160GLC and 180GLC Excavators

(PIN: 1FF160GX_ _D055001—)

(PIN: 1FF180GX_ _D020001—)

JOHN DEERE

OPERATOR'S MANUAL

160GLC and 180GLC Excavators

OMT308595 ISSUE L3 (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.

**Worldwide Construction,
And Forestry Division**

PRINTED IN U.S.A.

Air Induction System

- Intake manifold
- Turbocharger
- Charge air cooler

Fuel Metering system

- Fuel injection system

Exhaust Gas Recirculation

- EGR valve

Catalyst or Thermal Reactor Systems

- Catalytic converter
- Exhaust manifold

Emission control labels

Particulate Controls

- Any device used to capture particulate emissions
- Any device used in the regeneration of the capturing system
- Enclosures and manifolding
- Smoke Puff Limiters

Positive Crankcase Ventilation (PCV) System

- PCV valve
- Oil filler cap

Advanced Oxides of Nitrogen (NOx) Controls

- NOx absorbers and catalysts

SCR systems and urea containers/dispensing systems

Miscellaneous Items used in Above Systems

- Electronic control units, sensors, actuators, wiring harnesses, hoses, connectors, clamps, fittings, gasket, mounting hardware

Any warranted emissions-related part scheduled for replacement as required maintenance is warranted by John Deere for the period of time prior to the first scheduled replacement point for the part. Any warranted emissions-related part not scheduled for replacement as required maintenance or scheduled only for regular inspection is warranted by John Deere for the stated warranty period.

OWNER'S WARRANTY RESPONSIBILITIES:

As the off-road diesel engine owner you are responsible for the performance of the required maintenance listed in your Operator’s Manual. John Deere recommends that the owner retain all receipts covering maintenance on the off-road diesel engine, but John Deere cannot deny warranty solely for the lack of receipts or for the owner’s failure to ensure the performance of all scheduled maintenance. However, as the off-road diesel engine owner, you should be aware that John Deere may deny you warranty coverage if your off-road diesel engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

The off-road diesel engine is designed to operate on diesel fuel as specified in the Fuels, Lubricants and Coolants section in the Operators Manual. Use of any other fuel may result in the engine no longer operating in compliance with applicable emissions requirements.

The owner is responsible for initiating the warranty process, and should present the machine to the nearest authorized John Deere dealer as soon as a problem is suspected. The warranty repairs should be completed by the authorized John Deere dealer as quickly as possible.

Emissions regulations require the customer to bring the unit to an authorized servicing dealer when warranty service is required. As a result, John Deere is NOT liable for travel or mileage on emissions warranty service calls.

Emission_CI_CARB (14Apr20)

Continued on next page

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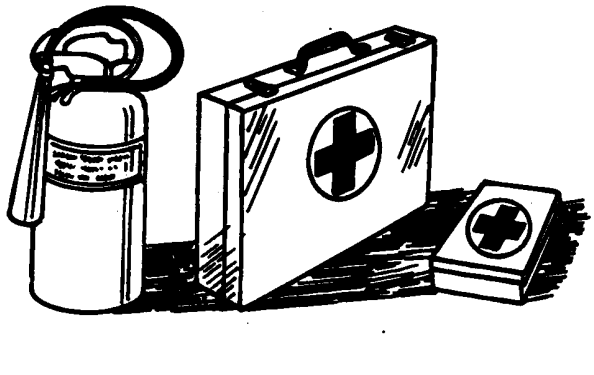
Prepare for Emergencies

Be prepared if 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

DX,FIRE2-19-03MAR93-1/1

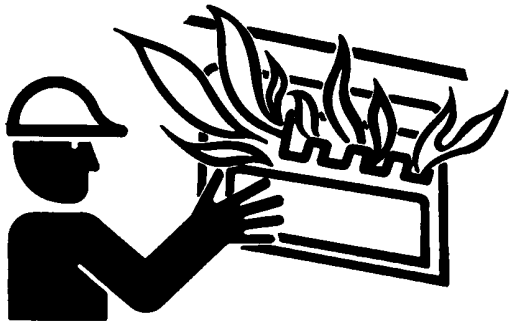
Clean Debris from Machine

Keep engine compartment, radiator, batteries, hydraulic lines, exhaust components, fuel tank, and operator's station clean and free of debris.

Clean any oil spills or fuel spills on machine surfaces.

Temperature in engine compartment could go up immediately after engine is stopped. BE ON GUARD FOR FIRES DURING THIS PERIOD.

Open access door(s) to cool the engine faster, and clean engine compartment.



T6669AG—UN—15APR13

TX,DEBRIS-19-16MAY23-1/1

4. **DANGER, Start Only From Seat**

   Start only from seat in park or neutral. Starting in gear kills.

   This safety message is positioned on the starter inside the engine compartment.

TX1099889—19—05DEC11

DANGER, Start Only From Seat

MB60223,00002BC-19-25FEB15-5/29

5. **WARNING, Stay Clear**

   Operator may swing or reverse machine.

   This safety label is located at the rear of the machine on each side of the counterweight.

TX1104370—19—19DEC12

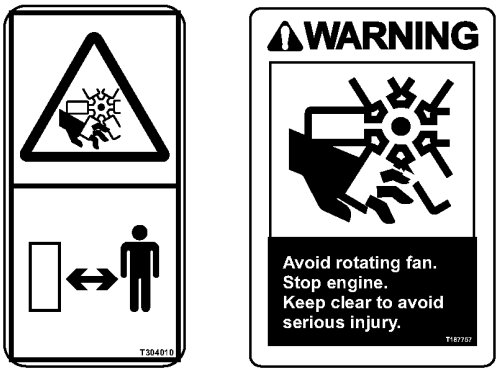
WARNING, Stay Clear

MB60223,00002BC-19-25FEB15-6/29

6. **WARNING, Rotating Fan Blade**

   Avoid injury, keep clear of rotating fan blade.

   This safety label is located on top of the engine.



TX1103569—19—16DEC11

WARNING, Rotating Fan Blade

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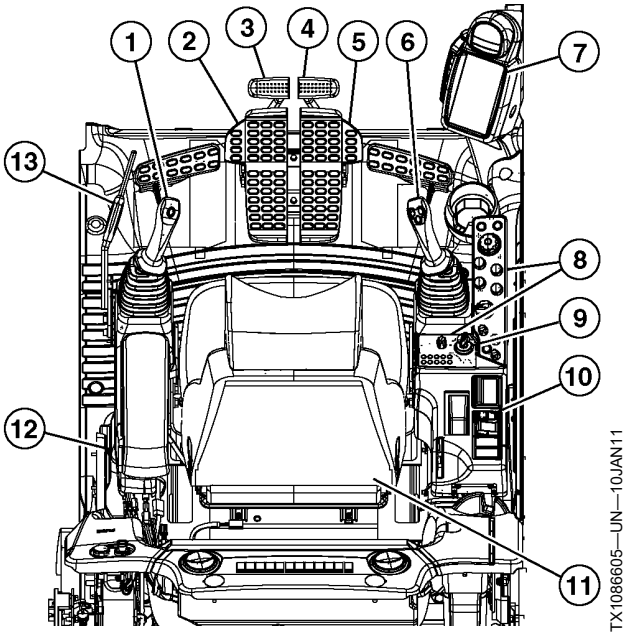
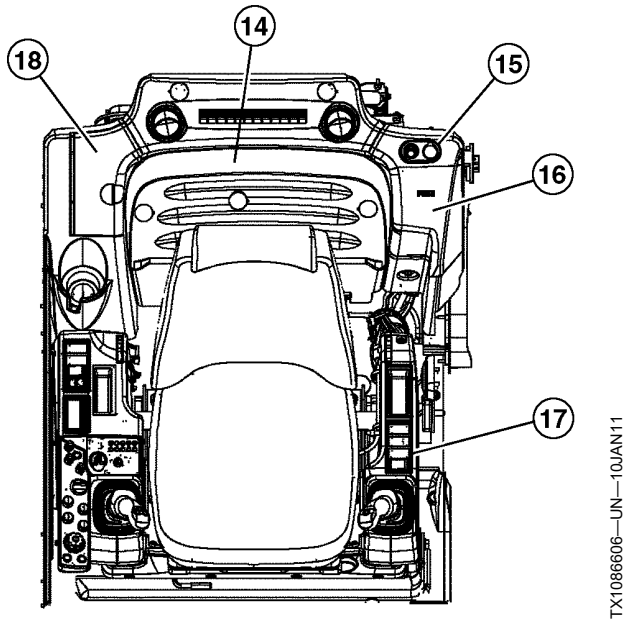
MB60223,00002BC-19-25FEB15-7/29

Pedals, Levers, and Panels

1—Left Pilot Control Lever (3 button lever optional)/Horn Button (bottom button on top of lever)
2—Left Travel Pedal
3—Left Travel Lever
4—Right Travel Lever
5—Right Travel Pedal
6—Right Pilot Control Lever/ Power Boost Button (bottom button on top of lever)
7—Monitor
8—Switch Panel
9—Key Switch
10—Right Console
11—Operator's Seat
12—Cab Door Release Lever
13—Pilot Shutoff Lever
14—Rear Deck
15—Lighter/Accessory Power Port
16—Fuse Box Cover
17—Left Console
18—Storage Compartment



Pedals, Levers and Panels



Fuse Box and Left Console

OUT4001,000073A-19-30MAY18-1/1

Operating the AM/FM Radio

Press the radio power and volume switch (1) to turn on the radio. Rotate the radio power and volume switch to desired volume setting. Treble and base settings are available through the monitor menu. For more information, see Main Menu—Radio. (Section 2-2.)

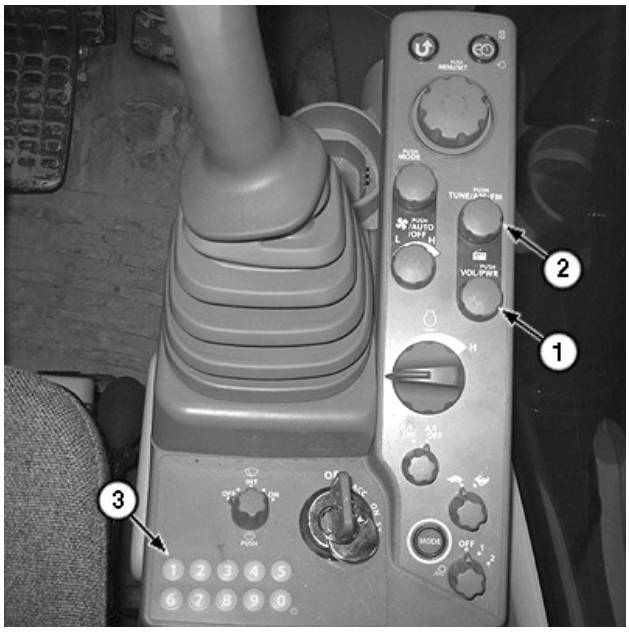
Press the radio tuning switch (2) to toggle between AM or FM frequency. Rotate radio tuning switch to tune radio to desired AM or FM station. To find the clearest reception stations for the area, use the seek function that is available through the monitor menu. For more information, see Main Menu—Radio. (Section 2-2.)

Press buttons 1—8 on the keypad (3) to move between preset memory radio stations. Radio display (4) on monitor shows the station and frequency setting that corresponds with each keypad button.

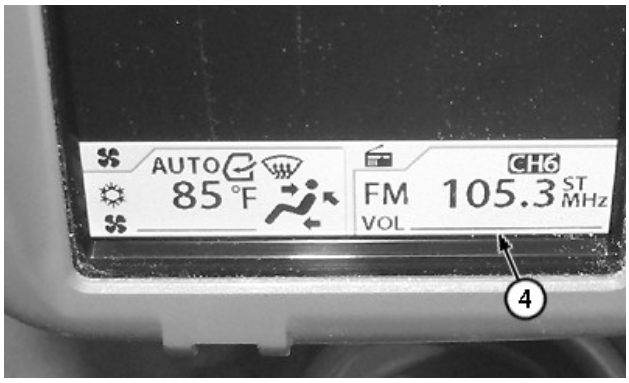
NOTE: Presetting memory radio stations can also be done using the monitor menu. Stations can be automatically selected for the area using the auto preset option in the monitor menu. For more information, see Main Menu—Radio. (Section 2-2.)

To preset memory radio stations or to change previously set stations using the keypad, tune radio to desired station setting. Press and hold one of the keypad buttons 1—8 for more than 1 second. Setting is stored to that corresponding button. Repeat procedure for seven other desired stations.

1—Radio Power and Volume Switch
2—Radio Tuning Switch
3—Keypad
4—Radio Display



Radio Controls on Switch Panel



Radio Display on Monitor

OUT4001,0000743-19-19FEB18-1/1

Main Menu—Alarm List

The **Alarm List** menu will always appear as the first submenu under Main Menu, but ONLY if there is an actual alarm generated. If there is more than one alarm, a list will be displayed. If there are no alarms, Alarm List will not appear as a submenu.

The submenus under Main Menu that appear on monitor include:

NOTE: Alarm List ONLY appears as a submenu if there is an actual alarm.

- **Alarm List**
- **Air Conditioner**
- **Radio**
- **Work Mode**
- **Setting Menu**
- **Information Menu**

At Main Menu screen (1) with Alarm List highlighted, press monitor dial (2) to view generated alarms.

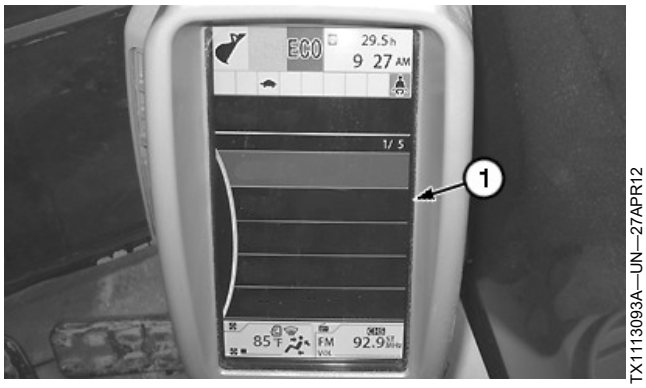
If there is more than one alarm, rotate monitor dial to highlight a particular alarm. Press monitor dial to view detailed information about that alarm and how to rectify the problem.

When an alarm indicator appears on the monitor display, an alarm light (5) is also illuminated on the bottom of the monitor to alert the operator.

Press Back button (3) to return to previous screen.

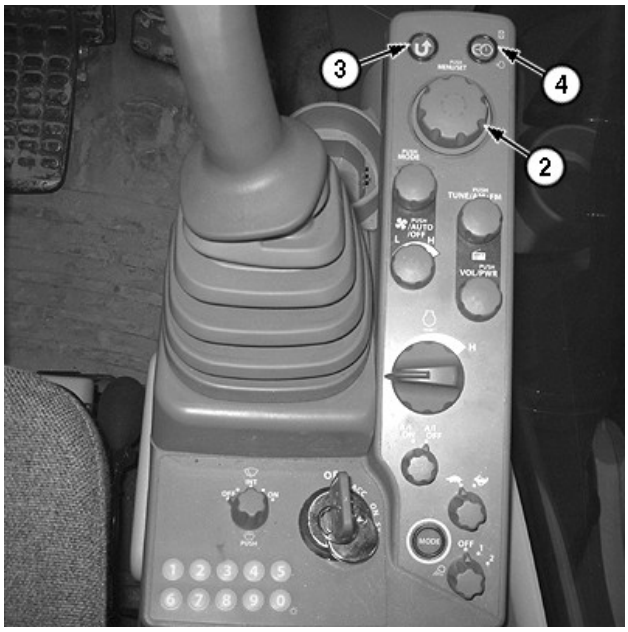
Press Home button (4) to return to default screen.

1—Main Menu Screen
2—Monitor Dial
3—Back Button
4—Home Button
5—Alarm Light



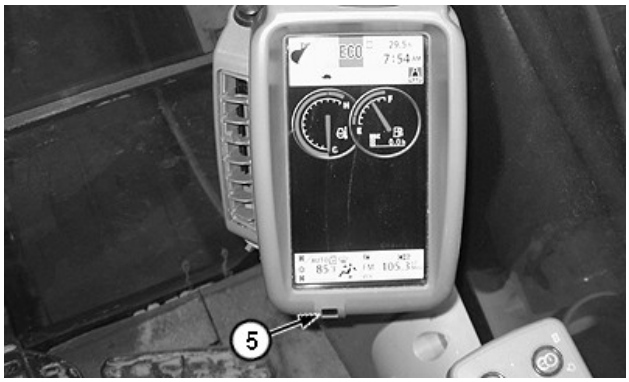
TX1113093A—UN—27APR12

Main Menu Screen



TX1086272A—UN—27DEC10

Switch Panel



TX1113160A—UN—30APR12

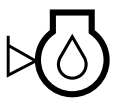
Alarm Light

DB84312,0000172-19-12FEB15-1/19

Possible alarm indicators that could appear are:

TX1086348—UN—06JAN11

•**Engine Oil Level Alarm—**Check engine oil level and refill oil.



Engine Oil Level Alarm

Continued on next page

DB84312,0000172-19-12FEB15-2/19

Main Menu—Setting Menu—Auto-Shutdown

The **Auto-Shutdown** menu provides the capability to turn on this feature and set a desired time for machine shutdown to take place.

At Setting Menu, rotate monitor dial to highlight Auto-Shutdown. Press monitor dial to display Auto-Shutdown menu.

Auto-Shutdown menu items include:

NOTE: When auto-shutdown is ON, the color of the preceding square is green and A/S will appear on the default screen. When auto-shutdown is OFF, the color of the preceding square is gray.

☐ **ON (Enable)**
Rotate monitor dial to highlight ON (enable). Press monitor dial to turn the auto-shutdown function ON. Press monitor dial again to turn the auto-shutdown function OFF.

NOTE: Setting Time minute increment needs to be set before enabling auto-shutdown.

Setting Time
Rotate monitor dial to highlight Setting Time and press monitor dial (backlighting turns orange). Rotate monitor dial to adjust the auto-shutdown acting time. Auto-shutdown can be set to activate after 1, 2, 3, 4, 5, 7, 10, 15, 20, 25, or 30 minute increments. Press monitor dial to store desired time setting.

The following conditions must be met in order for auto-shutdown to work:

- Engine operated in auto-idle for the set amount of time that was selected for auto-shutdown.
- Pilot shutoff lever is in locked (UP) position.
- Engine coolant temperature is greater than 60°C (140° C) but lower than 100°C (212°F).

*NOTE: Thirty seconds before the engine stops, the monitor will display **Engine Shutdown Soon** message.*

Press back button to return to previous screen.

Press home button to return to default screen.

KR46761,00015D6-19-31JUL17-1/1

Main Menu—Setting Menu—Auto Exhaust Filter Cleaning

This feature is not available for this machine.

DB84312,0000170-19-11MAY16-1/1

Starting Engine

IMPORTANT: Prevent possible damage to engine. Temperatures below -20°C (-4°F) require an additional warmup period. See Cold Weather Warmup in this section.

Before Starting the Engine

Turn key switch to ON position. The system starting screen (1) displays for about 2 seconds and then the default screen (2) is displayed.

Starting the Engine

1. Move pilot shutoff lever to the locked (UP) position to start machine.
2. Move engine speed dial (3) to slow idle position.
3. Sound horn to alert persons nearby.

IMPORTANT: Prevent starter damage. Never operate starter for more than 10 seconds at a time. If engine does not start, return key switch to OFF. Wait for more than 30 seconds, then try again. After a false start, DO NOT turn key switch until engine stops.

4. Turn key switch to START. Release the key switch immediately after the engine has started. Switch will return to ON position.

After Starting Check

IMPORTANT: Prevent possible damage to engine. If alarm indicators remain illuminated after starting engine, IMMEDIATELY STOP THE ENGINE. Find and correct the problem. See Main Menu—Alarm List. (Section 2-2.)

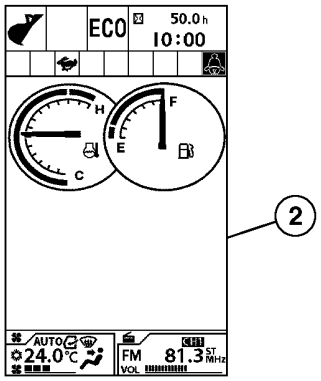
After the engine is started, check that no alarm indicators are shown on display.

Warming The Engine

1. Run engine at 1/3 speed for 30 seconds. Do not run engine at fast or slow idle. Do not accelerate rapidly during warmup.
2. Operate machine at less-than-normal loads and speeds until engine is at normal operating temperature.

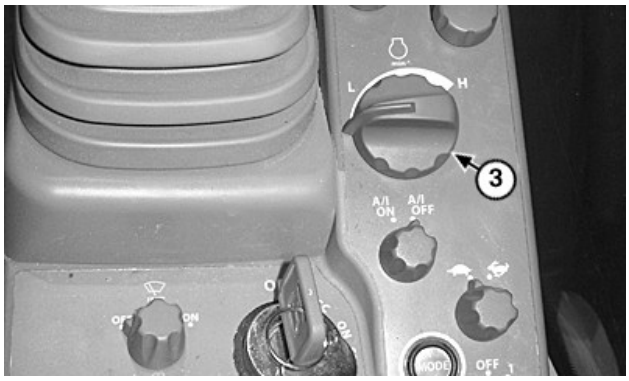
TX1086287A—UN—28DEC10

System Starting Screen



TX1113436—UN—04MAY12

Default Screen



TX1086455A—UN—04JAN11

Engine Speed Dial

1—System Starting Screen
2—Default Screen
3—Engine Speed Dial

DB84312,000019C-19-04MAY12-1/1

Control Lever Pattern Operation

CAUTION: Avoid personal injury from unexpected machine movement. Never place any part of body beyond window frame to avoid serious crushing injury from boom. Boom could lower if the control lever is accidentally bumped or otherwise engaged. Immediately replace a missing or broken window.

Prevent injury from unexpected control lever function. Be aware of the control lever pattern used on the machine before operating.

The machine comes equipped from the factory with the excavator control lever pattern. A label, with both the excavator and backhoe control lever patterns, is installed on the right cab window.

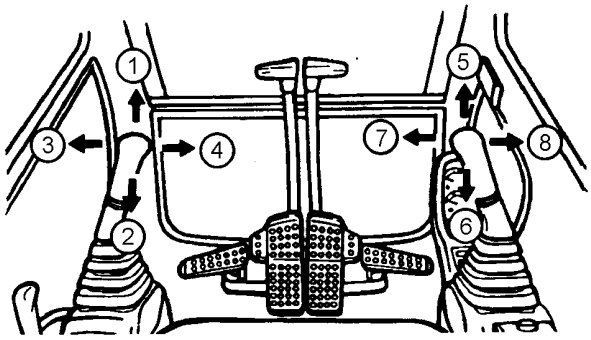
Check the patterns on the label, and then carefully operate the control levers to verify the pattern on machine.

To change the pattern from excavator to backhoe, see Mechanical Control Lever Pattern Selector—If Equipped in this section.

NOTE: A control pattern selector is an available field kit, that when installed, allows operator to change the control lever pattern using a mechanical valve.

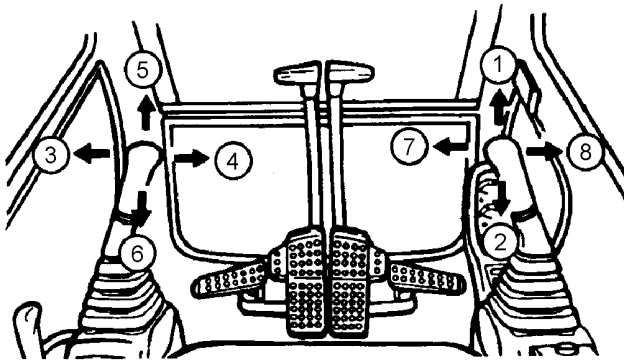
Control levers return to neutral when released. Functions will stop and remain positioned. The parking brake for swing and travel will engage.

1—Arm Out
2—Arm In
3—Swing Left
4—Swing Right
5—Boom Down
6—Boom Up
7—Bucket Curl
8—Bucket Dump



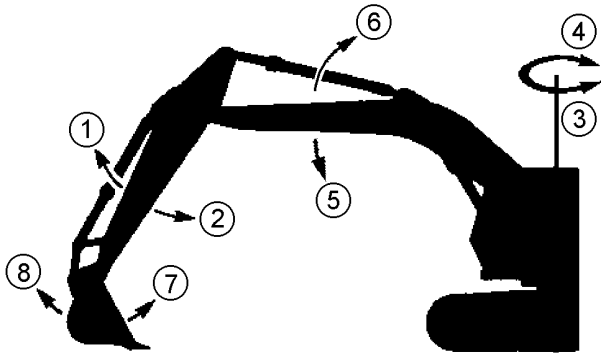
T137500—UN—25JAN01

Excavator Control Lever Pattern



T137498—UN—25JAN01

Backhoe Control Lever Pattern



T137499—UN—25JAN01

Boom, Arm, Bucket Movement

DB84312,000015C-19-19MAR12-1/1

Biodiesel Fuel

Biodiesel fuel is comprised of monoalkyl esters of long chain fatty acids derived from vegetable oils or animal fats. Biodiesel blends are biodiesel mixed with petroleum diesel fuel on a volume basis.

Before using fuel containing biodiesel, review the Biodiesel Use Requirements and Recommendations in this Operator's Manual.

Environmental laws and regulations can encourage or prohibit the use of biofuels. Operators should consult with appropriate governmental authorities prior to using biofuels.

John Deere Stage V Engines Operating in the European Union

Where the engine is to be operated within the Union on diesel or non-road gas-oil, a fuel with a FAME content not greater than 8% volume/volume (B8) shall be used.

John Deere Engines with Exhaust Filter Except Stage V Engines Operating in the European Union

Biodiesel blends up to B20 can be used ONLY if the biodiesel (100% biodiesel or B100) meets ASTM D6751, EN 14214, or equivalent specification. Expect a 2% reduction in power and a 3% reduction in fuel economy when using B20.

Biodiesel concentrations above B20 can harm the engine's emission control systems and should not be used. Risks include, but are not limited to, more frequent stationary regeneration, soot accumulation, and increased intervals for ash removal.

John Deere Fuel conditioners or equivalent, which contain detergent and dispersant additives, are required when using biodiesel blends from B10 to B20, and are recommended when using lower biodiesel blends.

John Deere Engines Without Exhaust Filter

Biodiesel blends up to B20 can be used ONLY if the biodiesel (100% biodiesel or B100) meets ASTM D6751, EN 14214, or equivalent specification. Expect a 2% reduction in power and a 3% reduction in fuel economy when using B20.

These John Deere engines can operate on biodiesel blends above B20 (up to 100% biodiesel). Operate at levels above B20 ONLY if the biodiesel is permitted by law and meets the EN 14214 specification (primarily available in Europe). Engines operating on biodiesel blends above B20 might not fully comply with or be permitted by all applicable emissions regulations. Expect up to a 12% reduction in power and an 18% reduction in fuel economy when using 100% biodiesel.

John Deere fuel conditioners or equivalent, which contain detergent and dispersant additives, are required when using biodiesel blends from B10 to B100, and are recommended when using lower biodiesel blends.

Biodiesel Use Requirements and Recommendations

The petroleum diesel portion of all biodiesel blends must meet the requirements of ASTM D975 (US) or EN 590 (EU) commercial standard.

Biodiesel users in the U.S. are strongly encouraged to purchase biodiesel blends from a BQ-9000 Certified Marketer and sourced from a BQ-9000 Accredited Producer (as certified by the National biodiesel Board). Certified Marketers and Accredited Producers can be found at the following website: http://www.bq9000.org.

Biodiesel contains residual ash. Ash levels exceeding the maximums allowed in either ASTM D6751 or EN14214 can result in more rapid ash loading and require more frequent cleaning of the Exhaust Filter (if present).

The fuel filter can require more frequent replacement when using biodiesel fuel, particularly if switching from diesel. Check engine oil level daily prior to starting engine. A rising oil level can indicate fuel dilution of the engine oil. Biodiesel blends up to B20 must be used within 90 days of the date of biodiesel manufacture. Biodiesel blends above B20 must be used within 45 days from the date of biodiesel manufacture.

When using biodiesel blends up to B20, the following must be considered:

- Cold-weather flow degradation
- Stability and storage issues (moisture absorption, microbial growth)
- Possible filter restriction and plugging (usually a problem when first switching to biodiesel on used engines)
- Possible fuel leakage through seals and hoses (primarily an issue with older engines)
- Possible reduction of service life of engine components

Request a certificate of analysis from your fuel distributor to ensure that the fuel is compliant with the specifications provided in this Operator's Manual.

Consult your John Deere dealer for John Deere fuel products to improve storage and performance with biodiesel fuels.

The following must also be considered if using biodiesel blends above B20:

- Possible coking or blocked injector nozzles, resulting in power loss and engine misfire if John Deere fuel additives and conditioners or equivalent containing detergent/dispersants are not used
- Possible crankcase oil dilution (requiring more frequent oil changes)
- Possible lacquering or seizure of internal components
- Possible formation of sludge and sediments
- Possible thermal oxidation of fuel at elevated temperatures
- Possible compatibility issues with other materials

Continued on next page

DX,FUEL7-19-13JAN18-1/2

Drain Intervals for Diesel Engine Coolant

Drain and flush the cooling system and refill with fresh coolant at the indicated interval, which varies with the coolant used.

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.

If John Deere COOL-GARD™ II Premix, COOL-GARD II PG Premix, or COOL-GARD II Concentrate is used, but the coolant is not tested OR additives are not replenished by adding John Deere COOL-GARD II Coolant Extender, the drain interval is four years or 4000 hours of operation. This drain interval only applies to COOL-GARD II coolants that have been maintained within a 40—60% mixture of concentrate with quality water.

If a coolant other than COOL-GARD II, or COOL-GARD II PG is used, reduce the drain interval to two years or 2000 hours of operation.

COOL-GARD is a trademark of Deere & Company

DX,COOL11-19-14APR11-1/1

John Deere COOL-GARD™ II Coolant Extender

Some coolant additives gradually deplete during engine operation. For COOL-GARD™ II pre-mix and COOL-GARD II Concentrate, replenish coolant additives between drain intervals by adding COOL-GARD II Coolant Extender.

COOL-GARD II Coolant Extender should not be added unless indicated by COOL-GARD II Test Strips. These test strips provide a simple, effective method to check the freeze point, additive levels, and pH of your engine coolant.

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

IMPORTANT: Do not use COOL-GARD II Test Strips with COOL-GARD II PG.

COOL-GARD II Coolant Extender is a chemically matched additive system for use with all COOL-GARD II coolants. COOL-GARD II Coolant Extender is not intended for use with nitrite-containing coolants.

IMPORTANT: Do not add a supplemental coolant additive when the cooling system is drained and refilled with any of the following:

- **John Deere COOL-GARD II**
- **John Deere COOL-GARD II PG**

The use of non-recommended supplemental coolant additives can result in additive drop-out, gelation of the coolant, or corrosion of cooling system components.

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

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DX,COOL16-19-15MAY13-1/1

Supplemental Coolant Additives

Some coolant additives will gradually deplete during engine operation. For nitrite-containing coolants, replenish coolant additives between drain intervals by adding a supplemental coolant additive as determined necessary by coolant testing.

John Deere Liquid Coolant Conditioner is recommended as a supplemental coolant additive for nitrite-containing coolants.

John Deere Liquid Coolant Conditioner is not designed for use with John Deere COOL-GARD™ II Premix, COOL-GARD II PG Premix, or COOL-GARD II Concentrate.

IMPORTANT: Do not add a supplemental coolant additive when the cooling system is drained and refilled with any of the following:

- **John Deere COOL-GARD II**
- **John Deere COOL-GARD II PG**

If other coolants are used, consult the coolant supplier and follow the manufacturer's recommendation for use of supplemental coolant additives.

The use of non-recommended supplemental coolant additives may result in additive drop-out and gelation of the coolant.

Add the manufacturer's recommended concentration of supplemental coolant additive. DO NOT add more than the recommended amount.

COOL-GARD is a trademark of Deere & Company

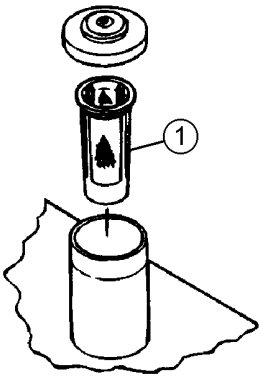
DX,COOL4-19-14APR11-1/1

Remove and Clean Fuel Tank Inlet Screen

Clean fuel tank inlet screen (1) using solvent or diesel fuel to remove any debris.

Replace screen if damaged.

1—Fuel Tank Inlet Screen



T135186—UN—06NOV00

Fuel Tank Inlet Screen

ER79617,0000A84-19-07APR16-1/1

Check Windshield Washer Fluid Level

1. On left side of machine, open service door to access windshield washer fluid bottle (1).

NOTE: During winter season, use all-season windshield washer fluid which will not freeze.

2. Check fluid level in windshield washer fluid bottle and refill as required.

1—Windshield Washer Fluid Bottle

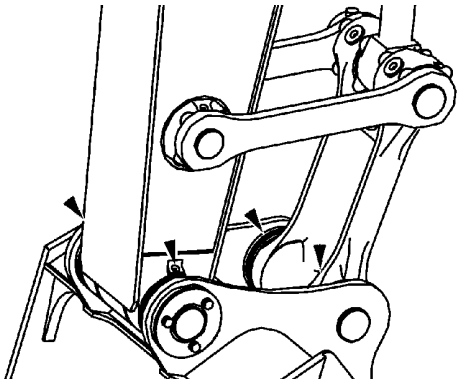
TX1114116A—UN—18MAY12

Windshield Washer Fluid Level

DB84312,00001B4-19-18MAY12-1/1

Lubricate Working Tool Pivots

Lubricate working tool pivots (4 points) until grease escapes from joints. Lubricate every 4 hours for first 20 hours. Lubricate every 10 hours during first 30—100 hours and when working in mud and water.



TX1000687—UN—23NOV05

Four Points

VD76477,000036F-19-27MAY11-1/1

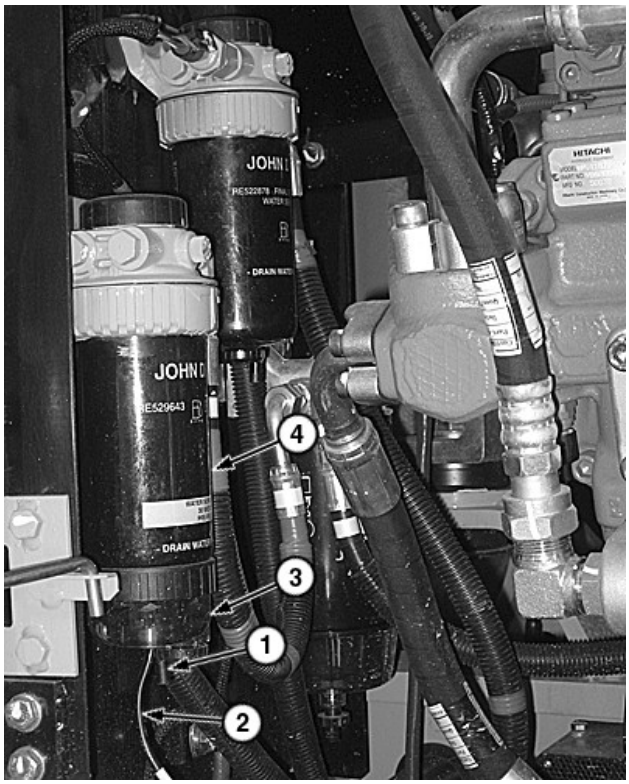
Replace Primary Fuel Filter and Water Separator

1. Ensure key switch is in the OFF position.
2. Open right service door to access primary fuel filter and water separator assembly (4).
3. Thoroughly clean exterior of primary fuel filter and water separator assembly and surrounding area.
4. Disconnect the water-in-fuel (WIF) sensor wiring (2).
5. Loosen drain valve (1) to relieve pressure and drain water and contaminants from water separator bowl (3) into a suitable container. Dispose of waste properly. Close drain valve.
6. Remove water separator bowl from filter element. Clean and dry separator bowl.
7. Inspect bowl. Replace if necessary.
8. Remove filter element and seal from mounting base and discard.

IMPORTANT: DO NOT prefill fuel filters. Debris in unfiltered fuel will damage fuel system components.

Only lubricate filter seal with diesel fuel before installing.

9. Install new filter element.
10. Install water separator bowl. Tighten 1/2 turn after seal contacts mounting base.
11. Connect WIF sensor wiring.



Primary Fuel Filter and Water Separator Assembly

1—Drain Valve
2—Water-in-Fuel (WIF) Sensor Wiring
3—Water Separator Bowl
4—Primary Fuel Filter and Water Separator Assembly

12. Prime fuel system and bleed air. See Bleed Fuel System. (Section 4-1.)

DB84312,00001BE-19-31MAY12-1/1

Replace Air Cleaner Elements

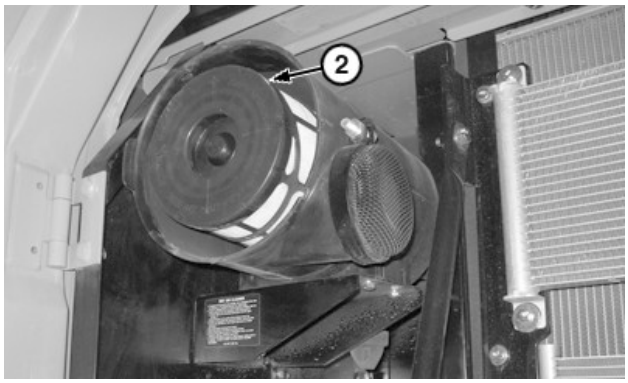
1. Open left service door to access air cleaner.
2. Release latches (1) to unlock cover.
3. Remove cover.
4. Remove primary air filter element (2).
5. Remove secondary air filter element (3).
6. Clean the inside of the filter canister.

IMPORTANT: Prevent possible damage to the primary and secondary air cleaner elements. Always install the primary and secondary air cleaner elements by pushing on the outer edge of the filter and not the center.

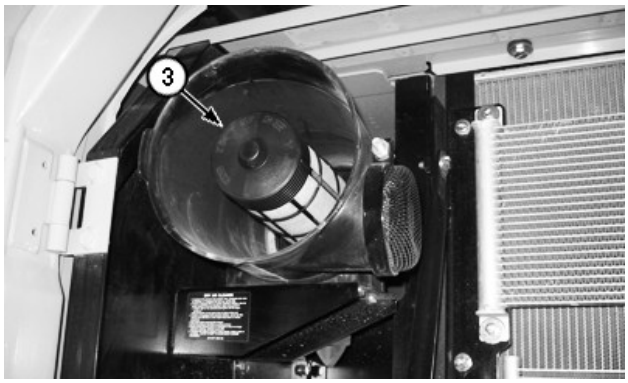
7. Install new filter elements, making sure the secondary air filter element is centered in canister.
8. Install cover and secure latches.
9. Close service door.

1—Latch (3 used)
2—Primary Air Filter Element
3—Secondary Air Filter Element

Air Cleaner Cover Latch



Primary Air Filter Element



Secondary Air Filter Element

DB84312,000004B-19-30AUG23-1/1

Bleed Fuel System

IMPORTANT: DO NOT prefill fuel filters. Debris in unfiltered fuel will damage fuel system components.

NOTE: This procedure should be performed after each fuel filter drain, fuel filter change, or when the engine has run out of fuel.

Air can enter fuel system when draining fuel filters, changing fuel filters, or when machine has run out of fuel. Air in the fuel system can prevent the engine from starting or cause rough idle. This machine is equipped with an electric priming pump. Prime fuel system and bleed air as follows:

1. Open fuel shutoff valve (if equipped).
2. Turn key switch to the ON position to energize ignition system and fuel pump. Let pump run for 60 seconds to prime fuel system.
3. After 60 seconds, turn key switch to the OFF position.
4. Turn key switch back to the ON position.
5. Run engine for 5 minutes at slow idle.

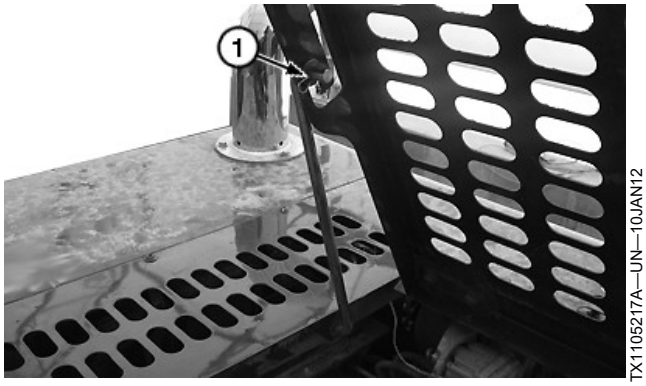
ER79617,0000DF9-19-12MAR18-1/1

Clean Radiator, Oil Cooler, Charge Air Cooler, and Fuel Cooler

CAUTION: Prevent possible injury from rotating fan and flying debris. Shut off engine before opening cover. Avoid rotating fan and fan blast.

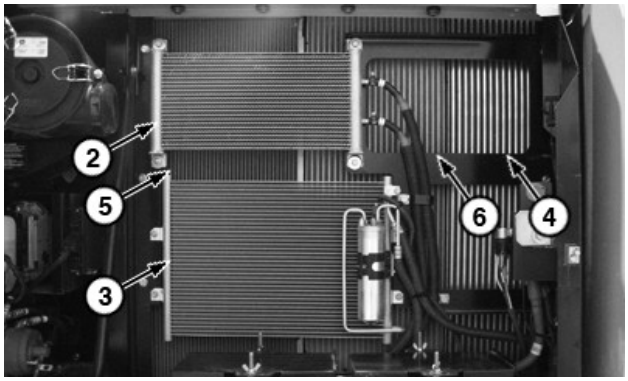
1. Turn machine off.
2. Open the engine cover until the end of the bar is securely locked into catch (1).
3. Attach an air wand to an air compressor, and blow dirt and debris back through cooling system.
4. Close engine cover.
5. Open left service door to access coolers.
6. Use compressed air to clean out the coolers.
7. Close left service door.

1—Catch
2—Fuel Cooler
3—Air Conditioner Condenser
4—Charge Air Cooler
5—Radiator
6—Hydraulic Oil Cooler



TX1105217A—UN—10JAN12

Engine Cover Catch



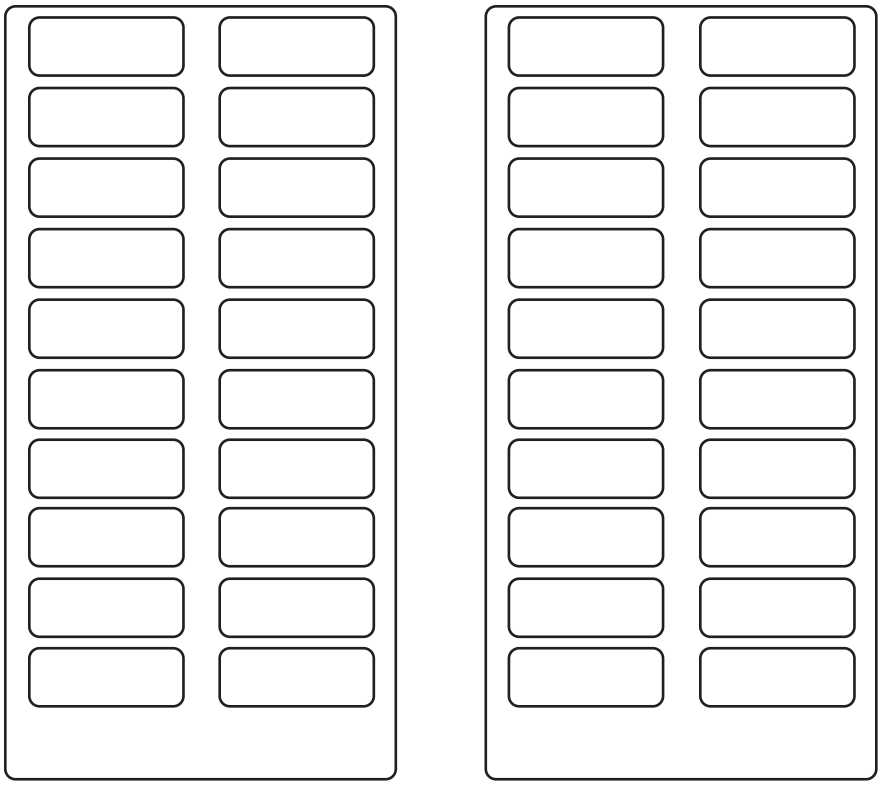
TX1103290A—UN—12DEC11

Coolers

Continued on next page

DB84312,00001CC-19-25MAY12-1/2

Early Production



TX1157166

TX1157166—UN—03APR14

Fuse Blocks

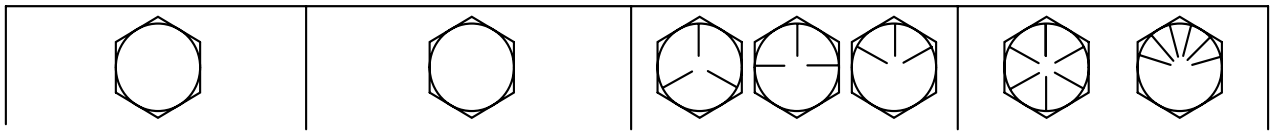
F1—LAMP 20 Amp Fuse
F2—WIPER 10 Amp Fuse
F3—HEATER 20 Amp Fuse
F4—SOLENOID 20 Amp Fuse
F5—OPT. 1 (ALT) 5 Amp Fuse
F6—OPT. 2 (ALT) 20 Amp Fuse
F7—START 5 Amp Fuse
F8—ECU 30 Amp Fuse
F9—BACK UP 10 Amp Fuse
F10—CONTROLLER 5 Amp Fuse
F11—NOT USED
F12—RADIO 5 Amp Fuse
F13—LIGHTER 10 Amp Fuse
F14—MONITOR 5 Amp Fuse
F15—AUX 10 Amp Fuse
F16—START AID 20 Amp Fuse
F17—POWER ON 5 Amp Fuse
F18—IDLE STOP 5 Amp Fuse
F19—HORN 10 Amp Fuse
F20—OPT. 3 (BAT) 5 Amp Fuse
F21—SEAT HEATER 10 Amp Fuse
F22—CAB LAMP FRONT 10 Amp Fuse
F23—CAB LAMP REAR 10 Amp Fuse
F24—12V UNIT 10 Amp Fuse
F25—IMOBI 5 Amp Fuse
F26—QUICK HITCH 5 Amp Fuse
F27—AUX 3 5 Amp Fuse
F28—NOT USED
F29—NOT USED
F30—NOT USED
F31—SEAT COMPR 10 Amp Fuse
F32—CAB LAMP FRONT +2 10 Amp Fuse
F33—WARNING LAMP 10 Amp Fuse
F34—AUX 2 10 Amp Fuse
F35—NOT USED
F36—NOT USED
F37—NOT USED
F38—NOT USED
F39—NOT USED
F40—NOT USED

Continued on next page

DB84312,00001CB-19-25FEB15-2/4

Unified Inch Bolt and Screw Torque Values

TS1671—UN—01MAY03



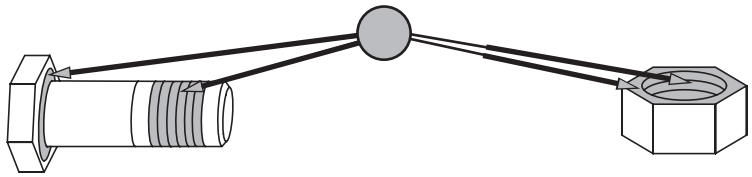
Bolt or Screw Size	SAE Grade 1[a]				SAE Grade 2[b]				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]	
	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in
1/4	3.1	27.3	3.2	28.4	5.1	45.5	5.3	47.3	7.9	70.2	8.3	73.1	11.2	99.2	11.6	103
													N·m	lb·ft	N·m	lb·ft
5/16	6.1	54.1	6.5	57.7	10.2	90.2	10.9	96.2	15.7	139	16.8	149	22.2	16.4	23.7	17.5
									N·m	lb·ft	N·m	lb·ft				
3/8	10.5	93.6	11.5	102	17.6	156	19.2	170	27.3	20.1	29.7	21.9	38.5	28.4	41.9	30.9
					N·m	lb·ft	N·m	lb·ft								
7/16	16.7	148	18.4	163	27.8	20.5	30.6	22.6	43	31.7	47.3	34.9	60.6	44.7	66.8	49.3
	N·m	lb·ft	N·m	lb·ft												
1/2	25.9	19.1	28.2	20.8	43.1	31.8	47	34.7	66.6	49.1	72.8	53.7	94	69.3	103	75.8
9/16	36.7	27.1	40.5	29.9	61.1	45.1	67.5	49.8	94.6	69.8	104	77	134	98.5	148	109
5/8	51	37.6	55.9	41.2	85	62.7	93.1	68.7	131	96.9	144	106	186	137	203	150
3/4	89.5	66	98	72.3	149	110	164	121	230	170	252	186	325	240	357	263
7/8	144	106	157	116	144	106	157	116	370	273	405	299	522	385	572	422
1	216	159	236	174	216	159	236	174	556	410	609	449	785	579	860	634
1-1/8	305	225	335	247	305	225	335	247	685	505	751	554	1110	819	1218	898
1-1/4	427	315	469	346	427	315	469	346	957	706	1051	775	1552	1145	1703	1256
1-3/8	564	416	618	456	564	416	618	456	1264	932	1386	1022	2050	1512	2248	1658
1-1/2	743	548	815	601	743	548	815	601	1665	1228	1826	1347	2699	1991	2962	2185

The nominal torque values listed are for general use only with the assumed wrenching accuracy of 20%, such as a manual torque wrench.
DO NOT use these values if a different torque value or tightening procedure is given for a specific application.
For lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application.

Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original.

- Make sure that fastener threads are clean.
- Apply a thin coat of Hy-Gard™ or equivalent oil under the head and on the threads of the fastener, as shown in the following image.
- Be conservative with the amount of oil to reduce the potential for hydraulic lockup in blind holes due to excessive oil.
- Properly start thread engagement.

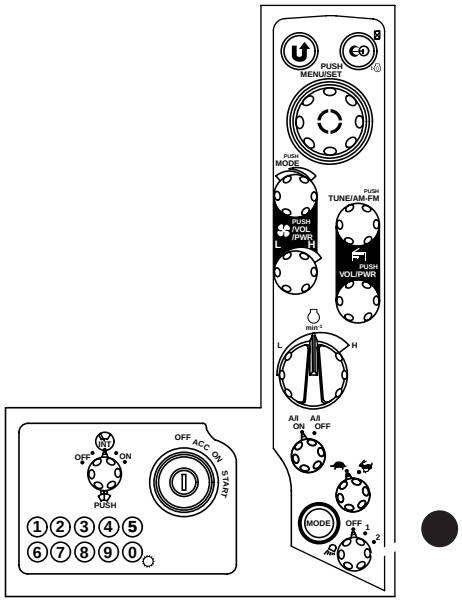
TS1741—UN—22MAY18



[a] 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] Grade 2 applies for hex cap screws (not hex bolts) up to 6 in (152 mm) long.
[c] Hex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.
[d] Hex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

DX,TORQ1-19-09MAY22-1/1

Light Circuit Checks



TX1086747—UN—11JAN11

Switch Panel

3—Work Light Switch

Turn work light switch (3) to 1st position.

LOOK: Is monitor panel back light and base machine work light on?

LOOK: Does switch panel illuminate?

Turn light switch to 2nd position.

LOOK: Does base machine work light stay on and switch panel stay illuminated?

LOOK: Does boom work light come on and monitor back panel light change to night mode?

YES: Go to next check.

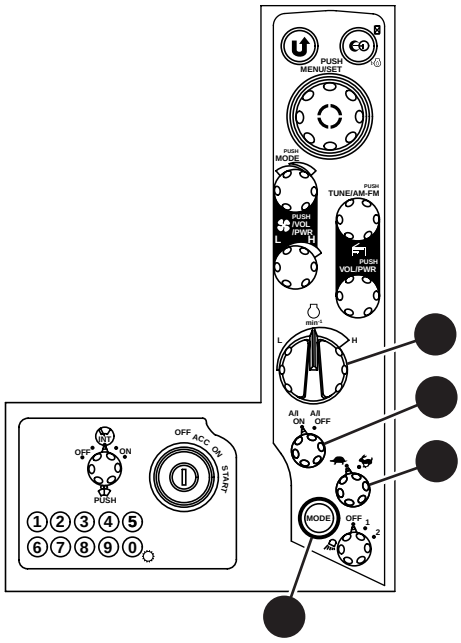
NO: Check work and drive lights 20 A fuse (F1) (marked LAMP) and controller 5 A fuse (F10) (marked CONTROLLER).

IF OK: See your authorized dealer.

Continued on next page

DB84312,00001CD-19-17MAR14-13/55

H/P (High Power) Mode Check



TX1086753—UN—11JAN11

Switch Panel

1—Engine Speed Dial
2—Auto-Idle Switch
3—Travel Speed Switch
4—Power Mode Button

Press power mode button (4) until PWR (power) mode is displayed on monitor.

Turn auto-idle switch (2) to A/I OFF position.

Turn engine speed dial (1) to H (fast idle) position.

Press power mode button until H/P (high power) mode is displayed on monitor.

Actuate arm in function over relief.

LOOK/LISTEN: Does engine speed increase as function goes over relief?

YES: Go to next check.

NO: Check controller 5 A fuse (F10) (marked CONTROLLER).

IF OK: See your authorized dealer.

Continued on next page

DB84312,00001CD-19-17MAR14-25/55

Dig Function Drift Check (empty bucket)

TX1109902—UN—28JUN13

Machine Position—Empty Bucket

1—Arm Tip Position Above Ground

Empty bucket of material.

Extend arm cylinder, then retract about 50 mm (2 in.).

Extend bucket cylinder, then retract about 50 mm (2 in.).

Lower boom until the arm tip is 1 m (40 in.) above ground (1).

Stop engine.

Measure amount cylinders extend or retract in 5 minutes.

Measure distance from arm tip to ground.

Compare measurements to specifications.

Dig Function Drift Specifications (empty bucket) — Specification

Boom Cylinder—Drift	5 mm 0.20 in.
Arm Cylinder—Drift	15 mm 0.59 in.
Bucket Cylinder—Drift	9 mm 0.35 in.
Arm Tip-to-Ground—Drift	80 mm 3.15 in.

LOOK: Is cylinder drift within specification?

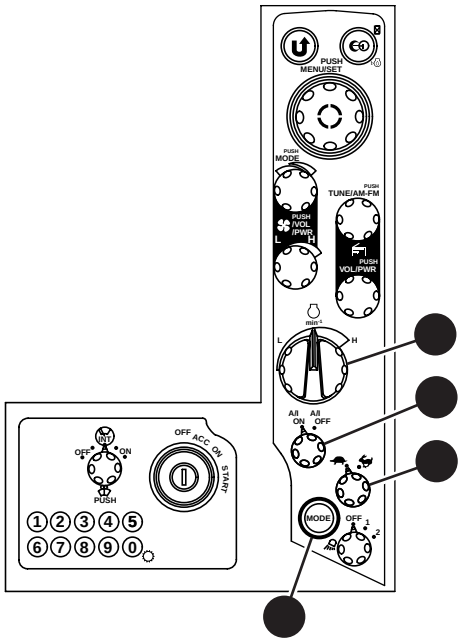
YES: Go to next check.

NO: See your authorized dealer.

Continued on next page

DB84312,00001CD-19-17MAR14-36/55

Travel System Maneuverability Check



TX1086753—UN—11JAN11

Switch Panel

1—Engine Speed Dial
2—Auto-Idle Switch
3—Travel Speed Switch
4—Power Mode Button

Turn engine speed dial (1) to H (fast idle) position.

Turn travel speed switch (3) to fast speed (rabbit) mode.

Drive machine at full speed forward down a slope.

Turn in each direction.

LOOK: Does each track slow down in response to pedal or lever movement in order to turn?

Repeat the procedure in reverse travel.

Turn travel speed switch to fast speed (rabbit) mode.

Drive machine at full speed in reverse down a slope.

Turn in each direction.

LOOK: Does each track slow down in response to pedal or lever movement in order to turn?

YES: Go to next check.

NO: See your authorized dealer.

Continued on next page

DB84312,00001CD-19-17MAR14-48/55

Symptom	Problem	Solution
	Worn engine	See your authorized dealer.
Engine Oil Pressure High	Incorrect engine oil	Drain crankcase and refill with correct oil.
Engine Coolant Temperature Above Normal	Air filters restricted or dirty	Clean or replace filter elements.
	Lack of coolant in cooling system	Fill cooling system to proper level.
	Radiator core and/or side screens dirty	Clean radiator as required.
	Engine overloaded	Reduce engine load.
	Low crankcase oil level	Fill crankcase to proper oil level.
	Loose recovery tank cap	Secure cap properly.
Engine Emits Excessive Black Or Gray Exhaust Smoke	Incorrect fuel	Drain fuel tank and refill with correct fuel.
	Restricted or dirty air intake or exhaust system	Clean air intake and exhaust system.
Engine Emits Excessive White Exhaust Smoke	Incorrect fuel	Drain fuel tank and refill with correct fuel.
	Cold engine	Run engine until warm.

DB84312,00001CE-19-03JUN14-3/3

Keep Proof of Ownership

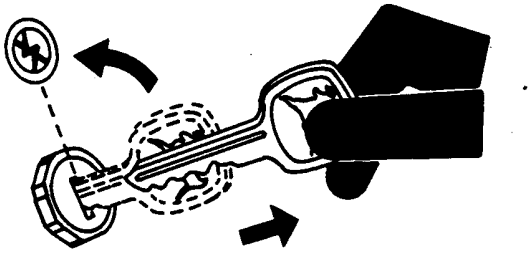
1. Maintain in a secure location an up-to-date inventory of all product and component serial numbers.
2. Regularly verify that identification plates have not been removed. Report any evidence of tampering to law enforcement agencies and order duplicate plates.
3. Other steps you can take:
   - Mark your machine with your own numbering system
   - Take color photographs from several angles of each machine

TS1680—UN—09DEC03

DX,SECURE1-19-18NOV03-1/1

Keep Machines Secure

1. Install vandal-proof devices.
2. When machine is in storage:
   - Lower equipment to the ground
   - Set wheels to widest position to make loading more difficult
   - Remove any keys and batteries
3. When parking indoors, put large equipment in front of exits and lock your storage buildings.
4. When parking outdoors, store in a well-lighted and fenced area.
5. Make note of suspicious activity and report any thefts immediately to law enforcement agencies.
6. Notify your John Deere dealer of any losses.



TS230—UN—24MAY89

DX,SECURE2-19-18NOV03-1/1

160GLC Lift Capacity—Arm: 2.60 m (8 ft. 6 in.); Bucket: 528 kg (1164 lb.); Shoe: 600 mm (24 in.)

Ratings are at bucket lift hook, using standard counterweight, situated on firm, level, uniform supporting surface.

Figures do not exceed 87 percent of hydraulic capacity or 75 percent of weight needed to tip machine. Figures marked with an asterisk (*) are hydraulically limited capacities. Remaining figures are stability-limited capacities.

Arm: 2.60 m (8 ft. 6 in.)	**Bucket: 528 kg (1164 lb.)**			**Shoe: 600 mm (24 in.)**
Power Dig: On				
LIFTING OVER FRONT				
Load Point Height	**Horizontal Distance From Centerline of Rotation**			
m (ft.)	**1.5 (5)**	**3.0 (10)**	**4.5 (15)**	**6.0 (20)**
6.0 (20)				2850*
4.5 (15)			4100* (8900*)	3850* (8400*)
3.0 (10)		8400* (17 850*)	5400* (11 700*)	4400* (9550*)
1.5 (5)			6800* (14 650*)	4300 (9200)
Ground Line		5800* (13 450*)	6600 (14 200)	4150 (8950)
-1.5 (-5)	5300* (11 850*)	9950* (22 800*)	6550 (14 050)	4100 (8850)
-3.0 (-10)	9850* (22 250*)	10 550* (22 850*)	6600 (14 200)	
LIFTING OVER SIDE				
Load Point Height	**Horizontal Distance From Centerline of Rotation**			
m (ft.)	**1.5 (5)**	**3.0 (10)**	**4.5 (15)**	**6.0 (20)**
6.0 (20)				2850*
4.5 (15)			4100* (8900*)	2900 (6250)
3.0 (10)		8400* (17 850*)	4450 (9550)	2750 (5950)
1.5 (5)			4100 (8850)	2650 (5650)
Ground Line		5800* (13 450*)	3900 (8450)	2500 (5400)
-1.5 (-5)	5300* (11 850*)	7450 (15 950)	3850 (8300)	2500 (5350)
-3.0 (-10)	9850* (22 250*)	7600 (16 300)	3900 (8450)	

* Hydraulically Limited Capacities

DB84312,00000BE-19-07NOV14-1/1

Index

Continued on next page