

K-O ENGINEERING

(R . A . S . P .)

ROTARY AXIS SUPPLY PUMP

INSTALLATION

INSTRUCTIONS

R.A.S.P. Install Recommendations

1. Inventory parts and completely read all directions prior to installation.
2. Disconnect both batteries.
3. With serpentine belt still hooked up break loose the four 15mm bolts attached to the harmonic balancer. (*Note if an air ratchet isn't being used a breaker bar with a hammer may be a substitute. Or putting a wrench on the alternator pulley nut procedure can be used to prevent the motor from turning over while initially loosening the 15mm bolts.

4. Install new R.A.S.P drive hub assembly using factory bolts. Ensure there is a gap of a $\frac{1}{4}$ ".
5. Remove front four front oil pan bolts and install pump assembly, using the same bolts install pump assembly.
6. Attach belt around both pulleys, slide pump assembly to snug up timing belt. Do not over tighten belt.
7. Route a pump supply fuel line to the drivers side of the pump. Recommend using T-Fitting on the supply side to the existing electric pick-up pump.
8. On the output of the electric fuel pump install the 4psi check valve with arrow pointing away from the electric pump, this will prevent fuel from returning through the electric fuel pump.
9. Route a pressure fuel line to the fuel filter inlet. Recommend using T-Fitting with $\frac{1}{8}$ "NPT port in it at the input of fuel filter. Attach an 18" grease gun hose with an $\frac{1}{8}$ "NPT coupling attached to the electric pressure switch at to the $\frac{1}{8}$ "NPT port of T-fitting. (Note this line is used to slows down

the duty cycle of the electric pump.)

Connect a separate terminal/wire to each screw on the pressure switch. Route these two wires to electric pump wiring. Cut one of the electric pump wires. Crimp or solder a splice on each end of the cut wire to a wire that goes to the pressure switch.

10. It is also recommended to put a lighted override switch in the cab with each side of the switch that is electrically hooked up to each terminal of the pressure switch. This allows for overriding the pressure switch for continuous operation for times like initially priming the system, changing fuel filters or incase of a broken belt. This lighted switch also gives indication when the electric pump is running.
11. On the outlet side of the fuel filter install a T-Fitting with one port going to the injection pump and the other going to the 12psi pressure regulator with the arrow pointing away from the filter. Route another line with the arrow pointing towards it to the fuel tank this is the return. The most common return is installed in the fuel vent

hose with a TEE that is 3/4" inline and 5/16" that goes to the return line from the pressure regulator.

12. Make sure all bolts/connections are tight and pulleys and belts are aligned.
13. Attached batteries, turn electric pump override switch on bump the starter to prime the electric fuel system. After 30 second pump prime times out start the truck, and monitor fuel pressure. When fuel pressure exceeds normal pump pressure switch override switch off.
14. Inspect for any leaks and go for a short road test.

***** IT IS STRONGLY RECOMMENDED THAT YOU REMOVE SERPENTINE BELT BEFORE INSTALLATION. *****

R . A . S . P FUEL SYSTEM



INSTALLATION INSTRUCTIONS

(PIC 1) Remove the 4 bolts with 15mm socket that hold the balancer in place, then install the KO drive hub with the factory bolts.



(PIC 2) Once the base plate is installed then slide the small pulley onto the shaft on the drive hub. Leave the set screws loose until the base plate and pump is installed.



(PIC 3) Once the drive hub has been installed, move on to the base plate, this installs by removing the front 4 bolts on the pan rail, then install the 4 supplied bolts. Then move to the next step.



(PIC 4) Next install the slider plate and pump assembly onto the base plate, leave the slider plate loose so that you can install and adjust tension on the belt.



(PIC 5) Once the pump is installed install belt and adjust tension, then tighten set screws. (MAKE SURE THAT YOU DO NOT OVER TIGHTEN.)

