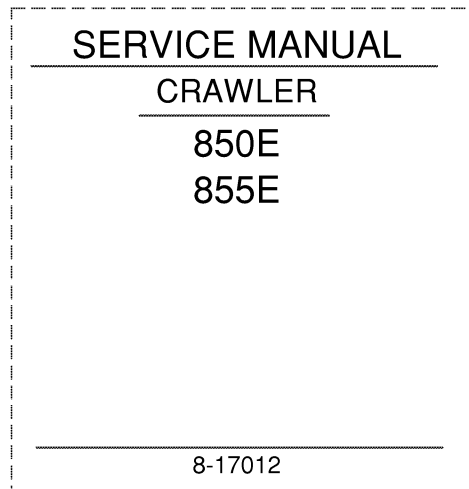
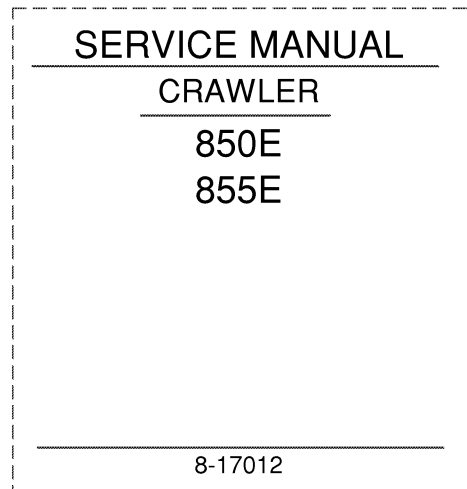




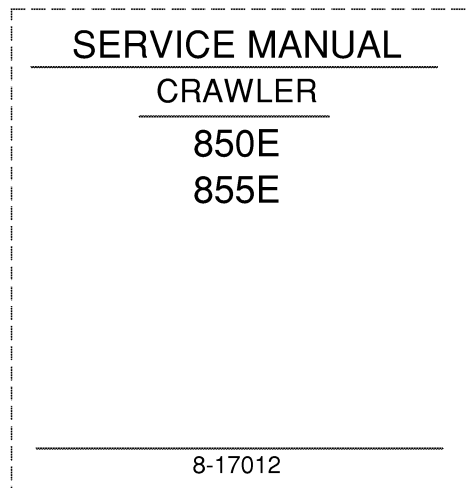
1. Trim along dashed line.
2. Slide into pocket on Binder Spine.

TYPE 1-4



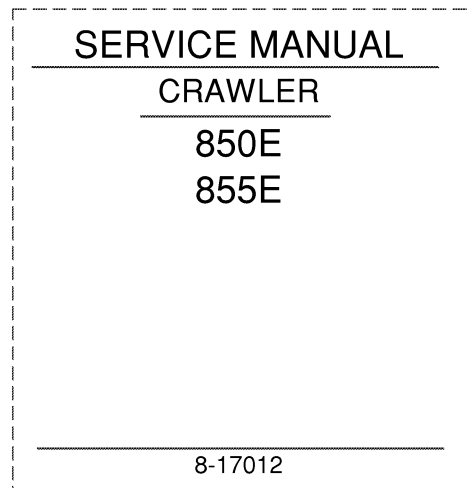
1. Trim along dashed line.
2. Slide into pocket on Binder Spine.

TYPE 1-4



1. Trim along dashed line.
2. Slide into pocket on Binder Spine.

TYPE 1-4



1. Trim along dashed line.
2. Slide into pocket on Binder Spine.

TYPE 1-4

850E/855E Crawler
 Service Manual
 8-17012

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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.		

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

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CAPACITIES AND LUBRICANTS

Engine Oil

Capacity with filter change 11 U.S. quarts (10.4 litres)

Type of oil See Engine Oil Selection on page 3

Engine Cooling System

Capacity 20 U.S. quarts (19 litres)

Type of coolant Ethylene glycol and water mixed for lowest ambient temperature (at least half water and half coolant)

Fuel Tank

Capacity 47 U.S. gallons (178 litres)

Type of fuel Diesel Fuel

Hydraulic System

Hydraulic reservoir refill capacity 13.6 U.S. gallons (51.5 litres)

Type of oil Case TCH Fluid

Transmission

Capacity 8 U.S. gallons (30 litres)

Type of oil Case TCH Fluid

Final Drives

Refill capacity (each side) 7.5 U.S. quarts (7 litres)

Type of oil Case IH 135-H EP Gear Lube

ENGINE LUBRICATION

Engine Oil Selection

Case No. 1 Engine Oil is specified for use in your Case Engine. Case Engine Oil will lubricate your engine correctly under all operating conditions.

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



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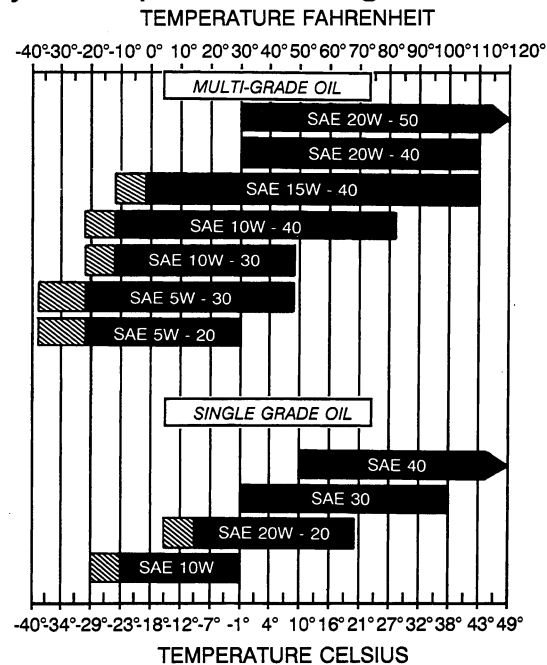


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See the chart below for recommended viscosity at ambient air temperature ranges.

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

Oil Viscosity / Temperature Ranges



1036L0

NOTE: Use of an engine oil pan heater or an engine coolant heater is required when operating temperatures are in these areas.

LOCTITE PRODUCT CHART

Product	Color	Similar Products	Gap (In Inches)	Strength (Steel/Steel)	Working Temperature Range-Fahrenheit	Fixture/Full Cure (Steel/Steel) Time	Primer	Description
#3	Dark Brown					24 hr	N/A	Form a Gasket (works with oil, fuel or grease) Pliable
80	Yellow					Fast	N/A	Weatherstrip Adhesive
123	Clear					N/A	N/A	Parts Cleaner Fluid
220	Blue	290	0.003	57/143 in lbs	-65 to +250	6 min/24 hrs	747	Wicking Threadlocker
221	Purple	222	0.005	75/44 in lbs	-65 to +300	2 min/24 hrs	747	Low Strength Threadlocker
222	Purple		0.005	53/30 in lbs	-65 to +300	20 min/24 hrs	764	Low Strength Threadlocker (Small Screws)
225	Brown	222	0.010	45/25 in lbs	-65 to +300	7 min/24 hrs	747	Low Strength Threadlocker
242	Blue		0.005	80/50 in lbs	-65 to +300	10 min/24 hrs	764	Medium Strength Threadlocker
262	Red	271	0.005	160/190 in lbs	-65 to +300	5 min/24 hrs	747	High Strength Threadlocker
270	Green	271	0.007	160/320 in lbs	-65 to +300	3 min/24 hrs	747	High Strength Threadlocker
271	Red	262	0.007	160/320 in lbs	-65 to +300	10 min/24 hrs	764	High Strength Threadlocker
272	Red	620	0.007	180/220 in lbs	-65 to +450	30 min/24 hrs	764	High Temperature, High Strength
275	Green	277	0.010	210/300 in lbs	-65 to +300	3 min/24 hrs	747	High Strength Threadlocker
277	Red		0.010	225/300 in lbs	-65 to +300	60 min/24 hrs	764	High Strength Threadlocker
290	Green		0.003	85/350 in lbs	-65 to +300	6 min/24 hrs	764	Wicking Threadlocker
*404	Clear	495	0.006	3200 psi	-65 to +180	30 sec/24 hrs	NA	Instant Adhesive
*406	Clear		0.004	3200 psi	-65 to +180	15 sec/24 hrs	N/A	Surface Insensitive Adhesive
*409	Clear	454	0.008	2500 psi	-65 to +180	50 sec/24 hrs	N/A	Gel Instant Adhesive
*414	Clear		0.006	2500 psi	-65 to +180	30 sec/24 hr	N/A	Instant Adhesive
*415	Clear	454	0.010	2500 psi	-65 to +180	50 sec/24 hrs	N/A	Gap Filling Instant Adhesive (Metals)
*416	Clear	454	0.010	2500 psi	-65 to +180	50 sec/24 hrs	N/A	Gap Filling Instant Adhesive (Plastics)
*420	Clear		0.002	2500 psi	-65 to +180	15 sec/24 hrs	N/A	Wicking Instant Adhesive
*422	Clear	454	0.020	2800 psi	-65 to +180	60 sec/24 hrs	N/A	Gap Filling Instant Adhesive
*430	Clear		0.005	2500 psi	-65 to +180	20 sec/24 hrs	N/A	Metal Bonding Adhesive
*445	White/Black		0.250	2000 psi	-65 to +180	5 min/24 hrs	N/A	Fast Setting 2 Part Epoxy
*454	Clear		0.010	3200 psi	-65 to +180	15 sec/24 hrs	N/A	Surface Insensitive Gen Instant Adhesive
*495	Clear		0.004	2500 psi	-65 to +180	20 sec/24 hrs	N/A	General Purpose Instant Adhesive
*496	Clear		0.005	2500 psi	-65 to +180	20 sec/24 hrs	N/A	Metal Bonding Adhesive
504	Brt Orange	515	0.030	750 psi	-65 to +300	90 min/24 hrs	None	Rigid Gasket Eliminator
509	Light Blue		0.020	750 psi	-65 to +320	6 hr/72 hrs	764	Flange Sealant
510	Red		0.020	1000 psi	-65 to +400	30 min/24 hrs	764	High Temperature, Gasket Eliminator
515	Purple		0.010	750 psi	-65 to +300	1 hr/24 hrs	764	Gasket Eliminator 515

Rac 8-98902 * Products 404-496 (except for #445) are all instant adhesives (super glues) they differ mostly in viscosity

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LOCTITE PRODUCT CHART

Product	Color	Similar Products	Gap (In Inches)	Strength (Steel/Steel)	Working Temperature Range-Fahrenheit	Fixture/Full Cure (Steel/Steel) Time	Primer	Description
518	Red	515	0.030	500psi	-65 to +300	1hr/24 hrs	764	Gasket Eliminator 518 for Aluminum
542	Brown	569	N/A	132/92 in lbs	-65 to +300	2 hr/24 hrs	747	Hydraulic Sealant
545	Purple		N/A	25/20 in lbs	-65 to +300	4 hr/24 hrs	747	Low Strength Pneumatic/Hydraulic Sealant
549	Orange	504	0.020	2500 psi	-65 to +300	2 hr/24 hrs	747	Instant Seal Plastic Gasket
554	Red	277	0.015	240/240 in lbs	-65 to +300	2 to 4 hrs/24 hrs	764	Refrigerant Sealant
567	White	592	N/A	500 psi	-65 to +400	4 hrs/24 hrs	764	Pipe Sealant for Stainless Steel
568	Orange	277	0.015	2500 psi	-65 to +300	12 hrs/24 hrs	764	Plastic Gasket
569	Brown	545	0.010	40/25 in lbs	-65 to +300	1 hr/24 hrs	764	Hydraulic Sealant
570	Brown	592	N/A	25/40 in lbs	-65 to +300	6 hrs/72 hrs	764	Steam Sealant
571	Brown	592	0.015	40/20 in lbs	-65 to +300	2 to 4 hrs/24 hrs	764	Pipe Sealant
572	White	578.575	N/A	80/27 in lbs	-65 to +300	24 hrs/72 hrs	None	Gasketing
592	White		0.020	500 psi	-65 to +400	4 hrs/72 hrs	736	Pipe Sealant with Teflon
593	Black		0.250	400 psi	-95 to +400	30 min/24 hrs	N/A	RTV Silicone
601	Green	609	0.005	3000 psi	-65 to +300	10 min/24 hrs	764	Current PIN #609
609	Green		0.005	3000 psi	-65 to +300	10 min/24 hrs	764	General Purpose Retaining Compound
620	Green	640	0.015	3000 psi	-65 to +450	30 min/24 hrs	747	High Temperature Retaining Compound
635	Green	680	0.010	4000 psi	-65 to +300	1 hr/24 hrs	747	High Strength Retaining Compound
638	Green	680	0.015	4100 psi	-65 to +300	10 min/24 hrs	747	High Strength Retaining Compound
640	Green	620	0.007	3000 psi	-65 to +400	1 hr/24 hrs	747	High Temperature Retaining Compound
660	Silver		0.020	3000 psi	-65 to +300	20 min/24 hrs	764	Quick Metal
675	Green	609	0.005	3000 psi	-65 to +300	20 min/24 hrs	747	General Purpose Retaining Compound
680	Green	635	0.015	4000 psi	-65 to +300	10 min/24 hrs	747	High Strength Retaining Compound
706	Clear	755	N/A	N/A	N/A	N/A	N/A	Cleaning Solvent
707	Amber		N/A	N/A	N/A	N/A	N/A	Activator for Structural Adhesives
736	Amber		N/A	N/A	N/A	N/A	N/A	Primer NF
738	Amber		N/A	N/A	N/A	N/A	N/A	Depend Activator
747	Yellow	N/A	N/A	N/A	N/A	N/A	N/A	Primer T
751	Clear		N/A	N/A	N/A	N/A	N/A	Activator for Structural Adhesives
755	Clear		N/A	N/A	N/A	N/A	N/A	Cleaning Solvent
764	Green		N/A	N/A	N/A	N/A	N/A	Primer N
767	Silver		N/A	N/A	-65 to +1600	N/A	N/A	Anti-Seize Lubricant

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Section 2000

ENGINE STALL TESTS

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GENERAL INFORMATION

During these tests the engine runs at full throttle and works against the torque converter, the hydraulic pump, or both the torque converter and the hydraulic pump. The results of these tests can show if the cause for bad performance is in the engine, in the torque converter or transmission, or in the hydraulic system.

For accurate results, use a photo tachometer or other tachometer of equal accuracy.

SPECIFICATIONS

Low idle	750 to 800 rpm (r/min)
Full throttle.....	2300 to 2380 rpm (r/min)
Torque converter oil temperature (center of green zone on temperature gauge).....	210°F (99°C)
Hydraulic oil temperature.....	125 to 175°F (52 to 79°C)
Stall speeds	
Torque converter - dozer non-turbo.....	2050 to 2190 rpm (r/min)
- dozer turbo	2035 to 2155 rpm (r/min)
- loader non-turbo.....	2060 to 2200 rpm (r/min)
- loader turbo	2075 to 2160 rpm (r/min)
Hydraulic.....	2200 rpm (r/min) minimum
Torque converter and hydraulic - dozer non-turbo	1660 to 1829 rpm (r/min)
- dozer turbo	1724 to 1874 rpm (r/min)
- loader non-turbo.....	1485 to 1670 rpm (r/min)
- loader turbo	1575 to 1745 rpm (r/min)
Number of teeth on the flywheel.....	127

SPECIAL TOOL



CAS-10778

The special tool shown is used to check the engine rpm (r/min).

The tool must be programmed for the number of teeth on the flywheel. The 850E and 855E Crawlers have 127 teeth on the flywheel.

Install the magnetic sensor into the threaded hole in the flywheel housing. Turn the magnetic sensor clockwise until the sensor contacts the flywheel, then turn the sensor counterclockwise 1/2 to 3/4 of a turn and tighten the lock nut.

PROCEDURE TO HEAT THE OIL

Torque Converter

1. Do the following steps to check the brakes:
 - a. Apply the center brake pedal.
 - b. Put the range control lever in LO.
 - c. Start and run the engine at low idle.
 - d. Put the track speed control levers in HI.
 - e. Put the direction control lever in F.
 - f. Slowly increase the engine speed to full throttle. If the brakes do not keep the machine from moving, stop the engine.
 - g. See Section 9000 and adjust the brakes.
 - h. Repeat steps 1a through 1g until the center brake pedal keeps the machine from moving with the engine running at full throttle.
2. Run the engine at low idle. Apply the center brake pedal.
3. Put the range control lever in HI.
4. Put both track speed control levers in HI.
5. Put the direction control lever in F.
6. Run the engine at full throttle with the direction control lever in F for two minutes. Then reduce engine speed to low idle and put the direction control lever in NEUTRAL.
7. Run the engine at full throttle with the direction control lever in NEUTRAL for one minute. Then reduce engine speed to low idle and put the direction control lever in F.
8. Repeat steps 6 and 7 until the needle in the temperature gauge is in the green zone.

Hydraulic System

1. Apply the center brake pedal.
2. Put the transmission control levers in NEUTRAL.
3. Start and run the engine at full throttle.
4. Put the blade control lever in TILT position for a dozer or put the bucket control lever in ROLLBACK position for a loader.
5. Hold the blade control lever in the TILT position or bucket control lever in ROLLBACK position for 15 seconds. Then put the blade or bucket control lever in NEUTRAL for 30 seconds.
6. Repeat steps 4 and 5 until the temperature of the hydraulic oil is between 125 and 175°F (52 to 79°C). If a thermometer is not available, feel the tube connected to the inlet of the equipment control valve. The tube must be very warm.

TEST NO. 1 - TORQUE CONVERTER AND HYDRAULIC STALL TOGETHER

Test Procedure

1. Apply the center brake pedal.
2. Put the range control lever in HI. Put all other transmission control levers in NEUTRAL.
3. Start and run the engine at low idle.
4. Put the track speed control levers in HI.
5. Put the direction control lever in the F position.
6. Increase the engine speed to full throttle.
7. Hold the blade control lever in TILT position for a dozer or the bucket control lever in ROLLBACK for a loader.

8. Measure the engine speed with a tachometer. Make a record of the engine speed.

9. Put the blade or bucket control lever in NEUTRAL.

10. Stop the engine.

Understanding the Results of the Test

1. If the engine speed was correct, the engine, the torque converter and transmission, and the hydraulic system are probably good.

2. If the engine speed was above or below the specified speed, do Test No. 2 and Test No. 3.

TEST NO. 2 - TORQUE CONVERTER STALL

Test Procedure

1. Apply the center brake pedal.
2. Put the range control lever in HI. Put all other transmission control levers in NEUTRAL.
3. Start and run the engine at low idle.
4. Put the track speed control levers in HI.
5. Put the direction control lever in the F position.
6. Increase the engine speed to full throttle.
7. Measure the engine speed with a tachometer. Make a record of the engine speed.

8. Keep the range control lever in HI. Put all other transmission control levers in NEUTRAL.

9. Stop the engine.

Understanding the Results of the Test

1. If the engine speed was correct, the engine, torque converter, and transmission are probably good.

2. If the engine speed was below the specified speed, do Test No. 3.

3. If the engine speed was above the specified speed, the torque converter or the transmission are probably the cause. See Section 6002 for information on troubleshooting.

TEST NO. 3 - HYDRAULIC STALL

Test Procedure

1. Apply the center brake pedal.
2. Put the range control lever in HI. Put all other transmission control levers in NEUTRAL.
3. Start and run the engine at low idle.
4. Hold the blade control lever in TILT position for a dozer or the bucket control lever in ROLLBACK position for a loader.
5. Increase the engine speed to full throttle.
6. Measure the engine speed with a tachometer. Make a record of the engine speed.

7. Put the blade or bucket control lever in NEUTRAL.
8. Stop the engine.

Understanding the Results of the Test

1. If the engine speed was correct, the engine and hydraulic system are good.
2. If the engine speed was above the specified speed, the hydraulic system is probably the cause. See Section 8002 for troubleshooting information.
3. If the engine speed was below the specified speed in Test No. 1, Test No. 2, and Test No. 3, the engine is probably the cause.

Section

2001

ENGINE REMOVAL AND INSTALLATION
RADIATOR REMOVAL AND INSTALLATION

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RADIATOR REMOVAL

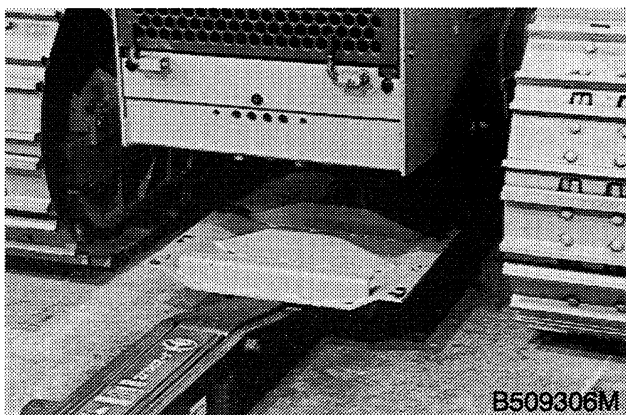
STEP 1

Loosen the cap screws that hold the guards in position below the engine and torque converter.

STEP 2

Before removing the cap screws, raise a jack into contact with the guard to hold the guard in position when the cap screws are removed to prevent personal injury.

STEP 3

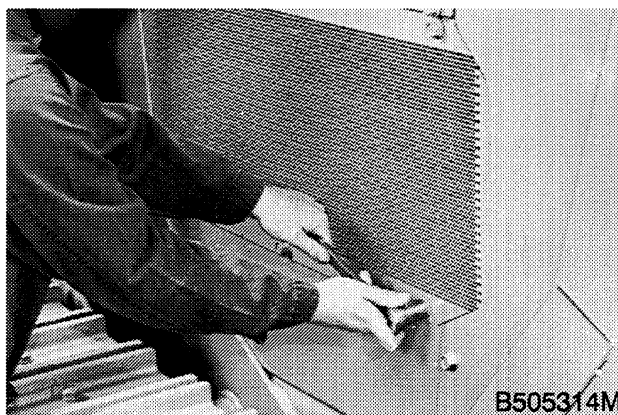


Remove the cap screws. Lower the guard and remove the guard from under the machine.

STEP 4

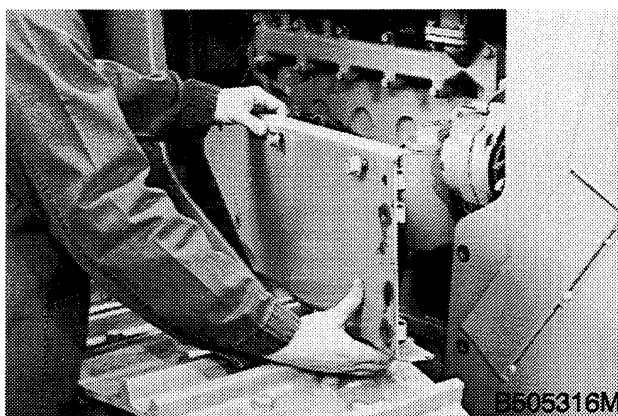
If the machine is a loader, raise the loader frame and lower the strut onto the lift cylinder.

STEP 5

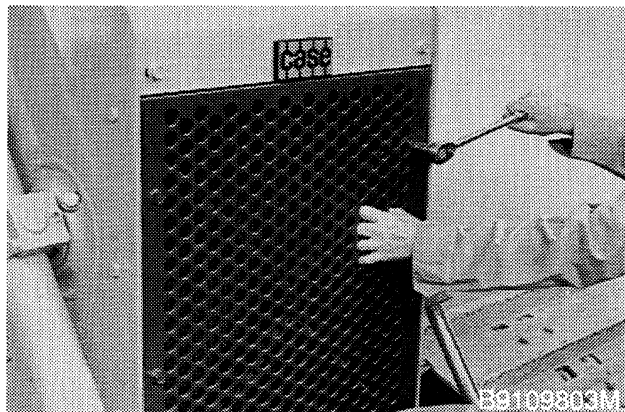


Remove the upper side panels from the machine.

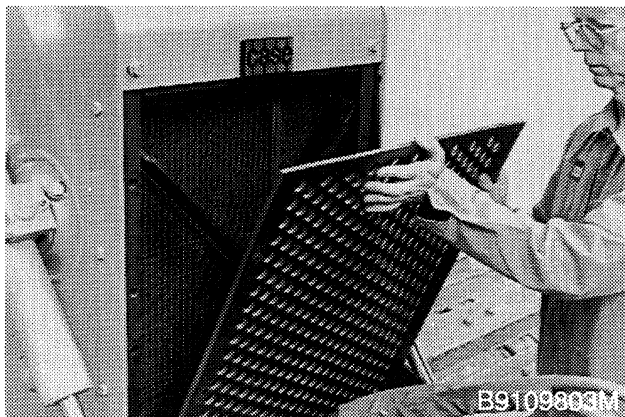
STEP 6



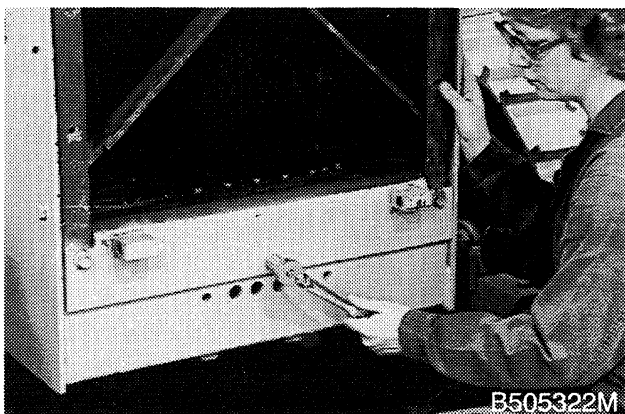
Remove the lower side panels from the machine.

STEP 7

Remove the cap screws that hold the grille in position.

STEP 8

Tilt the grille forward and remove the grille from the mounting pins.

STEP 9

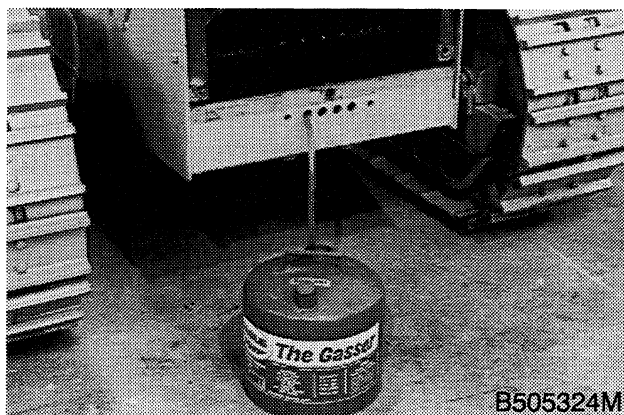
Remove the cap screws that fasten the mounting bracket to the frame.

STEP 10

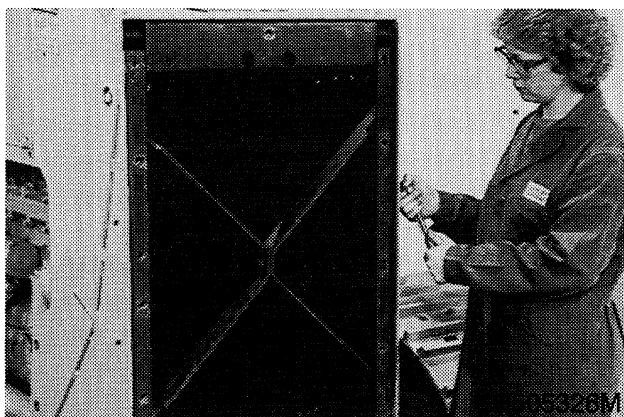
Remove the mounting bracket.

STEP 11

Remove the radiator cap.

STEP 12

Connect a tube to the radiator drain valve and drain the coolant from the radiator. Use clean containers if the coolant is to be used again.

STEP 13

Remove the nuts, lock washers, and bolts that hold the left grille mount in position.

STEP 14

Remove the left grille mount.

STEP 15

Remove the nuts, lock washers, and bolts that hold the left and right grille mount in position.

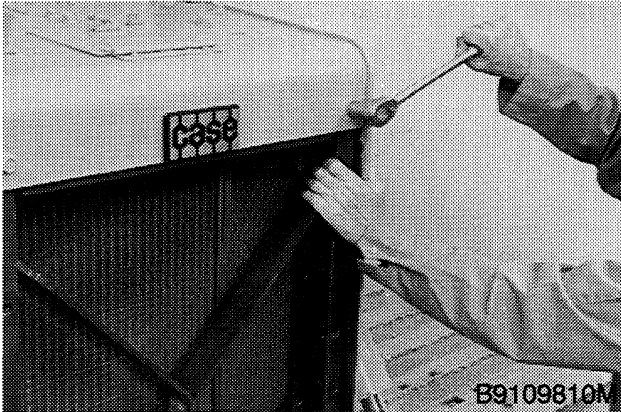
STEP 16

Remove the left and right grille mount and cross brace from the machine.

STEP 17

Disconnect horn wires from horns.

STEP 18



Remove the four nuts, lock washers, and cap screws that fasten the top plate to the frame.

STEP 19

Remove the bolt and lock washer that fasten the center support to the top plate.

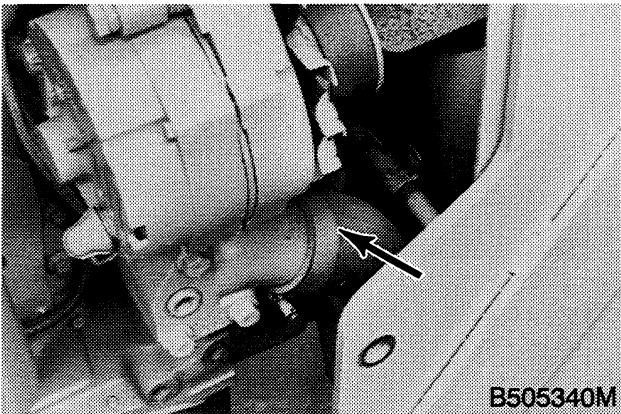
STEP 20

Remove the top plate from the machine.

STEP 21

Remove the bolt and lock nut that fasten the clamp on the tube for the oil cooler to the radiator shroud.

STEP 22

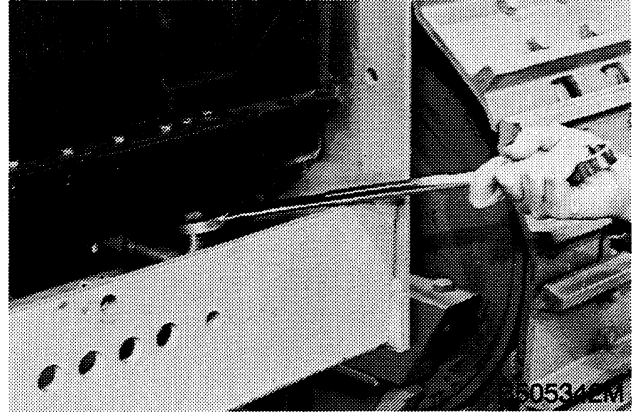


Loosen the clamp that fastens the bottom radiator hose to the water pump.

STEP 23

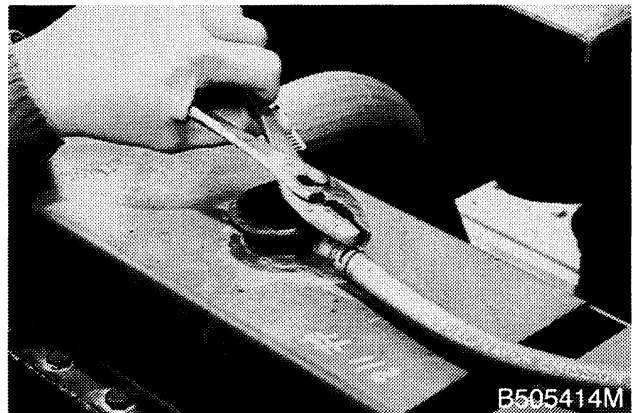
Remove the bottom radiator hose from the water pump.

STEP 24



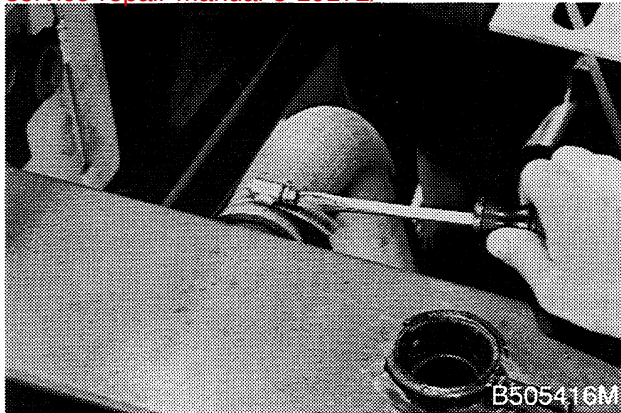
Disconnect the tube from the fitting in the bottom of the oil cooler.

STEP 25



Disconnect the coolant reservoir hose from the radiator.

STEP 26

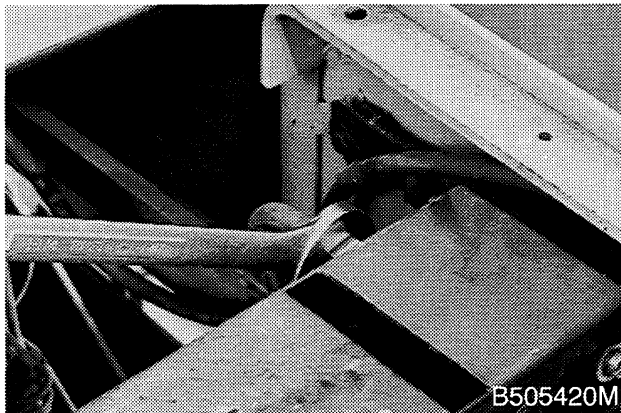


Loosen the clamp that fastens the top radiator hose to the radiator.

STEP 27

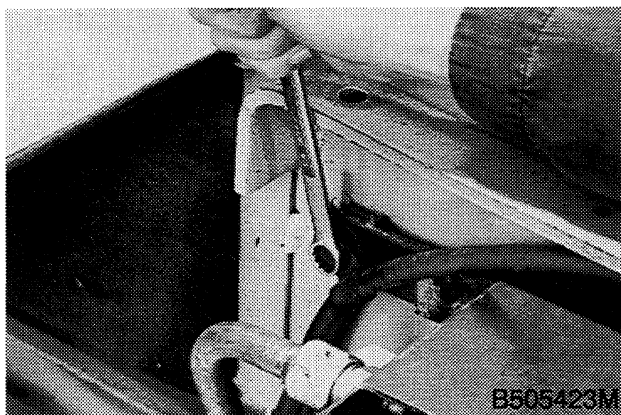
Remove the top radiator hose from the radiator.

STEP 28



Disconnect the tube from the fitting in the top of the oil cooler.

STEP 29

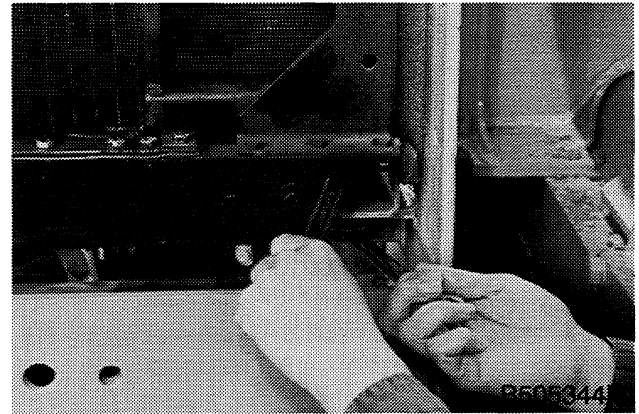


Remove the cap screws, lock washers, and flat washers that fasten the top radiator supports to the frame. Move the hose from the radiator to the coolant reservoir out of the way.

STEP 30

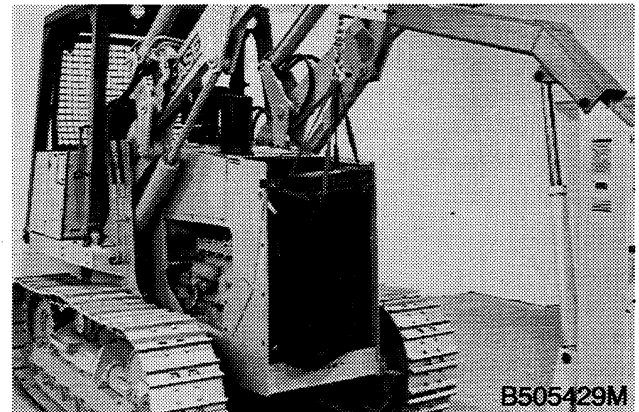
Connect acceptable lifting equipment to the radiator.

STEP 31



Remove the nuts, flat washers, and bolts that fasten the radiator to the radiator mounts.

STEP 32



Remove the radiator from the machine.