585G/586G/588G Forklift
Service Manual
7-14851

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700 State Street
Racine, WI 53404 U.S.A.

CASE CANADA CORPORATION
450 Sherman Avenue
Hamilton, ON L8N 4C4 CANADA

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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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Loctite Product Chart

CASE CORPORATION
700 State Street
Racine, WI 53404 U.S.A.

CASE CANADA CORPORATION
450 Sherman Avenue
Hamilton, ON L8N 4C4 CANADA

Bur 7-15500

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Section

1001

STANDARD TORQUE SPECIFICATIONS

CASE CORPORATION
700 State Street
Racine, WI 53404 U.S.A.

CASE CANADA CORPORATION
3350 South Service Road
Burlington, ON L7N 3M6 CANADA

Rac 8-71601

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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 graphities, 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.*

Retyped November,

Rac 8-71601 Issued 11-91 Printed in U.S.A

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-Inches	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-Inches	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-Inches	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-Inches	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.

Section 1002

FLUIDS AND LUBRICANTS

CASE CORPORATION
700 State Street
Racine, WI 53404 U.S.A.

CASE CANADA CORPORATION
450 Sherman Avenue
Hamilton, ON L8N 4C4 CANADA

Bur 7-15160

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CONVERSION FORMULAS

Imperial quart = litres x 0.879877

Imperial gallon = litres x 0.219969

CAPACITIES AND LUBRICANTS

Engine Oil
- Capacity with Filter Change ..... 11 litres (11.6 U.S. quarts)
- Capacity without Filter Change ..... 10 litres (10.6 U.S. quarts)
- Type of oil ..... See Engine Oil Recommendations on page 4

Engine Cooling System
- Capacity ..... 15.8 litres (16.7 U.S. quarts)
- Type of coolant ..... Ethylene Glycol type antifreeze and water that is mixed 50% Ethylene Glycol and 50% water.

Fuel Tank
- Capacity ..... 117 litres (31 U.S. gallons)
- Type of fuel ..... See diesel fuel specifications on page 5

Hydraulic System
- Hydraulic reservoir refill capacity with filter change ..... 54.9 litres (58 U.S. quarts)
- Hydraulic reservoir refill capacity without filter change ..... 53 litres (56 U.S. quarts)
- Total System Capacity ..... 68.1 litres (72 U.S. quarts)
- Type of oil ..... Case TCH Fluid

Transmission
- 2 Wheel Drive
  - Total System ..... 18 litres (19 U.S. quarts)
  - Refill with or without filter ..... 16 litres (16.9 U.S. quarts)
  - Type of oil ..... Case Hy Tran Plus® (MS1207)
- 4 Wheel Drive
  - Total System ..... 20.8 litres (22 U.S. quarts)
  - Refill with or without filter ..... 18.5 litres (19.5 U.S. quarts)
  - Type of oil ..... Case Hy Tran Plus® (MS1207)

Front Axle - Drive
- Capacity of center bowl ..... 14.2 litres (15 U.S. quarts)
- Capacity of planetary (each) ..... 1.5 litres (1.6 U.S. quarts)
- Type of oil ..... Case Hy-Tran Plus® (MS 1207)

Rear Axle - Steer - 4wd
- Capacity of center bowl ..... 5.5 litres (5.8 U.S. quarts)
- Capacity of planetary (each) ..... 0.7 litres (0.7 U.S. quart)
- Type of oil ..... Case Hy-Tran Plus® (MS 1207)

Brake Fluid ..... Case TCH fluid

ENGINE OIL RECOMMENDATIONS

Case IH No.1 Engine Oil is recommended for use in your Case IH Engine. Case IH No.1 Engine Oil will lubricate your engine correctly under all operating conditions. If Case IH No. 1 Multi-Viscosity Engine Oil is not available, Case IH No. 1 Single Grade Engine Oil can be used.

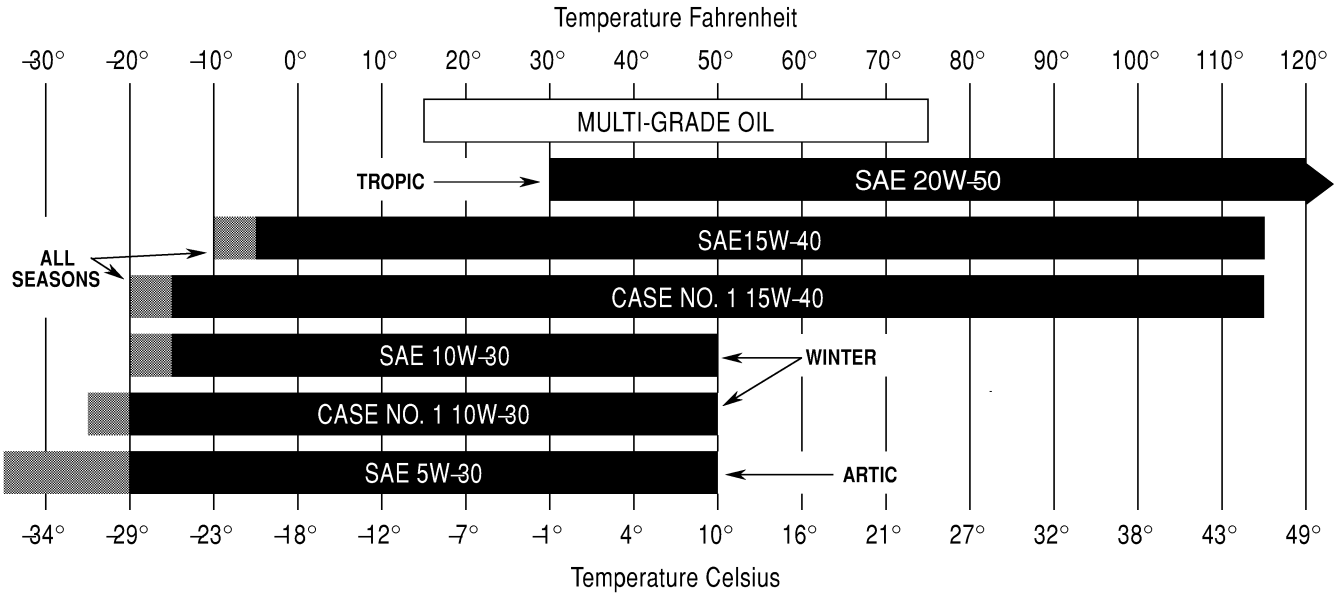
If Case IH No.1 Multi-Viscosity or Single Grade Engine Oil is not available, use only oil meeting API engine oil service category CE.

BI96H018

BP97H064

See the chart below for recommended viscosity at ambient air temperature ranges.

NOTE: *Do not put Performance Additives or other oil additive products in the engine crankcase. The oil intervals given in this manual are according to tests with Case IH lubricants.*



Indicates use of an engine oil heater or a jacket water heater is required.

DIESEL FUEL

Use No. 2 diesel fuel in the engine of this machine. The use of other fuels can cause the loss of engine power and high fuel consumption.

In very cold temperatures, a mixture of No. 1 and No. 2 diesel fuels is temporarily permitted. See the following Note.

NOTE: *See your fuel dealer for winter fuel requirements in your area. If the temperature of the fuel is below the cloud point (wax appearance point), wax crystals in the fuel will cause the engine to lose power or not start.*

The diesel fuel used in this machine must meet the specifications in the chart below or Specification D975-81 of the American Society for Testing and Materials.

Fuel Storage

If you keep fuel in storage for a period of time, you can get foreign material or water in the fuel storage tank. Many engine problems are caused by water in the fuel.

Keep the fuel storage tank outside and keep the fuel as cool as possible. Remove water from the storage container at regular periods of time.

Specifications for Acceptable No. 2 Diesel Fuel

API gravity, minimum	34
Flash Point, Minimum	60×° C (140° F)
Cloud point (wax appearance point), maximum	-20° C (-5° F) See Note above
Pour point, maximum	-26° C (-15° F×) See Note above
Viscosity, at 38° C (100° F)	
Centistokes	2.0 to 4.3
Saybolt Seconds Universal	32 to 40
Cetane number, minimum	43 (45 to 55 for winter or high altitudes)
Water and sediment, by volume, maximum	0.05 of 1%
Sulfer, by weight, maximum	0.50 of 1%
Copper strip corrosion, maximum	No. 2
Ash, by weight, maximum	0.01 of 1%

SECTION INDEX - ENGINES

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Engine Removal and Installaiton	2000
Stall Test	2001

CASE CORPORATION
700 State Street
Racine, WI 53404 U.S.A.

CASE CANADA CORPORATION
450 Sherman Avenue
Hamilton, ON L8N 4C4 CANADA

Bur 7-15510

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Section

2000

ENGINE REMOVAL AND INSTALLATION

CASE CORPORATION
700 State Street
Racine, WI 53404 U.S.A.

CASE CANADA CORPORATION
450 Sherman Avenue
Hamilton, ON L8N 4C4 CANADA

Bur 7-15520

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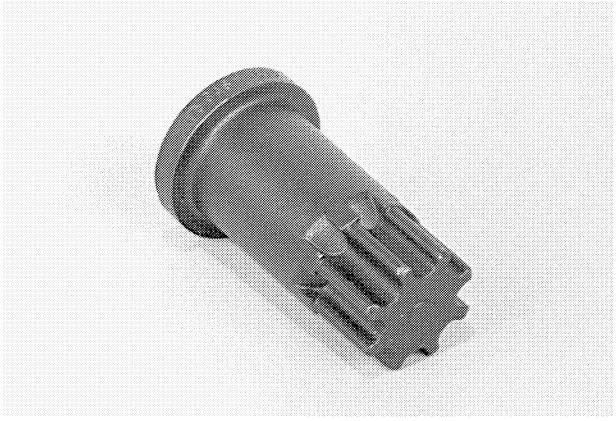
SPECIAL TOOL

The following special tool is used to turn the flywheel.



B430842

Special tool CAS-1690. First used on page 8.

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Removal 17
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Radiator 21

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Removal

STEP 1

Park the machine on a level surface.

STEP 2

Lower the forks to the ground

STEP 3

Stop the engine and apply the parking brake.

STEP 4

Remove the access cover from the battery compartment.

STEP 5

Disconnect the ground cable from the negative battery post.

STEP 6

Open the drain valve on the radiator. Drain the cooling system.

STEP 7

Drain the oil from the hydraulic reservoir.

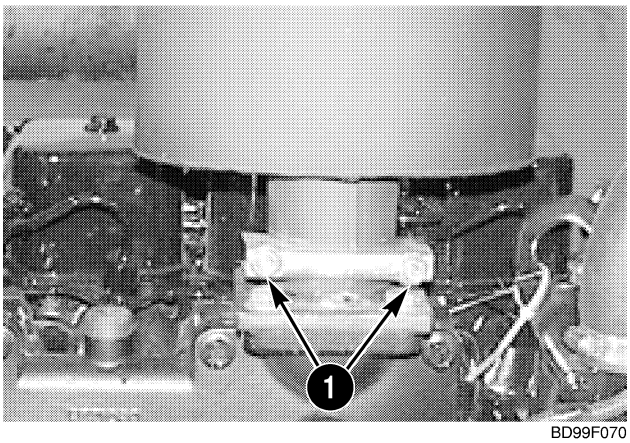
STEP 8

Remove the fill plug from the flywheel housing.

STEP 9

Remove the drain plug from the flywheel housing and drain the oil for the hydrostatic pump drive gears.

STEP 10



BD99F070

1. NUTS

Loosen the nuts on the clamp that fastens the muffler to the adapter on the exhaust manifold.

STEP 11

Remove the muffler from the machine.

STEP 12

Loosen the clamp that fastens the precleaner assembly to the air cleaner.

STEP 13

Remove the precleaner assembly from the air cleaner.

STEP 14

Open the side panel doors and disconnect the door cables from the hood.

STEP 15

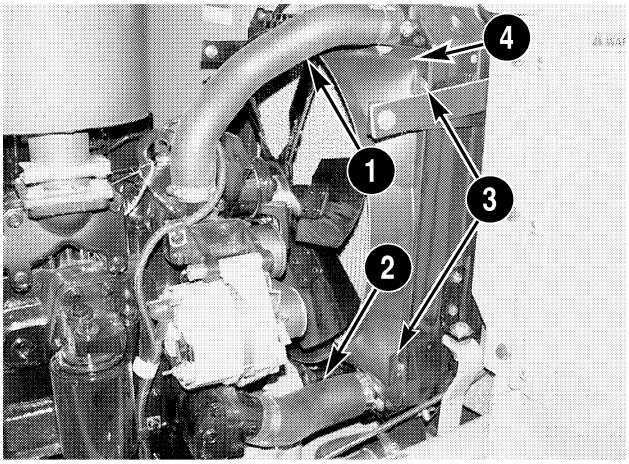
Loosen and remove the cap screws and flat washers that fasten the hood to the machine.

Remove the hood from the machine.

STEP 17

Loosen the clamps on the top radiator hose.

STEP 18



BD99F074

1. UPPER HOSE
2. LOWER HOSE
3. CAP SCREW
4. FAN SHROUD

Remove the top radiator hose from the machine.

STEP 19

Loosen the claps on the lower radiator hose.

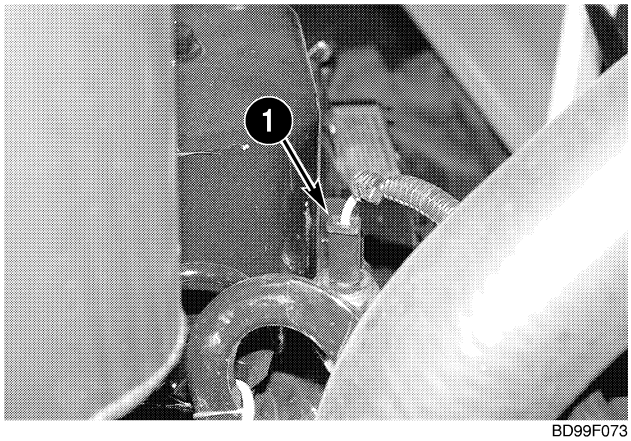
STEP 20

Remove the lower radiator hose from the engine.

STEP 21

Loosen and remove the cap screws and flat washers that fasten the fan shroud to the radiator.

STEP 22

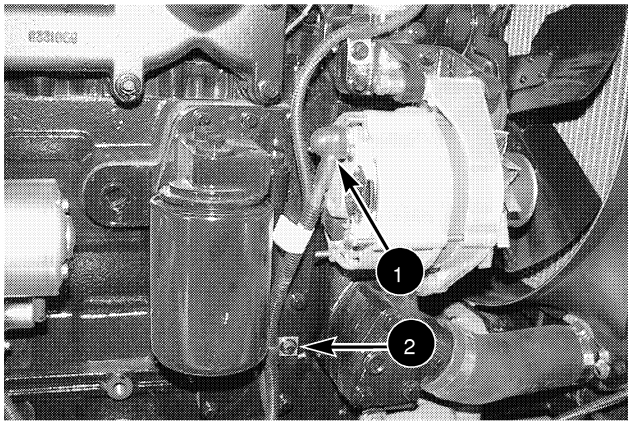


BD99F073

1. ENGINE TEMPERATURE SENDER CONNECTOR

Remove the wire from the engine temperature sender.

STEP 23



BD99F072

1. BATTERY TERMINAL
2. WIRE HARNESS CLAMP

Loosen and remove the nut and washer that fasten the wires to the battery terminal on the alternator.

STEP 24

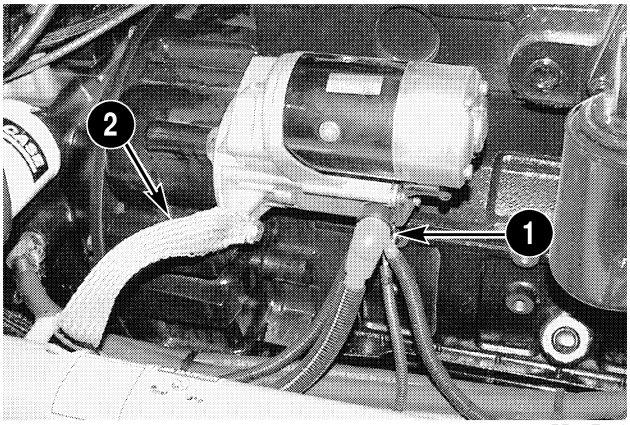
Remove the cap screw and the wire harness clamp.

Remove the wires from the battery terminal on the alternator.

STEP 26

Disconnect the electrical connector from the alternator.

STEP 27



BD99F071

1. STARTER SOLENOID WIRES
2. GROUND STRAP

Loosen and remove the nut and lock washer that fastens the battery cable and wires to the starter solenoid.

STEP 28

Remove the battery cable and wires from the starter solenoid.

STEP 29

Loosen and remove the screw and lock washer that fasten the wire to the starter solenoid.

STEP 30

Move the wiring harness for the left side of the engine out of the way.

STEP 31

Loosen and remove the cap screw and lock washer that fasten the ground strap to the starter mounting bracket.

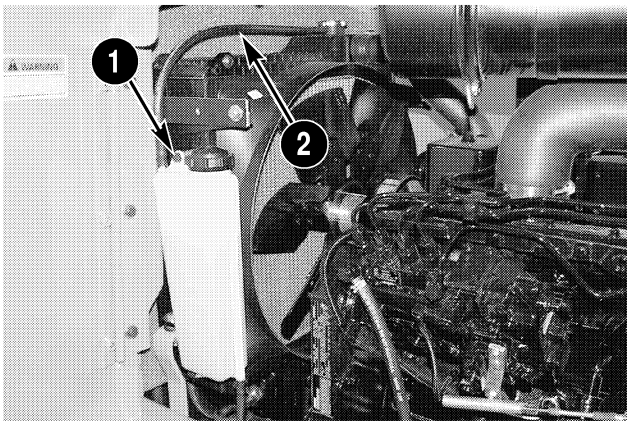
STEP 32

Disconnect the hose for the hydraulic pump from the fitting on the hydraulic reservoir.

STEP 33

Disconnect the hose for the coolant reservoir from the radiator.

STEP 34



BD99F076

1. BOLT
2. COOLANT RESEVOIR HOSE

Loosen and remove the bolt, flat washers, and spacer that fastens the coolant reservoir to the radiator.

STEP 35

Remove the coolant reservoir from the machine.