

Banlaw LubeCentral™ BPL “Flush-Face” Fluid Couplings (Sizes 0 to 11)

Thank you for purchasing this high quality Banlaw product. Please read through and understand the information in this Product Data Sheet (PDS) **BEFORE** installation or operation to avoid accidental personal injury or property damage.

1 PRODUCT DESCRIPTION

The unique range of Banlaw LubeCentral “Flush-Face” fluid couplings are designed for the **clean, safe and efficient transfer of oils, coolant and similar fluids** commonly used in the mining, rail, port and transport industries. The latest range of BPL Receivers (male couplings) all suit the **Banlaw Evacuation Couplings BEC and the BEC-B**.



Figure 1 – BPL Receivers (top) and Nozzle (bottom)

Figure 1 illustrates examples of;

- (Top Left) - Earlier generation (superseded) BPL Receiver with Dust Cap (Size 4 shown).
- (Top Right) – “New” Banlaw BPL receiver (including Dust Cap) compatible with the BEC and BEC-B (Size 4 shown).
- (Lower) - Banlaw BPL Nozzle with optional Dust Cap (Size 3 shown).

2 IMPORTANT RESTRICTIONS ON THE USE OF THIS PRODUCT



1. The safe installation and subsequent operation of a Banlaw product relies on the completion of all necessary "*due diligences*" specifically for the assessment of the Banlaw product(s) being suitable for the intended application(s). Such an assessment is best achieved through the cooperation of the supplier/OEM (Banlaw) and the customer or end-user. Once such an assessment deems the Banlaw product(s) to be suitable, the customer or end-user shall ensure effective "*change management*" applies should any prominent or influential aspect of the application (upon which the initial assessment was based) be subject to change and may affect the ongoing suitability (i.e. safety and proper function) of the Banlaw product.
2. The Banlaw LubeCentral™ Couplers incorporate **external** components manufactured from **aluminium**. Products containing external (exposed) aluminium are typically unsuitable for use within an underground coal mine, or otherwise within an area where the use of external aluminium components (or other materials within the product) are prohibited for use in accordance with applicable governances.



1. In accordance with the EU Pressure Equipment Directive (PED 97/23/EC), no Banlaw LubeCentral product is to be used with a Group 1 (dangerous) substance within the EU. (As per Banlaw's internal assessment of the PED during October 2010). Unless noted otherwise by Banlaw, the Banlaw LubeCentral™ BPL Couplers have not been assessed under any other Regulatory or Industry Standard, Code, Directive, Guideline or other governance which may apply to the use of this product in specific applications. Please consult Banlaw prior to installation if in doubt.
2. To avoid potentially serious safety hazards, no attempt should be made to *connect* or *disconnect* the couplings during fluid flow or whilst the fluid within the couplings remains pressurised#. A maximum# of 50kPa(g) (7.3psig) residual pressure is the recommended limit.
3. The Banlaw LubeCentral™ BPL Couplers are designed for use with incompressible non-flammable liquids (e.g. oils and coolants) commonly found in the mining, construction, rail and similar industries. **Please contact Banlaw prior to the use of this product with other (foreign) liquids.**
4. Particularly for the "*Arctic*" coupler range, changes in the physical properties (e.g. thickening, agglomeration, etc.) of a fluid at low temperatures may cause reduced functionality of the couplers.

Note:



1. This product is unsuitable for use with AdBlue (DEF) or with an alternative fluid (or substance) whose properties may affect the safety, function or reliability of the product. Please consult with Banlaw to confirm fluid compatibility if in doubt.
2. For BPL Coupler **dimensions** and the **Part Numbers** of the various Couplers and accessories available, please refer to the relevant Banlaw Product Specification Guide (PSG), the Banlaw website, or contact Banlaw or your nearest Banlaw authorised distributor.

3 PRODUCT SPECIFICATIONS

| OPERATING PRESSURES – BPL Nozzles and BPL Couplings (Coupled/Connected) | | | | |
|---|---------------------|--------------------------|--|---|
| SIZE | COLOUR | COUPLING | BP | SWP |
| 0 | Silver | BPLN0 Nozzle Coupled | 40MPa (5,801psi) 40MPa (5,801psi) | 10MPa (1,450psi) 10MPa (1,450psi) |
| 1 | Brass (Material) | BPLN1 Nozzle Coupled | 26MPa (3,771psi) 24MPa (3,481psi) | 6.5MPa (943psi) 6MPa (870psi) |
| 2 | Gold | BPLN2 Nozzle Coupled | 40MPa (5,801psi) 35MPa (5,076psi) | 10MPa (1,450psi) 8.75MPa (1,269psi) |
| 3 | Red | BPLN3 Nozzle Coupled | 27MPa (3,916psi) 35MPa (5,076psi) | 6.75MPa (979psi) 8.75MPa (1,269psi) |
| 4 | Black | BPLN4 Nozzle Coupled | 26MPa (3,771psi) 28MPa (4,061psi) | 6.5MPa (943psi) 7MPa (1,015psi) |
| 5 | Green | BPLN5 Nozzle Coupled | 28MPa (4,061psi) 20MPa (2,901psi) | 7MPa (1,015psi) 5MPa (725psi) |
| 6 | Blue | BPLN6 Nozzle Coupled | 20MPa (2,901psi) 18MPa (2,611psi) | 5MPa (725psi) 4.5MPa (653psi) |
| 7 | Purple | BPLN7 Nozzle Coupled | 50.5MPa (7,324psi) 35.5MPa (5,149psi) | 12.7MPa (1,832psi) 8.9MPa (1,288psi) |
| 8 | Platinum | BPLN8 Nozzle Coupled | 44MPa (6,382psi) 45MPa (6,527psi) | 11MPa (1,595psi) 11.25MPa (1,632psi) |
| 9 | Bronze | BPLN9 Nozzle Coupled | 47MPa (6,817psi) 38MPa (5,511psi) | 11.75MPa (1,704psi) 9.5MPa (1,378psi) |
| 10 | Orange | BPLN10 Nozzle Coupled | 33MPa (4,786psi) 47MPa (6,817psi) | 8.25MPa (1,197psi) 11.25MPa (1,632psi) |
| 11 | Silver | BPLN11 Nozzle Coupled | 40MPa (5,801psi) 35MPa (5,076psi) | 10MPa (1,450psi) 9.7MPa (1,407psi) |

Table 1 - Operating Pressures

| | |
|---|---|
| Operating Temp. Range °C (°F) | “Standard” BPL Couplers; -10°C to 55°C (14 to 131°F) “Arctic” series BPL Couplers; -40 to 55°C (-40 to 131°F) ## |
| Max. Recommended Temp. | 120°C (248°F) – after risk assessment |
| Maximum Operating Pressure | Refer Operating Pressures (Table 1) The SWP must not be exceeded. |
| Maximum Fluid Flowrate | Depends on Coupling Size, Fluid Density and Fluid Viscosity – please consult Banlaw |
| Compatible Fluids (refer also Material Composition) | Common mineral and synthetic oils, coolants and other similar incompressible non-flammable liquids – please consult Banlaw to confirm compatibility if in doubt |
| Material Composition | Stainless steel, zinc plated carbon steels, brass, anodised aluminium, Viton (FKM), NBR (Nitrile), HNBR, Fluorosilicone, Polyurethane (Size 11 Nozzle only) |
| Process Connections (NPT) | Nozzle – female NPT Receiver – male NPT For sizes, refer Banlaw PSG’s, Brochures or contact Banlaw |

Table 2 - Operating Specifications

- Legend:**
- “BP”; Minimum Burst Pressure (coupling failure)
 - “SWP”; Maximum recommended Safe Working Pressure (do not exceed).
 - “Coupled”; BPL Nozzle and Receiver fully connected (engaged)
 - ### This temperature range refers only to the “Arctic” series BPL Couplers, i.e. a coupling with the suffix “-CT” within the part number – e.g. BPLN2BN-CT.
- Notes:**
1. All pressure data refers to the *internal* fluid pressure within the coupling(s), where each coupling(s) is in “as new” condition.
 2. Mating couplings should be depressurised prior to connection or disconnection.
 3. “Receiver”; male coupling, typically used on the “reservoir” (recipient) side of the fluid transfer system.
 4. The SWP of each BPL Receiver corresponds to the “Coupled” SWP in the table above.
 5. “Nozzle”; female coupler, typically used on fluid supply (dispensing) side.
 6. Operating Pressures tested at approx. 25°C (77°F) ambient temperature.
 7. All data refers to Couplers in an undamaged “as new” condition and is subject to a tolerance (variation) due to inherent, expected changes in the mechanical properties of materials of construction because of such factors as; raw material specifications, temperature, aging, fatigue, mechanical wear, etc.

Please contact Banlaw should you require additional technical information.

For *grease* transfer, please contact Banlaw for additional Banlaw grease transfer product recommendations.

“IF IN DOUBT, ASK!”

3.1 BPL Size 11 Couplers

The BPL Size 11 Couplers, specifically the BPLN11 series Nozzles incorporate a “*connect under residual pressure*” feature. This feature is not available with any other BPL coupling, but is available with the Banlaw GTX series grease transfer couplings. This feature allows the BPL Size 11 couplers to be *connected* whilst the Size 11 Nozzle retains *residual* fluid pressure – refer important **Caution###** below. This feature applies to a maximum of **10MPa (1,450psi)** residual fluid pressure within a BPL11 series Nozzle.



The “*connect under residual pressure*” feature of the Nozzle is often misinterpreted, resulting in the ***incorrect and potentially unsafe operation of the couplers***. The objective or intent of this feature does ***not*** include the operation of couplers under the following conditions which may cause hazards such as the pressurised ejection of fluid from the couplers, or malfunction of a coupler;

- The fluid supply pump (or other fluid supply means) connected to the nozzle inlet remaining running (operating), with no other means available to fully isolate the pressurised supply from the Nozzle inlet until the couplers are fully (properly) engaged. Put simply, any fluid supply which promotes the ***pressurised flow*** of fluid to the Nozzle inlet prior to coupling connection does not fall under the intent of the “*connect under residual* pressure” feature. The key term is “residual”, analogous to the “hydraulic lock” of pressurised ***static*** liquid within the Nozzle.
- Any attempt to ***disconnect*** the couplers whilst any measurable degree of residual pressure remains within the mated ***couplers***. I.e. this feature does ***not*** apply to the “disconnection” of the couplings.
- Connection or disconnection whilst any measurable fluid pressure remains within the Receiver.

4 KEY FEATURES

The Banlaw BPL Couplers incorporate the following key features;

- **“Dry-Break”** (normally closed) function.
- **“Push to Connect”** operation, i.e. the Nozzle actuator (collar/sleeve) does not need to be manually retracted to engage the Nozzle with a mating Receiver – the Couplers are simply “pushed together”.
- **“Flush-Face”** design, markedly reducing the opportunity for contamination ingress and build-up into the Couplers and the fluid stream. Residual contamination can be cleared using a clean rag.
- **“Ball Lock Latching Mechanism”**; typically considered the most secure means of fluid coupler mechanical “latching” (connection).
- **“Robust Construction”**; manufactured from materials suited to harsh operating conditions – key structural and wearing parts are manufactured in zinc plated higher strength carbon steels.
- **“Matching Couplers”**; the BPL Couplers have been designed to only engage with the correct (mating) Coupler, virtually mitigating the risk of fluid cross-contamination. Colour coding of “matching” Couplers provides a visual means of Coupler identification.
- **“Receiver Dust Caps”**; each BPL Receiver is supplied with a colour-coded Dust Cap to minimise contamination build-up on the Receiver when not in use. Nozzle Dust Caps are available as an accessory.
- **“Connect under Residual Pressure” (Size 11 only)**; the Size 11 couplers may be safely connected whilst residual fluid pressure (max. 10MPa) remains within a BPL11 series Nozzle – refer section 3.1.

5 INSTALLATION GUIDELINES

5.1 Pre-Installation Guidelines



- Any proposed installation/application/operation of the Banlaw BPL Couplers shall satisfy the Specifications detailed in section 0, and other requirements within this document. As fluid transfer is typically conducted at relatively high pressures, the specifications for any *other* parts, equipment and accessories used with these Couplers must also comply with the parameters (e.g. pressure, temperature, flowrate, etc.) of the application. **Failure to ensure the BPL Couplers and other equipment are used strictly in accordance with their applicable specifications will introduce potentially serious safety hazards.**
- This Product shall only be used by **competent persons**, trained and/or directly supervised in their safe and proper operation.
- **A safe means shall be provided to bleed residual fluid pressure from within the Couplings (Nozzle and Receiver) prior to connection and disconnection.**
- The manual effort required to connect and disconnect these BPL Couplers has been minimised as far as is practicable, however the operation of the Couplers must consider **ergonomics** to avoid potentially serious work health & safety (WHS) hazards. I.e. the way in which the Couplers are used for **each** intended application must be part of a pre-installation due diligence assessment. Difficulty in the manual handling of the couplers and the remaining fluid transfer system equipment may not only introduce such WHS hazards, but also create a neglect to perform the required fluid transfer operation due to such difficulties. Key manual handling tasks are likely to include;
 - Operation of a manual valve(s) – if fitted.
 - Carriage of the fluid dispensing hose and dispensing equipment to & from the storage location and the fluid service point (i.e. BPL Receiver location).

- Connection of the Couplers, particularly at extended reach.
- Disconnection of the Couplers, particularly at extended reach.
- Fluids used with these Couplers must be rated and otherwise suitable for the requirements of the application, particularly temperature. The use of these Couplers with a fluid at a temperature near or below its Pour Point may increase the risk of Coupling malfunction and difficulty of operation.

The use of an isolation valve (e.g. manual ball valve) *adjacent the BPL Nozzle inlet* is recommended to provide a means of isolating supply (pump) pressure from the Nozzle prior to disconnection from the receiver. Fluid pressure within both couplers must be bled prior to connection.

Figure 2 below is an example of a fluid transfer system incorporating Banlaw BPL couplings. Receivers can be installed using a 54mm (2-1/8") deep (e.g. hub) socket.

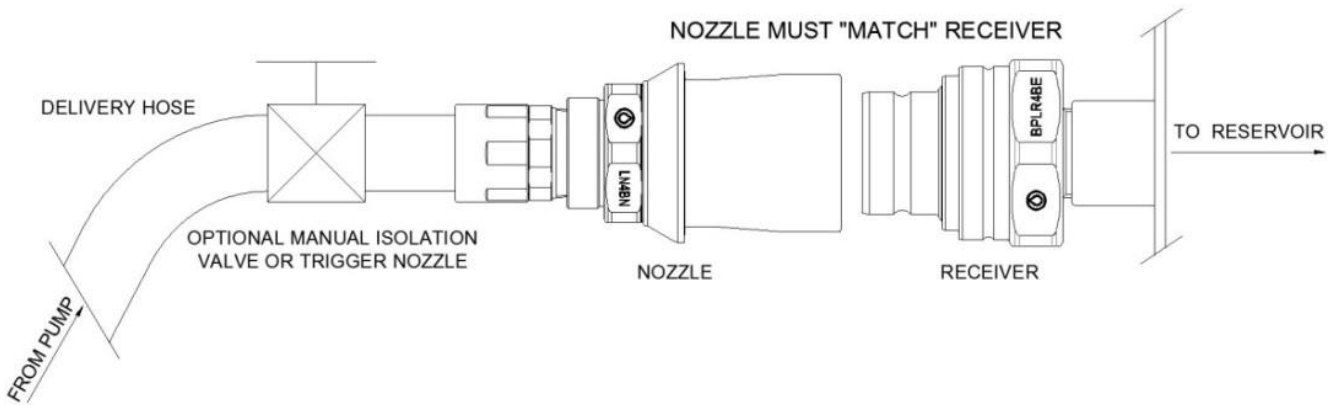


Figure 2 - Example of a fluid transfer system using BPL Couplings

Note:



To improve ease of use (ergonomics) in the event the BPL Receiver is installed at a height above (human) chest height (i.e. approx. 1.2m, 4'), end-users may benefit from the installation of an **elbow** (e.g. 30°, 45° or 90°) between the Receiver outlet and its process connection – refer example in Figure 3.

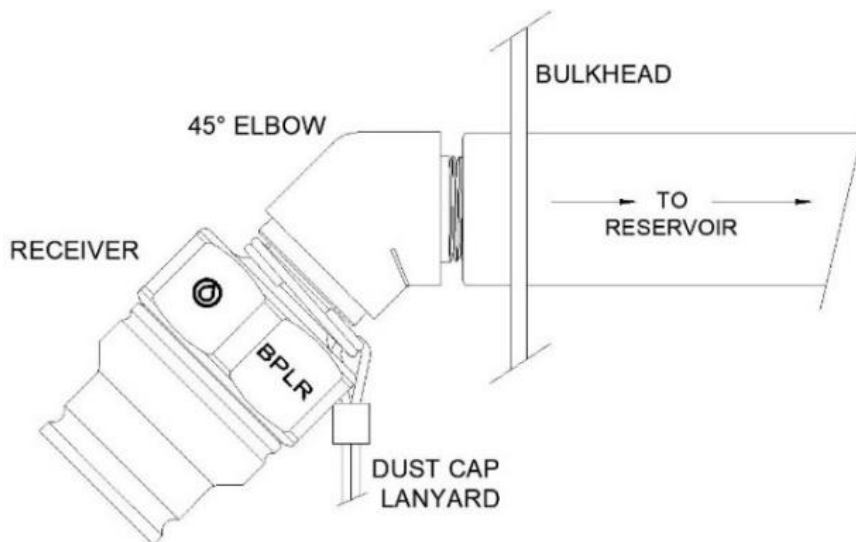


Figure 3 - Example of a Receiver with Elbow

5.2 Installation Guidelines

Note:



General Installation Notes;

1. Conduct a **Job Hazard Analysis (JHA)** *prior* to install to mitigate health, environmental and equipment hazards. Use appropriate PPE.
2. Do ***NOT*** install any parts that are damaged or are otherwise faulty.
3. Do ***NOT*** install parts which are not compatible with mating parts.
4. Conduct all necessary measures to ***prevent the ingress of contamination*** into the BPL Couplers and other parts.
5. Only engage threads of the same thread type. Ensure all threaded connections are clean and in good condition. Avoid over-tightening.
6. An appropriate thread sealant is recommended on NPT threaded process connections. Use ***sparingly*** and avoid excess use of Loctite and similar products – *residual thread sealants etc. may cause contamination and malfunction of the Couplers.*
7. Use only proper ***hand tools*** for the installation of all components – e.g. 2" spanner for BPL Nozzles and 54 mm deep socket (e.g. BPLRSOCKET) for BPL Receivers. Avoid the use of power or impact tools, and adjustable wrenches (e.g. stilsons).
8. Use consumables (e.g. Loctite products) strictly in accordance with the OEM Safety Data Sheet (SDS) and operating guidelines. Do not use consumables beyond their expiry date.
9. Ensure all likely ***energy sources*** – e.g. fluid pressure – are appropriately isolated and/or eliminated ***prior*** to installation of the BPL Couplers and other parts.
10. Ensure all ***Dust Cap*** lanyard "split rings" are secured to the threaded process (outlet) connection of each Coupler during installation, or otherwise secured to a location adjacent the Couplers.
11. For the ***"Arctic"*** Coupler range, it is recommended each Coupler is flushed using the proposed arctic grade fluid to remove any other remnant fluid from within a Coupler which may solidify once exposed to low temperature.

6 BASIC OPERATING INSTRUCTIONS



- Do ***NOT*** attempt to either connect or disconnect the BPL Couplers whilst ever residual fluid pressure remains within a Coupling (Nozzle or Receiver);
 - a. For Size 11 Couplings, please refer to section 3.1.
- Do ***NOT*** attempt to connect (use) a BPL Coupler with any non-compatible fluid Coupler or other fitting.
- Do ***NOT*** operate a BPL Coupler or any other fluid evacuation equipment that is damaged or otherwise faulty and potentially unsafe for use.
- Do ***NOT*** make any attempt to connect BPL Couplers without first removing contamination from the mating surfaces of each Coupler.
- Do ***NOT*** make any attempt to open a BPL Coupler by any means other than connecting with a mating BPL Coupler. For example, no attempt shall be made to bleed residual fluid pressure from a Coupler by manually opening a Coupler using a tool or foreign object or loosening the process connection to a Coupler – instead use a dedicated bleed valve.

How the BPL Couplers are connected (engaged) and disconnected (disengaged) is the same as other similar industry "**push to connect**" fluid couplings incorporating a ball-lock style latching mechanism – e.g. common fluid power (hydraulic) Couplers.

COUPLING CONNECTION

1. Unless specific site (application) liquid dispensing procedures dictate otherwise, ensure the liquid supply pump is **OFF** (i.e. not running) prior to Coupler connection.
2. Retrieve the BPL Nozzle and attached hose from their designated storage holster. Inspect all such equipment for signs of fluid leakage, damage or other defects. Safely **carry** the equipment over to the matching BPL Receiver, i.e. the fluid servicing point – do **NOT** drag the Nozzle along the ground.
3. Using the designated fluid pressure bleed procedure, bleed all measurable pressure from within the Couplings (for Size 11 Couplings, please refer to section 3.1).



Figure 4 - Dust Cap Removed & Receiver Wiped Clean

4. If installed, ensure the manual valve adjacent the **Nozzle** inlet is in the ON (open) position. Closing the valve is likely to increase the manual effort required for connection.
5. Verify the **Receiver** is bled to remove residual pressure.
6. Remove Dust Cap (if fitted) from Nozzle. Remove any residual contamination from the front face of the Nozzle using a clean rag.
7. Remove Dust Cap from Receiver. Remove any residual contamination from the Receiver using a clean rag.
8. Whilst supporting the weight of the Nozzle etc. concentrically **align** the Nozzle with the Receiver, "feeling" the front end of the Receiver fit within the shallow recess on the mating face of the Nozzle.

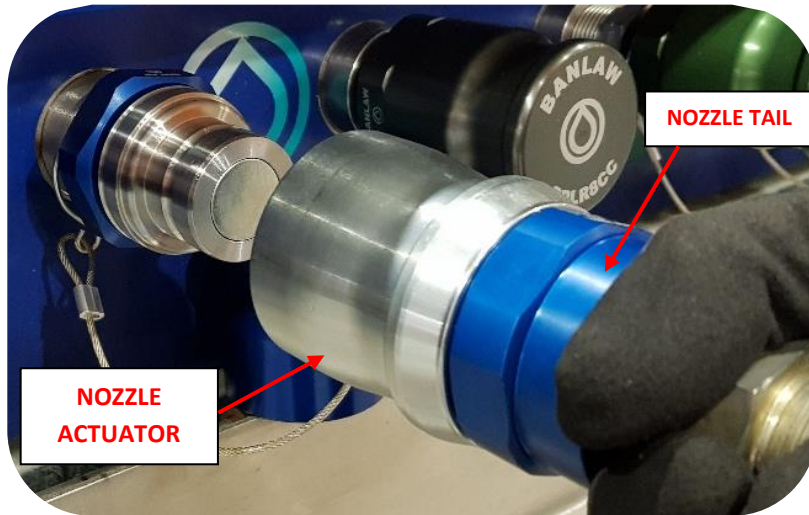


Figure 5 - Aligning Nozzle with Receiver

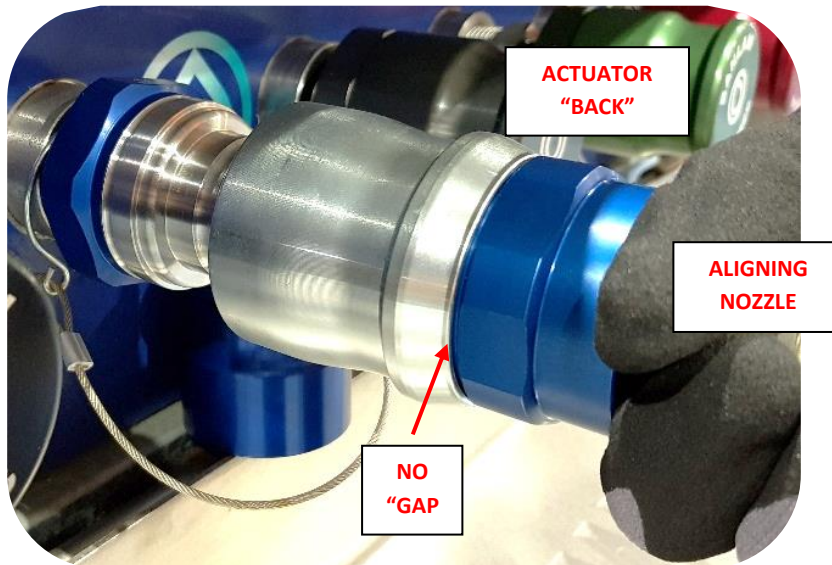


Figure 6 - "Locating" Nozzle Face *Concentrically* with Receiver

9. Once the Couplers are aligned and whilst holding only the **rear** (tail) of the Nozzle, securely push onto Receiver in one motion. **Do NOT hold the Nozzle Actuator**. Once the Couplers are aligned, and in **one** swift but smooth movement, push the Nozzle onto the Receiver. Latching of the ball locks occurs once the Nozzle Actuator moves **forward** (away from the operator/user). **Do not release the Nozzle until fully engaged with the Receiver.**

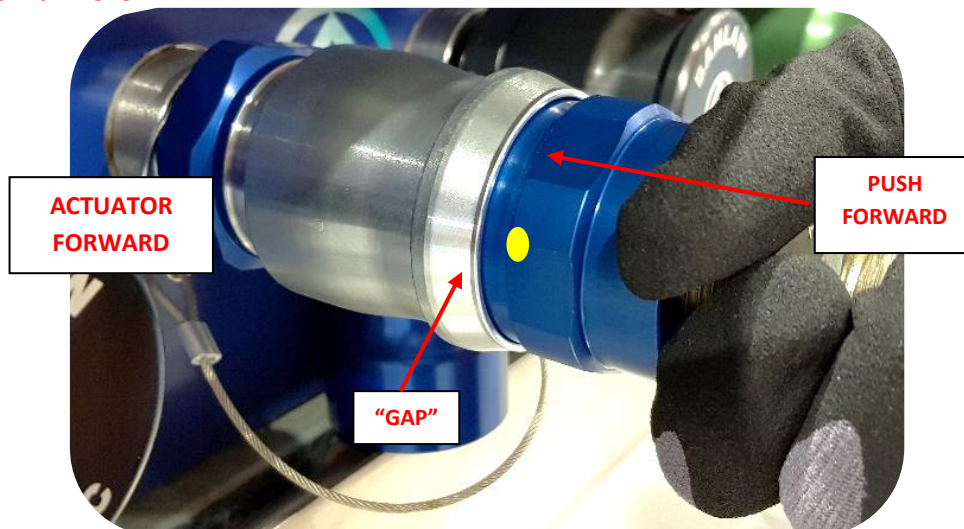


Figure 7 - "Push to Connect" - Couplers Connected

10. The ball lock mechanism is engaged once the Actuator moves into the fully forward position, creating a "gap" (clearance) between the rear of the Actuator and the Nozzle tail – refer Figure 7.
11. Pull back on **rear** (only) of the Nozzle to ensure a secure connection. If Nozzle disconnects, ensure no dirt and other contamination are within the ball lock groove of the Receiver, and repeat steps 3 to 10 until couplings are connected. Do **NOT** pull back on the Nozzle Actuator unless the Couplings are to be safely disconnected (refer from step 13).
12. If fitted and once the couplers are securely connected, ensure all bleed valves are closed, open the valve (if fitted) adjacent the Nozzle inlet, and start the supply pump to initiate liquid transfer. Supervise (monitor) fluid transfer process.

COUPLING DISCONNECTION

13. Once the liquid transfer is completed and **prior** to disconnecting the Couplers, **stop** (turn OFF) the liquid supply pump, and if fitted, **close** the manual isolation valve at the Nozzle inlet.
14. Using the designated fluid pressure bleed procedure, bleed all measurable pressure from within the Couplings.
15. Retract and hold back Nozzle Actuator and **steadily** remove Nozzle from the Receiver. Pull back on the Nozzle with one steady and smooth movement. **Hold the Nozzle Actuator back during the entire disconnection process.**

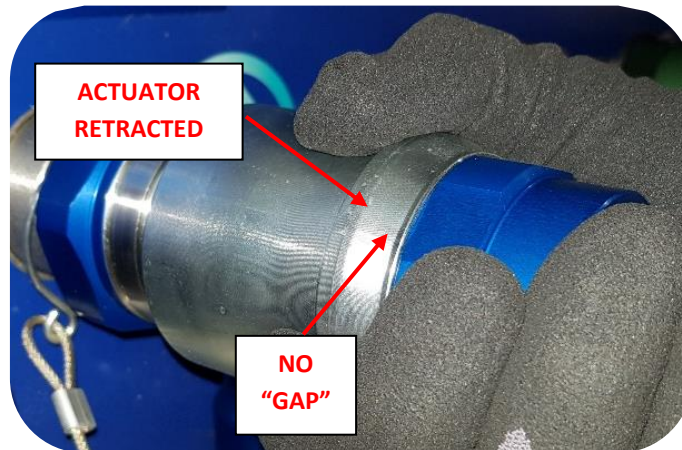


Figure 8 - Retracting Nozzle Actuator to Disconnect from Receiver

16. Once disengaged, release Actuator. Ensure both the Nozzle and Receiver return to their "normally closed" (sealed) state. If not, promptly repeat (only) steps 8, 9, 10 and 15. If either coupler still fails to close, promptly isolate any fluid supply to the faulty Coupler. Place this fluid transfer line "Out of Service" to prevent further use until the faulty Coupler is replaced.
17. **Replace** the Receiver Dust Cap. Ensure any bleed valves are closed and the fluid transfer system is otherwise left in a safe idle state.



Figure 9 - Receiver Dust Cap Fitted

18. Replace the Nozzle Dust Cap (if fitted) and safely return the Nozzle etc. by carrying them to their designated storage location, i.e. do **NOT** drag the Nozzle along the ground, or allow impact with any object.
19. **Ensure work area and all equipment are left clean and in a safe state.**
20. Ensure any faults or incidents identified during the fluid transfer are promptly reported for attention.

6.1 BPL Coupler Operation Overview

- 1 ENSURE LIQUID DISPENSING SYSTEM IS SAFE AND AVAILABLE FOR USE

- 2 **SAFELY** BLEED RESIDUAL PRESSURE WITHIN NOZZLE (DISPENSING SIDE)

- 3 **SAFELY** BLEED RESIDUAL PRESSURE WITHIN RECEIVER (RECIPIENT SIDE)

- 4 REMOVE RECEIVER DUST CAP (AND NOZZLE DUST CAP IF FITTED)

- 5 WIPE FRONT OF EACH COUPLER CLEAN WITH RAG

- 6 FULLY (CONCENTRICALLY) ALIGN BPL NOZZLE WITH MATING BPL RECEIVER

- 7 HOLDING *ONLY* THE NOZZLE "TAIL", **PUSH** ONTO RECEIVER UNTIL FULLY CONNECTED

- 8 PULL BACK ON NOZZLE "TAIL" TO ENSURE SECURE CONNECTION

- 9 START LIQUID DISPENSING PUMP/SYSTEM

- 10 COMPLETE THE REQUIRED LIQUID TRANSFER

- 11 TURN **OFF** LIQUID DISPENSING PUMP AND **SAFELY** BLEED RESIDUAL PRESSURE WITHIN COUPLERS

- 12 HOLDING WEIGHT OF NOZZLE, RETRACT NOZZLE ACTUATOR & DISCONNECT COUPLERS

- 13 **REPLACE** RECEIVER DUST CAP AND NOZZLE DUST CAP (IF FITTED)

- 14 RETURN NOZZLE AND ATTACHED EQUIPMENT TO STORAGE LOCATION

- 15 ENSURE THE LIQUID DISPENSING SYSTEM AND WORK AREA ARE LEFT IN A CLEAN & SAFE STATE

7 MAINTENANCE GUIDELINES

This Maintenance Guide is general and is not meant to replace or override maintenance guidelines that arise out of a *due diligence* assessment of the Banlaw BPL series Fluid Transfer Couplers for a specific liquid transfer application. For more detailed advice please contact Banlaw or your nearest authorised Banlaw distributor.

The following *preventative maintenance* guidelines apply to the BPL series Couplers;

- Inspect BPL Couplers and other liquid dispensing equipment prior to use for damage, excessive leakage or some other defect which may affect the safe use of the dispensing system.
- **Do NOT store a BPL Nozzle laying on the ground, or otherwise in an area prone to excessive contamination or possible damage.** Ensure there is provision to safely store the Nozzle off the ground, and with the liquid dispensing hose not left laying within plant equipment or operator thoroughfares.
- **Prior** to use, wipe away residual liquid and contamination from all mating surfaces of the BPL couplers (Nozzle & Receiver). This will not only reduce the ingress of contamination into the liquid stream, but also help to avoid accelerated wear & tear of the couplers.
- To further reduce contamination, use the Coupler Dust Caps – e.g. Figure 9. The use of Dust Caps will also reduce the risk of damage to a Coupler from impact when not in use.

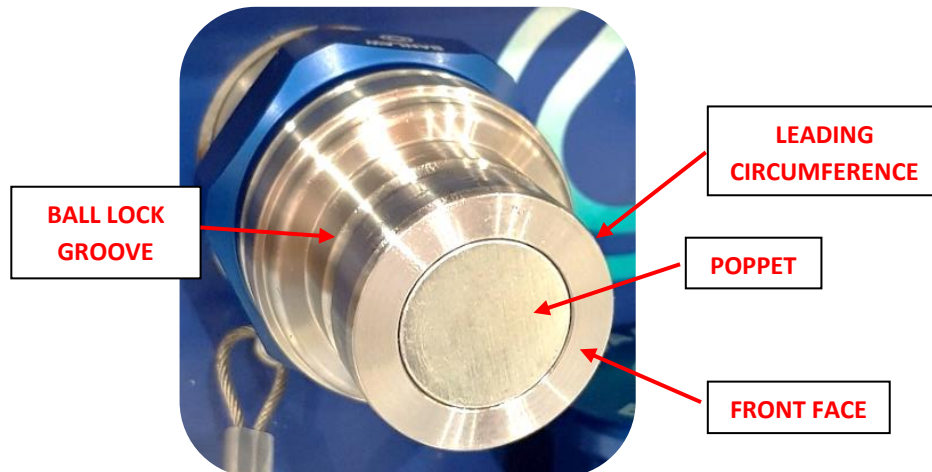


Figure 10 - Critical Areas of Damage on BPL Receivers

- **Closely** inspect the front area of the BPL **Receiver** (Figure 10) and **Nozzle** (Figure 11) for excessive wear or damage;
 - BPL Receiver;
 - Wear to ball lock groove.
 - Damage and excessive wear to leading edge and front face.
 - Fluid leakage from front face.
 - Failure of the Poppet to return "flush" (fully forward, closed).
 - BPL Nozzle;
 - Damage and excessive wear to leading edge and front face. Importantly, distortion of the leading edge of the Actuator may affect its required motion (action) and jeopardise the safety of the Nozzle.
 - Fluid leakage from front face or from between Actuator and Tail.
 - Failure of the Piston to return "flush" (fully forward, closed).
- Promptly replace any faulty BPL couplers prior to their next required use or place the coupler(s) "Out of Service" until replacement.

- **Closely** inspect the front area of the BPL **Nozzle** (refer Figure 11), for signs of damage or excessive wear & tear. Excessive wear or damage may cause problems connecting and disconnecting the couplers but will also introduce the risk of unintentional coupler disconnection – i.e. BPL Nozzle “fly off” – during pressurised liquid transfer. Promptly replace any faulty BPL couplers prior to their next required use or place the coupler(s) “Out of Service” until replacement.

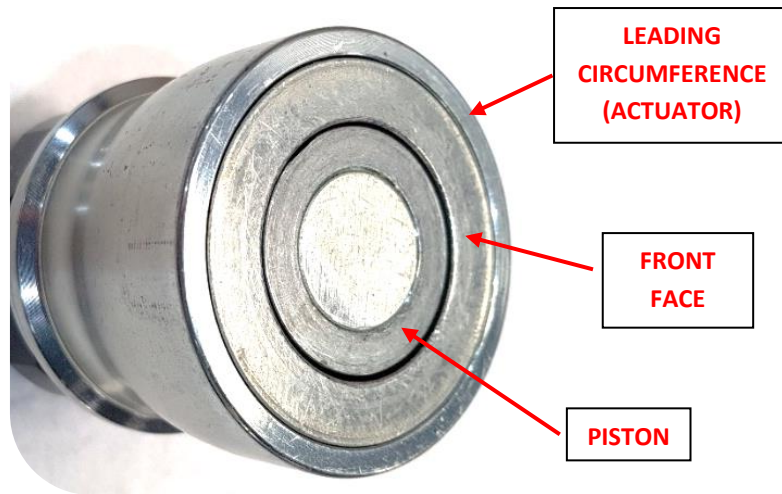


Figure 11 - Critical Areas of Damage on BPL Nozzles

7.1 BPL Coupler Spare Parts

The Banlaw BPL series Couplers are **non-serviceable** items. The following genuine Banlaw spare parts are available to suit this product. **The use of non-genuine parts, or the dismantling, misuse or tampering of this product may cause improper and unsafe function, serious safety hazards, and void Banlaw warranty.** Please see www.banlaw.com for warranty details and a full list of distributors near your area to source genuine Banlaw replacement spares and new products.

| Item Description | Banlaw Part Number |
|-------------------|--------------------|
| Receiver Dust Cap | BPLR#CC |
| Nozzle Dust Cap | BPLN#C |

Table 3 - BPL Coupler Spare Parts

- Table 3 Notes:**
1. Insert the BPL Coupler “Size” (e.g. 1, 2, 3, etc.) into the wildcard character “#” to obtain the required Banlaw part number, e.g. BPLR2CC, BPLN8C, etc.
 2. Receiver Dust Caps are supplied with each new BPL Receiver.
 3. Nozzle Dust Caps are an **optional** accessory for each BPL Nozzle.
 4. **IMPORTANT:** Use only the **correct** (colour-coded) Dust Cap on each Coupler.

END OF DOCUMENT



BANLAW – UNIFIED FUEL MANAGEMENT

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