

Aljac 4 Litre Closed Circuit Sampler

Operating and Maintenance Instructions

Aljac Fuelling Components Limited
Pitfield House, Station Approach.
Shepperton. Middlesex.
TW17 8AN. UK.

Tel: 44 (0) 1932 269869.
Fax: 44 (0) 1932 269230.

Distributed in USA as
JM-3001 Series by
Gammon Technical Products, Inc.
2300 Highway 34
PO Box 400
Manasquan, NJ 08736-0400
gammontech@gammontech.com
www.gammontech.com

ALJAC FUELLING COMPONENTS LIMITED

Pitfield House, Station Approach, Shepperton. Middlesex. TW17 8AN. UK.
Tel: 44 (0) 1932 269869.

Fax: 44 (0) 1932 269230.

email: sales@aljac.com



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Aljac 4 Litre Closed Circuit Sampler

1.0 Introduction:

The accepted method of checking the cleanliness of aviation fuel is the 'clear and bright' test, where fuel is swirled around in an open bucket or clear glass jar and visually inspected. However, this procedure carries the risk of sample contamination from the elements or from dirty sample points. There is also a high probability of fuel spillage and contact with operations staff, which is unacceptable. The Aljac Closed Circuit Sampler (CCS) has been developed to overcome these problems and actually improves sampling procedures, and as a result it is now in widespread use with refuelling companies all over the world.

The Aljac 4 litre closed circuit sampler consists of a clear glass tube fitted to a white epoxy coated conical base to assist in the detection of dirt and water, and with a hinged vented cover. The base incorporates a tangential inlet port to promote vortexing of the incoming fuel, and integral coupled Stainless Steel drain valve.

When fuel is drawn into the CCS under pressure from the sample points the tangential inlet port promotes vortexing of the incoming fuel. This concentrates any contamination in the centre of the base, making detection very easy. After the fuel has been visually inspected the drain valve is opened to release the sample. Internal cleaning of the Aljac CCS is easily accomplished through the hinged lid.

A number of options are also available. Hydrometer and thermometer pockets for density and temperature checks can be provided in conjunction with a removable inner lid. It is also possible to carry out the Shell Water Detector or Exxon Hydrokit test on the fuel sample using an option which can either be fitted to the inner lid (internal), or to a self sealing valve in the inlet port (external). The Aljac CCS is available with BSPP or NPT threads.

Below lists the different sampler options:

Description	Part Number BSPP threads	Part Number NPT threads
Basic Model	6007233001	6007233021
Basic Model + Internal Velcon Hydrokit Fitting	6007233002	6007233026
Basic Model + Internal Shell Water Detector Fitting	6007233003	6007233025
Basic Model + Internal Velcon Hydrokit Fitting + Hydrometer and Thermometer Tubes	6007233004	6007233024
Basic Model + Internal Shell Water Detector Fitting + Hydrometer and Thermometer Tubes	6007233005	6007233022
Basic Model + Hydrometer and Thermometer Tubes	6007233016	6007233023
Adds External Shell Water Detector Fitting	6007233212	6007233213
Adds External Velcon Hydrokit Fitting	6007233203	6007233204

2.0 Installation:

WARNING:

The end user must exercise caution when locating the sampler ensuring the surrounding area does not have a potential source of ignition.

1. The sampler has been designed to be part of a fuel system and is safe to install into a potentially explosive atmosphere however the end user must exercise caution in that the sampler unit in its self may give rise to potentially explosive atmosphere categorized as zone 2 (Cat. 3) outside and zone 0 (Cat. 1) inside and therefore this should be taken into consideration by the end user when locating it and ensuring the surrounding area does not have a potential source of ignition.
2. The CCS sampler has two mounting holes on the base and is supplied with two M12 x 25mm long screws these are to be used for fixing sampler into position. The CCS sampler is best mounted at eye level, however make sure it is still lower enough to easily clean.
3. Connecting the inlet of the CCS sampler into the fuel system is done by using small bore tube typically 10mm diameter. Connect the inlet port on the sampler to the sample points on the fuel system. It is also recommended that a spring close valve is used on the inlet side of the CCS sampler to allow for a controlled filling operation.
4. Connecting the outlet of the CCS sampler into the fuel system is done by using 20mm inside diameter pipework. Connect the drain port (outlet) on the CCS sampler to the hydrant dispenser dump tank, depot product recovery system, or storage tank.
5. It is recommended that CCS is located so that gravity drainage is possible. If gravity drainage is not possible then the installation will require a rotary hand pump and non return valve to drain the CCS sampler.
6. Ensure that the CCS sampler is electrically bonded to the surrounding system.

WARNING:

When installing the CCS sampler it is important that it is bonded and that any other fuel equipment in the fuel system is bonded through a main earth point.

CAUTION:

All installation work must be carried out using safe principles and adhere to site standards and regulations.

3.0 Operating Procedure.

The following procedure is applicable to the basic Sampler model and to Samplers with the following internal fittings: - Shell Water Detector or Velcon Hydrokit, Hydrometer and Thermometer fittings.

1. First ensure that the Sampler is empty, and clean, containing no traces of solid contaminant or water.

Ensure that the valve in the inlet pipework is closed, the Sampler Outlet Valve is closed, and the Cover shut.

2. Slowly open the Inlet Valve to permit the product sample to enter the Sampler, and carefully fill to a level 20 mm from the top of the glass cylinder. Close the Inlet Valve

CAUTION:

Operator must take care not to over fill the CCS sampler as this could result in a fuel spillage.

3. Allow the sample to settle, then examine the appearance of the product for solid contaminant or free water, either in suspension or lying on the bottom surfaces of the Sampler. If the sample has a satisfactory appearance, and the Sampler has internal fittings, proceed to the checks in 4) below. If there are no internal fittings proceed to 5)
4. Open the cover of the Sampler and check for water using the Shell Water Detector Capsule / Velcon Hydrokit equipment, inserting the syringe/test tube into the fitting in the Sampler Inner Lid.

If required, measure the density of the Jet Fuel using an approved hydrometer in the internal hydrometer fitting, and similarly the temperature using an approved thermometer.

When these measurements are complete, remove the instruments and close the cover of the Sampler.

5. Open the Sampler outlet ball valve in the base to permit the sample to drain to the sample/drain tank of the fuelling vehicle.

Check the sides of the glass cylinder and the bottom of the Sampler for solids or water and clean if necessary using a clean anti static cloth (see following procedure).

WARNING:

Use a clean anti static cloth to clean the CCS sampler to avoid static charge build up.

6. Repeat the above procedure if another sample is to be checked
7. Do not leave full of fuel, make sure CCS sampler is completely drained after each sample.

4.0 Internal Cleaning.

WARNING:

Use a clean anti static cloth to clean the CCS sampler to avoid static charge build up.

In the event of a wet or dirty sample passing into the Sampler, the cleaning operation should be carried out immediately after draining and before the next sample is taken.

Proceed as follows, referring to drawings Appendix A and Appendix B or Appendix C and Appendix D:

1. Ensure Inlet Valve (not shown) is closed.
2. Open Cover (Item 8), by releasing Spring Clip (Item 10), and hinge back.
3. If fitted, remove Inner Lid (Item 29) complete with fittings, by rotating until the cut-outs are in line with the pins in the Cover Frame (Item 7), and lifting clear.
4. With Drain Valve closed, wipe out the inside of the Glass Tube (Item 3), and the white painted base. Use **ONLY a clean, dry anti static cloth** and ensure that no material fibres are left inside the glass.
5. Clean outside of glass and check that there is clear visibility through the glass.
6. Replace Inner Lid (Item 29) and close hinged cover.

Unit is now ready for use.

5.0 Maintenance and Repair Guide

WARNING:

All maintenance work must be carried out using safe principles and adhere to site standards and regulations. Maintenance work must be carried out using non sparking tools when working in a potentially explosive atmosphere. Before removing the CCS sampler from its location to do maintenance it must be drained and cleaned properly removing all traces of fuel.

Because of the simplicity of the device it is unlikely that faults will occur, but possible problems and remedies are listed below:-

1. Broken Glass Tube due to impact damage or accident

The Glass Tube (Item 3), and Gaskets (Item 6), 2 off must be replaced. Proceed as follows:-

- 1.1 With Drain Valve closed, release Cover (Item 8), and hinge back.
- 1.2 If fitted, remove Inner Lid (Item 29).
- 1.3 Remove Tie Rod nuts (Item 56), and Washer (Item 51), and retain. Remove Cover Frame (Item 7), complete.
- 1.4 Carefully remove remainder of Glass Tube and Gasket (Item 6), and discard.
- 1.5 Carefully ensure that all traces of broken glass are removed.
- 1.6 Place new Gasket (Item 6) in base and fit new Glass Tube.
- 1.7 Place second new Gasket (Item 6) in Cover Frame (Item 7) and locate Frame over Tie Rods (Item 15), ensuring that Gasket (Item 6) is correctly positioned.
- 1.8 Replace Washers (Item 51) and Domed Nuts (Item 56).
Tighten nuts uniformly finger tight only at this stage and check that Glass Tube (Item 3) and Cover Frame (Item 7) are correctly seated, with Gaskets correctly positioned.
- 1.9 Carefully tighten Nuts (Item 56) uniformly to the minimum torque necessary to effect a seal only. Use a short spanner.

2. Leakage from Drain Valve handle shaft

This can only occur during the draining operation when the main Drain Valve is open and is therefore most unlikely to occur. If leakage does occur, the procedure below should be followed:-

- 2.1 Using an open ended spanner, unscrew Shaft Bush (Item 19), and remove complete Handle / Shaft assembly. Using a suitable drift, punch out Pin (Item 44), and remove Handle.
- 2.2 On models produced before February 1992, there are 2 circlips fitted. Remove only the circlip and washers fitted between the Handle and the Shaft Bush.
- 2.3 Pull off Shaft Bush (Item 19), from Shaft (Item 18).
- 2.4 On units produced after February 1992, the outer circlip is not fitted. Simply remove and retain washer, and pull Shaft Bush (Item 19) from Shaft (Item 18).
- 2.5 On units produced after 1996, no circlips are fitted. In this case, simply remove and retain washer, and pull Shaft Bush (Item 19) from Shaft (Item 18).
- 2.6 Replace Shaft Bush O-Ring (Item 38), and Shaft O-Ring, (Item 39).
- 2.7 Re-assemble, taking great care when replacing Shaft Bush over Shaft not to damage the shaft O-Ring seal. Coat the Shaft with petroleum jelly before attempting assembly.

3. Faulty Drain Valve

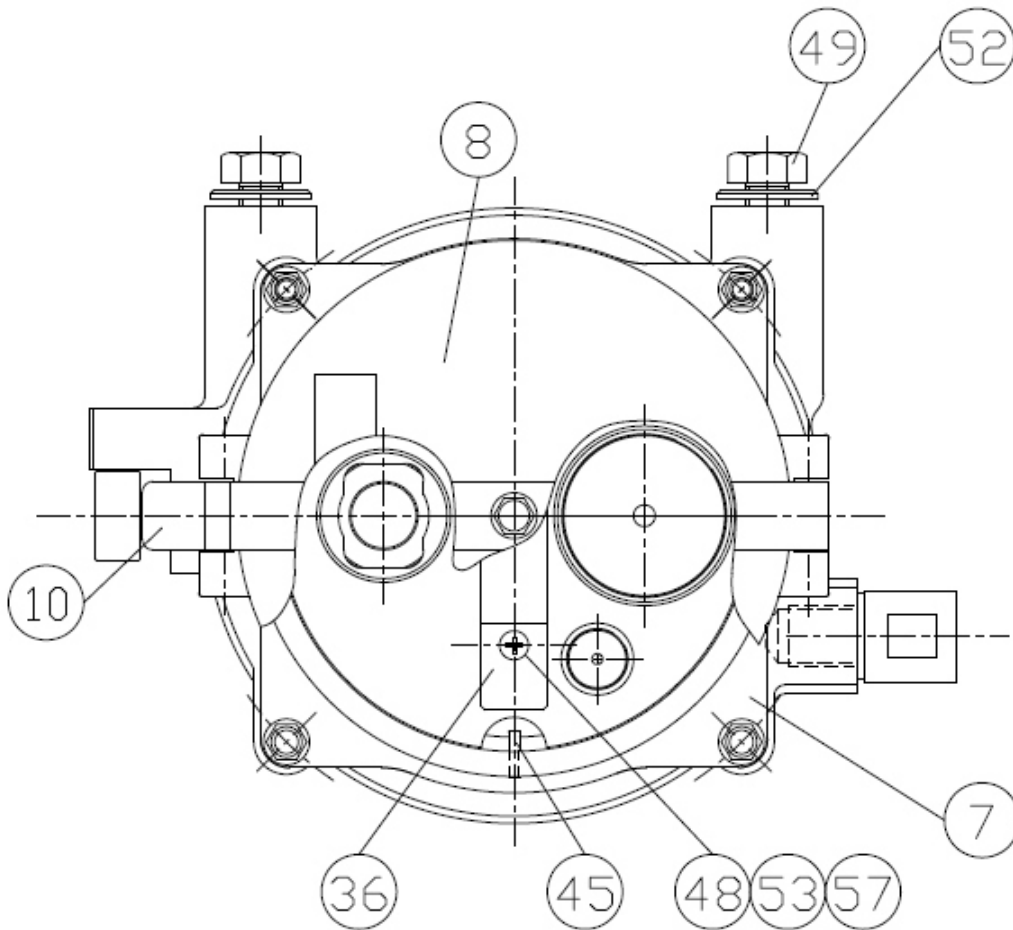
To replace, the Sampler must be disconnected from the drain piping to give access to the Ball Retainer (Item 25).

- 3.1 With the Drain Valve in the closed position, remove the Handle and Shaft assembly complete by unscrewing the Shaft Bush (Item 19), with an open-ended spanner.
- 3.2 Unscrew Ball Retainer (Item 25 or Item 26).
- 3.3 If fitted, remove Inner Lid (Item 29) and, using a wooden or plastic rod gently push down on the Ball from the top of Sampler to release from Base, together with lower Ball Seat (Item 22). The Upper Ball Seat must also be removed. It may be necessary to dislodge from base. Take care not to damage the polished surface of the ball.
- 3.4 Discard Ball (Item 21), Ball Seat (Item 22), Gasket (Item 23) and replace with new items.
- 3.5 Re-assemble in reverse order.

6.0 4 Litre Sampler Assembly Drawings

APPENDIX A

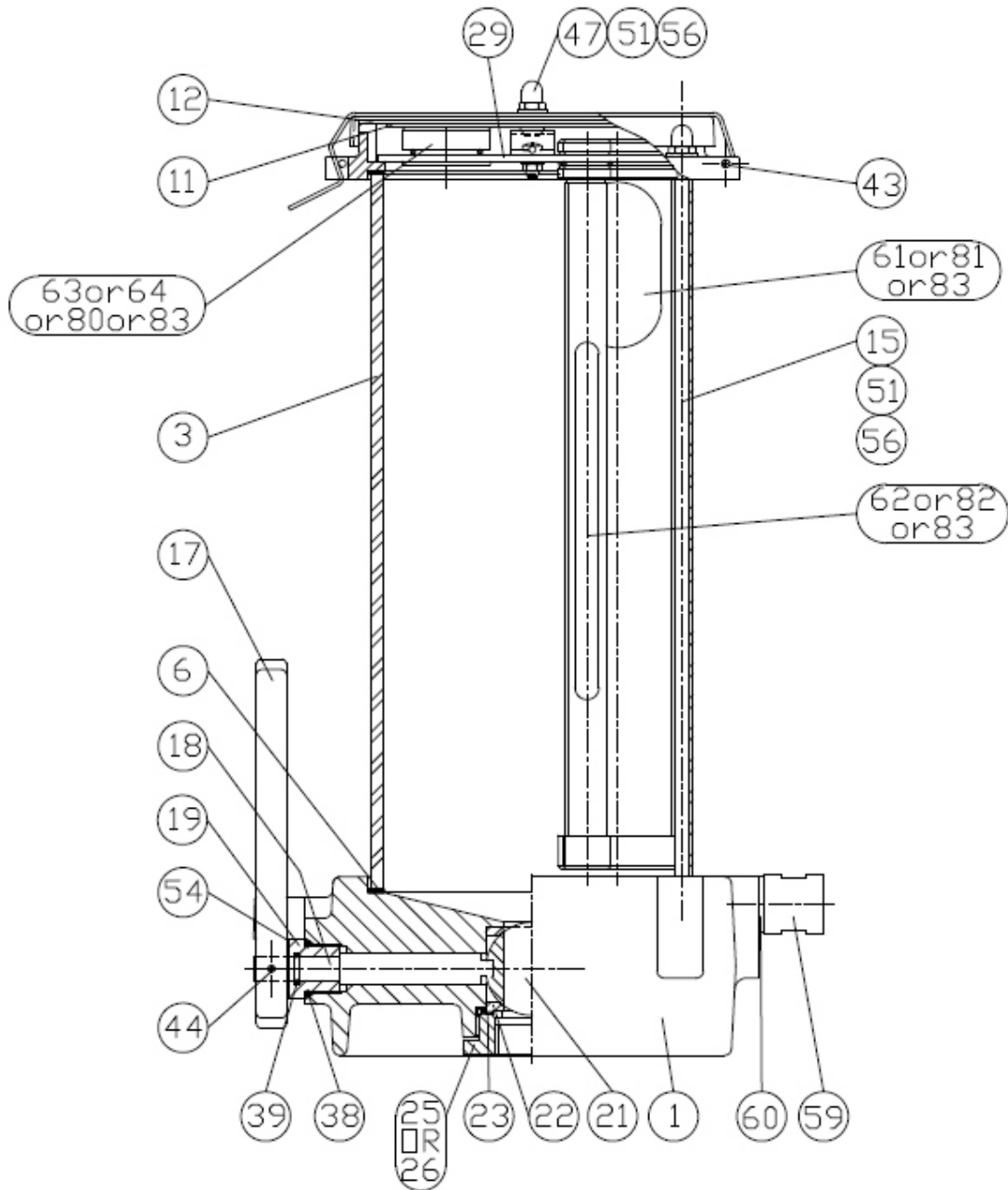
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SHEET 1 OF 2



4 Litre Sampler Parts List					
ITEM	DESCRIPTION	QTY.	PART No.	INDIVIDUAL SPARE	SPARES KIT
1	BASE	1	6007233101	NO	NO
3	GLASS TUBE	10	6007233110	YES	NO
6	GASKET, GLASS TUBE	2	6007233113	NO	6007233226
7	COVER FRAME	1	6007233114	NO	6007233260
8	COVER	1	6007233124	YES	6007233260 or 6007233261
10	SPRING CLIP	1	6007233125	YES	6007233260 or 6007233261
11	COVER PLATE	1	6007233172	NO	6007233260 or 6007233261
12	COVER SEAL	1	6007233117	YES	6007233260 or 6007233261
15	TIE ROD	4	6007233127	NO	6007233262
17	HANDLE, BALL VALVE	1	6007233227	YES	NO
18	SHAFT, BALL VALVE	1	6007233230	YES	NO
19	SHAFT BUSH	1	6007233228	YES	NO
21	BALL	1	6007233103	YES	NO
22	BALL SEAT	1	6007233104	NO	6007233237
23	GASKET	1	6007233106	NO	6007233237
25	BALL RETAINER (BSPP)	1	6007233105	YES	NO
26	BALL RETAINER (NPT)	1	6007233173	YES	NO
29	INNER LID	1	6007233242	YES	NO
36	HANDLE FOR INNER LID	1	6007233142	YES	NO
38	'O' RING, SHAFT BUSH	1	6007233119	YES	6007233237
39	'O' RING SHAFT	1	6007233229	YES	6007233237
43	PIN, LID HINGE	2	6007233121	YES	6007233260 or 6007233261
44	PIN, HANDLE	1	6007233130	YES	NO
45	ROLL PIN Ø3 x 25 LONG ST. STL.	2	6007233181	YES	6007233260
47	M6 x 15 LG. BUTTTON HD. SCREW S/S	1	6007233182	YES	6007233260 or 6007233261
48	M4 x 10 LG. CH. HD. SCREW ST. STL.	2	6007233144	YES	NO
49	M12 x 25 LG. HEX. HD. SCREW ST. STL.	2	6007233263	YES	NO
51	M6 FLAT WASHER ST. STL.	5	6007233129	YES	6007233260 or 6007233261
52	M12 FLAT WASHER ST. STL.	3	6007233112	YES	NO
53	M4 FLAT WASHER ST. STL.	2	6007233145	YES	NO
54	M10 FLAT WASHER ST. STL.	1	6007233231	YES	NO
56	M6 DOMED NUT ST. STL.	5	6007233126	YES	6007233260 or 6007233261
57	M4 HEX. FULL NUT ST. STL.	2	6007233143	YES	NO
59	3/8" NPT x 3/8" BSPP ADAPTOR	1	6007233217	YES	NO
60	BONDED SEAL 3/8" (DOWTY)	2	6007233153	YES	NO
61	HYDROMETER HOUSING - OPTIONAL ITEM	1	6007233166	YES	NO
62	THERMOMETER HOUSING - OPTIONAL ITEM	1	6007233167	YES	NO
63	INTERNAL SHELL WATER DETECTOR - OPTIONAL ITEM	1	6007233168	YES	NO
64	INTERNAL HYDROKIT FITTING - OPTIONAL ITEM	1	6007233194	YES	NO
80	PLUG FOR SWD HOLE, INNER LID	1	6007233248	YES	NO
81	PLUG FOR HYDRO. HOLE, INNER LID	1	6007233249	YES	NO
82	PLUG FOR THERMO. HOLE, INNER LID	1	6007233250	YES	NO
83	REPLACEMENT 'O' RING SEAL KIT	1	6007233251	YES	NO

APPENDIX B

REF No. 233-4011
SHEET 2 OF 2





4 Litre Sampler Parts List					
ITEM	DESCRIPTION	QTY.	PART No.	INDIVIDUAL SPARE	SPARES KIT
1	BASE	1	6007233101	NO	NO
3	GLASS TUBE	16007233110	YES NO		
6	GASKET, GLASS TUBE	2	6007233113	NO	6007233226
7	COVER FRAME	1	6007233114	NO	6007233260
8	COVER	1	6007233124	YES	6007233260 or 6007233261
10	SPRING CLIP	1	6007233125	YES	6007233260 or 6007233261
11	COVER PLATE	1	6007233172	NO	6007233260 or 6007233261
12	COVER SEAL	1	6007233117	YES	6007233260 or 6007233261
15	TIE ROD	4	6007233127	NO	6007233262
17	HANDLE, BALL VALVE	1	6007233227	YES	NO
18	SHAFT, BALL VALVE	1	6007233230	YES	NO
19	SHAFT BUSH	1	6007233228	YES	NO
21	BALL	1	6007233103	YES	NO
22	BALL SEAT	1	6007233104	NO	6007233237
23	GASKET	1	6007233106	NO	6007233237
25	BALL RETAINER (BSPP)	1	6007233105	YES	NO
26	BALL RETAINER (NPT)	1	6007233173	YES	NO
29	INNER LID	1	6007233242	YES	NO
36	HANDLE FOR INNER LID	1	6007233142	YES	NO
38	'O' RING, SHAFT BUSH	1	6007233119	YES	6007233237
39	'O' RING SHAFT	1	6007233229	YES	6007233237
43	PIN, LID HINGE	2	6007233121	YES	6007233260 or 6007233261
44	PIN, HANDLE	1	6007233130	YES	NO
45	ROLL PIN Ø3 x 25 LONG ST. STL.	2	6007233181	YES	6007233260
47	M6 x 15 LG. BUTTTON HD. SCREW S/S	1	6007233182	YES	6007233260 or 6007233261
48	M4 x 10 LG. CH. HD. SCREW ST. STL.	2	6007233144	YES	NO
49	M12 x 25 LG. HEX. HD. SCREW ST. STL.	2	6007233263	YES	NO
51	M6 FLAT WASHER ST. STL.	5	6007233129	YES	6007233260 or 6007233261
52	M12 FLAT WASHER ST. STL.	3	6007233112	YES	NO
53	M4 FLAT WASHER ST. STL.	2	6007233145	YES	NO
54	M10 FLAT WASHER ST. STL.	1	6007233231	YES	NO
56	M6 DOMED NUT ST. STL.	5	6007233126	YES	6007233260 or 6007233261
57	M4 HEX. FULL NUT ST. STL.	2	6007233143	YES	NO
59	3/8" NPT x 3/8" BSPP ADAPTOR	1	6007233217	YES	NO
60	BONDED SEAL 3/8" (DOWTY)	2	6007233153	YES	NO
61	HYDROMETER HOUSING - OPTIONAL ITEM	1	6007233166	YES	NO
62	THERMOMETER HOUSING - OPTIONAL ITEM	1	6007233167	YES	NO
63	INTERNAL SHELL WATER DETECTOR - OPTIONAL ITEM	1	6007233168	YES	NO
64	INTERNAL HYDROKIT FITTING - OPTIONAL ITEM	1	6007233194	YES	NO
80	PLUG FOR SWD HOLE, INNER LID	1	6007233248	YES	NO
81	PLUG FOR HYDRO. HOLE, INNER LID	1	6007233249	YES	NO
82	PLUG FOR THERMO. HOLE, INNER LID	1	6007233250	YES	NO
83	REPLACEMENT 'O' RING SEAL KIT	1	6007233251	YES	NO

7.0 Recommended Spares for 4 Litre Sampler

Product Name	Part Number
Glass Tube Standard Length	6007233110
Top End Seal Kit	6007233226
Bottom End Seal Kit	6007233237

4 Litre Sampler Spares Kits

Product Name	Part Number	Contents of Kit	
		Part No.	Qty.
Top End Seal Kit	6007233226	6007233113	2
Bottom End Seal Kit	6007233237	6007233104	2
		6007233106	1
		6007233119	1
		6007233229	1
Complete Top End Assembly	6007233260	6007233124	1
		6007233125	1
		6007233172	1
		6007233117	1
		6007233121	1
		6007233182	1
		6007233129	4
		6007233126	4
		6007233114	1
		6007233181	1
Cover Assembly	6007233261	6007233124	1
		6007233125	1
		6007233172	1
		6007233117	1
		6007233121	1
		6007233182	1
		6007233129	4
		6007233126	4
Tie Rod Assembly	6007233262	6007233127	1
		6007233129	1
		6007233126	1

8.0 External Shell Water Detector Fitting

This fitting is designed to accept the standard Shell Water Detector Capsule and Syringe, and to permit a sample to be drawn without leakage of fuel. It is field adjustable to accept different lengths of syringe.

Operating Procedure

Insert the syringe with SWD capsule into the fitting. The capsule pushes the internal valve into the bore of the cylinder and allows the flange of the syringe to engage in the slot provided in the fitting. With the syringe secure in the fitting, it can be easily operated to draw the required sample volume.

Adjustment

The fitting can be adjusted* to accept different length syringes.

Adjustment can be easily done in the field to suit the particular syringe type in use, this can be carried out by using a special tool (part no. 6007233215) Unless otherwise requested, the fitting is factory set for the older type Atlas syringe with the straight shoulder flange.

To adjust for another syringe type, unscrew the Locking Ring (Item 14), and screw the Upper Body Extension (Item 13), either in or out, until the slot into which the shoulder flange of the syringe fits is in the correct position. The Upper Body Extension (Item 13), should then be held in this position whilst the Locking Ring (Item 14), is retightened. It is recommended that the threads in the Extension (Item 13) and Lock Ring (Item 14) can be completely cleaned, and secured using an appropriate thread sealant such as Loctite 222.

The slot will be in the correct position when the syringe flange is engaged in it, and the SWD capsule is causing the internal Valve Piston (Item 8), to lift sufficiently to permit flow into the syringe.

Aljac external SWD fittings produced prior to January 1995 were not adjustable, and were designed to accommodate the Atlas syringe with the straight shoulder flange.

* Note

A special tool, Pt. No. 6007233215 may be purchased from Aljac Fuelling Components Ltd for this purpose.

Maintenance and Repair

Possible sources of leakage in the external SWD fitting are the various seals in the assembly, and these should be replaced as necessary using the appropriate bonded seals or O-Rings.

Spare parts, including O rings, should be obtained from Aljac Fuelling Components Ltd to ensure correct operation of the device.

Dis-assembly of the unit is done by unscrewing the Set Screw (Item 26) to permit withdrawal of the Upper Body (Item 12), taking care not to damage the Upper Body/Lower Body O-ring Seal (Item 24). By carefully removing the Upper Body (Item 12), the Valve Piston (Item 8), and the Spring (Item 6), can be removed. The two sealing O-rings (Item 10, & Item 11), can now be examined. The Valve Piston sealing O-ring (Item 9), can be removed using a non-metallic tool to ease it from its groove in the internal bore of the Upper Body.

Note – when the unit is fitted to the 20 litre Sampler, the lower body is replaced by a machined entry in the Sampler base casting.

Trouble Shooting

Problems likely to be encountered in service with this unit will almost certainly be due to damaged O-ring seals. It would be good practice to replace all O-rings in the unit when it is dismantled for any reason, and a complete O-ring kit is available from Aljac Fuelling Components Ltd.

Possible sources of leakage are as indicated below:

- i) Leakage from lower body/connector (4 Litre Sampler).

Change Bonded Seals (Item 5).

- ii) Leakage from valve, when not in use.

Remove Upper Body (Item 12) and replace O-ring (Item 9).

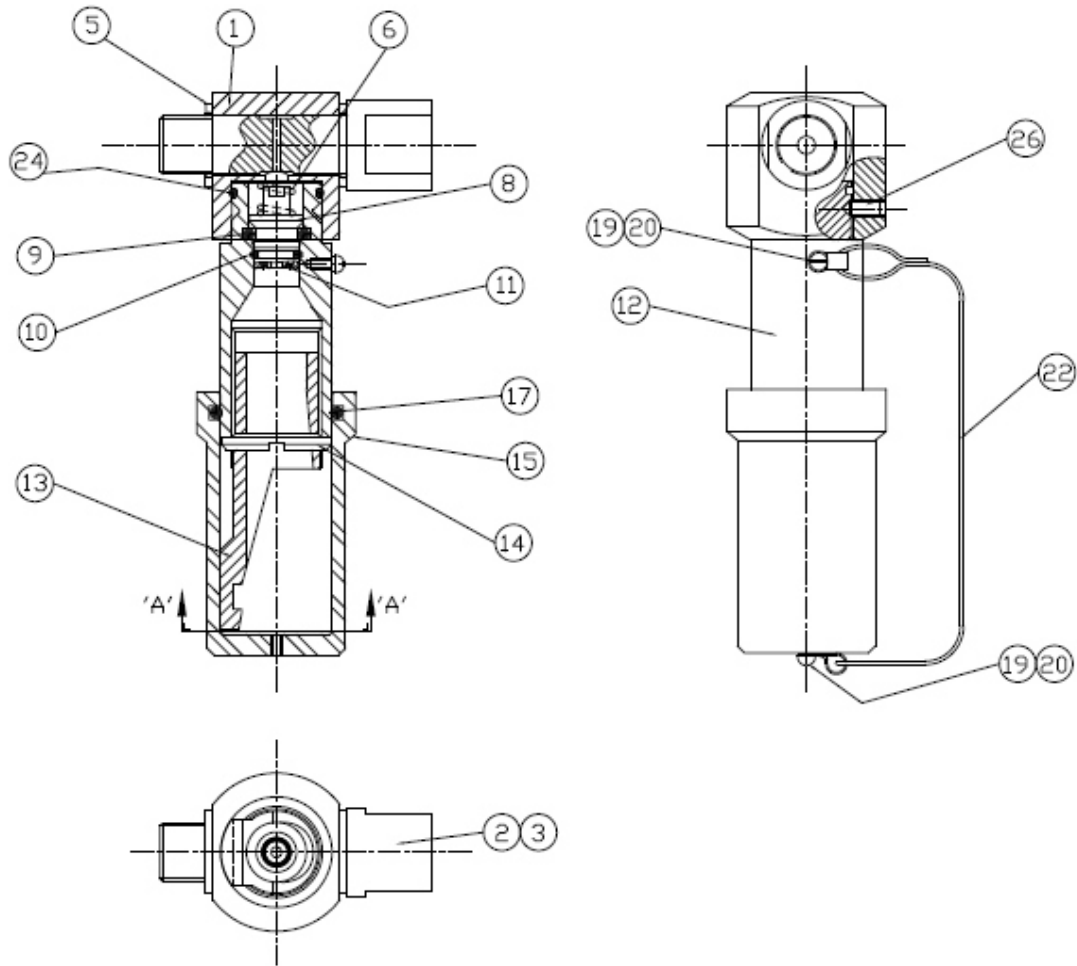
- iii) Leakage from valve whilst drawing a sample.

Remove Upper Body and replace O-rings (Item 10 and Item 11).

- iv) Leakage from Upper/Lower body connection (4 litre Sampler)
or from Upper Body/Sampler (20 litre Sampler).

Remove Upper Body and replace O-ring (Item 24).

External SWD Fitting Assembly Drawing



External SWD Fitting Parts List

ITEM	DESCRIPTION	QTY.	PART No.	INDIVIDUAL SPARE	SPARES KIT
1	BODY LOWER	1	6007233151	NO	NO
2	CONNECTOR - BSP	1	6007233152	YES	NO
3	CONNECTOR - NPT	1	6007233189	YES	NO
5	BONDED SEAL	2	6007233153	YES	6007233238
6	SPRING	1	6007233257	YES	NO
8	VALVE PISTON	1	6007233155	YES	NO
9	'O' RING	1	6007233156	YES	6007233238
10	'O' RING	1	6007233216 *	YES	6007233238
11	'O' RING	1	6007233158	YES	6007233238
12	UPPER BODY	1	6007233219	NO	NO
13	UPPER BODY EXTENSION	1	6007233220	NO	NO
14	UPPER BODY LOCK RING	1	6007233221	YES	NO
15	CAP	1	6007233192	NO	6007233254
17	'O' RING	1	6007233160	YES	6007233238
19	M3 x 6 LG. PAN HD. SCREW ST. STL.	1	6007233162	YES	6007233254
20	M3 FLAT WASHER ST. STL.	1	6007233222	YES	6007233254
22	RETAINING WIRE	1	6007233201	YES	6007233254
24	'O' RING	1	6007233164	YES	6007233238
26	M5 x 8 SET SCREW	1	6007233223	YES	6007233238

* THE EARLIER NON-ADJUSTABLE EXTERNAL SWD FITTING PART No. 6007233170, PRODUCED PRIOR TO JANUARY 1995 HAD AN EXTRA 'O' RING.

External SWD Fitting Spares Kits:

Product Name	Part Number	Contents of Kit	
		Part No.	Qty.
Seal Kit	6007233238	6007233153	2
		6007233156	1
		6007233216	1
		6007233158	1
		6007233164	1
		6007233160	1
		6007233223	1
Cap Assembly	6007233254	6007233192	1
		6007233162	1
		6007233222	1
		6007233201	1
		6007233160	1

9.0 External Hydrokit Fitting

This fitting is designed to accept the standard Velcon Hydrokit test-tube, and to permit a sample of fuel to be drawn into the test-tube and checked for the presence of water, without leakage of fuel.

Operating Procedure

Insert a new Velcon Hydrokit Test-Tube into the fitting. The force necessary to push the needle in the fitting, through the rubber bung in the Test-Tube, is sufficient to open the internal valve and permit fuel to be drawn into the Test-Tube. After the fuel sample has been drawn, the Test-Tube should be carefully withdrawn, when the internal valve will close and stop the flow of fuel.

No adjustment of the device is necessary. However, it is possible that the rubber bung in the Test-Tube may remain impaled on the needle when the Test-Tube is removed and after the test sample has been taken. The rubber bung can be easily removed by accessing it through the slot in the side of the upper body.

Maintenance and Repair

The Needle (Item 14), will have to be replaced occasionally, as it may bend after some use, and may even fracture. It may be replaced without dismantling the device. By slackening the small Grub Screw (Item 18), accessed through the slot in the Upper body (Item 12), the damaged Needle (Item 14) can be unscrewed and replaced by a new Needle.

Possible sources of leakage in the external Hydrokit fitting are the various seals in the assembly, and these should be replaced as necessary using the appropriate bonded seals or O-rings.

As a result, spare O-rings should be obtained from Aljac Fuelling Components Ltd to ensure correct operation of the device. It would be good practice to replace all O-rings in the unit when it is dismantled for any reason and a complete O-ring kit is available from Aljac Fuelling Components Ltd.

Dismantling of the fitting is achieved by unscrewing the Set Screw (Item 25), to permit withdrawal of the Upper Body (Item 12), taking care not to damage the Upper Body/Lower Body O-ring seal (Item 13). By carefully removing the Upper Body (Item 12), the Valve Piston (Item 8), and the Spring (Item 6), can be removed. The sealing O-ring (Item 10) can now be examined. The Valve Piston (Item 8) sealing O-ring (Item 9), can be removed using a non-metallic tool to ease it from its groove in the internal bore of the upper body.

Note – when the unit is fitted to the 20 litre Sampler, the lower body is replaced by a machined entry in the Sampler base casting.

Trouble Shooting

i) Leakage from lower body/connector (4 litre Sampler).

Change Bonded Seals (Item 5).

ii) Leakage from valve, when not in use.

Remove Upper Body (Item 12) and replace O-ring (Item 9).

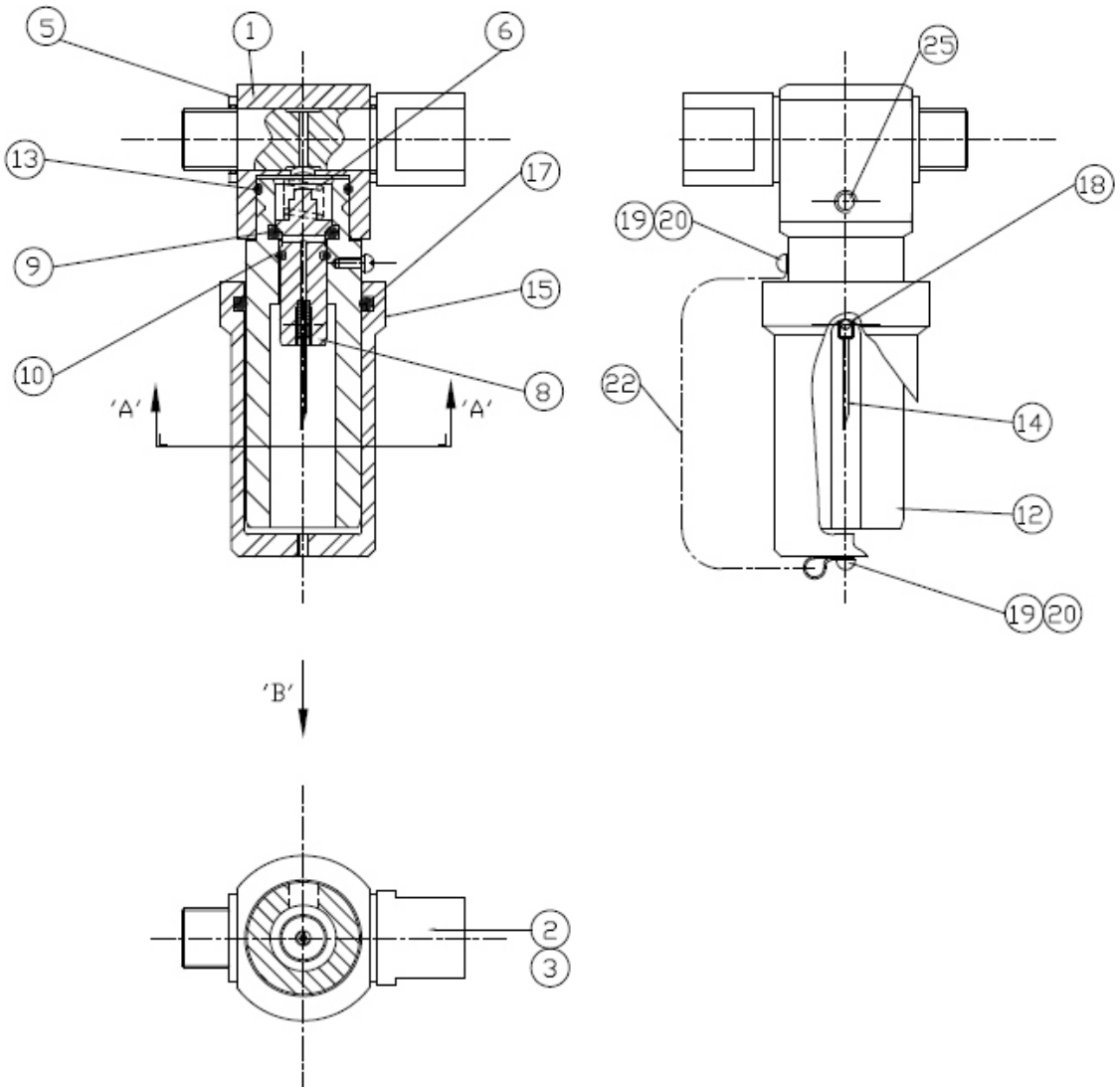
iii) Leakage from valve whilst drawing a sample.

Remove Upper Body (Item 12) and replace O-ring (Item 10).

iv) Leakage from upper/lower body connection (4 litre Sampler) or from upper body/Sampler (20 litre Sampler).

Remove Upper Body (Item 12) and replace O-ring (Item 13).

External Hydrokit Fitting Assembly Drawing



External Hydrokit Fitting Parts List

ITEM	DESCRIPTION	QTY.	PART No.	INDIVIDUAL SPARE	SPARES KIT
1	BODY LOWER	1	6007233151	NO	NO
2	CONNECTOR - BSP	1	6007233152	YES	NO
3	CONNECTOR - NPT	1	6007233189	YES	NO
5	BONDED SEAL	2	6007233153	YES	6007233238
6	SPRING	1	6007233218	YES	NO
8	VALVE PISTON	1	6007233209	YES	NO
9	'O' RING	1	6007233156	YES	6007233238
10	'O' RING	1	6007233216	YES	6007233238
12	UPPER BODY	1	6007233208	NO	NO
13	'O' RING	1	6007233164	YES	6007233238
14	NEEDLE	1	6007233210	YES	NO
15	CAP	1	6007233192	NO	6007233254
17	'O' RING	1	6007233160	YES	6007233238
18	M3 x 6 LG. GRUB SCREW ST. STL.	1	6007233224	YES	NO
19	M3 x 6 LG. PAN HD. SCREW ST. STL.	1	6007233162	YES	6007233254
20	M3 FLAT WASHER ST. STL.	1	6007233222	YES	6007233254
22	RETAINING WIRE	1	6007233201	YES	6007233254
25	M5 x 8 SET SCREW	1	6007233223	YES	NO

External Hydrokit Fitting Spares Kits:

Product Name	Part Number	Contents of Kit	
Seal Kit	6007233238	Part No.	Qty.
		6007233153	2
		6007233156	1
		6007233216	1
		6007233164	1
		6007233160	1
		6007233223	1
Cap Assembly	6007233254	Part No.	Qty.
		6007233192	1
		6007233162	1
		6007233222	1
		6007233201	1
		6007233160	1