

RESPA[®]-CF2 Installation Kit for John Deere K and K-II Wheel Loaders

Sy-Klone part number: RCF2702

Fits K and K-II Series: 444, 524, 544, 624, 644, 724, 744, 824, 844, 944

Installation Time: 3 to 5 hours



Purpose: RESPA-CF2 provides precleaned and filtered air through integrated Gideon power precleaning technology. Filtration is provided by a FEFF108 ejective filter. The RESPA-CF2 powered precleaner system provides a positive airflow without adding resistance to the air conditioning system.

The Sy-Klone Cab Pressure Monitor System has been included to alert the operator when it is time for the RESPA filter to be changed.

RESPA IS NOT CERTIFIED FOR USE IN EXPLOSION RISK ENVIRONMENTS.

KIT CONTENTS: Replaceable Parts:

Stock code	Description	Quantity
RCF2038	RESPA-CF2, STANDARD LENGTH, 3-INCH OUTLET, 24V COMPACT MOTOR, MERV16 FILTER	1
FEFF108	REPLACEMENT MERV16 EJECTIVE FILTER	1
FEFF118	REPLACEMENT HEPA EJECTIVE FILTER	1
30048	PIPE, 3.0 IN X 48.0 IN	1
AD0221	RESPA-CF2 VERTICAL MOUNTING PLATE	1
AD0224	PLENUM BLOCKING PLATE	1
KT-CABPRES-EL1-ENG	CAB PRESSURE MONITOR	1
30R275	REDUCER, RUBBER 3.0 X 2.75 IN	1
45L30	3 INCH EDM 45 DEG ELBOW	2
90L30	90 DEGREE ELBOW 3 INCH	4
RCF2915	RESPA-CF2 WIRING KIT	1

Also included in kit:

Description	Quantity
BLACK RTV SILICONE 315 WITH TIP	1
3.25-INCH WORM GEAR CLAMP	12
4.75-INCH WORM GEAR CLAMP	4
#10X3/4 SELF-TAPPING SCREW	4
M10 X 1.5 X 25MM BOLT	4
M10 X 1.5 X 35MM BOLT	10
M10 X 1.5 NUT	14
M10 WASHER	28
M10 LOCK WASHER	14
HOOD MOLDING	2FT
3-INCH CUSHIONED LOOP CLAMP	4

Clean the factory HVAC system and cab following the factory's approved methods before installing RESPA-CF2. It is recommended to install a new recirculation filter.

Also Order:



DTAC Deere Solution: 100416 Recirculation Filter Mount

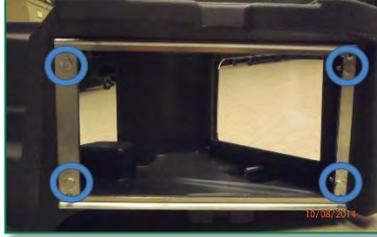
John Deere Part Number	Description	Quantity
AT432643	RETAINER	1
T337453	RETAINER	1
14M7019	WING NUT	4

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Also Order, continued:

Issue: Recirculation filter does not seal fully around the whole sealing surface allowing debris to pass filter. There is difficulty in keeping the filter retaining piece in a position that will keep all edges of the surface sealed. Debris can deposit on the evaporator core and can lead to poor performance and possible plugging.

Solution: A new filter retainer design became a running change in July 2014. A machine with the older style recirculation filter retention design can be updated to the new design with the following.



AT432643 - RETAINER



T337453 - RETAINER



14M7019 - WING NUT

CAB PRESSURE MONITOR SYSTEM:

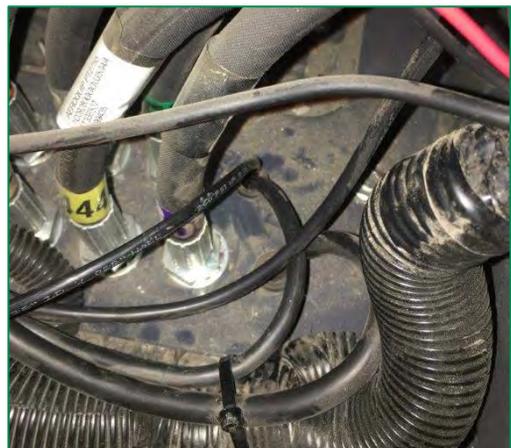
Use the Sy-Klone Cab Pressure Monitor to verify cab pressure.

1. Install the Sy-Klone Cab Pressure Monitor per the installation instructions.
2. Start the machine.
3. Set the HVAC system to its lowest fan setting.
4. Set the HVAC system to fresh air by turning off the recirculation feature.
5. Increase HVAC system fan speed. Cabin pressure should increase as fan speed increases.
6. If cabin pressure never increases there may be leaks in cab that need to be sealed.



Pressure Monitor Installation Tips:

- The panel to the driver's left, next to the tray, can be an ideal mounting location.
- Mount the pressure monitor, display up, on the panel with the supplied self-tapping screws.
- The tray can be removed to provide access to electrical connections.
- Notch the tray edge to route power lead and ambient hose.
- An open single-pin Deutsch connector may provide the necessary switched, key-on, power source.
- The ambient pressure hose can exit the cab through an existing grommet.
- Remove the cab skirt to gain access under the cab.
- Secure the ambient hose and cut-off excess.



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John Deere Loaders, K and K-II Series: 444, 524, 544, 624, 644, 724, 744, 824, 844, 944, have common cabs but variances in chassis configurations. Precleaner mounting locations and plumbing routing will vary. For reference, photos of a 824K installation will be used in this document. Please read all instructions prior to installation.

RESPA-CF2 INSTALLATION:

1. Turn off master power switch.
2. Identify an ideal location for the RESPA-CF2. A vertical mounting plate is included in the kit. **Note:** It is not necessary to use the vertical mounting plate when installing the RESPA-CF2. When selecting mounting location, plan routing of the plumbing so it does not impede walkways or compartment doors while allowing room for filter removal.



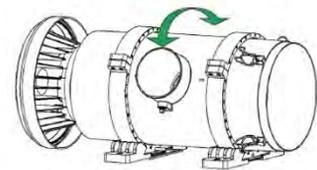
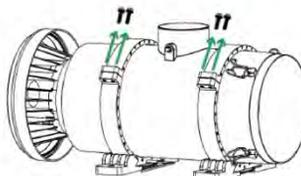
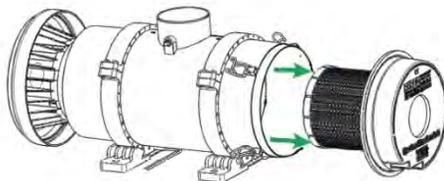
3. Once a mounting location has been identified for the vertical mounting plate, mark and drill the vertical mounting plate for installation. **Note:** The RESPA-CF2 port orientation can be changed before or while installed on vertical mounting plate.



RESPA-CF2 OUTLET ORIENTATION:

The RESPA-CF2 outlet can be rotated every 10 degrees identified with location marks on body clamps.

1. Release the filter latches, see filter removal/reinstallation page 8.
2. Remove the RESPA-CF2 filter.
3. Loosen or remove two 10mm bolts from one side of each body clamp.
4. Rotate outlet every 10 degrees. **Note:** Align arrow with body clamp alignment numbers on clamp.
5. Reinstall and tighten body clamp bolts to 17.7 to 35.4 in.lbs (2 to 4 Nm).
6. Reinstall filter, see filter removal/reinstallation page 8. **Note:** When replacing the filter elements, do not point ejection slots at a solid surface in close proximity to the slots.

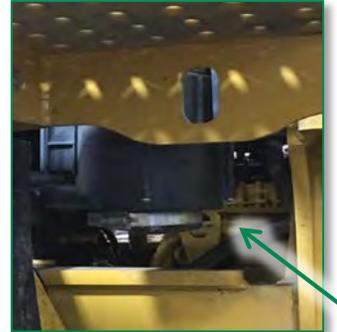


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The factory fresh air filter will be permanently removed and replaced by the RESPA-CF2. To accomplish this, the RESPA-CF2 outlet must be connected to the HVAC fresh air inlet. The fresh air inlet is located under the left rear corner of the cab and is accessed through the wheel well. A Gideon powered precleaner may or may not be installed. Machines without Gideon installs require HVAC plenum modification.

FRESH AIR INLET, GIDEON INSTALLED:

1. Remove the left cab skirt (plastic) to access the fresh air inlet.
2. Remove the Gideon, mounting bracket, and rubber expansion adapter.



3. Permanently remove the fresh air filter from the HVAC plenum and discard accordingly. **Note:** Machines with a Gideon unit installed use the fresh air port in the adapter and have sealed the louvered cab opening.



FRESH AIR INLET, GIDEON NOT INSTALLED:

1. Permanently remove the fresh air filter from the HVAC plenum and discard accordingly.
2. Remove the fresh air adapter for the cabin louvers.



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FRESH AIR INLET, GIDEON NOT INSTALLED, continued:

3. Cut the cap off of the fresh air port on the fresh air adapter. **Note:** Ensure to leave enough material for rubber adaptation installation.



4. Apply RTV sealant to fresh air adapter around fresh air opening and press the fresh air blocking plate in place. **Note:** RTV must create a solid seal around original fresh air opening.



5. Reinstall the fresh air plenum. **Note:** Verify original cab louver seal is in good condition. Replace seal as necessary.
6. Remove the left cab skirt (plastic) to access the fresh air inlet.

PLUMBING THE RESPA-CF2:

Use the included plumbing components to connect the RESPA-CF2 to the fresh air inlet port. Plumbing routing will vary.

- When routing plumbing through walkways use supplied edge molding to protect against sharp edges.



- Cut pipe into sections based on routing requirements. **Note:** paint cut edges to prevent rusting.

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PLUMBING THE RESPA-CF2, continued:

- Clamps can be left loose and tightened after plumbing is assembled.
- The fresh air inlet is 2.75-inches. Use the 3-inch to 2.75-inch rubber reducer, 30R275, to adapt the inlet to the plumbing.

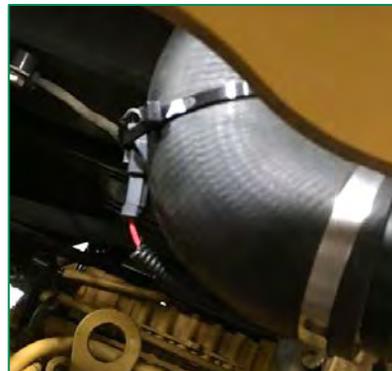


- It may be necessary to modify skirt mounting brackets for plumbing clearance.
- Use supplied worm-gear and/or p-clamps to secure plumbing.
- Cab skirting, with modification, can be reinstalled over plumbing.



Wiring:

Route wiring along plumbing. Use included cable ties and or insulated p-clips. Note: The RESPA-CF2 unit must always receive power when the ignition key is in the ON position and the power must terminate when the ignition key is in the OFF position. For machines with Gideon installed, the factory Gideon wiring may vary per HVAC blower speed setting and is not a suitable power source.



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WIRING, continued:

1. Turn on master power switch.
2. Finding proper power is critical for system performance.
 - a. The unit must always receive power when the ignition key is in the ON position.
 - b. The power must terminate when the ignition key is in the OFF position.
 - c. Do not wire the unit to a variable voltage source.
 - d. A master system relay or main fuse box can be a good source of constant power when the ignition key is in the ON position.
 - e. The current requirement for the 24 volt system is 6 amps maximum initial draw with 3 amps constant.
 - f. An appropriate relay can be used to provide suitable power from a non-terminating constant source.
3. Ensure the input voltage is 24 volts.
4. The RESPA-CF2 system must be fused inline. **Note:** A fuse holder and 7.5 amp fuse is included.
5. A wiring harness is included. System black wire = negative (ground); System red wire = positive. **Note:** An incorrect electrical connection will reverse the fan direction causing the RESPA to function improperly.
6. Finding a good ground is also critical to system performance. Use an existing grounding point if possible. If not, grind a small area to bare metal and use a self-tapping screw to ground the system.
7. **The master power switch should be set to the OFF position after appropriate power is located and ignition key removed before electrical connections are made.**
8. Avoid high heat areas, routing across walkways, and reducing operator visibility.
9. Grommets can be used to route the wiring through panels.

INSPECTING RESPA-CF2 UNIT:

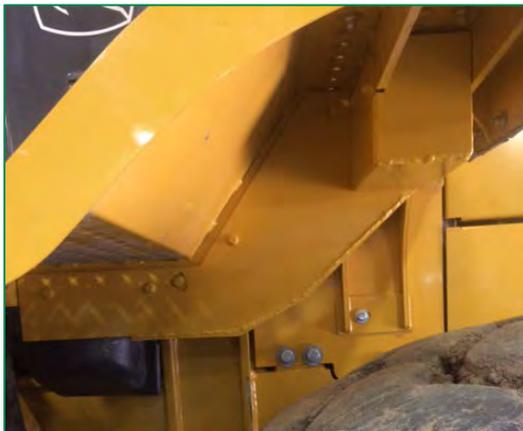
1. Turn the master power switch ON to inspect the RESPA system. **Note:** If the system powers on while the ignition key is off, an alternate power source must be located.
2. Turn the ignition key to the ON position and inspect the following:
 - a. System is running. If not, an alternate power source must be located.
 - b. Airflow out of RESPA-CF2 ejection slots is strong. If not, check proper wiring polarity or that the power source is not variable voltage.

VERIFY CAB PRESSURE:

1. With HVAC system set to OFF and RESPA-CF2 operating, cabin pressure should be greater than 0.00 inches of water column (0 pascal).
2. Increase HVAC system fan speed. Cabin pressure should increase as fan speed increases.
3. If cabin pressure never reaches 0.20 inches of water column (49 pascal), check for leaks, improve sealing of cabin, and test again. **Note:** Ideal pressure, with new filters and a sealed cab, is approximately 0.50 inches of water column (125 pascal).

SHIELDING (not included):

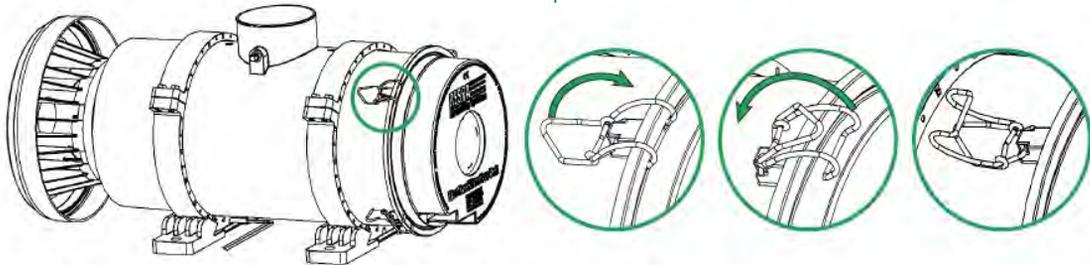
Shielding can be added to the protect plumbing routed through the wheel well. These parts are not available and must be fabricated.



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FILTER REMOVAL/REINSTALLATION:

1. Turn off RESPA-CF2 system.
2. Release the 4 filter latches that retain the filter element, as shown below, noting the orientation of the ejection ports.
3. Remove filter element.
4. Install new filter element ensuring the ejection port orientation is correct and that the filter element end cap seats properly on the filter housing.
5. Restrain the filter element by reattaching the 4 filter latches.



WHEN TO REPLACE FILTER:

- Replace the RESPA-CF2 filter when the cab pressure drops below the minimum pressure threshold when cab is sealed.
- Change the RESPA filter after every 1000 hours of operating time, even if the pressure monitor does not alert and there are no noticeable changes.

REPLACING FILTERS:

1. Work in a clean covered area to reduce intake exposure to harmful particles.
2. Wear appropriate personal protection equipment such as gloves, mask, and coverall to protect against contaminants.
3. The machine should be off.
4. Inspect the RESPA-CF2 system for any damage.
5. Remove the filter per the filter removal/reinstallation section.
6. Bag and seal used prefilter element and dispose of according to local regulation.
7. Inspect and remove any loose debris using a clean rag – never use compressed air.
8. Before installing the new filter, inspect the RESPA-CF2 system for proper operation.
 - a. Turn on the RESPA-CF2 staying clear of the open end of filter housing.
 - b. Ensure that air is blowing out of the empty filter housing cavity.
 - c. Turn off the RESPA-CF2 system.
9. Install new filter element ensuring the ejection port orientation is correct and that the filter element end cap seats properly on the filter housing.
10. Reinstall the filter per the filter removal/reinstallation section.

**Replace filter only!
Do not clean or re-use filters.**

Re-using filters can cause filter failure!

**Replace with
genuine SY-KLONE filters only.**

Order from your dealer or from Sy-Klone.

WARNING:

When cleaning equipment, care should be taken to prevent high pressure water or high pressure air from entering the RESPA-CF2 ejection slots.

When replacing the filter elements, do not point ejection slots at a solid surface in close proximity to the slots.