

Dieselcraft Cyclone Series Oil Centrifuges Model #OC20

If you are doing Waste Vegetable Oil or Biodiesel:

The flow is the key. The centrifuge can only handle 55 GPH. You need a pump that will give you 90 PSI at 0.93 GPM / 55 GPH for ultimate performance. The **minimum** operating pressure is 35 PSI. The viscosity also enters into the equation, the thinner the better so heating the fuel to 140+ will also increase performance. Straight room temp veg oil may take some experimenting with.

A pump with more flow and less PSI will also be an issue. Too much flow will require a bypass. The excess flow that is not used by the centrifuge will cause the pump motor to over heat.

At 90 PSI and above the rotor speed is more than 8000 rpm and the rotor is bound to produce noise and vibrations at that speed. There is no harm caused by the noise. **Maximum operating pressure is 90 PSI.**

However, two things must be checked:

- 1) The rotor cover and rotor are correctly matched in assembly with the engraved arrows matching correctly.
- 2) That both the nozzles are clean and are able to pass the fluid. Stop for a while and as soon as you get a feel that the rotor has stopped, open the centrifuge cover. If oil continues to drain from both nozzles, the nozzles are OK."

For Engine Installations:

CAUTION: Hot oil can be dangerous and may burn the skin. Wear proper protective clothing when working with hot engine parts and hot oils. Avoid unnecessary skin contact with oil.

The **Dieselcraft Cyclone Model # OC-20** is a precision assembly that consists of a body and a rotor assembly. The body houses the rotor and facilitates mounting of centrifuge on the engine.

It also has a 12 mm x 1.5P internal thread fitted with a **½ NPT adapter port for oil inlet connection.**

The opposite side of the inlet port is a hex plug. Do not remove this plug.

The bottom of the system is open and allows oil to drain back to the engine via the mounting plate and return line.

The rotor assembly is filled with oil under pressure and the oil then reaches nozzles at the bottom. Oil is sprayed out through the nozzle and sets the rotor into motion, 6,000 to 7,500 RPM.

The oil contained in rotor revolves with the rotor. The dirt particles in oil thus experience heavy centrifugal force (about 2000 times of 'g') and are thrown outwards towards inner wall of rotor and can be periodically removed by opening the rotor.

Installation Instructions

Oil Supply to the Dieselcraft Cyclone

Oil supply should be taken from the highest pressure

source available immediately downstream of the lube pump. **A 1/4 ID or #4" hose or pipe supply line should be used.** The unit's supply port is a ½ NPT female thread. Preferred pressure is 60 to 80 PSI

The **Dieselcraft Cyclone** centrifuge will operate efficiently at 35 to 90 PSI. **Maximum operating pressure is 90 PSI.**

Choose mounting position for centrifuge at least 8 inches or 200mm above oil pan fluid level to ensure proper gravity fed drainage from centrifuge.

Allow space twice the height of centrifuge to service the unit. Make sure that when installed no hoods, hinges or doors hit the unit. Mount upright for the most effective use. Angle must not exceed 25 degrees.

Use only bolts that snugly fit the centrifuge base, do not enlarge holes, torque bolts/nuts to value specified for that specific bolt. Use seals to ensure no leakage.

Select oil inlet feed pipe/tubing to allow for service, movement as needed. Ensure type of hose/tubing that can safely withstand HOT OIL and unit's oil pressure. Use ¼" ID hose for 35 PSI and up.

Ensure no kinks or extremely sharp bends which will restrict flow are in the input line.

Clean Oil Return to the Sump by Gravity Drain.

The **Dieselcraft Cyclone** must be close-coupled to the sump with an unrestricted 1" ID (#20 hose) or larger. The return must be above the normal sump oil level. The drain line must be sloped downward from

the centrifuge outlet and be free of sharp bends.

On many engines, an access plate into the gear train or crankcase can be modified to provide a suitable drain opening. Contact your engine manufacturer or mechanic to help locate this access point.

Be sure the sump side of the drain opening is clear and that the drain oil does not interfere with any moving parts of the engine.

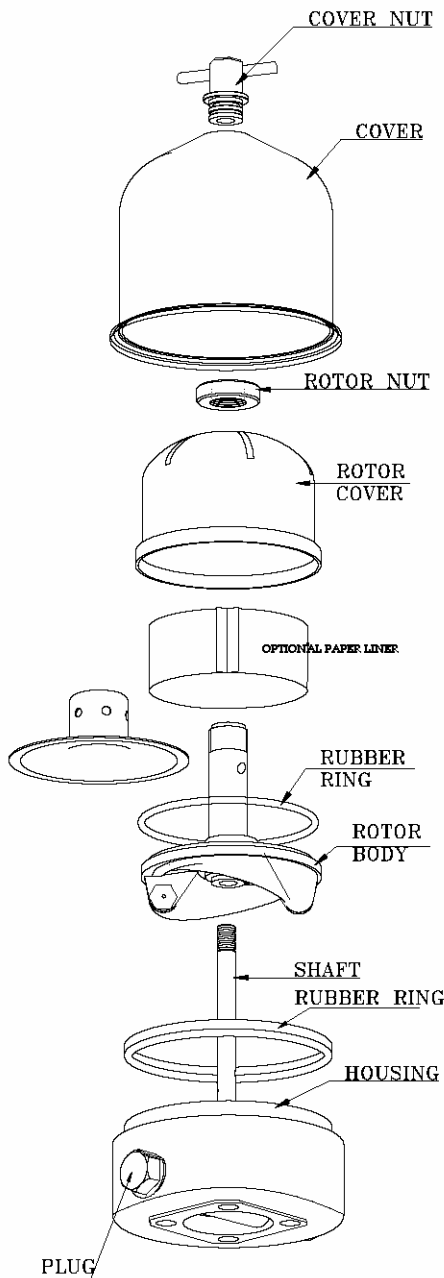
Selecting smaller drain pipe may result in ineffective draining of clean oil and will flood the centrifuge,

Open the cover, remove rotor from shaft and mount the centrifuge base first on the mounting bracket.

Keep clearance above centrifuge as per specification for easy removal of centrifuge.

Tightening of inlet and outlet pipe connections should be done just to avoid leakage of oil.

Mount the centrifuge upright is preferred. Mounting more than 25 degrees will not give maximum performance of the centrifuge.



Mounting the Dieselcraft Cyclone

Servicing the Dieselcraft Cyclone

CAUTION: Hot oil can be dangerous and may burn the skin. Wear proper protective clothing when working with hot engine parts and hot oils. Avoid unnecessary skin contact with oil.

The Dieselcraft Cyclone is very simple. It does not require and expendable parts or filters. At every service period, you just have to open the centrifuge rotor, remove all dirt collected in the rotor then re fit the rotor and centrifuge cover.

1. Unscrew top nut and remove the centrifuge cover.

2. Lift the rotor completely off the shaft quickly and allow it to drain into an appropriate container.

3. Prepare to unscrew rotor nut. Place the rotor, nozzles down over a 1-2" wide wooden block. You will see the block will stop the rotor from turning. Unscrew the rotor nut. The rotor nut can be opened by hand. If it is tight, unscrew it with a small adjustable wrench. **Never grip the rotor nut tightly in clamping device like a bench vice. It may damage the rotor body permanently.** Remove rotor cover and deflector inside.

4. Remove the dirt collected from inside the rotor cover by the use of a plastic or dull metal scraper. Clean all the rotor parts thoroughly.

The dirt removed from the rotor is considered Hazardous Material. Dispose of in the proper manner based you the laws of your county or state.

Re-Assembly

Always ensure that the arrow marks on rotor cover and rotor are matched after assembling the rotor. The rotor body is dynamically balanced. Mismatch of arrow marks on rotor cover and rotor will result in

excessive vibrations of the cleaner and part breakage.

Do not over tighten the top nut. Tighten just enough to prevent leakage of oil from centrifuge cover and housing. Over tightening top nut will damage the centrifuge permanently.

The centrifuge includes a valve to ensure the engine gets sufficient oil at all times. This valve is located behind the **PLUG** in the diagram. Do not open or tamper with this valve. Damage to your engine may result.

Do not drop, hammer upon, distort or force during disassembly or reassembly. You may damage the device and void the warranty.

This centrifuge is a precision balanced device that rotates at very high speed. It must be properly mounted to ensure safety of equipment and personnel. It is most strongly recommended to obtain directions and advice of a competent mechanic prior to attempting this installation.

Warranty: Dieselcraft Engineering guarantees products to be free from defects in material and workmanship for a period of 24 months from date of purchase. Buyer's sole remedy is limited to replacement of a like unit.



Dieselcraft is a division of The Magnum Group LLC
PO BOX 7670, Auburn, CA 95604 USA
Telephone 530-823-7075
www.dieselcraft.com