



# Manufacturers and Designers of Performance Power Steering Systems and Components

## ALUMINUM PUMP & TANK INSTRUCTIONS

### IMPORTANT! PLEASE READ THESE SHEETS BEFORE INSTALLATION

- Determine pump RPM prior to installing this pump: divide crank pulley diameter by the power steering pump pulley diameter and multiply by maximum engine rpm. (Example: 4.5" cp ÷ 6" psp = 0.75 x 7,200 = 5,400 rpm pump speed.) **Maximum recommended aluminum pump speed is 6,800 rpm.** Higher pump RPM consumes more horsepower and can damage pump from cavitation. The steering pump provides maximum assist at 1,500 rpm. Keep in mind, pit speed of the pump must be in the 1,000-1,500 rpm range.
- **Make sure the hole in the -10 tank fitting is 1/2" inside diameter.** Some non-KRC tanks have 3/8" holes that restrict flow into the pump and damage or destroy the pump. **The -10 inlet hose must have a vacuum rating of 28 inches or higher or it can collapse starving the pump for fluid.**
- Torque spec on the Pro Series pump pulley nut is 46 ft lbs. **Use GM installation tool to install pulleys on Elite Series Pumps.**
- There are two 80mm diagonal bolt patterns to index inlet and outlet fittings.

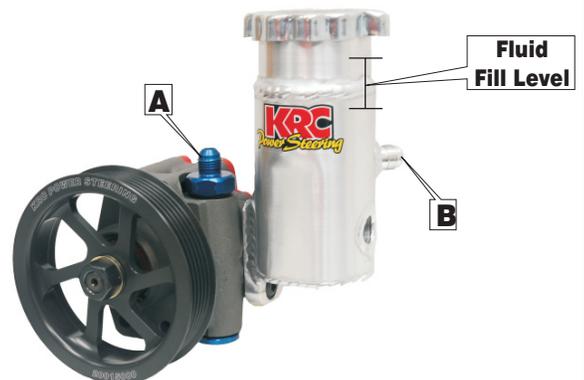
**If you have problems once the pump has been installed, do not return it to your dealer. All pumps must come back to the factory for replacement or repair.** The end user must call 770-422-5135 for a RGA number for all returns.

### BOLT-ON RESERVOIR TANK INSTRUCTIONS

- Using only high pressure power steering hose (Aeroquip Blue P/S Hose or Teflon lined). Connect the (-6) pressure line **A**, on the pump, to the servo or the largest hole on the stock steering box. O-ring or inverted flare stock steering box to -6 adapters are sold separately. Connect the return line on the servo, or small hole on a stock steering box, to **B** on the tank.
- Fill tank (high temperature anti-foaming power steering fluid) to a level above the -6 fitting. **Level must always maintain 1 inch above return fitting.** Rotate pump several times to prime it before starting the engine. Raise the front wheels off of the ground, then start engine and turn steering wheel from lock to lock several times to bleed all of the air out of the system. Lower the car and check the fluid level. Make sure that you expansion space left inside the tank when the fluid warms up.

#### Bolt-On Tank Notes:

- This tank is designed for the drivers side of the pump, or the right side of the pump when you are facing the pulley.
- Bolt-on reservoirs will always increase the fluid temperature in the system. If temperature exceeds 250° you must add a cooler somewhere in the return line.
- Now that there is no inlet line that can potentially suck shut, you have eliminated one of the most common reasons for pump failure.
- On high volume pumps, back pressure may occur in the steering system. We offer tank part number KRC 9131800 that has a -8 return fitting, allowing you to use a -8 return lines to alleviate the back pressure problem.
- DO NOT use a vented cap with this tank. Foaming of the fluid will occur.
- We highly recommend a petroleum based power steering fluid or equivalent. In our test, it runs cooler than synthetic based fluids. **Absolutely NO ATF.**



**2115 BARRETT PARK DR • KENNESAW, GA 30144 • TECH LINE (770) 422-5135**



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## ALUMINUM PUMP & TANK INSTRUCTIONS

### TIPS TO EXTEND THE LIFE OF YOUR NEW PUMP

- 1) Never start your engine without fluid in the reservoir tank. One minute without fluid can permanently damage the pump.
- 2) Route all hoses away from headers to keep from adding heat to the system and burning the fluid.
- 3) We recommend KRC Power Steering Fluid (PSF 10032000) or equivalent.
- 4) **Fluid level in the tank must be two or more inches higher than top of the pump and always higher than return fitting.**
- 5) When assembling new hoses, clean them with a rifle bore brush, then flush them out with hot water and air dry before use. Most problems with power steering systems are due to contamination from new hoses, or other steering components, which in turn damages the pump. Always place caps on pumps, steering gears and hoses when system is open to the air.
- 6) Install any filters or coolers on the return side if they are needed.

### ALUMINUM PUMP FLOW FITTINGS

Aluminum Fitting Part Number	Aluminum Pump Flow	ID Mark
KRC 25300 407	SET OF 4	--
KRC 25300 912	SET OF 4	--
KRC 25304 000	1.05 GPM	4
KRC 25305 000	1.32 GPM	5
KRC 25306 000	1.58 GPM	6
KRC 25307 000	1.84 GPM	7
KRC 25308 000	2.11 GPM	NONE
KRC 25309 000	2.37 GPM	B
KRC 25310 000	2.64 GPM	C
KRC 25311 000	2.90 GPM	D
KRC 25312 000	3.17 GPM	E

KRC offers the only pump with changeable flow controlling fittings. KRC pumps are shipped with the standard flow control fitting that will give excellent feel and assist in 90% of all applications. The standard -6 flow fitting has no identification mark on the hex. All optional flow fittings have an identifying mark stamped on the hex, and they will allow you to change the feel in your steering (see chart to left). The more flow your steering system receives the easier it will be to turn the wheels. If you increase the flow too much, the road feel in the steering will go away at higher speeds. Higher flow fittings are required when using steering quickeners or 3.4 inch per revolution, or faster, rack & pinions on short tracks with tight turns. Lower flow fittings are required to put feel and stability back in the steering on tracks with long straightaways. Cars on super speedways can use number 4 through 7 fittings, while 1/4 mile track open wheel modifieds with 2 to 1 steering quickeners could try B through E fittings. When selecting a flow control valve for a race track only car, the driver should use the valve that feels best at race speeds. On street driven race cars, you must consider finding a happy medium between the ease of parking and highway speed stability. Optional flow control valves are available individually or in sets of 4 from KRC or your local dealer. In high vibration applications you may want to use a steel flow fitting. To order a steel flow fitting change the 3 in the part number to a 4.

### COMMON QUESTIONS AND ANSWERS

- 1) **Steering feel is too heavy in the turns:** Change optional flow fitting to a higher letter.
- 2) **Steering feel is too light in the turns:** Change optional flow fitting to a lower number.
- 3) **Pump stopped working after only a few laps:** The most common problem on installation is forgetting to clean out the hoses and steering box when installing a new pump. The pump may have to be returned to the factory for cleaning to remove all trash.
- 4) **Assist fades the longer you race:** Overheating the fluid is the problem. Check the fluid temperature immediately after the race. The fluid should not be over 250 degrees. If it is over 250 degrees the heat is coming from an outside source or maximum rpm of pump has been exceeded. Use only high temperature, anti-foaming power steering fluid. Check for lines or tank that may be near headers. You can add a cooler in the return line if needed, that may cure the problem.