SERVICE MANUAL

Skid Steer

40XT

6-45070

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

TYPE 1-4

SERVICE MANUAL

Skid Steer

40XT

6-45070

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TYPE 1-4

40XT SKID STEER
Service Manual
Bur 6-45070
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CASE CORPORATION
700 State Street
Racine, WI 53404 U.S.A.

Issued September, 2001

40XT SKID STEER
Service Manual
Bur 6-45070

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SECTION INDEX

GENERAL

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

Bur 6-45090

Issued September, 2001

Section 1001

FLUIDS AND LUBRICANTS

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

Printed in U.S.A.
Bur 6-43320
June, 2001

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CAPACITIES AND LUBRICANTS

FUEL TANK
- Capacity ..... 83.3 litres (22 U.S. gallons)
- Specifications ..... See diesel fuel specifications on page 5

COOLING SYSTEM
- Capacity ..... 16.6 litres (17.5 quarts)
- Recovery bottle capacity ..... 2 litres (2.1 quarts)
- Specifications ..... 50% water and 50% ethylene glycol

HYDRAULIC SYSTEM
- Capacity - System ..... 50.2 litres (13.3 gallons)
- Specifications ..... Case No. 1 Engine Oil SAE 10W30
  ..... add 1.4 litres (1.5 quarts) HTA Wear Additive

CHAIN COMPARTMENTS
- Capacity - Each Side ..... 5.7 litres (6.0 quarts)
- Specifications ..... Case No. 1 Engine Oil, SAE 10W30

BATTERY
- Quantity ..... As required
- Specifications ..... Distilled water

GREASE FITTINGS
- Quantity ..... As required
- Attachments (If equipped) ..... Quantity as required
- Specifications ..... Case molydisulfide grease

ENGINE CRANKCASE OIL
- Capacity - with filter change ..... 10.4 litres (11.0 quarts)
- Capacity - without filter change ..... 9.5 litres (10.0 quarts)
- Specifications ..... Case No. 1 Engine Oil SAE 15W-40 (API service CH-4)
  ..... (See Oil Viscosity/Temperature Ranges Chart on page 4)

ENVIRONMENT

Before you service this machine and dispose of oil, fluids and lubricants, always remember the environment. Do not put oil or fluids into the ground or into containers that can leak. Check with your local environmental, recycling center or your Case dealer for correct disposal information.

ENGINE LUBRICATION

Engine Oil Selection

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

RH99K130

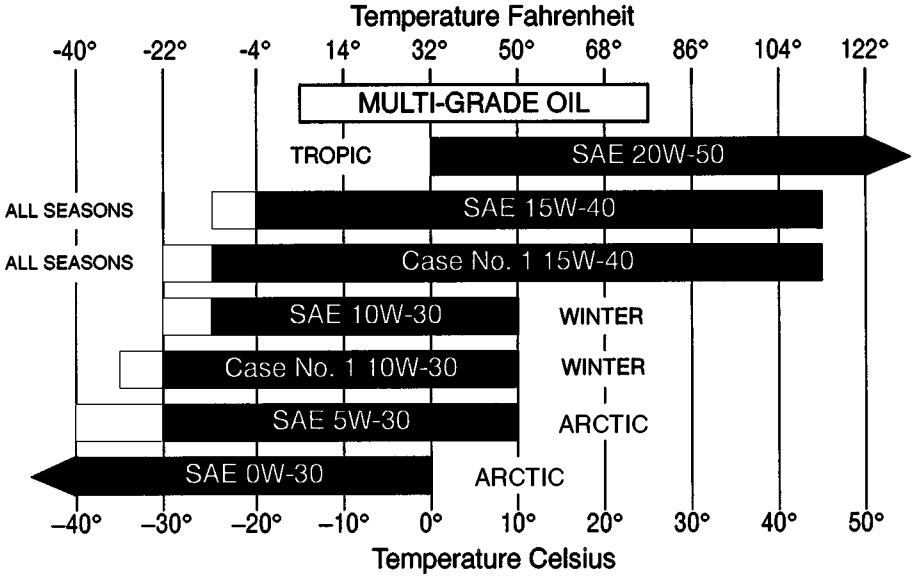
Case Multi-Viscosity Engine Oil meets API engine oil service category CH-4

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

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

BS00H001

Oil Viscosity/Temperature Ranges



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

BS99N019

DIESEL FUEL SYSTEM

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

The diesel fuel used in this machine must meet the specifications below, "Specifications for Acceptable No. 2 Diesel Fuel" 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.

Fill the fuel tank at the end of the daily operating period to prevent condensation in the fuel tank.

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)
Pour Point, Maximum	-26°C (-15°F)
Distillation Temperature, 90% Point	282 to 338°C (540 to 640°F)
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	0.5 of 1%
Sulphur, by Weight, Maximum	0.5 of 1%
Copper Strip Corrosion, Maximum	No. 2
Ash, by Weight, Maximum	0.1 of 1%

NOTES

Section

1002

STANDARD TORQUE SPECIFICATIONS

CNH AMERICA LLC
700 State Street
Racine, WI 53404 U.S.A.

Bur 7-52931

Printed in U.S.A.
September, 1998

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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	Newton metres	Pound-Inches
1/4 inch	10 to 12	91 to 103
5/16 inch	21 to 24	188 to 212
3/8 inch	38 to 43	336 to 378
		Pound-Feet
7/16 inch	61 to 69	45 to 51
1/2 inch	94 to 104	68 to 76
9/16 inch	132 to 149	98 to 110
5/8 inch	183 to 210	138 to 155
3/4 inch	325 to 370	242 to 270
7/8 inch	530 to 595	390 to 435
1.0 inch	790 to 890	585 to 655
1-1/8 inch	980 to 1100	725 to 805
1-1/4 inch	1385 to 1555	1020 to 1145
1-3/8 inch	1810 to 2030	1335 to 1495
1-1/2 inch	2400 to 2700	1770 to 1990

Grade 8 Bolts, Nuts, and Studs

Size	Newton metres	Pound-Inches
1/4 inch	15 to 16	130 to 145
5/16 inch	30 to 34	268 to 301
3/8 inch	54 to 60	474 to 534
		Pound-Feet
7/16 inch	86 to 97	63 to 71
1/2 inch	132 to 149	96 to 110
9/16 inch	191 to 213	140 to 155
5/8 inch	260 to 293	190 to 215
3/4 inch	480 to 515	340 to 380
7/8 inch	745 to 835	550 to 615
1.0 inch	1120 to 1280	825 to 925
1-1/8 inch	1585 to 1785	1170 to 1315
1-1/4 inch	2215 to 2235	1650 to 1855
1-3/8 inch	2930 to 3295	2160 to 2430
1-1/2 inch	3895 to 4375	2870 to 3225

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 both coarse and fine 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. Use of a click type torque wrench, or better is required.

Grade 8.8 Bolts, Nuts, and Studs

Size	Newton metres	Pound-Inches
M4	3 to 4	31 to 35
M5	5 to 6	49 to 55
M6	10 to 11	84 to 94
M8	23 to 26	229 to 277
M10	46 to 51	408 to 460
		Pound-Feet
M12	80 to 90	59 to 66
M14	128 to 145	94 to 106
M16	200 to 220	149 to 161
M20	400 to 450	293 to 330
M24	690 to 780	510 to 575
M30	1375 to 1545	1010 to 1140
M36	2400 to 2700	1770 to 1990

Grade 10.9 Bolts, Nuts, and Studs

Size	Newton metres	Pound-Inches
M4	5 to 6	44 to 49
M5	8 to 9	71 to 79
M6	14 to 15	120 to 136
M8	33 to 37	293 to 329
		Pound-Feet
M10	65 to 74	48 to 54
M12	114 to 128	85 to 94
M14	183 to 205	136 to 153
M16	285 to 320	208 to 235
M20	555 to 620	406 to 460
M24	955 to 1075	705 to 790
M30	1900 to 2140	1400 to 1580
M36	3315 to 3730	2445 to 2750

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

37 Degree Flare Fitting				
Nom. SAE Dash Size	**Tube OD/Hose ID**	**Thread Size**	**Newton metres**	**Pound-Inches**
-2		5/16 - 24	8 to 9	72 to 84
-3		3/8 - 24	11 to 12	96 to 108
-4	6.4 mm (1/4 inch)	7/16 - 20	14 to 16	120 to 144
-5	7.9 mm (5/16 inch)	1/2 - 20	18 to 21	156 to 192
-6	9.5 mm (3/8 inch)	9/16 - 18	27 to 33	240 to 300
-8	12.7 mm (1/2 inch)	3/4 - 16	46 to 56	408 to 504
-10	15.9 mm (5/8 inch)	7/8 - 14	77 to 85	684 to 756
				Pound-Feet
-12	19.0 mm (3/4 inch)	1-1/16 - 12	107 to 119	79 to 88
-14	22.2 mm (7/8 inch)	1-3/16 - 12	127 to 140	94 to 103
-16	25.4 mm (1.0 inch)	1-5/16 - 12	131 to 156	97 to 117
-20	31.8 mm (1-1/4 inch)	1-5/8 - 12	197 to 223	145 to 165
-24	38.1 mm (1-1/2 inch)	1-7/8 - 12	312 to 338	230 to 250

Straight Threads with O-ring				
Nom. SAE Dash Size	**Tube OD/Hose ID**	**Thread Size**	**Newton metres**	**Pound-Inches**
-2		5/16 - 24	8 to 9	72 to 84
-3		3/8 - 24	11 to 12	96 to 108
-4	6.4 mm (1/4 inch)	7/16-20	20 to 25	180 to 228
-5	7.9 mm (5/16 inch)	1/2-20	27 to 33	240 to 300
-6	9.5 mm (3/8 inch)	9/16-18	43 to 54	384 to 480
-8	12.7 mm (1/2 inch)	3/4-16	73 to 90	648 to 804
				Pound-Feet
-10	15.9 mm (5/8 inch)	7/8-14	100 to 124	74 to 92
-12	19.0 mm (3/4 inch)	1-1/16-12	138 to 173	102 to 128
-14	22.2 mm (7/8 inch)	1-3/16-12	173 to 216	128 to 160
-16	25.4 mm (1.0 inch)	1-5/16-12	203 to 253	150 to 187
-20	31.8 mm (1-1/4 inch)	1-5/8-12	308 to 357	227 to 264
-24	38.1 mm (1-1/2 inch)	1-7/8-12	492 to 542	363 to 400

Split Flange Mounting Bolts		
Size	**Newton metres**	**Pound-Inches**
5/16-18	20 to 27	180 to 240
3/8-16	27 to 34	240 to 300
7/16-14	47 to 61	420 to 540
		Pound-Feet
1/2-13	74 to 88	55 to 65
5/8-11	190 to 203	140 to 150

O-Ring Face Seal End					O-Ring Boss End Fitting or Lock Nut		
Nom. SAE Dash Size	**Tube OD**	**Thread Size**	**Newton metres**	**Pound-Inches**	**Thread Size**	**Newton metres**	**Pound-Inches**
-4	6.4 mm (1/4 inch)	9/16-18	23 to 26	204 to 228			
-6	9.5 mm (3/8 inch)	11/16-16	34 to 40	300 to 348	9/16-18	48 to 54	432 to 480
-8	12.7 mm (1/2 inch)	13/16-16	52 to 57	456 to 504	3/4-16	70 to 78	612 to 684
							Pound-Feet
-10	15.9 mm (5/8 inch)	1-14	81 to 90	720 to 792	7/8-14	102 to 114	75 to 84
				Pound-Feet			
-12	19.0 mm (3/4 inch)	1-3/16-12	117 to 128	86 to 94	1-1/16-12	142 to 160	105 to 117
-16	25.4 mm (1.0 inch)	1-7/16-12	152 to 174	112 to 128	1-5/16-12	237 to 254	175 to 187
-20	31.8 mm (1-1/4 inch)	1-11/16-12	179 to 201	132 to 148			
-24	38.1 mm (1-1/2 inch)	2-12	213 to 235	157 to 173			

Pipe fittings		
Nom. SAE Dash Size	**Thread Size**	**TFFT (Turns For Finger Tight)**
-2	1/8 - 27	2.0 - 3.0
-3	1/8 - 27	2.0 - 3.0
-4	1/8 - 27	2.0 - 3.0
-5	1/8 - 27	2.0 - 3.0
-6	1/4 - 18	1.5 - 3.0
-8	3/8 - 18	2.0 - 3.0
-10	1/2 - 14	2.0 - 3.0
-12	3/4 - 14	2.0 - 3.0
-14	3/4 - 14	2.0 - 3.0
-16	1 - 11 1/2	1.5 - 2.5
-20	1 1/4 - 11 1/2	1.5 - 2.5
-24	1 1/2 - 11 1/2	1.5 - 2.5
-32	2 - 11 1/2	1.5 - 2.5

NOTE: *Apply sealant/lubricant to male pipe threads. The first two threads should be left uncovered to avoid system contamination. Screw pipe fitting into female pipe port to the finger tight position. Wrench tighten fitting to the appropriate turns from finger tight (TFFT) shown in table above, making sure the tube end of an elbow or tee fitting is aligned to receive incoming tube or hose fitting.*

Section

1003

METRIC CONVERSION CHART

CNH AMERICA LLC
700 State Street
Racine, WI 53404 U.S.A.

Bur 7-52950

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June, 1997

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CONVERSION FACTORS
Metric to U.S.

	MULTIPLY	BY	TO OBTAIN
Area:	sq. meter hectare	10.763 91 2.471 05	square foot acre
Force:	newton newton	3.596 942 0.224 809	ounce force pound force
Length:	millimeter meter kilometer	0.039 370 3.280 840 0.621 371	inch foot mile
Mass:	kilogram	2.204 622	pound
Mass/Area:	kilogram/hectare	0.000 466	ton/acre
Mass/Energy:	gr/kW/hr.	0.001 644	lbs/hp/hr.
Mass/Volume:	kg/cubic meter	1.685 555	lb/cubic yd.
Power:	kilowatt	1.341 02	horsepower
Pressure:	kilopascal bar	0.145 038 14.50385	lb/sq. inch lb/sq. inch
Temperature:	degree C	1.8 x C +32	degree F
Torque:	newton meter newton meter	8.850 748 0.737 562	lb/inch lb/foot
Velocity:	kilometer/hr.	0.621 371	miles/hr.
Volume:	cubic centimeter cubic meter cubic meter milliliter litre litre litre litre	0.061 024 35.314 66 1.307 950 0.033 814 1.056 814 0.879 877 0.264 172 0.219 969	cubic inch cubic foot cubic yd. ounce (US fluid) quart (US liquid) quart (Imperial) gallon (US liquid) gallon (Imperial)
Volume/Time:	litre/min. litre/min.	0.264 172 0.219 969	gallon/min. (US liquid) gallon/min. (Imperial)

U.S. to Metric

	MULTIPLY	BY	TO OBTAIN
Area:	square foot acre	0.092 903 0.404 686	square meter hectare
Force:	ounce force pound force	0.278 014 4.448 222	newton newton
Length:	inch foot mile	25.4 * 0.304 8 * 1.609 344 *	millimeter meter kilometer
Mass:	pound ounce	0.453 592 28.35	kilogram gram
Mass/Area:	ton/acre	2241 702	kilogram/hectare
Mass/Energy:	lb/hp/hr	608.277 4	gr/kW/hr
Mass/Volume:	lb/cubic yd.	0.593 276	kg/cubic meter
Power:	horsepower	0.745 700	kilowatt
Pressure:	lbs/sq. in. lbs/sq. in. lbs/sq. in.	6.894 757 0.069 0.070 303	kilopascal bar kg/sq. cm
Temperature:	degree F	1.8 F - 32	degree C
Torque:	pound/inch pound/foot	0.112 985 1.355 818	newton meter newton meter
Velocity:	miles/hr.	1.609 344 *	kilometer/hr.
Volume:	cubic inch cubic foot cubic yard ounce (US fluid) quart (US liquid) quart (Imperial) gallon (US) gallons (Imperial)	16.387 06 0.028 317 0.764.555 29.573 53 0.946 353 1.136 523 3.785 412 4.546 092	cubic centimeter cubic meter cubic meter milliliter litre litre litre litre
Volume/Time:	gallon/min.	3.785 412	litre/min.

* = exact

LOCTITE PRODUCT CHART

Product	Color	Similar Products	Gap (In Inches)	Strength (Steel/Steel)	Working Temperature Range-Farenheit	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 Printed in U.S.A.

LOCTITE PRODUCT CHART

Product	Color	Similar Products	Gap (In Inches)	Strength (Steel/Steel)	Working Temperature Range-Farenheit	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	Activaltor 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

Printed in U.S.A.

SECTION INDEX

ENGINE

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

Bur 6-45100

Issued September, 2001

2000

Section 2000

ENGINE AND RADIATOR REMOVAL AND INSTALLATION

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

Bur 6-45590

September, 2001

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RADIATOR

Removal

NOTE: *Put caps on all fittings and plugs in all disconnected hoses.*

STEP 1

Park the machine on a level surface. Remove the bucket or attachment from the loader arms. Raise the loader arms and lock the loader arms into the raised position.

STEP 2

Turn the ignition switch and the master disconnect switch (if equipped) to the OFF position.

STEP 3

Disconnect the negative battery cable from the battery.

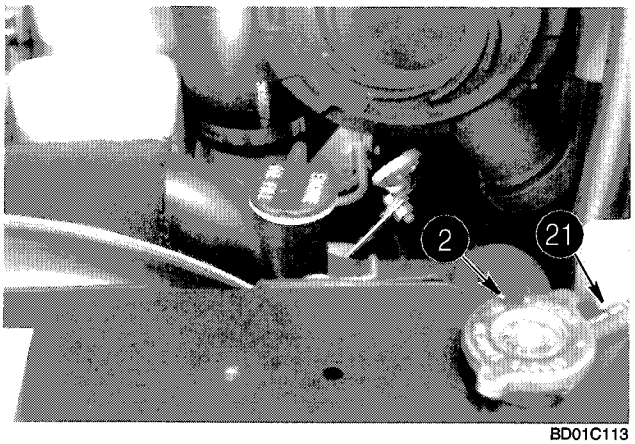
STEP 4

Tilt the cab forward.

STEP 5

Open the rear access door on the machine and open the hood.

STEP 6

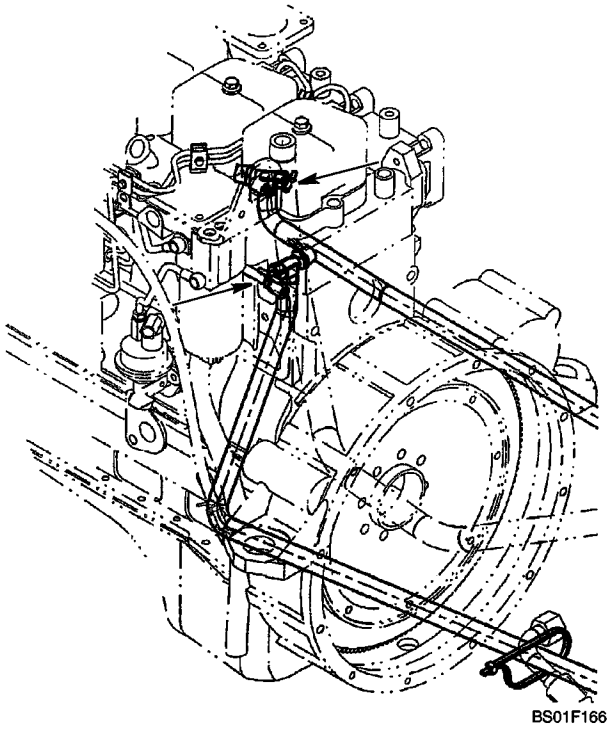


BD01C113

Slowly loosen the radiator cap (2). Disconnect the overflow hose (21) from the radiator neck.

NOTE: *Refer to illustration on page 11.*

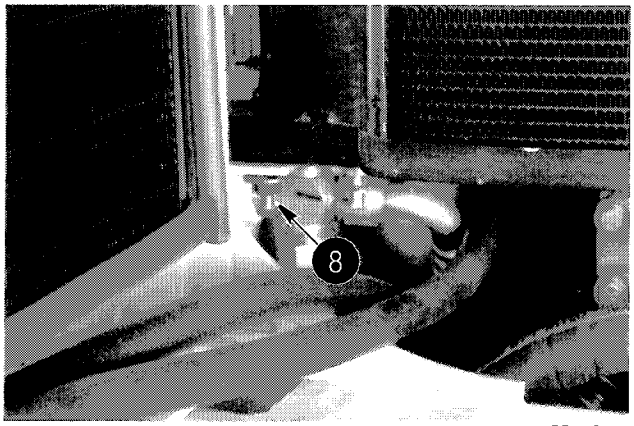
STEP 7



BS01F166

If equipped with a heater, open the heater coolant valves on the engine.

STEP 8



BD01C133

Install a hose on the drain valve (8) and drain the radiator (1) into a clean container that holds approximately 17 litres (4.5 gallons).

NOTE: *Refer to illustration on page 11.*

STEP 9

If equipped with a heater, close the heater coolant valves on the engine.

STEP 10

Loosen the clamps (4) on the lower radiator hose (5) and clamps (3) on the upper radiator hose (6).

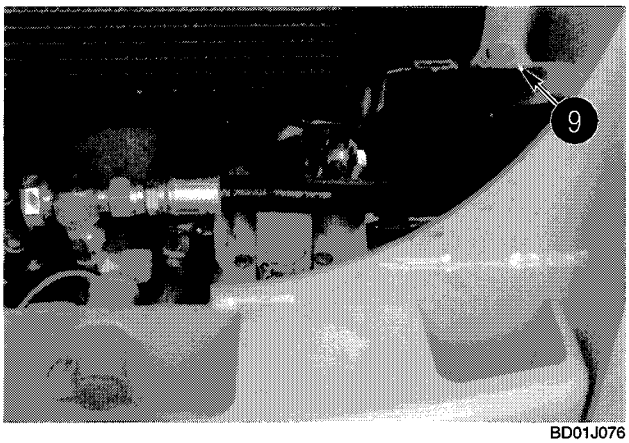
NOTE: *Refer to illustration on page 11.*

STEP 11

Remove the two bolts (25) and washers (26) that fasten the fan guard (24) to the radiator (1). Remove the fan guard.

NOTE: *During assembly torque the bolts (25) 15 to 20 Nm (120 to 180 pound-inches).*

STEP 12

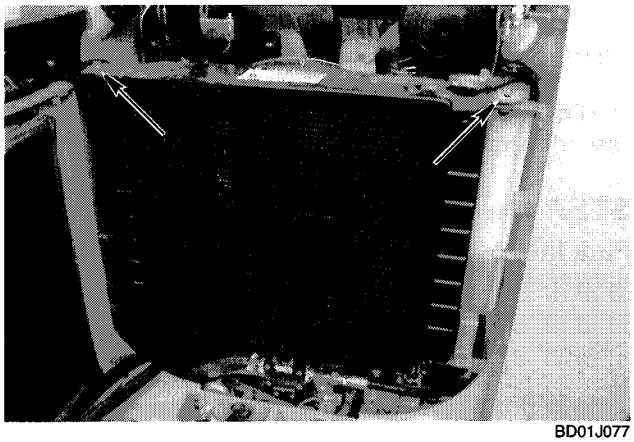


BD01J076

Loosen and remove the bolts (9), washers (10, 11, and 13), and mounts (12) that fasten the bottom of the radiator (1) to the frame.

NOTE: *During assembly torque the bolt (9) 30 to 36 Nm (265 to 319 pound-inches).*

STEP 13



BD01J077

Loosen and remove the bolts (15), washers (16, 17, and 19), mounts (18), and nuts (20) that fasten the right side and left side of the radiator (1) to the frame.

NOTE: *During assembly torque the bolts (15) 30 to 36 Nm (265 to 319 pound-inches).*

STEP 14

Move the radiator (1) away from the upper radiator hose (6) and lower radiator hose (5). Remove the radiator (1) from the machine.

STEP 15

Remove the over flow bottle (23) and bracket (22).

Installation

STEP 16

Installation of the radiator is the revers of removal.

ENGINE

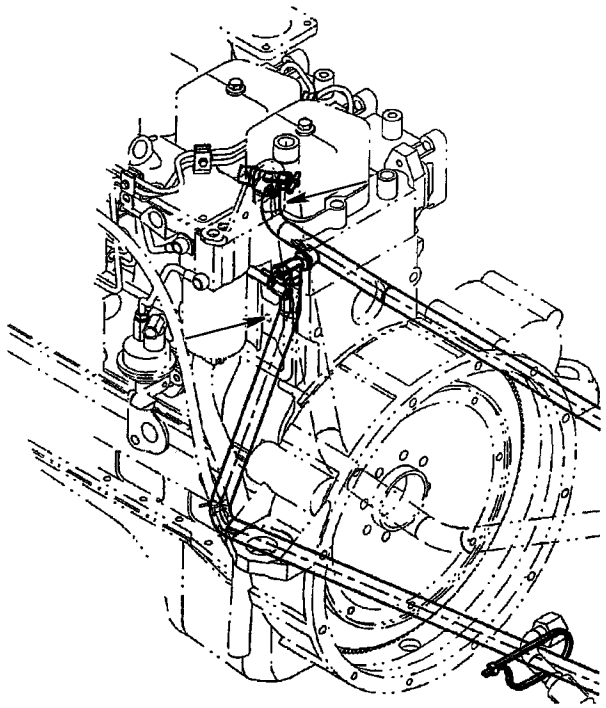
Removal

STEP 1
Remove the radiator from the machine.

STEP 2
Install plugs and caps on all disconnected hoses and fittings.

STEP 3
Tag all electrical connection for identification during assembly.

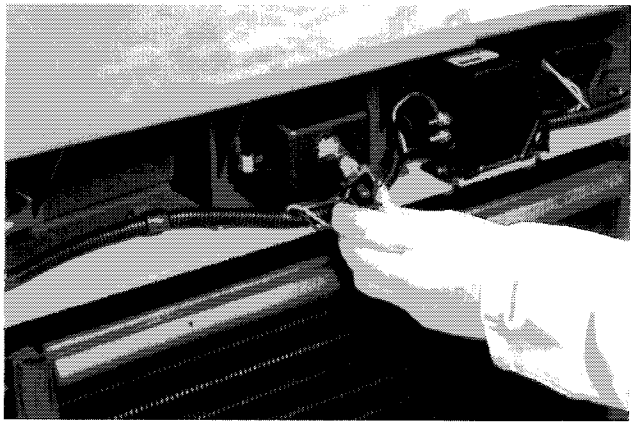
STEP 4



BS01F166

If equipped with a heater, disconnect the heater hoses.

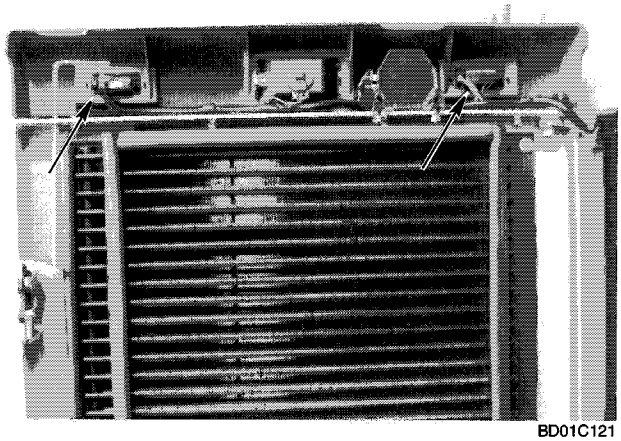
STEP 5



BD01C121

Remove the rear work lamp from the rear access door.

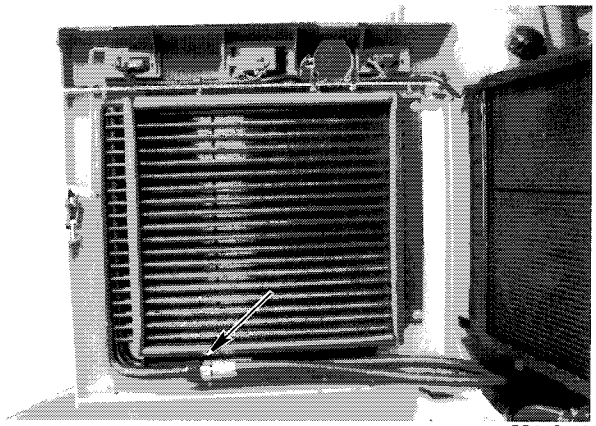
STEP 6



BD01C121

Disconnect the electrical connectors from the rear tail lamps on both sides of the rear access door. Put the electrical harness and rear work lamp out of the way.

STEP 7



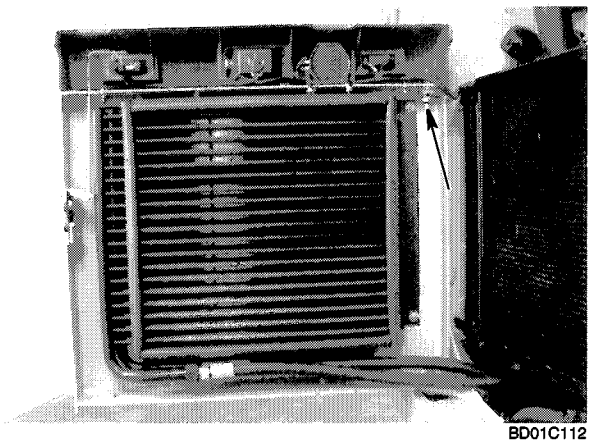
BD01C112

Tag and disconnect the hoses from the oil cooler on the rear access door.

STEP 8

Connect acceptable lifting equipment to the rear access door.

STEP 9



BD01C112

Loosen and remove the nut, spacer, bolt, and washer from the door.

STEP 10

Remove the door from the machine.

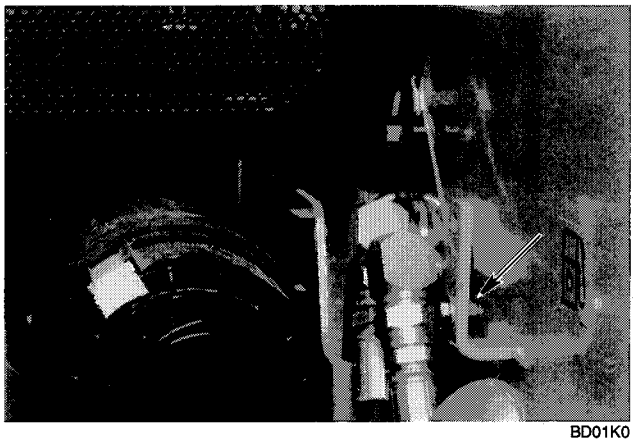
STEP 11

BD01K0

1. CYLINDER PIVOT BOLT

Remove the nut from cylinder pivot bolt (1) on the hood end of the cylinder.

STEP 12



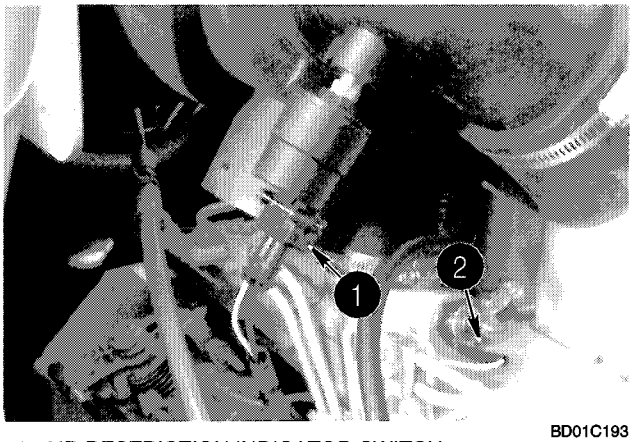
BD01K0

Remove the bolt, washer, and nut from the hood catch cable.

STEP 13

Push the hood to the right hand side of the machine and remove the left hand side of the hood from the pivot pin. Remove the hood from the machine.

STEP 14

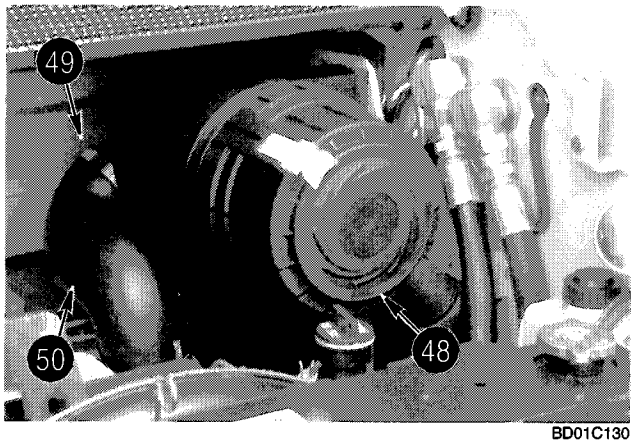


BD01C193

1. AIR RESTRICTION INDICATOR SWITCH
2. STARTING AID

Disconnect the electrical connector for the air restriction indicator switch (1) and starting aid switch (2).

STEP 15



BD01C130

Loosen the clamps (49) on the intake manifold hose (50). Remove the hose from the intake and air filter assembly (48).

NOTE: *Torque clamps (49) 3 to 4 Nm (25 to 35 pound-inches) during assembly.*

NOTE: *Refer to illustration on page 12.*

STEP 16

Loosen and remove the bolts (53), washers (54 and 55), and nuts (56) from the air filter housing clamp (52).

STEP 17

Remove the air cleaner (48) and housing clamp (52) from the machine.

STEP 18

Loosen and remove the bolts (70) and washers (71) that fasten the muffler (60) to the exhaust manifold.

NOTE: *Torque the bolts (70) 51 to 61 Nm (38 to 45 pound-feet) during assembly.*

NOTE: *Refer to illustration on page 13.*

STEP 19

Remove the bolts (62) and washers (63) that fasten the bracket (61) to the machine.

NOTE: *Torque bolts (62) 23 to 26 Nm (204 to 228 pound-inches) during assembly.*

STEP 20

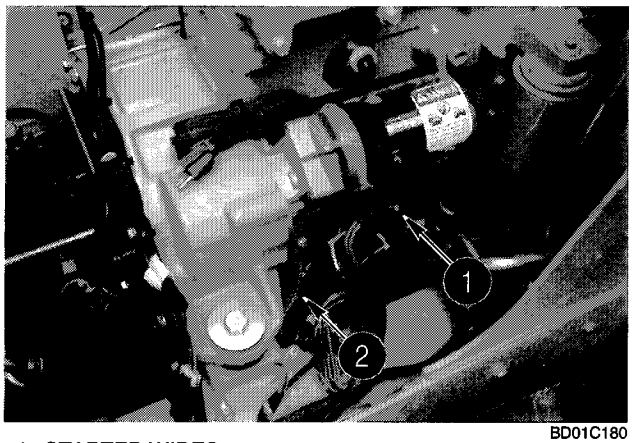
Remove the muffler from the machine (60).

STEP 21

Remove the bolts (27), washers (28), fan blade (29), and spacer (30) from the engine (38).

NOTE: *Refer to illustration on page 11.*

STEP 22



BD01C180

1. STARTER WIRES
2. GROUND STRAP

Disconnect the wires (1) from the starter solenoid.

STEP 23

Loosen and remove the starter mounting bolt and washer that holds the ground strap (2). Remove the ground strap from the bolt. Install the washer and starter mounting bolt.

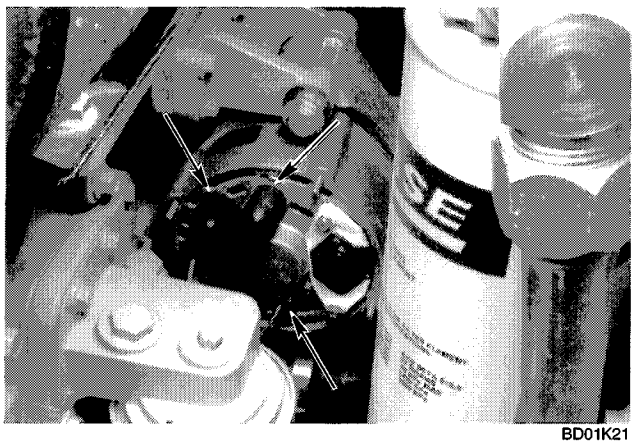
STEP 24

Remove the bolt and wire harness clamp from the LH side of the engine.

STEP 25

Find the ground wires on the left hand side of the engine. Loosen and remove the bolts that fastens the ground wires to the engine. Keep all ground wires together.

STEP 26



BD01K21

Disconnect the wires from the alternator.

STEP 27

Loosen and remove the nut (32) and washer (33) that fastens the throttle linkage (31) to the fuel injection pump.

NOTE: *Refer to illustration on page 11.*

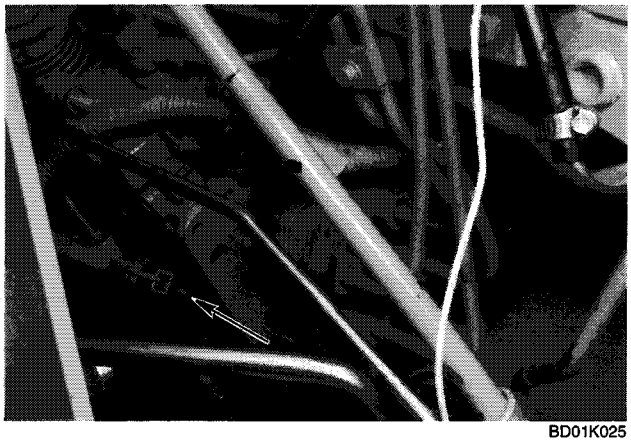
STEP 28

Loosen and remove the nut (32) and washer (33) that fastens the throttle linkage (31) to the throttle handle (34).

STEP 29

Disconnect the wire for the engine temperature switch. Cut the tie strap holding it to the engine and move out of the way.

STEP 30



BD01K025

Disconnect the wire connector for the fuel injection pump solenoid.

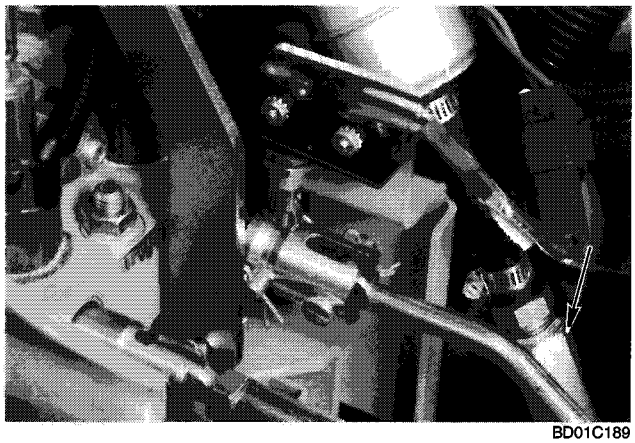
STEP 31

Loosen and remove the bolts that fasten the wire harness to the right side of the machine.

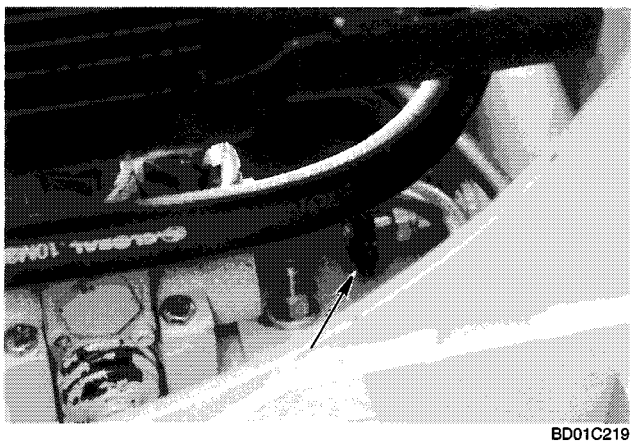
STEP 32

Move the wiring harness out of the way.

STEP 33



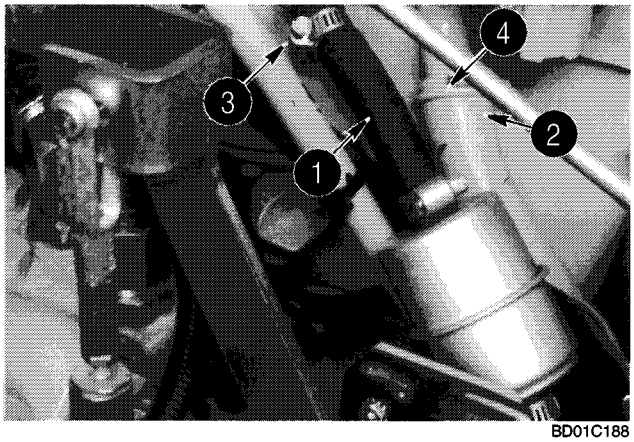
BD01C189



BD01C219

Close the fuel valves.

STEP 34



BD01C188

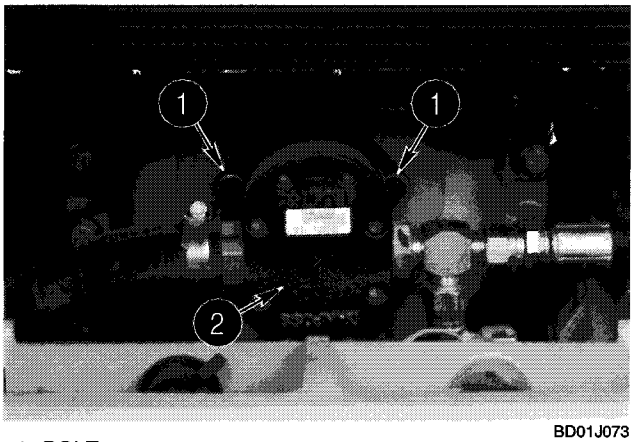
1. FUEL FEED LINE
2. FUEL RETURN LINE
3. CLAMP
4. CLAMP

Loosen the hose clamp (3) and disconnect the fuel line (1) from the fitting. Disconnect the fuel return line (2) from the engine by loosening the clamp (4) and removing the hose from the fitting.

STEP 35

Tag and disconnect all electrical connectors for the control valve. Cut the tie straps holding the wire harness to the engine and move the harness out of the way.

STEP 36

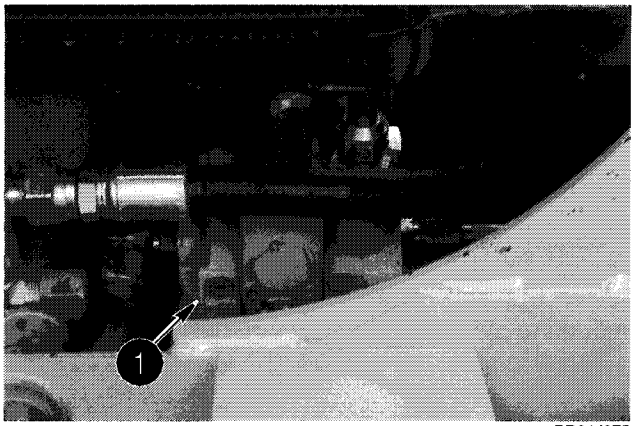


BD01J073

1. BOLT
2. PUMP

Loosen and remove the bolts (1) that fasten the gear pump (2) to the engine. Move the gear pump out of the way.

STEP 37



BD01J075

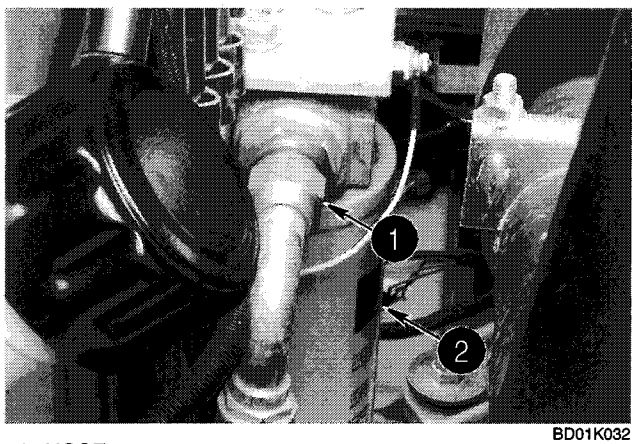
1. HIGH FLOW CONTROL VALVE

Loosen and remove the bolts, washers and self-locking nuts. Move the high flow control valve (1) toward the rear of the machine and out of the way.

STEP 38

Disconnect the hoses from the high flow pump.

STEP 39

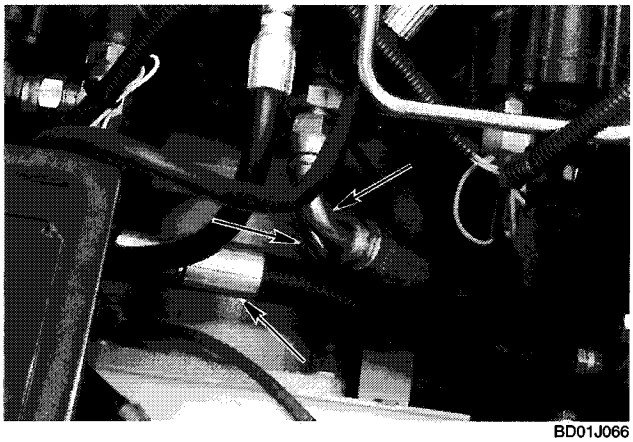


BD01K032

1. HOSE
2. FILTER

Disconnect the hose (1) from the fitting on the hydraulic filter (2). Remove the hydraulic filter (2).

STEP 40



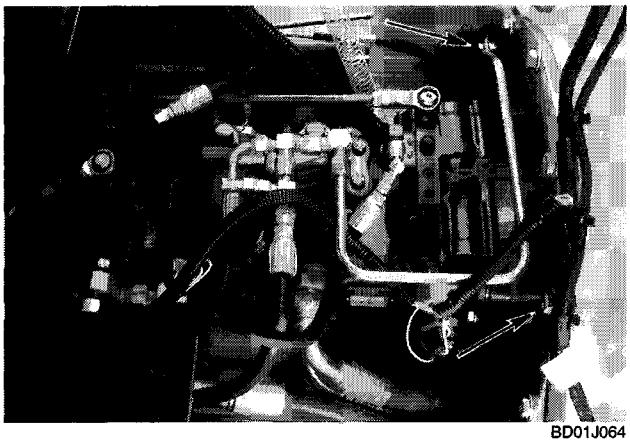
BD01J066

Disconnect the hydraulic lines shown from the left side of the tandem pump.

STEP 41

Connect equipment to the tandem pump that will hold the tandem pump in position when the engine is removed.

STEP 42

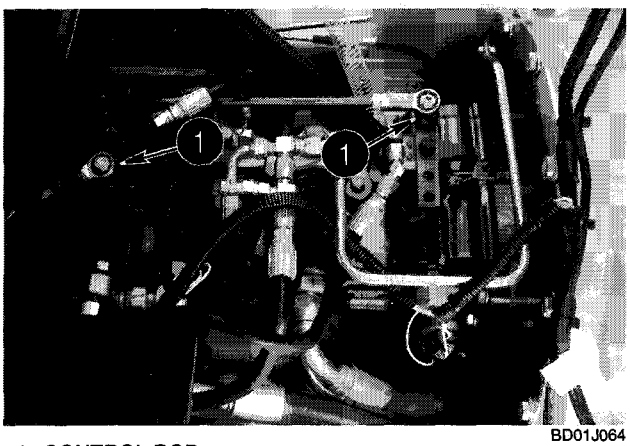


BD01J064

Loosen and remove the bolt (36) and washer (37) that fastens the wiring harness clamp and tube clamp to the tandem pump mounting plate (35). Move the wiring harness and tube out of the way.

NOTE: *Refer to illustration on page 11.*

STEP 43



BD01J064

1. CONTROL ROD

Disconnect the control rods (1) from the tandem pump by removing the nut from the rod end.

STEP 44

Remove the bolts and washers that fasten the tandem pump to the mounting plate (35) on the engine (38).

NOTE: *During assembly torque the bolts 39 to 47 Nm (345 to 416 pound-inches).*

NOTE: *Refer to illustration on page 11.*

STEP 45

BD01C187

Remove the bolts from the front lifting eye (47) and turn the lifting eye right side up and install the bolts.

STEP 46

Connect acceptable lifting equipment to the engine lifting eyes (47).

STEP 47

Remove the bolts (39), washers (40 and 42), spacer (41), and nut (43) from the engine mounts.

NOTE: *Torque the bolts 183 to 224 Nm (135 to 165 pound-feet) during assembly.*

STEP 48

Remove the bolt (44), washer (45), and spacer (46) from the engine front mount.

NOTE: *Torque the bolts 183 to 224 Nm (135 to 165 pound-feet) during assembly.*

STEP 49

Move the engine away from the tandem pump mounting plate until the splined shaft on the tandem pump disengages the coupling.

STEP 50

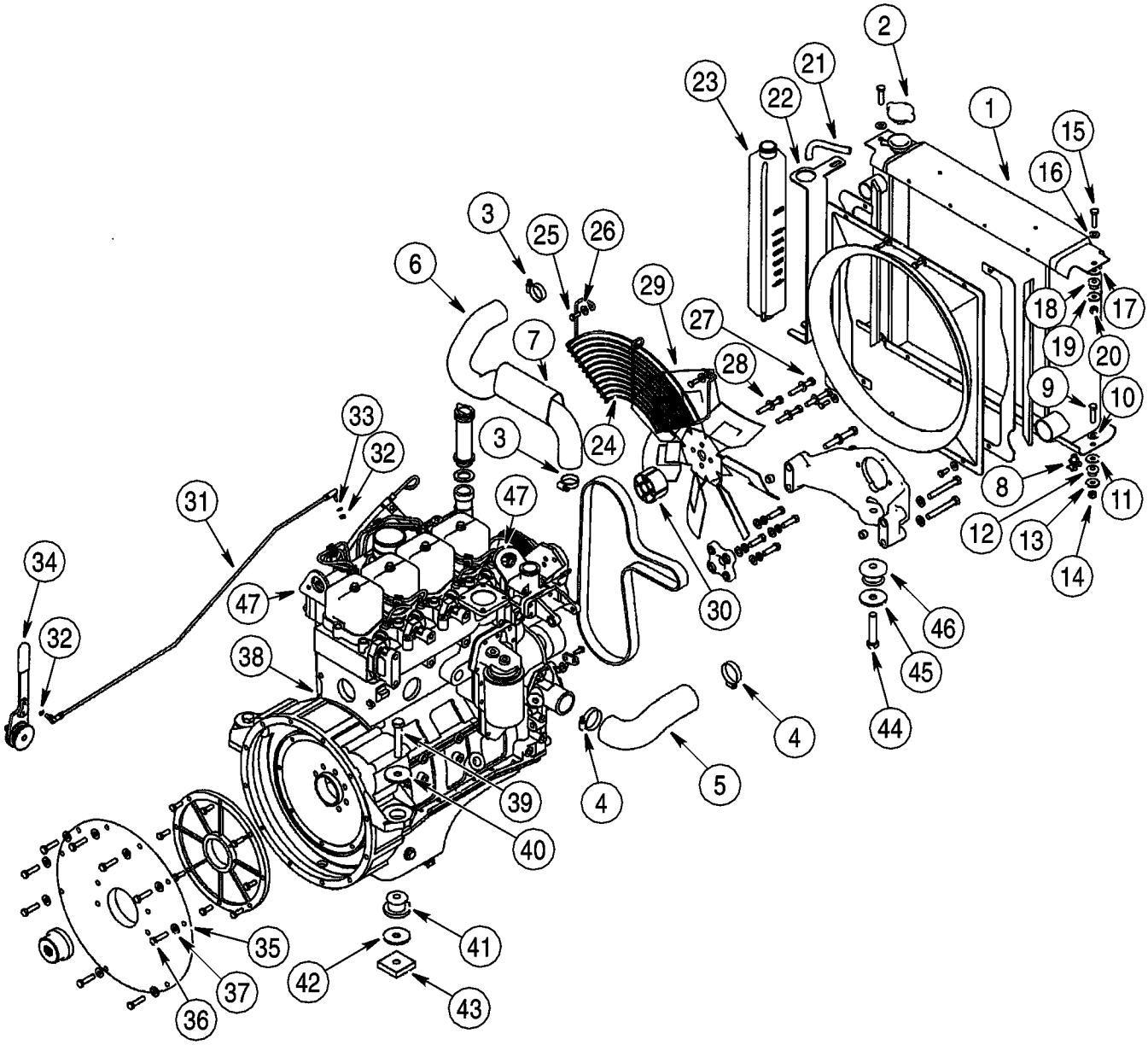
Remove the engine (38) from the machine.

NOTE: *During assembly apply anti-seize compound to the splined shaft on the tandem pump before engaging the splined shaft in the coupling.*

Installation

STEP 51

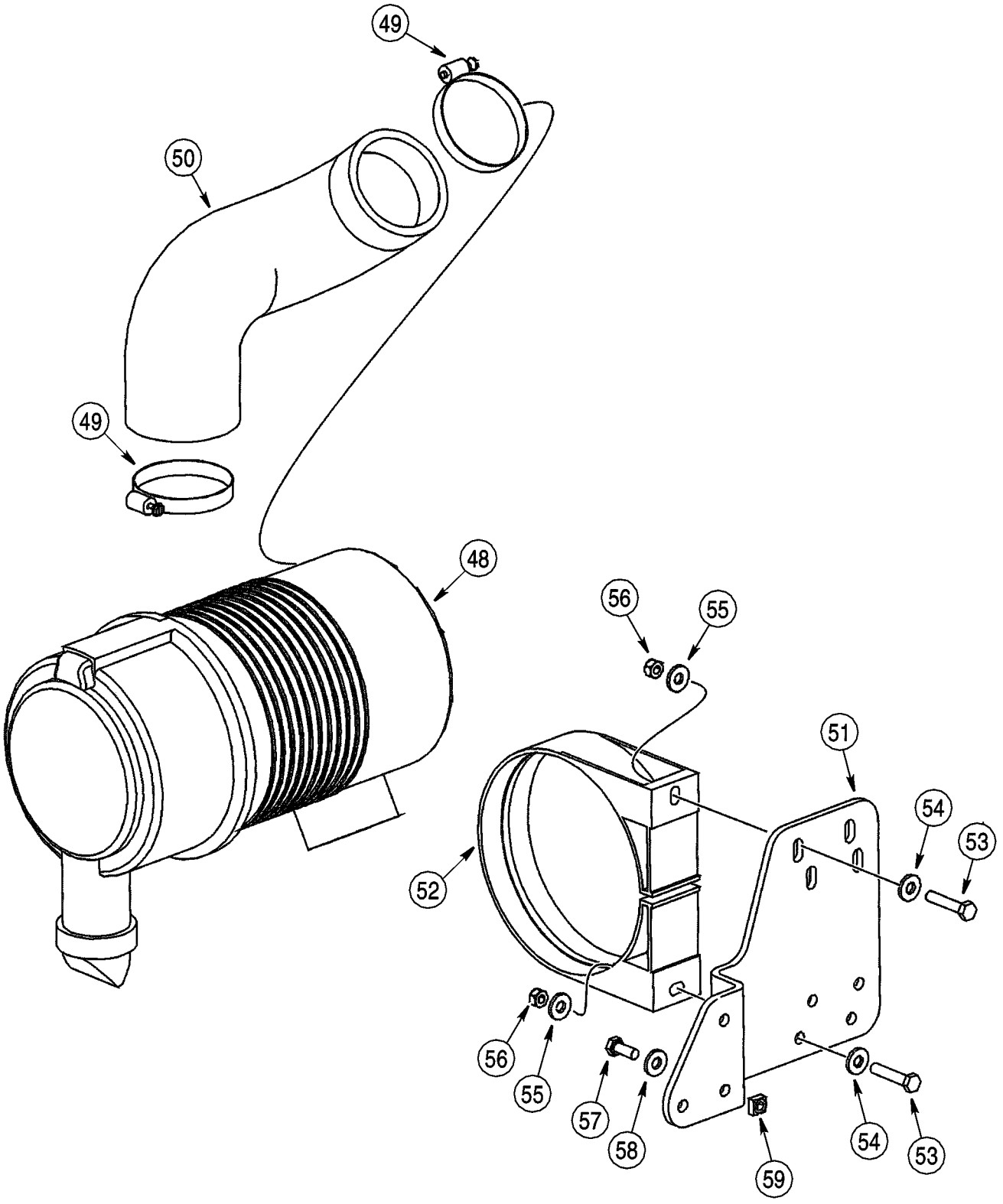
Installation of the engine is the reverse of removal.



BS01K211

1. RADIATOR
2. RADIATOR CAP
3. HOSE CLAMP
4. HOSE CLAMP
5. LOWER RADIATOR HOSE
6. UPPER RADIATOR HOSE
7. HOSE HEAT GUARD
8. DRAIN VALVE
9. BOLT
10. WASHER
11. WASHER
12. MOUNT
13. WASHER
14. NUT
15. BOLT
16. WASHER
17. WASHER
18. MOUNT
19. WASHER
20. NUT
21. OVER FLOW HOSE
22. BRACKET
23. OVER FLOW BOTTLE
24. FAN GUARD
25. BOLT
26. WASHER
27. BOLT
28. WASHER
29. FAN
30. SPACER
31. THROTTLE ROD
32. NUT
33. WASHER
34. THROTTLE HANDLE
35. PUMP MOUNT PLATE
36. BOLT
37. WASHER
38. ENGINE
39. BOLT
40. WASHER
41. MOUNT
42. WASHER
43. NUT
44. BOLT
45. WASHER
46. MOUNT
47. LIFTING EYE

ENGINE MOUNTING



BC01K147

48. AIR FILTER HOUSING
49. HOSE CLAMP
50. INTAKE HOSE
51. BRACKET
52. HOUSING CLAMP
53. BOLT
54. WASHER
55. WASHER
56. NUT
57. BOLT
58. WASHER
59. NUT

AIR FILTER ASSEMBLY