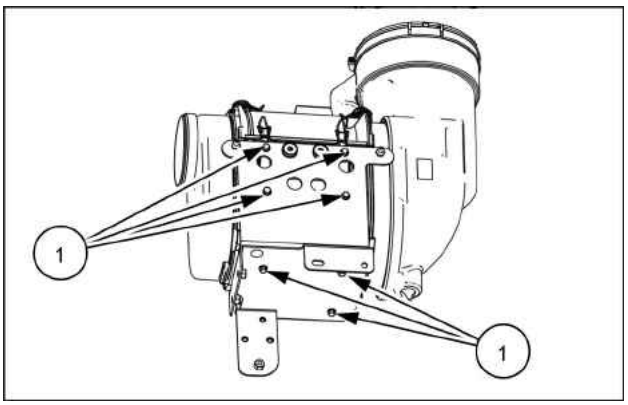
Prior operation:
Air cleaner - Remove (10.202)

1. Install the air cleaner into the mounting bracket.



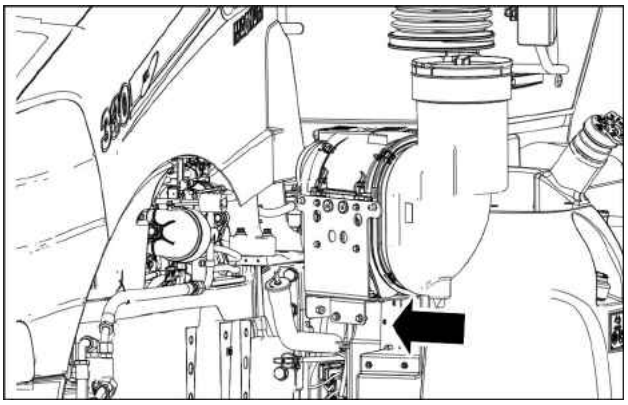
RAIL14TR00921AA 1

2. Secure the air cleaner assembly to the mounting bracket with the bolts **(1)** removed previously.



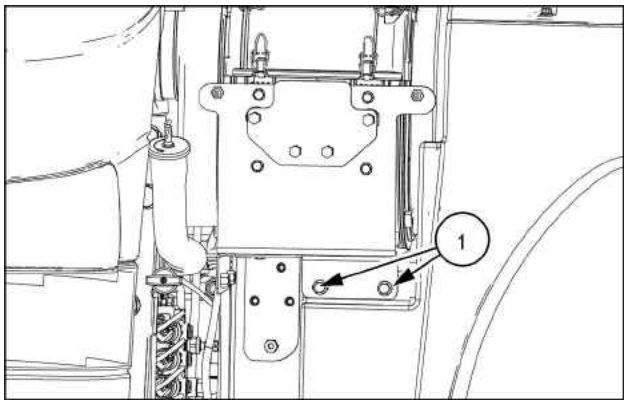
RAIL14TR00922AA 2

3. Install the air cleaner along with the mounting bracket.



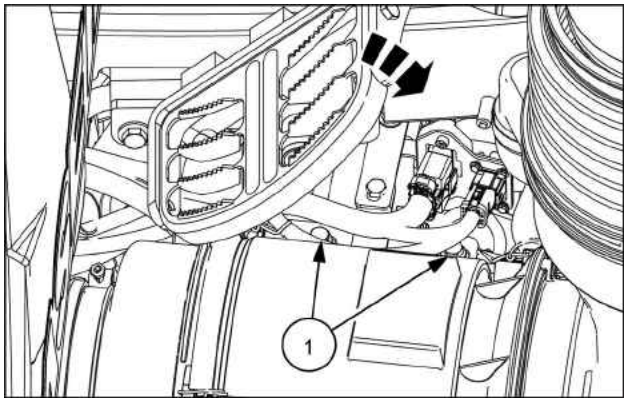
RAIL14TR00917AA 3

4. Secure the bracket with the two bolts **(1)** removed previously.



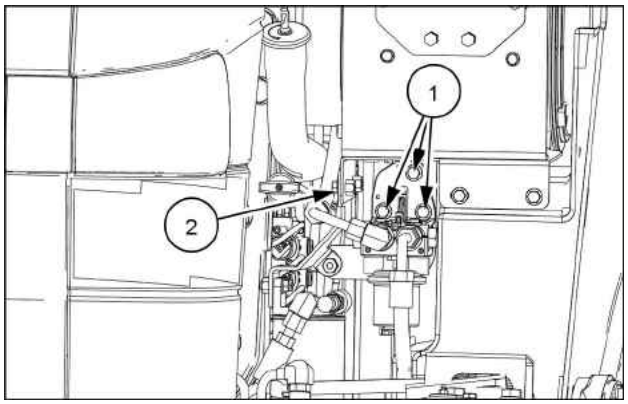
RAIL14TR00916AA 4

5. Secure the top of the bracket with the bolts **(1)** removed previously. Reposition the window step to the proper position.



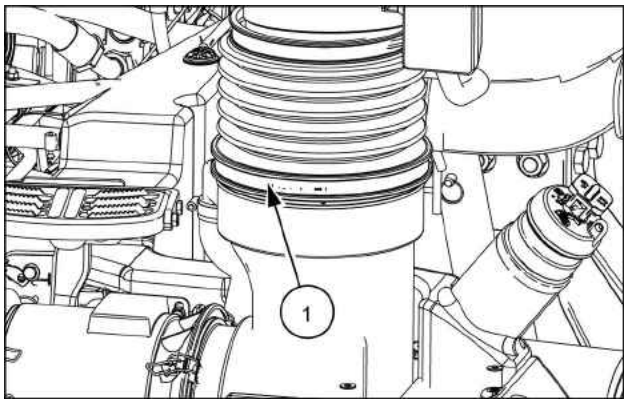
RAIL14TR00923AA 5

6. Reinstall the fuel pump and secure the pump with the bolts **(1)** removed previously. Reinstall the fuel water separator and secure with the bolts **(2)** removed previously.



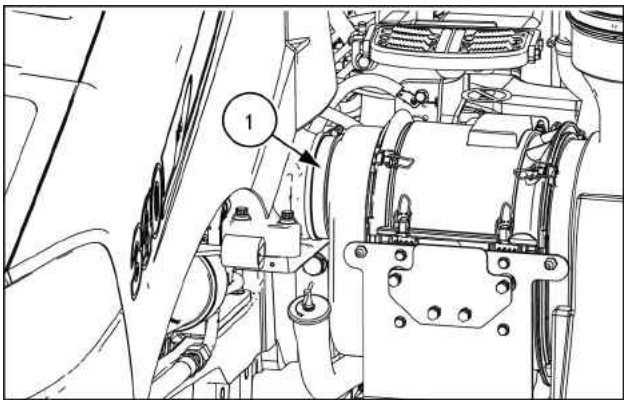
RAIL14TR00915AA 6

7. Connect the air intake bellows to the air intake pre cleaner and secure with the clamp **(1)** removed previously.



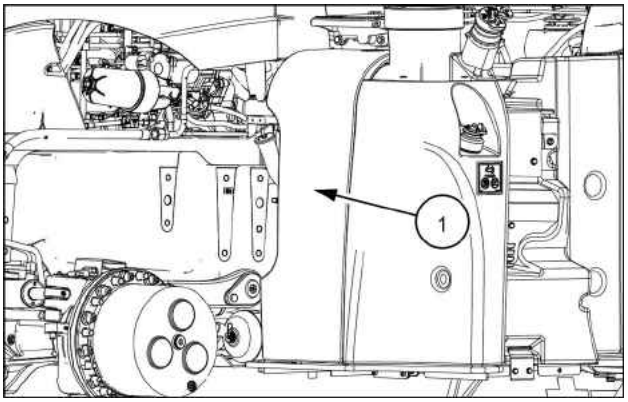
RAIL14TR00890AA 7

8. Connect the air intake pipe to the air cleaner and secure with the clamp **(1)** removed previously.



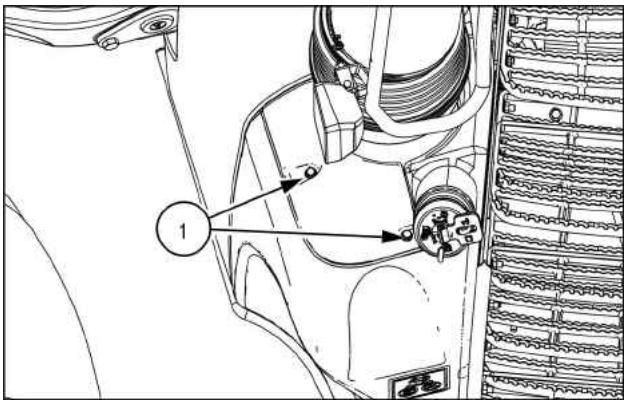
RAIL14TR00889AA 8

9. Reinstall the air cleaner cover panel **(1)**.



RAIL14TR00888AA 9

10. Reinstall the cover **(1)** on the **DEF/ADBLUE®** tank and secure the cover with the bolts **(1)** removed previously.

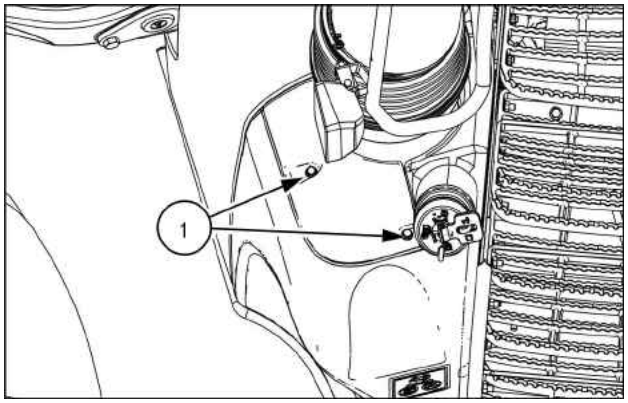


RAIL14TR00885AA 10

Air cleaner - Remove

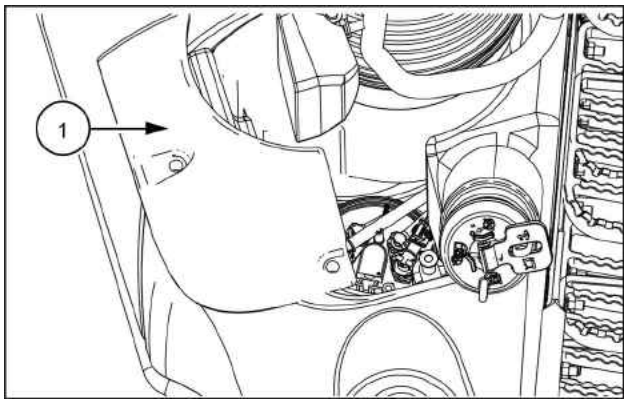
T8.380 SmartTrax™ 696110077 PST TIER 4B [ZERE08100 -]	NA
T8.410 SmartTrax™ 696110087 PST TIER 4B [ZERE08100 -]	NA

1. Remove the two cover mounting bolts **(1)** on top of the Diesel Exhaust Fluid (DEF)/AdBlue® tank.



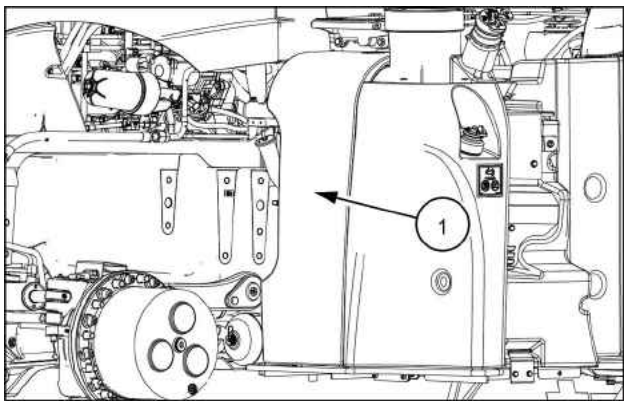
RAIL14TR00885AA 1

2. Remove the cover **(1)**.



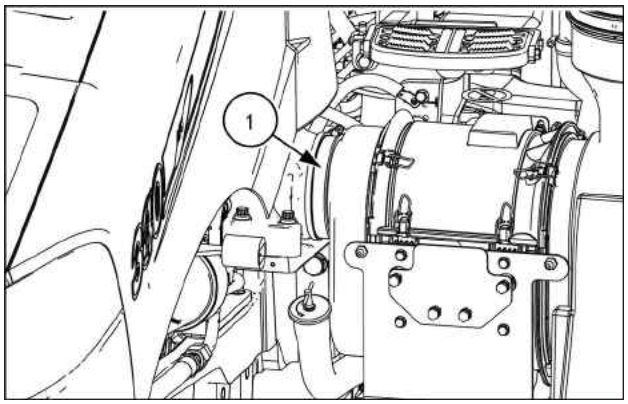
RAIL14TR00886AA 2

3. Remove the air cleaner cover panel **(1)**.



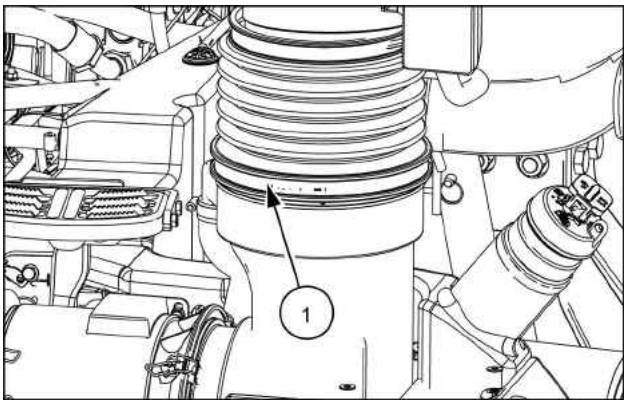
RAIL14TR00888AA 3

4. Disengage the hose clamp **(1)** from the air cleaner housing.



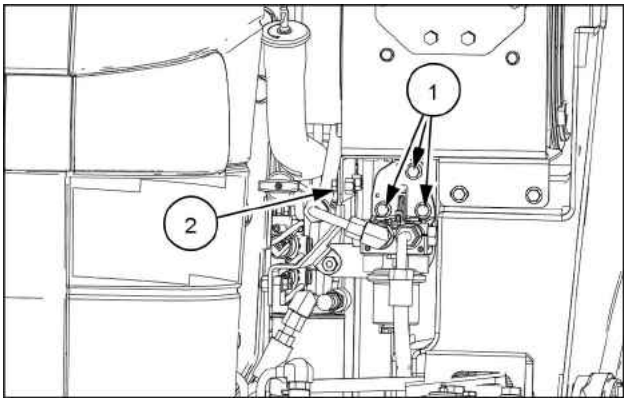
RAIL14TR00889AA 4

5. Disengage the hose clamp **(1)** from the air intake bellows to the air pre cleaner.



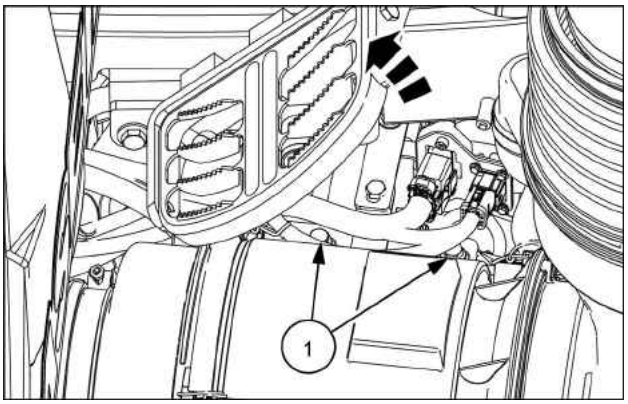
RAIL14TR00890AA 5

6. Remove the three bolts **(1)** from the fuel pump mount. Remove the two bolts **(2)** from the auxiliary fuel filter mount. Set the fuel pump and filter assembly to the side. (The fuel lines do not need to be disconnected).



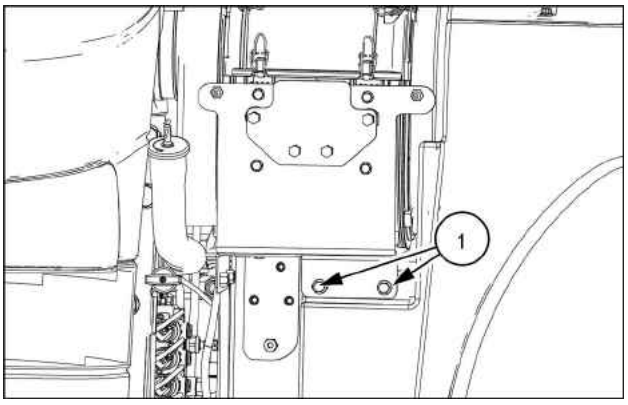
RAIL14TR00915AA 6

7. Raise the window step and remove the two bolts **(1)** from the air cleaner mounting bracket.



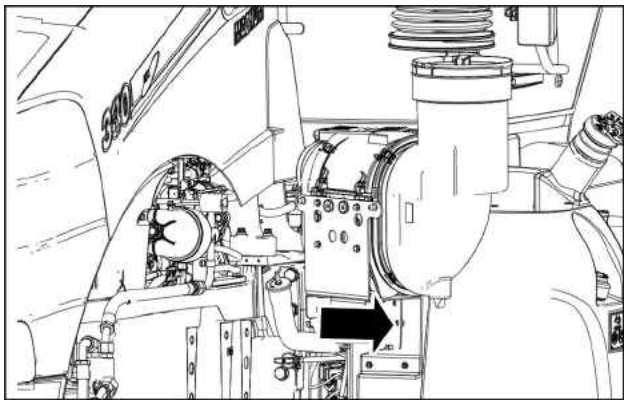
RAIL14TR00923AA 7

8. Remove the two lower bolts **(1)** from the air cleaner mounting bracket.



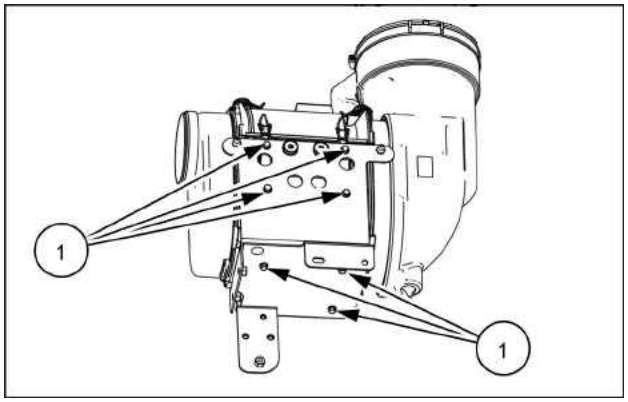
RAIL14TR00916AA 8

9. Remove the air cleaner along with the mounting bracket.



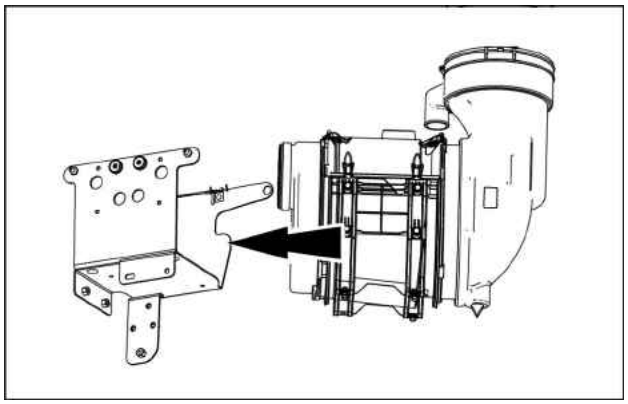
RAIL14TR00917AA 9

10. Remove the bolts **(1)** that secure the air cleaner to the mounting bracket.



RAIL14TR00922AA 10

11. Remove the mounting bracket.



RAIL14TR00921AA 11

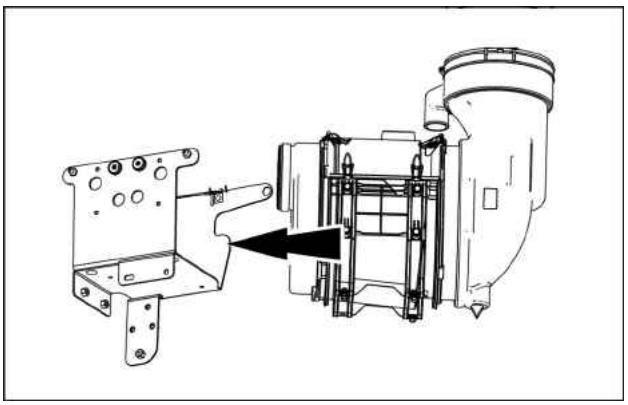
Next operation:
Air cleaner - Install (10.202)

Air cleaner - Install

T8.380 SmartTrax™ 696110077 PST TIER 4B [ZERE08100 -]	NA
T8.410 SmartTrax™ 696110087 PST TIER 4B [ZERE08100 -]	NA

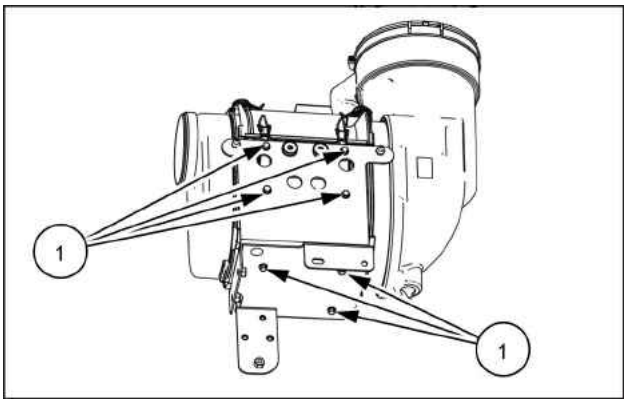
Prior operation:
Air cleaner - Remove (10.202)

1. Install the air cleaner into the mounting bracket.



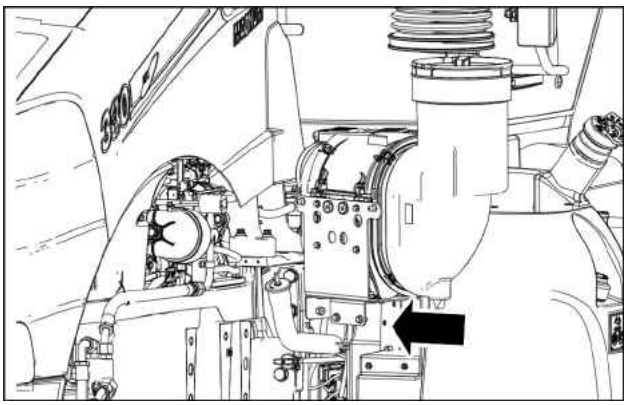
RAIL14TR00921AA 1

2. Secure the air cleaner assembly to the mounting bracket with the bolts **(1)** removed earlier.



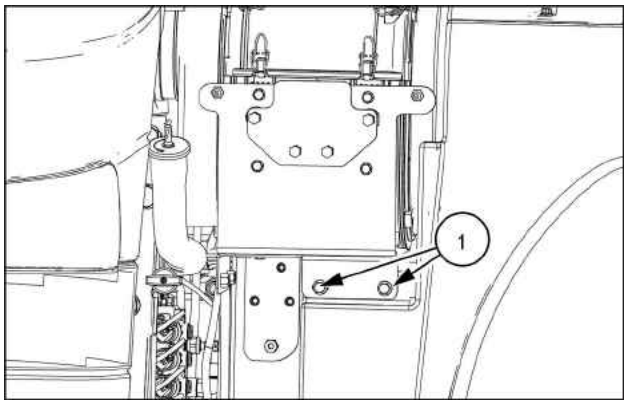
RAIL14TR00922AA 2

3. Install the air cleaner and mounting bracket assembly.



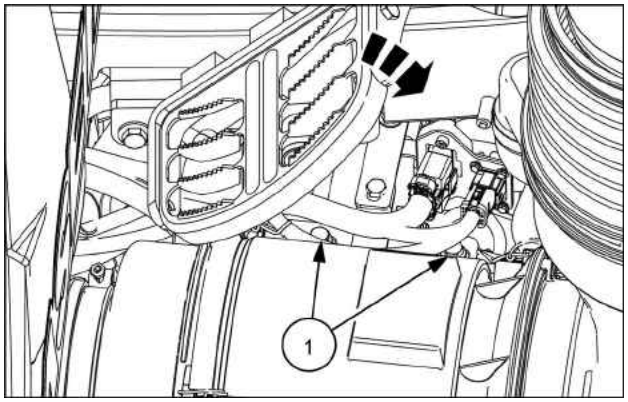
RAIL14TR00917AA 3

4. Secure the bracket with the two bolts **(1)** removed earlier.



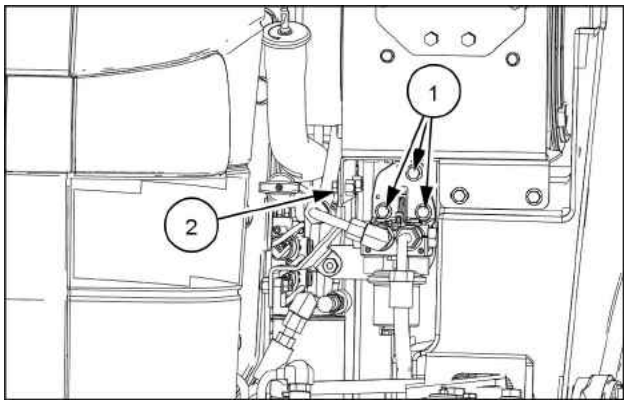
RAIL14TR00916AA 4

5. Secure the top of the bracket with the bolts **(1)** removed earlier. Lower the window step to the working position.



RAIL14TR00923AA 5

6. Reinstall the fuel pump and secure the pump with the bolts **(1)** removed earlier. Reinstall the auxiliary fuel filter, and secure with the bolts **(2)** removed earlier.



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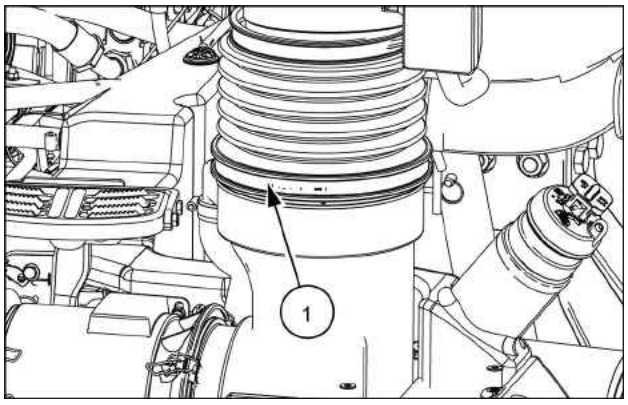
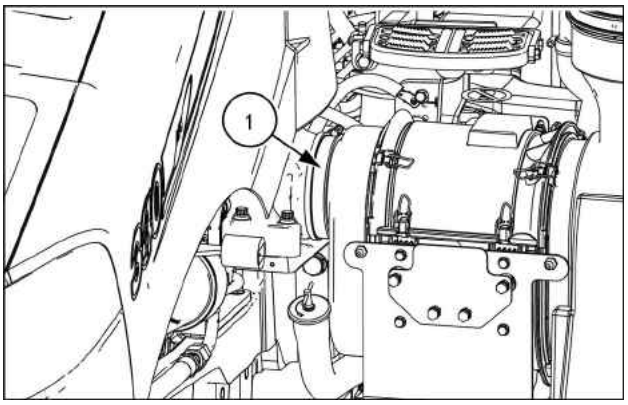
7. Connect the air intake bellows to the air intake precleaner and secure with the clamp **(1)** removed earlier.



RAIL14TR00890AA 7

8. Connect the air intake pipe to the air cleaner and secure with the clamp **(1)** removed earlier.



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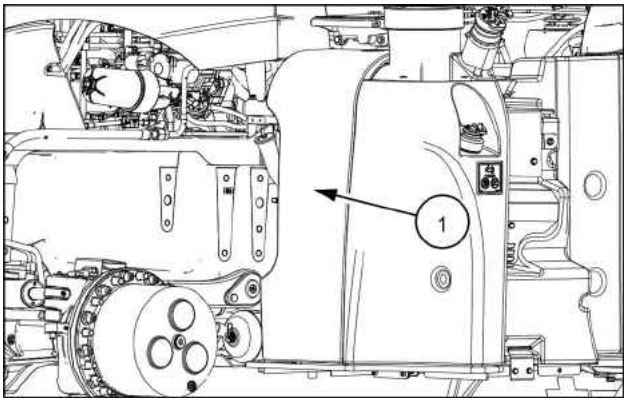
9. Reinstall the air cleaner cover panel **(1)**.



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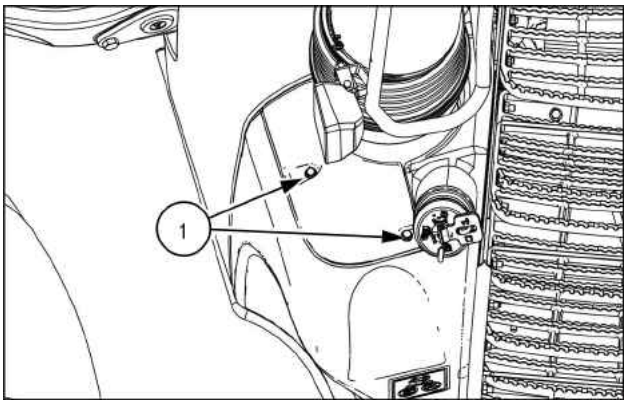
10. Reinstall the cover **(1)** on the Diesel Exhaust Fluid (DEF)/DEF/AdBlue® tank, and secure the cover with the bolts **(1)** removed earlier.



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