

# ENGINEERING BULLETIN

Ref Document No.	EB15003	Issue No.	1
Subject	Deutsch DT Series connectors used on the MONEx System		
Release Date	16 <sup>th</sup> February 2015		

## Purpose

To notify Coaltram® users of the importance of maintaining the condition / IP67 rating of the Deutsch DT Series connectors used on the MONEx System.

## Applicability

All COALTRAM®'s.

## Background

PPK Service Personnel and Coaltram® owners have experienced and reported MONEx System faults directly related to ingress of particles and moisture into the Deutsch DT Series connectors.

## Investigations/Findings

Root cause analysis revealed missing seals and missing blanking plugs as the cause of the contamination and corrosion. Below is a series of examples found on in service COALTRAM®'s.

The following figures show a missing seal (Figure 1) and an O-ring fitted in lieu of the manufacturers seal (Figure 2) on 3-pin Deutsch plugs.

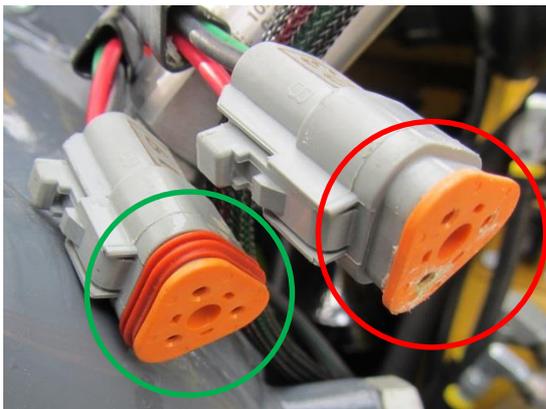


Figure 1 - Missing Seal



Figure 2 - O-ring

The following figures show particle ingestion (Figure 3) and liquid ingestion (Figure 4) introduced as a result of the missing seals.



**Figure 3 - Particle Ingression**



**Figure 4 - Liquid Ingression**

The following figures show corrosion and contamination (Figures 5 and 6) as a result of the particle and fluid ingestion.



**Figure 5 - Corrosion**



**Figure 6 - Corrosion and Contamination**

The following figures show missing 6-pin Deutsch connector blanking plugs on the Power Manager (Figure 7) and the resultant contamination (Figure 8) which was causing intermittent faults.

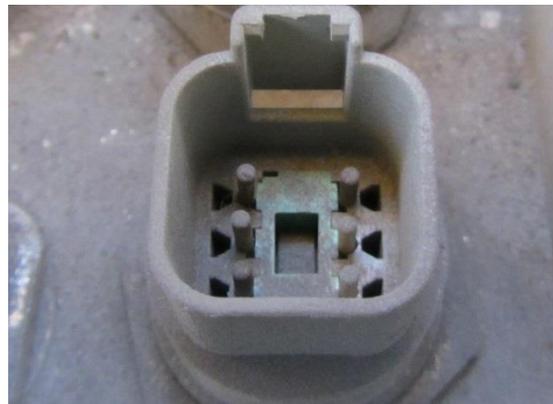
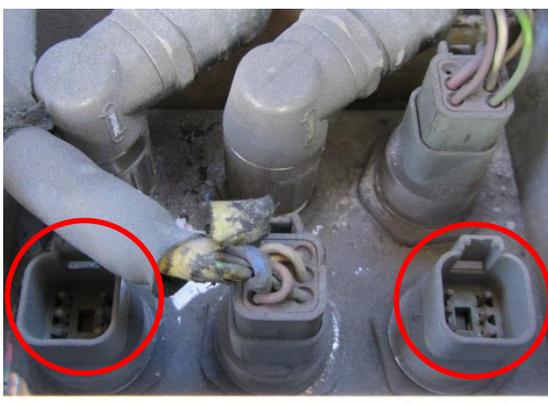


Figure 7 – Missing Blanking Plugs

Figure 8 – Contamination

**Recommendations**

PPK recommends thorough cleaning and / or replacement of contaminated Deutsch connectors, seals and blanking plugs to minimise the likelihood particle and fluid ingress which results in erroneous and intermittent faults. The following examples show a Deutsch 3-pin connector plug seal (Figure 9 - Part No: 5520009482), a Deutsch 6-pin connector plug seal (Figure 10 - Part No: 5520009483), a Deutsch 6 Pin Blanking Plug (Figure 11) and correct fitment of the blanking plugs (Figure 12).

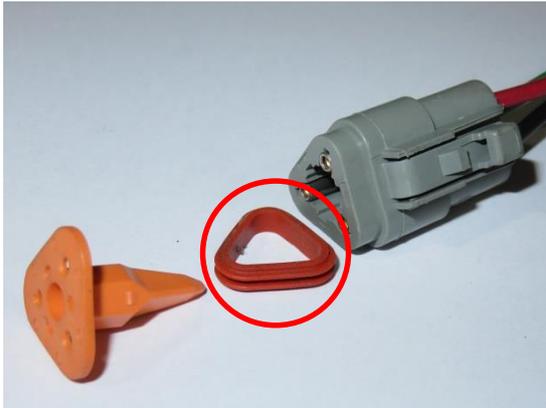


Figure 9 – 3 Pin Plug Seal

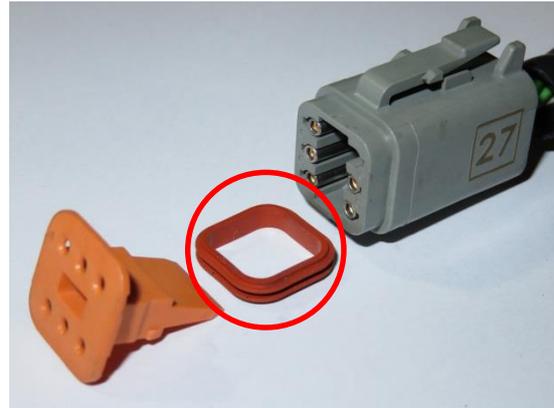


Figure 10 - 6 Pin Plug Seal

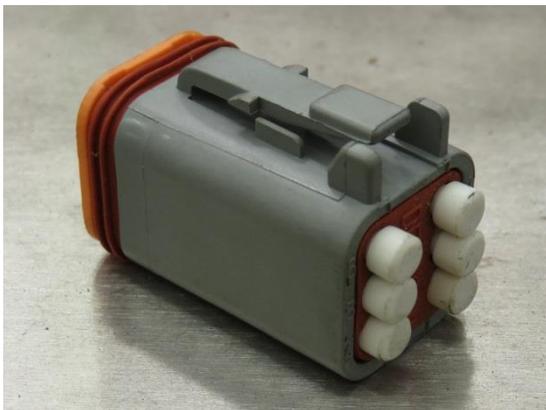


Figure 11 – 6 Pin Blanking Plug

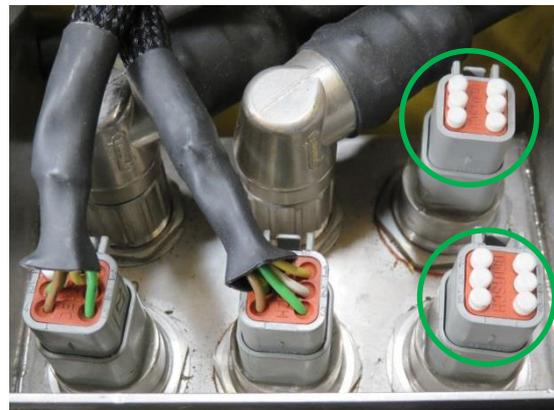


Figure 12 – fitted Blanking Plugs

PPK also recommends fitment of Sensor Weather Boots which offer the Deutsch connectors extra protection from direct high pressure water jets used to clean the Coaltram®. The following figures show a Sensor Weather Boot (Figure 13 - Part No: 5520001217) and correct installation of the Sensor Weather Boot (Figure 14).



**Figure 13 - Sensor Weather Boot**



**Figure 14 - Fitment to the Sensor**

A Deutsch DT Series Connector and Cleaning Kit (Part No: 5520009527) is available which contains a crimp tool, non-flammable cleaning solvent, plugs, receptacles, seals, pins, sockets and sensor weather boots in a robust case. The kits can be replenished with individual items.

**Parts**

Figure	Part Number	Description
9	5520009482	3-pin Deutsch connector plug seal
10	5520009483	6-pin Deutsch connector plug seal
11	5520001217	Sensor Weather Boot

**Michael Kearsey**  
Engine Management Systems – Manager

PPK Mining Equipment Pty Ltd  
 T: +612 4964 5400  
 E: [m.kearsey@ppkgroup.com.au](mailto:m.kearsey@ppkgroup.com.au)  
[www.ppkgroup.com.au](http://www.ppkgroup.com.au)