



Aljac 20 Litre Closed Circuit Sampler

Operating and Maintenance Instructions

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Aljac 20 Litre Closed Circuit Sampler**1.0 Introduction:**

Since its introduction in 1982 the Aljac 4 Litre Closed Circuit Sampler has displaced the traditional open bucket or glass jar method of carrying out the 'clear and bright' quality check on aviation fuel. However, although a 4 Litre sample is ideal for refuelling vehicles where single point samples are taken via short small bore sample lines, a larger sample volume is needed where the pipework volume would be flushed into a bucket prior to the glass jar sample, or where composite samples are required. The sampling of multi compartment road tankers or rail tank cars, or medium capacity storage tanks are typical examples, so we developed our 20 Litre Closed Circuit Sampler (CCS) which retains all of the novel features of the 4 Litre unit.

The Aljac 20 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).

Below lists the different sampler builds:

Description	Part Number NPT threads
Basic Model	6007263001
Basic Model + Internal Velcon Hydrokit Fitting	6007263002
Basic Model + Internal Shell Water Detector Fitting	6007263003
Basic Model + Internal Velcon Hydrokit Fitting + Hydrometer and Thermometer Tubes	6007263004
Basic Model + Internal Shell Water Detector Fitting + Hydrometer and Thermometer Tubes	6007263005
Basic Model + Hydrometer and Thermometer Tubes	6007263016
Additional External Shell Water Detector Fitting	6007233214
Additional External Velcon Hydrokit Fitting	6007233206
7 Litre Sampler	6007263021

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 four M12 mounting holes on the base and is to be fixed into position using M12 x 25mm long screws.
3. Connecting the inlet of the CCS sampler into the fuel system is carried out by using 20mm diameter pipework to maximise the flow rate. Connect the inlet port on the sampler to the sample points on the fuel system. It is also recommended that a ¾" 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 40mm 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 pump to drain the CCS sampler.
6. Ensure that the CCS sampler is electrically bonded to 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 basic models, and to Samplers with 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 line is closed, the Sampler Outlet valve is closed, and the Cover shut.

2. Open the Inlet Valve to permit the product sample to enter the Sampler, and carefully fill to within 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. Examine the appearance of the sample for solid contaminant or free water either in suspension or in the base of the sampler. The tangential inlet design will set up a vortex in the fuel flow which will tend to concentrate any contaminant at the centre of the base. 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 Inner Lid of the Aljac unit.

If required, measure the Density of the Jet Fuel using an Approved Hydrometer in the Internal Hydrometer Fitting in the Internal lid, and similarly the Temperature using an Approved Thermometer in the Internal Thermometer Fitting.

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 of the Sampler to permit the sample to drain to the sample/drain tank. Check the sides of the glass cylinder and the bottom of the Sampler for solids or water. Clean if necessary using a clean anti static cloth (see Page 2 attached).

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 sampler is taken.

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

1. Ensure Inlet Valve (not shown) is closed.
2. Open Cover (Item 5), and hinge back.
3. If fitted, remove Inner Lid (Item 16), complete with fittings, by rotating until the lifting handle lugs are in line with the grooves in the Cover Frame (Item 4), and lifting clear.
4. With Drain Valve closed, wipe out the inside of the Glass Tube (Item 2), and the white painted base. **Use only 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 16) and close Cover.
7. The Sampler is now operational and ready for use.

5.0 Maintenance and Repair Procedure.

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 occurrences and remedies are listed below:-

1. Broken Glass Tube due to impact damage or accident

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

- 1.1 With Inlet Valve and Drain Valve closed, open Cover (Item 5), and hinge back.
- 1.2 If fitted, remove Inner Lid (Item 16), complete with fittings.
- 1.3 Remove Tie Rod Nuts (Item 32) and Washers (Item 34) and retain. Remove cover frame (Item 4) Complete.
- 1.4 Remove remainder of Glass Tube (Item 2) and Gaskets (Item 3) and discard.
- 1.5 Carefully ensure that all trace of broken glass are removed.
- 1.6 Place new Gasket (Item 3) in base and fit replacement Glass Tube (Item 2).
- 1.7 Place second new Gasket (Item 3) in Cover Frame (Item 4) and locate frame over Tie Rods (Item 7), ensuring that Gasket (Item 3) is correctly positioned.
- 1.8 Replace Washers (Item 34) and Tie Rod Nuts (Item 32). Tighten nuts uniformly finger tight only at this stage and check that Glass Tube (Item 2) and Cover Frame (Item 4) are correctly seated, with Gaskets (Item 3) correctly positioned.
- 1.9 Carefully tighten Nuts (Item 32) diagonally and 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 10), and remove complete Handle / Shaft assembly. Using a suitable drift, drive out Pin (Item 30), and remove Handle (Item 8).
- 2.2 Pull Shaft Bush (Item 10) from (Shaft Item 9).
- 2.3 Replace Shaft Bush O-Ring (Item 26), and Shaft O-Ring (Item 27)
- 2.7 Re-assemble, taking great care when replacing Shaft Bush (Item 10) over Shaft (Item 9) not to damage the Shaft O-ring seal (Item 27). Coat the Shaft (Item 9) 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 14 or Item 15).

- 3.1 Both Inlet Valve and Drain Valve must be closed. Where fitted, the Inner Lid (Item 16) should be removed.
- 3.2 Remove the Handle and Shaft Assembly complete by unscrewing the Shaft Bush (Item 10), with an open-ended spanner.
- 3.3 Unscrew Ball Retainer (Item 14 or Item 15).
- 3.4 Remove Ball (Item 11), and Lower Ball Seat (Item 12), by gently pushing down on the Ball from the top of the sampler using a wooden or plastic rod taking care not to damage the polished surface of the Ball. Remove Upper Ball Seat (Item 13) and Collar Ball Seat (Item 35), by accessing it through the base.
- 3.5 Discard Ball (Item 11), Ball Seats (Item 12 & Item 13) and Collar Ball Seat (Item 35) and replace with new items supplied as a kit.
- 3.6 Re-assemble in reverse order.

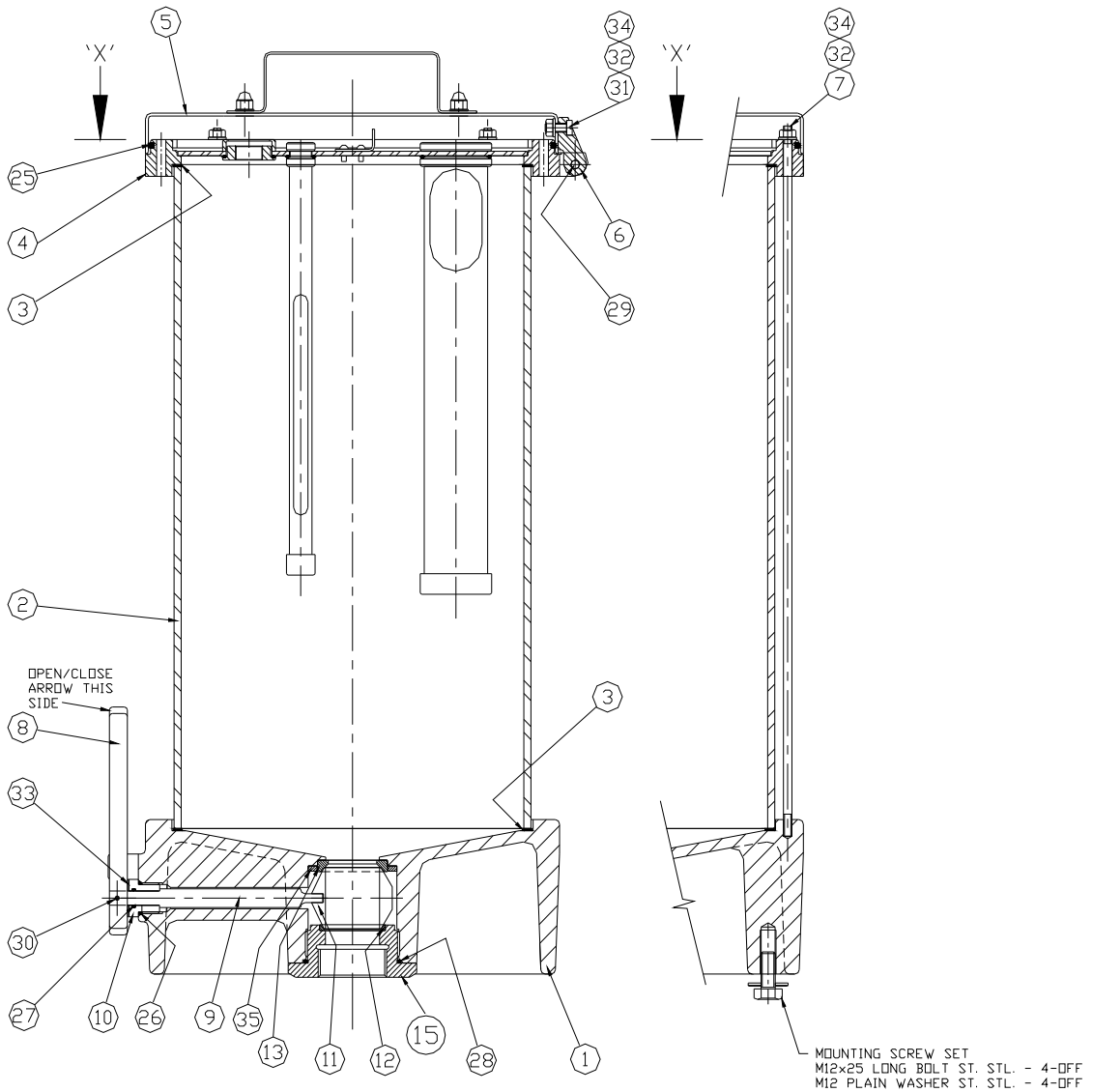


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6.0 20 Litre Sampler Assembly Drawings

APPENDIX A

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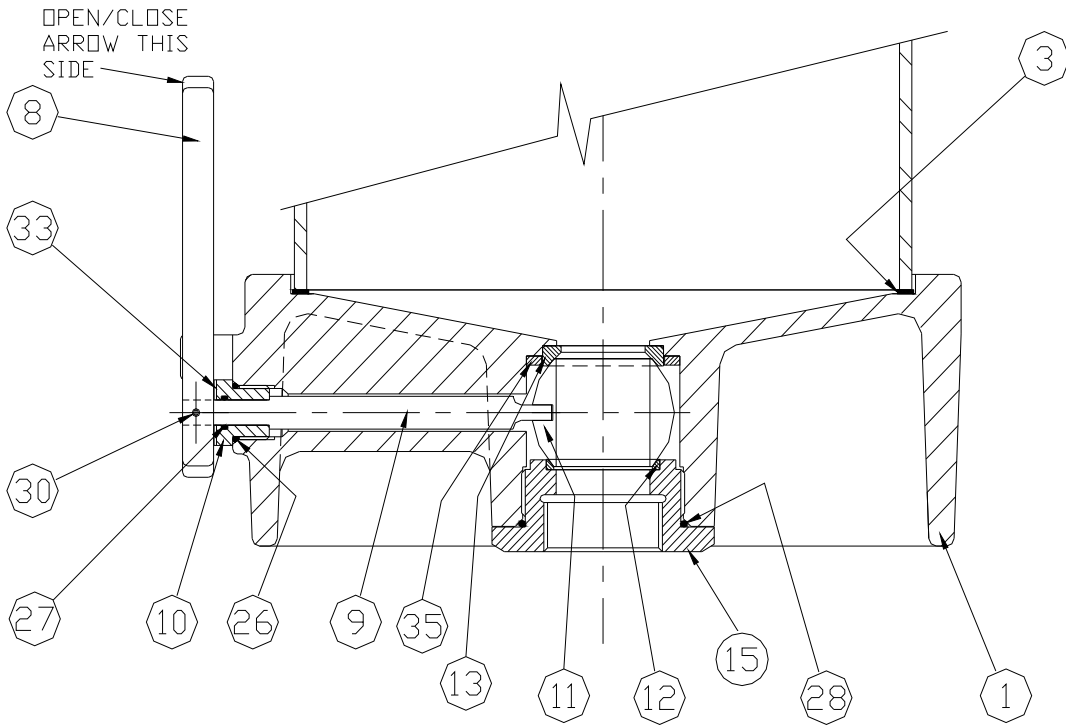


20 Litre Sampler Parts List					
ITEM	DESCRIPTION	QTY.	PART No.	INDIVIDUAL SPARE	SPARES KIT
1	BASE	1	6007263186	NO	NO
2	GLASS TUBE	1	6007263102*	YES	NO
3	GASKET, GLASS TUBE	2	6007263105	NO	6007263207
4	COVER FRAME	1	6007263103	NO	6007263212
5	COVER ASSEMBLY	1	6007263107	YES	6007263212
6	HINGE BLOCK	1	6007263108	YES	6007263212
7	TIE ROD	4	6007263104*	NO	6007263212 & 6007263213
8	HANDLE, BALL VALVE	1	6007233227	YES	NO
9	SHAFT, BALL VALVE	1	6007263199	YES	NO
10	SHAFT BUSH	1	6007233228	YES	NO
11	BALL	1	6007263200	YES	NO
12	BALL SEAT LOWER	1	6007263201	NO	6007263206
13	BALL SEAT UPPER	1	6007263202	NO	6007263206
14	M5 x 8 LG. SET SCREW	1	6007233223	YES	NO
15	BALL RETAINER (NPT)	1	6007263204*	YES	NO
16	INNER LID	1	6007263111*	YES	NO
17	HYDROMETER HOUSING ASSEMBLY	1	6007233166*	YES	NO
18	THERMOMETER HOUSING ASSEMBLY	1	6007233167*	YES	NO
19	INTERNAL SWD ASSEMBLY	1	6007233168*	YES	NO
20	INTERNAL HYDROKIT ASSEMBLY	1	6007233194*	YES	NO
21	BLANKING PLUG	1	6007263117*	YES	NO
22	O-RING, BLANKING PLUG	1	6007233164*	YES	NO
23	EXTERNAL SWD FITTING	1	6007233214*	YES	NO
24	EXTERNAL HYDROKIT FITTING	1	6007233206*	YES	NO
25	O-RING, COVER FRAME	1	6007263106	YES	6007263207
26	O-RING, SHAFT BUSH	1	6007233119	YES	6007263206
27	O-RING, SHAFT	1	6007233229	YES	6007263206
28	O-RING, BALL RETAINER	1	6007263120	YES	6007263206
29	DOWELL PIN, LID HINGE	1	6007263110	YES	6007263212
30	ROLL PIN, HANDLE	1	6007233130	YES	NO
31	M6 x 15 LG PAN HD. SLOTTED SCREW ST. STL.	2	6007263109	YES	6007263212
32	M6 FULL NUT ST. STL.	6	6007233128	YES	6007263212 & 6007263213
33	M10 FLAT WASHER ST. STL.	1	6007233231	YES	NO
34	M6 FLAT WASHER ST. STL.	6	6007233129	YES	6007263212 & 6007263213
35	COLLAR BALL SEAT TOP	1	6007263208	NO	6007263206
36	GLASS TUBE (7 LITRE SAMPLER)	1	6007263155*	YES	NO
37	TIE RODS (7 LITRE SAMPLER)	1	6007263214*	YES	NO

* Depending on Variant

APPENDIX B

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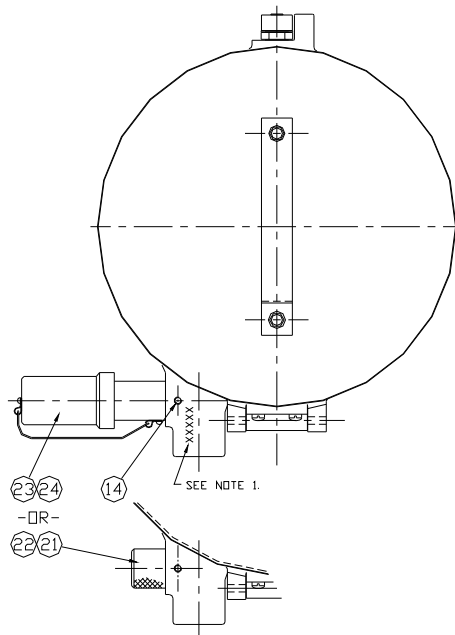
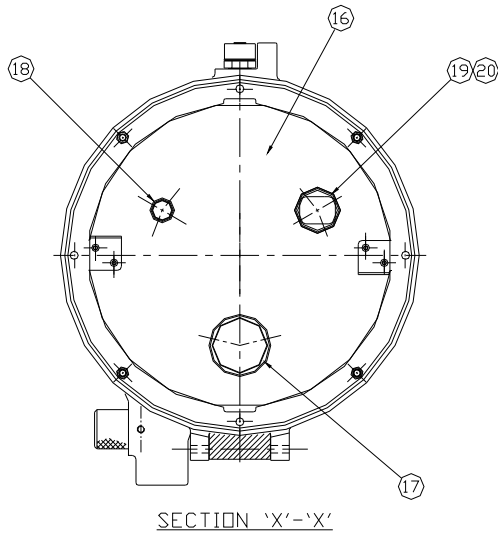


20 Litre Sampler Parts List					
ITEM	DESCRIPTION	QTY.	PART No.	INDIVIDUAL SPARE	SPARES KIT
1	BASE	1	6007263186	NO	NO
2	GLASS TUBE	1	6007263102	YES	NO
3	GASKET, GLASS TUBE	2	6007263105	NO	6007263207
4	COVER FRAME	1	6007263103	NO	6007263212
5	COVER ASSEMBLY	1	6007263107	YES	6007263212
6	HINGE BLOCK	1	6007263108	YES	6007263212
7	TIE ROD	4	6007263104	NO	6007263212 & 6007263213
8	HANDLE, BALL VALVE	1	6007233227	YES	NO
9	SHAFT, BALL VALVE	1	6007263199	YES	NO
10	SHAFT BUSH	1	6007233228	YES	NO
11	BALL	1	6007263200	YES	NO
12	BALL SEAT LOWER	1	6007263201	NO	6007263206
13	BALL SEAT UPPER	1	6007263202	NO	6007263206
14	M5 x 8 LG. SET SCREW	1	6007233223	YES	NO
15	BALL RETAINER (NPT)	1	6007263204*	YES	NO
16	INNER LID	1	6007263111*	YES	NO
17	HYDROMETER HOUSING ASSEMBLY	1	6007233166*	YES	NO
18	THERMOMETER HOUSING ASSEMBLY	1	6007233167*	YES	NO
19	INTERNAL SWD ASSEMBLY	1	6007233168*	YES	NO
20	INTERNAL HYDROKIT ASSEMBLY	1	6007233194*	YES	NO
21	BLANKING PLUG	1	6007263117*	YES	NO
22	O-RING, BLANKING PLUG	1	6007233164*	YES	NO
23	EXTERNAL SWD FITTING	1	6007233214*	YES	NO
24	EXTERNAL HYDROKIT FITTING	1	6007233206*	YES	NO
25	O-RING, COVER FRAME	1	6007263106	YES	6007263207
26	O-RING, SHAFT BUSH	1	6007233119	YES	6007263206
27	O-RING, SHAFT	1	6007233229	YES	6007263206
28	O-RING, BALL RETAINER	1	6007263120	YES	6007263206
29	DOWELL PIN, LID HINGE	1	6007263110	YES	6007263212
30	ROLL PIN, HANDLE	1	6007233130	YES	NO
31	M6 x 15 LG PAN HD. SLOTTED SCREW ST. STL.	2	6007263109	YES	6007263212
32	M6 FULL NUT ST. STL.	6	6007233128	YES	6007263212 & 6007263213
33	M10 FLAT WASHER ST. STL.	1	6007233231	YES	NO
34	M6 FLAT WASHER ST. STL.	6	6007233129	YES	6007263212 & 6007263213
35	COLLAR BALL SEAT TOP	1	6007263208	NO	6007263206
36	GLASS TUBE (7 LITRE SAMPLER)	1	6007263155*	YES	NO
37	TIE RODS (7 LITRE SAMPLER)	1	6007263214*	YES	NO

* Depending on Variant

APPENDIX C

REF No. 263-2886
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20 Litre Sampler Parts List					
ITEM	DESCRIPTION	QTY.	PART No.	INDIVIDUAL SPARE	SPARES KIT
1	BASE	1	6007263186	NO	NO
2	GLASS TUBE	1	6007263102	YES	NO
3	GASKET, GLASS TUBE	2	6007263105	NO	6007263207
4	COVER FRAME	1	6007263103	NO	6007263212
5	COVER ASSEMBLY	1	6007263107	YES	6007263212
6	HINGE BLOCK	1	6007263108	YES	6007263212
7	TIE ROD	4	6007263104	NO	6007263212 & 6007263213
8	HANDLE, BALL VALVE	1	6007233227	YES	NO
9	SHAFT, BALL VALVE	1	6007263199	YES	NO
10	SHAFT BUSH	1	6007233228	YES	NO
11	BALL	1	6007263200	YES	NO
12	BALL SEAT LOWER	1	6007263201	NO	6007263206
13	BALL SEAT UPPER	1	6007263202	NO	6007263206
14	M5 x 8 LG. SET SCREW	1	6007233223	YES	NO
15	BALL RETAINER (NPT)	1	6007263204*	YES	NO
16	INNER LID	1	6007263111*	YES	NO
17	HYDROMETER HOUSING ASSEMBLY	1	6007233166*	YES	NO
18	THERMOMETER HOUSING ASSEMBLY	1	6007233167*	YES	NO
19	INTERNAL SWD ASSEMBLY	1	6007233168*	YES	NO
20	INTERNAL HYDROKIT ASSEMBLY	1	6007233194*	YES	NO
21	BLANKING PLUG	1	6007263117*	YES	NO
22	O-RING, BLANKING PLUG	1	6007233164*	YES	NO
23	EXTERNAL SWD FITTING	1	6007233214*	YES	NO
24	EXTERNAL HYDROKIT FITTING	1	6007233206*	YES	NO
25	O-RING, COVER FRAME	1	6007263106	YES	6007263207
26	O-RING, SHAFT BUSH	1	6007233119	YES	6007263206
27	O-RING, SHAFT	1	6007233229	YES	6007263206
28	O-RING, BALL RETAINER	1	6007263120	YES	6007263206
29	DOWELL PIN, LID HINGE	1	6007263110	YES	6007263212
30	ROLL PIN, HANDLE	1	6007233130	YES	NO
31	M6 x 15 LG PAN HD. SLOTTED SCREW ST. STL.	2	6007263109	YES	6007263212
32	M6 FULL NUT ST. STL.	6	6007233128	YES	6007263212 & 6007263213
33	M10 FLAT WASHER ST. STL.	1	6007233231	YES	NO
34	M6 FLAT WASHER ST. STL.	6	6007233129	YES	6007263212 & 6007263213
35	COLLAR BALL SEAT TOP	1	6007263208	NO	6007263206
36	GLASS TUBE (7 LITRE SAMPLER)	1	6007263155*	YES	NO
37	TIE RODS (7 LITRE SAMPLER)	1	6007263214*	YES	NO

* Depending on Variant

**7.0 Recommended Spares for 20 Litre Sampler**

Product Name	Part Number
Glass Tube Standard Length	6007263102
Top End Seal Kit	6007263207
Bottom End Seal Kit	6007263206

20 Litre Sampler Spares Kits

Product Name	Part Number	Contents of Kit		
Top End Seal Kit	6007263207	Item	Part No.	Qty.
		3	6007263105	2
		25	6007263106	1
Bottom End Seal Kit	6007263206	Item	Part No.	Qty.
		13	6007263202	1
		12	6007263201	1
		28	6007263120	1
		26	6007233119	1
		27	6007233229	1
		35	6007263208	1
Complete Cover Assembly	6007263212	Item	Part No.	Qty.
		5	6007263107	1
		6	6007263108	1
		31	6007263109	2
		32	6007233128	2
		34	6007233129	2
Tie Rod Assembly	6007263213	Item	Part No.	Qty.
		7	6007263104	1
		32	6007233128	1
		34	6007233129	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 carried out 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 Upper Body Lock 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 Upper Body Lock Ring (Item 14), is retightened. It is recommended that the threads in the Upper Body Extension (Item 13) and Upper Body Lock Ring (Item 14) should be completely cleaned, and secured using an appropriate thread sealant such as Loctite 222.

The slot will be in the correct position when the action of engaging the syringe/capsule causes the Valve Piston (Item 8) to be fully open permitting 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 carried out by unscrewing the Set Screw (Item 26) to permit withdrawal of the Upper Body (Item 12), taking care not to damage the Upper 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 (Item 12).

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).

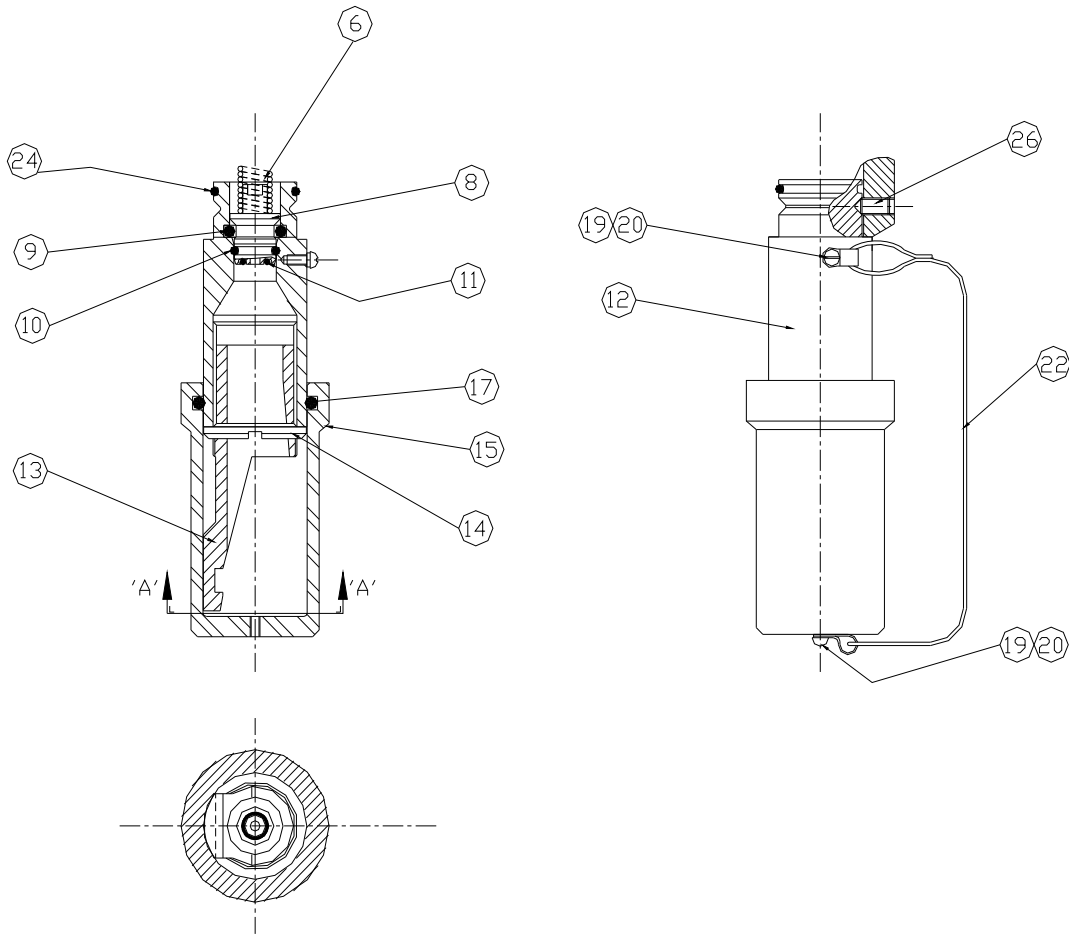
- iii) Leakage from valve whilst drawing a sample.

Remove Upper Body (Item 12) and replace O-rings (Item 10 and Item 11).

- iv) Leakage from Upper Body/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
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.

A special tool, Pt. No. 6007233215 may be purchased from Aljac Fuelling Components Ltd for adjusting slot position on Upper Body (Item 12).

External SWD Fitting Spares Kits:

Product Name	Part Number	Contents of Kit		
Seal Kit	6007233238	Item	Part No.	Qty.
		9	6007233156	1
		10	6007233216	1
		11	6007233158	1
		24	6007233164	1
		17	6007233160	1
		26	6007233223	1
Cap Assembly	6007233254	Item	Part No.	Qty.
		15	6007233192	1
		19	6007233162	1
		20	6007233222	1
		22	6007233201	1
		17	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 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 (Item 12).

Trouble Shooting

i) Leakage from valve, when not in use.

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

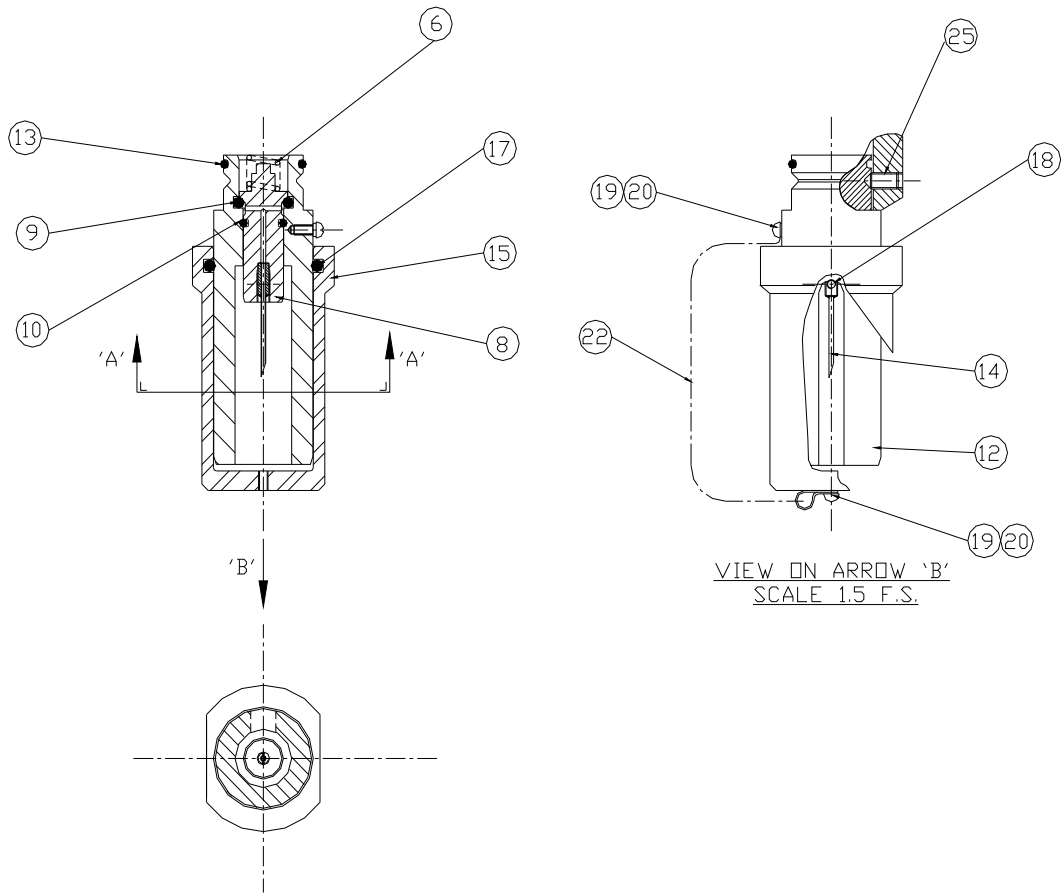
ii) Leakage from valve whilst drawing a sample.

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

iii) Leakage from Upper Body/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
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	Item	Part No.	Qty.
		9	6007233156	1
		10	6007233216	1
		13	6007233164	1
		17	6007233160	1
		25	6007233223	1
Cap Assembly	6007233254	Item	Part No.	Qty.
		15	6007233192	1
		19	6007233162	1
		20	6007233222	1
		22	6007233201	1
		17	6007233160	1



Aljac Statement of Conformity to European Directives

We:

*Aljac Fuelling Components Ltd.
Pitfield House
Station Approach
Shepperton
Middlesex
TW17 8AN*

Declare that the following Assembly:-

Aljac 20 Litre closed circuit sampler with all optional extras

Part number range: 6007263001 to 6007263099

Equipment Used in Potentially Explosive Atmosphere ATEX Directive (94/9/EC)

Declare that the Equipment / Assembly:

Has had a ATEX risk assessment in accordance with BS EN 13463 – 2001 Non-electrical equipment for potentially explosive atmospheres; related to the basic method and requirements; the conclusion is that the 20 Litre Closed Circuit Sampler is out of the ATEX Directive scope as it does not fall under the ATEX definition of a product having to be within one of the following categories, Equipment, Protective System, Component, Safety, Controlling, or Regulating Device; in that none of the equipment related to the assembly has its own source of ignition (spark/heat) and does not fulfill the three requirements of the ATEX directive to fall within the scope of the Directive; therefore the 20 Litre Closed Circuit Sampler is not ATEX marked in accordance with the ATEX Directive.

As such, not having its own source of ignition the 20 Litre Closed Circuit Sampler is safe for use within an area with potentially explosive atmosphere (hazardous area); however the end user must exercise caution in that the sample unit in its self may give rise to potentially explosive atmosphere categorized as zone 2 (Cat 3) outside and a 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.

Equipment subject to the Machinery Directive 2006/42/EC

Declare that the Equipment / Assembly:

Having carried out the risk assessment it can also be concluded that The 20 Litre Closed Circuit Sampler can not be classified as a machine according to definitions in Article 2 of the Machinery Directive 2006/42/EC. Therefore the Machinery Directive does not apply to the 20 Litre Closed Circuit Sampler and there is no requirement to be CE marked in accordance to the Machinery Directive.



The following EU Directives have been considered:-

- Machinery directive (2006/42/EC)
- ATEX Directive (94/9/EC)

Harmonized Standards/Technical Specifications Referred to:

- BS EN 1127-1 – Explosive atmospheres. Explosion prevention and protection. Basic concepts and methodology.
- BS EN 13463-1 – Non-electrical equipment for use in potentially explosive atmospheres.

Signed:

Print name:

Position: *(must have the necessary competence to make the above declaration)*

Date: