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UNIVERSAL ROCHESTER® QUADRAJET CARBURETOR INSTALLATION INSTRUCTIONS

Universal Rochester® QuadraJet CARBURETOR for non-computer controlled General Motors V8s; Universal Applications PRW Part Numbers #4228331, 4228351, 4245431 and #4245451.
Marine Part Numbers #4228371 and #4245471.

Parts List	
PARTS	**QUANTITY**
QuadraJet Carburetor	***1***
Carburetor Base Gasket	***1***

PLEASE study these instructions carefully before installing your new Carburetor. If you have any questions, do not hesitate to contact our Technical Hotline at: 1-888-377-9779 7 am - 4 pm, Monday-Friday, Pacific Standard Time or e-mail us at tech@PRWnetwork.com

IMPORTANT INFORMATION ABOUT YOUR WARRANTY

If you have any problems with the installation or performance, do not return to the retailer. The retailer is not authorized to perform Warranty Service. Instead, call the PRW's Tech Hotline at 888-377-9779 from 7am - 4pm PST on weekdays. All returns must be accompanied by the original purchase receipt. The warranty period is 6-months for carburetors.

NOTE: This carburetor has not been submitted for emissions testing and has not received an Executive Order Exemption from the California Resources Board. Your vehicle may NOT be "SMOG LEGAL" in all 50 states with this carburetor installed.

DESCRIPTION

The PRW Carburetor for Q-Jet applications is a high quality, all new carburetor, universally designed to replace the Q-Jet spread-bore carburetors found on most 1966 -1989 non-computer controlled Chevrolet/GMC V8s, including GM marine applications. PRW Q-Jet carbs are compatible with most OEM linkage and components for the years listed, and will fit stock intake manifolds as well as aftermarket spread-bore manifolds.

Six (6) Q-Jet models are available for the following applications:

Automotive Applications

1. #4228331 (650 cfm) - Recommended for most small-block Chevrolet/GMC V8s, 283 - 350 c.i.d., in both truck and passenger car applications 1975 & up.
2. #4228351 (650 cfm) - Recommended for most small-block and big-block Chevrolet/GMC V8s, 350 - 454 c.i.d., in both truck and passenger car applications, 1974 and earlier.
3. #4245431 (695 cfm) - Recommended for most small-block and big-block Chevrolet/GMC V8s, 350 - 454 c.i.d., in both truck and passenger car applications, 1975 and up.
4. #4245451 (695 cfm) - Recommended for most small-block and big-block Chevrolet/GMC V8s, 350 through 454 c.i.d., in both truck and passenger car applications, 1974 and earlier.

Marine Applications

1. #4228371 (650 cfm) - Recommended for most small-block V8 engines.
2. #4245471 (695 cfm) - Recommended for most performance small-block and big-block V8 engines.

BEFORE YOU BEGIN, REMEMBER TO:

- Replace fuel filter. Dirt found in your new carburetor voids warranty.
- Check and replace the air filter if necessary.
- Check PCV valve and replace if clogged.
- Check all hoses for leaks or cracks and replace if necessary.
- Check your fuel pump for proper operation and replace if necessary.
- Check the intake manifold and cylinder head gaskets for leaks and replace if necessary.
- Check the ignition system: clean and gap or replace spark plugs, plug wires, and adjust ignition timing.

CARBURETOR REMOVAL

1. Prior to removal make sure that the engine is cool.
2. Disconnect negative battery cable from battery.
3. Remove air cleaner. Be sure to carefully disconnect any hoses from the air cleaner and note their location for re-installation. You may want to mark them with masking tape for easy reference.
4. Disconnect throttle linkage, kickdown linkage (certain automatic transmission applications only), cruise control (if equipped) and any return springs if present. NOTE: Check carefully for the precise location of all these linkages and return springs. You may want to mark them with tape for easy reference. Compare throttle arm of your new carburetor with the old one to be sure that all required linkages will hook up. Ball stud is usually removable and must be installed in the proper location.
5. Disconnect all wires, tubes and hoses from carburetor and note their location. NOTE: There might be a wire to the electric choke and one to the idle compensator solenoid. Any other electrical wiring attached to your carburetor indicates a computer controlled engine, and PRW Q-Jet carburetors will not function correctly on computer controlled applications.
6. Carefully remove fuel line from carburetor or fuel filter. TAKE EXTREME CARE NOT TO SPILL ANY EXCESS FUEL. Place a rag underneath the fuel line to absorb any spillage that may occur . Certain models require two wrenches to remove the fuel line; one to hold the fitting on the carburetor and the second to turn the fitting on the fuel line. Use a tubing wrench to avoid rounding the tube fitting nut.
7. Remove mounting nuts or bolts and or washers. Be sure to put them where they won't fall into the intake manifold upon carburetor removal.
8. Remove carburetor, being careful not to spill any dirt into the intake manifold. Immediately place a clean rag into the manifold to keep foreign objects out.
9. Thoroughly remove old mounting gasket and clean mounting surface. Inspect gasket and match to gasket included with new carburetor.

CARBURETOR PREPARATION

1. Place old and new carburetors side by side and transfer any accessories that are needed onto the new carburetor.

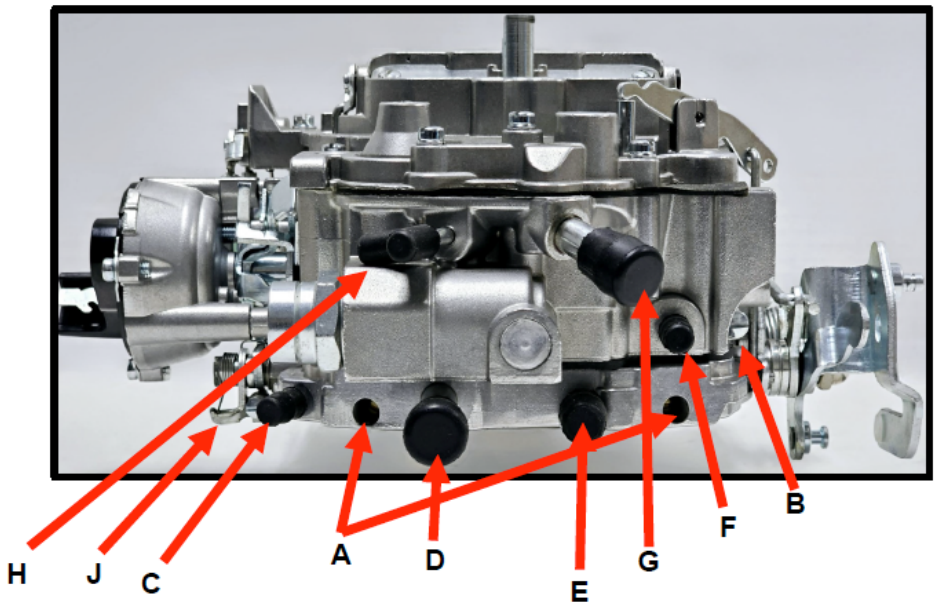
CARBURETOR INSTALLATION

1. Remove rag from intake manifold and install new mounting gasket.
2. Carefully place new carburetor on gasket. NOTE: Do not use any cement, glue or liquid gasket.
3. Replace all mounting bolts, nuts and washers. Hand tighten with a short box end wrench. Torque to 7ft/lbs, using even increments alternating between diagonally opposed bolts. CAUTION: Overtightening may break carb base.
4. For models with externally mounted fuel filters, install new fuel filter, starting threads by hand to avoid crossing or stripping threads. Replace any old or cracked hoses with new hoses designed for use with fuel including ethanol blended fuel.
5. Hook up fuel line to fuel filter. If using a hard fuel line, start threads by hand. NOTE: Be sure threads are properly aligned before tightening to avoid crossing or stripping threads. When tightening fuel line use two wrenches; one to hold the fitting on the carburetor and the second to turn the fuel line fitting. Use a tubing wrench to avoid rounding the tube fitting nut.

6. Re-connect throttle linkage, wires, hoses, etc. Your PRW carburetor may have more vacuum outlets than the original. Leave the caps on those outlets which won't be used.
7. Re-connect the air cleaner being careful not to over-tighten the mounting nut which could damage the carburetor. Install a new air filter (if needed) and re-connect all hoses.
   IMPORTANT NOTE: With the engine off, make sure that there is no interference when opening and closing the throttle. Be sure that there is no binding or hanging up between idle and wide open throttle as this could cause the throttle to stick, resulting in loss of engine speed control.
8. Re-connect the negative battery cable to the battery.

Automotive Carburetor Installation

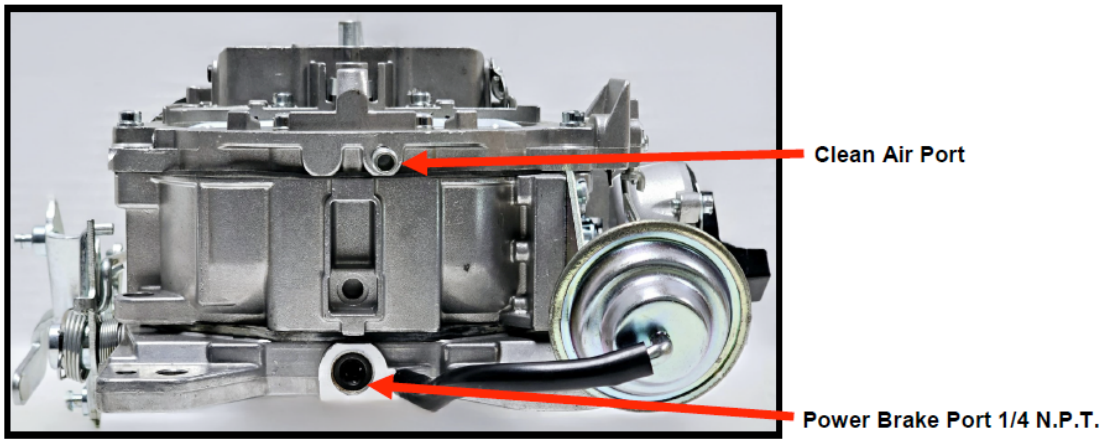
Front View



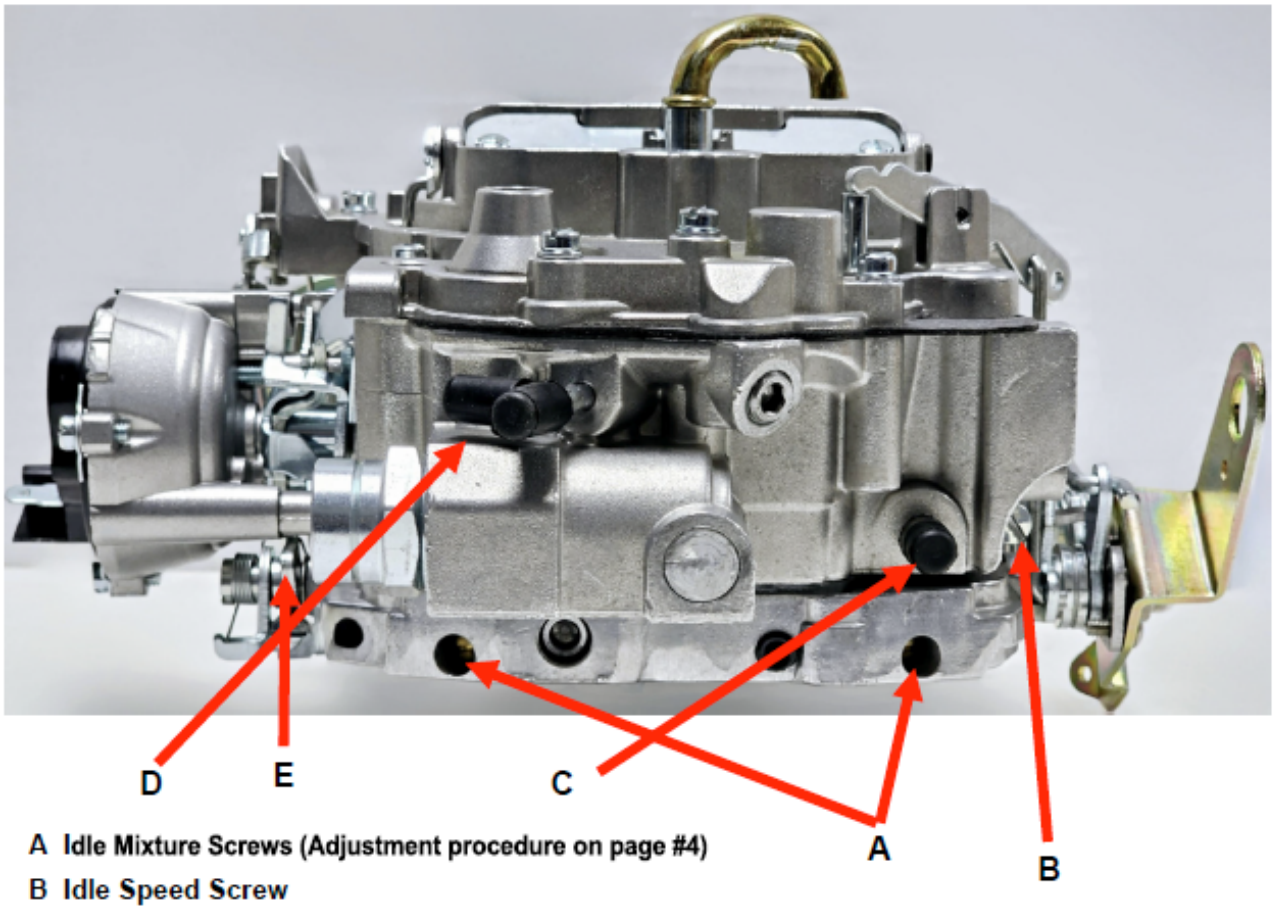
A Idle Mixture Screws (Adjustment procedure on page #4)
B Idle Speed Screw
C Exhaust Gas Recirculation (EGR) Port
D Positive Crankcase Ventilation (PCV) Port
E Canister Purge
F Distributor Vacuum Port
G Bowl Vent
H Accessory Vacuum Ports (2)
J Fast Idle Choke Screw

Note to the Installer: Your PRW carburetor may have more vacuum outlets than the original. Leave the vacuum caps on those outlets which won't be used.

Rear View of Carburetor

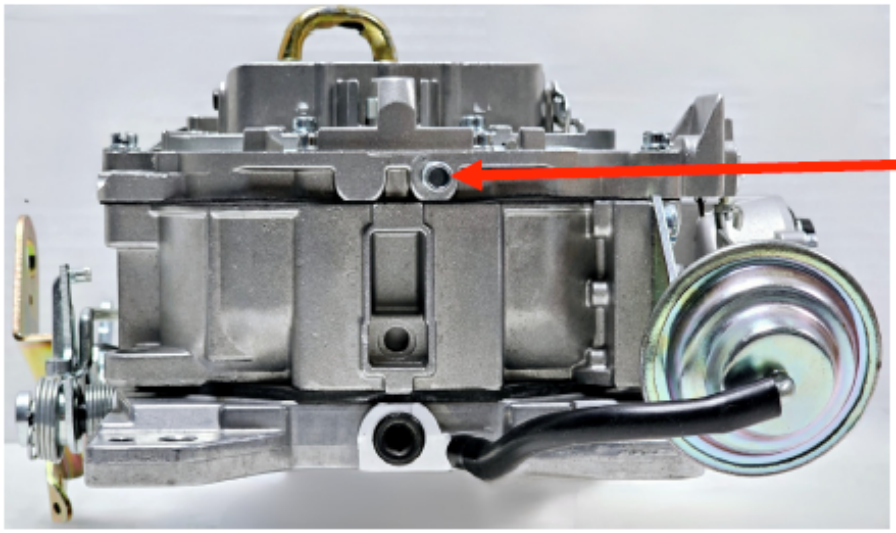


Marine Carburetor Installation—Front View



A Idle Mixture Screws (Adjustment procedure on page #4)
B Idle Speed Screw
C Distributor Vacuum Port
D Accessory Vacuum Ports (2)
E Fast Idle Choke Screw

Marine Carburetor Installation—Rear View



CARBURETOR TESTING

1. Be wary of fuel leaks! If a fuel leak occurs, stop immediately and repair the leak. **Failure to do so could result in engine fire and serious injury. NOTE:** The following adjustments can affect vehicle emissions. Laws in your area may govern these emissions.

2. Set idle adjustments per factory recommendations for your vehicle.

3. The choke system is pre-set at the factory. However, minor adjustments may be required. Adjust using factory specifications for your vehicle.

   NOTE: FUEL PRESSURE – These Carburetors have an ideal target fuel pressure rated at 5.5-6psi. Fuel pressure above the recommended setting may lead to drivability and tuning issues. Always check pressure with a gauge due to some fuel pumps putting out more pressure than advertised.

IDLE MIXTURE ADJUSTMENT

NOTE: PRW Q-Jets are run tested and the idle mixture is preset for most mild applications. Follow these steps if you need to adjust the idle mixture.

1. The PRW Q-Jet has conventional Idle Mixture Screws (IMS) that provide a leaner Air/Fuel (A/F) ratio when turned clockwise and richer A/F ratio when turned counterclockwise. The idle air flow is controlled by a conventional screw that opens the primary throttles. The following procedure should be used to set the idle mixture and speed. Fully warm engine and ensure choke is fully open.
   - Install air cleaner.
   - Set desired idle speed with the air screw.
   - Adjust the IMS on one side to get the maximum possible rpm or highest vacuum if you are using a manifold vacuum gauge. Do not go rich beyond the maximum speed point.
   - If the procedure above changed the idle speed more than 40 rpm, then re- adjust the idle speed.
   - Adjust the opposite side of that in Step 4 to get maximum rpm or vacuum.
   - Reset the idle speed.
   - Carefully trim each IMS to again get the maximum idle rpm or manifold vacuum
   - Go leaner just enough to get a 20 rpm drop in speed.
   - Reset the idle speed to the desired rpm.
   - This is a Lean-Best Idle Set. Setting richer than this will not improve idle quality or performance, but could cause higher hydrocarbon emissions and tend to foul spark plugs.

WINTER FUEL IDLE SETS

During the winter months (in most parts of the country) the local fuel will be a "winter" blend that is very volatile, as an assist to cold-engine starting and drivability during warm-up. However, the high volatility has the disadvantage of allowing excessive vaporization of the fuel if the vehicle is operated in a heated area such as a garage. This can result in problems in the idle-set procedures since the carburetor's internal vents will allow this excess vapor to be drawn into the throats and enrichen the mixture. The idle will be erratic and not seem to be able to hold a set. To resolve this problem, it is advisable to perform the final settings outdoors after the vehicle has been stabilized with a drive of several miles.

Q-JET CARBS WITH EGR VACUUM PORTS

The original carb on some Chevy/GMC trucks and Suburban's has the EGR vacuum port machined higher in the carb venturi. This may have an effect on off-idle performance resulting in a flat spot. If you get a flat spot off-idle after installing the PRW Q-Jet carb, you may need to install a vacuum delay valve. A simple test will let you know if the delay valve is needed: a) Temporarily remove and plug the vacuum line to the EGR valve. If the flat spot disappears, you will need to purchase a vacuum delay valve (GM #14020691) and install it in the vacuum line between the carb and the EGR valve. This valve will delay the opening of the EGR valve long enough for the carburetor to transition through the off-idle phase without a stumble, then the EGR circuit will operate normally.

Note: The vacuum line to the EGR valve should only be removed temporarily as a test to determine whether the delay valve is needed. You must re-install the vacuum line to the EGR valve in compliance with local and/or federal law!

Lean / Rich Adjustment

This is an Industry first allowing the user to make slight changes in the fuel metering while in a off idle mode which allows you to adjust up to 15% lean or up to 15% rich with a simple adjustment. This is a simple adjustment accomplished with a Schrader value adjustment tool like the one shown below.

Adjustment:

1. With the engine off, remove the cover screw with a flat screw driver. (Figure 1)
2. Use the Schrader valve adjustment tool. Make sure the tool is fully engaged before turning the tool.
3. Rule of thumb, turning the Schrader valve clockwise will lean the main metering circuit by 5% each full turn.
4. Likewise back turning the Schrader valve counter clockwise will richen up the main metering circuit by 5% with each full turn.
5. To get back to the factory setting, screw the Schrader valve in all the way (clockwise) until it stops then turn it counter clockwise 3 full turns.

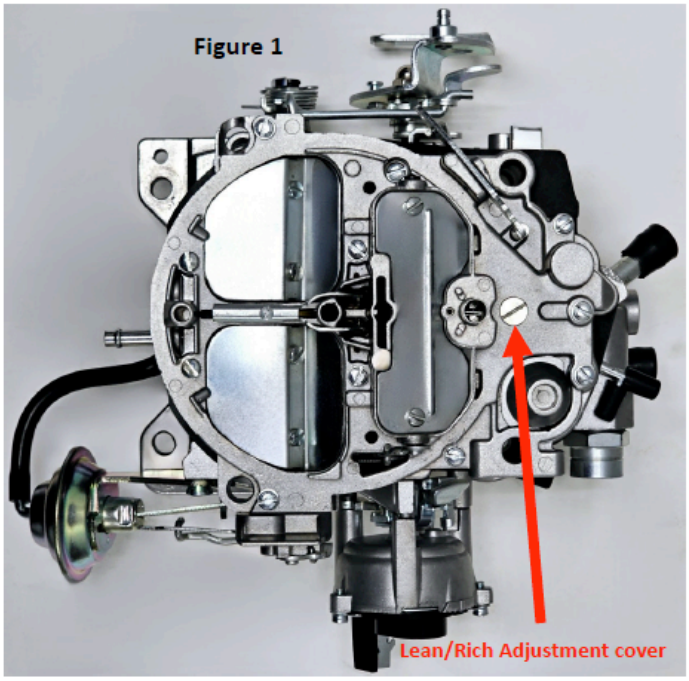


Figure 2 Adjustment Cover Removed

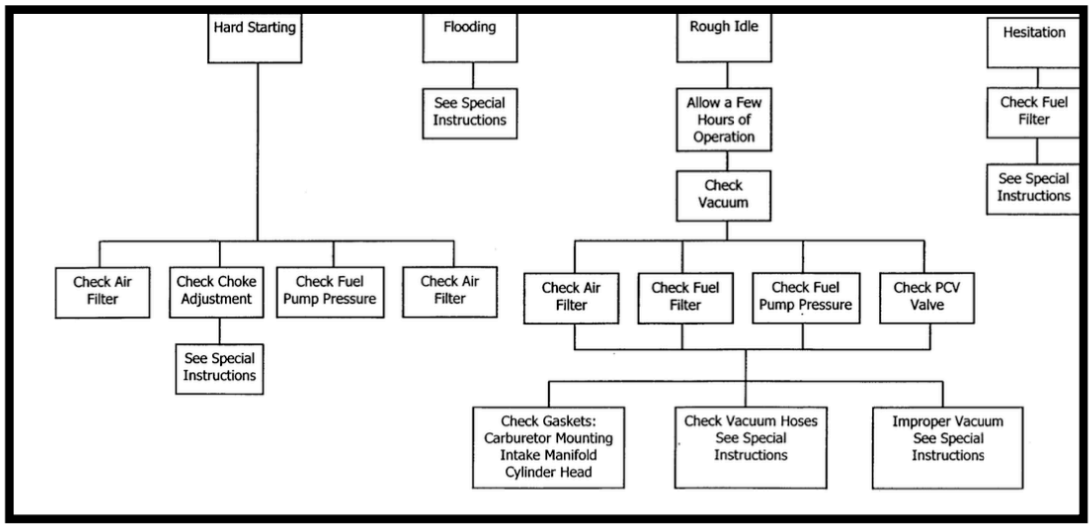
Schreder Valve Tool Example (Not Included)

Troubleshooting Tips

HARD STARTING: When starting the engine for the first time, It may be difficult to start until fuel reaches the carburetor and fills the fuel bowl.

FLOODING: Carburetor Flooding immediately after installation is usually due to dirt or foreign matter lodged under the float needle and seat or from too much fuel pressure. Gently tap on the air horn over the fuel inlet area with the head of a screwdriver. If flooding does not stop, pinch the fuel line (if possible), start engine and run until it stalls. Then release the pinched line. If flooding still persists, drain the fuel and re-start. The ideal target fuel pressure is 5.5-6psi.

THE FOLLOWING TROUBLESHOOTING CHART COVERS ONLY THE MOST COMMON PROBLEMS



Limited Warranty

Performance Quotient and PRW Industries, Inc. ("PRW") warrants that all of its products are free from defects in material and workmanship, and against excessive wear for a period of (6) months from the date of purchase. This **limited warranty** shall cover the original purchaser.

PRW's obligation under this warranty is limited to the repair or replacement of its product. To make a warranty claim, the part must be returned within (6) months of purchase to the address listed below, freight prepaid. Items covered under warranty will be returned to you freight collect.

It is the responsibility of the installer to ensure that all of the components are correct before installation. PRW assumes no liability for any errors relative to tolerances, component selection, or installation.

There is absolutely no warranty on the following:

i. **Any parts used in racing applications, or;**
ii. **any product that has been physically altered, improperly installed or maintained, or;**
iii. **any product used in improper applications, abused, or not used in conjunction with the proper parts.**

There are no implied warranties of merchantability or fitness for a particular purpose and no warranties which extend beyond the description of the face hereof.

PRW will not be responsible for incidental and consequential damages, property damage or personal injury damages to the extent permitted by law. Where required by law, implied warranties or merchantability and fitness are limited for a term of (6) months from the date of original purchase. This warranty may give you specific legal rights. You may also have other legal rights, which vary from state to state.

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