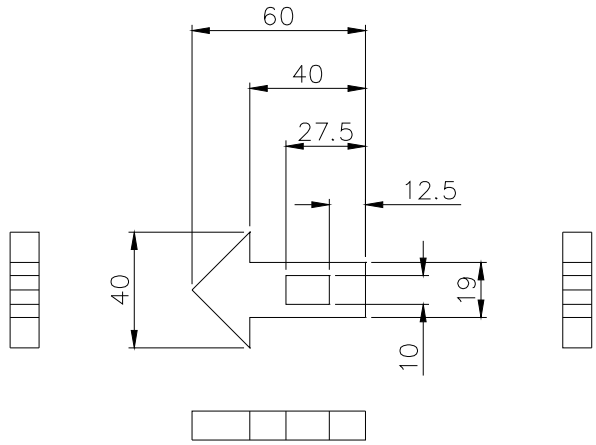
Technical Manual

TEREX MINING / O&K	VR 300	PNEUMATIC BV-OPERATION INDICATOR ARROW - WIG-05-004	WIG-05-004

DO NOT SCALE

REVISION					
No.	DATE	BY	DESCRIPTION	CHK.	APPROV.
0	Nov-02	CFS	Original Drawing Issue – "For Fabrication"	SAG	JAG

Pneumatic Ball Valve
Operation Indicator Arrow



Fabricate from 10mm Plate
Paint Pointer Bright Red
Quantity Req'd: 2 Units

Qty.	Item N°	Manufacturer	Part N°	Part Description	Stock Code
2	1.0	Swift Eng	WIG-05-004-0	Pneumatic BV-Operation Indicator Arrow	

Detailed Parts List

DRAWING No.	TITLE
	REFERENCE DRAWINGS

As Built Fabrication

Cooper Fluid Systems
Australia's Hydraulic and Lubrication Specialists
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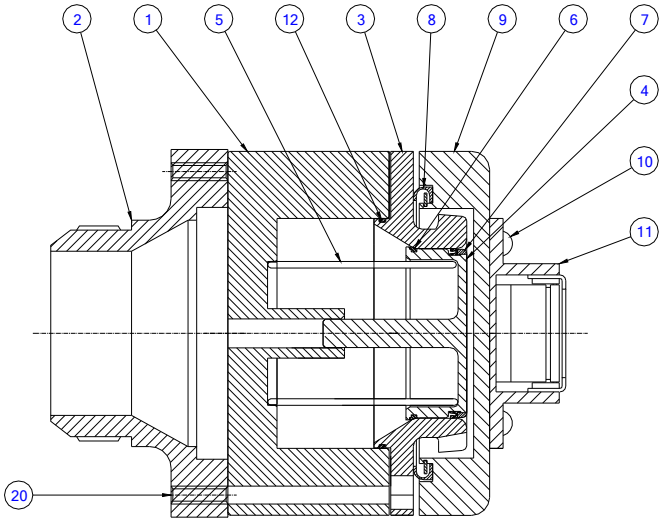
Toowoomba Office P.O.Box 8020 73 Pilkington Street Garbutt, QLD. 4814. AUSTRALIA Phone: (07) 4725 4000 Facsimile: (07) 4725 4472 Email Address: cfstoowoomba@cfs.cg.com.au
A Division of Coventry Group Ltd. ABN 37 008 670 102.

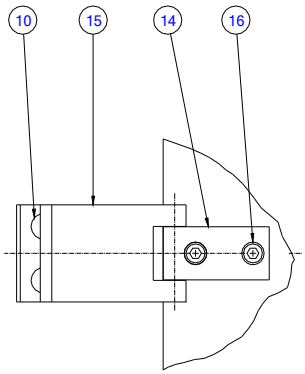
CFS REF N°		MJ6437-01	Cooper Fluid Systems Metal Work Components VR300 Twin Tank Refuelling System Pneumatic BV-Operation Indicator Arrow
DRAWN	S.Gerhardt	29/11/02	
DRN. CHK	J.Graham	29/11/02	
ENGINEER	S.Gerhardt	29/11/02	SCALE: Not Printed to Scale — A3 — DRG. No. WIG-05-004 — 0
APPROVED	J.Graham	29/11/02	EDIT DATE: 29/11/02 — CAD FILE: BMA11 C:\Drwaings\WIG-05-004 RevO

TEREX MINING / D&K	VR 300	ASSEMBLY DRAWING VR316D REMOTE CONNECTION ATTACHMENT - WIG-00-004	WIG-00-004

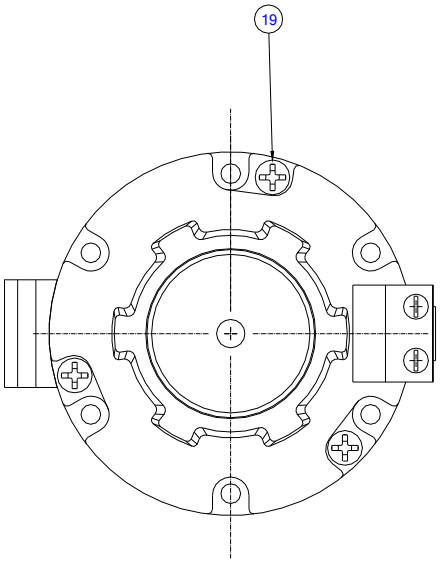
SECTIONAL A-A VIEW WITH DOOR ASSEMBLY & OUTLET CONNECTION FLANGE FITTED



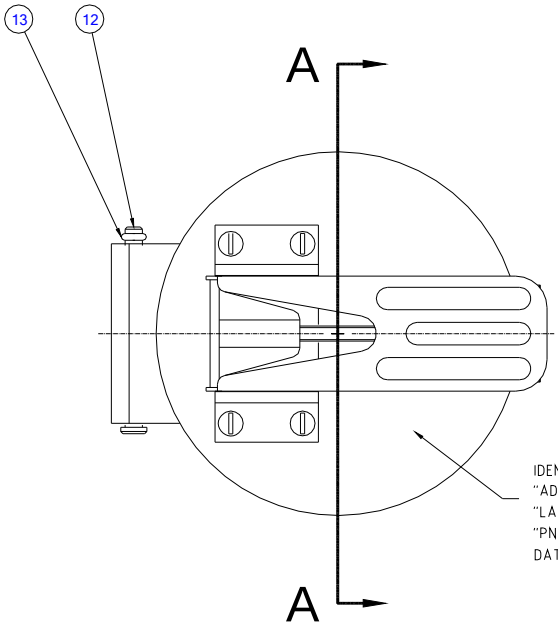
SIDE VIEW OF LATCH ASSEMBLY



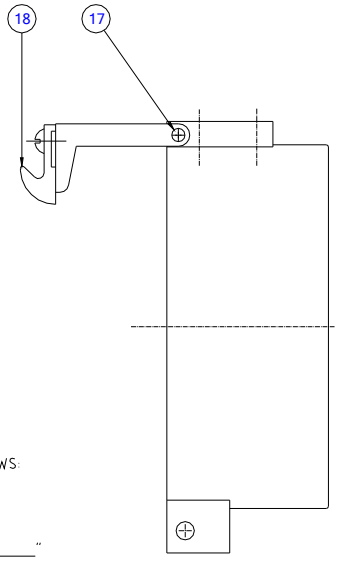
FRONT VIEW WITH DOOR ASSEMBLY OMITTED



FRONT VIEW WITH DOOR ASSEMBLY FITTED



TOP VIEW OF DOOR ASSEMBLY



TEREX MINING / D&K	VR 300	NIPPLE ASSEMBLY	ZN2A

Item	Quantity	P/N	see page	Description
1	1	ZN10-2A		NIPPLE
2	1	ZN10-8A		VALVE
3	1	ZN10-10		SEAL
4	1	ZN10-11		SPRING
5	1	ZN10-36		WASHER
6	1	ZN10-53A		RETAINER
7	1	HW13-06		RING RING

BI636702

Cooper Fluid Systems

Australia's Hydraulic & Lubrication Specialists

TEREX - O&K

RH120, RH170 & RH200 Shovels

1,000 LPM & 400 LPM Twin Tank Refuelling System

Owners Manual

Head Office: Brisbane **Branches:** Mackay & Townsville
A Division of Coventry Group Ltd., ABN 37 008 670 102

The various modifications for each revision are captured in section 5.30 drawing reference WIG-01-011 and WIG-01-013 through its various revisions.

2.3410 Single Level Float Switch

The float switch is a single level normally close switch. When the fuel tank's fuel level falls below the float the contact's close and interlock that the tank can receive fuel. Similarly when the tank's fuel level rises above the float the contact's open and break the electric circuit.

For a complete spare parts listing refer to section 6.40, Gems catalogue and installation instructions. The float switch unit is Part No LS1950E.

2.3420 Tank Sensor Assembly

The tank sensor assembly is used to adjust and secure the float switch at the correct height in the fuel tank. This distance is approximately 100mm and is detailed for each respective revision in section 2.3320 above.

In total we have 2 revisions for this assembly. Revision 0 is for NPT connection fittings and Revision 1 is for BSPT connection fittings. Either can be used but preference is for the BSPT assembly.

2.40 Tank Air Breather/Filter & Tank Overflow Assembly

The tank air breather/filter and tank overflow units are used in the system as safe guards. Primarily they are used to prevent tank pressurisation in the event of a system component malfunction and/or failure. They also have the added benefit of reducing/eliminating contamination ingression into the fuel storage tanks.

The initial design has since undergone some transformations and improvements between the various systems that have been installed to date. We believe we have now optimised the design and it should now stabilise at the latest revision. In the future this may change should we identify a more cost effective solution and/or smarter way to achieve the same result.

The various modifications for each revision are captured in section 5.30 drawing reference WIG-01-011 through its various revisions.

2.410 Tank Air Breather/Filter Assembly

The air breather/filter is an important part of the overall system. It's main function is to filter the incoming air as fuel is removed from the tank and as a natural consequence assists in reducing and eliminating the ingress of contamination into the fuel storage tanks. For optimum performance the filter must be kept clean and dry. This is achieved with a check valve and its operation is discussed in detail below.

The initial design has since undergone some transformations and improvements between the various systems that have been installed to date. The various modifications for each revision are captured in section 5.30 drawing reference WIG-01-011 through its various revisions.

Trouble-Shooting Guide (Cont)

Symptom	Possible Cause	Remedy
9.) The refuelling gun/nozzle will not release from and/or will not connect to the receiver after the tank/s is refilled.	a.) Residual Pressure Bleed Down (Disconnection)	a.) The residual pressure bleed down hose allows any residual pressure caught between the pneumatically actuated ball valve and the refuelling gun/nozzle/receiver to be dissipated when the pneumatically actuated ball valve closes. Once the pneumatically actuated ball valve closes the refill line is pressurised to the refuelling pump's relief valve setting (upto 150 PSI). Unless this pressure is dissipated the dry break coupling arrangement between the gun/nozzle and receiver will not separate.
	b.) Residual Pressure Bleed Down (Connection)	b.) Once the pneumatically actuated ball valve closes the refill line is pressurised to the refuelling pump's relief valve setting (upto 150 PSI). Unless pressure caught between the refuelling gun/nozzle and receiver's dry break coupling arrangement is dissipated engagement of the coupling will be physical prevented by the residual pressure. This situation may develop if the ZZ9A1 refuelling gun/nozzle was to pop off at the completion of tank refilling.
	c.) Residual Pressure Bleed Down Hose Connected/Blocked	c.) If either of the above situations occurs, then check that the residual bleed down hose is installed and correctly connected, otherwise the hose must be blocked by contamination. Remove the hose and clear the blockage.
10.) The ZZ9A1 refuelling gun/nozzle keeps popping off the receiver when the pneumatic actuated ball valve closes at the completion of tank refilling.	a.) Pneumatic Actuator	a.) The pneumatically actuated ball valve is NOT to close at a rate less than two seconds, otherwise it will generate a pressure spike and pop off the ZZ9A1 refuelling gun/nozzle once the pneumatically actuated ball valve has suddenly closed. This situation may arise once the piston seals of the pneumatic actuator and the ball valve begins to wear and free up.
	b.) Exhaust Regulator Silencer	b.) This problem can be overcome by installing an exhaust port regulator silencer assembly and adjusting the unit to achieve a ball valve closure rate of approximately 2-3 seconds. Once installed subsequent adjustments can be made as is necessary when the need arises.

ZN2A RevL

WIG-03-006 Rev0

WIG-12-001 Rev0

VR300 Catalogue Page 2

VALBIA Catalogue Front Cover Page

Process Systems 3/2 Valve Catalogue Page 1

6.60 Filter Element

7.2220 ZNC2A Receiver - Mounting & Connection Detail

Shown here is the ZNC2A receiver, the modified connection fitting and hose assembly assembled and mounted in position on the service module. The connection fitting is welded to the existing welded socket.