



Fleetguard® CS41018 SpiraTec™ Centrifuge Rotor Installation Instructions

This document describes:

- Product benefits
- How to install remote centrifuge housings
- How to replace the existing centrifuge rotors with CS41018 centrifuge rotors
- CS41018 service guidelines
- CS41018 service parts information

Cummins Filtration introduces a replacement drop-in disposable rotor solution for centrifuges in Cummins Eliminator™ assemblies and Fleetguard CH44105 and CH44120 remote centrifuge housings on Cummins QSK38, QSK45, QSK50, QSK60 and *QSK95 Engines. Also intended to fit in competitive housings where the CS44000 and metal rotor are used today. The CS41018 rotor replaces the current assembly with a single drop in option, reducing service time from 1.5-2 hours to approximately 20 minutes without the need of any special tools.



INCREASED ENGINE LIFE

- Meets OEM specifications for protection and performance

DECREASED MAINTENANCE

- Quick and clean service improves total cost of ownership

EXTENDED SERVICE INTERVALS

- Quick and clean service improves total cost of ownership

*If servicing the 2 centrifuge rotors on a QSK95 engine, please refer to the Cummins QuickServe instructions found here:
<https://quickserve.cummins.com/qs3/pubsys2/xml/en/procedures/338/338-007-066-om.html>

⚠ CAUTION: These instructions are intended for use by professional mechanics who are trained in the proper use of power and hand tools, using appropriate safety precautions (including eye protection).

Installation Instructions for CH44105 and CH44120 Remote Housings

If a remote housing is already present on your application, inspect the assembly to determine which type of rotor is present. For instructions on installing the Fleetguard CS41018 rotor, please refer to page 3 of this document.

1. Examine the centrifuge for any shipping damage. If there are any problems, call your service representative.
2. The centrifuge should be mounted a minimum of 12" (30.48 cm) above the oil sump level. This unit is designed to be mounted in a level vertical orientation for proper oil flow back to the engine. Due to the speed at which the centrifuge spins, the unit should be securely mounted using all three 3/4" (19.05 mm) bolts to minimize vibration that may occur during start-up and shut down.
3. To achieve maximum efficiency and ease of installation, locate the centrifuge as close to the engine oil return as the working area permits. The centrifuge is an oil gravity flow back to the engine, so the unit should be a minimum of 12" (30.48 cm) above the running engine oil level.
4. Using the shortest and most direct piping available, install a hose or 45° elbow to prevent the trapping of oil in the return line. Do not use 90° hose ends or 90° elbows in drain line to sump, this is a common installation problem and causes air locks in the drain line causing flooding of the centrifuge and stopping the rotor. Use 2" (50.8 mm) diameter drain or larger.
5. Install appropriate flow control device into the oil supply line if required (ideally a 4 mm orifice) The oil supply should be piped from suitable pressure and hottest source available with pressures not to exceed 125 psig/ 250° F

Note: This is a by pass stream filtering system. Do not change piping to existing filters.

Pipe in a shut-off valve and then a pressure gauge in-line to the centrifuge to allow the unit to be serviced without shutting down the engine. The QSK45 and QSK60 are exceptions to this as the instructions indicate to connect the centrifuge after the spin-on filters. The oil sumps on these engines are very strong and create high pressures.

6. To start the centrifuge, open the oil supply valve. The oil pressure reading should be the same as the engine oil pressure. It will take a few minutes for the rotor to come up to speed.



Installing CS41018 Remote Centrifuge Rotor

1. Turn off the engine.
2. **Remote housings:** Loosen the Bell knob (1) ¼ of a turn and remove the Bell Clamp (4). Turn the Bell knob (1) counter clockwise until free and remove the Bell housing from the Base (6).
Eliminator: If servicing an Eliminator, remove the four housing bolts on the Centrifuge assembly.
3. Discard the original cleanable rotor it as it's no longer required

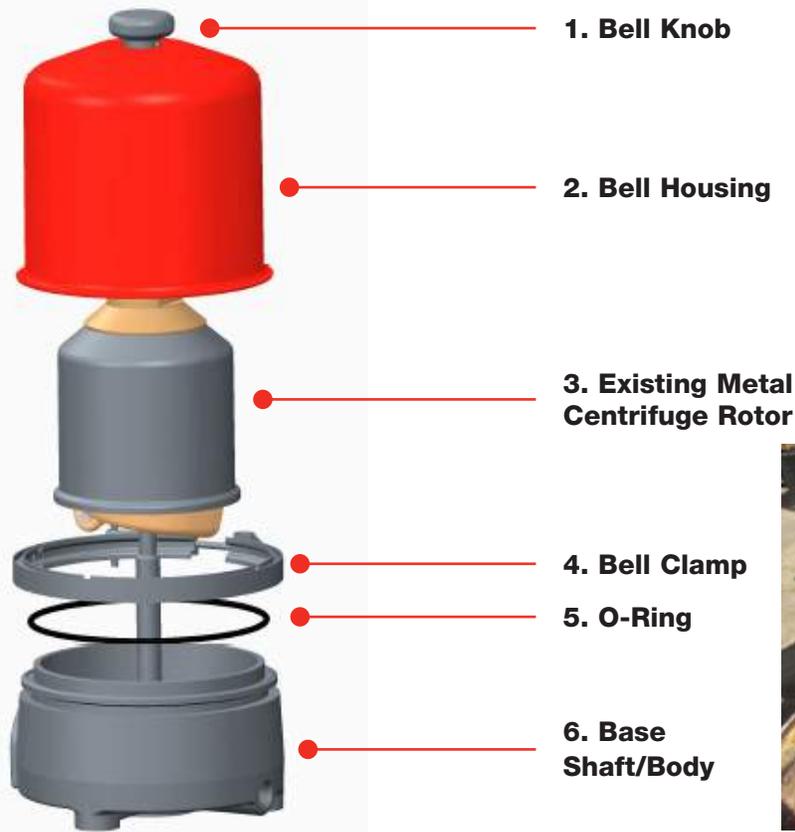


Figure 1: Remote Centrifuge housing



Figure 2: Eliminator Unit

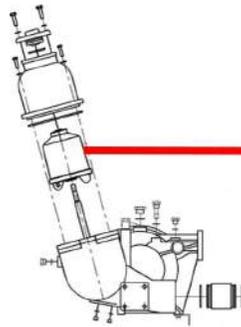


Figure 3: Existing Metal Housing



Figure 4: New CS41018 Rotor

4. Inspect the shaft for wear. Replace the shaft if wear is evident.



Figure 5: Metal Shaft

5. Ensure the sealing surface of the centrifuge housing is clean by wiping with a clean, lint-free cloth.
6. Install the new SpiraTec Centrifuge rotor by sliding it onto the shaft and spin it to ensure the unit rotates easily. If the unit does not spin easily inspect the unit, shaft and assembly to ensure proper installation. Also ensure the bottom of the rotor clears the gussets in the bottom of the housing.



Figure 6: CS41018 installed in remote housing



Figure 7: CS41018 installed in Eliminator



Figure 8: Ensure Rotor Clears Gussets

7. Inspect the Centrifuge housing O-Ring seal. Replace the oring seal if any cuts, abrasions, cracks or brittle spots are present.
8. Lubricate the O-Ring seal using Lubriplate™ 105 (Cummins PN 3163086) or equivalent.
9. **Remote housing:** Replace the Bell Housing (2) and Bell Clamp (4) and the turn the Bell knob (1) clockwise.
Eliminator: Replace the housing and tighten the four bolts to 20 ft-lbs (27.1 N.m) on Eliminator unit

SpiraTec™ Service Guidelines

⚠ WARNING: Avoid contact with hot engine components and hot oil in the engine compartment.

It is important the engine OEM's recommendations for replacing filters be followed and these service guidelines be applied to the SpiraTec™ centrifuge rotor beginning with the first service interval.

The typical service interval for the SpiraTec centrifuge rotor is 1,000 hours. However, engine applications vary, so it is recommended that you evaluate your options for extending the service interval of your SpiraTec™ centrifuge rotor carefully to determine the optimum service interval specific to your equipment/application. Subsequent service intervals can be evaluated using the following methodology:

1. Remove the SpiraTec rotor at the end of the first service interval and replace it with a new unit.
2. Place the removed SpiraTec™ in a location where the oil can be collected and wait five minutes for the unit to drain.
3. Invert the centrifuge rotor in a location where the oil can be collected and wait an additional five minutes for the unit to drain.

Note: It is important to allow the rotor to drain in both the upright and inverted positions. The rotor will retain oil if not inverted and the weight will be incorrect.

4. After both ends of the unit have been drained for the allotted time, weigh the drained unit to determine how full the unit was after the first service interval. This weight provides an indication of how much your SpiraTec™ centrifuge rotor service interval can be extended.

New rotor weight = 1650 gr

Maximum rotor weight (when full) = 3400 gr

Oil 'cake' capacity = 1750 gr

Typical oil contaminant removal rates vary between 0.1 to 1.1 gr per hour, subject to load, application, equipment condition, oil type, quality, etc.

It is not recommended to use the CS41018 SpiraTec™ centrifuge rotor beyond 2000 hours of service.

Parts List

SpiraTec™ Replacement All-In-One Rotor	
Engine Model	Rotor Part Number
K38, K50, QSK38, QSK50	CS41018
QSK45	
QSK 60	
QSK95	Requires QTY 2

Eliminator™ Replacement Shafts*	
Engine Model	Shaft Part Number
K38, K50, QSK38, QSK50	3649470
QSK45	3649459
QSK60	3649421
QSK95	4313309 - Upper, Requires QTY 2 4313310 - Lower, Requires QTY 2

Eliminator™ Centrifuge Housing O-Ring**	
Engine Model	O-Ring Part Number
K38, K50, QSK38, QSK50	3393586
QSK45	
QSK60	
QSK95	4313299 - Upper Shaft, Requires QTY 2 3631754 - Flange, Requires QTY 2 4313302 - Cover O-Ring, Requires QTY 2

Fleetguard CH44105 Housing O-Ring	
Engine Model	O-Ring Part Number
K38, K50, QSK38, QSK50	3894972S - O-Ring 39176300S - Base and Shaft Kit 3647343-Orifice available (Flow Control)*
QSK45	
QSK60	

Fleetguard CH44120 Housing O-Ring	
Engine Model	O-Ring Part Number
K38, K50, QSK38, QSK50	3894973S - O-Ring 39176000S - Base and Shaft Kit 3647343-Orifice available (Flow Control)*
QSK45	
QSK60	

*Eliminator service parts can be purchased through your local Cummins Distributor