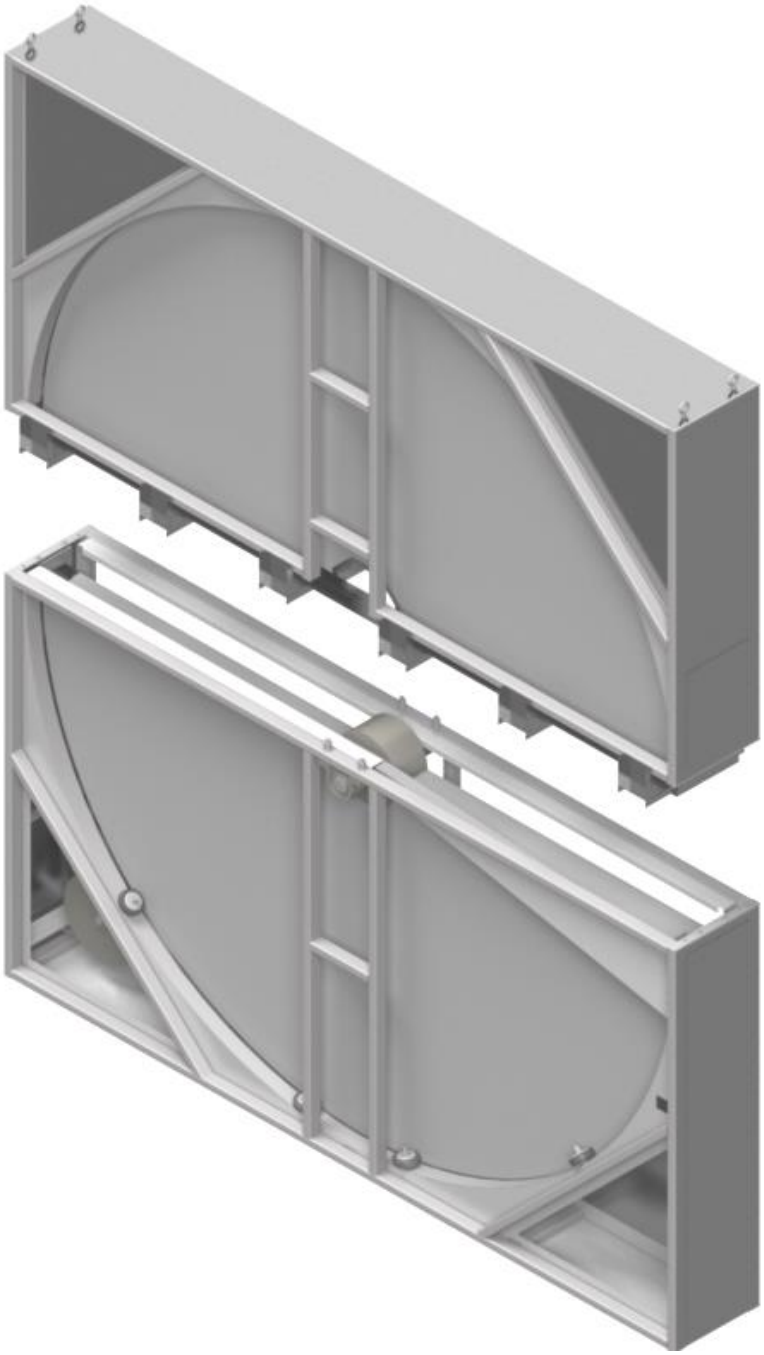
HAAKON INDUSTRIES

Split Energy Recovery Wheel
Assembly Instructions



How to Assemble a Split Energy Recovery Wheel

1. Prepare Lower Half of Energy Recovery Wheel

- The lower half of the energy recovery wheel will ship pre-installed in your Haakon air handling unit (AHU), with the upper half shipping separately. Install the lower sections of the AHU before beginning installation of the upper half of the energy recovery wheel.

- Once the lower sections of the AHU have been installed, remove the shipping brackets located at either side of the top of the rotor (see Figure 1).

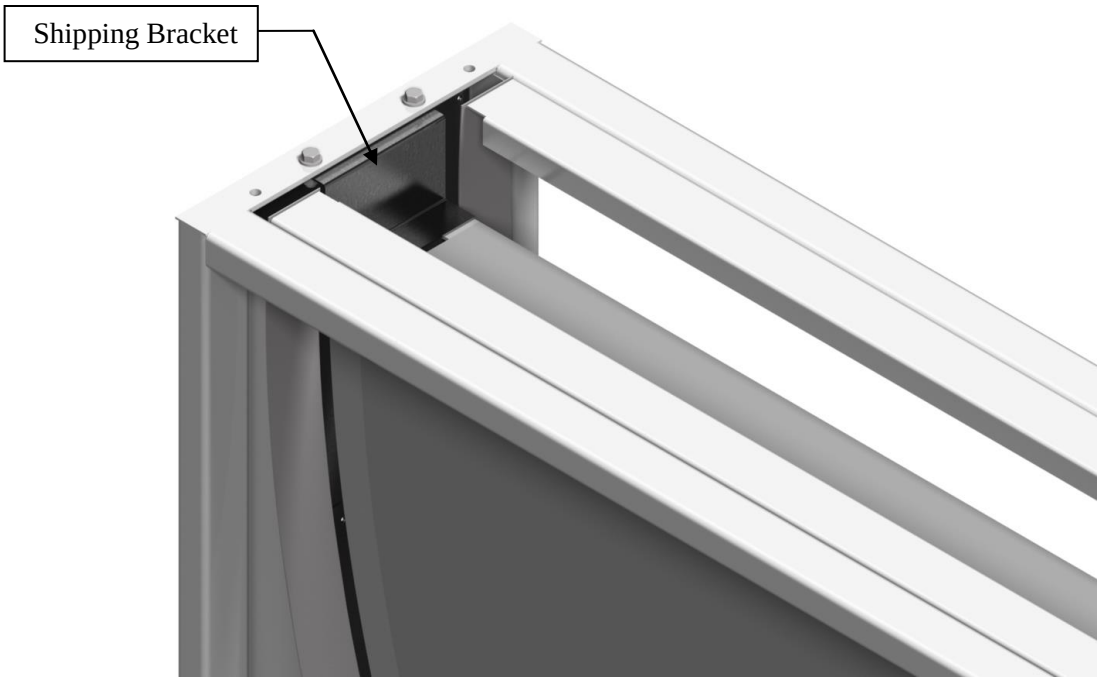


Figure 1

2. Installing the Upper Half of the Energy Recovery Wheel

- Lift and suspend the top half of the energy recovery wheel using the eyebolts provided. Remove all shipping braces along the bottom of the rotor (see Figure 2).

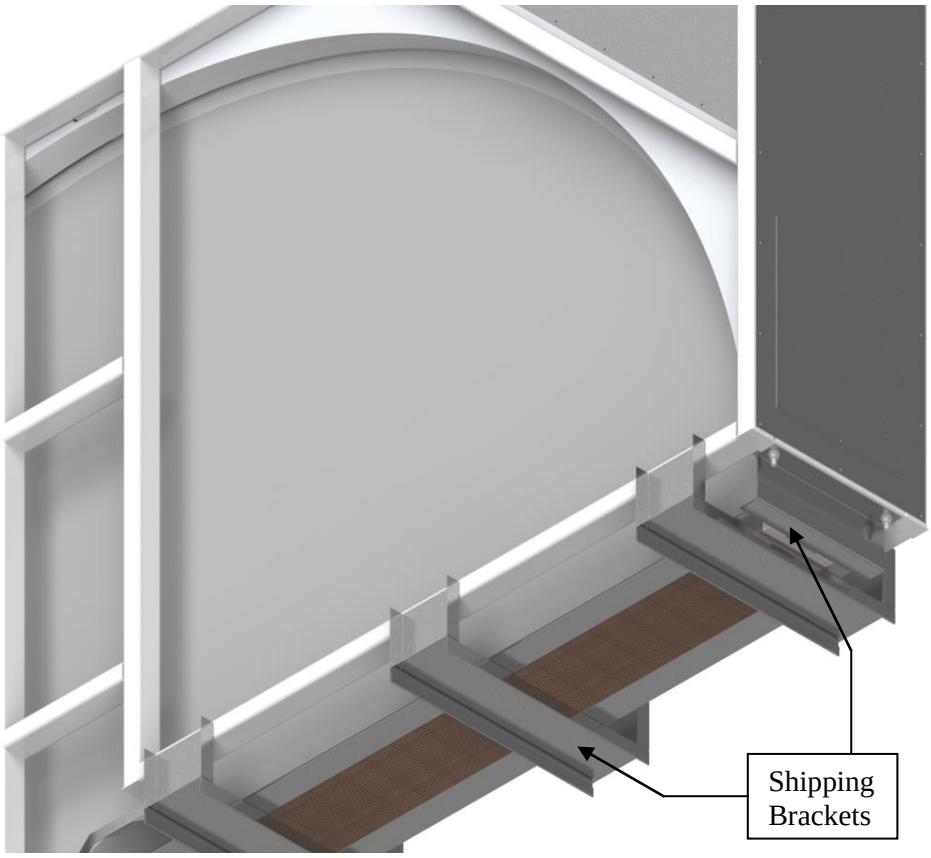


Figure 2

- The top half of the rotor is suspended in the frame by two lifting brackets, accessible through the access covers in the top corners. These lifting brackets will be removed later.

- Do not use any caulking between the two halves of the energy recovery wheel.

- Lower the top half onto the bottom half, taking care that the top half sits squarely on the bottom half. A gap of approximately ½" should remain between the two halves of the rotor. Ensure that the Side 'A' and Side 'B' labels on both halves are on the same side.

- Bolt the two halves of the casing together using the hardware provided. In addition to the bolt holes in the structural beams running horizontally across the rotor, there are 4 bolt holes (2 per side) accessible through the side access panels (see Figure 3).

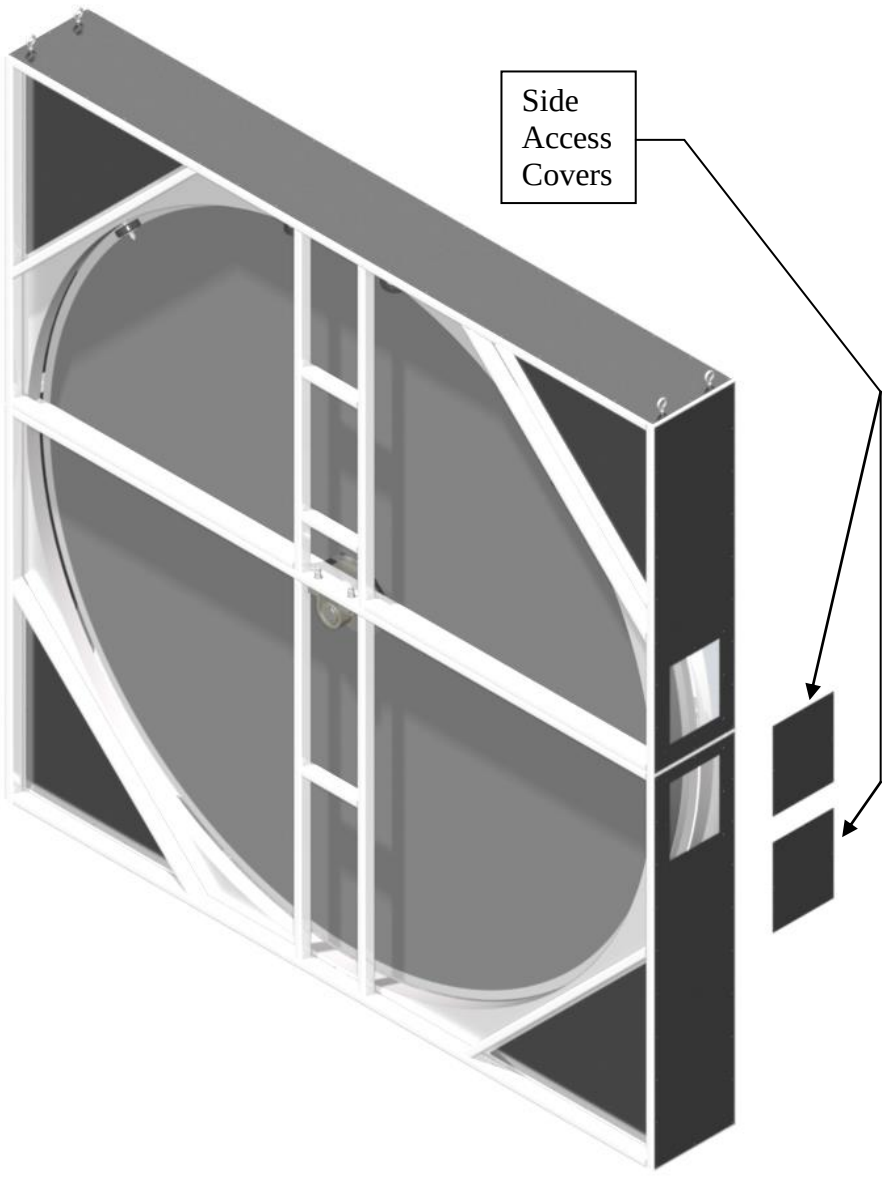


Figure 3

3. Assembly of the Rotor Halves

- Remove the access panels at the top corners to access the rotor lifting brackets on either side (see Figure 4). Use these brackets to slowly lower the top half of the rotor onto the bottom half. Do not remove the brackets at this time.

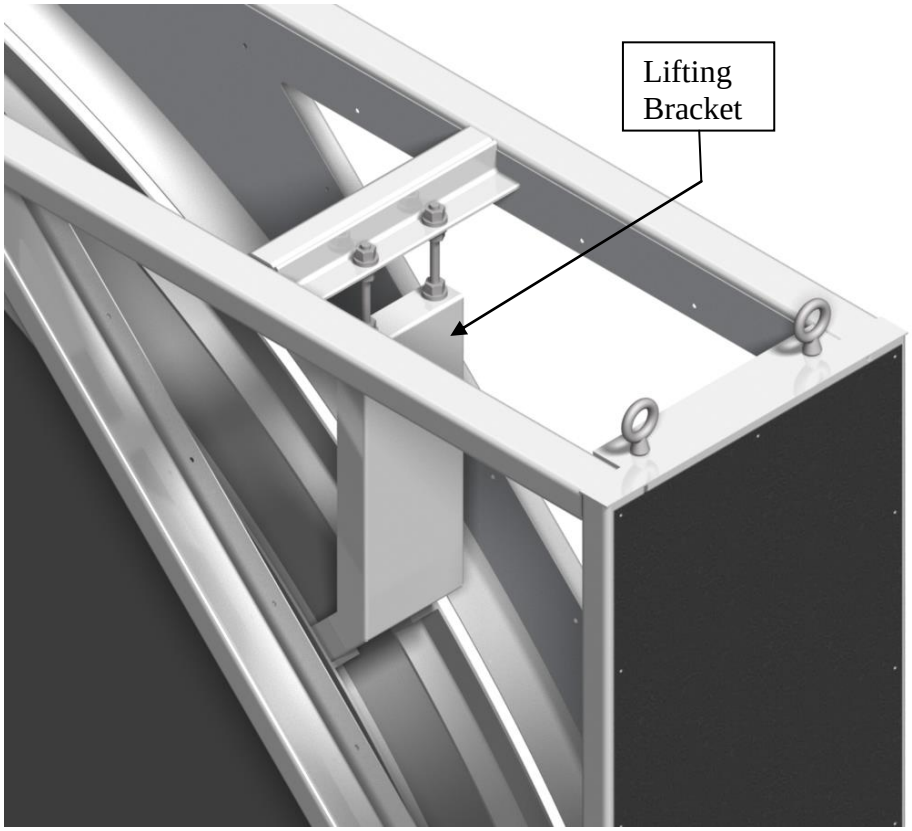


Figure 4 (top panel not shown for clarity)

- The guide plates installed on the top half of the rotor will overlap the central hub attached to the lower half, helping ensure the two halves mate up correctly (see Figure 5).

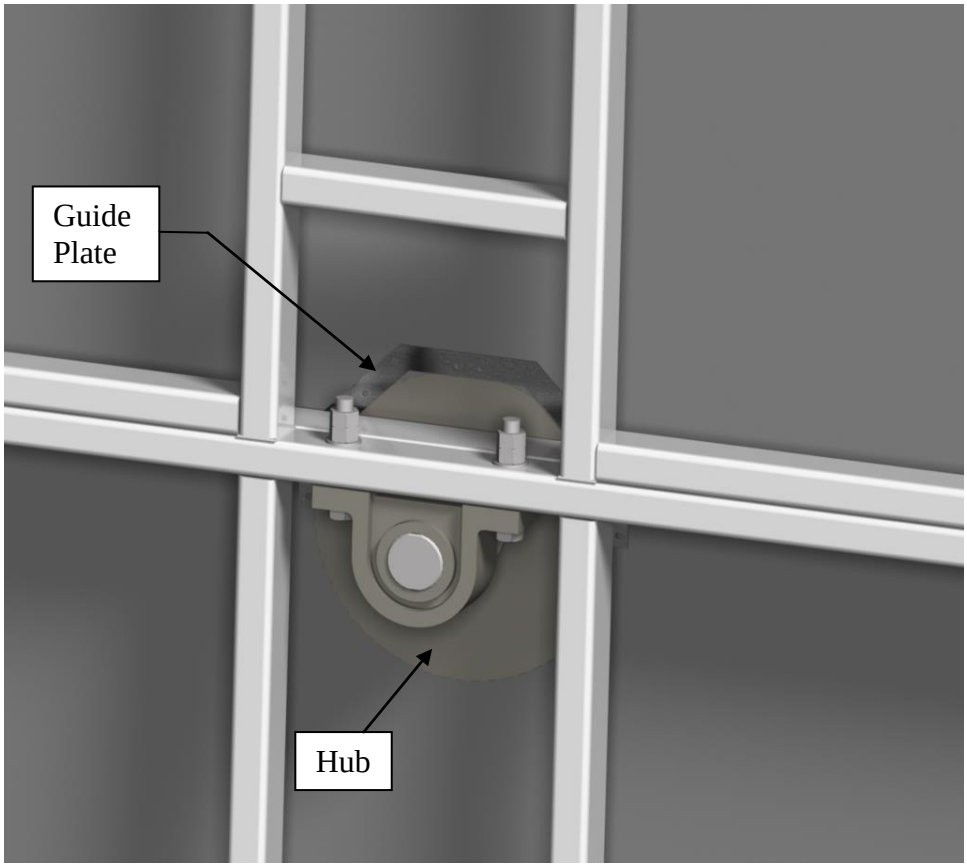


Figure 5

- As the rotor is lowered into place, ensure that the ‘blocks’ at the inside end of each spoke are seated against the step/shoulder at the side of the flat milled surface of the hub (see Figure 6). This will be made easier by lowering the side of the rotor on the step/shoulder side first.

Figure 6

- Inspect the wheel to hub fit before installing the hub bolts. There should be no gaps between the hub and upper half of the rotor, and the faces of the spoke ‘blocks’ should be flush with the face of the hub. If there are any gaps, use the lifting brackets to slightly raise the top half of the rotor and reposition it. If the faces are not flush, place a wooden block across the bottom of the spoke assembly (on the side where the spoke sticks out past the hub) and tap the block with a mallet or hammer until the faces are flush.

- Once the rotor is properly seated and flush with the hub, install the provided ½" x 1-¼" socket head screws (with conical-spring washers) through the hub and into the spoke assembly (see Figure 7).

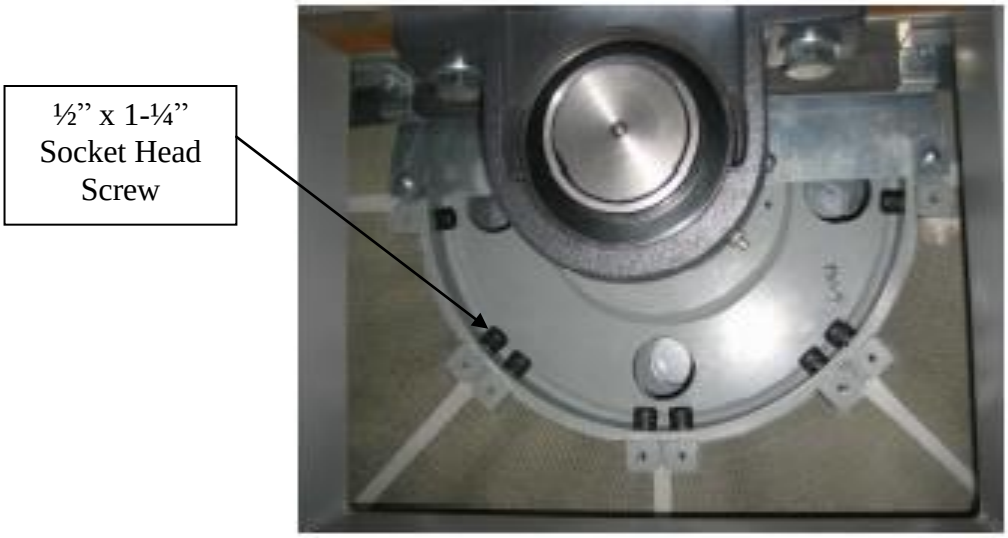


Figure 7

- Working in an alternating pattern, tighten all of the cap screws by hand. Do this in tandem with one person on either side of the rotor, such that the screws for each spoke are installed simultaneously. Once all the screws are hand tightened, work in the same pattern using wrench to fully tighten them.

- Next, bolt the perimeter flanges of the two halves of the rotor together using the hardware provided (see Figure 8). Access to these bolts is available through the side access panels shown in Figure 3. Note that the bolt size will vary depending on the size of the rotor. Clamp a flat piece of steel to the faces of the perimeter flanges to ensure they are flush before tightening the bolts.

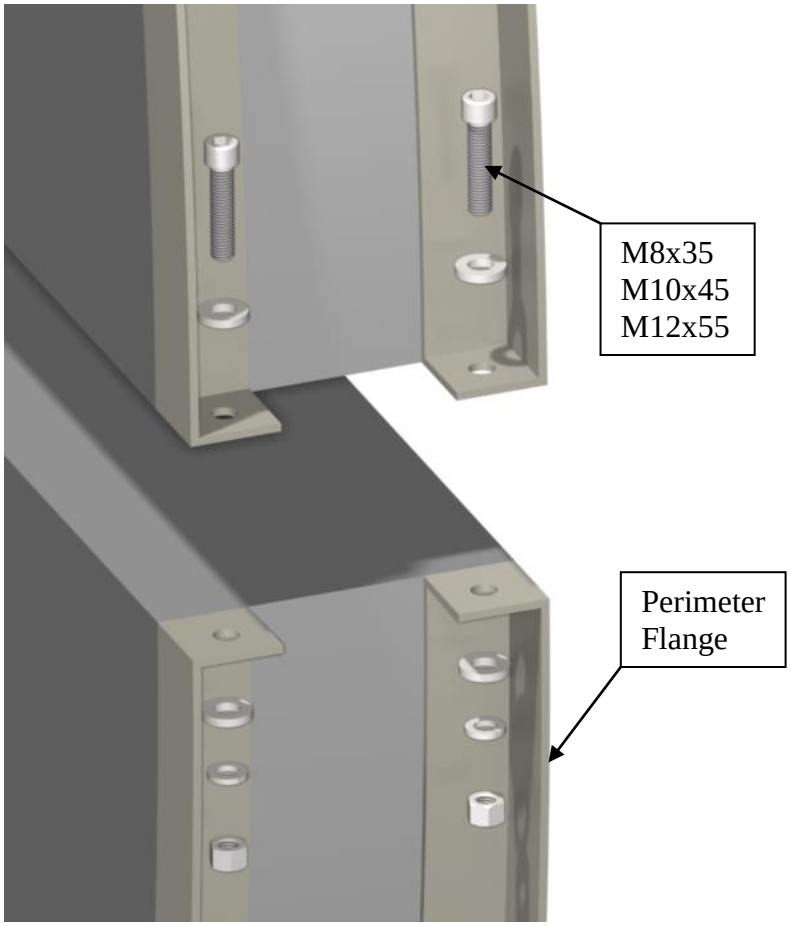


Figure 8

- Remove the guide plate from both sides of the rotor, and install the half round seal covers provided. Store the guide plates for possible future use.

- Remove the lifting brackets (shown in Figure 4) and store them for possible future use.

- Refer to the Haakon Industries "Energy Recovery Wheel Operation and Maintenance Manual" for instructions on drive belt installation and adjustment of seals and casters. Ensure that all access covers are replaced before operating the energy recovery wheel.