



PANDROL

TWO PARTS HYDRAULIC RAIL WELD SHEARING MACHINE

Ref 11332001

NOTICE D'UTILISATION ET D'ENTRETIEN

EGH 1 TYPE with separate hydraulic set

Ref 42111004



PANDROL

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En cas de litige, la version française fait référence – The French version will be decisive in cases of litigation

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I – SAFETY LABELS EXPLANATION



WARNING ! The machine can be dangerous.
Careless and incorrect use results in injury to the operator



Read carefully the instructions of the operating manual before using the machine



WARNING ! Be careful to the mobile pieces of the shearing machine so as to avoid any risk of squashing

II – GENERAL SAFETY INSTRUCTIONS

- **Imperatively** use hydraulic assembly recommended by Railtech, any other material is forbidden
- Never use the shearing machine until you have read and understood the directions for use
- The operator must ensure that no one can affect his work area (people, animals, flammable material)
- The shearing machine is specially designed to cut the metal excess after an aluminothermic weld, **don't divert of its primary function**
- The operator must respect the regulations, procedures and particular orders of the Railway operating Network
- Never use the shearing machine when you are tired or under influence of medicines, alcohol or substances which can alter your sight, dexterity or appreciation capacity
- All maintenance operations must be achieved by qualified staff
- Hydraulic pipes and couplings must be correctly inspected before every use. Any defective component must be rejected
- Do not mix different types of oil
- Shearing machine weight is rather high, so two persons are necessary to handle and place it on track
- The engine can be dismantled from the shearing unit, **never use it for any other operation.**



III – DESCRIPTION

The shearing machine has been designed to cut the metal excess resulting after an aluminothermic weld ; this operation is carried out after mould release.

The shearing machine is intended for Vignole and double head rails.

The machine is fitted with two hydraulic jacks, supplied at the same time and able to produce a force of 21 metric Tons under a pressure of 250 bars.

Two hydraulically operated blades, on either side of the weld, move and cut off the metal excess.

A hydraulic distributor with manual control lever allows the blades moving. Loosen the action on the distributor control lever stops the translatory movement.

With adjusting screws the blades cutting edge is exactly adjusted laterally and vertically.

Retractable locking systems, fixed under the rail head, prevent the shearing machine from rising up and so adjust the cutting operation to the thickness of the deadhead.

IV – USE INSTRUCTIONS

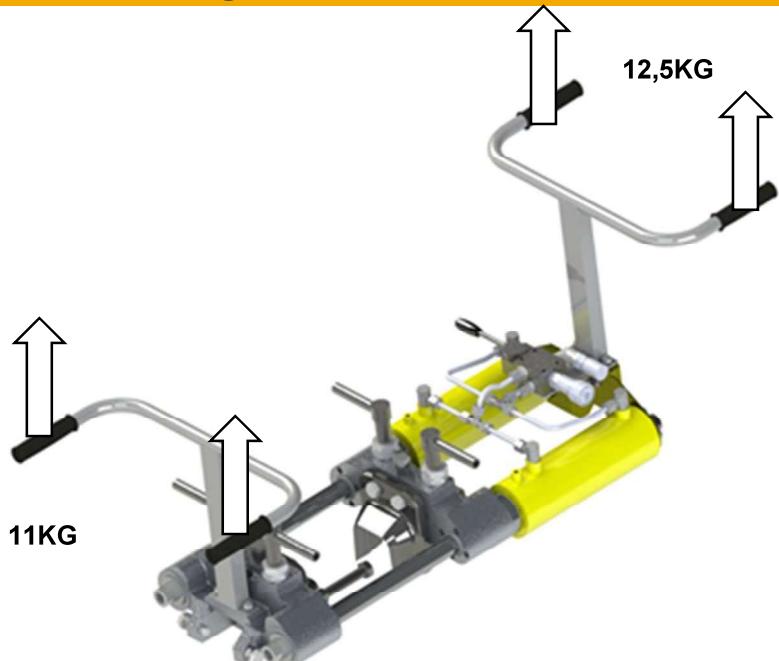
1-Storage

The shearing machine does not require any particular conditions of storing. However, attend to protect the jack's columns from shocks.

2-Handling

48 Kg is the weight of a shearing machine in order to work.

Two persons are necessary to lift it up, one on jacks side, the second on the other side



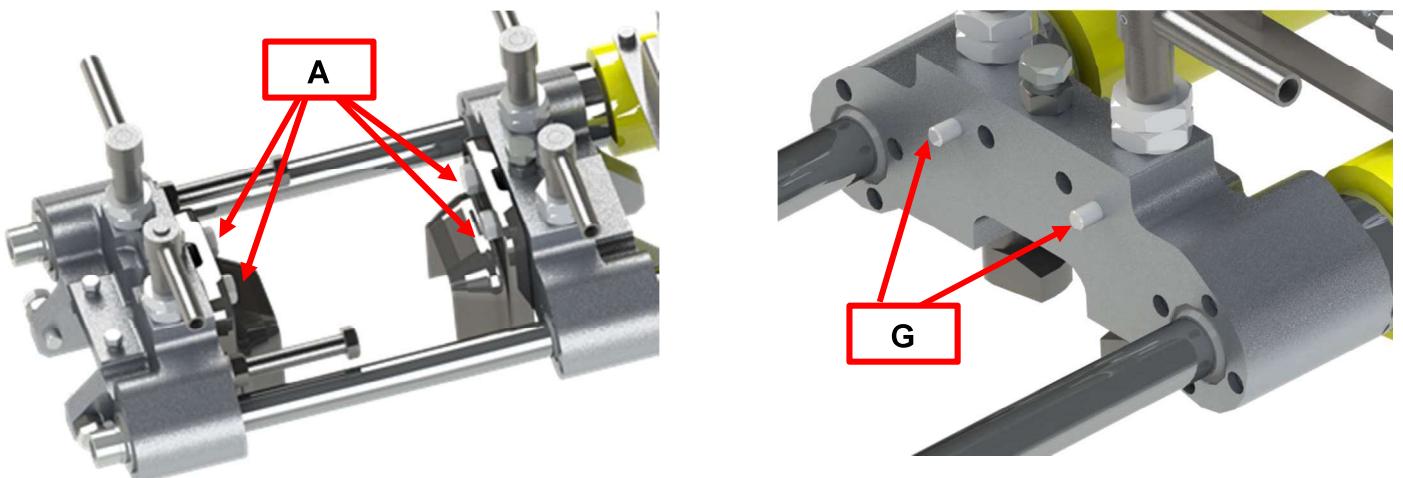
3-Pre-operating check

- Verify the good position of hydraulic pipes so as to avoid any risk of contact with the weld or shearing
- To obtain high performances and get most satisfaction with the shearing machine, realise the different recommended adjustments with a particular attention before starting the cutting operation

DISCONNECT THE MACHIN FROM HYDRAULIC POWER SOURCE TO REALISE ALL THE OPERATIONS DESCRIBED HEREAFTER

4-Blades positioning

- 1- Take off the four screws (item **A**) maintaining the blades on the crosspieces
- 2- Position the blades on the pins (item **G**)
- 3- Put on and tighten the bolts with two wrenches of 22



NOTE : To select the appropriated blades, see the profile blades list page 19.

5-Pre-operating ajdustments

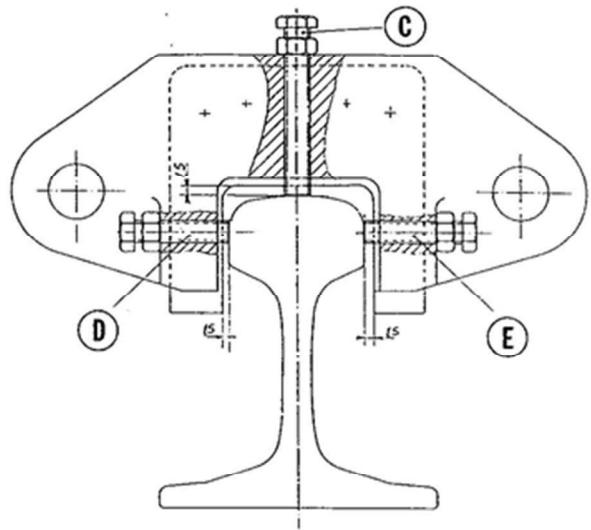
5.1 Blades adjustments

A) Longitudinal guiding

The cutting unit is guided longitudinally along the rail by 4 guiding screws (items **D** and **E**), 2 on the front crosspiece and two on the back one, which create a space between the cutting edge of the blade and the rail head profile.

Operating instructions

- Unlock the locking nuts and unscrew the screws items **D** and **E**
- On the left side, adjust the screw item **D** so as to obtain a space of 1,5 mm between the blade vertical cutting edge and the rail
- On the right side, tighten the screw (item **E**) until you obtain a space of 0,5 to 1 mm between this screw end and the rail
- Lock up the locking nuts



B) Vertical adjustement

The front and back crosspiece are each fitted with a screw item **C**

These screws must be adjusted so as to create a space of 1,5 to 2 mm between the blades cutting edge and the rail running surface.

Operating instructions

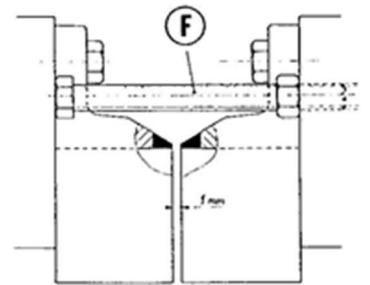
- Loosen the lock nuts and unscrew the 2 screws item **C**
- Place the 1,5 mm wedge **reference 31910308** on the rail running surface
- Place the cutting unit on the wedge
- Tighten the screws item **C** until the contact with the rail
- Lock up the lock nuts

To optimise the cutting, this adjustment should be realised systematically every time the blades have been sharpened or replaced.

5.2 Stop pieces adjustement

To prevent the blades cutting edges from damaging,

It's absolutely necessary to leave a space of 1 mm during the two screws item F adjustment, these screws act like stop pieces on the travelling crosspiece.



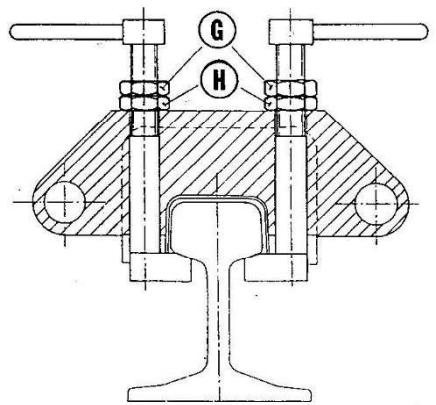
5.3 Locking system adjustement

The locking system improves the cutting action, providing safe and quality in cutting operation.

Operating instructions

Cutting unit placed on the rail, blades adjusted. So as to engage the locking system under the rail head, rotate its lever through 90°, then :

1. Turn the 2 nuts (item G and H) until the hook make contact under the rail head
2. Loosen 1/8 of a turn the nut (item H) to create a little space
3. Lock in that position by tightening the nut (item G)



Proceed in the same way for the 3 other locking systems

6-Connections

The shearing machine and the hydraulic assembly are equipped with quick couplings.

To realise the connections, move back and maintain the female couplings rings, connect them in the male couplings and release the rings.

To disconnect move back and maintain the female couplings rings, pull out the flexible and release the rings.

7-Operating

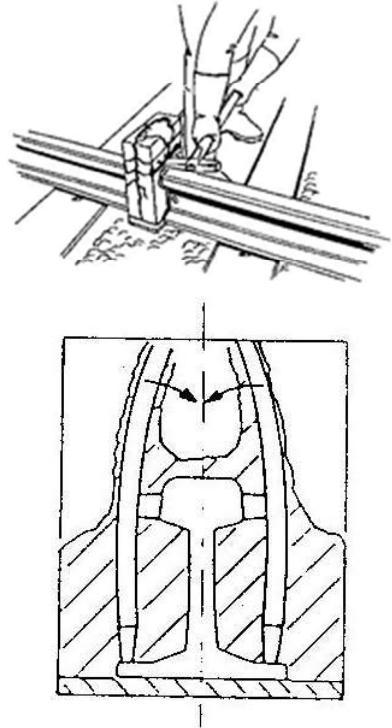
Before operating the shearing machine, verify that all the adjustments described in preceding paragraph have been made. No Load Test will be performed.

7.1 Mould release

When welding operation is finished, proceed as follows :

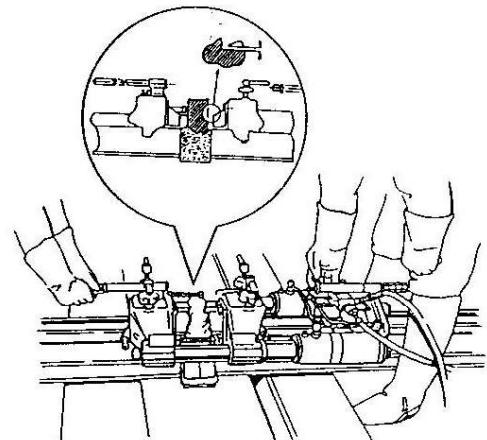
- Break the mould respecting the time required between casting and mould release according to the welding process
- Push back the risers
- Remove the sand from each side of the deadhead
- Using a wire brush remove, on both sides of the deadhead, sand and mould debris

These operations must be done **quickly**, otherwise the deadhead may cool down too much and become impossible to cut.



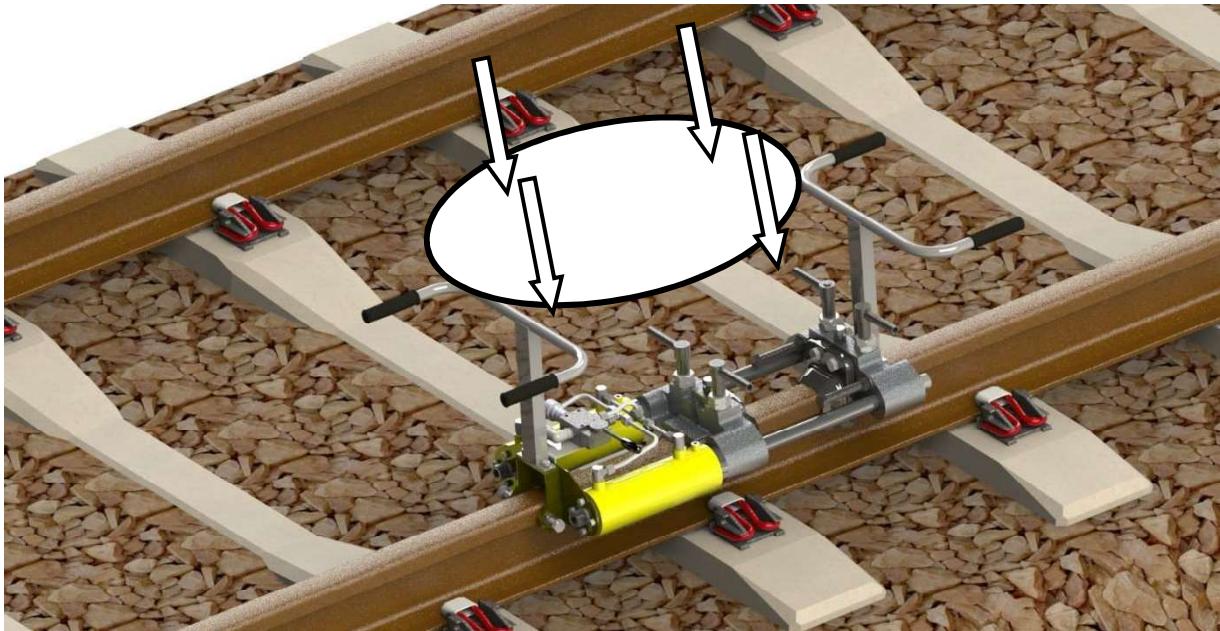
7.2 Cutting

- Start up the hydraulic assembly
- The welder and his assistant place the shearing machine on the rail with deadhead centred in relation of the blades
- Pivot the 4 hooks of the locking systems under the rail head
- The operator, on the hydraulic distributor side, pushes the lever of the distributor towards the weld to cut (towards himself for the return). Once the stop screws make contact with the travelling crosspiece, immediately reverse the lever on the distributor in order to prevent the blades from a prolonged heating
- Release the locking system hooks
- Remove the shearing machine from the rail
- Using a hammer, break the layer that still links up the deadhead to the rail



8-Workstation

The user's area at his workstation is represented by a white frame and 4 arrows.



The shearing machine must always be positioned so that the user can easily manipulate the distributor

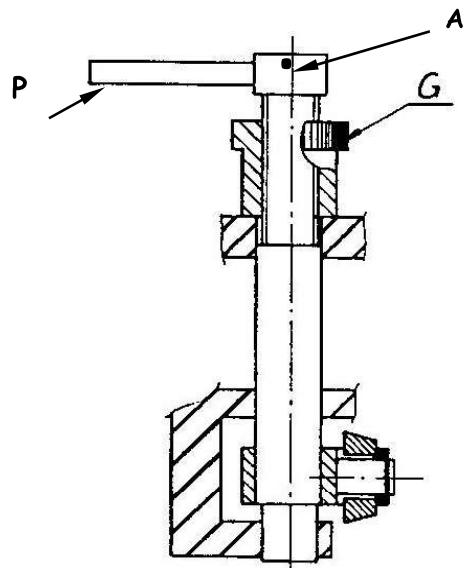


9-Maintenance

- Take care of the cleanliness of the shearing unit so as to make a good visual inspection
- Keep a watch on columns and scraper seals aspect, immediately replace grooved columns or faulty seals. This operation must be realized by qualified staff
- Keep a watch on locking systems wear, due to the friction under rail head hooks wear out : Remove and replace them when the points dimension is inferior to 8 mm

Operating instructions :

1. Push out the pin **A** and take off the handle **P**
2. Take off the nut **G**
3. The hook falls



To assemble new hooks, reverse order of removal

If the mechanical coupling motor – hydraulic pump present of wear signs incorrect functionning please replace it.

Réf produit : 31230028



OBJECT	Operation's nature	PERIODICITY		Presence of wear signs or incorrect functionning
		Before use	After use	
Complete machine	Inspection of the machine	X		
Complete machine	Clear the engine using a towel or comprimed air gun to remove the dirtness		X	
Wiper seal	Replacement			X
Cylinder rod	Replacement			X
Locking hook	Replacement			X
Carbon Brush	Replacement			X

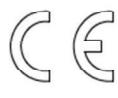
NOTA : These recommendations are not restrictive. Continuous wide shearing machine and well-organized preventive maintenance will extend the life of the machine.

Responsibility for maintenance is the responsibility of the owner of the equipment.
Maintenance must be carried out at least once a year by a competent and qualified person

V - SIGNALISATION

The hydraulic shearing machine benefits of traceability on the ID plate.

ID PLATE

PANDROL Partners in excellence		Norme:	 
		Type :	
Agrément SNCF :			
Réf :	N° de série :	Année :	
Trs/min Outil Ø :		mm	Masse :
			Kg

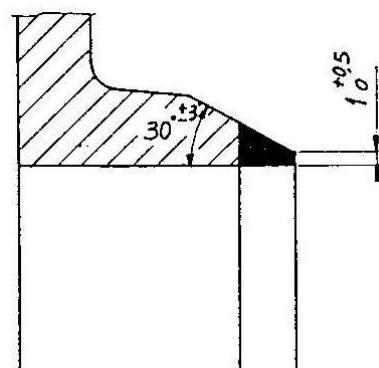
ETIQUETTE EN 13977



VI - BLADES

SHARPENING :

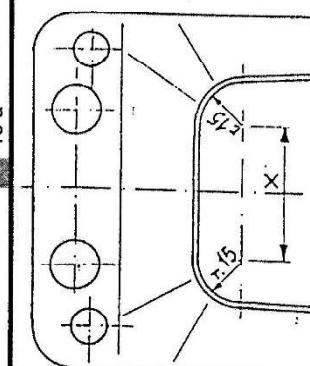
The shape of the cutting edge along all the blade profile is very important to obtain an optimum cutting quality



The blades must systematically be inspected and sharpened (**about every 50 cuts**)

PROFILE BLADES LIST FOR THE VARIOUS TYPES OF VIGNOLE RAILS

Lengthened Blades 32 type Standard 11335018		Lengthened Blades 36 type Standard 11335019		Lengthened Blades 40 type Standard 11335024		Lengthened Blades 45 type Standard 11335022		Lengthened Blades 48 type Standard 11335023	
H.T.	11335032	H.T.	11335033	H.T.	11335034	H.T.	11335028	H.T.	11335035
20 Kg Std.	34 Kg PLMA	31 Kg Australie	48 Kg LP	41 Kg R41	41,2 Kg Type 16				
25 Kg	65 Lb ASCE	70 Lb U.P	100 Lb HF	SJ 41	45 Kg AL 16A				
50 Lb NSFB	70 Lb ASCE Thailand	36 Kg Anglais	50 Kg N	42,1 Kg R14	50 Kg EB				
50 Lb OBS	Ouganda	36 Kg UST	50 Kg Nelle Zélande	SJ 43	105 Lb NYC				
26 Kg Std.	Ouganda	36 Kg UST Suisse	50 Kg U 50	R 43	CFF6				
26 Kg Std.	36 Kg CFF5	80 Lb ASCE	91 Lb RR	UIC 54 A (A65)	R 65				
26 Kg renforcé	UNI 36	Mozambique	100 Lb PS	UIC 54 HM	UIC 60				
29 Kg	37,8 Kg AL 11A	80 Lb BSA	100 Lb RB	110 Lb CF & I	UIC 60 HH				
BS 60 AFB Anglais	75 Lb RBS Ouganda	80 Lb BSA	52 Kg Metro	45 Kg ED	60 Kg EB				
30 Kg Std.	39 Kg ARAB	80 Lb OBS Ouganda	U 60	90 RBS	110 Lb RE				
30 Kg Nord	39 Kg PMA	80 Lb RBS	U 60 CA	90 Lb ASCE	112 Lb RE				
30 Kg Suisse	40 Kg Nord	41 Kg Australie	60 Kg N	113 A	122 BC & O				
31,6 Kg	40 Kg type Am.	85 Lb ASCE	U 59	90 Lb BSA	122 Lb				
33,4 Kg Prussien	85 ARAA	85 Lb PS	90 Lb RA	115 Lb RE	63 Kg EB				
36 Kg Portugal	45 Kg Nord	45 Kg MSA	100 Lb AREA	119 Lb CF & I	127 Lb				
36 Kg S13	45 Kg Est	90,20 ARRA Brésil	100 Lb ASCE	90 Lb RA					
36 Kg S40 Std.	45,5 EV45	90,30 ARAB	100 Lb ARAB	130 Lb HF	60 Kg Australie HH				
24 a	46 Kg S12	90 Lb GN	100 Lb RA	S 49	127 Lb NYC				
	U 33 Ame épaisse	90 Lb RA	100 Lb RE	50 Kg Chine	130 Lb PS				
	U 33 ou S33	90 Lb RB	100 Lb ASCE	50 Kg Australie	131 Lb RE				
	U 55	90 Lb SF	100 Lb ARAB	SJ 50	130 Lb RE				
	10 a	90 Lb CF & I	100 Lb RA	UIC 50	66 Kg Australie				
		91 Lb Nelle Zélande	100 Lb RE	132 Lb HH	132 Lb RE				
		CFF1	100 Lb CF & I	132 Lb RE	133 Lb RE				
		CFF1 TJD	53 Kg Australie	136 Lb RE	136 Lb RE				
		UNI 46	ou 107 Lb Australie	140 Lb RE	A 74				
		47 Kg Australie	CFF3 (UIC 54E)	UIC 71	155 Lb PS				
				155 Lb Penna					
RAILTECH <small>INTERNATIONAL</small> <small>© SOUDURE DÉCLICHEON</small>									
BLADES FOR SHEARING MACHINE									
Cote x : 32-36-40-45-48									
01/04/2004									



VI – TECHNICAL CHARACTERISTICS

Designation	Two parts shearing machine with separate hydraulic set
Weight without blades	43 Kg
Weight with blades	47 Kg
Dimensions : L x l x h	1200 x 470 x 450 mm
Vibrations level	< 2,5 m/s ²
Noise level	See hydraulic assembly noise level
Force	212 KN (21,5 T)
Hydraulic pressure	250 bars (3560 Psi)
Mineral hydraulic oil	Following DIN 51524 part 3 norm Category HVLP ISO VG32
DO NOT MIX DIFFERENT TYPES OF OIL	

To know that :

Our shearing engine can be used with :

- A electric hydraulic group with Bosch motor 220V / 250 bar **19511014**
- A thermal hydraulic group with HONDA motor GX16QX **19511007**

Refer to the user's manual of these groups.



VII – LISTE DES PIECES DETACHEES SPARE PARTS LIST

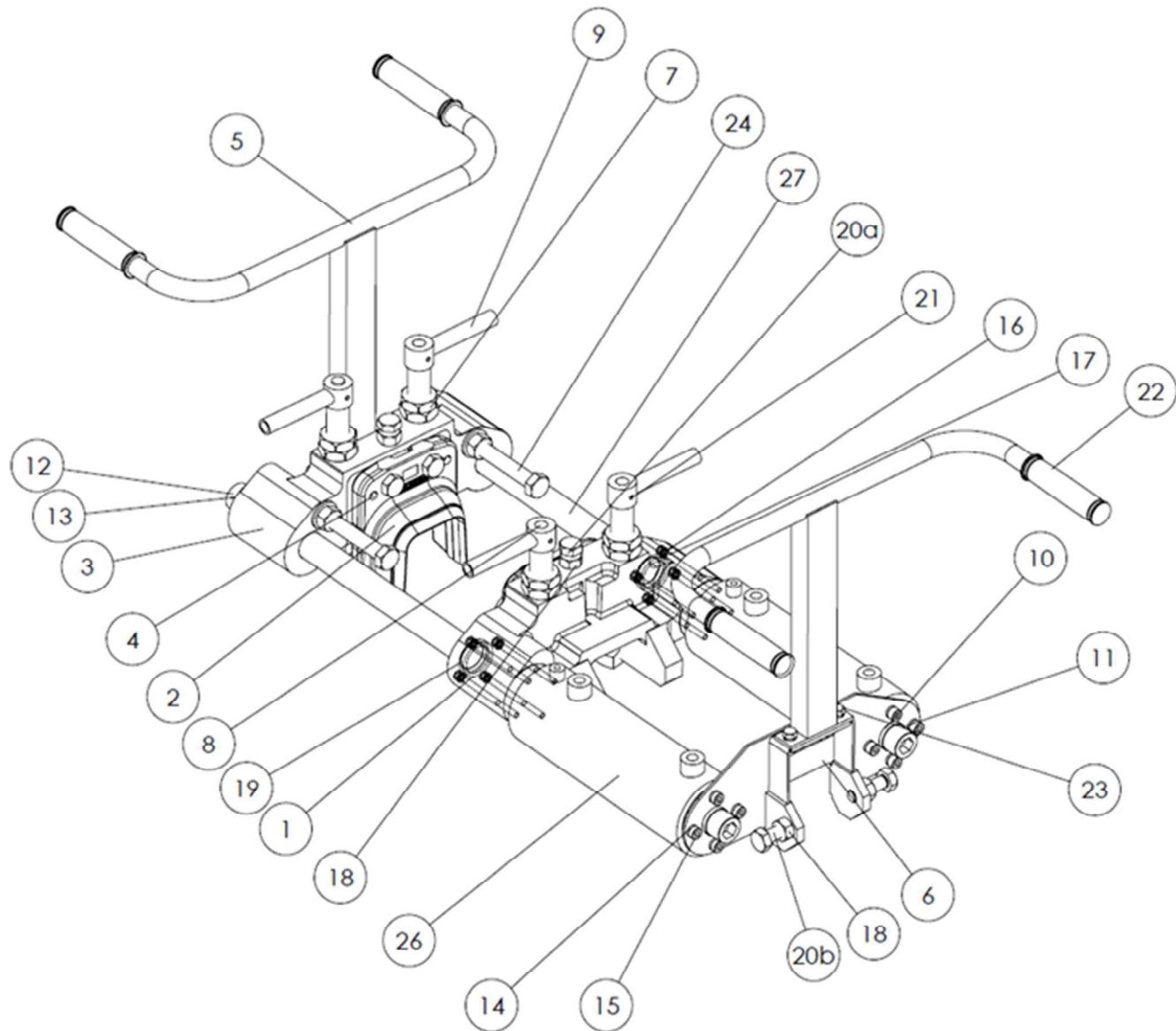
Version bloc à groupe hydraulique séparé
Two parts shearing machine

Tête de tranchage
Shearing unit

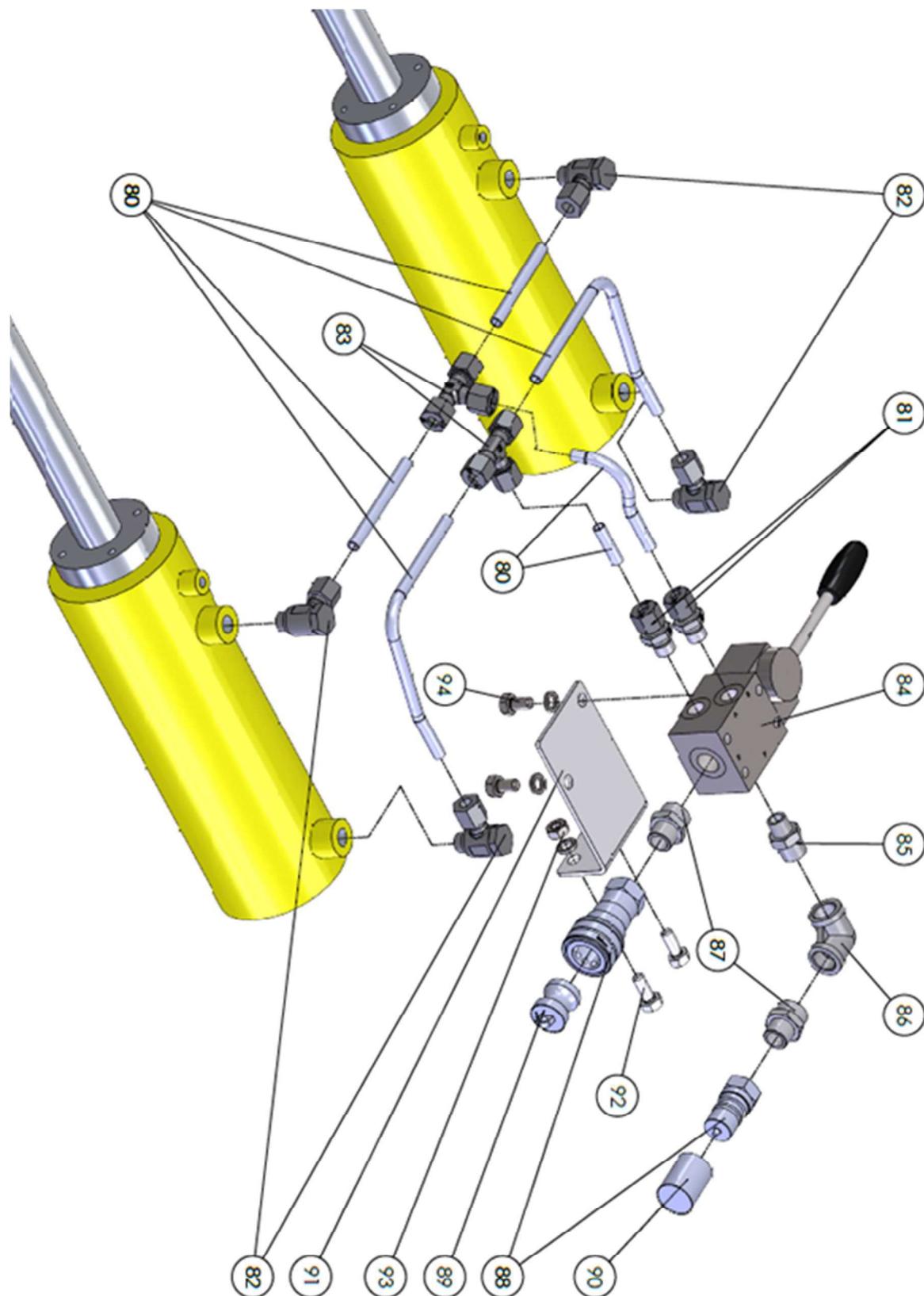
Circuit hydraulique
Hydraulic fitting

TETE DE TRANCHAGE ETROITE

NARROW SHEARING UNIT



Rep.	Reference	Qté	Désignation	Description
01	32930051	1	Traverse mobile étroite	Narrow moving crosspiece
02			Jeu de couteau (voir liste en annexe)	Blades (refer to the annexed list)
03	32930052	1	Traverse fixe étroite	Narrow fixed crosspiece
04	41304001	4	Pion de centrage Ø 10x30	Centering piece Ø 10x30
05	35910409	2	Poignée de transport	Handle
06	35910408	1	Traverse arrière	Back crosspiece
07	40924001	8	Ecrou Hm M24	Hm M24 nut
08	35910128	4	Crochet à bossage	Hook
09	35910052	4	Poignée de crochet	Hook handle
10	41120002	4	Rondelle W20	Washer W20
11	41020002	2	Vis CHc M20x50	Screw CHc M20x50
12	41020001	2	Vis CHC M20 x 80	CHc M20 x 80 screw
13	41120005	2	Rondelle plate L20 N	L20 N flat washer
14	41108004	12	Rondelle W8	Washer W8
15	41008020	8	Vis HM8 x 20	Screw HM8 x 20
16	41106001	8	Rondelle W6	Washer W6
17	41006012	8	Vis CHC M6 x 90/30	CHc M6 x 90/30 screw
18	40914004	6	Ecrou bas H M14	Nut H M14
19	44201004	2	Joint racleur	Scraper seal
20a	41014002	2	Vis HM14 x 90	HM14 x 90 screw
20b	41014001	4	Vis HM14 x 60	HM14 x 60 screw
21	41301012	4	Goupille élastique 5x30	elastic pin 5x30
22	47401002	4	Poignée caoutchouc	Rubber handle
23	41008033	4	Vis CHc M8 x 20	Screw CHc M8 x 20
24	41016007	2	Vis de butée HM16 x 160	Stop piece screw HM16 x 160
	45301005	4	Bague autolubrifiante	Self lubricating ring
26	47501011	2	Vérin hydraulique allégé	Light hydraulic jack
27	47501003	2	Colonne de vérin	Jack column
	47501016		Pochette de joints de vérin allégé	Gasket kit for light hydraulic jack

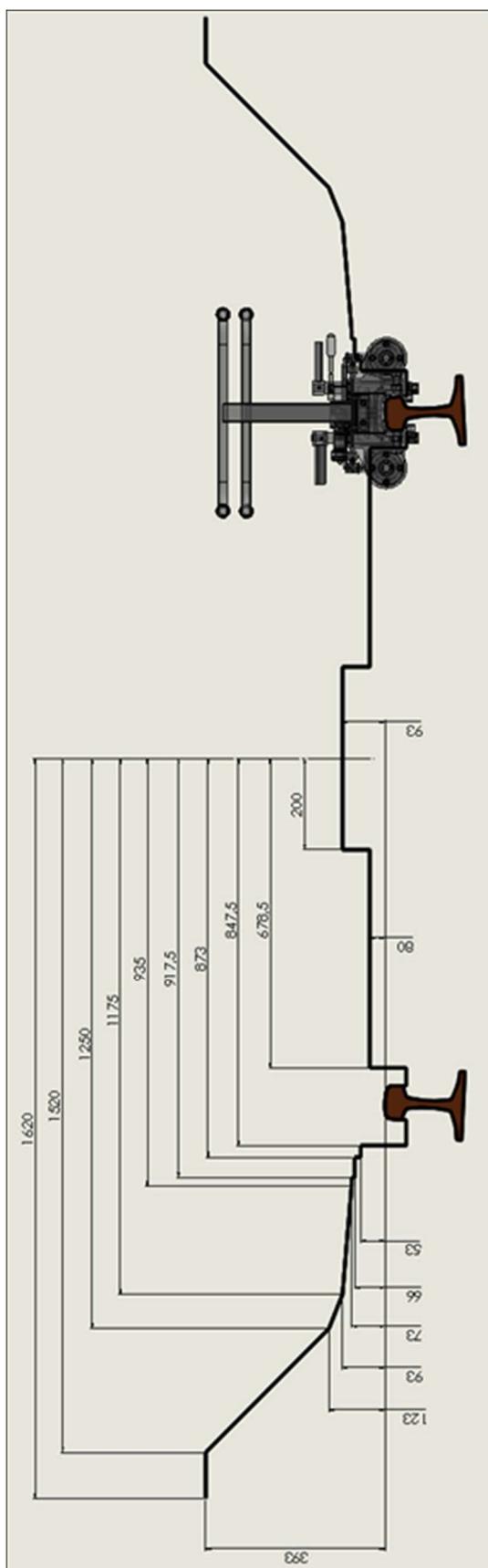


Rep.	Référence	Qté.	Désignation	Description
80 81 82 83	21332058	1	KIT TUYAUTERIES HYDRAULIQUES / HYDRAULIC PIPE SET	
84	47702004	1	Distributeur à tiroir	Distributor
85	47701033	1	Mamelon double inégal mâle	Double male fitting
86	47701031	1	Coude femelle 90°	90° female coupling
87	47701032	1	Mamelon double inégal mâle	Double male fitting
88	47702009	1	Coupleur Gromelle complet standar	complete Gromelle coupling
89	47702010	1	Bouchon de protection mâle	Male protection plug
90	47702011	1	Bouchon de protection femelle	Female protection plug
91	34910123	1	Support de distributeur	Distributor support
92	41008020	2	Vis HM 8 x 20	Screw HM 8 x 20
93	40908001	2	Ecrou M8	Nut HM8
94	41008008	2	Vis H M8 x 16	Screw H M8x16

21332058 KIT TUYAUTERIES HYDRAULIQUES / HYDRAULIC PIPE SET C:175 EGH1

Rep.	Référence	Qté.	Désignation	Description
80	547601002	1	Tube hydraulique Ø 6/8	Hydraulic pipe Ø 6/8
81	547701036	2	Union mâle ¼"	Male coupling ¼"
82	547701034	4	Equerre orientable ¼"	Adjustable coupling ¼"
83	547701035	2	Té Égal 250 bars	T shaped connector 3627 PS

IX – PLAN DE CONTROLE SUIVANT EN13977



**FICHE DE CONTROLE
CLIENT**
**CONTROL CARD
CUSTOMER'S COPY**
**EBAVUREUSE HYDRAULIQUE TETE ETROITE
BIBLOC A GROUPE HYRAULIQUE SEPARÉ**
**TWO PARTS SHEARING MACHINE
WITH SEPARATE HYDRAULIC SET**
11332001

N°	Désignation des contrôles <i>Description of controls</i>	Contrôle <i>Checked by</i>
1	Réglage des vis de positionnement en hauteur : <i>Height positioning screws adjustment :</i>	
2	Réglage des vis de guidage	<i>Guide screws adjustment</i>
3	Système de verrouillage : - Ecrou de réglage en hauteur - Débattement des verrous	<i>Locking system</i> <i>Height adjustment nut</i> <i>Clearance of locks</i>
4	Etanchéité des constituants hydrauliques sous mise en pression : <i>Inspection of hydraulic components under pressure :</i> - Raccords - tuyauterie - Vérins	<i>Couplings</i> <i>Piping</i> <i>hydraulic jacks</i>
5	Essai de fonctionnement à pression maximum de 250 bar <i>Operating test at maximum pressure of 250 bar</i>	
6	Aspect général	<i>General aspect</i>
7	Outilage et cale 31910308	<i>Tools and wedge 31910308</i>
8	Notice d'utilisation Référence 542111004	<i>User's manual</i>
Date de fabrication <i>Date of manufacturing :</i>		
Fait à Raismes le <i>Drawn up in Raismes, the :</i>		
Nom <i>Name :</i>		
Signature <i>Signature :</i>		

**Références à rappeler en cas de réclamation
*In case of complaint, please quote these references***

N° de machine	<i>Machine nbr</i>
Moteur Type, N°	<i>Engine Type:</i> N°.....
Pompe Type, N°	<i>Pump Type</i> N°

**FICHE DE CONTROLE
CLIENT**
**CONTROL CARD
CUSTOMER'S COPY**
**EBAVUREUSE HYDRAULIQUE TETE ETROITE
BIBLOC A GROUPE HYRAULIQUE SEPARÉ**
**TWO PARTS SHEARING MACHINE
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Date de fabrication <i>Date of manufacturing :</i>		
Fait à Raismes le <i>Drawn up in Raismes, the :</i>		
Nom <i>Name :</i>		
Signature <i>Signature :</i>		

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*In case of complaint, please quote these references***

N° de machine	<i>Machine nbr</i>
Moteur Type, N°	<i>Engine Type:</i> N°.....
Pompe Type, N°	<i>Pump Type</i> N°



SAV / Commercial

Contacter votre représentant commercial / Contact your local representative

Ou / Or +33 (0) 1 46 88 17 00

Ou / Or Infos.pandrol-fr@pandrol.com

IV - ATTESTATION DE CONFORMITE

CERTIFICATE OF CONFORMITY

Le constructeur soussigné (the undersigned manufacturer)

PANDROL (DIVISION MATERIEL)

Z.I DU BAS PRE

59590 RAISMES



Certifie que le matériel neuf désigné ci-après

(certify that the under described products)

EBAVUREUSE HYDRAULIQUE

HYDRAULIC SHEARING MACHINE

TETE ETROITE – type EGH1

EGH1 type

A groupe hydraulique séparé

With separate hydraulic set

Référence 11332001

Référence 11332001

N° de machine (machine number) :

Est conforme (comply with)

- **A LA CONFORME EUROPEENE NF EN 13977**
(THE EUROPEENE NORM NF EN 13977)
- **AUX DISPOSITIONS REGLEMENTAIRES DEFINIES PAR LA DIRECTIVE 2006/42/CE**
(THE INFORMATIONS STATED IN THE LEGAL DOCUMENTATION OF THE DIRECTIVE 2006/42/CE)
- **Aux prescriptions de l'article R4313-20 (*procedure d'auto certification*)**
(the regulations of R4313-20 article – self certification procedure)
- **M. LISINSKI Aurélien est le détenteur du dossier technique**

Raismes, 05/2019
Bruno JOIRIS
Directeur Industriel

Aurélien LISINSKI
Responsible division matériel et équipement

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