

# STX275 through STX450 Tractor Service Manual No.6-13290 Table of Contents

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# Section 1000

## STANDARD TORQUE SPECIFICATIONS

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Rac 7-68611

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### 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.


<b>Grade 5 Bolts, Nuts, and Studs</b>		
		
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


<b>Grade 8 Bolts, Nuts, and Studs</b>		
		
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
<b>NOTE:</b> 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.

<b>Grade 8.8 Bolts, Nuts, and Studs</b>		
		
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

<b>Grade 10.9 Bolts, Nuts, and Studs</b>		
		
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.

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## TORQUE SPECIFICATIONS - STEEL HYDRAULIC FITTINGS

Tube OD Hose ID	Thread Size	Pound- Inches	Newton metres
<b>37 Degree Flare Fitting</b>			
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
<b>Straight Threads with O-ring</b>			
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

<b>Split Flange Mounting Bolts</b>		
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
<b>O-ring Face Seal End</b>					<b>O-ring Boss End Fitting or Lock Nut</b>		
-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			

**NOTE:** Case Corporation reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold.

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# Section 1001

SAFETY

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# SAFETY

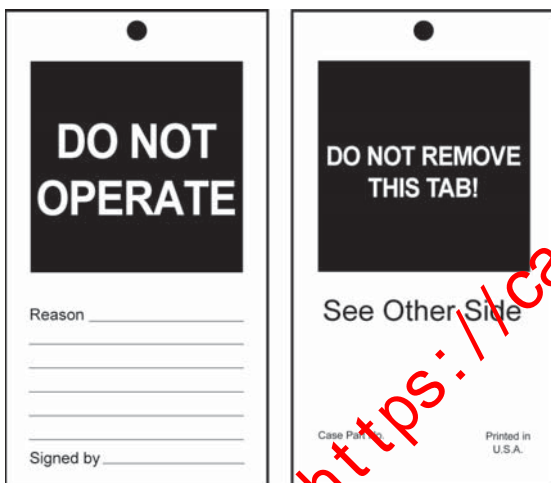
 **WARNING:** THIS SAFETY ALERT SYMBOL INDICATES IMPORTANT SAFETY MESSAGES IN THIS MANUAL. WHEN YOU SEE THIS SYMBOL, CAREFULLY READ THE MESSAGE THAT FOLLOWS AND BE ALERT TO THE POSSIBILITY OF PERSONAL INJURY OR DEATH.\*\*

M171B


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

Put the “Do Not Operate” tag shown below on the key for the key switch when keys are removed for servicing or repairing the machine. 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.




MS99B001

 **WARNING:** Before starting engine study Operators 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 Service 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 reflector 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:** Read the operators 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 is one man machine, no riders allowed.

M491



**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 place with suitable safety stands.

M499



**WARNING:** When servicing or repairing the machine. Keep the shop floor and operators 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 Service 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 Operators Manual. Failure to follow these instructions can cause serious injury or death.

M504

## ROLL OVER PROTECTIVE STRUCTURE (ROPS)

ROPS, the operators seat, the seat belts and all mounting, accessories and wiring inside the operators protective system must be carefully checked after a tractor accident and all parts with damage must be replaced immediately. DO NOT TRY TO MAKE REPAIRS OR WELD THE ROPS.

### Safety Rules:

1. Do not make modifications to the ROPS. Example, welding an accessory to the ROPS or drilling a hole in the ROPS.
2. Special fasteners are used to install the operator protective parts. Replacement parts must be the same as given in the Parts Catalog.

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# Section 2001

## ENGINE REMOVAL AND INSTALLATION STX 275 and STX 325 Tractors

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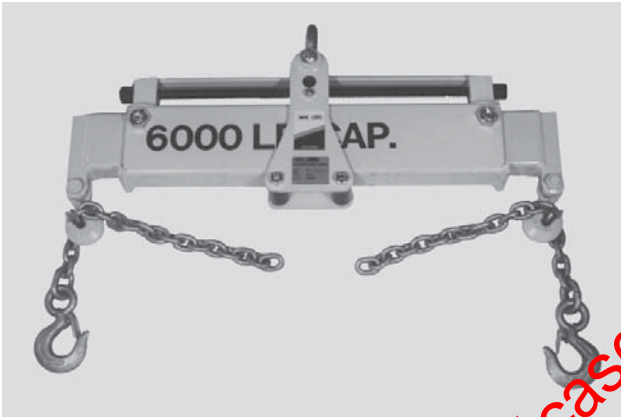
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## SPECIAL TORQUE VALUES

	Metric Values	U.S. Values
Front Engine Mount Bolts .....	286 to 320 Nm	208 to 236 lb ft
Rear Engine Mount Bolts.....	252 to 278 Nm	185 to 205 lb ft
Driveshaft to Drive Coupler Mounting Bolts.....	118 to 133 Nm	87 to 98 lb ft
Heater Hose and Battery Cable Mounting Bracket Bolt.....	34 to 39 Nm	25 to 29 lb ft
Exhaust Pipe Channel Clamp.....	8 Nm	75 lb inch
Exhaust Flex Tube Band Clamps.....	29 to 33 Nm	21 to 24 lb ft
Hood Support Bracket Mounting Bolts .....	68 to 77 Nm	50 to 57 lb ft
Aspirator Tube P-Clamp Mounting Bolt .....	94 to 106 Nm	69 to 78 lb ft
Aspirator Tube Clamp .....	40 Nm	29 lb ft
Turbo Air Tube Clamp .....	9 to 11 Nm	77 to 93 lb inch

## SPECIAL TOOLS



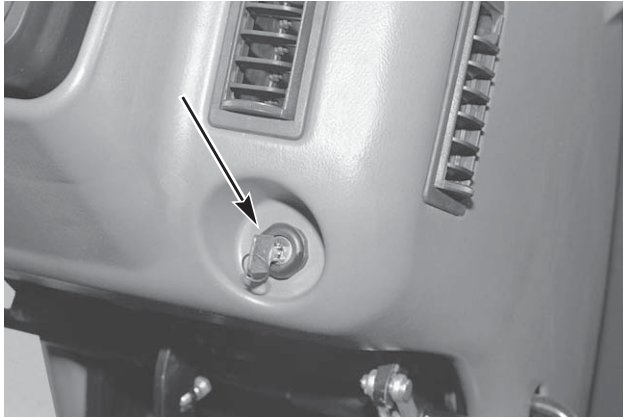
**OEM 4130 LOAD ROTOR**

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# ENGINE REMOVAL

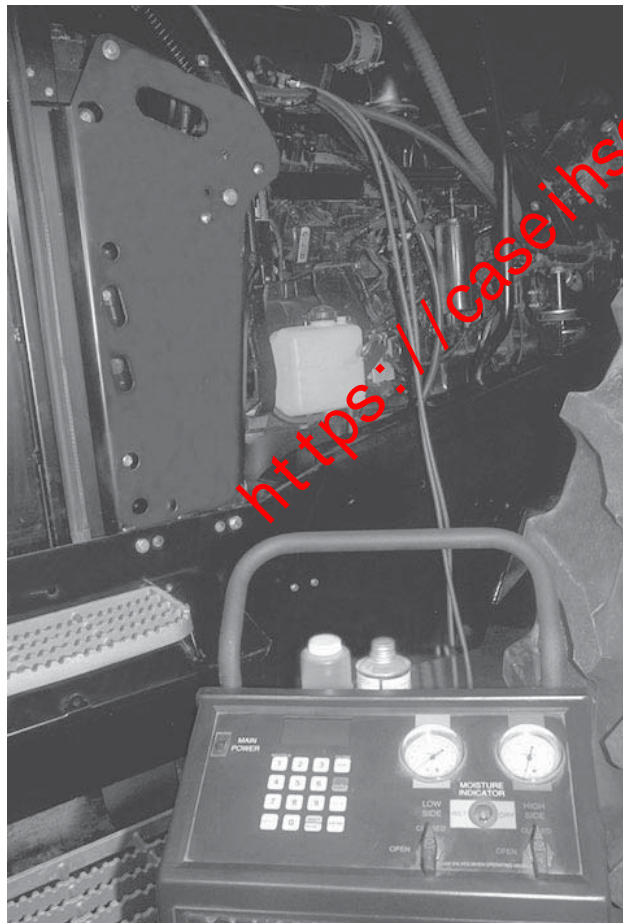
## STEP 1



MK98C099

1. Park the tractor on solid, level surface.
2. Place the shift lever in PARK.
3. Shut off the engine and remove the key from the switch.

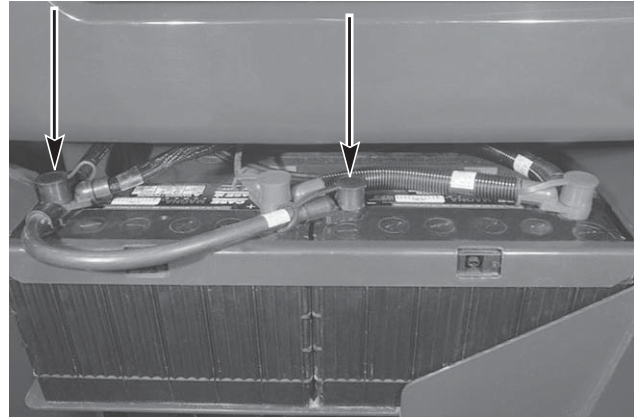
## STEP 2



MK99J135

See Section 9001 A/C System - Recovery, Evacuation, Charging for instructions to discharge the air conditioning system.

## STEP 3



MK99K032

Open the battery access door and disconnect the negative battery cables from the two batteries.

## STEP 4

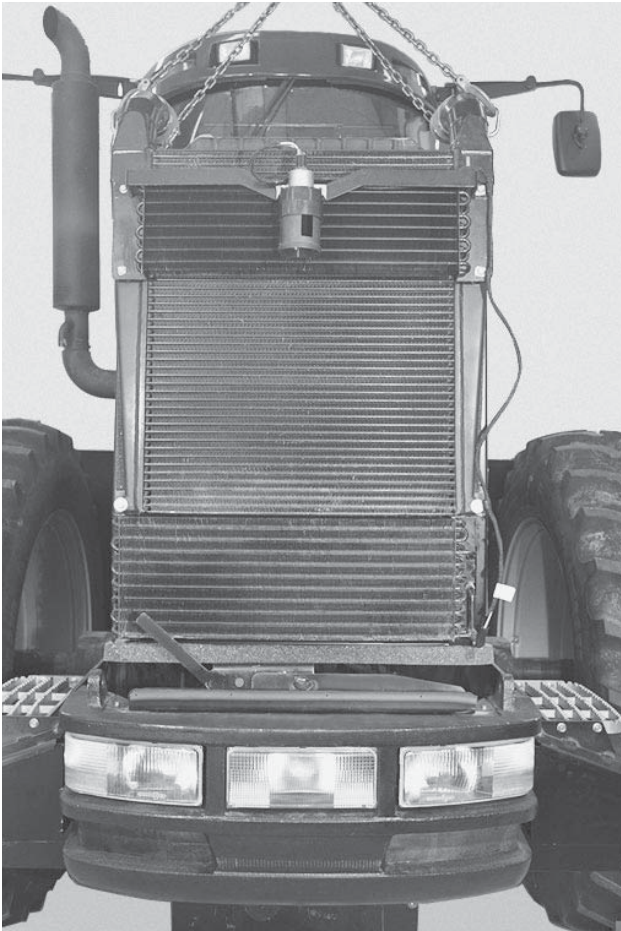


MK99H256

See Section 9007 Hood Removal for instructions to remove the hood and support bar from the tractor.

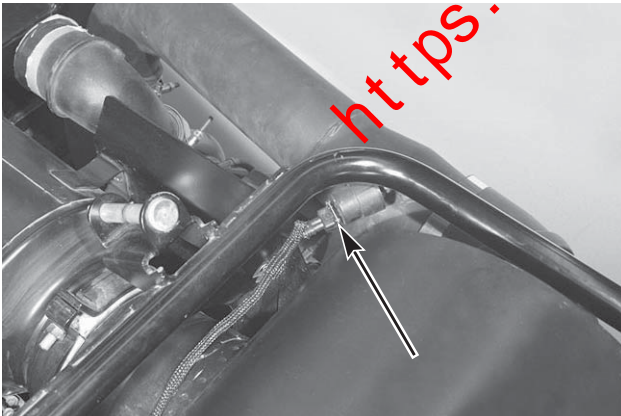
<https://caseiservicemanual.com>

**STEP 5**



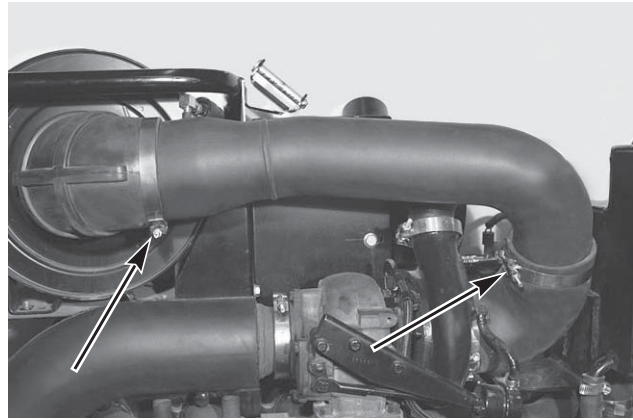
See Section 9008 Radiator Removal for instructions to drain the coolant and remove the radiator and cooler assembly from the front frame.

**STEP 6**



Remove the wire connector from the air restrictor switch on the air cleaner outlet tube.

**STEP 7**



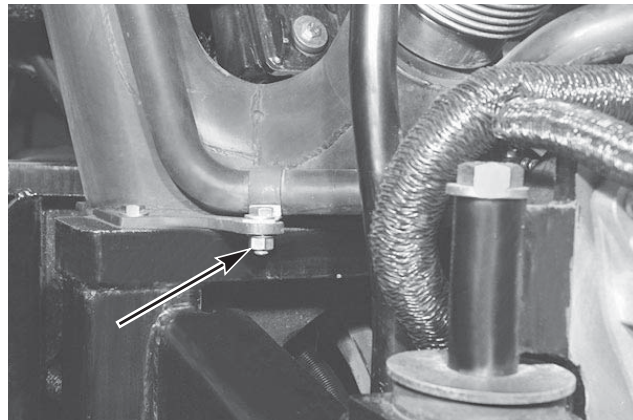
Loosen the clamps on the air cleaner outlet tube and remove the tube.

**STEP 8**



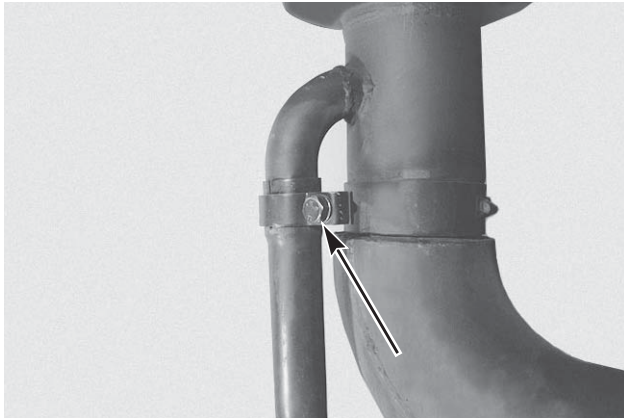
Loosen the clamp and remove the exhaust aspirator hose from the air cleaner inlet.

**STEP 9**



Remove the aspirator tube P-clamp mounting bolt.

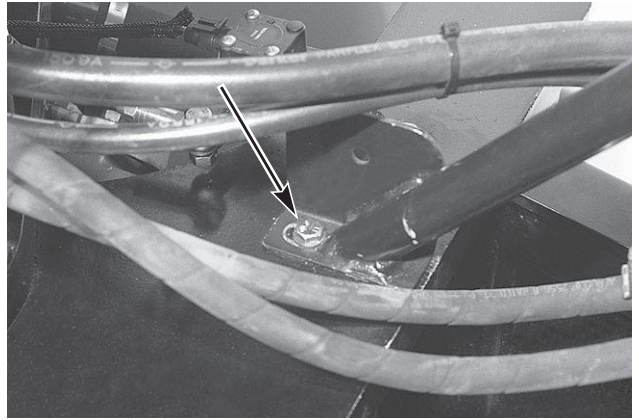
**STEP 10**



MK99J050

Loosen the clamp and remove the aspirator tube and hose from the muffler.

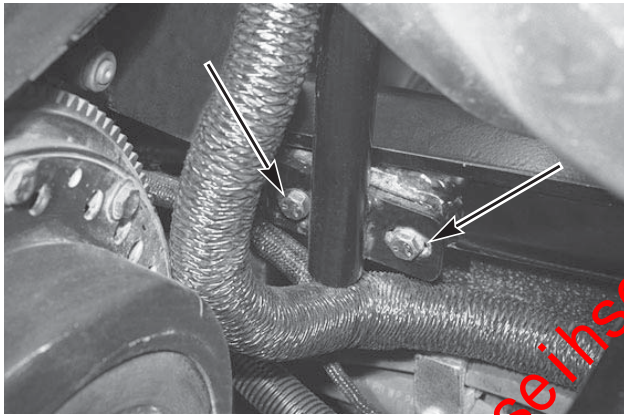
**STEP 13**



MK99J010

Remove the rear hood support mounting assembly and remove the assembly from the tractor.

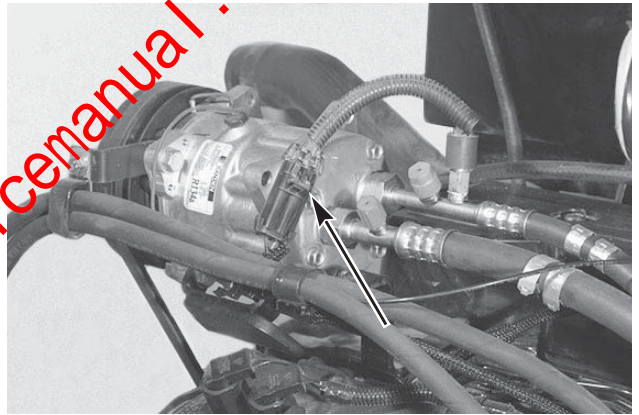
**STEP 11**



MK99J004

Attach an overhead hoist to the hood support assembly and remove the two right side mounting bolts.

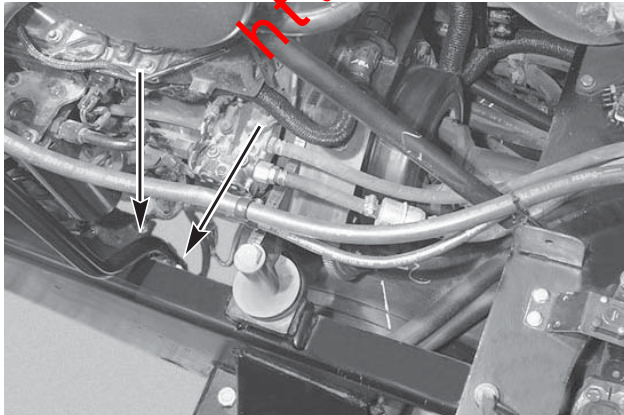
**STEP 14**



MK99J023

Remove the wire connector from the A/C system high pressure switch.

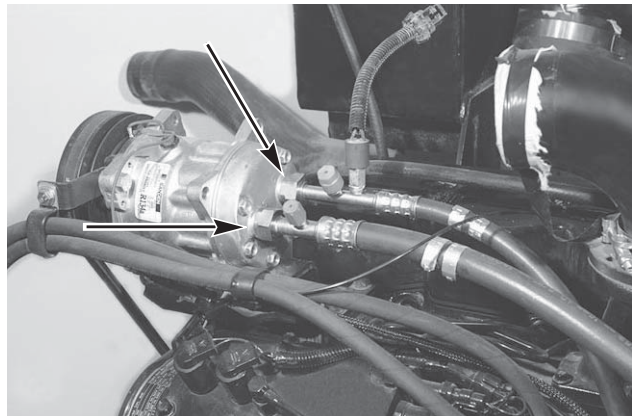
**STEP 12**



MK99J024

Remove the two left side hood support mounting bolts.

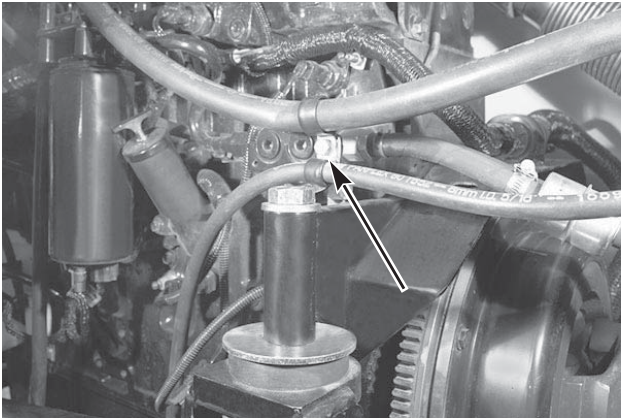
**STEP 15**



MK99J020

Remove the suction and discharge hoses from the A/C compressor. Install caps on the compressor fittings and plugs in the hoses. Discard the O-rings.

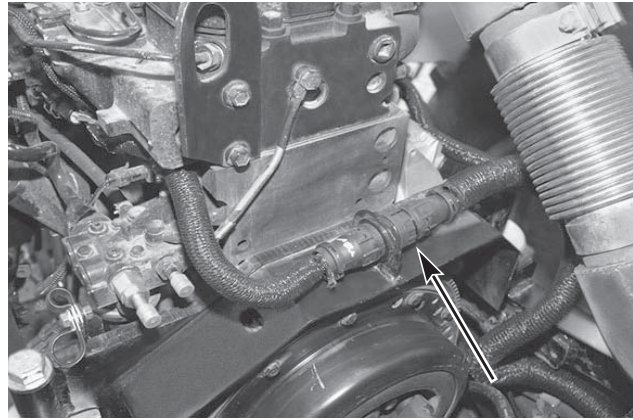
**STEP 16**



MK99J018

Remove the mounting bolt and nut. Remove the A/C suction and dryer hoses from the hose bracket.

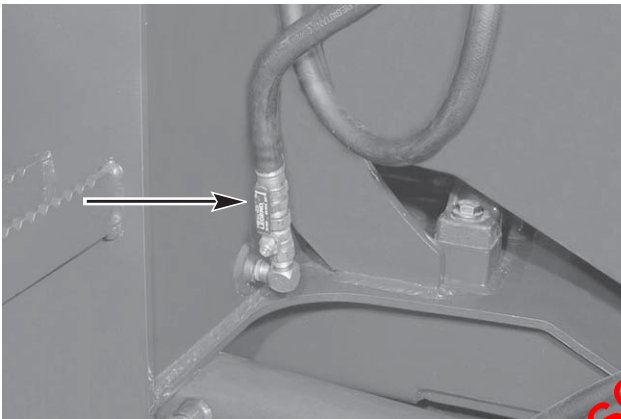
**STEP 19**



MK99J028

Remove the engine front frame wire harness connector from the engine wire harness.

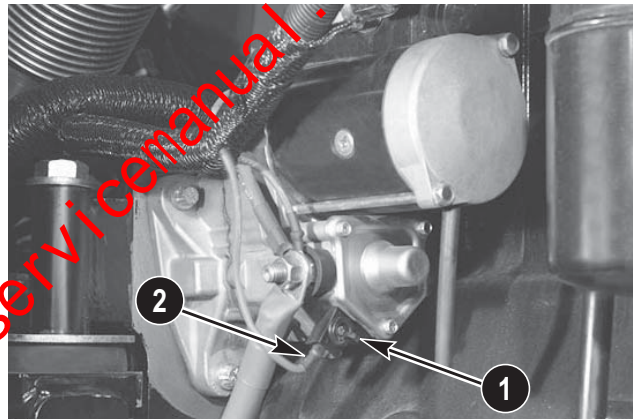
**STEP 17**



MK99J022

Turn the valve lever clockwise to shut off the fuel valve on the tank.

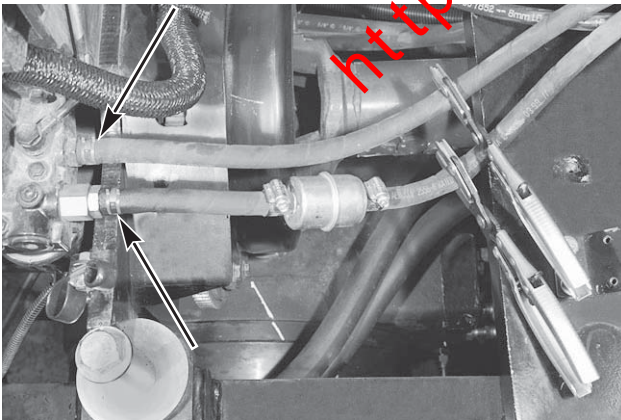
**STEP 20**



MK99J022

Open the cover plug (1) and remove the Phillips head screw to remove the starter switch wire (2) from the starter solenoid.

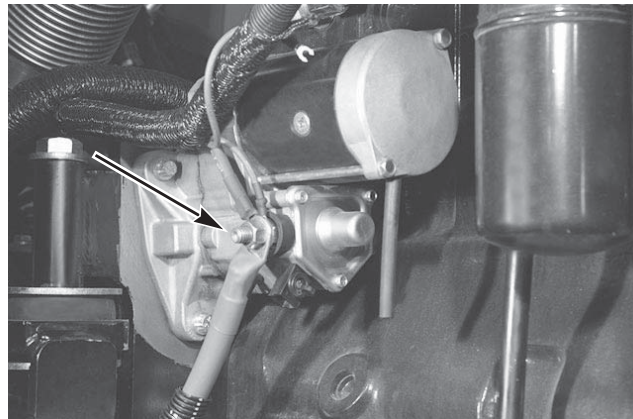
**STEP 18**



MK99J017

Install clamps on the fuel supply and return hoses. Loosen the hose clamps and remove the hoses from the engine. Cap the fuel pump fittings and plug the hose ends.

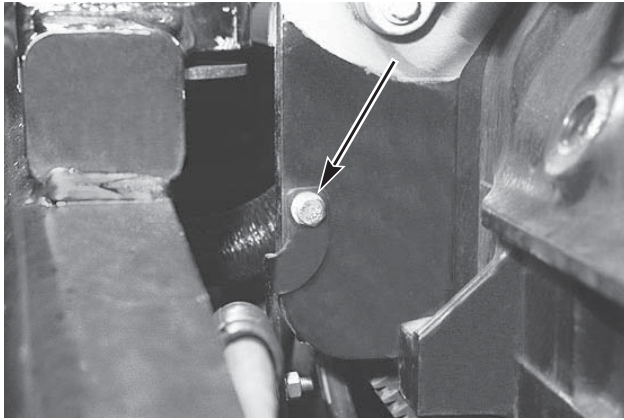
**STEP 21**



MK99J021

Remove the battery cable, alternator cable and starter switch power supply wire from the starter solenoid.

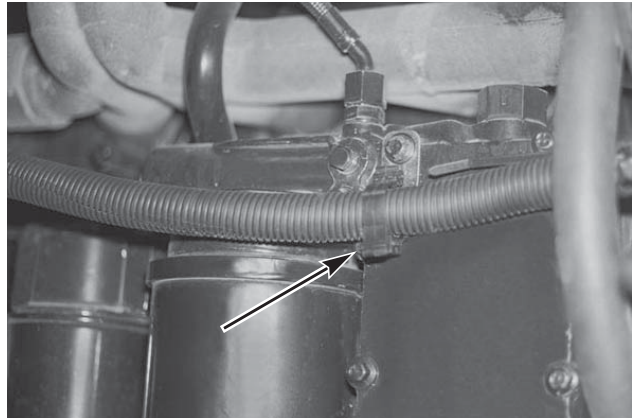
**STEP 22**



MK99J025

Remove the battery cable clamp mounting bolt.

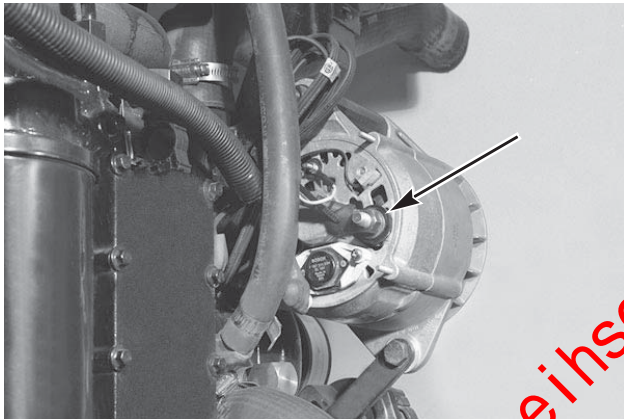
**STEP 25**



MK99J034

Remove the alternator wire harness from the engine clamp.

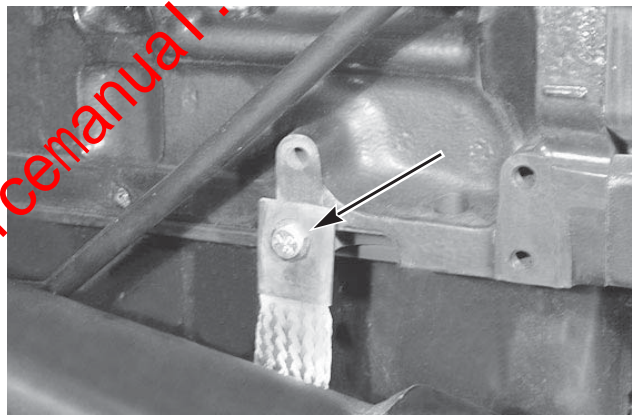
**STEP 23**



MK99J027

Remove the alternator to battery cable from the alternator.

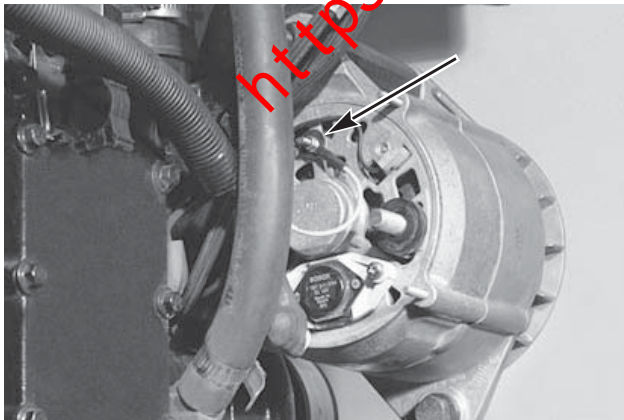
**STEP 26**



MK99J016

Remove the ground strap from the engine.

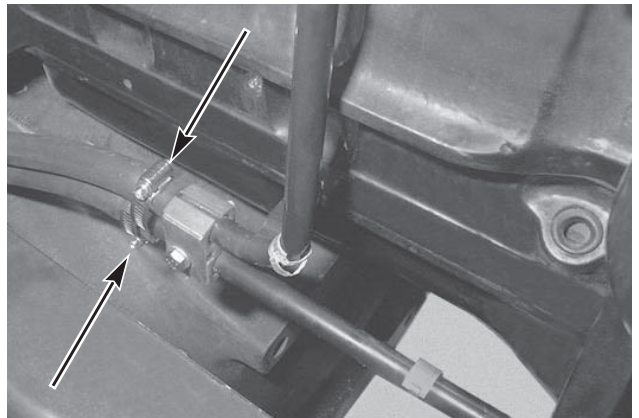
**STEP 24**



MK99J026

Remove the alternator exciter wire.

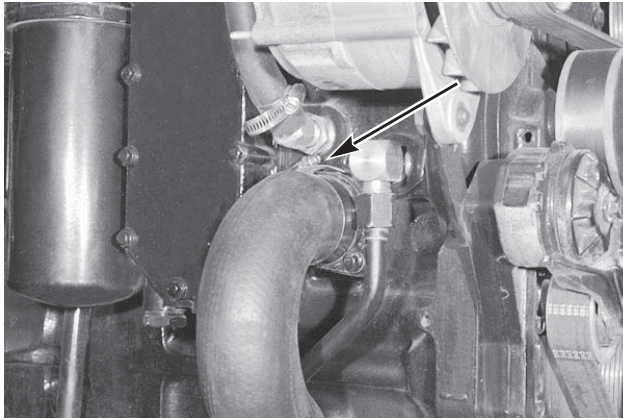
**STEP 27**



MK99J177

Mark the hoses for location. Loosen the hose clamps and remove the heater hoses from the engine.

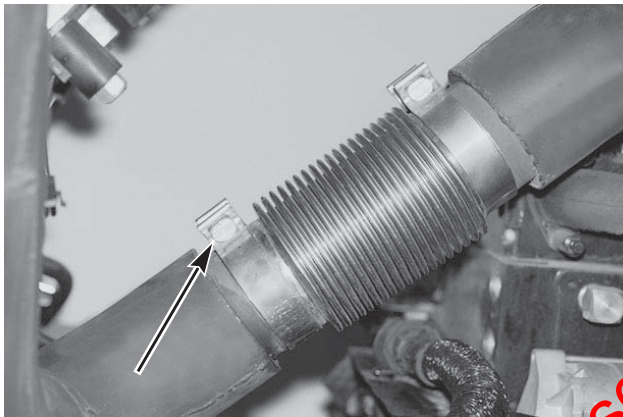
**STEP 28**



MK99J031

Loosen the hose clamp and remove the lower radiator hose from the engine.

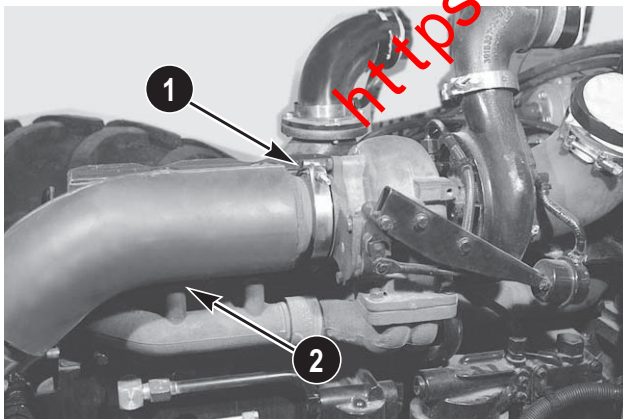
**STEP 29**



MK99J032

Loosen the band clamps on the exhaust flex tube.

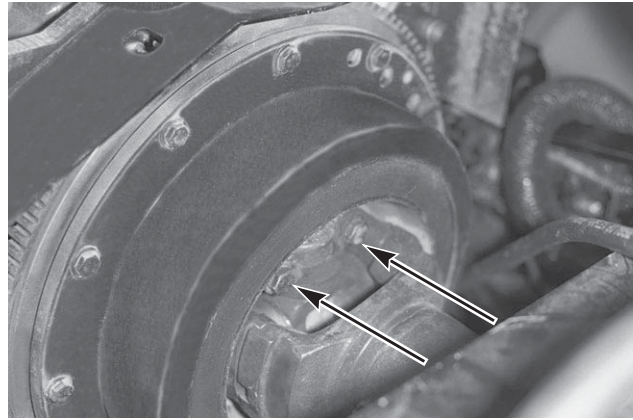
**STEP 30**



MK99J029

Remove the channel clamp (1) from the turbo exhaust port. Remove the exhaust pipe (2) and flex tube from between the turbo and the frame mounted exhaust pipe.

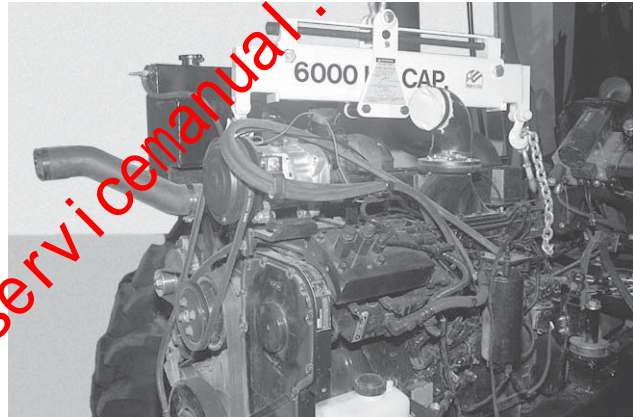
**STEP 31**



MK99J033

Remove the four mounting bolts and slide the drive shaft rearward away from the engine drive coupler.

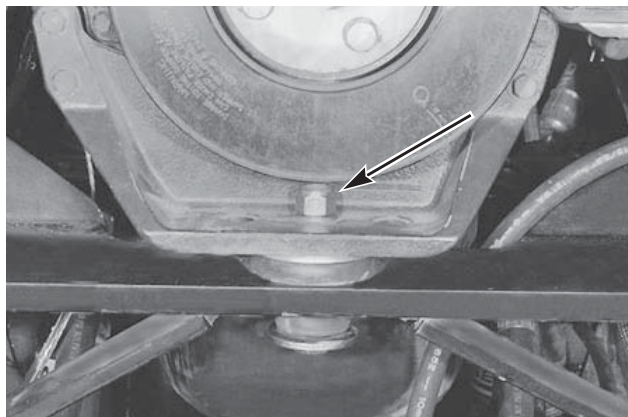
**STEP 32**



MK99J041

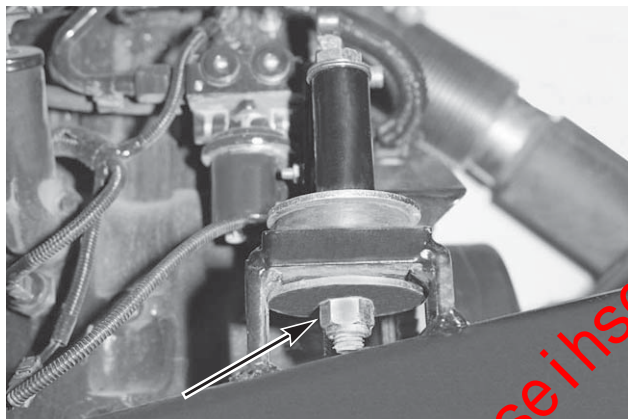
Install the OEM 4130 Load Rotor on the two engine lifting brackets. Attach the load rotor to an overhead hoist.

**IMPORTANT:** *The engine lifting brackets are for vertical lifting only. Any lifting device that is not vertically in-line with the lifting brackets can damage the engine rocker arm cover or cause bracket failure.*

**STEP 33**

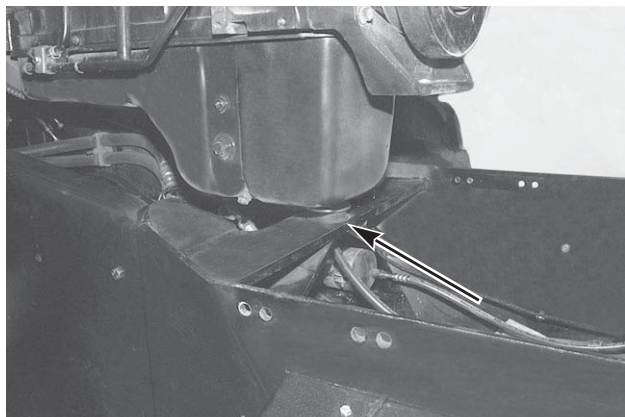
MK99J013

Remove the lock nut, bolt and washers from the front engine mount.

**STEP 34**

MK99J030

Remove the lock nut, large flat washer, bolt and small flat washer from the left side (shown) and right side rear engine mounts.

**STEP 35**

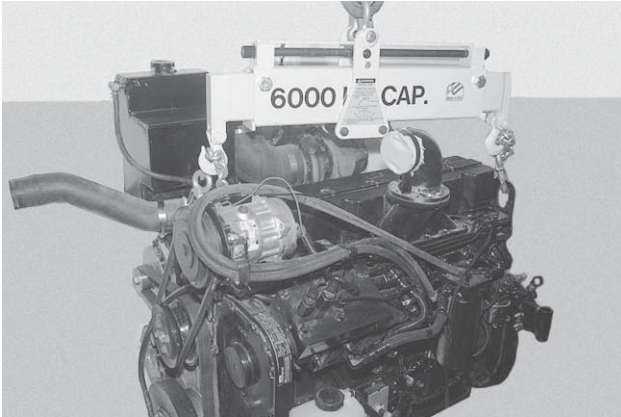
MK99J040

To remove the engine, lift the engine until the oil pan will clear the front frame engine mount crossmember. Move the engine forward out of the tractor.

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## ENGINE INSTALLATION

### STEP 36

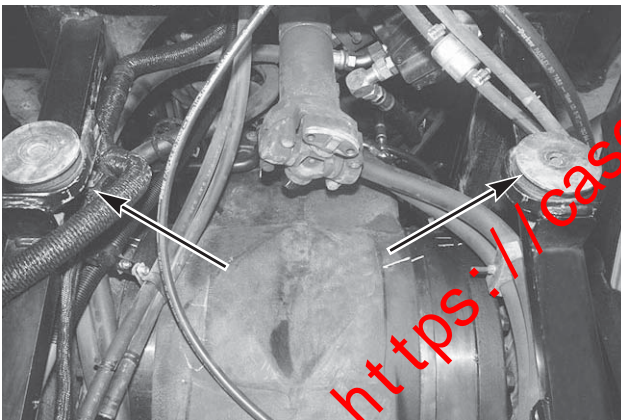


MK99J036

Install the OEM 4130 Load Rotor on the two engine lifting brackets. Attach the load rotor to an overhead hoist.

**IMPORTANT:** *The engine lifting brackets are for vertical lifting only. Any lifting device that is not vertically in-line with the lifting brackets can damage the engine rocker arm cover or cause bracket failure.*

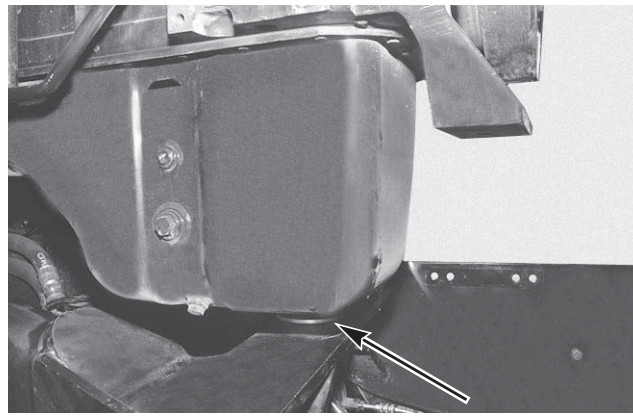
### STEP 37



MK99J037

If removed after the engine was removed, install the three large flat washers on the front and rear (shown) rubber isolators.

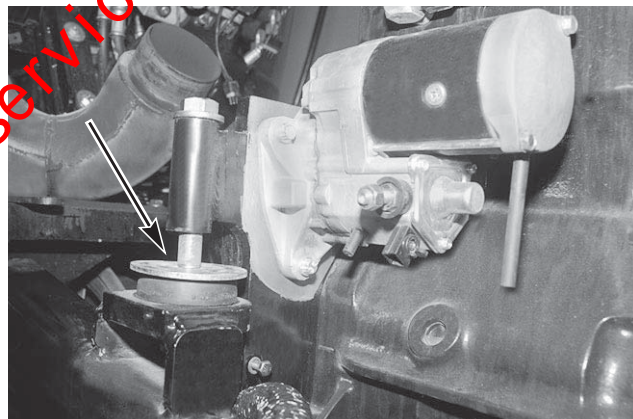
### STEP 38



MK99J039

Install the bolts and small flat washers in the rear engine mounts. Lift the engine until the oil pan will clear the front frame and engine mount crossmember. Move the engine rearward into the tractor until it is positioned above the engine mounting brackets.

### STEP 39

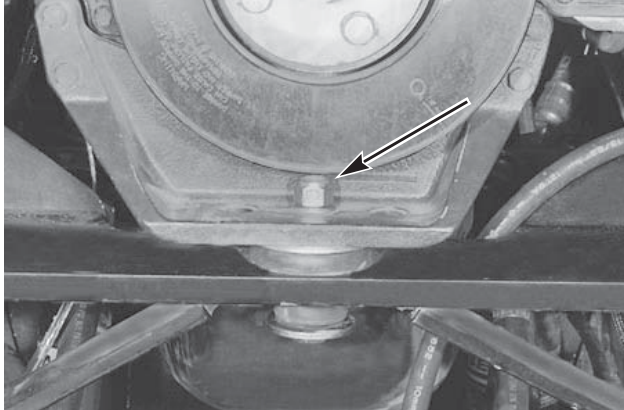


MK99J038

Use the rear mounting bolts as guides and slowly lower the engine on the front frame engine mounting brackets.



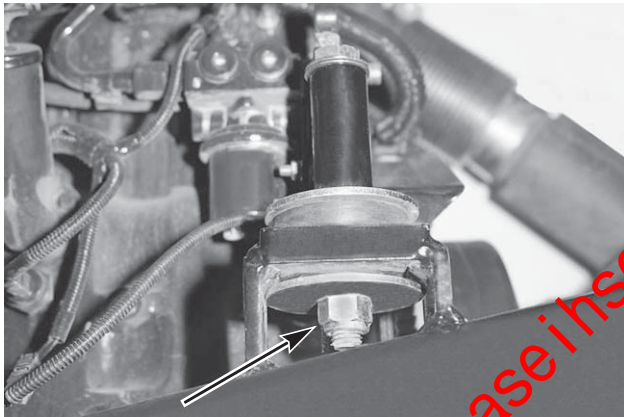
**STEP 40**



MK99J013

Install the bolt, flat washers and lock nut through the front motor mount. Tighten the bolt and lock nut to specifications.

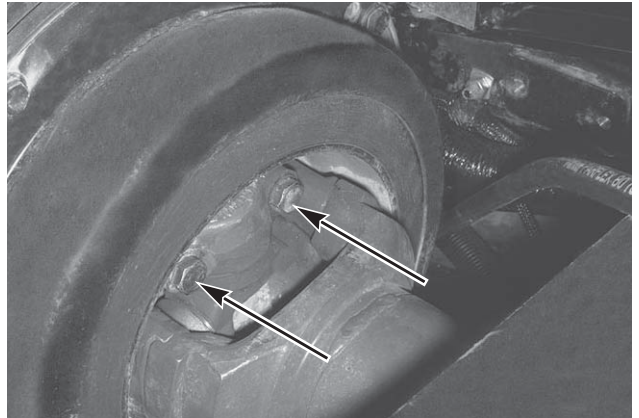
**STEP 41**



MK99J030

Install the large flat washers and lock nuts on the rear engine mount bolts. Tighten the bolts and lock nuts to specifications. Remove the hoist and load rotor.

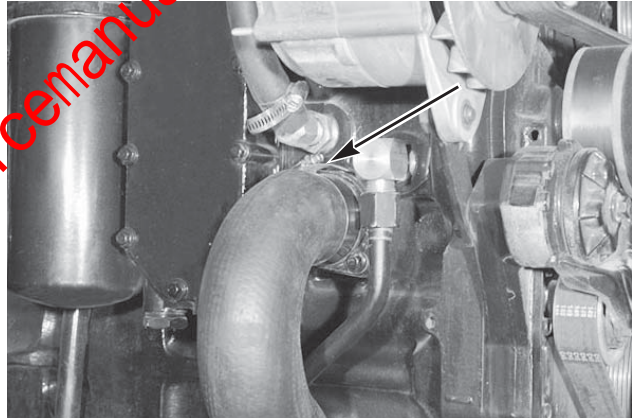
**STEP 42**



MK99J015

Move the driveshaft forward and install the four M12 x 20 bolts to secure the driveshaft to the engine drive coupler. Tighten the bolt and lock nut to specifications.

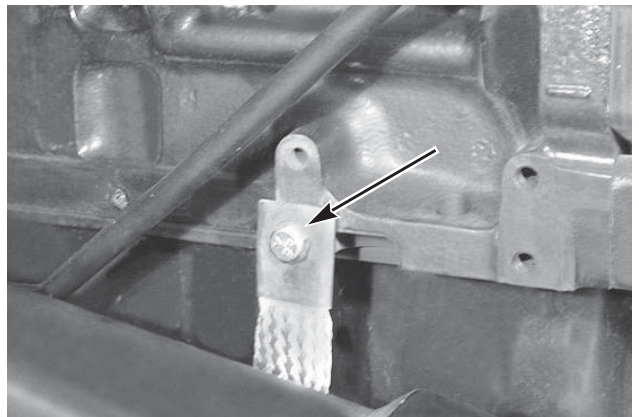
**STEP 43**



MK99J031

Install the lower radiator hose on the engine and tighten the hose clamp.

**STEP 44**

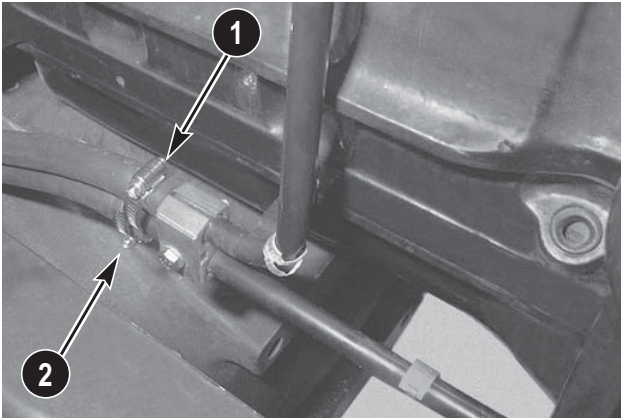


MK99J016

Install the right side ground strap on the engine.

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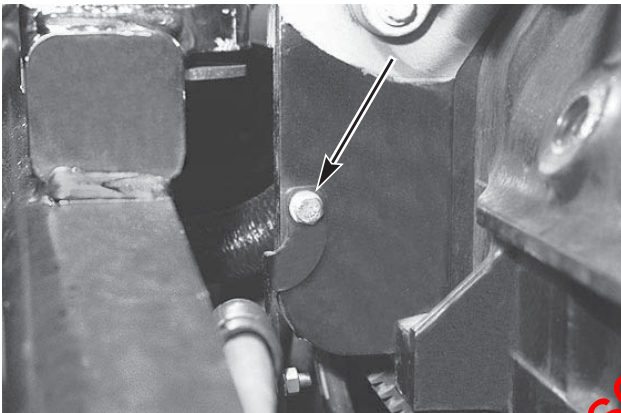
**STEP 45**



MK99J177

Install the heater supply hose (1) and return hose (2) on the engine and tighten the hose clamps.

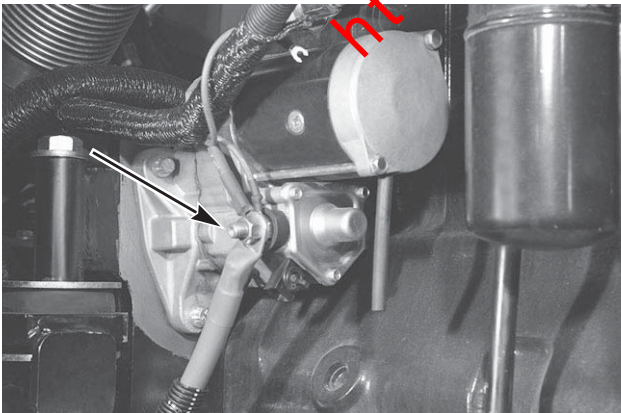
**STEP 46**



MK99J022

Use the M8 x 20 bolt and flat washer to install the heater hose and battery cable bracket on the right side motor mount. Tighten the bolt to specifications.

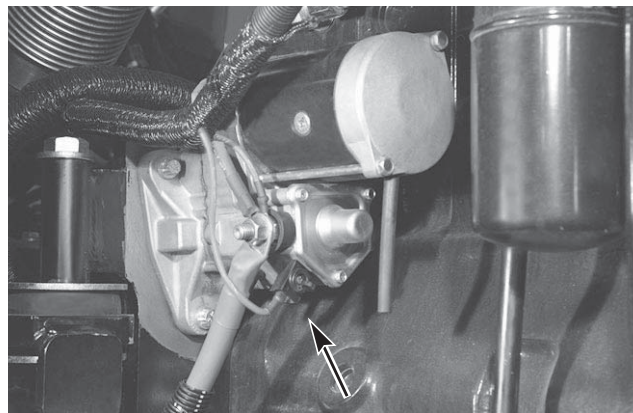
**STEP 47**



MK99J021

Install the battery cable, starter switch power supply wire and alternator cable on the starter solenoid.

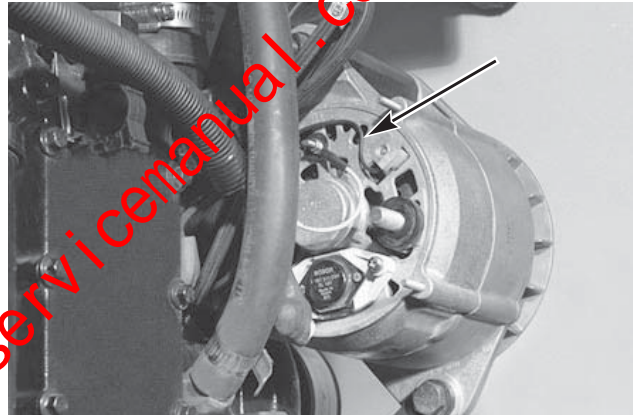
**STEP 48**



MK99J022

Install the starter switch wire on the starter solenoid.

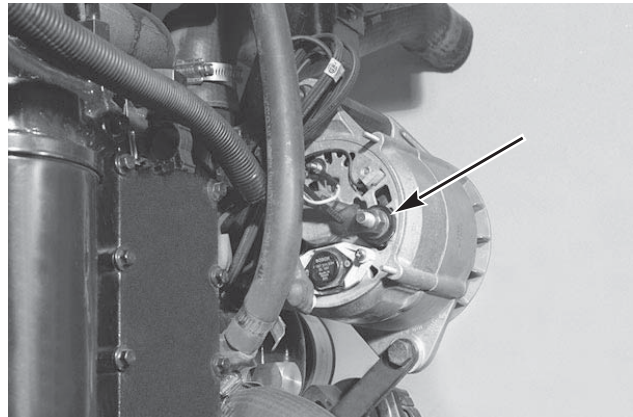
**STEP 49**



MK99J026

Install the exciter wire on the alternator.

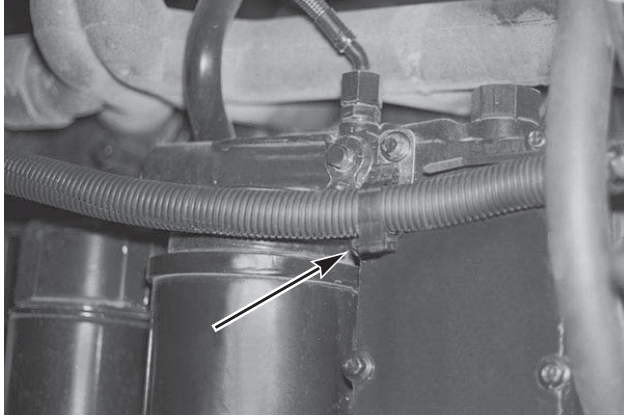
**STEP 50**



MK99J027

Install the battery wire on the alternator.

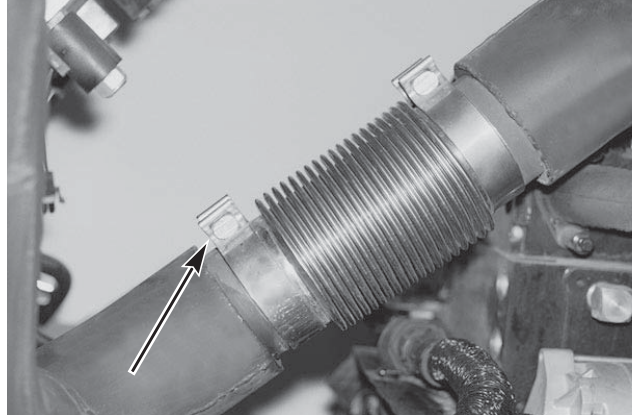
**STEP 51**



MK99J034

Install the alternator wire harness in the harness clamp on the engine.

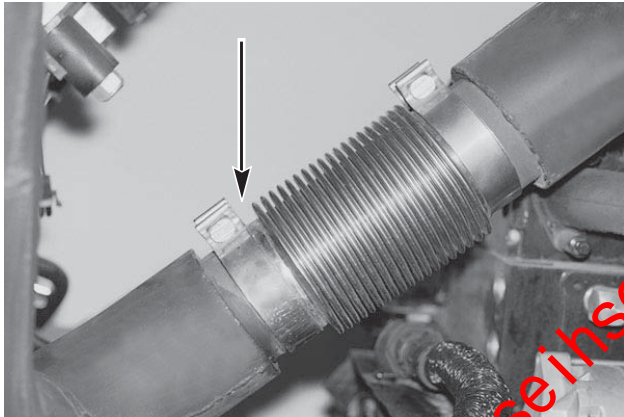
**STEP 54**



MK99J035

Tighten the flex tube band clamp to specifications.

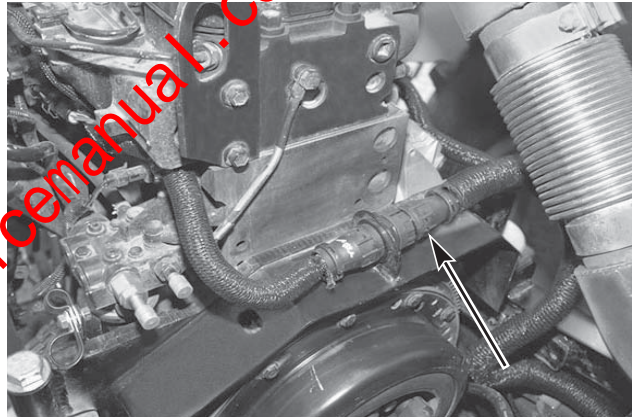
**STEP 52**



MK99J035

Install the flex tube and exhaust pipe assembly on the frame mounted exhaust pipe. Do not tighten the band clamp.

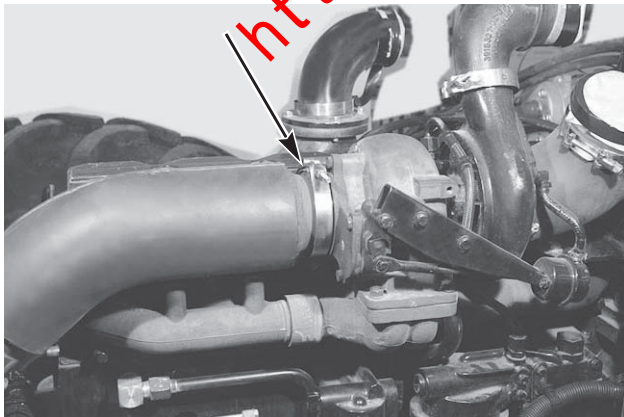
**STEP 55**



MK99J028

Install the front frame wire harness connector on the engine wire harness.

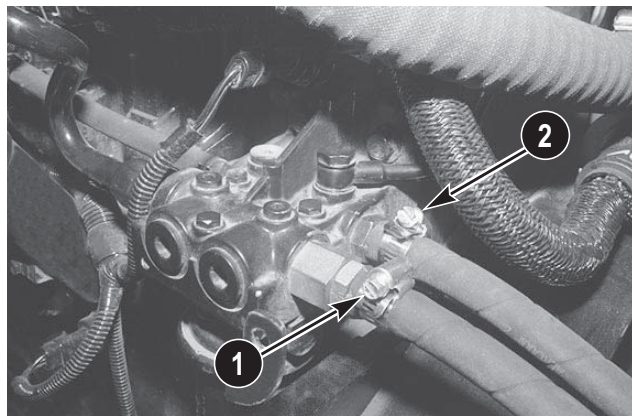
**STEP 53**



MK99J029

Use the channel clamp to install the exhaust pipe on turbo exhaust outlet. Tighten the channel clamp to specifications.

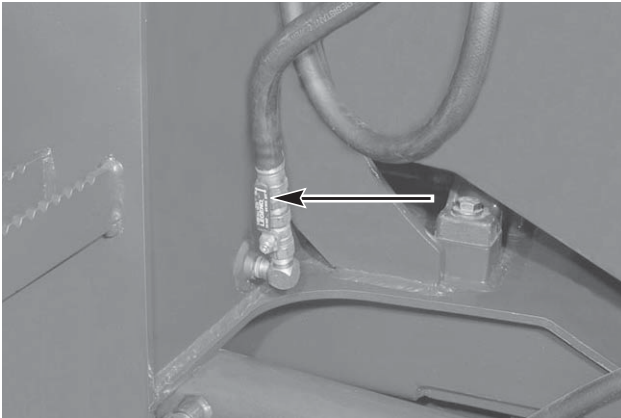
**STEP 56**



MK99J176

Install the fuel supply hose (1) and the fuel return hose (2) on the fuel pump. Tighten the hose clamps and remove the clamps from the hoses.

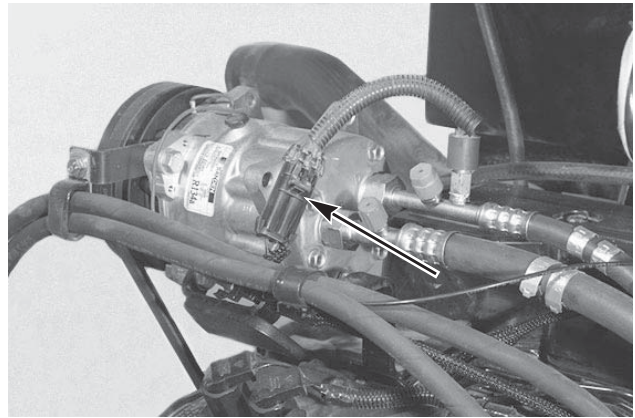
**STEP 57**



MK98G023

Turn the valve lever counterclockwise to open the fuel shut-off valve on the tank.

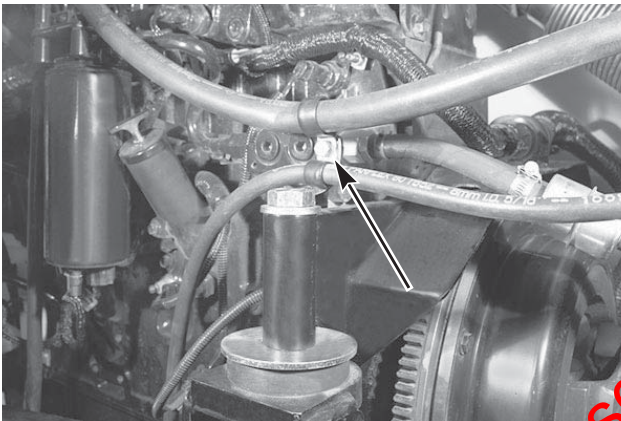
**STEP 60**



MK99J023

Install the high pressure switch wire connector on the engine wire harness.

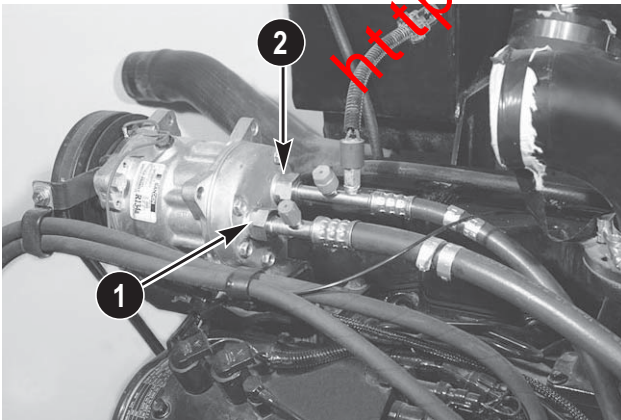
**STEP 58**



MK99J002

Use the M8 x 20 bolt, washer and nut to install the A/C suction and dryer hoses on the hose bracket.

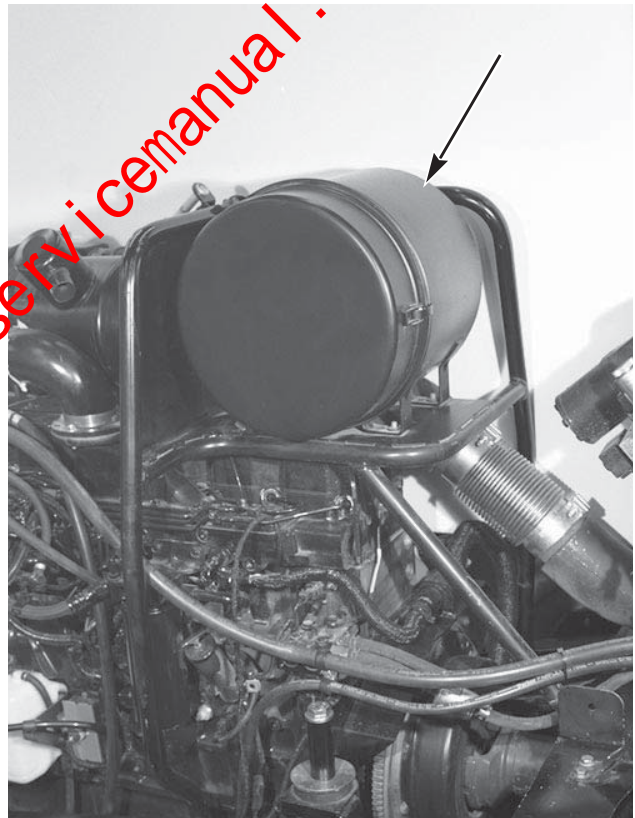
**STEP 59**



MK99J020

Lubricate new o-rings with clean A/C compressor oil and install the o-rings on the hose ends. Install and tighten the suction (1) and discharge (2) hoses on the A/C compressor.

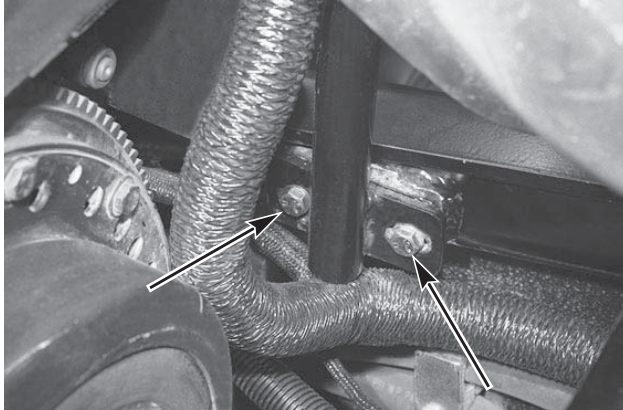
**STEP 61**



MK99J011

Install the hood support/air cleaner bracket over the top of the engine.

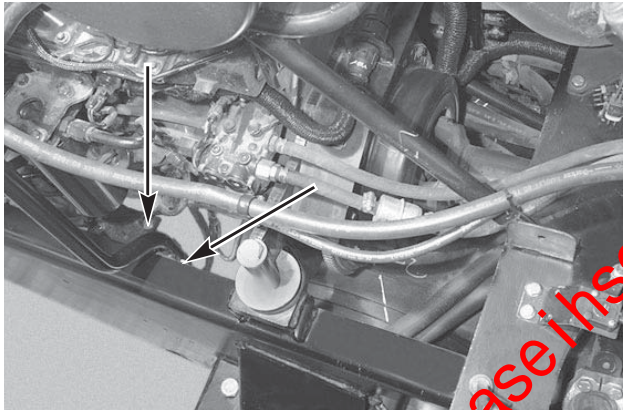
**STEP 62**



MK99J004

Use two M10 x 30 bolts to install the right side hood support bracket mount on the frame. Do not tighten the bolts.

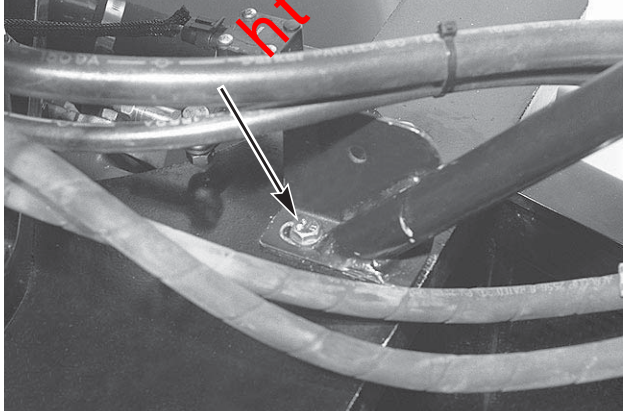
**STEP 63**



MK99J024

Use two M10 x 30 bolts to install the left side bracket mount on the frame. Do not tighten the bolts.

**STEP 64**



MK99J010

Use one M10 x 30 bolt to install the rear bracket mount on the frame. Tighten the five M10 x 30 mounting bolts to specifications.

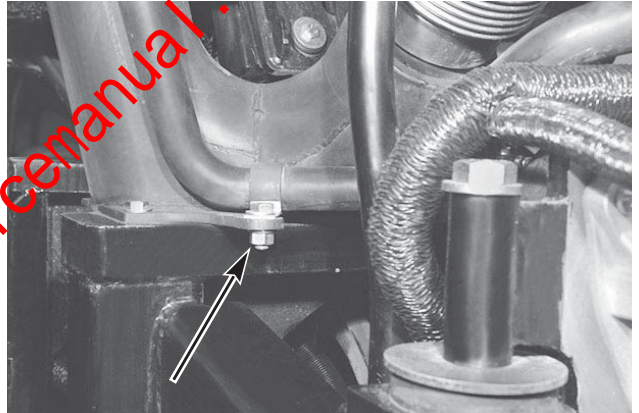
**STEP 65**



MK99J050

Install the exhaust aspirator tube on the muffler. Do not tighten the clamp.

**STEP 66**



MK99J051

Use the M12 x 30 bolt, two flat washers and nut to install the aspirator tube P-clamp on the exhaust pipe mounting flange. Tighten the bolt and nut to specifications.

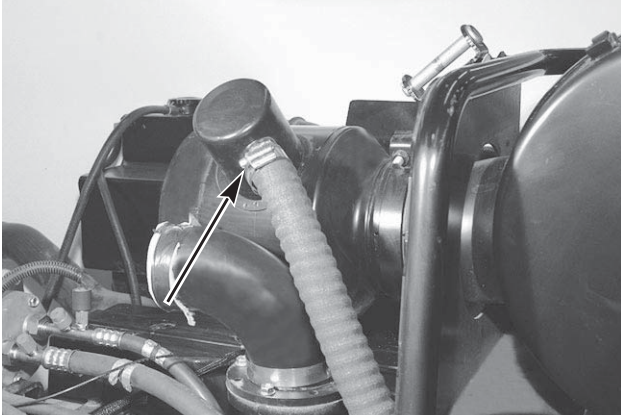
**STEP 67**



MK99J050

Tighten the aspirator tube clamp to specifications.

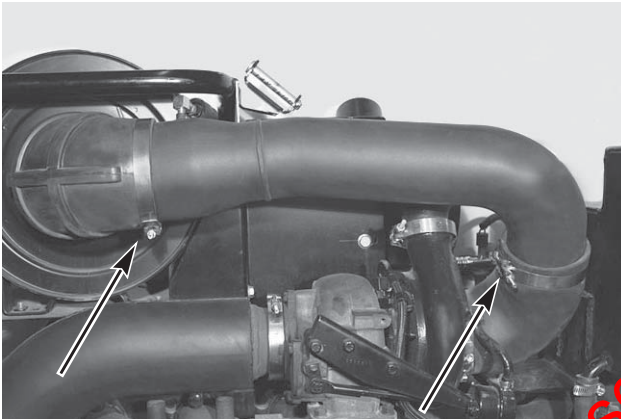
**STEP 68**



MK99J049

Install the aspirator hose on the air cleaner inlet and tighten the hose clamp.

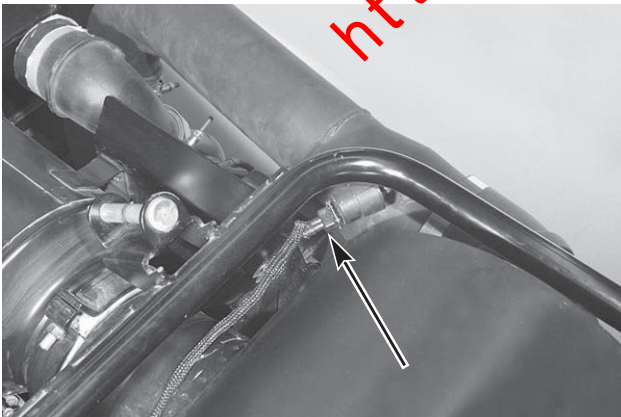
**STEP 69**



MK99J001

Install the turbo air inlet tube between the air cleaner elbow adapter and turbo inlet elbow adapter. Tighten the clamps to specifications.

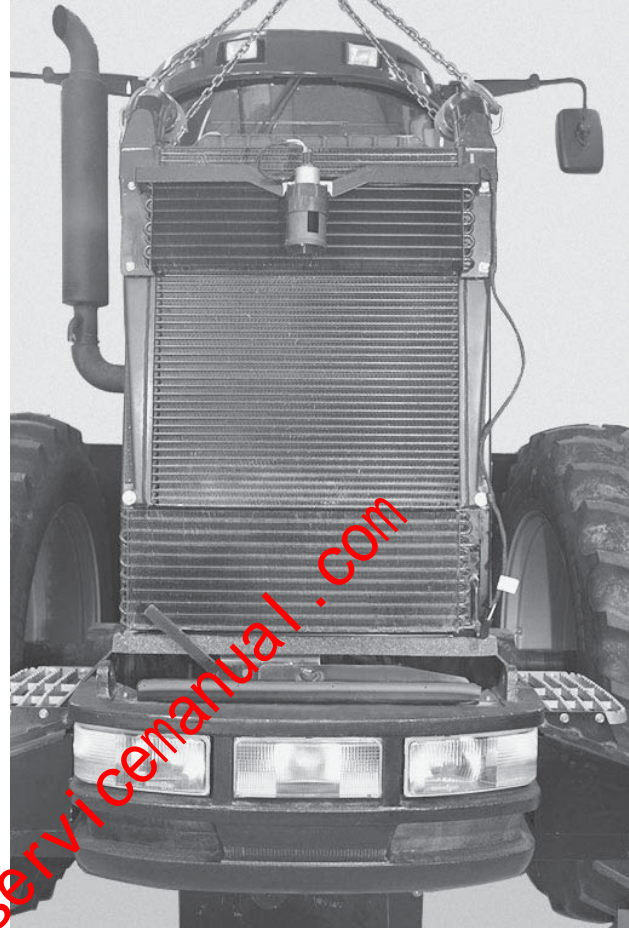
**STEP 70**



MK99J008

Install the wire harness connector on the air restrictor switch.

**STEP 71**



MK99J073

See Section 9008 Radiator Removal and Installation for instructions to install the radiator and cooler assembly. Fill the engine and radiator with the specified coolant.