NOTE: *Engine repair information is not contained within this tractor Repair Manual. For engine repair, refer to publication number 87515682 for the 8.3 & 9.0L 6 Cylinder, 24 Valve CNH Engine with High Pressure Common Rail Fuel System.*

BOOK 1 - 87678533

BOOK 2 - 87689442

BOOK 2A - 87710926

BOOK 3 - 87678534

BOOK 4 - 87525633

BOOK 5 - 87678535

BOOK 6 - 87609386

BOOK 6a - 87611219

BOOK 6b - 87678536

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Section 00

Chapter 1

STANDARD TORQUE SPECIFICATION

TABLE OF CONTENTS

TORQUE SPECIFICATIONS - DECIMAL HARDWARE

Use the torques in this chart when special torques are not given. These torques apply to fasteners with both UNC and UNF threads as received from suppliers dry, or when lubricated with engine oil. Not applicable if special graphites, Molydisulfide greases, or other extreme pressure lubricants are used.

Grade 5 Bolts, Nuts, and Studs

Size	Pound-Inches	Newton metres
1/4 inch	108 to 132	12 to 15
5/16 inch	204 to 252	23 to 28
3/8 inch	420 to 504	48 to 57
Size	Pound-Feet	Newton metres
7/16 inch	54 to 64	73 to 87
1/2 inch	80 to 96	109 to 130
9/16 inch	110 to 132	149 to 179
5/8 inch	150 to 180	203 to 244
3/4 inch	270 to 324	366 to 439
7/8 inch	400 to 480	542 to 651
1.0 inch	580 to 696	787 to 944
1-1/8 inch	800 to 880	1085 to 1193
1-1/4 inch	1120 to 1240	1519 to 1681
1-3/8 inch	1460 to 1680	1980 to 2278
1-1/2 inch	1940 to 2200	2631 to 2983

Grade 8 Bolts, Nuts, and Studs

Size	Pound-Inches	Newton metres
1/4 inch	144 to 180	16 to 20
5/16 inch	288 to 348	33 to 39
3/8 inch	540 to 648	61 to 73
Size	Pound-Feet	Newton metres
7/16 inch	70 to 84	95 to 114
1/2 inch	110 to 132	149 to 179
9/16 inch	160 to 192	217 to 260
5/8 inch	220 to 264	298 to 358
3/4 inch	380 to 456	515 to 618
7/8 inch	600 to 720	814 to 976
1.0 inch	900 to 1080	1220 to 1465
1-1/8 inch	1280 to 1440	1736 to 1953
1-1/4 inch	1820 to 2000	2468 to 2712
1-3/8 inch	2380 to 2720	3227 to 3688
1-1/2 inch	3160 to 3560	4285 to 4827

NOTE: *Use thick nuts with Grade 8 bolts.*

TORQUE SPECIFICATIONS - METRIC HARDWARE

Use the following torques when specifications are not given.

These values apply to fasteners with coarse threads as received from supplier, plated or unplated, or when lubricated with engine oil. These values do not apply if graphite or Molydisulfide grease or oil is used.

Grade 8.8 Bolts, Nuts, and Studs

Size	Pound-Inches	Newton metres
M4	24 to 36	3 to 4
M5	60 to 72	7 to 8
M6	96 to 108	11 to 12
M8	228 to 276	26 to 31
M10	456 to 540	52 to 61
Size	Pound-Feet	Newton metres
M12	66 to 79	90 to 107
M14	106 to 127	144 to 172
M16	160 to 200	217 to 271
M20	320 to 380	434 to 515
M24	500 to 600	675 to 815
M30	920 to 1100	1250 to 1500
M36	1600 to 1950	2175 to 2600

Grade 10.9 Bolts, Nuts, and Studs

Size	Pound-Inches	Newton metres
M4	36 to 48	4 to 5
M5	84 to 96	9 to 11
M6	132 to 156	15 to 18
M8	324 to 384	37 to 43
Size	Pound-Feet	Newton metres
M10	54 to 64	73 to 87
M12	93 to 112	125 to 150
M14	149 to 179	200 to 245
M16	230 to 280	310 to 380
M20	450 to 540	610 to 730
M24	780 to 940	1050 to 1275
M30	1470 to 1770	2000 to 2400
M36	2580 to 3090	3500 to 4200

Grade 12.9 Bolts, Nuts, and Studs

Usually the torque values specified for grade 10.9 fasteners can be used satisfactorily on grade 12.9 fasteners.

TORQUE SPECIFICATIONS - STEEL HYDRAULIC FITTINGS

Tube OD Hose ID	Thread Size	Pound-Inches	Newton metres
37 Degree Flare Fitting			
1/4 inch 6.4 mm	7/16-20	72 to 144	8 to 16
5/16 inch 7.9 mm	1/2-20	96 to 192	11 to 22
3/8 inch 9.5 mm	9/16-18	120 to 300	14 to 34
1/2 inch 12.7 mm	3/4-16	180 to 504	20 to 57
5/8 inch 15.9 mm	7/8-14	300 to 696	34 to 79
Tube OD Hose ID	Thread Size	Pound-Feet	Newton metres
3/4 inch 19.0 mm	1-1/16-12	40 to 80	54 to 108
7/8 inch 22.2 mm	1-3/16-12	60 to 100	81 to 135
1.0 inch 25.4 mm	1-5/16-12	75 to 117	102 to 158
1-1/4 inch 31.8 mm	1-5/8-12	125 to 165	169 to 223
1-1/2 inch 38.1 mm	1-7/8-12	210 to 250	285 to 338

Tube OD Hose ID	Thread Size	Pound-Inches	Newton metres
Straight Threads with O-ring			
1/4 inch 6.4 mm	7/16-20	144 to 228	16 to 26
5/16 inch 7.9 mm	1/2-20	192 to 300	22 to 34
3/8 inch 9.5 mm	9/16-18	300 to 480	34 to 54
1/2 inch 12.7 mm	3/4-16	540 to 804	57 to 91
Tube OD Hose ID	Thread Size	Pound-Feet	Newton metres
5/8 inch 15.9 mm	7/8-14	58 to 92	79 to 124
3/4 inch 19.0 mm	1-1/16-12	80 to 128	108 to 174
7/8 inch 22.2 mm	1-3/16-12	100 to 160	136 to 216
1.0 inch 25.4 mm	1-5/16-12	117 to 187	159 to 253
1-1/4 inch 31.8 mm	1-5/8-12	165 to 264	224 to 357
1-1/2 inch 38.1 mm	1-7/8-12	250 to 400	339 to 542

Split Flange Mounting Bolts		
Size	Pound-Inches	Newton metres
5/16-18	180 to 240	20 to 27
3/8-16	240 to 300	27 to 34
7/16-14	420 to 540	47 to 61
Size	Pound-Feet	Newton metres
1/2-13	55 to 65	74 to 88
5/8-11	140 to 150	190 to 203

TORQUE SPECIFICATIONS - STEEL HYDRAULIC FITTINGS

Nom. SAE Dash Size	Tube OD	Thread Size	Pound-Inches	Newton metres	Thread Size	Pound-Inches	Newton metres
O-ring Face Seal End					**O-ring Boss End Fitting or Lock Nut**		
-4	1/4 inch 6.4 mm	9/16-18	120 to 144	14 to 16	7/16-20	204 to 240	23 to 27
-6	3/8 inch 9.5 mm	11/16-16	216 to 240	24 to 27	9/16-18	300 to 360	34 to 41
-8	1/2 inch 12.7 mm	13/16-16	384 to 480	43 to 54	3/4-16	540 to 600	61 to 68
					Thread Size	Pound-Feet	Newton metres
-10	5/8 inch 15.9 mm	1-14	552 to 672	62 to 76	7/8-14	60 to 65	81 to 88
Nom. SAE Dash Size	Tube OD	Thread Size	Pound-Feet	Newton metres	1-1/16-12	85 to 90	115 to 122
					1-3/16-12	95 to 100	129 to 136
-12	3/4 inch 19.0 mm	1-3/16-12	65 to 80	90 to 110	1-5/16-12	115 to 125	156 to 169
-14	7/8 inch 22.2 mm	1-3/16-12	65 to 80	90 to 110	1-5/8-12	150 to 160	203 to 217
-16	1.0 inch 25.4 mm	1-7/16-12	92 to 105	125 to 140	1-7/8-12	190 to 200	258 to 271
-20	1-1/4 inch 31.8 mm	1-11/16-12	125 to 140	170 to 190			
-24	1-1/2 inch 38.1 mm	2-12	150 to 180	200 to 254			

Section 00

Chapter 2

SAFETY, GENERAL INFORMATION, MAINTENANCE SCHEDULE

TABLE OF CONTENTS

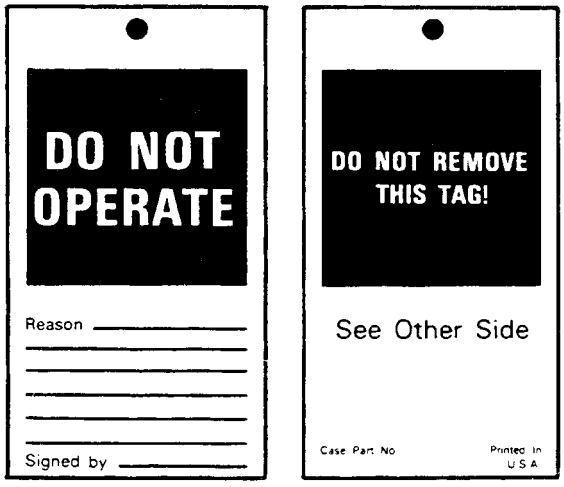
SAFETY

THIS SAFETY ALERT SYMBOL INDICATES IMPORTANT SAFETY MESSAGES IN THIS MANUAL. WHEN YOU SEE THIS SYMBOL, CAREFULLY READ THE MESSAGE THAT FOLLOWS AND BE ALERT TO THE POSSIBILITY OF PERSONAL INJURY OR DEATH. M171B

To prevent injury always follow the Warning, Caution and Danger notes in this section and throughout the manual.

Put the warning tag shown below on the key for the key switch when servicing or repairing the machine. One warning tag is supplied with each machine. Additional tags are available from your service parts supplier.

Before servicing a machine, park the machine on hard level ground. Turn off the engine, apply the parking brake and remove the key from the key switch. Put blocks in front of and behind either the front or rear wheels.



201L95

WARNING: *Read the operator's manual to familiarize yourself with the correct control functions.* M489

WARNING: *Operate the machine and equipment controls from the seat position only. Any other method could result in serious injury.* M490

WARNING: This machine is for one operator, no riders allowed. M491A

WARNING: *Before starting engine study Operator's Manual safety messages. Read all safety signs on machine. Clear the area of other persons. Learn and practice safe use of controls before operating. It is your responsibility to understand and follow manufacturers instructions on machine operation, service, and to observe pertinent laws and regulations. Operator and Repair Manuals may be obtained from your equipment dealer.* M103A

WARNING: *If you wear clothing that is too loose or do not use the correct safety equipment for your job, you can be injured. Always wear clothing that will not catch on objects. Extra safety equipment that can be required includes hard hat, safety shoes, ear protection, eye or face protection, heavy gloves and reflective clothing.* M492

WARNING: *When working in the area of the fan belt with the engine running, avoid loose clothing if possible, and use extreme caution.* M493

WARNING: *When doing checks and tests on the equipment hydraulics, follow the procedures as they are written. DO NOT change the procedure.* M494

WARNING: *When putting the hydraulic cylinders on this machine through the necessary cycles to check operation or to remove air from a circuit, make sure all people are out of the way.* M495

WARNING: *Always wear heat protective gloves to prevent burning your hands when handling heated parts.* SM121A

WARNING: *Lower all attachments to the ground or use stands to safely support the attachments before you do any maintenance or service.* M496

WARNING: *Hydraulic oil or diesel fuel leaking under pressure can penetrate the skin and cause infection or other injury.*
To Prevent Personal Injury:
Relieve all pressure, before disconnecting fluid lines. Before applying pressure, make sure all connections are tight and components are in good condition.
Never use your hand to check for suspected leaks under pressure.
Use a piece of cardboard or wood for this purpose. If injured by leaking fluid, see your doctor immediately. SM171A

WARNING: *When removing hardened pins such as a pivot pin, or a hardened shaft, use a soft head (brass or bronze) hammer or use a driver made from brass or bronze and a steel head hammer.* M497

WARNING: *When using a hammer to remove and install pivot pins or separate parts using compressed air or using a grinder, wear eye protection that completely encloses the eyes (approved goggles or other approved eye protectors).* M498

WARNING: *Use suitable floor (service) jacks or chain hoist to raise wheels or tracks off the floor. Always block machine in placed with suitable safety stands.* M499

WARNING: *When servicing or repairing the machine. Keep the shop floor and operator's compartment and steps free of oil, water, grease, tools, etc. Use an oil absorbing material and or shop cloths as required. Use safe practices at all times.* M500

WARNING: *Some components of this machine are very heavy. Use suitable lifting equipment or additional help as instructed in the Repair Manual.* M501

WARNING: *Engine exhaust fumes can cause death. If it is necessary to start the engine in a closed place, remove the exhaust fumes from the area with an exhaust pipe extension. Open the door and get outside air into the area.* M502

WARNING: *When the battery electrolyte is frozen, the battery can explode if (1), you try to charge the battery, or (2), you try to jump start and run the engine. To prevent the battery electrolyte from freezing, try to keep the battery at full charge. If you do not follow these instructions, you or others in the area can be injured.* M503

WARNING: *Batteries contain acid and explosive gas. Explosions can result from sparks, flames or wrong cable connections. To connect the jumper cables correctly to the battery of this machine see the Operator's Manual. Failure to follow these instructions can cause serious injury or death.* M504

GENERAL INFORMATION

Cleaning

Clean all metal parts except bearings, in mineral spirits or by steam cleaning. Do not use caustic soda for steam cleaning. After cleaning, dry and put oil on all parts. Clean oil passages with compressed air.

Inspection

Check all parts when the parts are disassembled. Replace all parts that have excessive wear or are damaged. Small scoring or grooves can be removed with a hone or crocus cloth. Complete visual inspection for indications of wear, pitting and the replacement of parts necessary will prevent early failures.

Bearings

Clean bearings with a good clean solvent and permit to air dry. **DO NOT DRY BEARINGS WITH COMPRESSED AIR.** Check bearings for smooth easy action. If the bearing has a loose fit or rough action, the bearing must be replaced.

Needle Bearings

Before you press needle bearings into a bore, always remove any metal protrusions in the bore or the edge of the bore. Before you press bearings into position, put petroleum jelly on the inside and outside diameter of the bearing.

Gears

Check all gears for excessive wear or damage. Replace gears as necessary.

Oil Seals, O-rings and Gaskets

Always install new oil seals, O-rings and gaskets. Put petroleum jelly on seals and O-rings.

Shafts

Check all shafts for excessive wear or damage. Check the bearing and oil seal surfaces on the shafts for excessive wear or damage. Replace shafts as necessary.

Service Parts

Always install genuine New Holland service parts. When ordering refer to the Parts Catalog for the correct part number of the genuine New Holland replacement items. Failures due to the use of other than genuine New Holland replacement parts are not covered by warranty.

Lubrication

Use only the oils and lubrication specified in the Operator's or Repair Manual. Failures due to the use of non specified oils and lubricants are not covered by warranty.

LUBRICATION/MAINTENANCE CHART

Service Interval	Maintenance Requirement	Check	Grease	Change	Clean	Drain
When Warning Message Displays	Air Cleaner Element				X	
Every 10 Hours Or Daily	Engine Oil Level	X				
	Transmission Oil Level	X				
	Coolant Reservoir Level	X				
Every 50 Hours	Engine Primary Fuel Filter - Drain Water					X
	Engine Coolant Level – Deaeration Tank	X				
	SuperSteer Axle Linkage Pins		X			
Every 100 Hours	Front Hitch (If Equipped)		X			
Every 300 Hours	Battery Water Level (Note E)	X				
	Engine Air Intake Hoses	X				
	*Engine Oil And Filter			X		
	Front And Rear Wheel Bolt Torques	X				
	Front Weight And Rear Wheel Weight Bolt Torques	X				
	Front Axle And Rear Hitch (Note A)		X			
	Fuel Tank - Drain Water					X
	Differential And Planetary Oil Level (Note B)	X				
	Transmission Oil Pressure	X				
	Reversible 1000 RPM PTO Shaft (Note D)		X			
Every 600 Hours	Engine Coolant Antifreeze Protection	X				
	Engine Coolant Filter			X		
	Engine Coolant Hoses And Clamps	X				
	Engine Fuel Filters			X		
	Changeable PTO Internal Splines		X			
Every 1200 Hours Or Annually	Differential and Planetary Oil			X		
	Engine Primary And Secondary Air Filter			X		
	Engine Air Precleaner				X	
Every 1500 Hours	Transmission Oil, Filter(s) and Breather			X		
Every 2100 Hours	Engine Fuel Injection Nozzles (Note C)	X				
	Engine Coolant And Coolant Conditioner			X		
	Engine Valve Adjustment (Note C	X				
Every 3000 Hours	Engine Crankshaft Dampener (Note C)	X				
As Required	Cab Air And Recirculation Filters			X	X	
	Cab Air Filter Dust Valve	X				
	Engine Primary Air Filter				X	
	Grill Screens, Radiator, Condenser/Fuel Cooler, Oil Cooler, Air to Air Cooler				X	
	Fan Belt Replacement			X		
	Tire Pressure	X				
	Coupler Spillage Colection Bottle				X	

* Engine oil change interval may be affected by the sulfur content of the fuel. See Engine Oil Change in this manual.

Note A - In severe or wet conditions, interval is every 10 hours or daily.

Note B - Perform initial service in first 50 hours of operation.

Note C - Dealer must perform this service.

Note D - Every 300 PTO hours or twice a year.

Note E - If operated in ambient temperatures of 90° F (32° C) or greater, the battery fluid should be checked every 100 hours or once a week, whichever comes first.

SYSTEM CAPACITIES

SYSTEM	U.S. MEASURE	METRIC MEASURE	IMPERIAL MEASURE
Engine Oil			
No Filter Change	5 Gal	19 L	4.2 Gal
With Filter Change	5-1/2 Gal	21L	4.5 Gal
Cooling System			
All	7 Gal	26.5 L	5.8 Gal
Trans / Hydraulic System	45-1/2 Gal	172 L	38 Gal
Front Wheel Drive			
[A]10 Bolt Axle			
Differential – Standard and Suspended FWD	13.0 Qts[B]	12.3 L	21.6 Pints
Differential – SuperSteer FWD	14.0 Qts[C]	13.25 L	23.3 Pints
Planetary - Each	3 Pints	1.4 L	2.5 Pints
[A]12 Bolt Axle			
Differential – Standard and Suspended FWD	12.5 Qts[D]	11.8 L	20.8 Pints
Differential – SuperSteer FWD	14.0 Qts[C]	13.25 L	23.3 Pints
Planetary - Each	7.0 Pints	3.3 L	5.8 Pints
Fuel Tank			
All	178 Gal	674L	148 Gal

[A] = Bolt quantity can be determined by observing the wheel ends.
[B] = 25 pints New Holland Ambra Hypoide 140 Gear Oil, SAE 85W140, plus 1 pint New Holland Limited Slip Additive (B96606) for 13 quarts total.
[C] = 27 pints New Holland Ambra Hypoide 140 Gear Oil, SAE 85W140, plus 1 pint New Holland Limited Slip Additive (B96606) for 14 quarts total.
[D] = 24 pints New Holland Ambra Hypoide 140 Gear Oil, SAE 85W140, plus 1 pint New Holland Limited Slip Additive (B96606) for 12.5 quarts total.

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Section 10

Chapter 1

ENGINE REMOVAL AND INSTALLATION

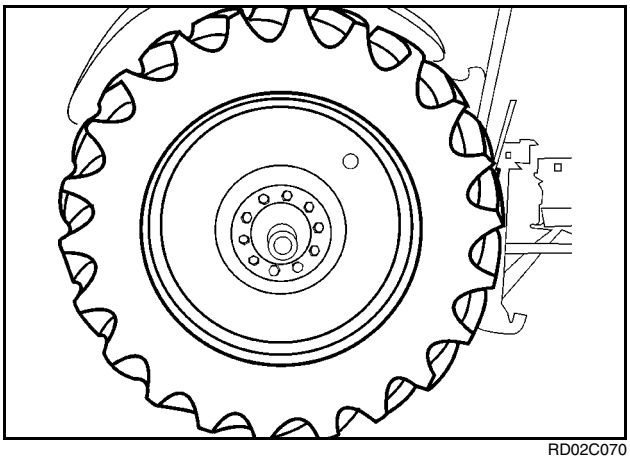
January, 2006

TABLE OF CONTENTS

ENGINE REMOVAL

NOTE: *Make note of where any wire harness and hose tie straps are removed during disassembly so they can be properly installed during assembly.*

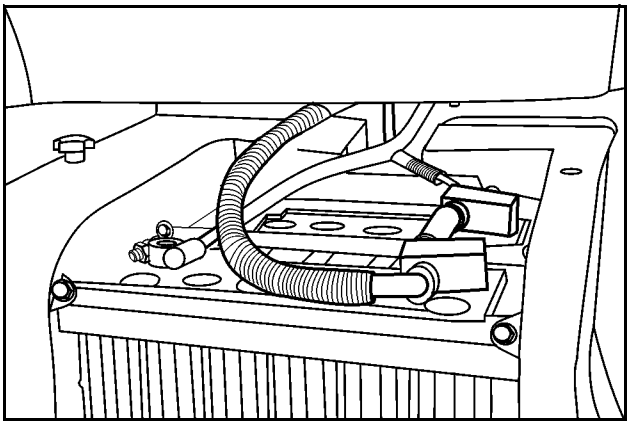
STEP 1



RD02C070

Park the tractor on a hard, level surface. Put the transmission shift lever in PARK. Turn off the engine and remove the key. Place blocks in front of and behind the rear wheels.

STEP 2



RD02E069

Remove the battery cover. Disconnect the negative cable (-) then the positive cable (+).

STEP 3

Remove the hood. See Hood Removal Section in this Repair Manual.

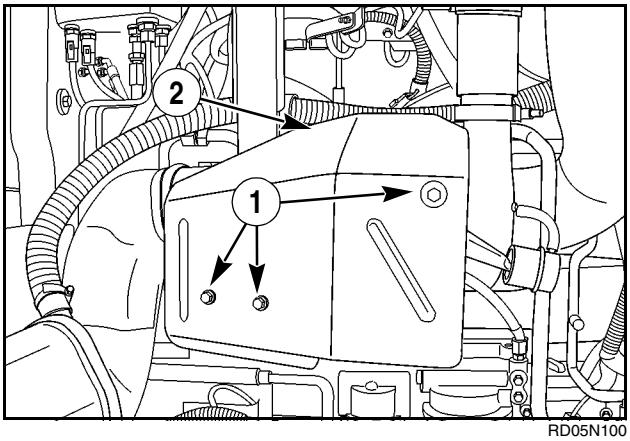
STEP 4

Evacuate the A/C system. See A/C Service Section in this Repair Manual.

STEP 5

Remove the cooling module. See Cooling Module Section in this Repair Manual.

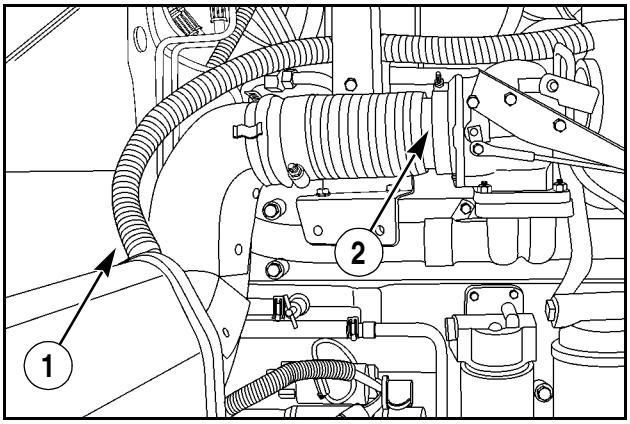
STEP 6



RD05N100

Remove the exhaust shield mounting hardware (1) and remove the shield (2).

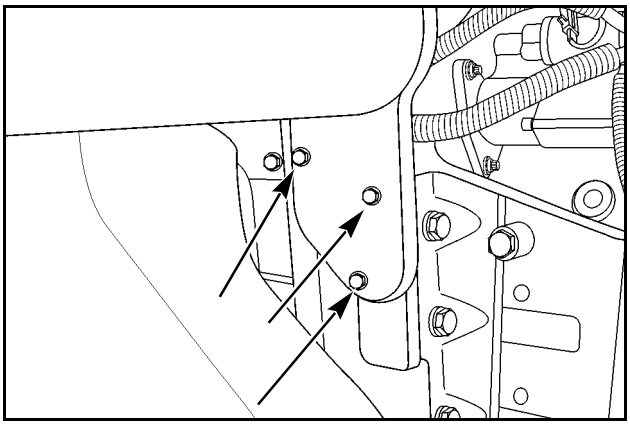
STEP 7



RD05N101

Remove the air cleaner aspirator hose (1). Disconnect the exhaust pipe at the turbo. (2).

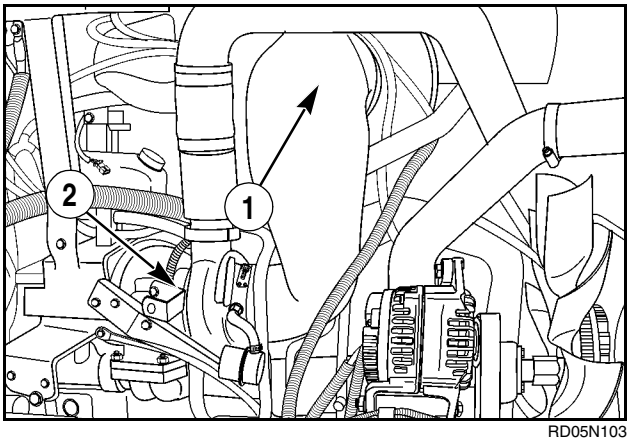
STEP 8



RD05N102

Properly support the muffler. Remove the mounting hardware and remove the muffler / exhaust elbow assembly.

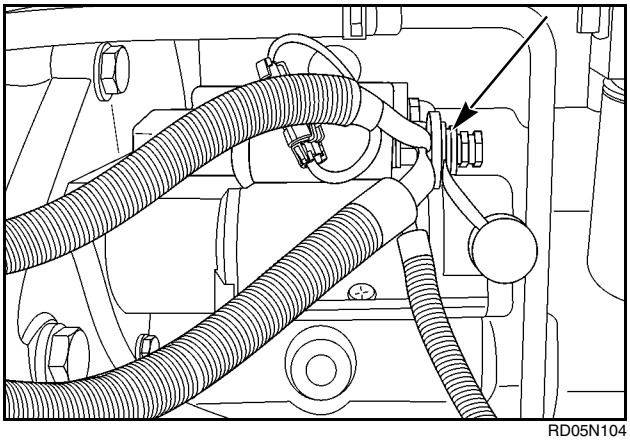
STEP 9



RD05N103

Disconnect the turbo to charge-air cooler pipe (1) at the turbo (2) and remove.

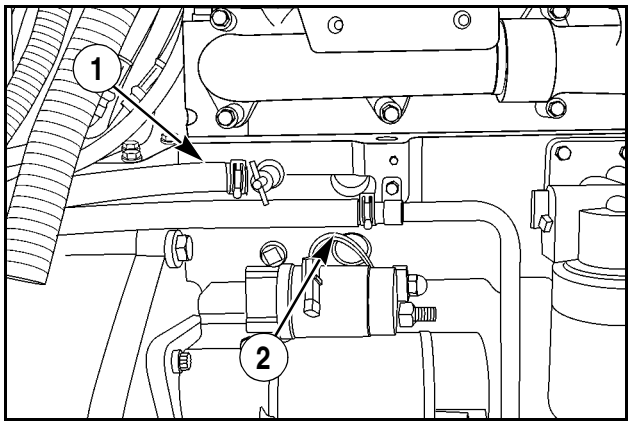
STEP 10



RD05N104

Remove the starter cables.

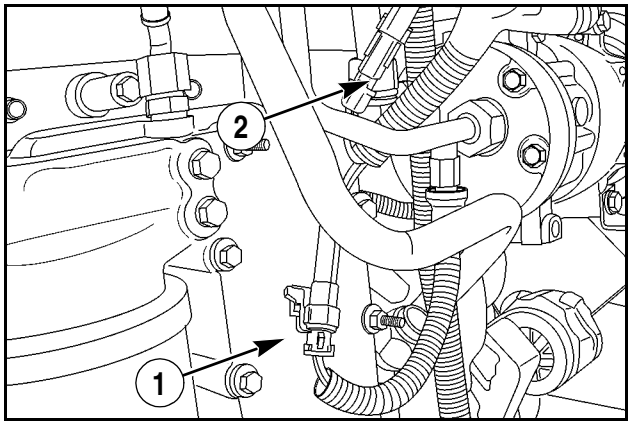
STEP 11



RD05N105

Tag and remove the heater supply hose (1) and return hose (2).

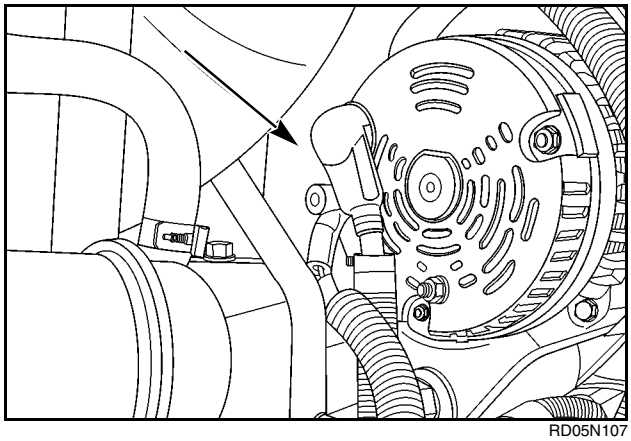
STEP 12



RD05N106

Disconnect the A/C high pressure switch (1). Disconnect the A/C compressor clutch harness (2).

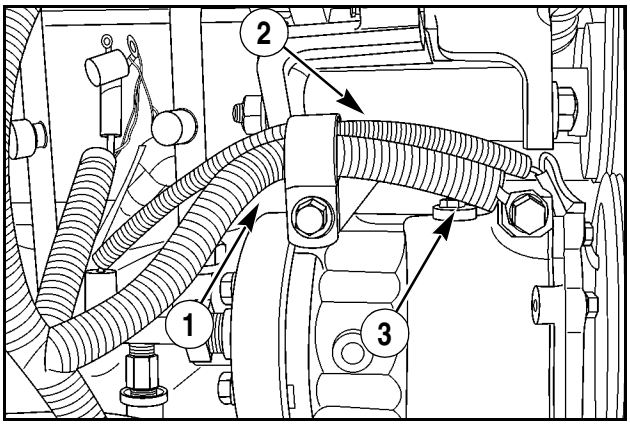
STEP 13



RD05N107

Remove and tag the alternator harness wires.

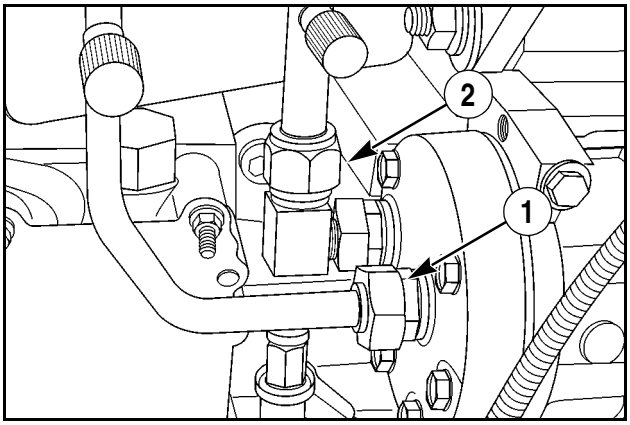
STEP 14



RD05N108

Remove the harness clamp (1). Remove the compressor clutch harness (2) from the clamp. Reinstall the mounting bolt. Remove the ground wire (3) and reinstall the mounting bolt.

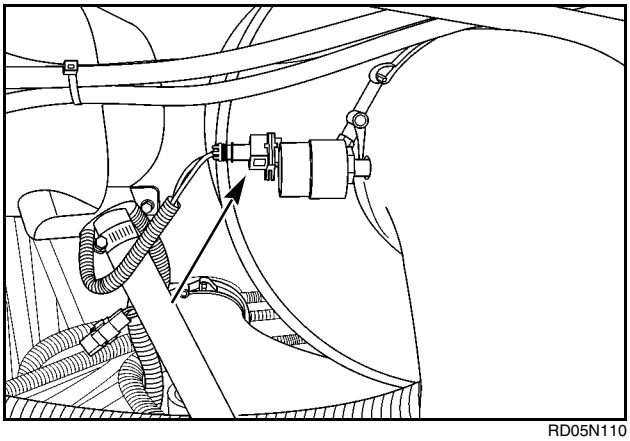
STEP 15



RD05N109

Remove the high (1) and low (2) pressure A/C line. Discard the O-rings. Cap all fittings.

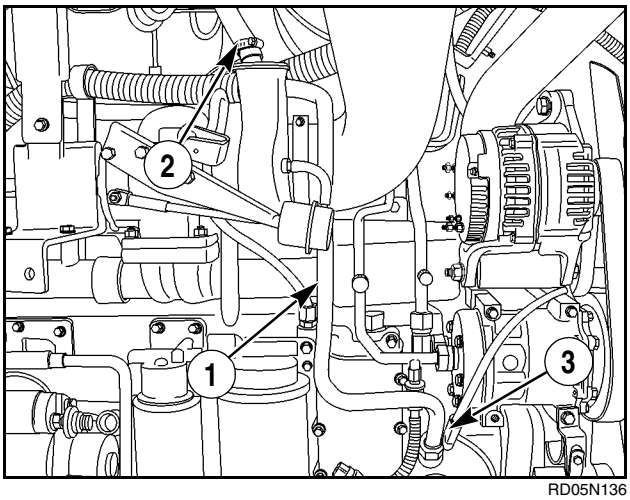
STEP 16



RD05N110

Remove the air cleaner restriction switch harness.

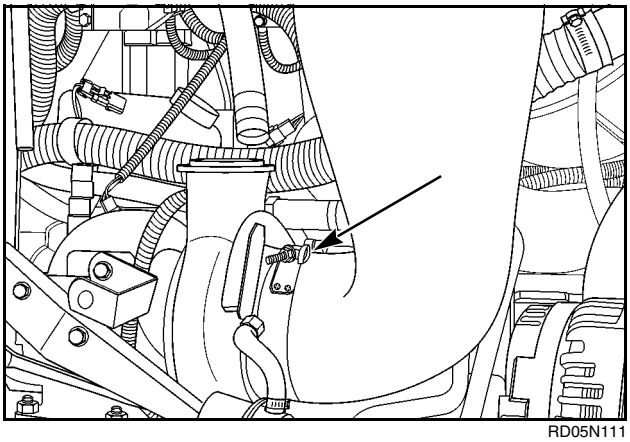
STEP 17



RD05N136

Disconnect the coolant fill tube (1) at the deaeration tank hose (2) and the engine block (3). Remove the tube.

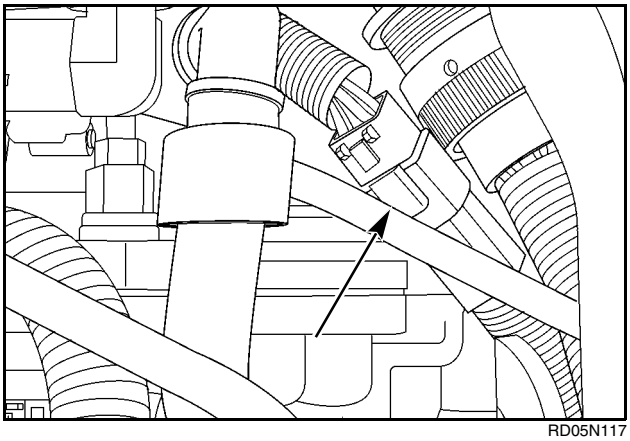
STEP 18



RD05N111

Loosen the air cleaner to turbo inlet hose clamp.

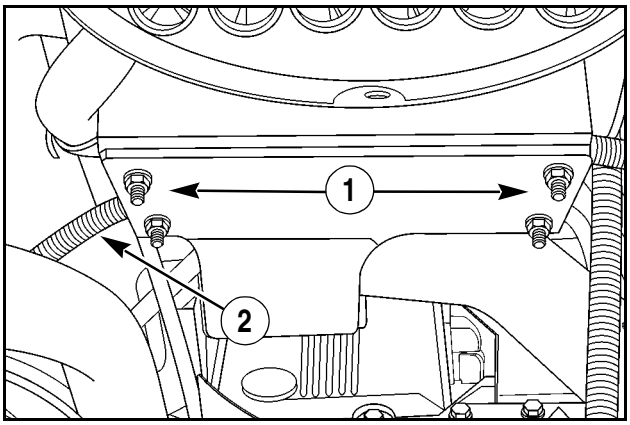
STEP 19



RD05N117

Disconnect the alternator wire harness connector. This connector is located on the left side near the hood support.

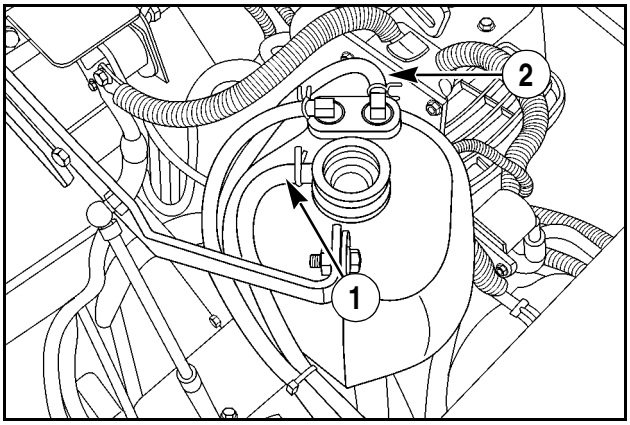
STEP 20



RD05N112

Remove the four air cleaner housing mounting nuts (1). Remove the air cleaner assembly. Remove the alternator wire harness (2) with the air cleaner assembly.

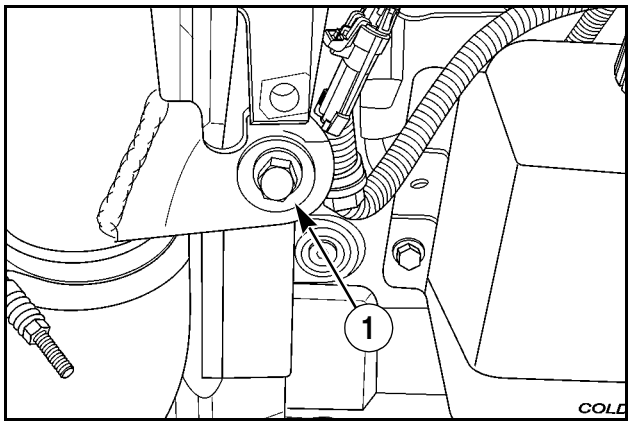
STEP 21



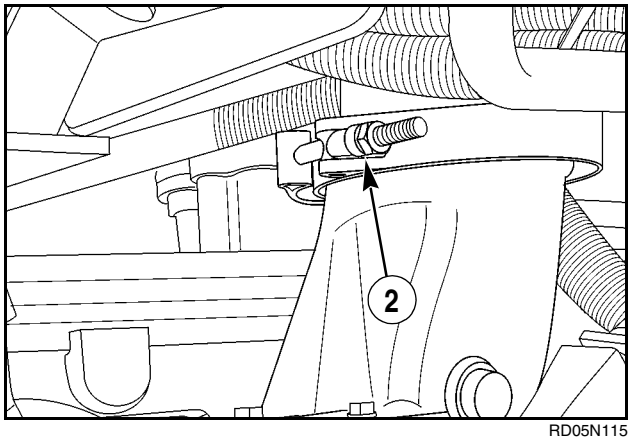
RD05N113

Remove the deaeration tank to recovery bottle hose (1) and engine to deaeration tank air bleed hose (2).

STEP 22



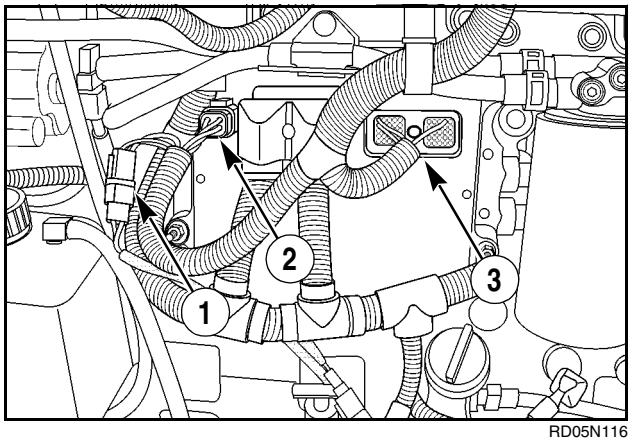
RD05N114



RD05N115

Remove the charge-air cooler to intake manifold tube bushing bolt (1). Remove the charge-air cooler to intake manifold pipe clamp (2). Remove the pipe. Discard the O-ring located at the intake manifold.

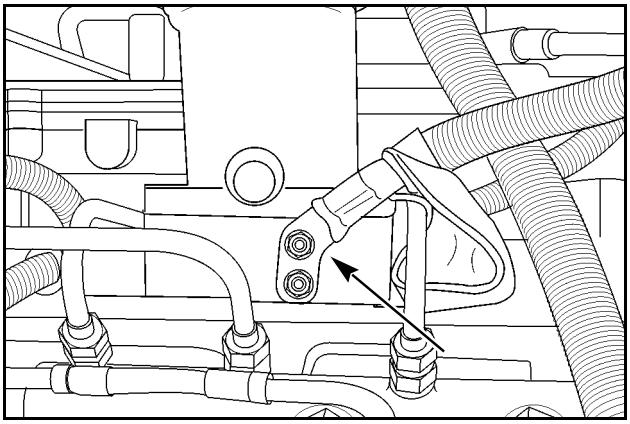
STEP 23



RD05N116

Disconnect the suspended axle position pot harness (1) if equipped. Remove the engine ECM (Electronic Control Module) power connector (2) and the throttle position connector (3).

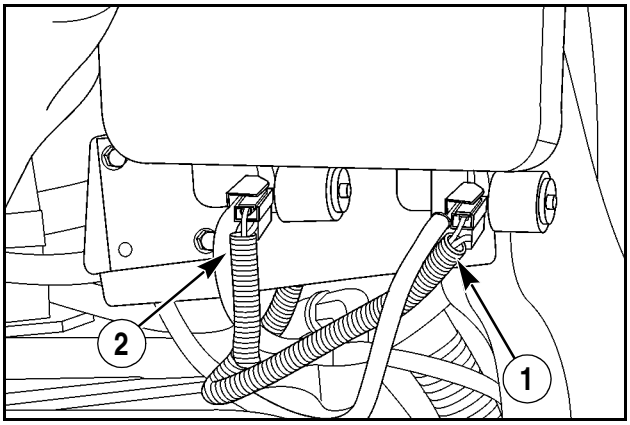
STEP 24



RD05N118

Remove the engine heater grid power cable.

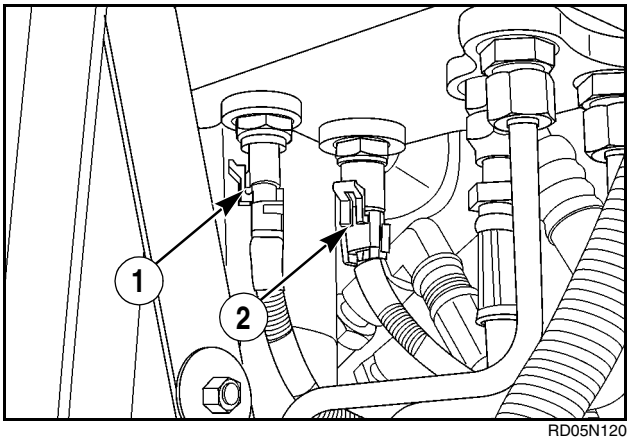
STEP 25



RD05N119

Remove the washer bottle from its mounting bracket. Tag and remove the front washer hose and electrical connector (1). Repeat for the rear (2) if required.

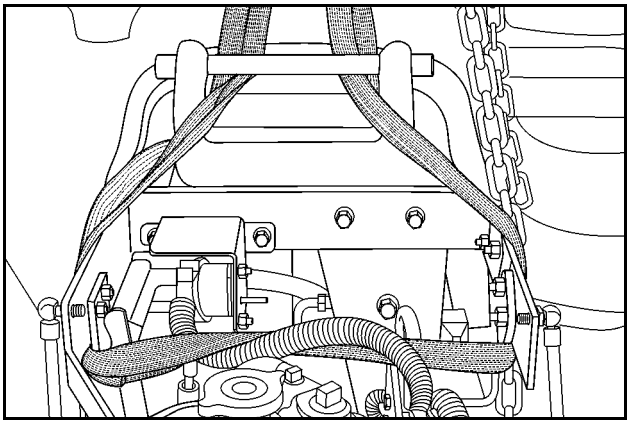
STEP 26



RD05N120

Tag and remove the right (1) and left (2) brake switch connectors.

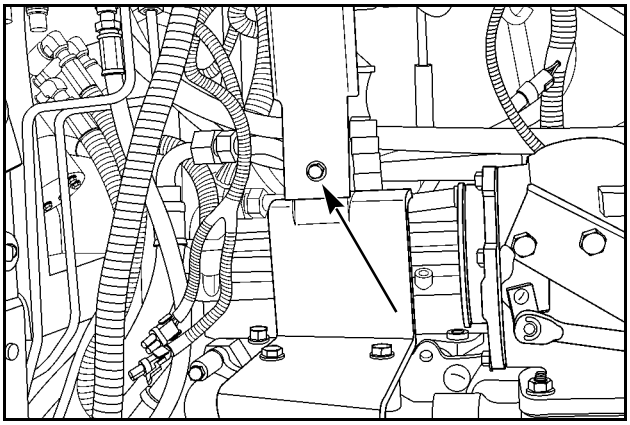
STEP 27



RD05N121

Properly support the hood / deaeration tank mounting assembly.

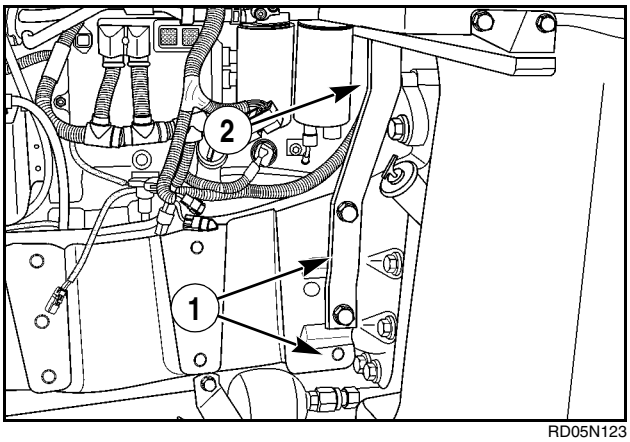
STEP 28



RD05N122

Remove right rear support bracket bolt.

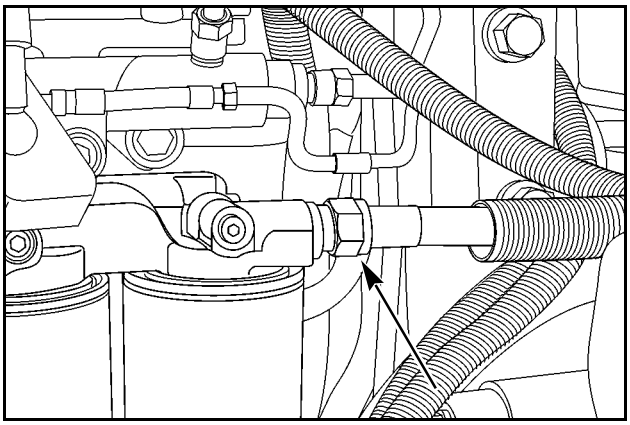
STEP 29



RD05N123

If installed, remove the windshield step mounting bolts (1) and remove the step (2).

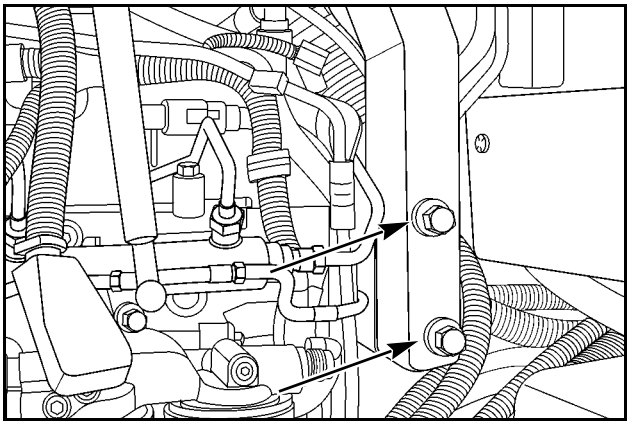
STEP 30



RD05N124

Remove the fuel supply hose.

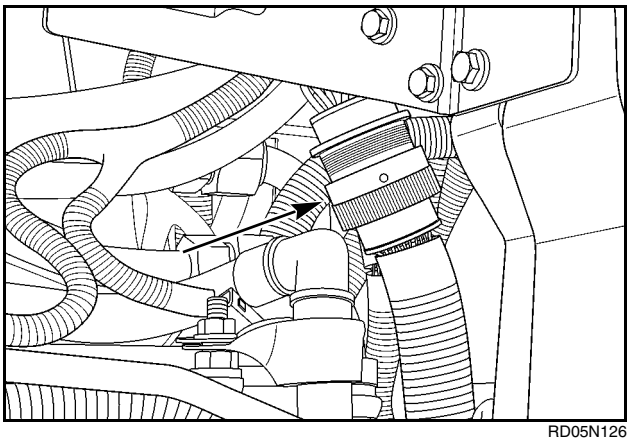
STEP 31



RD05N125

Remove the two support mounting bolts.

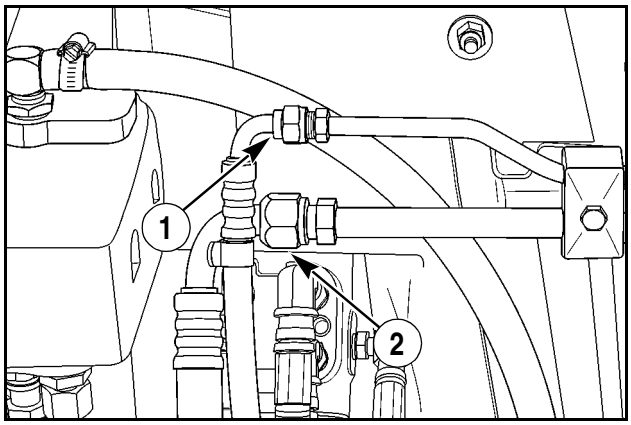
STEP 32



RD05N126

Raise the assembly slightly to gain access to the main engine connector (1) and disconnect. Continue to raise and remove from the engine.

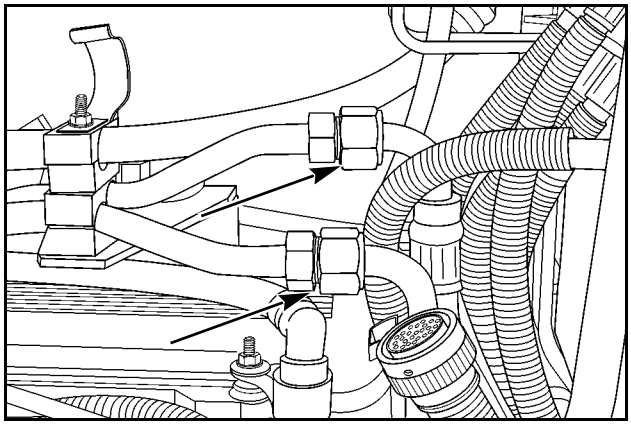
STEP 33



RD05N127

Disconnect the high (1) and low (2) pressure A/C lines.

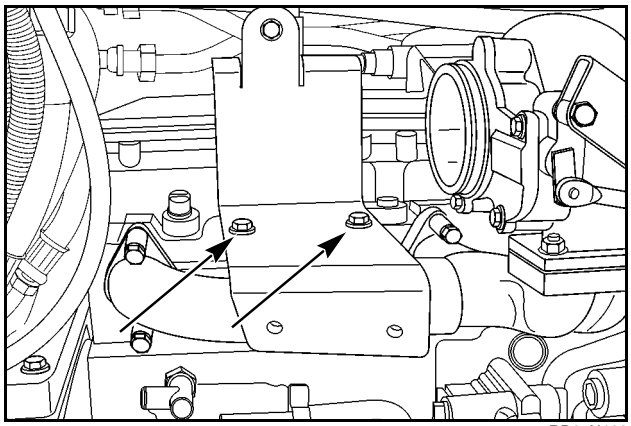
STEP 34



RD05N128

Remove the hydraulic oil cooling lines.

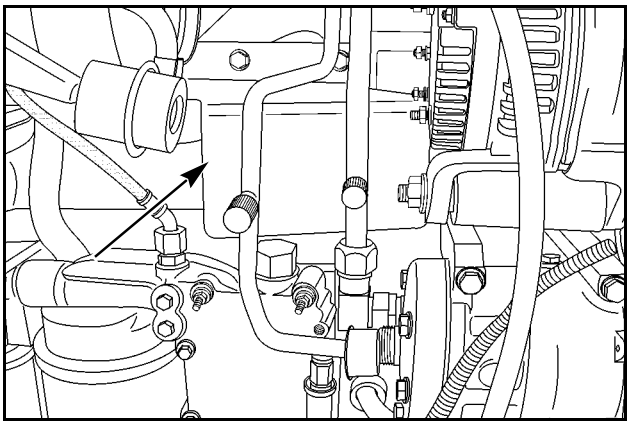
STEP 35



RD05N129

Remove the two right rear tube / hose / air cleaner bracket assembly mounting bolts.

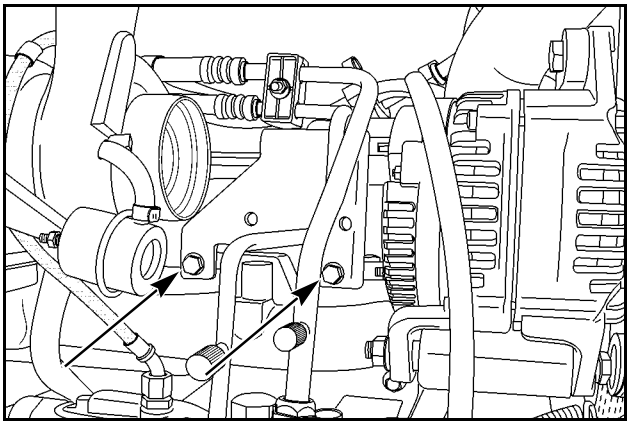
STEP 36



RD05N130

Remove the A / C tube exhaust shield.

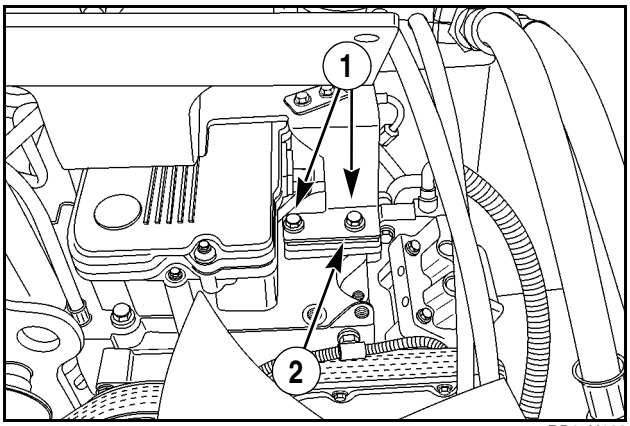
STEP 37



RD05N131

Remove the right front mounting bolts.

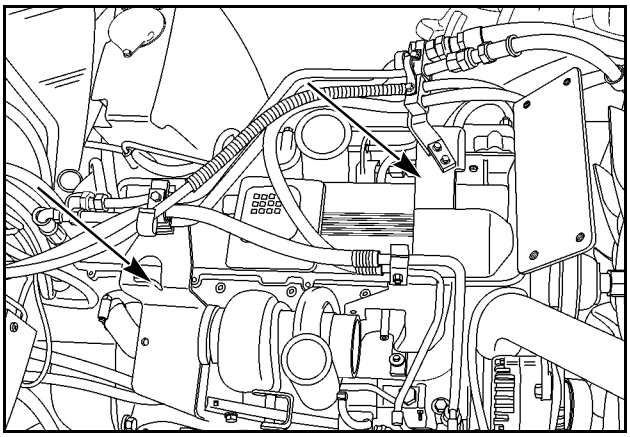
STEP 38



RD05N132

Remove the left front mounting bolts (1) and spacer (2).

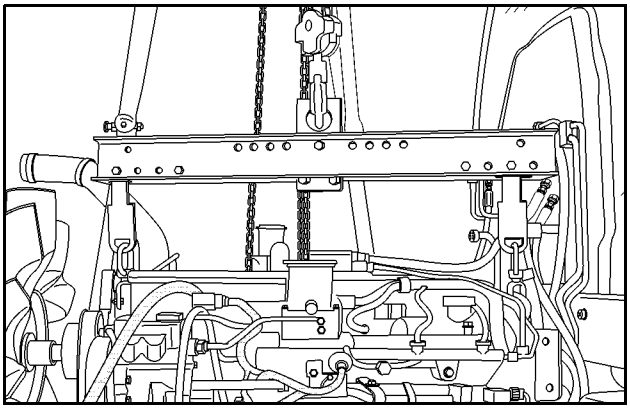
STEP 39



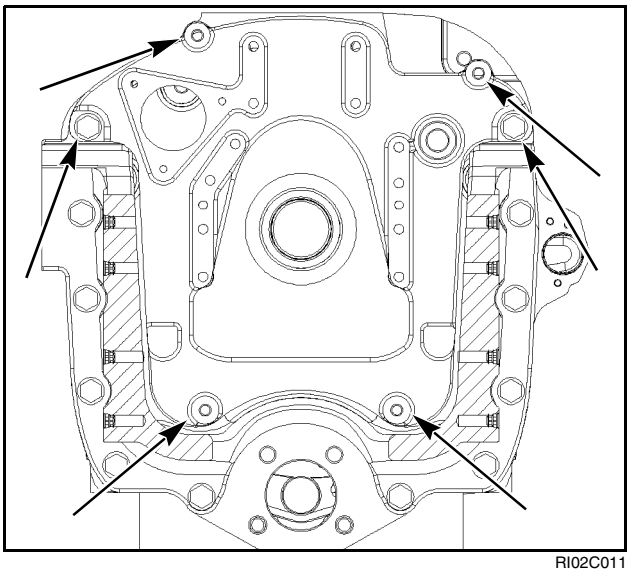
RD05N133

Properly support the hose / tube / air cleaner support bracket assembly and remove from the engine.

STEP 40



RD05N135

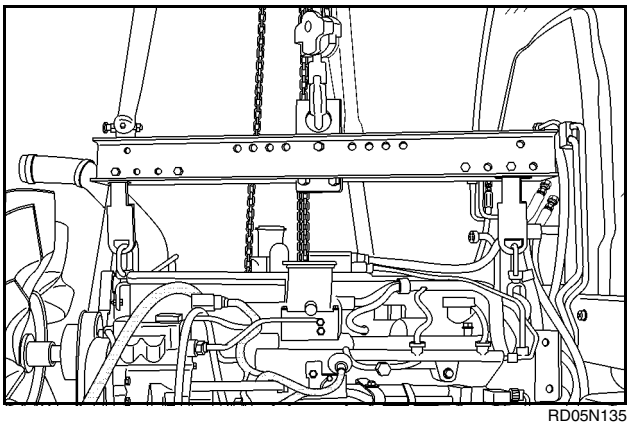


RI02C011

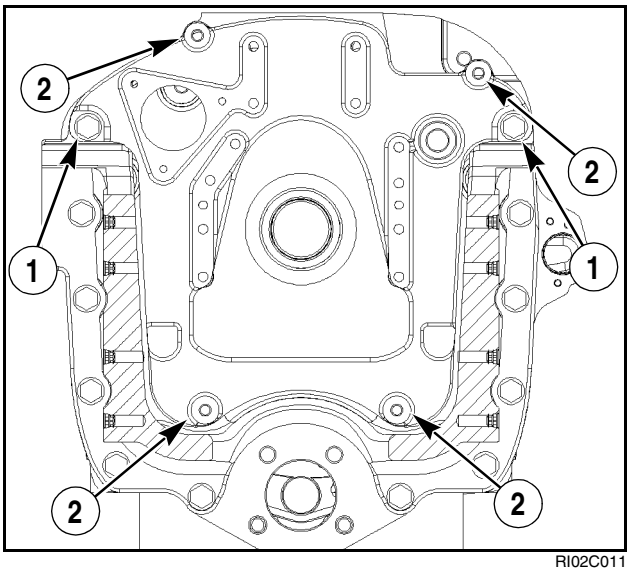
Properly support the engine. Place a small amount of tension on the hoist. Remove the six engine mounting bolts. Move the engine forward to disengage from the transmission. Remove the engine from the front frame.

ENGINE INSTALLATION

STEP 41



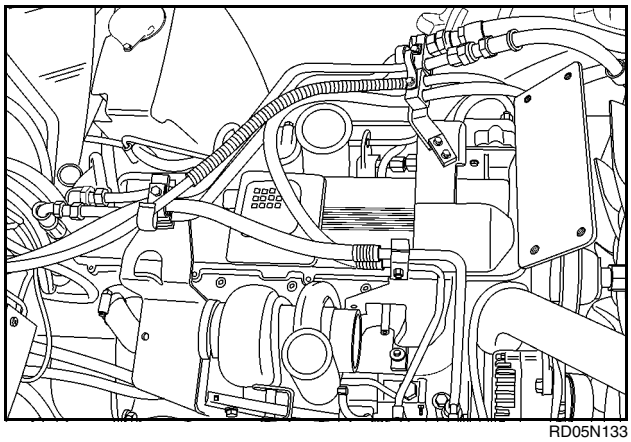
RD05N135



RI02C011

Apply a thin coat of anti seize lubricant to the transmission input shaft splines. Properly support the engine and lift into place. Align the splines on the shaft with the engine flywheel dampener and slide into place. Install the mounting bolts. Tighten the two M20 bolts (1) to a torque of 430 to 485 Nm (315 to 355 lb. ft.) Tighten the four M16 bolts (2) to a torque of 221 to 250 Nm (160 to 180 lb. ft.).

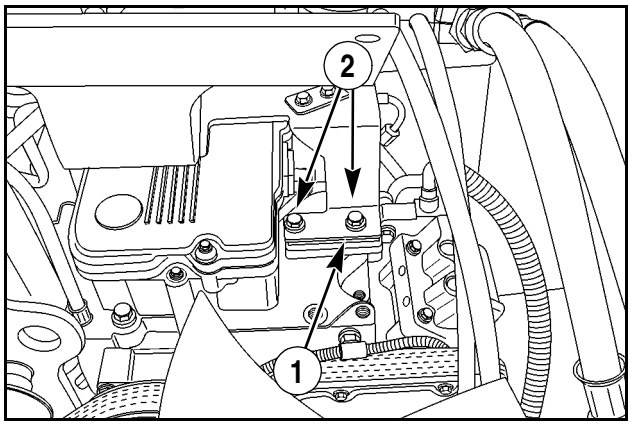
STEP 42



RD05N133

Set the hose / tube / air cleaner support bracket assembly in place on top of the engine.

STEP 43

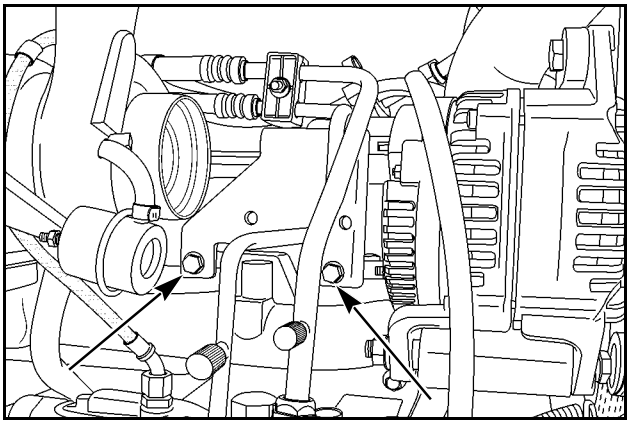


RD05N132

Set the spacer (1) into place and install the mounting bolts (2).

NOTE: *DO NOT tighten the bracket mounting hardware at this time.*

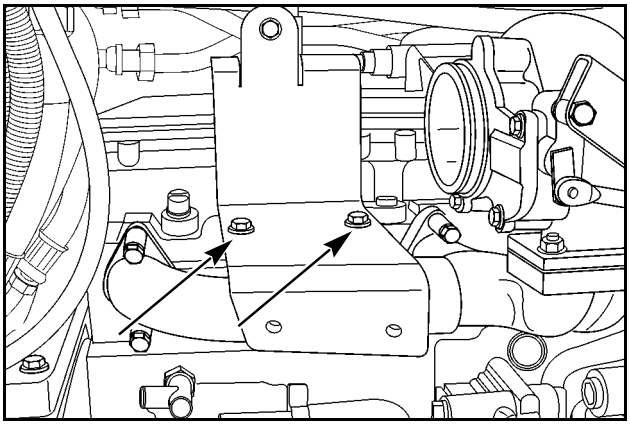
STEP 44



RD05N131

Install the right front mounting bolts.

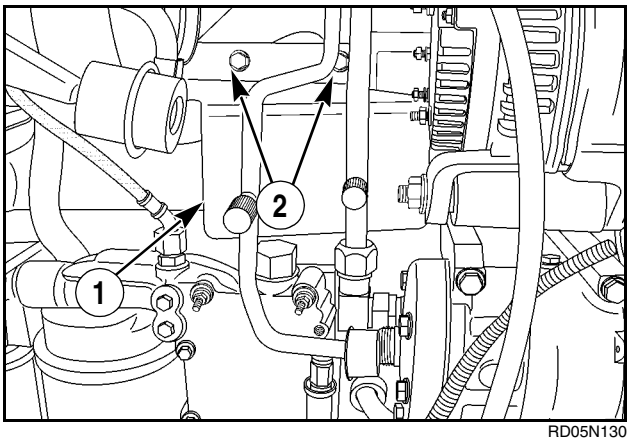
STEP 45



RD05N129

Install the right rear mounting bolts. Tighten ALL bracket mounting bolts at this time.

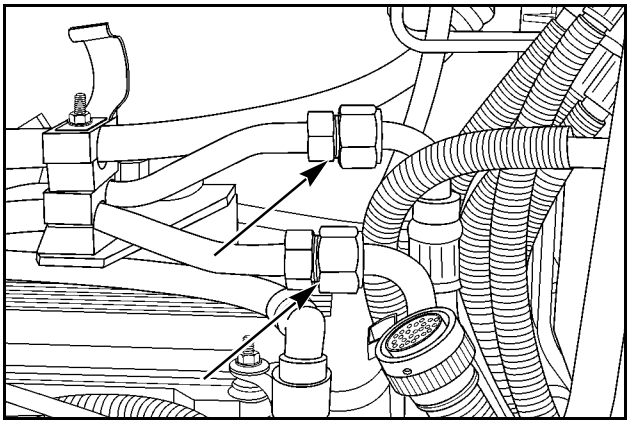
STEP 46



RD05N130

Install the heat shield (1). Install and tighten mounting bolts (2).

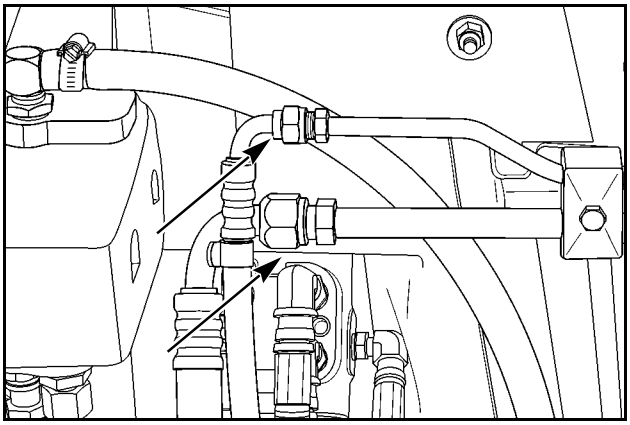
STEP 47



RD05N128

Install new O-rings on the fittings and tighten the hydraulic cooling lines.

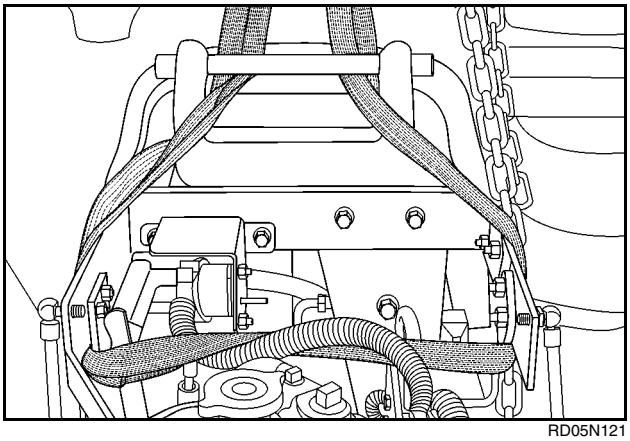
STEP 48



Rd05N127

Install new O-rings on the fittings and tighten the A / C lines.

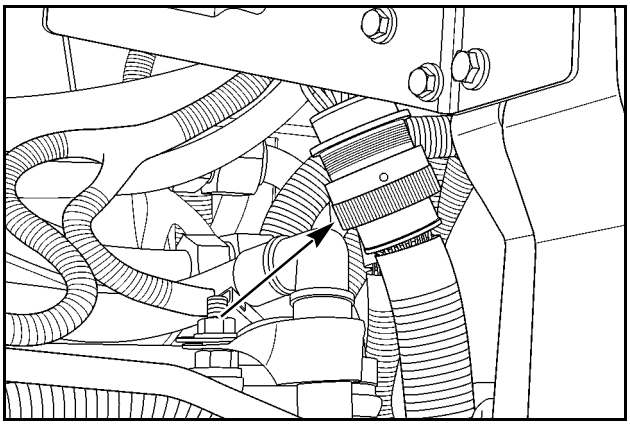
STEP 49



RD05N121

Properly support the hood / deaeration tank mounting assembly and set into place at the rear of the engine.

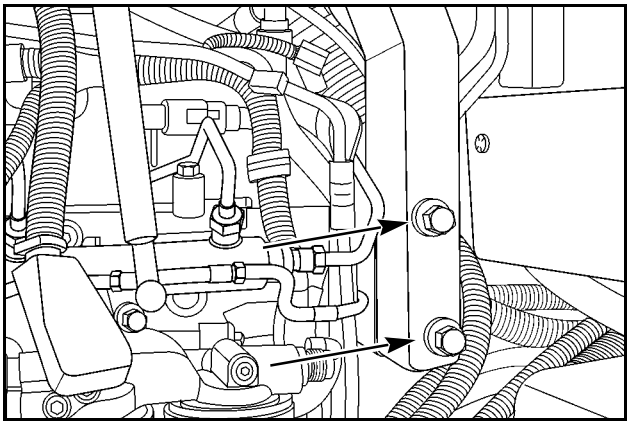
STEP 50



RD05N126

Connect the engine wire harness connector.

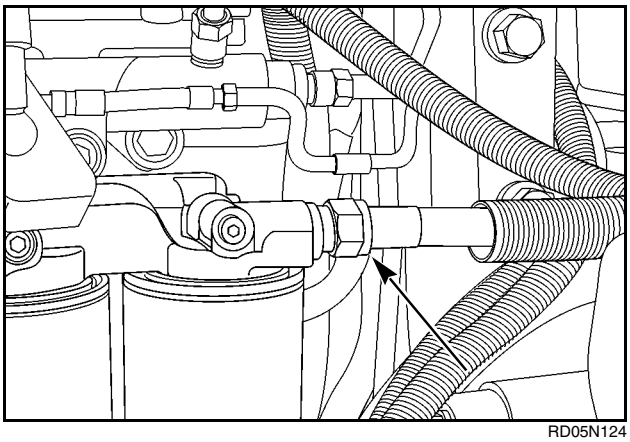
STEP 51



RD05N125

Install the support mounting bolts and tighten to a torque of 310 to 380 Nm (230 to 280 lb. ft.).

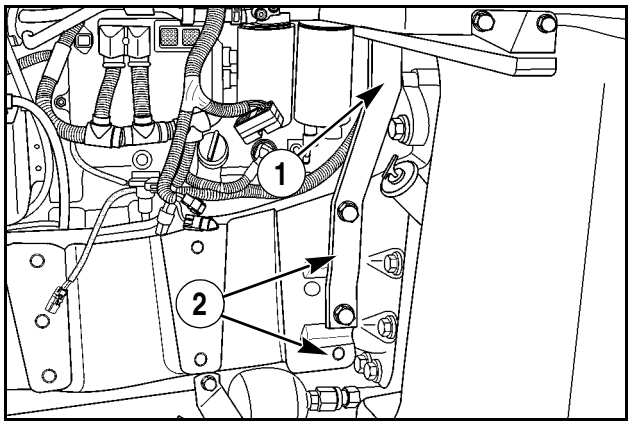
STEP 52



RD05N124

Install the fuel supply hose.

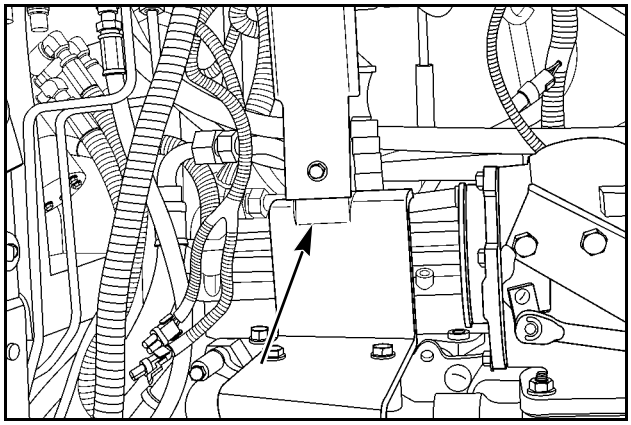
STEP 53



RD05N123

If removed, install the windshield step (1) and tighten the bolts (2).

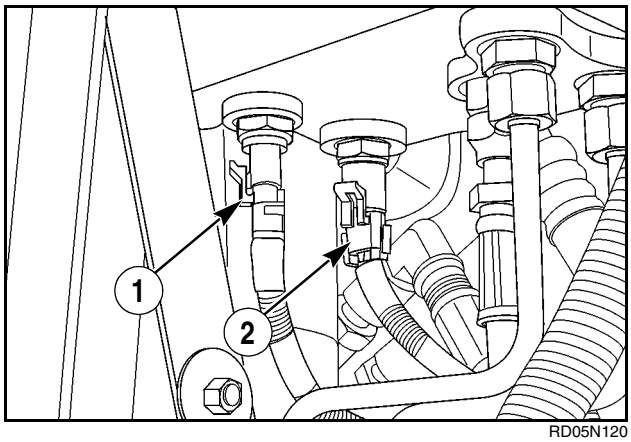
STEP 54



RD05N122

Install and tighten the right rear support bolt.

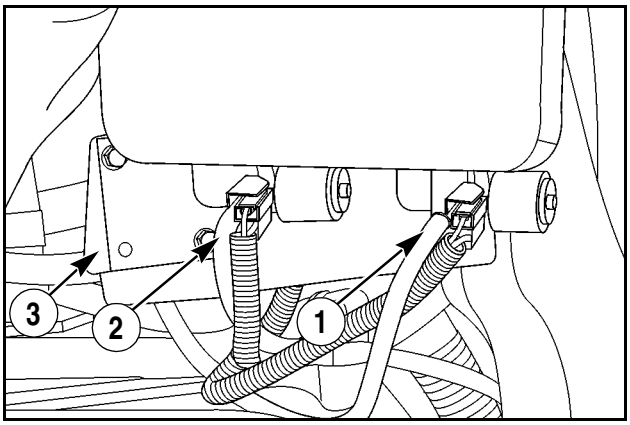
STEP 55



RD05N120

Install the right (1) and left (2) brake switch connectors.

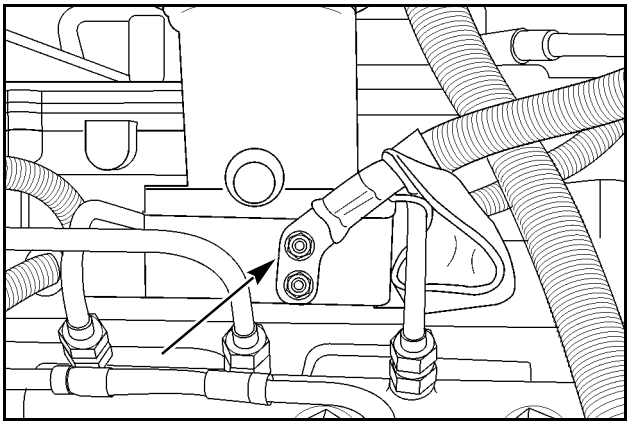
STEP 56



RD05N119

Install the front washer hose and electrical connector (1) and rear (2) if equipped. Install the bottle onto the bracket (3).

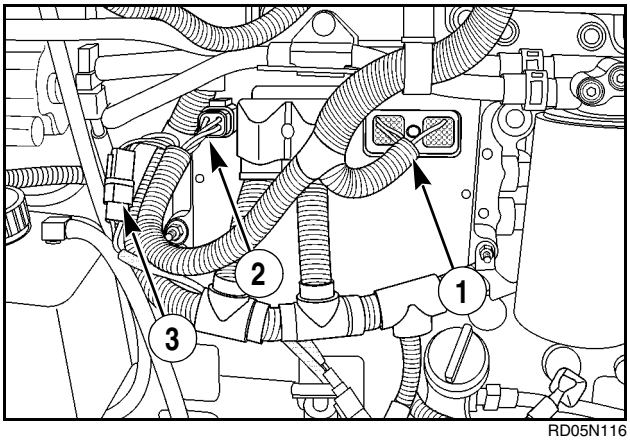
STEP 57



RD05N118

Install the engine grid heater power cable.

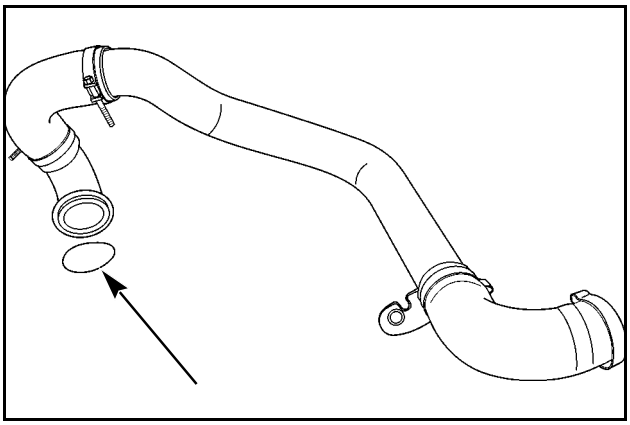
STEP 58



RD05N116

Install the throttle position connector (1) and the ECM power connector (2). If equipped, connect the suspended axle position pot connector (3).

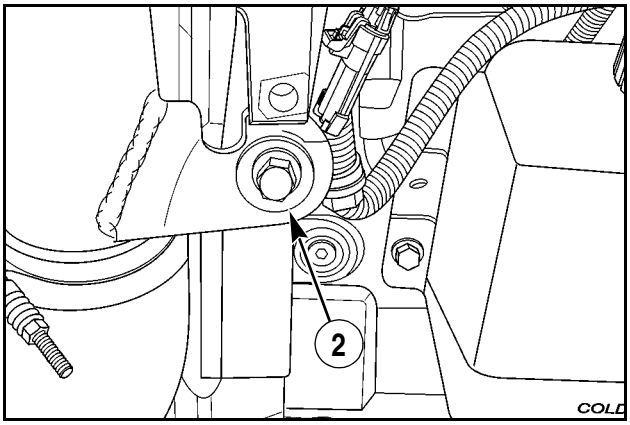
STEP 59



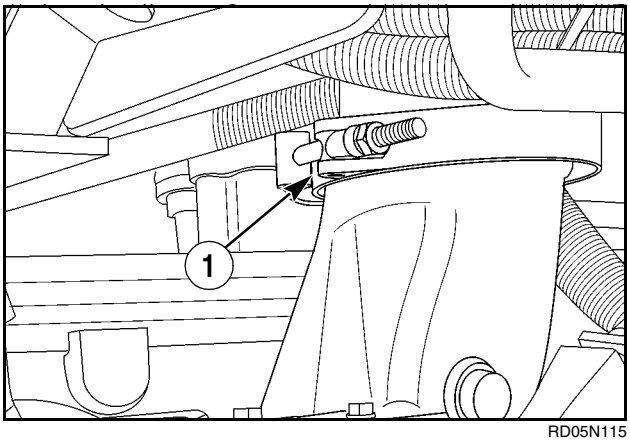
RD05N134

Install a new O-ring on the charge-air cooler to intake manifold tube assembly. Install the tube.

STEP 60



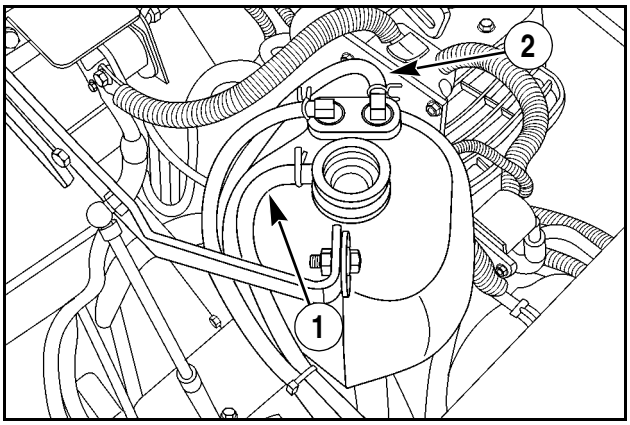
RD05N114



RD05N115

Install the bushing bolt (1). Install the clamp (2). Tighten all hardware.

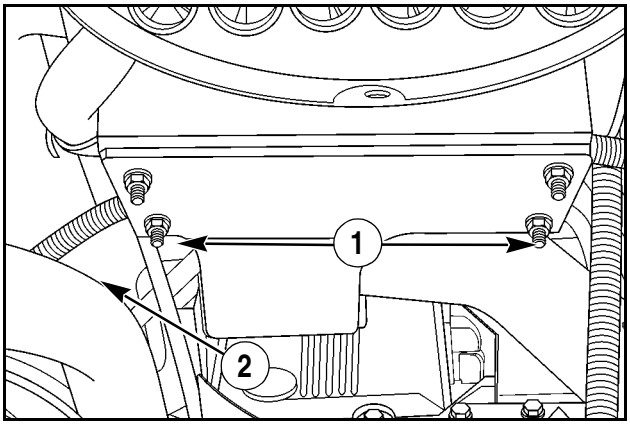
STEP 61



RD05N113

Install the deaeration tank to coolant recovery bottle hose (1) and engine air bleed line (2).

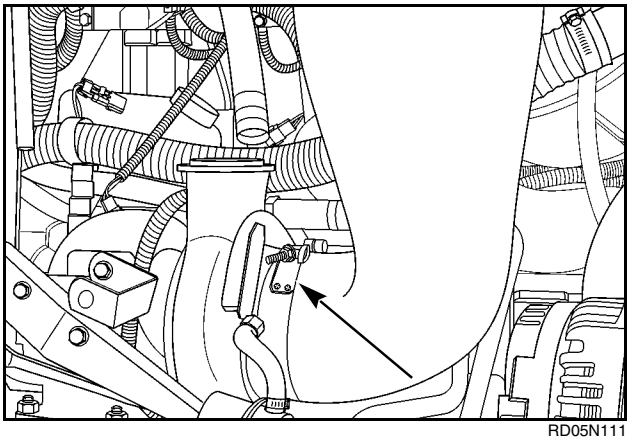
STEP 62



RD05N112

Install the air cleaner assembly onto the bracket and tighten the mounting nuts. Make sure the alternator wire harness is installed between the air cleaner and mounting brackets.

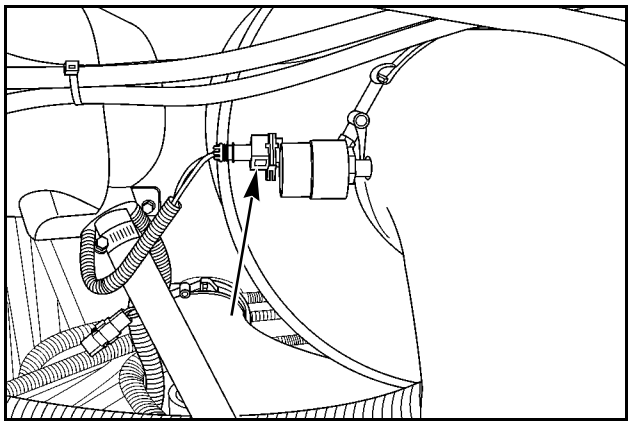
STEP 63



RD05N111

Tighten the air cleaner to turbo hose clamp

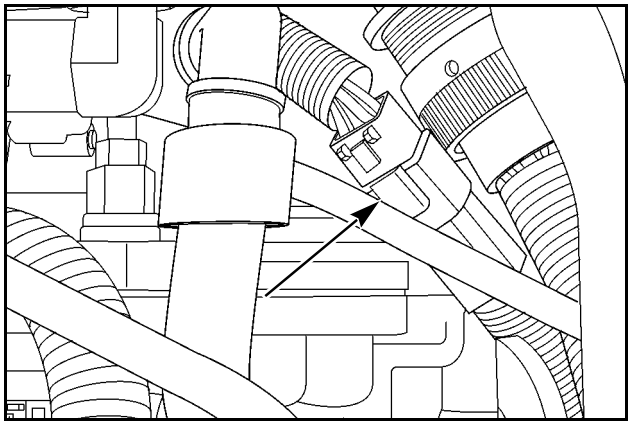
STEP 64



RD05N110

Install the air cleaner restriction switch connector.

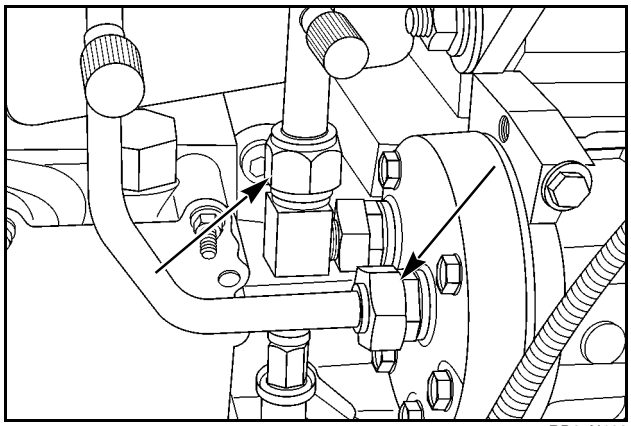
STEP 65



RD05N117

Connect the alternator harness.

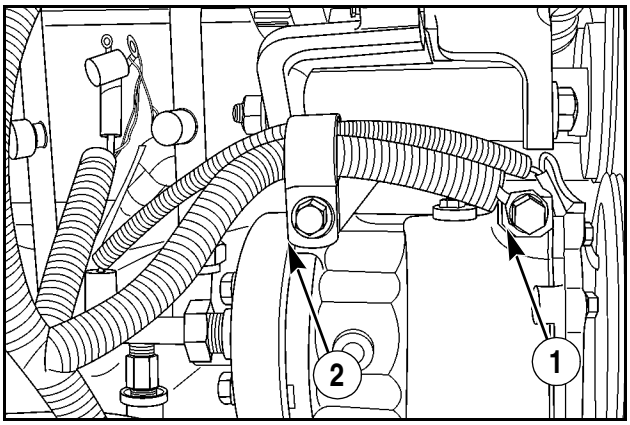
STEP 66



RD05N109

Install new O-rings and tighten the A / C compressor lines.

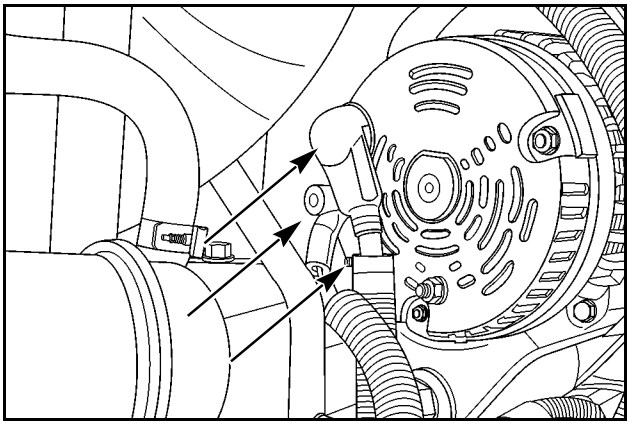
STEP 67



RD05N108

Install the ground wire (1) and the clamp (2).

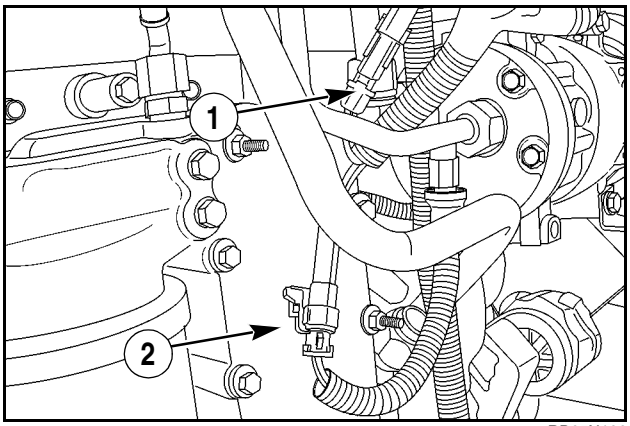
STEP 68



RD05N107

Install the three alternator wires.

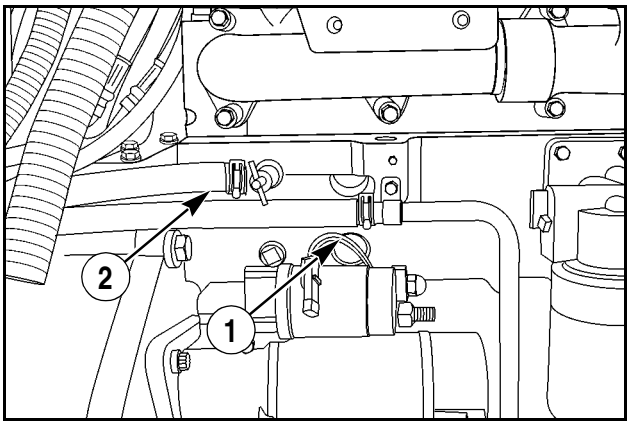
STEP 69



RD05N106

Connect the A / C compressor clutch (1) and the high pressure switch (2) connectors.

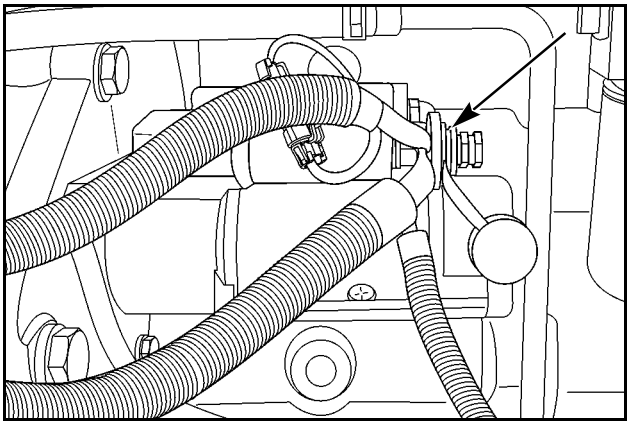
STEP 70



RD05N105

Install the heater out (1) and in (2) hoses.

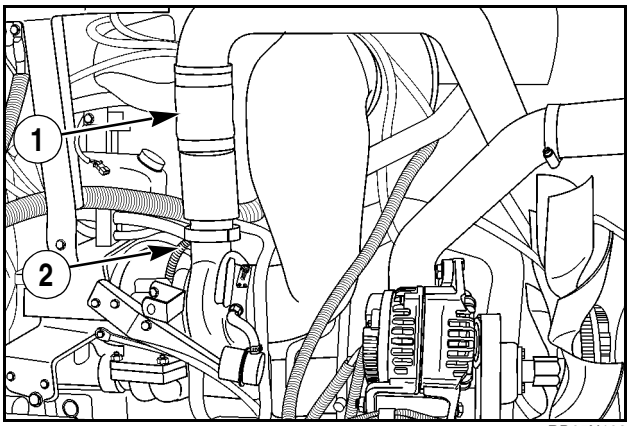
STEP 71



RD05N104

Install the starter cables.

STEP 72

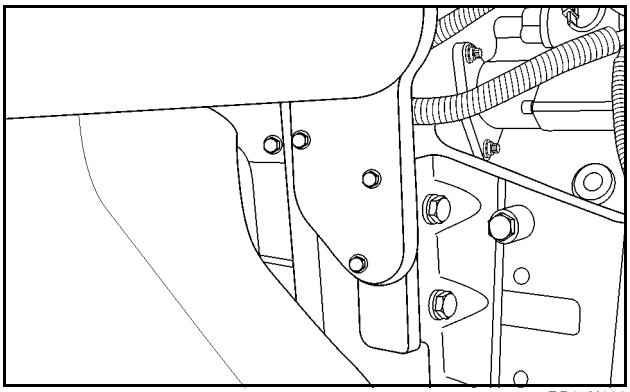


RD05N103

Install the turbo to charge-air cooler pipe assembly (1). Install the clamp (2).

NOTE: *Do not tighten clamp (2) until the cooling module has been installed. This will allow alignment of the pipe with the charge-air cooler connector.*

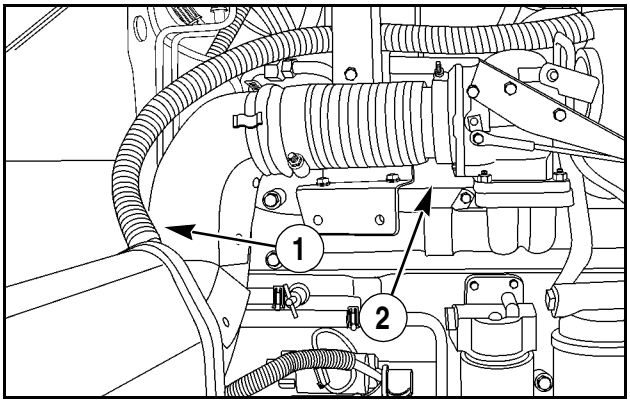
STEP 73



RD05N102

Properly support the muffler, lift into place and tighten the mounting bolts to a torque of 200 to 245 Nm (149 to 179 lb.ft.).

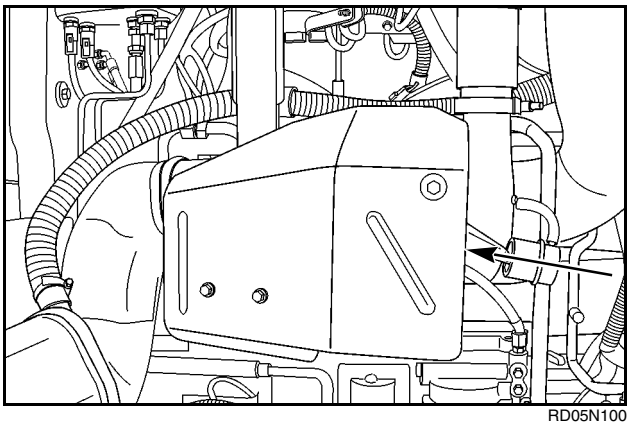
STEP 74



RD05N101

Install the air cleaner aspirator hose (1). Tighten the exhaust pipe to turbo clamp (2).

STEP 75



RD05N100

Install the exhaust shield.

STEP 76

Install the cooling module. See Cooling Module Section in this Repair Manual.

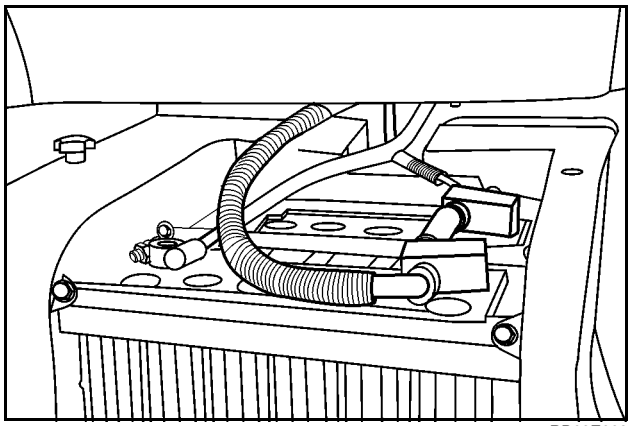
STEP 77

Recharge the A/C system. See A/C Service Section in this Repair Manual.

STEP 78

Install the hood. See Hood Removal Section in this Repair Manual.

STEP 79



RD02E069

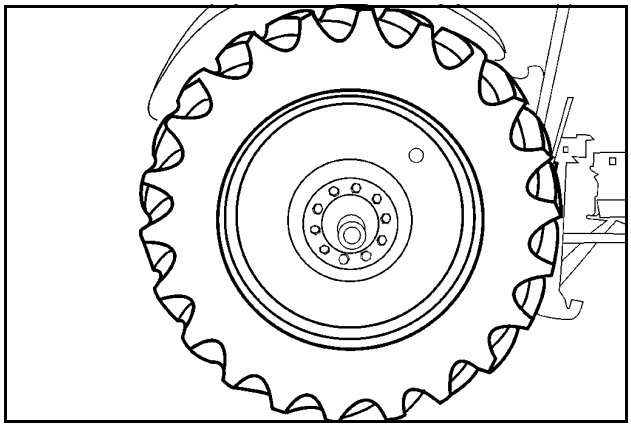
Install the positive cable (+). Install the negative cable (-). Install the battery cover.

NOTE: *Install all tie straps that were removed during disassembly.*

STEP 80

Start the engine and check for any leaks. Repair as necessary. Top off all fluids. Check A/C for proper operation.

STEP 81



RD02C070

Remove wheel blocks.

Section 10

Chapter 2

FUEL TANK / FUEL SENDER REMOVAL AND INSTALLATION

TABLE OF CONTENTS

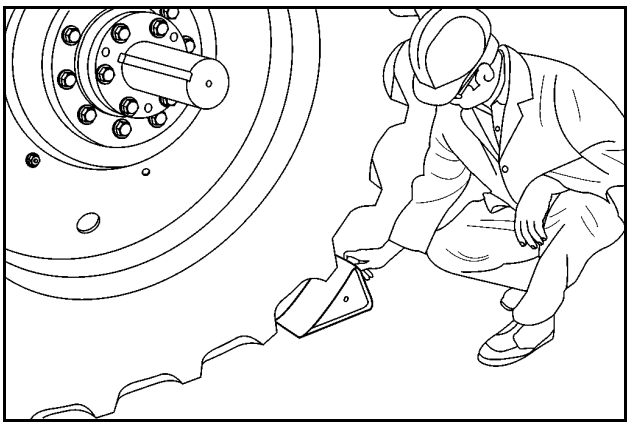
SPECIAL TORQUES

Bolts on cab steps ..... 37 to 67 Nm (27 to 49 lb. ft.)

FUEL TANK

General

STEP 1



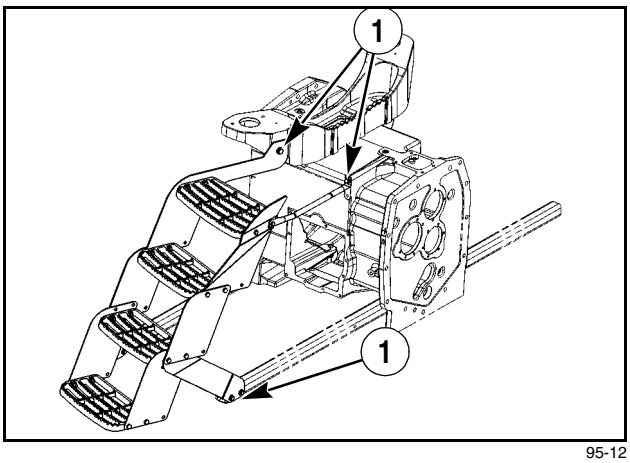
96R-28A

Before removing the fuel tank, do the following:

1. Park the tractor on a hard, level surface.
2. Place the transmission control lever in PARK.
3. Shut off the engine and remove the key.
4. Put blocks in front of and in back of the rear wheels.

Removal

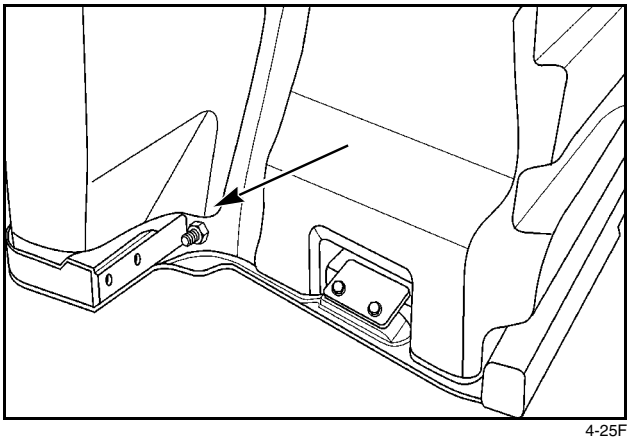
STEP 2



95-12

Remove the six step mounting bolts (1). Move the steps away from the tractor.

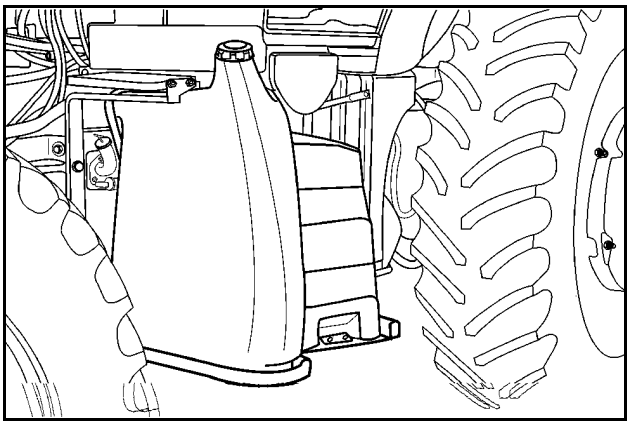
STEP 3



4-25F

Drain the fuel tank. Fuel tank capacity is 674 L (178 gal.)

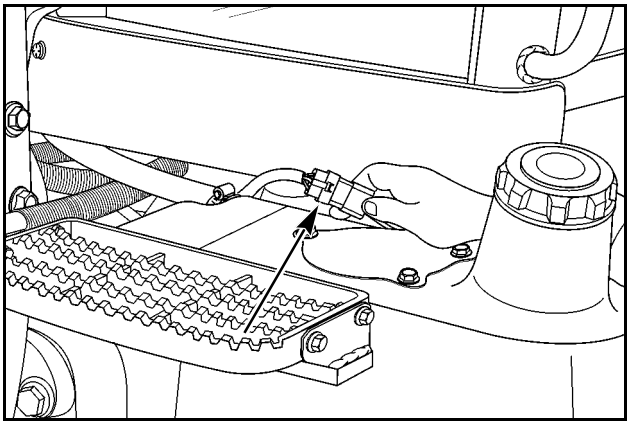
STEP 4



50-23F

Move the left rear wheel out on the axle as far as possible to provide clearance when removing the left tank. The wheel can also be removed.

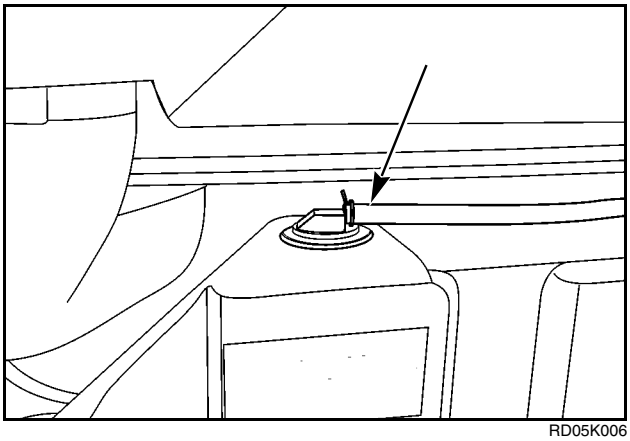
STEP 5



RD05J085

Disconnect the fuel level sending unit wire harness.

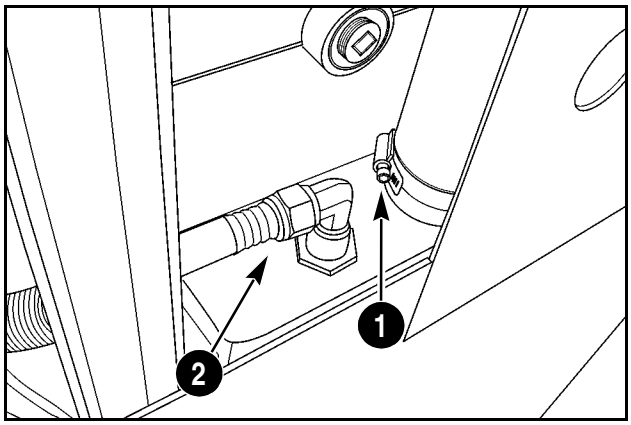
STEP 6



RD05K006

Remove the vent hose.

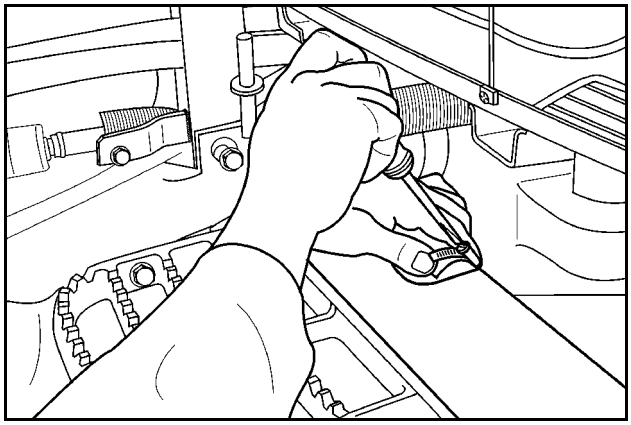
STEP 7



RD05K005

Loosen hose clamp (1) on fuel tank balance hose located under the transmission speed housing. Remove the fuel injection system supply hose (2).

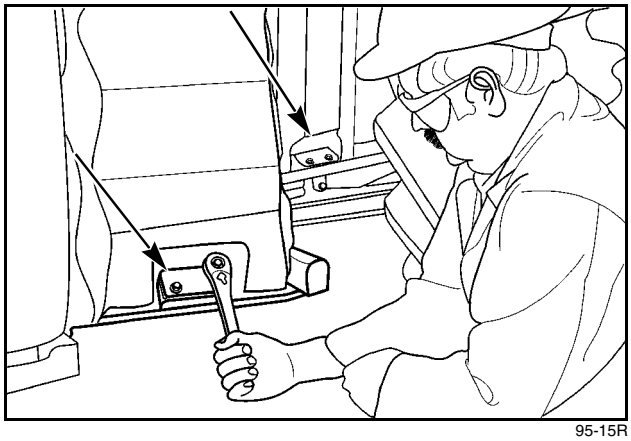
STEP 8



95-24-

Remove the pressure equalization hose at the front of the cab from the top left-hand fuel tank.

STEP 9



95-15R

Remove two bolts from each of the two lockdown plates.