https://truckmanualshub.com/

SERVICE MANUAL

W110C

Wheel Loader

Tier II

Print No. 47476332

NEW HOLLAND
CONSTRUCTION

https://truckmanualshub.com/

W110C

Wheel Loader

47476332

Use for Repair Manual

Find manuals at https://best-manuals.com

https://truckmanualshub.com/

Find manuals at https://best-manuals.com

https://truckmanualshub.com/

W110C Wheel Loader
Repair Manual
84581910A

Table of Contents

Description	Section No.
General	**Tab 1**
Section Index - General	
Standard Torque Specifications	1001
Fluids and Lubricants	1002
Metric Conversion Chart	1003
Engines	**Tab 2**
Section Index - Engines	
Engine and Radiator Removal and Installation	2000
Stall Tests	2002
After Cooler	2003
For Engine Repair, See the Engine Service Manual 84392403	
Fuel System	**Tab 3**
Section Index - Fuel System	
For Fuel System Repair, See the Engine Service Manual 84392403	
Electrical	**Tab 4**
Section Index - Electrical	
Removal and Installation of Starter and Alternator	4001
Electrical Specifications and Troubleshooting	4002
Batteries	4003
Instrument Cluster	4005
Steering	**Tab 5**
Section Index - Steering	
Removal and Installation of Steering Components	5001
Steering Specifications, Pressure Checks, and Troubleshooting	5002
Steering Cylinders	5005
Center Pivot	5006
Auxiliary Steering Motor and Pump	5008

Find manuals at https://best-manuals.com

https://truckmanualshub.com/

W110C Wheel Loader
Repair Manual
84581910A

Table of Contents

Description	Section No.
Power Train	**Tab 6**
Section Index - Power Train	
Removal and Installation of Power Train Components	6001
Transmission Specifications, Pressure Checks, and Troubleshooting	6002
Transmission	6003
Front Axle	6004
Rear Axle	6004
Drive Shafts, Center Bearing, and Universal Joints	6005
Wheels and Tires	6006
Transmission Control Valve	6007
Brakes	**Tab 7**
Section Index - Brakes	
Removal and Installation of Brake Components	7001
Hydraulic Brake Troubleshooting	7002
Brake Pump	7003
Brake Accumulators	7004
Parking Brake	7008
Hydraulics	**Tab 8**
Section Index - Hydraulics	
How to Read Hydraulic Schematics	8000
Removal and Installation of Hydraulic Components	8001
Hydraulic Specifications, Troubleshooting, and Pressure Checks	8002
Cleaning the Hydraulic System	8003
Loader Control Valve	8005
Cylinders	8006
Coupler Solenoid Locking Valve	8007
Ride Control Accumulator	8013
Ride Control Valve	8014
Mounted Equipment	**Tab 9**

Find manuals at https://best-manuals.com

https://truckmanualshub.com/

W110C Wheel Loader
Repair Manual
84581910A

Table of Contents

Description	Section No.
Section Index - Mounted Equipment	
Air Conditioning Troubleshooting and System Checks	9002
Air Conditioner System Service	9003
Removal And Installation Of Air Conditioning And Heater Components	9004
Loader	9006
Roll Over Protective Structure (ROPS), Cab Structural Frame (CSF)	9007
Cab Glass Installation	9010
Electrical Schematic Foldouts and Hydraulic Schematic Foldout	**In Rear Pocket**

Find manuals at https://best-manuals.com

https://truckmanualshub.com/

Find manuals at https://best-manuals.com

https://truckmanualshub.com/

SECTION INDEX

GENERAL

Section Title	Section Number
Standard Torque Specifications	1001
Fluids and Lubricants	1002
Metric Conversion Chart	1003

Find manuals at https://best-manuals.com

https://truckmanualshub.com/

Find manuals at https://best-manuals.com

https://truckmanualshub.com/

Section 1001

GENERAL TORQUE SPECIFICATIONS

Find manuals at https://best-manuals.com

https://truckmanualshub.com/

TABLE OF CONTENTS

TORQUE SPECIFICATIONS - DECIMAL HARDWARE 3
TORQUE SPECIFICATIONS - METRIC HARDWARE 4
TORQUE SPECIFICATIONS - STEEL HYDRAULIC FITTINGS 5
TORQUE SPECIFICATIONS - STEEL HYDRAULIC FITTINGS 6

https://truckmanualshub.com/

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.*

https://truckmanualshub.com/

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

8.8

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

10.9

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

12.9

Usually the torque values specified for grade 10.9 fasteners can be used satisfactorily on grade 12.9 fasteners.

https://truckmanualshub.com/

TORQUE SPECIFICATIONS - STEEL HYDRAULIC FITTINGS

37 Degree Flare Fitting			
Tube OD Hose ID	Thread Size	Pound-Inches	Newton metres
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-Feet	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

Straight Threads with O-ring			
Tube OD Hose ID	Thread Size	Pound-Inches	Newton metres
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-Feet	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

https://truckmanualshub.com/

TORQUE SPECIFICATIONS - STEEL HYDRAULIC FITTINGS

O-ring Face Seal End					O-ring Boss End Fitting or Lock Nut		
Nom. SAE Dash Size	Tube OD	Thread Size	Pound-Inches	Newton metres	Thread Size	Pound-Inches	Newton metres
-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-Feet	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-Feet	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			

https://truckmanualshub.com/

Section 1002

FLUIDS AND LUBRICANTS

https://truckmanualshub.com/

TABLE OF CONTENTS

CAPACITIES AND LUBRICANTS 3
ENGINE OIL RECOMMENDATIONS 4
TRANMISSION Temperature CHART 5
HYDRAULIC/BRAKE SYSTEM Temperature CHART 5
DIESEL FUEL SYSTEM 6
Fuel Storage 6
Specifications for Acceptable No. 2 Diesel Fuel 6
MAINTENANCE SCHEDULE 7

https://truckmanualshub.com/

CAPACITIES AND LUBRICANTS

Engine Oil
- Capacity with Filter Change ..... 10.9 liters (11.5 U.S. Quarts)
- Total system capacity ..... 11.8 liters (12.5 U.S. Quarts)
- Type of oil ..... Ambra Unitek CJ-4 engine oil - see engine oil recommendations on page 4

Engine Cooling System
- Capacity ..... 22 liters (23.2 U.S. Quarts)
- Type of Coolant ..... 50% water and 50% Ethylene Glycol

Fuel Tank
- Capacity ..... 189 liters (50 U.S. Gallons)
- Type of Fuel ..... See Diesel fuel specifications on page 5

Hydraulic System
- Hydraulic Reservoir Refill Capacity ..... 56.8 liters (15.0 U.S. Gallons)
- Total System Capacity ..... 113.6 liters (30.0 U.S. Gallons)
- Type of Oil ..... AMBRA Hydrosystem 46HV®

Transmission
- Refill Capacity with Filter Change ..... 18.9 liters (35.9 U.S. Quarts)
- Type of Oil ..... Ambra MULTI G 134™ hydraulic transmission oil

Axles
- Capacity
  - Standard Front ..... 22 liters (23.2 U.S. Quarts)
  - Standard Rear ..... 22 liters (23.2 U.S. Quarts)
  - Optional Front ..... 22 liters (23.2 U.S. Quarts)
  - Optional Rear ..... 22 liters (23.2 U.S. Quarts)
- Type of Lubricant ..... Ambra MULTI G 134™ hydraulic transmission oil

NOTE: *DO NOT use an alternate oil in the axles. The brake components in the axles could be damaged as a result of using an alternate oil. Machines are shipped from the factory with break-in oil.*

Brake System
Type of Fluid (Same as Hydraulic System) ..... AMBRA Hydrosystem 46HV®

Grease Fittings
Grease fittings as required by maintenance schedule ..... AMBRA GR 75 MD

https://truckmanualshub.com/

ENGINE OIL RECOMMENDATIONS

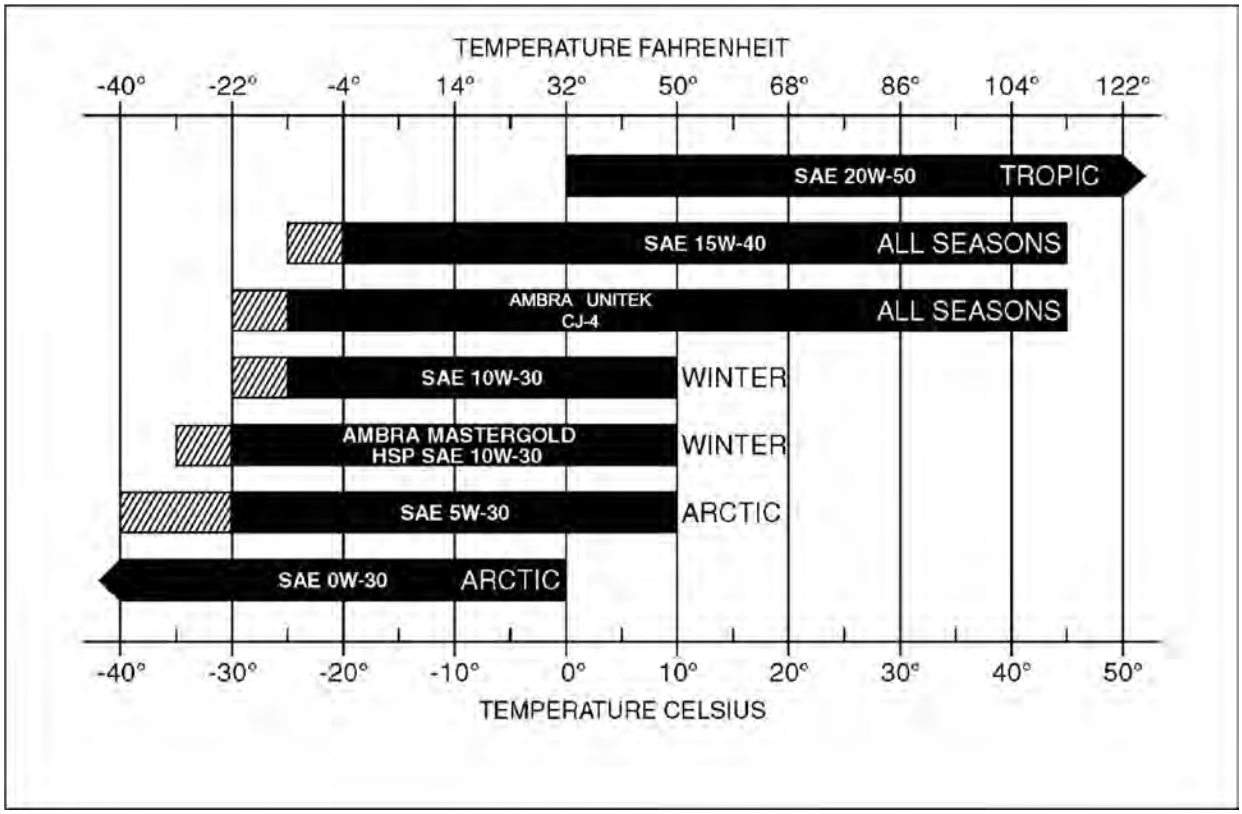
Ambra Unitek CJ-4 engine oil is recommended for use in your engine. Ambra Unitek CJ-4 engine oil will lubricate your engine correctly under all operating conditions.

If Ambra Unitek CJ-4 engine oil is not available, use only oil meeting API engine oil service category CI-4.

RH99K130

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

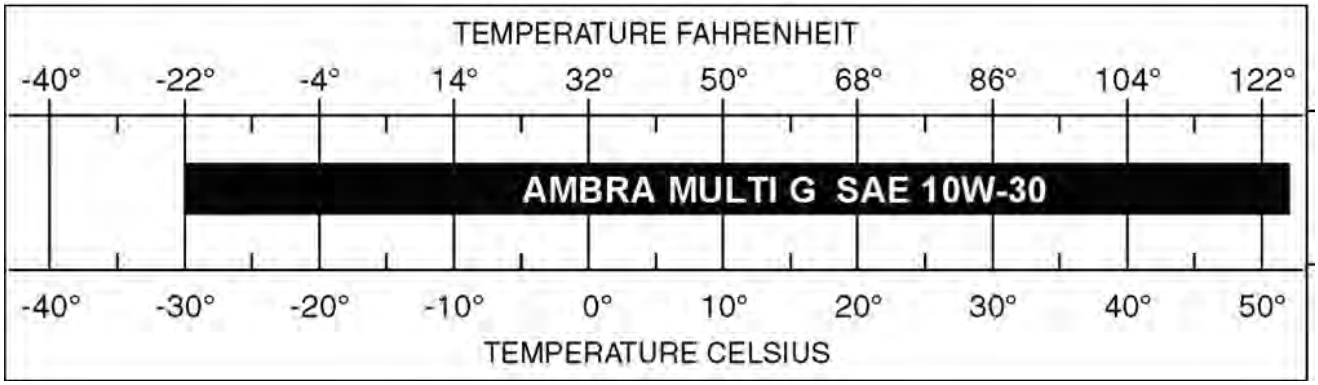
NOTE: *Do not put performance additives or other oil additive products in the engine crankcase. The oil change intervals given in this manual are according to tests with Ambra Unitek CJ-4 engine oil lubricants.*



WHL201223

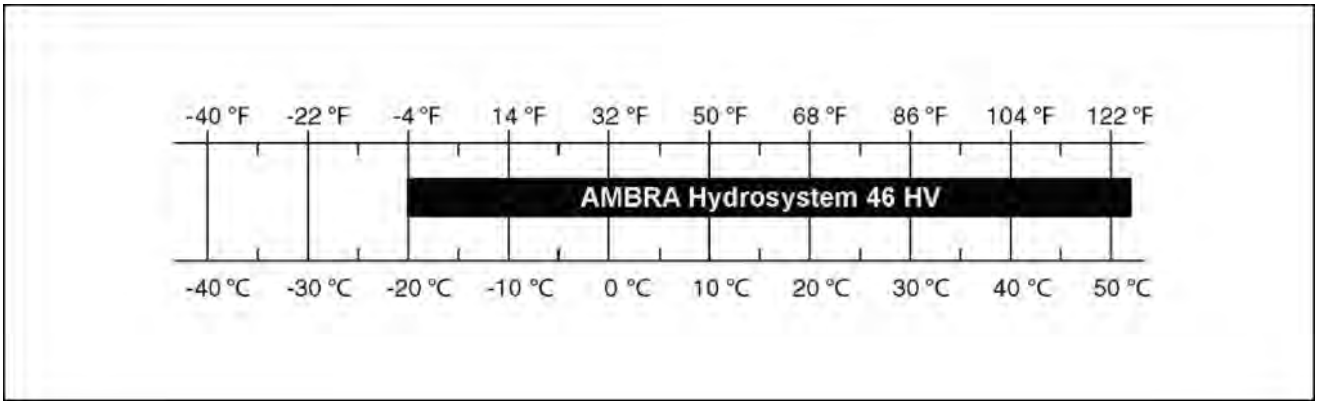
https://truckmanualshub.com/

TRANMISSION TEMPERATURE CHART



WHL201224

HYDRAULIC/BRAKE SYSTEM TEMPERATURE CHART



WHL201225

https://truckmanualshub.com/

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.

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 lose power or not start.*

The diesel fuel used in this machine must meet the specifications as shown below in, “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) See Note above
Pour point, maximum	-26°C (-15°F) See Note above
Distillation temperature, 90% point	282 to 338°C (540 to 640°F)
Viscosity, at 38°C (100°F)	
Centistokes	2.0 to 4.3
Cetane number, minimum	43 (45 to 55 for winter or high altitudes)
Water and sediment, by volume, maximum	0.05%

https://truckmanualshub.com/

MAINTENANCE SCHEDULE
Model W110C

SERVICE INTERVAL	SERVICE POINTS	FREQUENCY IN HOURS						
		CHECK	GREASE	REPLACE	CLEANING	DRAIN FLUID	CHANGE FLUID	ADJUST
Daily inspection	General	X						
Every 10 hours	Engine oil level	X						
Every 50 hours	Engine coolant level	X						
	Transmission oil level	X						
	Hydraulic oil level	X						
	Bucket/attachment grease fittings		X					
	Machine and attachments		X					
Initial 100 hours	Wheel torque	X						
	Fuel prefilter (Initial)			X				
	Fuel filter (Initial)			X				
	Hydraulic oil filter (Initial)			X				
Every 100 hours	Grease fittings		X					
	Grease lift arm		X					
Every 250 hours	Drive shaft slip joint		X					
	Cab air filter				X			
	Wheels and tires	X						
	Drive belt			X				
Every 500 hours	Axle oil level	X						
	Battey fluid level	X						
	Engine oil and filter			X				
	Fuel prefilter			X				
	Fuel filter			X				
	Fuel tank sediment					X		
	Cab Protection System (ROPS/FOPS)	X						
Every 1000 hours	Pivot points							
	Articulation fittings		X					
	Hydraulic oil filter		X	X				
	Drive belt			X				
	Cab air filter			X				
	Replacing the engine breather filter			X				
	Engine valve clearance	X						
Every 1500 hours	Front and rear axle						X	
	Transmission fluid and filter			X				
Every 2000 hours	Hydraulic oil and filter						X	
	Engine coolant						X	
	Engine air filters			X				
	Frame and cab - lubricate		X					

https://truckmanualshub.com/

As required	Fuel pre-filter					X		
	Air conditioning condenser				X			
	Height control and return to travel							X
	Return to dig							X
	Calibrating the gear box							X
	Transmission declutch pressure adjustment							X
	Secondary Steering (optional)	X						
	Cab service	X						
Electrical system	Battery service				X			
	Battery electrolyte level	X						
	Auxiliary battery connections	X						
	Battery removal and installation			X				
	Fuses and relays			X				
	Work lights			X				
	Driving lights			X				
	Rotating beacon light	X						

https://truckmanualshub.com/

Section 1003

METRIC CONVERSION CHART

https://truckmanualshub.com/

TABLE OF CONTENTS

CONVERSION FACTORS 3
Metric to U.S. 3
U.S. to Metric 4

https://truckmanualshub.com/

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)

https://truckmanualshub.com/

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

https://truckmanualshub.com/

SECTION INDEX

ENGINES

Section Title	Section Number
Engine and Radiator Removal and Installation	2000
Stall Tests	2002
After Cooler	2003

FOR ENGINE REPAIR, SEE THE ENGINE REPAIR MANUAL 84392403

https://truckmanualshub.com/

https://truckmanualshub.com/

Section 2000

ENGINE AND RADIATOR REMOVAL AND INSTALLATION

https://truckmanualshub.com/

TABLE OF CONTENTS

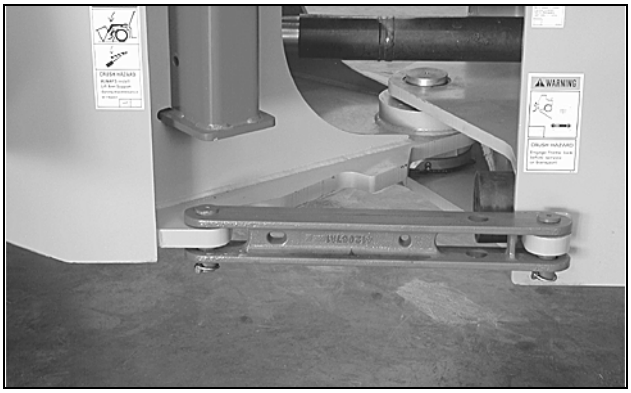
Engine 3
Removal 3
Installation 11
Radiator 20
Removal 20
Installation 23

https://truckmanualshub.com/

ENGINE

Removal

STEP 1



BD03A040

Park machine on a level surface and lower bucket to ground. Put articulation lock in LOCKED position.

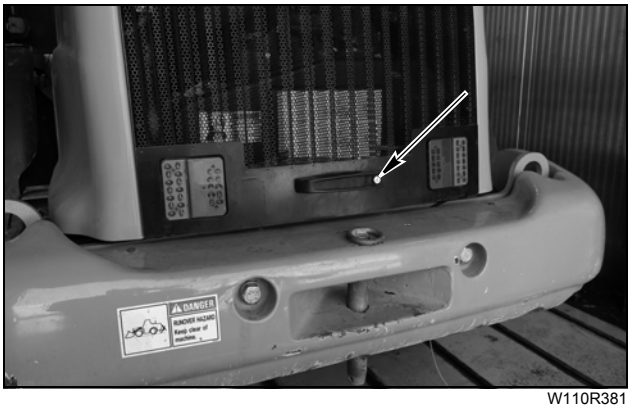
STEP 2

Stop engine. Actuate brake pedal several times to discharge brake accumulators. Put key switch in ON position and move loader control lever back and forth at least 30 times to release any pressure from hydraulic circuit. Put key switch in OFF position.

STEP 3

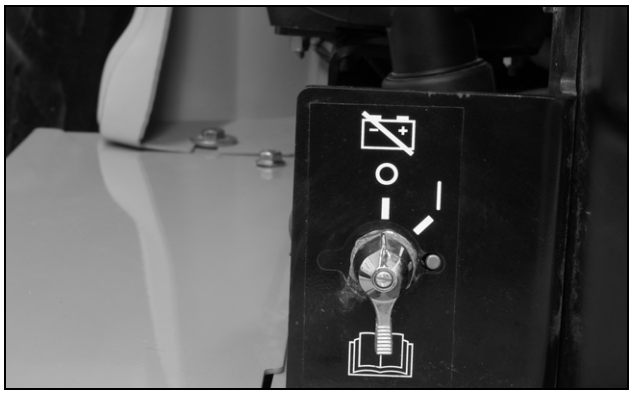
Slowly loosen the filler cap for hydraulic reservoir to release air pressure in hydraulic reservoir.

STEP 4



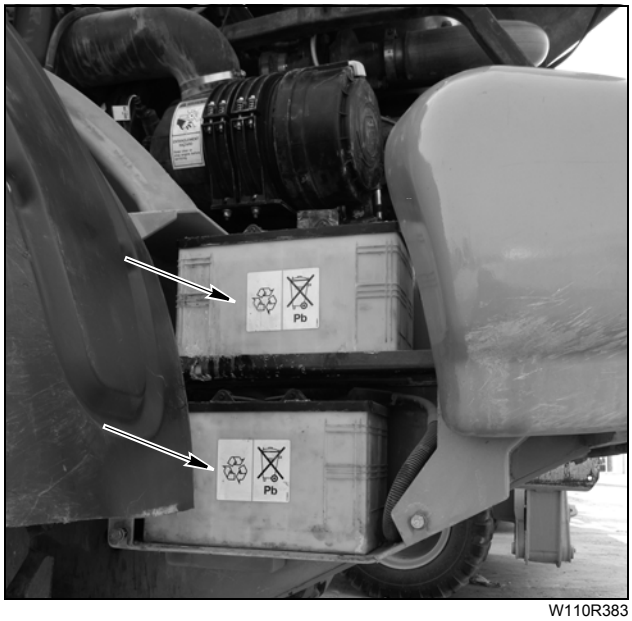
W110R381

The master switch disconnect is located under the hood on the left read side of the machine. Raise the hood put master disconnect switch in OFF position.



W110R381

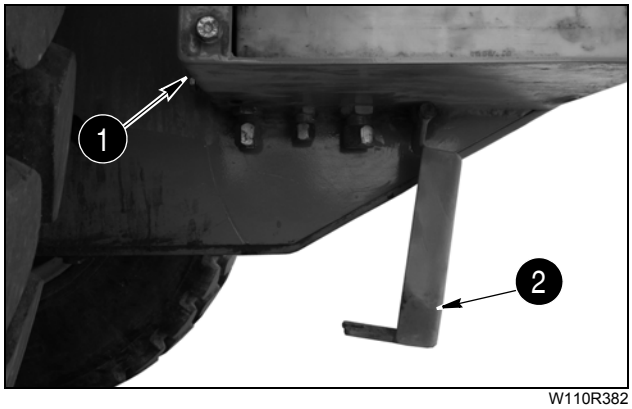
STEP 5



W110R383

Remove both battery covers and disconnect batteries from the machine.

STEP 6

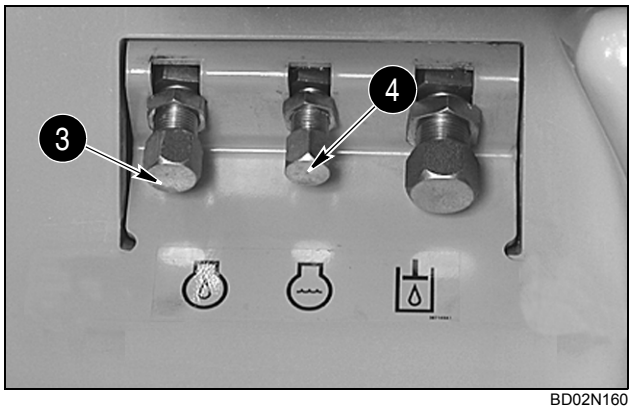


W110R382

Loosen the screw (1) and open the access cover (2).

https://truckmanualshub.com/

STEP 7

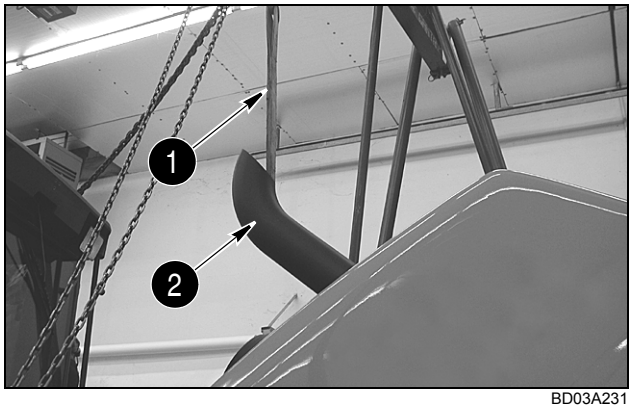


BD02N160

Put a container capable of holding at least 22.7 liter (6.0 gallon) below radiator drain. Remove radiator cap (4). Remove cap and drain coolant into container. Install cap after coolant has drained. Install radiator cap.
Put a container capable of holding at least 12.3 liter (13 U.S. quarts) below engine oil drain. Remove cap (3) and drain oil into container. Install cap after oil has drained.

NOTE: *After draining oil disconnect drain hose from frame for removal with engine.*

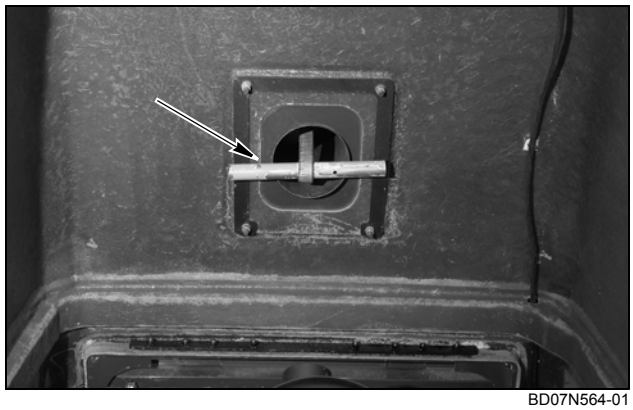
STEP 8



BD03A231

Double up a nylon lifting strap (1) and slide through the exhaust stack (2) on the hood.

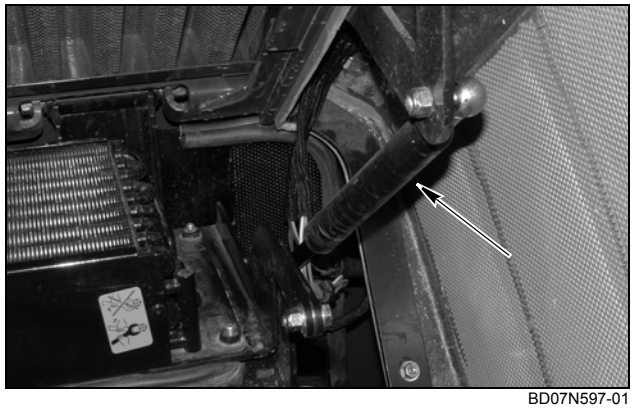
STEP 9



BD07N564-01

Place a solid steel bar through the strap, raise the hood and release tension on the lifting motor.

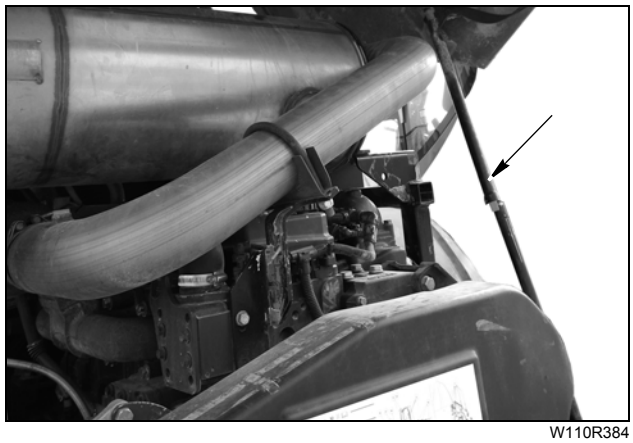
STEP 10



BD07N597-01

Remove the right front lift cylinder from the hood. Repeat the procedure for the left hand side.

STEP 11



W110R384

Remove the rear lift cylinder from the machine.

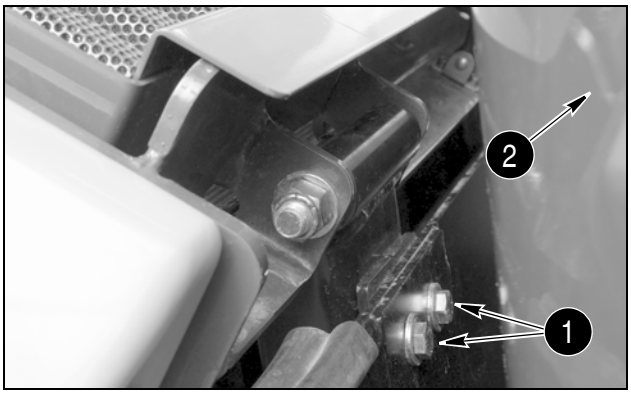
https://truckmanualshub.com/

STEP 12

W110R385

Tag and disconnect hood wiring harness connector and backup alarm connector from rear chassis wiring harness connector.

STEP 13



BD07N567-01

Have another person balance the hood, and remove the hood hinge mounting bolts (1) located outside the hood by the cab (2) from the cooler frame. Repeat procedure for the other side.

STEP 14

BD03A232

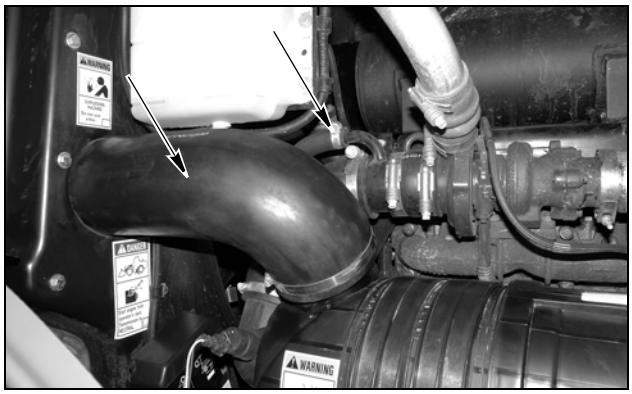
Carefully raise and remove hood from loader. Lower hood onto suitable platform and disconnect lifting equipment.

STEP 15

W110R386

Tag and disconnect engine wiring harness connector from air filter restriction switch.

STEP 16



BD07N569-01

Loosen clamp on air cleaner intake hose and remove the crankcase ventilation hose.

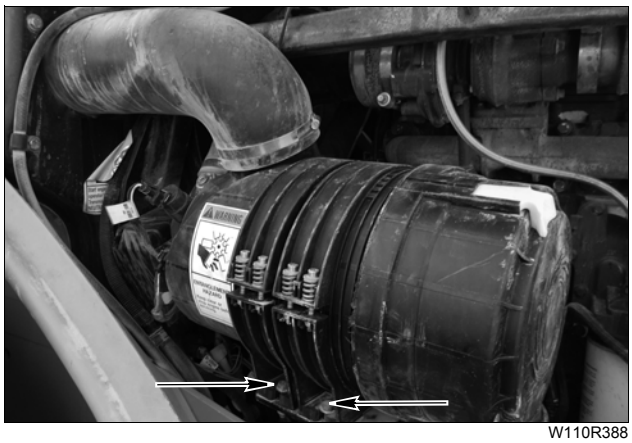
STEP 17

W110R387

Loosen clamps on turbocharger and air cleaner, remove the intake hose.

https://truckmanualshub.com/

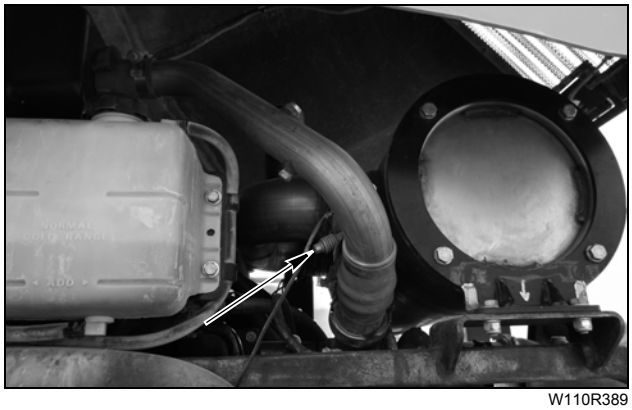
STEP 18



W110R388

Remove the air cleaner by removing the four bolts.

STEP 19



W110R389

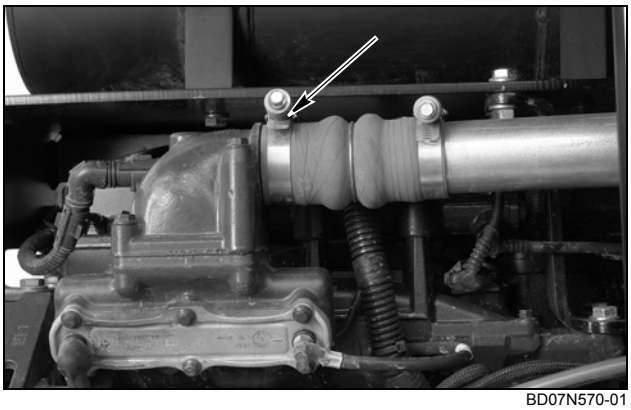
Loosen the clamp on the turbocharger for the after cooler inlet hose.

STEP 20

W110R390

Loosen the clamp on the after cooler and remove the after cooler inlet hose from the machine.

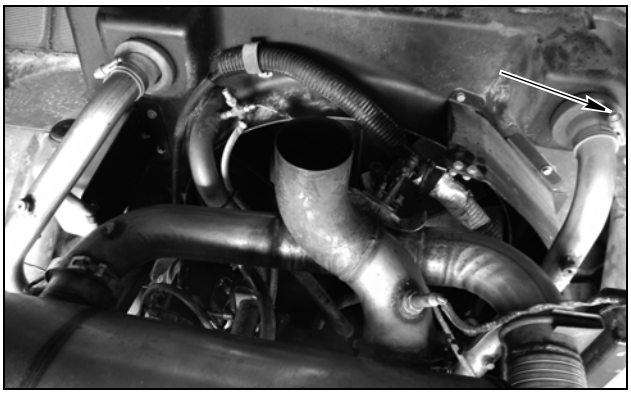
STEP 21



BD07N570-01

Loosen the clamp on the intake manifold for the after cooler output hose.

STEP 22



W110R391

Loosen the clamp on the after cooler and remove the after cooler outlet hose from the machine.

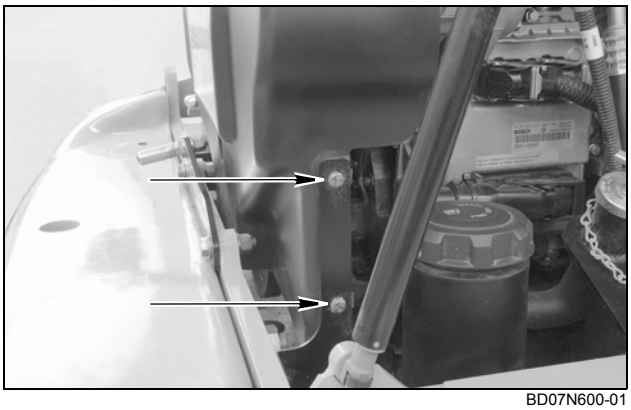
STEP 23

W110R392

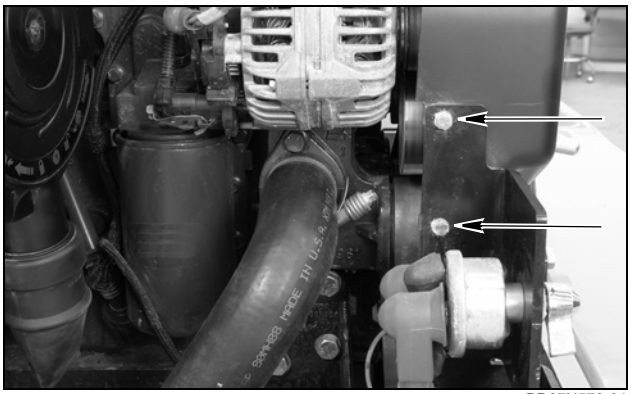
Loosen the exhaust clamp from the turbocharger.

https://truckmanualshub.com/

STEP 24



BD07N600-01

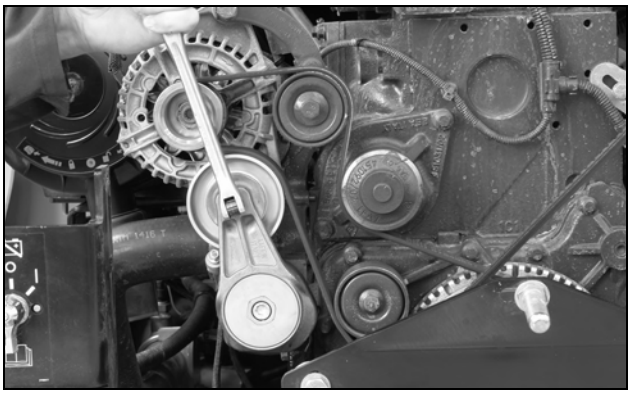


BD07N573-01

Remove the four mounting bolts from the belt cover, remove the cover. Disconnect the master switch wiring.

NOTE: *After removing the belt cover remove the cover mounting brackets from the machine frame.*

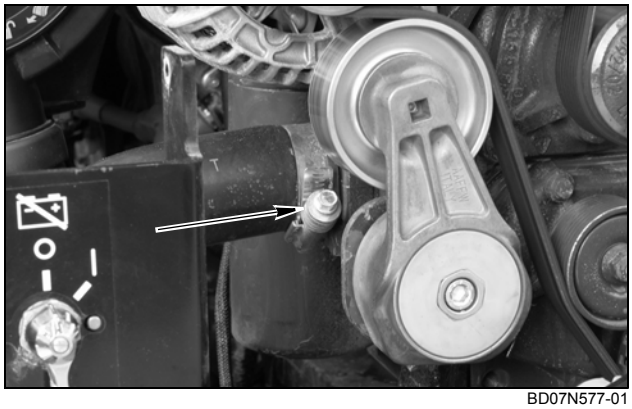
STEP 25



BD07N576-01

Remove the drive belt from the engine.

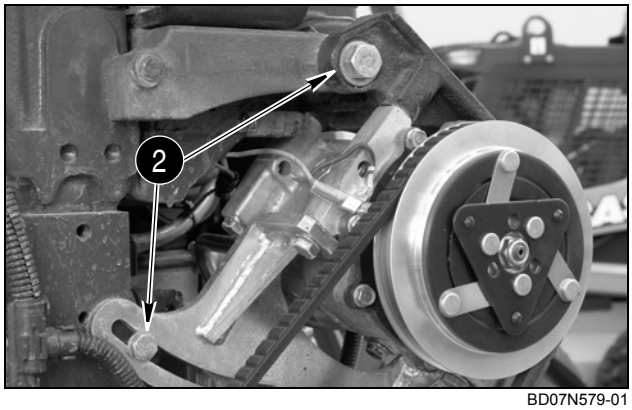
STEP 26



BD07N577-01

Loosen clamps and remove lower cooler hose from the engine.

STEP 27



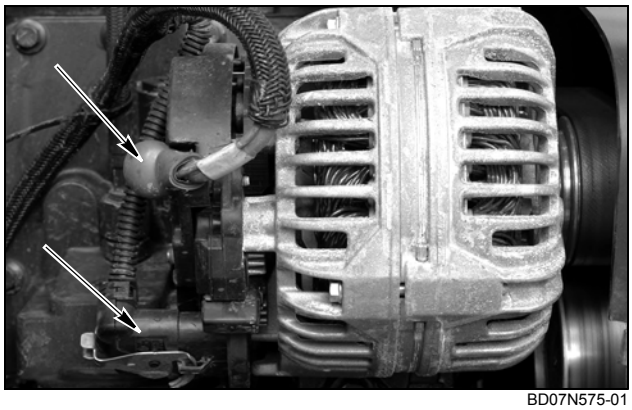
BD07N579-01

W110R395

If loader is equipped with air conditioning, identify, tag, and disconnect the engine wiring harness connectors from air compressor clutch connector (1). Remove the two mounting bolts (2) for the compressor and set the compressor on the left battery cover.

https://truckmanualshub.com/

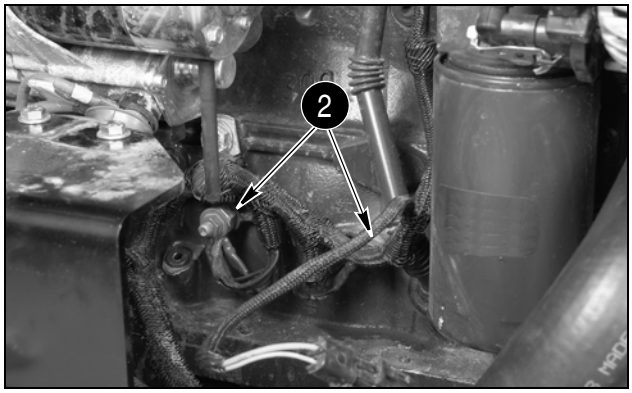
STEP 28



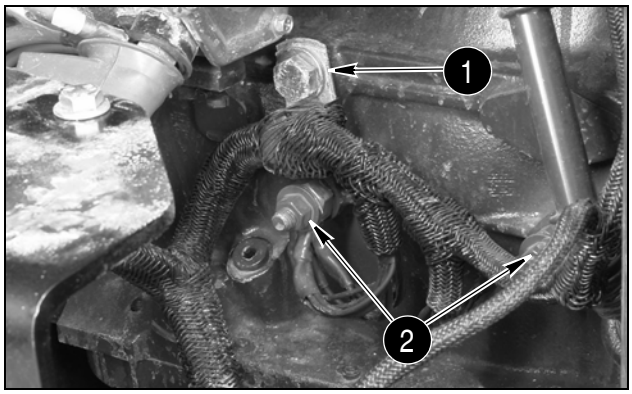
BD07N575-01

Tag and disconnect the wiring from the alternator.

STEP 29



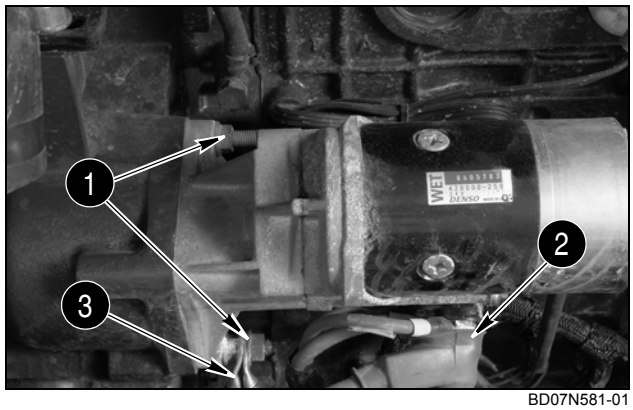
BD07N580-01



BD07N582-01

Remove bolt securing wiring harness clamp (1) to the engine. Remove ground wires (2) from the engine.

STEP 30

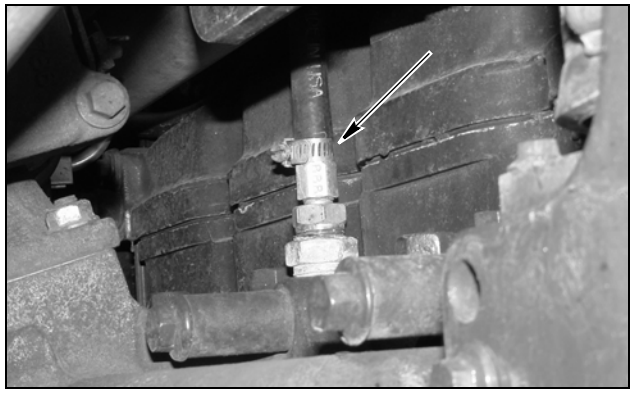


BD07N581-01

Tag and remove the wires from the starter solenoid (2), remove the ground cable and ground strap (3) from the starter. Then remove the two mounting bolts (1).

NOTE: *Move the starter cables away from the engine, move the wiring harness away from the engine.*

STEP 31

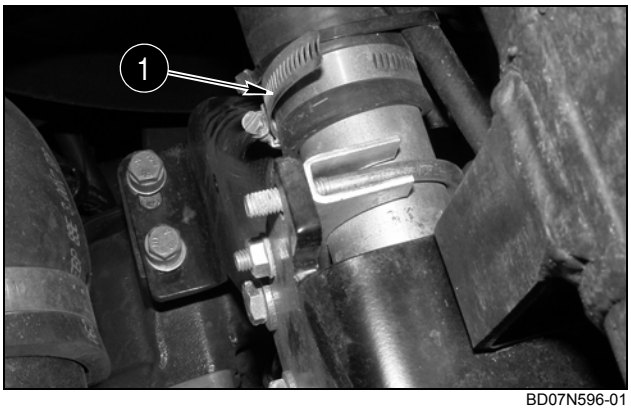


BD07N599-01

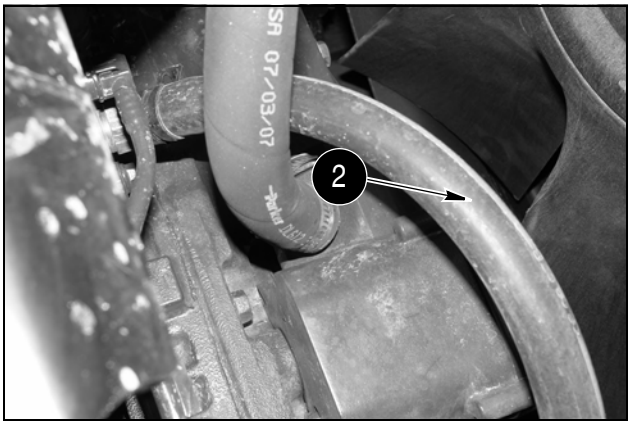
Disconnect the engine coolant vent hose and route to the rear of the engine.

https://truckmanualshub.com/

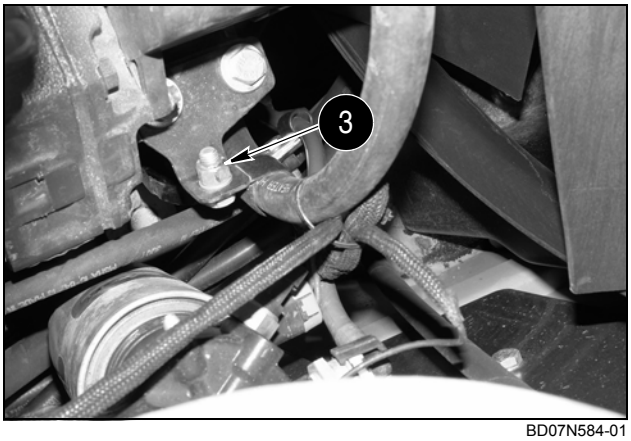
STEP 32



BD07N596-01



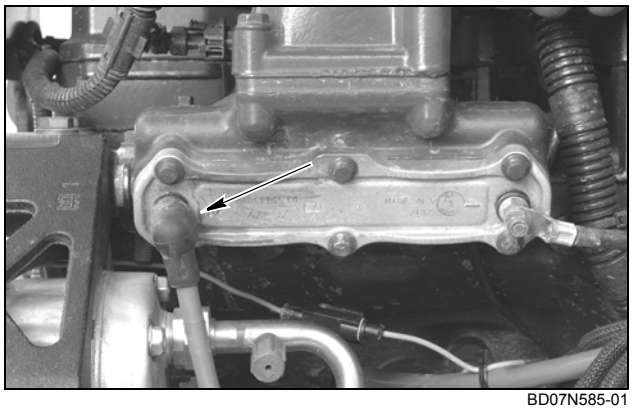
BD07N583-01



BD07N584-01

Remove the radiator hose (1) from the rear of the engine, remove the heater hose from the rear of the engine (2), remove the clamp bolts and clamps (3) from the bell housing.

STEP 33



BD07N585-01

Tag and remove the grid heater cable.

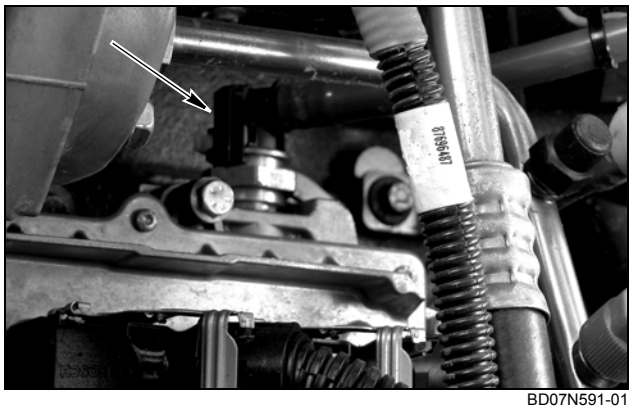
STEP 34

BD07N586-01

Disconnect the wiring harness from the EDC 7 controller.

NOTE: *Lifting up on the lever will release the connector from the controller.*

STEP 35

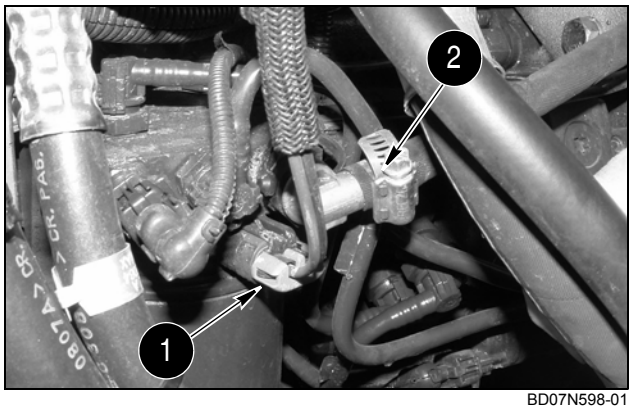


BD07N591-01

Remove the fuel line from the top of the EDC 7 controller, plug the line and cap the fitting.

https://truckmanualshub.com/

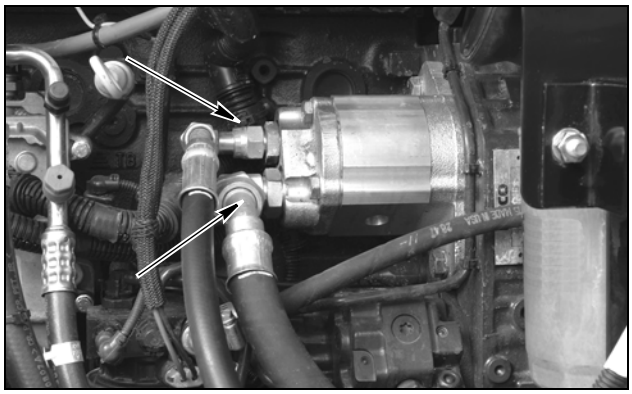
STEP 36



BD07N598-01

Tag and disconnect the fuel filter heater wires (1), disconnect the fuel line (2) from the fuel filter head, plug the line and cap the fitting.

STEP 37



BD07N588-01

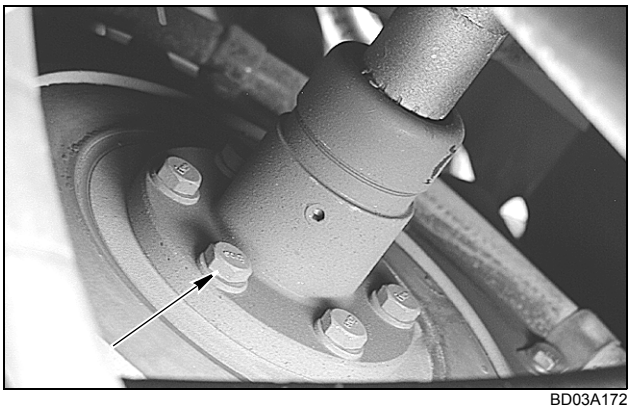
Connect and turn on vacuum pump to hydraulic reservoir. Tag and remove the hydraulic lines from the brake system pump, plug the lines and cap the fittings.

STEP 38

BD07N589-01

Remove the lower cover for the drive shaft.

STEP 39



BD03A172

Remove the drive shaft bolts from the flywheel. Move the drive shaft clear of the flywheel.

STEP 40

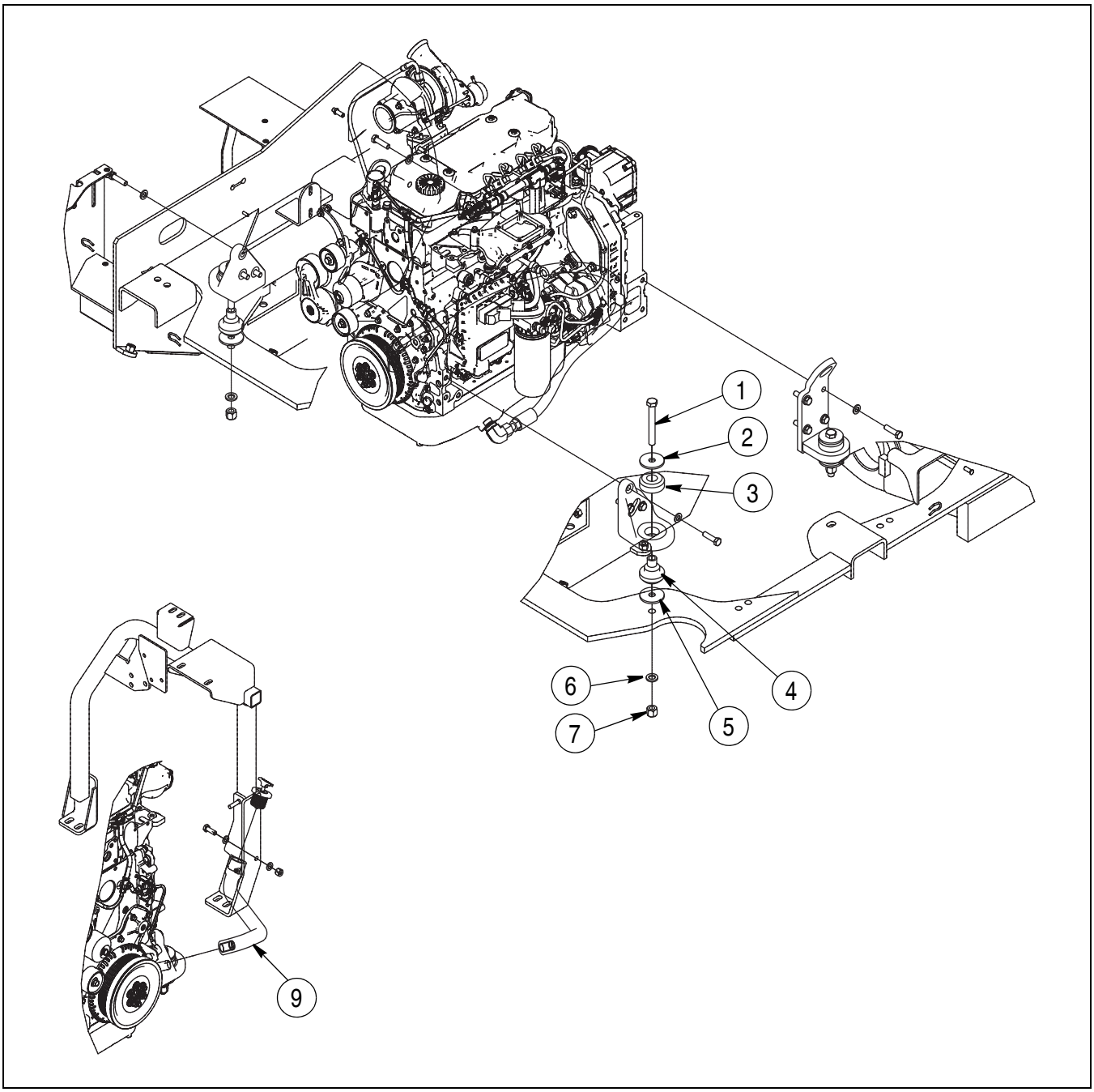
Connect suitable lifting equipment to engine lifting brackets. Take up all slack in lifting equipment. Remove the engine mounting bolts and lift the engine enough to gain access to the drain hose, pull the engine oil drain hose with the engine.

STEP 41

Slowly raise engine from rear chassis. Be sure all harness connections and hoses have been disconnected and are clear of the engine. Remove engine from machine.

https://truckmanualshub.com/

Installation



W110R468

ENGINE INSTALLATION

1. ENGINE MOUNT BOLT, 244-298 NM (182-220 LB-FT)
2. WASHER
3. INSOLATOR UPPER
4. INSOLATOR LOWER
5. WASHER
6. WASHER
7. NUT
8. REMOTE OIL DRAIN HOSE
9. OIL FILL TUBE

STEP 42

If engine rubber isolators require replacement, remove and discard isolators (3 and 4). Install new rubber isolator (4), then rubber isolator (3).

STEP 43

Slowly raise engine and move into position over rear chassis. Be sure all harness connections and hoses are out of the way then lower engine. Put washer (5) between front rubber isolator (4) and chassis. Install washer (2), bolt (1), washer (6), and nut (7) in engine isolators. Lower engine into position.

https://truckmanualshub.com/

This as a preview PDF file from **best-manuals.com**

Best Manuals

Download full PDF manual at **best-manuals.com**