Small Block Chevy
V Drive Pulley Kit
INSTALLATION INSTRUCTIONS

Before beginning the installation, please note:

- Please read all of the instructions thoroughly before beginning the installation. If you do not feel that you have the mechanical aptitude to complete the job in a safe manner, Eddie Motorsports strongly recommends that you employ the services of a knowledgeable technician to perform the installation.
- Your car must be equipped with an electric cooling fan(s). The V Drive kit will not work with a mechanical fan.
- If you have not done so already, verify that the V Drive will fit in your vehicle. Pay close attention to the power steering tank to A-arm and crank pulley to crossmember/rack&pinion clearances. Dimensions are available on www.eddiemotorsports.com. There are no returns for kits that have been installed.
- To prevent galling of stainless steel fasteners, apply anti-seize compound to any threads not calling for other sealer. Fasteners that have seized will not be warrantied.

1) Engine Prep

1. If the engine is in your car, disconnect the battery
2. Remove your existing accessories, brackets, and water pump.
3. Clean the front of your block.
4. Clean all of the threads on your block using a 3/8-16 thread chaser. Do not use a tap.

2) Install the Mounting Studs

1. Apply RTV silicone sealer to the end of the 4) 3/8" mounting studs that will go in the block.

2. Use the 2) 3/8 nuts supplied, tightened against each other, to install the studs into the holes around the two water passages in the block. Note that the longest 4" stud, goes into the bottom right hand hole (marked by an arrow).

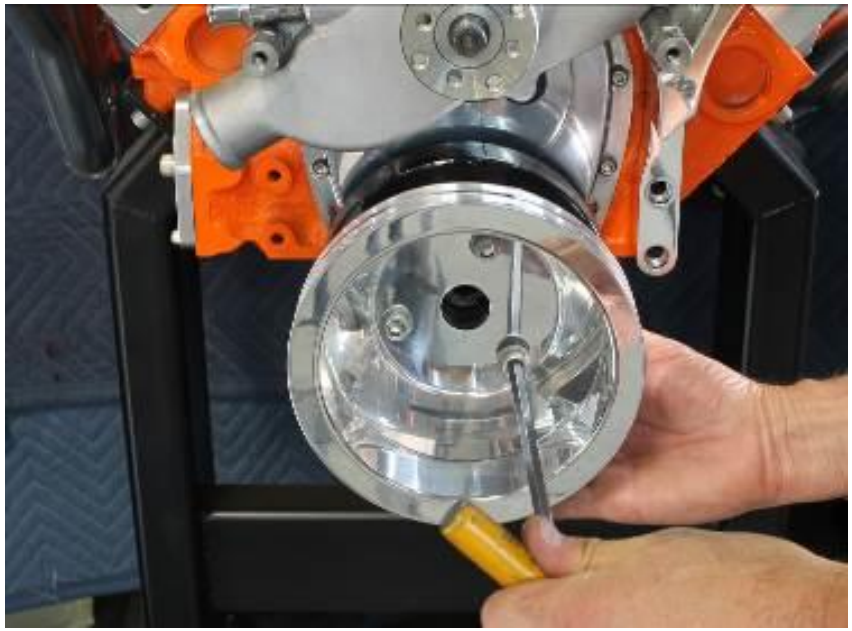
1. Install an o-ring into the groove on the back side of the rear alternator mount. Apply a thin coat of RTV silicone sealer to the o-ring and slide the mount over the studs on the driver's side.

If you ordered a pulley kit WITHOUT power steering, install two 3/8-16 x 1 ½" socket head cap screws into the bottom holes in the bracket. If your kit has power steering, these fasteners will be installed later.

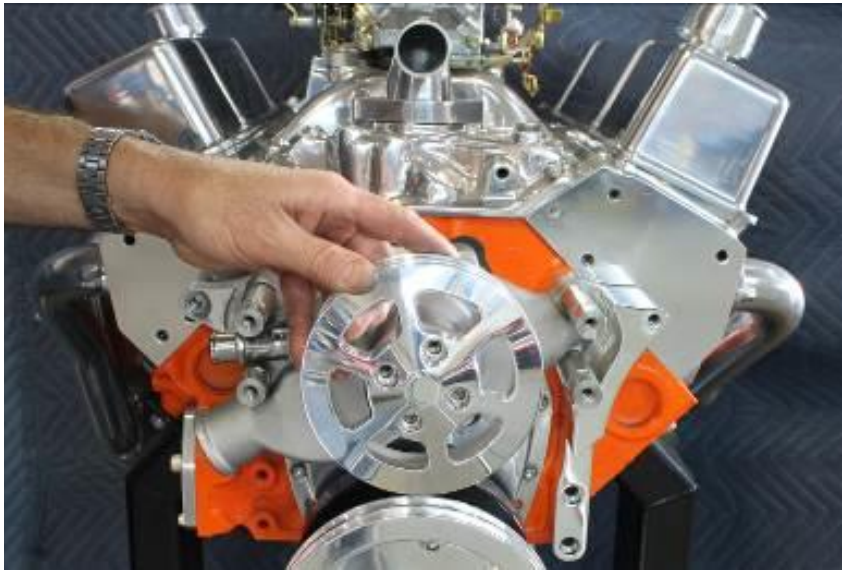
2. Follow the previous step to install the rear air compressor mount on the passenger side of the engine.

3. Apply a thin coat of RTV silicone sealer to the o-rings for the outside of the mounts previously installed on the block. Slide the water pump over the studs. Apply anti-seize to the threads on the studs and attach the stainless steel stand-offs. The shortest stand-off (approx. 1 7/8”) attaches to the bottom passenger side stud.
** Note that the posts must be installed onto the studs with the end marked with the groove facing the water pump. The opposite end of the stand-off has metric threads which can be easily damaged if installed incorrectly.**** Only hand tighten the stand-off posts at this time.**

4) Install the Crank & Water Pump Pulleys



1. Install the crank pulley using four 3/8-24 x 1” socket cap screws on top of the “cone” of the Belleville cupped spring washers. Apply Loctite to the threads and tighten fully while using caution to prevent over torqueing.



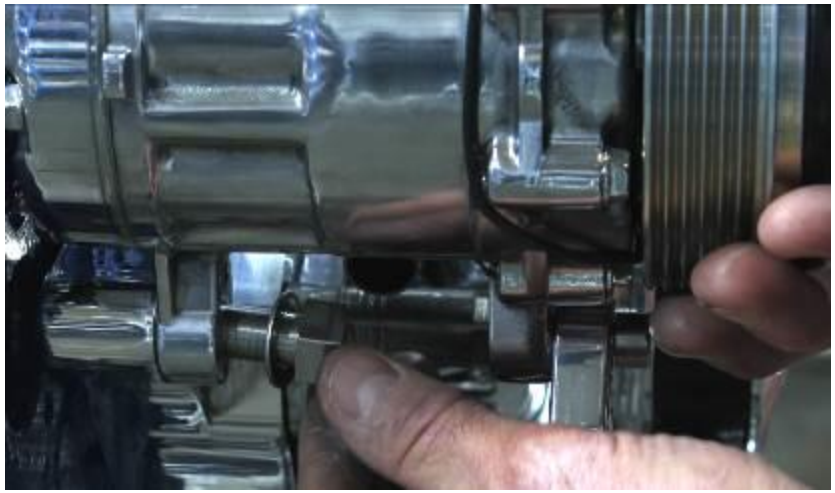
2. Install the water pump pulley using four 5/16-24 x 1/2” socket cap screws. Apply Loctite to the threads and tighten fully while using caution to prevent over torqueing.

5) Install the Air Conditioning Compressor

1. Install the front air conditioning compressor bracket to the passenger side stand-offs using two M8 X 1.25 X 25mm socket head cap screws and AN washers. Make sure the stand-off posts are only finger tight before attempting to install the fasteners. Apply anti-seize to the threads of the socket head caps screws and install them finger tight.

2. Tighten the stand-offs completely and then fully tighten the socket head cap screws using caution not to over torque them.

1. Install the AC compressor to the front bracket using one M8 X 1.25 X 25mm socket head cap screws and AN washer on the bottom and one socket head cap screw, a lock washer, and flat washer on the top side. Be sure to apply anti-seize to the threads and tighten the bolts only at this time.

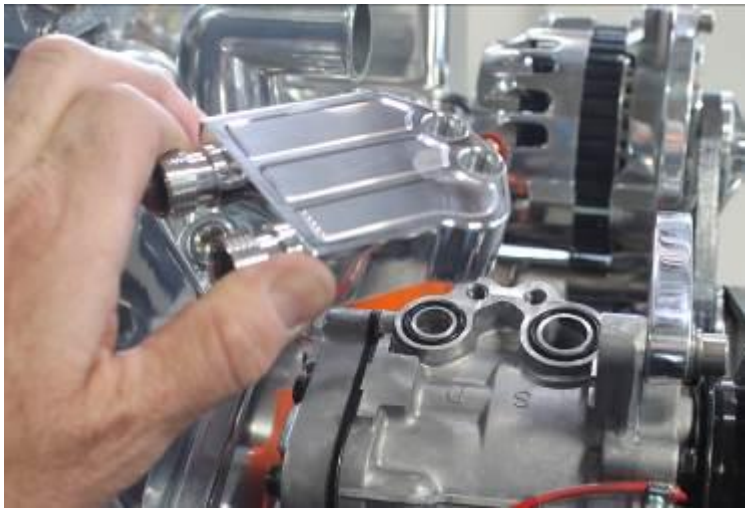


2. On the bottom/rear of the compressor, apply anti-seize to the threads of the 1/2” shoulder bolt and washer and thread into the rear compressor bracket. Do not fully tighten the bolt at this time.

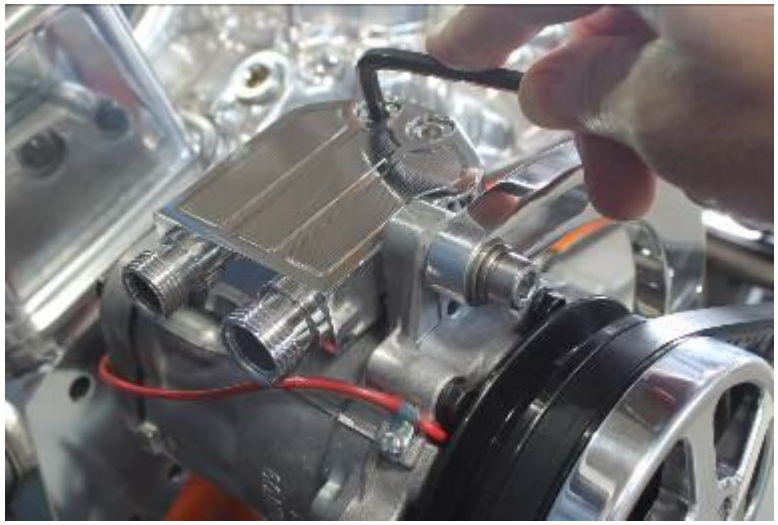
6) Install the Air Compressor Manifold

WARNING! Do not perform this step until you are ready to install the AC lines and charge your system!

1. Remove the plate from the top of the compressor body. The compressor is charged with Nitrogen to insure lubrication of all components during transport. You will hear the gas escaping when you loosen the fasteners.



2. With the plate removed, you will see the two sealing o-rings. Leave these on the compressor and be careful not to damage them.



3. Install the compressor manifold using two M8 x 25mm socket cap screws. Apply anti-seize to the threads and tighten fully while using caution to prevent over torqueing.

4. To insure the proper operation of your compressor, it is imperative that you run a separate ground wire from the screw that holds the wire clamp on the compressor directly to your engine block.

WARNING! Do not connect power to the AC clutch wire without first connecting hoses and fully charging the system. Please follow all of the enclosed instructions for charging your system. Use of improper charging methods could cause serious damage to your compressor that will not be warrantied.

7) Install the Power Steering Pump Bracket

1. If you purchased a pulley kit WITHOUT power steering, you can skip this section. Install the front power steering bracket to the rear bracket using two 3/8-16 x 2 1/4 socket cap head screws. Apply Loctite to the threads and tighten completely using caution to prevent over torquing.

8) Install the Alternator

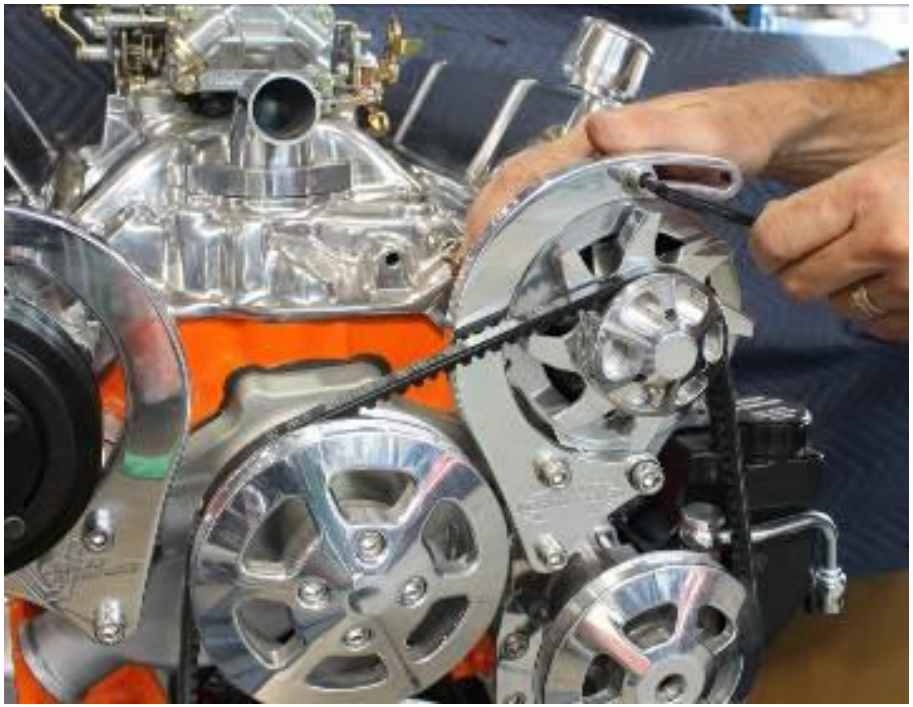
1. Install the front alternator bracket to the driver side stand-offs using two M8 X 1.25 X 25mm socket head cap screws and AN washers. Make sure the stand-off posts are only finger tight before attempting to install the fasteners. Apply anti-seize to the threads of the socket head cap screws and install them "finger tight." Tighten the stand-offs completely and then fully tighten the socket head cap screws using caution not to over torque them.

2. Apply anti-seize to the 10MM -1.5 x10MM socket head cap screw and install with an AN washer through the front bracket and alternator and thread into the rear bracket. Do not tighten completely and do not install the socket head cap screw into the top of the bracket at this time.
3. Consult the wiring instructions supplied with the alternator. To insure proper operation of the alternator, it is imperative that you run a separate ground wire of the proper size from the threaded ground hole on the back of the alternator to your engine block. Contact Powermaster directly should you have any questions regarding the wiring or performance of your alternator,
Phone: 630-849-7754 or
email: tech@powermasterperformance.com

9) Install the Power Steering Pump

1. If you purchased a pulley kit WITHOUT power steering, you can skip this section. Kit with a power steering pump with an attached reservoir, install the hard line on the pump. Hand tighten the
fitting only as you will be removing it later to install Teflon power steering hose after determining the length.
2. Apply anti-seize to two 5/16-18 x 3" socket head cap screws and use with lock washers inserted through the slots in the pulley to install the power steering pump to the front power steering bracket. Tighten fully while using caution to prevent over torqueing.
WARNING! Do not start the engine until all power steering hoses are permanently installed and the power steering system is filled with fluid. Running the pump dry will void the warranty. See the enclosed instructions for details on bleeding the system.

10) Install the belts



1. Route belt #7445 around the alternator, water pump, power steering pump, and crank pulley.

2. Apply anti-seize to the threads of a M8 X 1.25 X 25mm socket head cap screw and install with a lock washer and flat washer into the top hole on the alternator bracket. Do not tighten fully at this time.
3. Pulling on the alternator, tension the belt as necessary. Tighten the top fastener as well as the 10MM socket head cap screw on the bottom alter mount.

1. Route belt #7445 around the air conditioning compressor, water pump, and crank pulley.
2. Pulling on the compressor, tension the belt as necessary. Tighten the top and bottom fasteners as well as the ½" shoulder bolt on the bottom/rear of the compressor.

3. Install the aluminum compressor pulley cover using three 1/4-20 x 3/4 socket head cap screws. Apply Loctite to the threads and tighten fully while using caution to prevent over torquing.

YOUR INSTALLATION IS COMPLETE!!

PLEASE THOROUGHLY READ ALL OF THE INTRUCTIONS FOR FILLING AND BLEEDING THE POWER STEERING SYSTEM AND FOR CHARGING THE AIR CONDITIONING ***BEFORE STARTING YOUR ENGINE***.

EDDIE MOTORSPORTS IS NOT RESPONSIBLE FOR CUSTOMER APPLICATIONS THAT ARE OUTSIDE THE NORMAL INTENDED USE OF OUR PRODUCTS, INCLUDING SPECIFIC MODEL AND YEAR APPLICATIONS, ENGINES EQUIPPED WITH SUPER CHARGERS, AND LATE MODEL EMISSIONS EQUIPPED VEHICLES.

FOR ANY QUESTIONS PLEASE CALL: 888-813-1293

PLEASE READ!

IMPORTANT INFORMATION ABOUT YOUR AC COMPRESSOR

All charging procedures should be performed by a licensed and certified technician. Installer and technicians should read this sheet and all component instructions carefully before starting work. Please call if you have any technical questions before, during or after the installation. Our knowledgeable staff will be glad to assist you with any questions you have.

WARNING: Do not connect power to the AC clutch wire without first connecting hoses and charging the system. Serious damage to your compressor can occur and the warranty will be voided.

The Sanden A/C compressor supplied with your Eddie Motorsports V Drive kit is pre-filled with oil and Nitrogen charged from the factory to insure proper lubrication of the internals during storage and transport. Do not remove the block off plate on top of the compressor until you are ready to install the hoses and charge the system.

Refrigerant

The Sanden A/C compressor supplied with your Eddie Motorsports V Drive kit is compatible with 134a refrigerant which is commonly used in late model and aftermarket A/C systems. All part warranties are voided if any refrigerant other than R134a is used. If your car is equipped with its original A/C system and components, it will be necessary to convert your system to use 134a. Consult a reputable A/C system manufacturer for details on this conversion. We recommend the factory air experts at Classic Auto Air 877-342-5526 www.classicautoair.com

System Charging Tips & Warnings PLEASE READ CAREFULLY BEFORE CHARGING YOUR A/C!

1. Please keep in mind that regardless of you or your technician's experience, the charging processes for your Sanden pump will vary greatly from stock OEM systems. Failure to follow these steps and proper charging procedures will result in an improper installation or damaged item and **WILL VOID YOUR WARRANTY!**
2. **DO NOT ADD OIL!** All new Sanden compressors contain a full system charge of oil.
3. Before charging the system and putting power to the compressor, it is necessary to clear the oil from the compressor head. With the belt removed and the lines hooked up, manually turn the compressor clutch hub (not the pulley) a minimum of 10 complete revolutions to clear the oil.
4. **DO NOT CHARGE THE SYSTEM IN LIQUID FORM.** Unlike later model vehicles, doing so will direct liquid refrigerant into the compressor piston chamber, causing damage to the compressor reed valves and/or pistons, as well as potentially seizing the compressor. Doing so voids all warranty claims.
5. **USE A CHARGING STATION TO EVACUATE AND CHARGE YOUR SYSTEM**

DO NOT TILT, SHAKE OR TURN REFRIGERANT CAN UPSIDE DOWN DURING THE CHARGING PROCESS WHILE THE ENGINE IS RUNNING! Evacuate the system for a minimum of 45 minutes before charging. Longer if possible. When using a charging station, meter the refrigerant into the system with the vehicle turned off. Then allow a minimum of 30 minutes for liquid to "boil off," or hand turn the compressor hub (not the pulley) a minimum of 10 complete revolutions to clear liquid refrigerant from the compressor piston chamber.
6. **DO NOT CHARGE THE SYSTEM THROUGH THE HIGH (DISCHARGE) SIDE OF THE SYSTEM!** Refrigerant should be administered through the low (Suction) side of the system.

Warranty All compressors carry a 1-year limited warranty.

IMPORTANT INFORMATION ABOUT YOUR POWER STEERING PUMP

Follow these procedures to ensure that the power steering system is filled and purged correctly.

Prior to starting the car, fill the pump reservoir with power steering fluid. Use fluid designed for use in power steering; brake or hydraulic fluid is not an acceptable substitute.

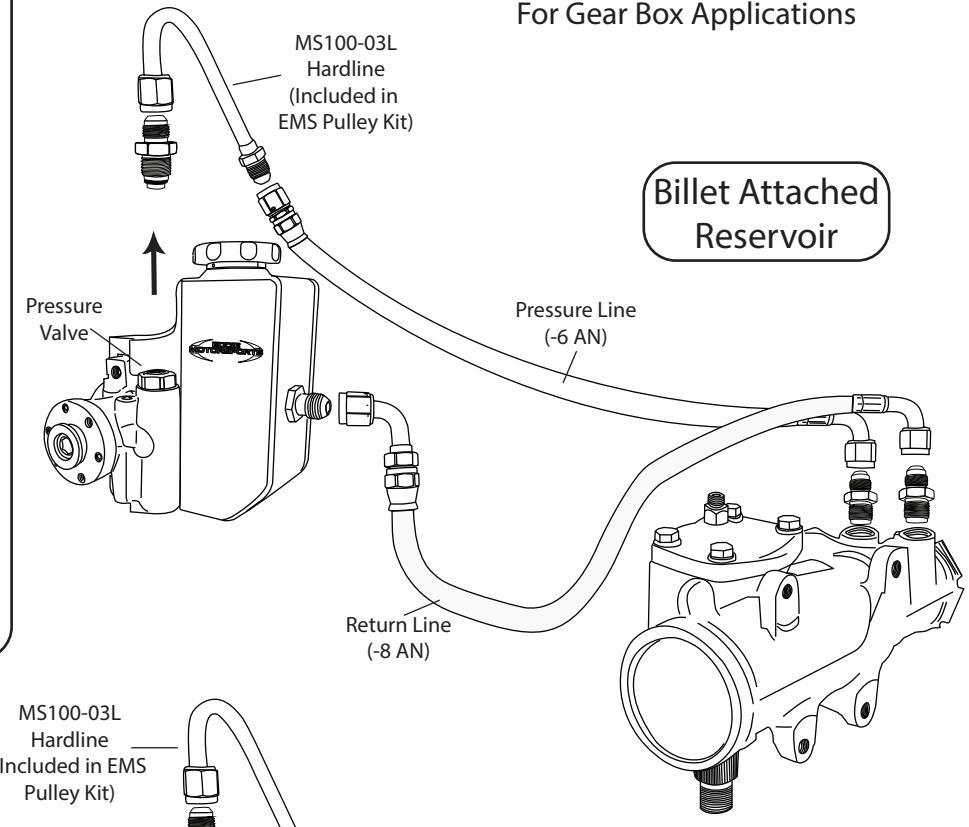
With your car in "park", the emergency brake engaged, and the engine running, SLOWLY turn the steering wheel all the way to the right and then all the way to the left. With the help of a second person and using a long transmission funnel to insure that you are safely clear of moving parts, simultaneously pour power steering fluid into the reservoir while continuing to cycle the steering wheel. Do this until the reservoir is properly filled and the fluid level remains constant. Fully tighten the cap on the reservoir.

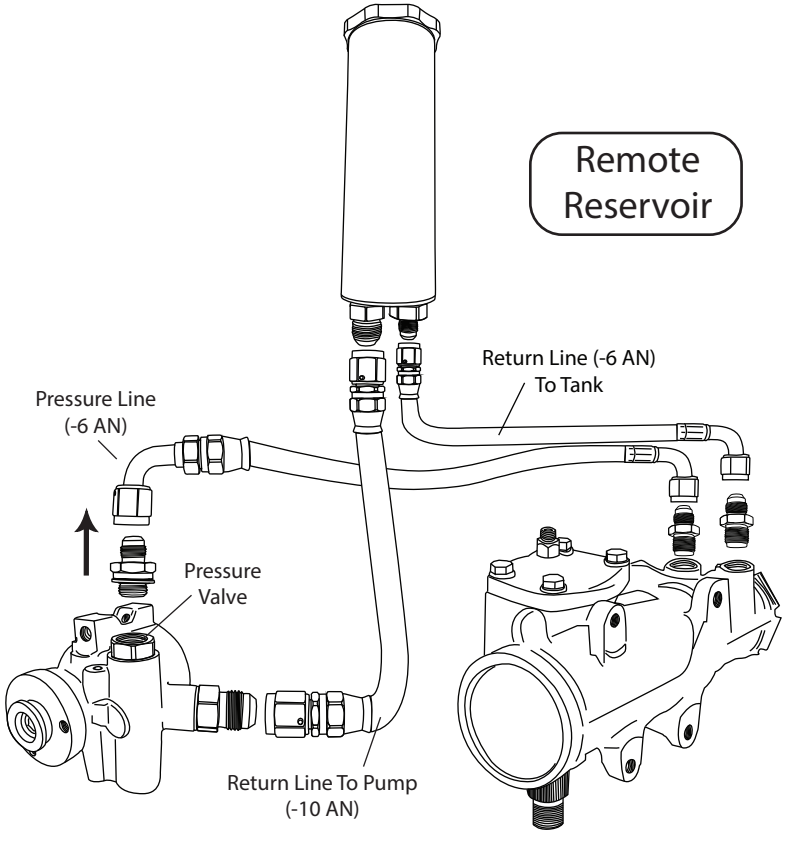
Eddie Motorsports
11479 Sixth St., Rancho Cucamonga, CA 91730
● 888-813-1293 ● sales@eddiemotorsports.com
www.eddiemotorsports.com

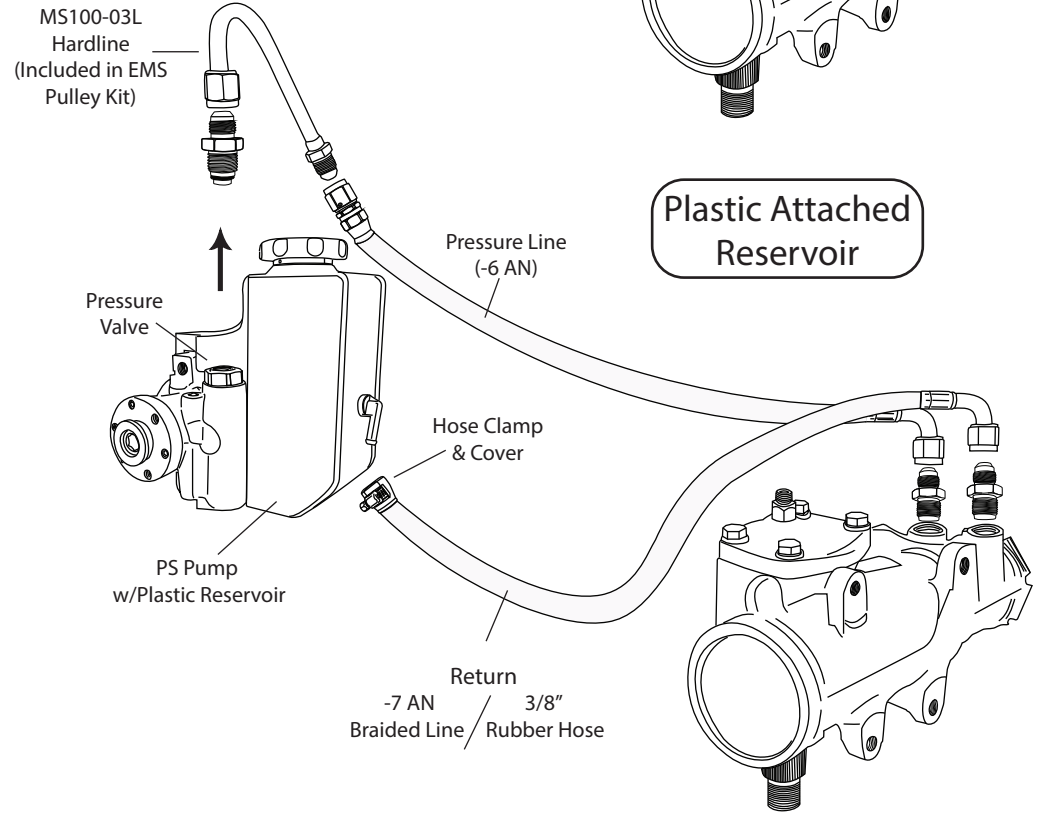
Power Steering Hose Diagram

For Gear Box Applications

- When using a **Remote Reservoir** make sure that the power steering reservoir is mounted so that the fittings in the bottom of the tank are higher than the power steering pump.
- **Billet Aluminum attached Steering Reservoirs** are not recommended for use in high usage or high performance applications or with Hydroboost systems. These reservoirs should be used in conjunction with a high quality power steering fluid cooler.
- Identify the pressure and return ports on your steering box, install the fittings, and connect the power steering lines.
- In most cases, the port on the gear box that is the tallest and farthest from the firewall is the high pressure line and the port closest to the firewall is the low pressure return line. Often, there are arrows cast into the valve body to show the fluid direction. But this is not always the case. **NOTE: It is the installer's responsibility to make sure that the hose connections are correct! CONNECTING LINES TO THE INCORRECT PORT CAN DAMAGE YOUR STEERING BOX OR RACK!**
- Hoses must not touch any other part of the vehicle. Steering system noise could be caused by the hose touching the frame, body, or engine.
- Make sure all hose connections are tight. Loose connections could leak and could allow air into the system. Do not over tighten O-ring fittings as the O-ring could be damaged.
- **Do not start your engine until the system is filled with fluid and fully bled.** Doing so may cause damage to the power steering pump components.
- For proper operation, read and follow the Eddie Motorsports power steering bleeding instructions THOROUGHLY AND COMPLETELY before beginning your installation.





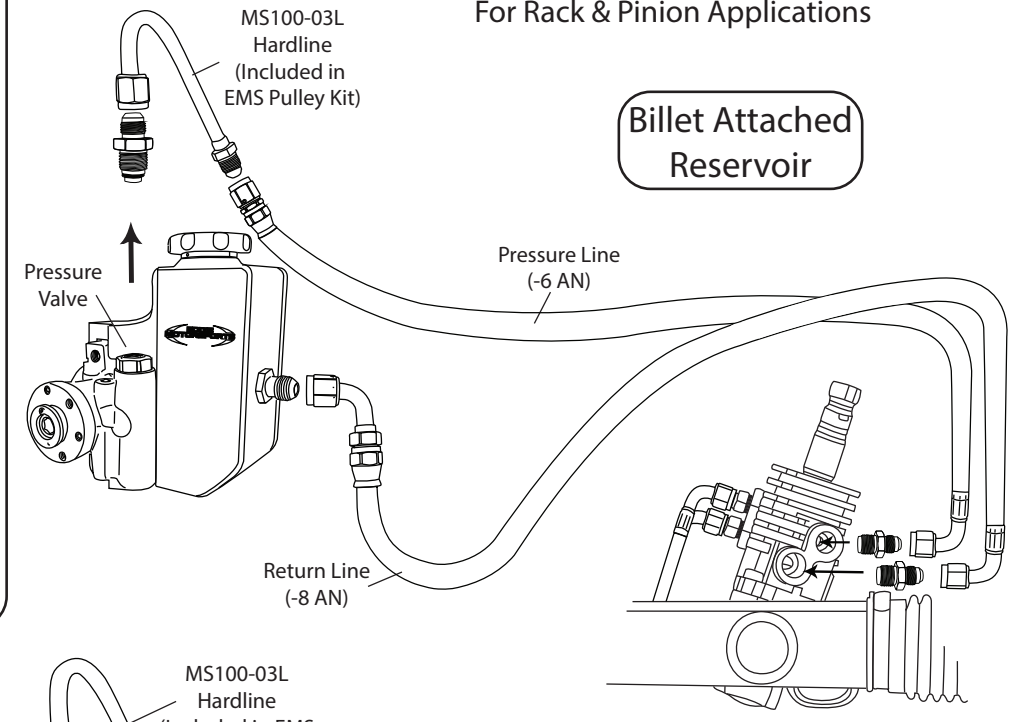


Power Steering Hose Diagram

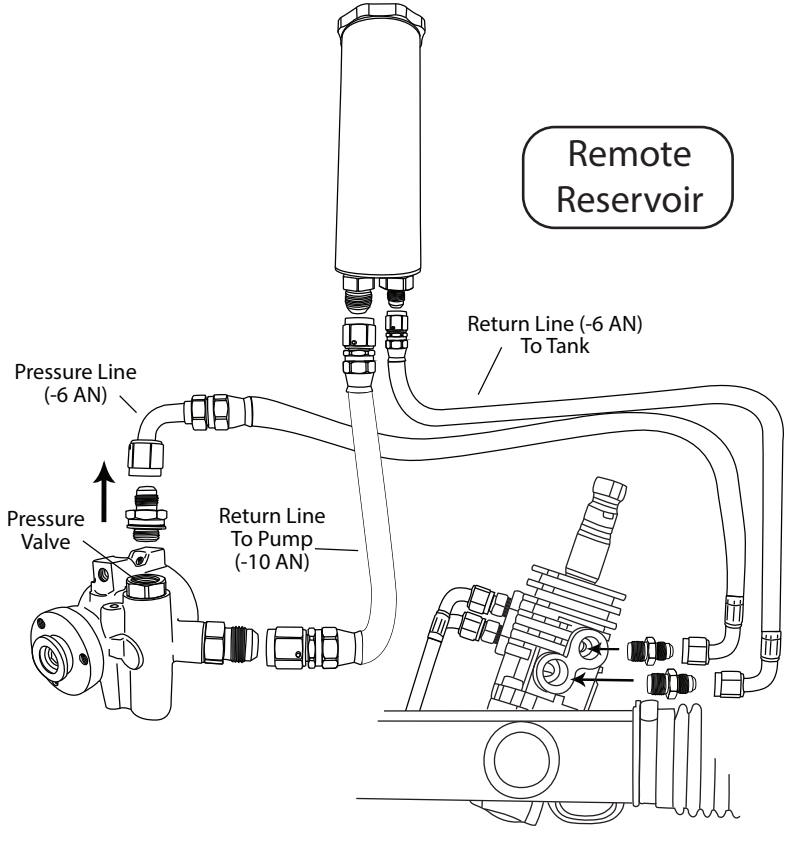
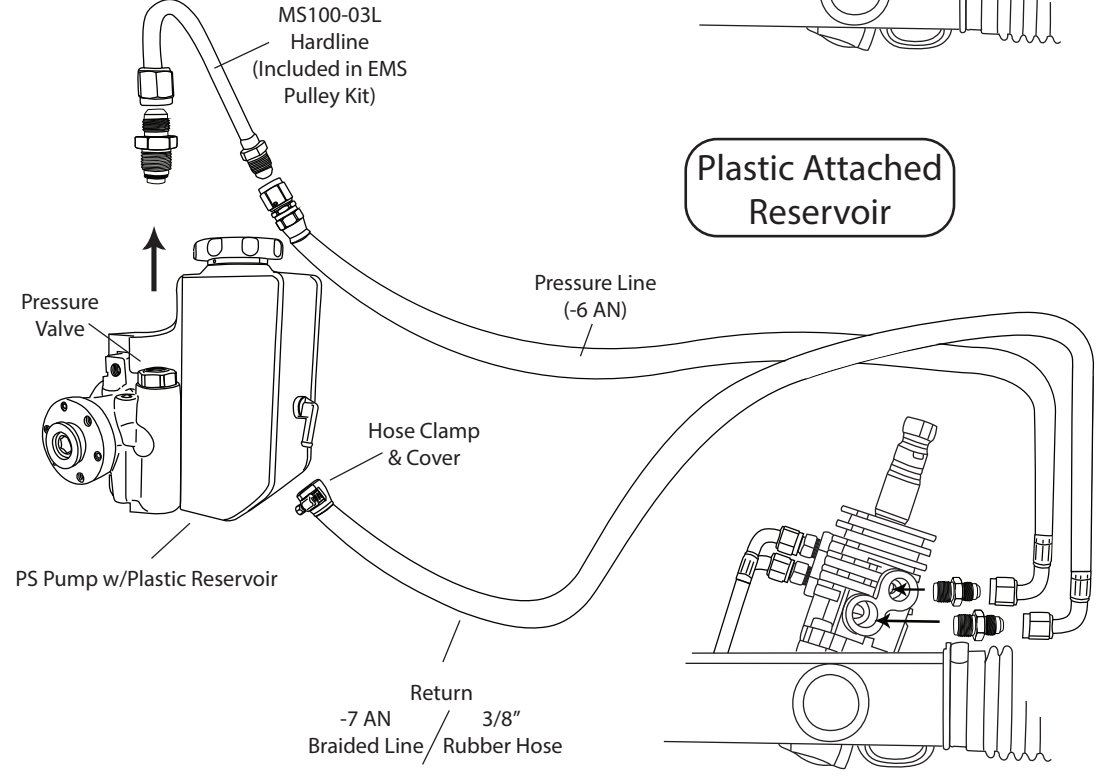
For Rack & Pinion Applications

- When using a **Remote Reservoir** make sure that the power steering reservoir is mounted so that the fittings in the bottom of the tank are higher than the power steering pump.
- **Billet Aluminum attached Steering Reservoirs** are not recommended for use in high usage or high performance applications or with Hydroboost systems. These reservoirs should be used in conjunction with a high quality power steering fluid cooler.
- Identify the pressure and return ports on your rack and pinion, install the fittings, and connect the power steering lines.
- In most cases, the port on the rack and pinion that is higher/closer to the steering shaft is the return line and the port lower/closer to the rack is usually the pressure line. Often there is a "P" cast into the body of the rack that confirms the pressure port. But this is not always the case. **NOTE: It is the installer's responsibility to make sure that the hose connections are correct! CONNECTING LINES TO THE INCORRECT PORT CAN DAMAGE YOUR STEERING BOX OR RACK!**
- Hoses must not touch any other part of the vehicle. Steering system noise could be caused by the hose touching the frame, body, or engine.
- Make sure all hose connections are tight. Loose connections could leak and could allow air into the system. Do not over tighten O-ring fittings as the O-ring could be damaged.
- **Do not start your engine until the system is filled with fluid and fully bled.** Doing so may cause damage to the power steering pump components.
- For proper operation, read and follow the Eddie Motorsports power steering bleeding instructions THOROUGHLY AND COMPLETELY before beginning your installation.

Billet Attached Reservoir



Remote Reservoir



Plastic Attached Reservoir