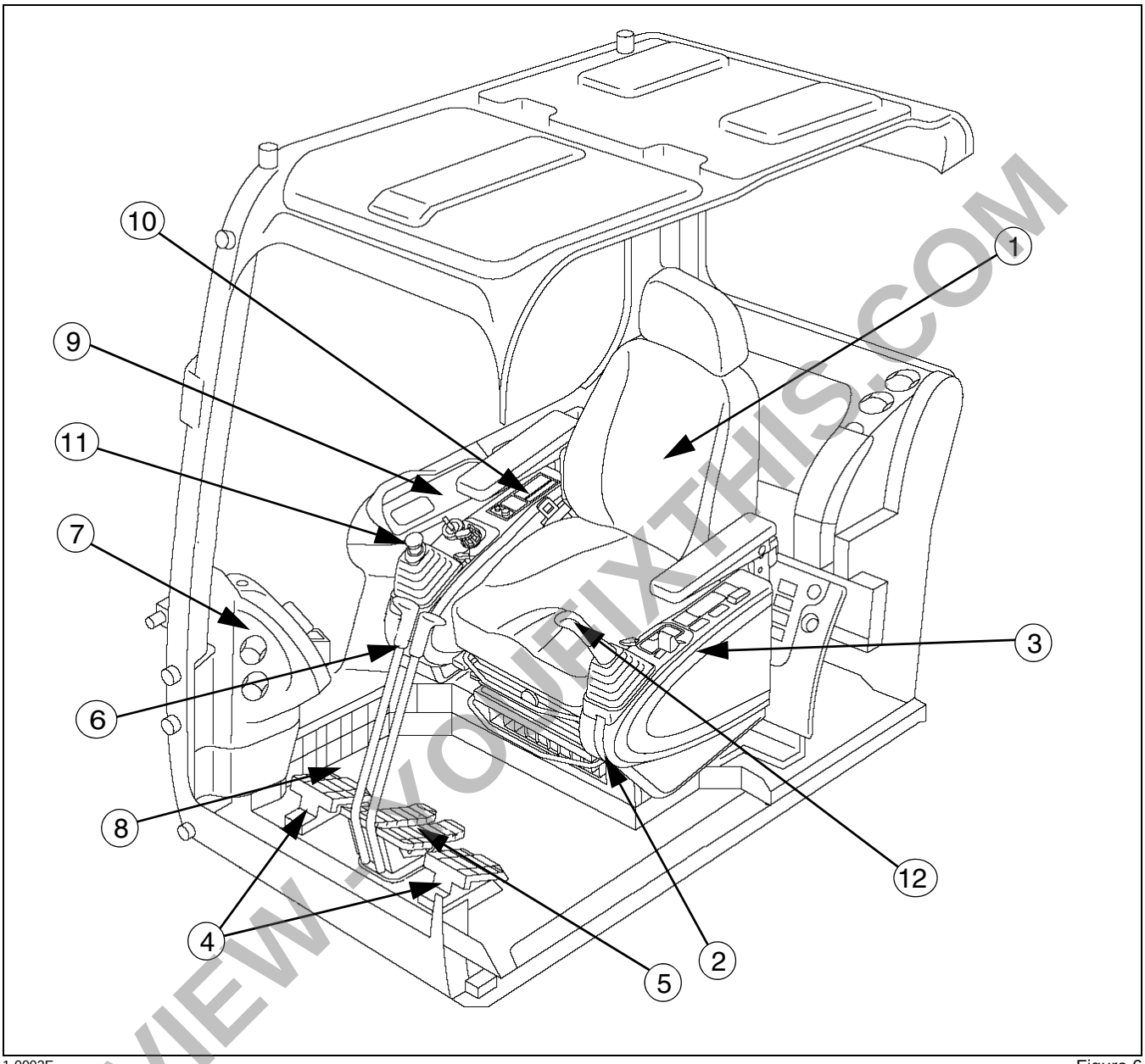
POSITION OF THE OPERATOR'S COMPARTMENT CONTROLS AND ACCESSORIES



1-0002E

Figure 6

1. OPERATOR'S SEAT
2. GATE LOCK LEVER
3. LEFT-HAND CONSOLE
4. FOOT REST
5. TRAVEL CONTROL PEDALS
6. TRAVEL CONTROL LEVERS
7. FRONT CONSOLE
8. SINGLE PEDAL TRAVEL (OPTIONAL-NOT SHOWN)
9. INSTRUMENT PANEL
10. CLIMATE CONTROLS - AIR-CONDITIONER
11. RIGHT-HAND CONTROL LEVER
12. LEFT-HAND CONTROL LEVER

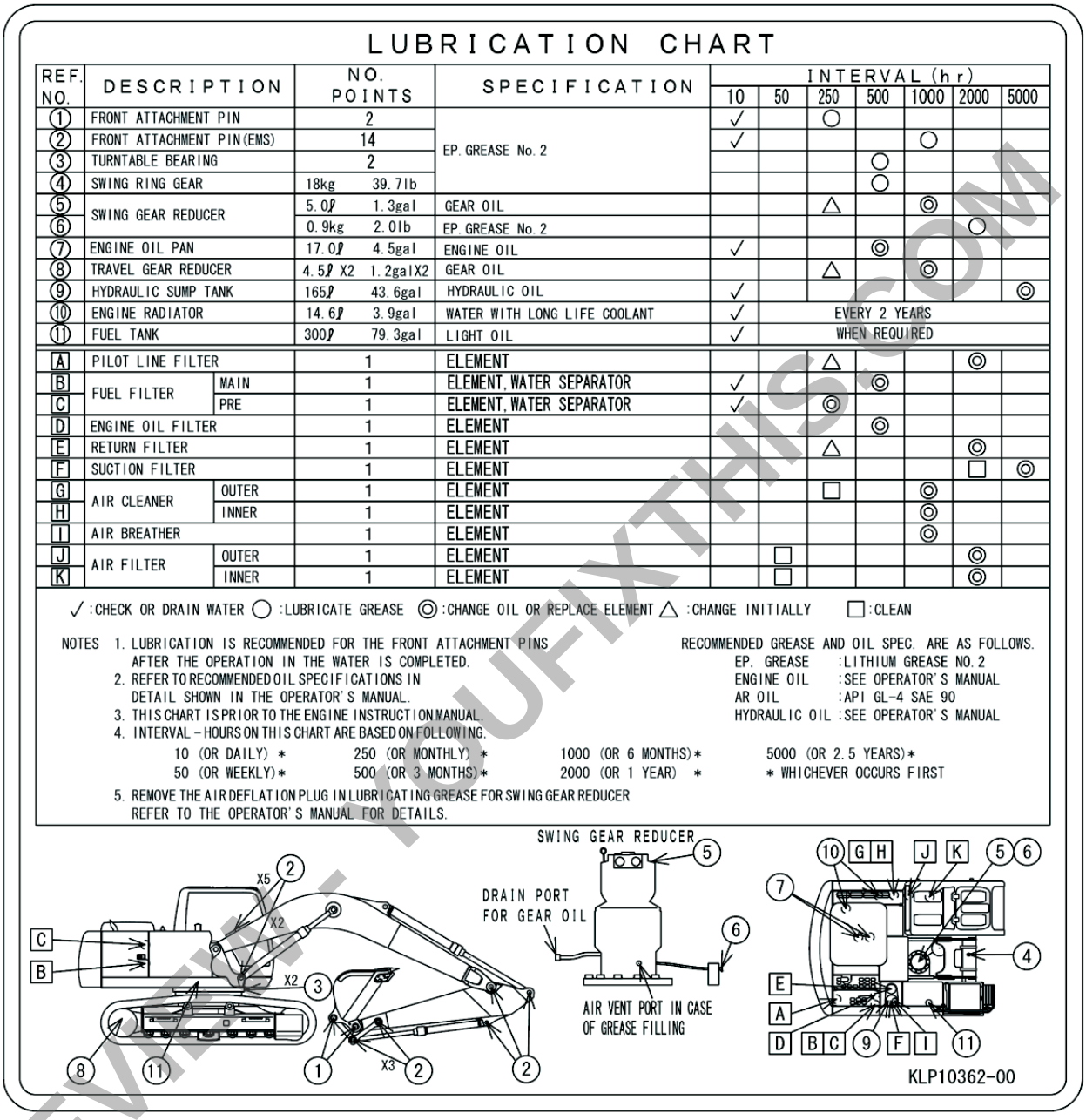
WARNING: *Before starting the engine, make sure that you are fully aware of the location of and the function of each control. Incorrect operation of the controls can cause serious injuries.*

ATTENTION: *To start the engine the gate lock lever must be in the down position for the engine to crank.*

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LUBRICATION CHART



KBP10701

Figure 2

IMPORTANT: *Always check your machines lube chart located under the tool box cover to ensure your machine's proper maintenance schedule.*

Commonly Replaced Filters

Filter	Part Number	Service Interval	Filter	Part Number	Service Interval
Engine Oil Filter	KHH0533	500 Hours	Outer Air Filter	KLH10550	1000 Hours
Fuel Main Filter	KHH0534	500 Hours	Inner Air Filter	KLH10560	1000 Hours
Fuel Pre-filter	KHH10590	250 Hours	Air Breather Filter	KRJ3461	1000 Hours
Pilot Oil Filter	KHJ10950	2000 Hours	Air Breather Packing	KRJ3463	
Return Filter	KNJ13890	2000 Hours	Suction Filter	KNJ10660	5000 Hours

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ENGINE

Make ..... ISUZU
Type AI-4JJ1X
Number of cylinders 4
SAE net horsepower ..... 120 HP (89 kW) @ 2,200 rpm
Displacement ..... 3.0 L
Maximum Torque ..... 288 lbf-ft (391 N-m) @ 1,800 rpm
Starter ..... 24 V-4.0 kW

ELECTRICAL SYSTEMS

Circuit ..... 24 volts
Battery ..... 72 amp hours
Alternator ..... 50 amp

HYDRAULIC SYSTEM

Open-center system, two variable displacement axial piston pumps and one gear pump for pilot controls, main control valve with one 4-spool valve and one 5-spool valve with auxiliary spool - stackable, oil cooler, auto power boost, boom and arm holding valveless, o-ring face seals, 6 micron return filter, firewall.

Main pump max flow ..... 2 x 37.5 gpm (2 x 142 l/min)
Pilot pump max flow ..... 5.8 gpm (22 l/min)

Relief valves pressures:

Boom/Arm/Bucket ..... 4,970 psi (343 bar)
In Power Boost Mode ..... 5,260 psi (363 bar)
Swing ..... 4,050 psi (279 bar)
Travel ..... 4,970 psi (343 bar)

Hydraulic cylinders:

	Bore x Rod x Stroke
Boom	4.5" x 3.1" x 46.4"
Arm	4.9" x 3.5" x 50.4"
Bucket	4.1" x 3.0" x 38.8"

Hydraulic Oil Filtration:

Return filter ..... 6 micron
Pilot filter ..... 8 micron
Suction screen ..... 105 micron

Control Valves:

Five control valve sections for left-hand travel, boom, arm, auxiliary circuit and swing acceleration.
Four control valve sections for right-hand travel, boom, arm and bucket acceleration.
Boom/arm load holding valves.

Swing

Fixed flow, piston-type pump.

Upperstructure swing speed ..... 0-11.5 rpm
Tail Swing ..... 8' 0" (2.45 m)
Swing Torque ..... 33,264 lbf-ft (45.1 kN-m)

Travel

Variable flow hydraulic motors with axial pistons. Planetary reduction gears.
Two speeds controlled from the instrument panel.

Low speed ..... 0 to 1.7 mph (0 to 2.8 km/h)
High speed ..... 0 to 3.4 mph (0 to 5.4 km/h)
Drawbar pull ..... 36,194 lbf (161 kN)

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OPERATOR'S SEAT



Figure 7

1. ARMREST
2. LUMBAR SUPPORT ADJUSTMENT BULB
3. WEIGHT INDICATOR
4. SEAT WEIGHT ADJUSTMENT
5. SEAT AND CONSOLE SLIDE ADJUSTMENT
6. CUP HOLDER
7. SEAT BACK ANGLE ADJUSTMENT
8. SEAT SLIDE ADJUSTMENT
9. SEAT BACK
10. HEAD REST

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HARDWARE TORQUE INSPECTION

MAINTENANCE SPECIFICATION

Check .....Every 250 hours
(after the first 50 hours during the run-in period)

At the end of each working day, check all mounting nuts and screws for tightness and tighten if necessary. Make sure no hardware items are missing. Replace them, if necessary.

Component	Screw (Ø)	Wrench (mm)	Torque setting (Nm)
Travel reduction gear (*)	M16	24	267-312
Drive sprocket (*)	M16	24	267-312
Idler wheel (*)	M16	24	267-312
Upper roller (*)	M20	30	521-608
Lower roller (*)	M18	27	371-432
Track shoe	M20	30	804, then turn 120°
Counterweight	M33	50	1862-2058
Turntable (undercarriage)	M20	30	468-545
Turntable (upperstructure)	M20	30	468-545
Swing reduction gear (*)	M20	30	539-630
Engine (*)	M12	19	64-74
Engine mounts (*)	M16	24	265-314
Radiator	M12	19	64-74
Hydraulic pump (*)	M10 M16	17 Male	63-73 223-247
Hydraulic reservoir (*)	M16	24	232-276
Fuel tank (*)	M16	24	232-276
Control valve (*)	M16	24	330-360
Hydraulic swivel (*)	M12/M16	19/24	109-127/245-294
Cab	M16	24	245-294
Batteries	M10	17	20-29

NOTE: *Use Loctite 262, or the equivalent, on screws marked (*).*

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UNDERCARRIAGE

SPECIFICATIONS PER TRACK ASSEMBLY

Number of upper rollers	2
Number of lower rollers	7
Number of track pads	44 per side
Type of track pads	Triple grouser
Width of standard track pads	23.6" (600 mm)
Ground pressure	5.80 psi (.40 bar)
Gradeability	70%

CAPACITY OF SYSTEMS AND COMPONENTS

Hydraulic tank	23.78 gal (90 liters)
Hydraulic system	43.59 gal (165 liters)
Final drive (each)	1.19 gal (4.5 liters)
Swing Drive	1.3 gal (5 liters)
Engine oil (with filter change)	4.49 gal (17 liters)
Fuel tank	79.25 gal (300 liters)
Cooling system	3.96 gal (15 liters)

WEIGHTS

Working weight with 23.6" (600 mm) shoes, 16' 11" (5.15 m) boom, 8' 7" (2.62 m) arm, 1,110 lb (484 kgb) bucket	37,700 lbs (17,100 kg)

BOOM

Mono	16' 11" (5.15 m)

ARMS

Length	8' 7" (2.62 m), 10' 0" (3.05 m)

DIGGING FORCE

8' 7" (2.62 m) arm	17,760 lbf (79 kN)
with auto power boost mode applied	18,880 lbf (84 kN)
10' 0" (3.05 m) arm	16,190 lbf (72 kN)
with auto power boost mode applied	17,310 lbf (77 kN)
Bucket digging force	25,180 lbf (112 kN)
with auto power boost mode applied	26,530 lbf (118 kN)

NOTE: *Digging force ratings are based on ISO 6015, “Earthmoving Machinery - Hydraulic Excavators - Tool Forces*

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TRACKS

MAINTENANCE SPECIFICATIONS

Clean ..... Periodically and when the excavator has been working in mud
Check tension ..... Periodically
Check Shoe Bolt torques ..... Every 250 hours (after the first 50 hours during the run-in period)

IMPORTANT: *If the tracks are too tight, they wear quickly. If tracks are not tight enough, they wear quickly and the links can catch on the sprocket wheel or slide off the idler wheel or the sprocket wheel. Clean the tracks after work.*

CLEANING

When the excavator has been working in mud, a reduction in temperature can cause the mud to solidify.

1. Place the upperstructure at right angles to the undercarriage. Use the attachment to press on the ground and lower the boom until the track is raised off the ground.

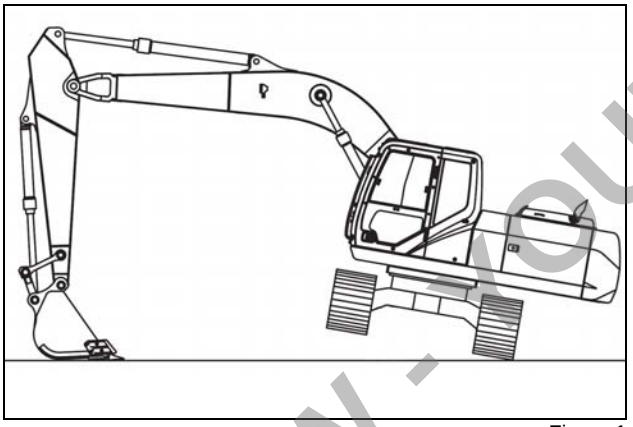


Figure 1

2. Put the engine throttle button in the SP (1) mode and select the High speed travel(2).

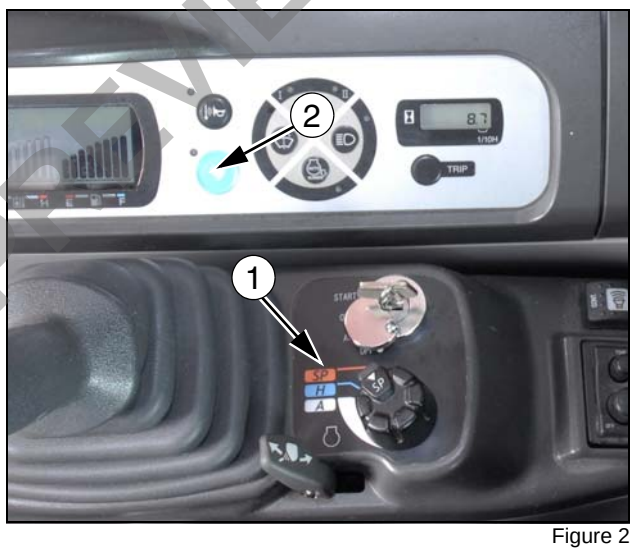


Figure 2

3. Operate the travel control lever for the raised track forwards and then in reverse, to remove the mud.
4. Repeat Steps 1 to 4 for the other track.

CHECKING THE TENSION

1. Park the excavator on flat, horizontal ground.
2. Clean the tracks.
3. Place the upperstructure at right angles to the undercarriage. Use the attachment to press on the ground and lower the boom until the track is raised off the ground.
4. Place a block under the undercarriage to keep the excavator from drifting down.

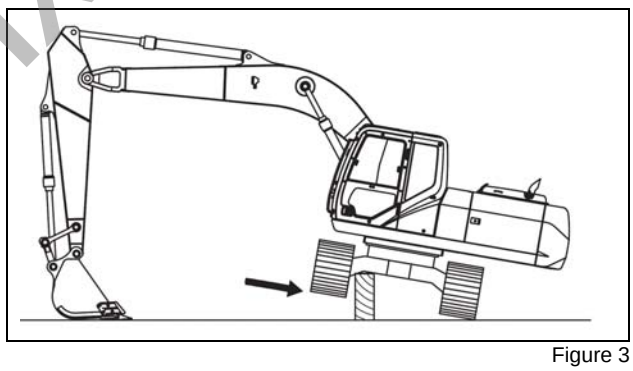


Figure 3

5. Use the travel control lever to operate the raised track in reverse for a few moments.
6. Stop the engine and remove the starter switch key.

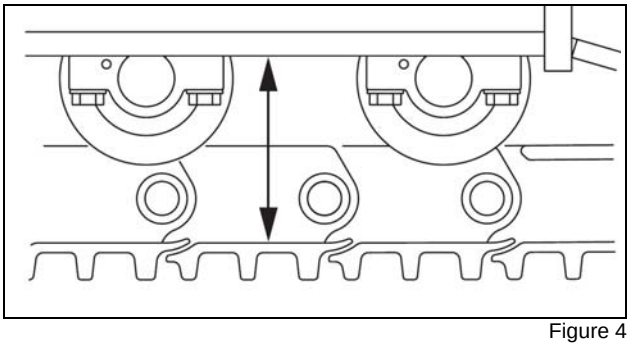


Figure 4

7. Measure the slack between the base of the undercarriage and the upper part of the track tread. See Track Tension Value on the next page.

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THIS SAFETY ALERT SYMBOL INDICATES IMPORTANT SAFETY MESSAGES IN THIS MANUAL. WHEN THIS SYMBOL IS USED, CAREFULLY READ THE MESSAGE THAT FOLLOWS AND BE ALERT TO THE POSSIBILITY OF DEATH OR SERIOUS INJURY

M171D

Safety Decals on this excavator use the words **Danger, Warning, or Caution,** which are defined as follows:

- **DANGER:** Indicates an immediate hazardous situation that, if not avoided, will result in death or serious injury. The color associated with Danger is RED.
- **WARNING:** Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. The color associated with Warning is ORANGE.
- **CAUTION:** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. The color associated with Caution is YELLOW.

WARNING

IMPROPER OPERATION OF THIS EXCAVATOR CAN CAUSE DEATH OR SERIOUS INJURY. BEFORE USING THIS EXCAVATOR, MAKE CERTAIN THAT EVERY OPERATOR:

* Is instructed in safe and proper use of the excavator.
* Reads and understands the Manual(s) pertaining to the excavator.
* Reads and understands ALL Safety Decals on the excavator.
* Clears the area of other persons.
* Learns and practices safe use of excavator controls in a safe, clear area before operating this excavator on a job site.

It is the operator's responsibility to observe pertinent laws, regulations and follow the LBX Company, LLC instructions on excavator operation and maintenance.

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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.

Battery post, terminals and related accessories contain lead and lead compounds. Wash hands after handling.

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GATE LOCK LEVER

The shape of the gate lock lever was designed to prevent the operator from leaving the operator's compartment without having raised the lever beforehand.

The gate lock lever cancels the hydraulic controls.

In the raised or locked position, all hydraulic controls are disabled.

To disengage the gate lock and raise the left-hand console for exiting, pull the gate lock lever towards the rear of the machine. The console will return to the same height position when re-engaged.



LBX024 Figure 29

The left-hand control arm is raised along with the gate lock lever for better access.



LBX025 Figure 30

In the lowered position, all hydraulic controls are operational.

WARNING: *To access or exit the operator's compartment, the gate lock lever must be in the raised position. Never forget this basic requirement.*

CAB LIGHT

Located on top of the cab on the left-hand side, the lighting is controlled by a switch built into the lamp bracket.

NOTE: *To replace bulbs, see Replacing a bulb in the Electrical system section.*



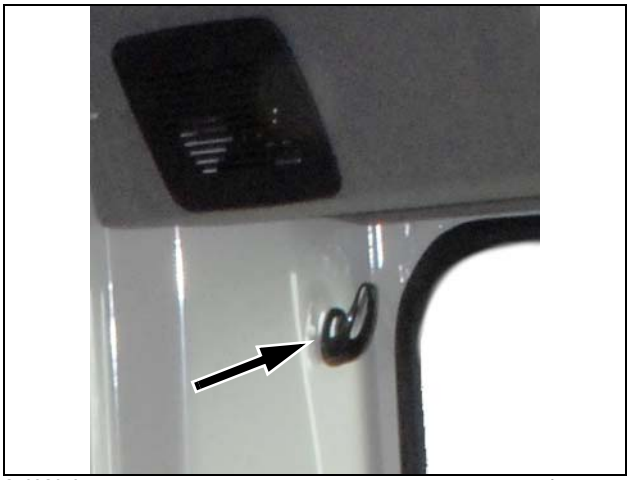
LBX014 Figure 31

The light has three positions. In the top position the light will be on all the time. In the middle position it will come on when the door is opened and stay on for 30 seconds. In the bottom position it will stay off.

WARNING: *Make sure when you leave the machine for an extended amount of time that the light is in the off position because it will run the battery down.*

COAT HANGER HOOK

The coat hanger hook is located on the rear left-hand cab upright.



CT02C059 Figure 32

IMPORTANT: *Do not hang anything on the coat hanger that would block your view out the back window or the side window.*

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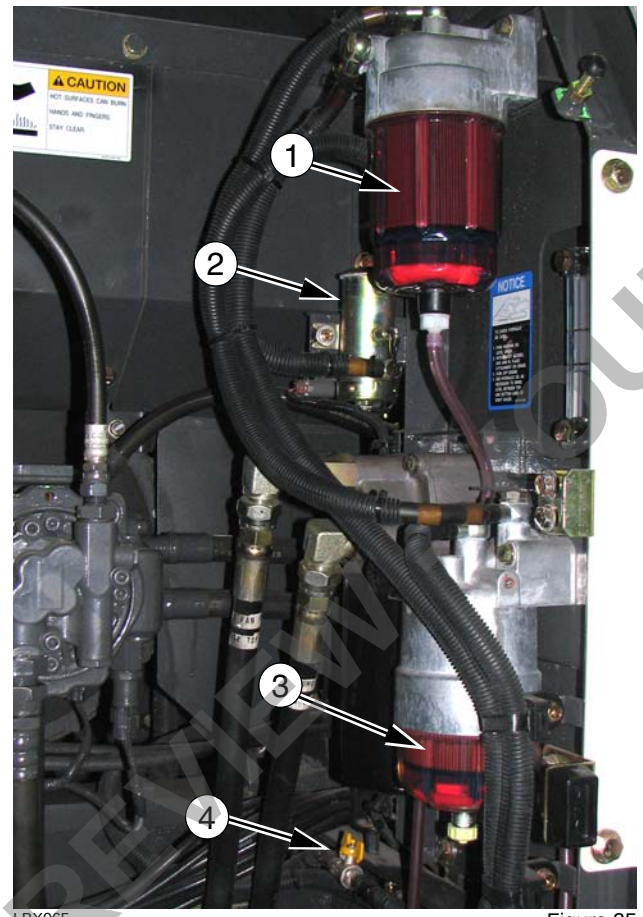
FUEL SYSTEM

SERVICE SPECIFICATIONS

Fuel reservoir bleeding ..... Every 50 hours or every week
Draining water from the fuel main filter ..... Every 50 hours or every week
Draining water from the fuel pre-filter ..... Every 50 hours or every week
Fuel main filter replacement ..... Every 500 hours
Fuel pre-filter replacement ..... Every 250 hours
Replacing the fuel hoses ..... Every 2 years or every 4000 hours (whichever comes first)
Fuel tank capacity ..... 79.25 gal (300 liters)
Fuel type ..... See Fluids and Lubricants

IMPORTANT: *With the Tier III engine, proper fuel maintenance and service is vital to the machine.*

FUEL SYSTEM COMPONENTS



LBX065 Figure 25

1. Fuel Pre-Filter
2. Electronic Fuel Transfer Pump
3. Fuel Main Filter
4. Fuel Shut-Off Valve

FUEL SYSTEM AIR BLEED

It is necessary to bleed the system when:

- The tank has been completely emptied.
- The fuel filter has been replaced.
- Parts of the fuel system have been removed for servicing or repair work.
- The excavator has been in storage for a fairly long period.

1. Loosen the air bleeding plug (2) on the fuel main filter.

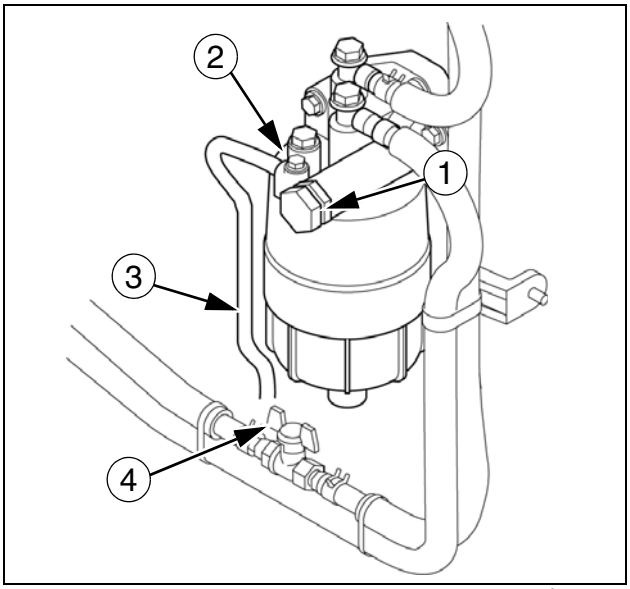


Figure 26

2. Turn the key to the ON position. This engages the electronic fuel priming pump.
3. Turn the mechanical priming pump (1) counterclockwise until it springs out.
4. Press the mechanical pump (1) inwards a few times until air bubbles are loose in the fuel flow line (3).

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