



NEW FLYER

SERVICE MANUAL BULLETIN

This Service Manual Bulletin is prepared by the Publications Department of New Flyer Industries Canada ULC. This Service Bulletin supersedes existing information in your New Flyer Service Manual. Refer to details below.

SMB-115B

ISSUE DATE: Jan 09 2014

APPLICABILITY					
VEHICLE LENGTH	<input type="checkbox"/> 30ft.	<input type="checkbox"/> 35ft.	<input type="checkbox"/> 40ft.	<input type="checkbox"/> 60ft.	<input checked="" type="checkbox"/> ALL
VEHICLE TYPE	<input type="checkbox"/> High Floor	<input checked="" type="checkbox"/> Low Floor	<input type="checkbox"/> Invero	<input checked="" type="checkbox"/> Xcelsior	<input type="checkbox"/> ALL
FUEL TYPE	<input type="checkbox"/> Diesel	<input type="checkbox"/> Electric	<input checked="" type="checkbox"/> CNG	<input type="checkbox"/> LNG	<input type="checkbox"/> ALL
	<input type="checkbox"/> Diesel/Electric	<input type="checkbox"/> Gas/Electric	<input type="checkbox"/> Fuel Cell		
SUBJECT	Pressure Relief Device (PRD) - Torque Requirements Pressure Regulator - Operating Pressure Range				
SECTION TITLE	7 - CNG FUEL SYSTEM				
DETAILS	<p>This bulletin identifies the approved torque values for Pressure Relief Devices (PRD) and provides removal and installation procedures specific to the various PRD configurations.</p> <p>This bulletin identifies the normal operating pressure ranges for the Pressure Regulator used on your New Flyer vehicle.</p> <p>This information supersedes any prior information on this subject already provided in your New Flyer Manuals. Make this Service Bulletin available to service personnel to inform them of changed information and procedures.</p>				

REVISION INDEX

Rev	Description of Change	Date
A	Original Issue	Feb 23 2012
B	Included additional PRD part numbers, detailed removal and installation procedures, and additional torque values for the various PRD configurations	Jan 09 2014



1. CNG Fuel System

1.1. Purpose

This bulletin is issued to ensure that all users are aware of:

- Differences in pressure regulator settings as determined by the specific part number of the unit
- Pressure Relief Device (PRD) inspection, removal, and installation procedures
- Pressure Relief Device (PRD) torque values specific to the part number of the PRD.

1.2. Pressure Regulator Setting

Refer to your New Flyer Parts Manual and confirm Pressure Regulator part number. Refer to following chart for correct pressure regulator setting:

PRESSURE REGULATOR SETTING	
Regulator P/N	Pressure
384352	94-120 psi (683-863 kPa)
351934	99-125 psi (683-863 kPa)
336193	99-125 psi (683-863 kPa)
264069	99-125 psi (683-863 kPa)
068540	99-125 psi (683-863 kPa)
065243	99-125 psi (683-863 kPa)
043662	120-150 psi (827-1034 kPa)
057608	120-150 psi (827-1034 kPa)
264070	120-150 psi (827-1034 kPa)

1.3. Pressure Relief Device (PRD)

1.3.1. PRD Inspection

Pressure relief devices (PRD) are installed in the vent lines running from each tank. Earlier tank versions also included a PRD installed directly in the tank end. All PRD's must be connected in a manner that ensures that the PRD can vent the contents of the tank regardless of whether the tank valve is in the closed or open position.

Only quick response PRD's approved for use with Lincoln Composites tanks are to be used with these tanks. Approved devices are listed in Section 7 of the Parts Manual for this vehicle. The parts are available from NFIL Parts Division.



Pressure relief devices are sensitive to temperature. DO NOT steam clean the pressure relief devices. DO NOT expose them to temperatures which exceed 180°F (82°C)

Inspection of the PRD should include the following:

1. Examine the PRD assemblies for damage. The PRD assemblies should not be deformed or show other signs of damage. Damaged PRD assemblies must be replaced.



Before depressurizing the container, ground the venting orifice with a 3-

gauge wire minimum to an appropriate ground source at least 8' (2.44 meters) in the ground. Rapid discharge can generate a static electrical charge, which may be sufficient to ignite the escaping gas. When venting the container, it must be in a well-ventilated area free of ignition and heat sources. DO NOT vent the container in an area where the flammable gas may accumulate and ignite.

2. Leak testing of the interfaces between the PRD and tank or vent lines. These interfaces should be serviced if any leakage is observed.

1.3.2. PRD Removal

The following PRD removal and installation instructions are written to accommodate the various configurations used, including:

- PRD's installed inline and located near the solenoid end of the tank. See "Fig. 1: Inline PRD Installation" on page 5. These PRD's will be connected with either tee or elbow fittings.
- PRD's installed inline and located nearest the opposite end of the tank. These PRD's will be connected to the vent lines with either straight fittings or, on earlier versions, with tee and elbow fittings. See "Fig. 1: Inline PRD Installation" on page 5.
- PRD's installed directly in the threaded boss of the tank end opposite the solenoid valve. These PRD's are connected to the vent line with an elbow. See "Fig. 2: Tank-End PRD Installation" on page 7.

Use the appropriate removal and installation procedure to suit the PRD configuration being serviced.



1.3.2.1. Removal (PRD with tee/elbow fittings)

1. Defuel tanks. Refer to “Zone Three Venting Procedure” in your New Flyer Service Manual for defueling procedure.
2. Remove the PRD located nearest the solenoid valve as follows:
 - a. Loosen the Swagelok® fittings and disconnect vent lines from PRD inlet tee fitting and outlet elbow fitting and
 - b. remove PRD from vehicle. See “Fig. 1: Inline PRD Installation” on page 5.
 - b. Loosen the adjustment nut on the PRD inlet tee fitting and unthread the tee fitting from the PRD. Discard the O-ring.
 - c. Loosen the adjustment nut on the PRD outlet elbow fitting and unthread the elbow fitting from the PRD. Discard the O-ring.

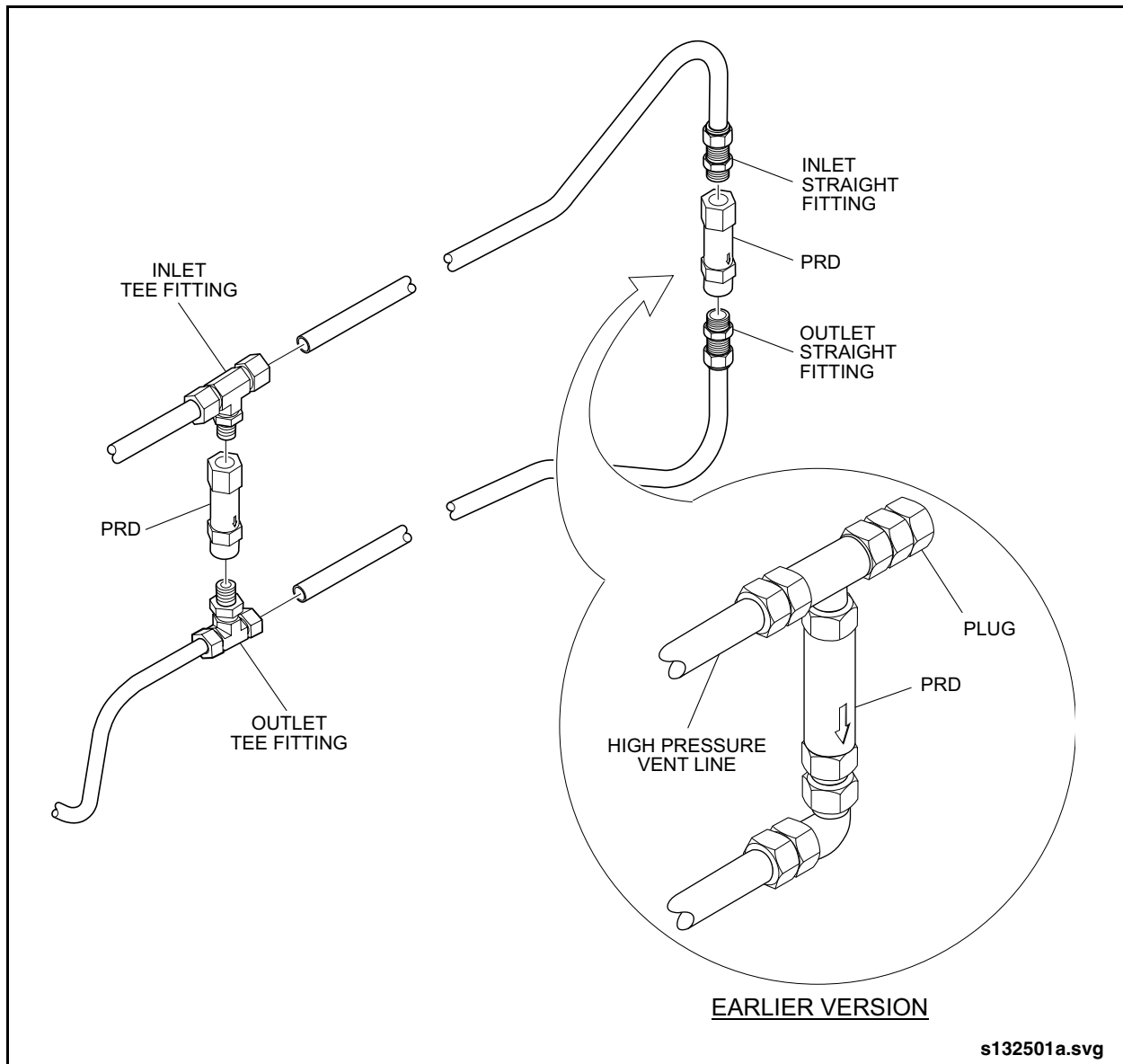


Fig. 1: Inline PRD Installation

1.3.2.2. Installation (PRD with tee/elbow fittings)



Ensure directional arrow stamped on body of PRD is pointing in direction of flow, toward vent line outlet.

1. Install the tee fitting into the inlet of the PRD as follows:
 - a. Fully retract the adjustment nut on the tee fitting.
 - b. Lightly lubricate new O-ring with silicone grease and install against the backup washer on the tee fitting.
 - c. Thread the tee fitting into inlet of PRD until lightly seated.
 - d. Loosen tee fitting sufficiently to align parallel with vent lines when installed.
 - e. Tighten adjustment nut until lightly seated. Do not final tighten adjustment nut at this time.
2. Install the elbow fitting into the outlet of the PRD as follows:
 - a. Fully retract the adjustment nut on the elbow fitting.
 - b. Lightly lubricate new O-ring with silicone grease and install against the backup washer on the elbow fitting.
 - c. Thread the elbow fitting into inlet of PRD until lightly seated.
 - d. Loosen elbow fitting sufficiently to align with vent line when installed.
 - e. Tighten adjustment nut until lightly seated. Do not final tighten adjustment nut at this time.
3. Align the fittings on the PRD, with the vent lines, ensuring the directional arrow on the PRD body is pointing in the direction of flow, toward the vent line outlet.

4. Ensure the vent tubes are fully inserted within the Swagelok® fittings, and then tighten the Swagelok® fittings in accordance with existing instructions in your New Flyer Service Manual.



ALWAYS tighten PRD fittings to the torque value specified for the inlet and outlet location on the PRD. Torque values for the inlet and outlet fittings are different and must be adhered to in order to prevent damage to the PRD body.

5. Final tighten the adjustment nut on the inlet fitting with one wrench while holding the body of the PRD with another wrench. Torque adjustment nut to specification. [Refer to 1.3.3. "PRD Torque Values" on page 8](#) in this bulletin for torque specification.
6. Final tighten the adjustment nut on the outlet fitting with one wrench while holding the body of the PRD with another wrench. Torque adjustment nut to specification. [Refer to 1.3.3. "PRD Torque Values" on page 8](#) in this bulletin for torque specification.

1.3.2.3. Removal (PRD with straight connectors)

1. Defuel tanks. Refer to "Zone Three Venting Procedure" in your New Flyer Service Manual for defueling procedure.
2. Remove the PRD located near the end of the tank, opposite the solenoid valve, as follows:
 - a. Loosen the Swagelok® fittings and disconnect vent lines from PRD inlet and outlet connectors. Remove PRD from vehicle.
 - b. Unthread inlet and outlet connectors from either end of the PRD and discard O-rings.



1.3.2.4. Installation (PRD with straight connectors)



Ensure directional arrow stamped on body of PRD is pointing in direction of flow, toward vent line outlet.

1. Install a new O-ring on the connector and lightly lubricate the O-ring with silicone grease. Thread the connectors into either end of the PRD.



ALWAYS tighten PRD connectors to the torque value specified for the inlet and outlet location on the PRD. Torque values for the inlet and outlet connectors are different and must be adhered to in order to prevent damage to the PRD body.

2. Clamp the wrench flats of the PRD body in a soft-faced vise and torque the connector fitting located at the outlet end of the PRD to specification. Refer to 1.3.3. "PRD Torque Values" on page 8 in this bulletin for torque specification.
3. Reverse the position of the PRD in the vise and torque the connector fitting located at the inlet end of the PRD to specification. Refer to 1.3.3. "PRD Torque Values" on page 8 in this bulletin for torque specification.
4. Install PRD with attached connectors to the vent lines, ensuring the directional arrow on the PRD body is pointing in the direction of flow, toward the vent line outlet.
5. Connect the vent lines to the PRD connectors, ensuring the vent lines are fully seated within the Swagelok® fittings, and then tighten the Swagelok® fittings in accordance with existing instructions in your New Flyer Service Manual.

1.3.2.5. Removal (PRD installed directly in end of tank)

1. Defuel tanks. Refer to "Zone Three Venting Procedure" in your New Flyer Service Manual for defueling procedure.
2. Loosen the Swagelok® fittings and disconnect vent line from PRD elbow fitting. See "Fig. 2: Tank-End PRD Installation" on page 7.
3. Loosen the adjustment nut on the elbow fitting and unthread the fitting from the PRD. Discard the O-ring.
4. Remove the PRD from the tank and discard O-ring.

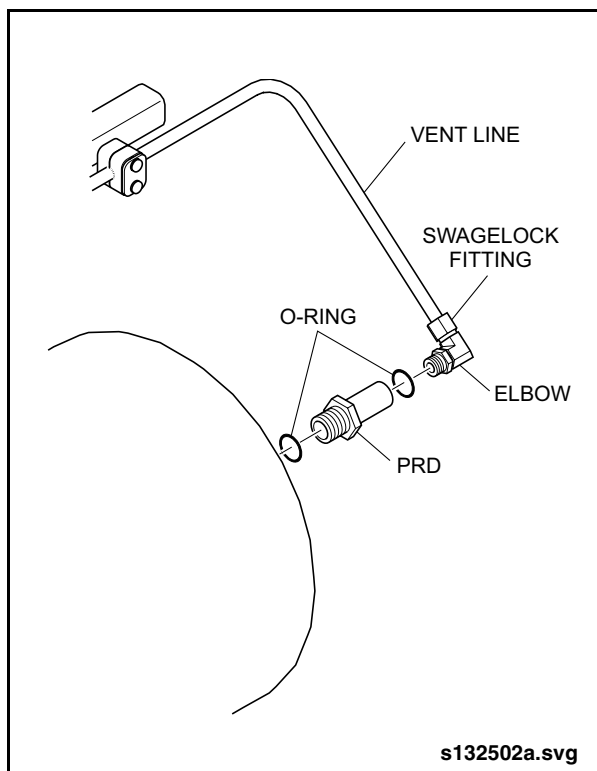


Fig. 2: Tank-End PRD Installation

1.3.2.6. Installation (PRD installed directly in end of tank)



DO NOT overtighten PRD. Threaded boss in tank is made of aluminum and can be damaged if PRD is overtightened. ALWAYS torque to specification.



DO NOT apply excessive lubricant to the O-ring on the PRD. Excessive lubricant can prevent the O-ring from sealing properly. Use only a minimal amount of lubricant on the O-ring.

1. Lightly lubricate the new O-ring with silicone grease and ensure it is properly installed in the O-ring groove of the PRD.
2. Install the new PRD into the threaded boss of the tank and torque to 90 to 110 ft-lb. (122 to 149 Nm).
3. Install the elbow fitting into the outlet of the PRD as follows:
 - a. Fully retract the adjustment nut on the elbow fitting.
 - b. Lightly lubricate new O-ring with silicone grease and install against the backup washer on the elbow fitting.
 - c. Thread the elbow fitting into PRD until lightly seated.
 - d. Loosen elbow fitting sufficiently to align with vent line when installed.

e. Tighten adjustment nut until lightly seated. Do not final tighten adjustment nut at this time.

4. Align elbow with vent line and insert vent line into fitting until fully seated.
5. Tighten the Swagelok® fitting in accordance with existing instructions in your New Flyer Service Manual.
6. Final tighten the adjustment nut on the elbow.

1.3.3. PRD Torque Values

PRD TORQUE VALUES	
PRD P/N	Torque
048919	Inlet Fitting - 35 to 45 ft-lb. (47 to 61 Nm)
	Outlet Fitting - 35 to 45 ft-lb. (47 to 61 Nm)
069774	Inlet Fitting - 35 to 45 ft-lb. (47 to 61 Nm)
	Outlet Fitting - 15.8 to 17.5 ft-lb. (21.4 to 23.7 Nm)
098252	Inlet Fitting - 35 to 45 ft-lb. (47 to 61 Nm)
	Outlet Fitting - 15.8 to 17.5 ft-lb. (21.4 to 23.7 Nm)
069837	90 to 110 ft-lb. (122 to 149 Nm)
098277	90 to 110 ft-lb. (122 to 149 Nm)