## Part B Application form

# Application to Vary a Permit
# Part B service station to add PVR Stage II

Local Authority Pollution Prevention and Control
Pollution Prevention and Control Act, 1999
Environmental Permitting (England and Wales) Regulations 2010 (as Amended)

## Introduction

**When to use this form**
Use this form where the retrospective fitting of a 'Stage 2' petrol vapour recovery system is the subject of an application for a non-substantial variation (in which case, no fee will be payable).

**Before you start to fill in this form**
You are strongly advised to read relevant parts of the Defra general guidance manual issued for LA-IPPC and LAPPC, republished in March 2010 and available at
http://www.defra.gov.uk/environment/quality/pollution/ppc/localauth/pubs/guidance/manuals.htm.
This contains a list of other documents you may need to refer to when you are preparing your application, and explains some of the technical terms used. You will also need to read the relevant Process Guidance note. The EP Regulations can be obtained from The Office of Public Sector Information, or viewed on their website at
http://www.opsi.gov.uk/legislation/about_legislation.htm.

**Which parts of the form to fill in**
You should fill in as much of this form as possible. When complete, send the form and any additional information to:

Environmental Health Department
Huntingdonshire District Council
Pathfinder Hounse
St. Mary's Street
Huntingdon
Cambridgeshire
PE29 3TN

**Using continuation sheets**
In the case of the questions on the application form itself, please use a continuation sheet if you need extra space; but please indicate clearly on the form that you have done so by stating a document reference number for that continuation sheet. Please also mark the continuation sheet itself clearly with the information referred to above.

**Copies**
Please send the original of the form and all other supporting material, to assist the Authority in conducting any necessary consultation process.

**If you need help and advice**
We have made the application form as straightforward as possible, but please get in touch with us at the local authority address given above if you need any advice on how to set out the information we need.

| LAPPC application form: to be completed by the operator | | |
|---|---|---|
| **For Local Authority use** | | |
| Application reference | Officer reference | Date received |
| | | |

## A Applicant Details

A1 Name of the Installation

**Tesco Huntingdon 2 (3976)**

A1.1 Please give the address of the site of the installation

**Abbots Ripton Road**
**Sapley**
**Huntingdon**
**Cambridgeshire**

Postcode **PE17 2LA** Telephone **01480 327445 (Main Store)**

A1.2 Existing permits:

Please give details of any existing LAPPC permit for the installation including reference number(s):

**P06/98 – Variation Ref: PPC 19/08**

Please provide the information requested below about the "Operator", which means the person who it is proposed will have control over the installation in accordance with the permit (if granted)

## A2 The Operator

Please provide the full name of company or corporate body or the name of the sole trader or the names of the partners

**Tesco Stores Ltd**

Trading/business name (if different)

Registered Office address

**Tesco House**
**Delamare Road**
**Cheshunt**

Postcode: **EN8 9SL** Telephone: **01707 634088**

Principal Office address (if different)
**PO Box 400**
**Cirrus Building B**
**Shire Park**
**Welwyn Garden City**

Postcode: **AL7 1AB** Telephone:

Company registration number
**519500**

A2.2 Holding Companies

Is the operator a subsidiary of a holding company within the meaning of section 1159 of the Companies Act 2006?

**No**

Ultimate Holding Company Registered office address

Postcode: Telephone:

Principal Office address (if different)

Postcode

Company registration number

A2.3 Who can we contact about your application?

*It will help to have someone who we can contact directly with any questions about your application. The person you name should have the authority to act on behalf of the operator - This can be an agent or consultant.*

Name **Andy Berry**

Position **Petroleum Compliance Manager**

Address **Shire Park, Welwyn Garden City, Hertfordshire**

Postcode: **AL7 1AB**

Telephone number **07702 142808**

Fax number

Email address **andy.berry@uk.tesco.com**

## B About the installation

B1.1 Is the service station located under permanent living quarters or working areas (see section 2 of PG1/14(06)?

☐ No √

☐ Yes

B1.2 When was equipment for vapour collection during filling of underground storage tanks installed or when will it be installed?

**22nd August 2013 (May be subject to change if start date is delayed – Start date scheduled Monday 19th August 2013)**

B1.3 Volume of petrol unloaded into the service station in each of the last three calendar years (see Section 2 of PG1/14(06) for relevant timescales) in cubic metres (ie litres divided by 1000). Please circle the appropriate band.

| Year | Volume of petrol/$m^3$ | | | | |
|---|---|---|---|---|---|
| **2010** | | | | | >3500 |
| **2011** | | | | | >3500 |
| **2012** | | | | | >3500 |

B1.4 Are deliveries "Driver controlled"/"Driver Assisted"?

☐ No

√ Yes

B1.5 Please state the total number of storage tanks at the service station.

**6**

B1.6 Please state the number of petrol storage tanks at the service station.

**4**

B1.7 Please state the number of pump nozzles dispensing petrol to vehicle petrol tanks at the service station.

**32**

B1.8 At a maximum, how many tanker compartments discharge into storage tanks at any one time, or will do so once a vapour collection system is in place?
**2**

B1.9 Are diesel storage tanks currently connected to the vapour balance system?

√ No

☐ Yes

B1.10 Measures taken or to be taken for vapour emission control, both during unloading and in storage?

**Pressure/vacuum valves to be fitted to vent pipe risers set to contain vapour unless a pressure in excess of 35 mbar is achieved.**
**System is subjected to annual testing by competent contractor…….**

**Conventional Stage 1B Vapour Recovery System incorporating the Atlas Vent Master & Easy Riser System**

B1.11 Please attach process diagrams and plans of vapour collection equipment (including height and location of tank vent pipes). This should include equipment for the recovery of vapours during filling of underground storage tanks and for filling of vehicle petrol tanks.

Doc Reference: **Tank to Pump Map**

B1.12 Please attach unloading procedure and instructions.

Doc Reference: **TDG Load discharge procedure**

B1.13 Please state or attach details of supervision, training and qualifications of operating staff (details should be specific to "on site" staff and include general statements about delivery drivers). The information supplied should be supplemented by a site specific assessment (see Section 6 of PG1/14(06)).

**All drivers receive induction which is refreshed 2-yearly and each attend a classroom session for one day a year**

**All on site staff receive training on monitoring the system and what to do in case of a vapour release to atmosphere**

Doc Reference: **Know Your Stuff**

B1.14 Please state or attach the schedule of maintenance of vapour collection control including the system for vapour recovery during filling of vehicle petrol tanks for "Stage II" vapour recovery.

Doc Reference: **Schedule of Preventative Maintenance**

B1.15 Please state or attach the schedule of examination and testing for vapour collection controls including the system for vapour recovery during filling of vehicle petrol tanks for "Stage II" vapour recovery.

Doc Reference: **Petrotec testing procedure**

B1.16 Please attach procedures and contingency measures in the event of vapour containment equipment failure including the system for vapour recovery during filling of vehicle petrol tanks for "Stage II" vapour recovery.

Doc Reference: **Record of weekly stage 2 vapour recovery testing and Log of repair and maintenance of stage 2 systems**

B1.17 Please provide a certificate to confirm conformity with approval for use under the regulatory regimes of at least one European Union or European Free Trade Association country and to confirm that the hydrocarbon capture efficiency of the equipment is not less than 85% (ie that at least 85% of the displaced vapours are recovered, according to the relevant 'type approval' test (see Section 5.16 of PH1/14(06)), expressed as the ratio of the volume of hydrocarbon vapours displaced to the volume of petrol discharged.

Doc Reference: **Petrotec documentation**

B1.18 Please provide details of testing of the vapour containment integrity in accordance with the manufacturer's specifications (to be undertaken prior to commissioning and periodically at least once every 3 years thereafter and always following substantial changes or significant events that lead to the removal or replacement of any of the components required to ensure the integrity of the containment system).

Doc Reference: **Petrotec documentation**

B1.19 Is an "automatic monitoring system" installed to automatically detect faults in the proper functioning of the petrol vapour recovery system including the automatic monitoring system; to indicate faults to the operator; and to automatically cut off the flow of fuel on the faulty delivery system if the fault is not rectified within 1 week?

☐ No

√ Yes

## B2 Additional Information

Please supply any additional information, which you would like us to take account of in considering this application.

Doc Reference: **N/A**

## C Annual Charges

If we grant you a permit, you will be required to pay an annual subsistence charge. If you don't pay, your permit can be revoked and you will not be able to operate your installation.

C1 Please provide details of the address you wish invoices to be sent to and details of someone we may contact about fees and charges.

**Sandeep Surash**
**E-mail: admin.petroleum@uk.tesco.com**

## C2 Commercial confidentiality

C2.1 Is there any information in the application that you wish to justify being kept from the public register on the grounds of commercial or industrial confidentiality?

**No**

If **Yes**, please provide full justification, considering the definition of commercial confidentiality within the EP regulations (see the General Guidance Manual).

Doc Reference _____

## C3 Data Protection

The information you give will be used by the Local Authority to process your application. It will be placed on the relevant public register and used to monitor compliance with the permit conditions. We may also use and or disclose any of the information you give us in order to:

- consult with the public, public bodies and other organisations,
- carry out statistical analysis, research and development on environmental issues,
- provide public register information to enquirers,
- make sure you keep to the conditions of your permit and deal with any matters relating to your permit
- investigate possible breaches of environmental law and take any resulting action,
- prevent breaches of environmental law,
- offer you documents or services relating to environmental matters,
- respond to requests for information under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004 (if the Data Protection Act allows)
- assess customer service satisfaction and improve our service.

We may pass on the information to agents/ representatives who we ask to do any of these on our behalf.

It is an offence under regulation 38 of the EP Regulations, for the purpose of obtaining a permit (for yourself or anyone else) to:

- make a false statement which you know to be false or misleading in a material particular,
- recklessly make a statement which is false or misleading in a material particular.

If you make a false statement

- we may prosecute you, and
- if you are convicted, you are liable to a fine or imprisonment (or both).

## C4 Declaration: previous offences (delete whichever is inapplicable)

I/We certify

***EITHER***

No offences have been committed in the previous five years which are relevant to my/our competence to operate this installation in accordance with the EP Regulations.

***OR***

**C4 Declaration: previous offences (delete whichever is inapplicable)**

I/We certify
***EITHER***
No offences have been committed in the previous five years which are relevant to my/our competence to operate this installation in accordance with the EP Regulations.
***OR***
The following offences have been committed in the previous five years which may be relevant to my/our competence to operating this installation in accordance with the Regulations:

Signature _____

Name **Andy Berry**

Position **Petroleum Compliance Manager**

Date 13th August 2013

**C5 Declaration**

C5.1 Signature of current operator(s)*

I/We certify that the information in this application is correct. I/We apply for a permit in respect of the particulars described in this application (including supporting documentation) I/We have supplied.

Please note that each individual operator must sign the declaration themselves, even if an agent is acting on their behalf.

For the application from:

Installation name: **Tesco Huntingdon 2 (3976)**

Signature _____

Name **Andy Berry**

Position **Petroleum Compliance Manager**

Date 13th August 2013

Signature _____

Name _____

Position _____

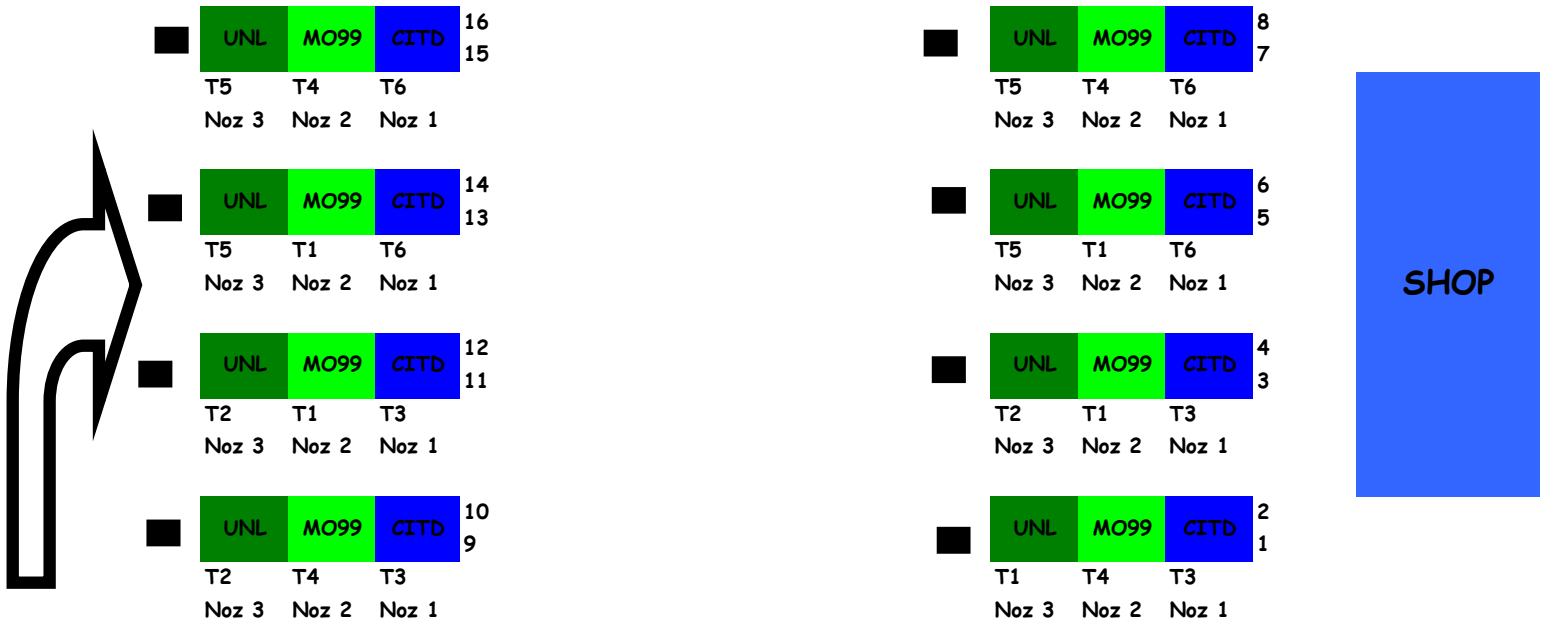
Date _____

** Where more than one person is defined as the operator, all should sign. Where a company or other body corporate – an authorised person should sign and provide evidence of authority from the board of the company or body corporate.*

Working with

# Tesco Huntingdon PFS
## Store No 2694 PFS No 3976

### Tank to pump chart




Petrotec 4500 Pumps

| | | | | |
|---|---|---|---|---|
| Tank | 1 MO 99 | 22,048 Lts | Pumps | 3,4,5,6,11,12,13,14 |
| Tank | 2 UNL | 44,096 Lts | Pumps | 1,2,3,4,9,10,11,12 |
| Tank | 3 CITD | 44,096 Lts | Pumps | 1,2,3,4,9,10,11,12 |
| Tank | 4 MO 99 | 44,096 Lts | Pumps | 1,2,7,8,9,10,15,16 |
| Tank | 5 UNL | 44,096 Lts | Pumps | 5,6,7,8,13,14,15,16 |
| Tank | 6 CITD | 44,096 Lts | Pumps | 5,6,7,8,13,14,15,16 |

Repump 23/8/13

■ Indicates Canopy stanchion NOT pump stanchion

TDG

www.tdg.eu.com

TDG Transport Business Unit

# PETROLEUM CONTRACTS

# LOAD & DISCHARGE

# PROCEDURES

February 2010

Prepared by

George Gordon
- South West Trainer

Version 1

# CONTENTS

# CONTENTS

**THESE PROCEDURES ARE TO BE CONDUCTED BY DRIVERS**

**IN FULL ACCORDANCE WITH (in no particular order :**

a) The UK Carriage of Dangerous Goods by road regulations, as amended.

b) The Approved Code of Practice (ACOP) for unloading petrol from road tankers, As amended.

c) Health & Safety at work Act, as amended.

d) The current ADR regulations.

e) Instructions in Writing

f) Specific Terminal Procedures.

g) TDG Employee Health & Safety Information Driver Handbook.

h) Specific Customer Procedures.

i) Road Transport Law

## Dangerous Goods Safety Adviser

All drivers must be aware of their D.G.S.A. – Ian FOX

# DOCUMENTATION

- **ADR REGULATION**.
  It is a LEGAL requirement that all drivers of dangerous goods must carry a current ADR licence with them at all times when in charge of a dangerous goods vehicle. This Vocational training certificate must be Class 3 in Tanks.

- **DRIVERS LICENCE**
  A valid driving licence with Photo I.D card must be carried at all times

- **DELIVERY DOCUMENTS**
  The delivery documents must be checked for the order of delivery, loading location, products, special instructions and correct vehicle.

  **PETROLEUM DELIVERY DOCUMENTS**.
  All Drivers must ensure that all petroleum delivery forms are completed
  *(Petroleum delivery documents are a LEGAL requirement).*

- **SITE DEFECTS / TDG INCIDENT (Including Near Miss) REPORTS**
  Must be filled out whenever a driver has a problem at a site, on the three-page document:

| | |
|---|---|
| a | One copy to be given to the PFS / site staff, for the appropriate action to be taken |
| b | One copy to be given to be handed in / faxed to Regional TDG Office |
| c | One copy to remain in the book, for the driver's reference |

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- **DANGEROUS LOAD CARDS**

All Petroleum drivers are to receive mandatory ''***Road Transport Regulations 10a 2005, Dangerous Goods, Security Awareness***'' training and issued with a recorded serial numbered dangerous load card. The training is to be refreshed bi annually (minimum). The Dangerous Load Card has been produced by the "National Counter Terrorism Security Office" on behalf of the Department for Transport. Drivers must carry the card in case they need to authenticate authorised government personnel at a vehicle stop. Remember the Vehicle & Operator Service Agency (VOSA) can stop vehicles without Police being present...

**Moreover they must be aware of the following Telephone Numbers:**

**Emergency Services 999 or 112**

**National Anti Terrorism 0800 789 321**

# GENERAL SAFETY

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

**ALL DRIVERS MUST ENSURE THE CORRECT PPE LISTED BELOW IS WORN/USED/CARRIED AT THE APPROPRIATE TIMES.**

| | |
|---|---|
| 1 | Company issue uniform (flame retardant when directed by fuel terminals) |
| 2 | Safety helmet (in date, with no defects) with integral visor or suitable eye protection |
| 3 | Ear defenders where issued |
| 4 | Rubber Gloves |
| 5 | Safety shoes/boots (with no uncovered metal showing & good tread) Anti Static |
| 6 | High visibility clothing, Clean & Serviceable |
| 7 | Working, Intrinsically Safe Torch. |
| 8 | First aid kit |

It is advisable to carry a set of dry suitable clothing or micro fibre overalls in the event of your clothing becoming contaminated in the course of your duties. Contaminated clothing must be removed before wearing any other clothing. Contaminated clothing must be treated as contaminated waste.

## PARKING & CAB SECURITY

When you leave your vehicle always lock it and take the keys with you.
Never leave them in the cab (Unless Fuel Terminal or site procedures state otherwise)

- Park in the safest place possible i.e.: secure site preferably, Major roads, use segregation Lay By. Avoid parking on a major road with no Lay-By.
- When returning, check all round for signs of interference. Do a walk round check!
- Avoid talking in public or on telephones about your route.
- Never leave your vehicle unattended for long periods and always in sight

Stop your vehicle when asked to by the Police or VOSA officer in uniform.
If you are suspicious about the validity of the officer:
Keep doors and windows closed and locked and stay in the cab.
Apply the parking brake & carry out any conversation through a closed window.
Display your Dangerous Goods load card.
Ask the Officer for identification, talk through a closed window.
Contact your depot and advise them of the stop.
Dial 999/112 and inform the Police control room that you are carrying dangerous goods, your location and ask them to verify the identity of the Officer.
If it is a legitimate stop comply with all instructions of the stopping Officer.

## General Safety Continued …….

## Smoking or any sources of ignition and flammable substances

It is forbidden to carry matches, lighters, or any source of ignition by any personnel in the vehicle. This includes in clothing, baggage or any internal or external stowage places.
No other dangerous substances should be carried on the vehicle in any type of packaging or container, either internally or externally.

## Health and Safety at Work Act 1974 – (Section 7)

Under this section of the Act it is the duty of the driver while at work to take reasonable care for the health and safety of himself / herself and of other persons who may be affected by his / her acts or omissions at work. The driver has a further duty to co-operate fully with his / her employer to comply with the relevant statutory provisions.

## Authorised Persons in Vehicles & use of seat belts

**DRIVERS**.
Only persons authorised by TDG Management are permitted to start up or drive any Company vehicles. The seat belt should be worn at all times, when the vehicle is in motion.

**PASSENGERS.**
Only persons authorised by the TDG management are permitted as passengers in any Company vehicles. These persons must be certificated, as being ADR aware .Everyone including passengers should carry their own PPE.

**AT NO TIME SHOULD A VEHICLE BE LEFT WITH THE ENGINE RUNNING UNATTENDED.**

No vehicle should have the engine running if no one is in the driver's seat except if the PTO is engaged for pump use.

### STORAGE TANK CAPS

With regards to the Risk of Fire section below, All Drivers must follow the following procedure when delivering to a forecourt or for any spirit deliveries. Drivers must only remove the cap from the storage tank they are filling at the time and refit cap immediately after disconnection of the delivery hose.

**(NO CAPS SHOULD BE OFF UNLESS HOSE CONNECTED)**

## RISK OF FIRE!

Drivers must be aware of Thermite Reaction.
If a hose or fitting is dropped there is a possible risk of a spark being generated, a spark can be caused by Aluminium striking a rusty item (manlid) or a rusty steel item striking Aluminium.
(This chain of events was the cause of a flash fire on a forecourt in April 1999).

## General Safety Continued …….

### TYRE FIRE PROCEDURES
### TYRE - BRAKE - TRUCK FIRE (SMOKE AND/OR FLAMES VISIBLE)

**DO NOT ATTEMPT TO FIGHT A LOAD FIRE**
**Priority is the preservation of life, self and others.**

1. Switch on hazards
2. Switch on lights (if not already on)
3. Stop as soon as practicable - stop engine.
4. Call 999 Emergency Services (or arrange for call)
5. Prepare extinguisher for use, if no risk to self, e.g. fire/smoke at or near fire extinguisher
6. Get upwind of smoke - flame
7. Approach source of smoke - flame IF NO RISK
8. Attempt to control/extinguish fire/cool overheated part - IF NO RISK.
9. Evacuate area if risk develops - warn others - get clear.

### Company drug and alcohol policy

The company policy on drugs and alcohol can be found in the driver handbook. The Company has strict rules on this and testing, which drivers must be aware of.

### MOBILE PHONES

The carriage of **Personal** mobile phones is discouraged. Mobile Phone legislation **MUST** be followed in regards to its operation i.e. Hands Free.

Local Terminal procedures with regard to Mobiles Phones **MUST** be followed.

# TERMINAL SAFETY PROCEDURES

Refer to your local Plant/Terminal Operations Procedures and Safety Rules.
**If in doubt seek assistance.**

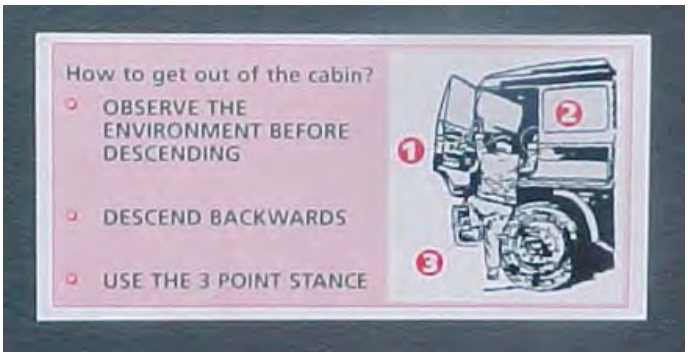
## Driver General Responsibilities

All drivers carry responsibility to ensure that all Laws and Regulations are followed at all times.

| | |
|---|---|
| a | The Health and Safety At Work Act, as amended. |
| b | The Manual Handling Regulations, as amended. |
| c | Current ADR Regulations. |
| d | Relevant Terminal Road Safety Regulations. |
| e | CDG Regulations |

# VEHICLE CHECKING PROCEDURE

**This check must be carried out in full at the start of duty.**
**Before beginning the check, the driver should put on the appropriate PPE. Have in his possession a valid driving licence for vehicle, Current ADR valid for class of products, Driver Card, current tachograph chart and previous 28 days. Spare Digital Tacho roll or blank discs if not Digital, and Employment handbook.**

| | |
|---|---|
| **1** | Use approach to vehicle as part of overall visual appraisal.<br>Vehicle sits straight and level.<br>Note any excessive steering lock applied. |
| **2** | No fluid leaks beneath unit.<br>No signs of damage. |
| **3** | O licence, road tax, safe loading pass, Lorry ban discs are displayed & valid. |
| **4** | Check engine oil level, top up as required.<br>Check engine coolant in radiator, top up as required.<br>Check windscreen washer fluid, top up as required.<br>Ensure All Caps secure after checks. |
| **5** | Enter/descend CAB using 3 POINT stance as per diagram.<br>  |
| **6** | Turn on master switch. |
| **7** | Check Tachograph time/calibration then inserts Driver Card or disc; enter manual entry for time taken to start circle check. Put mode switch on other work to show vehicle checks. |
| **8** | Start engine to build air pressure whilst doing other interior checks (do not use excessive revs) |
| **9** | Check all interior lights work. |
| **10** | Check information in writing in place and legible. |
| **11** | Check Fire Extinguisher for serviceability and sealed (2kg minimum Cab) |
| **12** | Eyewash bottle in date and not tampered with. |
| **13** | Check speed limiter calibration sticker. |
| **14** | Check all windows, mirrors, clean, no damage. |
| **15** | Adjust seat for comfort and all controls work. Adjust steering column. |
| **16** | Check seat belt for damage and tug sharply to make sure it engages. |
| **17** | Check seat belt cutter available. |
| **18** | Check height indicator set correctly. |
| **19** | Check Vehicle defect book and look at last defect making sure repairs done. |

| | |
|---|---|
| **20** | Check hand brake buzzer works by applying foot brake. Releasing hand brake and opening the driver's door. Listening for buzzer to start. Then close door re-apply handbrake then releasing foot brake. |
| **21** | **Switch on the sidelights and emergency flashers as this will indicate to others parked by that there is movement around the vehicle**. |
| **22** | Switch off engine and exit cab to continue exterior checks. |
| **23** | Check 1st Tyre for tread 3mm minimum, inflation , damage, no excessive heat , Wheel nut indictors in line not moved (if red will need a re torque) ALL Tyres checked in same way. |
| **24** | Check level of diesel fuel, top up as required. Lock cap after use. Check ad blue levels (if applicable) |
| **25** | 5th wheel locked and safety clip in place. Do a visual to confirm pin in place. |
| **26** | Hazchem boards in place, correct for class being carried, clean, and legible. Make sure boards match. |
| **27** | Check function of Trailer brake and emergency shut down buttons |
| **28** | Check vehicle/trailer number plates are visible and correct. |
| **29** | Carry out visual inspection to ensure the vehicle/trailer is in a safe road worthy condition, which includes the load security. |
| **30** | Check all hoses for damage, seals, clips, and date coded for last inspection. Check all hoses the same including Vapour hose which must also have a centre pin in place |
| **31** | Check well driven sticker in place (where applicable) |
| **32** | Check all lights and side lights work, clean and lenses not damaged |
| **33** | Check toolbox for damage and security, check equipment in toolbox is serviceable, check all fittings complete. |
| **34** | Check spill kit, drain cover and plastic bag in place and secure |
| **35** | Check Trailer Fire Extinguishers are in date and serviceable (12kg minimum for both unit/trailer) |
| **36** | Rear number plate match with unit and clean |
| **37** | Check Mud guards in place not damaged and secure |
| **38** | Check VTG 6 ministry plate in place and in date. ADR 1 (if required) |
| **39** | Check Trailer MOT disc in place, legible and in date. Safe loading pass in date and legible |
| **40** | Open control box and open master valve to lift guard bar. |
| **41** | Visual check of all sight glasses to ensure that all nominally empty compartments are empty. (Ensure foot valves of the relevant compartments are opened). |
| **42** | If product left on board, ensure the PGI's match the BOL & Petroleum delivery form.<br>Inform Regional TDG Office if in any doubt.<br>Ensure the transport document matches any product left on board. |
| **42** | Shut all foot valves and re close control box. Lower guard bar and ensure it locks down |
| **43** | Check trailer legs are fully up and handle securely stowed |
| **44** | Check Catwalk and steps not damaged, Battery cover in place, secure, Fire screen in place and not damaged. |
| **45** | Check Shovel and broom in place and secure |
| **46** | Check 2 wheel chocks in place and secure |
| **47** | All air, electrical connections, ISO 7638 cable and any other connections appropriate for the vehicle are correctly connected and secure. |
| **48** | Visual check to ensure that there are two self-standing warning signs (triangles or cones), Located on the vehicle, as per ADR regulations. |

| | |
|---|---|
| **49** | Check damage and function of cab doors and are lockable |
| **50** | Re enter cab using 3 point stance. |
| **51** | Re start engine |
| **52** | Check the operation of the windscreen wipers, washers, and horn & hazard flashers. |
| **53** | Check driving controls and that diff locks are out (if fitted) |
| **54** | Undertake a static brake test for indications of obvious air leaks. Drive forwards a short distance at approximately 10mph and applies footbrake. Also check the ABS warning lights are working on both the vehicle and trailer if fitted. Any defect or abnormality should be reported immediately as any brake defect could lead to an issue of a PG9 and risk your/ others safety.<br>ABS/EBS checking methods differ. If unsure seek assistance from your manager |
| **55** | Ensure speedometer/speed limiter is operating correctly once you are moving. |
| **56** | Check for excessive smoke when vehicle engine warmed up. |
| **57** | All defects and/or damage to be reported and attended to if applicable |
| **58** | Ensure TDG weekly circle checklist filled out and signed noting any defects and defect numbers. |

**Any defects found must be reported through the 3-part TDG defect book.**
**Do not use any vehicle with a PG9 or Safety defect.**

**This procedure is complimentary to the driver's handbook and does not replace it.**

# VEHICLE LOADING PROCEDURE

**At all times Drivers must follow ADR Regulations, Health and Safety Regulations and Specific Terminal and customer procedures.**

| | |
|---|---|
| **1** | Report to your Transport Office if you are unable to load as per Delivery Document. |
| **2** | Report to Terminal Office where necessary. If you have any queries over specific Terminal procedure, contact an operator. |
| **3** | Before proceeding into terminal all unnecessary electrics to be switched off i.e. cab phone, Radio, Isotrak etc. (If Applicable) |
| **4** | Before going on to loading bay ensure you lower wheels to take weight off wheel arches once loaded, close windows to prevent vapours entering cab. Check Bay boards for availability of products to select correct loading bay. |
| **5** | Drive vehicle on to relevant Loading Bay, before switching off engine check enough air for loading. Put on correct PPE before leaving cab. Double check correct paperwork for loading. SWITCH OFF MASTER SWITCH. |
| **6** | Operate the Master Control Valve and raise the faucet guard bar. |
| **7** | Connect scully, and then vapour recovery hose. ALWAYS CONNECT SCULLY FIRST |
| **8** | Open all foot valves and check all foot valves via visiwinks indicators |
| **9** | Carefully check all sight glasses to ensure all compartments are EMPTY. Once confirmed empty remove drip cap. (Leave on any drip caps that have product on board.) |
| **10** | Check you have a positive green light on scully before loading can commence. Red light indicates vehicle not earthed and pumps will not start. Investigate further if in doubt contact terminal supervisor. |
| **11** | Check that all compartments will hold the quantity to be loaded against the Delivery Document |
| **12** | Check that the correct product arm is connected to the correct compartment as per the Petroleum Delivery Form and double check that the compartment will hold the quantity desired to be loaded. Change PGI to correct product Grade. Terminal Specific procedures to be followed. |
| **13** | Start loading arm meter. Ensure product flowing and meter registering |
| **14** | Keep a lookout for product flow and any leaks that may occur. Be vigilant and ready to stop loading at any time. NEVER walk away when loading arms are running. |
| **15** | Once loading meter is finished shut foot valve for that compartment and close handle on loading arm. Release gently away from API valve. Replace drip cap **Immediately!** Stow loading arm away safely, Using safe manual handling techniques and avoid walking backwards. |
| **16** | Once first Loading Arm has started proceed with next. **NEVER PUT ALL ARMS ON AT ONCE.** Maximum 4 Arms at a time (Terminal Specific) |
| **17** | It is **NOT** Good Practice to cross over loading arms. |
| **18** | Continue to load the rest of the vehicle as per instructions12-17. |
| **19** | Close the Master Control button |
| **20** | Confirm load complete on load meters. |
| **21** | Remove vapour recovery hose and remove scully. **Always remove scully last** |

| | |
|---|---|
| **22** | Gently lower the faucet bar and lock it in position. CHECK by trying to lift when lowered. Should be locked down |
| **23** | Double check Grade labels match delivery ticket and control box is shut and all loading arms safely stowed. |
| **24** | Check for any leaks under and around vehicle. Check Tyres for inflation and all Hazchem boards clean & show correct product (if applicable). |
| **25** | Turn on master switch, before attempting to move vehicle reset vehicle suspension to normal ride height and wait for dash lights to show ready (Where applicable). |
| **26** | Re build air before moving (excessive revs not needed) |
| **27** | Ensure you have all the relevant documentation, including bill of lading, Check bill of lading against delivery document before leaving the terminal. |

# VEHICLE LOADING – WHAT IF?

**1. What if there is not an INSTRUCTIONS IN WRITING in the vehicle?**
Report it to your Manager. Never leave the depot without it.

**2. What if a sight glass shows product before loading?**
If possible check pervious delivery notes to reassure all product was delivered
Do not attempt to load. Report to Traffic Office who will implement site procedures.

**3. WHAT IF YOU CANNOT GET PERMISSIVE TO LOAD?**

| | |
|---|---|
| a | Check green button has been operated and Visiwink shows open |
| b | Check and clean scully connections. |
| c | Check vapour recovery connections. |
| d | Check vehicle air pressure |
| e | Check Emergency stop valve is stuck in down position. |
| f | Check with Terminal Operator for any rack faults. |

IF STILL NO PERMISSIVE, contact your Manager and / or workshop.

**4. What if the footvalve isn't closed before removing the loading arm?**
Should the API valve stick open after loading you would get the full force of the loaded compartment spilling over you and the floor. By closing the footvalve first, only the product in the pipe between the footvalve and the API will spill.

**5. What if the drip cap isn't replaced immediately after the compartment has been loaded?**
You could cause product contamination or overfill in that compartment.

**6. What if a compartment is overloaded?**
The probe will be activated, all loading will stop, and a red non-permissive light for that compartment will show. In this event the Terminal Supervisor and your Office Manager must be informed.
**Do not attempt to rectify this problem yourself.**

## 7. What if the vehicle develops a leaking during loading?

| | |
|---|---|
| a | Immediately stop the loading operation |
| b | Shut down vehicle with nearest emergency stop button. |
| c | Report spillage to terminal office. |
| d | If conditions are safe, try to contain the spillage, **without risk to yourself or others.** |

**ALWAYS REMEMBER**.....

| | |
|---|---|
| 1 | If you have any query regarding the loading of your vehicle, **contact your Manager.** |
| 2 | Fit Scully first, as the priority is to earth the vehicle. Danger of Static electricity |
| 3 | Do not attempt to load a compartment if the sight glass shows product. |
| 4 | If a leak /spillage occurs during loading:<br>**a. Immediately** stop meter from loading (emergency stop if necessary)<br>**b.** Prevent any further spillage if possible, **taking into account your safety and that of others in area.**<br>**c**. Inform the Terminal Supervisor.<br>**d. ALL SPILLAGES MUST BE REPORTED AS SOON AS POSSIBLE,** to both your Manager and the Terminal Supervisor. |

# RIPPLE LOADING

Connect and secure loading arm to pre-programmed vehicle compartment.

Double check the loading arm to vehicle compartment alignment, also confirm product quantity to compartment and grade.

Engage the start command from the pre-selected Accuload. (meter preset)

Ensure product flow rate engages and that there are no product drips from the loading coupler/vehicle.

Turn compartment grade indicator to grade being loaded, continue to monitor until compartment is loaded.

## Loading Subsequent Arms

Connect and secure the loading arm to pre-programmed vehicle compartment.

Double check the loading arm to vehicle compartment alignment. Also confirm product quantity to compartment and grade.

Engage the start command from the pre-selected Accuload. (meter preset)

Ensure product flow rate engages and that there are no product drips from the loading coupler/vehicle.

Turn compartment grade indicator to grade being loaded. Continue to monitor until compartment load completed.



# PRE DELIVERY CHECKS

All drivers must follow pre-delivery checks before starting any delivery. If there are any problems or queries the driver must contact the Regional TDG Office for further instruction, followed by completion of a site defect report.

## TRUCK ACCESS / EXITS

Check out tight turns and turning points. Be careful of limited turning circles or manoeuvring areas and projections that may damage your vehicle. Also check for heights limits and overhead projections. **Walk the route if you are unsure or will be reversing into an area. If reversing use a Banksman.**
**(Note: the front or rear overhang of the vehicle, which may protrude from the vehicle).**

## GROUND CLEARANCE

A full assessment of the ground conditions must be made when deciding to leave hard ground. **DO NOT,** proceed if it is apparent that any part of the vehicle will ground or be damaged.

## TANK VENTS

Always note the position of the tank vent pipes in the event of an overfill. Be aware that any overfill or blockage of vapour recovery system could lead to product spilling from vent pipes.

## TRAFFIC CONES

Traffic Cones are to be used in order to enhance reversing techniques, reduce errors of judgement and improve safety. They are not intended to replace the assistance that may be available from the customer / competent person or the generally accepted high safety standards. They are provided to assist in making the delivery operation safer and any manoeuvring free from incident.

# UNASSISTED DELIVERIES

- **As part of a mixed load, WHERE EVER POSSIBLE DIESEL MUST ALWAYS BE DELIVERED FIRST. Only when all the diesel has been delivered and last pot started, should the driver start to make spirit connections.**
- **As per the ACOP only a maximum of two compartments can be discharged at the same time**

**A driver of a road tanker who makes an unassisted delivery of petrol shall:**

**A. Immediately before commencing the delivery:**

| | |
|---|---|
| **1** | Verify the availability of the keys to the padlocks, which lock the caps of each required storage tank and vapour recovery cap, as per the delivery document |
| **2** | Verify the quantity to be delivered may safely be received in the customer's storage tanks, by visually checking that the ullage indicated from the printer ticket exceed the quantity that is to be delivered into the customers receiving tank. If no printout available at DCD Box, obtain a print out from the PFS. |
| **3** | Verify that there is a dialling tone on the telephone provided in the DCD cabinet |
| **4** | Place the fire extinguisher provided and the sand or suitable absorbent material, in a position conveniently close to the delivery point (avoid being a trip hazard). |
| **5** | Test the high level alarm to verify that the audible signal functions correctly. |

**B. During the whole time of the delivery:**

| | |
|---|---|
| **1** | Ensure that the parking brake is applied. Engine and master switch are both off. Cab locked and keys with driver. |
| **2** | Ensure as far as is reasonably and practicably possible that no product:<br>- Overflows from the storage tank concerned<br>- Escapes from any hose connection and keep constant watch on the filling point to ensure that there are no sources of ignition present |
| **3** | Ensure that the hose connections are made in compliance with the ACOP |

**C. After the delivery is complete, but before departing from the site:**

| | |
|---|---|
| **1** | Ensure that all the fill point caps are secure and manhole covers have been replaced correctly**.** |
| **2** | The driver is to keep the copy of the Petroleum Delivery Form and the pre & post delivery ullage reports. |
| **3** | If any discrepancies arise during the completion of the Petroleum Delivery Form, you must contact the TDG Traffic Office. |
| **4** | Complete Transport Document to show what product was contained in each Compartment or Rubber Stamp Delivery Document with "Empty Tank-Vehicle, Last Load" |

If a representative of the authorities, who enforce the regulations for off-loading petrol (e.g. Petroleum Office or Trading Standard), attend the delivery, please inform the TDG Traffic Office as soon as possible.

# UNASSISTED DELIVERIES

Check the area for any situation that could be hazardous to the offloading operation.
If a hazard is present do not proceed with the delivery until the hazard has been removed. (Note the position of the vent pipes).

| | |
|---|---|
| 1 | Position vehicle at the discharge point. If unsure of discharge point double check site map inside DCD box. Make yourself aware of any relevant site restrictions. Double check hand brake applied. |
| 2 | Turn off master switch and ensure it is switched off throughout the delivery. |
| 3 | Put on the relevant PPE for the Delivery |
| 4 | Carry out a quick risk assessment of any site issues, which could impede delivery, i.e.: Cars parked blocking exit, People in immediate area, Fire risks etc. |
| 5 | Create a Safe Working Area cone off if necessary. |
| 6 | Unlock control box on DCD box with key provided. |
| 7 | Carry out relevant checks as per DCD screen:<br>a) Dialling tone present on telephone.<br>b) Test high level alarms. If applicable.<br>c) Check fire extinguisher and spillage material and place close to delivery point.(check serviceability)<br>d) Obtain tank ullage print out and retain.<br>e) Any problems contact your TDG Office.<br>f) Check site defect book for any out standing problems.<br>g) Raise a site defect report form on any defects found. |
| 8 | Locate padlock keys. (Inlet caps are only to be unlocked individually, when required). |
| 9 | Verify that the quantities to be delivered can safely be received by the storage tank by visually checking the ullage print out and on screen ullage **for all receiving tanks**. **It is imperative that this check is carried out as this could affect the whole delivery.** |
| 10 | Complete the driver section of the Delivery Document, leaving the driver's Signature column empty. Signatures to be made only AFTER hose connection checked but before discharge for each compartment. (I.e. Not all at same time). Make sure each Compartment is on a separate line to ensure each compartment is individually signed for. |
| 11 | Position safety equipment within safe working area (avoid placing in a trip hazard position). |
| 12 | Open Master Control Valve and raise Guard bar. Close Master Control Valve to avoid vapour release when connecting vapour hose. |
| 13 | Remove Far Hose (Rear) first and place on floor near side of Tanker (avoid placing in a trip hazard position). This is to ensure the driver never has to leave delivery area once discharge has commenced. **(AVOID MIS-HANDLING AND DROPPING HOSES)** |
| 14 | Remove Vapour hose and Connect vapour recovery hose to tanker/tank (always vehicle end first). |
| 15 | Open Master Control Valve. |
| 16 | Check Delivery Document to confirm which compartment to be delivered 1st (remember diesel 1st where possible) |
| 17 | Remove drip cap for the compartment to be discharged. |
| 18 | Connect delivery hose, **always customer end first and vehicle end second.** Ensure all connections are secure |

| | |
|---|---|
| 19 | Check the connection is correct as per the Delivery Document and sign only for that compartment that is going to be discharged. |
| 20 | Open foot valve for that compartment only and confirm Visiwink shows open. If Fitted. |
| 21 | Double check that the connection is correct. |
| 22 | Open the API valve on slow flow for that compartment and check for leaks. (Slow flow helps avoid Air Locks & if leaking the spill will be less). |
| 23 | Once happy product flowing and not leaking open API valve Fully. |
| 24 | When the compartment has discharged, (site glass showing empty), drain the hose whilst still connected **(as per instructed safe manual handling), then shut the API valve.** |
| 25 | Change the product grade indicator to EMPTY for that compartment. |
| 26 | If customer's tank is to receive more than one compartment, connect hose to the next API To be discharged, **then repeat procedures 17 to 25** |
| 27 | **If discharging to a new tank, do a drain down with hose still connected (twice if needed) then disconnect the hose from the vehicle end first, then drain the hose as per safe manual handling techniques.** |
| 28 | **Then disconnect the hose from the customer's inlet and replace the filler cap and lock. This is the Main Reason for Contaminations.** |
| 29 | Check the Delivery Document and continue with the delivery. **Repeat procedures 17– 28 for each compartment to be discharged.** |
| 30 | When the delivery is complete, open all foot valves ensure that the sight glasses show empty. |
| 31 | Operate the Master Control Valve to close all foot valves. Operate the Master Control Valve and open all foot valves. Check all Visiwinks are open and all compartments are fully drained. **It is imperative that this double check is carried out. (Beware of low air-pressure on vehicle. You may need to build up air-pressure).** |
| 32 | Operate the Master Control Valve to close Smart Valve (thus preventing the loss of vapour). Then disconnect the vapour recovery hose, customer end first. |
| 33 | On completion of delivery, print ullage ticket and check that the tanks stated on the Delivery Document, have received the correct quantities. (Bear in mind sites may have sold some product). |
| 34 | Replace all drip caps and lock the faucet bar in position. |
| 35 | Secure all hoses on vehicle and check exterior stowage, including the toolbox. |
| 36 | Ensure you and the site have all the necessary documentation required before departing |
| 37 | Ensure all caps have been replaced and locked to customer inlets. |
| 38 | Ensure manhole covers are replaced correctly. |
| 39 | Return all padlock keys to DCD box and replace all emergency equipment. (Any Issues raise a site defect report). |
| 40 | Leave copies of the pre & post delivery ullage reports (if more than one copy available). |
| 41 | Lock DCD box (remembering to leave Emergency Phone box open for customers use if needed) |
| 42 | Do a last walk round check on vehicle. Checking that all hoses secure, Storage Boxes/Control Panel Box closed and tyres safe and legal. Also check for added security nothing been placed on the vehicle by anyone passing by!!!!! |
| 43 | Rubber Stamp or Hand Write on Delivery Document with "Empty Tank-Vehicle, Last Load" In space alongside total quantities of products- below Loading quantities. |

## REMEMBER:

1. **Maintain constant vigil at all times. Never leave the delivery unattended.**

2. **If the Driver observes infringements of the site requirements as identified by the Regulations, he should seek a competent person at the site to get the infringement rectified. If no competent person on site Regional TDG office should be contacted for further advice.**

   **These infringements include:**
   - **a) Clear access and exits on sites.**
   - **b) Tanks and fill points not clearly labelled and numbered, marked with grade and safe working capacities.**
   - **c) Insufficient lighting of the delivery point (darkness hours only)**
   - **d) Obstructions to make a safe delivery.**
   - **e) Inoperative high level alarms.**
   - **f) Inoperative telephone (Telephone in kiosk / forecourt can be used as an alternative)**

   **Failure to provide fire extinguisher and spillage material.**
   **Any of the above, must be reported through a site defect report.**

3. **Discharge from only 2 faucets at any one time (Approved Code of Practice)**

4. **Discharge only diesel first, petrol last, AS PER CONTRACT PROCEDURES.**

5. **When disconnecting the delivery hoses after delivering the derv but prior to delivering the spirit, be careful of the trip hazard whilst working with them:**

   - **(a) Stow them temporarily back on the hose rack.**
   - **(b) Leave them in a safe position, on the floor slightly away from the immediate area that you are working in.**

6. **Never run hoses under the vehicle.**

# VEHICLE DISCHARGE PROCEDURE – UNASSISTED DELIVERIES - WHAT IF?

**1. What if there is an infringement to the unassisted operation that cannot be rectified by the Competent Person?**

The Competent Person can revert to an assisted delivery. It is then the responsibility of licensee to inform the local Licensing Authority as soon as possible after the delivery. Licensee will have a fully documented procedure to ensure that the relevant Licensing Authority is contacted.

**2. What if there is a problem with the unassisted delivery, but there is not a Competent Person available on site?**

Contact regional TDG office for further instructions.

**3. What if there is insufficient ullage for customer's tank to receive the desired quantity?**

**The driver MUST NOT, make any unauthorised adjustments on the delivery document.**

If the site is open they must confirm any adjustments with the site staff, prior to attempting to fill in the delivery document. The driver must then inform the Regional TDG Office, **prior to starting the delivery.** The office staff must inform Fuel Logistics of any changes.

If the site is closed, the driver must inform the local TDG Office to authorise any changes, then the TDG Office staff must inform Fuel Logistics.

**4. What if the foot valve visiwink shows foot valve not open on a compartment?**

| | |
|---|---|
| a | Close the black button and reopen, then attempt to deliver |
| b | Check sight glass and hose for product movement (Visiwink may be defective). |
| c | Confirm with a post delivery printout that the compartment has been discharged. |
| d | If in doubt, inform your manager immediately. |
| e | Report the defect at the earliest possible opportunity. |

**5. What if a sight glass shows product present in the check after delivery?**

| | |
|---|---|
| a | Drain that compartment into the correct previous receiving tank. (Be aware Float can be stuck in the raised position) |

**6. What if there is a spillage at the customer's premises?**

| | |
|---|---|
| a | The driver will stop the delivery and prevent any further spillage if possible, TAKING INTO ACCOUNT HIS / HER OWN SAFETY AND THAT OF ALL OTHERS IN THE AREA AND COMPLY WITH INSTRUCTIONS.IN WRITING |
| b | If an obvious fire hazard develops, the driver must ensure that the local Fire Brigade is alerted by the customer and warn people of the danger. |
| c | The Emergency Services are to be alerted if there is any possibility that the spillage has entered any drains or watercourse, or contaminated the surrounding area |
| d | The driver must co-operate with the Emergency Services and the customer in preventing the spillage from entering any drains, to prevent the spillage from spreading and to assist in The clean up of the spillage to make the area safe. |
| e | ALL SPILLAGES MUST BE REPORTED TO YOUR SUPERVISOR before leaving site. The supervisor can then action any TDG Emergency Response Procedure, where appropriate. |

**7. What if an airlock should occur during a delivery?**
**The driver must wear eye protection and proceed with extreme caution when following these Instructions:**

**Airlocks can be avoided if the Outlet valve is opened on slow flow and letting product flow then opening on Full flow at start of each connection!!!!**

| | |
|---|---|
| a | Close foot valve and API |
| b | Lift hose and try to drain some product. |
| c | Loosen one cam lock holding other closed tightly at API end. |
| d | Air should start to release. |
| e | When the air has stopped being released, close cam lock and ensure seal is secure. |

.

If airlocks again repeat above instructions.

**Be aware there may be some product sprayed or very slight leak when air is being released.**

**8. What if the high level alarm sounds or the overfill prevention device cuts in?**

| | |
|---|---|
| a | **STOP delivering into that tank.** |
| b | Check Ullage. |
| c | When safe to do so, drain hose carefully into customer's tank. |
| d | Make safe the fill point and contact TDG office for advice. |

**9. What if a problem occurs in the customer's tank causing a part loaded compartment to be left on board?**

You must inform the Regional TDG Office. If they then authorise you to deliver this into a tank of the same grade, they must ensure that there is sufficient ullage space to receive the full amount that was originally loaded into that compartment.

# RETURNED PRODUCT PROCEDURES

**In the event of Product being returned to a Depot a Driver must complete the TDG Product On Board declaration form, display a Product on Board Notice in the windscreen and ensure the following procedures are followed.**

| | |
|---|---|
| 1 | Contact Regional TDG office to inform them of reason for returning product, how much product if possible, grade of product and Tanker compartment product is in. |
| 2 | All frustrated deliveries, must be addressed by your regional TDG office. |
| 3 | All returned products must be declared on arrival at the terminal to the authorised site staff as per Terminal procedures and any local procedures adhered to. |
| 4 | When loading around returned product the driver must ensure that he/she is aware of the compartment/s and be extra careful. |
| 5 | Before leaving vehicle Display Product on Board sign in windscreen, leave Product on Board Form with the Bill of Laden highlighted to show the compartments left on board OR a copy of the Delivery Document. |
| 6 | Part filled compartments should be treated as a full Compartment on the next delivery. (Your Shift Manager must be informed) |

## SAFETY PRECAUTIONS TO BE OBSERVED AT ALL TIMES

- Always put on personal protective equipment before starting any delivery or connecting up process; this to include any specific P.P.E. as specified on the Information in Writing or TDG specified procedures or the customers site safety requirements.

- Ensure there are no overhead power cables or low level cabling adjacent to or directly above the tanker at the point of delivery.

- Ensure there are no activities such as “Hot Work” or electric arc welding being performed in the product delivery area or in any area that could “earth” via the tanker delivery hose.

- Always obey site safety instructions at the delivery point.

- If in doubt seek advice from the Competent Person on site or your base depot Supervisor/Manager. Never deliver any product into a customer’s tank until the relevant paperwork has been completed satisfactorily.

- Ensure all manual handling operations are conducted in strict accordance with manual handling techniques instructions and training provided to drivers by the Company’s Job Trainers.

- In the event of a minor spillage use the truck onboard spill kit as directed in the instructions.

- In the event of a major spillage, follow the site Emergency Procedures and emergency instructions listed on the Information in Writing.

- In the event of a crossover (product contamination on site):
  1. Stop the delivery of all product immediately.
  2. Inform the customer stressing that no sales are to be made from the affected pumps.
  3. If out of hours Switch off pumps at Garage Isolator Switch.
  4. Obtain a current ullage report.
  5. Contact your regional TDG office for further instructions.
  6. **All crossovers must be reported immediately.**

# Assisted Road Tanker Deliveries

## A driver of a road tanker who makes an assisted delivery of petrol shall:

**Prior to arrival at the delivery point the driver shall call and advise of the delivery to the Competent Person so that the garage can be set up or closed as required by the garage petroleum certificate.**

A Competent Person (CP) will be in charge of the stations storage and delivery area during the delivery and **MUST** be in attendance at all times.

If the driver assists the CP, e.g. lifting manhole covers, it must be clearly understood that the driver is acting on behalf of the CP and that the CP is responsible for the drivers safety and for the job being carried out correctly.

## THE METHOD OF DELIVERY IS THE SAME AS AN UNASSISTED DELIVERY WITH THE FOLLOWING ADDITIONS

### Immediately before commencing the delivery:

1. Park at the correct delivery point and ensure that the parking brake is applied.
2. Switch off both the engine of the road tanker & the master switch and lock cab with the keys in the driver's possession.
3. Check that there is a fire extinguisher and the sand bucket or suitable absorbent material in a position conveniently close to the delivery point (avoid being a trip hazard).
4. Report with the Bill of Lading (BoL) to the CP.
5. Confirm with the CP the tanks to be delivered into and if required lift the manhole covers for the relevant delivery points.
6. Check with the CP that the Petroleum Certificate has been filled out with the quantities and grades and which tanks that they are to be delivered into and give the tanker details to be entered.
7. Check that there is sufficient ullage to take the delivery into the relevant tanks by confirming with the CP that the Ullage has been checked.
8. Ensure that there are no means of ignition in the hazard area and that the delivery tanker is segregated from any customers if the garage is not closed and that no unauthorised persons can enter the delivery area/forecourt.

## Connecting delivery hoses

1. Always connect the vapour recovery hose, first to the tanker then to the garage connection.
2. Connect the delivery hose, first to the garage receiving tank and then to the tanker connection checking with the CP at all times throughout the delivery that the correct storage tank is being connected to the correct tanker outlet.
3. Ensure that all connections are secure.
4. Once both driver and CP are satisfied that the correct connections have been made the CP to note the time of hose connection on the Petroleum Delivery Certificate and both to sign.

## During delivery

1. Double check the delivery hoses are connected to the correct storage tank and tanker compartment outlet and continue to check and confirm with the CP
2. Open the tanker valves to commence delivery
3. Keep a constant watch at all times to ensure that there are no leaks from either the hose connections on both the storage and tanker ends
4. Continue until all the fuel has been delivered
5. **As per the ACOP only a maximum of two discharge hoses, plus vapour recovery, can be connected at the same time**

## Disconnecting the hoses & Post Delivery Action

1. Prior to disconnecting any hose ensure that the sight glass is empty of any product
2. Disconnect delivery hoses tanker end first and empty as per manual handling instructions
3. Disconnect vapour recovery hose garage end first
4. Ensure that all the fill point caps are secure and locked
5. Any manhole covers have been replaced correctly**.**
6. Set the sight glasses to empty
7. A copy of the Petroleum Delivery Certificate is taken from the CP along with pre and post ullage reports for the drivers records
8. A copy of the Delivery Note is left with the CP

**It is of utmost importance that a final ullage report is done on each delivery before you leave the PFS**

**This should assist in verifying that all the compartments on the delivery have been emptied and should help eliminate any possibility of on board contamination**.

# Commercial Road Tanker Deliveries including RDC's with no DCD facilities.

## A driver of a road tanker who makes a commercial delivery of ULSD/Gas Oil/Kerosene shall:

**Deliveries of the above fuels are not covered by the same legislation as deliveries of Petrol. They are covered by the Health & Safety at Work Act 1974, the Environmental Protection Act, the Oil Storage Regulations and an Institute of Petroleum Code of Practice.**

**During these deliveries there is a Responsible Person (RP) at the delivery point but he may not stay with the driver during the full delivery time so following the correct procedures is imperative**

## THE METHOD OF DELIVERY IS THE SAME AS AN UNASSISTED DELIVERY WITH THE FOLLOWING ADDITIONS

**Immediately before commencing the delivery:**

1. On arrival at the delivery site contact the Responsible Person (RP) and hand over the delivery note. If no facilities exist for the Driver to obtain the ullages an RDC Pre-Delivery Certificate is to be completed.
2. Ensure that the RP checks the Delivery Note and advises the receiving tanks and gives the correct ullage for each tank.
3. Double check the RP's information by checking the ullages tanks gauges and confirm with the RP.
4. Make sure that the RP completes the Delivery Site section of the Petroleum Delivery Certificate (Not a legal requirement) and signs the delivery note/invoice to confirm the ullage is sufficient to take the delivery.

**Connecting delivery hoses**

1. Connect the delivery hose, first to the receiving tank and then to the tanker connection checking with the RP that the correct storage tank is being connected to the correct tanker outlet and it is ready to receive product.
2. Ensure that all connections are secure.
3. Complete the Tanker section of the Petroleum Delivery Certificate making sure that the times are noted and that it is signed.

**During delivery**

1. Double check the delivery hoses are connected to the correct storage tank and tanker compartment outlet if not a pump off.
2. Open the tanker valves to commence delivery.
3. Keep a constant watch at all times to ensure that there are no leaks from either the hose connections on both the storage and tanker ends and especially around the cargo pump if a pump off discharge.
4. Continue until all the fuel has been delivered.

**Disconnecting the hoses & Post Delivery Action**

1. Prior to disconnecting any hose ensure that the sight glass is empty of all product.
2. Disconnect delivery hoses tanker end first and empty as per manual handling instructions.
3. Ensure that all the fill point caps are secure.
4. Set sight glasses to empty.
5. Get a signature for the delivery from the RP.
6. Give copy of the Delivery Note/Invoice to the RP.

**It is of utmost importance that a final ullage report is done on each delivery before you leave the PFS**

**This should assist in verifying that all the compartments on the delivery have been emptied and should help eliminate any possibility of on board contamination**.

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# VEHICLE CARGO PUMP

**No one should operate the cargo pump without undergoing proper training and been approved. Only authorised personnel can undertake the following procedures.**

**Wear the required PPE including, Anti Static Clothing, Safety Glasses, Hi Visibility Vest, Safety Boots, Gloves and Hard Hats etc.**

| | |
|---|---|
| **1** | Position the truck to give the best access to the fill point, apply the park brake and select neutral gear lever position. |
| **2** | Obtain full working air pressure (Do not over-rev engine) |
| **3** | Switch off ancillary electrical equipment and stop engine. |
| **4** | **ULLAGES - PUMP DISCHARGE**. Always confirm with the customer that the ullage space in the receiving tank(s) EXCEEDS the amount to be delivered. |
| **5** | **DO NOT** fill a receiving tank full to capacity with pump discharge, a spill will inevitably result. |
| **6** | When the cargo pump is in use, the driver MUST remain close to the cargo pump controls. |
| **7** | **CONTROL BOX**. Open the footvalve control box door and open the main air supply control |
| **8** | **GUARD BAR.** Raise and secure the faucet guard bar. |
| **9** | **HOSES** Using the correct manual handling techniques securely connect a delivery hose (3" diameter recommended) by way of threaded or locking "sure lock" type end connectors, between the cargo pump OUTLET and the customers receiving tank inlet. |
| **10** | **CARGO PUMP CONTROLS** check by hand that the Directional Control Lever will move from NEUTRAL to FORWARD/REVERSE and back to NEUTRAL. This is to ensure that the cargo pump does NOT begin to operate as the power take off is engaged. |
| **11** | RE-Start the engine and engage the PTO. |
| **12** | **PUMP CHECK.** Operate the cargo pump Directional Control Lever (FORWARD - NEUTRAL - REVERSE) to ensure that the PTO and cargo pump controls are in working order. Return the Directional Control Lever to NEUTRAL. |
| **13** | **INLET VALVE** (Receiving Tank). Open receiving tank valve(s) where fitted or obtain positive confirmation from customer that all such valves are in the OPEN position. Operate the relevant API (faucet) key to allow product to the pump through the suction hose. |
| **14** | **PUMP DIRECTIONAL CONTROL** Move the Directional Control Lever to FORWARD allowing for a small amount of product to flow then stop the pump by returning the directional lever to neutral. Make a visual check of all connections for leaks. If none found return the directional control lever to the forward position. |
| **15** | **RESTRICTIONS - EXCESS PRESSURE - FAILURE - SPILLAGE.** With today's high pressure pumps it is rarely necessary to use any more than "tick-over" revs on the engine. Before deciding whether or not to set the remote hand throttle you should consider the potential restrictions in the pipe work between the final connection of your delivery hose and the customer receiving tank. For example: small pipe diameter, gate valves or non return valves, filters, right angles, all in conjunction with the height that the product is to be pumped |

| | |
|---|---|
| **16** | **BE READY,** WATCH for product leaks and any unusual stiffening of the delivery hose which will almost certainly denote a restriction in the delivery line to the receiving tank. |
| **17** | **LISTEN.** Any unusual sounds from the vehicle engine or pumping equipment may give warning of obstruction or impending failure. |
| **18** | **KEEP WATCH** The truck, all hose connections and receiving tank [where visible] may begin to leak. |
| **19** | **BE READY** for an EMERGENCY which would require you to IMMEDIATELY return the directional control to NEUTRAL. |
| **20** | **CLOSE** the relevant API or foot valve or customers offset valve, as necessary. Return the hand throttle to **OFF, STOP** the vehicle engine. |
| **21** | If in doubt **STOP - INVESTIGATE - CORRECT** before proceeding further. |
| **22** | **FOOTVALVE - API INDICATORS**. With working air pressure to the Footvalve Control Box and with the relevant compartment footvalve indicator showing RED, use the API Product Indicator to check visually that the compartment and outline line is EMPTY. |
| **23** | **DRAIN EMPTY.** Using the correct manual handling techniques lift to drain the suction hose towards the pump. |
| **24** | When the compartment has been drained empty change the Product Grade Indicator to **EMPTY.** |
| **25** | **DIRECTIONAL CONTROL**. Move the Directional Control Lever towards the neutral position, sufficient to allow product through the pump towards the receiving tank. |
| **26** | **NEXT**. Remove the API cover (drip cap) from the next compartment to be delivered. |
| **27** | **HOSE TRANSFER**. Be prepared for contraction and relaxation of the suction hose during this next operation. |
| **28** | **FOOTVALVE AND API**. Close the relevant footvalve and API [hose contracts], disconnect the hose from the API [hose relaxes]. |
| **29** | **NEXT COMPARTMENT.** Securely connect the hose to the next API [hose contracts]. Open the relevant footvalve; visually see the indicator changes to RED. If it is a key operated API be prepared for some additional resistance on the API key, due to the slight suction being created by the pump. The hose will expand as the API is opened. |
| **30** | **CHECK FLOW.** As the Footvalve and API are opened the suction hose should relax as product is drawn from the compartment. If the hose does not resume its normal state but remains contracted it will be because the suction from the pump is holding the footvalve closed. In such cases, move the Directional Control Lever to NEUTRAL so that there is NO SUCTION from the pump. See the suction hose relax slightly and then re-open the footvalve and API. |
| **31** | **PRODUCT FLOW**. Gradually move the Directional Control Lever to OPEN. Ensure that product is now being drawn from the compartment. |
| **32** | **DISCHARGE COMPLETED.** With the Directional Control Lever in the FORWARD position, using the correct manual handling techniques lift the suction hose, whilst still connected to the API and drain as thoroughly as possible into the cargo pump. |
| **33** | Change the Product Grade Indicator to EMPTY. |

| | |
|---|---|
| **34** | Using the correct manual handling techniques drain discharge hose as thoroughly as possible into the customers tank. |
| **35** | **STOP PUMP**. By moving the directional control lever to neutral. Close footvalve and API. Then smartly close the customer's tank valve. |
| **36** | **CHECK FOR EMPTY.** With full working air pressure, reopen all footvalves and check all visiwinks are showing RED. Check product indicators are showing empty then close all footvalves |
| **37** | **PREVENT SPILLS**. Whenever disconnecting hoses always follow the local site procedures but be prepared for a small amount of product by placing a suitable container adjacent to the cargo pump. |
| **38** | **SUCTION HOSE REMOVAL**. Using the correct manual handling techniques remove suction hose and place on hose rack and cap. |
| **39** | **CAUTION – DO NOT CAP PUMP WHEN RUNNING.** |
| **40** | Replace drip cap on empty compartment and lower guard rail. Shut master control valve and close foot valve control box. |
| **41** | **DELIVERY HOSE REMOVAL**. Using the correct manual handling techniques disconnect from the customer's tank (handle carefully; it may be heavy due to some remaining product). Cap the hose and cap the customers fill pipe |
| **42** | Replace and secure the hose on the hose rack. **FITTINGS**. Replace all fittings and tools into the trailer tool box. |
| **43** | When back in the truck, disengage the PTO before driving away |

# PORTABLE 3” TURBINE FLOW METER OPERATING INSTRUCTIONS

## GENERAL INSTRUCTIONS:

The portable meter must be secured and protected from the elements during transit. The two end caps for the flow meter must be fitted.

It operates by the flow of liquid rotating an internal impeller; this must be visually checked to ensure no foreign bodies are evident in the chamber.

## OPERATING THE FLOW METER

- The meter has no ON/OFF switch it always remains ready for operation
- Driver must check that the seals at both the inlet and outlet of the flow meter are in place and in good condition.
- The flow meter has a direction arrow stamped on the body to indicate the direction of flow.
- Driver must connect the flow meter to the tanker end with the display and key pad to the top.
- Check the display; the display must indicate zero. If the upper display indicates a value press reset key.
- Driver connects discharge hose to flow meter checking the cam lock connections are locked in place.
- Open the foot valve first, API second, this is to ensure the pipe is full of product up to the meter.

## DISPLAY

Two values are on the display.

The upper value displays the quantity of liquid that has flowed through the meter in litres.

The lower value (**which has smaller figures**) indicates the flow rate through the meter in litres per minute.

## KEYPAD

The flow meter has a total of 3 keys.

By pressing the left key (**accumulative total**) the flow is shown on the upper display in litres.

This value is only visible while the key is pressed. The value cannot be reset to zero.

By pressing the central key (**reset**) this is used for zeroing the display. Once the key is pressed the display is set to zero.

The right key (**program**) is only used for programming the meter. Since this procedure is carried out by the manufacturer, this key has no significance for the operation of the meter.

# R.D.C. DELIVERIES

## ARE TO BE TREATED AS A NORMAL PFS DELIVERY

### PROCEDURE FOR PUMP OFF ON SITE

1. If the RDC have their own hose's couple the hose to the compartment to be off-loaded.

2. **(Important)** Open the foot valve of the compartment and open outlet valve and set faucet valve to half flow position.

3. Let the delivery hose flood with diesel/gas-oil, open the storage tank valves, (important)do not start the pump until the hose is completely filled with product)) start the pump.

4. The pump should pick the fuel up in line once pumping commences, open the outlet faucet valve to the fully open position.

5. When the compartment is completely empty stop the pump close the faucet valve, change the hose to next compartment, open the foot valve, and open the faucet outlet valve to half position when the line is full of product start the pump (the pump must be stopped between each compartment change).

6. Change the compartment and repeat the above procedure 4-8.

7. When the last compartment has been unloaded drain the hose to the pump close the tanker valve (use the correct manual handling technique), disconnect the hose and use the hose rolling technique to drain the hose, close the pump inlet valve and the storage tank valves, stop the pump and fit blank cap to the hose.

8. Store the hoses safely, disconnect the vapour hose off the vehicle and stow safely on the tanker.

9. Final check of tanker and print out delivery ticket, close printer cabinet door.

**For Tesco Distribution Centres a copy of the Delivery Document must be left with the Transport Office. Drivers must ensure they have two copies of the Delivery Document before the delivery is made. If no copy is available then a Blank Delivery Note must be completed.**

# Petroleum Contract Guidelines on the Lifting of Manhole Covers

## 1.1 General Guidelines - DCD's

Any DCD's sites that do not have offsets should be fitted with manhole covers that can be lifted easily. There should be no DCD sites without lightweight covers but if a driver feels that a site does have heavy covers or that the lightweight covers cannot be lifted (for example due to damage) the delivery should not be attempted and regional TDG office should be informed. An Action Needed Report/site defect should immediately be raised and faxed to regional TDG office

Manhole covers should only be lifted by using the appropriate equipment supplied by the delivery point. Where the appropriate equipment is not available the delivery should not be attempted and regional TDG office should be contacted.

Inappropriate equipment not designed specifically for the purpose of lifting manhole covers should not be used as it may result in personal injury or damage to the cover.

## 1.2 General Guidelines - LCD's

The key variables for LCD's are the weight of the manhole covers and the role of the customer. *[Where a LCD is fitted with an undamaged lightweight manhole cover and the appropriate lifting equipment is available the driver has the option to lift the cover to assist the customer in the delivery process.]* -??

Where a LCD is fitted with a manhole cover, which is anything other than a recognised lightweight cover the driver should not attempt to lift the cover. The lifting of manhole covers is not a two-person job. Even if the customer has two pieces of lifting equipment and asks the driver to also lift the manhole cover this should be politely declined.

## 1.3 Weight of Manhole Covers

The definition of lightweight and heavy manlids is generic and ultimately relies upon the common sense of the driver. This is problematic particularly where a driver has historically lifted manhole covers, which are now considered to be unacceptably heavy. Where it is unclear if a manhole cover is lightweight a site defect / incident report must be raised and the delivery should not be attempted unless a customer lifts the cover. The appropriate line manager should also be informed so that a risk assessment of the site can be undertaken.

# CAB ACCESS AND EGRESS

Most modern tankers are very well designed and provide AMPLE hand and footholds for easy access to cabs. All drivers should always look for the proper handrails and footholds for access and egress from the cab. Always check the ground surface before exiting the cab to ensure you have a firm landing place. All drivers with baggage should always put baggage into passenger footwell and retrieve it once inside the cab.

Always use 3 points of contact when climbing in or out of the cab:

1 FOOT AND 2 HANDS
2 FEET AND 1 HAND

Your legs are without doubt stronger than your arms, and it is nearly always easier to push rather than pull. So take advantage of this and reduce the risk of straining your back or shoulders by pushing up with your legs when climbing. Pulling your body up with your arms is a very strenuous practice, and also a very risky one.

# DRAINING OF HOSES

All drivers should follow the manual handling procedure when draining hoses. When a compartment has emptied the API should be left open to allow air to flow and product to drain. Never lift the hose above shoulder height and walk the hose as many times as the driver feels necessary to ensure product has drained. Shut the API on the vehicle and disconnect the hose from the vehicle end and roll the hose to drain any remaining residue. Disconnect from customer fill point.

# REMOVING AND REPLACING HOSES

When removing a hose from vehicle place one end on the ground feeding hose off vehicle ensuring the hose is not dropped. (a dropped hose not only causes damage to the hose but could land on your foot causing injury). When replacing hoses on the vehicle, REMOVE THE API Fitting, lift one end on to the vehicle securing with hose strap then feed hose onto vehicle, make sure you do not over stretch and watch where you are walking (open manholes, hoses, manhole covers).

REMEMBER PREVENTING A BACK INJURY IS
A LOT EASIER THAN CORRECTING ONE.

# Cab and Mobile Phones

The fitting of a Cab Phone is **NOT** a requirement of the ADR Regulations.

Security guidelines issued by the Government in connection with High Significance Dangerous Goods i.e. Petroleum, advise that cabs where possible should be fitted with a phone. This is a “good to have” but not a legal requirement.

Use of a Handheld Mobile Phone whilst driving is not only a criminal offence but classed as Gross Misconduct by the Company.

Drivers should also be aware that most Terminals operate a No Mobile Phone policy on site.

Drivers must follow the instructions issued by the Terminals they visit.

**This Load & Discharge is issued to:**

Employee Name: ……

Division: Transport Business Unit

Depot: ……..

Address: ……..

……

……

SIGNATURE: ……

DATE: ……

| SILVER 5.0 | Delivery: | Trainer Led | Time: | 30 minutes |
|---|---|---|---|---|
| | Location: | Petrol Filling Station | Group size: | 4 trainees |

# Know Your Stuff For…

## PETROL FILLING STATION

## SILVER 5.0: Stage 2 Vapour Recovery

## 1. What We Are Going To Do

Welcome to the session. We are going to look at Stage 2 Vapour Recovery legislation and the responsibilities you have for this in the Petrol Filling Station. There will be an opportunity to practice what you have learnt and at the end of the session we will check you know your stuff.

By the end of this training session you will be able to:

- understand the key legal elements of Stage 2 Vapour Recovery;
- complete the weekly checks on the equipment installed at your forecourt;
- demonstrate what should happen in the event of equipment failure.

By completing this session you will be confident in dealing with a local authority visit to inspect the Vapour Recovery operation at your Petrol Filling Station.

**Trainers Note!**

Make sure you have the following available for this training session:

- Petrol Filling Station Safe and Legal Record.
- High visibility clothing.

## 2. What You Need to Know/Do

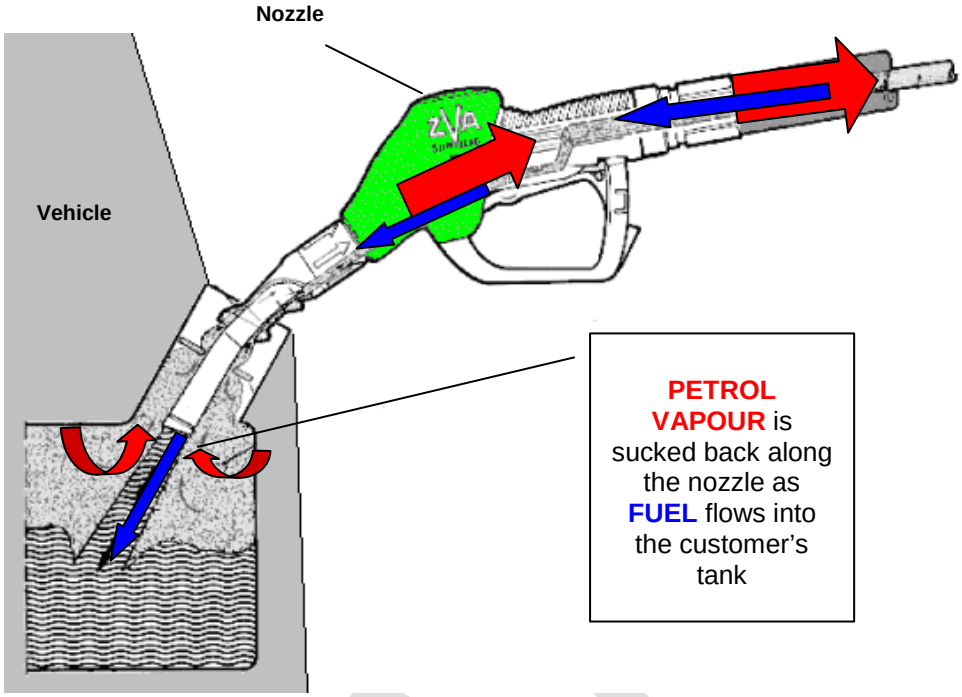
**What Is Stage 2 Vapour Recovery?**

Stage 2 Vapour Recovery is a process which captures unleaded and super unleaded petrol vapour as customers fill their vehicles. By law we are required to fit Stage 2 Vapour Recovery systems at any forecourt which sells over 3,500,000 litres of petrol a year. Stage 2 Vapour Recovery is not required for diesel or LPG.

**Key Point!**

Capturing this vapour stops it from entering the atmosphere which can cause damage to the environment.

**Trainer's Note!**
Using the following image as a visual aid, describe to the trainee(s) how the Stage 2 Vapour Recovery system works.




There are two different types of Stage 2 Vapour Recovery system installed at Tesco:

- CleanAir.
- Return to Tank.

**Trainer's Note!**
Identify from the following images the Stage 2 Vapour Recovery System installed at your Petrol Filling Station. Using the images as a visual aid, describe to the trainee(s) how their system works.

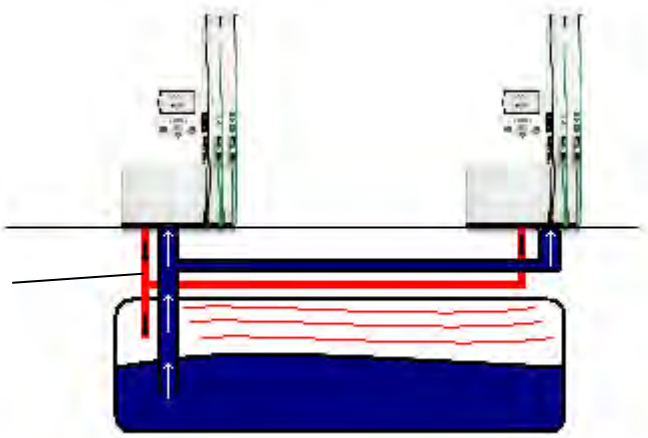
**1. CleanAir**
CleanAir works by capturing the petrol vapour and condensing it back down into a liquid which is then returned back to the pump to be sold. CleanAir is either fitted alongside pumps in a separate unit or is built in to some pumps manufactured by Petrotec.

**CleanAir By Petrotec Unit**


**A Petrotec Pump**

**Key Point!**
For every 1,000 litres that is sold, CleanAir collects enough vapour to make 1 litre of fuel.

**2. Return to Tank**
Return to Tank Stage 2 Vapour Recovery works by returning petrol vapour along a pipeline to the underground storage tanks. The vapour can then condense back down into petrol below ground and is sold. There is no visible extra equipment on the forecourt as the system is built into the pump body and pipes under the forecourt. It is fitted across a range of pumps.

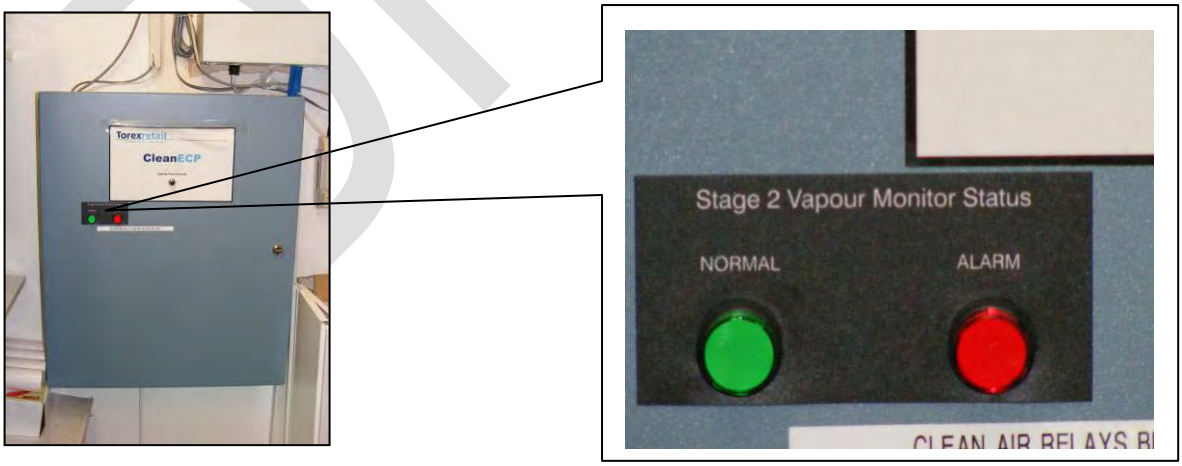



**Checking the Vapour Recovery System**

To comply with legislation, it is important to make sure that the Vapour Recovery system is monitored and checked once a week. This is to ensure that the Vapour Recovery System is operating correctly. A record that the check has taken place should be made in the Petrol Filling Station Safe and Legal Record.

**Trainers Note!**
Identify from the images on the following pages the Vapour Recovery Monitoring System installed at your Petrol Filling Station.
Using the images as a visual aid, describe to your trainee(s) how to check that the Vapour Recovery system is operating correctly.

**CleanAir**
The CleanAir units are automatically monitored and connected to a control box in the kiosk. The control box looks like this:



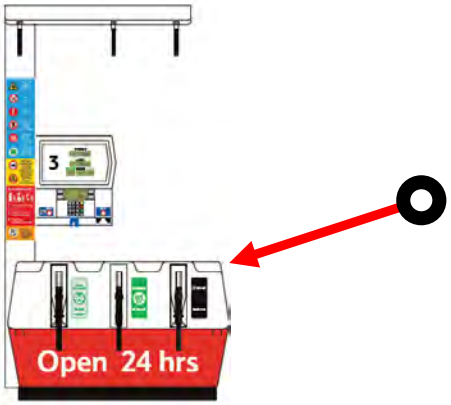
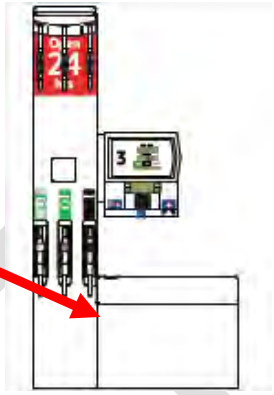

When all the nozzles are working correctly, the **GREEN** light will be lit.
When there is a fault with a nozzle, the **RED** light will be lit.

This box should be checked once a week. If there is a **RED** light showing, this must be reported to the Stores Helpdesk. A record of this check must be made in the Petrol Filling Station Safe and Legal Record.

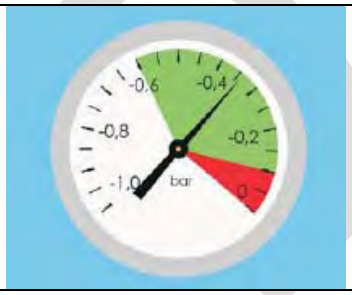
**Key Point!**
The CleanAir units will automatically shut down affected nozzles once seven days have passed.

**Return to Tank - Dresser Wayne Pumps**

To complete the weekly check on the Vapour Recovery system for a Dresser Wayne pump fitted with the return to tank system, you will need to complete a visual check on each pump while it is being used by a customer. You will need to make sure that the customer is fuelling with either unleaded or super unleaded.

| Dresser Wayne 9000 Series pumps | Dresser Wayne Opus pumps |
|---|---|
|  |  |
|  |  |

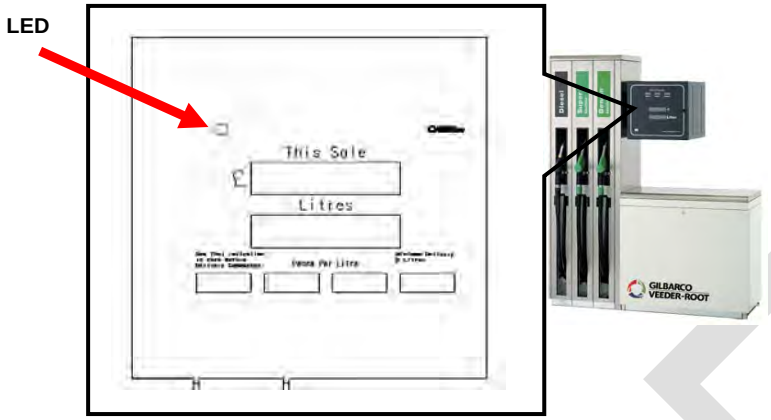
**Trainers Note!**
**Walk over to each pump and locate the Vapour Recovery monitoring gauge**

| | | |
|---|---|---|
|  | Good vapour recovery will have the pointer in the **GREEN** area on the gauge. | No action is required, simply record that you have checked the pumps in the Petrol Filling Station Safe and Legal Record. |
|  | Faulty vapour recovery will have the pointer in the **RED** or WHITE areas on the gauge. | In the event of a red or white indicator, ensure that a call is placed with the Helpdesk for an engineer to attend.<br><br>Complete the Petrol Filling Station Safe and Legal Record, recording the reference number provided by the Helpdesk.<br><br>The nozzles do not need to be shut down immediately, only if the fault has not been rectified within seven days of the failed check. |

## Return to Tank - Gilbarco Pumps

The Vapour Recovery system for Gilbarco pumps uses an electronic system with LED indicator lights in the pump head to indicate the status of the system. To complete the weekly check on the Vapour Recovery System for Gilbarco pumps, a visual check must be made of each pump. A record of the check must be made in the Petrol Filling Station Safe and Legal Record.

### Gilbarco SK700

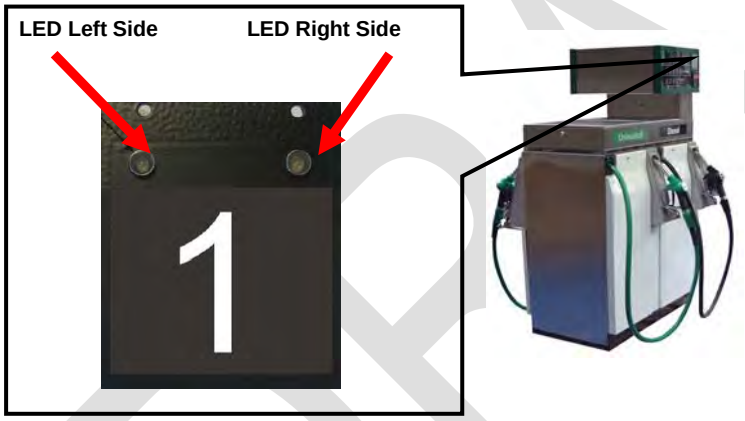



**Green** – Good vapour recovery.

**Amber** – A fault has been identified and must be reported to the Helpdesk urgently. The pump will still work in this condition for up to seven days.

**Red** - The fault has not been fixed within seven days and the pump has shut down.

### Gilbarco Euroline

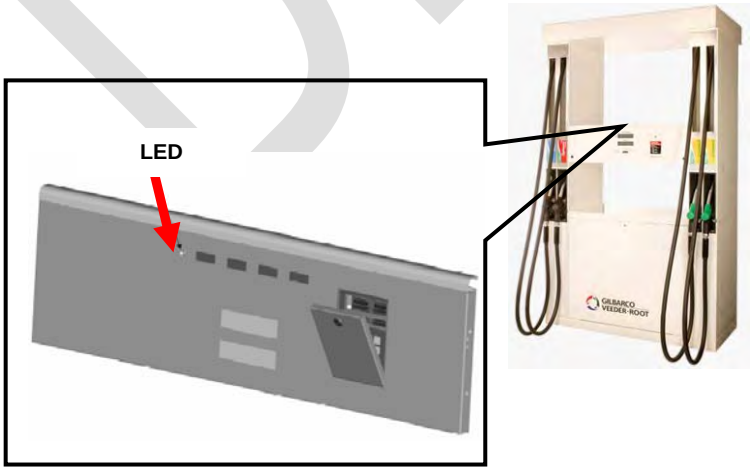



**Green** – Good vapour recovery.

**Amber** – A fault has been identified and must be reported to the Helpdesk urgently. The pump will still work in this condition for up to seven days.

**Red** - The fault has not been fixed within seven days and the pump has shut down.

### Gilbarco Encore 510




**Green** – Good vapour recovery.

**Amber** – A fault has been identified and must be reported to the Helpdesk urgently. The pump will still work in this condition for up to seven days.

**Red** - The fault has not been fixed within seven days and the pump has shut down.

## Return to Tank - Tokheim Pumps

Tokheim pumps are mainly used in Express stores and fitted with a RED LED indicator light just below the price display on the pump. This will illuminate when a fault has been detected with the Vapour Recovery system.

To complete the weekly check on the Vapour Recovery system, you will need to carry out a visual check on each pump. Walk over to each pump on your forecourt and locate the LED indicator light. A record of the check must be made in the Petrol Filling Station Safe and Legal Record.


If the LED is not lit, then the Stage 2 Vapour Recovery system is functioning correctly.

If the **RED LED** is lit, then a fault has been identified and must be reported to the Helpdesk urgently. The pump will still work in this condition for up to seven days.

If the fault has not been fixed within seven days the pump must be shut down.

## Return to Tank - Whistle Testing

In the event of a failure of the Vapour Recovery Monitoring System, a manual whistle test can be used. A small brass ring or "whistle" should be slipped over the spout of an unleaded or super unleaded nozzle. If the vapour recovery system is working correctly, then a whistle will sound.

Key Point!
You may work in a Petrol Filling Station that does not have a Vapour Recovery Monitoring System. In this instance you would carry out a manual whistle test for the weekly check on the Vapour Recovery System.

Trainers Note!
Show your trainee(s) where the whistle is kept in your Petrol Filling Station.
Using the whistle, demonstrate to your trainee(s) how to complete a manual whistle test.

You only need to test the Vapour Recovery System at one nozzle per filling position.

**Key Point!**
**Gloves should be worn to protect your hands.**

**Faults**

Regardless of the Vapour Recovery System that is installed in your Petrol Filling Station, a faulty pump nozzle that is not correctly capturing petrol vapour must be shut down after seven days.
Faulty nozzles that fail the weekly check must be reported to the Helpdesk for urgent engineer attendance. If an engineer has not fixed the problem within seven days of the fault being discovered, then the nozzle must be taken out of use. Details of any faults or failures discovered during the weekly check must be recorded in the Petrol Filling Station Safe & Legal Record.

Key Point!
Remember to place "Sorry - Out of Use" covers on any nozzles that have not been repaired after seven days.

**Abnormal Vapour Loss**

In extremely rare cases, there could be a serious failure of the Vapour Recovery System. This would result in an unusual amount of vapour being released into the atmosphere. This will either be released through the vent pipes at the offset fill point or directly from the CleanAir units (where fitted). You would notice a serious failure of the Vapour Recovery System by a strong smell of petrol in the kiosk and on the forecourt.

**Trainers Note!**

Describe to the trainee(s) the following procedure to follow in the event of Abnormal Vapour Loss. Make sure the trainee(s) are confident and know what to do before moving on.

- The forecourt is shut down safely using the Emergency Shutdown Procedure.
- No vehicles should be started; they should be pushed to a safe area.
- If there is a strong smell of vapour in the kiosk, evacuate and ensure the area is well ventilated.
- A call should be placed to the Code 10 helpline on Featurenet 1010.
- Contact Engineering Maintenance Services (EMS) to report a sever loss of vapour.
- Contact the Duty Manager to make them aware of the situation.
- Contact your Regional Health, Safety and Environment Manager.
- Complete the "Record of Excessive Vapour Emission" in the Petrol Filling Station Site Register.

**Your Chance To Practice**

Spend five minutes becoming familiar with the Vapour Recovery Monitoring System equipment at the pumps and in the kiosk (where applicable). Find out where the equipment is located and what the gauges or displays look like for your Petrol Filling Station.

Have a go at completing the Safe and Legal check for Vapour Recovery. Feedback to your trainer the results of the check and any next steps that need to be actioned.

**Trainers Note!**

Make sure that the relevant high visibility clothing is available if the trainee(s) needs to cross the forecourt.

## 3. Checking You Know Your Stuff

**Trainers Note!**

After your trainee(s) have had an opportunity to practice and they are confident with what they need to know and do, ask your trainee(s) the following questions. Make sure all your trainee(s) are able to answer each of the questions.

**1. What is Stage 2 Vapour Recovery?**

- Stage 2 Vapour Recovery is a process which captures petrol vapour as customers fill their vehicles.

**2. What grades of fuel does Stage 2 Vapour Recovery apply to?**

- Unleaded.
- Super Unleaded.

**3. Is Stage 2 Vapour Recovery used on diesel or LPG?**

- No.

**4. How often do you need to complete a check on the Stage 2 Vapour Recovery System?**

- Once a week.

**5. Describe how you would check that the Stage 2 Vapour Recovery System for your Petrol Filling Station is working correctly?**

**CleanAir System**

- Locate the unit in the kiosk.
- When all the nozzles are working correctly the green light will be lit.

**Dresser Wayne 9000 Series Pumps/Opus Pumps**

- Locate the Vapour Recovery System guage on each pump.
- Good vapour recovery will have the guage pointer in the green area.

**Gilbarco Pumps**

- Locate the LED indicator light on each pump.
- Good vapour recovery will have a green LED indicator light.

**Tokheim Pumps**

- Locate the red indicator light on each pump.
- Good vapour recovery will be shown by the red indicator light not being illuminated.

**Whistle Testing**

- Locate the whistle in your kiosk.
- Slip the whistle over the spout on a nozzle.
- If the Vapour Recovery System is working correctly, a whistle will sound.

**6. Describe what you would see on the Vapour Recovery Monitoring System for your Petrol Filling Station if there was a fault with the pump?**

**CleanAir System**

- The red light on the unit in the kiosk will be lit.

**Dresser Wayne 9000 Series/Opus Pumps**

- The pointer on the guage will be in the red or white area.

**Gilbarco Pumps**

- The LED indicator light on the pump will be amber or red.

**Tokheim Pumps**

- The red indicator light on the pump will be illuminated.

**Whistle Testing**

- The whistle will not sound when slipped over the spout on a nozzle.

**7. What would you do if there was a fault with the Stage 2 Vapour Recovery System?**

- Report the fault to the Helpdesk.

**8. After a fault is identified and reported, how long do you have for the fault to be repaired before the nozzle must be shut down?**

- Seven days.

**9. What should you do in the event of abnormal vapour loss?**

- The forecourt is shut down safely using the Emergency Shutdown Procedure.
- No vehicles should be started; they should be pushed to a safe area.
- If there is a strong smell of vapour in the kiosk, evacuate and ensure the area is well ventilated.
- A call should be placed to the Code 10 helpline on Featurenet 1010.
- Contact Engineering Maintenance Services (EMS) to report a sever loss of vapour.
- Contact the Duty Manager to make them aware of the situation.
- Contact your Regional Health, Safety and Environment Manager.
- Complete the “Record of Excessive Vapour Emission” in the Petrol Filling Station Site Register.

**Trainers Note!**

Make sure your trainee(s) are able to answer each of the questions. If necessary give additional coaching where you think it is required.

**Trainers Note!**

When you are happy that each of the trainee(s) has demonstrated the process and answered the questions correctly, make sure you and each trainee(s) sign and date their training record card, specifying the section and training solution.

**Where You Can Get More Information/Support**

Stores Operating Manual.

Your Line Manager.

Regional Health, Safety and Environment Manager.

# Schedule of Preventative Maintenance
# For PFS Stage 1b and 2 Vapour Recovery Systems

The following Maintenance Schedule should be observed on all petrol filling stations and necessary actions taken to rectify any defects which are found.

This schedule should be retained within the site register and be available for inspection by the Local Authority Environmental Health Officer.

**Daily Checks (PFS Staff)**

| |
|---|
| ***Visual inspection to check for damage or leaks on dispensers or hoses*** |
| ***Ensure forecourt maintained clean and tidy*** |

**Checks During Tanker Unloading Operations** (this is the responsibility of the driver if the delivery is unattended)

| |
|---|
| ***Check seals on fittings in good condition prior to connection*** |
| ***Ensure signage is relevant, clean and legible.*** |
| ***Ensure vapour recovery hose is connected prior to unloading.*** |
| ***Carry out a visual check for leaks on connections, hoses and vapour recovery system during offloading.*** |
| ***Ensure all connections are securely sealed at the completion of the offloading process.*** |
| ***Ensure any manhole covers are replaced securely*** |

**Weekly Checks (PFS Staff)**

| |
|---|
| ***Ensure that dispensers and hoses are secure and damage free, with no sign of vapour or liquid release.*** |
| ***Carry out a visual inspection of the vapour recovery system, checking that the valve is not leaking.*** |

**Monthly checks (PFS Staff)**

| |
|---|
| ***Check that all signage to fill points and vapour recovery points is secure, clean and legible.*** |
| ***Check manhole covers are secure if fill points are below ground.*** |
| ***Ensure that connections and seals are in good working order and show no signs of vapour leaks.*** |
| ***Ensure the availability of the site log book, and that all records of inspection, testing, maintenance, training and any other matters in relation to the PPC Permit are recorded and available for inspection by the regulator.*** |

**Annual check (Contractor)**

| |
|---|
| ***Where Automatic Monitoring is <u>not</u> fitted, check vapour retention efficiency of dispensers and adjust if outside of permitted limits.*** |

**At least every three years (Contractor)**

| |
|---|
| ***The Stage 1b vapour recovery system will be inspected by an external contractor. A certificate will be issued and must be retained on the site register for inspection by the regulator.*** |
| ***Where Automatic Monitoring <u>is</u> fitted, check vapour retention efficiency of dispensers and adjust if outside of permitted limits. Ensure that monitoring system is functioning as per design.*** |

PFS Name/Number_____

# Record of weekly Stage 2 vapour recovery testing

All weekly testing of stage 2 vapour recovery systems should be recorded on this form and kept in the site register available for inspection by local authority Environmental Health Officers. Faults should be reported immediately to Helpdesk. Any nozzles identified as faulty should be taken out of use after seven days if they have not been repaired by engineers.
Any faults should be recorded on the separate log of repair and maintenance of Stage 2 Vapour Recovery systems and the two documents must be kept together in the site register.

| Date of test | Person carrying out test | Type of test (e.g. whistle*, gauge etc.) | Nozzles tested (e.g. all or numbers) | Faults recorded | Time reported to Helpdesk | WON | Date nozzle to be taken out of action if not fixed | Inspection of hoses and valves** | Findings of inspection and action taken |
|---|---|---|---|---|---|---|---|---|---|
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* Whistle tests should be carried out on each petrol nozzle for all Clean Air sites and for any other system if there is doubt that the monitoring method is faulty.

** Check hoses for any evidence of tears, flattening, kinking or damage. Valves should be checked for any evidence of seepage of fuel.

PFS Name/Number_____

| Date of test | Person carrying out test | Type of test (e.g. whistle, gauge etc.) | Nozzles tested (e.g. all or numbers) | Faults recorded | Time reported to Helpdesk | WON | Date nozzle to be taken out of action if not fixed | Inspection of hoses and valves | Findings of inspection and action taken |
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* Whistle tests should be carried out on each petrol nozzle for all Clean Air sites and for any other system if there is doubt that the monitoring method is faulty.

** Check hoses for any evidence of tears, flattening, kinking or damage. Valves should be checked for any evidence of seepage of fuel.

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

Industrie Service

# Zertifikat Nr. 85-2.167

Certificate No. 85-2.167

Die Prüfstelle für Gasrückführungssysteme der
TÜV SÜD Industrie Service GmbH, Westendstr. 199, D-80686 München,
bescheinigt die Prüfung gemäß dem Merkblatt:
**„Systemprüfung für aktive Gasrückführungssysteme und deren Überwachungssysteme in Deutschland (Merkblatt I)"** vom 17.6.2002
für folgendes Gasrückführungssystem:

The TÜV SÜD Industrie Service GmbH Test Body for Vapor Recovery Systems,
Westendstr. 199, D-80686 Munich, certifies having conducted tests as per the following code:
**"Testing of active vapor recovery systems and their monitoring devices in Germany (Code I)"**
of June 17, 2002 on the following vapor recovery system:

- Zapfventil:
  Fuel-hose nozzle:
  **ELAFLEX ZVA 200 GR /**
  **ELAFLEX ZVA Slimline 2 GR**
- Schlauch:
  Hose:
  **ELAFLEX Conti Slimline 21/8 Coax**
- Steuerventil:
  Control valve:
  **Bürkert: 6022 / 2832**
  **Ansteuerung** control board **Petrotec eMC-VR**
- Gasrückführungs-pumpe:
  Vapor recovery pump:
  **Dürr: MEX 0831-10, MEX 0831-11, MEX 0544**

Folgende Randbedingungen sind bei der Installation einzuhalten:
The following general conditions must be observed during installation:

- maximaler Kraftstoffvolumenstrom: **40** **l/min**
  Maximum volumetric fuel-flow rate:
- maximaler Gegendruck in der Rückführleitung: **50** **mbar**
  Maximum counter pressure in recovery line:
- Korrekturfaktor für die Systemeinstellung mit Luft bei simuliertem Kraftstoffvolumenstrom von 38 l/min: **1,10**
  Correction coefficient for system settings with air by simulation of a volumetric fuel-flow rate of 38 l/min.:

Der geforderte Wirkungsgrad von mindestens 85 % wurde nachgewiesen.
The required minimum efficiency ratio of 85% was proved.
Das Gasrückführungssystem entspricht dem Stand der Technik im Sinne der 21. BImSchV (Verordnung zur Begrenzung der Kohlenwasserstoffemissionen bei der Betankung von Kraftfahrzeugen) vom 07.10.1992 zuletzt geändert am 6.5.2002.
The vapor recovery system corresponds to the state of the art as defined in the 21st BImSchV (Air-pollution Control Regulation on the restriction of hydrocarbon emissions during vehicle refueling) of October 7, 1992, last amended on May 6, 2002.

München, 06.03.2009
Munich, 03/06/2009

TÜV SÜD Industrie Service GmbH

Der Sachverständige
The officially authorized expert

Peter Szalata

TÜV®

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

# Zertifikat Nr. Ü-12.16 GER

**Certificate no. Ü-12.16 GER**

Industrie Service

Die Prüfstelle für Gasrückführungssysteme der
TÜV SÜD Industrie Service GmbH, Westendstr. 199, D-80686 München,
bescheinigt die Prüfung gemäß:
**VDI 4205-5 „Systemprüfung von automatischen Überwachungseinrichtungen für aktive Gasrückführungssysteme“**
für folgende automatische Überwachungseinrichtung:
The TÜV SÜD Industrie Service GmbH Test Body for Vapor Recovery Systems,
Westendstr. 199, D-80686 Munich, certifies having conducted tests as per the following code:
**VDI 4205-5 "System test of automatic monitoring systems of active vapour recovery systems"**
on the following automatic monitoring system:

- Typ Bezeichnung: **eMC - VRM**
  Type designation:
- Hersteller: **Petrotec, Inovação e Industria S.A.**
  Manufacturer:
- Systemkomponenten:
  System components:

| | |
|---|---|
| Gasdurchflusssensor:<br>Gas flow sensor: | **P**flows**S** - Durchflusssensor vor der Gasrückführungspumpe oder dem Proportionalventil in der Gasrückführungsleitung.<br>flow sensor installed in the vapour recovery pipe in front of the vapour recovery pump or the control valve |
| Betriebselektronik:<br>Operating electronics: | Petrotec: **eMC-VR** für die Auswertung des Gasflusses, Bewertung, Alarmmeldung und Erzeugung eines Abschaltsignals<br>for analysis and evaluation of the gas flow, generating of alarm und shutoff signals |

Diese automatische Überwachungseinrichtung ist für neue und bestehende Zapfsäulen, unabhängig vom Zapfsäulentyp und Gasrückführungssystem, geeignet.
This automatic monitoring system is suitable for new and existing fuel dispensers, independent of the type of the dispenser and vapour recovery system.

Die automatische Überwachungseinrichtung entspricht dem Stand der Technik im Sinne der **21. BImSchV** (Verordnung zur Begrenzung der Kohlenwasserstoffemissionen bei der Betankung von Kraftfahrzeugen) vom 07.10.1992 zuletzt geändert am 6.5.2002. The automatic monitoring system corresponds to the state of the art as defined in the **21st BImSchV** (Air-pollution Control Regulation on the restriction of hydrocarbon emissions during vehicle refueling) of October 7, 1992, last amended on May 6, 2002.

München, 01.03.2011
Munich, 01. März 2011

TÜV SÜD Industrie Service GmbH

Der Sachverständige
The officially authorized expert

Peter Szalata

TÜV®

# LABORATORIO OFICIAL J. M. MADARIAGA

## (1) EC-TYPE EXAMINATION CERTIFICATE

(2) Equipment or protective system intended for use in potentially explosive atmospheres
Directive 94/9/EC

(3) EC-Type Examination Certificate nr **LOM 11ATEX2005 X**

(4) Equipment or protection system: Barrier
Type eMC-ISB-2

(5) Manufacturer: PETROTEC Inovação e Indústria, S.A.

(6) Address: Parque Industrial Guimarães, Pav. C2
S. João de Ponte
4805-661 Guimarães
PORTUGAL

(7) This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) Laboratorio Oficial J.M. Madariaga (LOM), notified body number 0163 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.
The examination and test results are recorded in confidential report nr. **LOM 11.042 SP**

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

- Standards **EN 60079-0:2009** **EN 60079-11:2007**

(10) If the sign X is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-Type Examination Certificate relates only to the design and construction of this specified equipment or protective system in accordance with the Directive 94/9/EC. Further requirements of the Directive apply to the manufacture and supply of this equipment or protective system. These are not covered by this certificate.

(12) The marking of the equipment or protective system shall include the following:

II (1)G [Ex ia Ga] IIA / IIB / IIC
-25 °C ≤ Ta ≤ +55 °C

Madrid, 2011-02-17

OFICIAL LABORATORIO J.M. MADARIAGA LOM

Carlos Fernández Ramón
DIRECTOR OF THE LABORATORY

Angel Vega Remesal
Head of the ATEX

This Certificate is a translation from the original in Spanish. The LOM liability applies only on the Spanish text






UNIVERSIDAD POLITÉCNICA DE MADRID
ENSAYOS E INVESTIGACIONES DE MATERIALES Y EQUIPOS PARA ATMÓSFERAS EXPLOSIVAS Y MINERÍA
( Real Decreto 334/1992 de 3 de Abril - BOE 1992-04-29)

Eric Kandel, 1 - 28906 GETAFE (MADRID) • ☎ (34) 91 4421366 • 🖷 (34) 91 4419933 • 💻 lom@lom.upm.es

(A1) SCHEDULE

(A2) EC-Type Examination Certificate: **LOM 11ATEX2005 X**

(A3) Description of equipment or protective system

Intrinsic safety barrier by limiting zener and resistors provided for connection to an I2C bus, having four connections, one for power and three for signals which are referred to earth.

Specific parameters of the type of protection

| | IIA | IIB | IIC |
|---|---|---|---|
| *Um* (V) | 250 | | |
| *Uo* (V) | 9,56 | | |
| *Io* (mA) | 0,57 | | |
| *Po* (W) | 1,07 | | |
| *Co* (µF) | 210 | 26 | 3,6 |
| *Lo* (µH) | 859 | 430 | 107 |
| *Lo/Ro* (µH/Ω) | 253 | 126 | 32 |

(A4) Test report nr. **LOM 11.042 SP**

(A5) Special conditions for safe use

The barriers are only foreseen to be installed in non hazardous areas and in a housing or enclosure with an IP20 minimum level of protection according to EN 60529.

(A6) Individual tests

None

(A7) Essential Health and Safety Requirements

Explosion safe requirements are covered by application of the standards indicated in page 1/2 of this certificate.

(A8) Descriptive Documents

| | | Rev. | Date |
|---|---|---|---|
| - Dossier nr. : | DN-07-190-0 | 0 | 2011-01-18 |
| - Technical description nr.: | DN-06-191-0 | 0 | 2011-01-18 |

OFICIAL LABORATORIO J.M. MADARIAGA

# LABORATORIO OFICIAL J. M. MADARIAGA

## (1) EC-TYPE EXAMINATION CERTIFICATE

(2) Equipment or protective system intended for use in potentially explosive atmospheres
Directive 94/9/EC

(3) EC-Type Examination Certificate nr **LOM 11ATEX2006 X**

(4) Equipment or protection system — Flow meter
Type PflowS

(5) Manufacturer — PETROTEC Inovação e Indústria, S.A.

(6) Address — Parque Industrial Guimarães, Pav. C2
S. João de Ponte
4805-661 Guimarães
PORTUGAL

(7) This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) Laboratorio Oficial J.M. Madariaga (LOM), notified body number 0163 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.
The examination and test results are recorded in confidential report nr. **LOM 11.043 TP**

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

- Standards **EN 60079-0:2009** **EN 60079-11:2007**

(10) If the sign X is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-Type Examination Certificate relates only to the design and construction of this specified equipment or protective system in accordance with the Directive 94/9/EC. Further requirements of the Directive apply to the manufacture and supply of this equipment or protective system. These are not covered by this certificate.

(12) The marking of the equipment or protective system shall include the following:

Ex II 1G Ex ia IIB T4 Ga
-25 °C ≤ Ta ≤ +55 °C

Madrid, 2011-02-17

OFICIAL LABORATORIO J.M. MADARIAGA LOM

Carlos Fernández Ramón
DIRECTOR OF THE LABORATORY

Angel Vega Remesal
Head of the ATEX

This Certificate is a translation from the original in Spanish. The LOM liability applies only on the Spanish text






UNIVERSIDAD POLITÉCNICA DE MADRID
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( Real Decreto 334/1992 de 3 de Abril - BOE 1992-04-29)

Eric Kandel, 1 - 28906 GETAFE (MADRID) • ☎ (34) 91 4421366 • 🖷 (34) 91 4419933 • 💻 lom@lom.upm.es

(A1) SCHEDULE

(A2) EC-Type Examination Certificate: **LOM 11ATEX2006 X**

(A3) Description of equipment or protective system

PflowS flowmeter is used to measure flow in vapour recovery systems on pumps or dispensers for petroleum products. The measure is based on a calorimetric principle using two resistors, one measurement and one of heating, immersed in the fluid to be measured. Includes two additional sensors for measuring temperature and conductivity of the fluid.

Specific parameters of the type of protection: *Ui*: 12 V *Pi*:1,2 W *Ci*:10,6 µF

(A4) Test report nr. **LOM 11.043 TP**

(A5) Special conditions for safe use

The circuit is electrically connected to ground. When installing the flow meter and its associated intrinsic safety device should be ensured proper grounding.

(A6) Individual tests

None

(A7) Essential Health and Safety Requirements

Explosion safe requirements are covered by application of the standards indicated in page 1/2 of this certificate.

(A8) Descriptive Documents

| | | Rev. | Date |
|---|---|---|---|
| - Dossier nr. : | DN-07-187-1 | 1 | 2011-01-21 |
| - Technical description nr.: | DN-06-188-1 | 1 | 2011-01-21 |

OFICIAL LABORATORIO J.M. MADARIAGA

# Physikalisch-Technische Bundesanstalt

**Braunschweig und Berlin**

# Bericht

*Report*

**Überprüfung eines Kraftstoffdampf-Durchflussmessers**

*Testing of a Fuel Vapour Flow Sensor*

**Gegenstand der Prüfung:**
*Test object:*
Vapour Flow Sensor: PFlowS
Ser.-Nr.: 0001
Manufacturer: Petrotec Inovação e Indústria

**Antragsteller:**
*Applicant:*
Petrotec Inovação e Indústria
Parque Industrial de Guimarães - Pav C2 –
S. João de Ponte
4805-661, Guimarães
Portugal

**Normalgeräte:**
*Standard devices*:
PTB nozzle test bench with 8 critically operating venturi nozzles
($Q$ = 0,022 $m^3/h$ - 3,44 $m^3/h$)
Company: ELSTER Produktion GmbH,
Year of manufacture: 1998
$U_{rel}$ = 0,12 %

Diaphragm gas meter BK4-G 4/ V 2,0 D87
7.122.43
Company: Elster AG,
Year of manufacture: 2001
Serial number: 16398680
$U_{rel} \leq$ 0,3 %

**Prüfmittel:**
*Test media:*
Atmospheric air
Butane gas 3.5

**Hilfsgeräte:**
*Auxiliary equipment:*
Pump: REF: MEX 0831-11 SN: A168427 / 600
Pump: REF: MEX 0831-11 SN: A175029 / 600
Manufacturer: Dürr Technik GmbH & Co. KG
D-74321 Bietigheim-Bissingen

Im Auftrag
*On behalf of PTB*

Dr. R. Kramer

Braunschweig, 2011-02-14

Siegel
*Seal*

Im Auftrag
*On behalf of PTB*

Dr. H. Többen

393 00A I

(2780) *III(5)a*

Department for Innovation, Universities & Skills

# SUPPLEMENT TO CERTIFICATE

**Certification No 2780 (Supplement No 16)**

*Submitted by:* ***Wincor-Nixdorf***
***Alba House***
***Mulberry Business Park***
***Fishponds Road***
***Wokingham***
***Berks RG41 2GY***

Authorisation is hereby given by the Secretary of State for Innovation, Universities & Skills for the following Certificate of approval relating to a pattern of a liquid flowmeter to be modified as described below.
As described in the following Certificates but modified to have an alternative self service device, as detailed in the descriptive annex, and having the following characteristics:-

| | |
|---|---|
| DISPENSER(s): | Dispensers described in certification number 2780. |
| COMBINED KIOSK CONTROL & POINT OF SALE SYSTEM: | Wincor-Nixdorf Site Control System as described in the descriptive annex. |
| OUTDOOR PAYMENT TERMINAL: | Verifone FOPT as described in the descriptive annex. |

M. Bokota

*Signatory:* M A Bokota
for Chief Executive
National Weights & Measures Laboratory
Department for Innovation, Universities & Skills
Stanton Avenue
Teddington
Middlesex TW11 0JZ
United Kingdom

Reference No: T1119/0012

Date: 30 November 2007

CONTENTS



ILLUSTRATIONS

# Descriptive Annex

## 1 INTRODUCTION

The Wincor-Nixdorf Beetle POS/site control system is a self service device for use with fuel dispensers. The Dione FOPT outside payment terminal (OPT) allows customers to 'Pay at Pump' for fuel transactions, using a 'Chip and PIN', credit, debit, or fuel card. The FOPT is intended for installation adjacent to the dispenser display, providing a payment terminal for each fuelling position.

The OPT is controlled by the Forecourt Server application software running on the Beetle POS Terminal PC. Communication between the OPT and the Forecourt Server is via a multi-drop RS-485 interface connected over existing mineral insulated or armoured cable. A typical schematic is shown in Figure 1.

Each OPT is assembled from a central Trunk and two 'Cassettes', one for left and one for right hand side. The Trunk is attached to the dispenser mounting plate via four studs. The Cassettes are attached either side of the Trunk; each Cassette is securely retained by two bolts that can only be accessed through the Printer hatch.
The Trunk contains two power supply units, one for each cassette, and associated cables, connectors and switches.

### 1.1 Forecourt Communication

Each Dispenser and OPT communicates with the kiosk via its own data pair using RS-485 signals. These pass through the Relay Isolation Box and Forecourt Interface Box to the POS PC.

#### 1.1.1 Forecourt Server

OPTs and Dispensers are controlled by the Forecourt Server application software which runs on the POS PCs together with POS software. Communication between OPTs/Dispensers and Forecourt Server application is via multi-drop opto-isolated RS-485 interfaces connected to the Forecourt Interface Box.

Each kiosk has a Master and a Slave POS PC capable of providing operator control of pumps. The Master POS PC normally runs the Forecourt Server application. In the event of failure of the Master Forecourt Server application or the Master Switch, the Slave POS Forecourt Server application may be manually or automatically set to provide forecourt control.

### 1.2 Forecourt Interface Box

The Forecourt Interface Box comprises Ethernet to RS-485 Serial Converters, and RS-485 hubs with integral opto-isolation. The Forecourt Interface Box is an unintelligent interface, connecting two or three Ethernet lines to up to 24 RS-485 lines and up to three RS-232 lines. It comprises two or three Ethernet to Serial Converters, up to 8 RS-485 hubs, and two 24Vdc power supplies.

## 1.3 Resilience

The OPT/Dispenser arrangement provides resilient operation; in the event of a single major device failure, at least half the Dispensers & OPTs should continue to operate.

## 1.4 POS PC

The POS PCs use the Windows NT4 operating system and interface to the Forecourt Interface Box via the Master and Slave switches.

## 1.5 Uninterruptible Power Supply

In the event of a mains power failure, the two POS PCs, Ethernet switches and Forecourt Interface Box are all powered via an uninterruptible Power Supply capable of providing at least 15 minutes of continued operation.

# 2 Control equipment

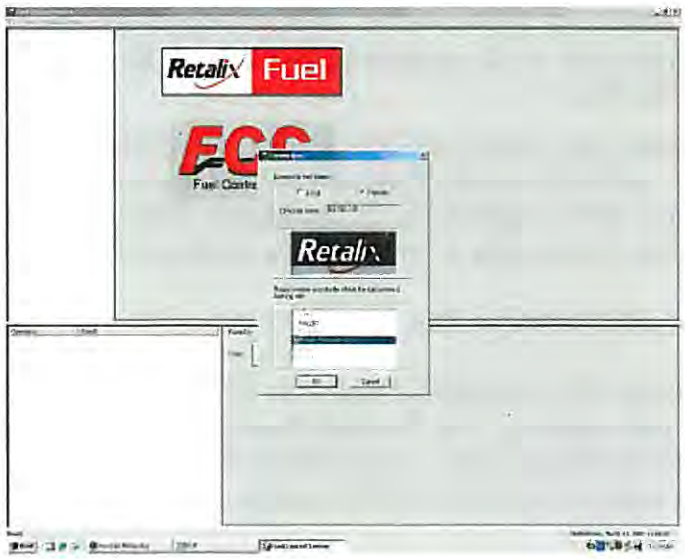
## 2.1 Forecourt Server

The Forecourt Server application runs on the POS PC and controls the operation of Dispensers and OPTs for both Pay at Pump and Pay in Kiosk transactions. OPT on-line authorisation communications pass through the same channel as Pay in Kiosk transactions.

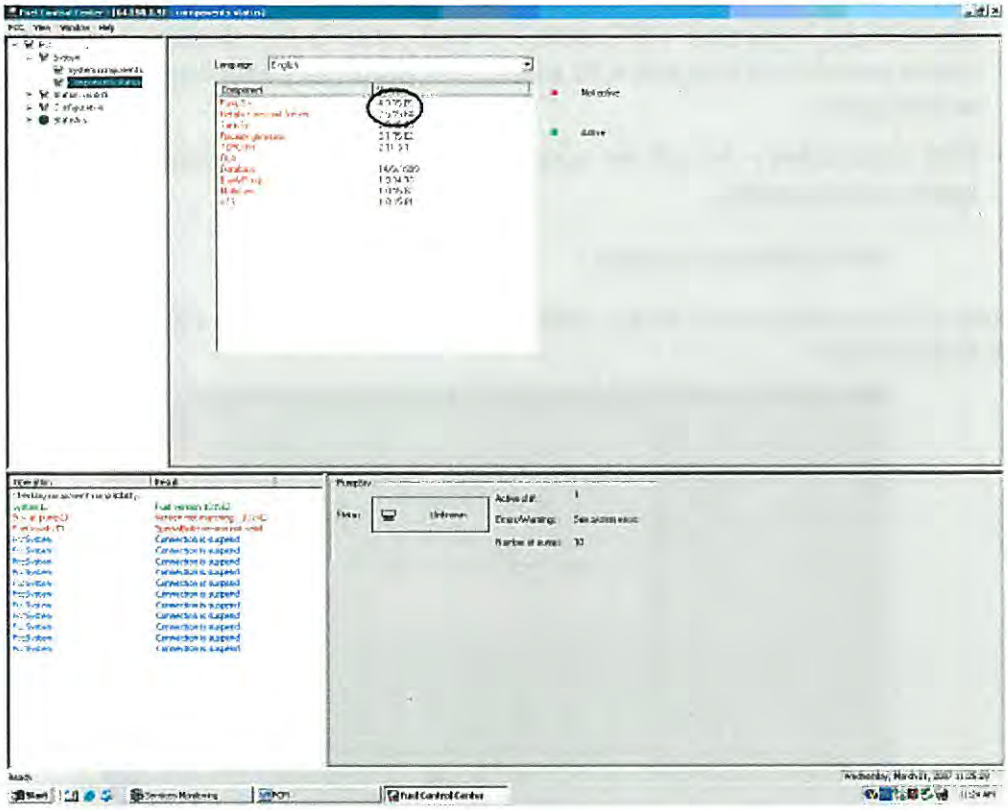
### 2.1.1 Forecourt Control Software Version

To view the Forecourt Server and Pump Control software component version numbers, the following procedure must be performed on the MFS (normally located inside the main store):

1. Log on to the MFS
2. Press the desktop icon labelled FCC to load the FCC configuration utility.
3. Select 'Retalix Forecourt Server and press OK



4. Select 'Components Status' to show the list of software versions.



5. The top two entries, PumpSrv and RFS, are the relevant version numbers for Pump Control and Forecourt Server software.

These both have the form: **4.0.15.84,** Where:

- the first two groups define the major software version
- the subsequent groups define minor software version which have no effect on regulatory issues.

## 2.2 Point of Sale Terminals

The FOPT system is only designed to operate with Point of Sale Terminals based on Beetle M, M II, X and SX PCs. These execute three core applications:

- Forecourt Server Application – provides the interfaces to control all Pumps and OPTs. Pumps are normally configured for auto-authorisation, allowing Forecourt Server to automatically initiate outdoor fuel transactions after receiving an online card authorisation from the acquiring bank's system.

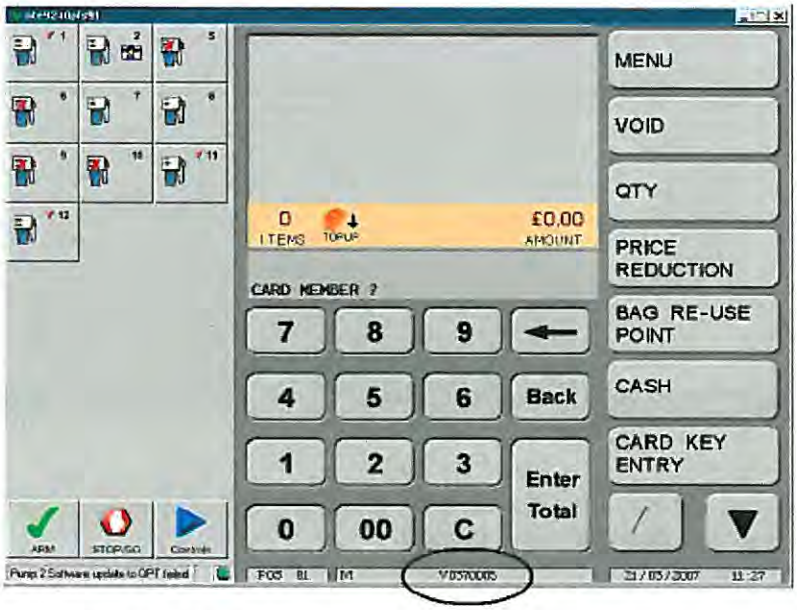
  Identical Forecourt Server copies run on both Master and Slave POS tills, but only one (normally the Master till) is controlling the forecourt at any instance. The active till controlling the forecourt is indicated by a flag at be bottom of the screen:

In the event of a Forecourt Server failure, the other copy may be activated using a menu key.

- Pump Control Application – user interface and interlocks for manual control of pump operation by kiosk staff. OPT status for each pump is also displayed. A 'STOP/GO' button provides the operator with control to suspend all pump dispensing operation in an emergency.
- POS Application – to sell dry goods and Pay in Kiosk fuel transactions, including indoor card payments.

### 2.2.1 POS Software Version

The Point of Sale application software version number is continuously displayed on the till screen, at the bottom:




This version number has the form: **V037 0005,** Where:

- The first four characters define major software version, which will change every 3 months.
- The last four characters define minor software version, which will have no affect regulatory issues

## 2.3 Dispenser (Calculators)

Dispensers communicate with the Forecourt Server application using the existing RS-485 arrangement, with up to three dispensers per RS-485 circuit. The OPTs use separate RS-485 circuits.

# 3 CONSTRUCTION

## 3.1 Component Parts

The FOPT terminal consists of the following parts:

a) A central trunk, constructed from welded steel to provide structural rigidity, which contains a heater, two power supplies and pump buttons for use with the Dresser 9000 calculator only. The trunk connects to the dispenser calculator via a 4 way mains connector and an 8 way data and button connector.

b) Left and Right hand cassettes, constructed from welded aluminium, which mount securely on either side of the Trunk. Each Cassette incorporates the following sub-assemblies:
   - Smart and Magnetic Card reader in secure housing
   - PINpad and LCD display module in secure housing
   - Communications Module
   - 80mm thermal Receipt Printer module with pull-tear paper cutter
   - Barcode scanner module

A single 12 way in-line connector is used to carry power and data between each Cassette and the Trunk.

## 4 Main sub-assemblies

### 4.1 Card Reader

The Card Reader module comprises an external moulded plastic card throat plus secure interface electronics. Chip data is read when the user manually fully inserts their plastic card; magnetic stripe data is read when the card is withdrawn.
The internal card reader electronic assemblies, which store private cryptographic keys, are contained within a sealed metal housing. Complex tamper detection methods are used to ensure that any attempt to access the internal assembly results in instant erasure of all private key and cardholder information.
Card Reader and PINpad/Display modules are connected by an internal serial interface. At power on, the two modules perform self checks and then securely validate and associate with each other. All communication between these two modules is encrypted.

### 4.2 PIN pad & Display Module

The user is presented, on the front panel of each cassette, with a PIN pad and a Display with associated Option keys.
The PIN pad comprises numeric and function (Cancel, Clear, Enter) keys. Four Option keys on either side of the display are used to select programmable actions (e.g. Pay at Pump, Pay at Kiosk) as prompted on the Display.
The Display comprises a four line by 33 character LCD to provide instructions and status information to users. A backlight is provided to ensure user legibility under all normal forecourt lighting conditions. Except during the chip card PIN entry phase, all Display messages are transmitted from the Forecourt Server application.
The internal PIN pad electronic assemblies, which store private cryptographic keys, are contained within a sealed metal housing that should only be access by the manufacturer. Complex tamper detection methods are used to ensure that any attempt to access the internal assembly results in instant erasure of all private key and cardholder information.

### 4.3 Receipt Printers

Thermal receipt printers are mounted on the front panel of each Cassette. These use Fujitsu mechanisms, connected to an integral controller PCB. Each printer mechanism connects to that Cassette's PIN pad module. Paper Low, Paper Out, and Paper Jam detection is also provided, causing messages to be forwarded to the Forecourt Server.
A lockable Printer Hatch gives access to change paper rolls. This internal compartment only allows access to the printer mechanisms, and does not allow access to any other internal assemblies, live terminals, etc.

### 4.4 Communication Module

Each cassette incorporates a Communications Module that provides data routing between RS-485 bus and the relevant internal module.
The RS-485 interface incorporates galvanic isolation to ensure immunity from electrical forecourt noise.

### 4.5 Environmental Control

Each FOPT Cassette incorporates a thermostatically controlled heater to ensure that the internal electronics is operated within its temperature range. Apertures into the printer compartment ensure circulation to prevent condensation of moisture that may cause printer paper jams.

## 5 Kiosk Equipment

### 5.1 Relay Isolation Box

Each FOPT and Dispenser uses a separate data cable pair to communicate with the Kiosk. All data cables are passed through a Relay Isolation Box; in the event that the Fireman's or Operator's emergency switches are operated, all relays are opened to ensure galvanic isolation of all forecourt electronics from the Kiosk.

### 5.2 Forecourt Interface Box

FOPT and Dispenser data circuits terminate in the Forecourt Interface Box. This interfaces multiple RS-485 circuits to the Ethernet. No forecourt control functions are provided by this unit.

The Forecourt Interface Box comprises up to eight RS-485 hubs, and two or three (depending on number of Dispensers) Ethernet to RS-485 Serial Converters, mounted on a DIN rail. These are typically marked 'Portserver TS MEI'. The Ethernet to Serial Converters may also be configured to provide RS-232 ports for Tank Gauges, Pole Signs, etc.

The Forecourt Interface Box components are arranged as two similar but separate sections each connected to their own 24Vdc power supply. In the event of an Ethernet to Serial Converter failure, the other half the forecourt should continue to operate.

### 5.3 Ethernet Switches

The Forecourt Interface Box interfaces to the Beetle POS PCs via two Ethernet Switches, arranged such that failure of either should allow at least half the forecourt to continue to operate. These switches also carry POS system related data.
Standard 24 port and 12 port models are used.

### 5.4 FORECOURT SERVER / POS PCs

Control of Dispensers and OPTs is provided via Master and Slave POS PCs. These comprise a PC controller with CPU board, Hard Disk, Ethernet adapter and other peripheral interfaces.
Each Beetle position also uses an LCD operator screen and keypad.
These PCs run two side by side applications:

- Forecourt Server – low level real-time control of up to 12 dispensers and OPTs, active on only one PC at any time.
- Point of Sale – for kiosk paid fuel and other sale transactions.

Under normal circumstances, Forecourt Server application is only active on the Master PC, although the Slave maintains an image of forecourt state. In the event of failure on the Master PC, a copy of Forecourt Server on the Slave may be activated without loss of data.

**5.4.1** The POS PC may be any one of the following:

5.4.1.1 The D2 BEETLE M terminal (Figures 9) incorporates an Intel Celeron processor and a communications riser card, which provides support for the SNIKEY touch screen, vendor's display.

5.4.1.2 The D2 BEETLE S has a smaller communications riser card which results in the overall height of the enclosure being less (Figure 10).

5.4.1.3 The E-1 BEETLE M-II POS terminal, as shown in Figure 9, incorporates a Pentium IV chip set and has a different model number on the front panel.

5.4.1.4 The BEETLE-X terminal (the "X" version of the BEETLE-M range) has an external power supply unit, as shown in Figure 11. The terminal has a Celeron M processor.

5.4.1.5 The BEETLE-SX terminal (the "SX" version of the BEETLE-M range). This model is similar to the X series but has a smaller 1 GHz processor; it uses the same external power supply unit referred to in section 5.4.1.4 (Figure 12).

# 6 OPERATION

The FOPT system is intended to provide attended operation during the day, and unattended operation at night.
The dispensers are controlled by means of the proprietary DART protocol; FOPTs are controlled by the proprietary Terminal 7816 protocol. Each dispenser calculator and FOPT cassette on a fuelling position are assigned the same RS-485 address, and are permanently associated with each other by means of these addresses.

## 6.1 Kiosk Transactions

A Kiosk payment transaction is initiated by the customer pressing the 'Pay at Kiosk' FOPT function key. The FOPT display prompts the customer to lift the nozzle; fuelling begins when the kiosk operator authorises the pump. When the nozzle is replaced, the display prompts the customer to pay in the kiosk. The operator concludes the transaction on the POS terminal in the normal manner.
No value or volume data is displayed or printed by the FOPT for kiosk transactions.

## 6.2 Pay at Pump Transactions

Payment at the Pump may be initiated by the customer by:

- Pressing the Pay @ Pump function key
- Inserting a payment or loyalty card
- Scanning a loyalty card or coupon

The customer is then prompted to insert card, enter PIN etc as required. Payment cards are authorised by the POS application, in the same manner as kiosk payments. These normally involve an on-line dialogue with the acquiring bank.

After the card has been authorised, the customer is prompted to remove it from the reader, after which the customer is prompted to lift the nozzle and begin fuelling.
When the nozzle is removed, the Display prompts the customer to select if a receipt is required. If no selection is made, a receipt will be printed. When the nozzle is replaced, if selected, a VAT receipt is printed.

After the transaction concludes, the display reverts to 'Pay @ Pump / Pay in Kiosk' welcome screen ready for the next customer. No transaction or card data is retained in the FOPT.

### 6.3 Receipt Information

The FOPT receipt uses similar layout as a kiosk receipt, a sample receipt is shown in Figure 13. The following data is given:

- Site details
- Fuelling position number
- Date/time
- Fuel Grade
- Transaction Volume in Litres
- Transaction Value
- VAT value
- Card transaction details

### 6.4 Duplicate Receipts

Following a Pay @ Pump FOPT transaction, the same card may be re-inserted into the same FOPT within a configurable period (typically 24 hours) to print a receipt. If no receipt was printed at the time of the original transaction, a normal receipt will be printed, otherwise it will be clearly marked as 'Duplicate'.

### 6.5 OPT printer faulty

The Forecourt Server continuously monitors the Receipt printer status:

- When 'Paper Out' or 'Paper Jam' is detected such that a receipt cannot be printed, the display will prompt the customer at the welcome screen "Receipt not Available".
- When Paper Low is detected, approximately 40 receipts can be printed before the paper roll is exhausted. The Forecourt Server will count the number of receipts printed after paper low is seen. After 20 receipts, it will display at the welcome screen "Receipt not available, and disable receipt printing".

It is then the customer's choice whether to proceed with a Pay @ Pump transaction at that fuelling position.

Paper Low, Paper Out, and Paper Jam status are displayed on the operators screen on all pump authorising POS terminals as icons on the relevant pump's button. In addition, these printer events are logged on the POS Alarm list, and require operator acknowledgement to delete them.

### 6.6 Reprinting Receipts

In the event that a customer has not been able to receive a receipt for an OPT transaction, a duplicate receipt may be obtained from the Master File Server PC. This is normally located in the store, and accessed by Customer Support personnel.

A duplicate receipt is obtained on the MFS as follows:

1. Log on and press F2. Select Receipts for the date in question:
2. Select required search criteria then press Select'.
3. Browse through the resulting list, selecting suitable entries the pressing 'Zoom In' to display
4. Press 'Zoom In' to display an image of the receipt; if correct, press 'Print' to reprint the receipt on an adjacent laser printer.

### 6.7 Interlocks and security

#### 6.7.1 Mechanical security

Internal access to the FOPT requires the Printer hatch to be opened. This is secured by a mechanical lock.
Once opened, it is possible to access the retaining screws that allow removal of either Cassette, as well as mains and data isolation switches, and pump operator buttons. Unscrewing the retaining screws allows separation (and replacement) of the cassettes, and access to their internal sub-assemblies.

#### 6.7.2 Electronic security

Unlocking the Printer hatch triggers a microswitch which causes a message to be sent to the Forecourt Server, where the event is logged as a security breach. During manned operation, the kiosk operator is alerted to this situation.

Card Reader and PINpad modules incorporate complex tamper detection mechanisms. In the event that the Card Reader taper detection is triggered, the Card Reader ceases to operate.

## 7 AUTHORISED ALTERNATIVES

### 7.1 Styling

The equipment will always be contained within painted metal casework. The styling and colour of the casework or front panel may be modified in accordance with the associated dispenser, or if it is mounted within the dispenser casework.

## 8 RECOMMENDED TESTS

The Forecourt system, including OPTs will take approximately 5 minutes to start up. OPTs perform internal self tests before responding to Forecourt Server polling. Only when all configured dispensers and OPTs are detected as operational will the Forecourt Server allow normal operation to commence.

When operational, the OPT displays the normal welcome screen (Pay @ Pump / Pay in Kiosk)

The following operational tests are suggested:

**8.1 Indication OPT transaction started**

- Either Press 'Pay @ Pump'; check that display prompts for payment or loyalty card,
- Or insert a payment card
- Check that the FOPT display prompts for PIN.
- POS display icon should indicate OPT card transaction in progress
- Press CANCEL and remove card, screen returns to Welcome screen

**8.2 Indication of security breach**

- Open printer door
- POS Operator displays an alert message indicating that the printer door has been opened.
- Close printer door, Operator message disappears.

**8.3 OPT Pay at Pump transaction**

- Insert a payment card, the OPT display changes stating the card will be authorised
- Using the PINPad enter the correct PIN number (if requested)
- Once payment authorisation is complete, lift nozzle and dispense fuel
- POS display indicates OPT transaction in progress and details can be displayed.
- Return nozzle and a receipt will be printed.
- Verify that receipt is printed with correct volume and value, site name & address, transaction number and card type.
- OPT transaction details cleared from POS without any operator intervention.

**8.4 Pay in Kiosk Transaction**

- Remove nozzle, the display prompts user to select Pay @ Pump or Pay in Kiosk
- Select 'Pay in Kiosk'
- FOPT Display shows 'Waiting for cashier'; POS shows dispenser is 'calling'.
- When cashier authorises pump, FOPT displays 'Fuelling'.
- Replace nozzle, the OPT screen returns to Welcome screen

**8.5 Paper Out check**

- Open the printer head using the green lever and remove paper from the head.
- Check that the OPT display corresponding to the printer, when ready for next transaction, displays 'Receipt not Available'.

**8.6 Paper Lowcheck**

- With paper loaded in the printer head mechanism (so as not to trigger the Paper Out sensor), remove the receipt roll retaining disk, pull a loop of paper off the roll to allow extraction of the roll from the spindle.
- With the roll extracted (but paper still present in the printer mechanism) check that the Paper Low icon is displayed on that pump's button on the POS terminal.
- Replace roll on spindle, wind up spare paper and replace retaining disk.

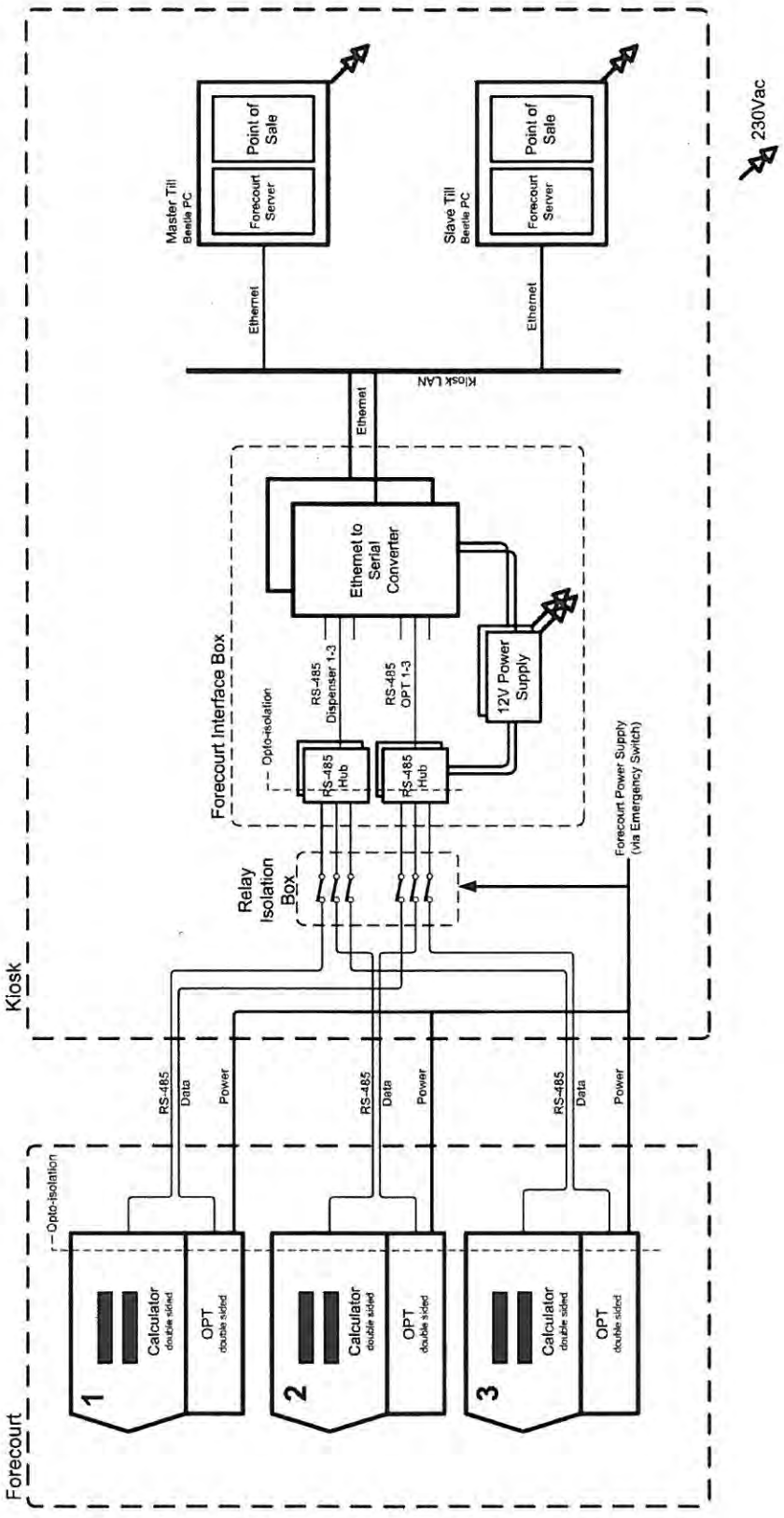



**Figure 1 Forecourt Wiring**

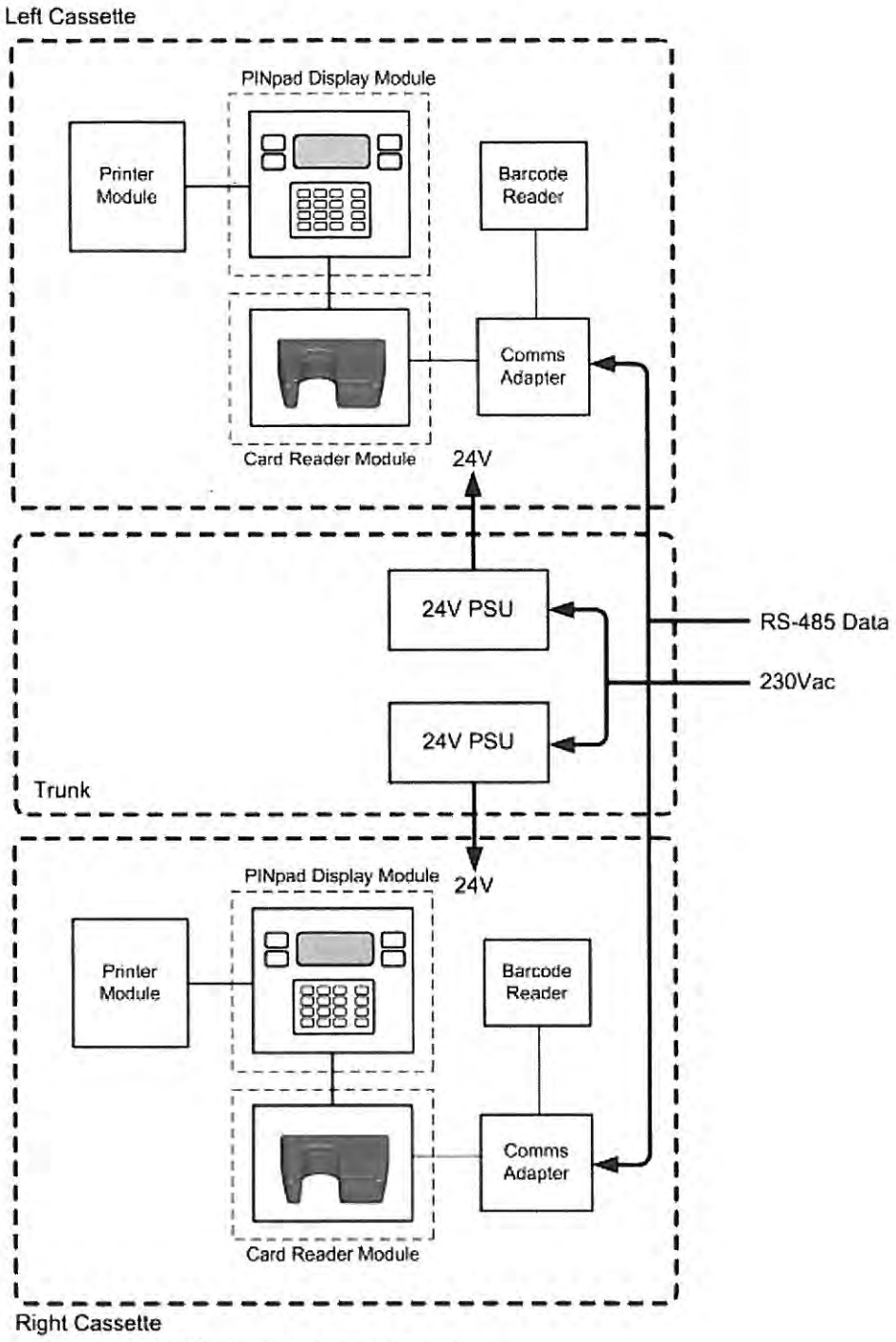



**Figure 2 FOPT Hardware Architecture**

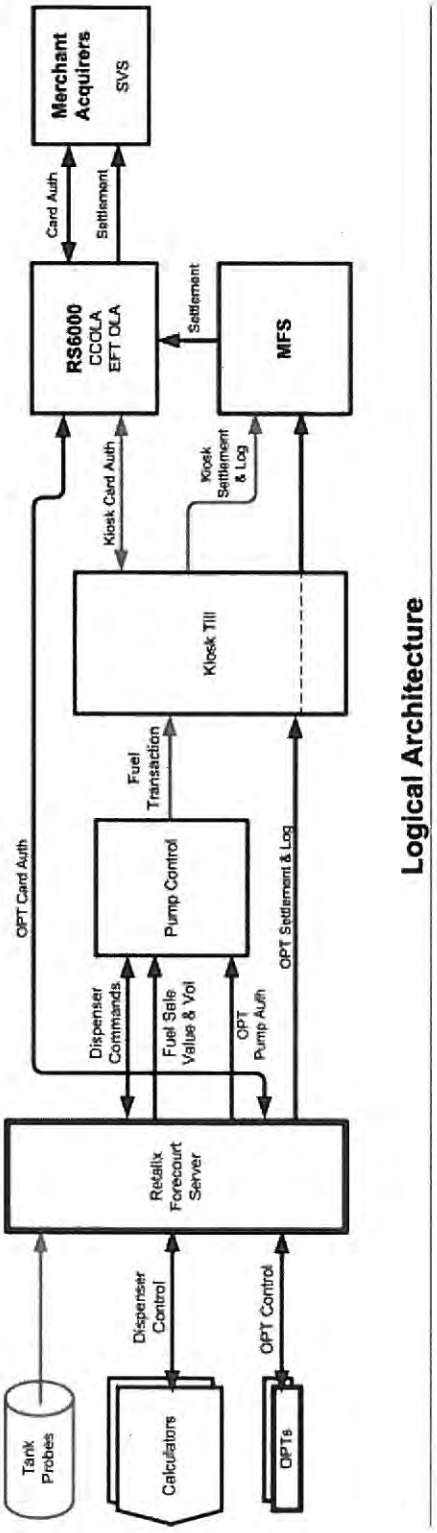



**Figure 3 Logical Architecture**

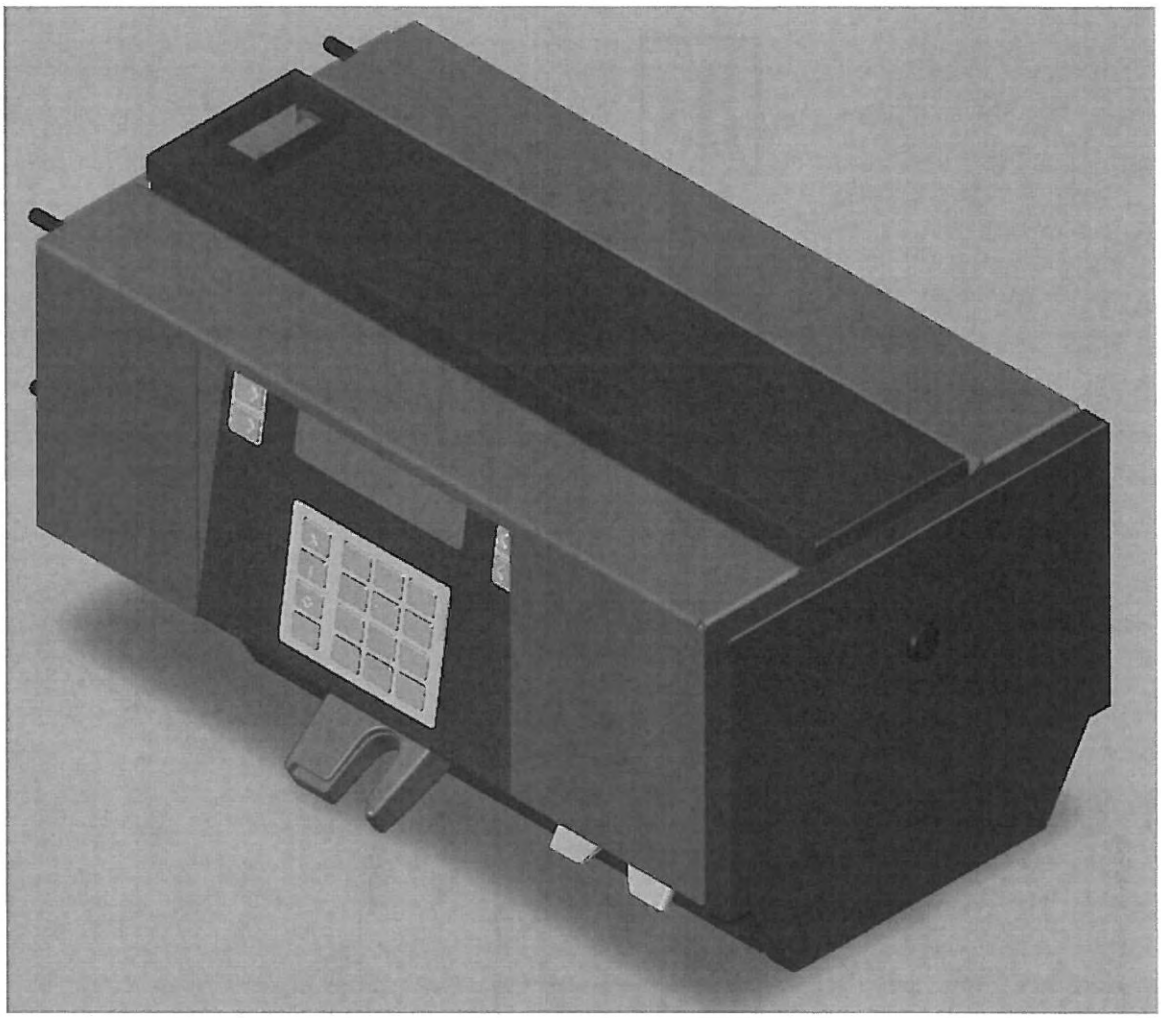


**Figure 4 OPT outline**

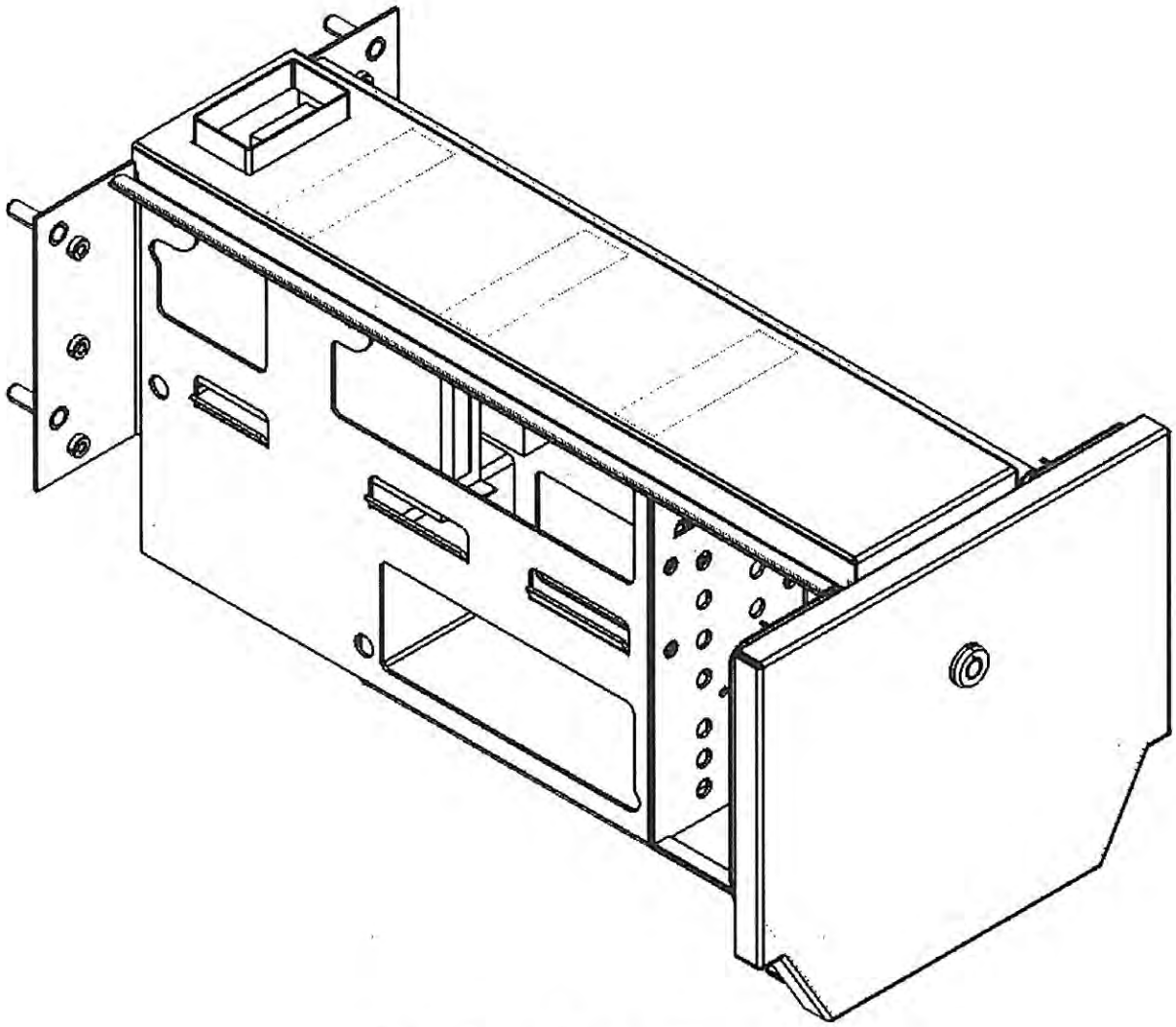


**Figure 5 Trunk outline**

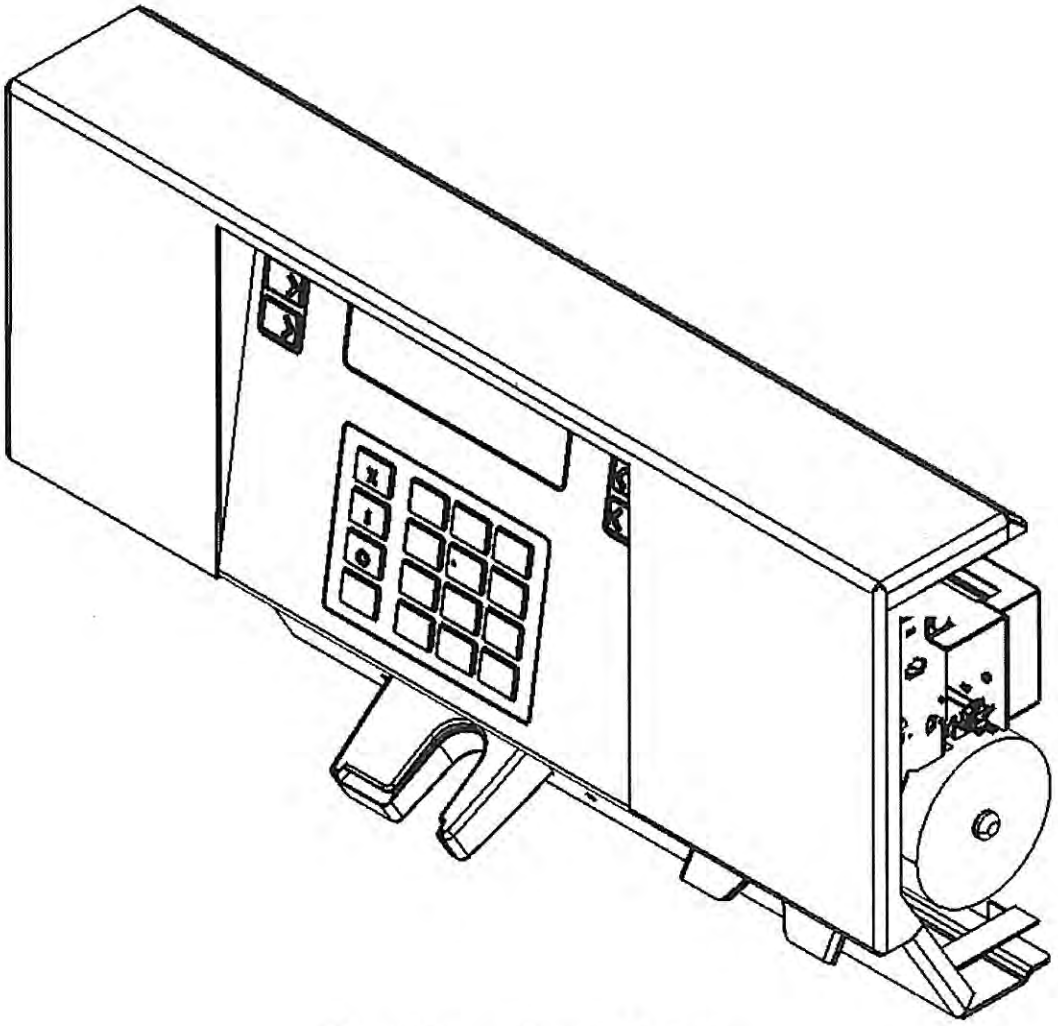


**Figure 6 Cassette Outline**

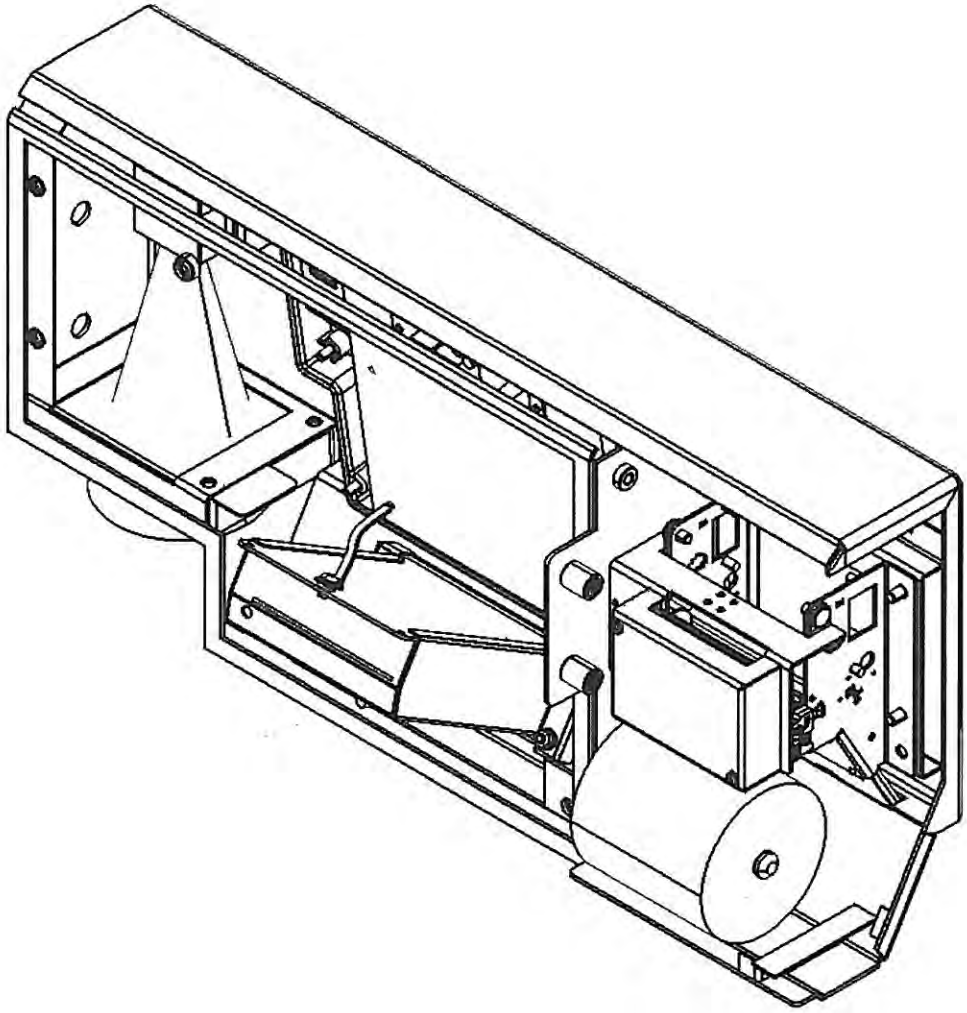


**Figure 7 Cassette Internals (protective plate removed)**

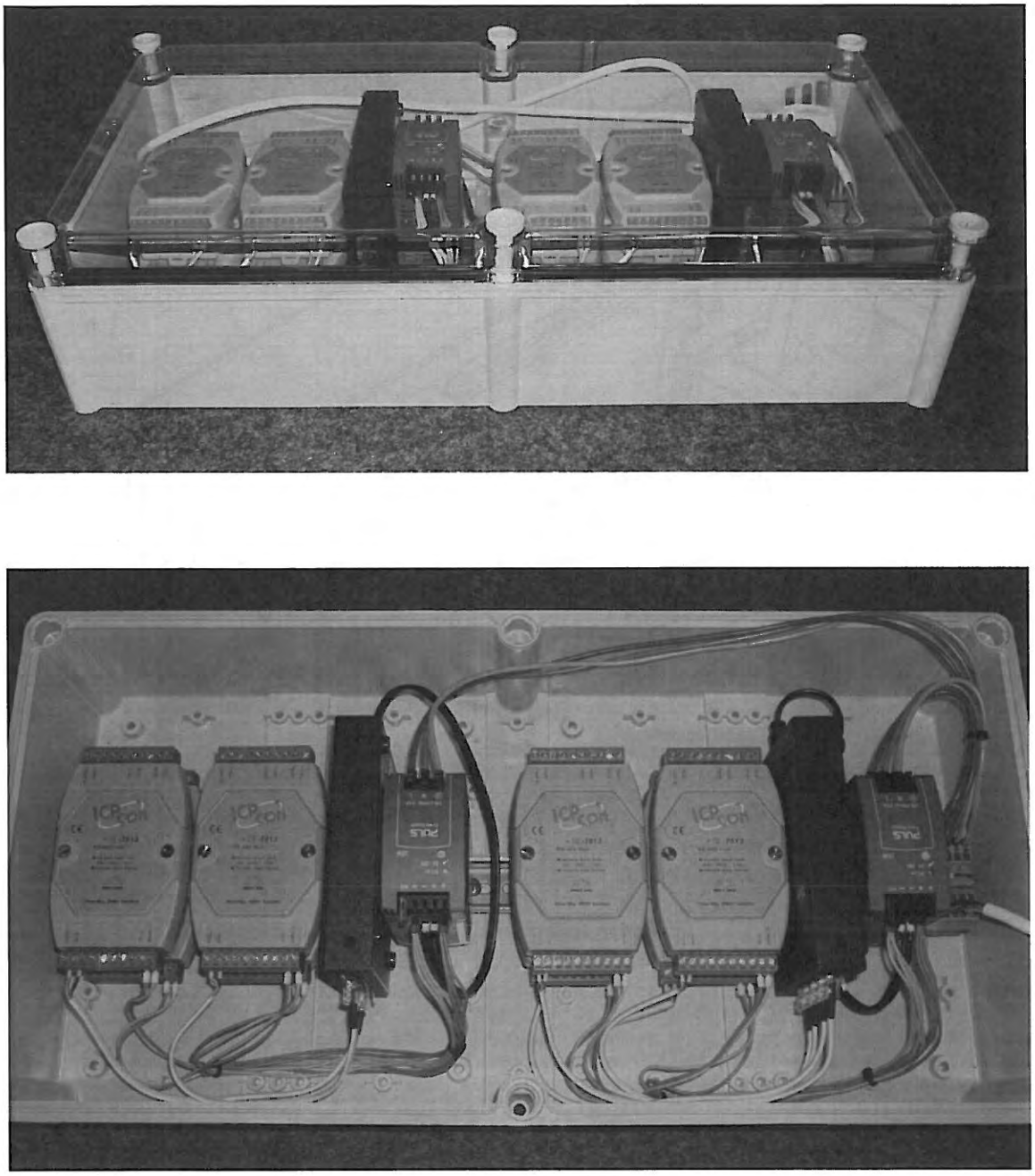


**Figure 8 Forecourt Interface Box**

**Figure 9 D2 BEETLE M POS terminal**

**Figure 10 Rear view of D2 BEETLE S POS terminal**

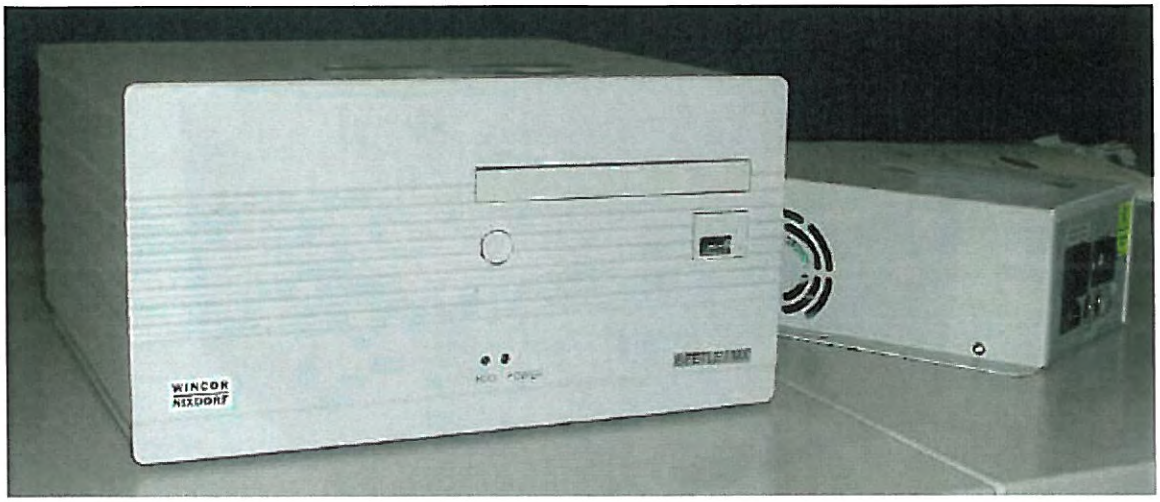
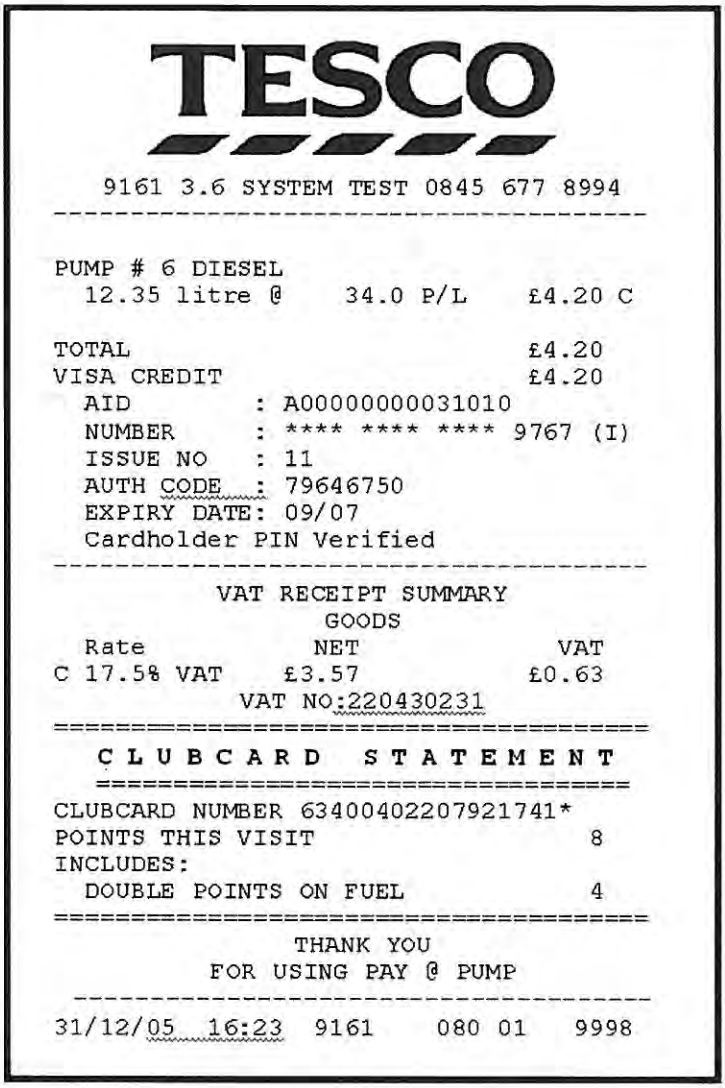



**Figure 11 BEETLE-X POS terminal with external power supply unit**


**Figure 12 BEETLE-SX POS terminal**



TESCO

9161 3.6 SYSTEM TEST 0845 677 8994

PUMP # 6 DIESEL
12.35 litre @ 34.0 P/L £4.20 C

TOTAL £4.20
VISA CREDIT £4.20
AID : A00000000031010
NUMBER : **** **** **** 9767 (I)
ISSUE NO : 11
AUTH CODE : 79646750
EXPIRY DATE: 09/07
Cardholder PIN Verified

VAT RECEIPT SUMMARY
GOODS

| Rate | NET | VAT |
|---|---|---|
| C 17.5% VAT | £3.57 | £0.63 |

VAT NO:220430231

CLUBCARD STATEMENT

CLUBCARD NUMBER 63400402207921741*
POINTS THIS VISIT 8
INCLUDES:
DOUBLE POINTS ON FUEL 4

THANK YOU
FOR USING PAY @ PUMP

31/12/05 16:23 9161 080 01 9998

**Figure 13 Sample Receipt**