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Reprinted

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Section 1000

GENERAL SPECIFICATIONS 85 Series Tractors

SERIAL NUMBERS

Compiled in this manual are the operating and maintenance instructions for the 85 Series Agricultural Tractors

When in need of service parts always quote the tractor, transmission unit, and engine serial numbers, including prefix and suffix letters.

If information is required that is not available in this manual see the nearest authorized Case Dealer.

Transmission Serial Number

EXAMPLE: 293805 BTY

The suffix letters, BTY denote the build of the unit.

The first letter denotes the type of drive train, B = fast speed transmission, A or D = slow speed transmission.

The second letter denotes the bevel gear ratio,
T = 11:52, S = 14:51 and R = 12:53.

The third letter denotes the operating speeds for the PTO and the number of splines on the upper and lower shafts as shown below.

U	=	555 r/min	6 splines upper shaft
V	=	1000 r/min	6 splines lower shaft
W	=	580 r/min	6 splines upper shaft
X	=	606 r/min	6 splines upper shaft
Y	=	611 r/min	6 splines upper shaft
Z	=	614 r/min	6 splines upper shaft

V denotes that only the lower PTO shaft is fitted, as for compressor drive. When applicable, dual speed installations are indicated by a fourth suffix letter D.

GENERAL SPECIFICATIONS

Specifications for each machine are under individual headings which follow these GENERAL SPECIFICATIONS.

Capacities

Fuel Tanks	UK Value	U.S. Value	Metric Value
XL Tractors	24.6 gal	29.6 gal	112 litres
Non XL Tractors	17 gal	20.3 gal	77 litre
2WD Transmission	7.5 gal	8.9 gal	34 litre
MFD Transmissions	8 gal	9.6 gal	36.5 litre

NOTE: These capacities are only a guide to the quantities. Always use the dipstick or level plug to make sure that units are filled to the correct level.

Electrical System

Type of System	12 Volt, Negative ground
Battery (Rating IEC/BS)	
Standard Reserve Capacity	170 minute
Cold Cranking Amperes	420 ampere
Heavy Duty Reserve Capacity	170 minute
Cold Cranking Amperes	510 ampere
Heavy Duty Plus Reserve Capacity	220 minute
Cold Cranking Amperes	510 ampere
Alternators	
XL Tractors	65 amp
Non XL Tractors	45 amp
North America with Simms Cab	75 amp

XL Tractors

Head Lamps (2)	12 Volt, 37.5/60 watt sealed beam or 40/45 watt British prefocus cap (export)
Side Lamps (2)	12 Volt, 10 watt small bayonet cap
Stop Lamps (2)	12 Volt, 21 watt small bayonet cap
Tail Lamps (2)	12 Volt, 10 watt small bayonet cap
Work Lamps	12 Volt, 55 watt Halogen
Registration Number Plate Lamp	12 Volt, 10 watt small bayonet cap
Direction Indicator Lamps (2)	12 Volt, 21 watt small bayonet cap
Instrument Warning Lamps	12 Volt, 1.2 watt capless wedge
Tachometer Lamp	12 Volt, 3 watt capless wedge
Speedometer Lamp	12 Volt, 3 watt capless wedge
Speed Decal Lamp	12 Volt, 1.5 watt capless wedge

Non XL Tractors

Head Lamps	12 Volt, 37.5/60 watt sealed beam 40/45 watt British prefocus cap (export)
Side Lamps (2)	12 Volt, 5 watt festoon
Stop/Tail Lamps (2)	12 Volt, 21/5 watt small bayonet cap
Work Lamp	12 Volt, 35 watt sealed beam
Direction Indicator Lamps (2)	12 Volt, 21 watt small bayonet cap
Registration Number Plate Lamp	12 Volt, 5 watt miniature center contact
Instrument Warning Lamps	12 Volt, 3 watt capless wedge
Tachometer Lamp	12 Volt, 3 watt capless wedge
Speedometer Lamp	12 Volt, 3 watt capless wedge
Panel Lamp	12 Volt, 5 watt festoon

Transmissions

BASIC

Type 4 Speed Synchronmesh with High/Low Ranges and Reverse
 Number of Gears 8 Forward, 4 Reverse
 Controls 2 Levers

OPTIONAL (Not 885/885XL)

Type Forward/Reverse
 Same as Synchronmesh, plus a Hydraulically Operated Forward
 and an Increased Speed Reverse
 Number of Gears 8 Forward, 8 Reverse
 Controls 3 Levers

OPTIONAL

Type 2 Speed Power Shift
 Same as Synchronmesh, Plus Hydraulically
 Operated Speed Decrease in all Gears
 Number of Gears 16 Forward, 8 Reverse
 Controls 2 Levers and an Electrical Switch

Foot Brakes

Type Hydraulic, Self Adjusting, Oil Cooled Discs

	U.S Value	Metric Value
Disc Diameter	10 in	254 mm

Hydraulic System

Type Independent, with Fully Live
 Hydraulic Pump in the Transmission
 Operating Pressure 175 kg/cm² (2500 lb/in²)

Steering

Type Hydrostatic
 Turning Radius with Brake Assistance: 2WD 132 in 3352 mm
 (with MFD engaged) MFD 146 in 3708 mm
 Turning Radius without Brake Assistance: 2WD 151 in 3835 mm
 (with MFD engaged) MFD 171 in 343 mm

Differential Lock

Type Mechanical Actuated by the Operators Right Foot

Hitch system

Type of Sensing Upper Link
 Type of Control Hand Lever
 Type of Valve Four-Position, Hold, Lift, Lower, and Float
 Type of Draft Arms Rigid, Swing Type, Manual Float Adjuster
 Type of Hitch 385and 485 Three Point, Category one and Two
 585, 685 and 885 Three Point, Category Two
 Quick Hitch Coupler (Available)

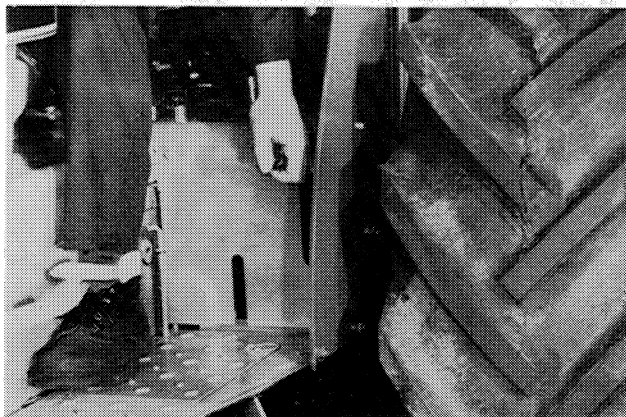
Section 2120

ENGINE REMOVAL

85 Series Tractors with Air Conditioning

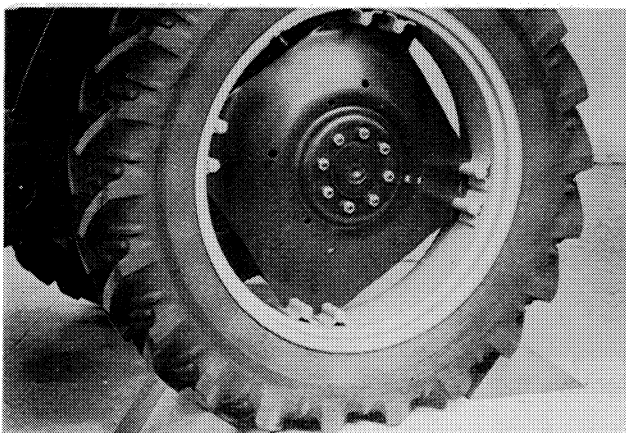
ENGINE Removal

STEP 1



Put the tractor on level ground and engage the parking brake.

STEP 2



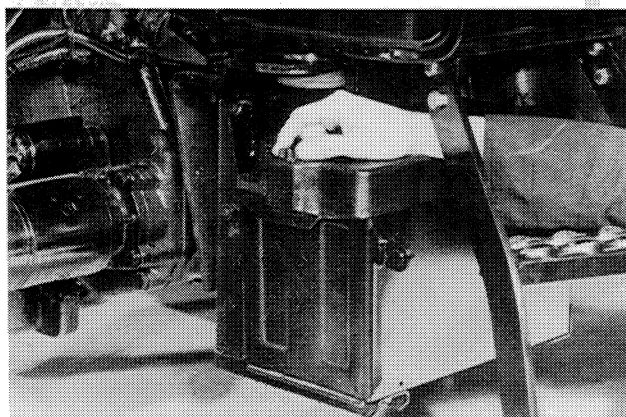
Put blocks in front of and behind the rear wheels.

STEP 3



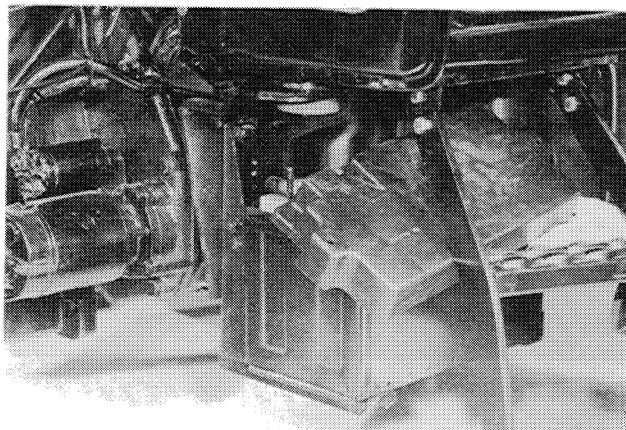
Remove the hoodsheet. Refer to Section 9240.

STEP 4



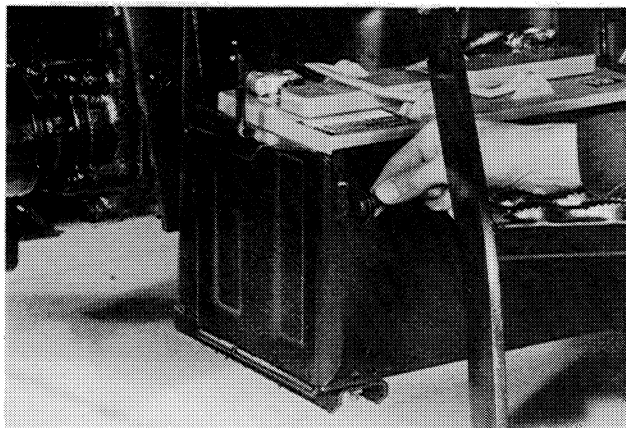
Remove the battery cover wing nuts.

STEP 5



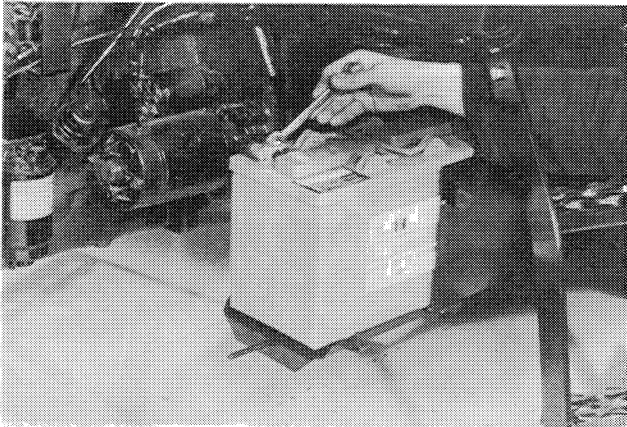
Remove the battery cover.

STEP 6



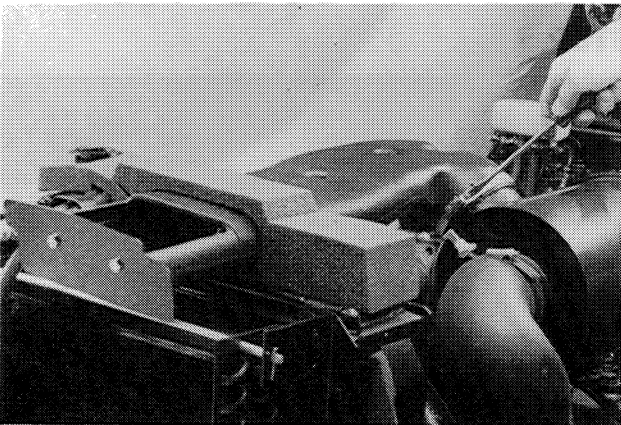
Remove the battery box side plate wing nut.

STEP 7



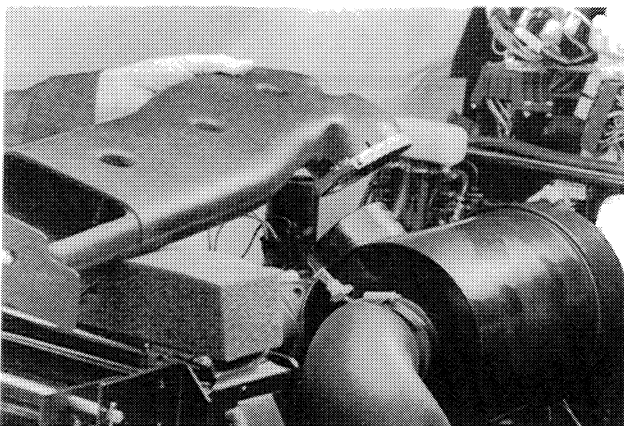
Disconnect the negative (-) ground terminal.

STEP 8



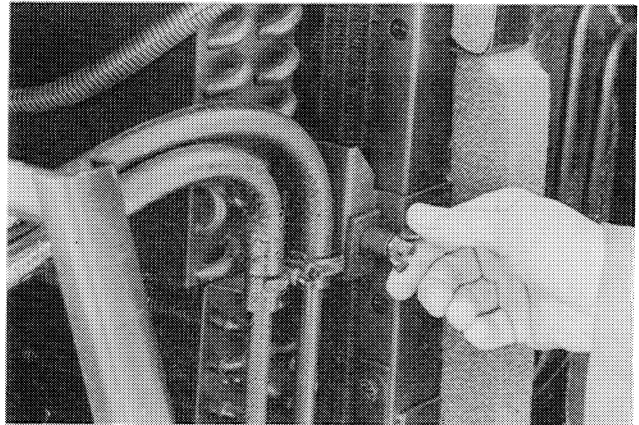
Loosen the air intake duct clip.

STEP 9



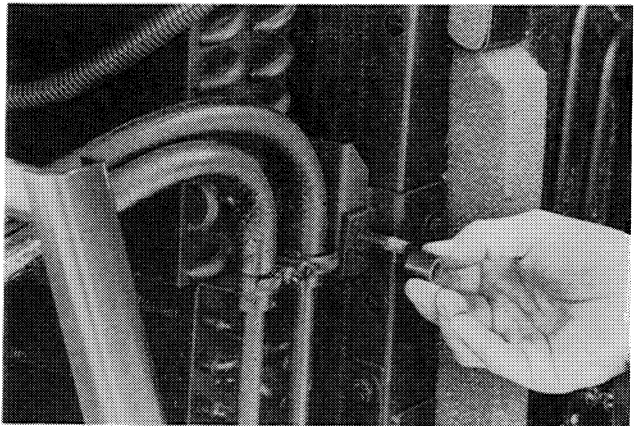
Remove the air intake duct.

STEP 10



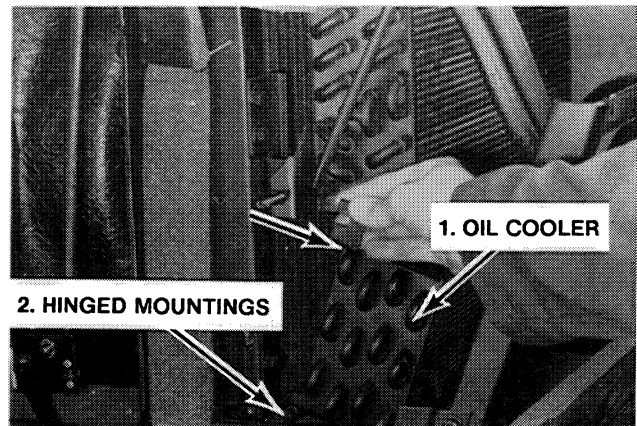
Remove the oil cooler and condenser securing wing nuts.

STEP 11



Remove the spacer.

STEP 12

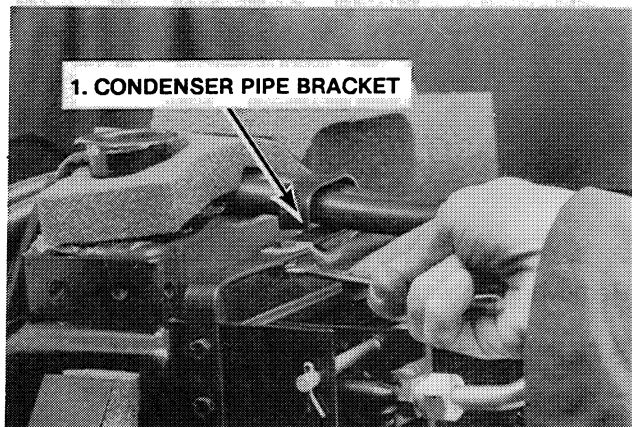


Swing the oil cooler down, away from the radiator.



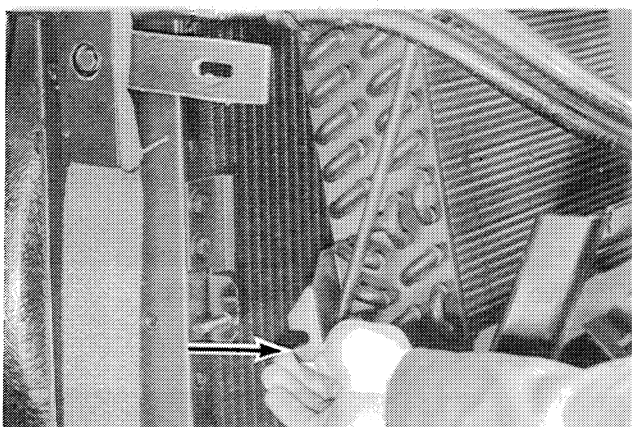
WARNING: Liquid refrigerant could cause severe frostbite. Follow all air conditioning safety rules. Refer to Section 9235.

STEP 13



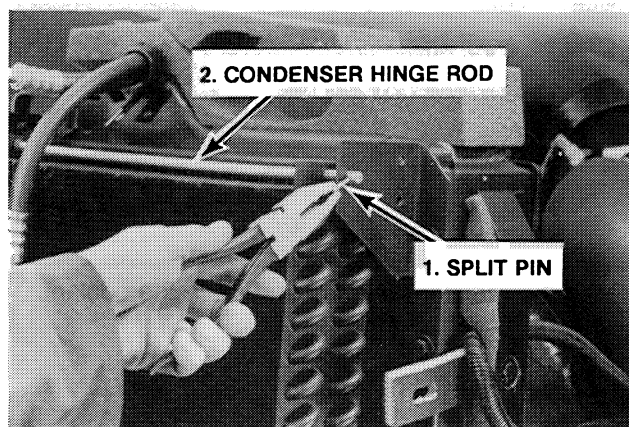
Remove the condenser pipe bracket.

STEP 14



Lift the condenser away from the radiator.

STEP 15



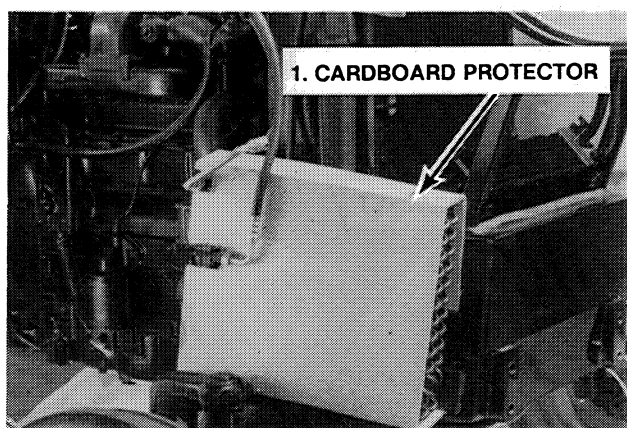
Remove the condenser hinge rod split pin.

STEP 16



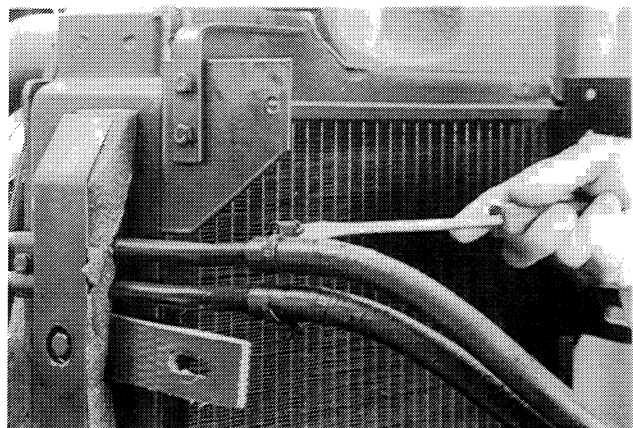
Support the condenser and remove the hinge rod.

STEP 17



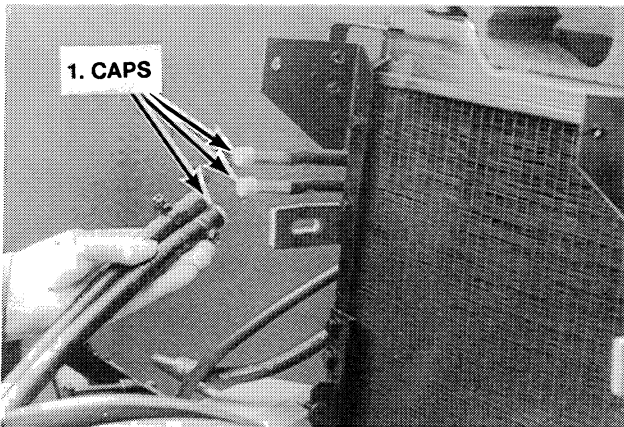
Put a cardboard protector around the condenser and tie the condenser safely out of the way.

STEP 18



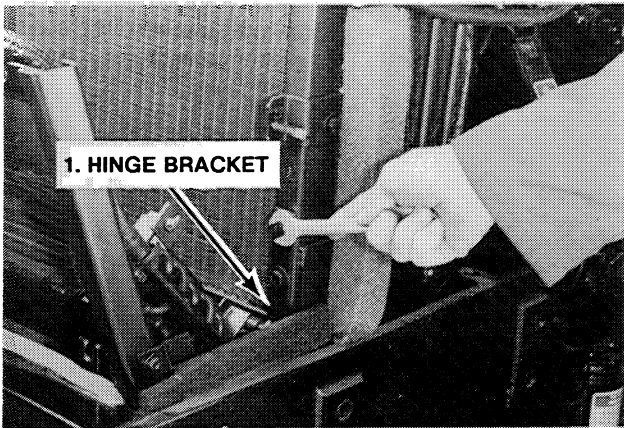
Disconnect the oil cooler pipes.

STEP 19



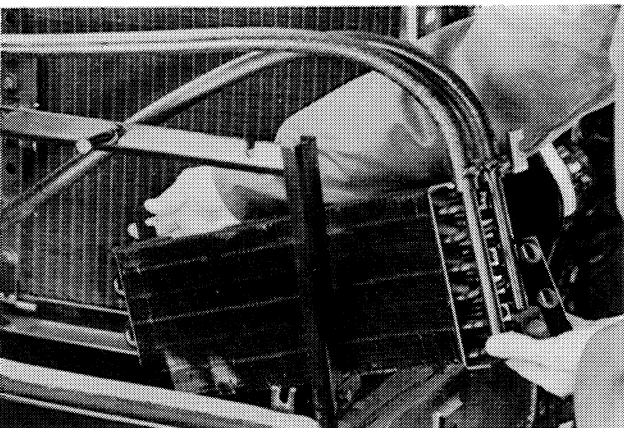
Fit caps to prevent foreign material from entering the system.

STEP 20



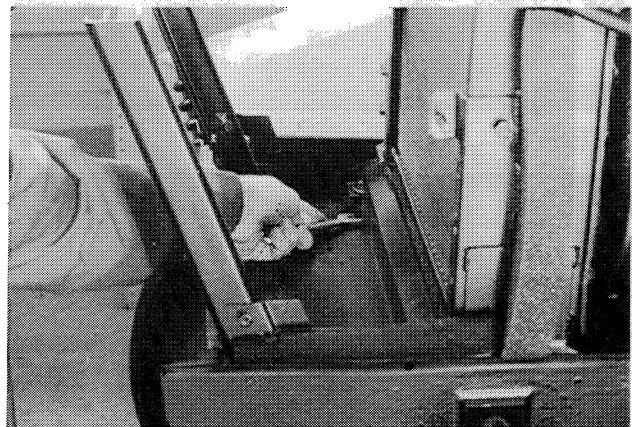
Remove one of the oil cooler hinge brackets.

STEP 21



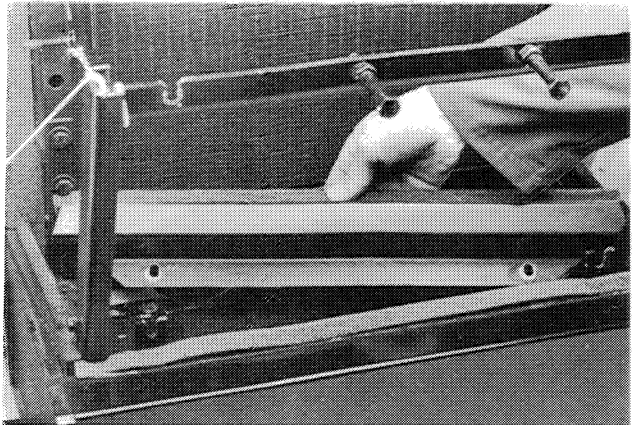
Remove the oil cooler.

STEP 22



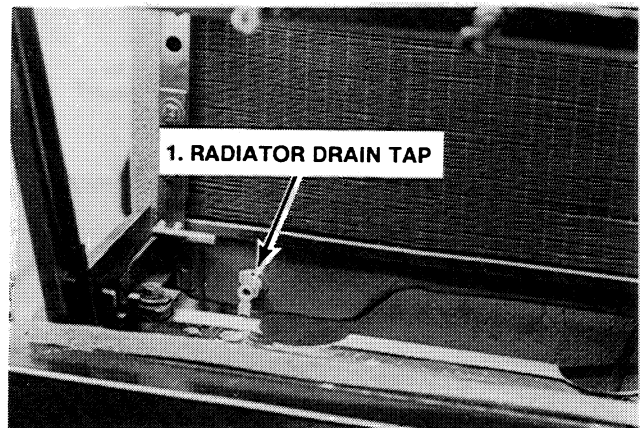
Remove the lower radiator sealing strip bolts.

STEP 23

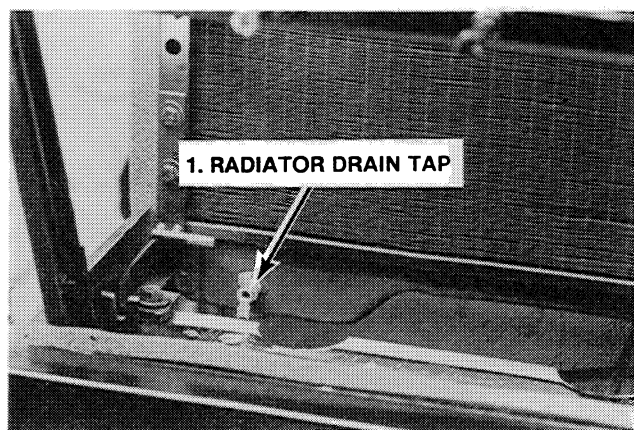


Remove the lower radiator sealing strip.

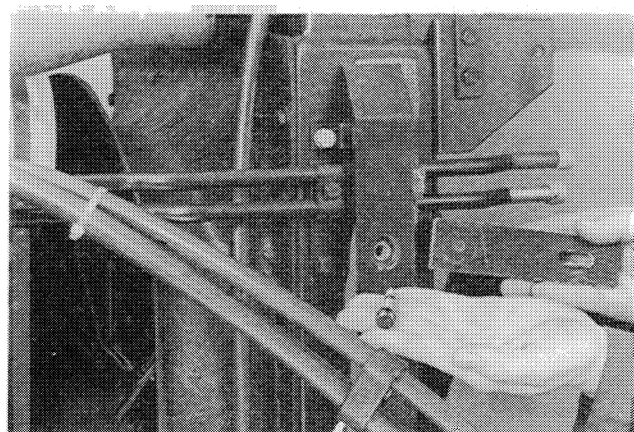
STEP 24



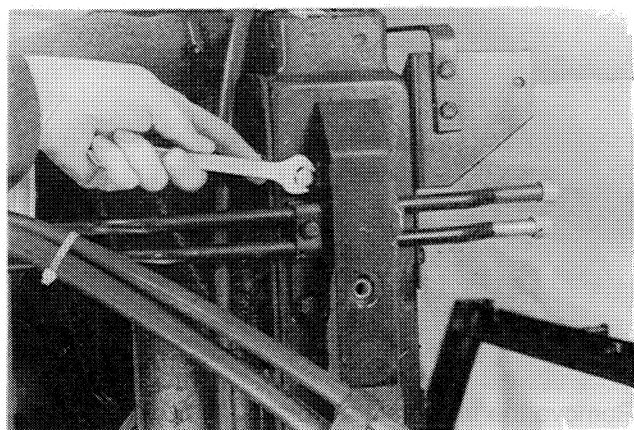
Open the radiator drain tap and drain the coolant.

STEP 25

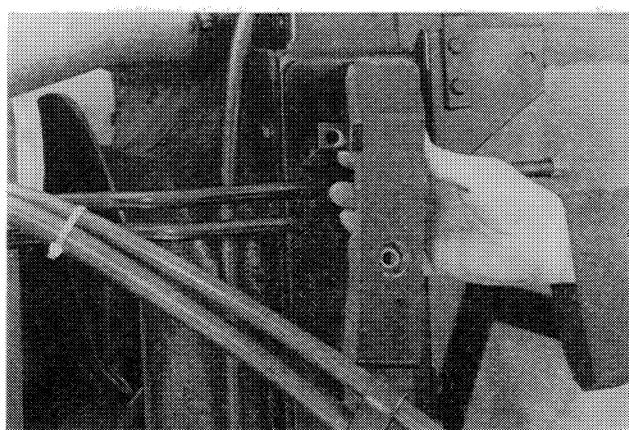
Close and tighten the radiator drain tap.

STEP 26

Remove the radiator side plate bolt and the hoodsheet side strap, (both sides).

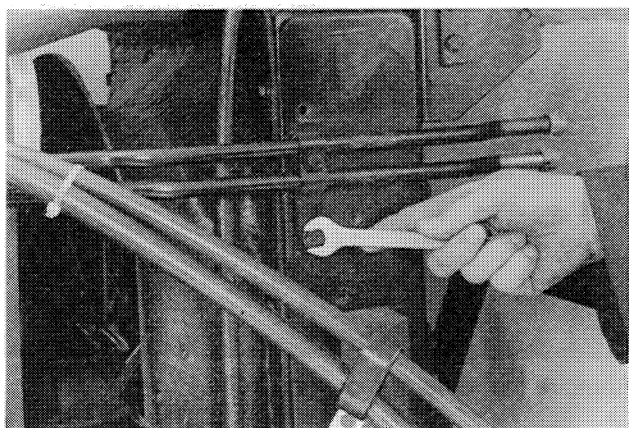
STEP 27

Remove the radiator side plate bolt, (both sides).

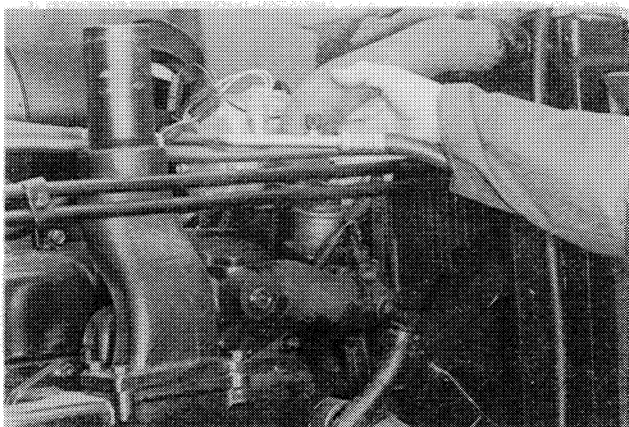
STEP 28

Remove the radiator side plate, (both sides).

NOTE: Move the headlamp harness rearward of the radiator on the left hand side.

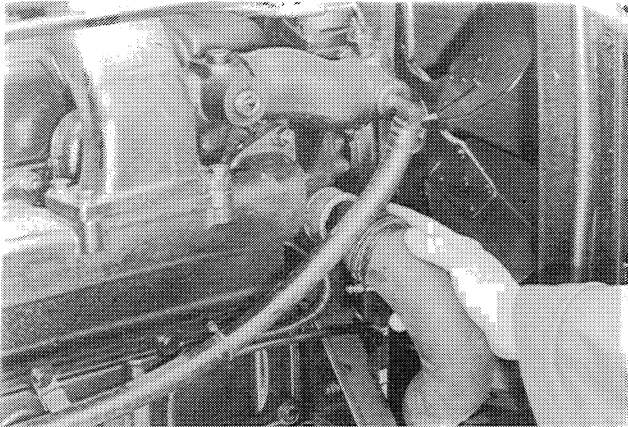
STEP 29

Remove the oil cooler pipe securing bracket bolt.

STEP 30

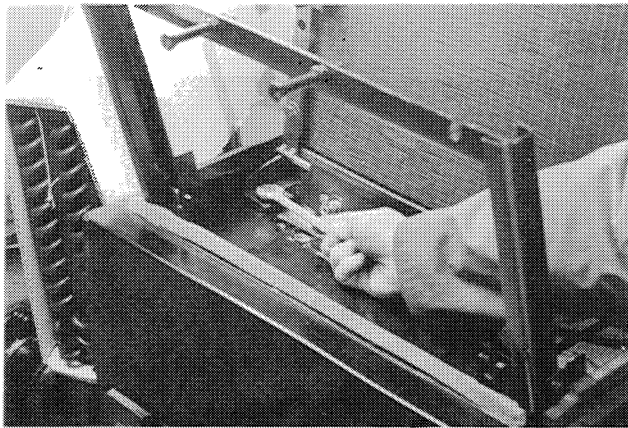
Loosen the clip and disconnect the top coolant hose.

STEP 31



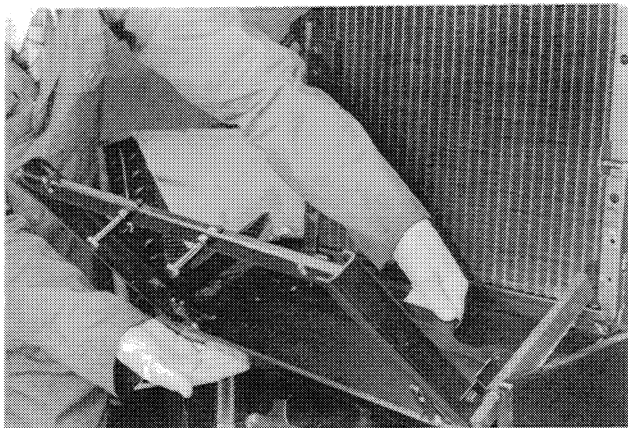
Loosen the clip and disconnect the bottom coolant hose.

STEP 32



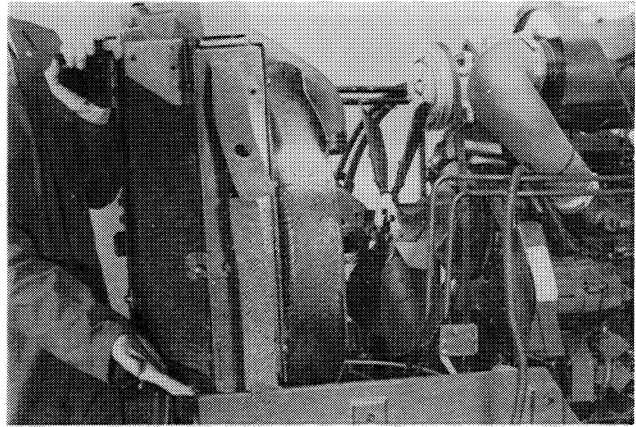
Remove the radiator mounting bolts.

STEP 33



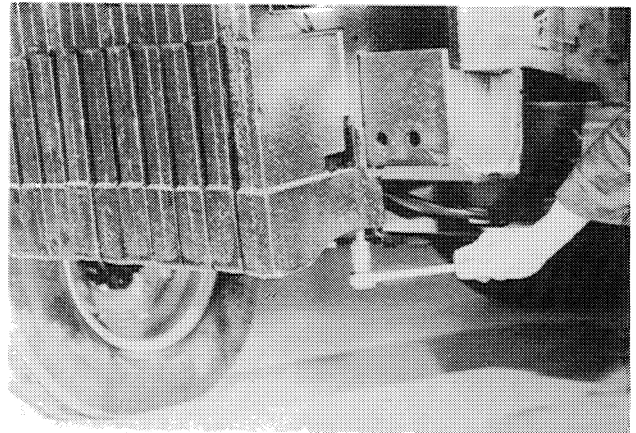
Remove the hoodsheet mounting frame.

STEP 34



Carefully lift the radiator clear of the tractor.

STEP 35

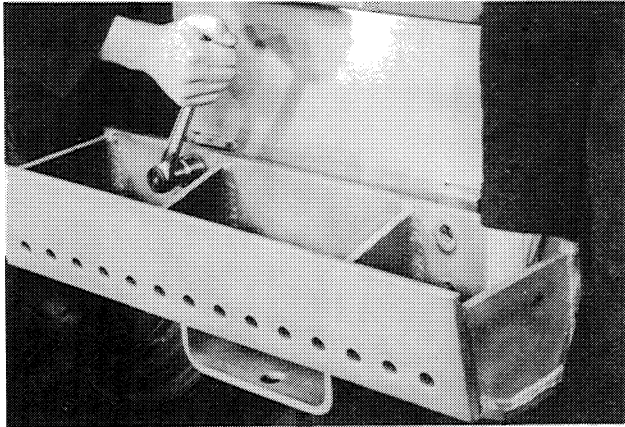


Loosen the tractor weight securing bolts, (if fitted).

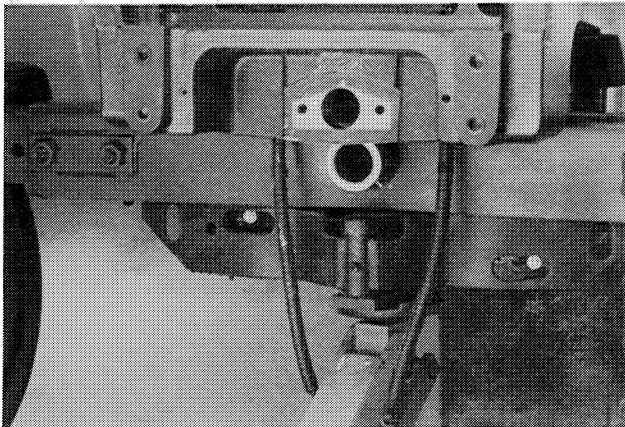
STEP 36



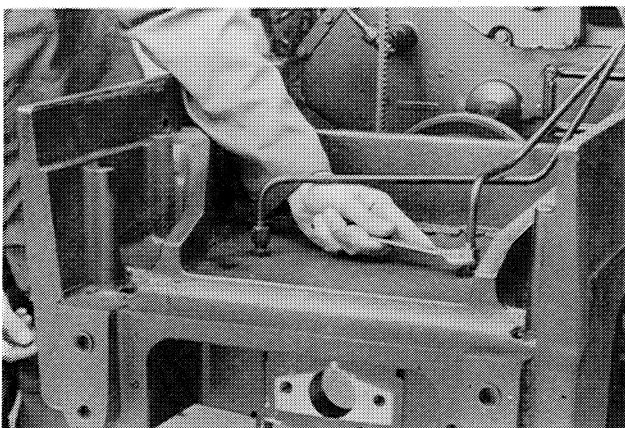
Remove the front tractor weights, (if fitted).

STEP 37

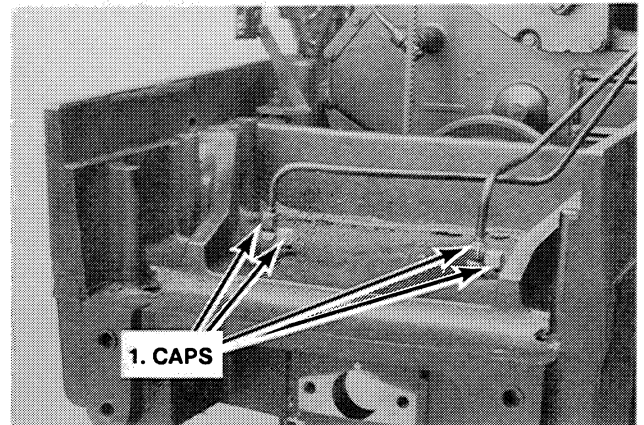
Remove the front tractor weight bracket, (if fitted).

STEP 38

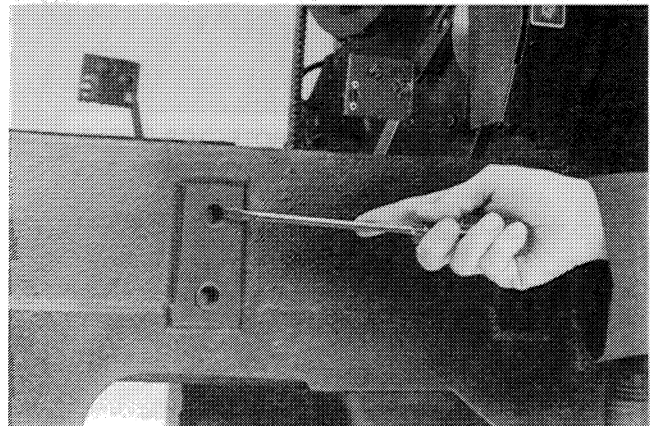
Remove the front axle. Refer to Section 5330 for 2WD tractors or Section 6465 for MFD tractors.

STEP 39

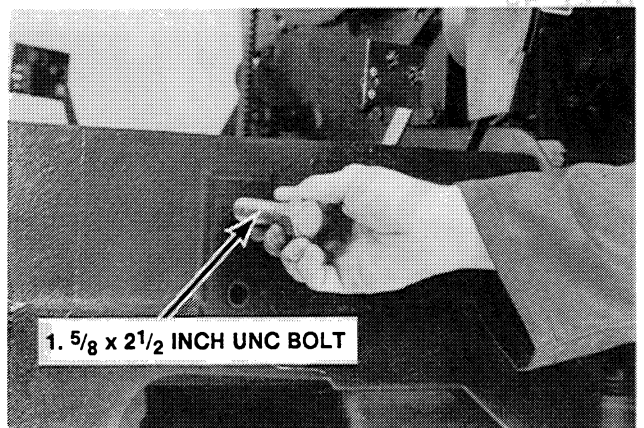
Disconnect the hydraulic steering pipes.

STEP 40

Fit caps to prevent foreign material from entering the system.

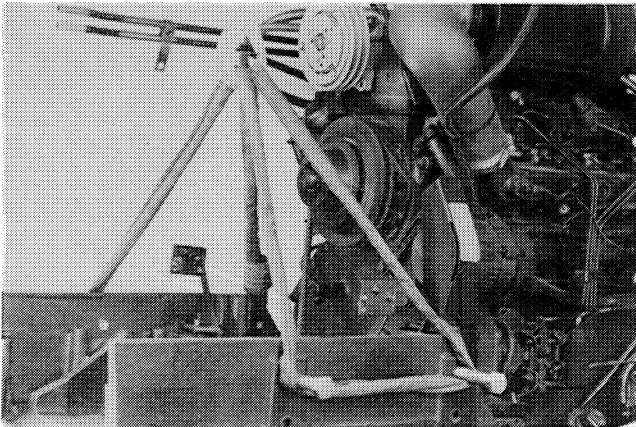
STEP 41

Remove four plastic caps from the front bolster.

STEP 42

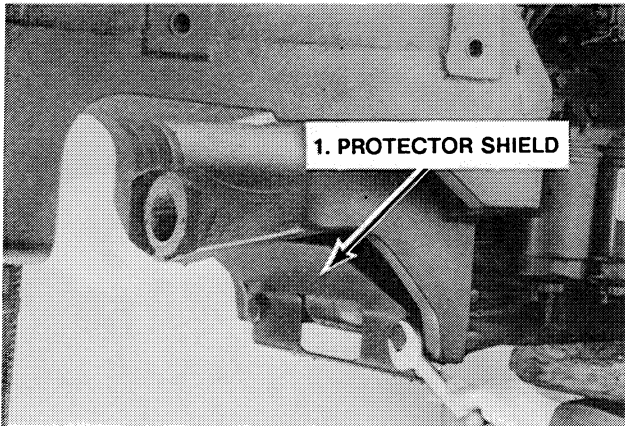
Install four $\frac{5}{8}$ x $2\frac{1}{2}$ inch U.N.C. bolts into the front bolster.

STEP 43



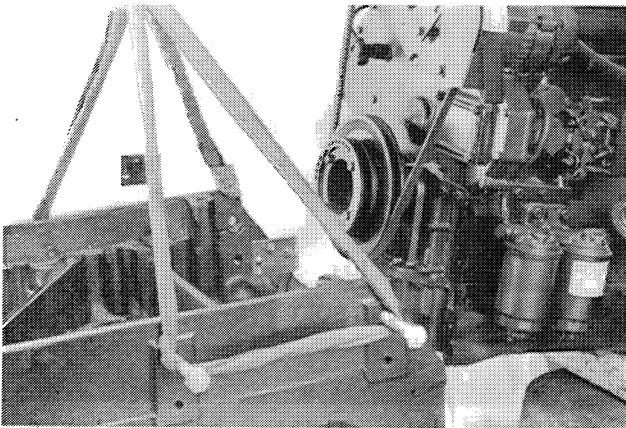
Secure a sling to the front bolster and a lifting hoist.

STEP 44



Remove the oil pan protection shield and the front bolster mounting bolts.

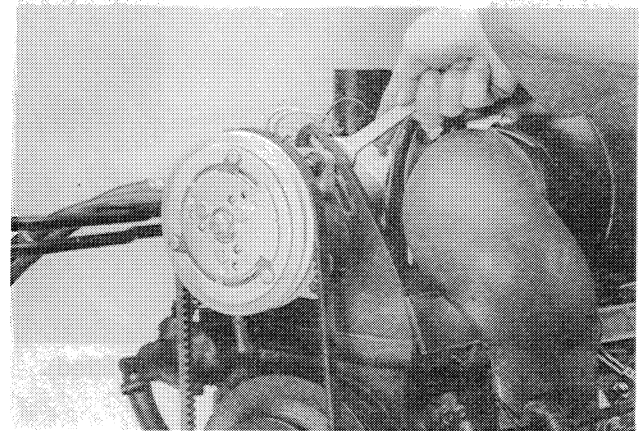
STEP 45



Move the front bolster clear of the tractor.

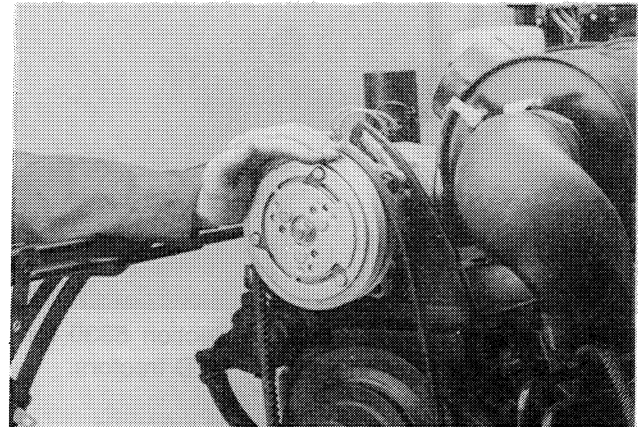
NOTE: *The radiator fan is removed for photographic purposes only.*

STEP 46



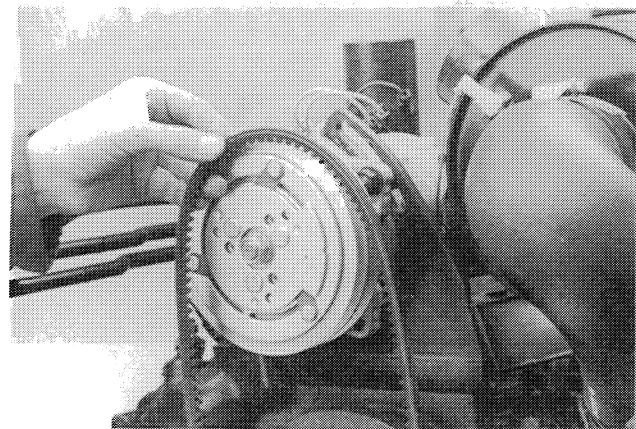
Loosen the air conditioning compressor adjusting strap bolt.

STEP 47



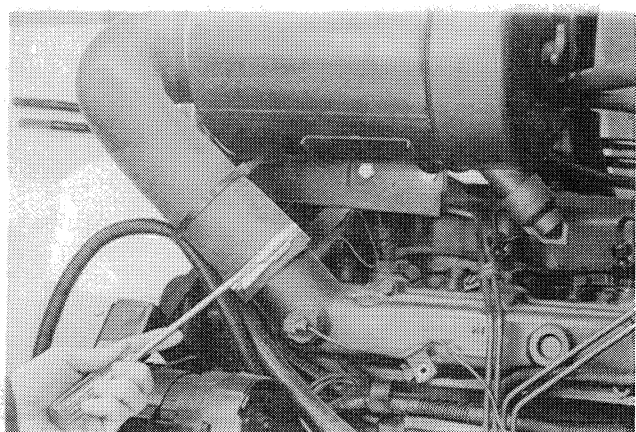
Push the compressor toward the engine.

STEP 48



Remove the compressor drive belt.

STEP 49



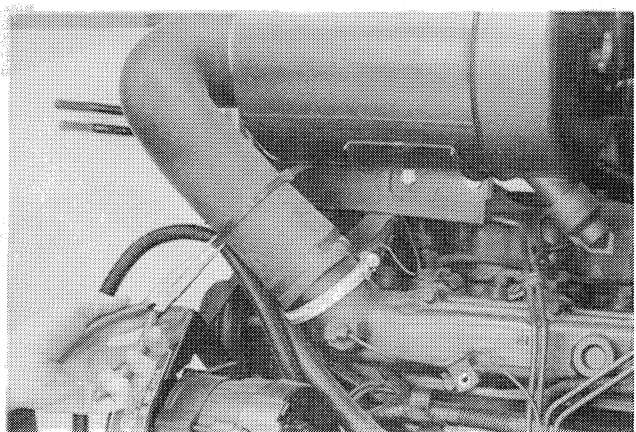
Loosen the air cleaner intake hose clip.

STEP 52



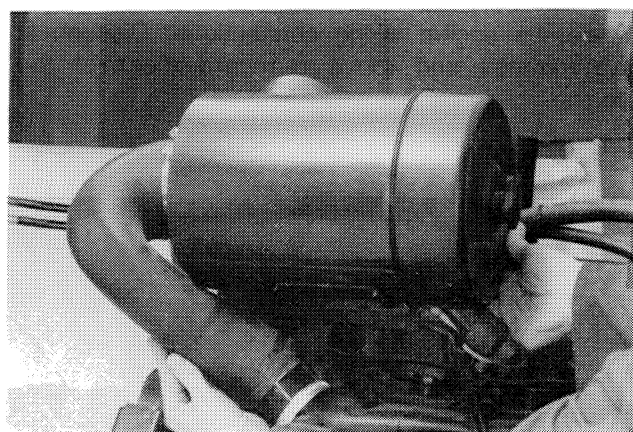
Remove the air cleaner body mounting bolts.

STEP 50



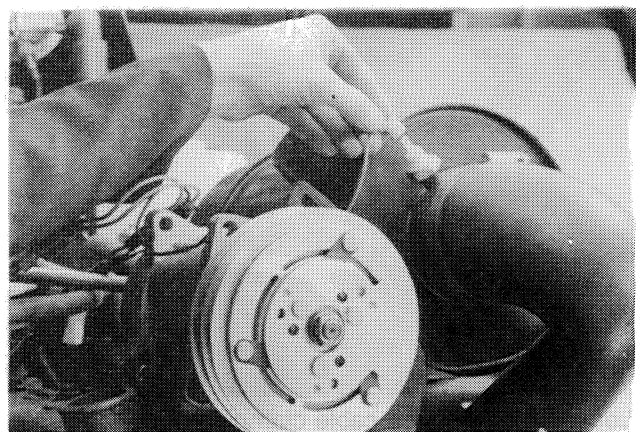
Cut the strap and move the headlamp harness rearward.

STEP 53



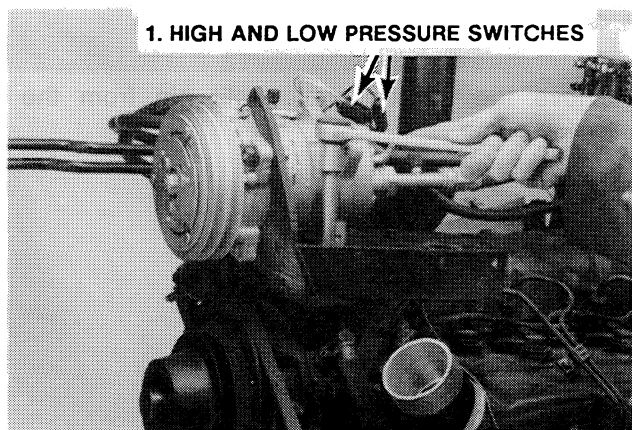
Lift clear the air cleaner body.

STEP 51



Disconnect the vacuum switch connection.

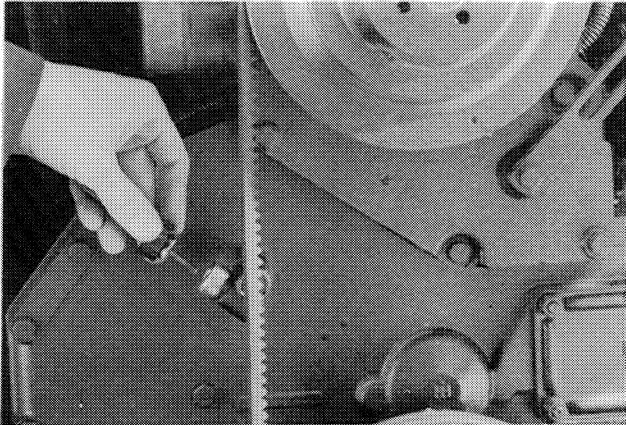
STEP 54



Label and disconnect the high and low pressure switches, remove the compressor mounting bracket bolts and lift clear the compressor.

NOTE: Safely secure the compressor (out of the way) to the tractor.

STEP 55

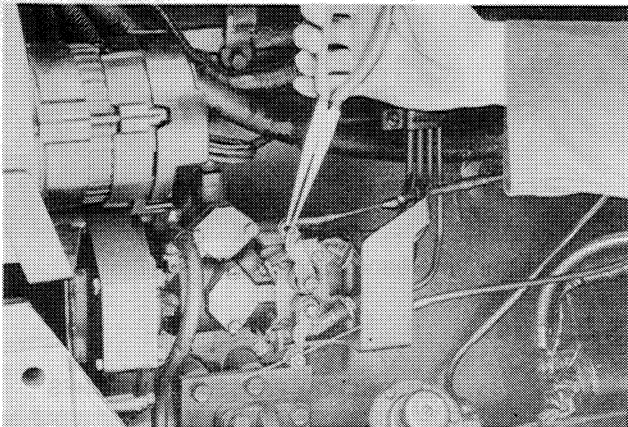


Disconnect the tachometer cable.

STEP 56

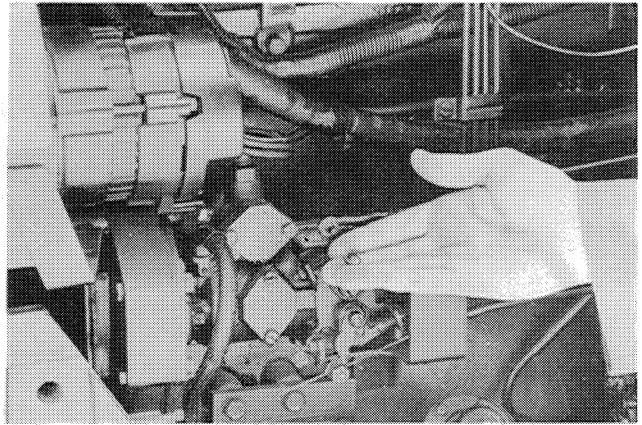
Label the engine wiring connections. Disconnect the harness and move rearward clear of the engine.

STEP 57



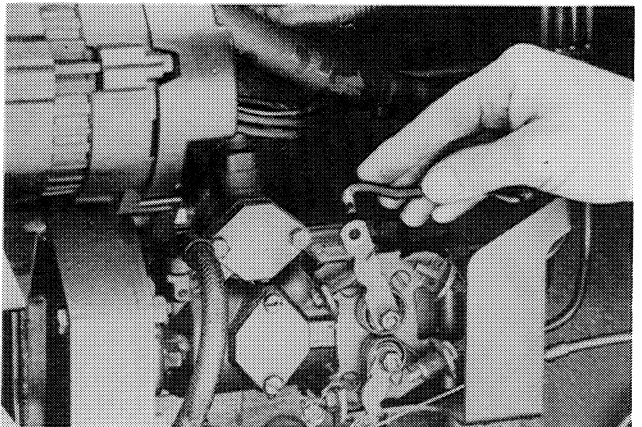
Remove the throttle cable split pin from the injection pump.

STEP 58



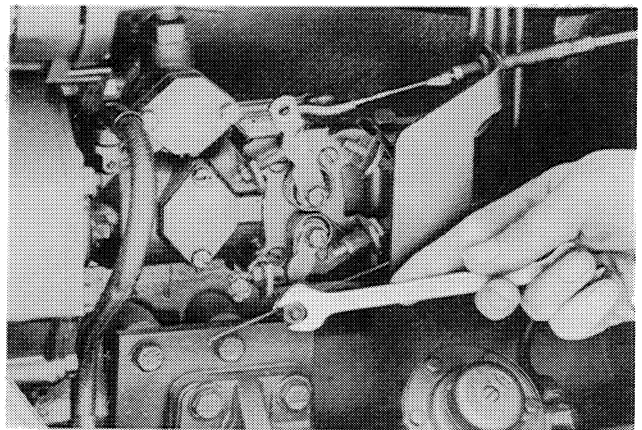
Remove the washer.

STEP 59



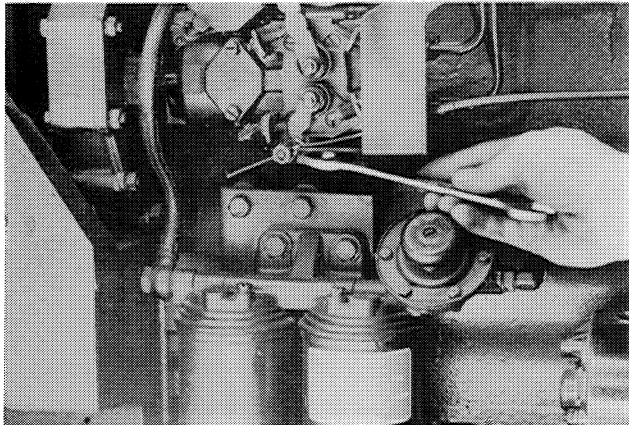
Disconnect the throttle cable.

STEP 60



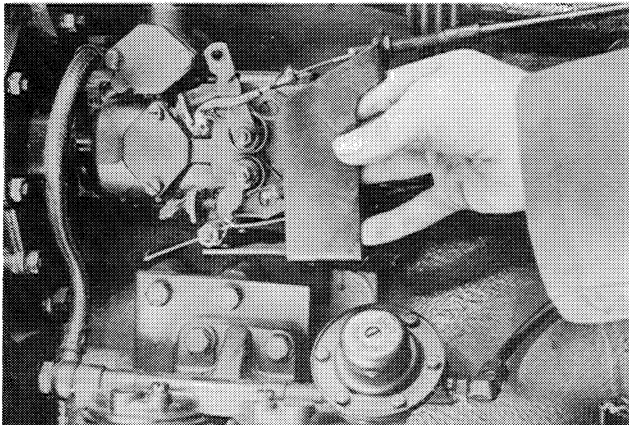
Loosen the fuel stop cable clamping nut.

STEP 61



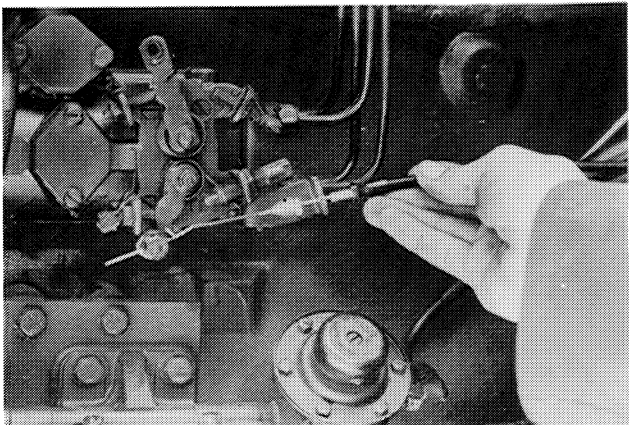
Remove the throttle cable bracket bolts.

STEP 62



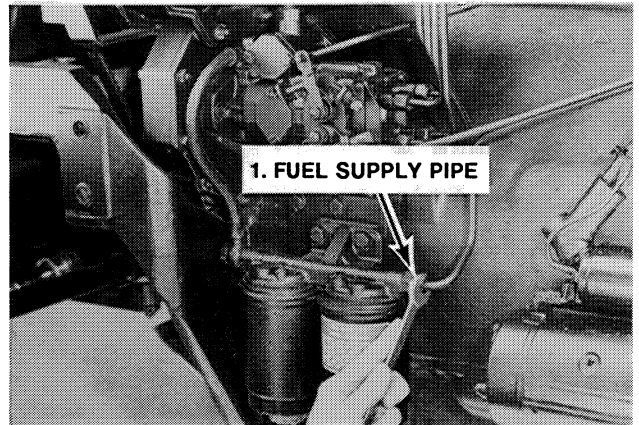
Remove the throttle cable bracket.

STEP 63



Disconnect the fuel stop cable.

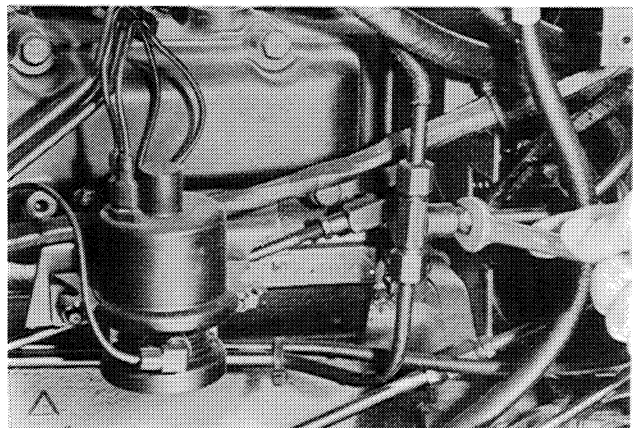
STEP 64



Disconnect the fuel supply pipe.

NOTE: *Fit caps to prevent foreign material from entering the system.*

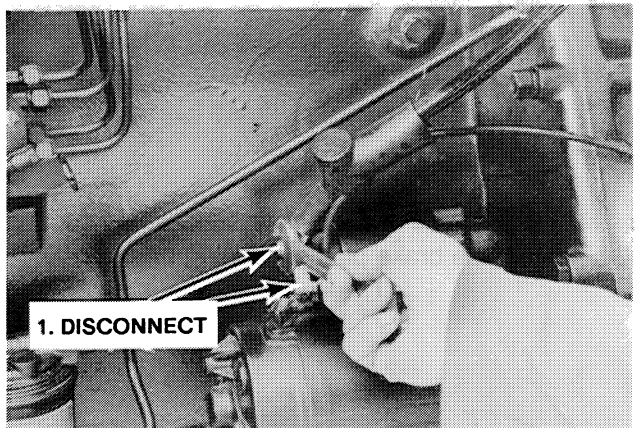
STEP 65



Disconnect the fuel return pipe.

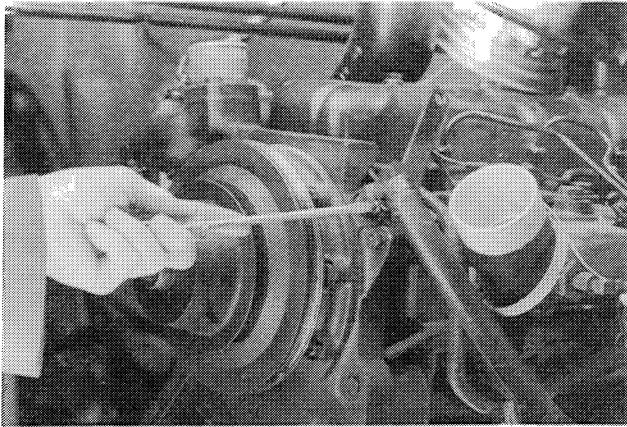
NOTE: *Fit caps to prevent foreign material from entering the system.*

STEP 66



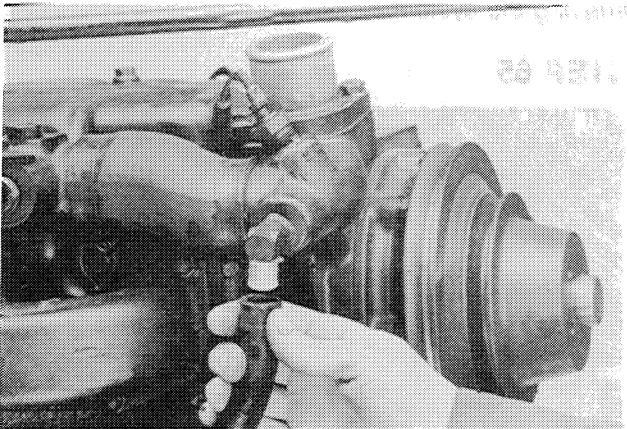
Disconnect the starter motor wiring.

STEP 67



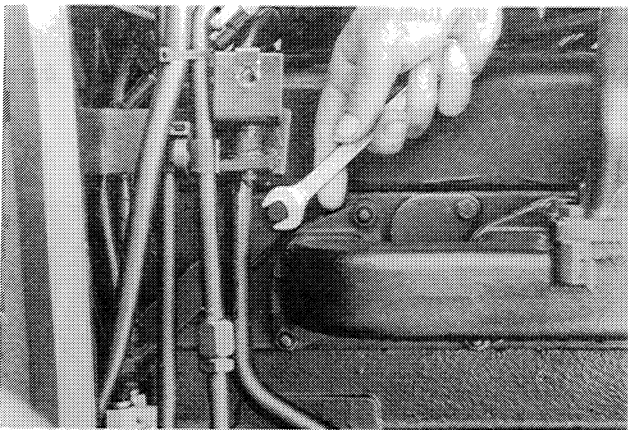
Loosen the clip and disconnect the heater hose.

STEP 68



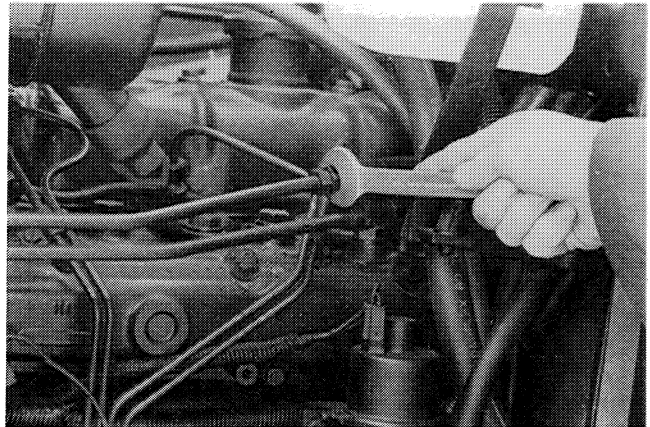
Loosen the clip and disconnect the heater hose.

STEP 69



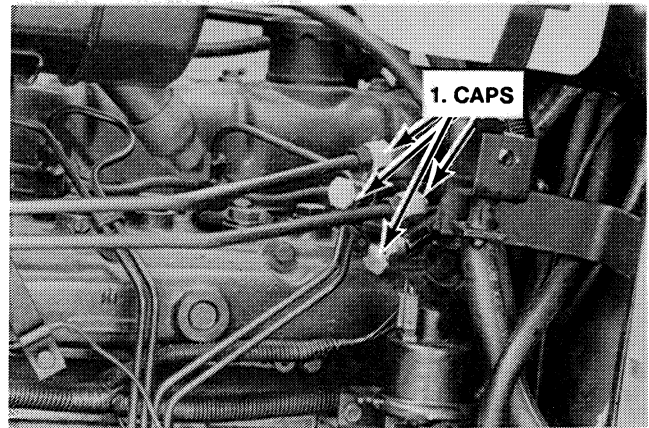
Disconnect the brake pipe supporting bracket.

STEP 70

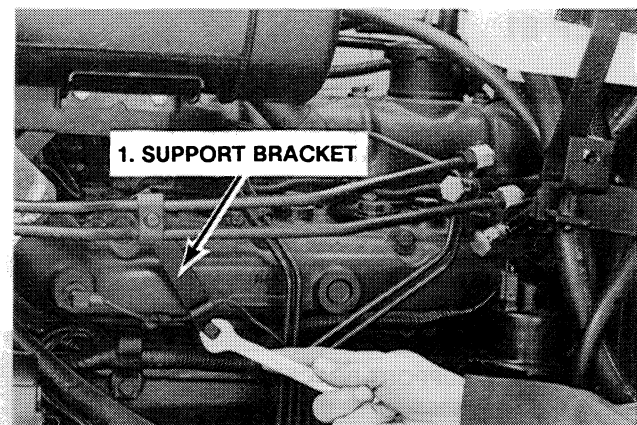


Put marks on the hydraulic steering pipes and disconnect the hydraulic steering pipes.

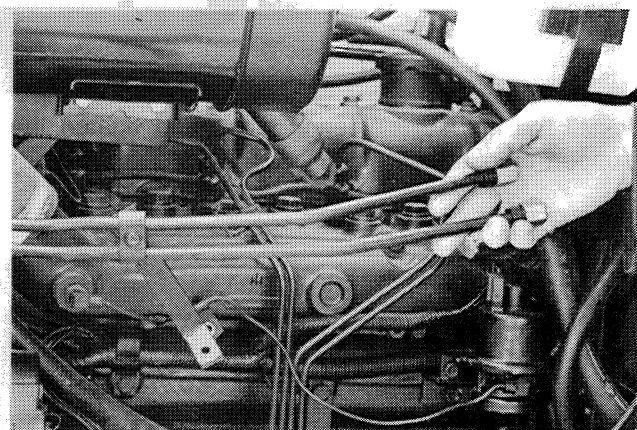
STEP 71



Fit caps to prevent foreign material from entering the system.

STEP 72

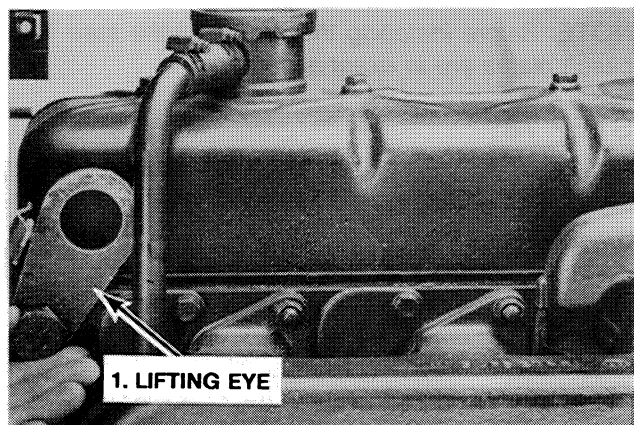
Disconnect the hydraulic steering pipe support bracket.

STEP 73

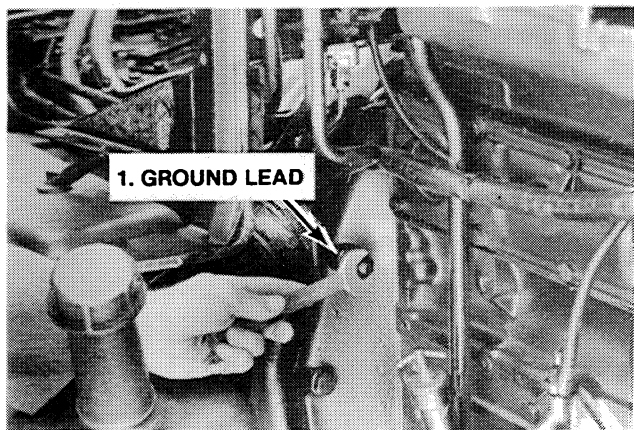
Remove the hydraulic steering pipes clear of the tractor.

STEP 74

Raise the tractor and move the block from under the engine crankcase and put it under the transmission speed range gearbox.

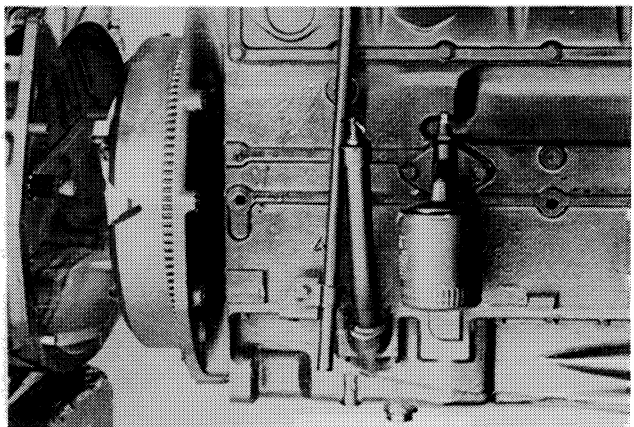
STEP 75

Install a lifting eye to the rear of the engine. Secure a sling to the engine and a lifting hoist.

STEP 76

Remove the ground lead and the clutch housing bolts.

NOTE: Make sure all parts are disconnected.

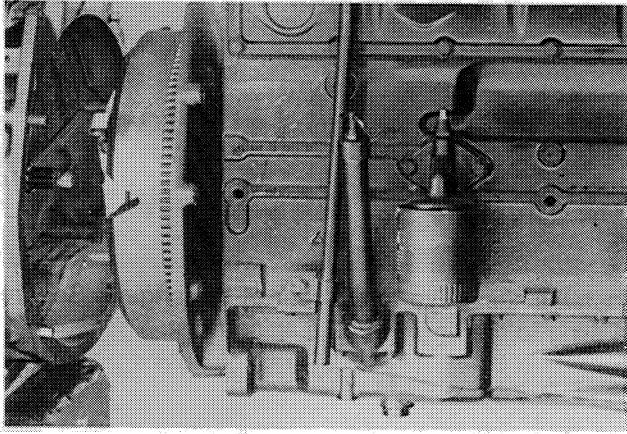
STEP 77

Carefully remove the engine clear of the transmission.

ENGINE Installation

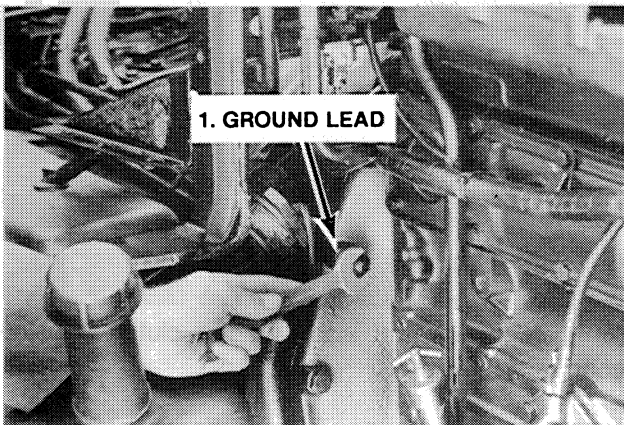
NOTE: Before installing the engine make sure the clutch plates are in exact alignment.

STEP 78



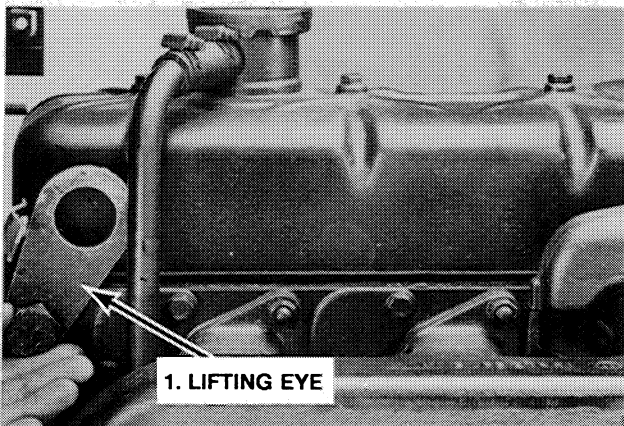
Install the engine.

STEP 79



Install and tighten the ground lead and the clutch housing bolts.

STEP 80

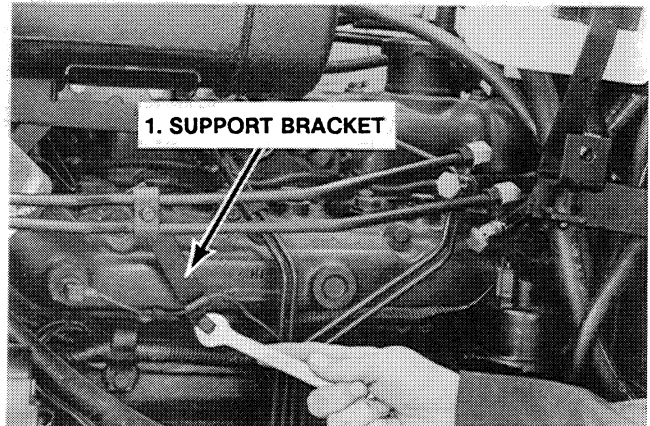


Remove the sling and lifting eye.

STEP 81

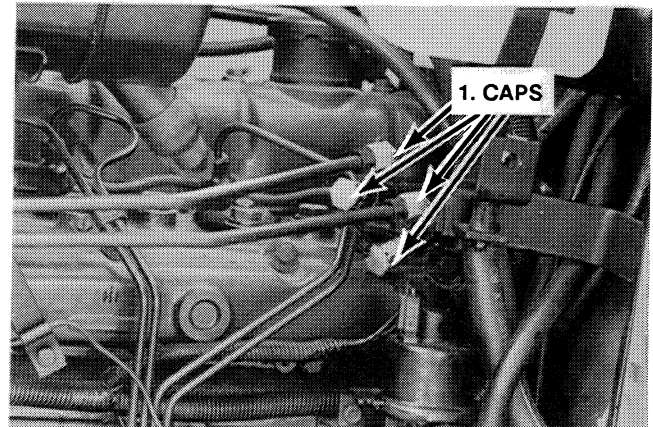
Raise the tractor and move the block from under the transmission speed range gearbox and put it under the engine crankcase.

STEP 82



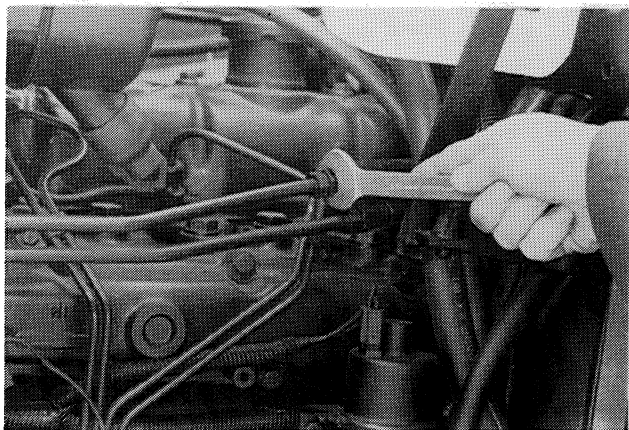
Install the hydraulic steering pipes and tighten the support bracket bolt.

STEP 83



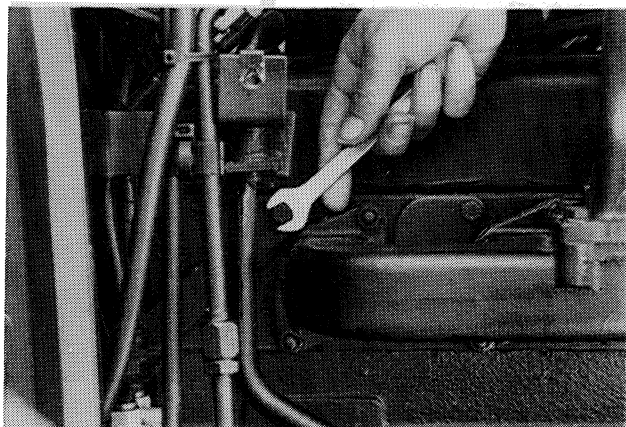
Remove the caps.

STEP 84



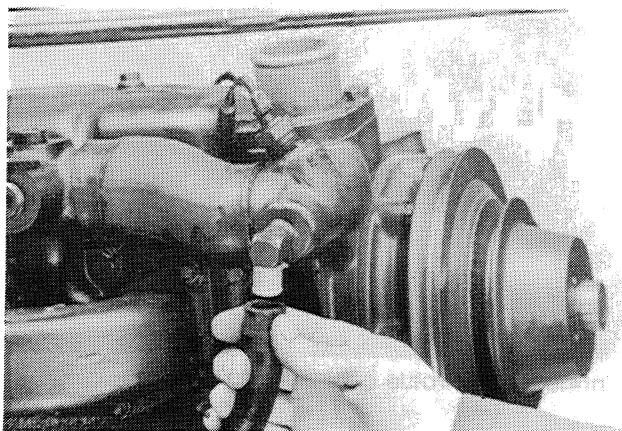
Install the hydraulic steering pipes as marked on removal. Tighten the connections.

STEP 85



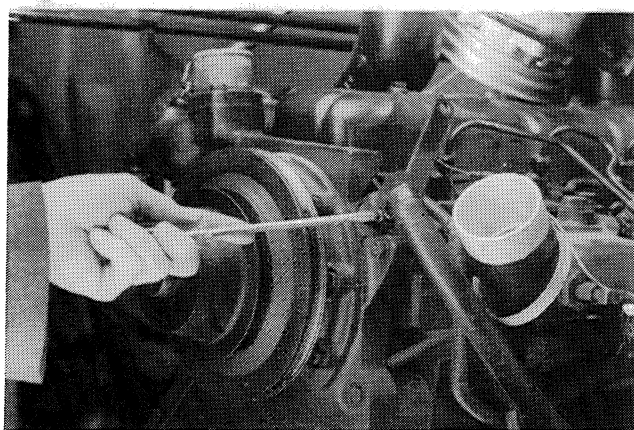
Connect and tighten the brake pipe supporting bracket.

STEP 86



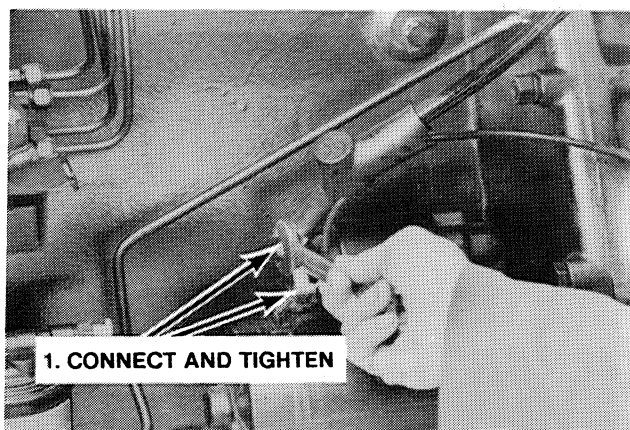
Connect and tighten the heater hose clip.

STEP 87



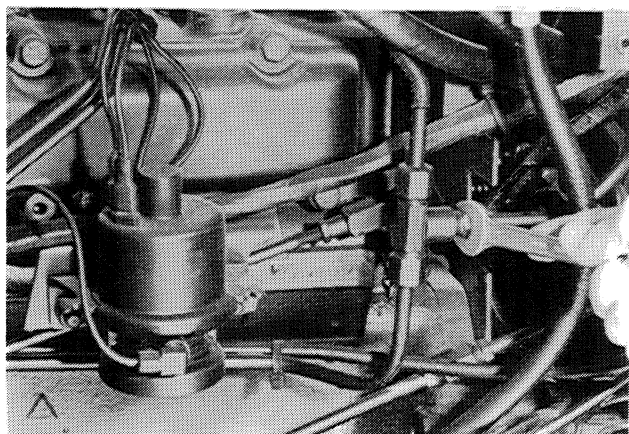
Connect and tighten the heater hose clip.

STEP 88



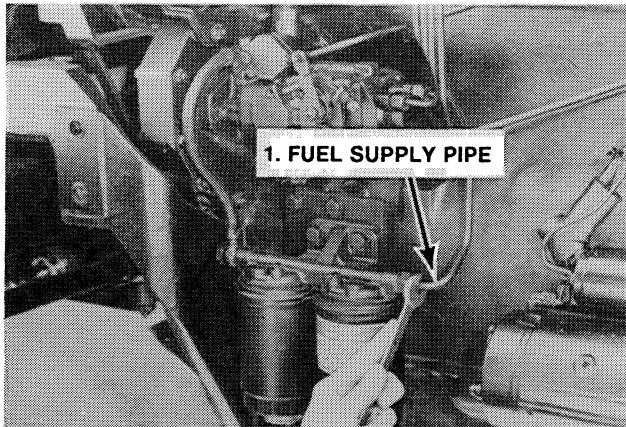
Connect and tighten the starter motor wiring.

STEP 89



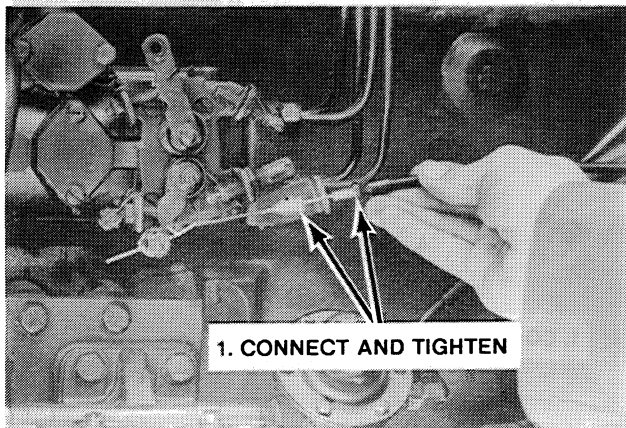
Remove the caps. Connect and tighten the fuel return pipe connection.

STEP 90



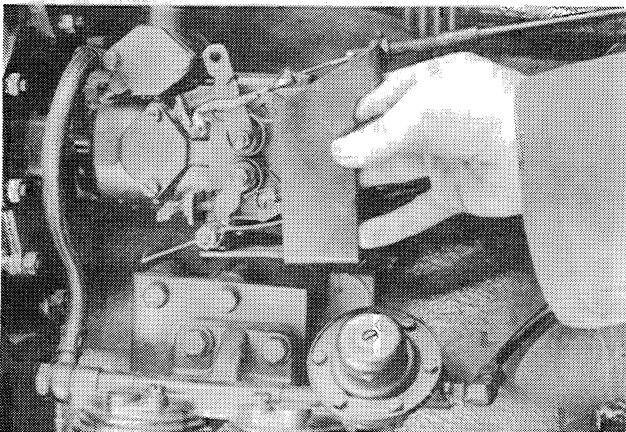
Remove the caps. Connect and tighten the fuel supply pipe connection.

STEP 91



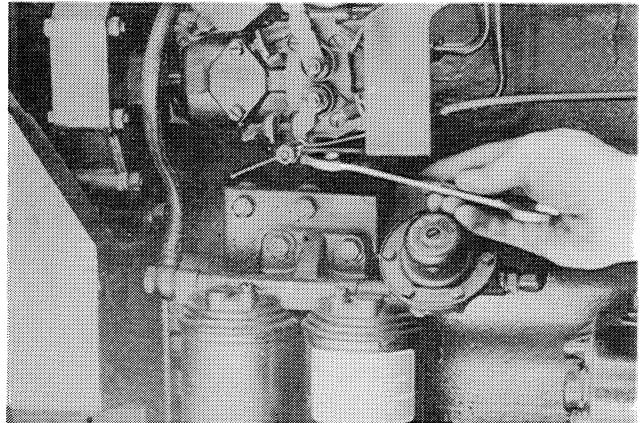
Connect the fuel stop cable.

STEP 92



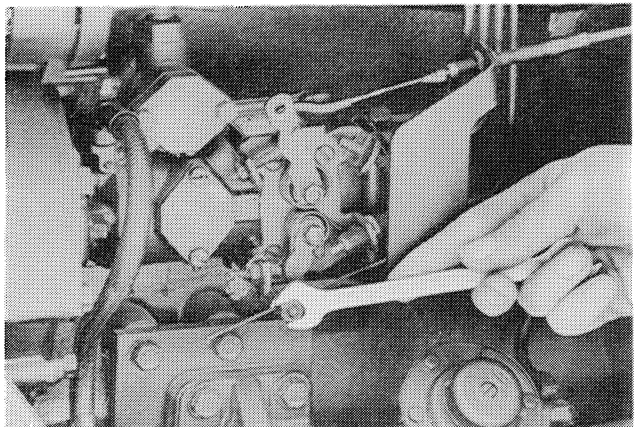
Install the throttle cable bracket.

STEP 93



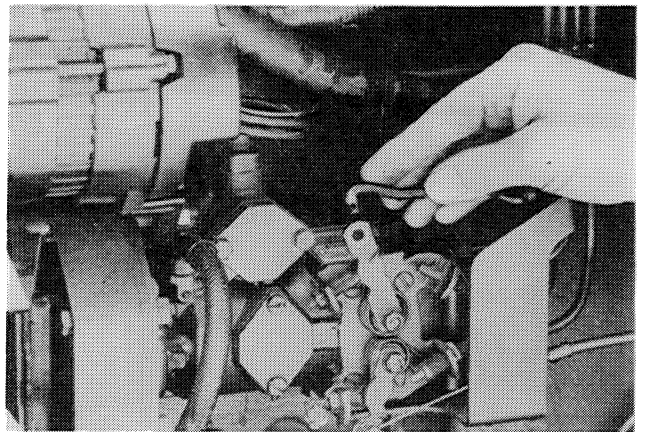
Tighten the throttle cable bracket bolts.

STEP 94



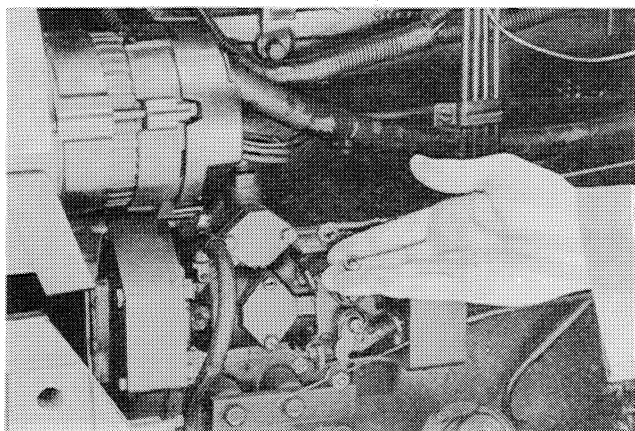
Tighten the fuel stop cable clamping nut.

STEP 95



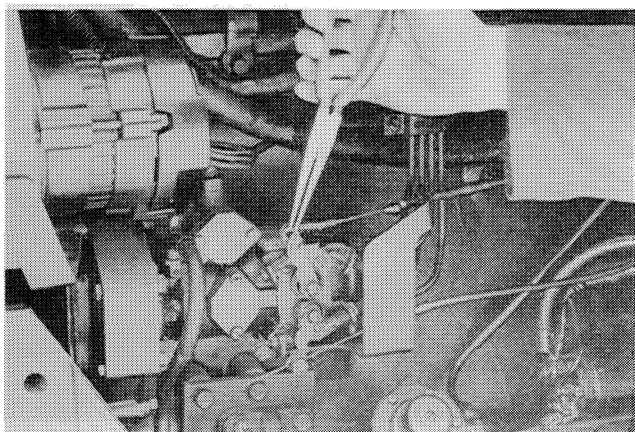
Connect the throttle cable.

STEP 96



Install the washer.

STEP 97



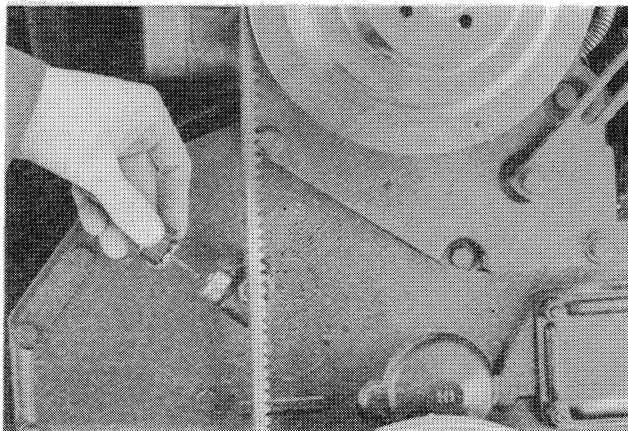
Install a new split pin.

STEP 98

Move the engine wiring harness forward and connect the wiring connections as labeled on removal.

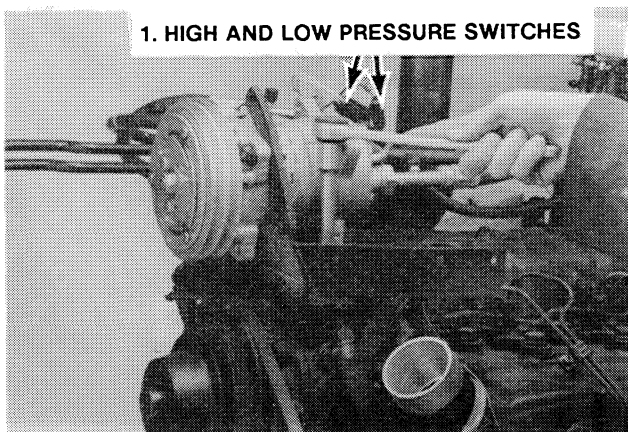
NOTE: *Fit new cable straps as necessary.*

STEP 99



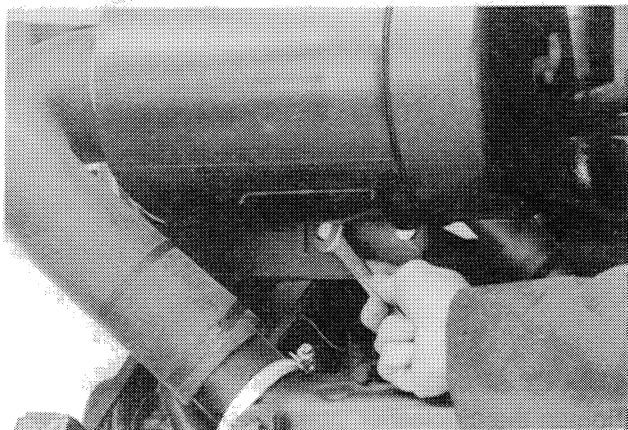
Connect and tighten the tachometer cable.

STEP 100



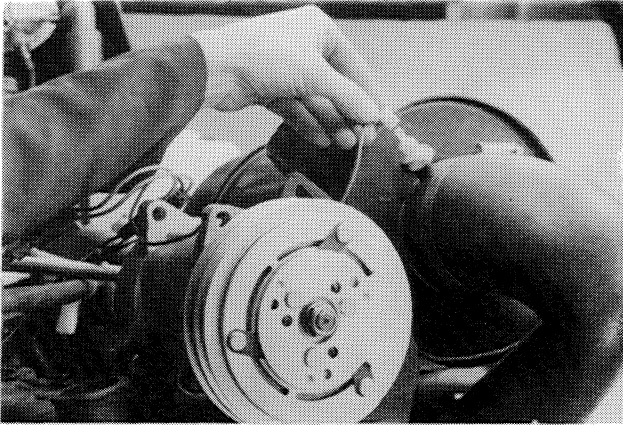
Install and tighten the air conditioning compressor bracket bolts, connect the high and low pressure switches.

STEP 101



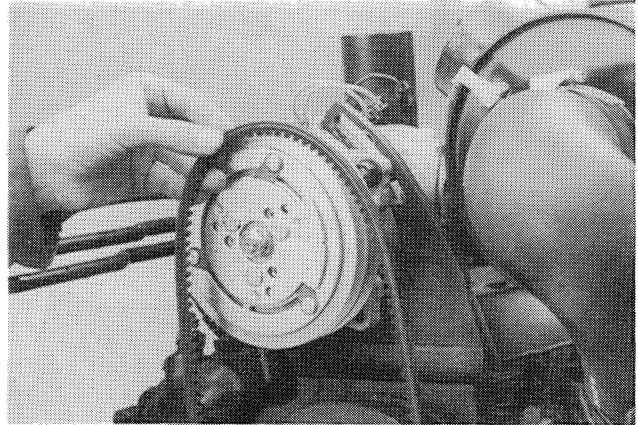
Install the air cleaner and tighten the mounting bolts.

STEP 102



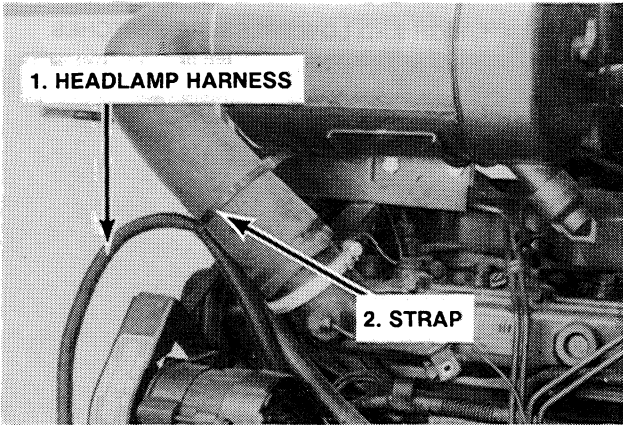
Connect the vacuum switch connection.

STEP 105



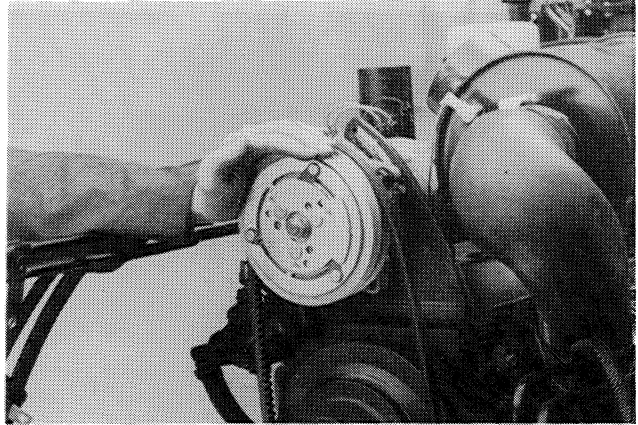
Install the compressor drive belt.

STEP 103



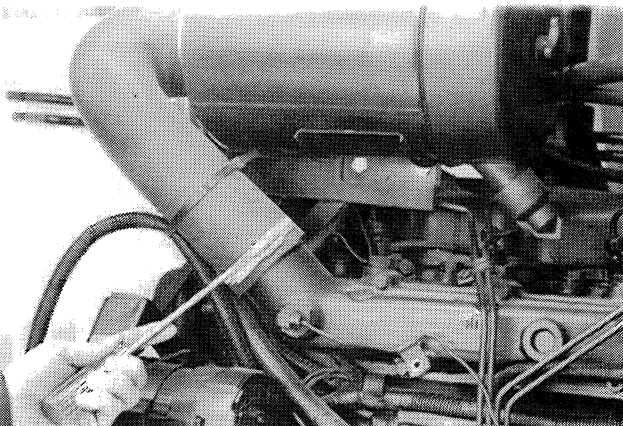
Install a new strap and move the headlamp harness forward.

STEP 106



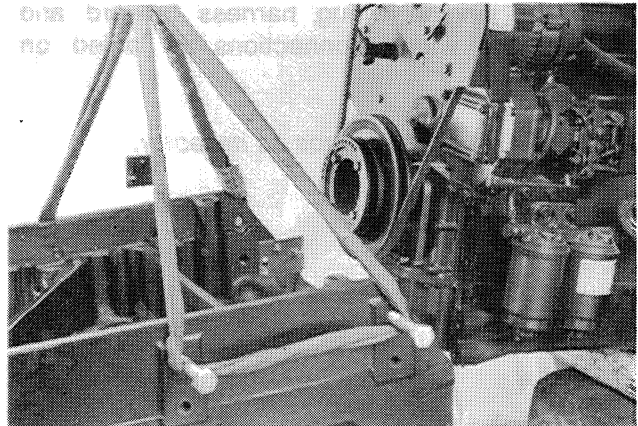
Adjust the compressor drive belt tension. Refer to the Operator's Manual.

STEP 104



Tighten the air cleaner intake hose clip.

STEP 107



Install the front bolster.



Suggest:

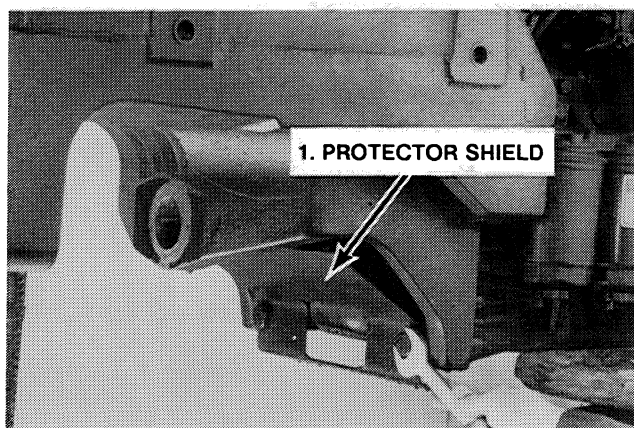
If the above button click is invalid.

Please download this document

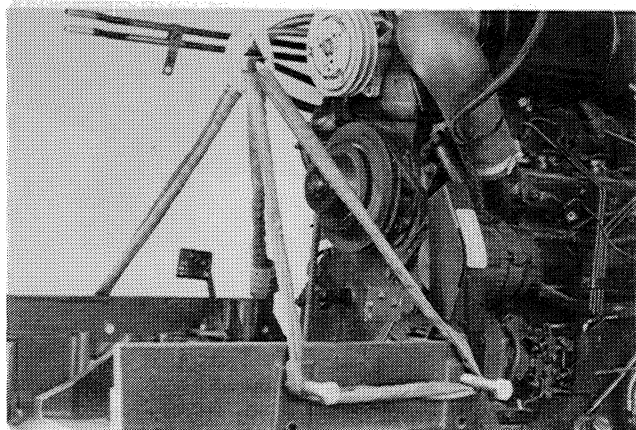
first, and then click the above link

to download the complete manual.

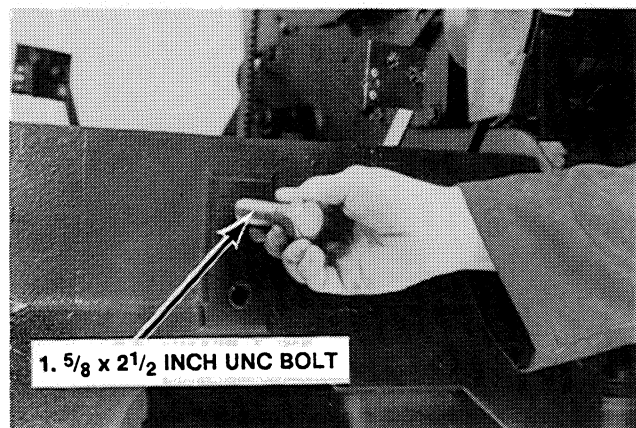
Thank you so much for reading

STEP 108

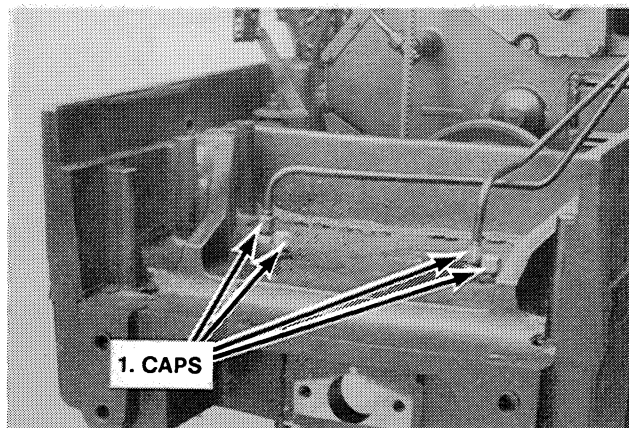
Install the oil pan protector shield and tighten the front bolster mounting bolts.

STEP 109

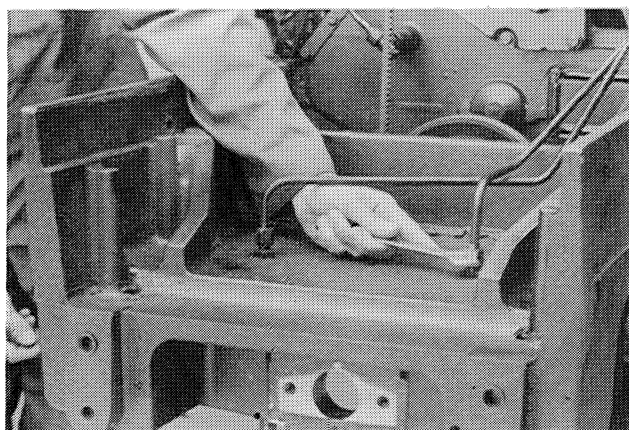
Remove the sling from the bolster and lifting hoist.

STEP 110

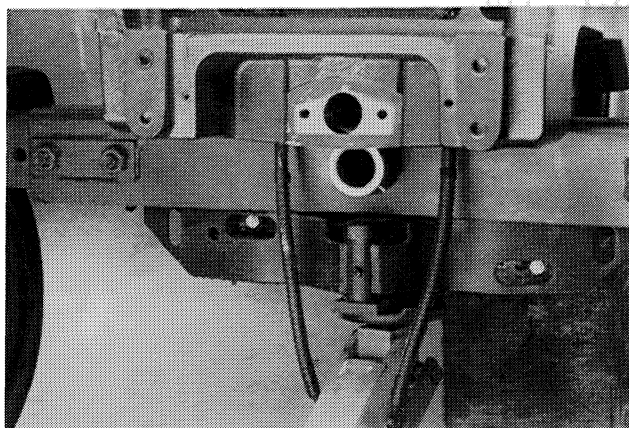
Remove the four bolts from the bolster and fit new caps to protect the threads.

STEP 111

Remove the caps from the hydraulic steering pipes.

STEP 112

Connect and tighten the hydraulic steering pipe connections.

STEP 113

Install the front axle. Refer to Section 5330 for 2WD tractors or Section 6465 for MFD tractors.

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