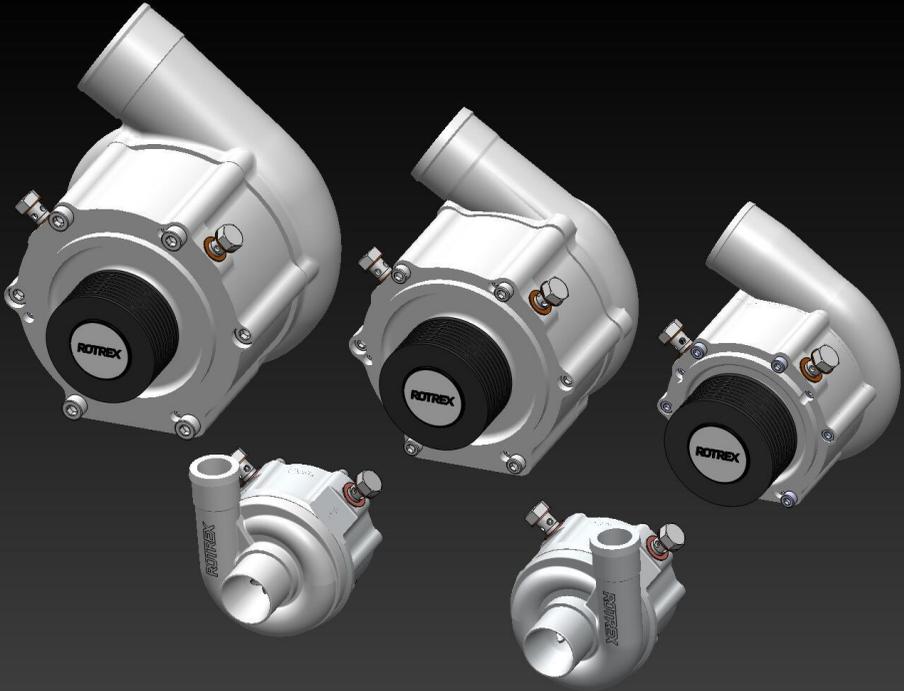
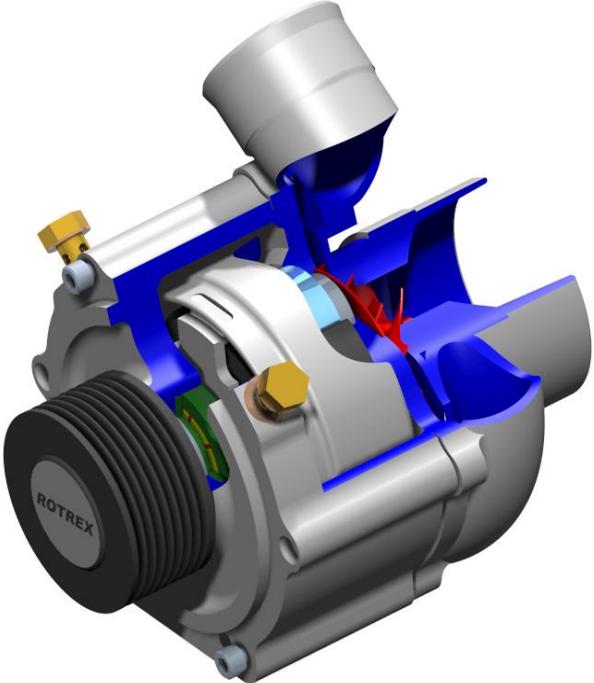


# Rotrex C-range Superchargers

## Setup and Maintenance



**ROTREX™**



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Version 9.3

## Welcome

Thank you and congratulations for choosing Rotrex!

Rotrex superchargers are based on a patented high-speed planetary traction drive. Through innovative technology, advanced materials and quality control we strive to make this product the best in the market. To get the most out of your Rotrex supercharger and to avoid problems carefully follow the instructions in your supercharger kit documentation and this leaflet.

The guidelines in this leaflet are only for general issues, please contact your Rotrex dealer or see [www.rotrex.com](http://www.rotrex.com) for all specifications and requirements of the Rotrex supercharger system.

## Warning!

**Before beginning any installation of the Rotrex supercharger, read and familiarize yourself with all the accompanying literature**

**Do not attempt to install this product before discussing the details with your Rotrex dealer. Make sure you have the necessary technical knowledge and experience with forced induction systems**

**Do not put hands or fingers near the running supercharger. Suction is extremely powerful and can cause loose clothes, hair and fingers to be sucked into the device with risk of serious injury**

**Use protective eyewear when working near the running supercharger**

**Keep fingers and hands clear of the pulley and drive belt while the engine is running**

**Disconnect the battery of the vehicle before doing any installation work**

**If there are any questions prior to or during installation of the Rotrex supercharger or the Rotrex supercharger kit please contact your Rotrex dealer**

# Key points

For best performance and durability please follow the key points stated below:

- Prior to initial start-up make sure to prime the supercharger oil system (see page 8). Failure to do so may result in severe damage
- The oil used must be special Rotrex traction fluid
- The Rotrex supercharger can only be operated in one rotational direction. Never turn the pulley in the incorrect direction by hand or otherwise. For your particular unit, please find the correct rotational direction in the technical datasheet found on [www.rotrex.com](http://www.rotrex.com)
- Do not try to change the compressor setup. The direction of the compressor house is pre-set by your dealer to fit the kit setup. Changing this setup must only be done by authorized personnel. Contact your Rotrex dealer if you encounter problems with the setup
- To avoid engine damage make sure to run the appropriate fuel grade (octane). If any sign of knocking is detected immediately discontinue running the engine under boost conditions until the problem has been solved
- It is important to place the supercharger as the highest component in the system (s/c and oil system, see page 7) and with the flat surface of the supercharger facing downwards within +/- 15° to horizontal
- Check the supercharger oil level after initial start up. Always follow the correct procedure for oil level check (see page 9)
- To secure optimal oil conditions do not modify or change the oil circuit supplied with your kit
- Always respect the oil and filter change interval and procedure (see page 9)
- If the originally mounted pulley needs replacing always follow the correct pulley changing procedure (see page 11). Incorrect pulley change can damage the supercharger
- Always take care not to over tighten the supercharger bracket and banjo bolts as this will strip the threads. Follow the torque specified in your kit installation instructions or download the datasheet available at [www.rotrex.com](http://www.rotrex.com)

## Lubrication system

The Rotrex C-range supercharger has been developed and extensively tested with special Rotrex traction fluid.

### Important!

To maintain the ultimate level of performance and durability it is very important that the unit is exclusively run with special Rotrex traction fluid supplied by a Rotrex dealer

The lubrication circuit provided with the kit is an integrated and essential part of the supercharger system.

Carefully follow the instructions provided with your kit on how to install the lubrication circuit in the vehicle.



## Routing of oil lines

When routing the oil supply and return lines care must be taken to prevent cracks and cuts. If this occurs it could be catastrophic to the supercharger or engine.

- Oil lines must be routed at a safe distance from the exhaust system and other hot parts
- The oil lines and the oil system components (filter, canister and cooler) must be placed below or level with the supercharger shaft
- Make sure there is sufficient clearance from other moving parts such as the ventilator fan, belts and pulleys
- To prevent restricted oil flow only use large radius bends when routing the oil hoses and avoid any sharp bends and kinks
- Engine vibration and movement must be taken into account when routing the oil lines
- Make sure there is no debris in the oil system before initial start-up
- Place the oil cooler where external clogging (debris, stones, sand etc.) can be prevented
- Prime the oil system correctly prior to initial start up (see page 8)

## Connecting the parts

The Rotrex C-range superchargers incorporate an independent dry sump lubrication system. Please follow these instructions closely during installation. If your supercharger was bought as part of a kit please refer to the kit documentation.



## Important:

- Tightening torque of the banjo bolts: 21Nm (15lbft)
- Observe the correct priming procedure (see page 8)
- Observe the correct oil level and oil level checking procedure (see page 9)

1.



Place the oil canister with the cap **below** or **level** with the supercharger shaft. Use the bracket supplied in the oil set. Make sure the canister is placed upright. Leave the plastic plugs in place to prevent debris from entering the system

2.



Mount the oil cooler in front of other coolers in a location with good air flow. Place the oil cooler **below** or **level** with the supercharger shaft. The threads for the fittings must be facing upwards to prevent air pockets

3.



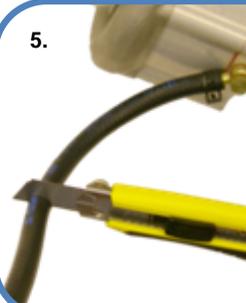
With a pair of pliers, compress a hose clamp and slide it over one end of the hose. Press a banjo fitting into the hose end and secure it with the hose clamp

4.



With the supercharger properly in place fit one end of the hose to the oil inlet using the banjo fitting and banjo bolt. Make sure to use a copper washer on each side of the banjo fitting to prevent leaks

5.



Now find a suitable place for the oil filter somewhere along the oil inlet hose. Place the oil filter **below** or **level** with the supercharger shaft. Cut the hose using a sharp knife or hose scissors. Again slide a hose clamp over each end of the hose

6.



Now press the filter studs into the hose ends as shown and secure with hose clamps. Observe the flow direction of the filter! Following the same method, continue fitting the remaining parts of the oil system

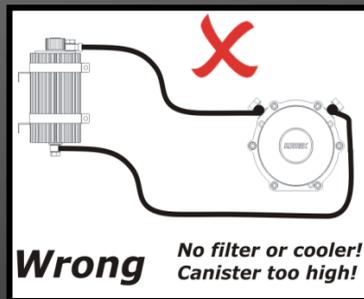
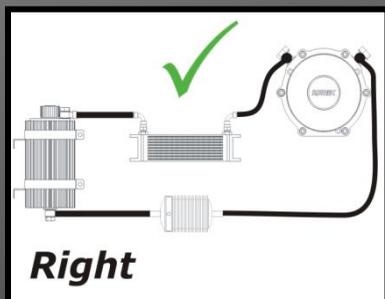


The finished oil system is shown above with oil flow direction as indicated by the arrows. Oil flows from the oil canister through the filter into the compressor oil inlet. The compressor oil outlet routes through the cooler before entering the oil canister at the top.

To prevent oil leaks it is of utmost importance that the oil cooler, oil filter and the oil canister with its cap are placed **below** or **level** with the supercharger shaft.

## Cooling and filtering!

Make sure your oil system has proper cooling, filtering and positioning

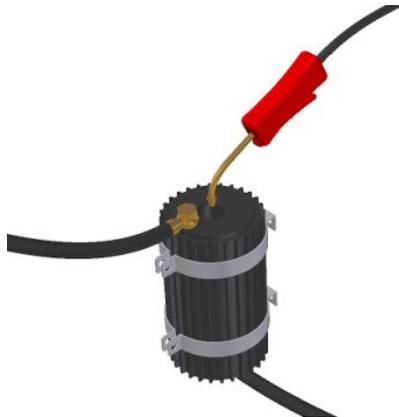


## Initial start up

To ensure proper traction fluid circulation and adequate lubrication, it is important to prime the oil system before the engine is started for the first time after the supercharger installation.

The priming process is done most easily with all oil components in place and installed.

1. Carefully fill the oil canister with traction fluid without exceeding the maximum mark on the dip stick. The oil level is measured with the thread of the dip stick cap fully engaged
2. The banjo bolt at the oil line attached to the supercharger inlet marked "oil inlet" should be loosened a couple of turns allowing air to escape the system
3. **Carefully** apply pressurized air to the oil filler hole at the top of the canister. Do not pressurize the system to more than one bar or 15psi. Use a rag or a sponge as a seal between the air gun and the canister
4. When oil appears at the "oil inlet", tighten the banjo bolt and the system is primed
5. Carefully top up the oil canister to the maximum mark on the dip stick
6. Turn on the engine and rev it to 2-3000 rpm and make sure the oil starts flowing by visual inspection, looking into the oil canister. Do not rev the engine more than specified as this can cause damage to the supercharger
7. Let the engine idle for 5 minutes while checking the oil system for leaks
8. Check the oil level using the correct procedure (see page 9)
9. A run-in period of 100 km (65 miles) is highly recommended. During this run-in period, drive the vehicle carefully and avoid unnecessary revving and heavy acceleration



# Oil level checking and maintenance

## Maintain your system!

The oil and filter change interval of the Rotrex C-range superchargers is 80,000 km / 50,000 miles or two years, whichever comes first

Check the oil level using the correct oil level checking procedure as described below.

*To check the oil level, set the engine speed to 2 - 3000 rpm and check the oil level while the engine is kept running at 2 - 3000 rpm. The correct oil level is between the min and max marking of the dipstick measured with the thread of the cap fully engaged.*

## Important!

**Always keep the oil level between minimum and maximum**

**Overfilling the canister may cause oil leaks from the oil canister and too little oil may cause severe damage to the supercharger**

## Testing

Upon completion of the installation, the vehicle must be tested thoroughly. Testing should identify any leaks, noise, vibration, improper alignment of belt, overheating or other faults in the installation. It should also ensure the engine is running properly with the correct air/fuel ratio and ignition timing. Incorrect installation or use of the supercharger can cause severe damage to the product and/or the engine.

# Oil and filter service

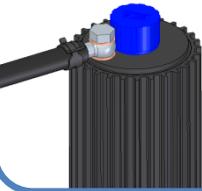
Please see below procedure for correct oil and filter replacement:

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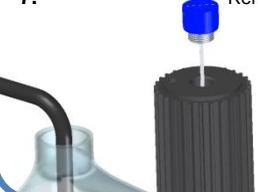
1. To avoid traction oil spilling into the engine compartment, use a hose clamp pliers to clamp the oil hose as close to the oil filter as possible on the oil canister side (filter inlet)
- 

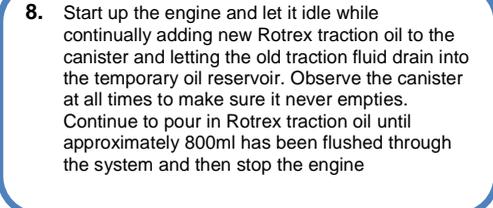
2. Slide away the two hose clamps on the oil filter and remove the oil filter
- 

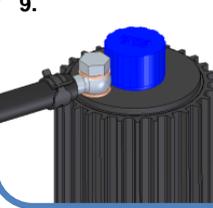
3. Mount the new oil filter. Make sure to mount the filter in the correct direction according to the arrows on the filter indicating the correct oil flow direction. Slide the two oil hose clamps back to the correct position
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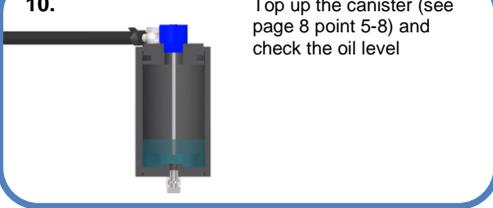
4. Remove the hose clamp pliers
- 

5. Clean all the oil hose connections on the oil canister to prevent any debris or dirt from entering the oil circuit
- 

6. Remove the top banjo bolt and sealing washers on the canister. Remove the hose and let the old oil flow into a temporary open oil reservoir (minimum capacity 1 liter)
- 

7. Remove the canister cap
- 

8. Start up the engine and let it idle while continually adding new Rotrex traction oil to the canister and letting the old traction fluid drain into the temporary oil reservoir. Observe the canister at all times to make sure it never empties. Continue to pour in Rotrex traction oil until approximately 800ml has been flushed through the system and then stop the engine
- 

9. Remount the canister's oil inlet hose and remember to replace the copper washers with new ones
- 

10. Top up the canister (see page 8 point 5-8) and check the oil level

# Pulley change

Pulley change should only be performed by authorized personnel.

## Important!

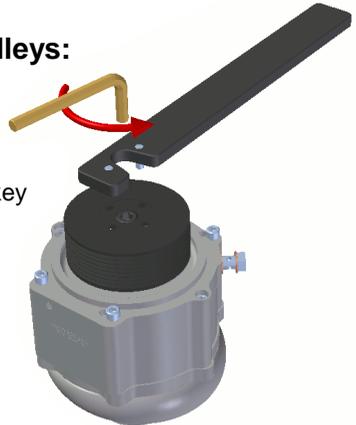
**Incorrect changing of the original pulley setup voids warranty!**

**Never use an impact wrench when assembling or disassembling pulleys**

**Only use the special pulley removal tool when changing a pulley**

### Disassembly procedure for steel<sup>1</sup> pulleys:

1. Place the S/C with the pulley facing upwards
2. Remove the Rotrex sticker
3. Secure the pulley with a pulley removal tool<sup>2</sup>
4. Unscrew the pulley bolt with 8mm hexagon key
5. Gently pry the pulley to release it



### Mounting procedure:

1. Lubricate drive shaft thread before mounting
2. Clean the contact surfaces on pulley and S/C with a degreaser (brake cleaner or similar product)
3. Place the new pulley on the S/C and press it down manually
4. Secure the pulley with the special pulley removal tool
5. Tighten the pulley bolt to the correct torque according to the technical datasheets at [www.rotrex.com](http://www.rotrex.com)

<sup>1</sup> For aluminum pulleys please contact your Rotrex dealer

<sup>2</sup> Pulley removal tool specifications can be found at [www.rotrex.com](http://www.rotrex.com)

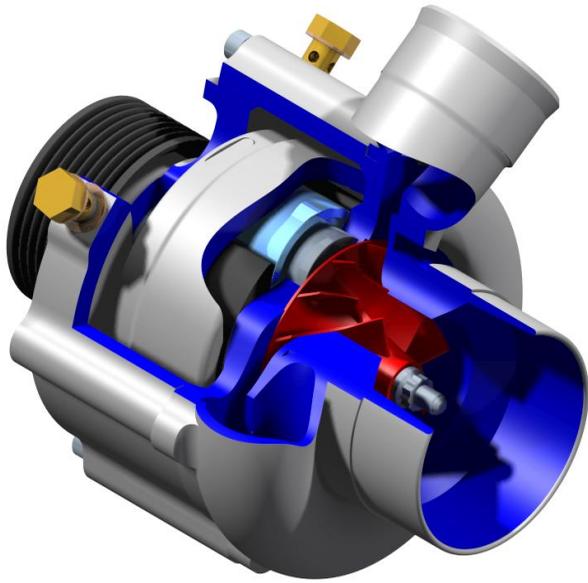
## Warranty

For warranty issues and other questions please contact your Rotrex dealer.

Parts found to be defective due to misuse will not be honored for warranty or other associated liabilities. The guidelines in this leaflet are only for general issues, please contact your Rotrex dealer or see [www.rotrex.com](http://www.rotrex.com) for all specifications and requirements of the Rotrex supercharger system.

If the Rotrex supercharger has been disassembled, has had the original pulley incorrectly replaced or has been altered in any other way the warranty will be void.

Rotrex is not responsible for any special, incidental or consequential damages or costs incurred due to the failure of this product



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