

**2566**

**2799**

**2688**

## Service Manual

Código No. 84465947  
2nd Edition  
English 08/11



# Section 1000


**STANDARD TORQUE SPECIFICATIONS**


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### TORQUE SPECIFICATIONS – DECIMAL SYSTEM

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

Grade 5 Bolts, Nuts, and Studs		
		
Size	Pound Inches	Newton meters
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 meters
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	1,085 to 1,193
1-1/4 inch	1,120 to 1,240	1,519 to 1,681
1-3/8 inch	1,460 to 1,680	1,980 to 2,278
1-1/2 inch	1,940 to 2,200	2,631 to 2,983


Grade 8 Bolts, Nuts, and Studs		
		
Size	Pound Inches	Newton meters
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 meters
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	1,280 to 1,440	1,736 to 1,953
1-1/4 inch	1,820 to 2,000	2,468 to 2,712
1-3/8 inch	2,380 to 2,720	3,227 to 3,688
1-1/2 inch	3,160 to 3,560	4,285 to 4,827


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

## TORQUE SPECIFICATIONS – METRIC SYSTEM

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 meters
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 meters
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 1,100	1,250 to 1,500
M36	1,600 to 1,950	2,175 to 2,600

Grade 10.9 Bolts, Nuts, and Studs		
		
Size	Pound Inches	Newton meters
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 meters
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	1,050 to 1,275
M30	1,470 to 1,770	2,000 to 2,400
M36	2,580 to 3,090	3,500 to 4,200

### 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 meters
<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 Inches	Newton meters
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 meters
<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 Inches	Newton meters
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 meters
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 meters
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 meters	Thread Size	Pound Inches	Newton meters
O-ring Face Seal End					O-ring Boss End Fitting or Self-Locking 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
					<b>Thread Size</b>	<b>Pound Inches</b>	<b>Newton meters</b>
-10	5/8 inch 15.9 mm	1-14	552 to 672	62 to 76	7/8-14	60 to 65	81 to 88
<b>Nom. SAE Dash Size</b>	<b>Tube OD</b>	<b>Thread Size</b>	<b>Pound Inches</b>	<b>Newton meters</b>	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 2.2 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**

# **1010**

**FLUIDS AND LUBRICANTS**

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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.



## ENGINE

Type of Oil ..... CASE No. 1 SAE 15W-140 API CI-4 Engine Oil  
 Oil Capacity – Without Filter Change ..... 19 Liters (20.1 U.S. Quarts)  
 Oil Capacity – With Filter Change ..... 21 Liters (22.2 U.S. Quarts)

**NOTE:** *DO NOT put Performance Additives or other oil additive products in the engine crankcase.*

## COOLING SYSTEM

Type of Coolant ..... 50% Mixture of Water and Ethylene Glycol  
 Coolant Capacity ..... 37.1 Liters (39.2 U.S. Quarts)

**IMPORTANT:** *Use only heavy duty liquid coolant with low silicate content. The antifreeze for automobiles purchased in local supermarkets probably do not have low silicate content and should not be used in Case engines.*

## FUEL SYSTEM

Type of fuel ..... Combustível Diesel ASTM D975 Classe 2-D Número 2  
 Fuel Capacity  
     2566 Model ..... 492 Liters (130 U.S. Gallons)  
     2688 and 2799 Models ..... 645 Liters (170 U.S. Gallons)

## TRANSMISSION

Type of Oil ..... CASE IH HY-TRAN® ULTRA  
 Oil Capacity ..... 16.3 Liters (17.2 U.S. Quarts)

**NOTE:** *If brakes are removed from the transmission for service, an additional 1 U.S. Quart (0.95 Liter) per brake assembly must be added to the transmission.*

## FINAL DRIVE

Type of Oil ..... CASE IH 135H EP SAE 85W-140 - AP GL-5  
 Oil Capacity ..... 12.3 Liters (13 U.S. Quarts)

## HYDRAULIC RESERVOIR

Type of Oil ..... CASE IH HY-TRAN® ULTRA  
 Reservoir Capacity  
     2566 Model ..... 35.3 Liters (37.3 U.S. Quarts)  
     2688 and 2799 Models ..... 38 Liters (10 U.S. Quarts)

## PTO CASE

Type of Oil .....	CASE IH HY-TRAN® ULTRA
Oil Capacity	
2566 Model .....	10.4 Liters (11 U.S. Quarts)
2688 and 2799 Models.....	13.2 Liters (14 U.S. Quarts)

## FEEDER AND CLEANING FAN GEAR BOX

Type of Oil .....	CASE IH 135H EP SAE 85W-140 - AP GL-5
Oil Capacity	
2566 Model .....	2.1 Liters (2.2 U.S. Quarts)
2688 and 2799 Models.....	6.4 Liters (6.75 U.S. Quarts)

## LOWER UNLOADER GEARBOX

Type of Oil .....	CASE IH 135H EP SAE 85W-140 - AP GL-5
Oil Capacity .....	0.83 to 0.89 Liters (0.875 to 0.938 U.S. Quart)

## TWO SPEED ROTOR GEARBOX

Type of Oil .....	CASE IH HY-TRAN® ULTRA
Oil Capacity	
2566.....	3.8 Liters (4 U.S. Quarts)

## THREE SPEED ROTOR GEARBOX

Type of Oil .....	CASE IH HY-TRAN® ULTRA
Oil Capacity	
2688 and 2799 Models.....	4.7 Liters (5 U.S. Quarts)

## STRAW CHOPPER GEARBOX - SEPARATOR REDUCTION

Type of Oil .....	CASE IH HY-TRAN® ULTRA
Oil Capacity .....	3.1 Liters (3.3 U.S. Quarts)

## AIR CONDITIONING REFRIGERANT CAPACITY

Air conditioning liquid refrigerant capacity	
2566 Model .....	2.94 Kg (6.5 Lbs)
2688 and 2799 Models.....	2.21 Kg (4.88 Lbs)

# **Section**

# **2000**

**ENGINE REMOVAL AND INSTALLATION**

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## SPECIFICATIONS

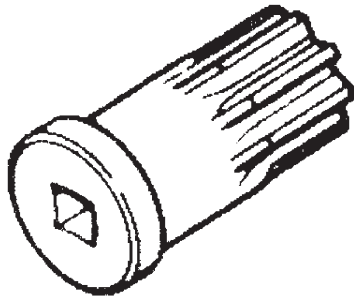
Cooling System Capacity .....37.1 Liters (39.2 US Quarts)

## SPECIAL TORQUES

Bolts fixing the motor mounts to the frame ..... 137 to 163 Nm (100 to 120 lb ft)

## SPECIAL TOOLS

Tool to Turn Motor: 380000732



ST-06

## ENGINE - REMOVAL



**CAUTION**



*Unexpected motion of the machine!*

1. Turn off all the transmissions.
2. Engage the parking brake.
3. Lower all the accessories to the floor, or lift and engage all the safety locks.
4. Stop the engine.
5. Remove the key from the ignition switch.
6. Turn off the battery switch, if installed.
7. Wait until the machine stops completely.

*Failing to observe these procedures may result in light or moderate injury.*

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**CAUTION**

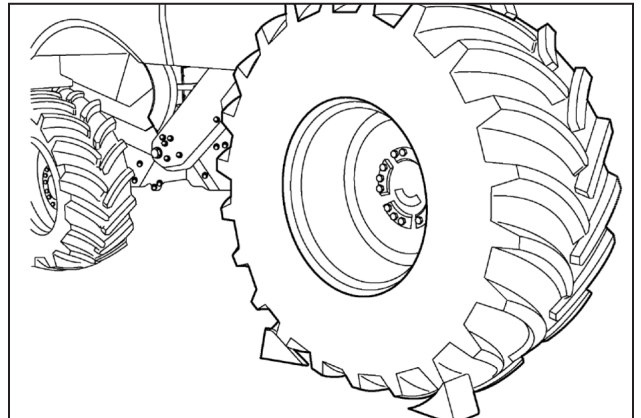


*Hung objects. The shim may come off the tire if incorrectly placed. Never stand in front of a shim. Failing to observe these procedures may result in light or moderate injury.*

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### STEP 1

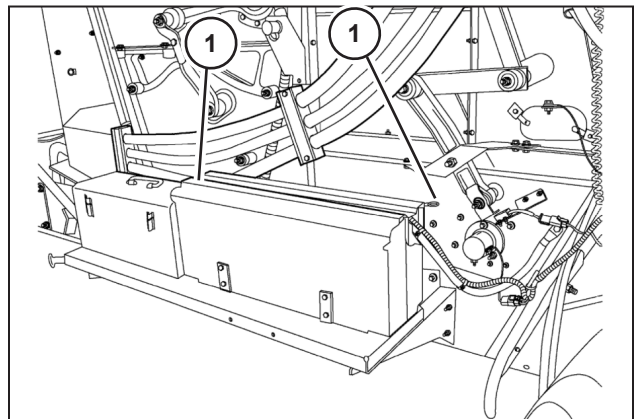
Place blocks in front of and behind the drive wheels.



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### STEP 2

Open the left side panels. Remove the two clip pins to open the battery cover (1).



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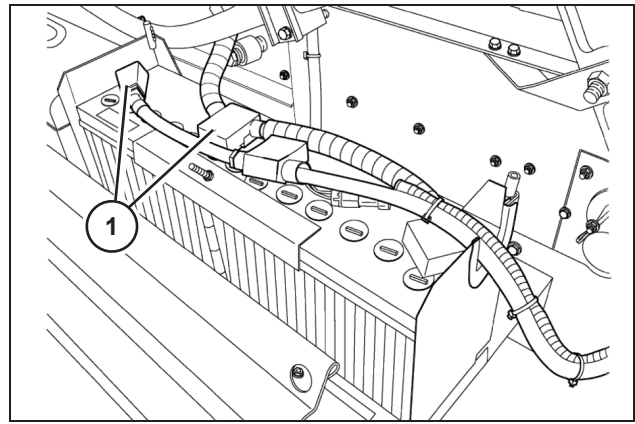
**WARNING**

*Chemical danger! Battery bornes, terminals and the respective battery accessories contain lead and lead compounds. Wash your hands after handling. Failing to observe these procederes may result in death or serious injury.*

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**STEP 3**

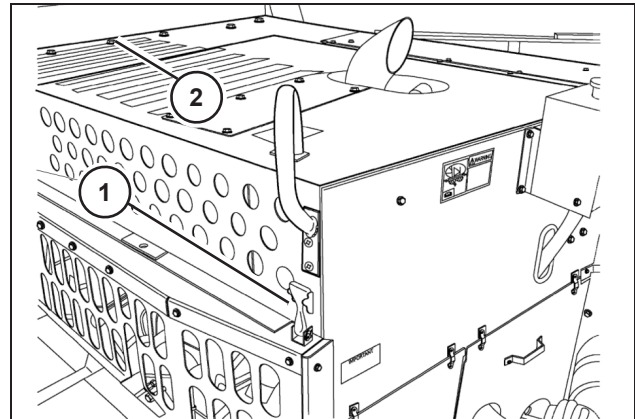
Remove the battery cables from the negative posts (1) to disconnect them.



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**STEP 4**

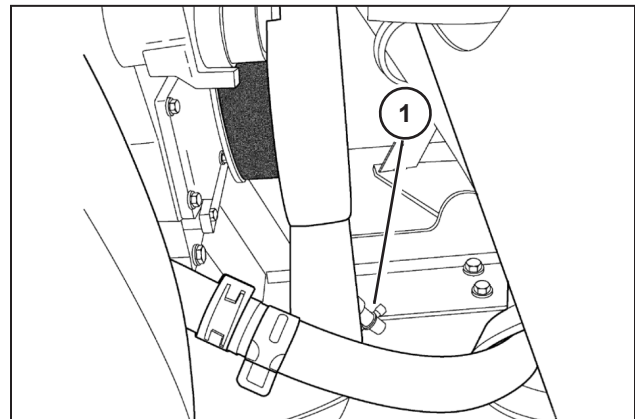
Release the two retainers and lift the cover to open the engine hood (1). Open the rotor cover (2).



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**STEP 5**

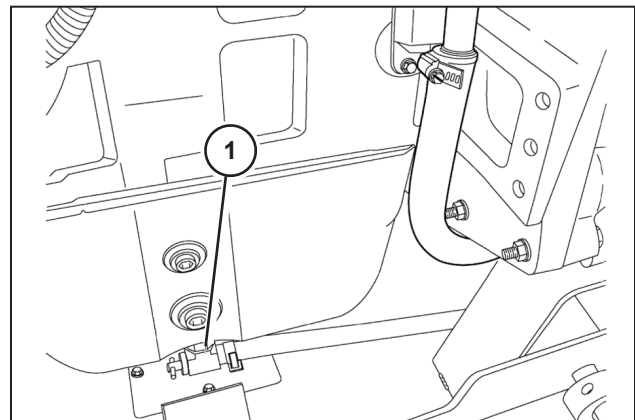
Connect a draining hose (1) to the drain relief tap of the lower radiator tube/hose and drain the cooling system into clean and proper capacity containers.



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**STEP 6**

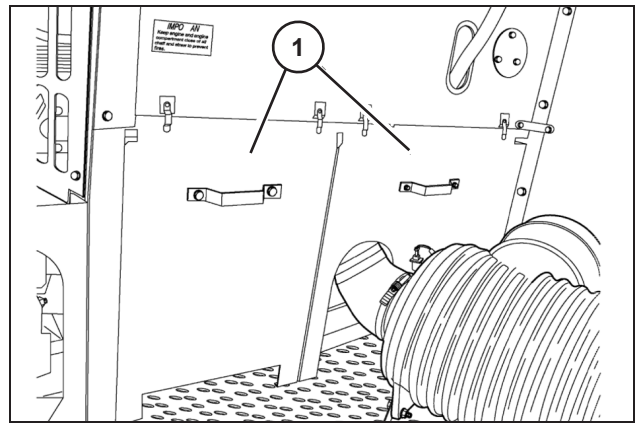
Open the oil pan fit (1) and drain the oil into a proper container.



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**STEP 7**

Remove the rear access cover (1).

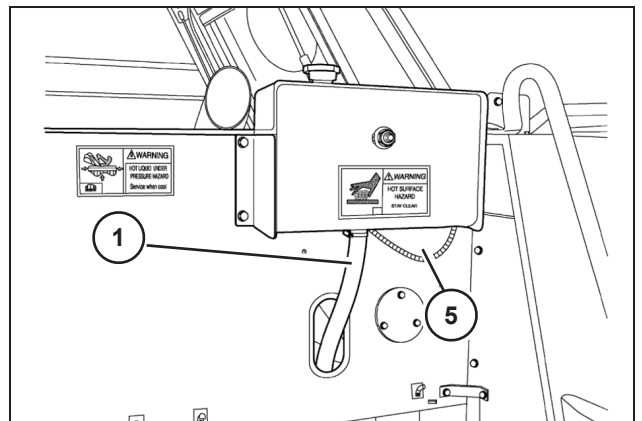


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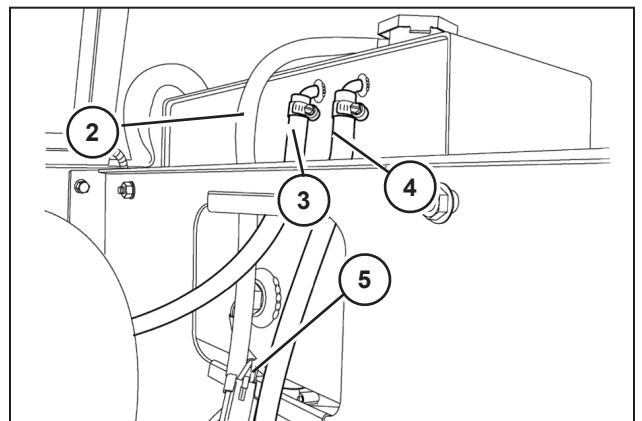
**STEP 8**

Identify the hoses (1), (2), (3) and (4) and disconnect them. Disconnect the engine coolant level sensor (5) of the deaeration tank and remove the tank.

**NOTE:** Connect and close all the disconnected hoses and connections.



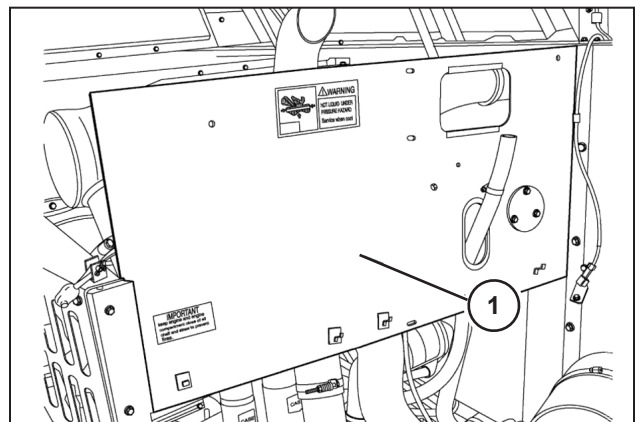
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**STEP 9**

Remove the panel (1).



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