

**821F**  
**921F**  
**Tier 2**  
Wheel Loader

**OPERATOR'S MANUAL**

**Part number 84548518**  
2nd edition English  
February 2012  
*Replaces part number 84377185*



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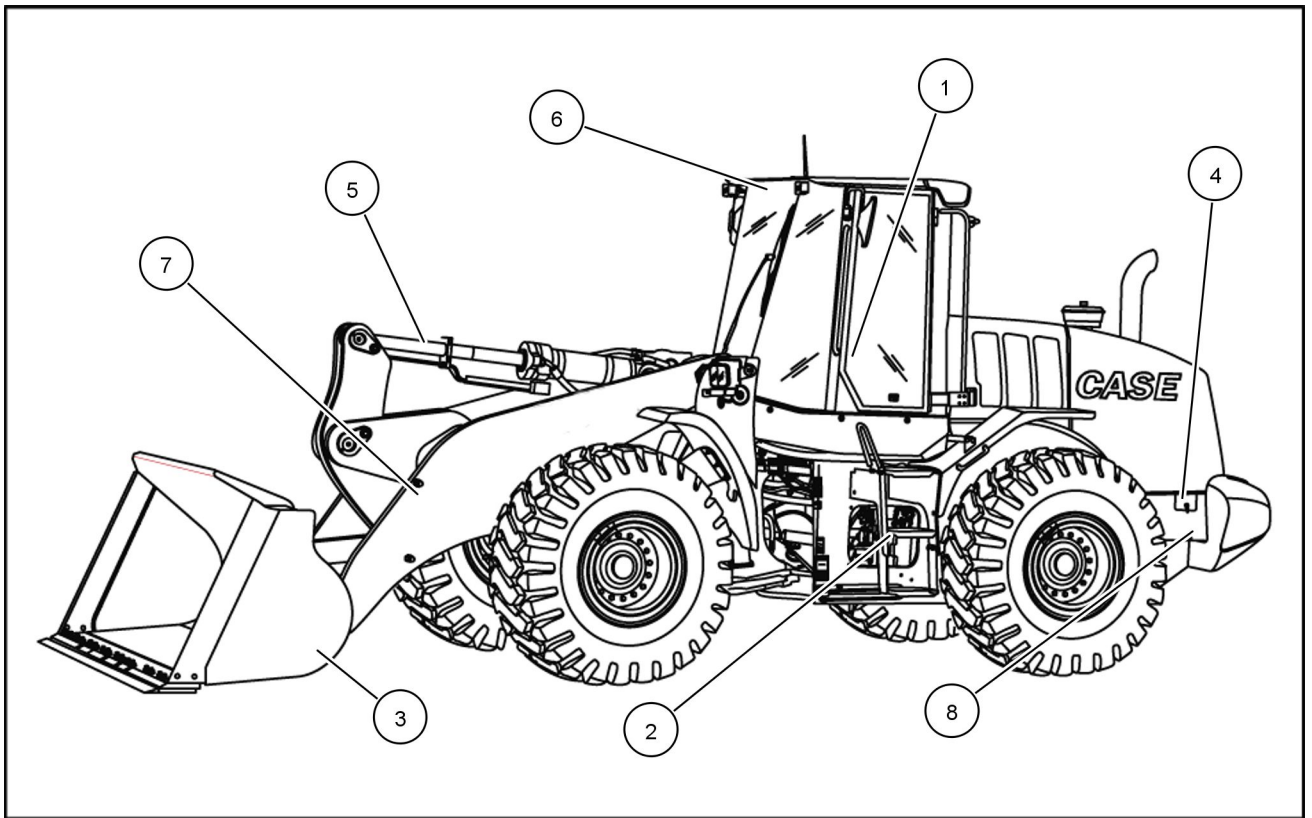
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## Machine components



RCPH10WHL094FAH 1

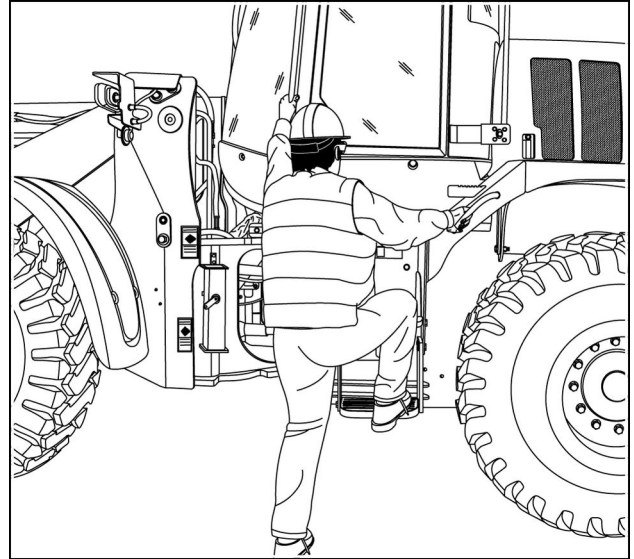
- |   |   |
|---|---|
| 1. Cab door and hand holds                            | 5. Bucket cylinder                        |
| 2. Steps  | 6. Roll Over Protection System (ROPS) cab |
| 3. Bucket   | 7. Loader lift arms                       |
| 4. Electric disconnect and optional battery jump post | 8. Battery access                         |

## Safety rules



### Getting on and off the machine

- Use the recommended hand holds and steps with at least three points of support when getting on and off the machine. The door must be latched and secured in the open position before using the door hand hold. Keep steps and platform clean. Face the machine and use the hand holds and steps adhering to a three-point access system when climbing up and down.
- Do not jump off the machine.
- Do not dismount while the machine is in motion.
- Foreign material or grease on the steps and hand rails can cause an accident. Keep the steps and hand rails clean.



RCPH10WHL436AAH 1

## Transport service link

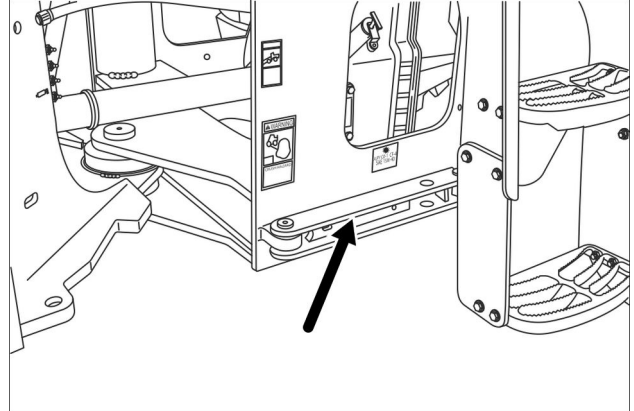
### **⚠ WARNING**

**Crushing hazard!**  
**Engage the safety lock link before service or transport.**  
**Failure to comply could result in death or serious injury.**

W1154A

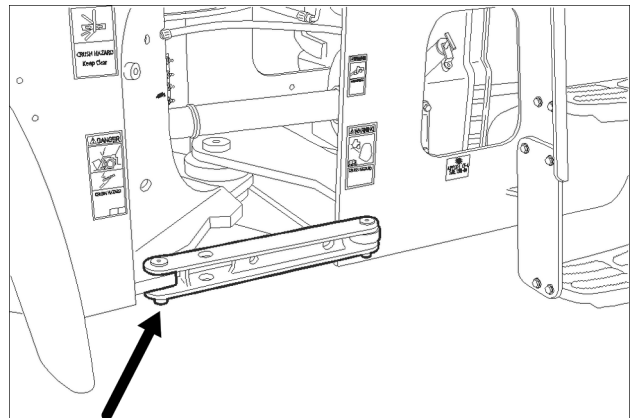
Prior to any maintenance, service work or transportation, lock the articulation transport service link.

1. Remove the safety security pin to change positions of the service link.



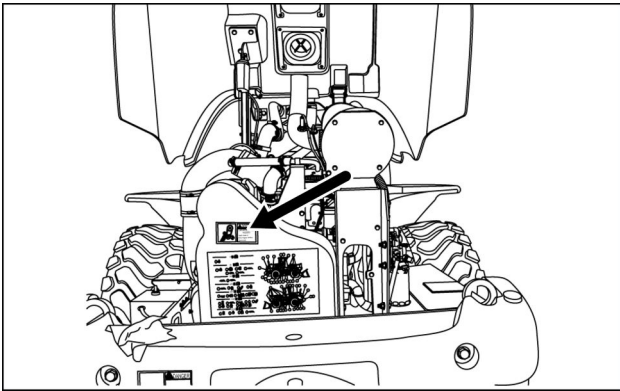
RCPH10WHL062BAL 3

2. Move the service link into the locked position to prevent articulation. Insert the safety security pin.



RCPH10WHL063BAL 4

**WARNING — Entanglement hazard**



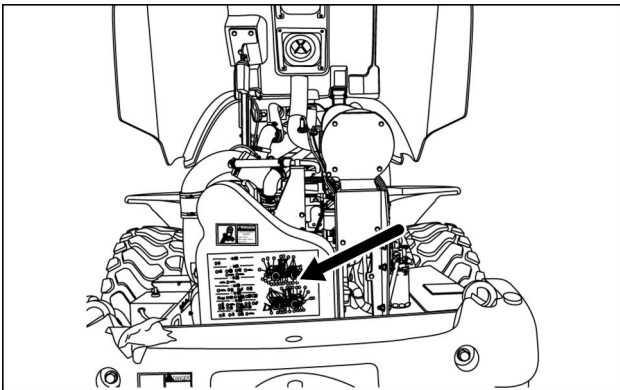
RCPH10WHL153AAH 35

This WARNING safety sign is located at the rear of the engine compartment on the fan guard.  
**WARNING — Entanglement Hazard.** Keep clear or stop engine before servicing. Failure to comply with this warning could result in death or serious injury.  
 ISO decal number: 388113A1



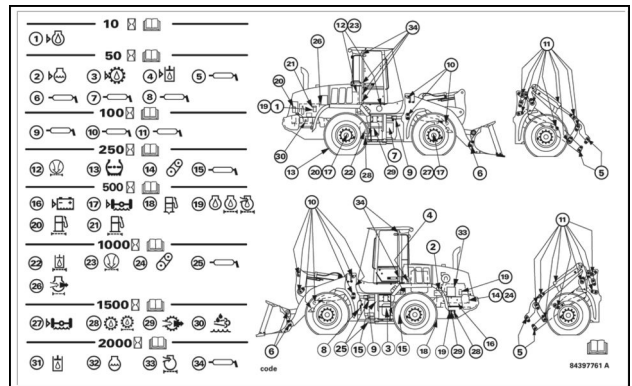
388113A1 36

**Maintenance decal**



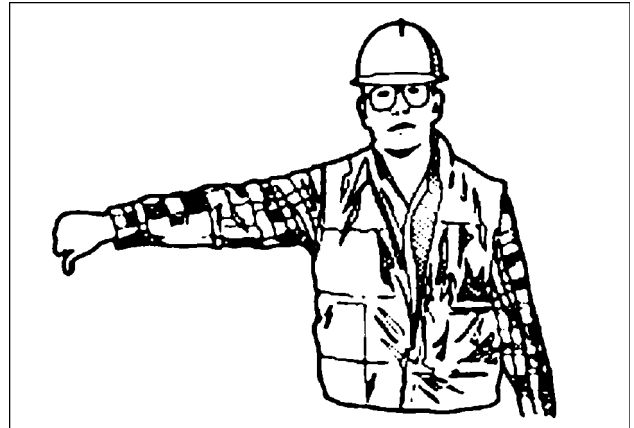
RCPH10WHL153AAH 37

This information safety sign is located in the rear of the engine compartment on the fan guard.  
 Informational decal - maintenance intervals  
 Informational sign decal number: 84397761



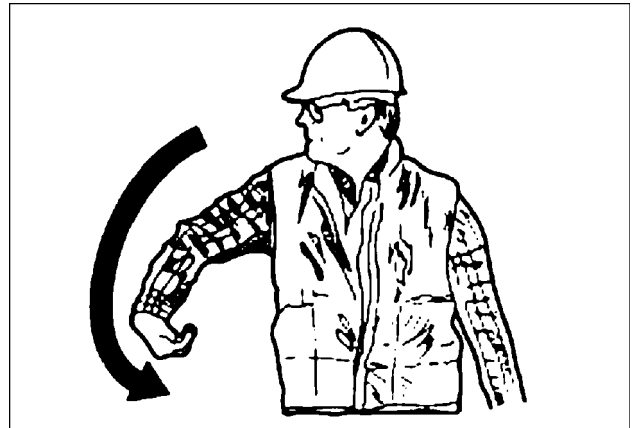
84397761A 38

Lower the boom



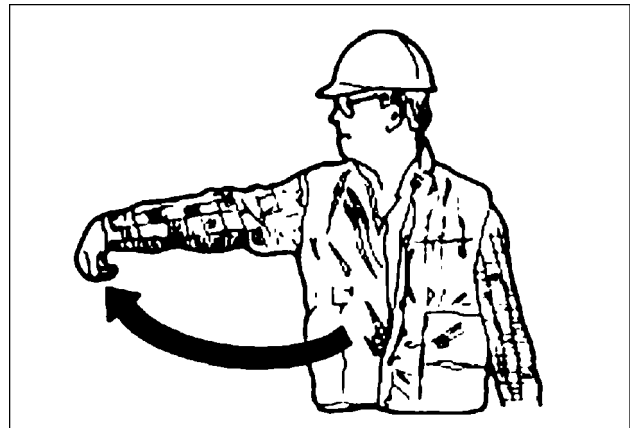
RCPH10WHL016BAD 72

Retract arm



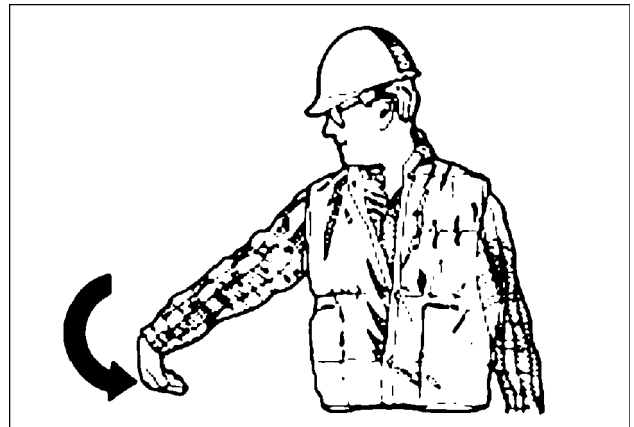
RCPH10WHL014BAD 73

Extend arm



RCPH10WHL011BAD 74

Fill tool



RCPH10WHL015BAD 75

## Steering column

### Ignition switch

The ignition switch has four positions:

#### Accessory position

This position will energize the optional radio only. It will not energize the instruments or start the engine.

#### OFF position

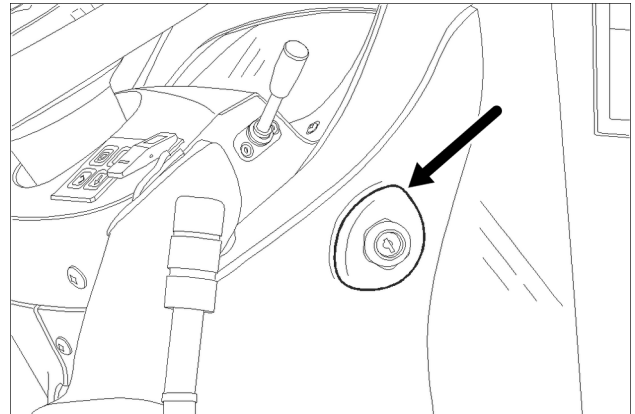
In this position, all switch controlled current is OFF. Turn the key to OFF to stop the engine. Remove the key and turn the Master Disconnect Switch to OFF.

#### START position

Turn the key to this position to engage the starter motor to start the engine. The switch is spring loaded and will return to the ON position when released.

#### ON position

This position will energize all electrical systems. The key will return to this position after you release the key from the start position.



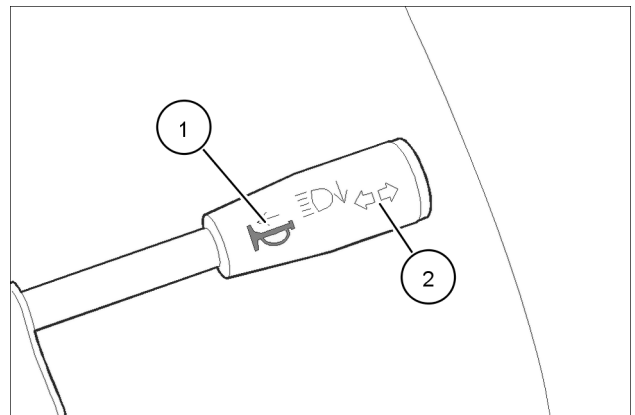
RCPH10WHL114BAL 1

### Horn and turn signal

#### ⚠ WARNING

**Hazard to bystanders!**  
**Always sound the horn before starting the machine. Make sure the work area is clear of other persons, domestic animals, tools, etc. before you operate the machine. Never allow anyone in the work area during machine operation.**  
**Failure to comply could result in death or serious injury.**

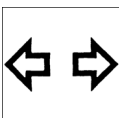
W0304A



RCPH10WHL115BAL 2



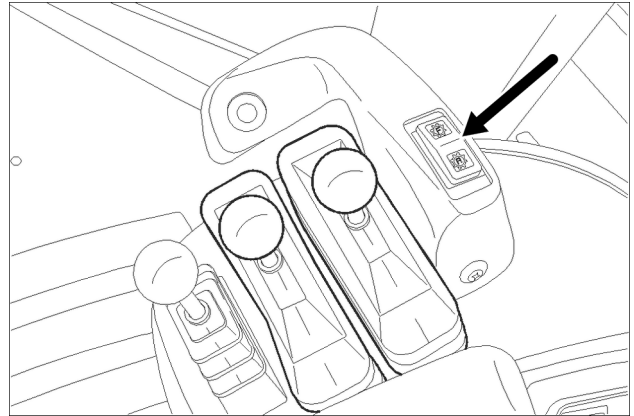
1. Horn - Push the horn lever in to actuate the horn.



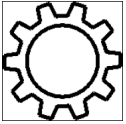
2. Turn signal lever - Push the control lever up to signal a left turn. Pull the lever down to signal a right turn. The lever must be moved manually to the center position to stop the signals.

**Shuttle shifting - direction change manual or automatic**

It is not necessary to bring the machine to a complete stop when changing directions from forward to reverse or reverse to forward. For smooth operation and operator comfort, reduce engine speed before direction changes.



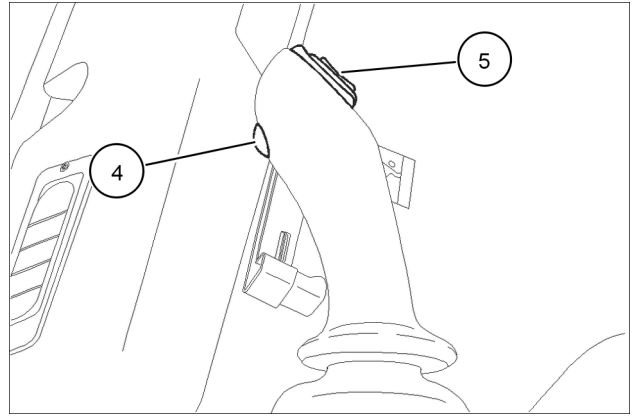
RCPH10WHL110BAL 3



4. TRANSMISSION DOWNSHIFT BUTTON - Drops the transmission down one gear at a time.



5. F-N-R Switch. This switch will allow the operator to put the transmission in forward, neutral, or reverse. To activate this auxiliary F-N-R switch, the proper sequence must be followed. The primary shift lever must be in the neutral position before using the auxiliary F-N-R switch. Push the switch forward to place the transmission in forward, place the switch in the middle position to place the transmission in neutral, and pull the switch rearward to put the transmission in reverse.



RCPH10WHL120BAL 3

- A. Forward (Transmission)
- B. Neutral (Transmission)
- C. Reverse (Transmission)

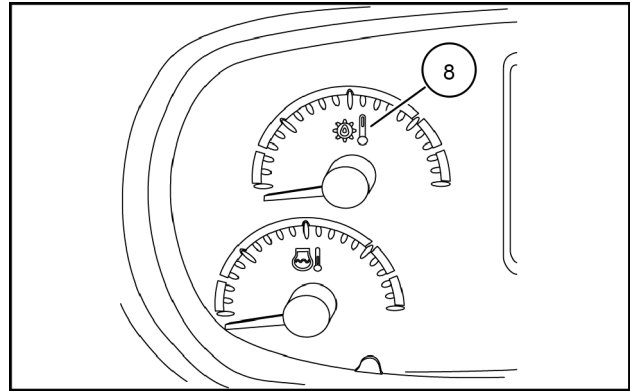
**8. Transmission oil temperature gauge**



The transmission oil temperature gauge indicates the oil temperature of the transmission.

The Caution Master Indicator is a non-critical warning display. See Non-Critical Warning Displays.

The normal operating temperature is in the green zone. When the transmission oil temperature increases, the gauge will move into the yellow zone, the warning alarm sounds, and the caution master indicator turns yellow. When the temperature continues to increase the gauge moves into the red zone, the warning alarm will sound continuously, and the stop master indicator turns red. Do not operate the machine when the temperature is in the red zone.



RCPH10WHL008AAD 3

Transmission oil temperature gauge				
Gauge indication	Condition	Master indicator	Gauge status	Alarm status
20 °C (68 °F) and below	Oil temperature is very low	Caution (yellow)	Flashes	3 Seconds
20 - 120 °C (68 - 248 °F)	Oil temperature is normal			
120 - 125 °C (248 - 257 °F) (See the note below.)	Oil temperature is high	Caution (yellow)	Flashes	3 Seconds
125 °C (257 °F) and above	Oil temperature is very high	Stop (red)	Flashes	Continuous

**NOTE:** To prevent damage to the transmission, stop the machine, shift the transmission to neutral, and run the engine at partial throttle (approximately **1700 RPM**) until the transmission cools. If the transmission oil temperature does not return to normal operating temperature, run the engine at idle speed, and check the transmission oil level. Correct the problem before continuing to operate the machine.

## Entering the service screens

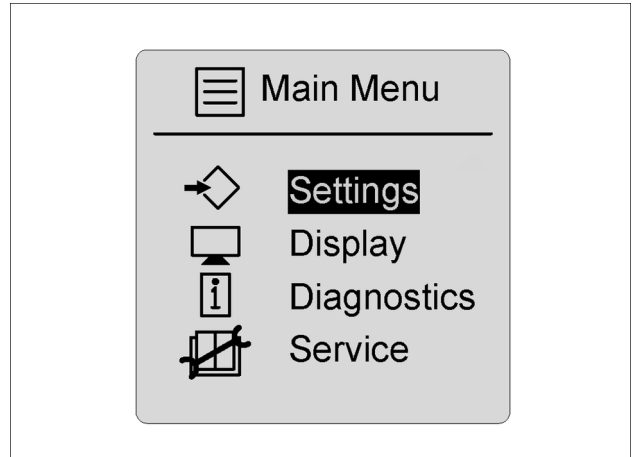
After the machine has been started or the key switch has been turned to ON, the operator or service technician may use the main menu to adjust machine configurations to working conditions, to test components, view faults that may have occurred, or to select preferences. Languages can be set at the beginning of the menu configuration to allow the operator to work in the language of choice.

### Main menu

Press and hold the confirm key for two seconds to arrive at the main menu. The arrow keys can be used to scroll through menu selections.

Items and selections in this menu are:

- Settings
- Display
- Diagnostics
- Service

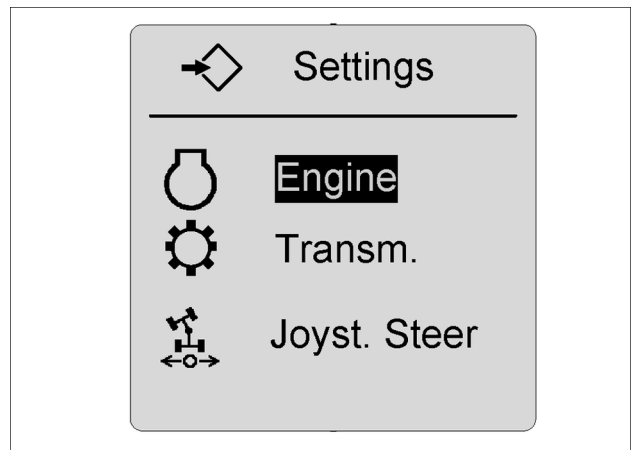


RCPH10WHL804AAH 12

### Settings

Selections at the setting menu include:

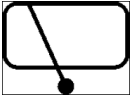
- Engine
- Transmission
- Joystick steering (Option - will display only if machine is joystick steering equipped)



RCPH10WHL803BAH 13

## Switch operations

### 1. Rear wiper switch

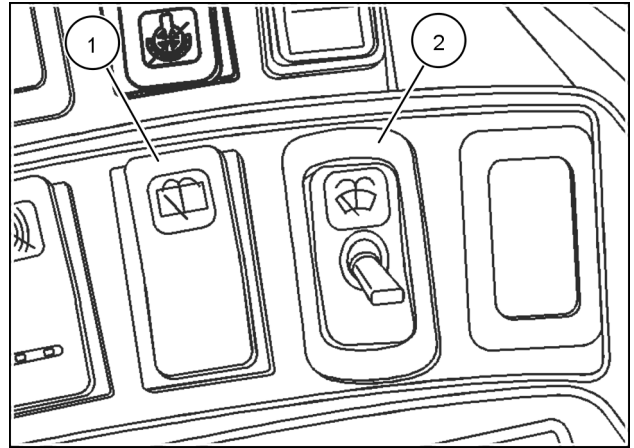


- A. Push switch to the center position for ON.
- B. Push on the front of switch for washer fluid.

### 2. Front wiper/washer switch



- A. OFF - Toggle switch is in the OFF position.
- B. INTERMITTENT - Push toggle to the first position. There are six settings for intermittent wiper speeds.
- C. LOW - Push toggle ahead until the wiper runs continuously for low wiper speed.
- D. HIGH - Push toggle ahead for high wiper speed.
- E. WASH - Push down on the front of the switch for washer fluid.



RCIL10WHL192BAL 1

### 3. Driving light switch

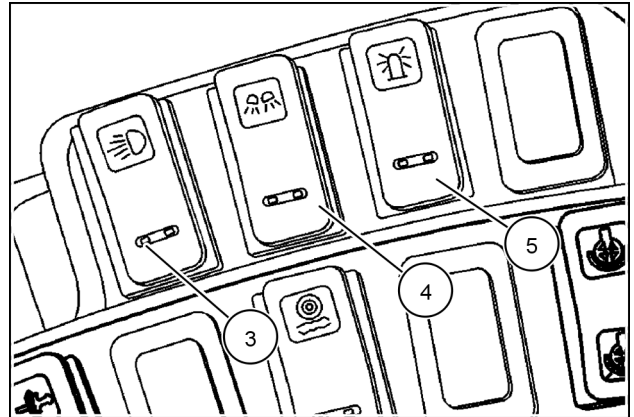


- Push on the top of the switch for roading machine. Pushing on the bottom of the switch will turn the lights OFF. The middle position is for marker/position lights.

### 4. Work light switch



- Push on the top of the switch for front and rear working lights. The middle position is for front work lights only. Pushing on the bottom of the switch will turn the lights OFF.



RCPH10WHL194AAH 2

### 5. Rotating beacon (optional)



- Push on the top of the rotating beacon switch for the ON position. Push the switch bottom for the OFF position.

## 4 - OPERATING INSTRUCTIONS

### COMMISSIONING THE UNIT

#### Before starting the engine

**⚠ WARNING**

**IMPROPER OPERATION OF THIS MACHINE CAN CAUSE DEATH OR SERIOUS INJURY.**

**MAKE SURE THAT EVERY OPERATOR:**

- is instructed in the safe and proper use of this machine.
  - reads and understands the operator's manual for this machine.
  - reads and understands ALL safety signs on the machine.
- Failure to comply could result in death or serious injury.

W0188A

**⚠ WARNING**

**Avoid injury!**

**Do not operate the machine while under the influence of alcohol or drugs.**

Failure to comply could result in death or serious injury.

W0160A

#### Before starting the engine

1. Perform a daily walk around and visual inspection of the machine. Check for loose connections, faulty hoses, oil leaks, debris or trash buildup, loose bolts, damaged, or missing parts that could effect the normal and safe operation of the machine. Make any necessary corrections before operating the machine.
2. See the quick reference Maintenance Chart in this manual and complete the items in the daily - 10 hour section of the chart.
3. Check that the machine fuel tank is filled with clean fuel that matches the specifications given in this manual.

## STOPPING THE UNIT

### Stopping the engine

#### **⚠ WARNING**

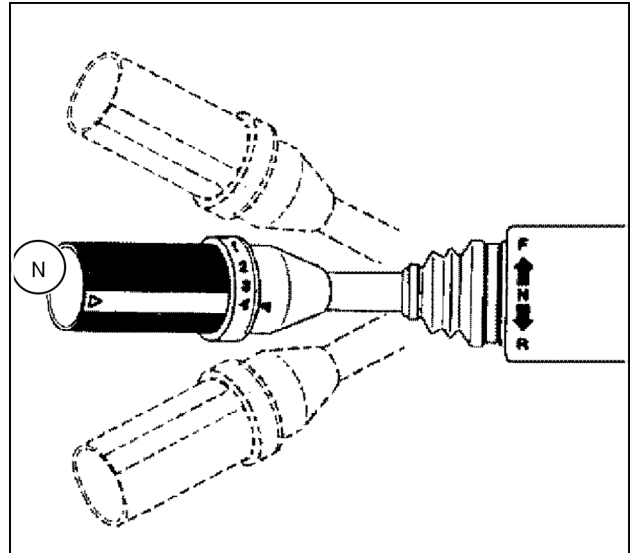
**Unexpected movement!**

**Always engage the parking brake and switch off the engine before exiting the machine.  
Failure to comply could result in death or serious injury.**

W0209A

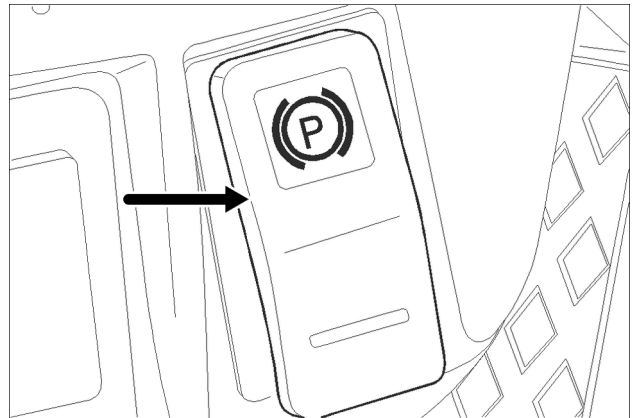
1. Stop the machine on hard, level ground and place the gearshift selector in NEUTRAL.

**NOTICE:** If you must temporarily park the machine on a hillside, put the front of the machine toward the bottom of the hill. Make sure the machine is behind an object that will not move.



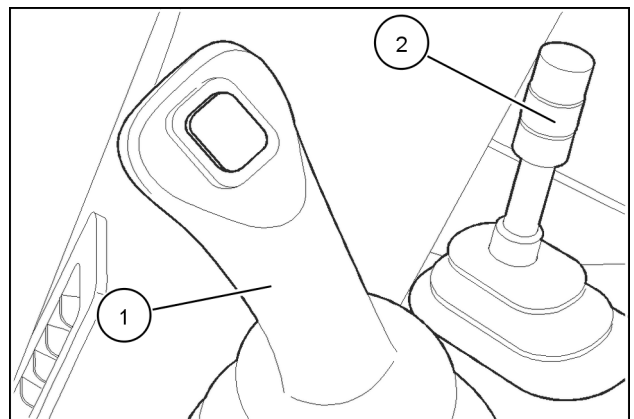
RCL10WHL193BAL 1

2. Slowly move the equipment control levers forward to rest the equipment on the ground.
3. Push the parking brake switch to the ON position. Turn the engine off.



RCPH10WHL028BAL 2

4. Slowly move the equipment levers through all rotations to insure that residual pressures in the hydraulic system are released.

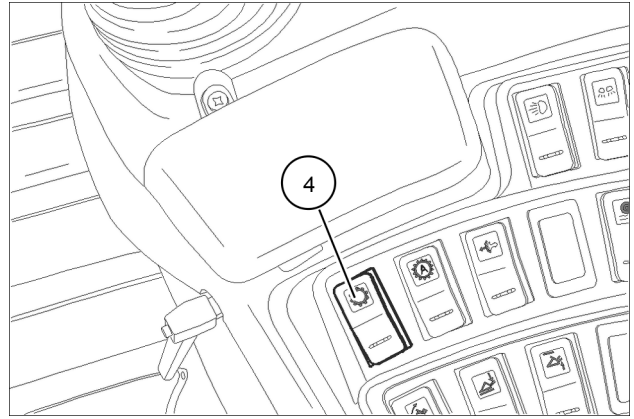


RCPH10WHL119BAL 3

When steps 1 through 5 have been completed the transmission enable switch may be enabled by pushing down on the top of the switch **(4)**. The indicator light on the bottom of the switch will illuminate.

The transmission enable switch will be DEACTIVATED and F-N-R control will default back to the Standard Transmission Control Lever if:

1. The engine is stopped.
2. The parking brake is applied.
3. The transmission control lever is taken out of the neutral position.



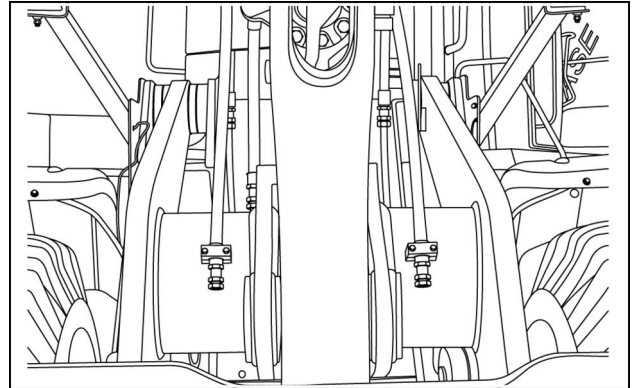
RCPH10WHL008BAL 4

**Auxiliary hydraulic connection (if equipped)****⚠ WARNING****Escaping fluid!**

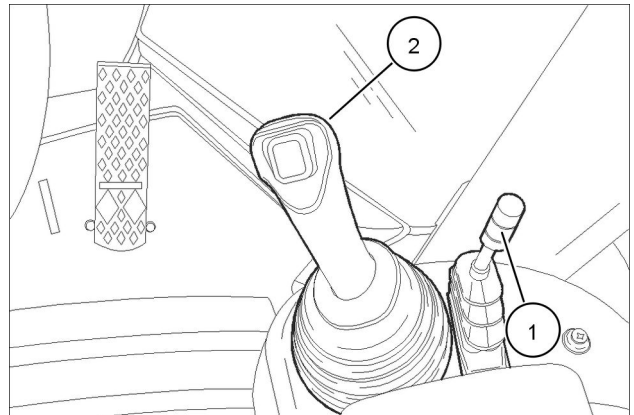
**Do not disconnect hydraulic quick coupler under pressurized conditions. Make sure all hydraulic pressure is removed from the system before disconnecting hydraulic quick coupler. Failure to comply could result in death or serious injury.**

W0095A

Your Wheel Loader may be equipped with an Auxiliary Hydraulic System. A control lever on the console controls flow to the auxiliary hydraulic connection points on the lift arms. The auxiliary control lever (1) used with a joystick (2) is equipped with mechanical detents to lock it into full forward, full rearward and neutral positions. Auxiliary control levers on non-joystick machines DO NOT have mechanical detents.



RCIL10WHL280BAL 11



RCPH10WHL118BAL 12

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## Operating the machine in water

### **▲ WARNING**

**Driving hazard!**

**Do not operate the machine in a fast flowing stream. Fast flowing water can cause you to lose control of the machine.**

**Failure to comply could result in death or serious injury.**

W0151A

- Make sure that the bottom of the stream, or water in which you will work, can support the weight of the machine.
- Do not allow the water level to reach the wheel rim.
- Before using the machine in water, inject large quantities of fresh grease into the appropriate grease fittings.
- After completing the operation make sure to inject fresh quantities of grease into any fitting that was in water.

## Joystick operation

### **⚠ WARNING**

**Driving hazard!**

**Check all controls and safety devices in a safe, open area before starting work.**

**Failure to comply could result in death or serious injury.**

W0248A

### **⚠ WARNING**

**Driving hazard!**

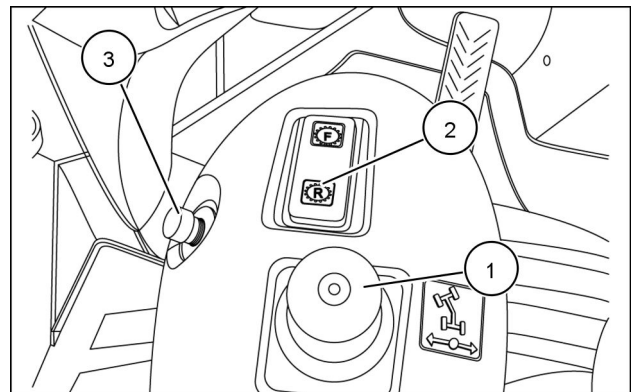
**Always use the primary steering when traveling on a public road or highway. The left armrest must be raised and in a locked position during travel. Do not use joystick steering when traveling on a public road or highway.**

**Failure to comply could result in death or serious injury.**

W0451A

### Joystick steering control lever (optional)

The joystick steering control lever allows the loader to be operated using hand controls located on the left operator seat armrest. It allows for steering capabilities at the operator's fingertips. Moving the lever right or left steers the machine in the right or left direction. When the Joystick is released, the lever will return to the neutral position automatically. The machine will remain in the last direction chosen. Forward and reverse are accomplished with the F-N-R switch. Use the joystick steering controls for short cycle, repetitive high production load and carry operations to reduce operator fatigue and increase operating efficiency.



RCIL10WHL188BAL 1

1. Joystick steering control lever
2. Forward-neutral-reverse switch
3. Kick-down switch

## Support strut for loader lift arm

### Loader lift arm support

#### **⚠ DANGER**

##### **Crushing hazard!**

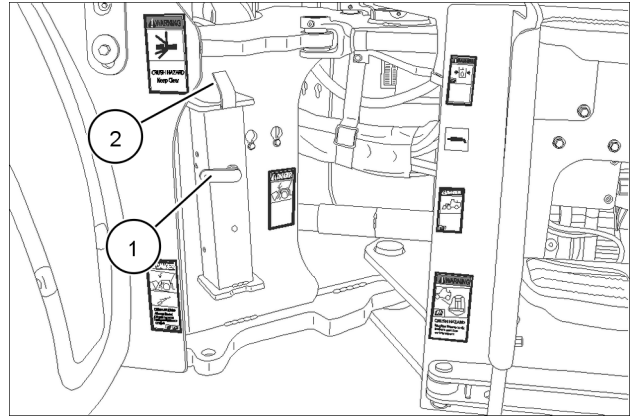
If you service the machine with the loader lift arms raised, always use the support strut. Remove the retaining pin and place the support strut onto the cylinder rod. Install the retaining pin into the support strut. Lower the lift arms onto the support strut.

Failure to comply will result in death or serious injury.

D0084A

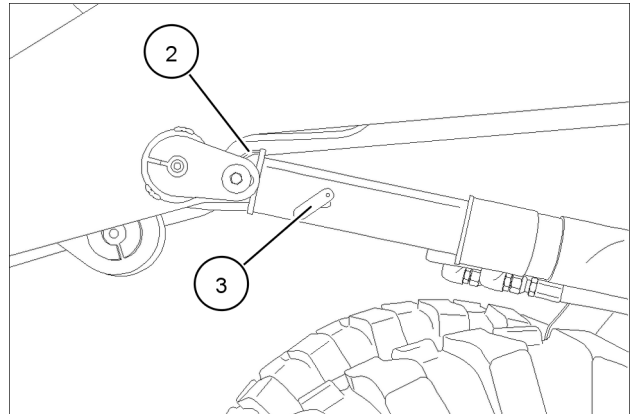
1. Empty the loader bucket, raise the loader lift arms to approximately **2.1 m (7 ft)** and stop engine.
2. Remove the support strut from the storage position by removing the retaining bolt **(1)**.
3. Place the support strut on to the cylinder rod with the guide lock tab on top of cylinder and pointing toward the bucket **(2)**.
4. Install the retaining bolt entirely into the support strut using all threads **(3)**.
5. Slowly lower the lift arms onto the support strut.

If you do not follow this procedure, you can cause death or serious injury if the loader lift arms are lowered unexpectedly.



RCPH10WHL059BAL 1

**NOTE:** Support strut in transport position.



RCPH10WHL061BAL 2

**NOTE:** Support strut in service position.

## MAINTENANCE CHART

### Maintenance Chart

Interval	Page Nb.	Maintenance Action	Nb. of pts	Check	Grease	Change fluid	Replace	Drain fluid	Adjust	Cleaning
Daily inspection	7-15	General		X						
Every 10 hours	7-19	Engine oil		X						
Every 50 hours	7-20	Bucket/attachment grease fittings			X					
	7-21	Grease machine and attachments			X					
	7-22	Hydraulic oil level		X						
	7-23	Transmission oil level		X						
	7-24	Engine coolant		X						
Initial 100 hours	7-25	Wheel torque		X						
	7-27	Change engine oil and filter (Initial)				X				
	7-30	Replace hydraulic oil filter (Initial)					X			
	7-31	Fuel prefilter (Initial)		X						
	7-32	Replace fuel filter (Initial)					X			
Every 100 hours	7-33	Grease fittings			X					
Every 250 hours	7-35	Grease drive shaft slip joints			X					
	7-36	Cab air filter					X			
	7-38	Wheels and tires		X						
Every 500 hours	7-40	Change engine oil and filter					X			
	7-43	Replace fuel prefilter					X			
	7-44	Fuel filter		X						
	7-45	Fuel tank sediment						X		
	7-46	Axle oil level		X						
	7-47	Roll over protective structure		X						
	7-50	Battery fluid level		X						
Every 1000 hours	7-51	Pivot points			X					
	7-52	Articulation fittings			X					
	7-53	Hydraulic oil filter					X			
	7-54	Drive belt					X			
	7-56	Cab air filter					X			
	7-58	Replacing the engine breather filter					X			
Every 1500 hours	7-59	Change front and rear axle oil					X			
	7-61	Calibrating the gear box							X	
	7-62	Transmission declutch pressure adjustment							X	
	7-63	Transmission fluid and filter				X				
Every 2000 hours	7-65	Hydraulic oil and filters				X				
	7-67	Engine coolant				X				
	7-69	Engine air filters					X			
	7-71	Frame and cab - lubricate			X					
	7-71	Engine valve clearance		X						

## Transmission oil level

Check the transmission oil level every 50 hours of operation.

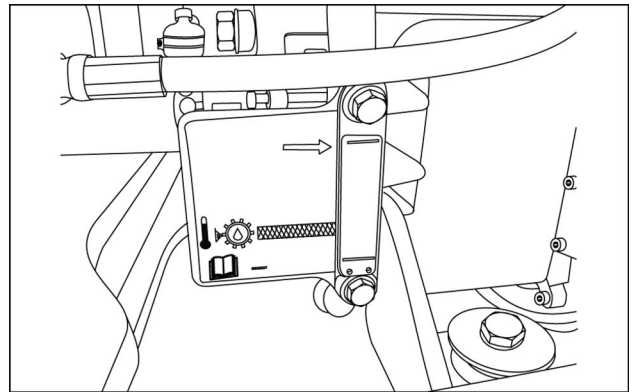
### Prior operation:

Keep all non-authorized personnel clear of the area. Park the machine on level ground, in neutral with the parking brake applied and the attachment lowered to the ground. The transmission oil level sight gauge is on the left side of the machine.

Service specifications	
Type of oil	CASE AKCELA NEXPLORE™ FLUID
821F Capacity	34.1 l (36.0 US qt)
921F Capacity	34.1 l (36.0 US qt)

### Cold oil level check

Before you start the engine, check the transmission oil level in the sight gauge. If the oil level is below the arrow, add oil to raise the oil level up to the arrow.



RCPH10WHL141AAH 1

### Engine running check

#### ⚠ WARNING

**Hazard to bystanders!**

**Make sure the area surrounding the machine is clear of all persons before starting the engine. Failure to comply could result in death or serious injury.**

W0090A

1. Keep all non-authorized personnel clear of the area. Park the machine on level ground, in neutral with the parking brake applied and the attachment lowered to the ground. The pilot lock out should be engaged to neutralize hydraulic flow.
2. The transportation/service link must be in place to prevent unexpected articulation.
3. Locate the transmission oil level sight gauge on the left side of the machine.
4. If this check is to be performed in an enclosed area, ventilate properly to reduce the deadly exhaust fumes.
5. Check the transmission oil level at idle speed with the oil temperature of **65 - 70 °C (149.0 - 158.0 °F)**. The oil level should rise to the top of the gauge. Oil level should be between the bottom and top of the cross hatch region.
6. Add oil if necessary. Do not overfill.

## Every 100 hours

### Grease fittings

#### **⚠ WARNING**

Improper operation or service of this machine can result in an accident. Read and understand the **SAFETY INFORMATION** Section before you perform any maintenance, service, or repairs. Read and understand the specific service procedures for the components you plan to work with before you start servicing the machine. Failure to comply could result in death or serious injury.

W0138A

#### **⚠ WARNING**

**Crushing hazard!**  
If you service the machine with the loader lift arms raised, always use the support strut. Remove the support strut from the storage position and place the strut onto the cylinder rod. Install the retaining bolt entirely into the strut. Lower lift arms onto the support strut. Failure to comply could result in death or serious injury.

W0140A

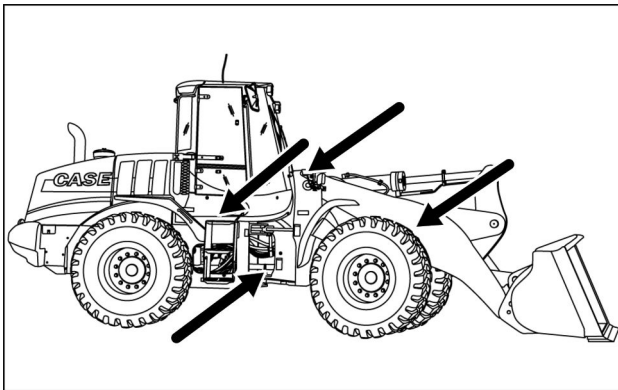
#### **⚠ WARNING**

**Avoid injury!** Always do the following before lubricating, maintaining, or servicing the machine.

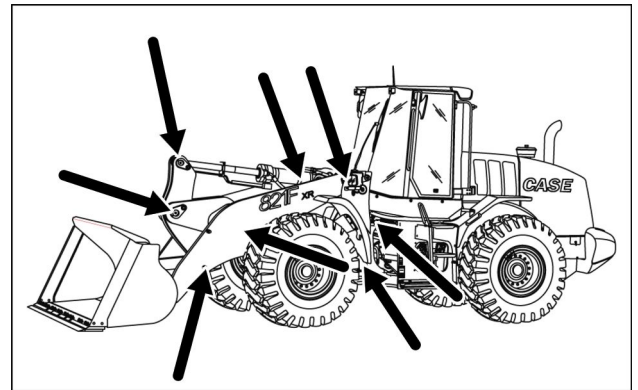
1. Disengage all drives.
  2. Engage parking brake.
  3. Lower all attachments to the ground, or raise and engage all safety locks.
  4. Shut off engine.
  5. Remove key from key switch.
  6. Switch off battery key, if installed.
  7. Wait for all machine movement to stop.
- Failure to comply could result in death or serious injury.

W0047A

### Machine grease fittings



RCPH10WHL096AAH 1



RCPH10WHL094AAH 2

## Replace fuel prefilter

### **⚠ WARNING**

Fuel vapors are explosive and flammable. Do not smoke while handling fuel. Keep fuel away from flames or sparks. Shut off engine and remove key before servicing. Always work in a well-ventilated area. Clean up spilled fuel immediately. Failure to comply could result in death or serious injury.

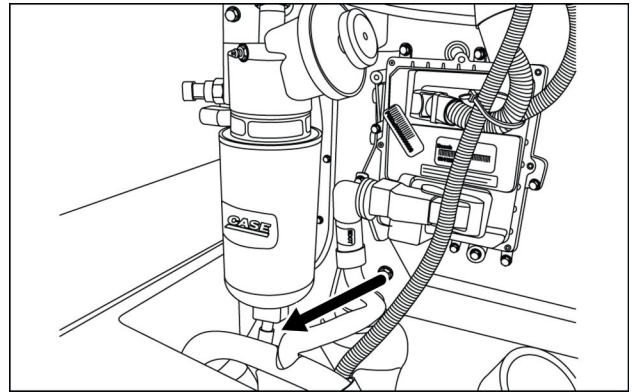
W0904A

### **Prior operation:**

Park the machine on a firm, level surface. Lower the attachment to the ground. apply the parking brake, and install the transport service link to prevent unexpected articulation.

### **Drain fuel prefilter condensation**

1. Change the fuel prefilter when the machine hourmeter registers 500 hours. Change filter every 500 hours thereafter or more often if conditions so require or if fuel quality is poor. The prefilter is located on the right side of the machine.
2. Remove connector. Open the drain valve on the fuel prefilter by turning counterclockwise two or three turns. Drain the water and/or contaminants from the prefilter into a suitable container until clean fuel flows. Do not allow fuel to spill on engine or ground.
3. Turn the filter counterclockwise to remove.
4. Replace with a new filter cartridge, turning clockwise until the cartridge meets the filter head. Hand tighten firmly in place. Do not use a wrench to tighten. Replace connector at bottom of filter.



RCPH10WHL114AAH 1

## Hydraulic oil filter

### ⚠ WARNING

Pressurized hydraulic fluid can penetrate the skin and cause severe injuries. Hydraulic fluid is under extreme pressure. Rest the bucket or attachment on the ground. Shut the engine off, turn the key on, and move the hydraulic control lever through all movements several times to relieve residual pressure in the system. Failure to comply could result in death or serious injury.

W0161A

### ⚠ WARNING

Pressurized fluid can penetrate the skin and cause severe injuries. Keep hands and body away from any pressurized leak. **DO NOT** use your hand to check for leaks. Use a piece of cardboard or paper. If fluid penetrates the skin, seek medical attention immediately. Failure to comply could result in death or serious injury.

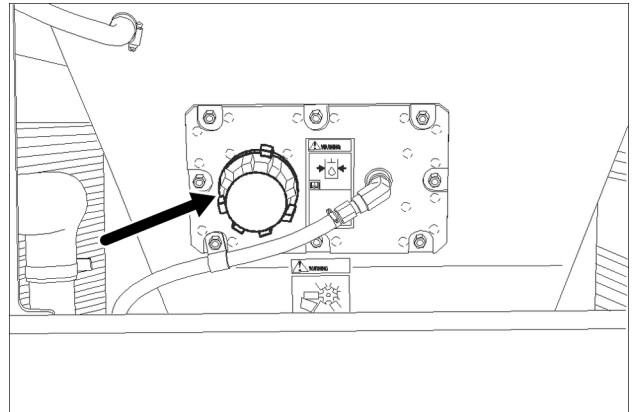
W0158A

Replace the hydraulic oil filter when the hourmeter registers 1000 hours. The filter should be changed every 1000 hours thereafter or more frequently when operating conditions are severe.

#### Prior operation:

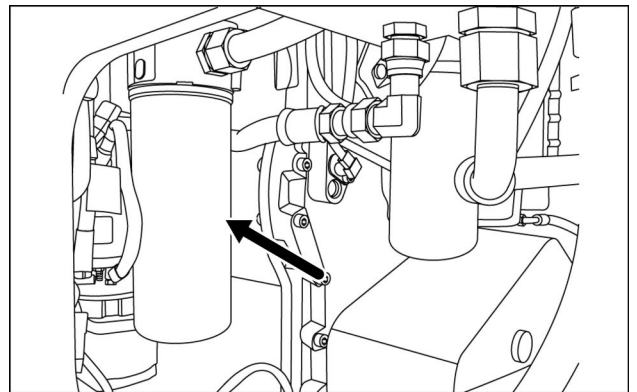
Keep all non-authorized personnel clear of the area. Park the machine on level ground in neutral with the parking brake applied and the attachment lowered to the ground.

1. Release pressure in the hydraulic system. Install the transport/service link into the lock position.
2. Slowly loosen the filler cap on the hydraulic reservoir to release any residual pressure in the reservoir. Leave it loose during the procedure.
3. Turn the filter counterclockwise to remove. Lubricate the gasket and threads of the new filter with clean oil and install. After the filter makes contact with the filter head tighten 1/2 to 3/4 turns.
4. Tighten the cap on the hydraulic reservoir.



RCPH10WHL099BAL 1

5. Start the engine and run at **1000 RPM**. Have an assistant check for leaks around the filter area. Stop the engine and check and hydraulic level. Top off if necessary.



RCPH10WHL127AAH 2

**NOTICE:** Never use a filter wrench to tighten a new filter on install.

## Transmission fluid and filter

### **⚠ WARNING**

**Chemical hazard!**

**When handling fuel, lubricants, and other service chemicals, follow the manufacturer's instructions. Wear Personal Protective Equipment (PPE) as instructed. Do not smoke or use open flame. Collect fluids in proper containers. Obey all local and environmental regulations when disposing of chemicals.**

**Failure to comply could result in death or serious injury.**

W0371A

Change the transmission fluid and filter every 1500 hours or more frequently when operating conditions are severe. Shorten service intervals in severe applications which involve running the torque converter under high load for more than 25% of operation time. Applications include basement digging or land clearing. Reduce intervals as well if using low viscosity oil.

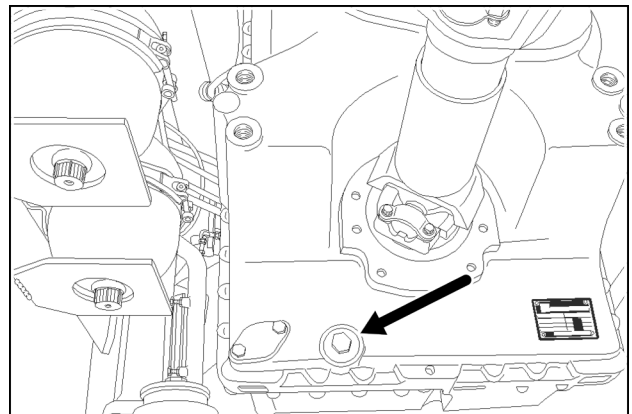
**Prior operation:**

Keep all non-authorized personnel clear of the area. Park the machine on level ground, in neutral with the parking brake applied and the attachment lowered to the ground.

Oil Type	
Non-Case Nexplora (other brands)	<b>CASE AKCELA NEXPLORE™ FLUID</b>
Normal conditions - 1000	Normal conditions - 1500
Severe conditions - 500	Severe conditions - 1000

Service specifications	
Type of oil	<b>CASE AKCELA NEXPLORE™ FLUID</b>
821F Capacity	<b>34.1 l (36.0 US qt)</b>
921F total Capacity	<b>34.1 l (36.0 US qt)</b>

1. Lower bucket/attachment to the ground and lock the pilot control lock lever.
2. Put the transport/service link into the locked service position to avoid unexpected articulation, and stop the engine.
3. Clean the area around the filter head and around the transmission drain and fill caps.



RCPH10WHL004BAH 1

## Air conditioning condenser

### ⚠ WARNING

**Explosion hazard!**

**Air-conditioning refrigerant boils at -12 °C (10 °F)!**

**-NEVER expose any part of the air-conditioning system to a direct flame or excessive heat.**

**-NEVER disconnect or disassemble any part of the air-conditioning system.**

**Discharging refrigerant gas into the atmosphere is illegal in many countries.**

**Failure to comply could result in death or serious injury.**

W0340A

### ⚠ WARNING

**Escaping refrigerant may cause frostbite!**

**Always wear protective goggles when handling refrigerant. If you get refrigerant in your eye, immediately flush your eyes with water for 15 minutes. Seek medical assistance immediately.**

**Failure to comply could result in death or serious injury.**

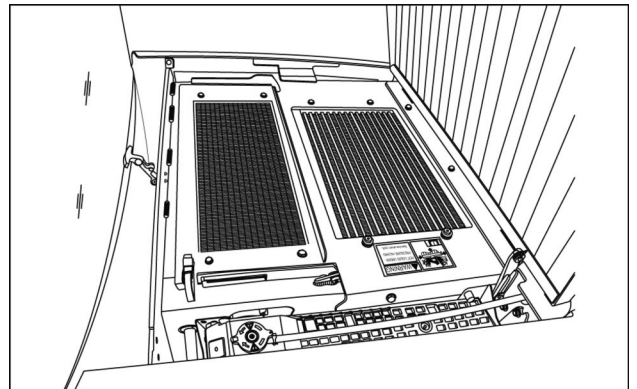
W0339A

Service the following items as required to maintain maximum operating efficiency:

### Lubrication of the air conditioning compressor seal

Operate the air conditioning once every 250 hours to lubricate the compressor seals. Turn the air conditioning control to MAXIMUM for at least 15 minutes. In temperatures below 0 °C (32.0 °F) put a cover over the air conditioning condenser. This will make sure the refrigerant and lubricants in the system will be at operating temperature.

Keep the air conditioning condenser core clean. Use safety type compressed air tool or a rigid brush to clean the condenser. Also check and clean the grille screen



RCPH10WHL139AAH 1

- F. Start the engine and allow the brake pressure to build until the warning light goes OFF.
  - G. Depress the service brake and release. The light must stay ON.
  - H. Put the transmission in F or R and back to N the brake light must stay ON.
  - I. Put the parking brake switch in the engaged position, attempt B and C in step 1. The parking brake light must stay ON.
4. Put the parking brake switch in the release position, attempt B and C in 1. The parking brake light must turn OFF,
- A. Allow the machine to roll slowly forward with the transmission in F. Engage the parking brake. The machine must come to a stop immediately. Parking light ON. Transmission disengages.

If there is any problem with the parking brake test, contact your dealer.

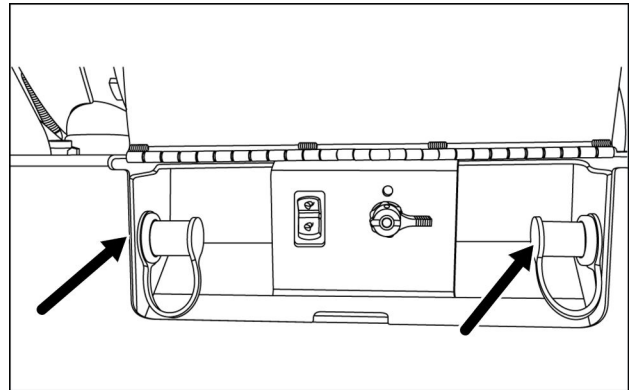
### Jump post (Optional)

Make sure that the voltage of the booster batteries is the same as that of the machine system **24 V**. The jump post is located on the left hand side of the machine along with the main electrical disconnect compartment.

1. Turn off the ignition and all accessories on the machine(s). Use the jump posts to connect the auxiliary battery.
2. Connect one end of the positive (+) cable to the positive (+) terminal on the booster battery. Connect the other end of the positive (+) cable to the positive (+) terminal of the jump post (red).
3. Connect the negative (-) cable to the negative (-) terminal on the booster battery.
4. Connect the other end of the negative cable to the negative (black) terminal of the jump post. Do not connect to the negative terminal on the battery.

**NOTICE:** Do not connect it to sheet metal or any rotating part, as damage can result.

5. Start the engine.
6. Remove the booster battery negative (-) cable from the jump post and then from the booster battery. Remove the positive (+) cable from the jump post terminal and then from the booster battery.
7. Install the terminal covers.

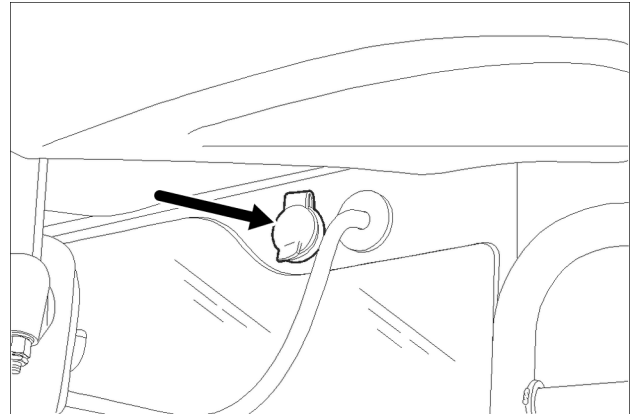


RCPH10WHL214AAH 2

## Rotating beacon light

### Rotating beacon connection

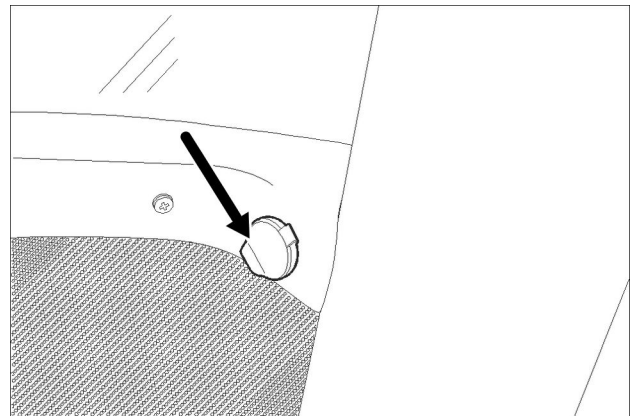
The rotating beacon is an optional feature. The plug-in connection for the beacon is located at the top right front of the cab.



RCPH10WHL080BAL 1

### Auxiliary power outlet

The Auxiliary Power Outlet socket (12 volt) can be used for the connection of a lighting device to help with service and maintenance procedures. There are two auxiliary power outlets, one in the right corner of the operator's compartment, and one in the left corner of the operator's compartment.

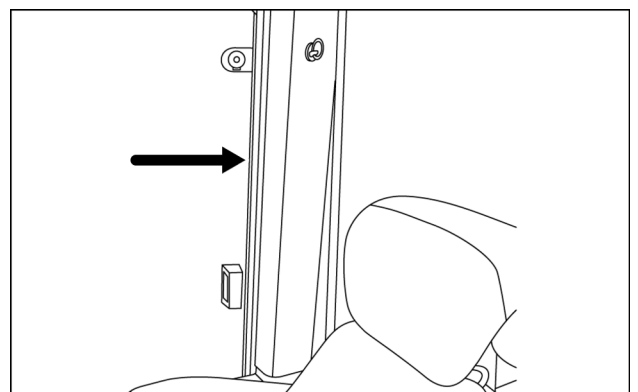


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### Auxiliary power equipment mounting bracket

The auxiliary power equipment mounting brackets are located behind the right and left ROPS post covers. These brackets are for mounting radios, phones, etc.

To locate the bottom of the mounting bracket measure **300 mm (11.8 in)** from the bottom edge of the plastic panel. To locate the top of the mounting bracket measure **420 mm (16.5 in)** from the bottom edge of the plastic panel. The mounting bracket is approximately **70 mm (2.8 in)** wide.



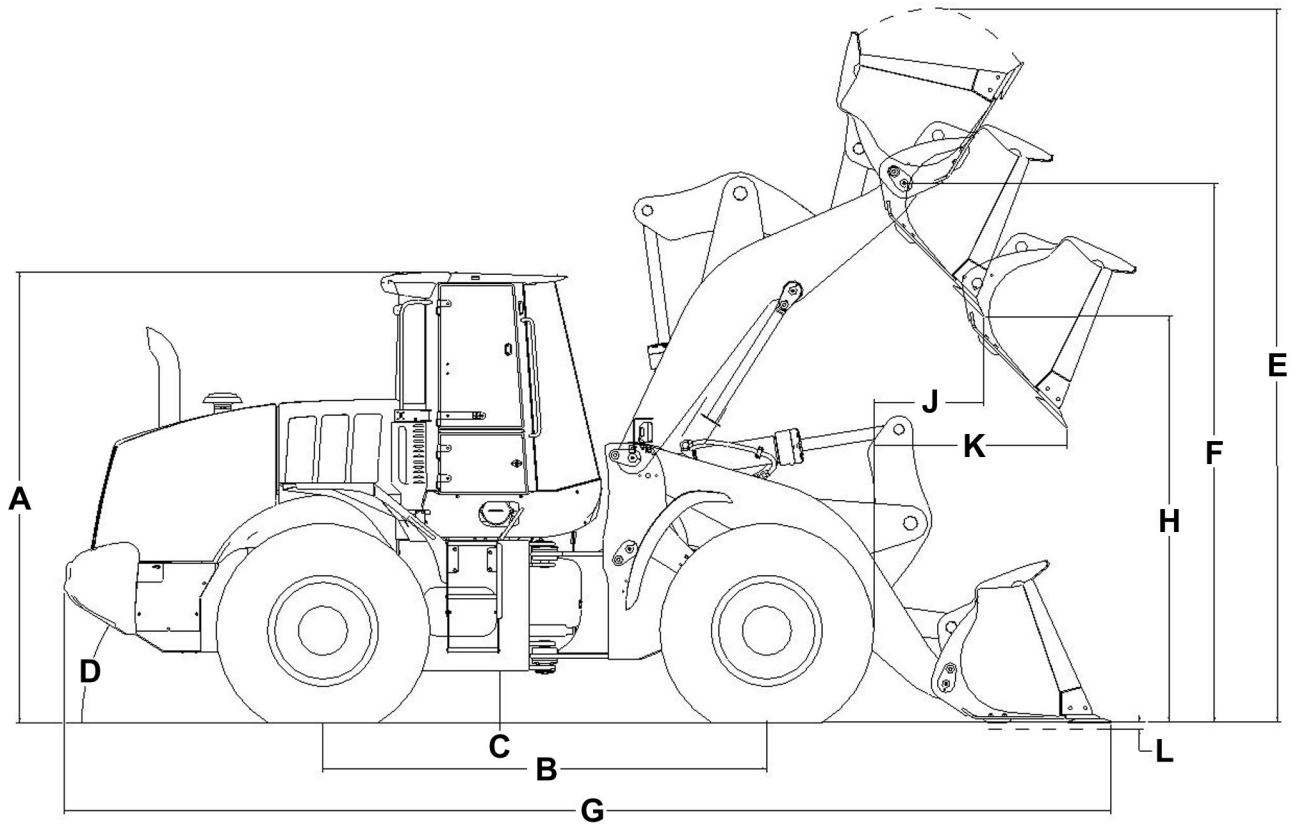
RCIL10WHL276BAL 3

## Lift capacities - 821F and 921F Hydraulic lift capacities

### 821F Model configurations

The following table lists hydraulic lift capacities for 821F Z-Bar lift applications:

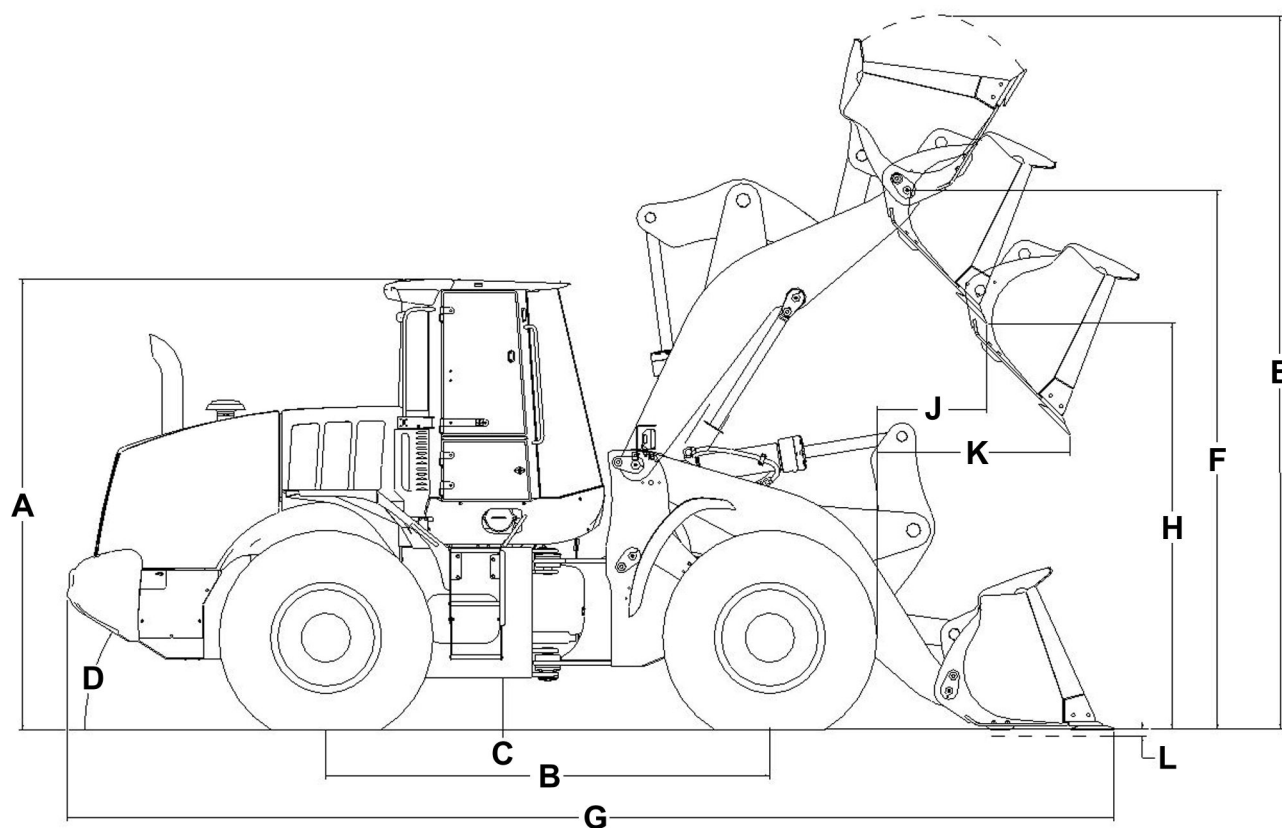
	Bolt-on Edge Bucket	w/Teeth Bucket
<b>821F Z-Bar Specifications - 2.6 m<sup>3</sup> (3.40 yd<sup>3</sup>) Bucket (HD Pin On)</b>		
Full height	<b>10226 kg (22544 lb)</b>	<b>10229 kg (22551 lb)</b>
Maximum reach	<b>13803 kg (30430 lb)</b>	<b>13820 kg (30468 lb)</b>
Ground	<b>18356 kg (40468 lb)</b>	<b>18478 kg (40737 lb)</b>
<b>821F Z-Bar Specifications - 3.2 m<sup>3</sup> (4.25 yd<sup>3</sup>) Bucket (MD Pin On)</b>		
Full height	<b>10071 kg (22203 lb)</b>	<b>10058 kg (22174 lb)</b>
Maximum reach	<b>13641 kg (30073 lb)</b>	<b>13632 kg (30053 lb)</b>
Ground	<b>18112 kg (39930 lb)</b>	<b>18137 kg (39985 lb)</b>
<b>821F Z-Bar Specifications - 3.4 m<sup>3</sup> (4.50 yd<sup>3</sup>) Bucket (LD Pin On)</b>		
Full height	<b>10039 kg (22132 lb)</b>	Not applicable
Maximum reach	<b>13600 kg (29983 lb)</b>	Not applicable
Ground	<b>17987 kg (39655 lb)</b>	Not applicable
<b>821F Z-Bar Specifications - 2.7 m<sup>3</sup> (3.50 yd<sup>3</sup>) Bucket GP on CNH coupler (JRB compatible)</b>		
Full height	<b>9420 kg (20768 lb)</b>	<b>9513 kg (20973 lb)</b>
Maximum reach	<b>12939 kg (28526 lb)</b>	<b>13039 kg (28746 lb)</b>
Ground	<b>14539 kg (32053 lb)</b>	<b>15185 kg (33477 lb)</b>
<b>821F Z-Bar Specifications - 2.7 m<sup>3</sup> (3.50 yd<sup>3</sup>) Bucket GP on CNH Coupler (ACS compatible)</b>		
Full height	<b>9423 kg (20775 lb)</b>	<b>9498 kg (20939 lb)</b>
Maximum reach	<b>12957 kg (28565 lb)</b>	<b>13039 kg (28747 lb)</b>
Ground	<b>15762 kg (34749 lb)</b>	<b>16557 kg (36502 lb)</b>



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**821F XR Specifications - 2.6 m<sup>3</sup> (3.40 yd<sup>3</sup>) Bucket (HD Pin On)**

	Bolt-on Edge Bucket	w/Teeth Bucket
<b>ISO Bucket Specifications</b>		
Struck	2.22 m <sup>3</sup> (2.904 yd <sup>3</sup> )	2.09 m <sup>3</sup> (2.734 yd <sup>3</sup> )
Heaped	2.63 m <sup>3</sup> (3.440 yd <sup>3</sup> )	2.45 m <sup>3</sup> (3.204 yd <sup>3</sup> )
Bucket width (maximum outer)	3030 mm (119.3 in)	3046 mm (119.9 in)
<b>Dimensional Outline Specifications</b>		
A (top of cab height)	3450 mm (135.8 in)	3450 mm (135.8 in)
B (wheelbase)	3340 mm (131.5 in)	3340 mm (131.5 in)
C (ground clearance)	415.8 mm (16.4 in)	415.8 mm (16.4 in)
D (rear angle of departure)	32 °	32 °
Overall width w/o bucket	2885 mm (113.6 in)	2885 mm (113.6 in)
Centerline tread width	2230 mm (87.8 in)	2230 mm (87.8 in)
Turning radius (outside of tires)	6032 mm (237.5 in)	6032 mm (237.5 in)
Turning angle from center	40 °	40 °
Total turning angle	80 °	80 °
E (fully raised with spillguard)	5777 mm (227.4 in)	5766 mm (227.0 in)
F (hinge pin - fully raised)	4564 mm (179.7 in)	4564 mm (179.7 in)
G (overall - bucket level on ground)	8186 mm (322.3 in)	8332 mm (328.0 in)
H (dump - fully raised, 45 ° dump)	3527 mm (138.9 in)	3437 mm (135.3 in)
J (reach - fully raised, 45 ° dump)	1097 mm (43.2 in)	1219 mm (48.0 in)
K (reach - 2.13 m (7.0 ft), 45 ° dump)	2055 mm (80.9 in)	2143 mm (84.4 in)
L (dig depth)	142 mm (5.6 in)	133 mm (5.2 in)
<b>ISO Load Specifications</b>		
Operating load	4967 kg (10950 lb)	5042 kg (11116 lb)
Tipping load		
Machine straight	11558 kg (25481 lb)	11730 kg (25860 lb)
40° turn	9934 kg (21901 lb)	10084 kg (22231 lb)



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**921F XR Specifications - 3 m<sup>3</sup> (4 yd<sup>3</sup>) Bucket GP on CNH Coupler (JCS compatible)**

	Bolt-on Edge Bucket	w/Teeth Bucket
<b>ISO Bucket Specifications</b>		
Struck	<b>2.61 m<sup>3</sup> (3.41 yd<sup>3</sup>)</b>	<b>2.49 m<sup>3</sup> (3.26 yd<sup>3</sup>)</b>
Heaped	<b>3.06 m<sup>3</sup> (4.00 yd<sup>3</sup>)</b>	<b>2.93 m<sup>3</sup> (3.83 yd<sup>3</sup>)</b>
Bucket width (maximum outer)	<b>3030 mm (119.3 in)</b>	<b>3051 mm (120.1 in)</b>
<b>Dimensional Outline Specifications</b>		
A (top of cab height)	<b>3450 mm (135.8 in)</b>	<b>3450 mm (135.8 in)</b>
B (wheelbase)	<b>3340 mm (131.5 in)</b>	<b>3340 mm (131.5 in)</b>
C (ground clearance)	<b>415.8 mm (16.4 in)</b>	<b>415.8 mm (16.4 in)</b>
D (rear angle of departure)	<b>30 °</b>	<b>30 °</b>
Overall width w/o bucket	<b>2885 mm (113.6 in)</b>	<b>2885 mm (113.6 in)</b>
Centerline tread width	<b>2230 mm (87.8 in)</b>	<b>2230 mm (87.8 in)</b>
Turning radius (outside of tires)	<b>6032 mm (237.5 in)</b>	<b>6032 mm (237.5 in)</b>
Turning angle from center	<b>40 °</b>	<b>40 °</b>
Total turning angle	<b>80 °</b>	<b>80 °</b>
E (fully raised with spillguard)	<b>6077 mm (239.2 in)</b>	<b>6077 mm (239.2 in)</b>
F (hinge pin - fully raised)	<b>4558 mm (179.5 in)</b>	<b>4558 mm (179.5 in)</b>
G (overall - bucket level on ground)	<b>8061 mm (338.6 in)</b>	<b>8755 mm (344.7 in)</b>
H (dump - fully raised, 45 ° dump)	<b>3257 mm (128.2 in)</b>	<b>3157 mm (124.3 in)</b>
J (reach - fully raised, 45 ° dump)	<b>1413 mm (55.6 in)</b>	<b>1527 mm (60.1 in)</b>
K (reach - 2.13 m (7.0 ft), 45 ° dump)	<b>2261 mm (89.0 in)</b>	<b>2326 mm (91.6 in)</b>
L (dig depth)	<b>147 mm (5.8 in)</b>	<b>151 mm (6.0 in)</b>
<b>ISO Load Specifications</b>		
Operating load	<b>5094 kg (11230 lb)</b>	<b>5179 kg (11415 lb)</b>
Tipping load		
Machine straight	<b>12039 kg (26541 lb)</b>	<b>12220 kg (26941 lb)</b>
40° turn	<b>10188 kg (22460 lb)</b>	<b>10355 kg (22830 lb)</b>

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