

# Oil Centrifuges

**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 **BC-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 BSP 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 larger bore and allows oil to drain back via the 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 the 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 the inner wall of rotor and can then be periodically removed by opening the rotor assembly.

## Installation Instructions

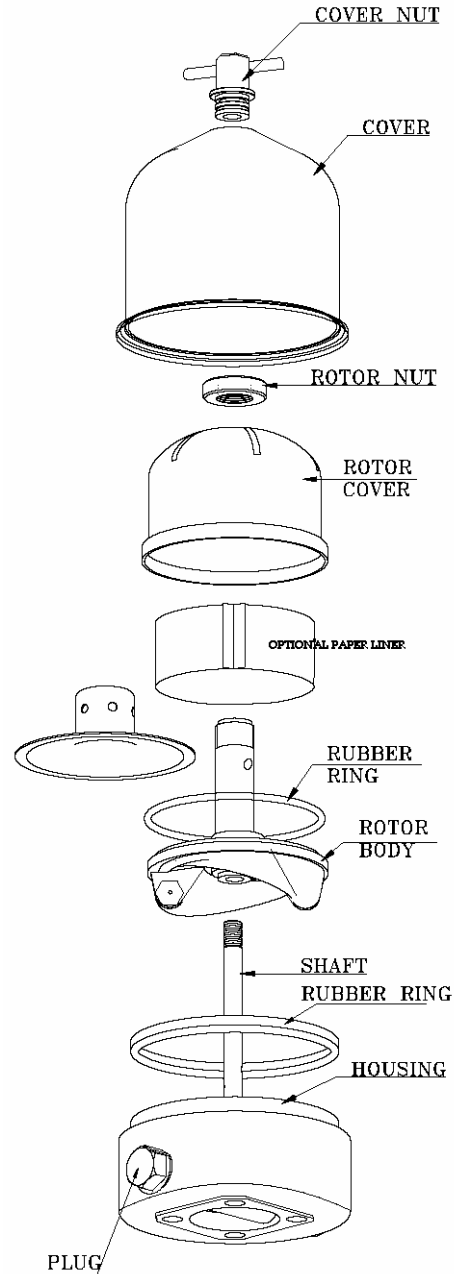
### Oil Supply to the centrifuge

Oil supply should be taken from the highest pressure source available immediately downstream of the pump. **A 1/4 hose or pipe supply line should be used.** The unit's supply port is a ½ BSP male thread. Preferred pressure is 60 to 80 PSI

The centrifuge will operate efficiently at 35 to 90 PSI.

Choose the 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 values 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 centrifuge must be close-coupled with an unrestricted 1" ID or larger. The drain line must be sloped downward from the centrifuge outlet and be free of sharp bends.

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

## Mounting 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.

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

## Servicing the centrifuge

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The centrifuge is very simple. It does not require any 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 a 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

## 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.**

