SR270
SV300
Tier 4B (final)
Alpha Series Skid Steer Loader

SR270 PIN NFM481941 and above
SV300 PIN NFM470295 and above

TR340
TV380
Tier 4B (final)
Alpha Series Compact Track Loader

TR340 PIN NFM482972 and above
TV380 PIN NFM483044 and above

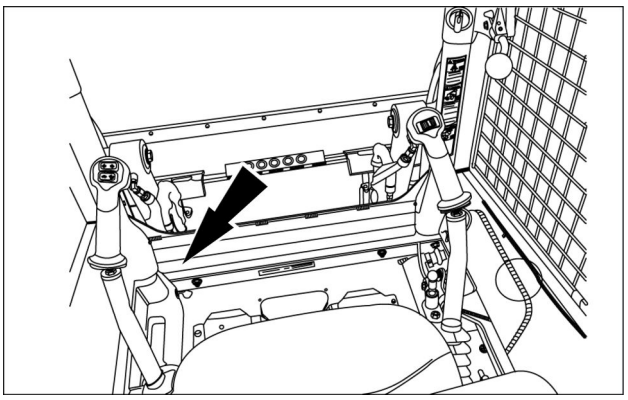
OPERATOR'S MANUAL

Part number 47837619
1st edition English
March 2015

CASE CONSTRUCTION

Roll Over Protective Structure (ROPS) certification plate.

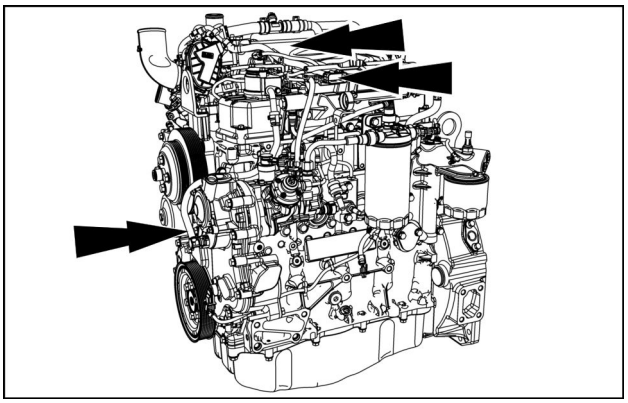
- Front edge (lower) inside cab.



931007505A 3

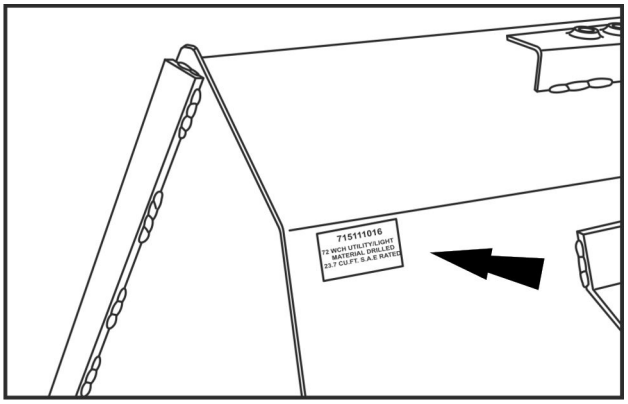
Engine serial number plate location

- 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



23119866 4

Bucket identification plate.



BT04F026-01 5

Before you leave the machine:

1. Park the machine on a firm, level surface.
2. Lower all hydraulic equipment — Implements, header, etc.
3. Put all controls in neutral or park lock position.
4. Engage the parking brake.
5. Turn off the engine and if applicable remove the key.
6. Exit the machine.
7. Use wheel chocks if required.

If you would decide to keep the engine running and leave the operator's station, then you must follow these precautions:

1. Bring the engine to low idle speed.
2. Lower all hydraulic equipment.
3. Place all controls in their neutral position.
4. Apply the parking brake.
5. Exit the machine.

⚠ General maintenance safety ⚠

Keep the area used for servicing the machine clean and dry. Clean up spilled fluids.

Service the machine on a firm, level surface.

Install guards and shields after you service the machine.

Close all access doors and install all panels after servicing the machine.

Do not attempt to clean, lubricate, clear obstructions, or make adjustments to the machine while it is in motion or while the engine is running.

Always make sure that working area is clear of tools, parts, other persons and pets before you start operating the machine.

Unsupported hydraulic cylinders can lose pressure and drop the equipment, causing a crushing hazard. Do not leave equipment in a raised position while parked or during service, unless the equipment is securely supported.

Jack or lift the machine only at jack or lift points indicated in this manual.

Incorrect towing procedures can cause accidents. When you tow a disabled machine follow the procedure in this manual. Use only rigid tow bars.

Stop the engine, remove the key, and relieve pressure before you connect or disconnect fluid lines.

Stop the engine and remove the key before you connect or disconnect electrical connections.

Scalding can result from incorrect removal of coolant caps. Cooling systems operate under pressure. Hot coolant can spray out if you remove a cap while the system is hot. Allow the system to cool before you remove the cap. When you remove the cap, turn it slowly to allow pressure to escape before you completely remove the cap.

Replace damaged or worn tubes, hoses, electrical wiring, etc.

The engine, transmission, exhaust components, and hydraulic lines may become hot during operation. Take care when you service such components. Allow surfaces to cool before you handle or disconnect hot components. Wear protective equipment when appropriate.

When welding, follow the instructions in the manual. Always disconnect the battery before you weld on the machine. Always wash your hands after you handle battery components.

⚠ Wheels and tires ⚠

Make sure that tires are correctly inflated. Do not exceed any recommended load or pressure. Follow the instructions in the manual for proper tire inflation.

Tires are heavy. Handling tires without proper equipment could cause death or serious injury.

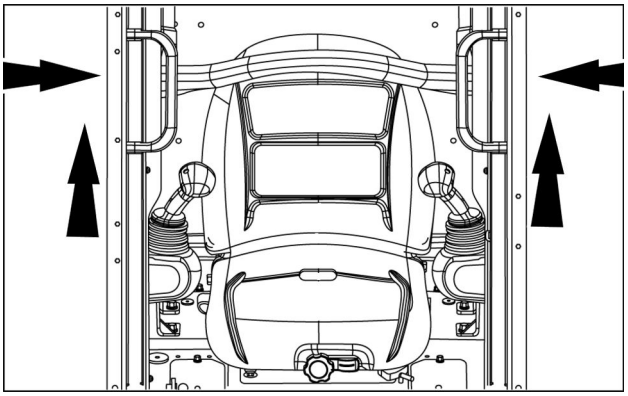
Always have a qualified tire technician service the tires and wheels. If a tire has lost all pressure, take the tire and wheel to a tire shop or your dealer for service. Explosive separation of the tire can cause serious injury.

DO NOT weld to a wheel or rim until the tire is completely removed. Inflated tires can generate a gas mixture with the air that can be ignited by high temperatures from welding procedures performed on the wheel or rim. Removing the air or loosening the tire on the rim (breaking the bead) will NOT eliminate the hazard. This condition can exist whether tires are inflated or deflated. The tire MUST be completely removed from the wheel or rim prior to welding the wheel or rim.

Seat restraint bar

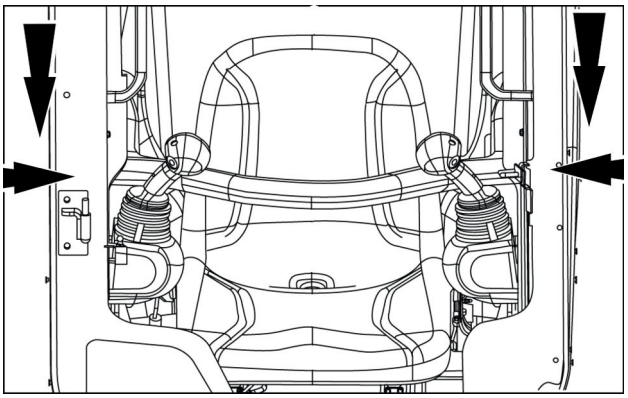
The restraint bar must be down in the operating position before starting.

Seat restraint bar in the raised position.



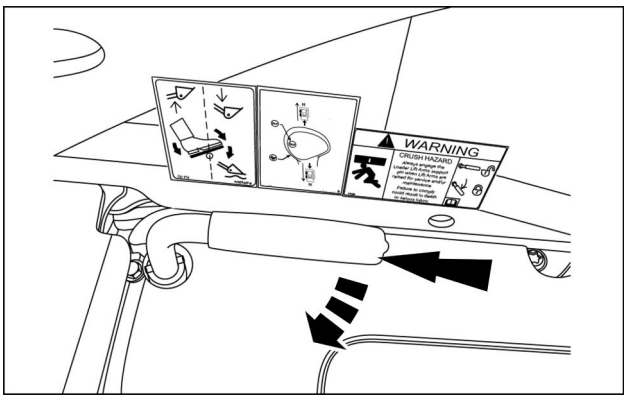
93109333 2

Seat restraint bar in the operating position.



93109307 3

6. Locate the loader arm lock lever on the right-hand side of the operator's seat.
7. Rotate the lock lever toward the operator's seat (clockwise) to engage the lock support pin(s).
8. Stop the engine.



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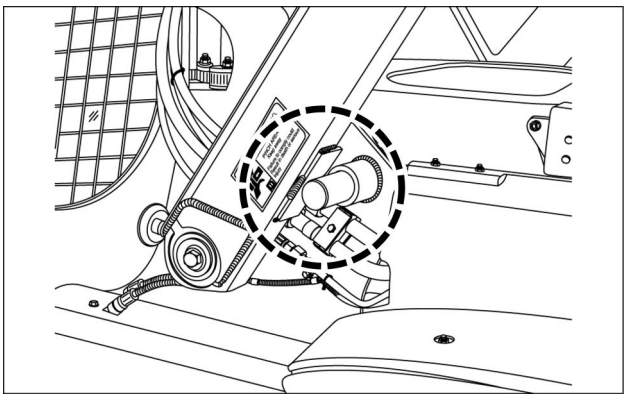
9. Pull up on the override control knob (red control knob near the right-hand side of the operator's seat). The loader will brace against the lock support pin and keep the loader arm in a raised position.

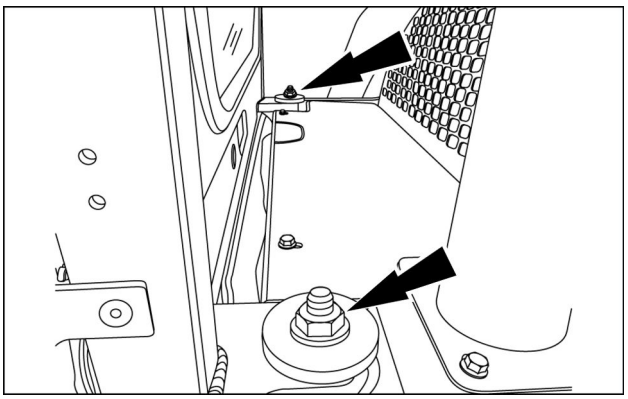
NOTE: *Only use the override control knob to lower the loader arm in emergency situations when engine power is not available or to lower it onto the lock support pin for servicing the machine.*



93107457 4

Tilt and lock the cab forward for machine service

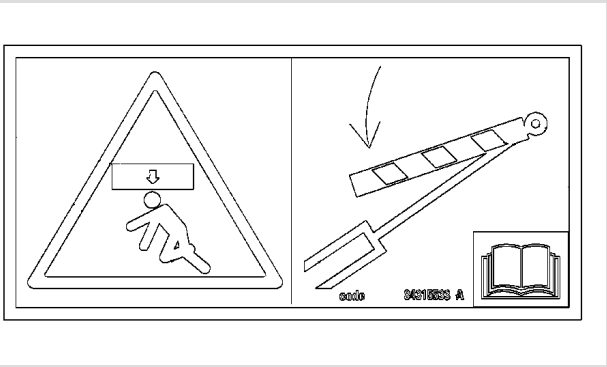
1. Remove the two, rear retaining nuts, located at the rear of the cab.



931001633 5

WARNING
CRUSH HAZARD
Always engage the loader lift arm support strut when the lift arms are raised for service and / or maintenance. Failure to comply could result in death or serious injury.

Quantity: 1
84315533



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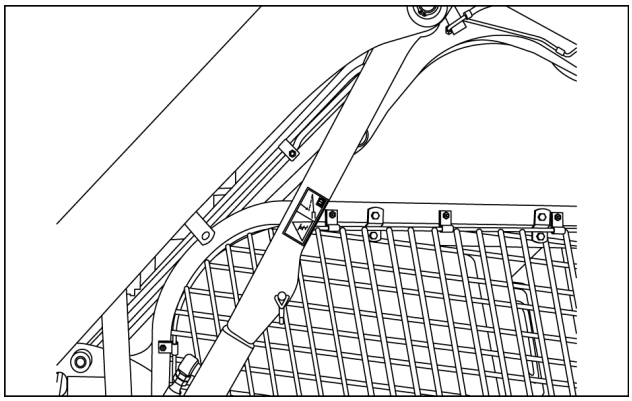
Location:
On the inside of lift arm above the support strut that is mounted on the right-hand side of the loader arm.



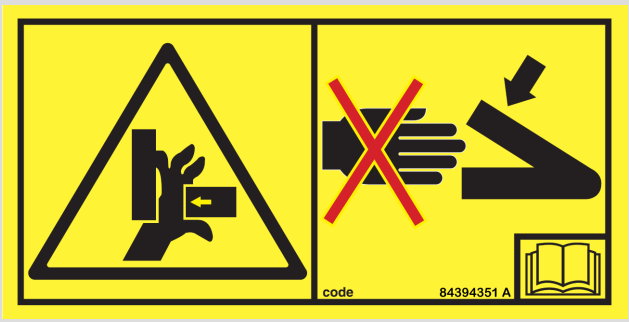
931002327 12

NOTE: *Read and understand the "Loader arm lock and cab tilt procedure - radial lift machines" page* ***2-18*** *in this manual.*

NOTE: *Only applicable to SR250 and TR320 machines.*

WARNING
PINCH HAZARD
Keep clear.
Failure to comply could result in death or serious injury.

Quantity: 2
84394351_A



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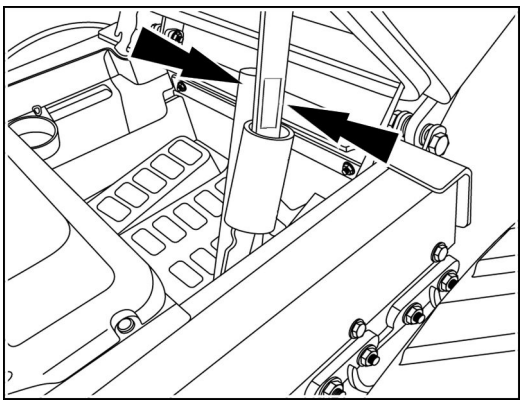
Location:
On each side of the upper link on the Roll Over Protective Structure (ROPS) lock mechanism.



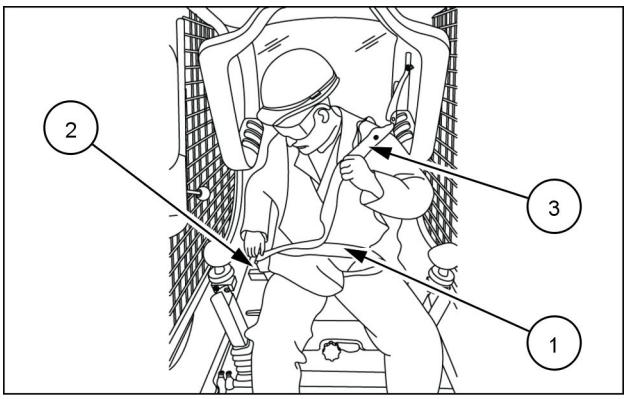
RAPH12SSL0420BA 14

Shoulder belt

Pull the seat belt retractable half **(1)** across the operator and buckle securely with the buckle half **(2)**.

A shoulder belt **(3)** is available from your dealer. Some machine configurations are equipped with a shoulder belt.

NOTE: *State or Local regulations may require a* ***3 in*** *webbing seat belt available through Dealer Service Parts. This belt may be necessary in some industrial applications. Check your local codes.*

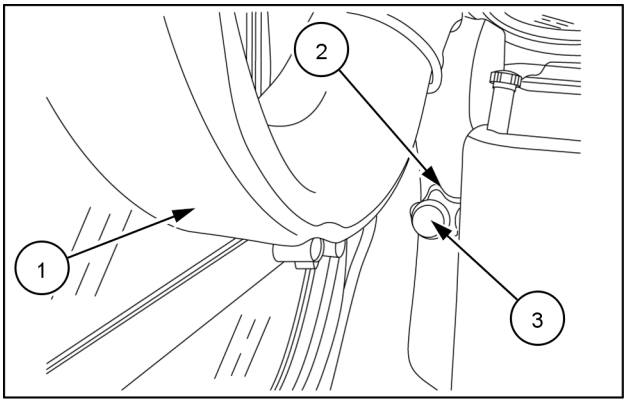


93109349 1

Restraint bar

The restraint bar can be adjusted for operator comfort.

1. Adjust the height of the restraint bar **(1)** by loosening the two lock knobs **(2)** located on each side where the restraint bar rests on the back of the cab.
2. Turn the adjusting stops **(3)** out to raise the resting position of the restraint bar and in to lower the position.
3. Adjust the stops **(3)** so the restraint bar rests on both of the stops evenly.
4. Tighten the lock knobs **(2)**.



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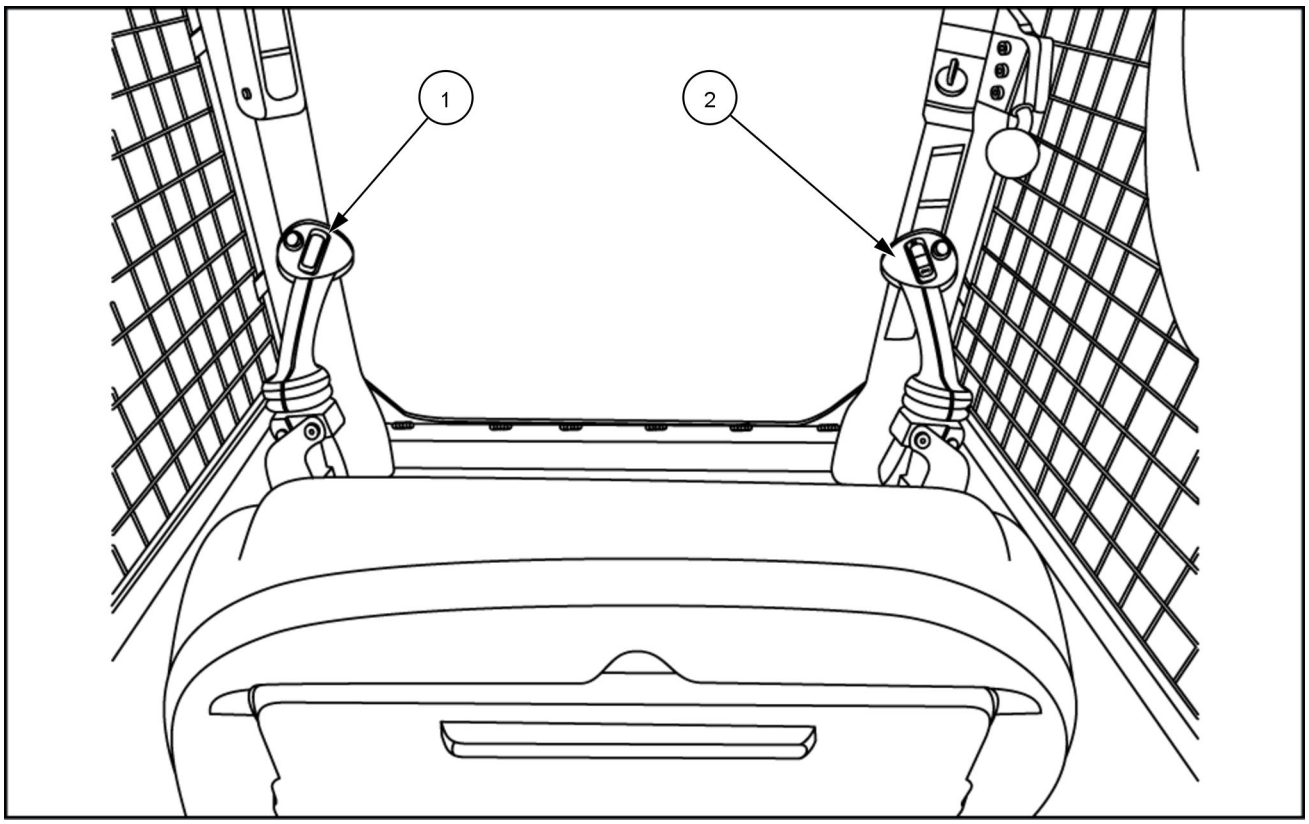
H control pattern lift arm and bucket controls

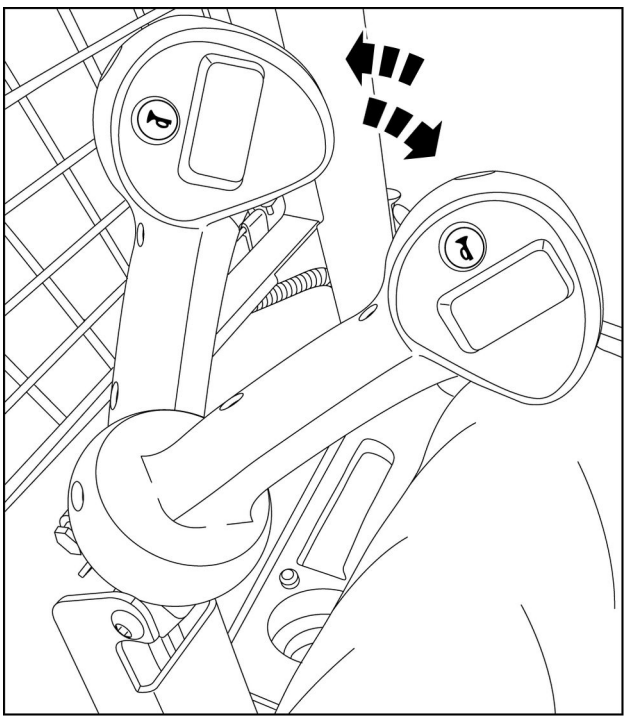
Lift arm raise/lower control



93109347C 1

Lift arm raise and lower control.

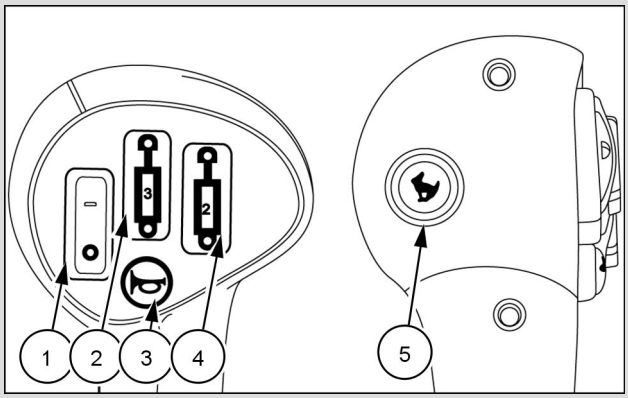
- The left-hand control lever **(1)** controls the lift arm. The lift arm will raise by pivoting the handle “UP” to the outside of the cab. Pivoting the handle “DOWN” to the inside of the cab will lower the lift arm.
- The lift arm spool is equipped with a detent “FLOAT” circuit if the operator wants the lift arm to float over changing ground contour.
  For the Electro-Hydraulic (EH) system, the float is engaged by pressing the float button on the right-hand control lever **(2)** and pushing the left-hand control lever **(1)** partially to the down stroke. If the operator has the left-hand control lever partially in the down stroke position and then presses the float button, the float will engage. To disengage the float, pull the left-hand control lever to the up stroke slightly.



RAIL13SSL0956BB 2

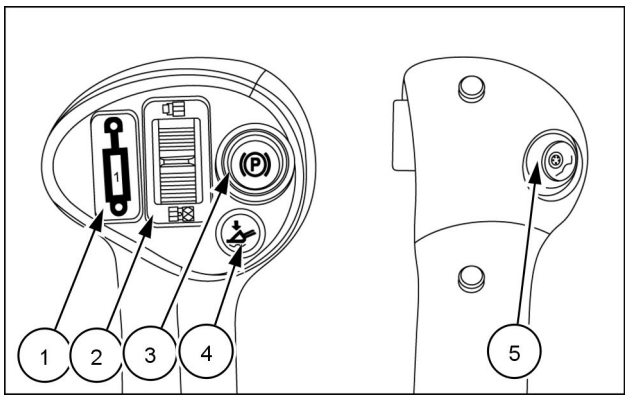
Level 550

Left side
(1) Multi-functional #4
(2) Multi-functional #3
(3) Horn
(4) Enhanced high flow switch
(5) 2 Speed



93109401 **15**

Right side
(1) Multi-functional #1
(2) Proportional auxiliary
(3) Park brake
(4) Float
(5) Ride control



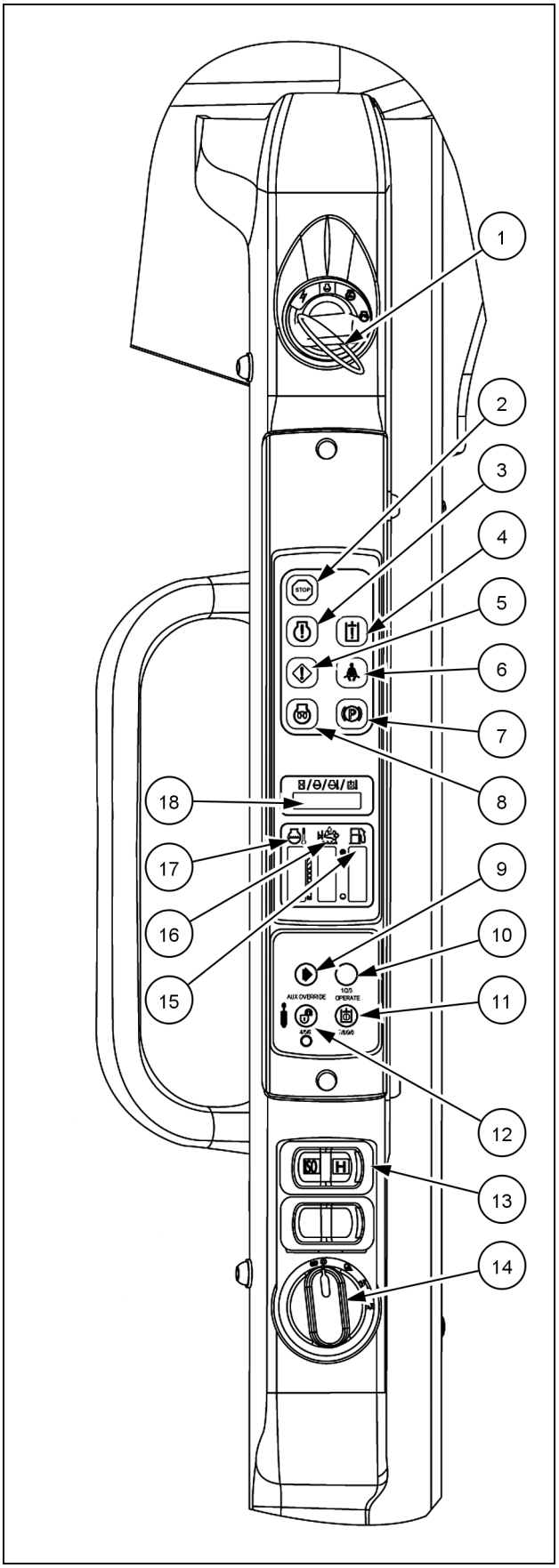
93109402 16

(9)	FUNCTION BUTTON
	Use this, when in the “Setup” menu, as the "enter" data key ***NOTE:*** *This button is used for user code lock and unlock.*

(10)	FUNCTION BUTTON
	Use this when in the “Setup” menu, also used to scroll within the setup menu. ***NOTE:*** *This button is used for user code lock and unlock.*

(11)	OPERATE
	This button activates and deactivates the hydraulic system when the engine is running. ***NOTE:*** *This button is used for user code lock and unlock.*

(12)	AUX OVERRIDE – AUXILIARY HYDRAULIC INTERLOCK OVERRIDE: ***NOTE:*** *Some attachments have their own controls and this feature allows the auxiliary hydraulic oil flow to continue when the operator is out of the seat. The machine’s control levers will be inactive.*
	When the operator leaves the seat, hydraulic oil flow and control levers are disabled. Press the AUX OVERRIDE button and leave the seat within 30 seconds to override the auxiliary hydraulic interlock. The small red indicator lamp below the switch illuminates when the override feature is active. ***NOTE:*** *Press the AUX OVERRIDE button twice to silence a fault code and continue the current operation.* ***NOTE:*** *Use the AUX OVERRIDE button for user code lock and unlock.*

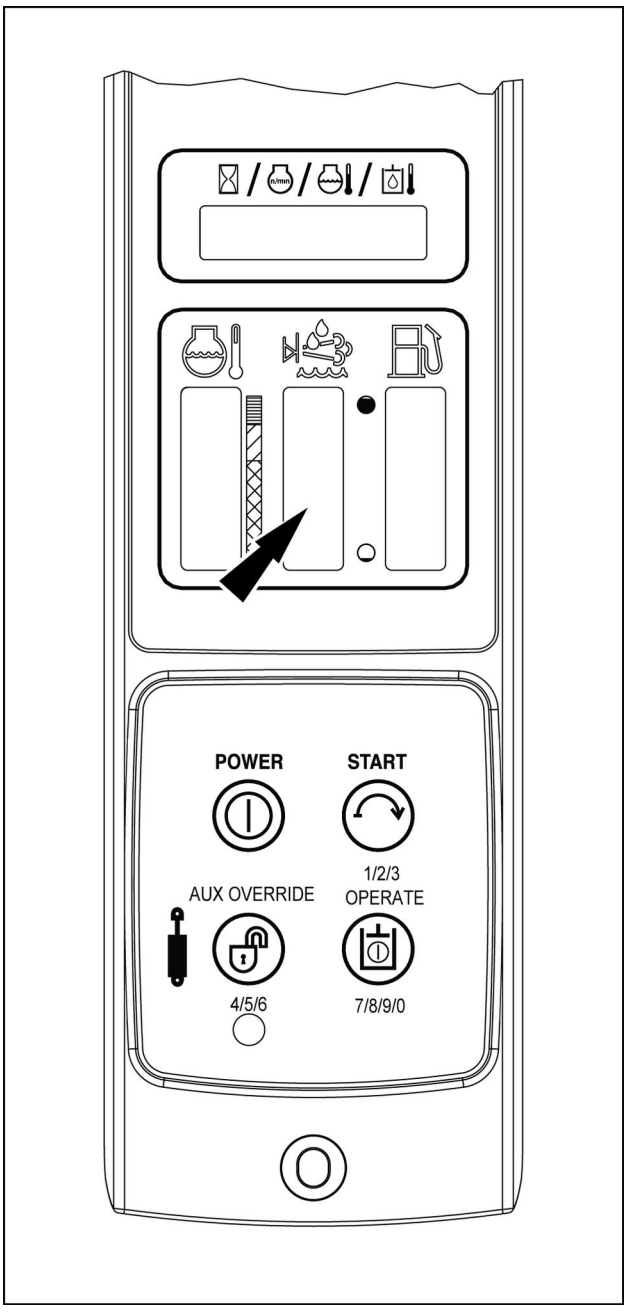


RAIL14SSL0668DA 4

DEF technical failure inducement

Display	Description	Warning lamps and alarms	Corrective action
SCR + FAIL	SCR fault/failure detected. Torque reduction and engine speed reduction will occur.	One second audible alarm every **3 min**	Contact your authorized dealer for repair.
SCR + FAIL	SCR fault/failure detected **60 min** after the initial warning. Torque reduction and engine speed reduction will occur.	STOP Continuous alarm	Contact your authorized dealer for repair.
SCR + FAIL + POWER + LIMTd	SCR fault/failure detected **4 h** after the initial warning. Torque reduction and engine speed reduction will occur.	STOP Continuous alarm	Contact your authorized dealer for repair.

During normal operation of your CASE CONSTRUCTION machine, the instrument cluster displays the DEF/Ad-Blue® fluid level at all times.



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Menu structure for Electro Hydraulic (EH) controls

Setup	Display setup menu.	Lift	Loader arm up and down function.
Exit	Exit the setup menu.	Tilt	Attachment tilt function.
EH	Customize the speed of the machine's EH controls.	L-ARM	Loader arm.
DSPLY	Alternate method to select between the selected display parameters.	High	Quick response to control lever movement.
UNITS	Allows the operator to select between Fahrenheit/Imperial units and Celsius/SI units.	Med-2	Medium/quick response to control lever movement.
JTIME	Job Timer. Displays engine operating hours since last reset.	Med-1	Medium/slow response to control lever movement.
Oil	Reset oil life monitor.	DRV1	Aggressive response to control lever movement.
Lock	Used to create/change owner and user codes.	DRV2	Medium response to control lever movement.
Speed	Speed of the drive, lift, and tilt functions.	DRV3	Smooth response to control lever movement.
CTRL	Controls for drive and loader arm.	LDR1	Aggressive response to control lever movement.
DFLT	Factory default settings.	LDR2	Medium response to control lever movement.
Drive	Travel forward and reverse function.	LDR3	Smooth response to control lever movement.

Default settings for model SR270 and SV300

SPEED				
Tilt	Low	Med-1	Med-2	High
Lift	Low	Med-1	Med-2	High
Drive	Low	Med-1	Med-2	High
CTRL				
Drive	DRV3	DRV2	DRV1	
L-Arm	LDR3	LDR2	LDR1	

Default settings for model TR340 and TV380

SPEED				
Tilt	Low	Med-1	Med-2	High
Lift	Low	Med-1	Med-2	High
Drive	Low	Med-1	Med-2	High
CTRL				
Drive	DRV3	DRV2	DRV1	
L-Arm	LDR3	LDR2	LDR1	

Left-hand column switch identification

(1)	Heating, Ventilation, Air-Conditioning (HVAC) dial
	Rotate this dial to adjust temperature.

(2)	Fan dial
	Rotate this dial to activate the fan.

(3)	Air-conditioning switch
	The lamp will illuminate, to confirm the system is operational, once the fan switch has been activated.

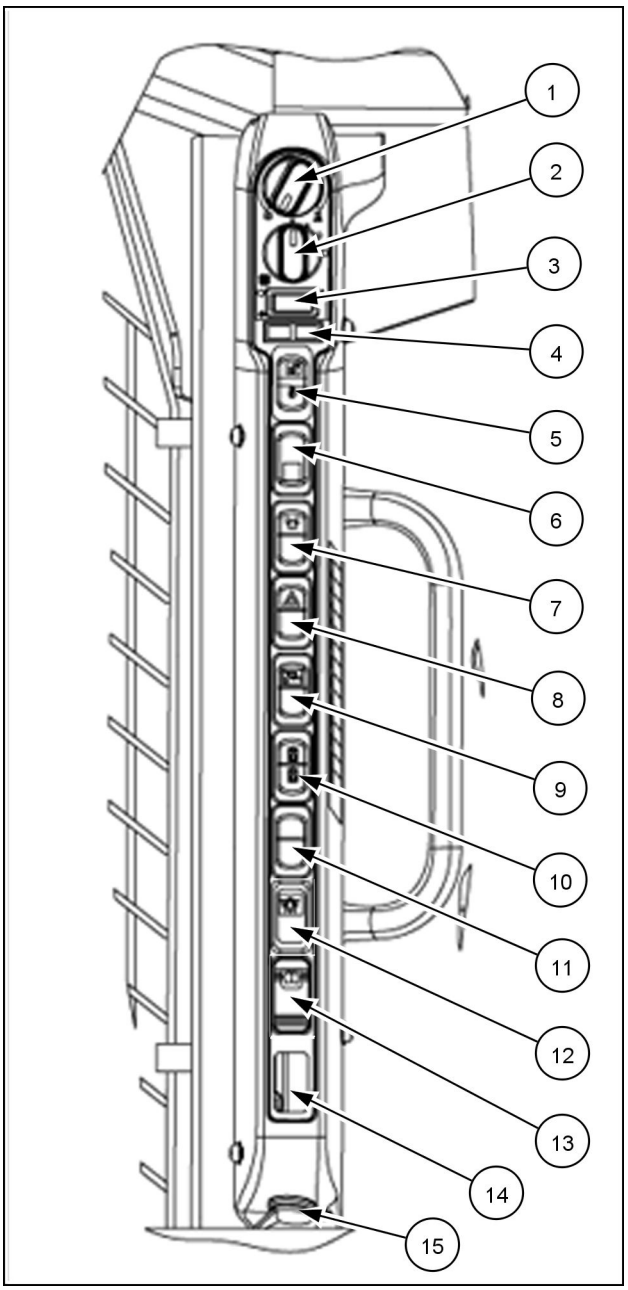
(4)	Turn signal indicator
	Indicates directional turn signal operation when flashing.

(5)	Hydraulic attachment coupler switch
	Push the unlock side of this switch to unlock the coupler from the attachment. This switch must be used in conjunction with hydraulic pressure from the loader arm down, attachment curl in or auxiliary. To Lock: with the coupler properly inserted in the attachment, apply hydraulic pressure from the loader arm down, attachment curl in or auxiliary making sure that the hydraulic system goes over system relief to set lock pins.

(6)	Two-speed indicator
	Indicates the two-speed system is in use.

(7)	Rotating beacon switch
	If equipped, push the switch to activate the rotating beacon.

(8)	Hazard flasher switch
	If equipped, push the switch to activate the 4-way flashers.



RAPH12SSL0031DA 1

STOPPING THE UNIT

Parking the machine and stopping the engine

⚠ WARNING

Equipment rolling hazard!
Always try to park the machine on firm level ground. Avoid parking on slopes. Block the wheels in both directions.
Failure to comply could result in death or serious injury.

W0265A

⚠ WARNING

Fall hazard!
Jumping on or off the machine could cause an injury. Always face the machine, use the handrails and steps, and get on or off slowly. Maintain a three-point contact to avoid falling: both hands on the handrails and one foot on the step, or one hand on the handrail and both feet on the steps.
Failure to comply could result in death or serious injury.

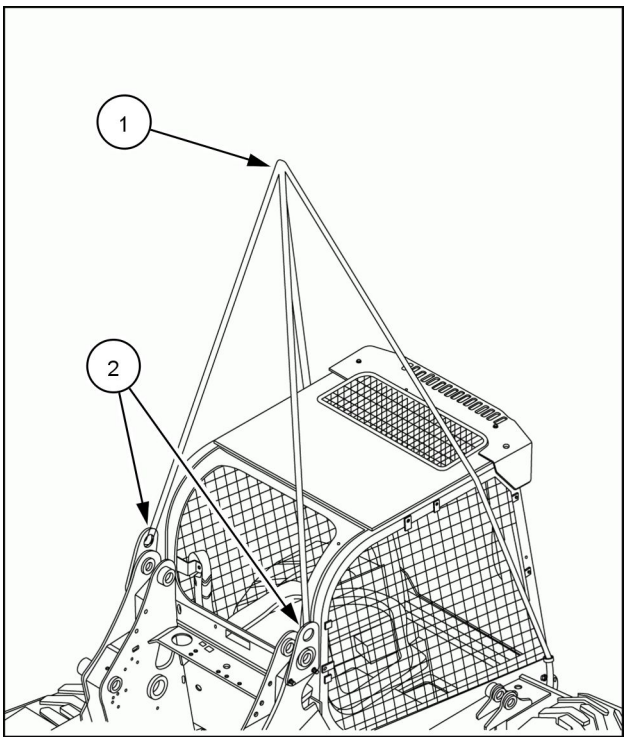
W0141A

NOTICE: *Damage to the turbocharger (if equipped) may occur if the engine is not properly shut down.*

1. When the work day is complete, park the machine on level ground and lower the loader arms to the ground.
2. Ensure that the loader arm or attachment is not supporting the weight of the machine with the front tires off the ground.
3. Run the engine at idle speed and allow time for the engine and component parts to cool evenly.
4. Place all control levers in the neutral position.
5. Turn the key switch to the Stop position or press the POWER button to stop the engine. The parking brake will automatically engage.
6. Remove the key (if equipped), release the seat belt, and raise the restraint bar. Use the grab handles when exiting the machine.

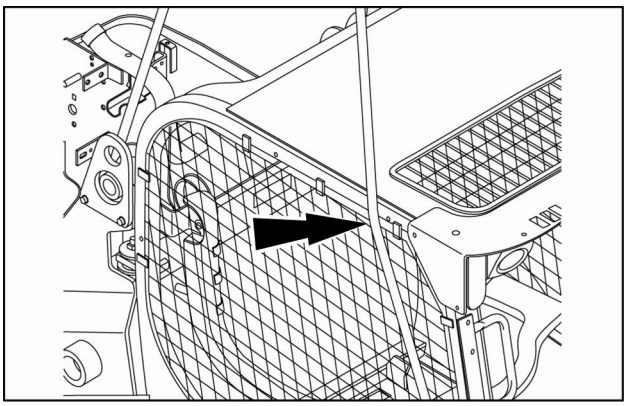
NOTE: *After the engine is shut off you will hear a clapping or clicking sound for 15 to 30 seconds. This is a normal function of the Selective Catalyst Reduction (SCR) system. A pump is draining the Diesel Exhaust Fluid (DEF) that is still in the supply lines back into the DEF tank.*

1. Connect all slings to a single point **(1)** on the suitable craning equipment above the cab.
2. Attach chains to the machine's rear lifting points **(2)** on the machine.



RAIL14SSL0415BA 12

3. Route the front sling down the right-hand side of the Roll Over Protective Structure (ROPS).



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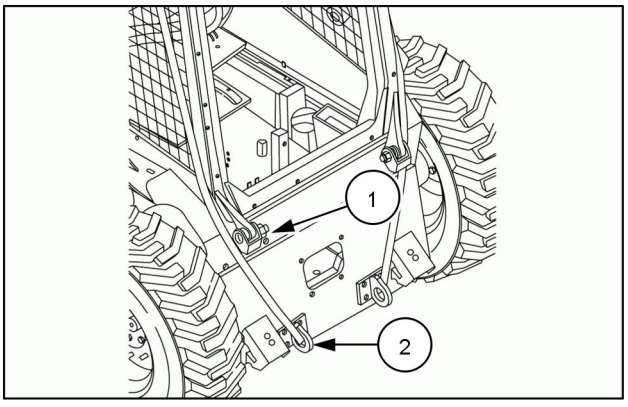
4. Route the front sling down the outside of the ROPS front pivot point **(1)** and attach to the machine's right-hand side lifting point **(2)**.
5. Repeat on the left-hand side of the machine.
6. Clear the area.
7. Lift the machine just off the ground. The machine should stay level. If it is not level lower the machine to the ground and adjust the length of the rear chains. Repeat until you achieve a level lift.



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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

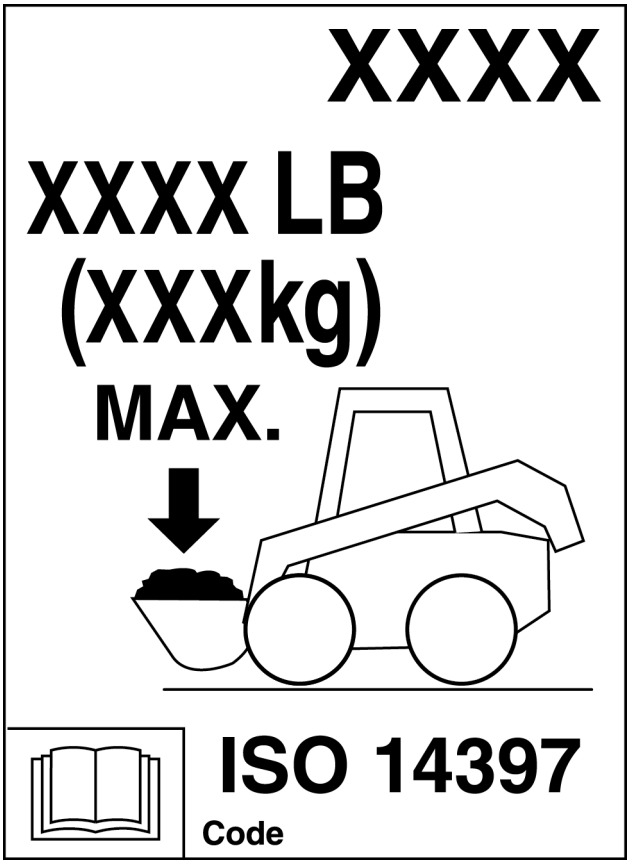
Overturning hazard!
The operator must know the correct OPERATING LOAD capacity of the machine before attempting to operate the machine. Always follow the recommended load limits.
Failure to comply could result in death or serious injury.

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 **9-2** 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.

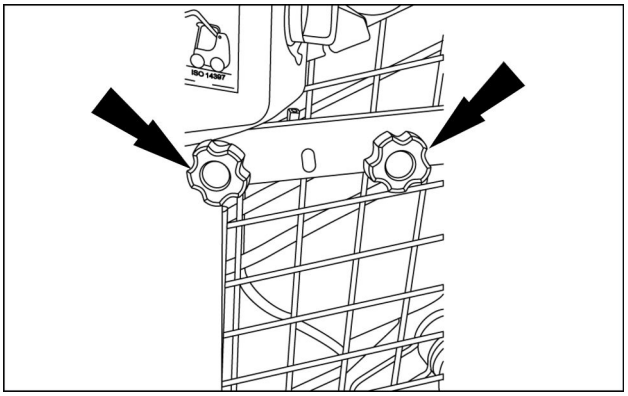
Window removal and cleaning

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

Removal

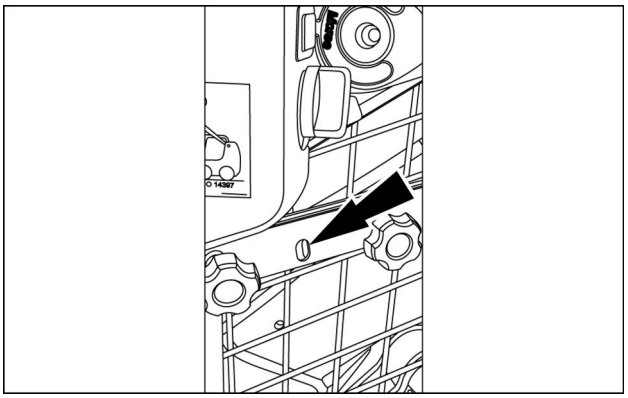
It is very important that the windows stay clean, clear, and visible. Debris on window can severely obstruct the operator's vision. Follow the instructions provided to remove the side windows for cleaning.

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



93109340 1

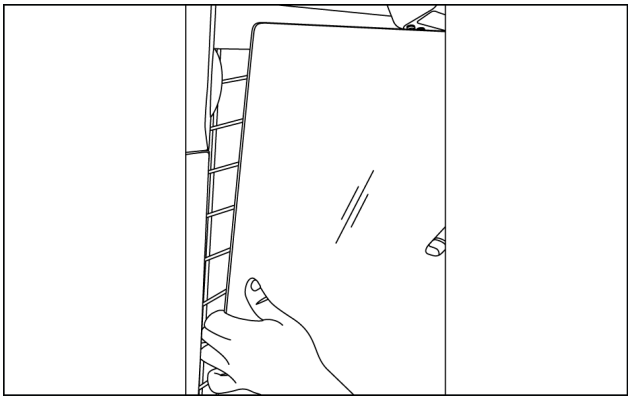
2. Slide the front two knobs and the rear two knobs toward the center of the window until the green indicator has changed to red. Now the window bar can drop down slightly, allowing the top of the window to drop down just below the window frame.



93109336A 2

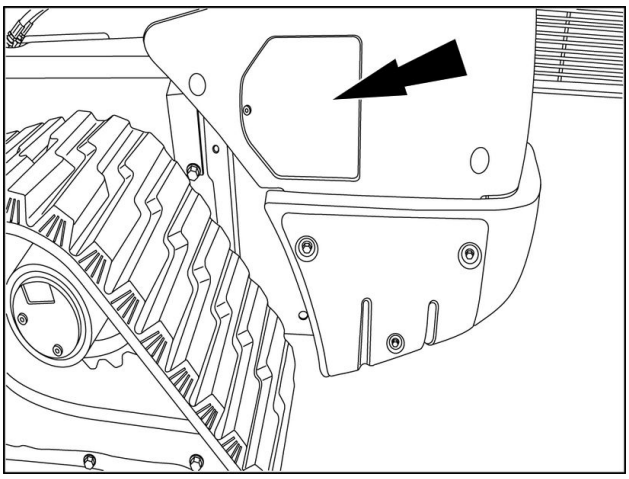
NOTE: *The restraint bar must be in the operating position for window removal.*

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



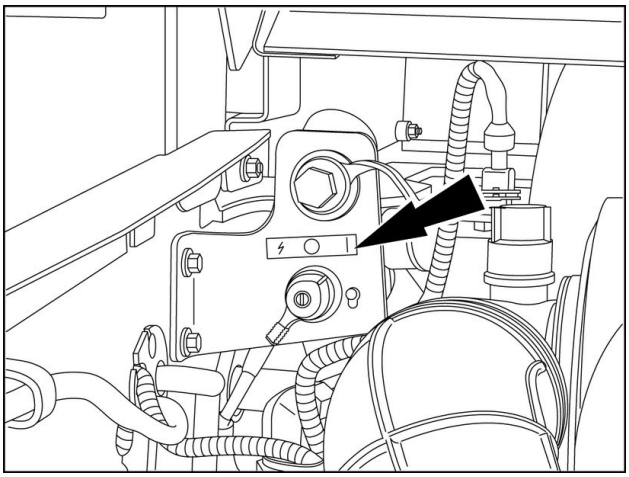
93109338 3

7. Install the battery cover.



RAIL14SSL0707AA 13

8. Turn the battery quick disconnect switch to the ON position.



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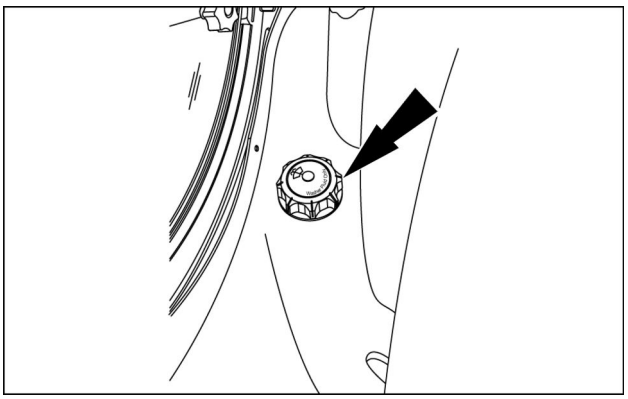
9. Close the engine hood.

The rear inside cab.

- The windshield washer reservoir is inside the cab between side window of the cab and the right side of the seat.



93109373A 4

Wheels and tires

⚠ WARNING

Explosion hazard!
Always maintain correct tire pressure as indicated in this manual. DO NOT inflate tires above the recommended pressure. Excessive pressure could result in tire failure.
Failure to comply could result in death or serious injury.

W0109A

⚠ WARNING

Explosion hazard!
Tires must be replaced by skilled personnel with the proper tools and technical knowledge. Unskilled personnel replacing wheels or tires could result in serious physical injuries, tire damage, and/or wheel distortion. Always have a qualified tire mechanic service wheels and tires.
Failure to comply could result in death or serious injury.

W0171A

The skid steer will be hard to turn and the tires will wear faster if the correct pressure is not maintained. When a worn or damaged tire is replaced, the replacement must be the same size and tread design as the other tires on the machine. Two different sized tires on one side of the machine will cause accelerated tire wear, loss of power, and excessive strain on the drivetrain. Replace worn tires in pairs with the two new tires used on the same side of the loader. If this tilts the loader too much, replace all four tires.

Adding air to the tire

NOTICE: *Tire pressure gauges should be checked at regular intervals for calibration and accuracy.*

1. Check the tire pressure.
2. Before you add air, have the wheel correctly installed on the machine or put the wheel in a restraining device (tire inflation cage).
3. Use an air hose with a remote shutoff valve, self-locking air chuck and wear eye protection.
4. Stand BEHIND the tread of the tire and make sure ALL persons are away from the side of the tire before you start to add air.
5. Inflate the tire to the recommended air pressure. DO NOT inflate the tire more than the recommended maximum pressure given on the tire.

TIRE	SIZE	PRESSURE
Heavy Duty	12 x 16.5	**290 - 345 kPa** (**42 - 50 psi**)
Premium	12 x 16.5	**290 - 345 kPa** (**42 - 50 psi**)
	14 x 17.5	**359 - 414 kPa** (**52 - 60 psi**)
Premium with liner	12 x 16.5	**290 - 345 kPa** (**42 - 50 psi**)
Severe Duty	12 x 16.5	**290 - 345 kPa** (**42 - 50 psi**)
Flotation	33 x 15.5 x 16.5	**290 - 345 kPa** (**42 - 50 psi**)
Mining	12 x 16.5	**290 - 345 kPa** (**42 - 50 psi**)
Non-Pneumatic	12 x 16.5	not required

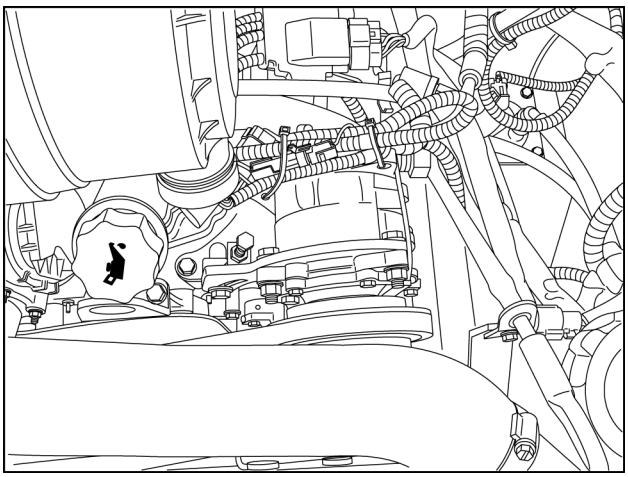
Air conditioning compressor belt tension

NOTE: *The alternator belt is self-adjusting and does not require a belt tension check.*

Check the A/C belt tension after the first 10 hours of operation on a new machine or if a new belt has been installed. Measure the deflection of the belt at center of span and adjust as necessary. Inspect for cracks and damage, replace if necessary.

NOTE: *An eight rib alternator pulley is used with a six rib belt. When installing a belt; install the belt on the six ribs furthest from the engine. The two ribs closest to the engine will not be used.*

1. Loosen the pivot bolt and the locking bolt.
2. Turn bolt clockwise to tighten. The belt is tightened properly when a force of **5.0 kg** (**11.0 lb**) is applied perpendicular to the belt at the center of the span with a **5 mm** (**0.2 in**) deflection.
3. Tighten the locking bolt and the pivot bolt.



RAIL14SSL0725AA 1

Roll Over Protective Structure (ROPS) mechanism and hardware check

⚠ WARNING

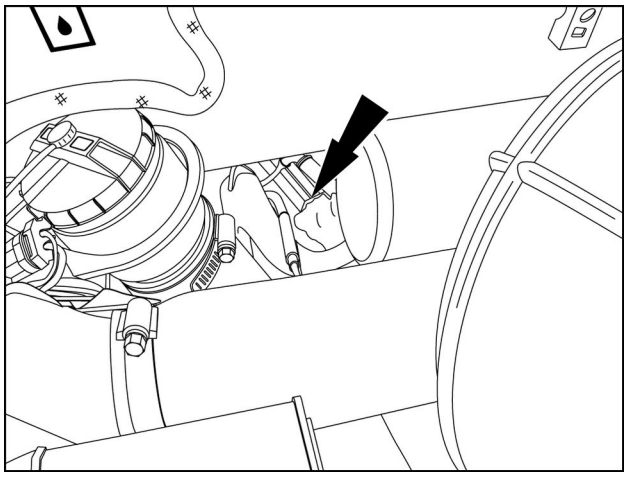
Roll-over hazard!
Securely fasten the seat belt. Your machine is equipped with a Roll-Over Protective Structure (ROPS) cab, ROPS canopy, or ROPS frame for your protection. The seat belt can help ensure your safety if it is properly used and maintained. Never wear a seat belt loosely or with slack in the belt system. Failure to comply could result in death or serious injury.

W0143A

Check the Roll Over Protective Structure (ROPS) cab to lower mainframe hardware for proper torque.

1. Check the ROPS hardware at the back of the machine that are used to secure the cab. Torque the hardware to **170 N·m** (**125.4 lb ft**).
2. Check the ROPS front pivot bolts. Torque these bolts to **42 N·m** (**31.0 lb ft**).

7. Connect the quick connector to the flange. You will hear a click when the quick connector locks into place.



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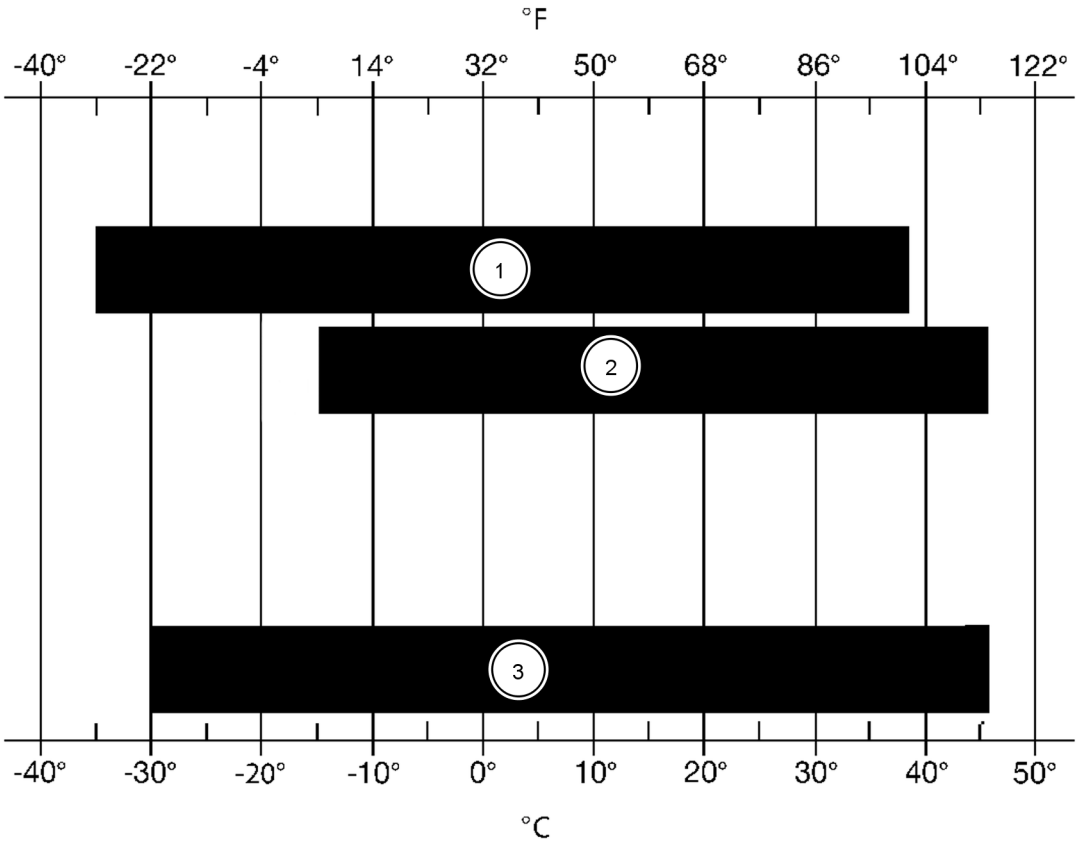
8. Release the door lock and close the rear service door.
9. Lower the engine compartment hood.

Hydraulic oil



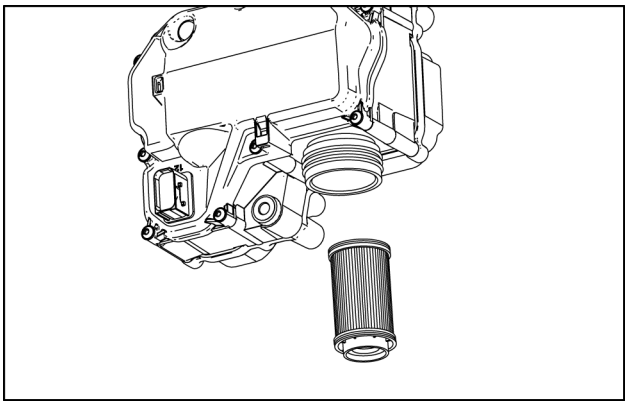
RAPH12SSL0110FA 6

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.*

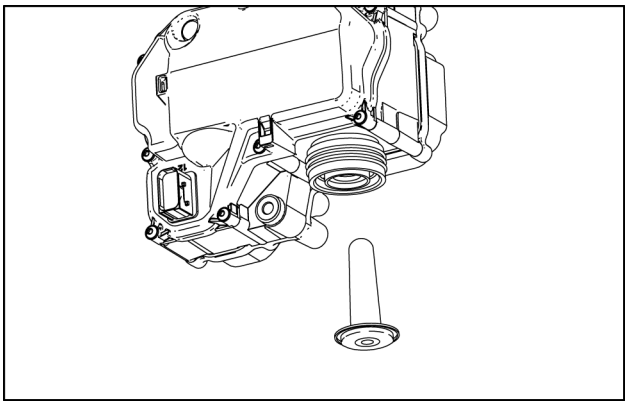
NOTE: *CNH recommends **CASE AKCELA HYDRAULIC EXCAVATOR FLUID** for improved cold weather operation. Standard factory fill oil **CASE AKCELA ENGINE OIL 10W-30** is acceptable for cold weather operation when sufficient warm up time is provided.*

8. Oil the O-rings on the new filter element. Insert the filter element fully into the supply module.



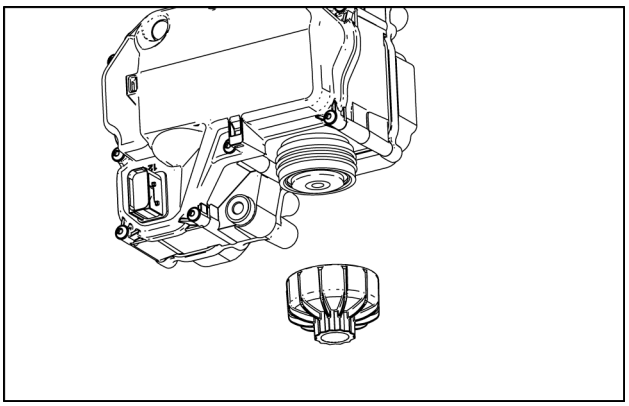
RAIL13GEN0032AA 8

9. Install the new equalizing element.



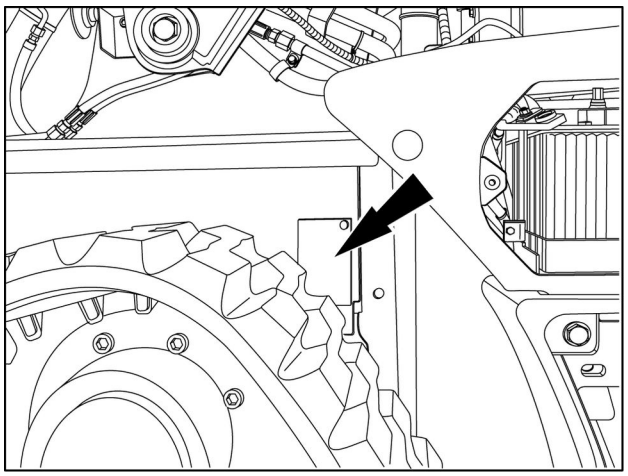
RAIL13GEN0027AA 9

10. Install the filter cover. Torque to **15 - 25 N·m** (**11 - 18 lb ft**)



RAIL13GEN0026AA 10

11. Install the access panel to the supply module.



RAIL14SSL0752BA 11

3277	F5C (SCR)	ENGINE	Timeout Error of CAN-Receive-Frame DD
3282	F5C (SCR)	ENGINE	Timeout of CAN-Transmit-Frame ECU2FLP, Electric exhaust flap actuator
3283	F5C (SCR)	ENGINE	ECU internal failure - Sensor 5 volt supply 2
3285	F5C (SCR)	ENGINE	ECU internal failure - Sensor 5 volt supply 3
3293	F5C (SCR)	ENGINE	Fuel rail pressure has exceeded maximum positive deviation limits
3297	F5C (SCR)	ENGINE	maximum positive deviation of rail pressure exceeded concerning set flow of fuel Fuel Pump Pressure has exceeded maximum positive deviation limits
3301	F5C (SCR)	ENGINE	Fuel rail pressure has exceeded maximum negative deviation limits
3305	F5C (SCR)	ENGINE	Fuel rail pressure has dropped below the minimum limit
3309	F5C (SCR)	ENGINE	Fuel rail pressure has exceeded maximum limit
3323	F5C (SCR)	ENGINE	Timeout Error of CAN-Receive-Frame RxAMCON
3324	F5C (SCR)	ENGINE	Timeout Error of CAN-Receive-Frame Electronic Brake Controller (EBC1)
3325	F5C (SCR)	ENGINE	CAN-Receive-Frame Transmission Control message 1 (ETC1)
3327	F5C (SCR)	ENGINE	Timeout of CAN-Receive-Frame Tachograph (TCO1) receive message
3329	F5C (SCR)	ENGINE	CAN-Receive-Frame Torque / Speed control from AR to ECU through TSC1_AR Message active
3330	F5C (SCR)	ENGINE	CAN-Receive-Frame Torque / Speed control from ABS / ASR to ECU through TSC1_AR Message active
3333	F5C (SCR)	ENGINE	CAN-Receive-Frame Torque / Speed control from ABS / ASR to ECU through TSC1_DR Message active
3334	F5C (SCR)	ENGINE	CAN communication failure between vehicle controller and ECU controller - TSC1_PE message
3334	F5C (SCR)	ENGINE	CAN communication failure between vehicle controller and ECU controller - TSC1_PE message
3337	F5C (SCR)	ENGINE	CAN-Receive-Frame Torque / Speed control from ABS / ASR to ECU through TSC1_TR Message active
3338	F5C (SCR)	ENGINE	CAN communication failure between vehicle controller and ECU controller - TSC1_VE message
3338	F5C (SCR)	ENGINE	CAN communication failure between vehicle controller and ECU controller - TSC1_VE message
3343	F5C (SCR)	ENGINE	Signal range check: low error when heater is On
3344	F5C (SCR)	ENGINE	Signal range check: high error when heater is On
3346	F5C (SCR)	ENGINE	Diagnostic fault check for signal error of COM message
3347	F5C (SCR)	ENGINE	Diagnostic fault check for max error of COM message
3348	F5C (SCR)	ENGINE	Diagnostic fault check for min error of COM message
3351	F5C (SCR)	ENGINE	Engine compression brake low side driver circuit open failure
3352	F5C (SCR)	ENGINE	Engine compression brake low side driver circuit short to battery failure
3353	F5C (SCR)	ENGINE	Engine compression brake low side driver circuit short to ground failure
3357	F5C (SCR)	ENGINE	Too many recognized misfires in more than one cylinder
3358	F5C (SCR)	ENGINE	CAN transmit error - EEC1 message (Electronic Engine Control 1 message - Torque, accelerator pedal, engine speed, and other signals)
3361	F5C (SCR)	ENGINE	ECU internal failure - EEPROM write/read error
3362	F5C (SCR)	ENGINE	ECU internal failure - Fuel calibration
3363	F5C (SCR)	ENGINE	ECU internal failure - Ambient pressure failure
3364	F5C (SCR)	ENGINE	Signal Range Check High for Acceleration Pedal Position Device Driver Sensor 2
3365	F5C (SCR)	ENGINE	Signal Range Check Low for Acceleration Pedal Position Device Driver Sensor 2
3367	F5C (SCR)	ENGINE	Absolute plausibility test failed
3368	F5C (SCR)	ENGINE	Torque limitation caused by performance limiter
3369	F5C (SCR)	ENGINE	Torque limitation caused by smoke limitation
3370	F5C (SCR)	ENGINE	Strong torque limitation from engine protection active
3371	F5C (SCR)	ENGINE	Strong torque limitation from injection system active
3390	F5C (SCR)	IC	Air Filter Restriction Switch Short To Ground
3403	F5C (SCR)	ENGINE	Starter relay low side ECU driver circuit over temperature failure
3404	F5C (SCR)	ENGINE	SRC High for Charge air cooler downstream Temperature
3409	F5C (SCR)	ENGINE	Defect fault check for minimum oil pressure from digital sensor
3425	F5C (SCR)	ENGINE	Under boost failure
3436	F5C (SCR)	ENGINE	Inducement system is locked due to 3 detections in 40 hours. The system must be reset using the dealer service tool screen "Engine Restart Counter Reset".
3443	F5C (SCR)	ENGINE	Torque limitation due to excessive coolant temperature
3444	F5C (SCR)	ENGINE	Torque limitation due to excessive exhaust gas temperature
3445	F5C (SCR)	ENGINE	Torque limitation due to excessive fuel temperature
3446	F5C (SCR)	ENGINE	Torque limitation due to excessive intake air temperature
3447	F5C (SCR)	ENGINE	Torque limitation due to excessive oil temperature
3448	F5C (SCR)	ENGINE	Torque limitation due to turbocharger protection after start
3449	F5C (SCR)	ENGINE	ECU internal failure - Calculated engine speed
3451	F5C (SCR)	ENGINE	The fuel main filter cartridge is worn and should be replaced, but is not yet in a critical state
3452	F5C (SCR)	ENGINE	The fuel main filter cartridge is severely clogged and must be replaced immediately, risk of bursting, torque limitation active
3453	F5C (SCR)	ENGINE	Fuel filter clog or circuit failure
3454	F5C (SCR)	ENGINE	Fuel filter switch is failed

17393	F5C (SCR)	ENGINE	SRC Min error for the Linear lambda signal
17394	F5C (SCR)	ENGINE	Error detection and healing of MAX error of lambda plausibility test
17395	F5C (SCR)	ENGINE	Error detection and healing of MIN error of lambda plausibility test
17396	F5C (SCR)	ENGINE	Defect of Boost pressure instability Monitoring in PCR
17397	F5C (SCR)	ENGINE	Npl value check for EGR differential pressure
17398	F5C (SCR)	ENGINE	Physical Range Check high for EGR differential pressure
17399	F5C (SCR)	ENGINE	Physical Range Check low for EGR differential pressure
17400	F5C (SCR)	ENGINE	SRC High for EGR differential pressure
17401	F5C (SCR)	ENGINE	SRC low for EGR differential pressure
17402	F5C (SCR)	ENGINE	No valid Fuel pre-filter pressure received via CAN (Pressure == 0)
17403	F5C (SCR)	ENGINE	Reporting Error if Relay is stuck at closed position
17404	F5C (SCR)	ENGINE	Reporting Error if Relay is stuck at open position
17405	F5C (SCR)	ENGINE	DFC used to evaluate filter clog
17406	F5C (SCR)	ENGINE	Plausibility of the absolute difference between the battery voltage and power stage voltage of backflow and suction line heater
17407	F5C (SCR)	ENGINE	Plausibility of the absolute difference of battery voltage and the powerstage of the pressure line
17408	F5C (SCR)	ENGINE	Plausibility of the absolute difference between the battery voltage and power stage voltage of supply module heater
17409	F5C (SCR)	ENGINE	Reporting the leakage in the system during no dosing
17410	F5C (SCR)	ENGINE	Error in dosing valve plausibility at low voltage
17411	F5C (SCR)	ENGINE	Defective pressure reduction
17412	F5C (SCR)	ENGINE	high threshold for pressure sensor plausibility
17413	F5C (SCR)	ENGINE	Low threshold for pressure sensor plausibility
17414	F5C (SCR)	ENGINE	No load error
17415	F5C (SCR)	ENGINE	Over temperature error
17416	F5C (SCR)	ENGINE	Short circuit to battery error
17417	F5C (SCR)	ENGINE	Short circuit to ground error
17418	F5C (SCR)	ENGINE	Fuel injection is not possible - Unauthorized use
17419	F5C (SCR)	ENGINE	Signal error for CAN message
17420	F5C (SCR)	ENGINE	SRC high for Urea Urea Pump Module Pressure Sensor
17421	F5C (SCR)	ENGINE	SRC low for Urea Pump Module Pressure Sensor
17422	F5C (SCR)	ENGINE	ECU internal: Timer error of ECU off time counter
17423	F5C (SCR)	ENGINE	SCR Inducement: Level 1 (Torque reduction), triggered by EGR valve blocked fault
17424	F5C (SCR)	ENGINE	SCR Inducement: Level 3 (creep mode), triggered by EGR valve blocked fault
17425	F5C (SCR)	ENGINE	SCR Inducement: Warning, triggered by EGR valve blocked fault
17426	F5C (SCR)	ENGINE	Inducement healing by override is locked
17427	F5C (SCR)	ENGINE	SRC high for air temperature sensor
17428	F5C (SCR)	ENGINE	SRC low for air temperature sensor
17429	F5C (SCR)	ENGINE	DFC is set if the cold start is detected
17430	F5C (SCR)	ENGINE	Physical Range Check high for ECU temperature sensor
17431	F5C (SCR)	ENGINE	Physical Range Check low for ECU temperature sensor
17432	F5C (SCR)	ENGINE	Physical Range Check high for EGR cooler downstream temperature
17433	F5C (SCR)	ENGINE	Physical Range Check low for EGR cooler downstream temperature
17434	F5C (SCR)	ENGINE	SRC high for EGR cooler downstream temperature sensor
17435	F5C (SCR)	ENGINE	SRC low for EGR cooler downstream temperature sensor
17436	F5C (SCR)	ENGINE	Diagnostic fault check for EGR cooler downstream temperature sensor
17437	F5C (SCR)	ENGINE	Current limited
17438	F5C (SCR)	ENGINE	DFC for valve drift at closed position
17439	F5C (SCR)	ENGINE	DFC for valve drift at open position
17440	F5C (SCR)	ENGINE	DFC for Range drift
17441	F5C (SCR)	ENGINE	Cold Start
17442	F5C (SCR)	ENGINE	Permanent governor deviation for valve
17443	F5C (SCR)	ENGINE	Permanent governor deviation for valve
17444	F5C (SCR)	ENGINE	Open load error for powerstage
17445	F5C (SCR)	ENGINE	Over current error for H-bridge
17446	F5C (SCR)	ENGINE	Over temperature error for H-bridge
17447	F5C (SCR)	ENGINE	Short circuit to battery on Out1 error for H-bridge
17448	F5C (SCR)	ENGINE	Short circuit to battery on Out2 error for H-bridge
17449	F5C (SCR)	ENGINE	Short circuit to ground on Out1 error for H-bridge
17450	F5C (SCR)	ENGINE	Short circuit to ground on Out2 error for H-bridge
17451	F5C (SCR)	ENGINE	Short circuit over load error for H-bridge
17452	F5C (SCR)	ENGINE	Temperature dependent over current error for H-bridge
17453	F5C (SCR)	ENGINE	Under voltage error for H-bridge
17454	F5C (SCR)	ENGINE	Jammed valve of valve
17455	F5C (SCR)	ENGINE	Jammed valve of valve
17456	F5C (SCR)	ENGINE	DFC for long time valve drift at closed position
17457	F5C (SCR)	ENGINE	DFC for long time valve drift at open position
17458	F5C (SCR)	ENGINE	DFC for valve position sensor physical SRC high

9 - SPECIFICATIONS

Fluids and lubricants

Fuel tank

Capacity	**96.5 L** (**25.5 US gal**)
Specifications	#2 Diesel ultra low sulfur

Cooling system

Capacity	**19.0 L** (**5.0 US gal**)
Specifications	**CASE AKCELA ACTIFULL™ OT EXTENDED LIFE COOLANT**

Hydraulic system

Reservoir capacity	**22.7 L** (**6.0 US gal**)
System capacity:	**45.4 L** (**12.0 US gal**)
Specifications	**CASE AKCELA ENGINE OIL 10W-30**

Chain compartments

Capacity - each side	
SR270, SV300	**22.2 L** (**23.5 US qt**)
Specifications	**CASE AKCELA ENGINE OIL 10W-30**

Grease fittings

Quantity	As required
Specifications	**TUTELA MOLY GREASE GR-75** (Molydisulfide)

Engine crank case oil

Capacity - with filter change	**8.5 L** (**9.0 US qt**)
Specifications	**CASE AKCELA UNITEK NO. 1™ SBL CJ-4**

Final track drive

Capacity - each side	
TR340, TV380	**1.0 L** (**1.06 US qt**) +/- **0.1 L** (**0.1 US qt**)
Specifications	**TUTELA HYPOIDE EP GEAR LUBE SAE 80W-90**

Emissions fluid

Reservoir capacity	**10.7 L** (**6.0 US gal**)
DEF/ADBLUE® low volume indicator	**2.4 L** (**0.6 US gal**)
Specifications	**DEF/ADBLUE®**

Loader arm stop pucks

The loader arm stop pucks are stoppers located where the loader arm and frame meet. By design, the loader arm stop pucks allow the operator to lower the arms to the bottom position and level the bucket for precision grading. These pucks can also be used to change the grade of a bucket. A thinner puck will lower the grade and a thicker puck will raise the grade. The pucks installed at the factory are based on the tire size of the machine.

Frame size	Tire size width	Loader geometry	Loader stop height	Stop bolt hole location
Medium	10x	Radial	**50 mm** (**2.0 in**)	Lower
Medium	10x	Vertical	**63 mm** (**2.5 in**)	Lower
Medium	12x	Radial	**23 mm** (**0.9 in**)	Lower
Medium	12x	Vertical	**40 mm** (**1.6 in**)	Lower
Medium	Track	Radial	**23 mm** (**0.9 in**)	Lower
Medium	Track	Vertical	**40 mm** (**1.6 in**)	Lower
Large	12x	Radial	**50 mm** (**2.0 in**)	Upper
Large	12x	Vertical	**63 mm** (**2.5 in**)	Upper
Large	14x	Radial	**23 mm** (**0.9 in**)	Upper
Large	14x	Vertical	**40 mm** (**1.6 in**)	Upper
Large	Track	Radial	**23 mm** (**0.9 in**)	Upper
Large	Track	Vertical	**40 mm** (**1.6 in**)	Upper