

POLARIS RZR 1000 SUPERCHARGER KIT



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Part Number(s): 150-17-1000

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Supercharger Run-In / Final Checks	33	3/16" Drill Bit	Razor Blade	Grease
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NOTE: UPGRADED CLUTCH COMPONENTS REQUIRED PRIOR TO INSTALL

Specifications will vary due to Tire Size, Elevation, 2dr/4dr, Environment (sand, dirt, mud, etc.)

INTRODUCTION

GENERAL

The Kraftwerks Polaris RZR 1000 Supercharger Kit was designed for easy installation. Competent mechanics with the appropriate tools will find the process to be relatively simple. This is a GENERAL installation guide; each installation, components and test vehicle may vary slightly. Some pictures may show assembly on engine stand for clarity.

PLEASE BE AWARE THAT SOME PARTS MAY COME PRE-ASSEMBLED BUT ARE NOT TORQUED DOWN

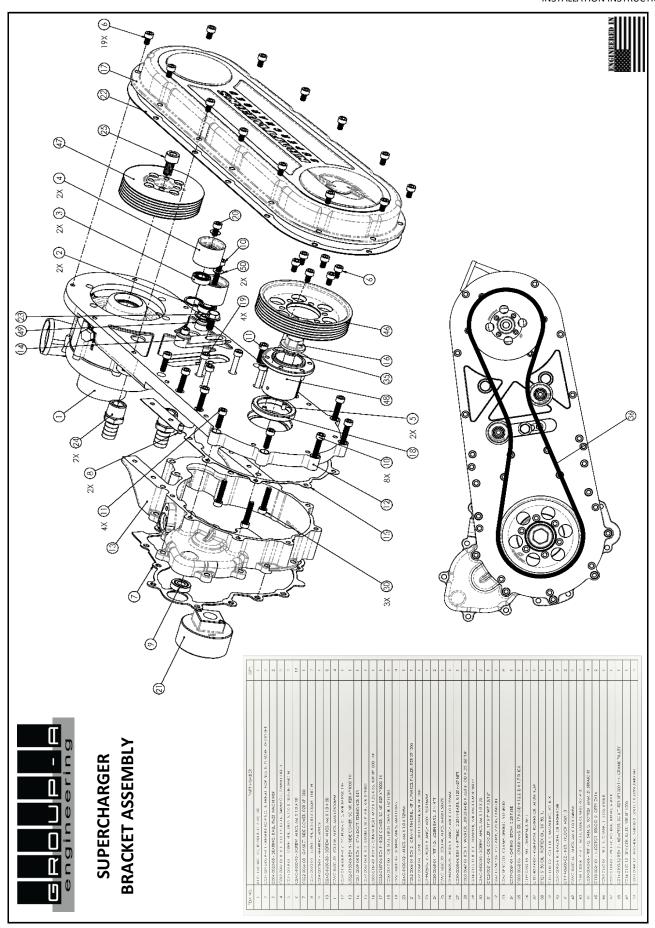
- <u>Review ENTIRE installation before beginning install</u>. If you have any questions about your ability to perform the installation, take your vehicle to a qualified performance shop for installation (Please ask your dealer or Kraftwerks representative for installers within your area).
- Disconnect BOTH Battery Terminals before install.
- Remove Gas Cap to relieve fuel tank vapor pressure.
- A minimal amount of work underneath the vehicle may be required. If you do not have access to a lift, then a <u>Floor Jack and Jack Stands</u> may be required. NEVER WORK UNDER A VEHICLE WITHOUT APPROPRIATE JACK STANDS.
- Always wear Safety Glasses when working on your vehicle.

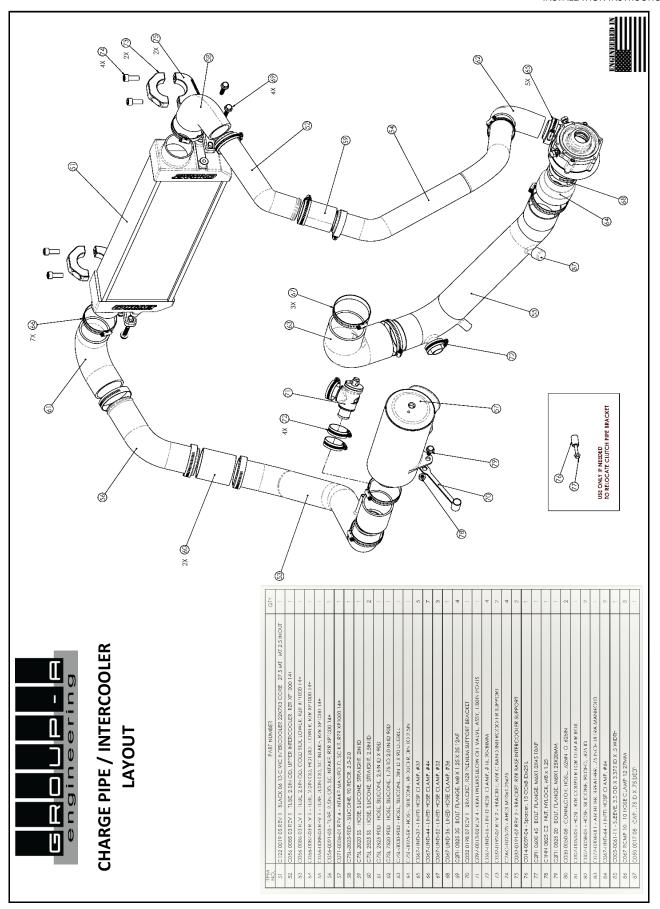
DISCLAIMER

- WARNING: Engine Rev Limiter must be set below **8500 RPM**. Any higher RPM will OVER-SPIN the Rotrex Supercharger headunit which <u>WILL void its warranty</u>.
- Kraftwerks Supercharger Kits do not require break-in or warm-up periods. However, always warm your engine up properly before operating at full boost.
- If an engine <u>Oil and Filter change</u> has not been performed recently, do so now using high quality, <u>Synthetic</u> oil.
- A minimum of 91 OCTANE, premium-grade fuel must be used

ROTREX COMPONENTS DISCLAIMER

- Only use genuine **Rotrex SX150 Traction Oil** for supercharger lubrication. The proprietary traction formula protects the supercharger where other oils would fail, and is what allows its high-RPM operating levels. Use of <u>Non-Genuine</u> **Rotrex SX150 Traction Oil** <u>WILL void the warranty of the Rotrex Supercharger</u>.
- Important: Keep all <u>Pipes and Hoses</u> sealed and clean until installation. The Rotrex Supercharger operates at speeds as high as 100,000 RPM on the RZR 1000. ANY debris that inadvertently enters the inlet pipes or becomes stuck to the silicone hoses can enter the Rotrex Supercharger and will damage its compressor blades. Compressor blade damage is <u>NOT covered by the Rotrex Two-Year warranty</u>.
- NEVER rotate the Rotrex Supercharger counter-clockwise.





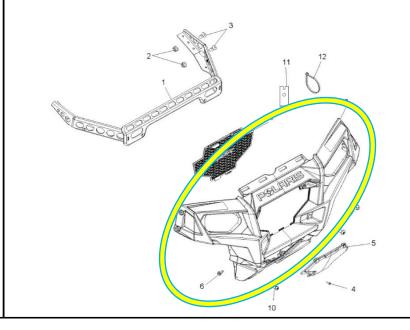
PRE-ASSEMBLY / REMOVAL

- 1. Jack up vehicle and place on Jack Stands or use a lift (as pictured). Make sure that the rear suspension is not under load and that the suspension is hanging freely.
- 2. Disconnect Battery
- 3. Remove the Passenger Side Rear Tire.
- 4. Unbolt the Rear Passenger Shock/Spring Assembly from the bottom and swing it up out of the way and properly secure it with a strap (pictured).

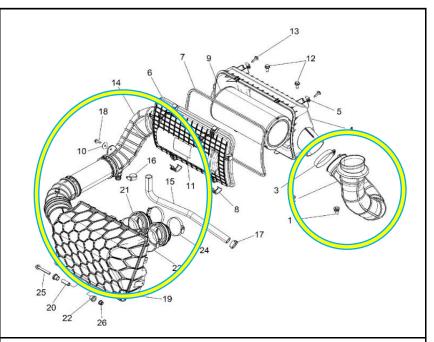




Remove Front Bumper. (Note: Diagram courtesy of Polaris)

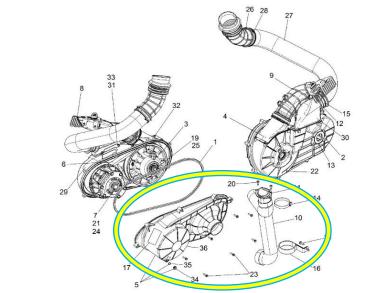


Remove OEM Intake Manifold Assembly and Piping (The shorter tube will be re-used later). (Note: Diagram courtesy of Polaris)



Remove Clutch Assembly Cover and Vent Tube.

(Note: Diagram courtesy of Polaris)



How Driver Side Engine should look after removal of OEM Air Intake Assembly and Clutch Cover Assembly.



Cut off a 6x6 section of the engine heat shield located above the engine.

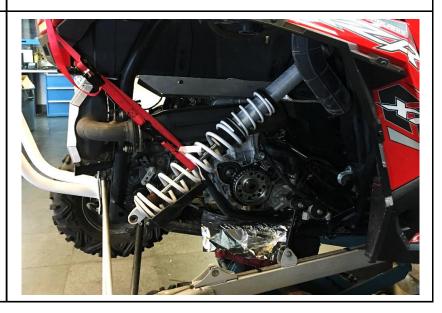


How the Heat Shield should look after modification.



Place some foil and oil pan (or other type of oil drainage catch) under the engine.

Remove the Engine Cover as shown.



Use a Razor Blade and scrape off ANY excess gasket that may remains to ensure that there are no leaks later in the build process.

Locate the Main Crankshaft Bolt.



Use an Impact Gun and 19mm Impact Socket to remove Crankshaft Bolt.



Locate Crank Drill Pin Assembly.



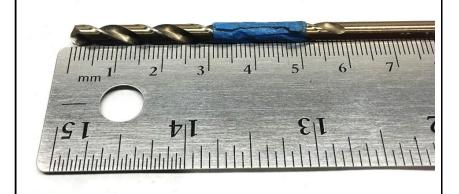
Attach the Crank Pin Drill
Assembly by using an Adjustable
Wrench and ensuring it is snug
(Do not overtighten or threads
will strip out).



How Crank Pin Drill Assembly should look at this point (Note: Orientation may vary but the most important thing is that the Crank Pin Assembly is snug tight)



Using a 3/16" Drill Bit, mark off with masking tape or paint pen 31mm from the tip of the drill bit.



CAREFULLY drill Crank **5mm** in depth (Note: This is a very important step so be careful to hold Drill Flat and Steady and Do NOT drill too deep).



Once both holes have been drilled, clean them out thoroughly and then place Dowel Pins in as shown.





SUPERCHARGER DRIVE ASSEMBLY / HOSE KIT

Locate the Supercharger Drive Assembly Kit as shown.



Locate the Main S/C Drive Assembly with the mounted Rotrex Head Unit.



Remove OEM Stater Assembly and install onto Main S/C Bracket Assembly.

Install OEM Wire Harness Bracket and Rubber Bushing.



How the Main S/C Bracket Assembly should look at this point in the installation.



Locate the Hose Kit and remove the QTY 2 Long Silicone Hose Assemblies, Silicone Coupler, Breather and Aluminum Ring.



Locate the QTY 2 Long Silicone Hoses with Angled ends.

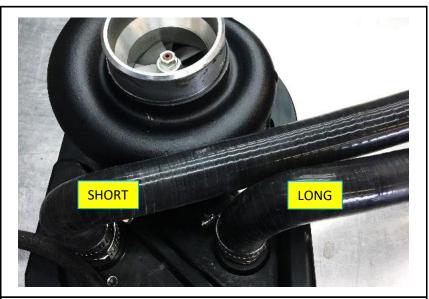
Cutting from the STRAIGHT end, cut off 24" of one hose and then 10" off the other.



Attach the hoses from the prior step to the Brass Fittings attached to the S/C Main Bracket Assembly.

The short hose attaches to the bottom fitting and the long hose attached to the top fitting.

Use included Clamps to secure.

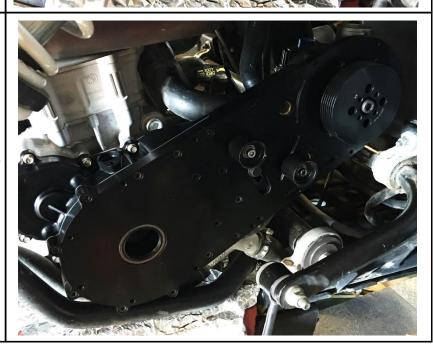


Install the supplied Gasket by DABBING some RTV Silicone to help seat the gasket for easier installation.



Install Main S/C Bracket Assembly.

Torque M6 bolts to 8 ft/lbs.



Locate Crankshaft Pulley Assembly and New Crankshaft Bolt and Crush Washer.

Oil Hub Section.

Use Red Threadlocker on Bolt.

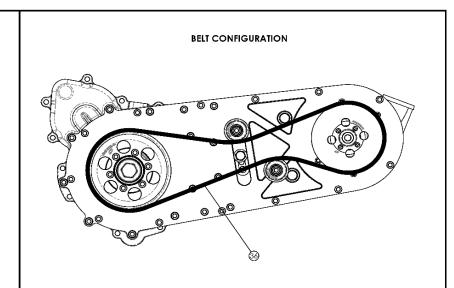


Torque new Crankshaft Bolt to 95 ft/lbs (Do NOT use an impact gun).



Locate S/C Drive Belt.





Belt Routing Guide.

Remove the Tensioner Pulley Assembly.

Place belt on both S/C Pulley and Crank Pulley (Make sure the belt is seated on the grooves CLOSEST to the Mounting Plate).

Re-Install Tensioner Pulley Assembly (This will take some force to push the belt down).

Torque bolt down to ft/lbs



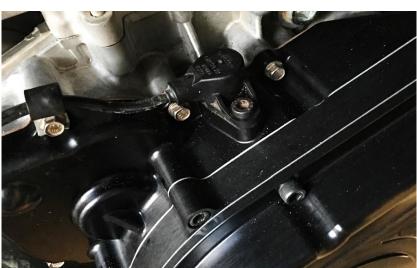
Locate the S/C Belt Cover Plate, Gasket, and QTY 13 M6 x 1.0 x 10mm Allen Bolts.



Install S/C Belt Cover Plate with Gasket using the M6x10 Allen Bolts (Recommend DABBING RTV Silicone to help seat the gasket properly and for ease of installation).



Re-Install Crank Trigger Sensor.



Locate the Silicone Coupler and Breather Assemblies from the Hose Kit.



Place the Small Breather Assembly in the small factory hole as shown.



Route the LOWER Fitting Hose to the Coupler Fitting and route the UPPER Fitting Hose to the Breather.

Secure all hoses with included Worm Gear Clamps.





OIL COOLER ASSEMBLY

Locate the Oil Cooler Kit as shown.



Rotrex Oil Line Overview You will need to cut the included Oil lines to the specified lengths:

2 Door- QTY 2, 125" Lines

4 Door- QTY 2, 150" Lines



At this point the Front Bumper should have already been removed from the first section.

Attach Oil Cooler to Radiator using the included Nylon Rod Kit.

Cut QTY 2 120" Lengths and attach them to both fittings of the Oil Cooler as shown. Secure ends with included Spring Clamps.



Run Oil Cooler Lines parallel to the radiator lines and attach them with the included Zip Ties as shown.



Locate the Front Bumper and find the center point.

Mark off an 8" section in the middle as shown and then mark an extra 1" section from those marks.



Use a Dremel Tool to cut off the marked sections as shown. This is required to clear the Oil Cooler Fittings.



Locate Rotrex Oil Reservoir Assembly with attached Oil Filter as shown (Note: Bracket may differ from current version).



Remove Center Console and Remove Driver Side Seat Belt Bolt closest to the Middle.

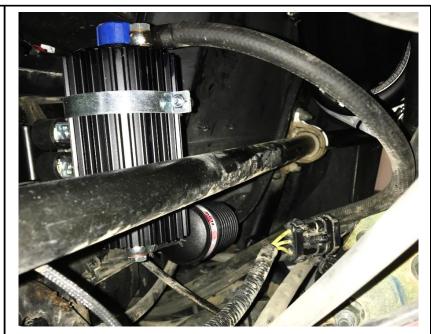


Bolt the Rotrex Oil Reservoir Assembly to the Seat Belt Bolt with RED Threadlocker.



Attach Oil Lines. The Oil Line that goes to the TOP Fitting leads to the Oil Cooler.

The Oil Line that goes to the BOTTOM Fitting that has the attached Oil Filter leads to the OIL IN Fitting of the Rotrex S/C (The fitting closest to the firewall).



The remaining OIL OUT Fitting leads to the remaining Oil Cooler Fitting.





INTERCOOLER / CHARGE PIPE / BYPASS VALVE

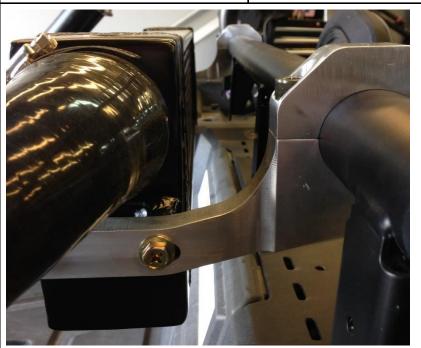
Locate Intercooler Kit as shown.

Based on the Roll Cage of your RZR, mount the Intercooler Bracket to the Intercooler as shown.



A F T E R M A R K E T T

OEM CAGE MOUNT
If you have an OEM Roll Cage,
mount the Intercooler Assembly
to the Roll Cage as shown using
the included C-Bracket (Note:
the picture shows Pre-production
pieces).



AFTERMARKET CAGE MOUNT
If you have an Aftermarket Cage
the mounting point may vary.
In this picture Spacers (NOT
included) were used to mount
the Intercooler Assembly.



Locate Charge Pipe Kit.



Locate the Passenger Side Intercooler Charge Pipe Assembly.



Using a 3" HOLE SAW, cut a hole for the Charge Pipe Assembly. Be sure to double Charge Pipe location BEFORE cutting hole.

Mount Passenger Side Intercooler Charge Pipe Assembly.



Locate the Driver Side Intercooler Charge Pipe Assembly.

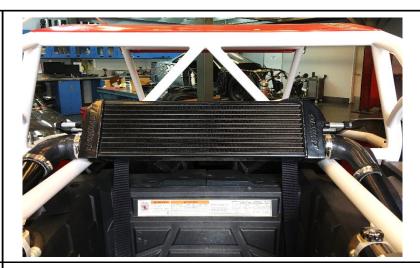


As on the Passenger Side, use a 3" HOLE SAW and cut a hole. Be sure to double check the Charge Pipe location BEFORE cutting hole.

Install Driver Side Intercooler Charge Pipe Assembly.



How the Intercooler Assembly and Charge Pipes should look like up to this point.



Locate the Rotrex S/C OUTLET Charge Pipe Assembly.



Install the S/C Outlet Charge
Pipe by attaching one end to the
Rotrex S/C Outlet and the other
end to the Passenger Side
Intercooler Charge Pipe
Assembly.



Locate the Intake Manifold
Assembly. Attach included
Support Bracket to the Assembly
as shown (Do not tighten down
until later).



Install the Custom Intake
Manifold to the OEM Throttle
Bodies and secure to the
Engine Mount as shown.



Attach the Secondary MAP Sensor to the Custom Intake Manifold.



Locate the S/C Intake Charge Pipe Assembly as shown.



Attach one end with transition section to the Rotrex S/C Inlet.



Attach the other end of to the Factory Air Box Outlet as shown.



Locate the Intake Manifold Inlet Charge Pipe Assembly.



Attach one end to the Intake Manifold Assembly and the other end to the Driver Side Intercooler Charge Pipe Assembly.



Locate the Blow Off Valve
Assembly and attach the long
1"ID x 20" Length Heater Hose as
shown.



Attach the short end of the Blow-Off Valve Assembly to the Intake Manifold Charge Pipe Assembly.



Attach the longer end of the Blow-Off Valve Assembly to the Rotrex S/C Intake Charge Pipe Assembly as shown.



Locate the Vacuum Assembly.



Install Vacuum Assembly where the PRIMARY MAP Sensor is as shown.



Attach the other end of the Vacuum Hose to the top of the Bypass Valve Assembly and secure using an included Zip Tie.





START-UP (RUN-IN) / FINAL CHECK

Use a small Funnel and carefully fill the Rotrex Oil Reservoir with Rotrex SX 150 Traction Fluid up to about 2/3 Full.

Start up Engine and let IDLE.

Periodically rev engine to no more than 3,000 RPM.

Monitor the Traction Fluid and pour in more as needed until the Traction Fluid has cycled through the system (About 5min).

DO NOT ALLOW RESERVOIR TO GO DRY OR ELSE THE ROTREX UNIT WILL OVERHEAT AND FAIL.

Check Fluid level on the Dipstick and make sure it is to the MAX level but DO NOT overfill.





LIMITED WARRANTY

<u>Kraftwerks USA</u> offers a **12 MONTH limited warranty** against defects in materials, components, and workmanship unless specified otherwise. The warranty period starts on the ORIGINAL date of retail purchase directly from Kraftwerks or from your local dealer (Warranty of the Rotrex Supercharger Head Unit is 3 years from date of manufacture). This limited warranty is only offered to the ORIGINAL OWNER (receipt will be required for verification). Furthermore, the warranty excludes any electronic components manufactured by other companies. IF THE KRAFTWERKS SUPERCHARGER KIT IS ALTERED FROM THE FACTORY SETTINGS, THE WARRANTY MAY BE VOID.

This includes but is not limited to the following:

- Over spinning of the Rotrex supercharger head unit
- Use of non-approved or custom hubs/pulleys
- Alteration of brackets, pulleys, and other drive components
- Modification or re-routing of any charge piping or intake system that is included in the "FULL" Kits

Kraftwerks will honor a warranty claim at its sole discretion after the component in question is inspected at the Kraftwerks facility and/or the Rotrex A/S facility located in Denmark. NO WARRANTY CLAIM WILL BE ACCEPTED IF THE COMPONENT IS FOUND TO HAVE BEEN TAMPERED, MISINSTALLED, MISUSED, OR MISHANDLED (I.E. DROPPED) IN ANY WAY. Furthermore, disassembly of the Rotrex Supercharger Head Unit voids ALL warranty claims. No Kraftwerks dealer is authorized to make any warranty claims, repair, or modification. Any claims for freight / shipping damages will need to be directed towards the freight / shipping company.

- If the component in question <u>is covered under the Kraftwerks USA limited warranty</u>, the product will be repaired or replaced at the discretion of Kraftwerks USA.
- If the component in question <u>is not covered by the Kraftwerks USA limited warranty</u>, our Kraftwerks staff will advise you on the specific reason, the cost of replacement / repair, and estimated time it will take.

TO PROCEED WITH A WARRANTY CLAIM YOU MUST DO THE FOLLOWING:

- Contact Kraftwerks USA directly at (951) 808-9888
- A Kraftwerks USA team member will direct you to send the following to support@kraftwerksusa.com:
 - 1. Copy of <u>original receipt or invoice</u> (PayPal verifications alone are not accepted)
 - 2. <u>Pictures and description of issue</u> (Limit 1-2 Pictures per email or Compress Images)
 - 3. Contact information- Name, address, and contact number
 - 4. Vehicle description- Year, make, model, and any additional/supporting modifications
- Once all of the above have been received and the warranty claim has been INITIALLY approved by a Kraftwerks team member (The component still needs to be inspected), you will be contacted with a Return Merchandise Authorization (RMA) number .
- Once an RMA number has been given, you will then be directed to package the component(s) in question, write the RMA number in BOLD on the outside of the box, and then a call tag will be issued to pick up the package from your location.
- Once the package arrives at the Kraftwerks facility, the Kraftwerks team members and engineers will determine if the component is covered under the limited warranty.

OTHER NOTES: Kraftwerks USA is located in California. Please be aware that warranty claims will be shipping GROUND (Faster shipping available at added cost) so please allow enough lead time for us to inspect the component(s). Please package components securely as any damage to components due to improper packaging will NOT be covered by the limited warranty. Also, if a Rotrex supercharger head unit is being warrantied, the lead time will be longer due to the fact that only Rotrex A/S located in Denmark can approve or deny claims of the superchargers themselves (If this is the case and time is limited, we do offer CORE CHARGE options. Please contact a KraftwerksUSA representative for more information).

KRAFTWERKS USA is also NOT liable for the following:

- Voiding of Factory Warranty and/or components