

Centriguard™ Centrifugal Separator

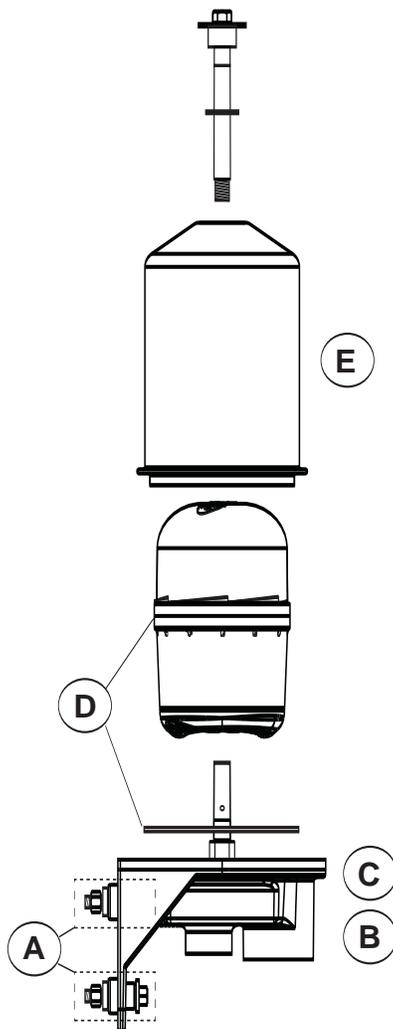


INSTALLATION INSTRUCTIONS FOR

CH41111, CH41112, CH41113 AND CH41114



Component Parts



- A. Vibration Isolator Kit (4 vibration isolators, 4 bolts, 8 washers, and 4 nuts)
- B. Gravity Drain Base Casting and Shaft for CH41111 and CH41113
- C. Air Assist Base Casting and Shaft for CH41112 and CH41114
- D. Service Rotor and Gasket
- E. Housing Assembly

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).

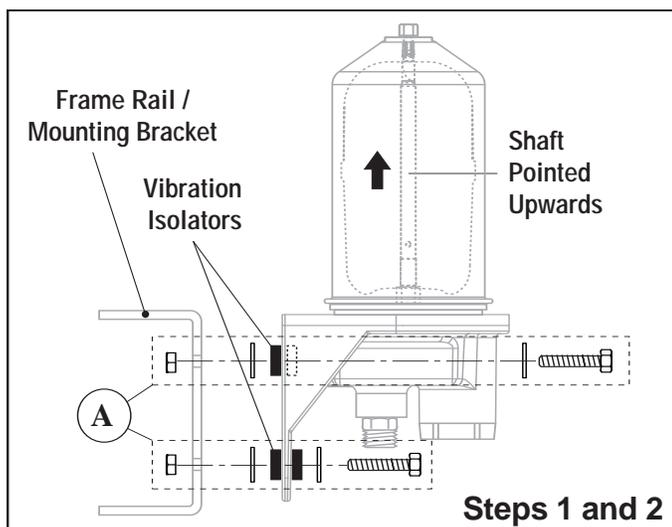
Installation Steps

Pre-installation Notes

CAUTION: Engine oil, components and surfaces may be hot.

The CH41111, CH41112, CH41113 and CH41114 separators are bypass filtration devices. All current full-flow filters on your engine or system should remain as they are. If a separate bypass filter is also on the engine, this unit will need to be removed and its connection plugged. If a combination full-flow/bypass filter exists on the engine, then it must be confirmed that the bypass section of the combo filter empties into the main oil flow, not directed back to the sump. If the bypass flow of the combination filter is directed back to the sump, contact your Fleetguard representative for support. If the engine does not have a bypass filter already, and the CH41111, CH41112, CH41113, or CH41114 is being added to the system, check the engine oil flow and pressure requirements to make sure the addition of this unit is within the acceptable limits.

Examine the separator for any shipping damage and determine the best location for installing the separator assembly. Depending on the application, this location may be on the frame rail, on the engine or the equipment being used. **Turn the engine off before starting the installation process.**



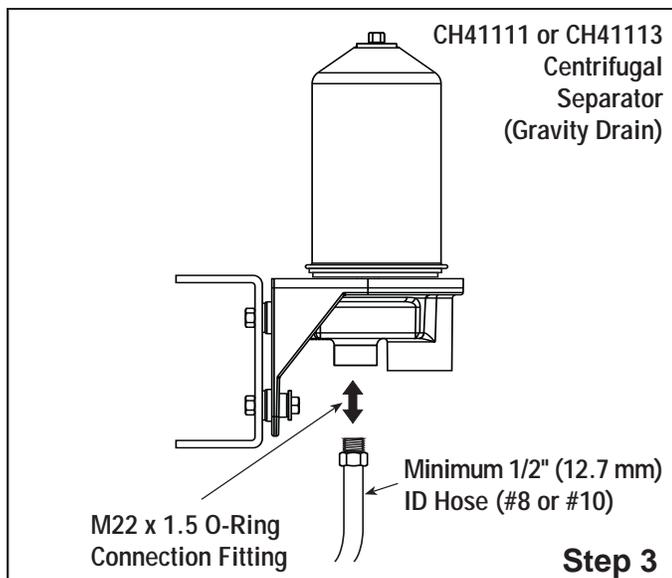
Mounting the Separator

Step 1 - Place the separator where it is to be mounted. It is shipped with the vibration isolators installed. Use of the vibration isolators is recommended to reduce vibration noise.

Important: The base casting must be mounted with the shaft pointed upwards (± 10 degrees).

Step 2 - Insert the bolts and washers as shown in the illustration and secure with the nuts. Tighten to 20 ft-lb (26.5 N·m).

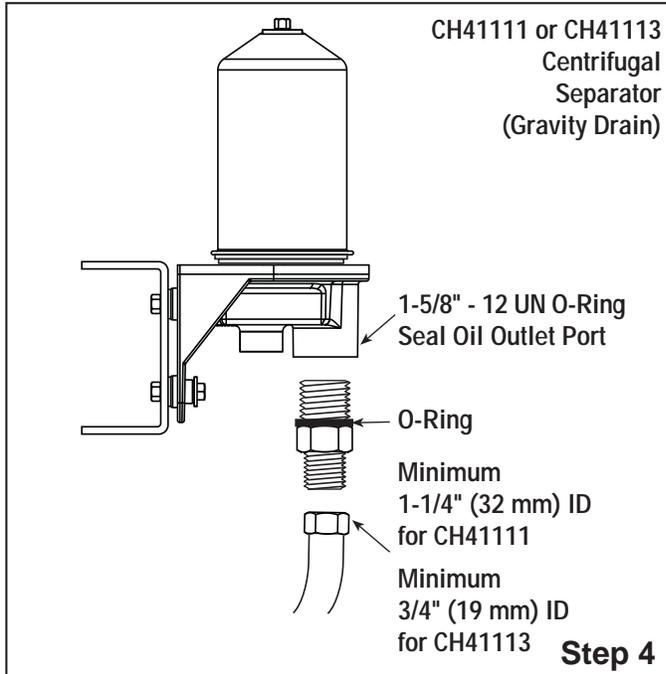
If you are installing a CH41112 or CH41114 separator, skip to Step 5.



Installing the Oil Inlet Line on a CH41111 or CH41113

Use an available oil supply port on the engine for the separator inlet connection. Most engines provide a port to supply auxiliary devices.

Step 3 - Connect the inlet line to the smaller of the two ports at the bottom of the unit with an M22 x 1.5 o-ring connection fitting. The inlet line must be at least 1/2" (12.7 mm) ID hose (#8 or #10 hose). Tighten to a maximum 22 ft-lb (30 N·m).



Installing the Drain Line On a CH41111 or CH41113 Centrifugal Separator (Gravity Drain)

The CH41111 and CH41113 separators are gravity-drained systems, so the unit must be located such that the drain line is at a steady down slope from the unit to the oil sump (one foot of drop per three feet of hose is recommended). It is recommended that the unit be at least 1' (0.3 m) above the drain return location.

All hoses must be clear of exhaust and all moving parts. Fasten hoses securely. It is very important to use a hose clamp on each end that a "barb" type fitting is used.

Step 4 - Securely connect the drain line to the larger port at the bottom of the unit using a #20 hose (SAE100R4) with a male o-ring straight thread (1 5/8"-12 UN) connector.

The drain line must be the minimum ID specified (see figure for Step 4), and it must be returned to the sump at a location above the oil level to assure proper drainage. There should be no U-traps, kinks or other obstructions or horizontal sections in the drain hose.

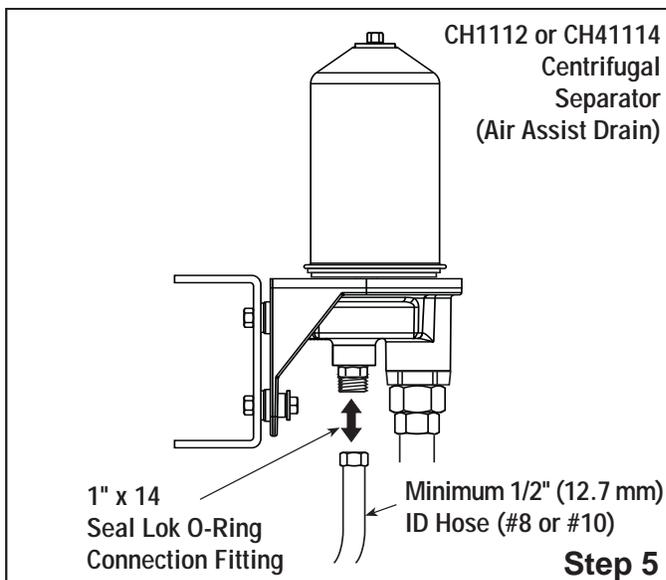
It may be necessary to adapt an inspection plate on the engine to accommodate the drain hose connection. The return/drain flow must be directed away from any moving parts in the crankcase. If you need assistance, contact your Fleetguard representative.

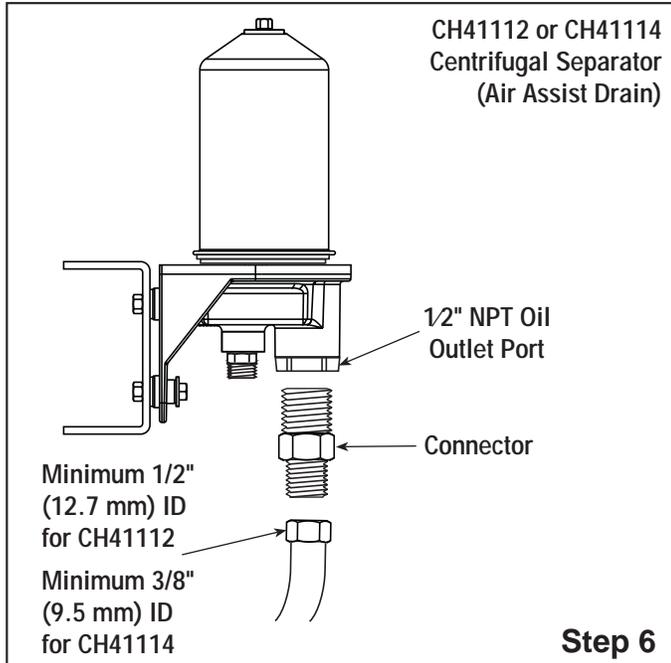
If you are installing a CH41111 or CH41113 separator, skip to Step 7.

Installing the Oil Inlet Line on a CH41112 or CH41114

Use an available oil supply port on the engine for the separator inlet connection. Most engines provide a port to supply auxiliary devices.

Step 5 - Connect the inlet line to the smaller of the two threaded connections at the bottom of the unit with a 1" x 14 o-ring Seal Lok connection fitting. The inlet line must be at least 1/2" (12.7 mm) ID hose (#8 or #10 hose). Tighten to a maximum 22 ft-lb (30 N-m).





Installing the Drain Line On a CH41112 or CH41114 Centrifugal Separator (Air Assist Drain)

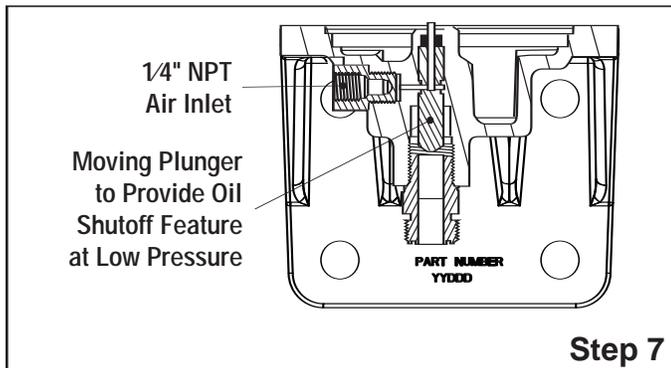
The CH41112 and CH41114 separators are air-assisted drain systems.

All hoses must be clear of exhaust and all moving parts. Fasten hoses securely. It is very important to use a hose clamp on each end that a "barb" type fitting is used.

Step 6 - Securely connect the drain line to the larger threaded connection at the bottom of the unit using a #8 or larger hose.

The drain line must be the minimum ID specified (see figure for Step 6), and it must be returned to the sump at a location above the sump oil level to assure proper drainage. There should be no U-traps, kinks or other obstructions or horizontal sections in the drain hose.

It may be necessary to adapt an inspection plate on the engine to accommodate the drain hose connection. The return/drain flow must be directed away from any moving parts in the crankcase. If you need assistance, contact your Fleetguard representative.



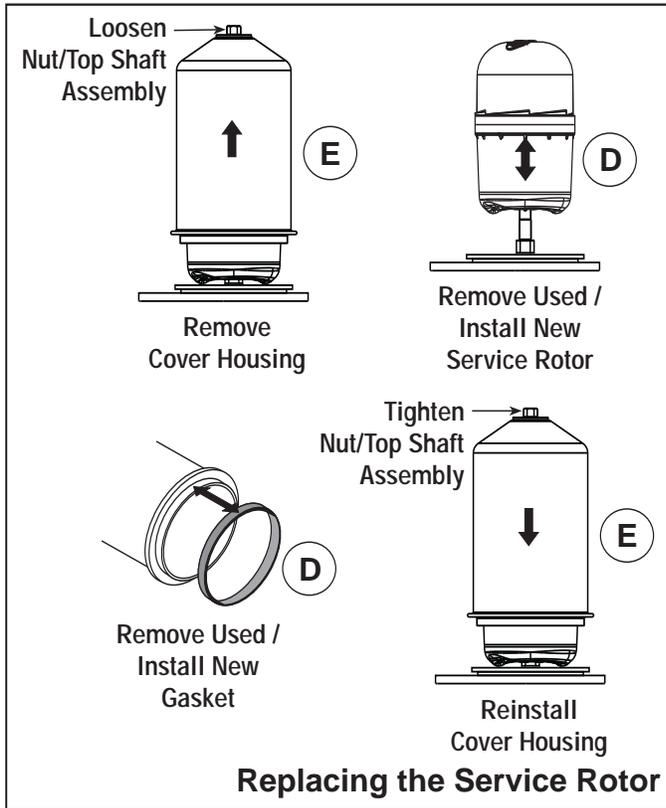
Installing the Air Inlet Line On a CH41112 or CH41114 Centrifugal Separator (Air Assist Drain)

Step 7 - The air inlet line requires 1/4" NPT male threads to fit to the air control opening in the unit. Minimum pressure requirements depend on the oil pressure at the separator. (See the note at the bottom of the Centrifuge Specifications table on the following page.)

Testing the System

Step 8 - Start the engine and check for any leaks. Turn the engine off to correct any problems. Restart the engine and check for proper operation.

Replace the service rotor at the same time as the full-flow filter(s) are replaced. Follow engine manufacturer's recommendations for filter service intervals. For extended service, contact Fleetguard, Inc.



Servicing the Separator

Replacing the Service Rotor

The service rotor requires regular replacement. The rotor can be changed at the same interval as the full-flow filters. If a more accurate determination of the life of the rotor is required, contact your Fleetguard representative for support.

Step 1 - Loosen the nut / top shaft assembly on top of the cover housing and remove the housing.

Step 2 - Slide the service rotor off the lower shaft.

Step 3 - Remove the used gasket from the bottom of the cover housing.

Step 4 - Clean the cover housing and install the new gasket onto the housing.

Step 5 - Slide the service rotor over the lower shaft until it is seated on the base casting.

Step 6 - Slide the cover housing over the service rotor and tighten the top shaft assembly to 15 ft-lb (20 N·m). Insure the cover housing is properly seated on the base casting.

Step 7 - Dispose of the used rotor according to local/regional regulations.

Replacing the Vibration Isolators

The four vibration isolators located in the base casting should be changed every 2-3 years for optimal vibration dampening. It is recommended that the vibration isolators and the entire assembly be visually checked at each service interval for any corrections needed.

Centrifuge Specifications

	CH41111	CH41112	CH41113	CH41114
Required Flowrate* @60psi	2 gpm (7.6 L/min)	2 gpm (7.6 L/min)	1 gpm (3.8 L/min)	1 gpm (3.8 L/min)
Recommended Temperature	230 °F (110 °C)			
Drain Hose and Attachment				
Fitting Minimum ID into Sump*	1-1/4" (32 mm)	1/2" (13 mm)	3/4" (19 mm)	3/8" (10 mm)
Recommended Sump Size*	5-30 gal (18-113 L)			
Air Supply Needed**	N/A	1/4" NPT	N/A	1/4" NPT
Capacity (weight depends on density of contaminant)	1.0 L	1.0 L	1.0 L	1.0 L
Overall Height of Assembly	14.3" (363 mm)	14.3" (363mm)	14.3" (363 mm)	14.3" (363 mm)
Depth of Assembly	6.5" (167 mm)	6.5" (167 mm)	6.5" (167 mm)	6.5" (167 mm)
Width of Assembly	6.5" (166 mm)	6.5" (166 mm)	6.5" (166 mm)	6.5" (166 mm)
Rotor Weight [dry]	17.6 oz (500 g)			
Assembly Weight [dry]	119 oz (3381 g)	123.4 oz (3500 g)	119 oz (3381 g)	123.4 oz (3500 g)
Clearance Above Assembly				
Needed for Service of Rotor***	4.5" (115 mm)	4.5" (115 mm)	4.5" (115 mm)	4.5" (115 mm)

* Indicates engine supply parameters needed for EACH centrifuge used. In the event of multiple units used on the same engine/application, contact your Fleetguard representative.

** Air system requirements (for CH41112 and CH41114).

When possible, air connection should be sourced from system operating pressure - 100 psi (6.8 bar) to 125 psi (8.6 bar). Air pressure should be equal or larger than oil operating pressure.

*** In order to achieve minimal removal height, the rotor and shell should be removed together.

Service Replaceable Parts

	Part	CH41111	CH44412	CH41113	CH41114
1	Service Rotor and Gasket	CS41011	CS41011	CS41016	CS41016
2	Top Shaft O-Ring	392304900 S	392304900 S	392304900 S	392304900 S
3	Gravity Drain Base Casting and Shaft (Includes vibration isolators, nuts, bolts, and washers)	395068900 S	N/A	395068900 S	N/A
4	Air Assist Base Casting and Shaft(Includes vibration isolators, plunger assembly, air control fitting, nuts, bolts and washers)	N/A	395069000 S	N/A	395069000 S
5	Air Control Fitting (1/4" NPT)	N/A	394151900 S	N/A	394151900 S
6	Oil Shutoff/Air Flow Plunger Assembly (Includes plunger, spring and o-rings)	N/A	394307100 S	N/A	394307100 S
7	Cover Housing with Label	395136600 S	395136700 S	395564000 S	395564100 S
8	Vibration Isolator Kit (Includes 4 vibration isolators, 4 bolts, 8 washers, and 4 nuts)	393526300 S	393526300 S	393526300 S	393526300 S
9	Top Shaft Assembly (includes nut, top shaft and o-ring)	394387100 S	394387100 S	394387100 S	394387100 S

