NOTICE

Accumulated grease and oil on a machine is a fire hazard.

Remove debris with steam cleaning or high pressure water, at the specified interval in the Maintenance Interval Schedule or each time any significant quantity of oil is spilled on the machine.

For maximum service life of the machine, perform a thorough walk-around inspection before you mount the machine and before you start the engine.

Daily, perform the procedures that are applicable to your machine.

Reference: For more information, refer to Operation and Maintenance Manual, "Maintenance Interval Schedule".

Remove any trash buildup and debris. Make all necessary repairs before you operate the machine.

Note: Watch closely for leaks. If you observe a leak, find the source of the leak and correct the leak. If you suspect a leak or you observe a leak, check the fluid levels more frequently.

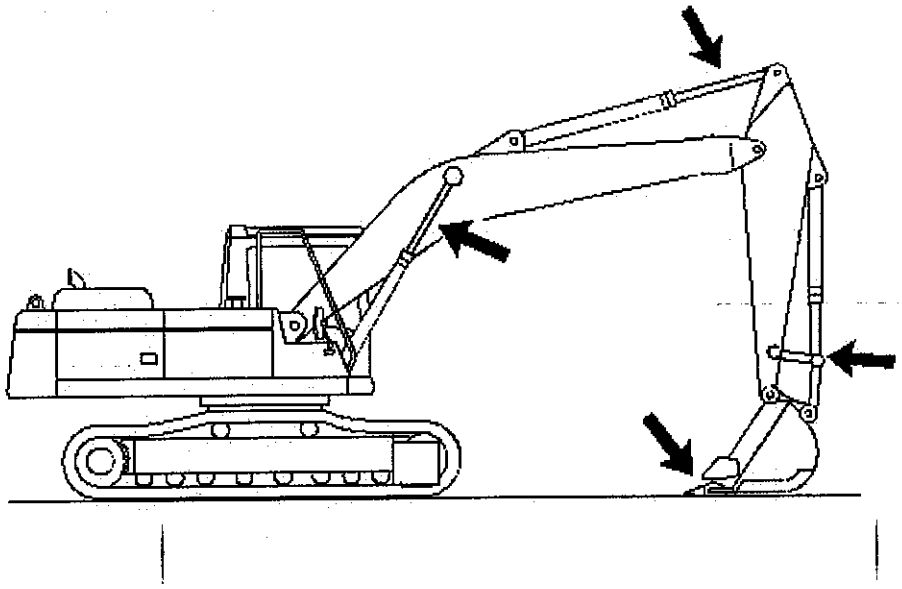

Illustration 1 g02143767

Inspect the hydraulic cylinders for damage or for excessive wear. Inspect the linkage and the bucket for damage or for excessive wear. Make any necessary repairs.

Inspect the lights for broken bulbs and for broken lenses. Replace any broken bulbs and any broken lenses.

Inspect the engine compartment for any trash buildup. Remove any trash buildup from the engine compartment.

Inspect the cooling system for any leaks, for faulty hoses and for any trash buildup. Correct any leaks. Remove any trash from the radiator.

Inspect all of the belts for the engine attachments. Replace any belts that are worn, frayed, or broken.

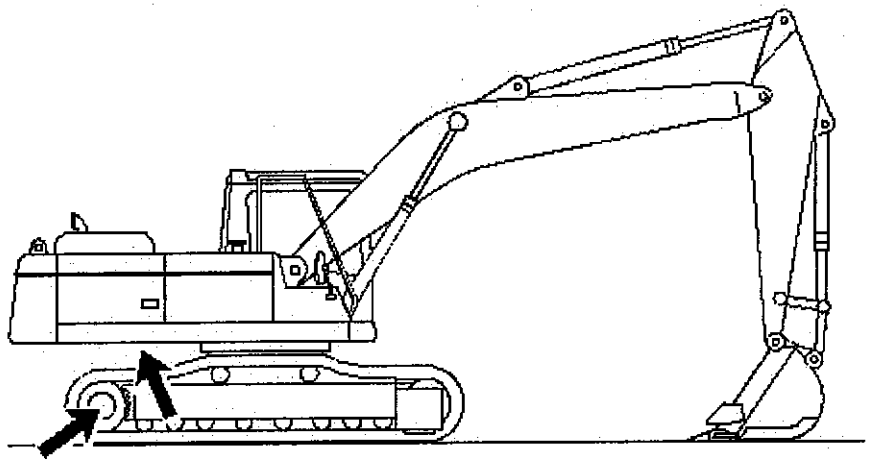

Illustration 2 g02143769

Inspect the hydraulic system for leaks. Inspect the tank, the cylinder rod seals, the hoses, the tubes, the plugs, the connections, and the fittings. Correct any leaks in the hydraulic system.

Inspect the final drives for leaks. Make any necessary repairs. Check the oil level if leakage is noticed.

Inspect the swing drive for leaks. Make any necessary repairs.

Make sure that all covers and guards are securely attached. Inspect the covers and the guards for damage.

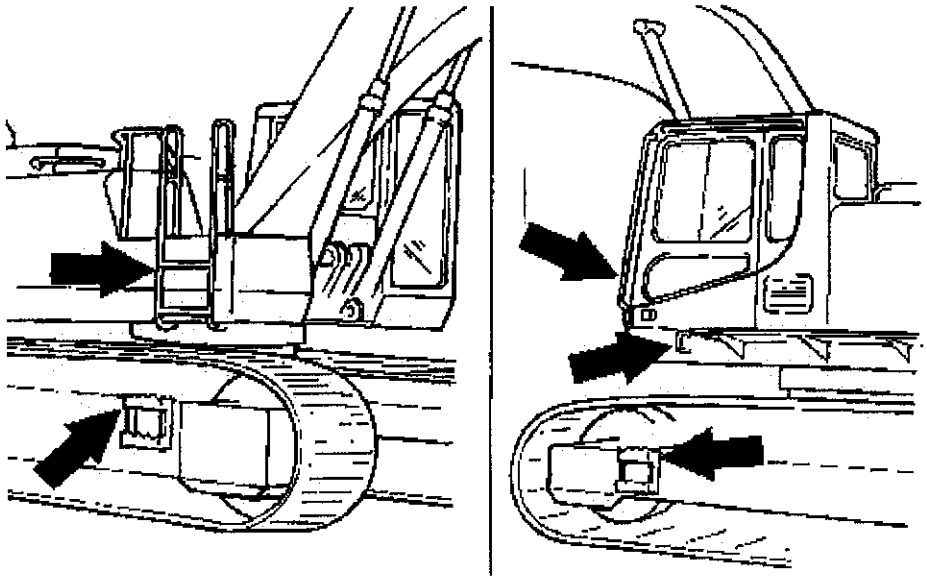

Illustration 3 g00588149

Inspect the steps, the walkways, and the handholds. Clean the steps, the walkways, and the handholds. Make any necessary repairs.

Inspect the Falling Object Protective Structure for damage. If repair is necessary, consult your Caterpillar dealer. Tighten any loose bolts.

Inspect the operator compartment for a buildup of trash. Check for a buildup of trash under the floorplate. Keep these areas clean.

Adjust the mirrors for the correct rear view of the machine.

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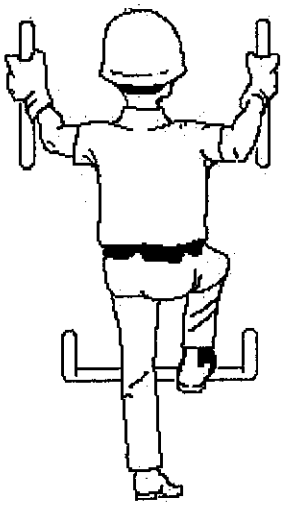

ıstration 1 g00037860

Use steps and handholds whenever you mount the machine. Use steps and handholds whenever you dismount the machine. Before you mount the machine, clean the step and the handholds. Inspect the step and handholds. Make all necessary repairs.

Face the machine whenever you mount the machine and whenever you dismount the machine. Maintain a three-point contact with the step and with handholds.

Note: Three-point contact can be two feet and one hand. Three-point contact can also be one foot and two hands.

Do not mount a moving machine. Do not dismount a moving machine. Never jump off the machine. Do not try to mount the machine when you carry tools or supplies. Do not try to dismount the machine when you are carrying tools or supplies. Use a hand line to pull equipment onto the platform. Do not use any controls as handholds when you enter the operator compartment or when ɔu exit the operator compartment.

Machine Access System Specifications

The machine access system has been designed to meet the intent of the technical requirements in ıSO 2867 Earth-moving Machinery – Access Systems". The access system provides for operator access to the operator station and to conduct the maintenance procedures described in Maintenance section.

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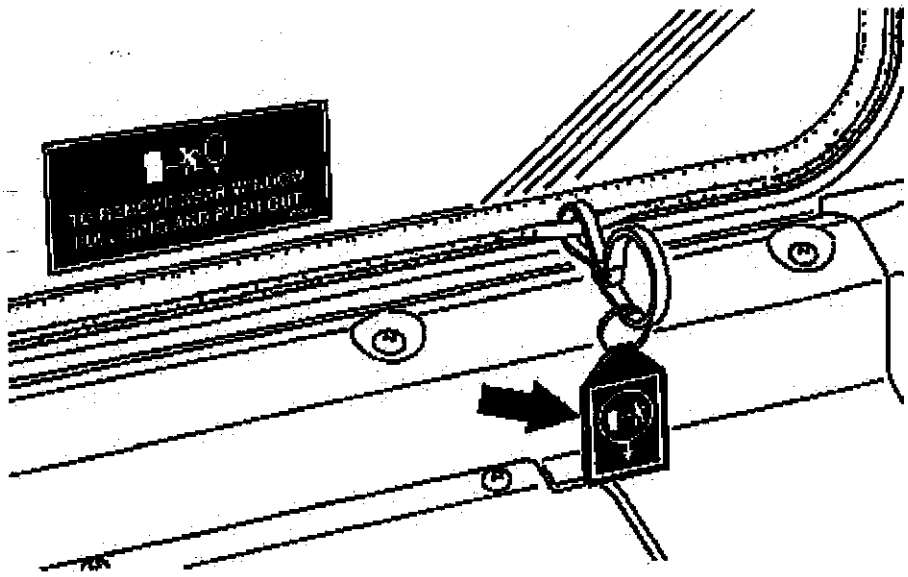

ıstration 1 g00101073

The rear window serves as an alternate exit.

To remove the rear window, pull the ring and push out the glass.

Completely remove the O-ring seal from the seal that supports the glazing support seal. This will provide enough clearance so that the seal can hinge and the glazing can pass outward.

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SMCS - 1429

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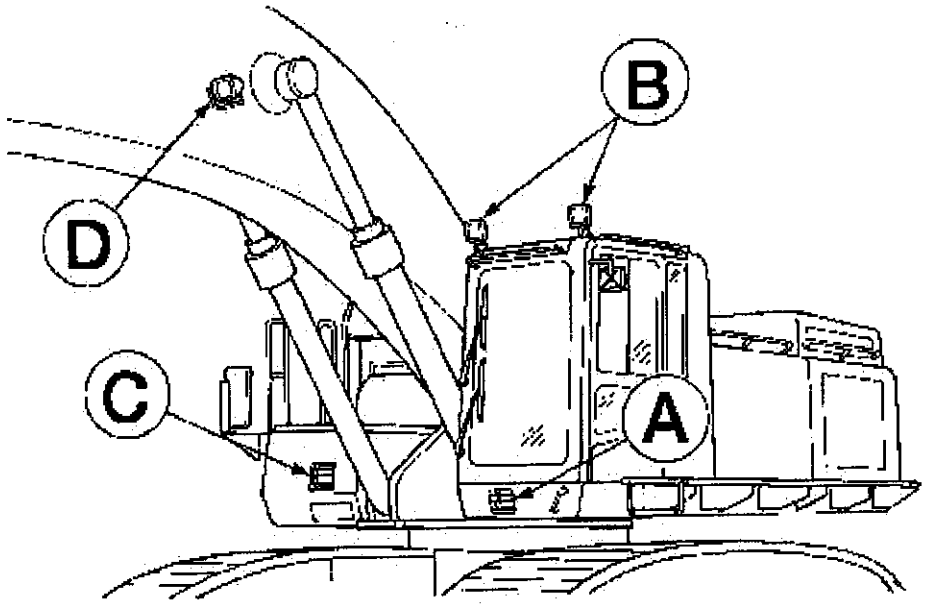


Illustration 1 g00579379
(A) Work light
(B) Work light
(C) Work light
(D) Work light

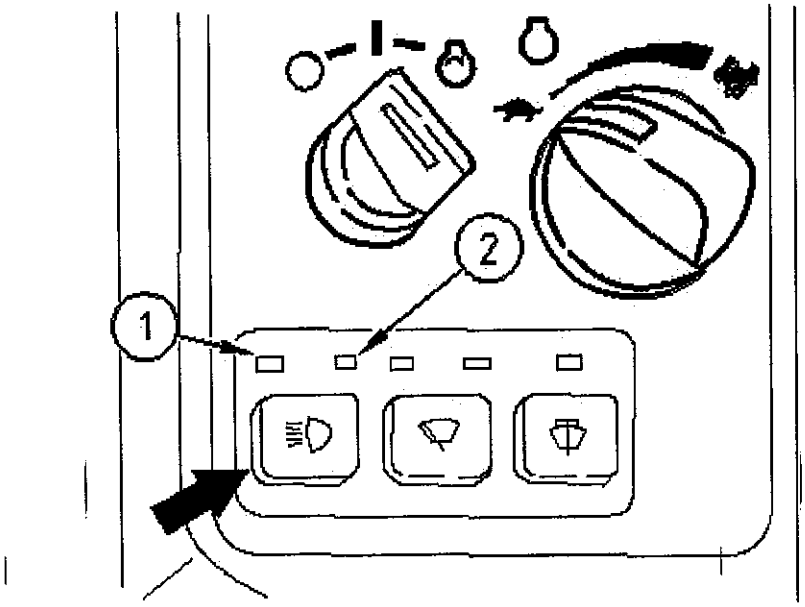
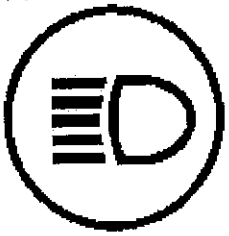


Illustration 2 g00103189
(1) Indicator light
(2) Indicator light



Light Switch - Push the switch in order to turn on the work lights.

Whenever you push the switch, you change the pattern of the work lights that are turned on. The indicator lights that are in the cab indicate the pattern of the work lights that are turned on. When indicator light (1) is on, the following work lights are turned on: work light (A) that is mounted on the chassis, work light (B) that is mounted on the cab, work light (C) that is mounted in the storage box and the lights for the monitoring panel.

When indicator light (1) and indicator light (2) are on, the following work lights are turned on: work light (A) that is mounted on the chassis, work light (B) that is mounted on the cab, work light (C) that is mounted in the storage box, work light (D) that is mounted on the boom and the lights for the monitoring panel. When both of the indicator lights are off, all of the work lights are off.

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Note: This machine was equipped with a seat belt when the machine was shipped from Caterpillar. At the time of installation, the seat belt and the instructions for installation of the seat belt meet the SAE J386 and ISO 6683 standards. Consult your Cat dealer for all replacement parts.

Always check the condition of the seat belt and the condition of the mounting hardware before you operate the machine.

Seat Belt Adjustment for Non-Retractable Seat Belts

Adjust both ends of the seat belt. The seat belt should be snug but comfortable.

Lengthening the Seat Belt

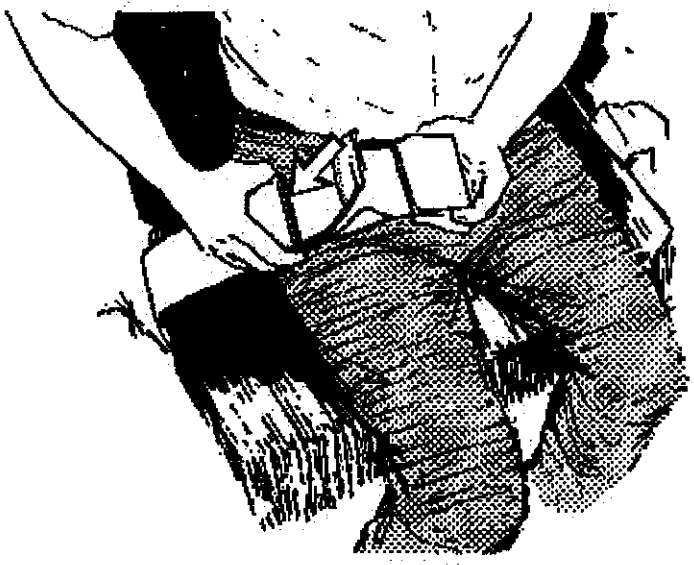

Illustration 1 g00100709

1. Unfasten the seat belt.

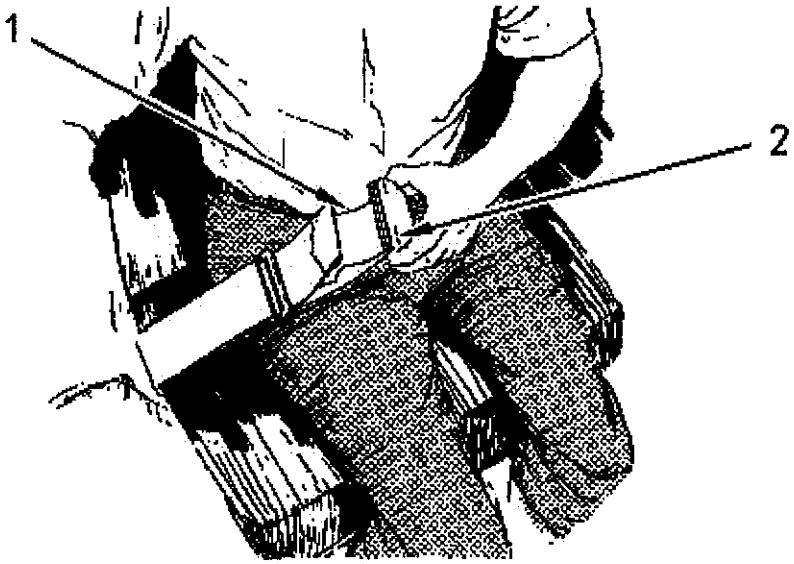

Illustration 2 g00932817

2. To remove the slack in outer loop (1), rotate buckle (2). This will free the lock bar. This permits the seat belt to move through the buckle.
3. Remove the slack from the outer belt loop by pulling on the buckle.
4. Loosen the other half of the seat belt in the same manner. If the seat belt does not fit snugly with the buckle in the center, readjust the seat belt.

Shortening the Seat Belt

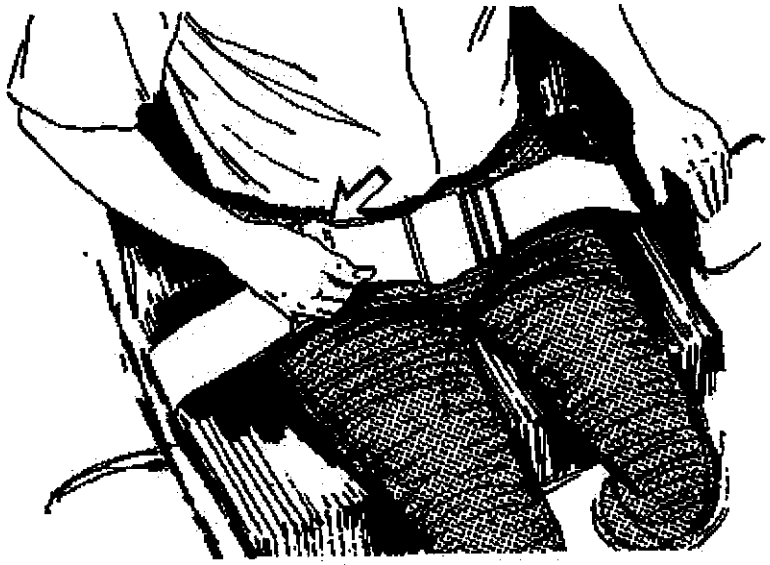

Illustration 3 g00100713

1. Fasten the seat belt. Pull out on the outer belt loop in order to tighten the seat belt.
2. Adjust the other half of the seat belt in the same manner.
3. If the seat belt does not fit snugly with the buckle in the center, readjust the seat belt.

Fastening The Seat Belt

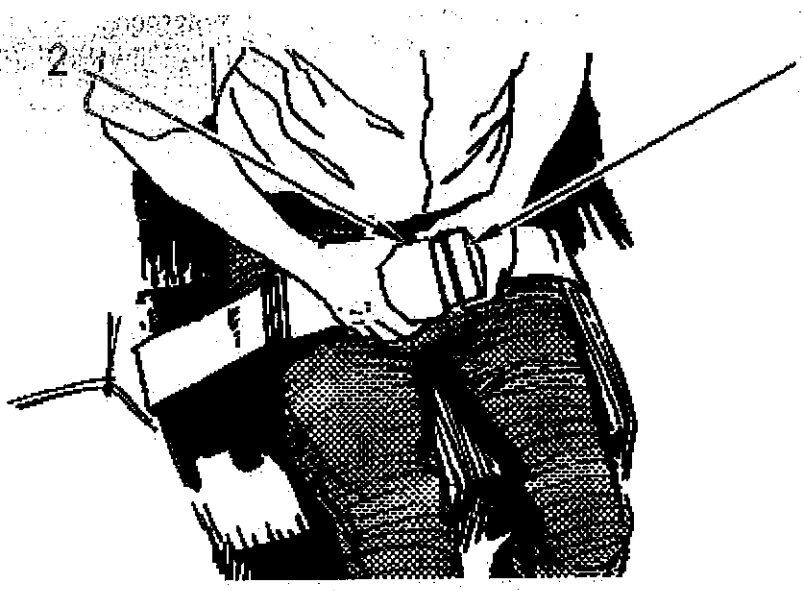

Illustration 4 g00932818

Fasten the seat belt catch (3) into the buckle (2). Make sure that the seat belt is placed low across the lap of the operator.

Releasing The Seat Belt

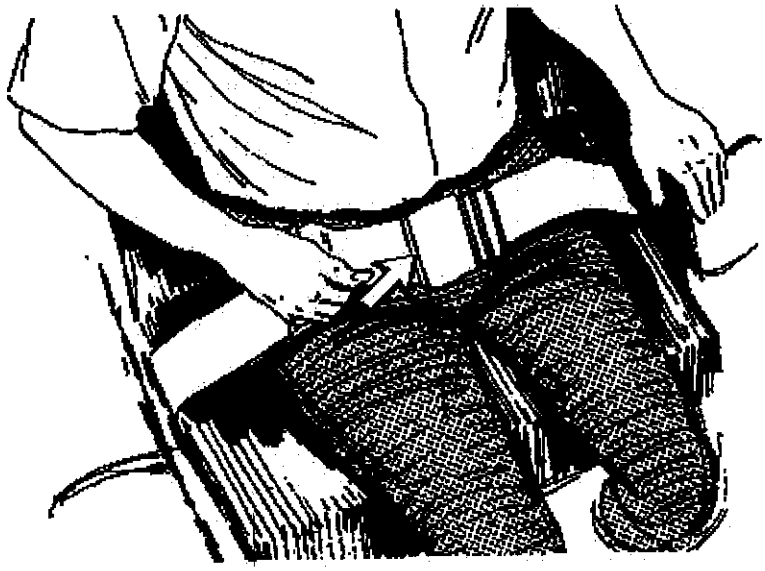

Illustration 5 g00100717

Pull up on the release lever. This will release the seat belt.

Seat Belt Adjustment for Retractable Seat Belts

Fastening The Seat Belt

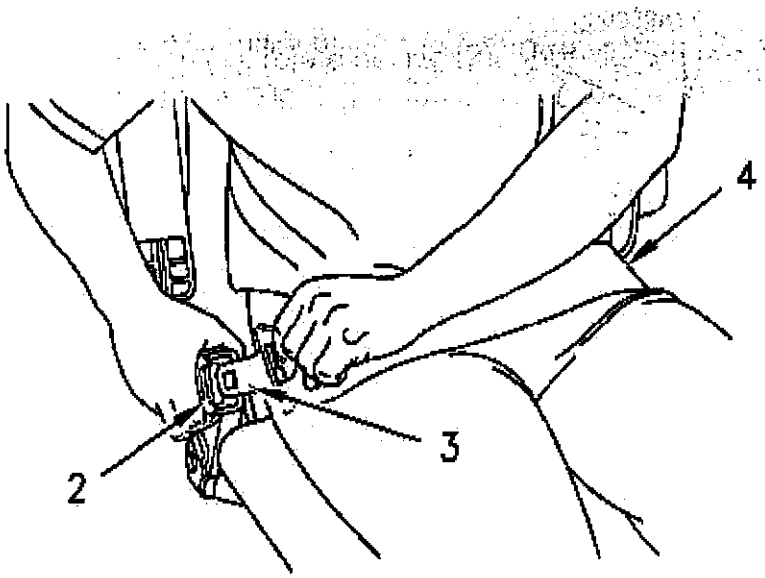

Illustration 6 g00867598

Pull seat belt (4) out of the retractor in a continuous motion.

asten seat belt catch (3) into buckle (2). Make sure that the seat belt is placed low across the lap of the operator.

The retractor will adjust the belt length and the retractor will lock in place. The comfort ride sleeve will allow the operator to have limited movement.

Releasing The Seat Belt

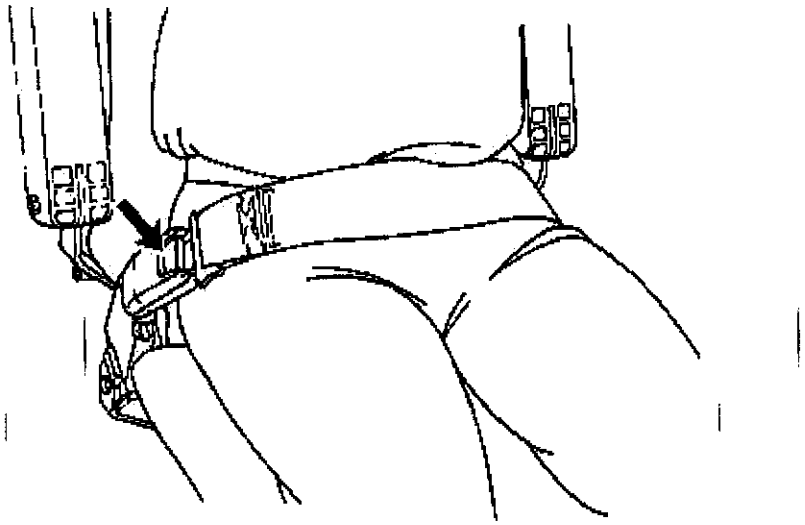

Illustration 7 g00039113

Push the release button on the buckle in order to release the seat belt. The seat belt will automatically retract into the retractor.

Extension of the Seat Belt

⚠ WARNING

When using retractable seat belts, do not use seat belt extensions, or personal injury or death can result.

The retractor system may or may not lock up depending on the length of the extension and the size of the person. If the retractor does not lock up, the seat belt will not retain the person.

Longer, non-retractable seat belts and extensions for the non-retractable seat belts are available.

Caterpillar requires only non-retractable seat belts to be used with a seat belt extension.

Consult your Cat dealer for longer seat belts and for information on extending the seat belts.

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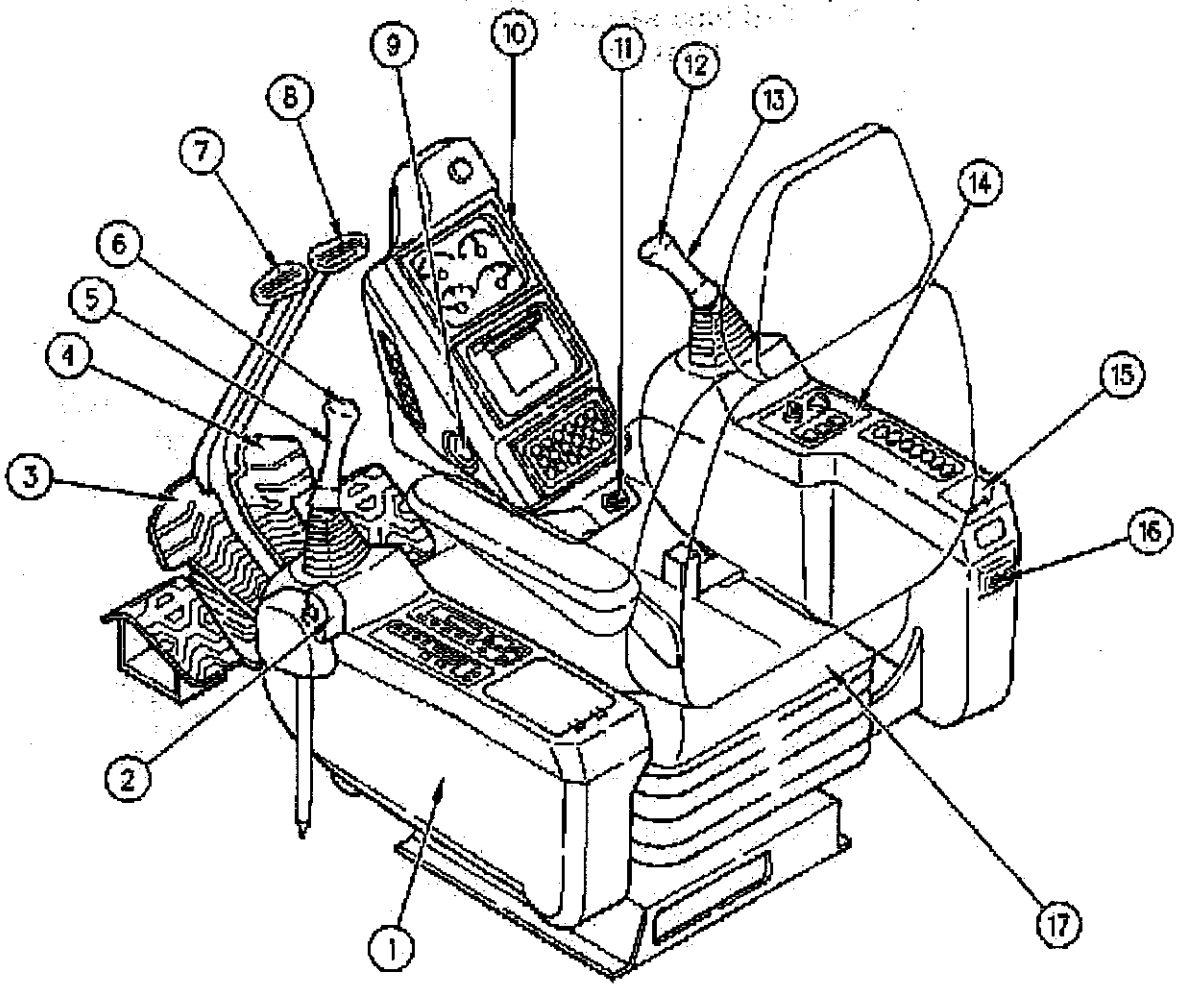

Illustration 1 g00806290

(1) Left console
(2) Hydraulic lockout control
(3) Left travel pedal
(4) Right travel pedal
(5) Left joystick
(6) Horn
(7) Left travel lever
(8) Right travel lever
(9) Service hour meter
(10) Monitor
(11) Lighter
(12) Manual low idle switch
(13) Right joystick
(14) Right console
(15) Switches for limp home mode
(16) Backup controls
(17) Operator's seat

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13:18:16+01:00
i01099300

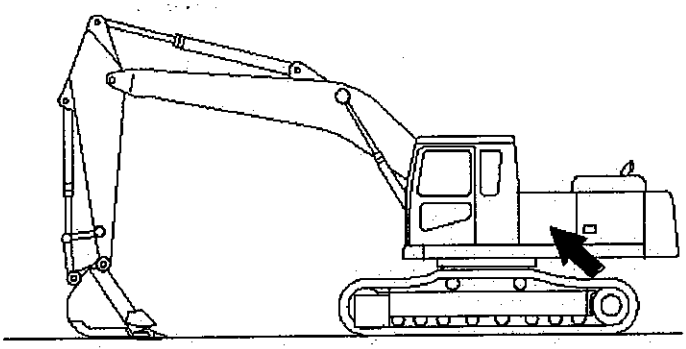

Illustration 1 g00100862

The battery disconnect switch is on the left side of the machine behind the front access door.

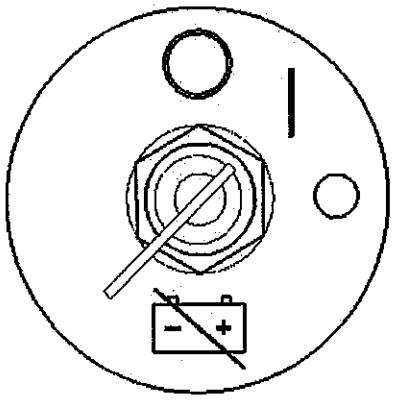

Illustration 2 g00406959

ON - To activate the electrical system, insert the disconnect switch key and turn the battery disconnect switch clockwise. The battery disconnect switch must be turned to the ON position before you start the engine.

OFF - To deactivate the electrical system, turn the battery disconnect switch counterclockwise to the OFF position.

The battery disconnect switch operates differently than the engine start switch. When the battery disconnect switch is position, the electrical system is disabled. When the engine start switch is turned to the OFF position and the battery switch is turned to the ON position, the battery remains connected to the entire electrical system.

Turn the battery disconnect switch to the OFF position and remove the disconnect switch key when you service the e system or other components on the machine.

Turn the battery disconnect switch to the OFF position and remove the disconnect switch key if you do not operate th an extended period of a month or more. This will prevent drainage of the battery.

NOTICE

Never move the battery disconnect switch to the OFF position while the engine is operating. Serious damage to the electrical system could result.

i00130702

SMCS - 1436, 7451

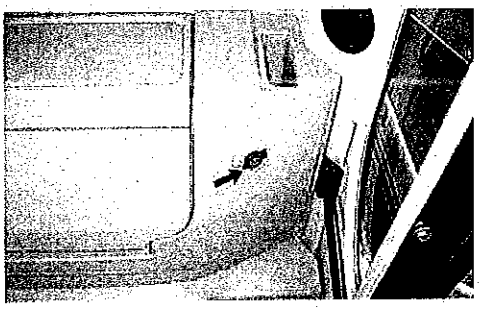

Illustration 1 g00104362
This power receptacle is located in the cab.

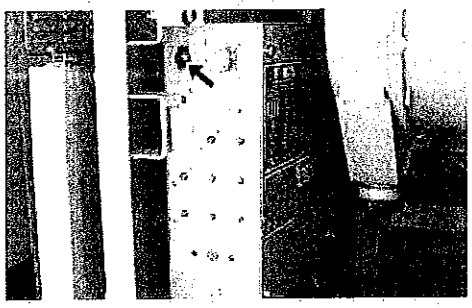

Illustration 2 g00586834
This power receptacle is located on the circuit breaker panel. Use this receptacle in order to plug in an inspection lamp.

Power Receptacle - This machine has two twelve volt seven ampere power receptacles. The receptacles supply power for auxiliary uses. Remove the cap before you use a receptacle.

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SMCS - 1416

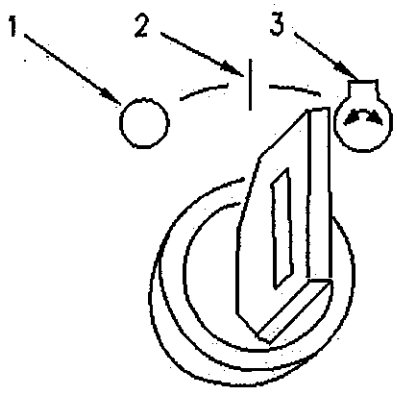

Illustration 1 g00822102
(1) OFF position. (2) ON position. (3) START position.
For details, see the Operation and Maintenance Manual, "Engine Starting".

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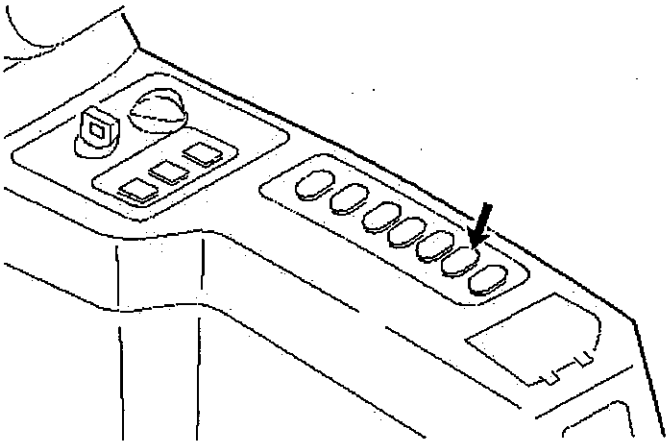

Illustration 1 g00554779

The switch for the overload warning device is located on the right console.

Overload Warning Device - In lifting applications, the overload warning device activates a buzzer when there is an unstable load condition. When this occurs, the load should be reduced or the stick should be moved inward.

On - Push the right side of the switch in order to activate the overload warning device.

Off - Push the left side of the switch in order to deactivate the overload warning device.

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SMCS - 7451, 7490

NOTICE
When the monitor provides a warning, immediately check the monitor and perform the required action or maintenance as indicated by the monitor.

The monitor indicator does not guarantee that the machine is in a good condition. Do not use the monitor panel as the only method of inspection. Maintenance and inspection of the machine must be performed on a regular basis. See the Maintenance Section of this Operation and Maintenance Manual.

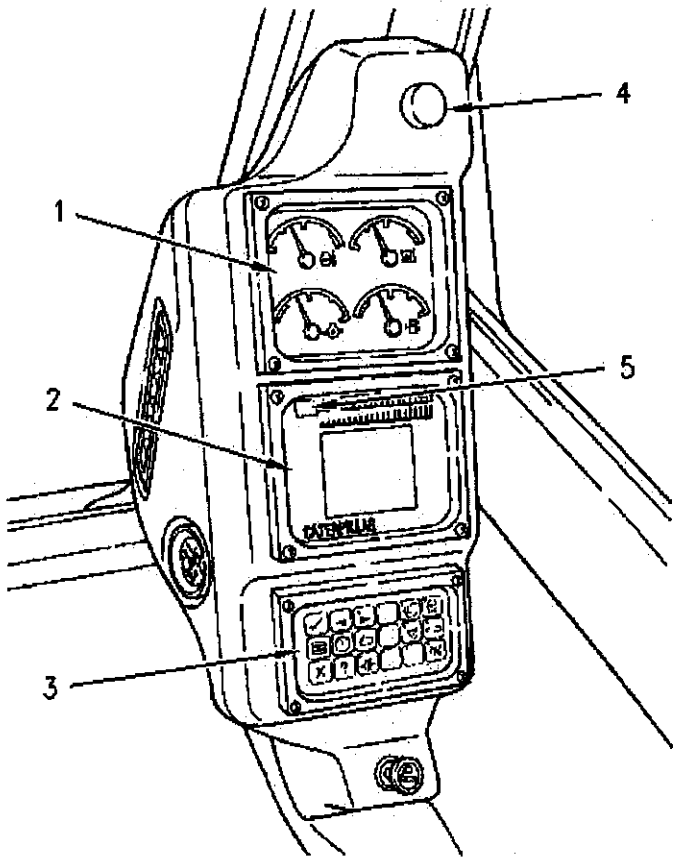

Illustration 1 g00558665
(1) Gauges
(2) Message center
(3) Keypad
(4) Action lamp
(5) Alert indicator

The monitoring system is made up of three basic interfaces, the message center, the gauges, and the keypad.

Quad Gauge Module (1) - The quad gauge module contains gauges for the engine coolant temperature, hydraulic oi temperature, engine oil pressure, and fuel tank level. For more information, refer to Operation and Maintenance Manu "Gauges".

Message Center (2) - The message display consists of a graphic display in order to show information that pertains tc machine functions.

Keypad (3) - The keypad has eighteen keys that are used in order to input information into the VIDS.

A warning system is also incorporated into the VIDS. The warning system is made up of an action lamp (4), alert indic an action alarm. The VIDS monitors the condition of the machine at all times and the VIDS is designed to alert the op problem.

The problem could be in more than one of the machine systems that are listed. These problems are called "Events". I Operation and Maintenance Manual, "Main Menu" for further information on events.

Self-Test

Turn the engine start switch to the ON position.

Each gauge will sweep through the full motion. Each gauge will then show the current value of the machine condition

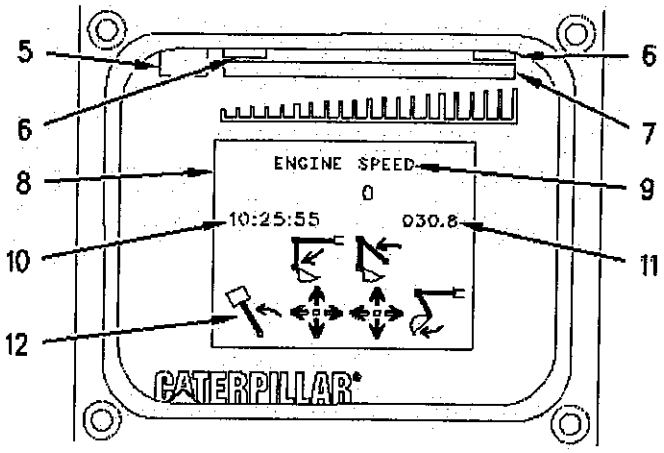

Illustration 2 g00581342
(5) Alert indicator
(6) Gauge warning area
(7) Meter for universal gauge
(8) Display
(9) Parameter for universal gauge
(10) Clock
(11) Hours on engine controller
(12) Current machine control pattern

Alert indicator (5) will flash briefly.

Gauge warning areas (6) will turn on for a short period of time.

Meter for universal gauge (7) will light up each green LED. The gauge will then show the current value for universal g

The part numbers of the software will appear on display (8).

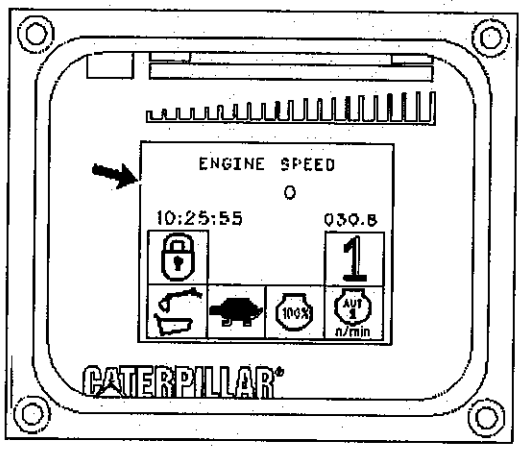

Illustration 3 g00581345

The message display will then show the following information:

- The current parameter for universal gauge (9)
- The current time (10)
- Amount of hours that are on the engine controller (11)
- Machine control pattern (12) that is being used

When the self-test is finished, the message display will show the default display. Refer to Operation and Maintenance "Vital Information Display System (VIDS)" for an explanation of the default screen.

Consult your Caterpillar dealer if the self-test does not function correctly.

Place the engine start switch in the START position and start the engine.

Warning Categories

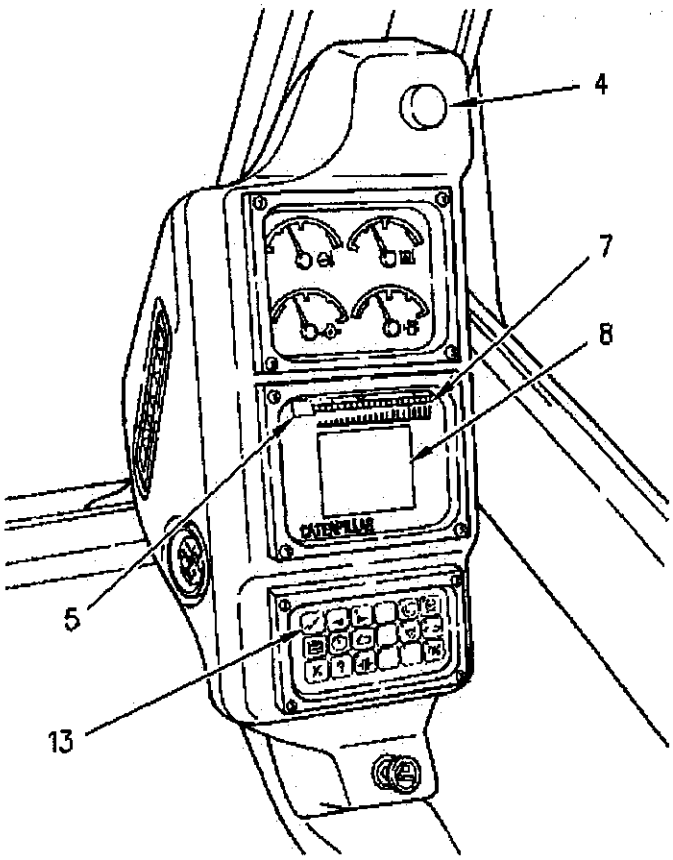

Illustration 4 g00581349
(4) Action lamp
(5) Alert indicator
(7) Meter for universal gauge
(8) Display
(13) OK Key

The Vital Information Display System (VIDS) provides three warning categories.

- The first warning category requires only operator awareness.
- The second warning category requires a change to the machine operation or a change to the maintenance of the
- The third warning category requires immediate shutdown of the engine.

Warning Category 1 - In this category, alert indicator (5) flashes. A message will be shown on display (8). In some ca value of a related parameter is shown by the meter for the universal gauge. The operator must be aware of the mach while the operator is operating the machine. Press the OK key on the keypad in order to acknowledge all warnings. A period, if the abnormal condition is still present, the warning will reappear. If other warnings exist, these warnings will displayed on the screen after the other warnings disappear.

Warning Category 2 - In this category, alert indicator (5) and action lamp (4) flashes. Some events sound the action message will be shown on display (8). In some cases, the value of a related parameter is shown by the meter for the gauge. This warns the operator that a change in the machine operation is required to avoid possible damage to the m system. These actions are especially important when the action alarm sounds. When the action alarm sounds, you ne action immediately. Press the OK key on the keypad in order to acknowledge all warnings. All warnings will then be s predetermined period of time. After the time period has expired and the abnormal conditions are still present, the warn reappear on the display.

Warning Category 3 - In this category, alert indicator (5) and action lamp (4) flash and the action alarm sounds interr message will be shown on display (8). In some cases, the value of a related parameter is shown by the meter for the gauge. This warns the operator that the engine must be shut down as soon as possible to prevent possible damage t machine and/or injury to the operator. The OK key will not acknowledge a warning with a category of three. Therefore key is pushed nothing will happen. Do not operate the machine until the problem has been corrected.

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SMCS - 7450; 7451; 7490

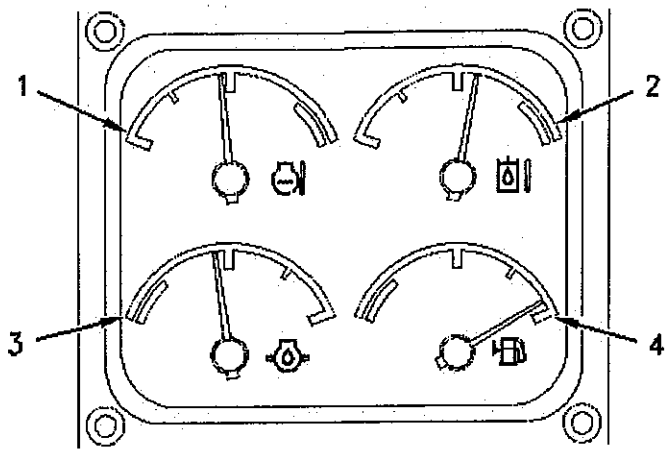

Illustration 1 g00557506

Engine Coolant Temperature (1) - This gauge indicates the temperature of the engine coolant. The white range is the normal operating temperature. The red range indicates overheating.

Hydraulic Oil Temperature (2) - This gauge indicates the temperature of the hydraulic oil. The normal operating range is the white range. If the gauge reaches the red range, reduce the load on the system. If the gauge stays in the red range, stop the machine and investigate the cause of the problem.

Engine Oil Pressure (3) - This gauge indicates engine oil pressure. The white range is the normal operating oil pressure. The red range indicates low engine oil pressure. If the gauge is in the red range, stop the machine and investigate the cause of the problem.

Fuel Level (4) - This gauge indicates fuel tank levels. When the fuel gauge indicates that the fuel level is in the red range, add fuel immediately.

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i01067193

SMCS - 7603

The keypad has 18 keys. The keypad is used to interface with the Vital Information Display System (VIDS).

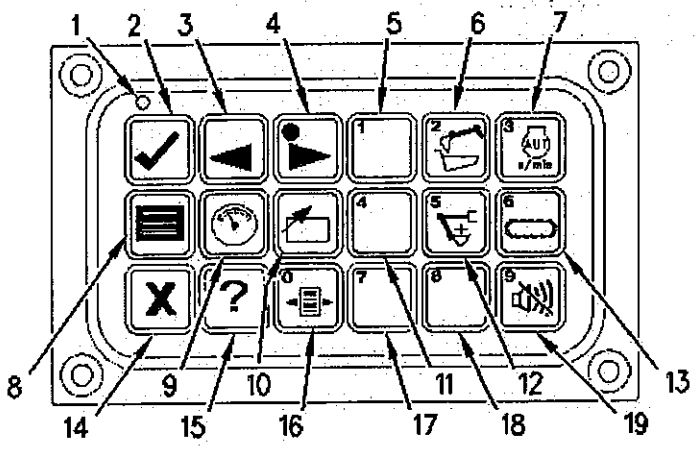


Illustration 1 g00569957

When a key is pushed, LED (1) illuminates. If multiple keys must be pressed in order to perform an operation, the ope cancelled automatically unless the next input from the keypad is performed within five seconds.

OK Key (2) - This key is green. Push this key in order to accept entries from the keypad and acknowledge events.

Backward Key (3) - This key is white. Push this key in order to decrease a parameter or push the key in order to move the cursor upward when you are in a text menu.

Forward Key (4) - This key is white. Push this key in order to perform the following functions:

- Increase a parameter.
- Move the cursor downward when you are in a text menu.
- Enter a decimal point when numerical entry is required.

Numeric Key (5) - This key is white. Push this key in order to perform the following functions:

- Enter the number "1" when numerical entry is required.
- Select option "1" from a text menu.
- Adjust the contrast of the screen.

Key for Digging Mode (6) - This key is yellow. Push this key in order to perform the following functions:

- Select the digging mode.
- Enter the number "2" when numerical entry is required.
- Select option "2" from a text menu.

Note: Refer to Operation and Maintenance Manual, "Work Mode Control" for more information.

Key for AEC Mode (7) - This key is blue. Push this key in order to perform the following functions:

- Toggle between AEC mode 1 and AEC mode 2.

- Enter the number "3" when numerical entry is required.
- Select option "3" from a text menu.

Note: Refer to Operation and Maintenance Manual, "Automatic Engine Speed Control (AEC)" for more information.

Key for Main Menu (8) - This key is white. Push this key in order to access the main menu. For more information on the main menu, refer to Operation and Maintenance Manual, "Main Menu".

Key for Universal Gauge Menu (9) - This key is white. Push this key in order to modify the universal gauge that is shown on the message center. For more information on the universal gauge, refer to Operation and Maintenance Manual, "Universal Gauge Menu".

Key for the ID Menu (10) - This key is white. Push this key in order to access the ID menu. The ID menu has many options that are available in order to change the settings for the operator. For more information on the ID menu, refer to Operation and Maintenance Manual, "ID Menu".

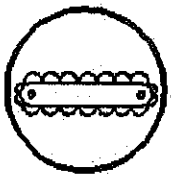
Numeric Key (11) - This key is white. Push this key in order to perform the following functions:

- Enter the number "4" when numerical entry is required.
- Select option "4" from a text menu.
- Adjust the backlight of the screen.

Key for Heavy Lift Mode (12) - This key is yellow. Push this key in order to perform the following functions:

- Select the heavy lift mode.
- Enter the number "5" when numerical entry is required.
- Select option "5" from a text menu.

Note: Refer to Operation and Maintenance Manual, "Work Mode Control" for more information.



Key for Travel Speed (13) - This key is blue. Push this key in order to perform the following functions:

- Toggles between high travel speed and low travel speed.
- Enter the number "6" when numerical entry is required.
- Select option "6" from a text menu.

Note: Refer to Operation and Maintenance Manual, "Travel Speed Control" for more information.

Cancel Key (14) - This key is red. Push this key in order to reject a prompt choice or a setting value.

Help Key (15) - This key is white. Push this key while you are in a text menu in order to access a help screen. Table 1 shows a typical help screen.

Table 1

	PRESS [X] TO CANCEL			
	[<] OR [>] TO SCROLL			

	PRESS [1-5] OR [0/10]	

The help screen will disappear after a few seconds.

More Key (Scroll) (16) - This key is white. Push this key in order to perform the following functions:

- View text that is too long for the display. After a few seconds, the text will return to the original view.
- Display the Module ID (MID), Component ID (CID) and Failure Mode Index (FMI) of error messages.
- Enter the number "0" when numerical entry is required.

Numeric Key (17) - This key is white. Push this key in order to perform the following functions:

- Enter the number "7" when numerical entry is required.
- Select option "7" from a text menu.
- Initiate "manual lube" if the machine is equipped with an automatic lubrication system.

Numeric Key (18) - This key is white. Push this key in order to perform the following functions:

- Enter the number "8" when numerical entry is required.
- Select option "8" from a text menu.
- Display the current machine control pattern. Illustration 2 shows a typical example.

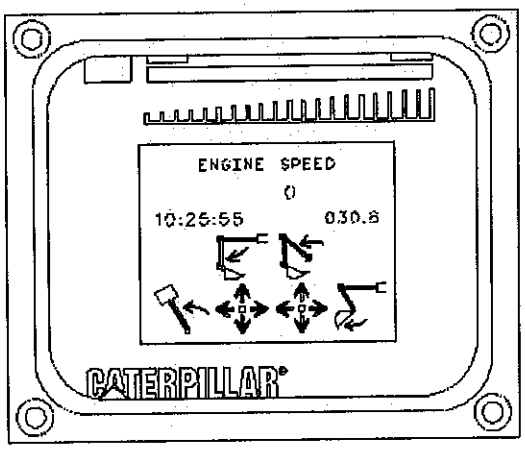


Illustration 2 g00570709

The display will disappear after a few seconds.

Note: For more information on the machine control pattern, refer to Operation and Maintenance Manual, "Implements Control".

Cancel Travel Alarm (19) - This key is blue. Push this key in order to perform the following functions:

- Cancel the travel alarm.
- Enter the number "9" when numerical entry is required.
- Select option "9" from a text menu.

Note: For more information, refer to Operation and Maintenance Manual, "Travel Alarm".

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13:24:22+01:00

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SMCS - 7603 i01147689

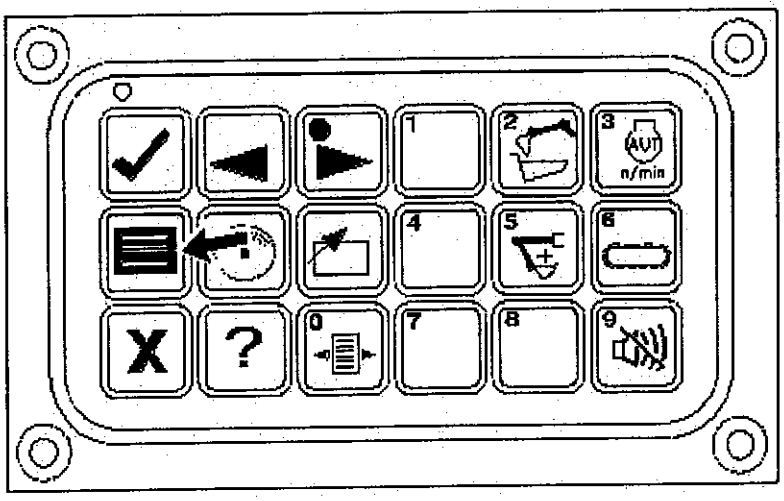

Illustration 1 g00572243

Key for Main Menu - Access the main menu in order to modify the following settings:

- Adjust the contrast.
- Adjust the backlight.
- Select the units.
- Select the language.
- Display a history of errors that have occurred.
- Display properties of the machine.
- Test the display.
- Set the clock.

Note: If all of the information on this screen is not displayed, press the more key in order to view the rest of the screen. The text will return to the original position after a few seconds.

Table 1

		MAIN MENU
	1:	PREFERENCES MENU
	2:	EVENT MENU
	3:	SYSTEM MENU
	4:	SERVICE OPTIONS

Table 1 shows an example of the main menu.

Use the numeric keypad or use the backward key and the forward key in order to select an option.

Press the cancel key in order to exit the main menu and return to the default display.

"Preferences Menu"

Adjust the Contrast

Table 2

		PREFERENCES MENU
	1:	ADJUST CONTRAST
	2:	ADJUST BACKLIGHT
	3:	SELECT UNITS
	4:	SELECT LANGUAGE

This option can be accessed by using the following two methods:

- From the default display, press numeric key "1" on the keypad.
- Press the key for the main menu. Select the "preference menu" and then select "adjust contrast".

Table 3

ADJUST CONTRAST
<--------->
55%

Use the keypad in order to adjust the contrast.

Increase Contrast - Push this key in order to increase the contrast by 5 percent.

Decrease Contrast - Push this key in order to decrease the contrast by 5 percent.

Validate New Setting - Push this key in order to accept the value that is displayed on the screen. After the value has been accepted, a message will appear in order to verify the selection.

Cancel Selection - Push this key in order to cancel the selection and return the default display.

Adjust the Backlight

Table 4

	PREFERENCES MENU
1:	ADJUST CONTRAST
2:	ADJUST BACKLIGHT
3:	SELECT UNITS
4:	SELECT LANGUAGE

his option can be accessed by using the following two methods:

- From the default display, press numeric key "4" on the keypad.
- Press the key for the main menu. Select the "preference menu" and then select "adjust backlight".

Table 5

ADJUST BACKLIGHT
<--------->
55%

Use the keypad in order to adjust the backlight.

Increase the Backlight - Push this key in order to increase the backlight by 5 percent.

Decrease the Backlight - Push this key in order to decrease the backlight by 5 percent.

Validate New Setting - Push this key in order to accept the value that is displayed on the screen. After the value has been accepted, a message will appear in order to verify the selection.

Cancel Selection - Push this key in order to cancel the selection and return the default display.

Select Units

Table 6

	PREFERENCES MENU
1:	ADJUST CONTRAST
2:	ADJUST BACKLIGHT
3:	SELECT UNITS
4:	SELECT LANGUAGE

Select option "3" from the "preferences menu".

Table 7

SELECT UNITS
ENGLISH
METRIC

Select the Unit - Use the backward key or use the forward key in order to select the type of units.

Validate New Setting - Push this key in order to accept the setting.

Cancel Selection - Push this key in order to cancel the selection and return the default display.

Selecting a Language

Table 8

	PREFERENCES MENU
1:	ADJUST CONTRAST
2:	ADJUST BACKLIGHT
3:	SELECT UNITS
4:	SELECT LANGUAGE

Select option "4" from the "preferences menu".

Table 9

SELECT LANGUAGE
ENGLISH

This menu allows the operator to select the language that will be displayed.

The current language is shown when the menu is accessed.

The languages are in alphabetical order.

Select a Language - Use the backward key or use the forward key in order to select a language.

Accept a Language - Push this key in order to accept the new language.

Cancel Selection - Push this key in order to cancel the selection and return the default display.

"Event Menu"

"Active Events"

Table 10

	EVENT MENU
1:	ACTIVE EVENTS
2:	SUMMARY LOG
3:	CHRONOLOGICAL LOG
4:	EVENT STATS
5:	CLEAR ALL

Select option "1" from the "event menu".

Table 11

EVENT ACK REPORT		
ALTERNATOR STAT NOT CHARGING(1)		
000030.6(2)	001:40:25(3)	2(4)

(1) Description of the error
(2) Engine hours
(3) Time of the error
(4) Warning category

This display lists the current errors on the machine.

Scroll through the Log - Push the backward key or push the forward key in order to scroll through the log.

Cancel Selection - Push this key in order to return the default display.

"Summary Log"

Table 12

	EVENT MENU
1:	ACTIVE EVENTS
2:	SUMMARY LOG
3:	CHRONOLOGICAL LOG
4:	EVENT STATS
5:	CLEAR ALL

Select option "2" from the "event menu".

Table 13

SUMMARY LOG			
GAUGE CLUSTER ERROR(1)			
F12345(2)	L67890(3)	C123(4)	1(5)

(1) Description of the error
(2) First occurrence of the error
(3) Last occurrence of the error
(4) Quantity of errors that happened
(5) Warning category

This display shows a summary of all of the errors that have happened on the machine. For example, Table 13 shows that an error has occurred with the gauge cluster. The error first occurred when the engine had "12345" hours. The error last occurred when the engine had "67890" hours. The error had "123" occurrences and the error has a warning category of "1".

Use the keypad to scroll through the "summary log".

Scroll through the Log - Push the backward key or push the forward key in order to scroll through the log.

Cancel Selection - Push this key in order to return the default display.

"Chronological Log"

Table 14

		EVENT MENU
	1:	ACTIVE EVENTS
	2:	SUMMARY LOG
	3:	CHRONOLOGICAL LOG
	4:	EVENT STATS
	5:	CLEAR ALL

Select option "3" from the "event menu".

Table 15

	CHRONOLOGICAL LOG	
	ALTERNATOR STAT NOT CHARGING(1)	
000030.6(2)	001:40:25(3)	2(4)

(1) Description of error
(2) Engine hours
(3) Time of the error
(4) Warning category

This display lists the errors in the order of occurrence.

Scroll through the Log - Push the backward key or push the forward key in order to scroll through the log.

Cancel Selection - Push this key in order to return the default display.

Scroll through the L... backward key or ... forward key in order ...

"Event Stats"

Table 16

		EVENT MENU
	1:	ACTIVE EVENTS
	2:	SUMMARY LOG
	3:	CHRONOLOGICAL LOG
	4:	EVENT STATS
	5:	CLEAR ALL

Select option "4" from the "event menu".

Table 17

EVENT STATS	
<EVENT STATS>	
DATA EVENTS(1)	1(2)

(1) Type of event
(2) Quantity of errors for each event

"Data Events" - Show the number of nonfunctional events that have occurred on the machine. Examples of "data events" are hydraulic oil temperature and fuel temperature.

"System Events" - Show the number of functional events that have occurred on the machine. Examples of "system events" are errors for solenoids and errors for gauges.

"Category 3" - Show the number of warnings that have occurred in this warning category. Refer to Operation and Maintenance Manual, "Monitoring System" for information on warning categories.

"Category 2" - Show the number of warnings that have occurred in this warning category. Refer to Operation and Maintenance Manual, "Monitoring System" for information on warning categories.

"Category 1" - Show the number of warnings that have occurred in this warning category. Refer to Operation and Maintenance Manual, "Monitoring System" for information on warning categories.

"Clear All"

Table 18

	EVENT MENU
1:	ACTIVE EVENTS
2:	SUMMARY LOG
3:	CHRONOLOGICAL LOG
4:	EVENT STATS
5:	CLEAR ALL

Select option "5" from the "event menu".

Selecting "clear all" from the menu will clear all of the logs from the machine if the service mode is active.

For further information, consult your Caterpillar dealer.

"System Menu"

"Show Machine Stat"

Table 19

	SYSTEM MENU
1:	SHOW MACHINE STAT
2:	TEST DISPLAY
3:	AUTOLUBE MENU

Select option "1" from the "system menu".

Table 20

MACHINE STAT MENU
S: 1586275.25(1)
C: 1648213.04(2)

(1) Version of software of the controller
(2) Configuration of the machine

Scroll - Push the backward key or push the forward key in order to scroll through the information for the machine.

- "ECM SERIAL NO"
- "ECM PART NO"
- "MODEL NO"
- "SERIAL NO"
- "EQUIPMENT ID"
- "HARNESS CODE VALUE"
- "OPERATOR SELECTED"

Cancel - Push this key in order to return the default display.

"Test Display"

Table 21

	SYSTEM MENU			
	1:	SHOW MACHINE STAT		
	2:	TEST DISPLAY		
	3:	AUTOLUBE MENU		

Select option "2" from the "system menu".

Press the OK key in order to test all of the gauges, alarm lights, status lights, and the display screen.

Note: This test is also performed automatically when the engine start switch is turned to the START position.

"Autolube Menu" (If Equipped)

Table 22

	AUTOLUBE MENU
1:	ADJUST CYCLE TIME
2:	ADJUST LUBE TIME

This menu allows the mechanic to set the automatic lubrication system. This menu also allows the mechanic to modify the settings of the autolube system.

Refer to Operation and Maintenance Manual, "Automatic Lubrication System Control" for more information.

"Service Options"

"Start Manual Lube" (If Equipped)

Table 23

	SERVICE OPTIONS
1:	START MANUAL LUBE
2:	PERFORM CALIBRATION

Select option "1" from "service options".

Press the OK key in order to bypass the automatic lubrication system (if equipped) and grease on demand.

"Perform Calibration"

There are many options that are listed in this menu. However, only the following options are available to the operator:

- Set the clock. For the procedure on setting the clock, refer to Operation and Maintenance Manual, "Clock".
- Select the active program for the tool.
- Select the gain/response settings. Refer to Operation and Maintenance Manual, "Gain/Response Control" for more information.

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i01088439

⚠ WARNING

Make sure that all attachments are in the recommended servicing position and personnel are clear of the attachment before the manual lever on the ball valve is moved. Changing the valve position may cause the attachment to move unexpectedly. Serious injury or death may result.

NOTICE

Failure to select the correct work tool may result in failure of a work tool and possible damage to the machine.

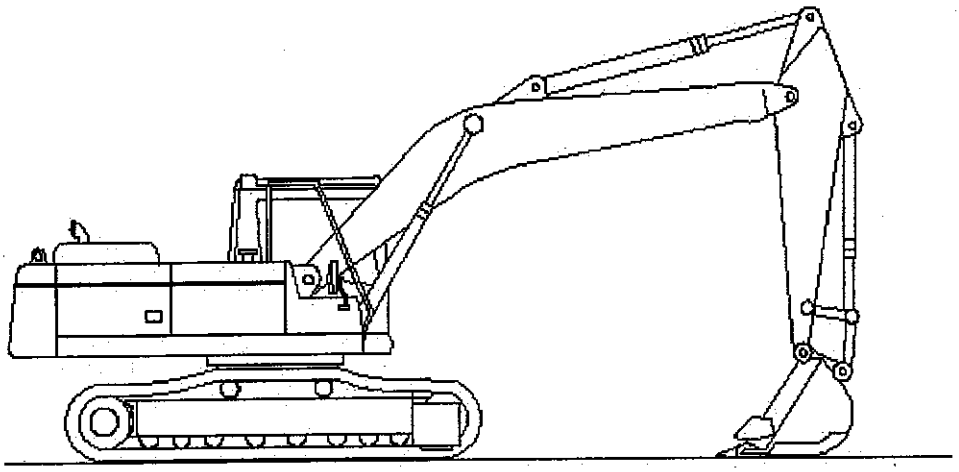

Illustration 1 g00101347

1. Place the machine in the servicing position.

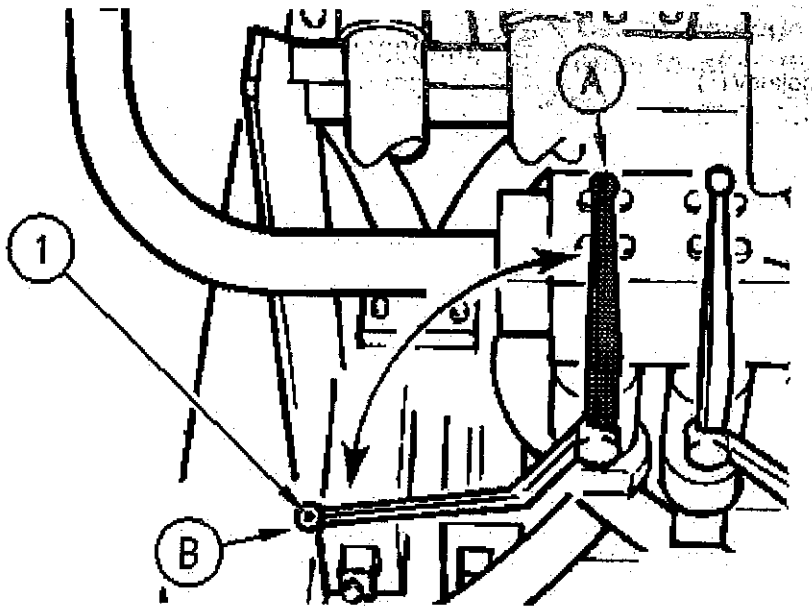

Illustration 2 g00577017
(1) Ball valve
(A) SINGLE ACTION
(B) DOUBLE ACTION

2. If your machine is equipped with a combined circuit, set both ball valves to position (A). This position is for the single action hydraulic attachment circuit.
Reference: For more information, refer to Operation and Maintenance Manual, "Work Tool Flow Mode Control (If Equipped)".

3. Turn the disconnect switch to the ON position.

4. Turn the engine start switch to the ON position.

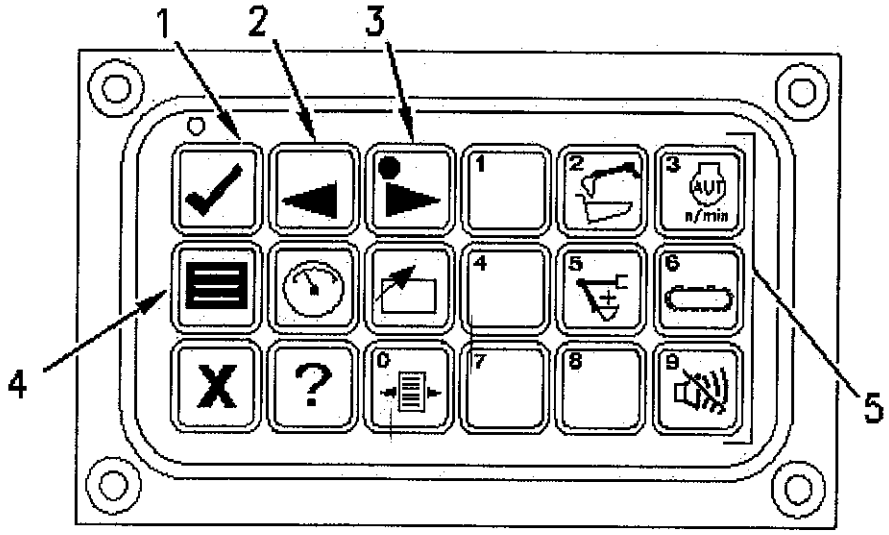

Illustration 3 g00985656
(1) OK Key
(2) Backward Key
(3) Forward Key
(4) Menu Key (Main)
(5) Numeric Keypad

5. Press Menu key (4).

Table 1

	MAIN MENU
1:	"PREFERENCES MENU"
2:	"EVENT MENU"
3:	"SYSTEM MENU"
4:	"SERVICE OPTIONS"
5:	"PERFORMANCE MENU"

6. Press Forward key (3) in order to select the "SERVICE OPTIONS" menu. Press OK key (1) or press "4" on the keypad.

Table 2

	"SERVICE OPTIONS"
1:	"START MANUAL LUBE"
2:	"PERFORM CALIBRATION"

7. Press the Forward key in order to select the "PERFORM CALIBRATION" menu. Press OK key (4) or press "2" on the keypad.
8. The option "SET CLOCK" will be displayed on the screen.
9. Use the Forward key to scroll through the menu. Stop scrolling when "Select Tool Program" is shown. Press OK key (4).

Table 3

HAMMER 1
Press "< >" To Change
"Press OK"

10. The option "HAMMER 1" will be displayed. Press the Backward key or the Forward key in order to display the desired work tool. The following options are available:
    - "HAMMER 1"
    - "HAMMER 2"
    - "SHEAR 1"

- "SHEAR 2"

11. Press the OK key. The message "Cycle the lock lever to enable hydraulics" appears on the screen.

12. Cycling the lock lever will return to the main menu and the tool will be selected.

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13:25:58+01:00
i01972234

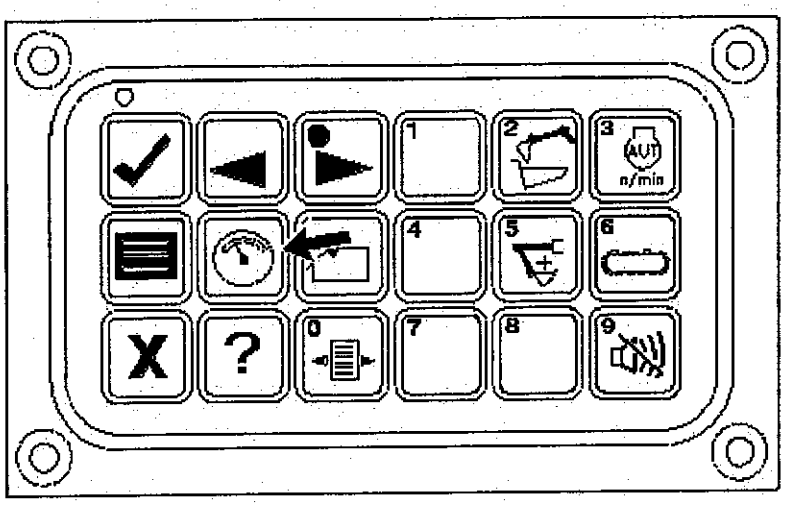

Illustration 1 g00569694

Universal Gauges - Use the universal gauge in order to confirm machine conditions and display machine conditions. There are over 125 parameters (machine conditions) that can be displayed.

The parameters can be selected by using three different methods:

- Scroll through all parameters. Refer to Step 1.
- Scroll through categories of parameters. Refer to Step 2.
- Manually enter the number of the parameter. Refer to Step 3.

Table 1

UNIVERSAL GAUGES(1)
"TURBO OUT PRES"(2)
(800)(3)
98 KPA(4)

(1) Title of the menu
(2) Name of the parameter
(3) Number of the parameter
(4) Value of the parameter

1. Press the key for the universal gauge once in order to view the current setting. Table 1 shows a typical display.
   Press the backward key or press the forward key in order to scroll through the parameters.

   Note: To display the parameter on the default display, select the parameter and then press the OK key. The units for the parameter will not be shown on the display.

2. Press the key for the universal gauge twice in order to separate the parameters into the ten following categories:

   - "ALL"
   - "OPERATOR"
   - "ENGINE"
   - "HYDRAULIC"
   - "IMPLEMENT"
   - "TRAVEL"
   - "SWING"
   - "TOOL"
   - "FEATURE"
   - "MISC"

   Press the backward key or press the forward key in order to select a category. Press the OK key in order to accept the selection.

   Press the backward key or press the forward key in order to scroll through the parameters that are in the category.

   Note: To display the parameter on the default display, select the parameter and then press the OK key. The units for the parameter will not be shown in the display.

3. Press the key for the universal gauge three times in order to enter the number of the parameter manually.
   Note: To display the parameter on the default display, select the parameter and then press the OK key. The units for the parameter will not be shown in the display.

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2024/01/29
13:27:34+01:00
i01088172

MCS - 7608 i01659537

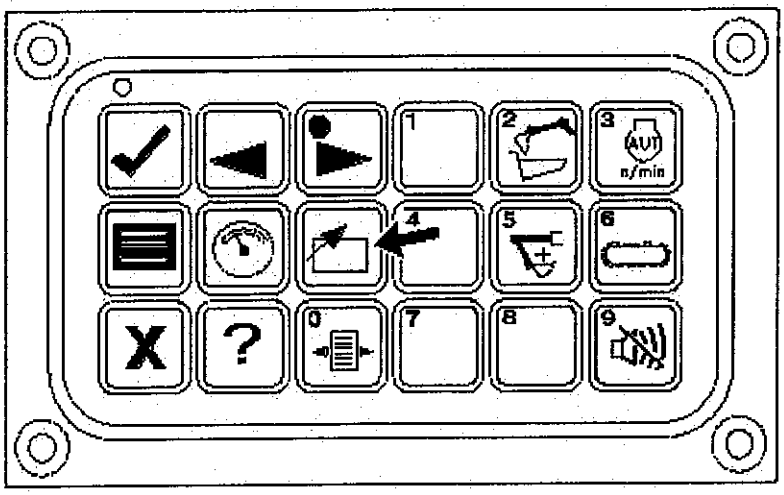

Illustration 1 g00569624

Key for ID Menu - This menu allows one machine to have several machine settings.

Table 1

	ID MENU
1:	"SELECT OPERATOR"
2:	"SAVE OPERATOR"
3:	"RECALL OPERATOR"
4:	"OPERATOR SETUP"
5:	"SERVICE MODE TOGGLE"
6:	"FACTORY DEFAULTS"

When the key is pressed, the ID menu will be displayed.

Use the numeric keypad or use the backward key and the forward key in order to select an option.

"Select Operator" (1) - This option selects the current setting for the operator from the list of settings.

"Save Operator" (2) - This option allows the operator to save the current settings.

"Recall Operator" (3) - This option allows the operator to verify if more information is included with the setting for the operator.

"Operator Setup" (4) - These options can only be performed by your Caterpillar dealer.

"Service Toggle Mode" (5) - The service mode can only be accessed by your Caterpillar dealer.

"Factory Defaults" - This option allows the operator to reset the current settings for the operator to the original factory settings.

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2024/01/29
13:28:22+01:00
i01659597

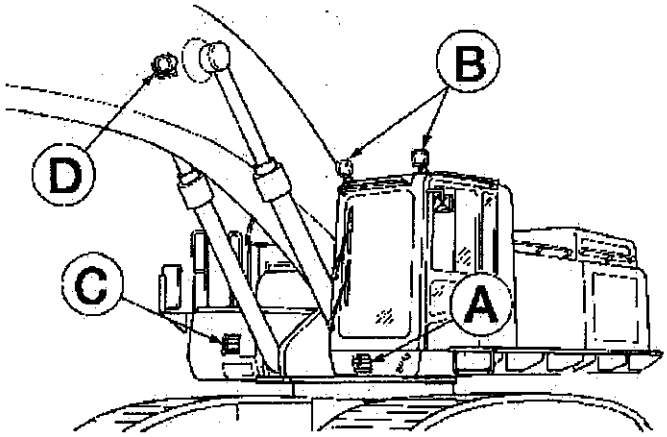

Illustration 1 g00579379
(A) Work light
(B) Work light
(C) Work light
(D) Work light

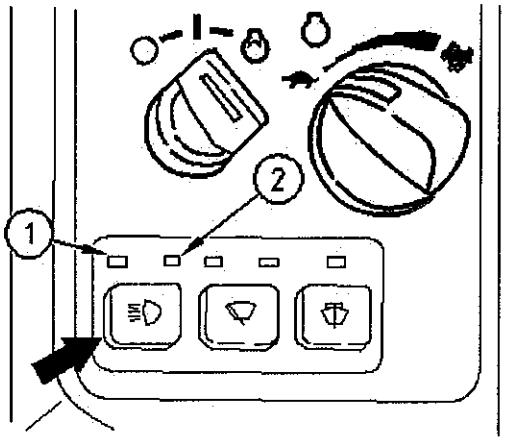

Illustration 2 g00103189
(1) Indicator light
(2) Indicator light

Light Switch - Push the switch in order to turn on the work lights.

Whenever you push the switch, you change the pattern of the work lights that are turned on. The indicator lights that indicate the pattern of the work lights that are turned on. When indicator light (1) is on, the following work lights are tu light (A) that is mounted on the chassis, work light (B) that is mounted on the cab, work light (C) that is mounted in the and the lights for the monitoring panel.

When indicator light (1) and indicator light (2) are on, the following work lights are turned on: work light (A) that is mou chassis, work light (B) that is mounted on the cab, work light (C) that is mounted in the storage box, work light (D) tha on the boom and the lights for the monitoring panel. When both of the indicator lights are off, all of the work lights are

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13:28:43+01:00
i01100827

SMCS - 1256
Use the following procedure to pump fuel and store hose.

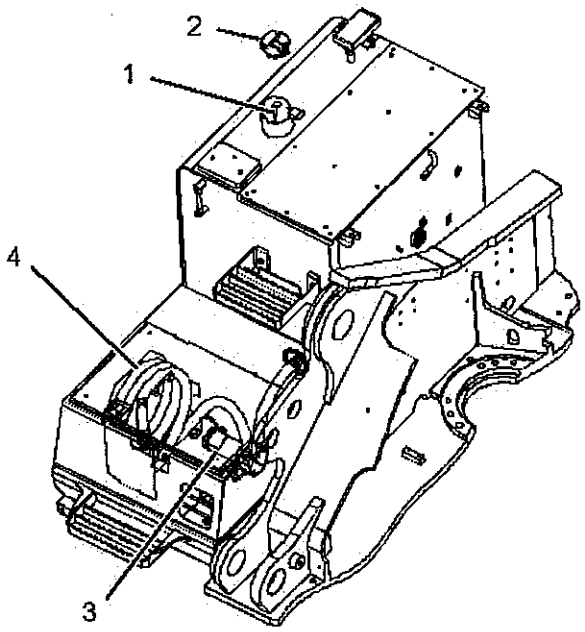

Illustration 1 g01513905

Open the cover of the storage box that is located on the right side in front of the fuel tank.

The electric refueling pump (3) pumps fuel into the fuel tank.

NOTICE
Do not continuously operate the refueling pump for more than 30 minutes. Do not operate the refueling pump more than a few seconds without fuel. Pump damage can result.

On - Push the switch in order to activate the refueling pump.

Off - Push the switch in order to deactivate the refueling pump.

1. Remove cap (2) from the fuel tank.
2. Properly insert the free end of suction hose (4) into a container of fuel.
3. Push the switch in order to supply the fuel to the tank. When the tank is full, the pump stops refueling.
   Note: Look at level gauge (1) in order to determine the fuel level.
4. After refueling, install cap (2) to the fuel tank.
5. Make sure that excess fuel is drained from suction hose (4) before storing the suction hose.
6. When you store suction hose (4), wind the hose on the bar. Secure the hose end in place.

NOTICE
To prevent hose damage, do not coil the hose in a tight radius.

7. Close the cover of the storage box.

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2024/01/29
13:29:21+01:00
i01099426

SMCS - 7304, 7320, 7337

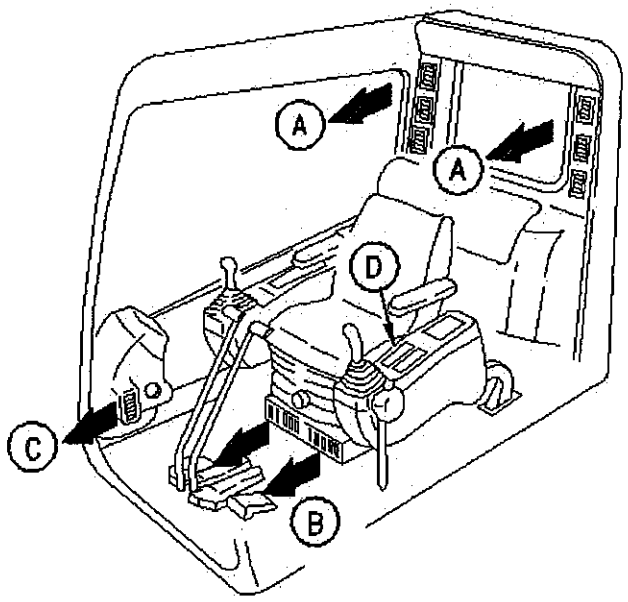


Illustration 1 g00101001
(A) Vent for upper body
(B) Floor vent
(C) Defroster vent
(D) Control panel

Note: For the most efficient operation of the system, use the "AUT" mode and do not close any of the louvers

Automatic Climate Control

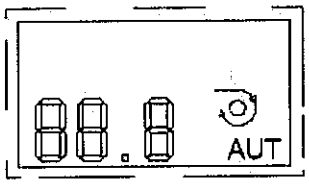


Illustration 2 g01011401
Full "AUT" Display

Press the "AUT" button. The "AUT" symbol, the temperature setpoint and the symbol for recirculation appear in displa operator may select either the open position or the closed position for the fresh air control. The system is in the full au mode only when these three items are shown on the display. If there is more than the three symbols shown on the dis system is in the "AUT" override mode or in the manual control mode. Full automatic mode controls the output air tem speed, and the air outlets. The ambient temperature determines the air outlets that are used.

If the "AUT" is not showing in display (1), the system is in the full manual control mode.

Note: If the cab temperature is below the selected temperature setpoint, the fan speed will not ramp to full speed unti temperature of the air outlet reaches a preset temperature.

Control Panel

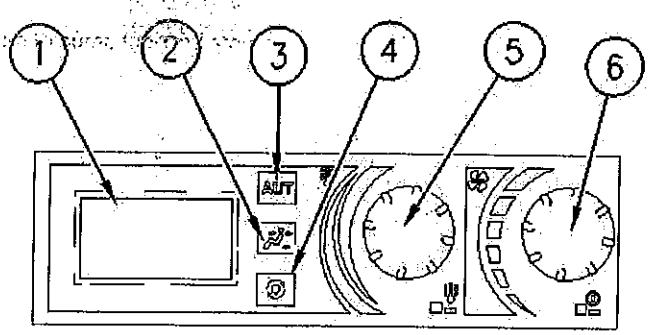


Illustration 3 g00997486
(1) Display
(2) Air Outlet Selection Switch
(3) Automatic Temperature Control Switch
(4) Fresh Air Control
(5) Temperature Control Knob
(6) Power On/Off and Fan Speed Knob

Power On/Off (6) - Push the fan speed knob to power on the system or push the fan speed knob to power off the system.

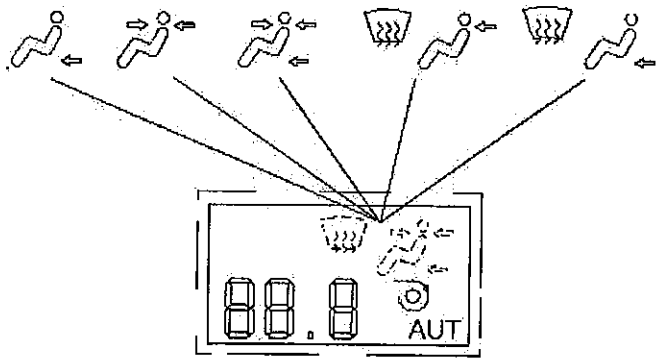
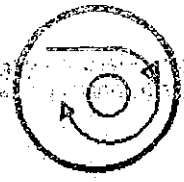


Illustration 4 g01011397
Manual Override of the Automatic Selection of the Air Outlets

Air Outlet Selection Switch (2) - Press the air outlet selection switch in order to cycle through the different positions. The symbol in the display will show the selected position. The air outlets are selected automatically when the graphics for the air outlets are not shown in display (1).

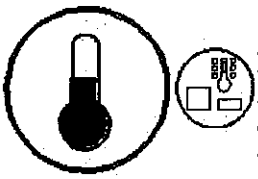
Automatic Temperature Control Switch (3) - Press the "AUT" button for fully automatic operation of the climate control system. Full automatic mode may be enabled at any time. For more information on the operation of the automatic temperature control, refer to "Control Panel".

Fresh Air Control Closed position - Push fresh air switch (4) in order to change the position of the door of the fresh air inlet. The symbol in the display will show the selected position. When this position is selected, the fresh air inlet is closed. The air will recirculate inside the cab.



Open Position - When this position is selected, the door to the fresh air inlet is open. Fresh air will be drawn into the cab.

Note: The door for fresh air may close for a few minutes when the machine is started and the system is in automatic will help to bring the air temperature to the setpoint more quickly.



Temperature Control Knob (5) - If the climate control system is in the automatic mode, rotate the temperature control knob in order to change the temperature setpoint. The desired cab temperature appears on display (1).

Note: The automatic climate control system may take about 3 minutes in order to respond to large temperature chan least 3 minutes between temperature changes.

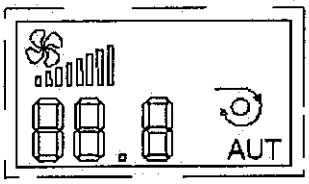


Illustration 5 g01011402

Fan Control Knob (6) - The fan speed is automatically controlled in the automatic mode. Rotate the fan control knob in order to override the automatically selected fan speed. The symbol for the fan with the bar graph for speed control will be added to display (1).

Maximum Heating and Cooling Mode

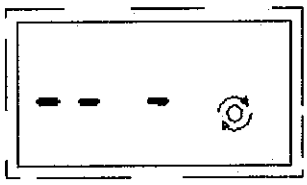


Illustration 6 g00788476
Display for Maximum Heating

Press "AUT" button (3). Rotate temperature control knob (5) clockwise until the setting for maximum heat is shown or as illustration 6. Rotate the temperature control knob (5) counterclockwise in order to cancel maximum heating.

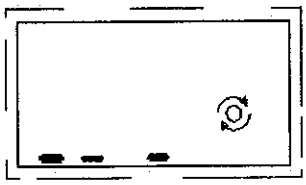


Illustration 7 g00788477
Display for Maximum Cooling

Press "AUT" button (3). Rotate the temperature control knob (5) counterclockwise until the setting for maximum cooli on the display as illustration 7. Rotate the temperature control knob (5) clockwise in order to cancel maximum cooling

Both maximum functions are automatic modes.

Rotate the temperature control knob (5) to the desired cab temperature. The climate control system must be in the fu in order to maintain the temperature. If the display does not match illustration 2, the air conditioning system may not c cooling.

Manual Operation

The operator has full control of the system and can set the fan speed (6), air outlet (2), and the amount of heat (5).

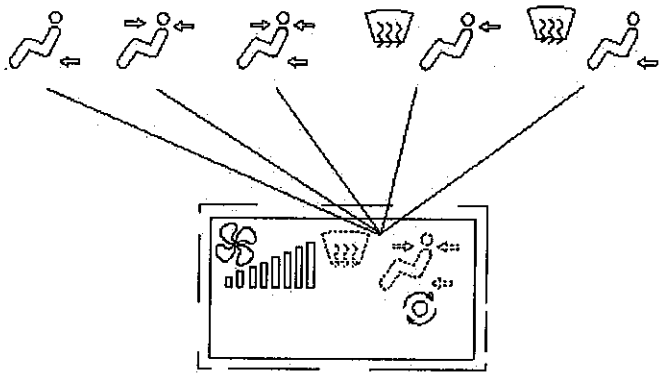


Illustration 8 g00997527
Manual Override of Automatic Temperature Control for Heat

Push temperature control knob (5) in order to control the temperature manually. The temperature setpoint and "AUT" display (1). The symbol of the fan with the bar graph for speed and the air outlet will be shown on display (1). Rotate t temperature control knob (5) clockwise in order to increase the temperature. The temperature range is between one a fifteen. **The air conditioner will not run in this mode except when either of the defrost modes are selected.**

Defrost or Dehumidify Operation

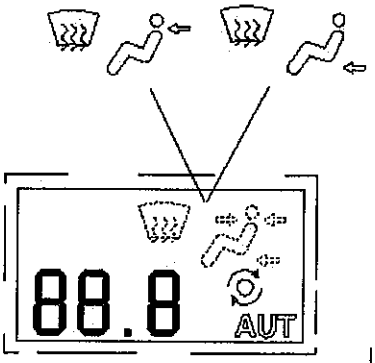


Illustration 9 g00997497
Defrost or Dehumidify Operation

Push the air outlet selection switch (2) until one of the symbols in illustration 9 is shown in display (1). The air is dehu the compressor is operating. Operating the compressor will also defog the windows. The compressor will operate in a "AUT" mode or in the manual mode when the symbols for the defrost in illustration 9 are displayed. The compressor i from operation when the ambient air temperature sensor is below 4 °C (39 °F).

English Versus Metric Toggle

Turn the system to the ON position. Multiple keys must be pressed simultaneously. Press and hold the automatic tem control switch (3). At the same time press and hold the temperature control knob (5). This will toggle the display betw Celsius and Degrees Fahrenheit.

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i01962160

SMCS - 7305, 7306

Excavator with Demolition Cab (If Equipped)

The top window of the demolition cab is equipped with one window wiper.

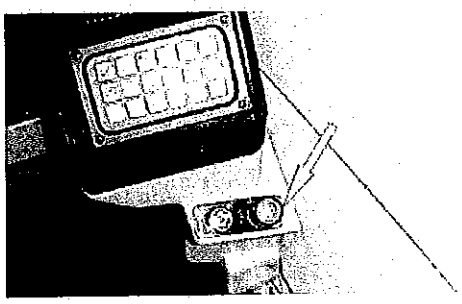

Illustration 1 g00730651
Switch for window washer

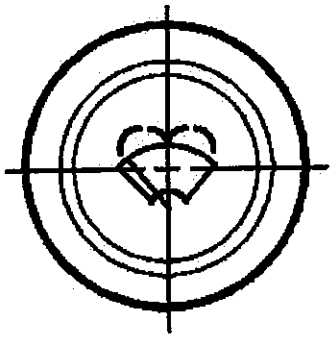

Illustration 2 g00741703

Neutral position - The window wiper is off.

Left position - Turn the switch left in order to activate the window wiper continuously.

Right position - Turn the switch right in order to operate the intermittent function with spray. When the switch is turne window wiper will operate intermittently at six second intervals. Washer fluid is sprayed on the window during operati

Note: In any position, the switch may be depressed in order to spray window washer fluid on the window.

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i01386062

SMCS - 7301, 7308, 7310

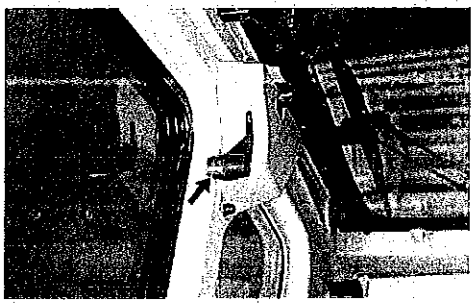

Illustration 1 g00104600

Push the knob of the cab door latch forward in order to open the cab door. For additional ventilation, open the cab do and secure the cab door to the catch on the wall of the cab.

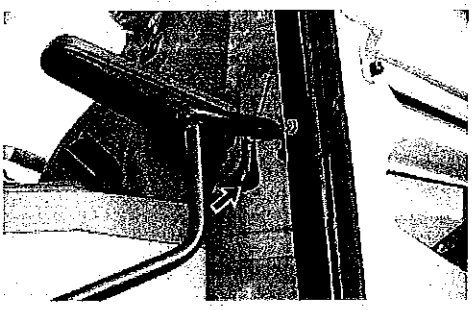

Illustration 2 g00104601

To release the cab door from the catch, move the cab door release lever away from the operator.

Side Window

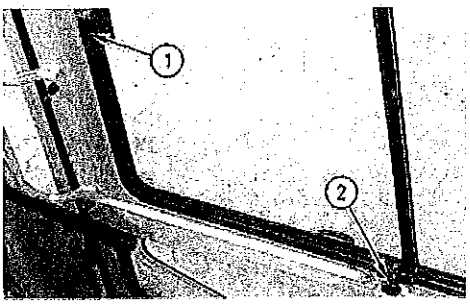

Illustration 3 g00104599

Turn knob (2) counterclockwise in order to allow the side window to be adjusted. Release latch (1) in order to open th window. Slide the side window to the desired position. Turn knob (2) clockwise in order to secure the side window.

Loosen knob (2) in order to close the side window. Slide the side window until latch (1) is engaged.

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i00080705

SMCS - 5462

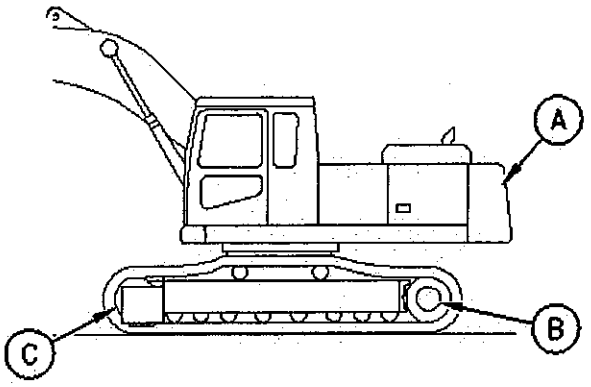

Illustration 1 g00753277
Position for normal travel
(A) Rear of machine
(B) Final drive
(C) Idler

When you travel, make sure that final drive sprockets (B) are under the rear of the machine.

Directional changes at full engine speed are possible. However, decelerating and/or braking is recommended for ope Decelerating and/or braking will also help to achieve the maximum service life of the transmission components.

If the travel alarm (if equipped) does not sound, consult your Caterpillar dealer.

Stop - Release the travel levers/pedals in order to stop the machine. When you release the travel levers/pedals from the travel levers/pedals will return to the CENTER position. This applies the travel brakes.

Move both of the travel levers or both of the travel pedals equally in the same direction in order to travel straight.

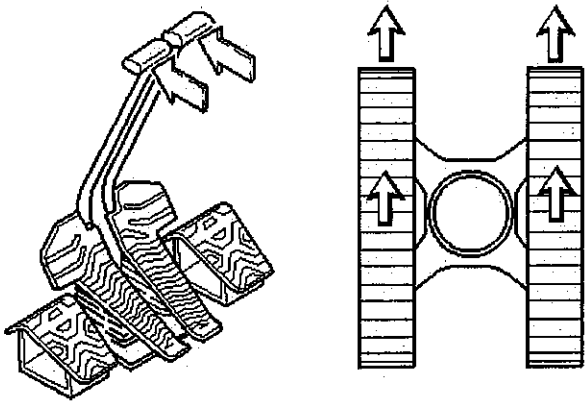

Illustration 2 g00731542
Forward Travel

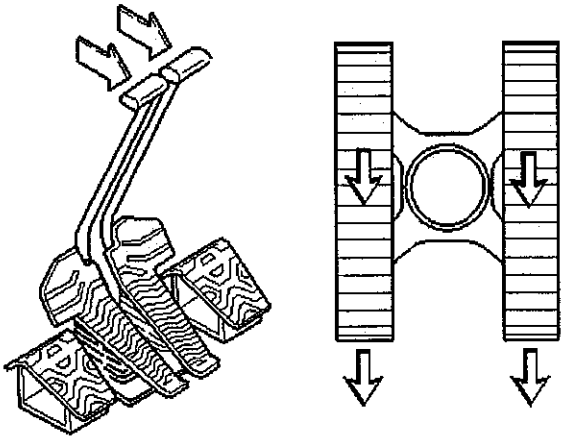

Illustration 3
Reverse Travel

g00731543

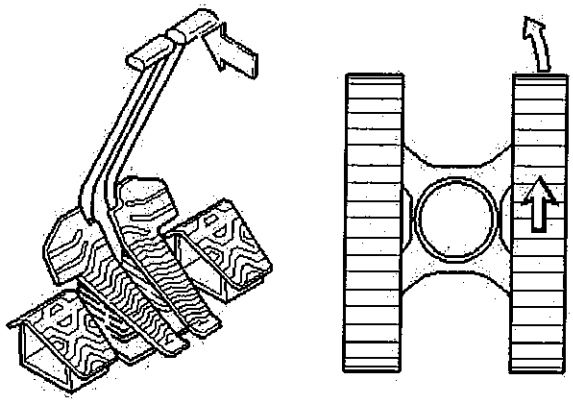

Illustration 4
Pivot Left Turn (Forward)

g00731472

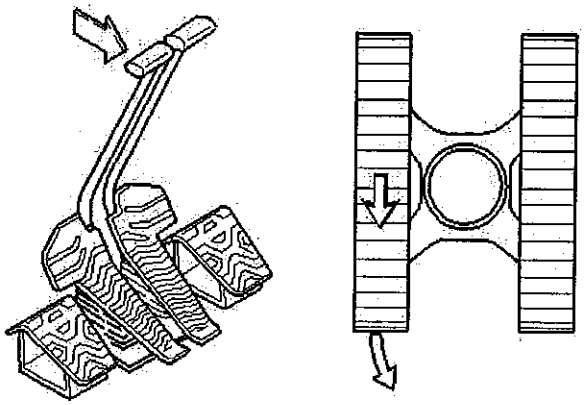

Illustration 5
Pivot Left Turn (Reverse)

g00731478

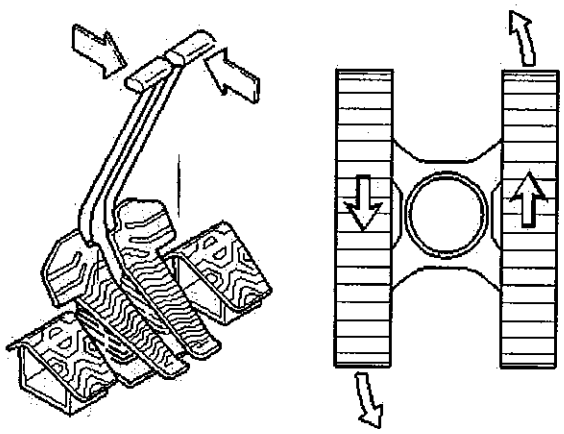

Illustration 6
Counterrotate Turn (Left)

g00731476

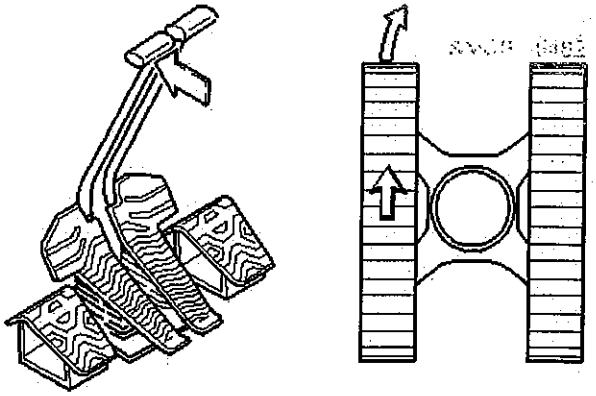

Illustration 7 g00731471
Pivot Right Turn (Forward)

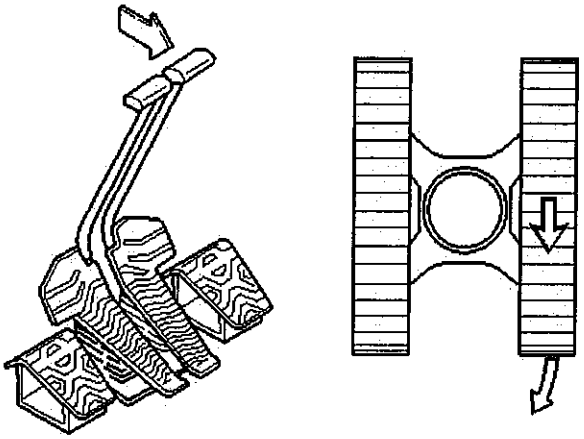

Illustration 8 g00731479
Pivot Right Turn (Reverse)

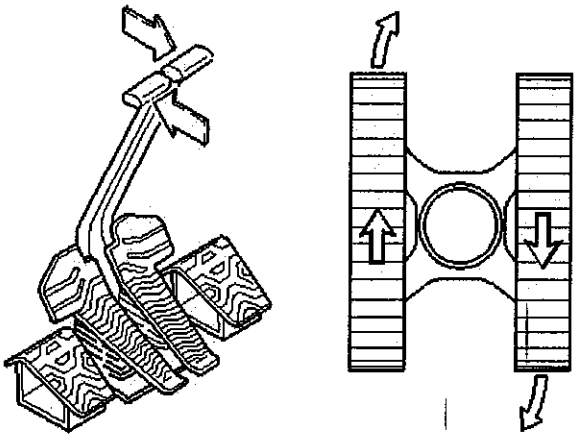

Illustration 9 g00731477
Counterrotate Turn (Right)

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13:30:52+01:00
i00661816

SMCS - 1915

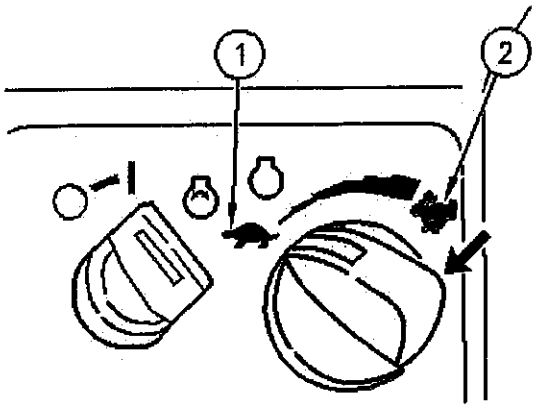

Illustration 1 g00103195
(1) Decrease
(2) Increase

Engine Speed - Turn the engine speed dial in order to control the engine speed (engine rpm). Select the desired position from the ten available positions. The selected position of the engine speed dial is indicated on the default display screen.

Decrease (1) - Turn the engine speed dial counterclockwise in order to decrease the engine speed (engine rpm).

Increase (2) - Turn the engine speed dial clockwise in order to increase the engine speed (engine rpm).

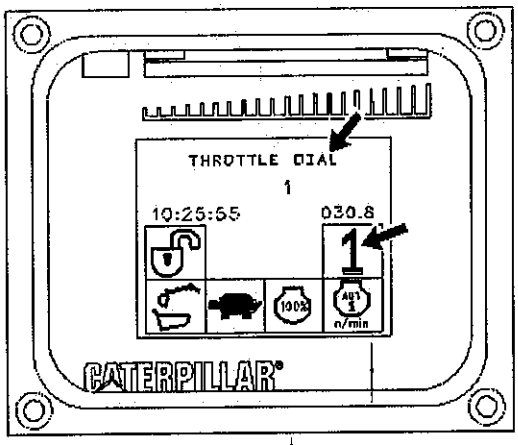

Illustration 2 g00574833
Typical example

The engine speed dial can also be shown as a universal gauge in the center of the default display. "Throttle Dial" mus from the universal gauges. For more information on the universal gauges, refer to Operation and Maintenance Manua Gauges".

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SMCS - 7490

⚠ WARNING

Do not change the setting of the travel speed control switch while you travel. Machine stability may be adversely affected.

Personal injury can result from sudden changes in machine stability.

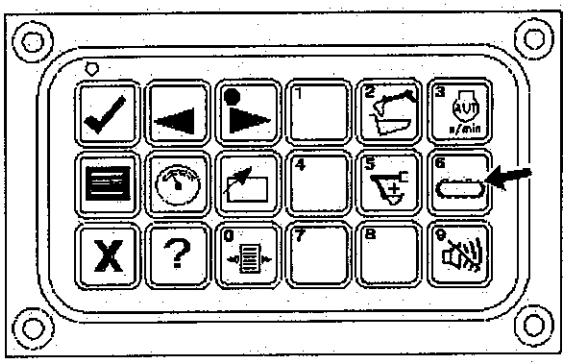
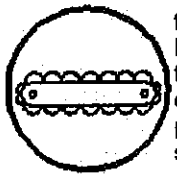


Illustration 1 g00555988



Travel Speed Control Switch - Press the travel speed control switch in order to select HIGH travel speed or LOW travel speed. When the engine start switch is on, the travel speed control switch is always set at the LOW speed position. Whenever the travel speed control switch is pressed, the travel speed changes.

LOW SPEED - Select the LOW SPEED position if you travel on rough surfaces or on soft surfaces or if you require a great drawbar pull. Also, select the LOW SPEED position if you are loading a machine onto a trailer or you are unloading a machine from a trailer.

HIGH SPEED - If you travel on a hard, level surface at a fast speed, select the HIGH SPEED position.

Continuous driving at high speed should be limited to two hours. If you need to continue driving at high speed for mor hours, stop the machine for ten minutes. This will cool down the travel drives before you resume driving.

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i01067046

SMCS - 7490

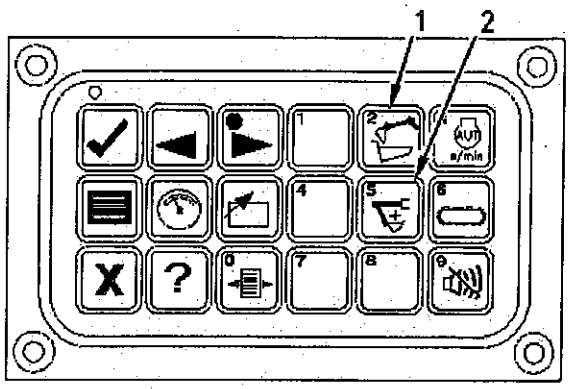

Illustration 1 g00612007

Two work modes are available. Each work mode is set for different implement speeds.

Only one work mode can be selected at a time. If a new work mode is selected, the previous work mode is deactivate automatically.

When you turn the engine start switch to the ON position, the previous switch setting is maintained. Select a suitable for the type of work that will be performed.

The selected work mode will be displayed on the display screen.

Digging Mode (1) - This work mode provides oil flow and oil pressure to all of the implements for use in most normal excavation or digging applications.

Heavy Lift Mode (2) - This work mode increases the relief pressure in the hydraulic circuit. Therefore, the hydraulic force that is required for a lifting operation is also increased. The cylinder speed is slower when this mode is selected.

Note: When the heavy lift mode is selected, the engine speed is fixed at 1600 RPM when the engine speed dial is in through position 10.

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i01068786

SMCS - 7490

The Automatic Engine Speed Control (AEC) automatically reduces engine speed when the machine is inactive. The AEC system is designed to reduce fuel consumption and noise. Lower engine speeds can also increase engine life.

The AEC system will be inoperable while the backup switch of the electronic controller system is in the MAN position.

The engine rpm will recover automatically to the setting of the engine speed dial when any hydraulic function is activa system operates in the following two modes.

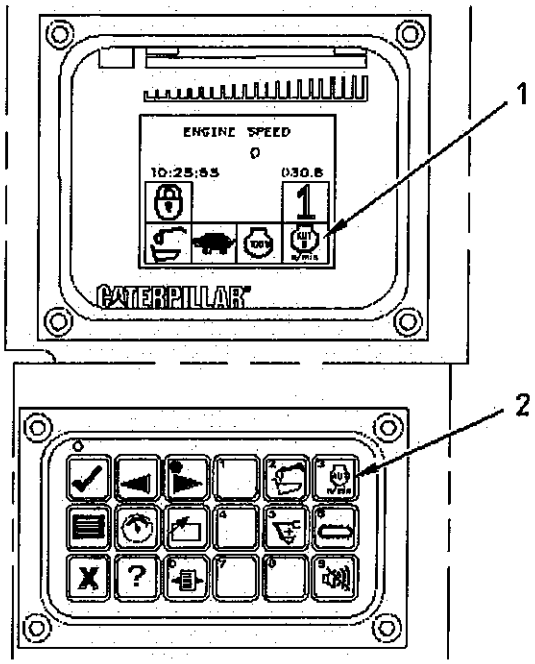

Illustration 1 g00575051
(1) Indicator for AEC mode
(2) Key for AEC mode

The modes for the automatic engine speed control can be selected by pressing key (2). The indicator for AEC mode (change in order to correspond to the current setting.

Mode I for Automatic Engine Speed Control - If the engine speed dial is between 5 and 10 and the machine is inactive for three seconds or more the engine speed is reduced by 100 rpm.

Mode II for Automatic Engine Speed Control - If the engine speed dial is between 5 and 10 and the machine is inactive for three seconds or more the engine speed is reduced to 1300 rpm. The engine speed will not be affected if the engine speed is below 1300 rpm.

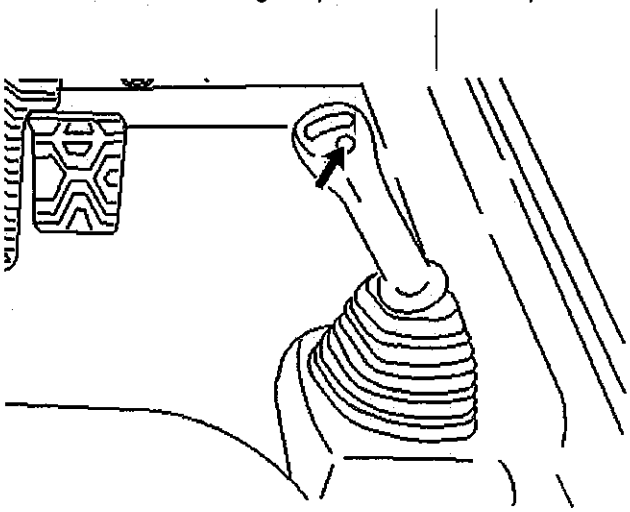

Illustration 2 g00575052

The switch for manual low idle is on the right joystick.

Manual Low Idle - Activate the manual low idle in order to reduce the engine speed to approximately 1000 rpm. Pres switch again will allow the engine speed to return to the original setting of the engine speed dial.

The manual low idle allows the operator to easily reduce the rpm without touching the engine speed dial. This is usefi operator wants to reduce the engine speed in order to talk to someone or while the operator is waiting for a truck.

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13:32:18+01:00
i01095294

SMCS - 5001, 5258

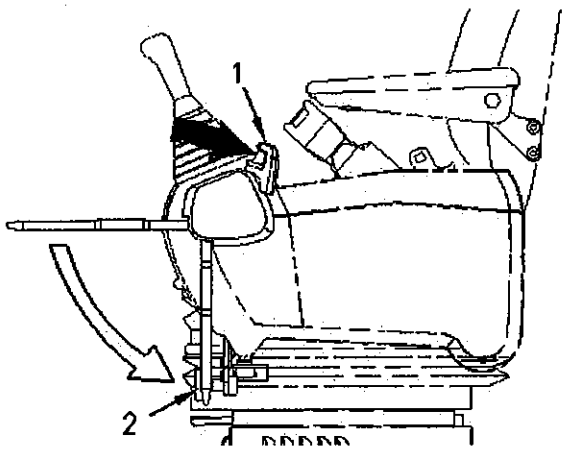

Illustration 1 g00536416

The lever for the hydraulic lockout control is located on the left console.

Locked - Move the travel levers and move the work tool control lever to the center HOLD position. Move the lever for the hydraulic lockout control (1) backward to the LOCKED position. Crossbar (2) will move down. This makes all of the factory installed hydraulic controls inoperable.

Note: Make sure that the lever for the hydraulic lockout control is in the LOCKED position before attempting to start tl the lever is in the UNLOCKED position, the engine start switch will not function.

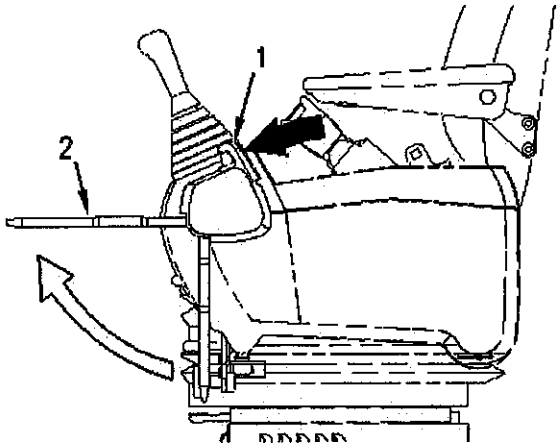

Illustration 2 g00536457

Unlocked - Move the lever for the hydraulic lockout control (1) forward to the UNLOCKED position. Crossbar (2) will move up. This makes all of the factory installed hydraulic controls operable.

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i00060085

SMCS - 5705

The work tool joystick controls replace the standard joysticks. The work tool joystick controls are equipped with on/off switches. These joysticks can be used to actuate work tools that require flow in one direction or in two directions. The joystick controls are used to determine the rotation of the work tool. The work tool joystick controls determine the ope close functions of the work tool.

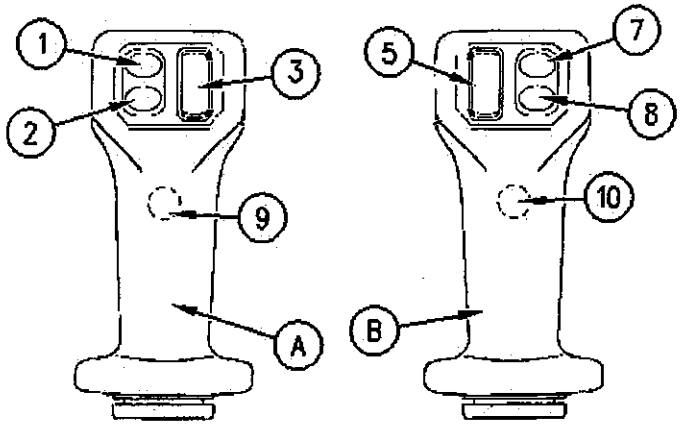

Illustration 1 g00835477
(A) Left Joystick
(B) Right Joystick

Horn (2) - Press the lower switch on the top of the left joystick in order to activate the horn.

Work Tool CLOCKWISE ROTATION (3) - Push slide control (3) forward in order to rotate the work tool CLOCKWISE.

Work Tool COUNTERCLOCKWISE ROTATION (3) - Push slide control (3) rearward in order to rotate the work tool COUNTERCLOCKWISE.

Note: Both switches (1) and (9) have no function in this configuration.

AEC Switch (8) - Press the lower switch on the top of the right joystick in order to activate low engine speed. Press the switch again in order to activate high engine speed.

Work ToolCLOSE - Push slide control forward in order to close the work tool.

Work Tool OPEN (5) - Push slide control rearward in order to open the work tool.

Note: Both switches (7) and (10) have no function in this configuration.

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i01613963

SMCS - 5705

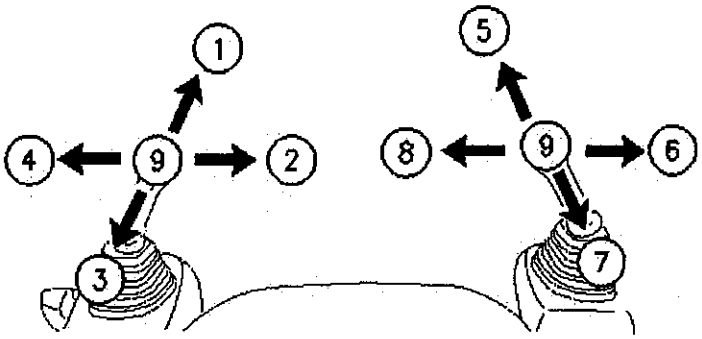

Illustration 1 g00559405

The machine control pattern is initially set at the factory to the SAE pattern, as shown. The patterns can be changed t of combinations. If you want to change the settings consult your Caterpillar dealer. The pattern on the left pertains to joystick and the pattern on the right pertains to the right joystick.

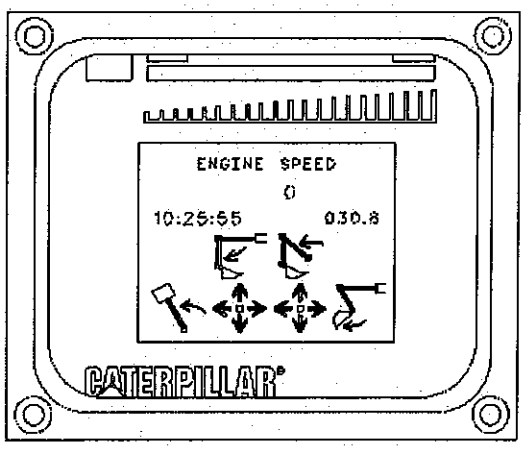

Illustration 2 g00570709
Typical example

Press numeric key "8" on the keypad in order to display the current machine control pattern.

The machine control pattern is also displayed when the monitor turns on.

Stick Out (1) - Move the joystick to this position in order to move the stick outward.

SWING RIGHT (2) - Move the joystick to this position in order to swing the upper structure to the right.

STICK IN (3) - Move the joystick to this position in order to move the stick inward.

SWING LEFT (4) - Move the joystick to this position in order to swing the upper structure to the left.

BOOM LOWER (5) - Move the joystick to this position in order to lower the boom.

BUCKET DUMP (6) - Move the joystick to this position in order to dump the bucket.

BOOM RAISE (7) - Move the joystick to this position in order to raise the boom.

BUCKET CLOSE (8) - Move the joystick to this position in order to close the bucket.

HOLD (9) - When you release the joysticks from any position, the joysticks will return to the HOLD position. Movemer upper structure will stop.

Two functions may be performed at the same time by moving a joystick diagonally.

If the machine is equipped with a hydraulic hammer, the function of position (6) and of position (8) is different.

HYDRAULIC HAMMER RAISE (6) - Move the joystick to this position in order to raise the hydraulic hammer.

HYDRAULIC HAMMER LOWER (8) - Move the joystick to this position in order to lower the hydraulic hammer.

Bucket Control for the Bottom Dump (If Equipped)

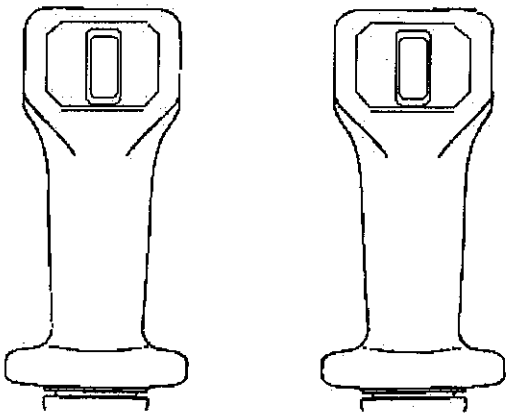

Illustration 3 g00870444

Bucket Open - Push down on top of the rocker switch that is on the left joystick in order to open the bucket.

Bucket Close - Push down on the bottom of the rocker switch that is on the left joystick in order to close the bucket.

Note: The machine can be configured so that the bucket is controlled by the rocker switch that is on the right joystick

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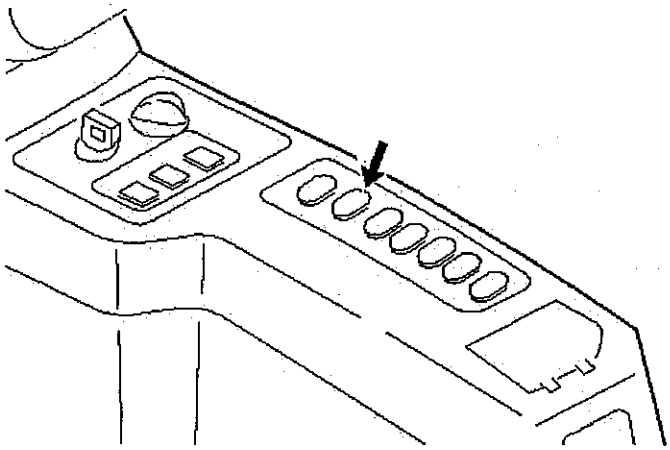
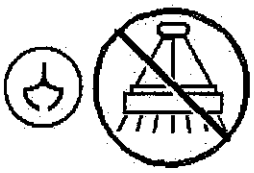
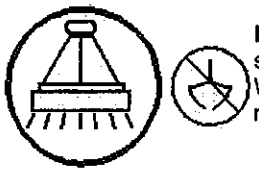


Illustration 1 g00806137

The grapple/magnet switch is located on the right console.



Grapple ON - Push the left side of the switch in order to turn off the generator. When the generator is deactivated, the grapple can be used.



Magnet ON - Push the right side of the switch in order to turn on the generator. When the generator is activated, the magnet can be used.

Magnet Joysticks

Before operating the magnet, make sure that the grapple/magnet switch is in the MAGNET position.

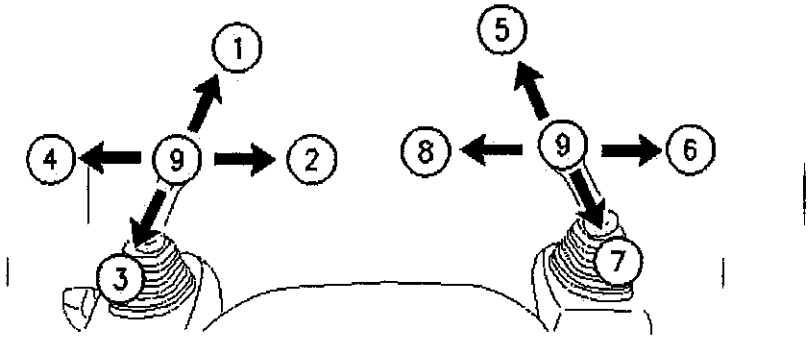


Illustration 2 g00559405

The machine control pattern is initially set at the factory to the SAE system, as shown. The pattern on the left pertains joystick, and the pattern on the right pertains to the right joystick. The patterns can be changed to different configurati want to change the settings, consult your Caterpillar dealer.

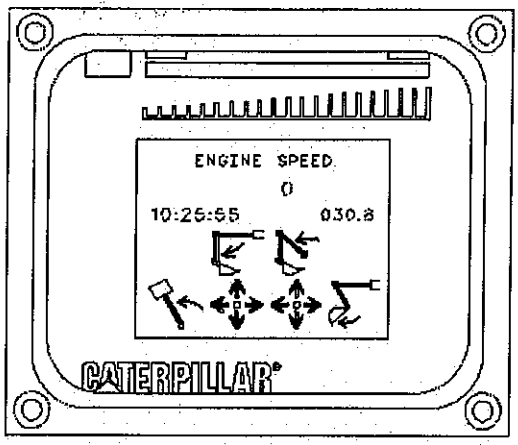


Illustration 3 g00570709

Press numeric key "8" on the keypad in order to display the current machine control pattern.

The machine control pattern is also displayed when the monitor is turned on.

Stick Out (1) - Move the joystick to this position in order to move the stick outward.

SWING RIGHT (2) - Move the joystick to this position in order to swing the upper structure to the right.

STICK IN (3) - Move the joystick to this position in order to move the stick inward.

SWING LEFT (4) - Move the joystick to this position in order to swing the upper structure to the left.

BOOM LOWER (5) - Move the joystick to this position in order to lower the boom.

BOOM RAISE (7) - Move the joystick to this position in order to raise the boom.

HOLD (9) - When you release the joysticks from any position, the joysticks will return to the HOLD position. Movemer upper structure will stop.

Two functions may be performed at the same time by moving a joystick diagonally.

Left Implement Joystick

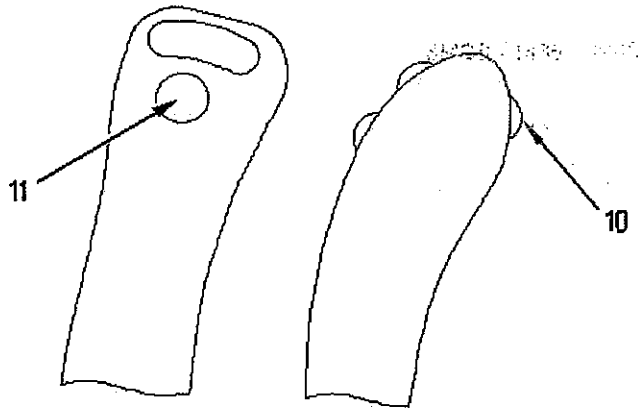


Illustration 4 g00274485

Magnet DROP (10) - Press the switch on the front of the left joystick in order to turn off the magnet. When you turn off the magnet, the load will drop.

Horn (11) - Press the lower switch on the top of the left joystick in order to activate the horn.

Right Implement Joystick

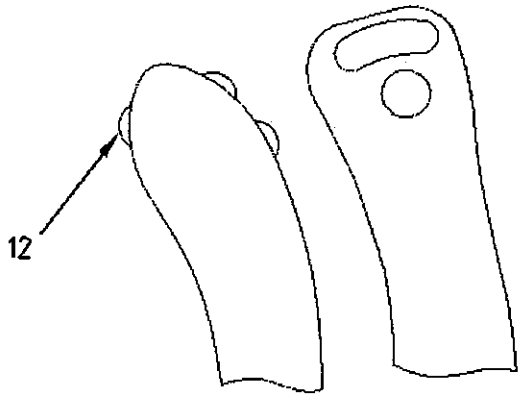


Illustration 5 g00470027

Magnet LIFT (12) - Press the switch on the front of the right joystick in order to turn on the magnet. When you turn on the magnet, the magnet will lift the load.

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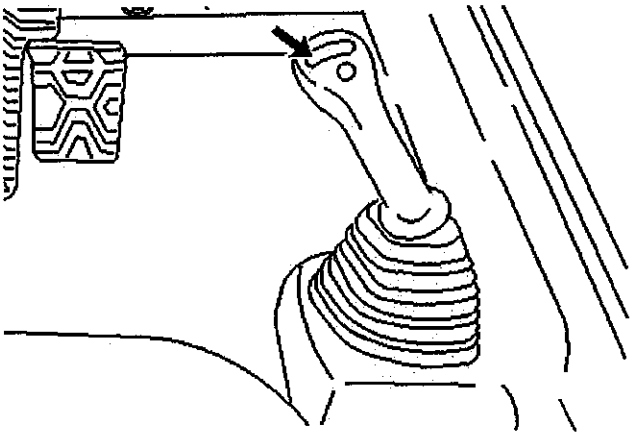

Illustration 1 g00574713

The hydraulic hammer control is located on the right joystick.

Hydraulic Hammer ON - Push down the top left button on the right joystick in order to activate the hydraulic hammer

Hydraulic Hammer OFF - Release the top left button on the right joystick in order to deactivate the hydraulic hamme

Note: This machine may also be equipped with a pedal that controls the hydraulic hammer. Refer to Operation and M Manual, "Implement Control Pedal" for more information.

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⚠ WARNING

Personal injury or death can occur from operating the front shovel machine without the Falling Objects Guard in place.

Do not tilt the bucket back with the boom raised. This can cause material to dump backward over the spill guard onto the operator's station. Dumping backwards usually occurs with the boom in the highest raise position, but dumping backwards can occur when the boom is less than fully raised.

To prevent possible injury or death, remove any overhang and watch for sliding material.

Never swing a load over a truck cab or over workers.

NOTICE

The bucket cylinders on front shovel machines can be damaged by interference with the bucket linkage, when the bucket has been removed.

The stick cylinder must be fully extended to prevent interference.

Make sure that no personnel are on the machine or near the machine in order to prevent any personal injury. Keep th under control at all times in order to prevent injury.

Reduce the engine speed when you maneuver the machine in tight quarters and when you drive over an incline.

Select the necessary travel speed range before you drive downgrade. Do not change the travel speed range while yo downhill.

Use the same travel speed on a downgrade and on an upgrade.

When you travel for any distance, keep the stick inward and carry the boom in a low position.

When you drive up a steep grade, keep the boom as close to the ground as possible.

When you travel uphill or you travel downhill, keep the boom on the uphill side of the machine.

1. Adjust the operator seat.
2. Fasten the seat belt.

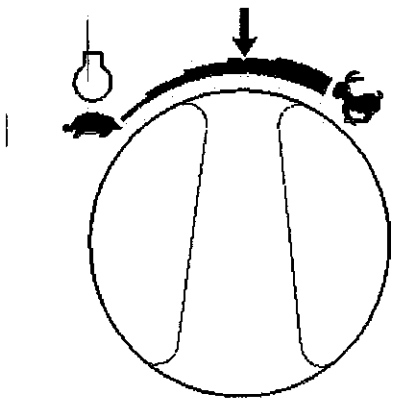

Illustration 1 g00560274

3. Turn the engine speed dial to the operating range.
4. Move the hydraulic lockout control to the UNLOCKED position.
5. Raise the boom enough in order to provide sufficient ground clearance.

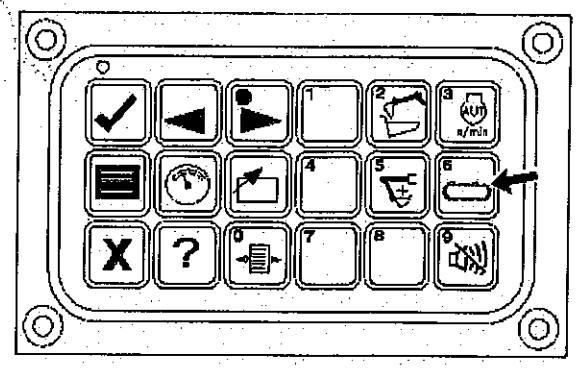

Illustration 2 g00555988

6. Select the desired travel speed by operating the travel speed control switch.

7. Make sure that the position of the upper structure and of the undercarriage is known before you move the machi sprockets should be at the rear of the machine.
Note: The directional steering controls will operate normally if the drive sprockets are at the rear of the machine are at the front of the machine and under the cab. When the sprockets are under the cab, the travel controls will backward.

8. Turn the engine speed dial in order to increase the engine speed (rpm) to the desired speed.

9. Push both travel levers forward at the same time in order to travel forward. If both travel levers are pushed farthe speed at the selected engine speed (rpm) will be faster.
Note: If the machine does not operate or if the machine does not travel in a straight line, consult your Caterpillar

10. Refer to Operation and Maintenance Manual, "Travel Control" for more information.

11. When you make turns in soft material, travel in a forward direction occasionally in order to clear the tracks.

12. Slowly move both of the travel levers or both of the travel pedals to the CENTER position in order to stop the ma

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NOTICE
Park on a level surface. If it is necessary to park on a grade, chock the wheels securely.

Note: The swing parking brake is automatically applied when the machine is stopped. The swing parking brake is rel the engine is running and the joystick is activated.

1. Turn the engine speed dial counterclockwise in order to reduce engine speed.

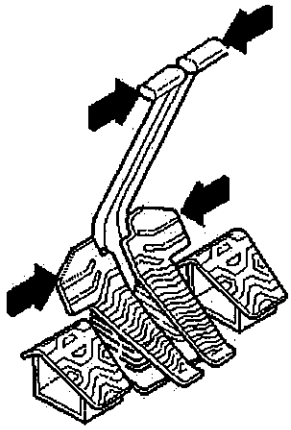

Illustration 1 g00560313

2. Release the travel levers/pedals in order to stop the machine.
3. Lower the work tool to the ground. Apply a slight downward pressure.

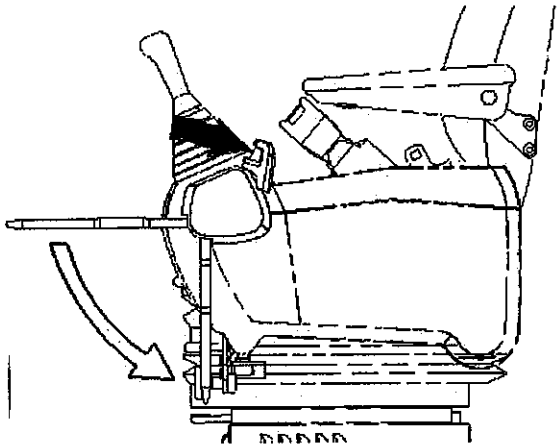

Illustration 2 g00543871

4. Move the hydraulic lockout control to the LOCKED position.

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NOTICE
Stopping the engine immediately after it has been working under load, can result in overheating and accelerated wear of the engine components.

Refer to the following procedure, to allow the engine to cool, and to prevent excessive temperatures in the turbocharger housing (if equipped), which could cause oil coking problems.

1. Stop the machine and run the engine at low idle for five minutes.

NOTICE
Never turn the battery disconnect switch to the OFF position while the engine is running. Serious damage to the electrical system may result.

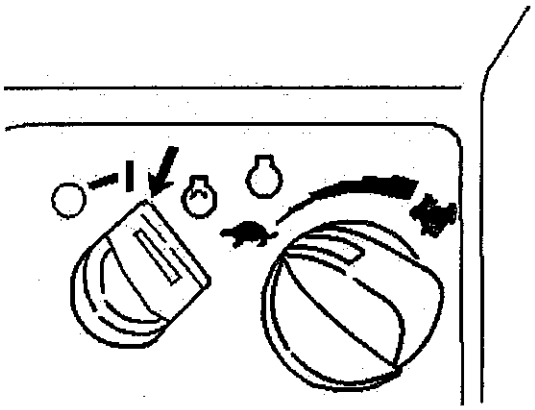

Illustration 1 g00101567

2. Turn the engine start switch to the OFF position and remove the engine start switch key.

Engine Stop Control

When the engine does not stop with the engine start switch key in the OFF position, use the following procedure to st engine.

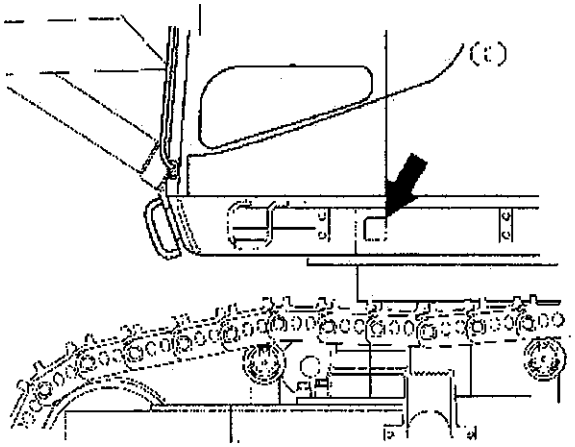

Illustration 2 g00837903

This switch is located under the left side of the cab.

1. Open the cover.

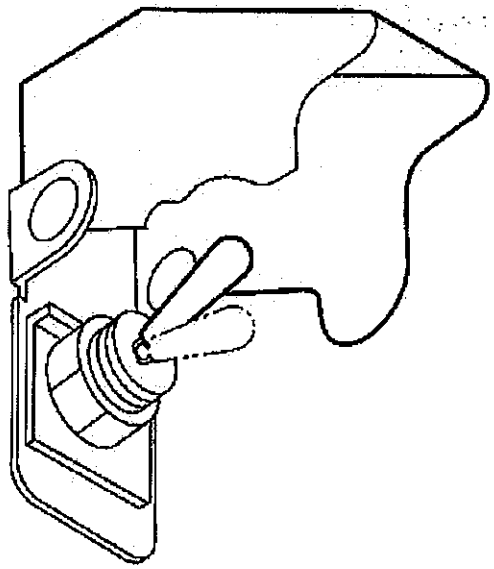

Illustration 3 g00837900

2. Move the switch into the upward position in order to stop the engine. After the engine has stopped, move the swi the original position. The engine will not start again until the switch is moved back downward to the original positi **Note:** Only use the switch in an emergency situation. Do not operate the machine until the malfunction has been

3. If the engine does not stop, refer to "Stopping the Engine if an Electrical Malfunction Occurs" in order to stop the

Stopping the Engine if an Electrical Malfunction Occurs

When the engine does not stop with the engine stop control, use the following procedure to shut off the engine.

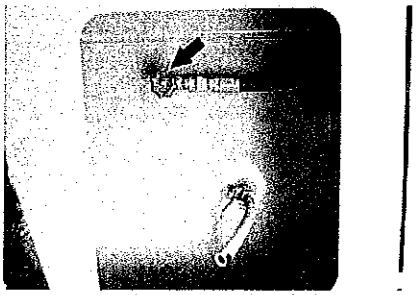

Illustration 4 g00837935

1. Shut off the fuel supply valve that is located under the fuel tank. The engine will stop when the fuel in the lines is Open the fuel supply valve after the engine has been stopped.
Note: Do not operate the machine until the malfunction has been resolved. All of the air must be removed from tl system before operating the machine. Refer to Operation and Maintenance Manual, "Fuel System - Prime" in orc purge the air from the fuel system.

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⚠ WARNING

Personal injury can result from hydraulic oil pressure and hot oil.

Hydraulic oil pressure can remain in the hydraulic system after the engine has been stopped. Serious injury can be caused if this pressure is not released before any service is done on the hydraulic system.

Make sure all of the work tools have been lowered to the ground, and the oil is cool before removing any components or lines. Remove the oil filler cap only when the engine is stopped, and the filler cap is cool enough to touch with your bare hand.

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Refer to Special Publication, NENG2500, "Caterpillar Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.

Note: Release the pressure in the implement hydraulic circuits (boom, stick and bucket) before any hydraulic lines or components are disconnected or removed.

1. Fully retract the stick cylinder rod.
2. Adjust the position of the bucket so that the bucket is parallel to the ground.
3. Lower the boom until the bucket is flat on the ground.
4. Stop the engine.
5. Turn the engine start switch to the ON position without starting the engine.
6. Place the hydraulic lockout control in the UNLOCKED position.
7. Move the joysticks and pedals to FULL STROKE position in all directions. This will release any pressure that might be present in the pilot system.
8. Turn the engine start switch to the OFF position.

9. Slowly loosen the fill/vent plug on the hydraulic tank and release the pressure.

10. Tighten the fill/vent plug on the hydraulic tank.
Note: If a hydraulic line for the boom, the stick or the bucket must be disconnected, utilize the purge screws.

⚠ WARNING

Personal injury can result from hydraulic oil pressure and hot oil.

Hydraulic oil pressure can remain in the hydraulic system after the pilot pressure is released. Serious injury can result if this remaining pressure is not released before any service is done on the hydraulic system.

Make sure that the remaining pressure has been released by utilizing the purge screws that are located on the boom, stick and bucket lines. Before any purge screw is turned, the bucket and or all of the attachments must be lowered to the ground or properly supported.

11. Locate a section of hose that will tightly fit over one of the purge screws.

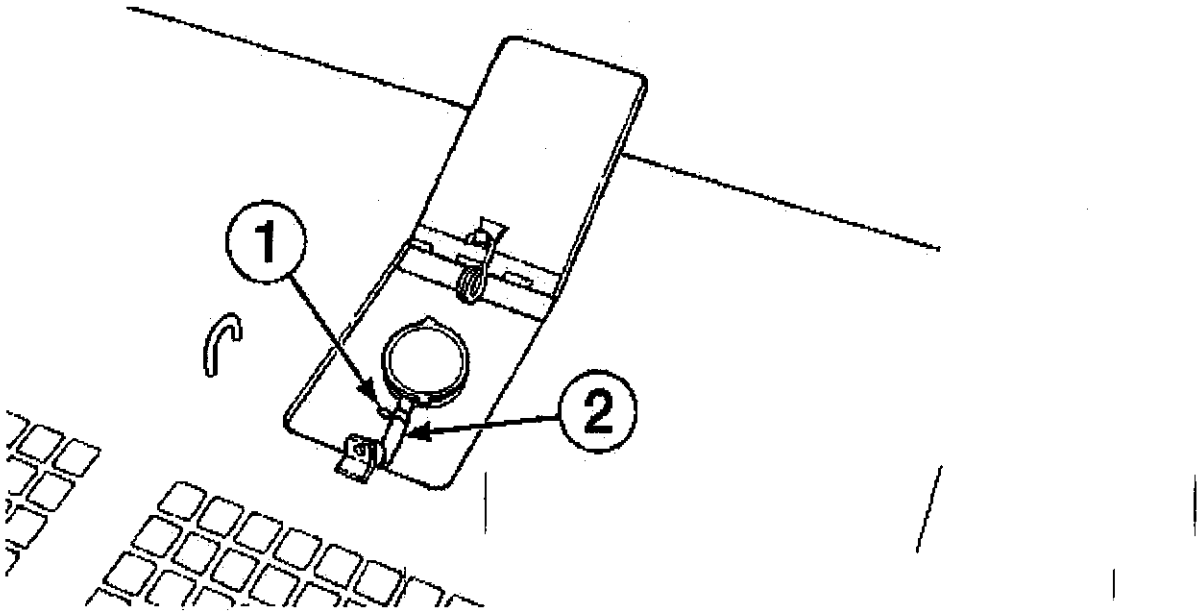

Illustration 1 g00583861
(1) Hose clamp
(2) hose

12. If a section of hose cannot be located, loosen clamp (1) and disconnect hose (2) from the radiator.

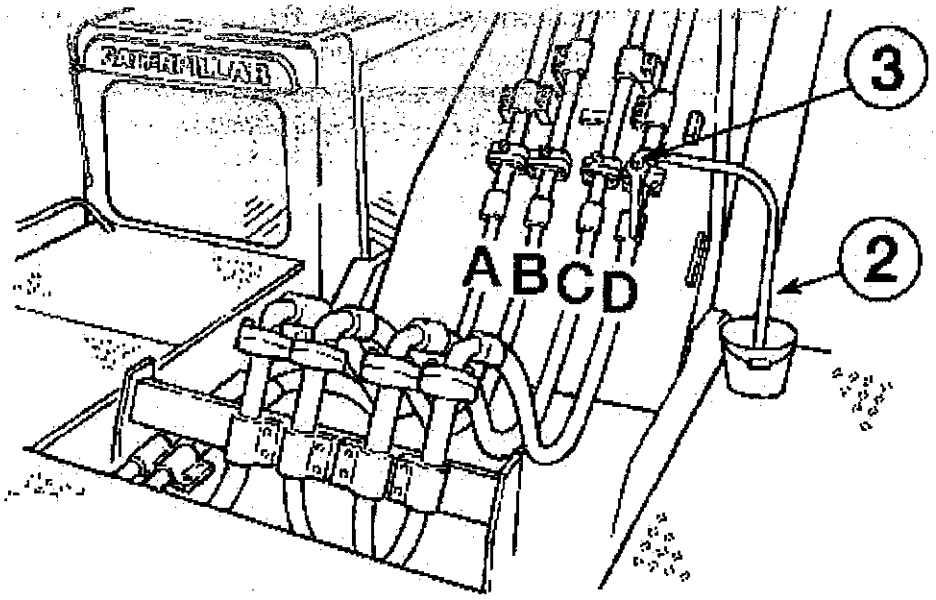

Illustration 2 g00582501

(2) Hose
(3) Purge screws (one on each line)
(A) Line for the stick
(B) Line for the bucket
(C) Line for the bucket
(D) Line for the stick

13. Connect one end of drain hose (2) to purge screw (3). Insert the other end of drain hose (2) into an empty container.

14. Loosen purge screw (3) by 1/2 turn. Hydraulic oil will be drained from the drain hose to the container.

15. Tighten purge screw (3) to a torque of 13 ± 2 N·m (9.6 ± 1.5 lb ft) after all of the hydraulic oil has been drained from the line.

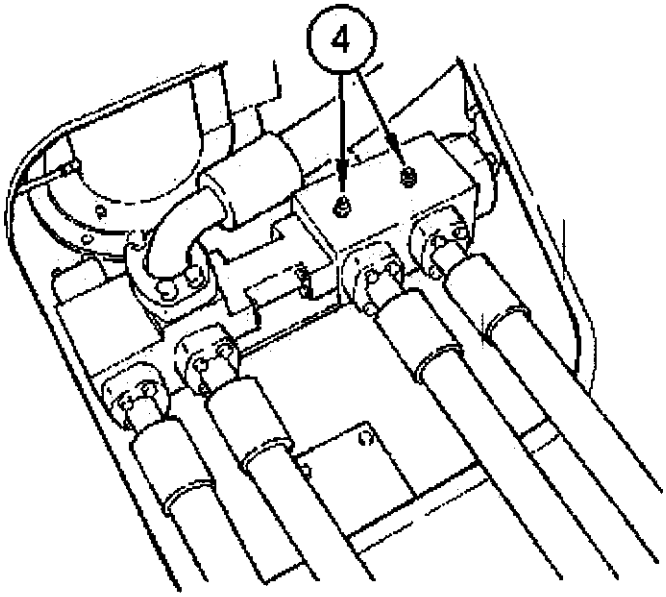

Illustration 3 g00582502

(4) Purge screws for the boom

Note: Purge screws (4) for the boom are located on the boom cylinder lines. The above procedure should be used to drain the hydraulic oil from the boom lines as well.

16. After the hydraulic oil is drained, tighten the purge screw. Then disconnect hose (2) from the purge screw on the hydraulic line that is being drained.
17. If the hose from the radiator was used, replace the hose with a new hose. Connect the new hose (2) and tighten clamp (1).
18. Pressure in the hydraulic system should now be released and lines and components can be removed.

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⚠ WARNING

Automatic Engine Speed Control (AEC) will increase engine speed automatically when you operate the control levers and/or travel pedals with AEC switch on.

When loading and unloading the machine from the truck or working in close quarters always turn AEC switch off to prevent any possibility of sudden movement of machine, which could result in serious injury or death.

Set the travel speed control switch to LOW before loading the machine. Never operate this switch when loading the machine on a trailer.

Investigate the travel route for overpass clearances. Make sure that there will be adequate clearance for the machine.

Remove ice, snow, or other slippery material from the loading dock and from the truck bed before you load the machine onto the transport machine. Removing ice, snow, or other slippery material will help to prevent the machine from slipping in transit.

Note: Obey all laws that govern the characteristics of a load (height, weight, width, and length). Observe all regulations that govern wide loads. Certain regions may require the removal of door hooks and cab bumpers, if equipped. Consult all local and regional regulations

Choose the flattest ground when you load the machine or when you unload the machine.

1. Before you load the machine, chock the trailer wheels or the rail car wheels.
2. When you use loading ramps, make sure that the loading ramps have adequate length, adequate width, adequate strength, and an adequate slope.
3. Maintain the slope of the loading ramps within 15 degrees of the ground.
4. Position the machine so that the machine can drive straight up the loading ramps. The final drives should be toward the rear of the machine. Do not operate the control levers while the machine is on the loading ramps.
5. When you drive over the loading ramp joint areas, maintain the balance point of the machine.
6. Lower the work tool to the bed or to the floor of the transport machine.
   Note: Put appropriate shock-absorbing material between Cylinder/Cylinder guard and floor if there is potential risk to damage during transportation.
7. To prevent rolling of the machine or sudden movement of the machine, perform the following items:
   - Chock both tracks.
   - Install sufficient tie-downs at several locations.
   - Fasten wire cables.

8. If equipped, remove door hooks, cab bumpers, and fuel tank step as necessary. Refer to local regulations.

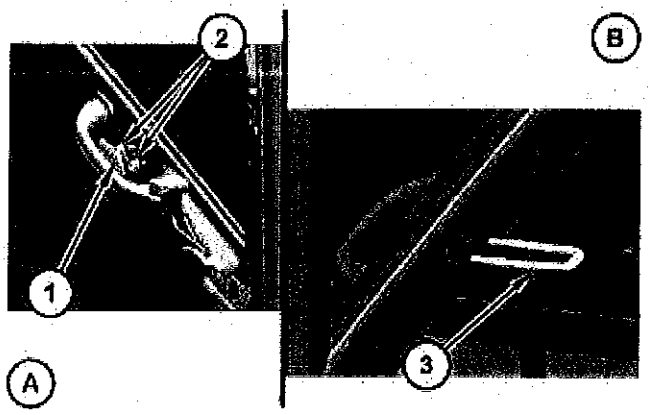

Illustration 1 g06516462
Typical example of door hook
(A) Inside
(B) Outside
(1) Cover
(2) Nuts
(3) Door Hook

a. Remove cover (1) and nuts (2) to remove door hook (3).

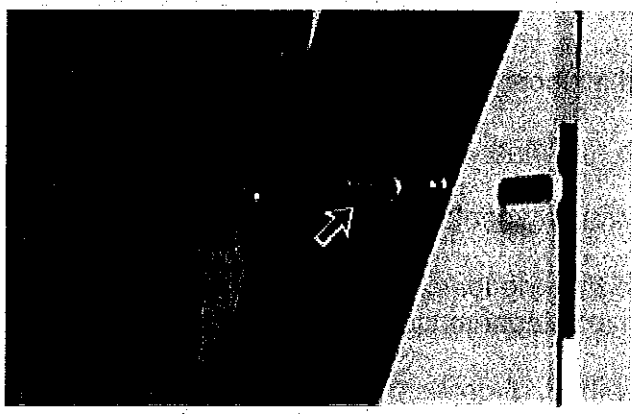

Illustration 2 g06516469
Typical example of cab bumper

b. Remove any bumpers on your cab.

NOTICE
Do not allow the chrome surface of the bucket cylinder rod to touch any part of the trailer. Damage to the rod can occur from impact with the trailer during transport.

Note: Refer to Operation and Maintenance Manual, "Specifications".

Shipping a Machine that is not Completely Assembled

If the machine must be shipped when the boom, stick, or counterweight is not assembled on the machine, follow the instructions in Operation and Maintenance Manual, "Operation". If the boom and stick are not installed, do not install the counterweight or use the swing function for safe shipping.

⚠ WARNING

The ROPS structural certification depends on the support of the boom, stick, and counterweight in the event of a machine tip over or a machine rollover incident.

When the machine needs to be moved without the boom, stick, or counterweight being installed, avoid any machine operations which could affect machine stability as a machine tip over or a machine rollover incident could result in serious injury or death.

The machine should be operated slowly on flat, stable ground or pavement by qualified operators.

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NOTICE
Never transport the machine with the engine running.

Securing the Machine

Comply with any laws that govern the characteristics of a load (length, width, height, and weight).

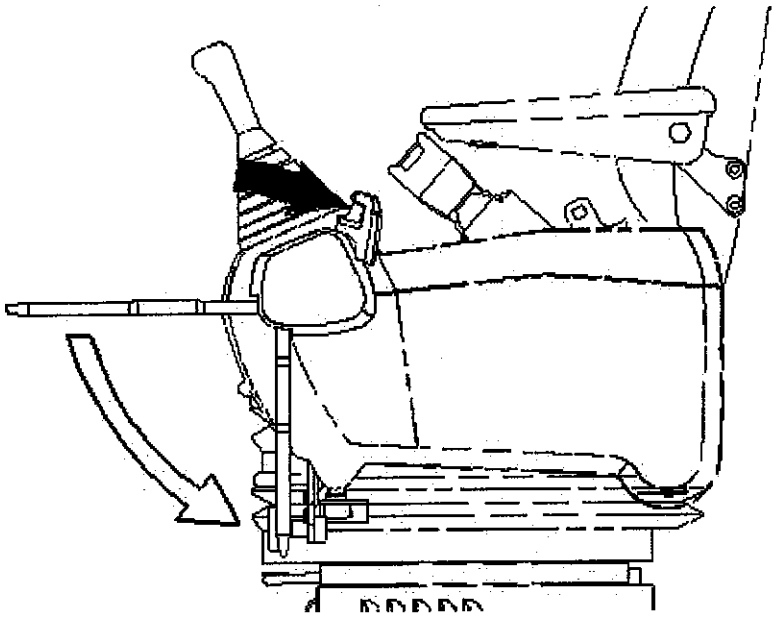


Illustration 1 g00543871

1. Move the hydraulic lockout control to the LOCKED position.
2. Turn the engine start switch to the OFF position in order to stop the engine. Remove the engine start switch key.
3. Turn the battery disconnect switch to OFF and remove the disconnect switch key.
4. Remove the ether starting aid cylinder.
   Reference: Refer to Operation and Maintenance Manual, "Ether Starting Aid Cylinder - Replace" for the removal procedure.
5. Lock the door and the access covers. Attach any vandalism protection.
6. Cover the exhaust opening.

NOTICE
Do not allow the turbocharger to rotate while the engine is not operating. Damage to the turbocharger can result.

Note: Before you remove the excavator from the transport machine, remove the protective covering from the exhaust opening.

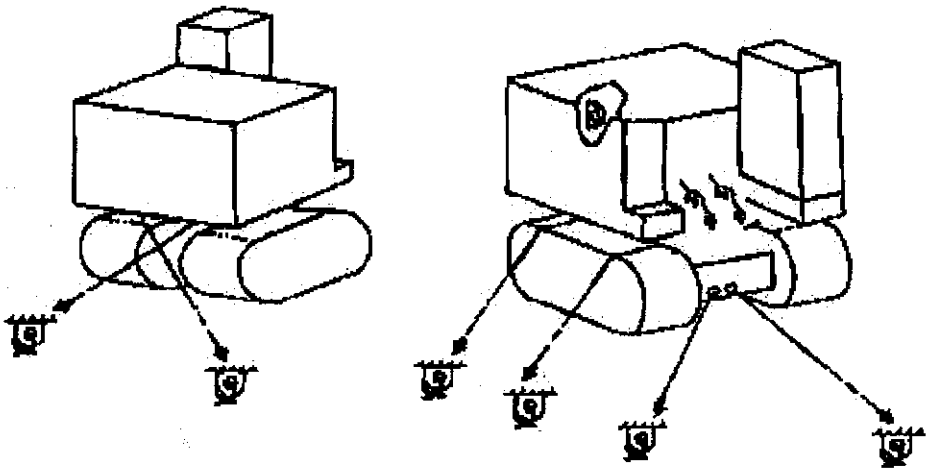


Illustration 2 g00584633

7. Chock the tracks and secure the machine with tie-downs. Make sure that you use the proper rated wire cable.
   Use the front towing eyes on the lower frame, the rear towing eyes on the lower frame, and the rear towing eye that is on the upper frame.

   Securely fasten all loose parts and all removed parts to the trailer or to the rail car.

When the engine is stopped, the swing parking brake is automatically applied. This prevents the upper structure from swinging.

NOTICE

In freezing weather, protect the cooling system with antifreeze, to the lowest outside expected temperature on the travel route. Or, drain the cooling system completely.

Securing the Supports

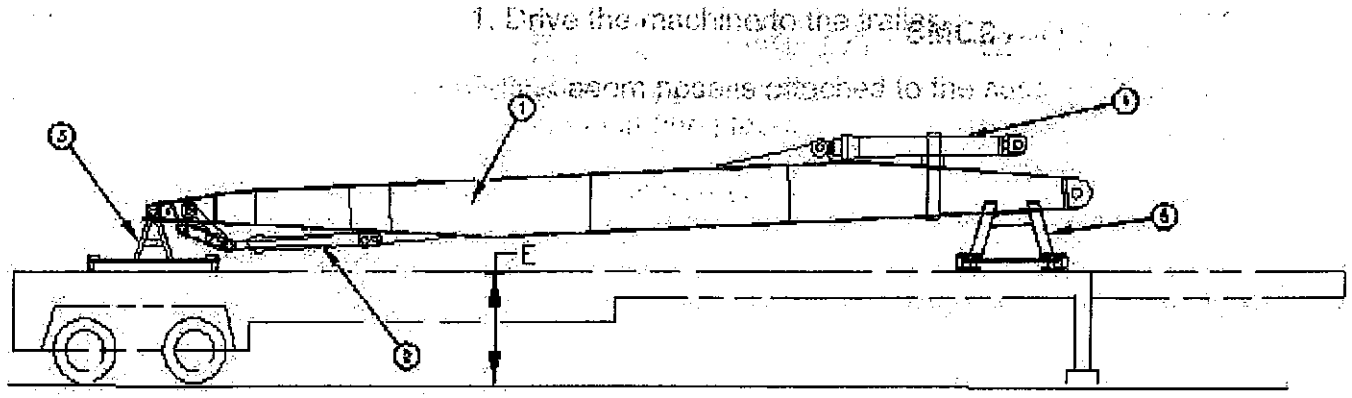


Illustration 3 g00776825

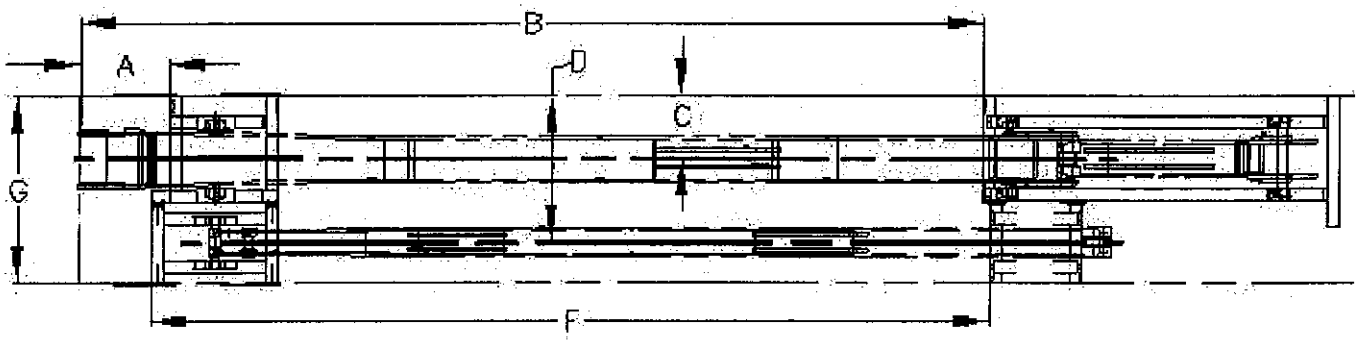


Illustration 4 g00776842

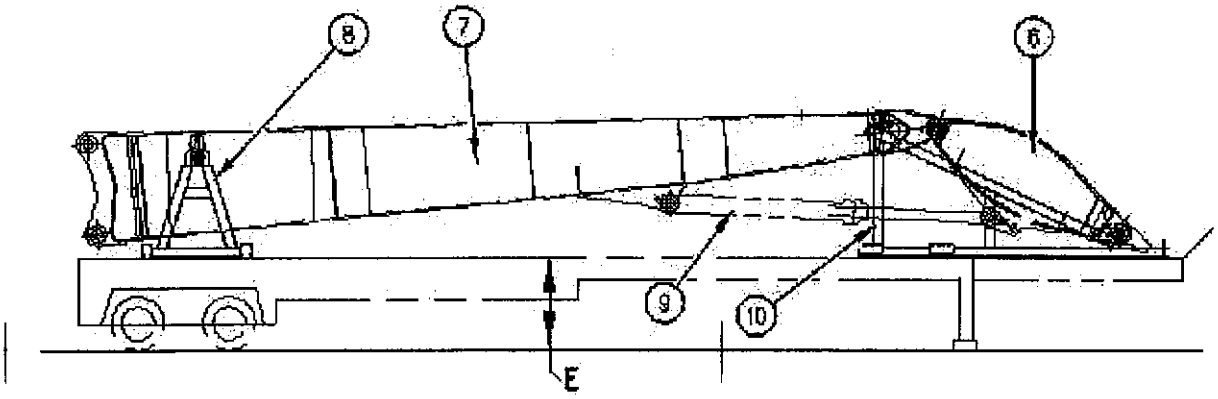


Illustration 5 g00776826

Support (3) and support (8) are bolted together. Support (5) and support (10) are bolted together. The stick is secured to supports (3) and (5) on the ground. Bolt the supports together after moving the stick and the supports to the trailer.

(1) Stick and linkage
(2) Linkage cylinder
(3) Support
(4) Stick cylinder
(5) Support
(6) Fore boom
(7) Boom nose
(8) Support
(9) Fore boom
(10) Support
(A) 1195 mm (3 ft 11 inch)
(B) 11950 mm (39 ft 2.5 inch)

(C) 815 mm (2 ft 8 inch)
(D) 1900 mm (6 ft 3 inch)
(E) 1400 mm (4 ft 7 inch)
(F) 11090 mm (36 ft 4.5 inch)
(G) 2420 mm (7 ft 11 inch)

Shipping the Stick

1. Remove the work tool from the stick.

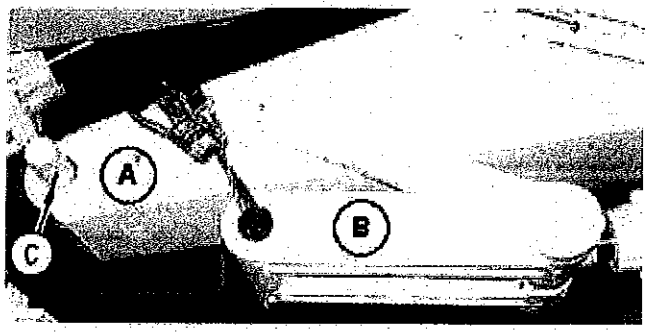


Illustration 6 g00775806
Stick linkage
(A) Stick
(B) Power link
(C) Pin

2. Secure power link (B) to the stick.

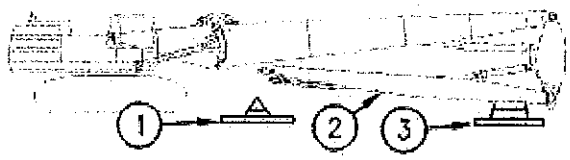


Illustration 7 g00775671
Supports for transportation
(1) Front support
(2) Stick
(3) Rear support

3. Locate the supports on the ground. Front support (1) will accept pin (C) of the stick. The rear support should be placed 11090 mm (36 ft 4.6 inch) from the front support.

4. Lower the front of the stick to the front support.

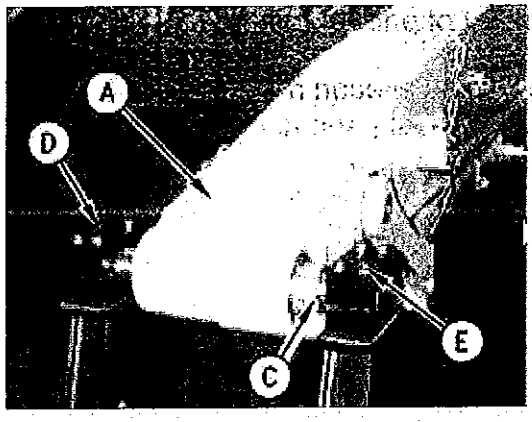


Illustration 8 g00775850
Front support
(A) Stick
(C) Pin
(D) Block
(E) Bolts

5. Position pin (C) of the stick in the lower half of blocks (D).

6. Install the upper half of blocks (D). Secure the blocks with bolts (E).

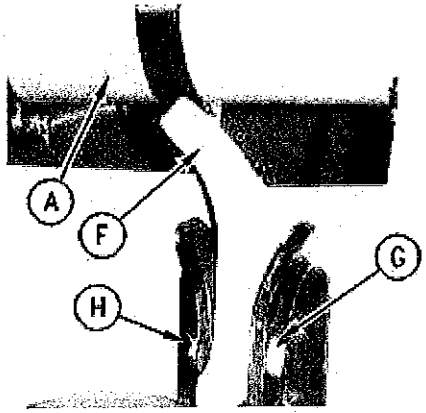


Illustration 9 g00775851
Rear support
(A) Stick
(F) Bracket
(G) Pin
(H) Lock pin

7. Lower the boom. Place bracket (F) in the support. Align the holes of the bracket of the stick and the rear support.

8. Insert pin (G) through the holes of the rear support and the support for the stick. Secure the pin with lock pin (H).

9. Stop the engine. Operate the joysticks in order to release the hydraulic pressure.

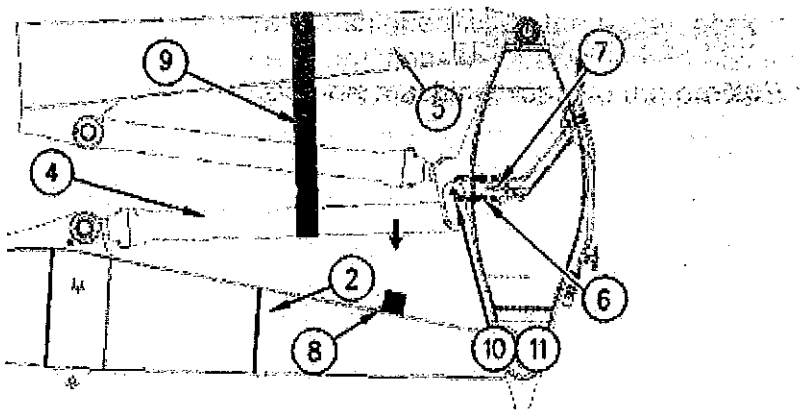


Illustration 10 g00775923

(2) Stick
(4) Stick cylinder
(5) Boom nose
(6) Couplings
(7) Connector
(8) Wood
(9) Strap
(10) Bolt
(11) Pin

10. Secure the stick cylinder to the boom nose with strap (9).
11. Disconnect the quick couplings on both sides of the fore boom.
12. Disconnect connector (7).
13. Remove the hydraulic hoses that are connected to the quick couplings. Plug the hydraulic hoses.
14. Disconnect the grease lines.
15. Install a block of wood (8) between the stick and the stick cylinder.
16. Remove bolt (10) and pin (11).
17. Lower the stick cylinder to the stick.
18. Secure the stick cylinder to the stick.
19. Disconnect the quick couplings on the top of the fore boom.
20. Remove the hydraulic hoses. Plug the hydraulic hoses.
21. Disconnect the grease lines.
22. Disconnect the electrical wiring.

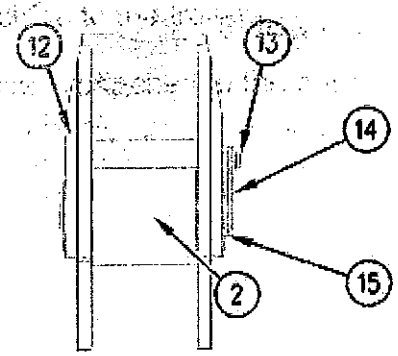


Illustration 11 g00775963
(2) Stick
(12) Fore boom
(13) Bolt and washer
(14) Pin
(15) Spacer

23. Remove bolt (13) and spacer (14).
24. Remove spacer (3).
25. Start the engine.
26. Raise the boom.
27. Drive the machine backward.
28. Place the stick and the supports on the trailer. Use the four lifting eyes that are on the stick.
29. Place the supports for the boom and the fore boom onto the trailer. Secure the supports to the trailer.
30. Secure the stick to the trailer. Refer to Illustration 3 through Illustration 5 for more information.

Shipping the Boom Nose and the Fore Boom

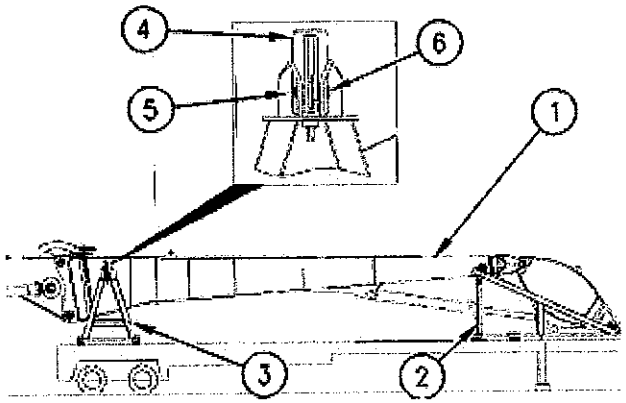


Illustration 12 g00775977
(1) Boom nose
(2) Back support
(3) Front support
(4) Bracket
(5) Pin
(6) Lock pin

1. Drive the machine to the trailer.
2. The boom nose is attached to the supports in two places. The fore boom is attached to the support in one place.
3. Extend the fore boom.
4. Lower the boom nose and the fore boom to the supports.
5. Align the holes of bracket (4) and support (3).
6. Install pin (5).
7. Secure pin (5) with lock pin (6)

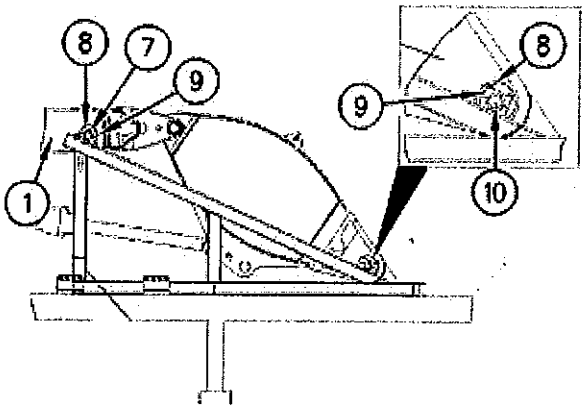
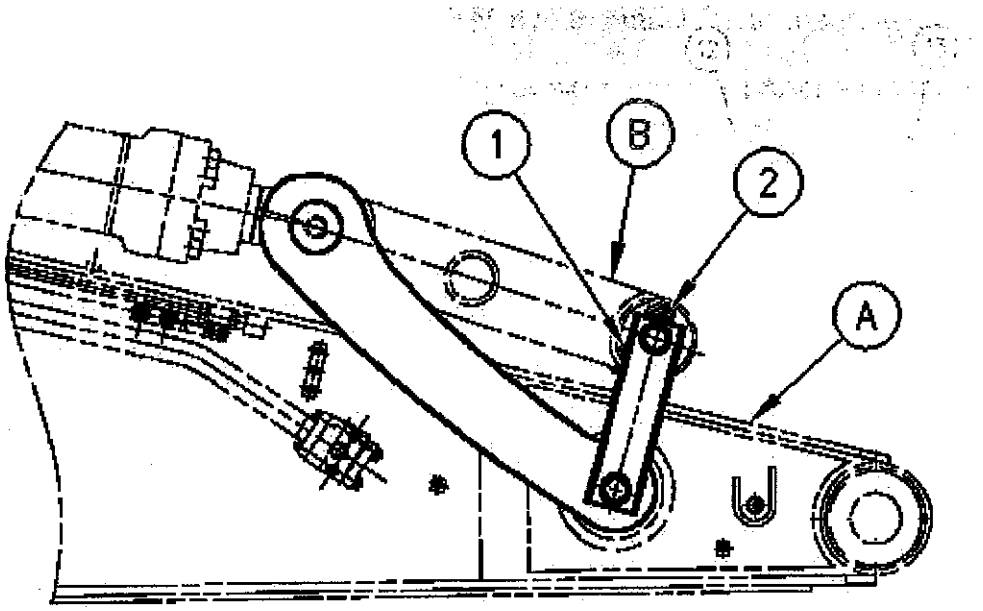


Illustration 13 g00775986
(1) Boom nose
(7) Bracket
(8) Bolt
(9) Block
(10) Pin

8. Align bracket (7) of the boom nose with blocks (9).
9. Install blocks (9) over bracket (7) of the boom nose.
10. Install bolts (8) through the blocks and tighten securely.
11. Install pin (10) in the fore boom.
12. Lower the fore boom until pin (10) rests in the blocks of the back support.
13. Install blocks (9) on pin (10).
14. Secure blocks (9) with bolts and washers (8).
15. Stop the engine. Operate the joysticks to all of the full stroke positions. This will release the hydraulic pressure in the system.
16. Perform the previous steps in reverse in order to assemble the excavator.
17. Refer to Operation and Maintenance Manual , "Demolition Boom Removal" in this publication in order to disconnect the boom nose.

Hydraulic Quick Change Coupler (If Equipped)



ustration 14 g00689853
(1) Channel
(2) Bolts and nuts
(A) Stick nose
(B) Power link

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⚠ WARNING

Before extending or retracting the track frames, be sure to keep all other people away from the machine.

Always use two or more people to do this work. Perform machine movements only after getting signals from a signal man.

The automatic engine speed control (AEC) switch must be in the OFF position and the travel speed switch must be in the LOW position.

Never make a sudden movement of the front equipment. When operating the front equipment, slowly activate the controls with extra care.

NOTICE

Before starting adjustment of the track frames, clean the contacting areas of the car body and track frames, and their mounting bolts. Prior to installing the bolts, apply 9M-3710 Anti-Seize Compound to the underside of the head and to the threads of the bolts.

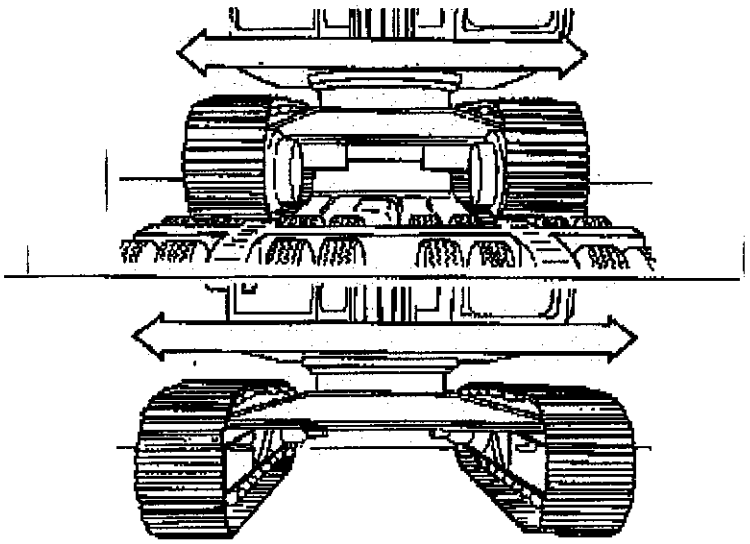

Illustration 1 g00285692

This machine has adjustable track frames that are held in place with bolts. The overall width of the machine with the track frame that is fully extended is 4000 mm (13 ft 1 inch). Completely widen the

track frames when the machine is being operated. The overall width of the machine with the track frame that is fully retracted is 3500 mm (11 ft 6 inch).

Note: These specifications are for a machine with 750 mm (2 ft 6 inch) track shoes.

Retracting

Park the machine on a hard, level surface.

Retract the track frames one at a time.

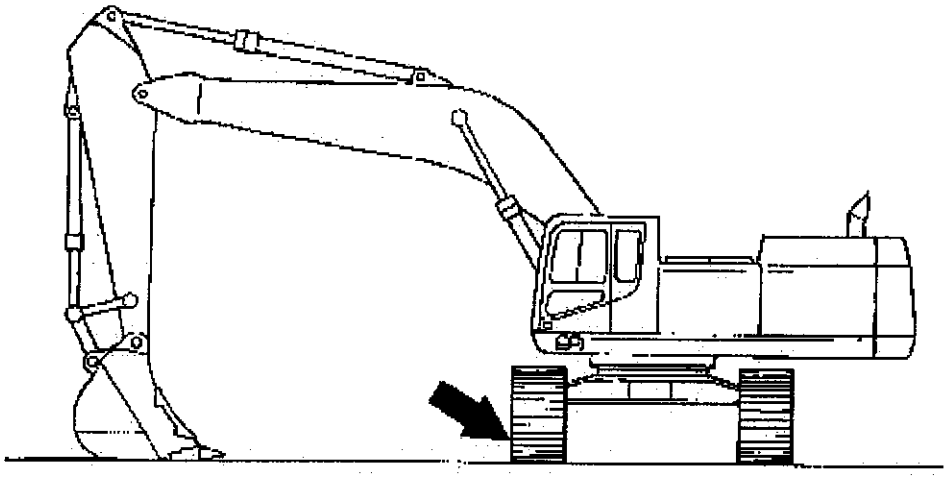

Illustration 2 g00581851

1. Position the machine with the front at a right angle to the track frame that is being retracted, as shown.
2. Stop the engine.

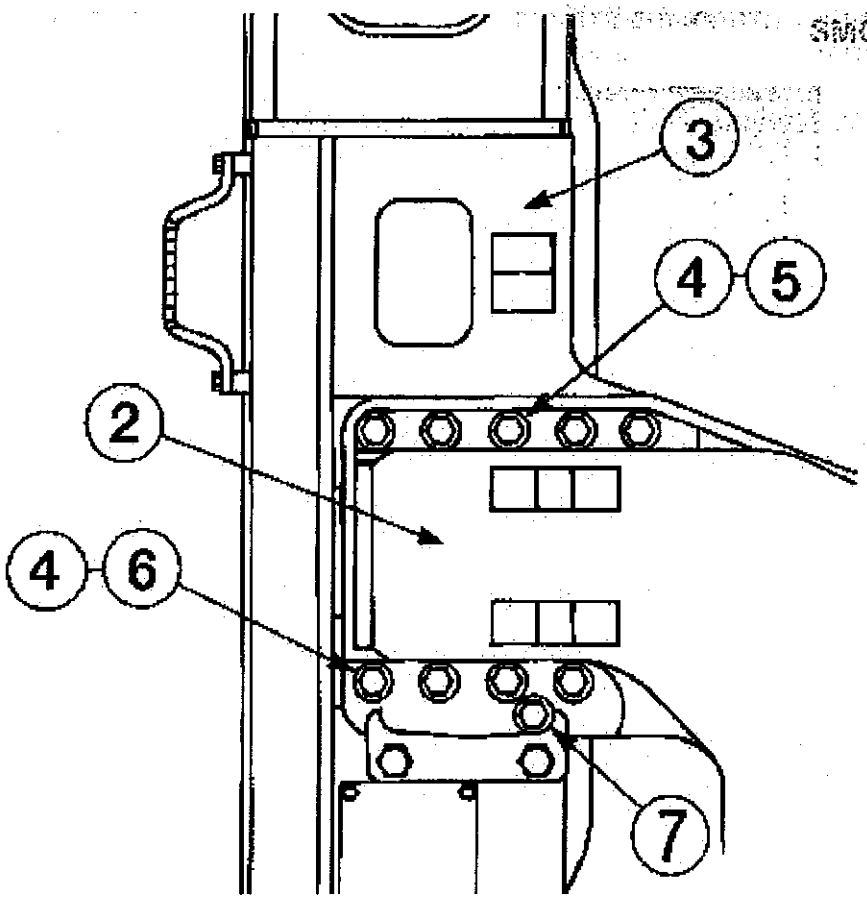

Illustration 3 g00581878

(2) Carbody
(3) Track frame
(4) Bolts
(5) Washers
(6) Spacers

3. Remove eighteen bolts (4), ten washers (5) and eight spacers (6). The bolts hold track frame (3) to carbody (2).
Note: When you move track frame (3) in order to retract the overall width, do not loosen two bolts (7) that are for the guide.

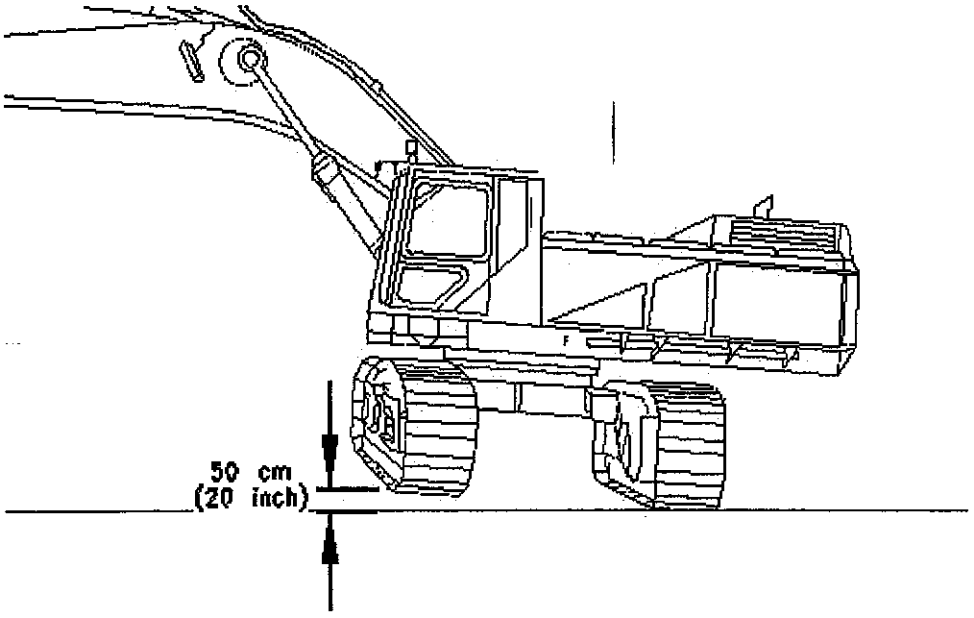

Illustration 4 g00286929

4. Start the engine. Apply downward pressure with the boom in order to raise the track approximately 50 cm (20 inch) above ground level.

5. Slowly run the raised track at a low idle. This will cause the raised track to slide toward the center of the machine. The full sliding distance should be 250 mm (10 inch).

6. After the raised track frame has been correctly retracted, lower the track frame to the ground.

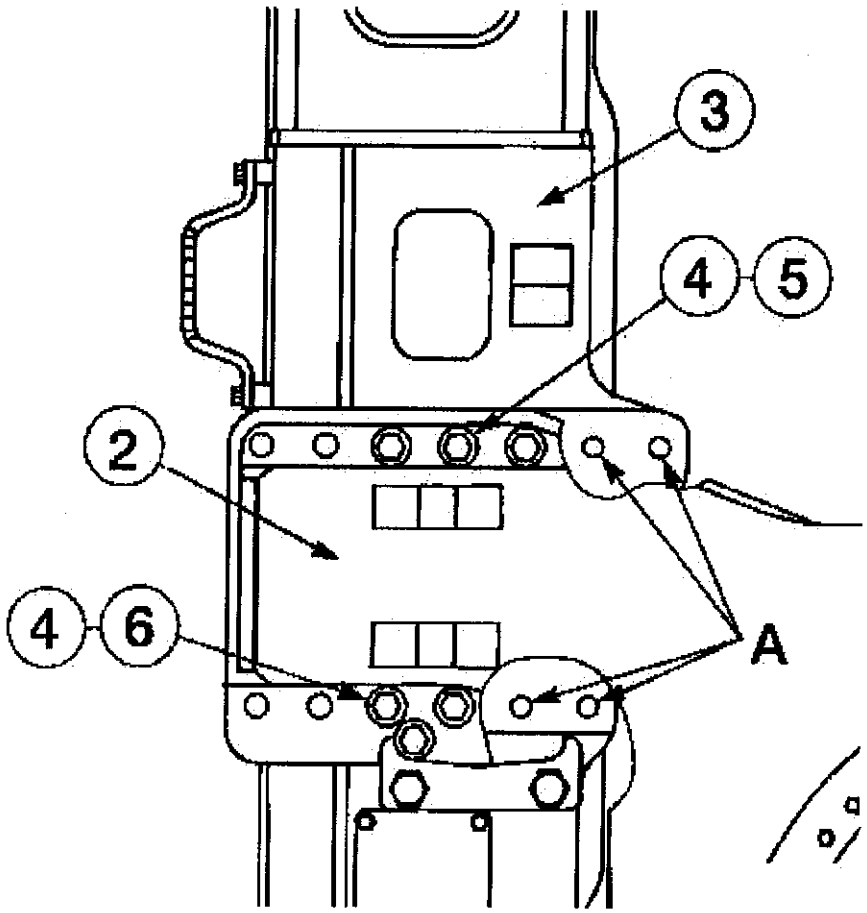

Illustration 5 g00581879
(2) Carbody
(3) Track frame
(4) Bolts
(5) Washers
(6) Spacers

7. Align the bolt holes of carbody (2) and track frame (3). Install ten bolts (4), six washers (5) and four spacers (6). If necessary, slowly operate the machine back and forth until the bolt holes are aligned. Tighten the bolts to a torque of 2700 ± 300 N·m (2000 ± 220 lb ft).
Note: To protect the bolt holes that are in the track frame from debris and mud, insert corks into eight bolt holes (A).

8. Repeat Steps 1 through 7 for the other track frame.
Note: Store the eight bolts (4), four washers (5) and four spacers (6) that were removed in this procedure in the tool box.

Extending

NOTICE

Damage to the car body guide on the track roller frame can result if the track is raised more than 60 mm (2.4 inch) off the ground, with the car body bolts removed.

Park the machine on a hard, level surface.

Extend the track frames one at a time.

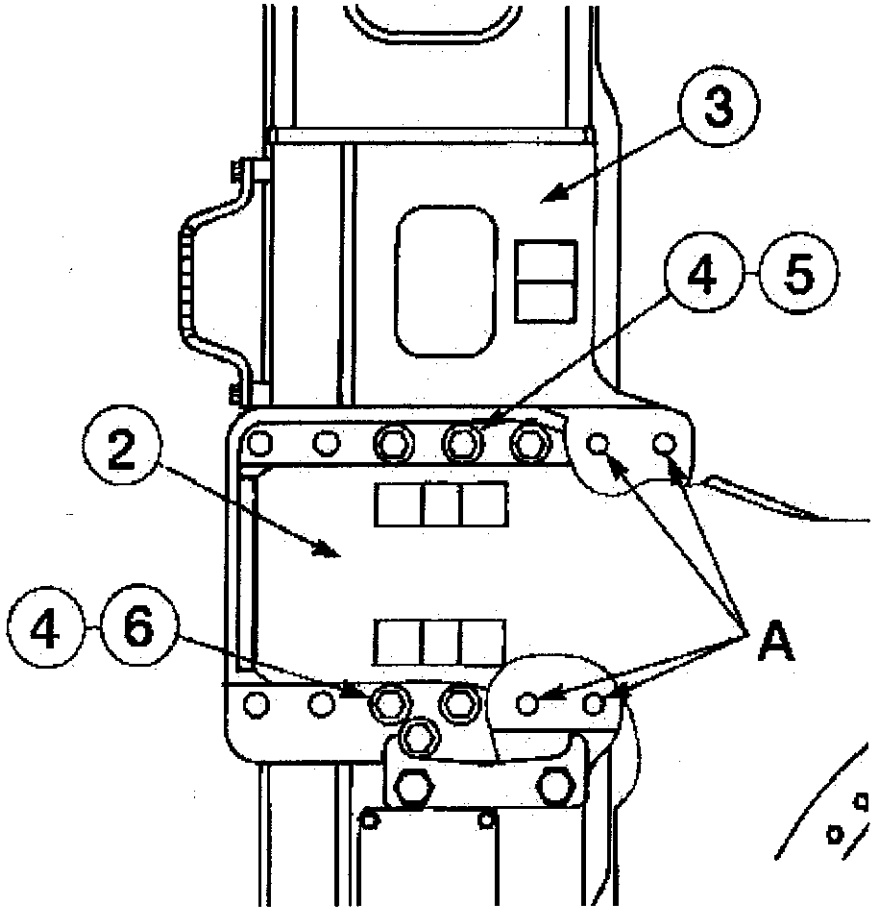

Illustration 6 g00581879

(2) Carbody
(3) Track frame
(4) Bolts
(5) Washers
(6) Spacers

1. Remove the eight corks that are in bolt holes (A).

2. Remove ten bolts (4), six washers (5) and four spacers. The bolts hold track frame (3) to carbody (2).
   Note: When you move track frame (3) in order to extend the overall width, do not loosen two bolts (7) that are for the guide.

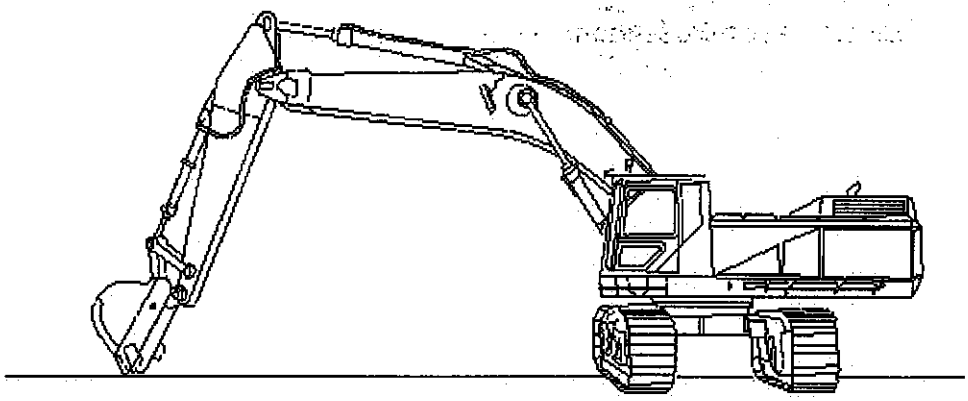

Illustration 7 g00286687

3. Position the boom over the opposite track frame with the stick at an approximate 80 degree angle to the ground. Place the bucket teeth into the ground, as shown. This machine position provides the best stability for extending the track frames.

4. Apply a downward pressure with the boom in order to slightly raise the track.

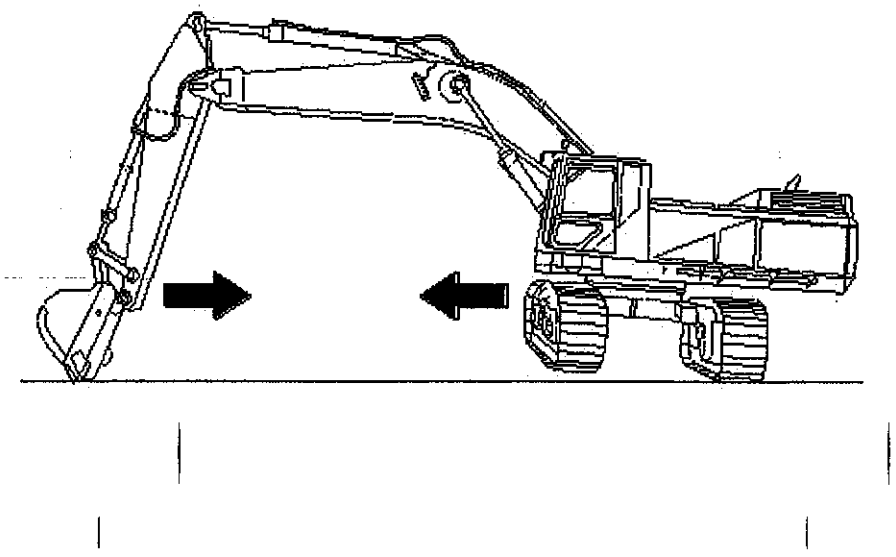

Illustration 8 g00286117

5. Use the STICK IN position to extend the track frame by moving the carbody away from the track.

6. After the track frame has been correctly extended, lower the raised track frame to the ground.

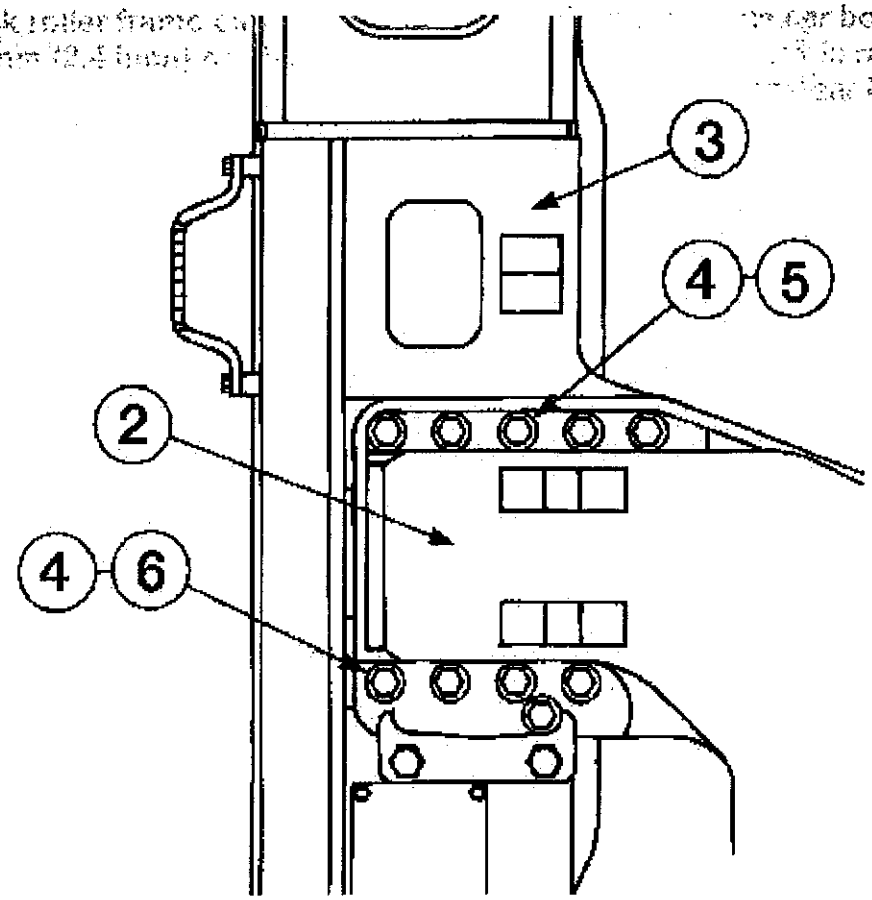

Illustration 9 g00581881
(2) Carbody
(3) Track frame
(4) Bolts
(5) Washers
(6) Spacers

7. Align the bolt holes of carbody (2) and track frame (3). Install eighteen bolts (4), ten washers (5) and eight spacers (6). If necessary, slowly operate the machine back and forth until the bolt holes are aligned. Tighten the bolts to a torque of 2700 ± 300 N·m (2000 ± 220 lb ft).

8. Repeat Steps 1 through 7 for the other track frame.

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WARNING

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Unexpected machine movement can cause injury or death.

In order to avoid possible machine movement, move the hydraulic lockout control to the LOCKED position and attach a Special Instruction, SEHS7332, "Do Not Operate" or similar warning tag to the hydraulic lockout control.

WARNING

Personal injury or death can occur from a counterweight falling during removal or installation.

Do not allow personnel under or around the counterweight during removal or installation.

Make sure that the lifting device is in good condition and is capable of handling the weight of the counterweight.

WARNING

Personal injury or death can occur from a counterweight falling during removal or installation.

Before you remove the counterweight mounting bolts, read and understand the instructions and warnings in the Operation and Maintenance Manual.

WARNING

Make certain personnel are clear of cable when there is a load on it. Cable can break and cause personal injury.

WARNING

Personal injury or death can occur from a counterweight falling during removal or installation. Before you begin the Removal Procedure, make sure that the support blocks are installed and tightened properly.

⚠ WARNING

Crush Hazard. Read and Understand the Operation and Maintenance Manual before performing maintenance on equipment. Could cause serious injury or death.

⚠ WARNING

Unexpected machine damage and personal injury or death can occur from any machine operation without counterweight bolt tightened properly.

Make sure to tighten the counterweight mounting bolts when the counterweight is installed.

Counterweight Removal and Installation for Standard Machines

Counterweight Removal

Reference: Refer to Operation and Maintenance Manual, "Specifications" for specific weight information.

1. Position the machine on a surface that is hard and level. Lower the front implements to the ground.
2. Move the hydraulic lockout control to the LOCKED position.

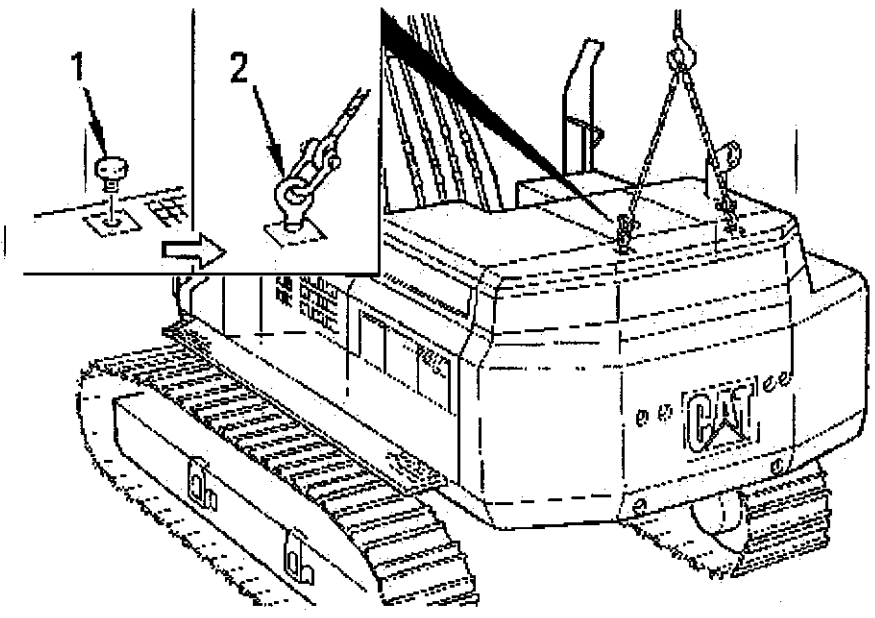

Illustration 1 g00582022

(1) Plugs
(2) Lifting eyebolts

3. Remove two plugs (1) from the top of the counterweight.

4. Install two lifting eyebolts (2) in the place of the plugs.

5. Fasten a proper rated wire cable with shackles to the eyebolts. Use an appropriate lifting device in order to tension the cable.

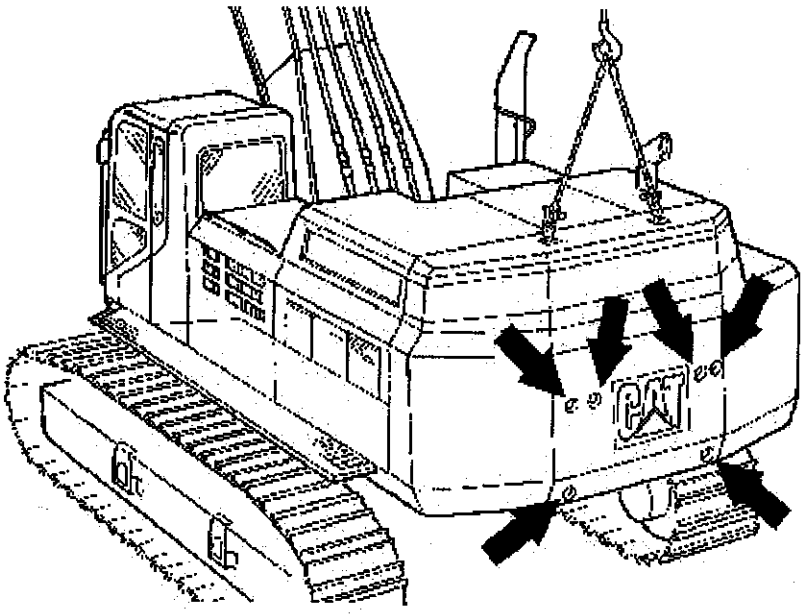

Illustration 2 g00582023

6. Remove six counterweight mounting bolts and washers.

7. Lift the counterweight enough so that there is no load on the retaining pins.

8. Separate the counterweight from the machine. Lower the counterweight onto suitable supports.

Counterweight Installation

Perform the removal procedure in reverse order.

Note: Temporarily tighten the six counterweight mounting bolts. Decrease the tension on the lifting cable. Make sure that the counterweight is correctly positioned on the retaining pins. Tighten the bolts to a torque of 2800 ± 350 N·m (2065 ± 258 lb ft).

Machines Equipped with Counterweight Removal System

⚠ WARNING

IMPROPER OPERATION OF THE COUNTERWEIGHT REMOVAL SYSTEM CAN RESULT IN SERIOUS INJURY OR DEATH. DO NOT OPERATE THIS SYSTEM UNLESS YOU HAVE READ AND UNDERSTAND THE INSTRUCTIONS AND WARNINGS IN THE OPERATION AND MAINTENANCE MANUAL.

⚠ WARNING

Before you remove the counterweight, check for signs of hydraulic oil leaking from the Counterweight Removal System. An oil leak may be a sign of a potential system failure and needs to be corrected before removing the counterweight mounting bolts. A hydraulic leak, along with other factors, can result in personal injury or death.

⚠ WARNING

When the removal cylinder is used to lower the counterweight, the counterweight can wedge against the machine frame which stops the downward movement of the counterweight. Since the removal cylinder continues to retract and the counterweight stopped, slack in the chain for the removal cylinder occurs.

The counterweight can suddenly fall due to the slack in the chain which could result in personal injury or death.

Monitor the lowering of the counterweight when the counterweight is being lowered with the removal cylinder. If the removal cylinder is retracted and the downward movement of the counterweight stops, stop the lowering procedure and correct the wedging of the counterweight against the machine frame.

Counterweight Removal

1. Position the upper structure parallel to the tracks.
2. Start the engine. Adjust the engine speed to one-third of full throttle engine speed.

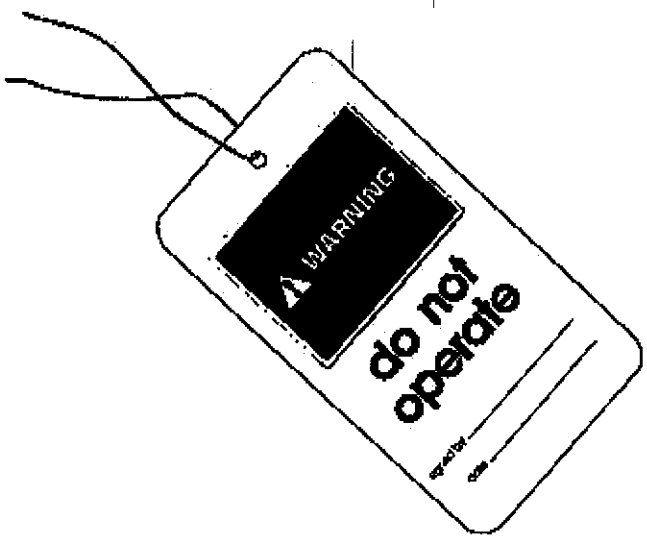

Illustration 3 g00104545

3. Move the hydraulic lockout control to the LOCKED position. Attach a "Do Not Operate" warning tag or a similar warning tag to the start switch or to the controls.

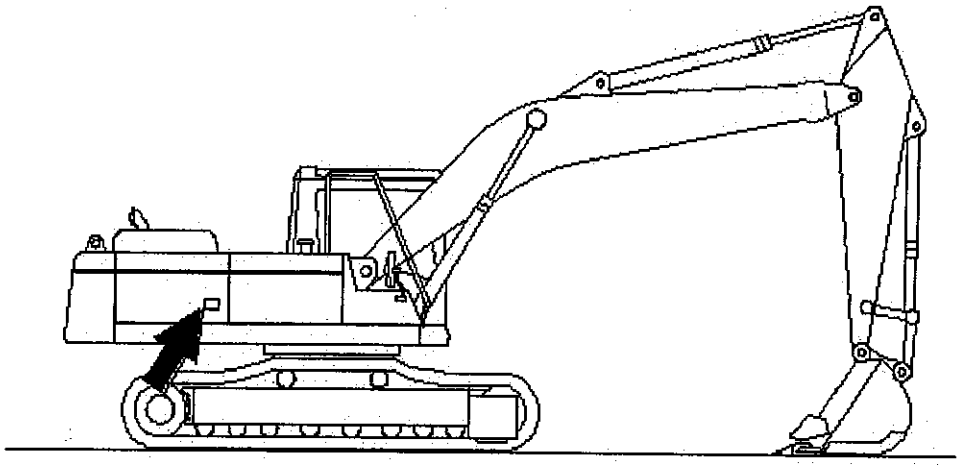

Illustration 4 g00101449

4. Open the rear access door on the right side of the machine.

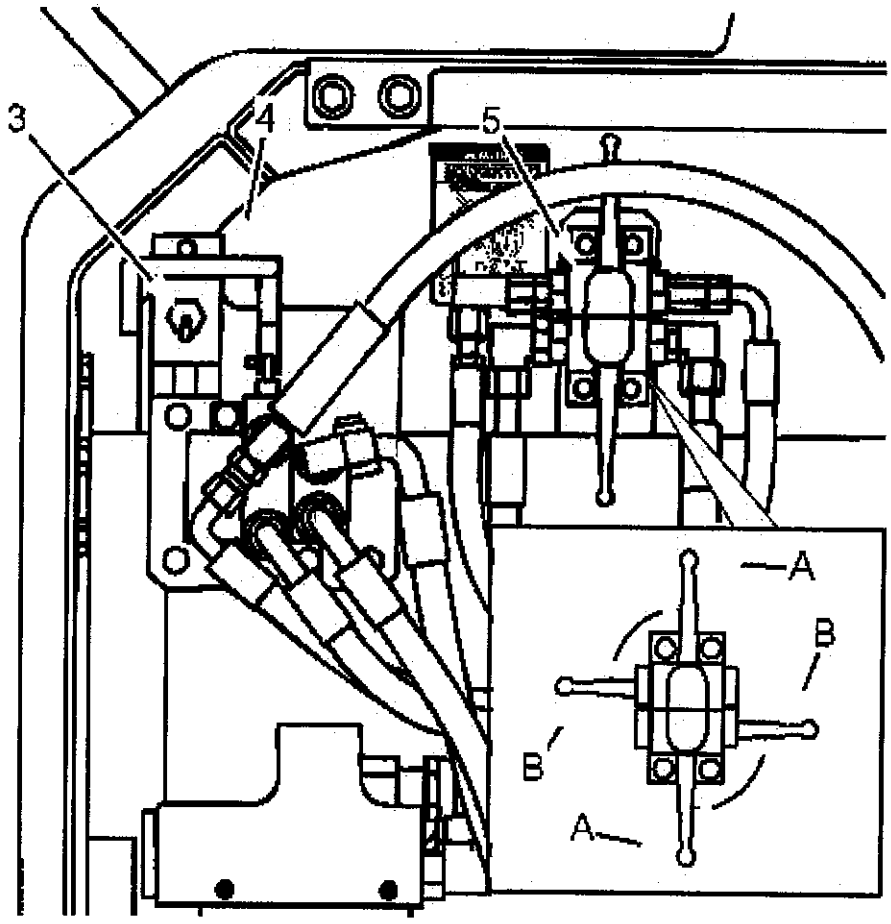

Illustration 5 g01061758

(3) Switch
(4) Control lever
(5) Stop valves
(A) CLOSED position
(B) OPEN position

5. Place stop valves (5) in OPEN position (B).

6. Move switch (3) upward to the ON position.

7. Move control lever (4) upward in order to relieve the weight on the counterweight mounting bolts. There should be a slight tension on the chains.

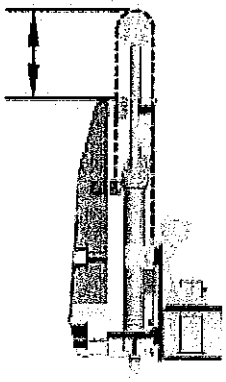

Illustration 6 g06510567

8. There should be a slight tension on the chains. Inspect both chains to verify condition and that the chains are not seized or binding. Monitor chain tension for 5 minutes to verify no leaks and no excessive drift is present indicating service is required before system use. Contact your Cat dealer if service is required.

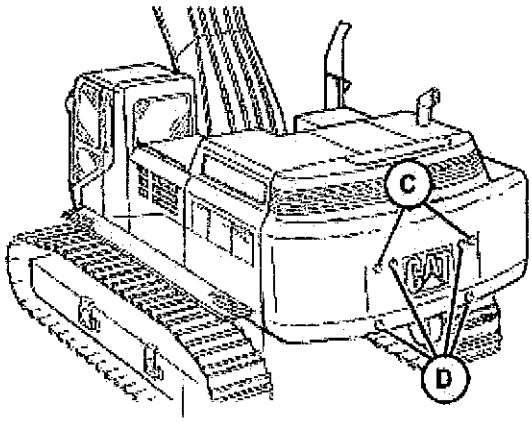

Illustration 7 g06548425

9. Remove bolts (C) from the counterweight.

10. Reinstall bolts (C) and tighten by hand until the bolts are fully engaged.
Note: Do not use tools to reinstall bolts (C).

11. Loosen bolts (C) two full revolutions.
Note: Do not remove bolts (C) from the counterweight.

12. Remove remaining bolts (D).

13. Remove bolts (C) by hand.
Note: Do not use tools to remove bolts (C).

Note: If unable to remove bolts (C) by hand, the counterweight removal system may not be appropriately supporting the weight of the counterweight. Adjustment of the linkage, or additional support, may be required to safely remove the final two bolts.

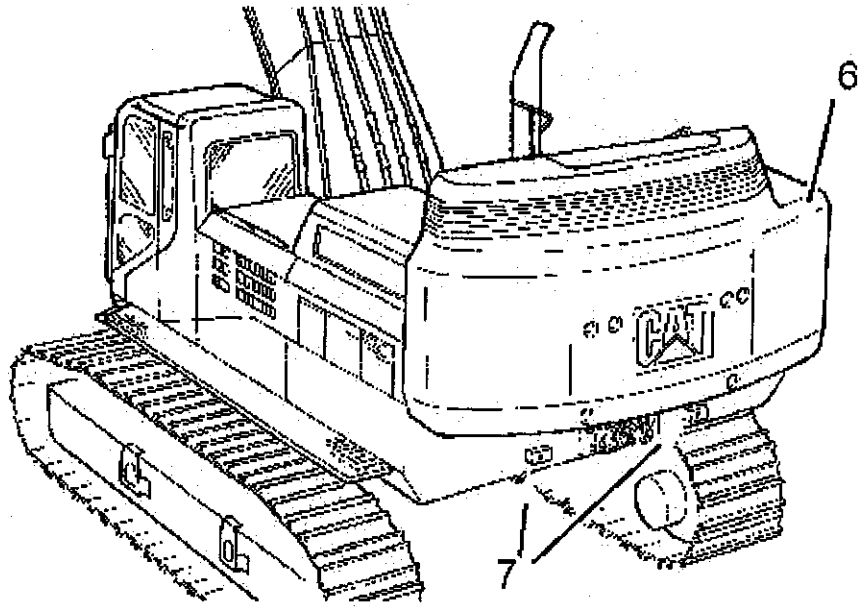

Illustration 8 g01061759
(6) Counterweight
(7) Retaining pin

14. Move control lever (4) upward in order to raise the counterweight (6) until access to the retaining pins (7) can be gained.

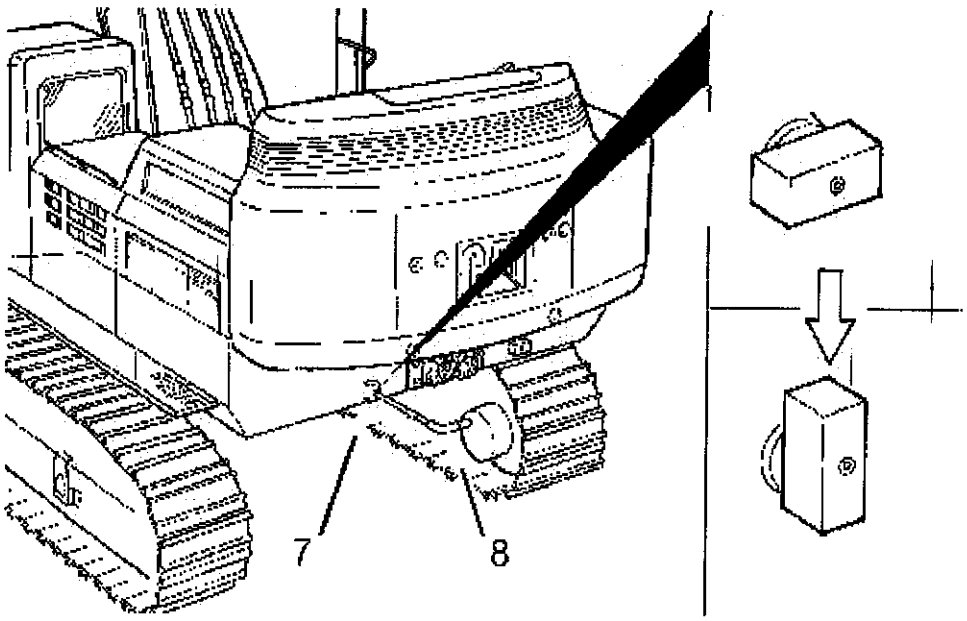

Illustration 9 g01061761
(7) Retaining pin
(8) Extension

15. Use a ratchet wrench and an extension (8) in order to rotate each retaining pin (7). Retaining pins (7) require ninety degrees of rotation. The retaining pins (7) are now in the UNLOCKED

position.

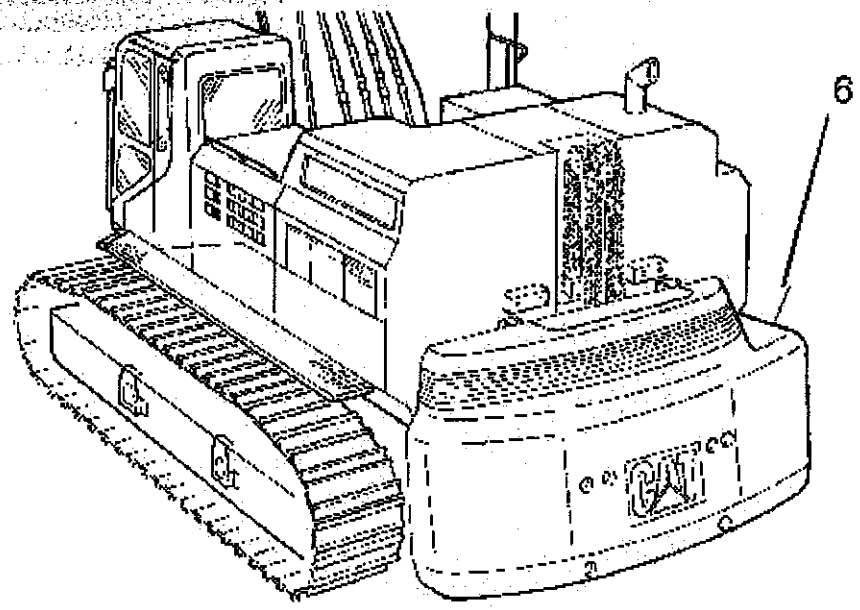

Illustration 10 g01061760
(6) Counterweight

16. Move control lever (4) downward in order to lower counterweight (6) onto supports on the ground.

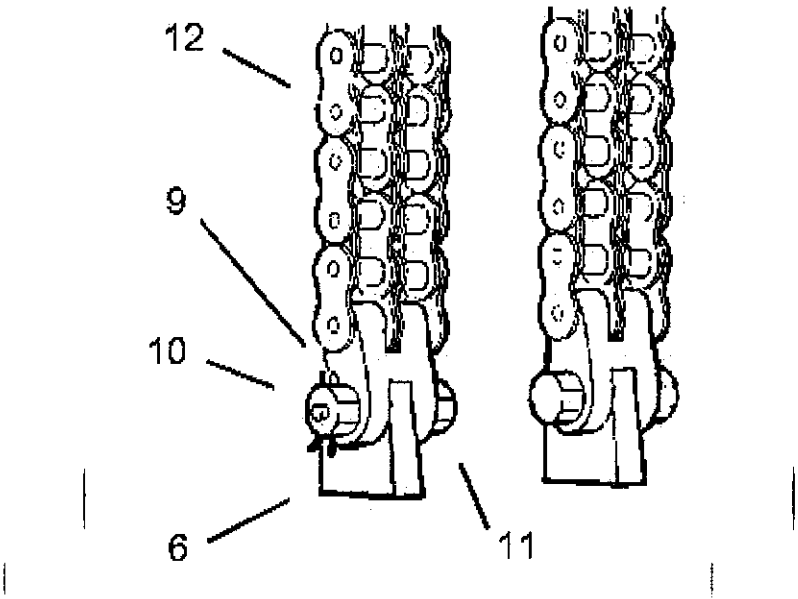

Illustration 11 g01061763
(6) Counterweight
(9) Cotter pins
(10) Nuts
(11) Pins
(12) Chains

17. Remove cotter pins (9). Loosen nuts (10).

18. Remove pins (11) in order to disconnect chains (12) from counterweight (6).

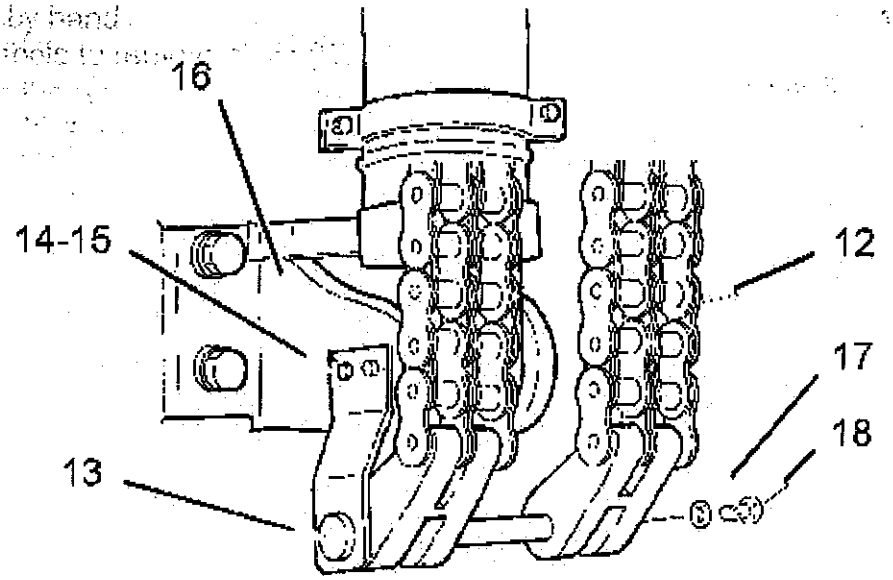

Illustration 12 g01061764

(12) Chain
(13) Pin
(14) Bolt
(15) Washer
(16) Bracket
(17) Washer
(18) Bolt

19. Pin (13) should be located in the storage box. Remove pin (13) from the storage box.

20. Install pin (13) into chains (12).

21. Install bolts (14) and washers (15) in order to attach pin (13) to bracket (16).

22. At the end of pin (13), install washer (17) and bolt (18).

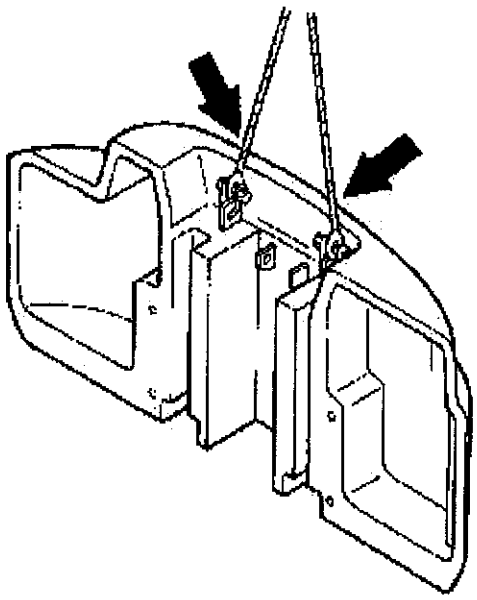

Illustration 13 g00583951

23. Fasten a proper rated cable with shackles to the lifting eyes on the counterweight.

24. Use an appropriate lifting device in order to put the counterweight on suitable supports.

Counterweight Installation

Perform the removal procedure in reverse order.

Note: Make sure that you remove pin (13), bolt (18), washer (17), bolt (14), and washer (15). Return these parts to the storage box.

Note: Before you install the counterweight mounting bolts, make sure that the counterweight is securely held on the retaining pins. There should be a slight amount of slack on the chains.

Tighten the counterweight mounting bolts to a torque of 2800 ± 350 N·m (2065 ± 258 lb ft).

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