450CLC
Excavator

OPERATOR'S MANUAL

450CLC Excavator

OMT187112 ISSUE F3 (ENGLISH)

CALIFORNIA

Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

If this product contains a gasoline engine:

⚠ WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

The State of California requires the above two warnings.

Additional Proposition 65 Warnings can be found in this manual.

Worldwide Construction And Forestry Division

LITHO IN U.S.A.

Contents

Continued on next page

Original Instructions. All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

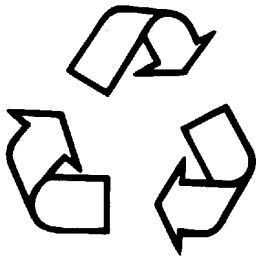
Dispose of Waste Properly

Improper disposal of waste can threaten the environment. Fuel, oils, coolants, filters and batteries used with this machine may be harmful if not disposed of properly.

Never pour waste onto the ground, down a drain, or into any water source.

Air conditioning refrigerants can damage the atmosphere. Government regulations may require using a certified service center to recover and recycle used refrigerants.

If uncertain about the safe disposal of waste, contact your local environmental or recycling center or your authorized dealer for more information.



T133567 —UN—25AUG00

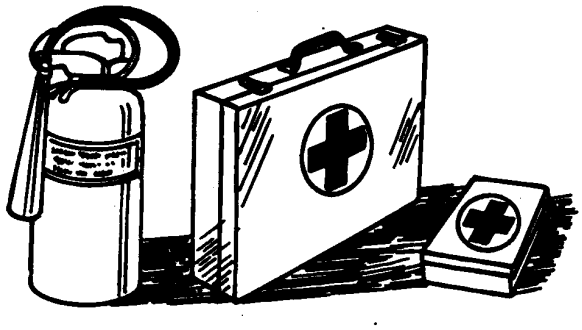
TX03679,0001733 -19-03JAN07-1/1

Prepare for Emergencies

Be prepared if an emergency occurs or a fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.



TS291 —UN—15APR13

TX03679,000174B -19-03JAN07-1/1

Indicator will light and buzzer will sound when engine coolant overheats. Reduce load immediately and run engine at slow idle. Inspect for debris around radiator. Check coolant level in the radiator recovery tank.

17. Attachment Mode Indicator: Not used.

18. Dig Mode Indicator: Indicator will light when Dig Mode is selected.

19. Dig Mode II Indicator: Indicator will light when Dig Mode II is selected.

20. Monitor Display: Displays Hour Meter, Trip Meter 1, and Trip Meter 2 information.

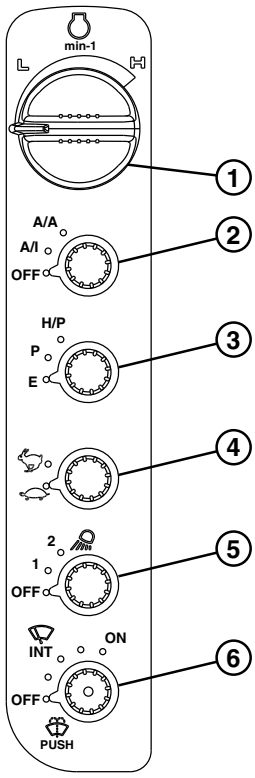
21. Auto-Idle Indicator: Indicator will light when the auto-idle/auto-acceleration switch is turned to the A/I or the A/A position. Indicator will flash when engine is started and either auto-idle or auto-acceleration mode is already activated.

22. Auto-Acceleration Indicator: Indicator will light when the auto-idle/auto-acceleration switch is turned to the A/A position. Indicator will flash when engine is started and auto-acceleration mode is already activated.

VD76477,0000106 -19-29JUN06-2/2

Front Switch Panel

1— Engine Speed Dial
2— Auto-Idle/Auto-Acceleration Switch
3— Power Mode Switch
4— Travel Speed Switch
5— Operating Lights Switch
6— Washer/Wiper Switch



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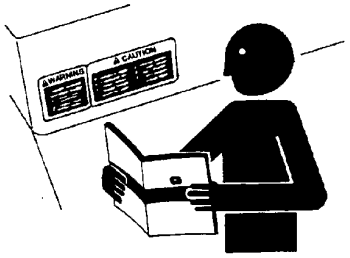
Before Starting Work

Review the operating precautions in the Safety Section of this manual.

Use seat belt when operating your machine. Remember to fasten seat belt even during brief periods of use.



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DW90712,000016A -19-29JUN06-1/1

Operator's Daily Machine Check Before Starting

Safety and Protective Devices Checks

Walk around machine to clear all persons from machine area before starting machine.

Check condition of guards, shields, and covers

Overall Machine Checks

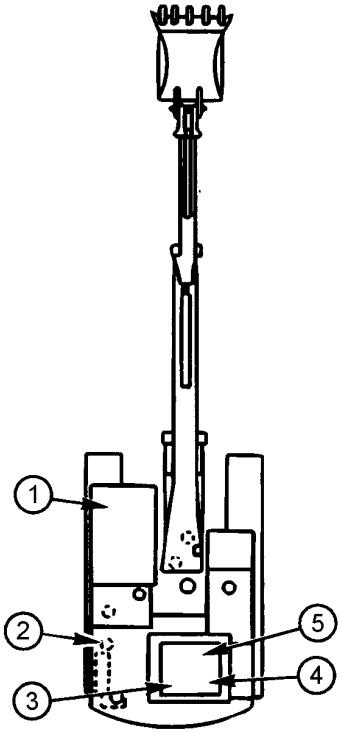
Check for worn or frayed electrical wires and loose or corroded connections.

Check for bent, broken, loose, or missing boom, bucket, sheet metal, track parts.

Check for loose or missing hardware

Check for oil leaks, missing or loose hose clamps, kinked hoses, and lines or hoses that rub against each other or other parts.

1— Check Pedal And Lever Movement/Clean Out Cab debris
2— Check Hydraulic Oil Level
3— Check/Clean Radiator And Oil Cooler Outer Fins
4— Check Coolant Recovery Tank Level
5— Check Engine Oil Level



T141222 —UN—11APR01

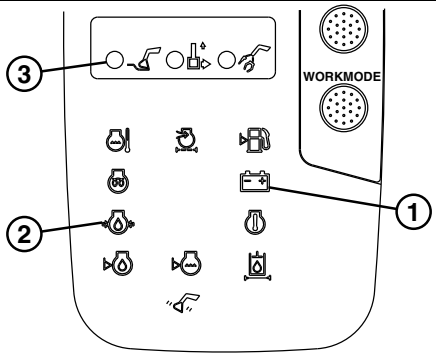
DW90712,000016B -19-29JUN06-1/1

Starting Engine

Before Starting the Engine

Turn key switch to ON position. All indicator lights will stay on for 3 seconds then go off except for alternator voltage indicator (1), engine oil pressure indicator (2), and dig mode indicator (3) which will continue to stay on.

1— Alternator Voltage Indicator
2— Engine Oil Pressure Indicator
3— Dig Mode Indicator



T140774 —UN—20APR01

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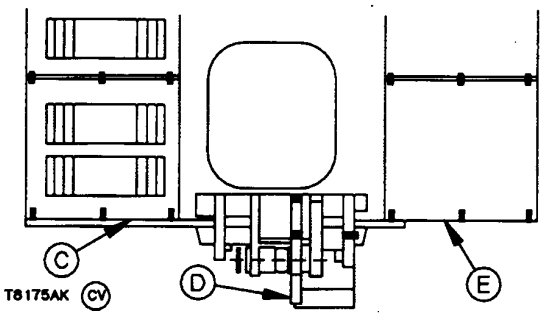
DW90712,000016C -19-29JUN06-1/2

6. Remove bottom covers (C and E).
7. Lift counterweight enough so weight of the counterweight is supported by the lifting device (D).

C—Bottom Cover
D—Lifting Device
E—Bottom Cover



T8175AK —UN—20FEB94

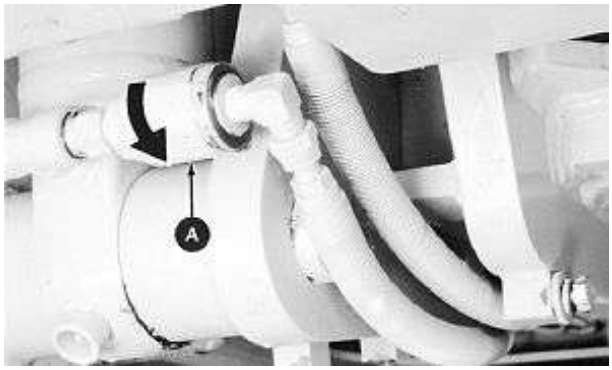
View looking up from below machine

DW90712,0000179 -19-29JUN06-3/10

8. Set variable orifice (A) by turning in the direction of the arrow until closed. Then open orifice two turns. Adjust as required to achieve desired counterweight lowering speed. Every 1/8 turn of the variable orifice changes the lowering cycle time approximately 6 seconds.

IMPORTANT: Linkage pivot areas may bind if not properly lubricated resulting in failure of the counterweight lift cylinder to raise counterweight to full height.

9. Grease all pivot areas of counterweight lift linkage (three fittings at the bottom and one fitting at the top of the counterweight cylinder) the **FIRST TIME** and every third time the counterweight device is operated.



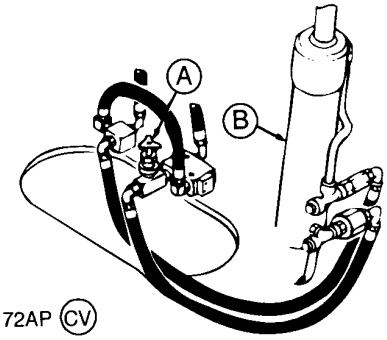
T8172AF —UN—20FEB94

A—Variable Orifice

DW90712,0000179 -19-29JUN06-4/10

10. Turn the handle of shut-off valve (A) (located through opening under the engine) counterclockwise to open hydraulic pressure to counterweight lift cylinder (B).

A—Shut-off Valve
B—Lift Cylinder



T8172AP —UN—20FEB94

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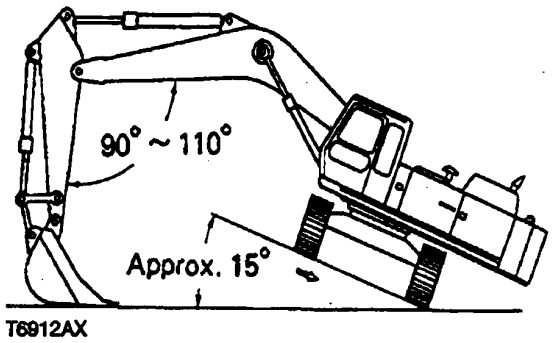
DW90712,0000179 -19-29JUN06-5/10

3. Raise side frame 15 degrees off the ground.
4. The side frame must slide against the inside stopper.
5. If side frame does not slide in this condition, vibrate side frame by slowly moving the track back and forth.
6. Lower machine to the ground.



T6912AX

T6912AX —19—07APR89

DW90712,000017C -19-29JUN06-2/3

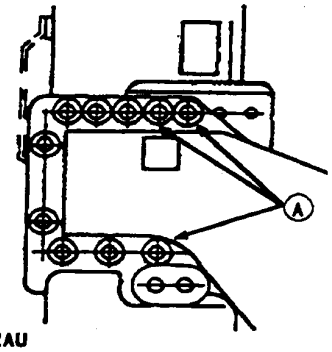
7. Fasten six cap screws (A) as shown (three cap screws at each of the two track frame supports). Tighten to 1720 N·m (1270 lb-ft).

Specification

Cap Screw—Torque..... 1720 N·m (1,270 lb-ft)

8. Repeat steps 1—7 to move opposite side frame into transport position.

A—Cap Screw



T6912AU

T6912AU —UN—07APR89

DW90712,000017C -19-29JUN06-3/3

Testing Diesel Engine Coolant

Maintaining adequate concentrations of glycol and inhibiting additives in the coolant is critical to protect the engine and cooling system against freezing, corrosion, and cylinder liner erosion and pitting.

Test the coolant solution at intervals of 12 months or less and whenever excessive coolant is lost through leaks or overheating.

Coolant Test Strips

Coolant test strips are available from your John Deere dealer. These test strips provide a simple, effective method to check the freeze point and additive levels of your engine coolant.

When Using John Deere COOL-GARD II

John Deere COOL-GARD II Premix™ , COOL-GARD II PG Premix and COOL-GARD II Concentrate are maintenance free coolants for up to six years or 6000 hours of operation, provided that the cooling system is topped off using only John Deere COOL-GARD II Premix or COOL-GARD II PG premix. Test the coolant condition annually with coolant test strips designed for use with John Deere COOL-GARD II coolants. If the test strip chart indicates that additive is required, add John Deere COOL-GARD II Coolant Extender as directed.

COOL-GARD is a trademark of Deere & Company

Add only the recommended concentration of John Deere COOL-GARD II Coolant Extender. DO NOT add more than the recommended amount.

When Using Nitrite-Containing Coolants

Compare the test strip results to the supplemental coolant additive (SCA) chart to determine the amount of inhibiting additives in your coolant and whether more John Deere Liquid Coolant Conditioner should be added.

Add only the recommended concentration of John Deere Liquid Coolant Conditioner. DO NOT add more than the recommended amount.

Coolant Analysis

For a more thorough evaluation of your coolant, perform a coolant analysis. The coolant analysis can provide critical data such as freezing point, antifreeze level, pH, alkalinity, nitrite content (cavitation control additive), molybdate content (rust inhibitor additive), silicate content, corrosion metals, and visual assessment.

Contact your John Deere dealer for more information on coolant analysis.

DX,COOL9 -19-11APR11-1/1

Alternative and Synthetic Lubricants

Conditions in certain geographical areas may require lubricant recommendations different from those printed in this manual. Some John Deere brand coolants and lubricants may not be available in your location.

Synthetic lubricants may be used if they meet the performance requirements as shown in this manual.

The temperature limits and service intervals shown in this manual apply to both conventional and synthetic oils.

Re-refined base stock products may be used if the finished lubricant meets the performance requirements.

If alternative hydraulic oils are required the hydraulic system needs to be completely flushed. This may require large amounts of oil to properly drain previous product.

NOTE: The following alternative oils could be used if factory fill has been completely flushed out.

Texaco Rando 46

Texaco Rando 32

Mobil DTE25-46

Mobil DTE25-32

Shell Tellus 46

Shell Tellus 32

IMPORTANT: Avoid mixing different brands or types of oils. Oil manufacturers blend base stock and additives to create their oils and to meet certain specifications and performance requirements. Mixing different oils can interfere with proper functioning of these formulations and degrade lubricant performance.

This excavator is factory filled with 46HN extended life zinc-free hydraulic oil. Avoid servicing this excavator with products that do not meet this specification. If oils have been mixed or if alternate service oils are desired, the complete hydraulic system needs to be totally flushed by an authorized dealer.

Consult your authorized dealer to obtain specific information and recommendations.

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Inspect Serpentine Belts

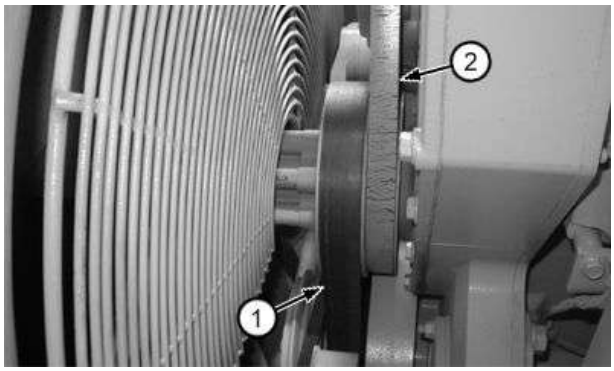
1. Check belts (1 and 2) regularly for wear, especially for cracks at the bottom of grooves and for frayed edges.

IMPORTANT: If either belt is stretched to the point that the belt tensioner is against its stop, belt must be replaced.

2. If necessary, replace belt.
3. Remove lower fan guard.

NOTE: Alternator belt requires a 1/2 inch square drive tool and fan belt requires a 3/4 inch square drive tool to release belt tension.

4. Hold tension adjuster assembly away from belt while removing old belt and installing new belt.
5. Install fan guard.



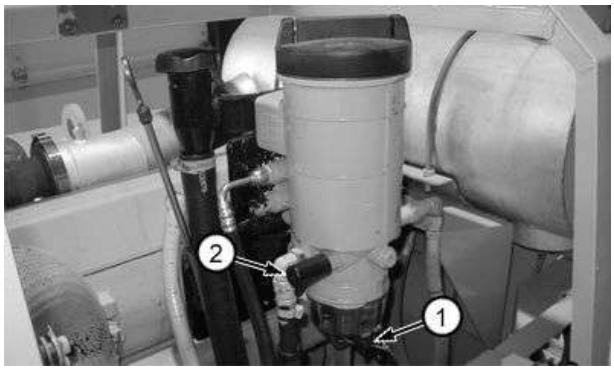
T141920B —UN—03MAY01

1— Belt **2— Belt**

OUOE003,00000B1 -19-14MAR01-1/1

Drain Primary Fuel Filter (Water Separator)

1. Open front engine door to access water separator.
2. Open drain valve (1) and pump primer (2) to extract water or debris from fuel system. Collect waste in a container and dispose of it properly.
3. Close drain valve.
4. Bleed fuel system. (See Bleed Fuel System in this Section.)



T141910B —UN—02MAY01

1— Drain Valve **2— Primer**

TX14740,0001D15 -19-20APR01-1/1

Clean or Replace Dusty Primary Element

1. Tap element (1) with the palm of your hand, NOT ON A HARD SURFACE.

CAUTION: Prevent possible injury from flying chips if compressed air is more than 210 kPa (2.1 bar) (30 psi). Reduce compressed air to less than 210 kPa (2.1 bar) (30 psi) when using for cleaning purposes. Clear area of bystanders, guard against flying chips, and wear personal protection equipment including eye protection.

2. If this does not remove dust, use compressed air under 210 kPa (2.1 bar) (30 psi).
3. Direct air up and down the pleats from inside to outside. Be careful not to make a break in the element.

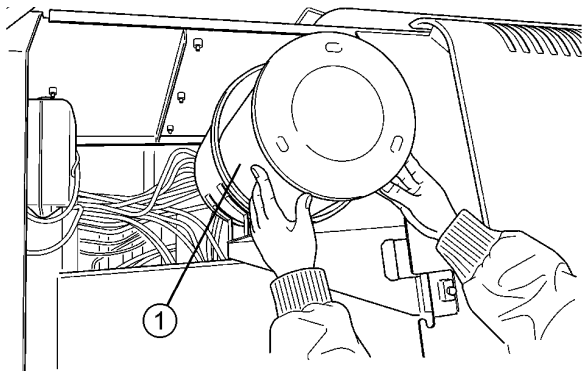
IMPORTANT: A damaged or dirty element may cause engine damage.

Install a new primary (outside) element:

1. **If the element shows damage.**
2. **If element will not clean.**
3. **After 1000 hours service or annually.**

Install a new secondary (inside) element:

1. **If the primary element is damaged and needs to be replaced.**
2. **If the element is visibly dirty.**



T136457 —UN—18DEC00

1— Air Cleaner Element

3. **After 1000 hours service or annually.**

DO NOT clean a secondary element. Install a new element carefully centering it in the canister.

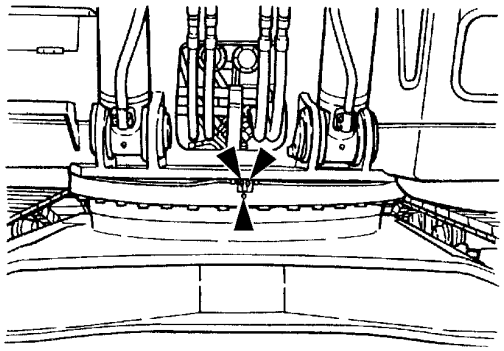
1. Inspect element and gasket for damage.
2. Air restriction indicator will not signal correctly if an element has a break or is not correctly sealed in air cleaner housing. Throw away element that has the slightest damage. If gasket is broken or missing, install a new element.

TX14740,0001CAD -19-29JUN06-1/1

Grease Swing Bearing

CAUTION: Prevent possible injury from unexpected machine movement if controls are moved by another person. Lubricating swing bearing and rotating the upperstructure must be done by one person. Before you lubricate swing bearing, clear the area of all persons.

1. Park machine on a level surface.
2. Stop engine.
3. Lubricate swing bearing with 6 shots of grease at each of three grease fittings.
4. Start engine. Raise bucket several inches off the ground and turn upperstructure 45 degrees.
5. Repeat steps 2—4 three times.



T140269 —UN—21MAR01

NOTE: It is not necessary to start the engine the last time.

TX14740,0001CFB -19-20MAR01-1/1

Change Hydraulic Tank Oil, Clean Suction Screen

NOTE: Change original factory fill hydraulic oil after first 4000 hours. Change every 4000 hours thereafter if using Super EX 46HN, if using premium AW46 oils change every 2000 hours thereafter.

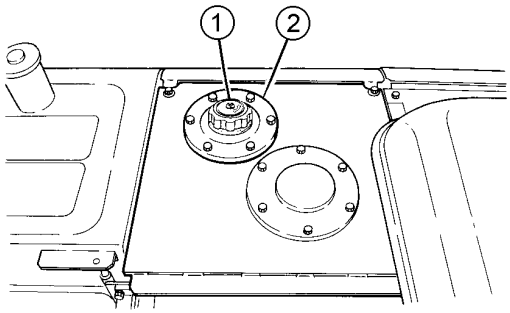
IMPORTANT: Prevent damage to hydraulic system components. DO NOT run engine without oil in the tank.

Avoid mixing different brands or types of oils. Oil manufacturers engineer their oils to meet certain specifications and performance requirements. Mixing different oil types can degrade lubricant and machine performance.

This excavator is factory filled with 46HN extended life zinc-free hydraulic oil. Avoid servicing this excavator with products that do not meet this specification. If oils have been mixed or if alternate service oils are desired, the complete hydraulic system needs to be totally flushed by an authorized dealer.

1. Park machine on level surface with upperstructure rotated 90° for easier access.
2. Position machine with arm cylinder fully retracted and bucket cylinder fully extended.
3. Stop engine.

T6811AJ —UN—18OCT88



T135008 —UN—01NOV01

1— Hydraulic Oil Cap **2— Hydraulic Oil Tank Cover**

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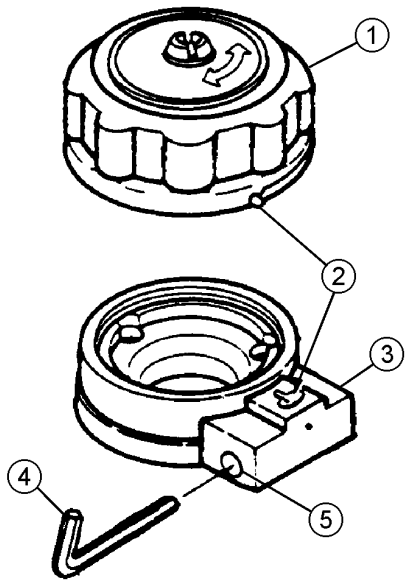
CAUTION: High pressure release of oil from pressurized system can cause serious burns or penetrating injury. The hydraulic tank is pressurized. DO NOT remove hydraulic cap. Relieve pressure by SLOWLY loosening cap.

4. Insert 4 mm hex wrench (4) into hole (5) and turn counterclockwise to release locking pin.
5. Slowly turn cap (1) counterclockwise a few degrees to relieve pressure. Remove cap.

Specification

Hydraulic Tank—Oil
Capacity..... 280.0 L (74.0 gal)

1— Cap
2— Aligning Marks
3— Case Assembly
4— Hex Wrench
5— Hole



T135189 —UN—06NOV00

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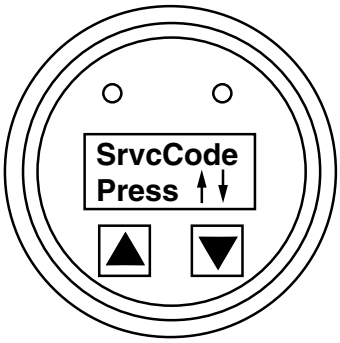
VD76477,000010C -19-29JUN06-2/5

Clearing Active Or Stored Service Codes From Diagnostic Display Unit Memory

1. Key switch ON.
2. Scroll through menu items until “SrvcCode” with up and down arrows appears on the display window.
3. Push both up and down arrows to display code.



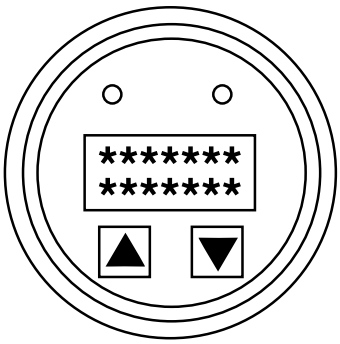
T139868

T139868 —UN—20MAR01

TX14740,0001D21 -19-21MAY07-14/15

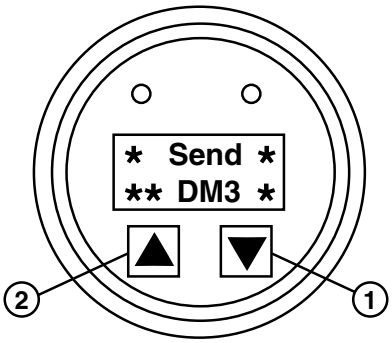
4. Push and hold both up and down arrows for more than 8 seconds. Two rows of stars will appear on the display window, and the yellow or red indicator light will go out. Release the up arrow (2) switch and continue to hold the down arrow (1) until “Send DM3” appears, indicating the code has been cleared. If the problem has not been repaired, the service code will reappear.

1— Down Arrow **2— Up Arrow**



T140051

T140051 —UN—20MAR01



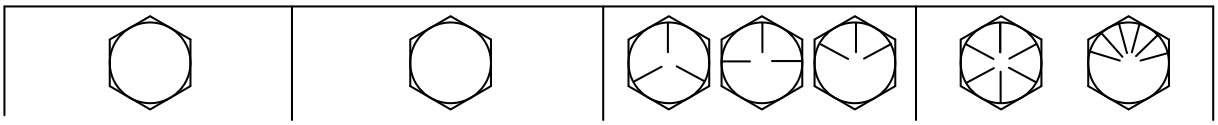
T140129

T140129 —UN—20MAR01

TX14740,0001D21 -19-21MAY07-15/15

Unified Inch Bolt and Screw Torque Values

TS1671 —UN—01MAY03



Bolt or Screw Size	SAE Grade 1				SAE Grade 2[a]				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]	
	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.	N·m	lb.-in.
1/4	3.7	33	4.7	42	6	53	7.5	66	9.5	84	12	106	13.5	120	17	150
													N·m	lb.-ft.	N·m	lb.-ft.
5/16	7.7	68	9.8	86	12	106	15.5	137	19.5	172	25	221	28	20.5	35	26
									N·m	lb.-ft.	N·m	lb.-ft.				
3/8	13.5	120	17.5	155	22	194	27	240	35	26	44	32.5	49	36	63	46
			N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.								
7/16	22	194	28	20.5	35	26	44	32.5	56	41	70	52	80	59	100	74
	N·m	lb.-ft.														
1/2	34	25	42	31	53	39	67	49	85	63	110	80	120	88	155	115
9/16	48	35.5	60	45	76	56	95	70	125	92	155	115	175	130	220	165
5/8	67	49	85	63	105	77	135	100	170	125	215	160	240	175	305	225
3/4	120	88	150	110	190	140	240	175	300	220	380	280	425	315	540	400
7/8	190	140	240	175	190	140	240	175	490	360	615	455	690	510	870	640
1	285	210	360	265	285	210	360	265	730	540	920	680	1030	760	1300	960
1-1/8	400	300	510	375	400	300	510	375	910	670	1150	850	1450	1075	1850	1350
1-1/4	570	420	725	535	570	420	725	535	1280	945	1630	1200	2050	1500	2600	1920
1-3/8	750	550	950	700	750	550	950	700	1700	1250	2140	1580	2700	2000	3400	2500
1-1/2	990	730	1250	930	990	730	1250	930	2250	1650	2850	2100	3600	2650	4550	3350

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For plastic insert or crimped steel type lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application. Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Replace fasteners with the same or higher grade. If higher grade fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

[a]Grade 2 applies for hex cap screws (not hex bolts) up to 6 in. (152 mm) long. Grade 1 applies for hex cap screws over 6 in. (152 mm) long, and for all other types of bolts and screws of any length.

[b]"Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or 7/8 in. and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.

[c]"Dry" means plain or zinc plated without any lubrication, or 1/4 to 3/4 in. fasteners with JDM F13B, F13E or F13H zinc flake coating.

DX,TORQ1 -19-12JAN11-1/1

Install Counterweight (Without Hydraulic Removal Option)

IMPORTANT: DO NOT attempt to remove or install counterweight with the track gauge in the narrow transport position. Before removing or installing the counterweight, the track gauge must be widened to the work position. See Track Gauge Transport Position Adjustment. (See Section 2-2.)

NOTE: Counterweight installation procedure must be performed with the machine located on a level surface.

1. Park machine on a level surface.
2. Rotate upperstructure 90°. lower front attachment to the ground.
3. Stop engine.

CAUTION: Prevent possible injury from unexpected counterweight movement. DO NOT go directly under machine counterweight. To remove or install counterweight hardware, go under machine entering from the area on either SIDE of the counterweight. Clear everyone from the area before removing or installing the counterweight.

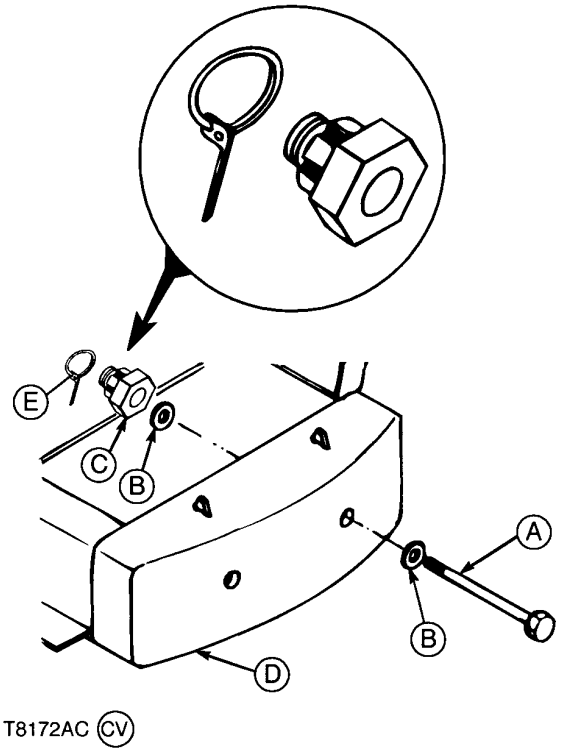
4. Remove the rear bottom covers from each side of the machine.
5. Open engine hood.

CAUTION: The approximate weight of the counterweight is 8210 kg (18,100 lb). Use an adequate lifting device when lifting the counterweight.

Specification

Counterweight—Weight..... 8210 kg (18,100 lb)

6. Lift counterweight into position.
7. Install parts (A—C) to attach counterweight to the machine.



T8172AC CV

T8172AC —UN—20FEB94

A—Tie Bolt (2 used)
B—Washer (4 used)
C—Slotted Nut
D—Counterweight
E—Lock Pin

8. Tighten each tie bolt (A) to 2400 N·m (1,770 lb-ft).

Specification

Bolt—Torque..... 2400 N·m (1,770 lb-ft)

NOTE: Tighten or loosen tie bolts (from torque) to align lock pins.)

9. Install lock pins (E).

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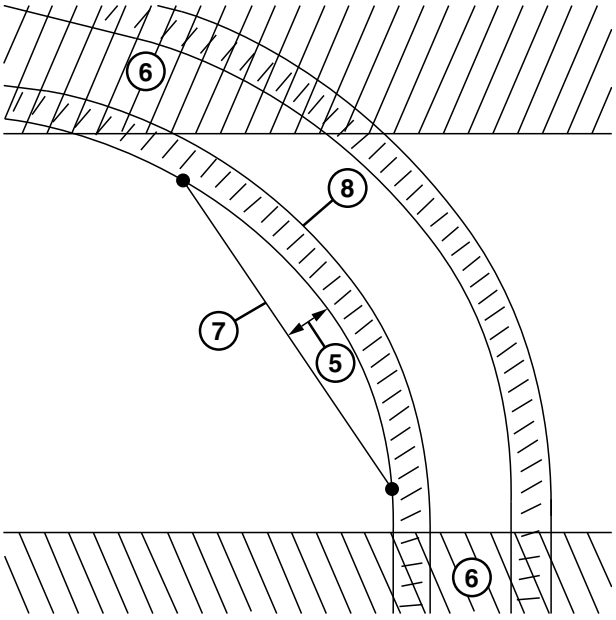
T1559,VV757 -19-22MAR00-1/2

Travel System Tracking Checks (Travel Only)	Engine at fast idle. Travel speed switch in fast position.  TX1120481 —UN—17AUG12 *Tracking Check* **5— Distance of Mistrack** **6— Acceleration and Deceleration Zone (approximately): 3—5 m (10—16 ft.)** **7— Test Line (distance): 20 m (66 ft.)** **8— Track Print** Operate machine at full travel forward speed on a flat and level surface approximately 30 m (99 ft.). *NOTE: When machine mistracks right, hydraulic pump 1 circuit oil flow may be less than specification. When machine mistracks left, hydraulic pump 2 circuit oil flow may be less than specification.* Observe direction of mistrack. Create a straight test line 20 m (66 ft.) (7) long between two points on track print (8). Measure and record greatest distance of mistrack (5) between inside edge of track print and test line. Repeat procedure in reverse travel. *LOOK: Do both tracks move and machine does not mistrack excessively in forward or reverse?*	**YES:** Go to next check. **NO:** Note which track does not move, or if machine mistracks note the mistrack pattern. Go to your authorized dealer.

VD76477,0000057 -19-12SEP12-17/27

Travel System Tracking Checks (While Operating A Digging Function)	Engine at fast idle. Travel speed switch in fast position. Travel machine at full speed forward on a flat and level area. After machine is moving, slowly move the arm control lever from neutral to full actuation to extend the arm. Does machine mistrack excessively when the arm is extended? *NOTE: Machine will slow down during this test.*	**YES:** Go to your authorized dealer. **NO:** Go to next check.

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VD76477,0000057 -19-12SEP12-18/27

Hydraulic System

Symptom	Problem	Solution
No Hydraulic Functions	Lack of hydraulic oil	Add oil.
	Pump and valve controller (PVC) fuse	Replace fuse.
	Clogged suction filter	Clean.
Hydraulic Functions Are Slow or Have Little or no Power	Low oil level	Fill reservoir to full mark.
	Cold oil	Push hydraulic warm-up switch.
	Wrong oil	Use correct oil.
	Suction screen clogged	Inspect and clean.
	Hydraulic tank cap	Replace cap.
Power Boost Does Not Work	Fuse	Check fuse.
Hydraulic Oil Overheats	Wrong oil	Use correct oil.
	Clogged radiator or oil cooler	Clean and straighten fins.
	Radiator screen clogged	Remove and clean.
	Low oil level	Fill tank to full mark.
Oil Foams	High or low oil level	Correct level.
	Wrong oil	Use correct oil.
	Water in oil	Change oil.
	Kinks or dents in oil lines	Check lines.
No Swing Function	Pilot control hoses pinched or kinked	Inspect and correct.
Swing Function Is "Jerky"	Lack of grease	Fill with grease
Slow Travel Speed only	Fuse	Replace fuse.
	Pilot controller hoses pinched or kinked	Inspect and correct.
Travel Is "Jerky"	Track sag adjustment	Adjust tension.
	Rocks or mud jammed in track frame	Remove and repair.
Engine Stops When Travel Or Control Lever Moved	Water separator clogged	Drain. Change element.

Continued on next page

Item	Measurement	Specification
1A—Maximum Digging Reach At Ground Level	Distance	With 2900 mm (9 ft 6 in.) Arm: 11140 mm (36 ft 7 in.)
	Distance	With 3400 mm (11 ft 2 in.) Arm: 11810 mm (38 ft 9 in.)
	Distance	With 3900 mm (12 ft 10 in.) Arm: 12270 mm (40 ft 3 in.)
	Distance	With 4900 mm (16 ft 1 in.) Arm: 13180 mm (43 ft 3 in.)
2—Maximum Digging Depth	Depth	With 2900 mm (9 ft 6 in.) Arm: 7260 mm (23 ft 10 in.)
	Depth	With 3400 mm (11 ft 2 in.) Arm: 7760 mm (25 ft 6 in.)
	Depth	With 3900 mm (12 ft 10 in.) Arm: 8260 mm (27 ft 1 in.)
	Depth	With 4900 mm (16 ft 1 in.) Arm: 9110 mm (29 ft 11 in.)
2A—Maximum Digging Depth At 2440 mm (8 ft level)	Depth	With 2900 mm (9 ft 6 in.) Arm: 7060 mm (23 ft 2 in.)
	Depth	With 3400 mm (11 ft 2 in.) Arm: 7620 mm (25 ft 0 in.)
	Depth	With 3900 mm (12 ft 10 in.) Arm: 8130 mm (26 ft 8 in.)
	Depth	With 4900 mm (16 ft 1 in.) Arm: 9000 mm (29 ft 6 in.)
3—Maximum Cutting Height	Height	With 2900 mm (9 ft 6 in.) Arm: 10270 mm (33 ft 8 in.)
	Height	With 3400 mm (11 ft 2 in.) Arm: 11080 mm (36 ft 4 in.)
	Height	With 3900 mm (12 ft 10 in.) Arm: 11180 mm (36 ft 8 in.)
	Height	With 4900 mm (16 ft 1 in.) Arm: 11850 mm (38 ft 8 in.)
4—Maximum Dumping Height	Height	With 2900 mm (9 ft 6 in.) Arm: 7040 mm (23 ft 1 in.)
	Height	With 3400 mm (11 ft 2 in.) Arm: 7660 mm (25 ft 2 in.)
	Height	With 3900 mm (12 ft 10 in.) Arm: 7780 mm (25 ft 6 in.)
	Height	With 4900 mm (16 ft 1 in.) Arm: 8770 mm (28 ft 9 in.)
5—Minimum Swing Radius	Radius	With 2900 mm (9 ft 6 in.) Arm: 4920 mm (16 ft 2 in.)
	Radius	With 3400 mm (11 ft 2 in.) Arm: 4840 mm (15 ft 11 in.)
	Radius	With 3900 mm (12 ft 10 in.) Arm: 4810 mm (15 ft 9 in.)
	Radius	With 4900 mm (16 ft 1 in.) Arm: 4820 mm (15 ft 10 in.)
6—Maximum Vertical Wall	Depth	With 2900 mm (9 ft 6 in.) Arm: 5340 mm (17 ft 6 in.)

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TX,115,DY2391 -19-19APR01-2/3