ORIGINAL INSTRUCTIONS - *according to Directive 2006/42/EC, Annex I 1.7.4.1*

SR250
SV300
Tier 4A
Alpha Series Skid Steer Loader

TR320
TV380
Tier 4A
Alpha Series Compact Track Loader

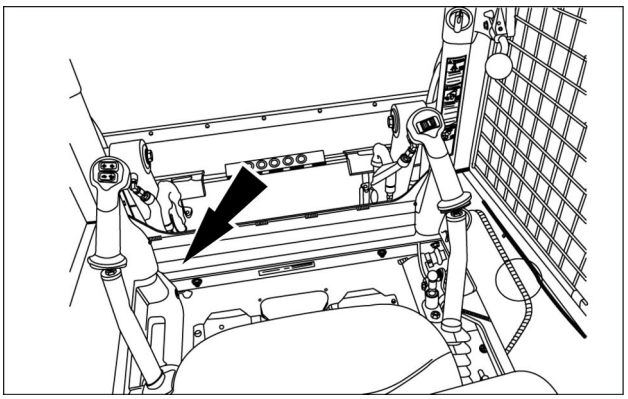
OPERATOR'S MANUAL

Part number 47685123
1st edition English
September 2014

CASE CONSTRUCTION

Roll Over Protective Structure (ROPS) certification plate.

- Front edge (lower) inside cab.



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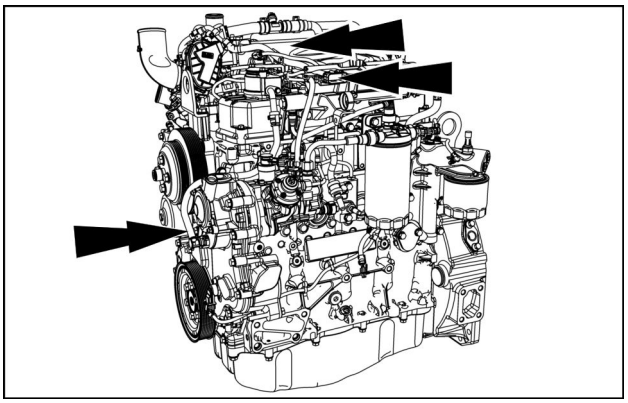
Engine serial number plate location

- On the side of the Exhaust Gas Recirculation (EGR) cooler.
- On top of the valve cover.
- The serial number is also stamped on the engine front cover.



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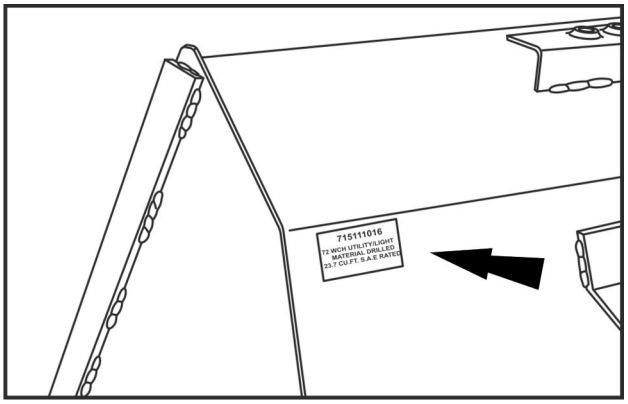
Bucket identification plate.



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Case IH Agriculture
Toll free number: 00800 2273440

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Country	Toll free fax	Local number	E-mail
Belgium (0032)	080080605	022006111	Max.Caseih.Belgium@cnh.com

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Luxembourg (00352)	80027824	03420808282	Max.Caseih.luxembourg@cnh.com

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Country	Toll free fax	Local number	E-mail
Denmark (0045)	80 888046	038322992	Max.Caseih.Danmark@cnh.com

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Country	Toll free fax	Local number	E-mail
Netherlands (0031)	0800 2273440	0202008277	Max.CaseIH.Nederland@cnh.com

Benelux - NLO
Dit is een gratis nummer. Als u echter met een gsm vanuit België of Luxemburg telefoneert, kiest u 022006111 voor België en 03420808282 voor Luxemburg. Merk op dat telefoneren met een gsm niet gratis is, maar voor eigen rekening gebeurt. Voor informatie in verband met het prijstarief neemt u best vooraf contact op met uw provider.
Benelux - BFO
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Country	Toll free fax	Local number	E-mail
Portugal	800 844606	-	-

-

Country	Toll free fax	Local number	E-mail
Poland	-	0223060102	MaxService.Polska@caseih.com

-

Typical operating conditions — Compact track loader

	Average			Standard deviation		
	1.4*Aw,eqx m/s^2	1.4*Aw,eqy m/s^2	Aw,eqz m/s^2	1.4*Sx m/s^2	1.4*Sy m/s^2	Sz m/s^2
Load and carry motion	0.89	0.67	0.52	0.12	0.16	0.10
Transfer movement	0.58	0.49	0.60	0.18	0.12	0.15
V-shaped motion	1.21	1.00	0.82	0.30	0.84	0.32

Loader arm lock and cab tilt procedure - radial lift machines

⚠ WARNING

Crushing hazard!
Do not enter or exit the operator's compartment while the loader arms are raised or unsupported. Rest the loader arms on the ground or verify that loader arm is being supported by the loader arm strut or loader arm lock pin before entering or exiting the operator's compartment.
Failure to comply could result in death or serious injury.

W1365A

⚠ WARNING

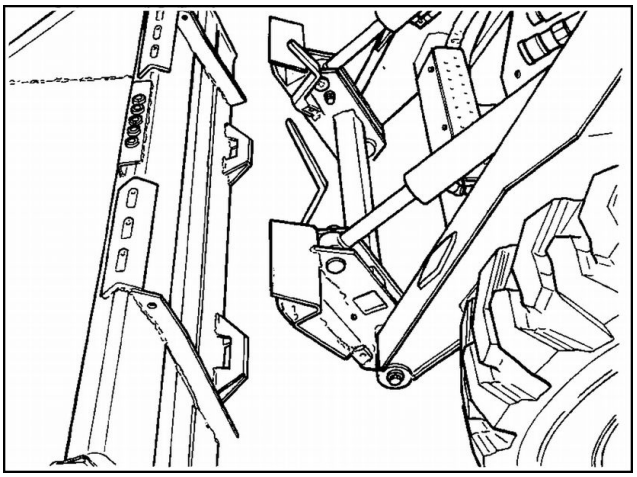
Crushing hazard! Loader arms are unsupported during support strut removal.
Do not enter or exit the operator's compartment with an unsupported loader arm. Two persons are required during storage. One person should remove and store the support strut while the operator remains in the operator's compartment.
Failure to comply could result in death or serious injury.

W0077B

Raise and lock the loader arm for machine service

NOTE: *An instructional decal on the inside of the right-hand loader arm, just above the support strut is also available. Understand the loader arm lock procedure before continuing.*

1. Sit in the operator's seat, fasten the seat belt, pull down the restraint bar down, and start the engine.
2. Press the OPERATE button to enable the hydraulics.
3. Remove the bucket or attachment from the mounting plate.
4. Park the machine on firm and level surface.
5. If an assistant is not available, turn off the engine and exit the machine.



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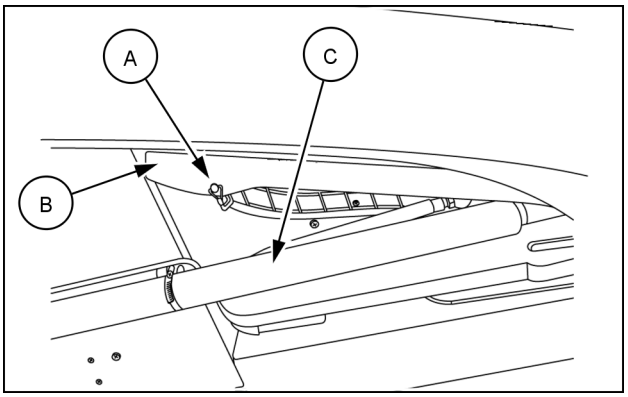
6. Remove the support strut pin **(A)** and let the support strut **(B)** rest on the lift cylinder barrel **(C)**.



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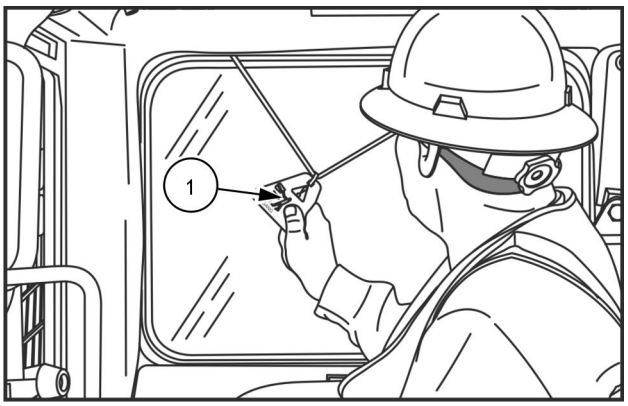
Emergency exit

The rear window can be removed to provide an exit for the operator in the event the front exit is blocked.

To remove the rear window, pull on the tag **(1)** and remove the window molding strip. Push on the bottom half of the window to force it away from the molding.

NOTICE: *If the rear window was removed for use as an exit, do the following before you operate the machine: Install the rear window and the molding. Secure the window in place with the locking strip.*



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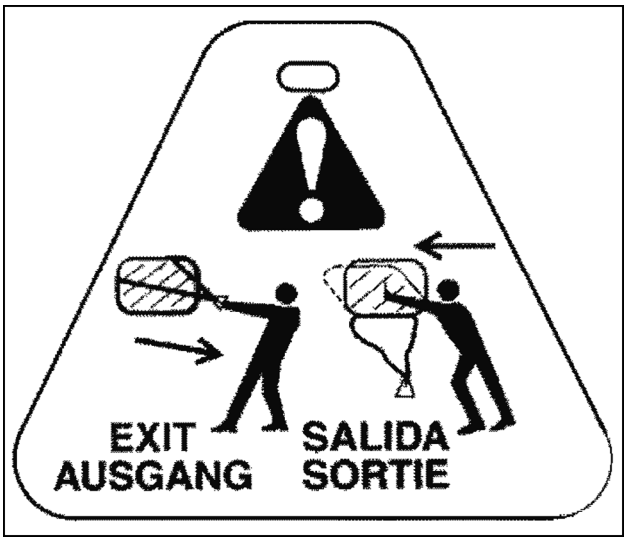

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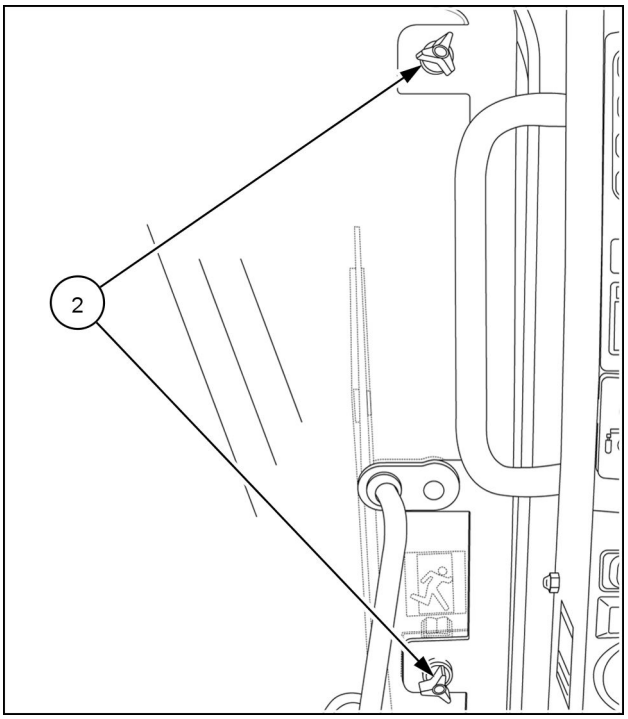
The front door can be removed from the inside to provide an exit for the operator in the event the front door will not open. To remove the front door from inside the unit, unscrew and remove the two hand knobs **(2)** on the right side of the door window and push to remove the front door.

NOTICE: *If the front door was removed for exiting, reinstall the front door before operating the skid steer.*



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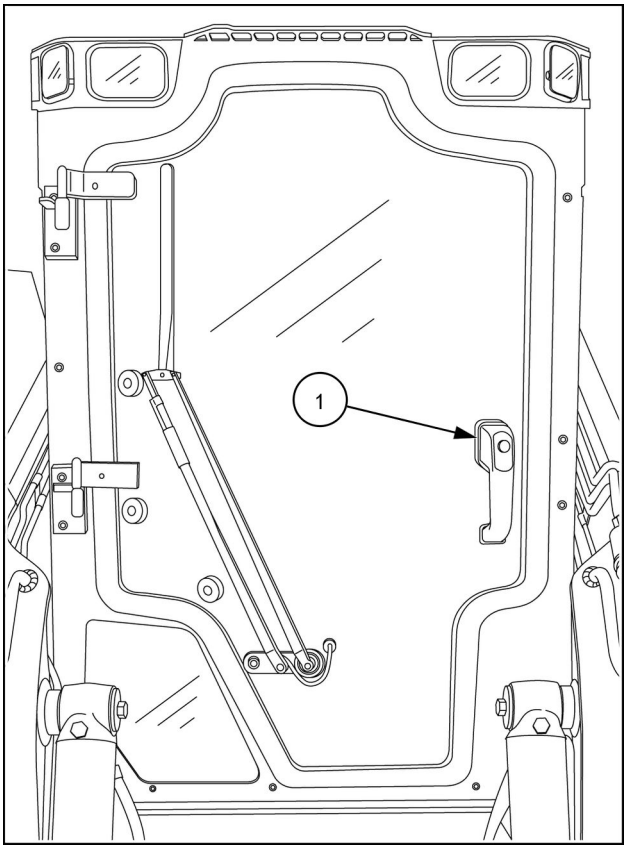
3 - CONTROLS AND INSTRUMENTS

ACCESS TO OPERATOR'S PLATFORM

Door latches, cab

Exterior door latch

Push on the knob **(1)** to release the door for entry. The starter switch key may be used to lock the door.



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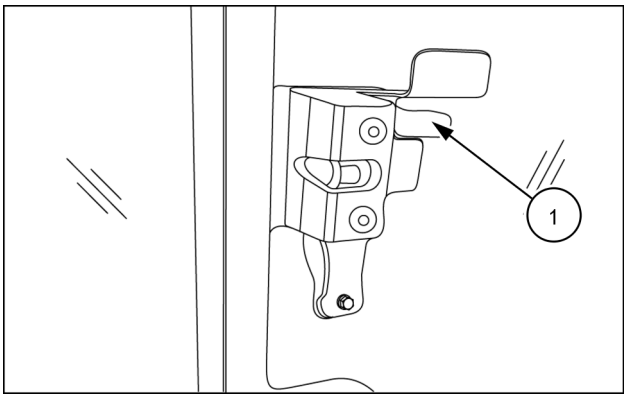
Interior door latch

Push on the lever **(1)** to release the door latch and open door.

NOTICE: *Do not raise or lower loader lift arm until you have confirmed the door is fully closed. Damage may occur to the door assembly.*



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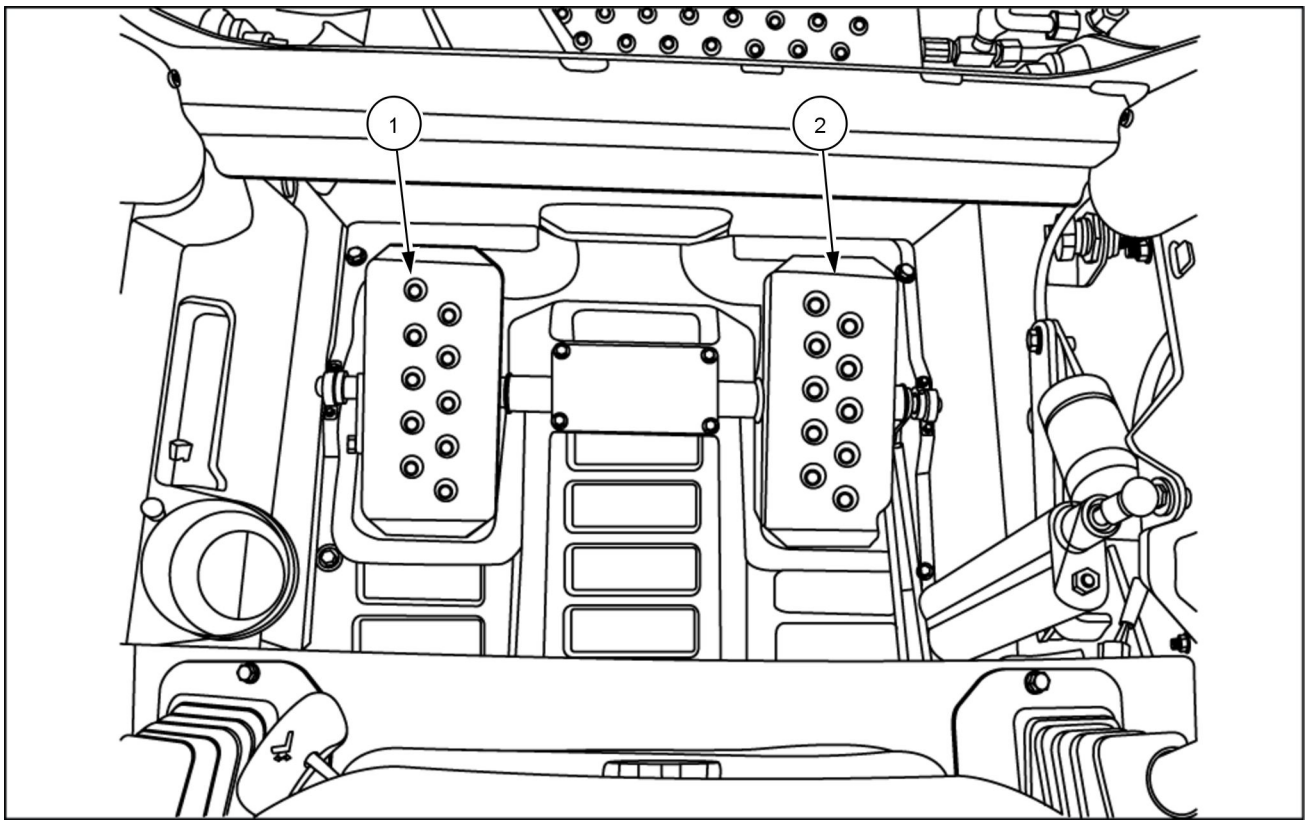
Foot controls



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Lift arm raise and lower control.

- The lift arm is controlled by the left foot pedal **(1)** located on the floor and is marked with a decal. The lift arm is raised by depressing the heel (rear) of the pedal. The lift arm is lowered by depressing the toe (front) of the pedal.
- The lift arm spool is equipped with a detent FLOAT circuit if the operator wants the lift arm to float over changing ground contour. To put the valve in FLOAT position, depress the toe of the pedal until a slight jump is felt. In this position, the pedal is locked in float and does not return to the neutral position unassisted, but will do so when light pressure is applied to the heel of the pedal.

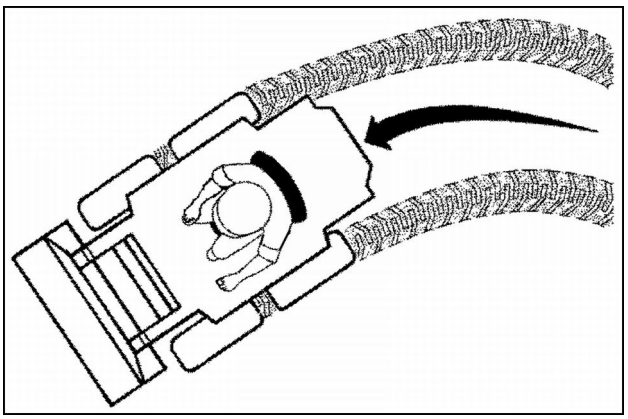
Bucket dump and curl control.

- The bucket is tilted by activation of the right foot pedal **(2)** located on the floor and is marked with a decal. For dumping, depress the toe end of the pedal. To achieve rollback (curl), push the pedal downward at the heel.

NOTE: *There is no detent or float position on the bucket dump and curl spool.*

Gradual turn - power to both sides in the same direction

- To make a gradual forward turn left: from neutral, push the left-hand control lever forward and slightly toward the 11:00 position.
- To make a gradual forward turn right: from neutral, push the left-hand control lever forward and slightly toward the 1:00 position.



BS06G037 3

Enhanced High Flow (EHF) auxiliary hydraulics

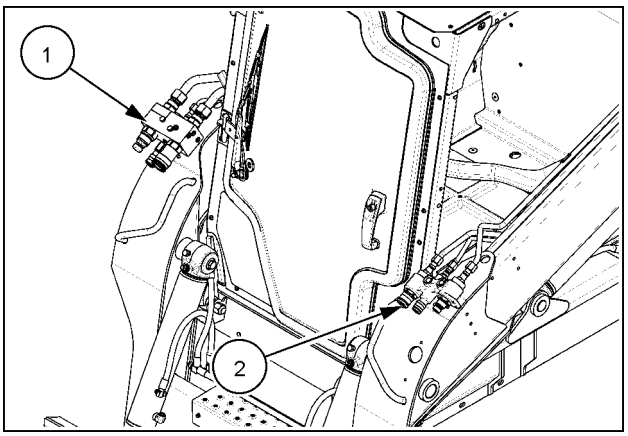
The Enhanced High Flow (EHF) auxiliary hydraulic feature provides **276 bar** (**4000 psi**) or **132 l/min** (**35 US gpm**) to the auxiliary circuit. Follow the attachment's operator's manual on specific installation procedures, operation, and removal procedures.

NOTE: *The enhanced high flow setting can only be used with approved attachments and is controlled by a circuit interlock installed at the multifunction plug with the attachment.*

If the machine is equipped with the enhanced high flow auxiliary hydraulics, two 5/8 inch couplers and a 3/8 inch case drain coupler block **(1)** will be attached to the right-hand loader arm.

The standard auxiliary hydraulic coupler block **(2)** with two 1/2 inch ports and one 3/8 inch case drain will remain on the left-hand loader arm.

NOTICE: *Always use the 5/8 inch couplers during high flow operation to prevent high back pressure and over heating of the hydraulic system.*



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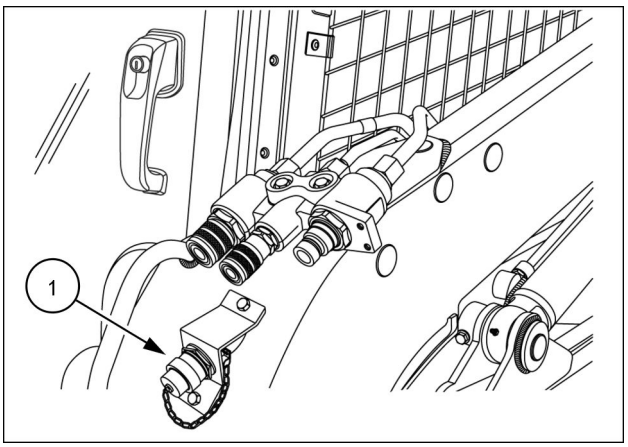
Before operating the approved attachment, confirm the electrical connection **(1)** is secured in place. Without completion of the circuit within the attachment side of the connector, only standard high flow can be achieved.

NOTE: *All approved Enhanced High Flow (EHF) attachments will have an electrical connection. This prevents operating attachments that are not approved to handle* ***276 bar*** *(****4000 psi****) in High Pressure (HP) mode.*



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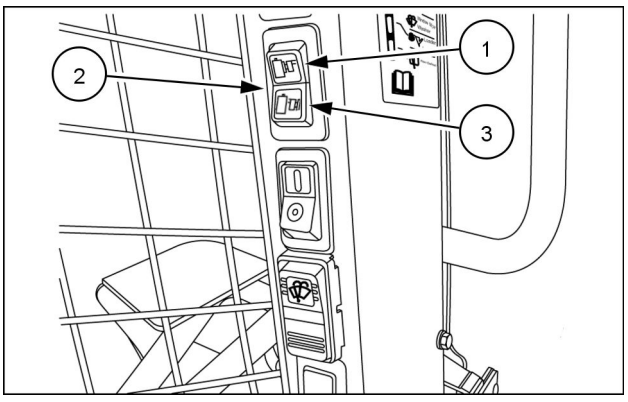
Use the three position switch on the left hand ROPS post to activate the high flow option.

- Position **(1)** — HF High Flow is activated
- Position **(2)** — Neutral or standard flow
- Position **(3)** — HP High Pressure is activated

NOTICE: *The high flow switch must be turned to the neutral position when not in use or required. Overheating of the hydraulic oil or poor attachment operation may occur.*

Use the number **2** cylinder button on the left-hand control lever to operate the enhanced high flow attachments. Refer to your control lever switch configurations **3-23** for more details.



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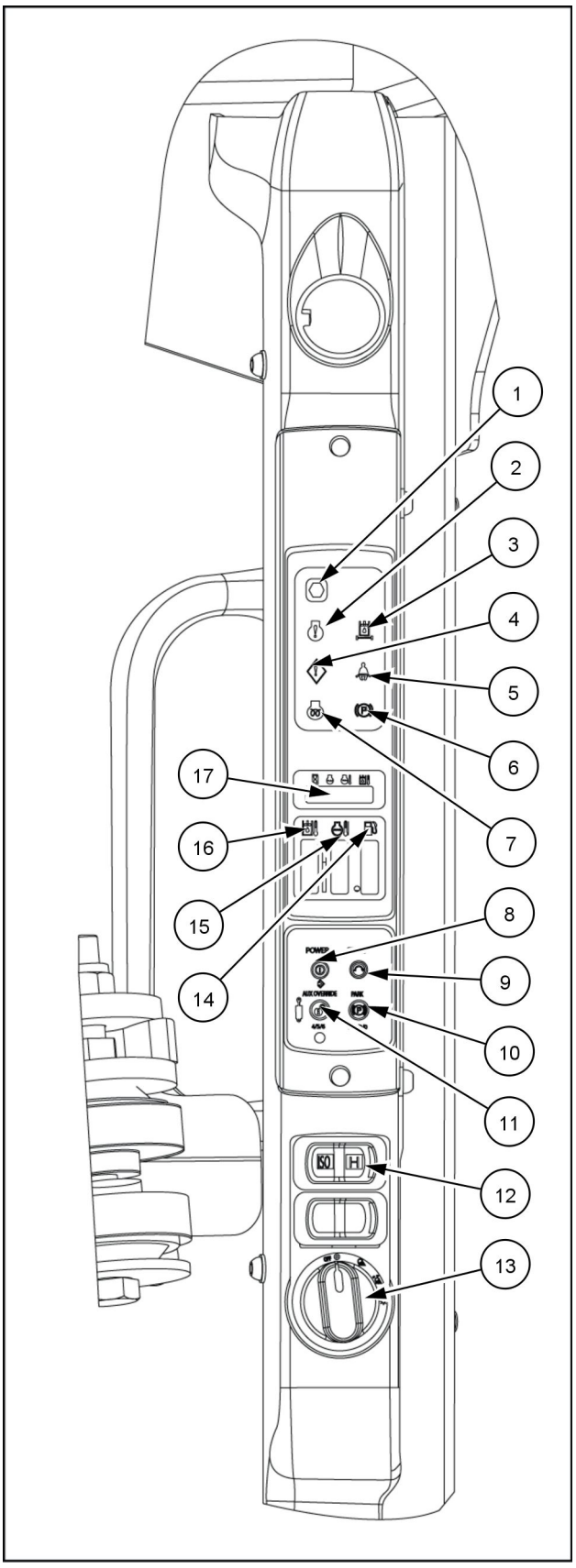
(5)	SEAT BELT
	RED lamp will illuminate when the restraint bar is raised. RED lamp will also illuminate when the operator leaves the operator's seat.

(6)	PARK BRAKE LAMP:
	This Red lamp illuminates to indicate the park brake is engaged. Under normal conditions the Park Brake will be set when: • The PARK BRAKE button is activated (located on the right-hand control lever) • The OPERATE button is activated • The engine is shut off • The engine is running and the restraint bar is raised • The operator leaves the seat

(7)	ENGINE PREHEATING LAMP:
	In cold climate starting conditions this yellow Engine Pre-Heating Lamp will illuminate, instructing the operator that incoming air is being preconditioned for smoother starting. The operator must wait until the lamp goes out before attempting to start the engine.



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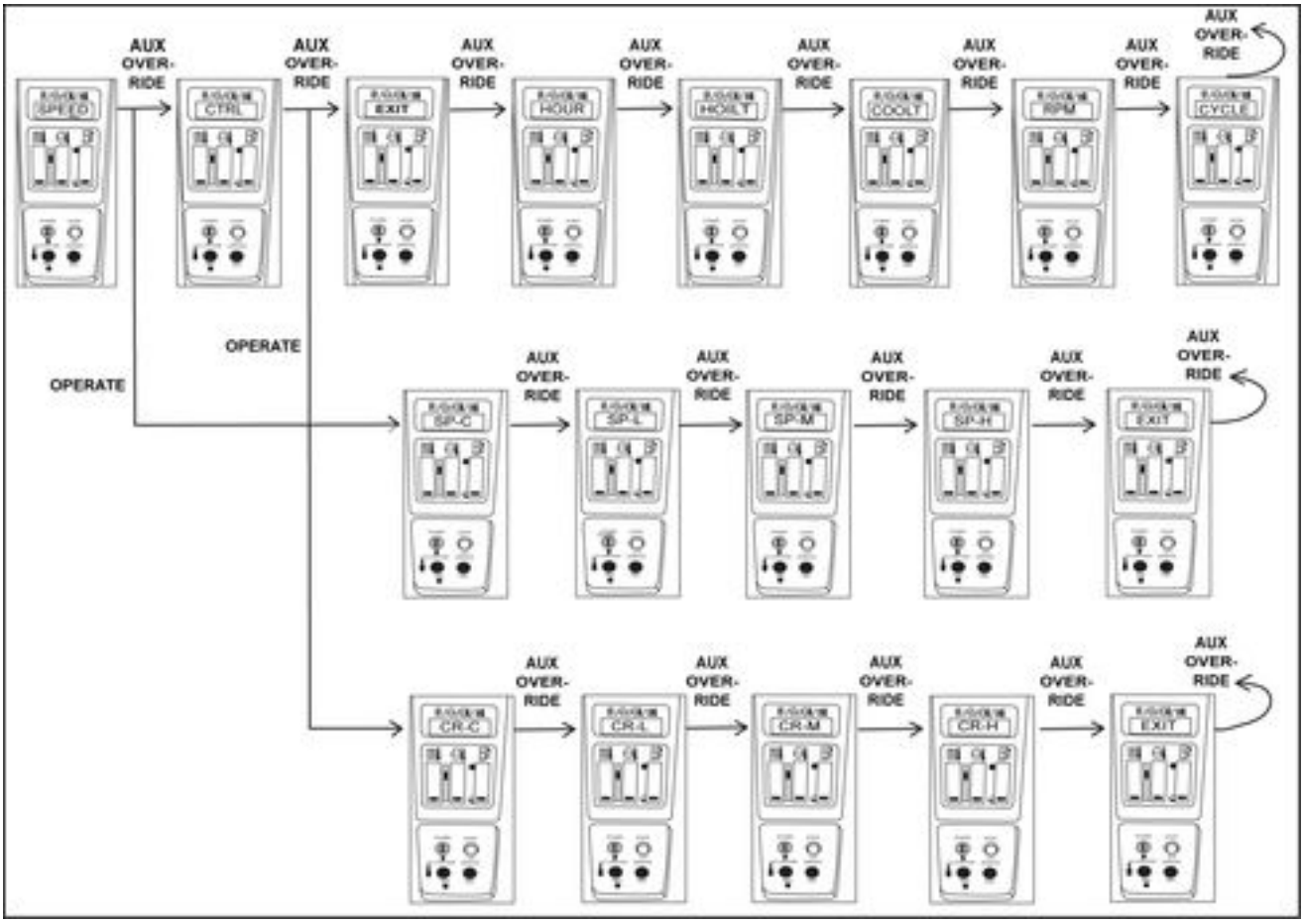
Customize settings

- Custom settings SP-C and CR-C allow you to fully customize the EH settings using the setup menu.
- SP-C sets to the SETUP menu SPEEd settings: DRIVE, LIFT, and TILT. CR-C sets to setup menu CRTL settings DRIVE and L-ARM.
- If you do not use the “Setup” menu to customize settings, SP-C and CR-C will be set by default.



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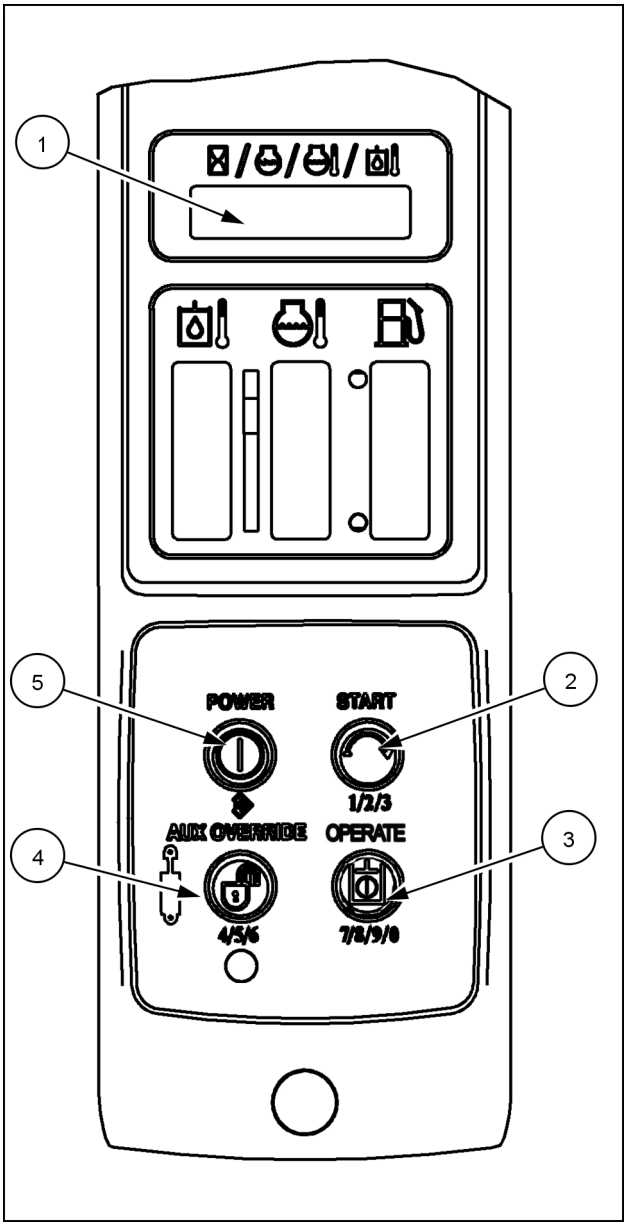
To modify the owner code:

Once in the LOCK menu, the display will show OWNER. Press the POWER button to enter the OWNER menu. The display will show open followed by 00000.

1. Enter the current owner code by using multiple presses of the START button **(2)**, AUX OVERRIDE button **(4)**, and OPERATE button **(3)**. Press the POWER button **(5)** to save each digit and move to the next.

   NOTE: *For numbers 1, 2, 3 use the START button. For numbers 4, 5, 6 use the AUX OVERRIDE button. For numbers 7, 8, 9, 0 use the OPERATE button.*

2. Press the POWER button **(5)** after the fifth digit to save the code. The display **(1)** will show the word OWNCR followed by the saved owner code.
3. Enter a new owner code to overwrite the existing code. The panel will return to the “Setup” menu.



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Operating in extreme temperatures

⚠ WARNING

Explosion hazard!
DO NOT use ether starting fluid. Explosion, death, serious personal injury, or serious engine damage could occur.
Failure to comply could result in death or serious injury.

W0148B

Operating in cold weather

Cold weather conditions require specific procedures. During these conditions your machine will require special attention to prevent serious damage. Cold weather maintenance will extend the service life of the machine.

Cold weather increases the viscosity of the oil in the hydraulic system. Cold oil can cause changes in the operational characteristics of the machine, particularly in machines equipped with the electro-hydraulic control system. It is recommended to warm the machine to sufficient operating temperature and take care when starting and stopping, and making steering adjustments until you are comfortable with the controls.

Allow extra time during cold weather to bring the machine and components up to operating temperature. Run the engine below **1500 RPM** until the engine temperature rises. Once the engine temperature rises, throttle the engine up to operating speed and operate the machine. DO NOT run the engine at idle speed for extended periods. This will help to extend the engine and Diesel Particulate Filter (DPF) life.

NOTE: *Contact your dealer for approved cold temperature starting aids.*

NOTE: *At cold ambient temperatures the engine speed will be automatically limited by the electronic engine control system until the engine has reached a warm operating temperature. This is to protect the engine system. During this time, the engine throttle controls will be unresponsive.*

Battery and electrical system

Clean the battery and make sure it is at full charge. Inspect the battery cables and terminals. Clean and spray the terminals with battery terminal protector to prevent corrosion.

A fully charged battery at **-17 °C** (**0 °F**) has only **40 %** of the normal starting power.

Lubricants

Use the correct viscosity oil in each component based on climate condition. Consideration for extreme temperatures and the correct viscosity are recommended.

Diesel fuel system

Verify with your fuel supplier for the correct cold weather fuel. Diesel engine power will be reduced if wax particles are in the fuel filter. Consult your dealer for the best fuel for these machines.

Cold temperature operation can cause moisture condensation in the fuel tank. Keep the fuel tank full and check for water frequently.

NOTICE: *Failure to remove water from the fuel may result in an inoperative engine and damage to the fuel system.*

Cooling system

Keep the coolant at the correct level in the reservoir and radiator. Use **CASE AKCELA ACTIFULL™ OT EXTENDED LIFE COOLANT** premix (**50 %** concentrate and 50% distilled water). This mixture protects the engine cooling system to **-35.0 °C** (**-31.0 °F**).

Keep dirt and debris from restricting air flow to the radiator and coolers. Take extra precaution to monitor build up while operating.

Improper fan belt tension may cause an overheating issue.

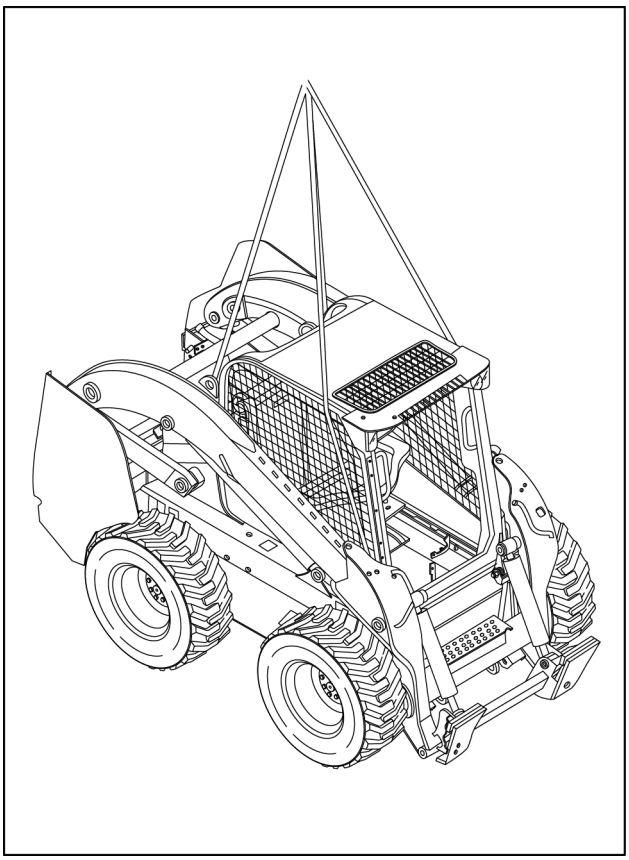
SV300 and TV380

Front sling requirements:

- Two synthetic slings **3.7 m** (**12.0 ft**) in length.
- Each sling must have a rated lifting capacity of equal to or greater than 0.501 x Gross Vehicle Weight (GVW).

Rear sling requirements:

- Two chains approximately **2.2 m** (**7.2 ft**) in length. Some adjustment may be required for a level lift.
- Each chain must have a rated lifting capacity of equal to or greater than 0.729 x Gross Vehicle Weight (GVW).



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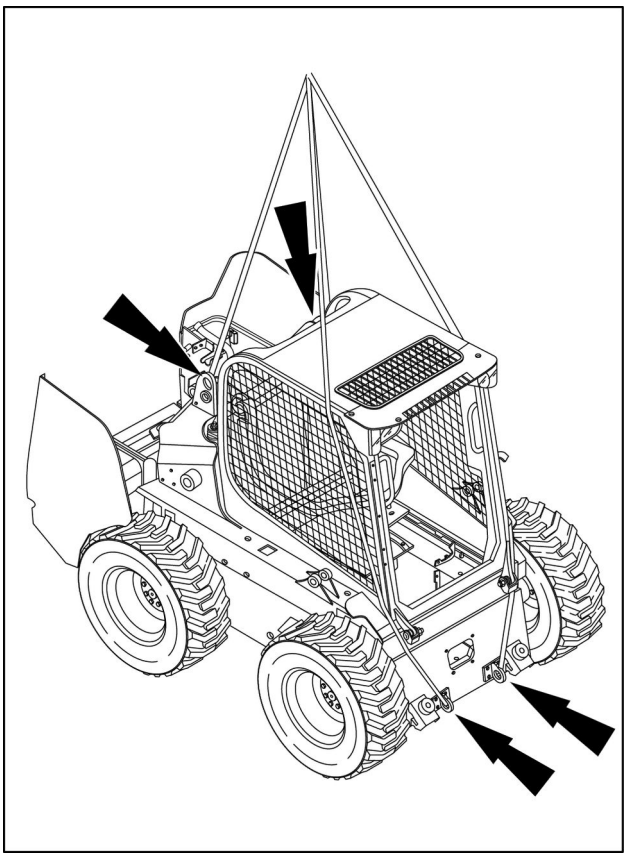
NOTE: *For a clear view of the machine's lifting points and the sling routing the loader arm is not shown. Do not remove the loader arms.*

At each of the machine's lifting points will be a lifting point decal.



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Job layout

For efficient operation, arrange the job to minimize the time required to perform the work cycle. In spotting the dump site, consider wind direction, and ground slope. Whenever possible, position the dump site so that the wind will carry dust away from the operator. Before the operator begins work, take a few minutes to level off the work area if it is not smooth. Minimize transport distances for a faster work cycle.

Operating load capacities

⚠ WARNING

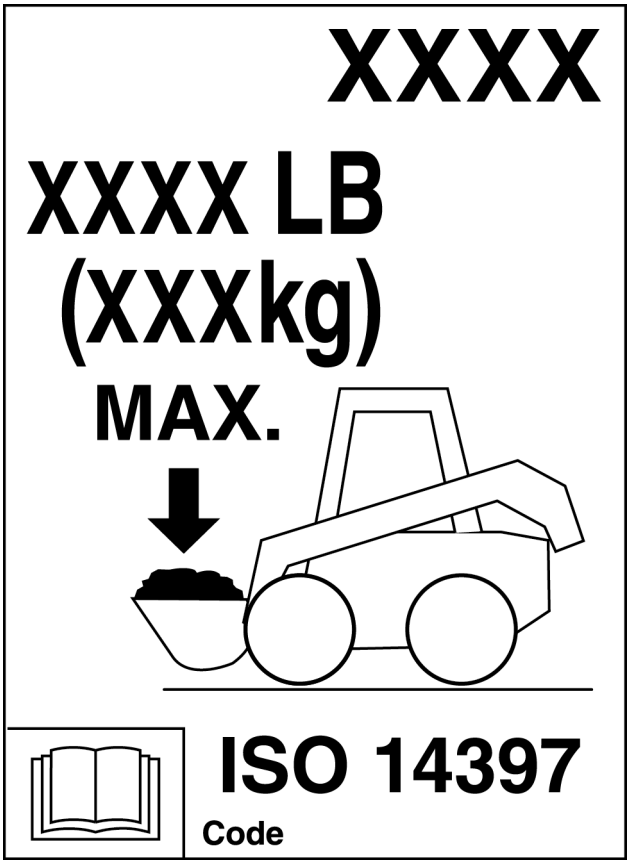
Overturning hazard!
The operator must know the correct OPERATING LOAD capacity of the machine before attempting to operate the machine. Always follow the recommended load limits.
Failure to comply could result in death or serious injury.

W0216A

⚠ WARNING

Roll-over hazard!
Overloading the rated capacity of the machine could cause the machine to roll over. Always follow the recommended load limits. Never overload the rated capacity of the machine.
Failure to comply could result in death or serious injury.

W0217A



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See page **9-1** for a list of models and specifications. For your specific machine, see the decal on your machine for the operating load capacity. The decal is located on the cab right-hand console post. If you have questions about the load capacity of your machine, contact your dealer.

- Before starting work, familiarize yourself with the work area. Locate holes, obstacles, and debris that can be cleared from the site. Be aware that the job site may change repeatedly during the course of the work day.
- Locate any unavoidable danger areas such as, power lines, bridges, and tight corners to make sure that you can operate safely in these areas.
- Confirm the possibility of other personnel in the machine vicinity and clear the area of unauthorized personnel.
- If possible, arrange the job site to minimize the time required to perform the work cycle. Consider wind direction and ground slope. Position the dump site so that the wind will carry dust and dirt away from the operator.
- Use low range for maximum machine efficiency.

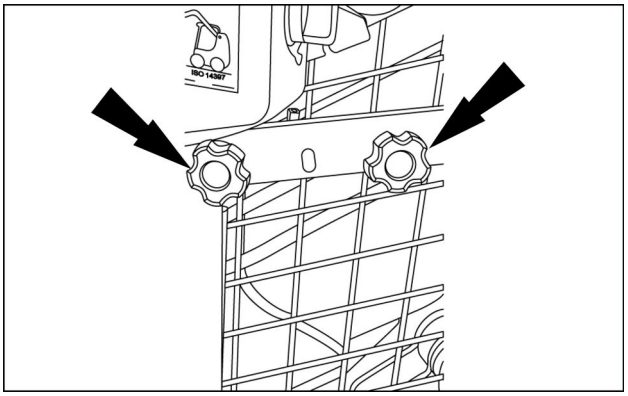
Window removal and cleaning

NOTICE: *DO NOT change the window position without properly locking the window latch! Improper use WILL result in premature wear.*

Removal

It is very important that the windows stay clean, clear, and visible. Debris on window can severely obstruct the operator's vision. Follow the instructions provided to remove the side windows for cleaning.

1. Loosen the four engagement knobs at both ends of the window, until they are backed out about **13 mm** (**0.5 in**).



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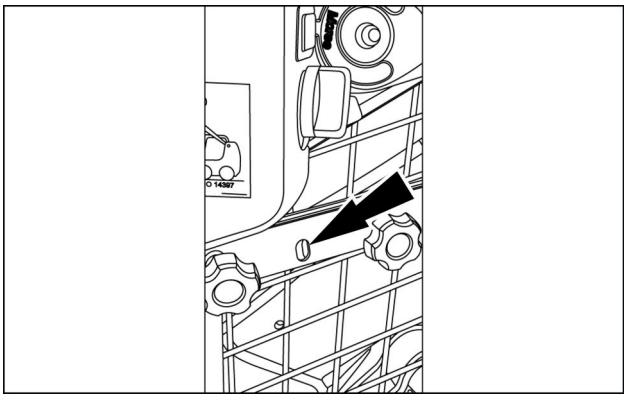
2. Slide the front two knobs and the rear two knobs toward the center of the window until the green indicator has changed to red. Now the window bar can drop down slightly, allowing the top of the window to drop down just below the window frame.



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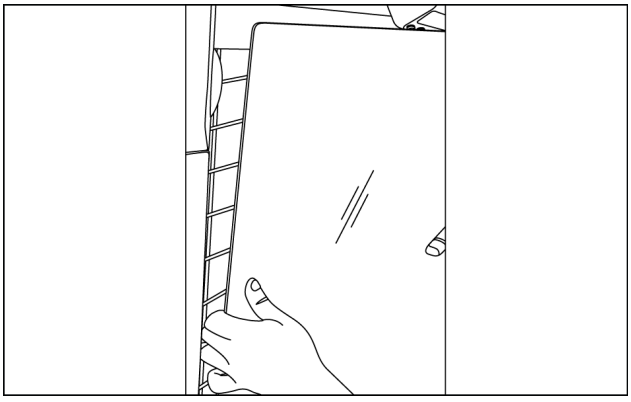
NOTE: *The restraint bar must be in the operating position for window removal.*

3. Tilt the top of the forward most window inward so it can be lifted up and out for proper window cleaning.



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Organic Acid Technology (OAT) coolant

Depending on the date of manufacture, your cooling system may be equipped with conventional ethylene glycol coolant such as **CNH XHD HEAVY DUTY COOLANT / ANTI-FREEZE** or an Organic Acid Technology (OAT) coolant solution such as **CASE AKCELA ACTIFULL™ OT EXTENDED LIFE COOLANT**. You can easily identify **CASE AKCELA ACTIFULL™ OT EXTENDED LIFE COOLANT** by its yellow color. You should never mix the coolant types.

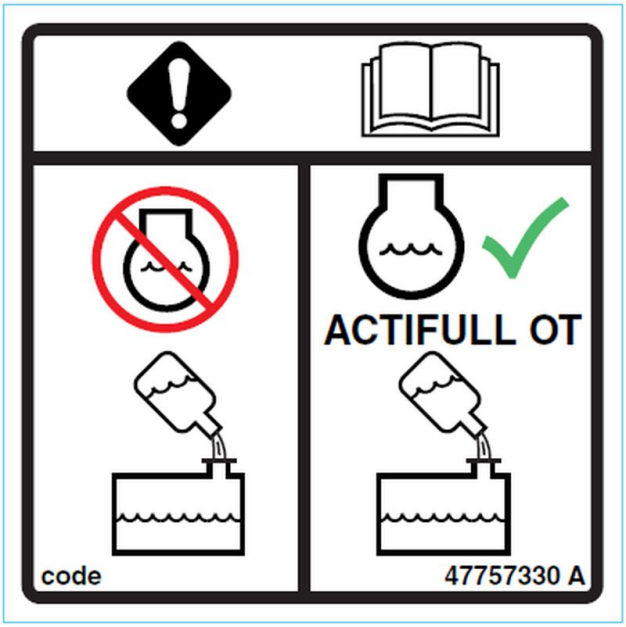
Depending on the date of manufacture, your cooling system may be equipped with conventional ethylene glycol coolant such as **CASE AKCELA PREMIUM ANTI-FREEZE** or an Organic Acid Technology (OAT) coolant solution such as **CASE AKCELA ACTIFULL™ OT EXTENDED LIFE COOLANT**. You can easily identify **CASE AKCELA ACTIFULL™ OT EXTENDED LIFE COOLANT** by its yellow color. You should never mix the coolant types.

The coolant solution used must meet the following CNH Industrial material specifications for either coolant type:

- **MAT3624** for OAT coolant
- **MAT3620** for conventional coolant

The decal shown is located near the fill point of the cooling system whenever the factory fill is **CASE AKCELA ACTIFULL™ OT EXTENDED LIFE COOLANT**. This decal is available in three different sizes. See the table below for the associated part numbers.

CNH Industrial part number	Size
47757330	**50 mm x 50 mm**
47757331	**75 mm x 75 mm**
47757332	**100 mm x 100 mm**



47757330 1

NOTICE: *NEVER mix OAT coolant with conventional coolant. Under no circumstances should you top off a cooling system with only water. You can use a refractometer to check the concentration level. You should not use Supplemental Coolant Additives (SCA) when using* ***CASE AKCELA ACTIFULL™ OT EXTENDED LIFE COOLANT****. Change the coolant solution at the recommended change interval.*

If you need to change a machine from conventional coolant to OAT coolant or vice versa, you should follow the “Changing coolant types” procedure below to attain the full benefit of the coolant.

Changing coolant types

To change coolant from OAT coolant to conventional coolant (or vice versa):

1. Empty the engine cooling system by draining the coolant into a suitable container.
2. Fill the system with clean water.
3. Start the engine and run the engine for at least **30 min**.

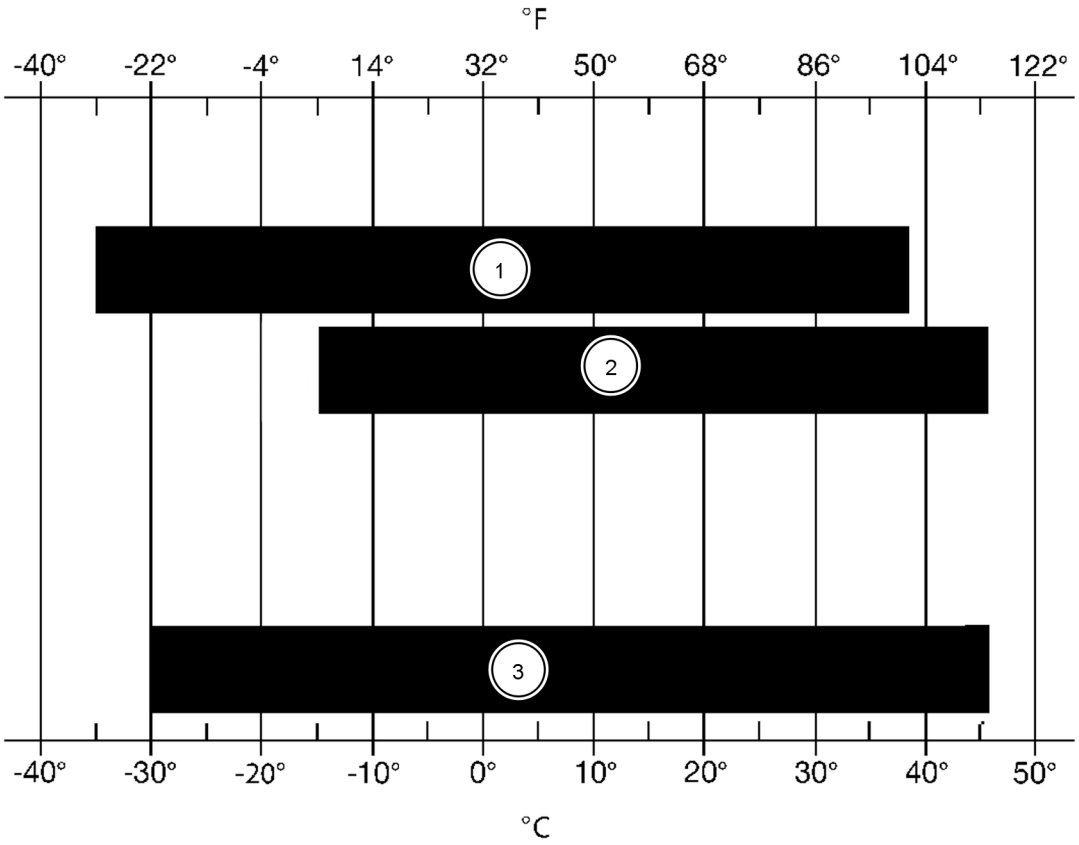
   NOTE: *Make sure that you activate the heating system (if equipped) to circulate fluid through the heater core.*
4. Repeat Steps 1 to 3 for a total of two washes.
5. Fill the system with conventional coolant (or OAT coolant).
6. Operate the engine until it is warm. Inspect the machine for leaks.
7. If you are changing to OAT coolant, then attach the decal (CNH Industrial part number **47757330**) to indicate the use of OAT coolant in the cooling system.

MAINTENANCE CHART

Maintenance chart

Maintenance action	Grease	Check	Cleaning	Drain fluid	Change fluid	Replace	Page no.
EVERY 10 HOURS OR DAILY							
Clean tracks and components			■				**7-26**
Wheels and tires		■					**7-28**
Engine and hydraulic coolers		■					**7-30**
Engine coolant level		■					**7-31**
Engine oil level		■					**7-32**
Loader arm pivot points, coupler pins, and cylinder pins	■						**7-33**
Hydraulic oil level		■					**7-34**
Seat belt, restraint bar, and seat interlock operation check		■					**7-36**
EVERY 50 HOURS							
Cab intake filter		■					**7-37**
Roll Over Protective Structure (ROPS) mechanism and hardware check		■					**7-38**
EVERY 250 HOURS							
Fuel prefilter				■			**7-39**
Drive chain tension check		■					**7-40**
EVERY 500 HOURS							
Engine oil and filter					■		**7-41**
Fuel prefilter						■	**7-43**
Fuel filter						■	**7-44**
Hydraulic oil filter						■	**7-45**
Final drive chain tank oil		■					**7-46**
Air cleaner elements						■	**7-47**
Hardware - loose or damaged		■					**7-49**
Final drive oil (track models)					■		**7-49**
EVERY 1000 HOURS							
Hydraulic fluid and filter				■			**7-50**
Final drive chain tank oil				■			**7-55**
EVERY 2000 HOURS							
Engine coolant					■		**7-56**
Blow-by recirculation filter						■	**7-58**
EVERY 4000 HOURS							
Diesel Particulate Filter (DPF)	■						**7-59**
AS REQUIRED							
Auto-regeneration	■						**7-59**
Manual regeneration	■						**7-60**

Hydraulic oil



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Block	Viscosity	Temperature range
(1)	**CASE AKCELA HYDRAULIC EXCAVATOR FLUID**	**-35 - 38 °C** (**-31 - 100 °F**)
(2)	**CASE AKCELA ENGINE OIL 10W-30**	**-15 - 46 °C** (**5 - 115 °F**)
(3)	**CASE AKCELA UNITEK NO. 1™ SSL CJ-4 SAE 0W-40**	**-30 - 46 °C** (**-22 - 115 °F**)

NOTE: *CNH recommends SAE10W–30 for applications where continuous operations above **38 °C (100 °F)** ambient temperature or frequent roading applications (above 20 to 30 minutes) are common.*

NOTE: *CNH recommends **CASE AKCELA HYDRAULIC EXCAVATOR FLUID** for improved cold weather operation. Standard factory fill oil **CASE AKCELA ENGINE OIL 10W-30** is acceptable for cold weather operation when sufficient warm up time is provided.*

Hydraulic oil filter

⚠ WARNING

Burn hazard!
Do not handle engine coolant, engine oil, or hydraulic oil at temperatures that exceed 49 °C (120 °F). Allow fluids to cool before proceeding.
Failure to comply could result in death or serious injury.

W0330A

The hydraulic oil filter should be replaced every 500 hours of operation or if the warning lamp illuminates.

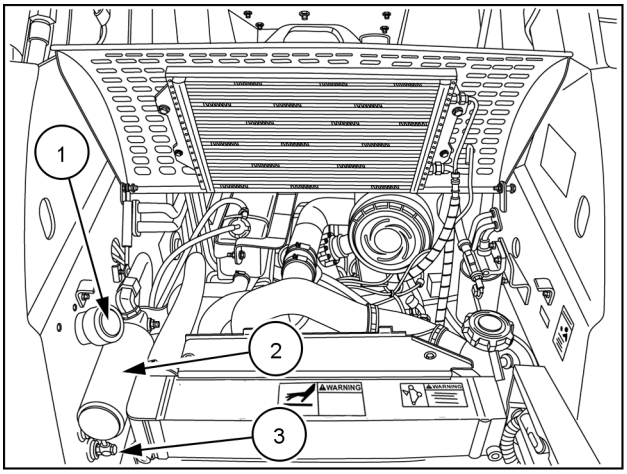
Hydraulic oil specifications – **CASE AKCELA ENGINE OIL 10W-30**

NOTICE: *Replace the hydraulic oil filter after 20 hours of operation if a major hydraulic component has been replaced.*

1. Remove any attachments and place the machine on firm level ground.
2. Open the engine hood and rear service door. Engage the rear service door latch located near the lower hinge.
3. Locate the Hydraulic oil filter **(2)** to the left of the radiator, see Figure 1 for radial machines and Figure 2 for vertical machines. Check funnel and drain hose are secure and reposition the drain hose.
4. Slowly loosen the hydraulic fill cap **(1)** to relieve pressure in the system. Leave the cap on, but loose.
5. Clean the area around the hydraulic filter.
6. Turn hydraulic filter counter-clockwise and remove. Dispose of the filter and oil properly.
7. Apply a thin layer of clean oil on the o-ring of the new filter.
8. Install the filter. Hand tighten the filter 1/2 to 3/4 turn after the filter o-ring touches the filter head.

NOTICE: *DO NOT use a filter strap wrench to tighten the filter. Hand tighten only.*

9. Start the engine and check for oil leaks around the hydraulic filter.
10. Check the fluid level. The oil level should be within the middle one third of the sight glass **(3)**. Add oil as required.
11. Unlatch/close rear service door and close engine hood.



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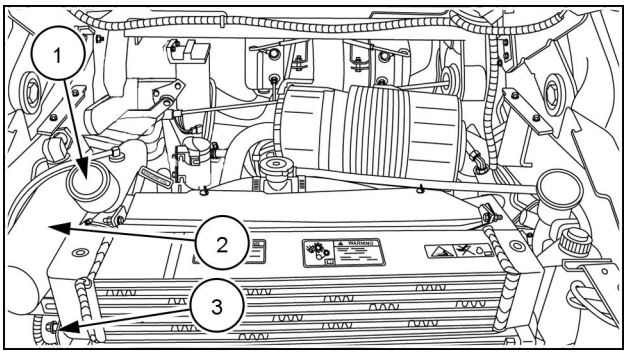

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Final drive chain tank oil

Change the oil in the chain tanks every 1000 hours of operation.

Final drive chain oil specification – **CASE AKCELA ENGINE OIL 10W-30**

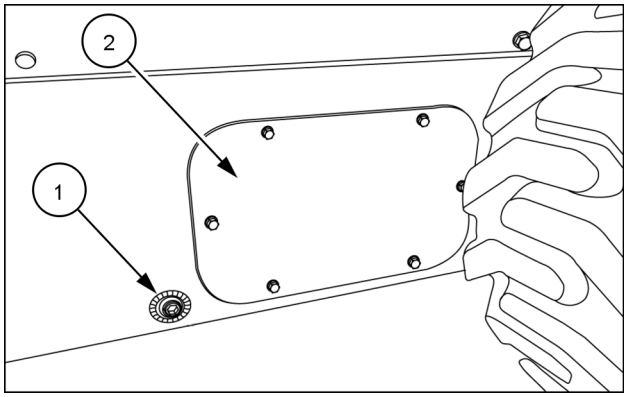
SR250 and SV300 models only

1. Park the machine on firm level surface.
2. Clean the area around the chain tank drain plugs (not shown), located on the bottom of the drive chain tank, near the rear of the drive chain tank, one on each side.
3. Clean the area around the chain tank fill/level plug **(1)**.
4. Place a suitable container under the chain tank and slowly remove the tank drain plug.

NOTE: *Use a jack and raise the front of the machine slightly for better draining.*

5. Remove the chain tank fill/level plug **(1)**.
6. After the oil has been completely drained, replace the chain tank drain plug.
7. Fill the tank with new oil and replace the chain tank fill/level plug **(1)**.

NOTE: *Use* ***LOCTITE® 545™*** *or an equivalent product on the threads of the plugs.*



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Capacity - each side	
SR250 and SV300	**22.2 L (23.5 US qt)**
Specifications	**CASE AKCELA ENGINE OIL 10W-30**

8. Repeat this procedure for the other side.

NOTE: *The chain tank may be cleaned with a solvent based cleaner by removing the inspection cover* ***(2)*** *on each side, after the oil has been removed. Allow the tank to dry thoroughly before filling with oil.*

8 - TROUBLESHOOTING

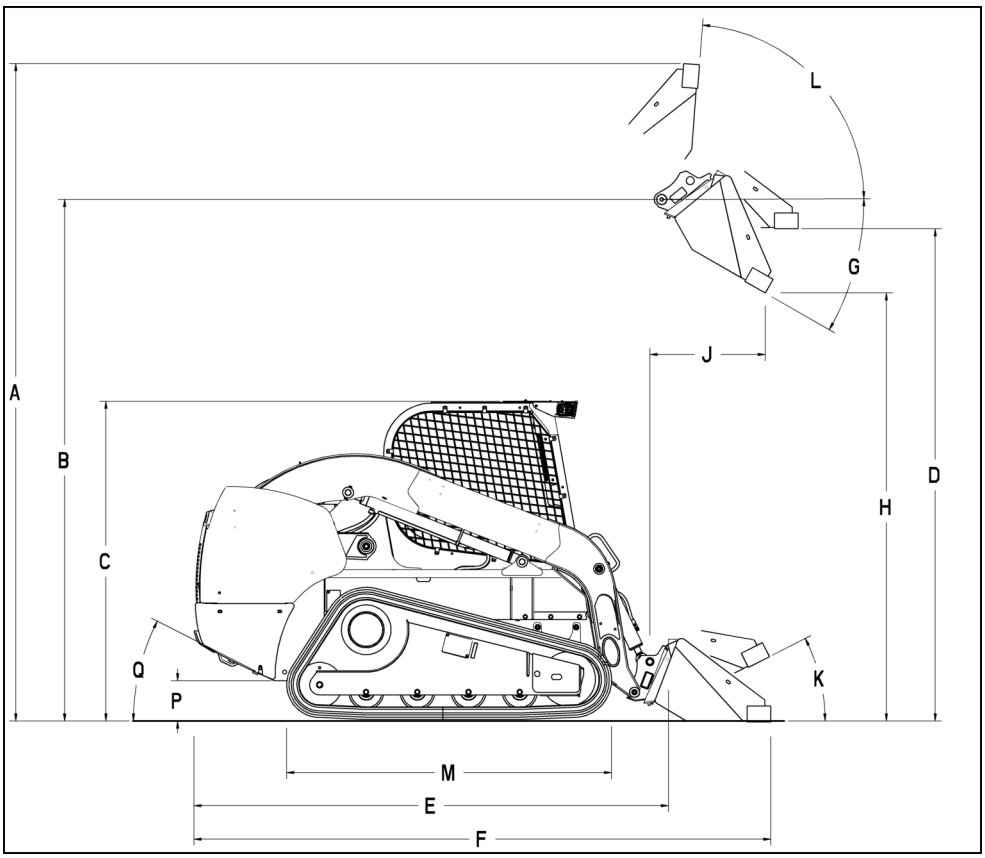
FAULT CODE RESOLUTION

Display warnings

The table provides a list of messages that may appear on the instrument cluster display, the possible cause, and the corrective action the operator may take.

Message on the display	Possible cause	Action
ATS FAIL	The Diesel Particulate Filter (DPF) system and/or Exhaust Gas Recirculate (EGR) system detected a malfunction.	Follow the manual regeneration procedure in this manual.
		Contact your dealer if ATS FAIL continues to appear.
CRKON	The OPERATE button is being pressed while attempting to start the machine.	Do not push the OPERATE button while attempting to start the machine.
ENG OIL SERV	The instrument cluster is telling the operator that the machine needs an engine oil change.	Replace the engine oil, filter, and reset the oil life meter on the instrument cluster.
EOLT	The instrument cluster does not have the latest software.	Contact your dealer.
JOYNU	One or both of the control levers are not in the neutral position.	Move the control levers to the neutral position.
	One or both of the control levers are not calibrated correctly.	Contact your dealer.
LOCK?	The instrument cluster is asking the operator if he/she wants to lock the machine to prevent unwanted machine operation.	No action needed. The machine is working as designed. Do not press the AUX OVERRIDE button. This will lock the machine controls. You will not be able to start the machine without an owner's code if the AUX OVERRIDE button has been pressed.
OPRPR	The restraint bar is not engaged.	Release and re-engage. Contact your dealer if the problem continues.
	The seat switch does not detect an operator in the machine.	Contact your dealer.
30 s count down	The instrument cluster detected a critical machine error which will result in an engine shutdown.	Contact your dealer.

FAULT CODE	ENGINE TYPE	DETECTED BY	FAULT DESCRIPTION
4782	F5H	UCM	Two speed: Solenoid Supply Short to Ground
4783	F5H	UCM	Two speed: Solenoid Supply Short to Power
4951	F5H	IC	Hydraulic Enable (Mechanical Machines) - Short to Power
4952	F5H	IC	Hydraulic Enable (Mechanical Machines) - Open Circuit
5051	F5H	UCM	Hydraulics Enable: Solenoid Supply Open Circuit
5052	F5H	UCM	Hydraulics Enable: Solenoid Supply Short to Ground
5053	F5H	UCM	Hydraulics Enable: Solenoid Supply Short to Power
5061	F5H	UCM	Loader Port Lock: Solenoid Supply Open Circuit
5062	F5H	UCM	Loader Port Lock: Solenoid Supply Short to Ground
5063	F5H	UCM	Loader Port Lock: Solenoid Supply Short to Power
5121	F5H	UCM	Boom Raise/Lower: Pin A Short to Power / Short to Ground / Open Circuit
5121	F5H	UCM	Ground Drive: Pin A Short to Power / Short to Ground / Open Circuit
5122	F5H	UCM	Boom Raise/Lower: Pin B Short to Power / Short to Ground / Open Circuit
5122	F5H	UCM	Ground Drive: Pin B Short to Power / Short to Ground / Open Circuit
5124	F5H	UCM	Boom Raise/Lower: In-Range Fault
5124	F5H	UCM	Ground Drive: In-Range Fault
5131	F5H	UCM	Bucket Rollback / Dump: Pin A Short to Ground / Open Circuit
5132	F5H	UCM	Bucket Rollback / Dump: Pin A Short to Power
5134	F5H	UCM	Bucket Rollback / Dump: Pin B Short to Ground / Open Circuit
5135	F5H	UCM	Bucket Rollback / Dump: Pin B Short to Power
5137	F5H	UCM	Bucket Rollback / Dump: In-Range Fault
5141	F5H	UCM	Aux Control Function: Pin A Short to Ground / Open Circuit
5142	F5H	UCM	Aux Control Function: Pin A Short to Power
5144	F5H	UCM	Aux Control Function: Pin B Short to Ground / Open Circuit
5145	F5H	UCM	Aux Control Function: Pin B Short to Power
5147	F5H	UCM	Aux Control Function: In-Range Fault
5201	F5H	UCM	Boom Raise/Lower: Pin A Short to Power / Short to Ground / Open Circuit
5201	F5H	UCM	Ground Drive: Pin A Short to Power / Short to Ground / Open Circuit
5202	F5H	UCM	Boom Raise/Lower: Pin B Short to Power / Short to Ground / Open Circuit
5202	F5H	UCM	Ground Drive: Pin B Short to Power / Short to Ground / Open Circuit
5204	F5H	UCM	Boom Raise/Lower: In-Range Fault
5204	F5H	UCM	Ground Drive: In-Range Fault
5211	F5H	UCM	Ground Drive: Pin A Short to Ground / Open Circuit
5212	F5H	UCM	Ground Drive: Pin A Short to Power
5214	F5H	UCM	Ground Drive: Pin B Short to Ground / Open Circuit
5215	F5H	UCM	Ground Drive: Pin B Short to Power
5217	F5H	UCM	Ground Drive: In-Range Fault
5221	F5H	UCM	Boom Raise/Lower: Solenoid Raise (A) Supply Open Circuit
5222	F5H	UCM	Boom Raise/Lower: Solenoid Raise (A) Supply Short to Ground
5231	F5H	UCM	Boom Raise/Lower: Solenoid Lower (B) Supply Open Circuit
5232	F5H	UCM	Boom Raise/Lower: Solenoid Lower (B) Supply Short to Ground
5241	F5H	UCM	Boom Raise/Lower: Loader Arm Solenoid(s) Short to Power
5242	F5H	UCM	Boom Raise/Lower: Loader Arm Solenoid(s) Short to Ground
5243	F5H	UCM	Boom Raise/Lower: Solenoids Return Open Circuit
5251	F5H	UCM	Bucket Rollback / Dump: Solenoid Rollback (A) Supply Open Circuit
5252	F5H	UCM	Bucket Rollback / Dump: Solenoid Rollback (A) Supply Short to Ground
5261	F5H	UCM	Bucket Rollback / Dump: Solenoid Dump (B) Supply Open Circuit
5262	F5H	UCM	Bucket Rollback / Dump: Solenoid Dump (B) Supply Short to Ground
5271	F5H	UCM	Bucket Rollback / Dump: Loader Bucket Solenoid(s) Short to Power
5272	F5H	UCM	Bucket Rollback / Dump: Loader Bucket Solenoid(s) Short to Ground
5273	F5H	UCM	Bucket Rollback / Dump: Solenoids Return Open Circuit
5281	F5H	UCM	Aux Control Function: Solenoid Forward (A) Supply Open Circuit
5282	F5H	UCM	Aux Control Function: Solenoid Forward (A) Supply Short to Ground
5291	F5H	UCM	Aux Control Function: Solenoid Reverse (B) Supply Open Circuit



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LARGE VERTICAL FRAME TRACK UNITS (TV380)

LOCATION	COMPONENT	MEASUREMENT
A	Overall Operating Height (Fully Raised)	**4113 mm** (**161.9 in**)
B	Height to Hinge Pin (Fully Raised)	**3342 mm** (**131.6 in**)
C	Cab Height	**2043 mm** (**80.4 in**)
D	Highest Level Bucket Height	**3169 mm** (**124.8 in**)
E	Overall Length (No Attachment)	**2990 mm** (**117.1 in**)
F	Overall Length (With std Bucket)	**3604 mm** (**141.9 in**)
G	Dump Angle (Fully Raised)	**53.5 °**
H	Dump Height (Maximum Reach)	**2669 mm** (**105.1 in**)
J	Dump Reach (Fully Raised)	**726 mm** (**28.6 in**)
K	Maximum Rollback at Ground	**34.2 °**
L	Maximum Rollback (Fully Raised)	**86 °**
P	Ground Clearance (Belly Pan)	**243 mm** (**9.5 in**)
Q	Angle of Departure	**32 °**
NOTE: *All measurements are based on machines with a* ***1980 mm*** *(**78.0 in**) Heavy Dirt (HD) bucket.*		