

OPTIMAX[®] Dual-Stage Precleaner Installation Kit for Komatsu D475A-5E0 Dozer (Serial Numbers 30001 and greater)

Sy-Klone part number: IN0084

Installation Time: 5-6 hours



Purpose:

The OPTIMAX[®] Dual-Stage Precleaner ejects the majority of particles through the ejection slot in the first stage of the system. Remaining fine particulate is exhausted through the scavenger connection in the second phase of precleaning. This unit has been designed to perform well in extreme debris conditions such as landfill environments, providing dramatically extended filter life. While routine cleaning and maintenance is not required, it is recommended that you perform periodic inspections to ensure the ejection slot does not become blocked. See the Video Library on www.sy-klone.com for a demonstration.

PRIOR TO INSTALLING OPTIMAX:

- Check the scavenging system equipped, verify suction coming from the system. You can use a rag or piece of paper to verify suction. Do not let go of the rag. If there is no suction the muffler scavenger is clogged or the muffler needs to be replaced.

Check suction with a rag or piece of paper. Also make sure that check valve is working correctly and is not rusted on the inside.



Caution: If the muffler needs to be replaced stop installation and recover, plug or reconnect the scavenger tube. Tell the customer of the problem. Finish installation after the muffler is corrected.

- Reset any restriction gauges.
- The Optimax Dual-Stage Precleaner should always be installed with the machine turned off.

Replaceable Parts:

Stock Code	Description	Quantity
9003	8-IN PRECLEANER	2
68011	EXPANSION ADAPTER	2
OA09007	CHECK VALVE	2
FH20-001	2-IN FLEX HOSE	2.5 FT
AD0123	PLENUM ADAPTER	2
AD0126	2-IN FLANGE ADAPTER	2
AD0130	EXPANSION ADAPTER - SHORT	2
AD0144	2-IN FLANGE ADAPTER - SHORT	2

Also included in kit:

Description	Quantity
OPTIMAX	2
RTV SILICONE TUBE	5
M6 X 1.0 X 35 BOLT	16
M6 LOCK WASHER	16
M6 FLAT WASHER	32
M6 HEX NUT	16
M12 X 1.75 X 35 BOLT	8
M12 LOCK WASHER	8
M12 LARGE-DIAMETER WASHER	8
CLAMP WORMGEAR 2.00 IN	4
CLAMP WORMGEAR 3.00 IN	16
CLAMP T-BOLT 3.88 IN	4
CLAMP T-BOLT 4.00 IN	4
CLAMP T-BOLT 4.88 IN	6
CLAMP T-BOLT 5.88 IN	6
2-IN X 3-IN UNION	1
2-IN X 6-IN UNION	1
2 INCH I.D. STRAIGHT SLEEVE	2
8 INCH I.D. STRAIGHT SLEEVE	2
90 DEGREE ELBOW 2 INCH	6
RUBBER STRIP	2

Technical Support

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HOOD HANDRAIL:

1. If installed, the hood handrail may need the lower bar removed to provide clearance for the Sy-Klone precleaners.



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OPTIMAX



AD0126
2-IN FLANGE ADAPTER



OA09007
CHECK VALVE



AD0144
2-IN FLANGE ADAPTER
SHORT



AD0123
PLENUM ADAPTER



AD0130
EXPANSION ADAPTER
SHORT

HOOD PREPARATION:

1. Remove the hood with filter housings per manufacturers suggested practices.



2. Remove the existing precleaners or rain caps, air filter housings, and rubber scavenger unions from the underside of air box. **Note:** The hood must be supported at a height that will allow the removal of the filter housing assembly.

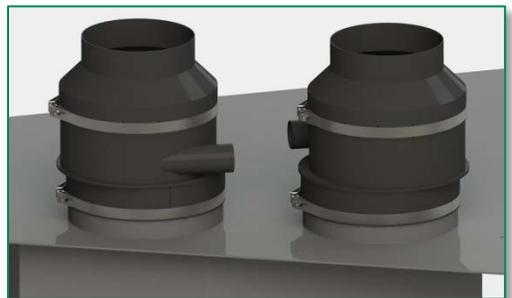


3. Inspect the air box and locate any openings in the edges, seams, and corners. Weld any gaps or cracks in the air box. Seal with silicone sealant provided. **Note: All holes in plenum must be sealed for proper system function.** The drain hole can be sealed with an appropriate sized nut, bolt, and washer.



UPPER SCAVENGER MOUNTS:

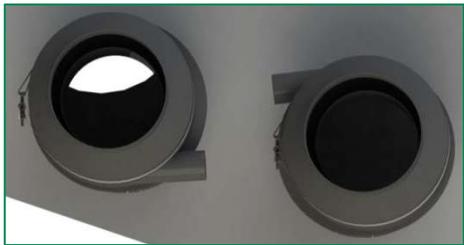
1. Install OPTIMAX lower assembly on top of hood. Leave clamps loose.



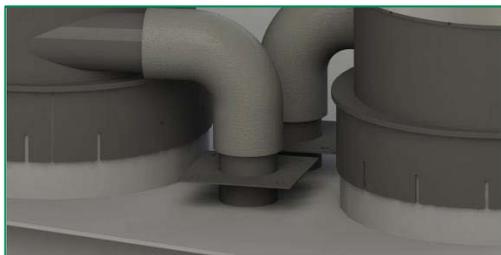
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UPPER SCAVENGER MOUNTS cont:

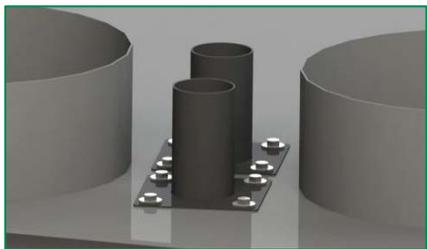
- Orient the ejection ports as shown below.



- Install two 2-inch 90° elbows and mark the location for the 2-inch flange adapters. **Note:** Insert the short 2-inch flange adapters into the elbows and use to locate the holes for cutting/drilling.

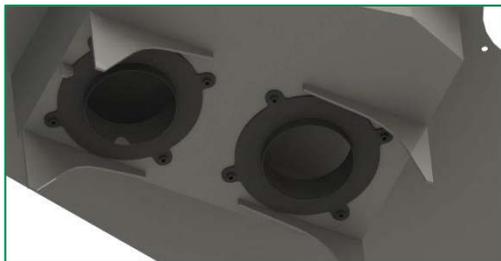


- Remove the OPTIMAX assemblies.
- Cut/drill the holes marked for the 2-inch flange adapters.
- Clean the area around the holes.
- Place a small amount of silicon sealant around the holes.
- Mount the long 2-inch flange adapters with long end upwards. Secure with M6 bolts, lock washers, washers, and nuts.

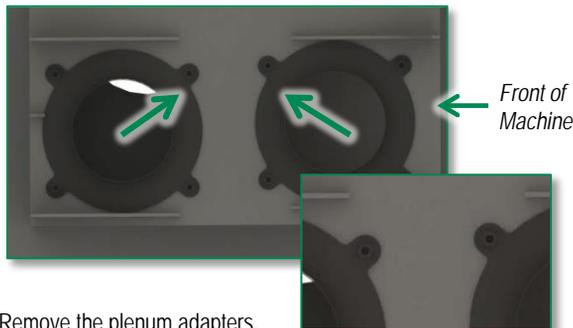


PLENUM ADAPTERS:

- Center the plenum adapters in the filter housing inlet holes in the bottom of the plenum.



- Mark the locations for the eight M12 mounting bolts as well as the adapters edge in the area indicated. **Note:** The edge location is for reference only in a later step.



- Remove the plenum adapters.
- Drill the mounting holes. **Note:** The holes can be oversized to 5/8 or 3/4 to allow for easier installation. Oversized washers included.

SCAVENGER ROUTING:

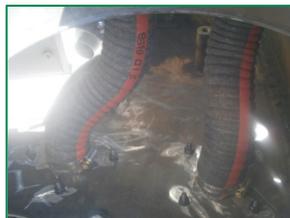
The scavenger lines must connect to the 2-inch hard lines running to the exhaust stacks. Below is an example of the finished routing.



Factory Rear Scavenger Line



Factory Front Scavenger Line

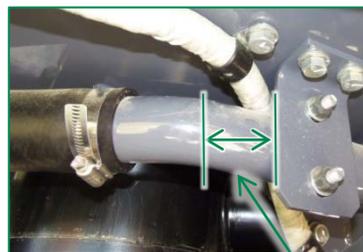


Plenum Scavenger Lines



Rerouted Scavenger Lines

LOWER SCAVENGER MOUNTS:



Leave minimum 1-inch of tubing.

- Shorten the rear housing scavenger line approximately 5 to 5.5 inches. **Note:** Leave at least 1-inch of tubing past mounting bracket for rubber sleeve installation.

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LOWER SCAVENGER MOUNTS cont:

2. Assemble the rear check valve assembly; a 2-inch straight sleeve, check valve, and a 2-inch 90° elbow as shown below.



3. Install the check valve assembly on the shortened scavenger line. Use the 2-inch 90° elbow to mark the location for the 2-inch flange adapter in the bottom of the plenum. **Note:** Avoid any brackets, lines, or mounting holes.
4. Remove the check valve assembly.

The front plenum adapter will be partially assembled for mock-up purposes.

5. Assemble a plenum adapter, a 8-inch sleeve, and an expansion adapter.
6. Install the plenum assembly in the front plenum opening with two M12 x 35mm bolts. Finger tight only.



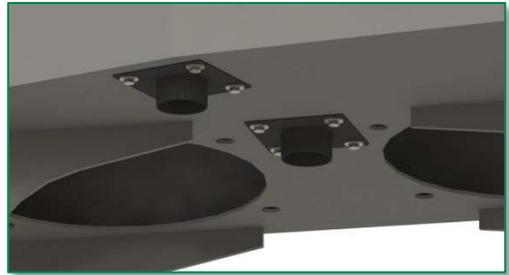
7. Assemble the front check valve assembly; three 2-inch 90° elbows, 6-inch union, 3-inch union, check valve, and a 2-inch straight sleeve as shown below.



9. Install the check valve assembly on the front scavenger hard line. Use the 2-inch 90° elbow to mark the location for the 2-inch flange adapter in the bottom of the plenum. **Note:** Avoid any brackets, lines, or mounting holes.



10. Remove the check valve assembly and plenum adapter.
11. Cut/drill the holes marked for the two lower scavenger adapters.
12. Clean the area and place a small amount of silicon sealant around the holes.
13. Mount the short 2-inch flange adapters. Secure with M6 bolts, lock washers, washers, and nuts.



PLENUM SCAVENGER ROUTING:

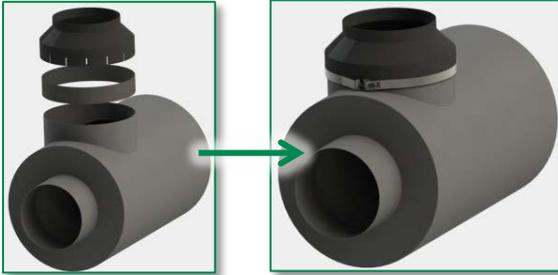
1. Use the supplied 2-inch scavenger hose to connect the upper and lower scavenger flange adapters. Secure with worm gear clamps. **Note:** There is no correct orientation for connecting the upper and lower adapters but the most direct routing is ideal.



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FILTER HOUSING INSTALLATION:

1. Wrap the 2-inch by 1/16-inch rubber strip around the filter housing inlet. While holding the rubber strip in place, install the expansion adapter (short) and secure with the dual t-bolt clamp. **Note:** The filter housings can stay in the mounting cradle. The rubber strip can be glued to the filter housing or expansion adapter for easier installation.



2. Repeat the expansion adapter installation on the second filter housing.
3. Install a shortened 8-inch straight sleeve on each expansion adapter.
4. Place 2 sets of 8.5-inch dual t-bolt clamps on each sleeve and leave loose.
5. Install a plenum adapter in each sleeve. **Note:** Short end goes into straight sleeve.



6. Apply RTV to the plenum around adapter mounting holes and filter housing inlet opening.
7. Lift the filter housing assembly up to the hood only close enough to align the plenum adapters.
8. Start the eight M12 bolts, washers, and lock washers to align plenum adapters.
9. Lift the filter housing assembly the rest of the way and secure the filter mounting cradle.
10. Tighten the M12 plenum adapter hardware.
11. Position and tighten the clamps around the 8-inch straight sleeve.

LOWER SCAVENGER ROUTING:

1. Install the front and rear check valve assemblies. Secure all joints with supplied worm gear clamps. **Note:** The check valve has a specific orientation that is identified with a "TOP" and arrow indicating exhaust flow direction.

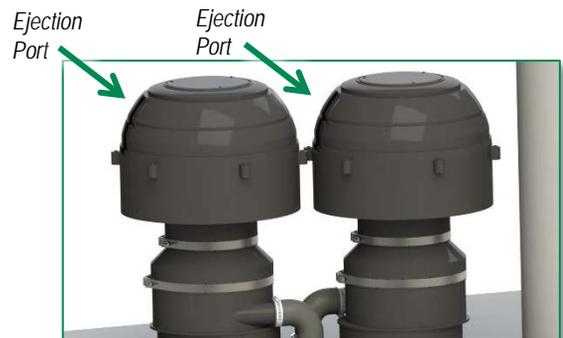


OPTIMAX INSTALLATION:

1. Reinstall the lower OPTIMAX assemblies and connect the scavenger lines using the 90° elbows. Secure all connections with supplied clamps.



2. Install the Sy-Klone precleaner and secure with t-bolt clamps. **Note:** Ensure that the ejection port is pointed in a safe direction. Don't point at the operator. Don't face ejection port directly forward.



The installation is complete.