



PANDROL

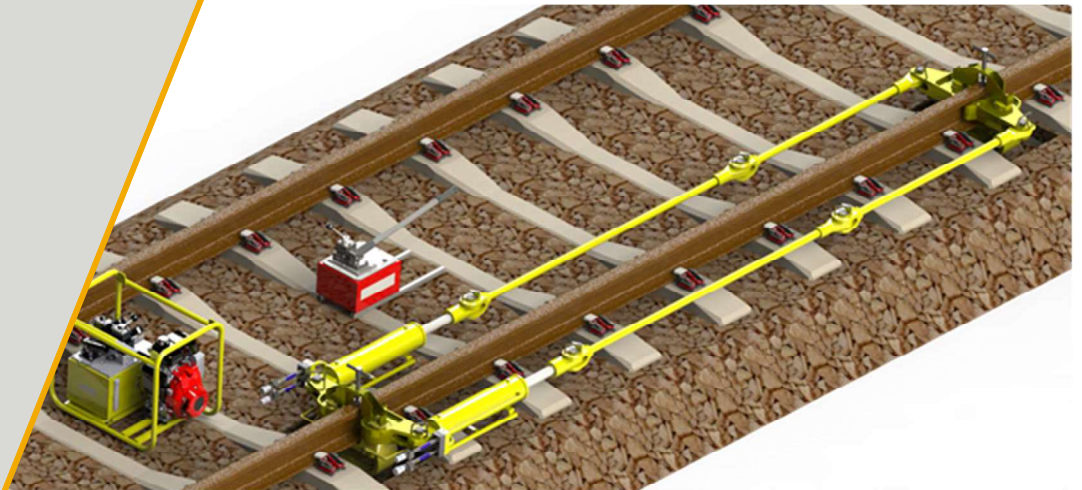
FLATS COUPLERS REF. 41121009

OPERATING AND MAINTENANCE MANUAL

HYDRAULIC RAIL STRETCHER TR75
REF. 21121054

TO BE USED WITH HYDRAULIC UNIT
REF.21121058

TO BE USED WITH HYDRAULIC MANUAL PUMP
REF. 21121063



PANDROL

Siège Social et Usine : Z.I. du Bas Pré – B.P. 9 – 59590 RAISMES – FRANCE- Tél. : 33 (0) 3.27.22.26.26 - Fax : 33 (0) 3.27.22.26.00

Direction Générale et Commerciale Immeuble West Plaza – 9 rue du Débarcadère- CS90029 – 92707 COLOMBES Cedex

Tel 33.1.46.88.17.00 – Infos.pandrol@pandrol.com – Fax 33.1.46.88.17.00 et 17 66

23 of 76

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

CONTENT

	Pages
I SAFETY LABELS EXPLANATION	24
II GENERAL SAFETY INSTRUCTIONS	24
III DESCRIPTION	26
IV USE INSTRUCTIONS	27
1 – Storing	
2 – Handling	
3 – Installation	
4 – Operating	
5 – Pressure breaking device	
V MAINTENANCE	38
1 – Hydraulic unit	
2 – The pump	
3 – Hydraulic pipes and flexible hoses	
4 – Mechanical parts	
5 – Troubleshooting guide	
VI TECHNICAL CHARACTERISTICS	40
VII SPARE PARTS LIST	42
VIII DRAFT OF CONTROL EN 13977	69
IX CONTROL CARDS	70
X CONFORMITY CERTIFICATE	73

I – SAFETY LABELS EXPLANATION



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



Read carefully the instructions of the operating manual and make sure you understand them before using the machine.



WARNING ! Be careful to the mobile pieces of the rail stretcher so as to avoid any risk of squashing



Lubrication point

II – SAFETY GENERAL INSTRUCTIONS

- ✚ Do not use the rail stretcher until you have read and understood the entire contents of the operator's manual
- ✚ The operator must respect the regulations, procedures and particular orders of the railway operating Network
- ✚ Use the rail stretcher only with a PANDROL hydraulic assembly or a manual pump, it guarantees the pressure and flow characteristics
- ✚ Never use the rail stretcher when you are tired or under influence of medicines, alcohol or substances which can alter your sight, dexterity or appreciation capacity
- ✚ All interventions on hydraulic components must be operated by a qualified staff
- ✚ Under no circumstances the original design and configuration of the rail stretcher should be modify without approval from RAILTECH
- ✚ Before every use, check the stretcher flexible and components. Any damaged component must be replaced
- ✚ Rail stretcher components weight is rather high so its installation must be done by two persons at least
- ✚ The wearing of Personal Protective Equipment (PPE) it may be necessary



DANGER : Never run the engine in a confined space.
The exhausted gas contains carbon monoxide, which is odourless but can kill.

A fire or an explosion can occur and cause injury if the following precautions are not observed.

⚠ 1 - Precautions during refuelling :

- Switch off the motor and allow to cool before filling the fuel-tank.
- Do not smoke.
- Keep away from naked flames or from equipment which has a pilot light or is liable to spark.
- Take care not to spill fuel.
- If fuel is spilt, clean the machine at once and move it at least 5 m away before starting-up.
- Do not fill the tank to the brim ; the fuel may expand and escape through the filler cap when the motor is hot.
- Clothes which have come into contact with fuel should be changed at once.
- Do not start the engine on a slope ; there is a risk of fuel spillage

⚠ 2 - Do not run the engine without its silencer ; check it regularly and replace it if necessary.

⚠ 3 - Do not put anything on the engine while it is running ; keep it free of all inflammable material (grass, rags, etc...) and clean it as well as the silencer

⚠

⚠ 4 - Do not run the engine without a spark-shield in wooded or grassy areas. Check on the rules and regulations in force before use.

⚠ 5 - While the engine is running do not touch the silencer, the cylinder or the cooling fins ; there is a risk of burning yourself.

III – DESCRIPTION

The TR75 hydraulic rail stretcher, which can be easily installed due to the yoke and pin assembly of the different components, is specially designed for stress relief or replacement of continuous welded rails (CWR). It is capable to join and maintain a constant gap between the two rail ends.

The TR75 rail stretcher frees the nominal installation gauge from the obstacles at the base of the track for most rails with a height above 140 mm following norm NF EN 13977 – annex B pos. 3 and therefore allows trains to run freely.

USING THE RAIL STRETCHER FOR RAIL WHICH IS LESS VAN 140 mm WEIGHT CAN ONLY BE IMPLEMENTED UNDER THE PROTECTION OF A TRAFFIC PROHIBITION DURING THE OPERATION.

Remind : height of the 46 Kg U33 rail : 145 mm

A TR75 rail stretcher includes the following components :	<u>Unity weight / Kg</u>
- 2 C clamp cam support	51
- 2 Double acting hydraulic jack	42
- 4 Cam with jaw	16
- 2 Jack protection housing	2,9
- 1 Hydraulic pump frame with fittings	43
- 2 C adjustment stirrup	3,5

It must be completed with :

- 2 1800 m tie-rod	25
- 2 1200 m tie-rod	21

Note : working with two 1.800m and two 1.200m tie-rods is often recommended

IV - INSTRUCTIONS FOR USE

1 – STORING

+ The pump :

- The pump must always be stored on its base frame

+ Unit :

- Do not expose the unit to rain
- Drain the fuel system before a prolonged storage. The unit must be stored flat

+ Mechanical components :

- Store the different components under cover
- Protect the articulations from oxidization with a light grease layer

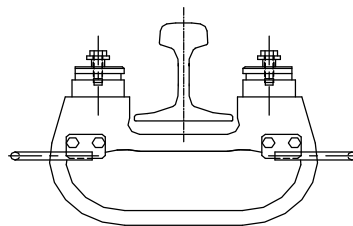
2 – HANDLING

« C », hydraulic jacks, hydraulic unit or manual pump must be handled by two people
Protective pieces (on frame, hydraulic jack...) are used as handle

3 – INSTALLATION

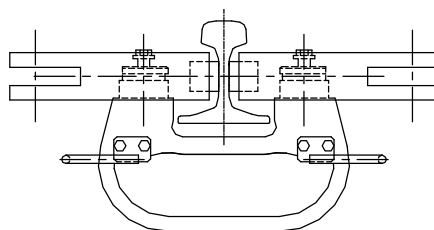
- +** The stretcher must be set up the jack rods fully extended

- +** Clear the selected place between two crosspieces and place the first « C » under the rail



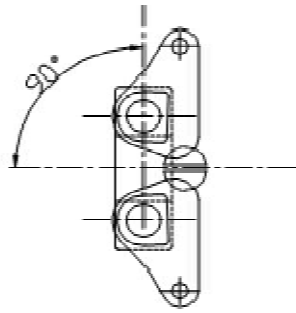
- +** Place the left and right cams and respect their positioning in relation to the rail

- +** Cam keys (see item 8 page 27) must be visible (see VII Spare parts/ stretcher/ rep. 8)

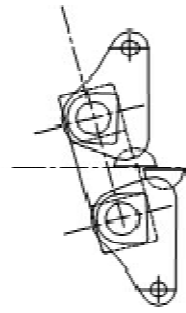


- +** Position of the cams

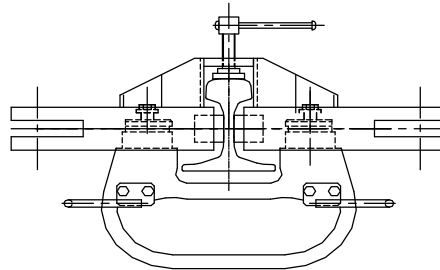
CORRECTE



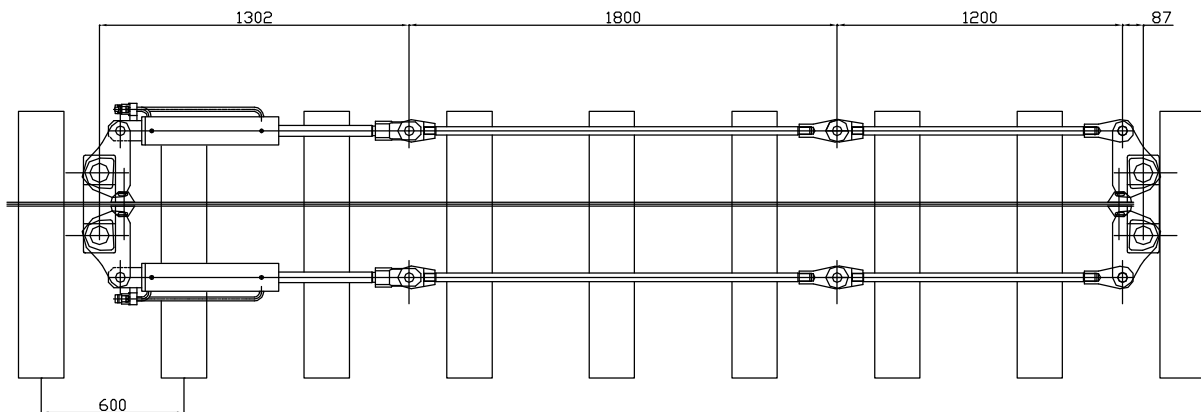
INCORRECTE



- ✚ Place the adjustment stirrup on the two pivots and, using the stirrup screw, position the cam jaws at the level of the neutral axis of the rail taking support from the upper part of the rail head.
- ✚ The same procedure has to be implemented for the second C. First clear the place between two crosspieces in the necessary distance according to the rods to be used.



- ✚ Check the cleanliness of the couplings, slide the flexible pipes **under the rails** and connect them to the hydraulic jacks
- ✚ Position the jacks on either side of the rail
- ✚ Extend the rods
- ✚ Place the tie-rods on either side of the rail
- ✚ Set up the whole with the locking pins.



CAUTION : IT'S ESSENTIAL TO REMOVE THE ADJUSTMENT STIRRUPS, IN ORDER TO LET TRAIN RUN FREEL

4 – OPERATING

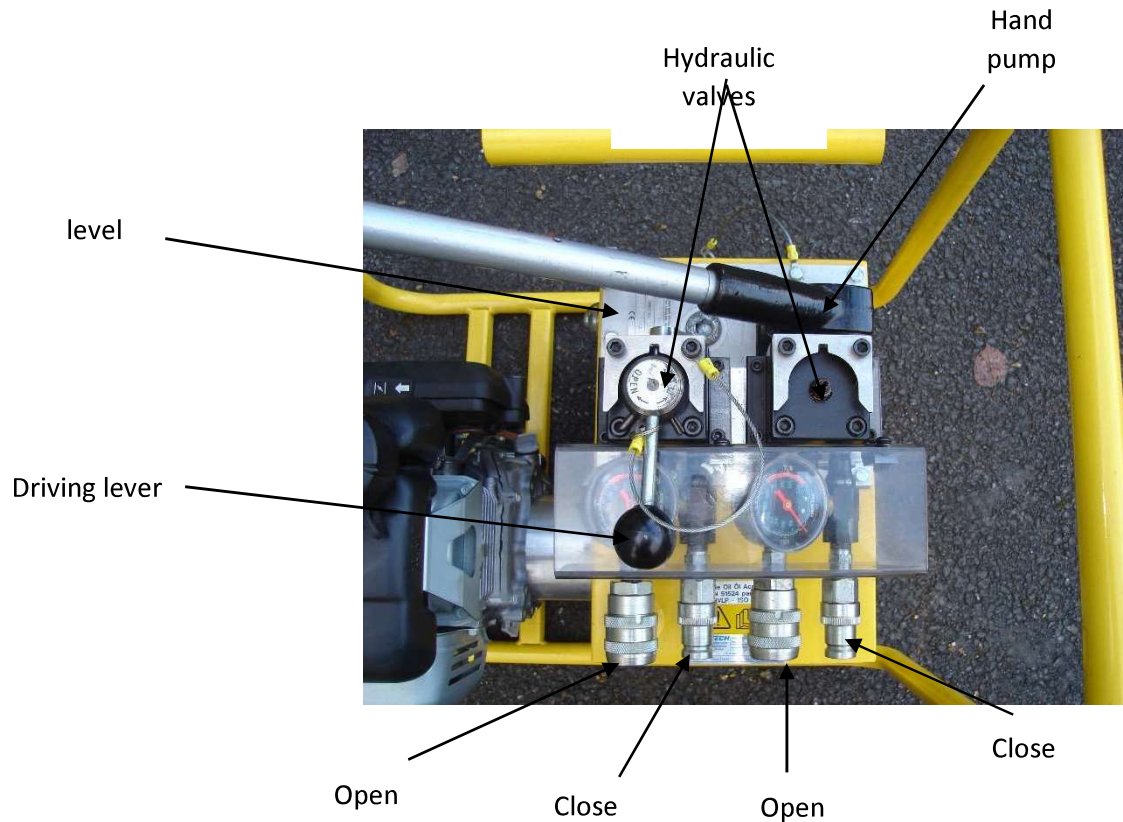
4.1 – The unit

This hydraulic assembly can be connected with two rail stretchers but **only one rail stretcher can operate at the same time**

For this reason, only a single removable drive lever can action the hydraulic valve of each rail stretcher. So it's not possible to act the two valves in the same time.

On each of the two hydraulic valves there is a grooved axe. A single lever must be adjusted on this axe, the lever stud must be placed in the notch provided for it.

Présentation



P Instruction for use

WARNING !

ONLY RUN THE HYDRAULIC ASSEMBLY WHEN THE BY PASS VALVE IS ON "RETURN" POSITION



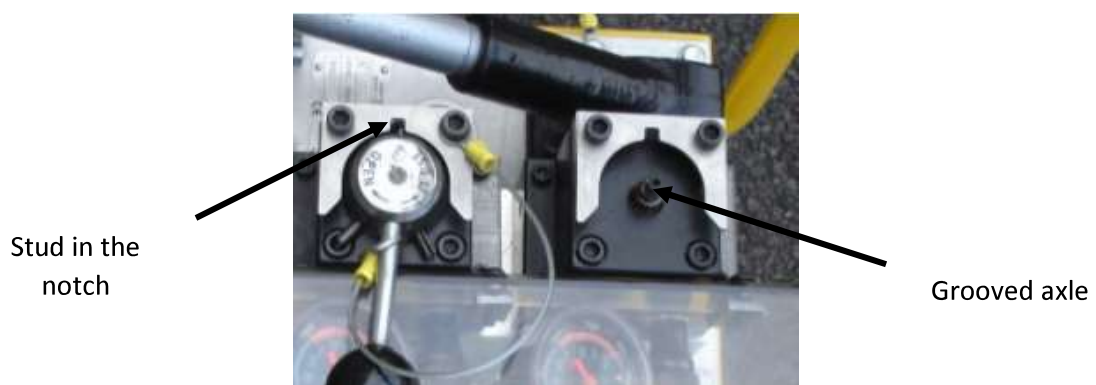
Return



Hold Position

VERY IMPORTANT

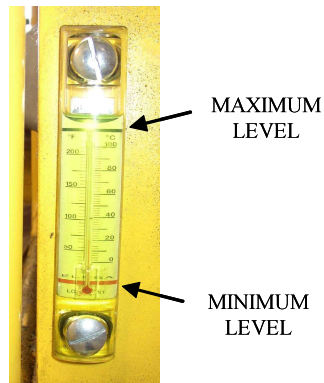
It's imperative to respect the correct fitting of the drive lever, stud in the notch, as shown on picture below. Any over fitting is incorrect and risks to place the valve in an intermediate wrong position. Then, the drive axle being shifted, the right positions get lost and the stretcher movement is no longer possible



Avant démarrage

- Before starting
- Check every day tank oil level

As soon as oil is at the middle of the maximum and minimum level, top it up with recommended oil :
HVC 32 or NORM DIN51524 Part 3 CAT. HVLP_ISO VG32



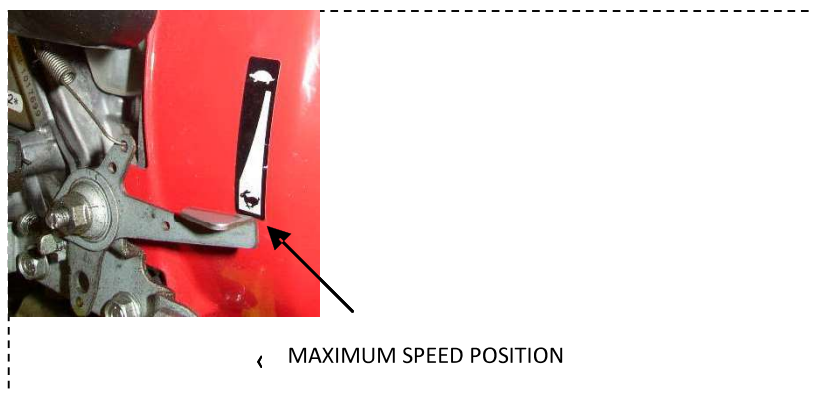
- Check engine oil level
- Check the air-filter

IMPORTANT :

Connect carefully the hydraulic jack flexibles to the pump quick coupling and check the level.

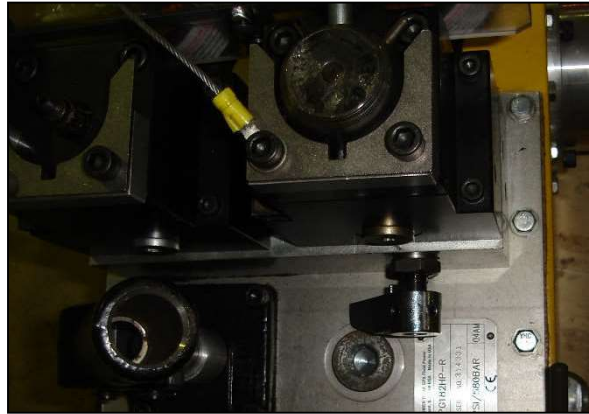
Starting up the engine :

- Open the fuel cock.
- Close the choke using the choke lever.
- Turn on throttle.
- Turn the engine switch on the "ON " position
- Pull the starter handle to a résistance, give it a sharp pull
- As soon as the engine is running, open the choke.
- Adjust the throttle lever to the "maximum speed"



Note : In cold weather, leave the choke on until the engine is running smoothly. With a warm engine do not use the choke for start.

- Turn the "by pass" valve on position "HOLD"



Adjust **CORRECTLY** the drive lever on the grooved axle of one of the distributors before operate it towards **OPEN** to work "in thrust"
or towards **CLOSE** to work "in traction"

STOP THE ENGINE

- Turn back the throttle.
- Put the engine switch to the "off" position.
- Close the fuel cock.

MAINTENANCE

- Consult the engine user's manual.
- Check engine oil level
- Check the air-filter,

Never run the engine without the air-filter as this can cause undue wear of the engine

 Check the fuel level ; lead-free petrol

Connect carefully the hydraulic jacks flexibles to the pump quick couplings. Always make sure of their cleanliness ; as soon as they are disconnected from the tool connect the flexibles together to protect them from any pollution.

Never touch flexibles with hot parts

4.2 – Tensioning

Operation in traction

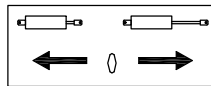
It is advisable to work with the heat engine up to 95% of the traction and to finish with manual pump which brings the fineness of the adjustment of the gap.

The work with the engine is less precise and can exceed the desired elongation of the rail. When correcting the elongation not reversing the position of the lever of the distributor, the pressure is broken without control and all the work can be restarted.

In the event of engine problem, all work can be done with the manual pump.

The positions of the valve levers are indicated by "open" and "close" on the head of the lever. A label stick on the tank cover reminds these instructions

Close Open



Connection problems

A residual pressure or a temperature variation can cause connection difficulties

The pressure drop tool allows to avoid this problem in quite security :

- place the distributor control handle on position
- shut off the valve
- operate the hand pump with the handle
- Stop as soon as you hear a leak sound; the pressure is regulated at 0 bar on the manometer
- It is possible to disconnect the "close" line (retracted rod of the pictogram)
- Wait 30 seconds and disconnect the "open" coupling
- If disconnection is not possible, move the valve lever to "close" and proceed as above

4.3 –The manual pump

- **Before using the pump**

1. Check all system fittings and connections to be sure they are tight and leak free
2. Check reservoir oil level before operating the pump
 - Low level : below 6 cm of the reservoir cap
 - High level : the bottom part of the reservoir cap should not come in contact with oil
 - Reservoir useful capacity : 7 l
3. Check the connection between the pump and the jacks has been properly performed
4. Put and tighten the plug

CAUTION :
TO PREVENT OIL LEAK, DO NOT TIP THE PUMP MORE THAN 15 DEGREES IN ANY DIRECTION

CAUTION !	WARNING !
<p>NEVER add extensions to pump handle. Extensions cause unstable pump operation.</p>	<p>In certain situation the pump handle can “kick back” Always keep your body to the side of the pump, away from the line of force out the handle</p>

To reduce handle effort at high pressures, take short strokes. Maximum leverage is obtained in the last 5 degrees of stroke.

- **Using two speed pumps**

These pumps provide 2 stage flows. Under no-load, the pump operates in the high flow first stage for rapid advance. When the load is contacted, the pump shifts automatically to the second stage for building pressure. When the pump pressure reaches approximately 290 PSI, the scale is then adjust enabling the reduction of the clutch spring rates.

To obtain best performance, operate pump handle at moderate speed during the high flow first stage. Rapid handle speed in the first stage will prevent the pump from delivering full volume of oil.

- **Air removal**

Removing air from the hydraulic system will help the cylinder to advance and retract smoothly.

Pump with double-acting cylinder :

- 1.- remove the reservoir cap
- 2.- position the pump at higher elevation than cylinder
- 3.- put cylinder in horizontal position with ports up
- 4.- fully advance and retract the cylinder 2 or 3 times
- 5.- repeat the above steps as necessary
- 6.- add oil if necessary
- 7.- return vent/fill cap to operating position

Couplings connection

Ensure the coupling and the thread are always clean

Fit the couplings to each other

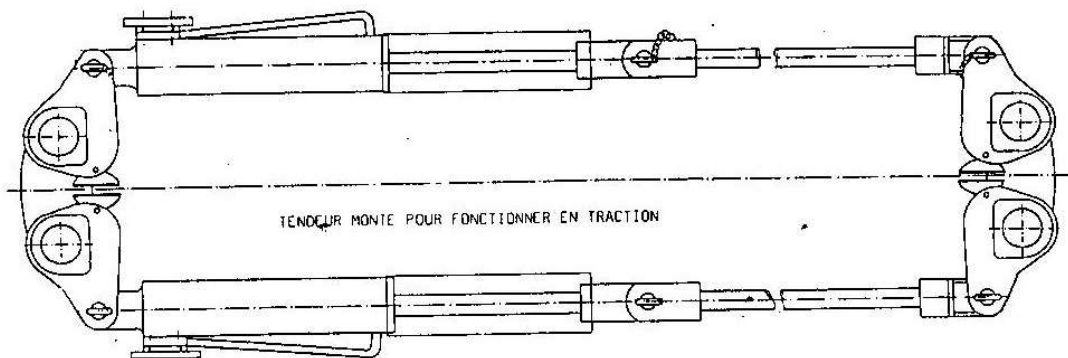
Tight the knurled lock nut : the connection is correct when it is in contact with the fixed part of the coupling

4.4 – The stretcher

FOR SECURITY : NEVER DISCONNECT OR REMOVE THE HOSES WITH TOOL

- To break the pressure move the distributor control handle on the positions : output - neutral - input – and finally to set in position neutral and loosen the load valve V

Operation in traction



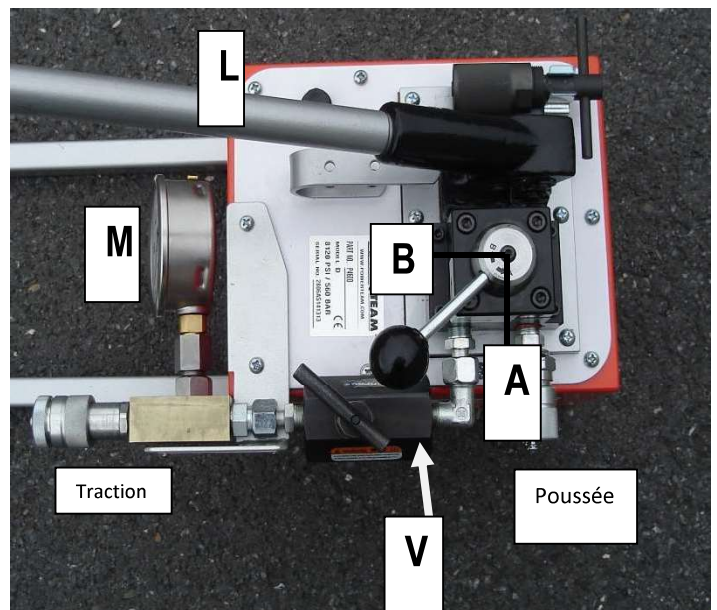
Tensioning the rail, rods retracted :

a - place the distributor control handle on position **B**

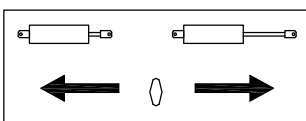
b – shut off the valve **V**

c – operate the hand pump with the handle **L6** to reach the required pressure, you can control it on the pressure gauge **M** (maxi 8000 PSI for a tensile force of 70 Ton)

A label stick on the reservoir cover reminds these instructions



To adjust the rail ends gap,



- replace the distributor control handle on position **A**
- slightly unscrew the valve, when you obtain the required la gap shut it off

- + To disconnect the hoses from the pump proceed in this way : first replace the distributor control handle on position **A** to regulate the pressure at 0 bar, and then unscrew the valve **V**. Move several times the distributor control handle

5 – PRESSURE BREAKING DEVICE

PRESSURE BREAKING FOR BALL COUPLER

Temperature variations during hydraulic jack storage can generate light pressure rise. This pressure rise is sufficient to affect the easiness of the couplings connection.

A pressure breaking device is delivered with the hand pump.
Centred on the couplings, this device push on the couplings useful faces and so allows breaking the pressure rise.

+ Jacks

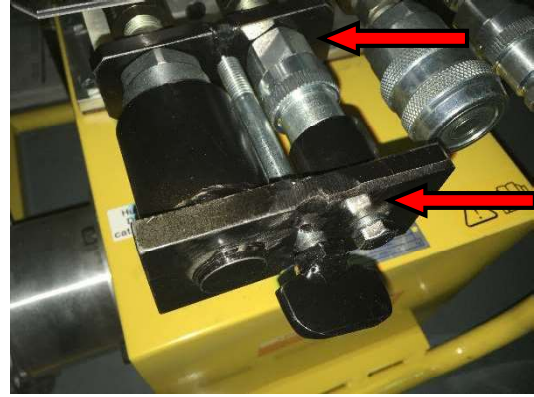


+ Flexibles hoses

Place the plate with the notches behind the couplers and proceed in the same way as for the flexibles hoses



 The unit



Operating :

- place the device on the couplings
- place with your hand the screw M10 in the threaded hole of the couplings protection
- screw (the stroke is 15 mm)

WARNING :

OIL EXCESS GENERATED BY PRESSURE RISE IS GOING TO FLOW, SO PLAN THE CLEANING



V – MAINTENANCE

PERIODICITY OF MAINTENANCE

Object	Nature of the operation	PERIODICITY			
		Before use	After use	once a year	Sign of wear or incorrect operation
Complete engine	Inspection de la machine	X			
Complete engine	Clean the machine using a clean cloth or compressed air gun to remove dirt		X		
Manual pump / hydraulic unit	Check the oil level	X			
Manual pump / hydraulic unit	Empty			X	
Hydraulic hoses / Flexible hoses	Check the sealing hoses coupling	X	X		
Flexible	Replacement				X

1 – Unit

Adding oil :

WARNING ! Always add oil with cylinders fully retracted, otherwise the system will contain more oil than the tank can hold.

Fill up the tank

Carry out, under no load, an operation of retraction and extension of the jack's rods

Remove air from the system if necessary. Recheck oil level after removing air

- Only use DIN 51524 part 3 category HVLP -ISO VG32 quality oil

2 - THE PUMP :

1.1 – Adding oil :

WARNING !

Always add oil with cylinders fully retracted, otherwise the system will contain more oil than the reservoir can hold.

1. Remove the vent/fill cap from reservoir
2. Fill up the reservoir (see § 4.1 – the pump)
3. Carry out, under no load, an operation of retraction and extension of the jack's rods
4. Remove air from the system if necessary. Recheck oil level after removing air
(See § 4.1 – air removal)
5. Return the vent/fill cap to proper position

Only use DIN 51524 part 3 category HVLP -ISO VG32 quality oil

1.2 – Lubrication of the pump

To extend pump life and improve performance, lubricate regularly the beam pin, the cross pin and piston head using roller bearing grease.

3 – HYDRAULIC PIPES AND FLEXIBLE HOSES

Make sure they are always kept in very good condition :

- make sure that there is no oil leakage at the couplings
- change the flexible hoses as soon as any sign of damage or tear is observed, operating safety depends on these items of equipment.
- as soon as the flexible hoses are dismantled, screw on the couplings plugs

4 – MECHANICAL PARTS

(stirrups, jaws, tie-rods, etc.)

- Check the general condition of the parts (cracks, torn material, etc.)
- Keep all joints in good condition, lubricate them regularly to protect them from oxidization.

Troubleshooting guide

PROBLEM	POSSIBLE CAUSE	SOLUTION
Cylinder does not advance, advance slowly or advance in spurts	Oil level in pump tank is low	-add oil -check if the tank air vent is open
	Release valve closed	-open the release valve
	Hydraulic coupler loosened	-check that hydraulic couplers are fully tightened
	Air trapped in system	-remove air in the hydraulic system
Cylinder retracts but does not hold pressure during rail tensioning	cylinder plunger binding	-check for damage to cylinder -have cylinder serviced by a qualified hydraulic technician
	Leaking connections	-check that all connections are tightened and leak free
	Leaking seals	-locate leak(s) and have equipment serviced by a qualified hydraulic technician
	Leaking manual valve	-replace the valve
Cylinder does not retract, retracts part way or retracts more slowly than normally	Internal leakage in pump	-have pump serviced by a qualified hydraulic technician
	Pump tank is over-filled	-drain oil level to full mark
	Air trapped in system	-remove air in the hydraulic system

VI – TECHNICAL FEATURES

Engine

- ✚ 4 strokes engine HONDA GX100 type
- ✚ Power : 2.2 Kw (3cv) at 3600 rpm
- ✚ Petrol tank capacity 1.2 litre
- ✚ Oil tank capacity 0.40 litre

Hydraulic assembly

- ✚ Unit calibrated pressure 580 bar
- ✚ Hydraulic oil HVC32 Iso 9001 – AFAQ 13763 certification
- ✚ Oil tank capacity 15 litres
- ✚ Hand pump flow : 120 cm³ and 4,6 cm³ point of reverse 22 bar
- ✚ Motorized pump flow : 6 l / min. and 0.5 l / min point of reverse 50 bar

Manual pump

- ✚ Pump with 2 output services (automatic output reversing)

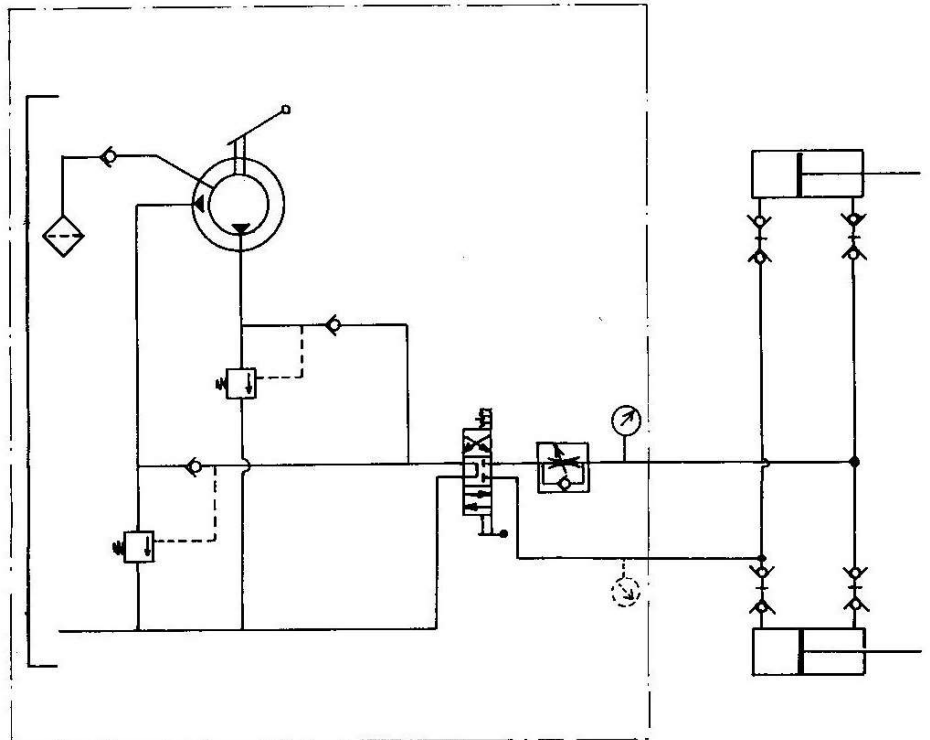
Output service	maximum pressure
7.32 in ³	14 bars
0.28 in ³	560 bars
Total volume of oil : 7 l	

- ✚ 2 hydraulic jacks :
 - Tensile force at 560 bars : 70 Tons
 - Stroke of jacks 380 mm

Dimensions L 647,7
x l 457,2 x H 539,8 mm

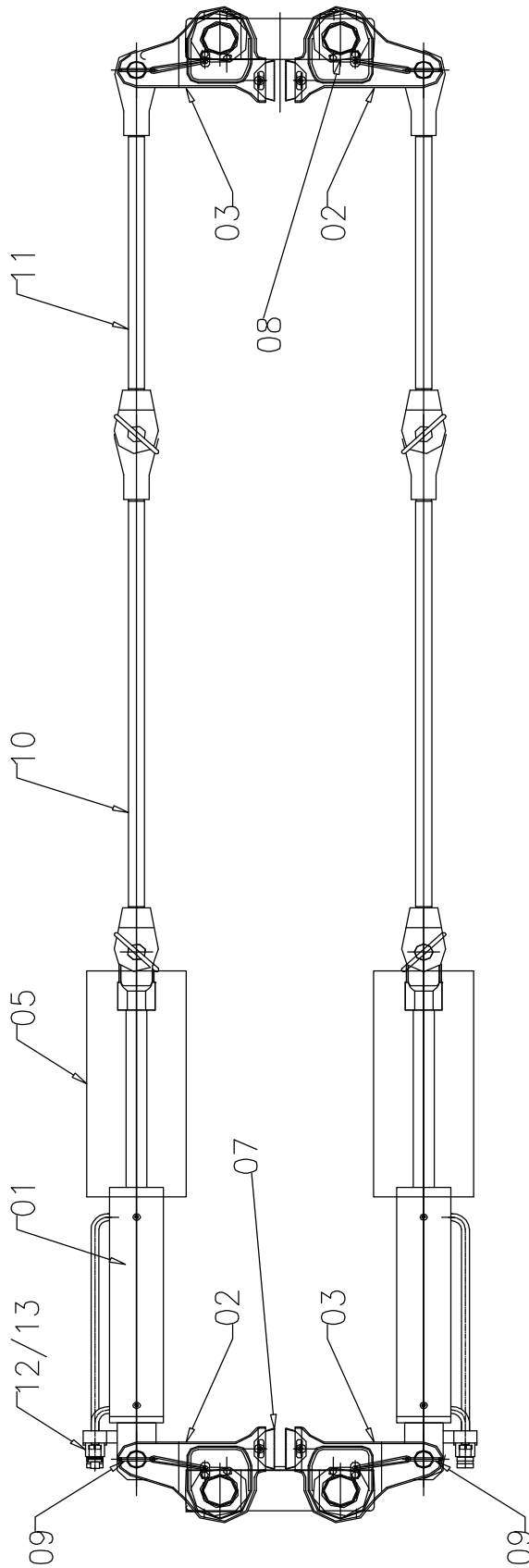
Weight ready to operate : 64 Kg
without flexible

Noise
level Lpa : At slow
work : 85,5 dBA
At
maximum pressure : 96 dBA

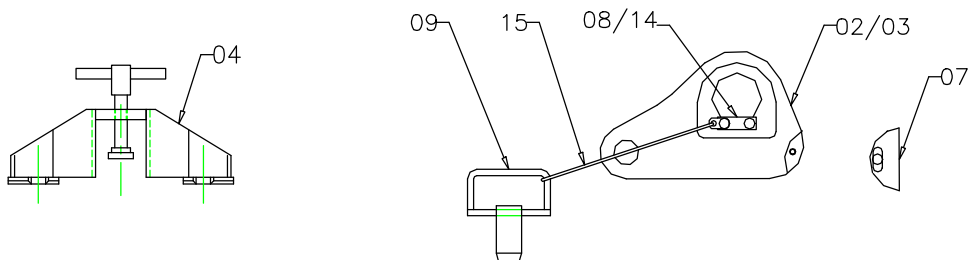


VII - PIECES DETACHEES / SPARE PARTS

	Désignation	Page	Description
A	Tendeur TR75	45	<i>Hydraulic rail stretcher TR75</i>
B	Constituants du tirant	47	Components of the tie-rod
C	Groupe hydraulique	49	Hydraulic unit
D	Pompe manuelle	63	Manual pump
E	Appareillage hydraulique	70	Hydraulic fittings
F	Pochette de maintenance	70	Recommended maintenance set

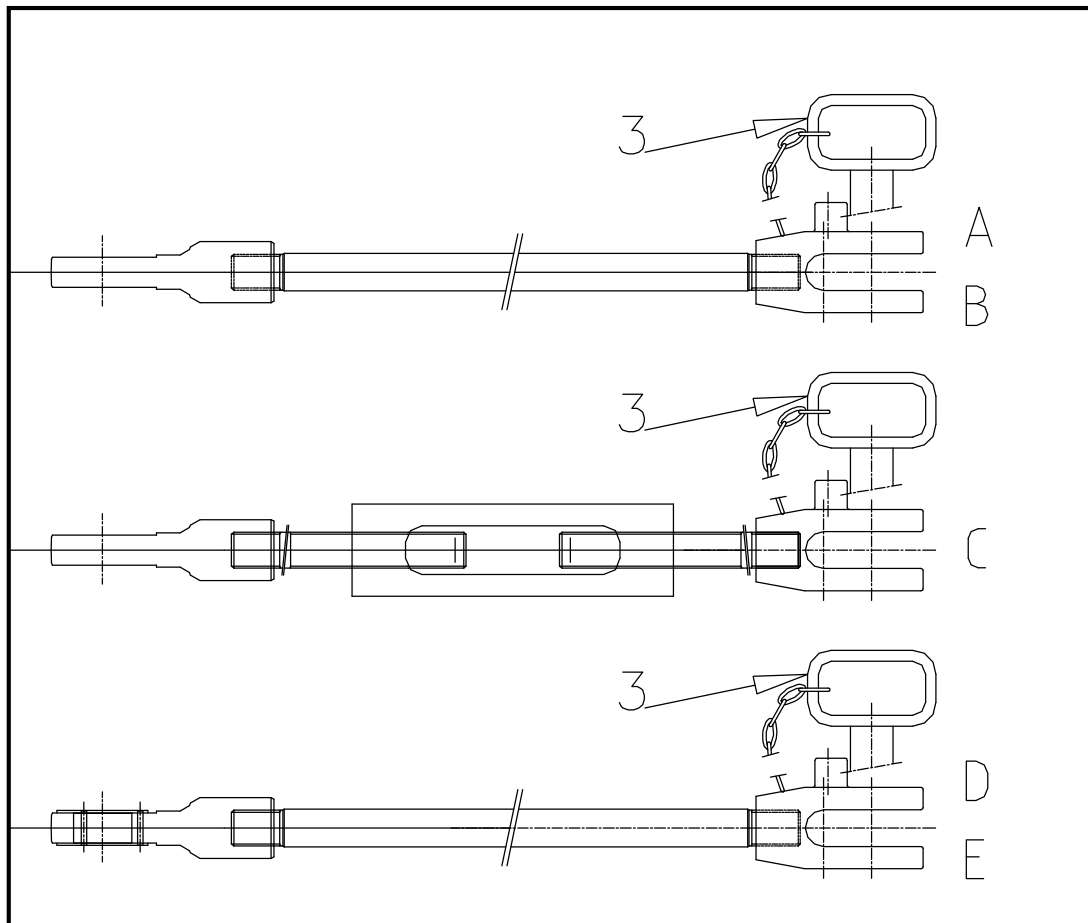


Rep.	Ref	Qty	Désignation	Description
1	21121060	2	Vérin hydraulique double effet équipé avec chape et coupleurs plats	Hydraulic Jack double action with cap
	21121049	2	Came droite allégée complète comprenant chacune :	Right light tightening cam including each one :
2	32910013	1	came de serrage allégée	Light tightening cam
7	21121009	1	Mâchoire avec vis et coupelle	Jaw with rubber cup and screw
8	31910276	1	Clavette de came	Cam key
9	35910378	1	Broche de came	Cam locking pin
14	31910279	1	Patte d'accrochage poignée	Cam locking pin fixing piece
15	44901010	1	Corde Nylon	Nylon rope
	21121050	2	Came gauche allégée complète comprenant chacune :	Left light tightening cam including each one :
3	32910013	1	came de serrage allégée	Light tightening cam
7	21121009	1	Mâchoire avec vis et coupelle	Jaw with rubber cup and screw
8	31910276	1	clavette de came	Cam key
9	35910378	1	Broche de came	Cam locking pin
14	31910279	1	Patte d'accrochage poignée	Cam locking pin fixing piece
15	44901010	1	Corde Nylon	Nylon rope
4	21121004	2	Etrier de serrage du « C »	« C » adjustment stirrup
5	35910001	2	Tunnel de protection	Protection
10	11121002	1	Tirant 1m800	Tie rod 1m800
11	11121003	1	Tirant 1m200	Tie rod 1m200
12	31930039	2	Protection des coupleurs de vérin	Hydraulic jack couplings protector
13	41008044	8	Vis HM8x50	Screw HM8x50
	21121016	1	Châssis pompe hydraulique avec	Hydraulic pump frame with fittings
			Accessoires (non représenté)	(not represented)



Recommandation pour l'utilisation des tirants isolés D et E

Pour éviter la détérioration de l'isolation ne pas les utiliser à plus de 150 bar de pression (pression au manomètre de la pompe).



Recommendation when using insulated tie-rods D and E

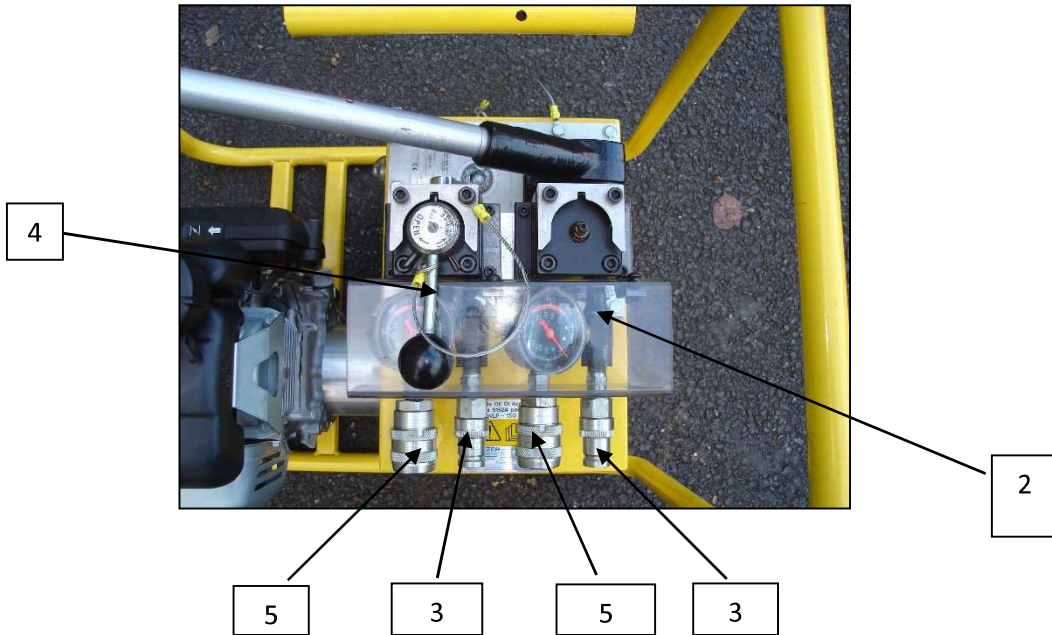
To avoid damage of the insulating piece don't use them over a pressure of 150 bar (pressure on the pump gauge).

Nota : Il est souvent conseillé de travailler avec 2 tirants de 1.800m et 2 tirants de 1.200m
(Working with two 1.800 m and two 1,200 m tie-rods is often recommended)

Rep.	Ref	Qty	Désignation	Description
			TIRANTS	TIE RODS
A	11121002	Le jeu (the set)	- LONGUEUR 1m800	- 1.800 m LENGTH
3	31110019	1	Broche avec chaîne	Locking pin and chain
B	11121003	Le jeu (the set)	- LONGUEUR 1m200	- 1.200 m LENGTH
3	31110019	1	Broche avec chaîne	Locking pin and chain
C	11121004	Le jeu (the set)	- LONGUEUR 1m200 REGLABLE A 1m600	- ADJUSTABLE TIE-ROD 1m200 TO 1m600
3	31110019	1	Broche avec chaîne	Locking pin and chain

Rep.	Ref	Qty	Désignation	Description
			TIRANTS ISOLES	INSULATED TIE RODS
D	11121005	Le jeu (the set)	LONGUEUR 1m800	1.800 m
3	31110019	1	Broche avec chaîne	Locking pin and chain
E	11121006	Le jeu (the set)	LONGUEUR 1m200	1.200 m LENGTH
3	31110019	1	Broche avec chaîne	Locking pin and chain

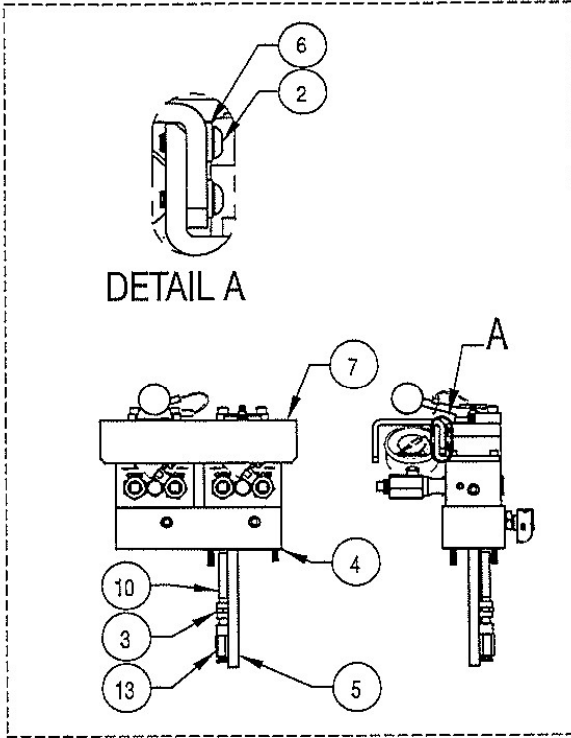
Les pièces entrant dans la composition du tirant sont indissociables, elles ne peuvent être fournies séparément
(Tie rods components are inseparable, they cannot be sold separately)



Rep	Réf	Qté	Désignation	Description
1	47103008	1	Groupe hydraulique motorisé	Motorized hydraulic set
2	47701017	2	Mamelon série 6000 3/8 NPT M/M	Connection fitting 6000 3/8 NPT M/M
5	47702012	2	Coupleur femelle 3/8 NPT PS 700 bar	Female coupling 3/8 NPT PS 700 Bar
4	47701010	1	Levier de distributeur	
3	47702013	2	Coupleur mâle 3/8 NPT PS 700 bar	Male coupling 3/8 NPT PS 700 bar

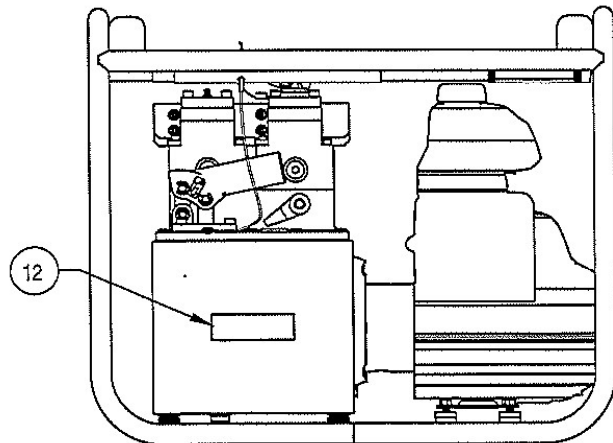
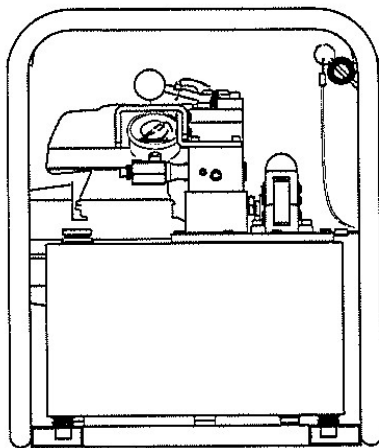
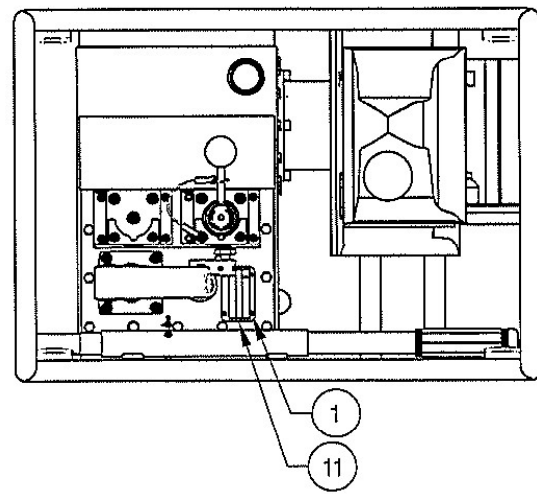
GAS HYDRAULIC PUMP

Maximum Capacity: 10,000 PSI
dB(A) at Idle and 700 Bar = 81/96
(See Page 13 for Hydraulic Schematic)



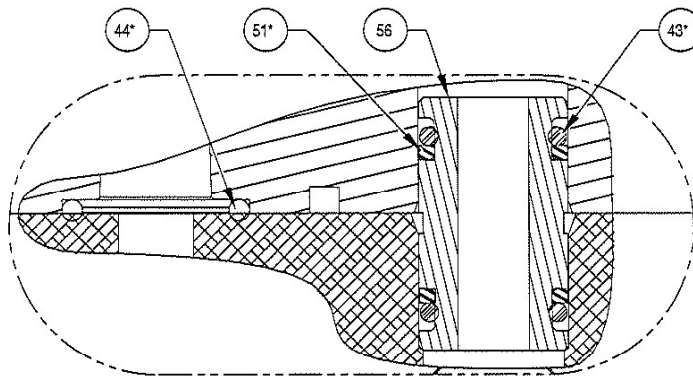
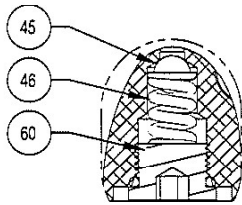
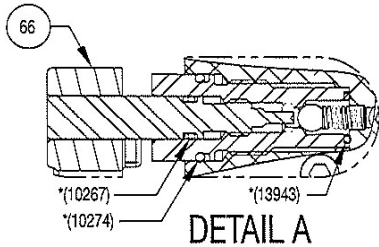
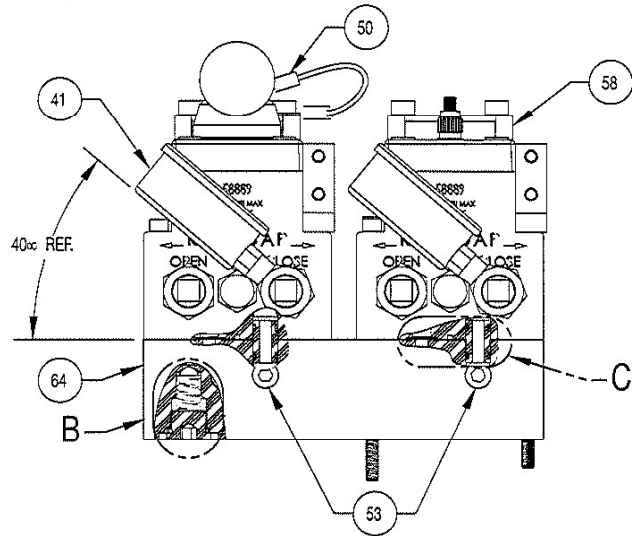
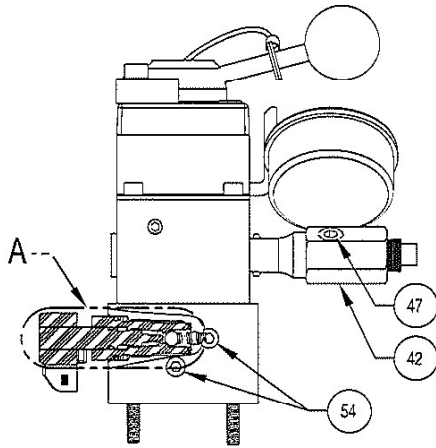
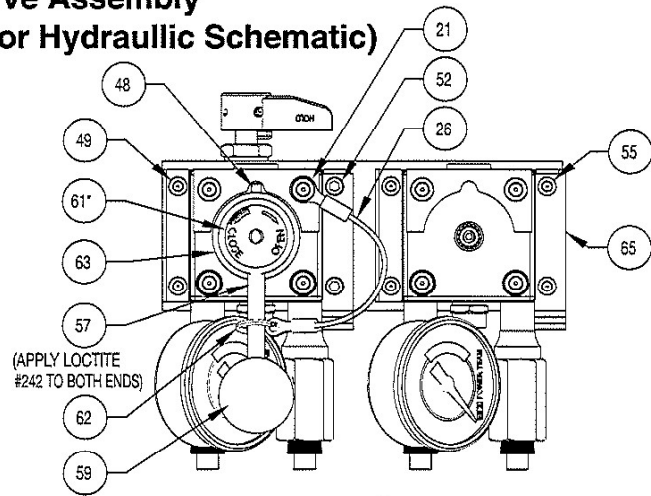
DETAIL A

SEE VALVE ASSEMBLY
PAGE FOR MORE DETAILS



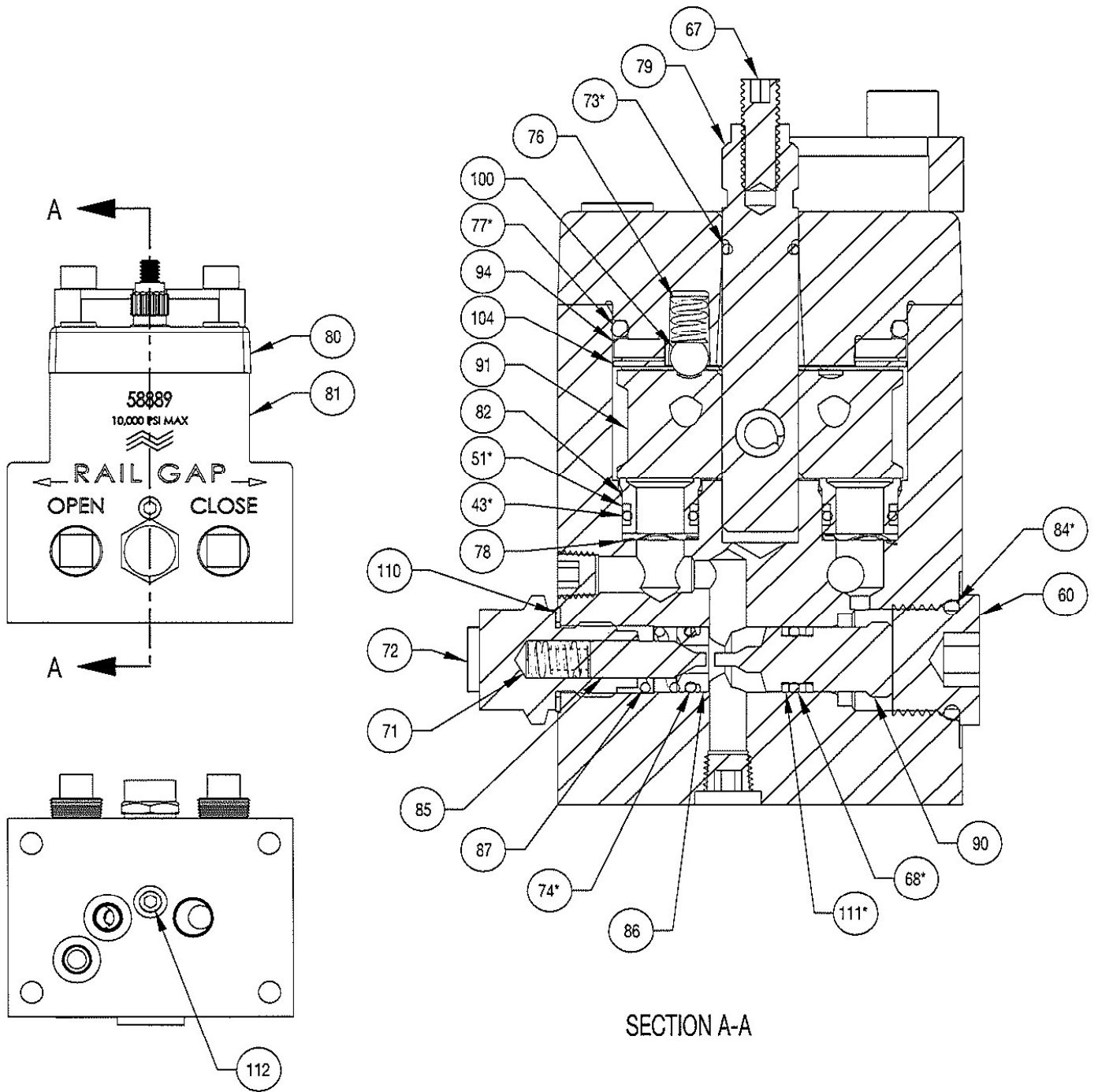
Valve Assembly (See page 14 for Hydraulic Schematic)

- HANDLE ASSEMBLY INSTRUCTIONS**
(ITEM # 66 SPX PART #3000343)
1. TURN THE STEM INTO THE MANIFOLD BODY UNTIL THE STEM AND BALL JUST MEET (THE BALL MUST BE AGAINST THE SEAT).
 2. BACK THE STEM OUT 15 TO 20
 3. LEAVE ENOUGH GAP (APPROX. 9/16" [14mm]) BETWEEN THE HANDLE AND THE MANIFOLD BODY SO THERE IS STILL CLEARANCE WHEN THE HANDLE IS ROTATED IN ANY POSITION.
 4. APPLY LOCTITE #222 TO THE SET SCREWS AND TORQUE THEM TO 30-50 LBS.-IN. [3.4-5.6 N-M].



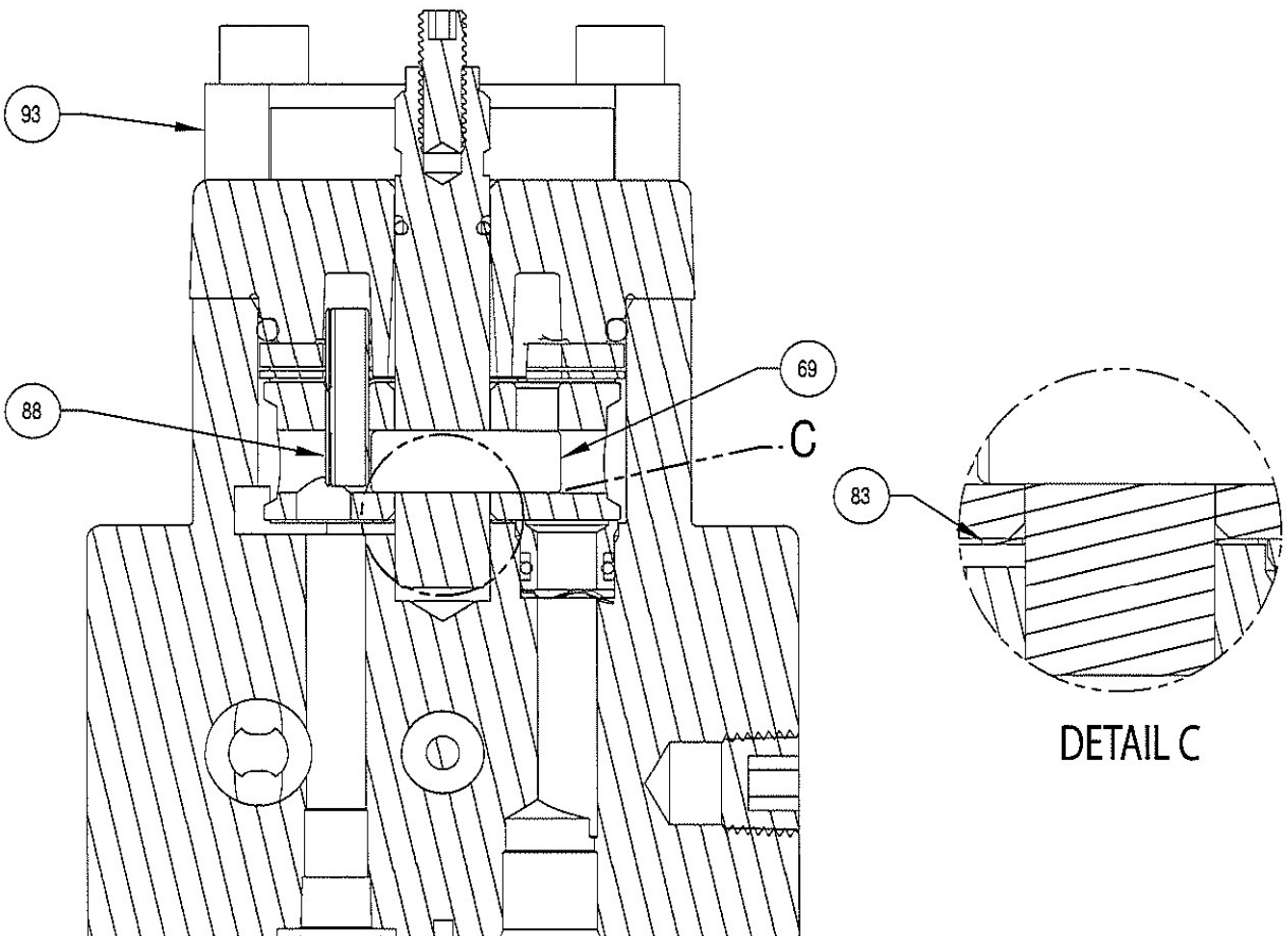
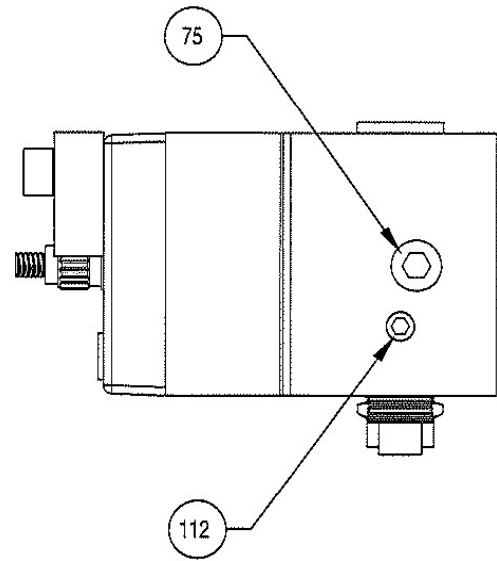
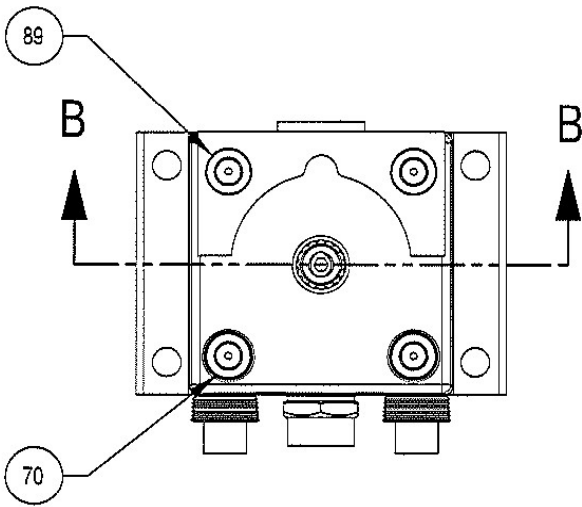
* CONTAINED IN REPAIR KIT #301007

Dual Manual Valve



* CONTAINED IN REPAIR KIT #301007

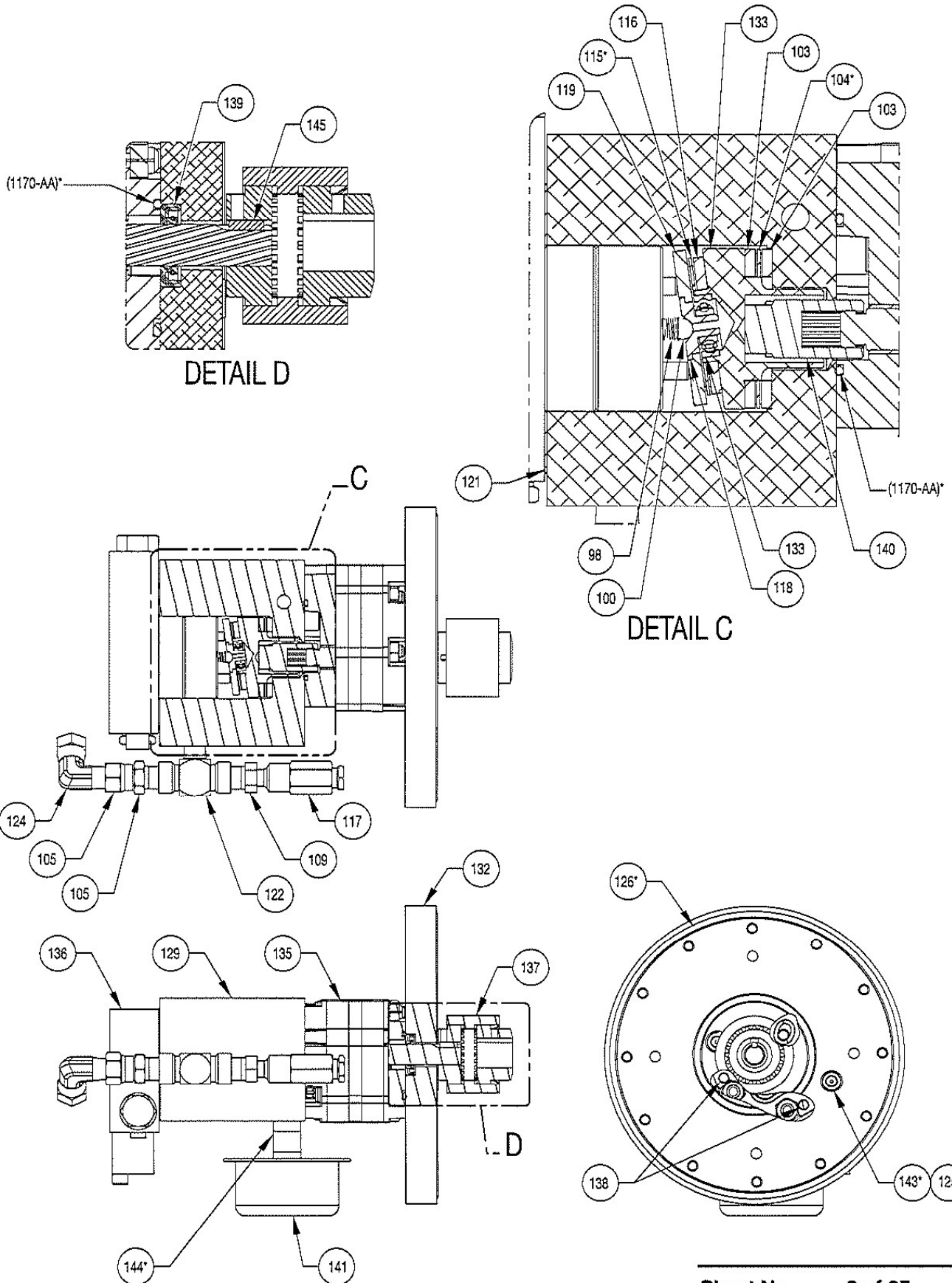
Dual Manual Valve



SECTION B-B

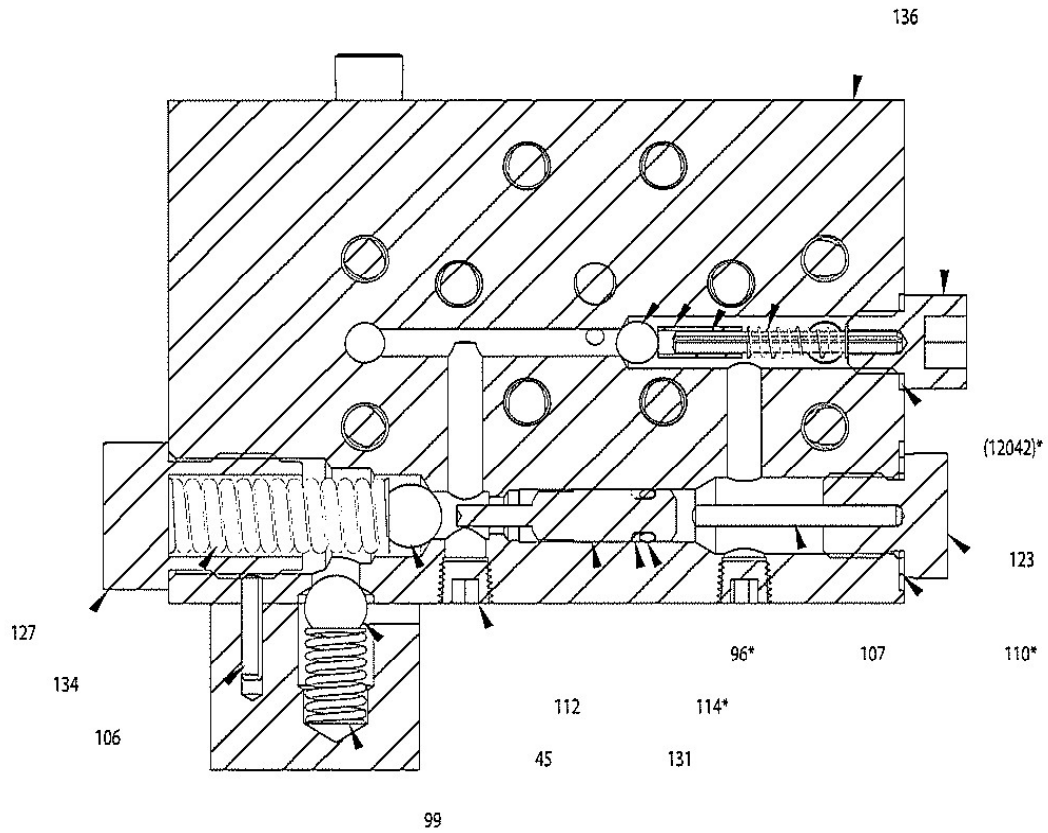
* CONTAINED IN REPAIR KIT #301007

Basic Pump Assembly

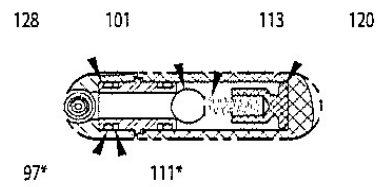


* CONTAINED IN REPAIR KIT #301008

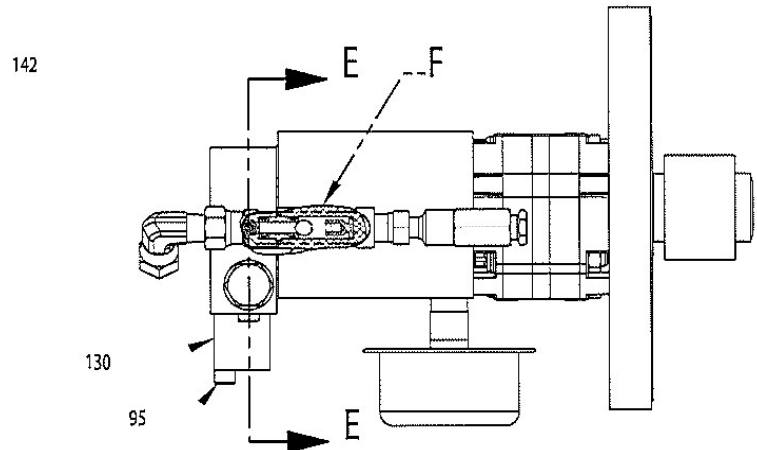
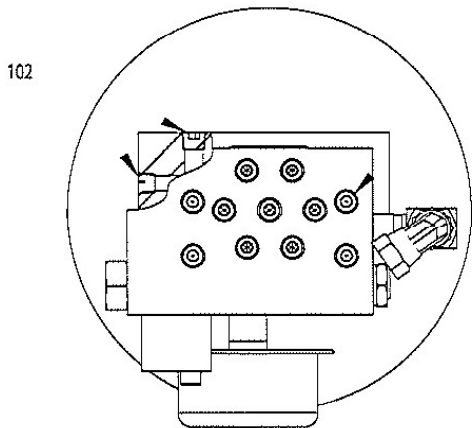
Dual Manual Valve



SECTION E-E



DETAIL F



* CONTAINED IN REPAIR KIT #301008



Parts List

Form No. 100003

ITEM #	QTY.	PART #	DESCRIPTION	In	In	In
				Valve Kit 301007	Power Pump Kit 301008	Hand Pump Kit 301010
1	4	10575	SCREW, DRIVE RD HD 2 X 3/16	--	--	--
2	4	15911	SCREW, BUTTON HD 1/4-20 X 5/8	--	--	--
3	1	18841	FITTING, STR 1/8 NPTF F x 1/8 NPTF F	--	--	--
4	1	200395	GASKET	1	--	--
5	1	200609	TUBE, DRAIN	--	--	--
6	4	209541	WASHER, PLAIN .51 X .29	--	--	--
7	1	2000776	GAUGE GUARD, LEXAN	--	--	--
8	1	3000340	VALVE ASSY, DUAL	--	--	--
9	1	4000030	PUMP, GAS W/O VALVE (PG182HP-R "D")	--	--	--
10	1	12891-1	FITTING, STR 1/8 NPT M x 1/8 NPT M 3.00"	--	--	--
11	1	202120CE	PLATE, NAME	--	--	--
12	2	202173CE	DECAL, TRADENAME POWER TEAM CE	--	--	--
13	1	21278-28	VALVE, RELIEF 2850 PSI	--	--	--
14	12	10005	SCREW, HEX HD CAP 1/4-20 X 1/2	--	--	--
15	14	10009	SCREW, HEX HD CAP 1/4-20 X 3/4	--	--	--
16	4	10030	SCREW, SOCKET HD CAP 5/16-18 X 3/4	--	--	--
17	4	10246	WASHER, LOCK .59 X .32	--	--	--
18	4	10809	SCREW, SOCKET HD CAP 5/16-18 X 1-1/4	--	--	--
19	1	11390	GRIP, HANDLE FLEX	--	--	--
20	4	13116	NUT, HEX LOCK 5/16-18	--	--	--
21	3	14949	TERMINAL, RING TONGUE	--	--	--
22	1	58476	ENGINE, GAS 3HP	--	--	--
23	4	213836	SCREW, SOCKET HD CAP 1/2-20 X 3/4	--	--	--
24	1	251235	KEY, SPECIAL	--	--	--
25	8	251384	BUSHING, RUBBER	--	--	--
26	2x 0.75 FT [22.86 CM]	251447	CABLE, AIRCRAFT	--	--	--
27	1	251723	PIN, QUICK RELEASE .16 X 1.00	--	--	--
28	8	252092	BUSHING, RUBBER	--	--	--
29	1	252298	PLUG, FILLER	--	--	--
30	1	303664	HOSE, 2' POLYURETHANE	--	--	--
31	1	350431	GAUGE, FLUID LEVEL	--	--	--
32	1	351227	HANDLE	--	--	--
33	1	2000772	ADAPTOR, MOTOR MOUNTING	--	--	--
34	1	2000773	GASKET, RESERVOIR	--	--	--
35	4	2000774	SCREW, SOCKET HD M8 x 80mm	--	--	--
36	1	2000794	RESERVOIR (PG182HP-R "D")	--	--	--
37	1	2000795	ROLLCAGE (PG182HP-R "D")	--	--	--
38	1	3000341	BASIC PUMP ASSY (PG182HP-R "D")	--	--	--
39	1	3000342	PUMP, TWO SPEED HAND	--	--	--
40	1	1170-AA	PLUMBING PLUG 9/16 SAE	--	--	--
41	2	9040	GAUGE, 2.5" UNIVERSAL, FILLED, 2500/500 PSI	--	--	--
42	4	9670	TEE ADPT, 1/4", 3/8" NPTF F, 3/8" NPTF M	--	--	--
43	8	10268	O-RING (-012) 0.364ID X 0.070 NITRILE 70	7	3	1
44	4	10301	O-RING (-014) 0.489ID X 0.070 NITRILE 70	4	--	--
45	7	10378	BALL, 3/8" DIA STEEL	--	--	4
46	1	10428	SPRING COM OD .489ID X .000R1280L.738CS	--	--	--
47	2	10479	PLUG, 1/4 NPTF	--	--	--
48	1	10714	PIN, SPRING SLOTTED .19 X .63	--	--	--
49	2	10855	SCREW, SOCKET HD CAP 1/4-20 X 2-3/4	--	--	--
50	1	11208	TERMINAL, RING TONGUE	--	--	--



Parts List

Form No. 1000003

ITEM #	QTY.	PART #	DESCRIPTION	In Valve Kit 301007	in Valve Kit 301008	In Valve Kit 301010
51	8	11863	WASHER, BACKUP .50 X .38	7	2	1
52	2	11956	SCREW, SOCKET HD 1/4-20 X 3	—	—	—
53	3	14972	FITTING, PLUG 1/4 PTF FLUSH W/SEALANT	—	—	—
54	2	15499	PLUG, 1/8 NPTF	—	—	—
55	4	15642	SCREW, SOCKET HD CAP 1/4-20 X 5	—	—	—
56	2	21094	BUSHING	—	—	—
57	1	21639	STUD	—	—	—
58	2	58889	VALVE, MANUAL CLOSED CTR W/ OPEN PORT	—	—	—
59	1	211911	KNOB, BALL	—	—	—
60	2	214014	FITTING, PLUG 3/4-16 M ORB	—	—	—
61	1	251733	DECAL, INSTRUCT OPEN-CLOSE	1	—	—
62	1	251756	RING, KEY 0.88 X 0.71	—	—	—
63	1	420996	STEM, END	—	—	—
64	1	2000777	VALVE MANIFOLD	—	—	—
65	2	2000778	BRACKET, GAUGE GUARD	—	—	—
66	1	3000343	VALVE, 2-WAY MANUAL	—	—	—
67	1	10139	SCREW, SET 1/4-20 x .75 KNURLED CUP PT.	—	—	—
68	4	10267	O-RING (-011) 0.301IDX0.070 NITRILE 70	1	1	—
69	1	10496	PIN, SPRING SLOTTED .31 X 1.00	—	—	—
70	2	11013	SCREW, SOCKET HD CAP 5/16-18 X 1	—	—	—
71	2	11024	SPRING COM OD.248IDX.XXXR16.5L.655MW	—	—	—
72	2	11127	FITTING, PLUG 3/8 NPTF W/SEALANT	—	—	—
73	2	13943	O-RING (-012) 0.364ID X 0.070 URETHAN 92	1	—	—
74	1	14763	O-RING (-011)0.301ID X 0.070 URETHAN 92	1	—	—
75	3	14972	FITTING, PLUG 1/4 PTF FLUSH W/SEALANT	—	—	—
76	1	15095	SPRING COM OD.248IDX.XXXR80L.480MW	—	—	—
77	1	15892	O-RING (-924) 1.720ID X 0.118 NITRILE 90	1	—	—
78	3	21975	WASHER, SPRING .49 X .35	—	—	—
79	1	46048	STEM	—	—	—
80	1	61343	CAP, VALVE	—	—	—
81	1	64651	BODY, VALVE	—	—	—
82	3	202480	SEAL	—	—	—
83	1	214801	WASHER, SPACER .73 X .51	—	—	—
84	1	215193	O-RING (-114) 0.612ID X 0.103 URETHAN 92	1	—	—
85	1	250020	POPPET	—	—	—
86	1	250021	SEAT, REPLACEABLE	—	—	—
87	1	250022	SPRING COM OD.450IDX.XXXR360L.352MW	—	—	—
88	1	250056	PIN, SPRING SLOTTED .22 X .94	—	—	—
89	2	251442	SCREW, SOCKET HD CAP 5/16-18 X 1-3/4	—	—	—
90	1	251592	PISTON	—	—	—
91	1	306032	ROTOR TANDUM OR CLOSED CENTER	—	—	—
92	1	307136	SCREW, VALVE 1/2-20 X 1-1/16	—	—	—
93	1	350982	BRACKET, LOCATOR	—	—	—
94	1	11227-1	RACE, BEARING	—	2	—
95	1	10020	SCREW, SOCKET HD CAP 1/4-20 X 1-1/4	—	—	—
96	2	10265	O-RING (-008) 0.176IDX0.070 NITRILE 70	1	1	1
97	4	10267	O-RING (-011) 0.301IDX0.070 NITRILE 70	1	1	—
98	1	10361	SPRING COM OD.253IDX.XXXR9.4L1.025MW	—	—	—
99	1	10362	SPRING COM OD.370ID.271R39L.765MW	—	—	—
100	3	10375	BALL, 1/4" DIA STEEL	—	—	1
101	1	10377	BALL, 5/16" DIA STEEL	—	—	—



Parts List, Form No. 100003, Page 11 of 25

ITEM #	QTY.	PART #	DESCRIPTION	In Valve Kit 301007	In Valve Kit 301008	In Valve Kit 301010
102	2	10427	FITTING, PLUG 1/8 NPTF W/SEALANT	—	—	—
103	2	11227	RACE, BEARING	—	2	—
104	2	11228	BEARING, THRUST	—	1	—
105	1	11310	FITTING, SWIVEL ADAPTOR	—	—	—
106	1	11560	PIN, SPRING SLOTTED .13 X .63	—	—	—
107	1	11566	PIN, ROLL .13 X 1.25	—	—	—
108	1	11814	BEARING, BALL	—	1	—
109	1	13269	FITTING, REDUCER 1/4 TO 1/8	—	—	—
110	4	14874	WASHER 0.700 X.500 X.032 COPPER	1	1	2
111	5	15085	WASHER, BACKUP .44 X .31	2	2	—
112	6	15130	FITTING, PLUG 1/16 PTF FLUSH	—	—	—
113	1	15141	SPRING COM OD.186IDX.XXXR4L.656MW	—	—	—
114	1	15174	WASHER, BACKUP .31 X .19	1	1	1
115	1	15431	BEARING, NEEDLE	—	1	—
116	1	15432	RACE, BEARING	—	1	—
117	2	21278	VALVE, RELIEF 10000 PSI	—	—	—
118	1	23547	PLATE, BEARING TOP	—	—	—
119	1	23548	PLATE, TOP	—	—	—
120	1	202681	STOP, BALL	—	—	—
121	1	202690	GASKET, LOWER	—	1	—
122	1	208699	FITTING, TEE 1/4 NPTF M x (2) 1/4 NPTF F	—	—	—
123	1	250743	STOP, BALL	—	—	—
124	2	251354	FITTING, 90D ELB 1/4 NPTF M x 1/4 NPSM F	—	—	—
125	2	3-6796	WASHER 0.317 X.463 X.040 COPPER	—	—	—
126	1	2000137	O-RING (-260) 6.484ID X 0.139 NITRILE 90	—	1	—
127	1	2000779	RETAINER, SPRING	—	—	—
128	1	2000780	TUBE, PRESSURE TRANSFER	—	—	—
129	1	2000781	MANIFOLD, PUMP SHELL	—	—	—
130	1	2000783	VALVE BODY, SUPERCHARGER	—	—	—
131	1	2000784	PISTON, PILOT	—	—	—
132	1	2000786	PLATE, PUMP MOUNTING	—	—	—
133	1	2000787	PLATE, 8 DEG PUMP ANGLE	—	—	—
134	1	2000788	SPRING, COMPRESSION	—	—	—
135	1	3000344	PUMP ASSEMBLY 2.0 STRAIGHT/SPLINE	—	—	—
136	1	3000345	PUMP, HIGH PRESSURE	—	—	—
137	1	3000347	COUPLING ASSEMBLY	—	—	—
138	4	1113-AA	PIN 0.218 X 0.500 DOWEL	—	—	—
139	1	1205-AA	SEAL SHAFT 75	—	1	—
140	1	1267-BA	COUPLING SAE TANG	—	—	—
141	1	1413-AA	FILTER 149 MICRON 3.09 X 1.37	—	1	—
142	4	1478-AA	BOLT 1/4-20 X 1.25 SOC HD	—	—	—
143	2	1494-AA	BOLT 5/16-24 X 3.25 SHCS	—	—	—
144	1	2217-AA	PLUMBING PIPE PVC 01.5" 3/8NPT	—	—	—
145	1	3-0790	KEY,LO-PRESS. PUMP	—	—	—
146	1	10295	O-RING (-228) 2.234ID X 0.139 NITRILE 70	1	—	1
147	1	10367	SPRING COM OD.490IDX.XXXR20L2.030MW	—	—	—
148	1	10430	TUBE,SLEEVE 3/8 DIA.	—	—	—
149	1	10431	FITTING, NUT 5/8-18 F (3/8 OD TUBE)	—	—	—
150	3	10444	SPRING COM ODX.XXXID.203R4.0L.406MW	—	—	3

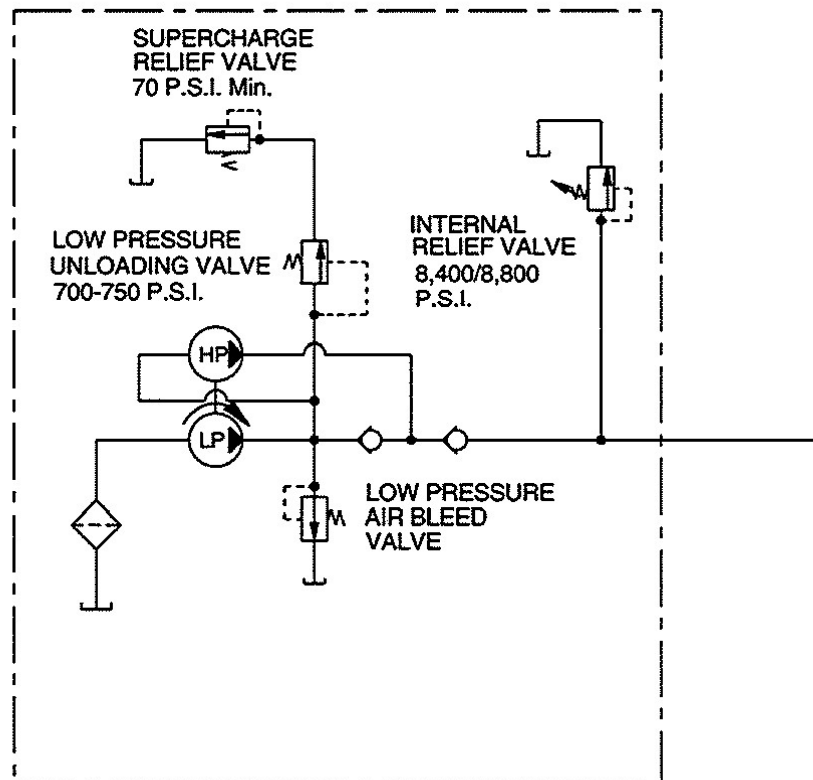


Parts List

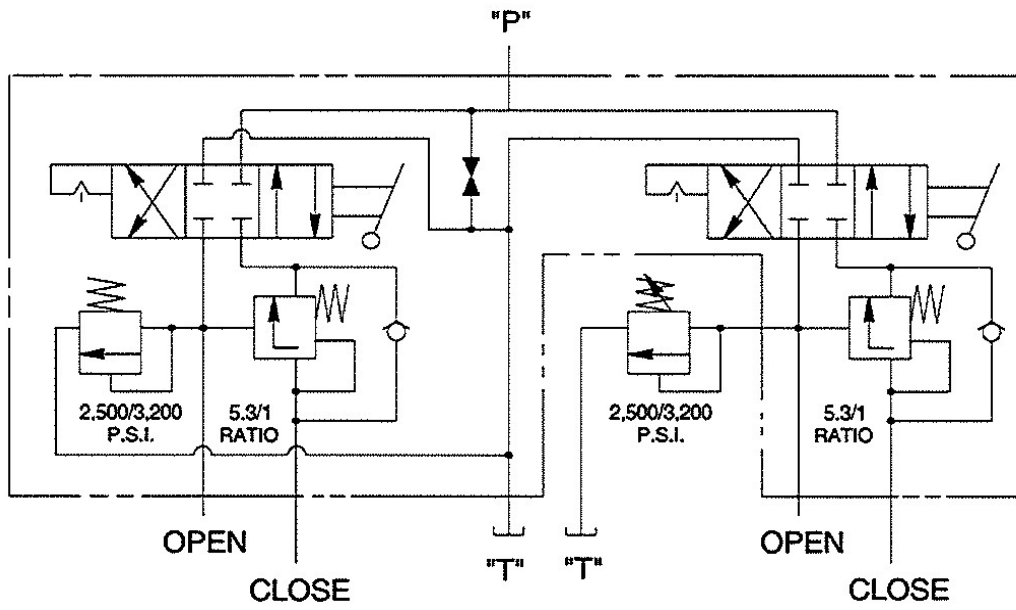
Form No. 1000003

ITEM #	QTY.	PART #	DESCRIPTION	In Valve Kit 301007	In Valve Kit 301008	In Valve Kit 301010
151	1	10661	FITTING MALE CONNECTOR	—	—	—
152	6	11032	RING, RETAIN EXT 0.30 X .035	—	—	—
153	1	11564	O-RING (-112) 0.487ID X 0.103 URETHAN 92	1	—	1
154	1	12389	WASHER, BACKUP .69 X .50	1	—	1
155	1	13229	FITTING, 90 DEGREE ELBOW	—	—	—
156	1	15069	FITTING, STR 1/8 NPTF M x 1/4 NPSM F	—	—	—
157	1	16823	FITTING, 90D ELB 1/4 NPTF M x 1/4 NPTF F	—	—	—
158	1	19121	FITTING, 45 DEGREE ELBOW ADAPTOR	—	—	—
159	1	20787	1CONNECTOR, VALVE	—	—	—
160	1	21484	SPACER	—	—	—
161	1	21603	BLOCK, PIVOT	—	—	—
162	3	21609	PIN, CLEVIS	—	—	—
163	1	22143	GASKET, END CAP	—	—	1
164	1	28859	FITTING, 90D ELB 1/8 NPTF M x 1/8 NPTF F	—	—	—
165	1	30701	LEVER	—	—	—
166	1	64202	BODY, PUMP	—	—	—
167	1	208218	FITTING, STR 1/8 NPTF M x 1/8 NPSM F	—	—	—
168	1	211797	SPRING COM OD.166IDX.XXXR.390L.660MW	—	—	1
169	3	214578	FILTER	—	—	3
170	3	214586	RING, RETAIN INT 0.63 X .015	—	—	3
171	1	214692	DISC	—	—	—
172	1	250658	PISTON, UNLOADING VALVE	—	—	—
173	2	250670	RING, RETAIN INT 0.26 X .010	—	—	2
174	4	250671	SCREW, SOCKET HD CAP 5/16-24 X 3-1/2	—	—	—
175	1	250672	PIN, DOWEL .31 X .88	—	—	—
176	1	251728	WIPER, ROD 1.06 X .75 NITRILE	—	—	1
177	1	253234	DECAL, OIL PIVOT PINS	—	—	—
178	1	253372	PISTON, 2 SPEED	—	—	1
179	1	308430	FITTING, SPRING RETAINER 3/4-16 M	—	—	—
180	1	350302	SPACER	—	—	—
181	2	351952	SCREW, VALVE 1/2-20 X 7/8 LG	—	—	—
182	1	2000791	TUBE, STEEL .75 x 12.9 x 16 GAGE	—	—	—
183	1	2000792	PLATE, RESERVOIR COVER	—	—	—
184	1	2000793	PLUMBING PLUG 1-1/16 SAE FLUSH	—	—	—
185	1	360192-86	VALVE, RELIEF 8600 PSI (8,400/8,800)	—	—	—
186	1	420978BK2	CAP, END	—	—	—
188	1	10274	O-RING (-115) 0.674ID X 0.103 NITRILE 70	1	—	—
189	1	10423	BALL, 9/32" DIA STEEL	—	—	—
190	2	10556	SCREW, SET 1/4-20 X .25 KNURLED CUP PT.	—	—	—
191	1	213109	HANDLE, RELEASE VALVE	—	—	—
192	1	304849	SCREW, REL VLV 3/8-16 X 2-1/2	—	—	—
193	1	2000796	VALVE BODY, 2P2W	—	—	—

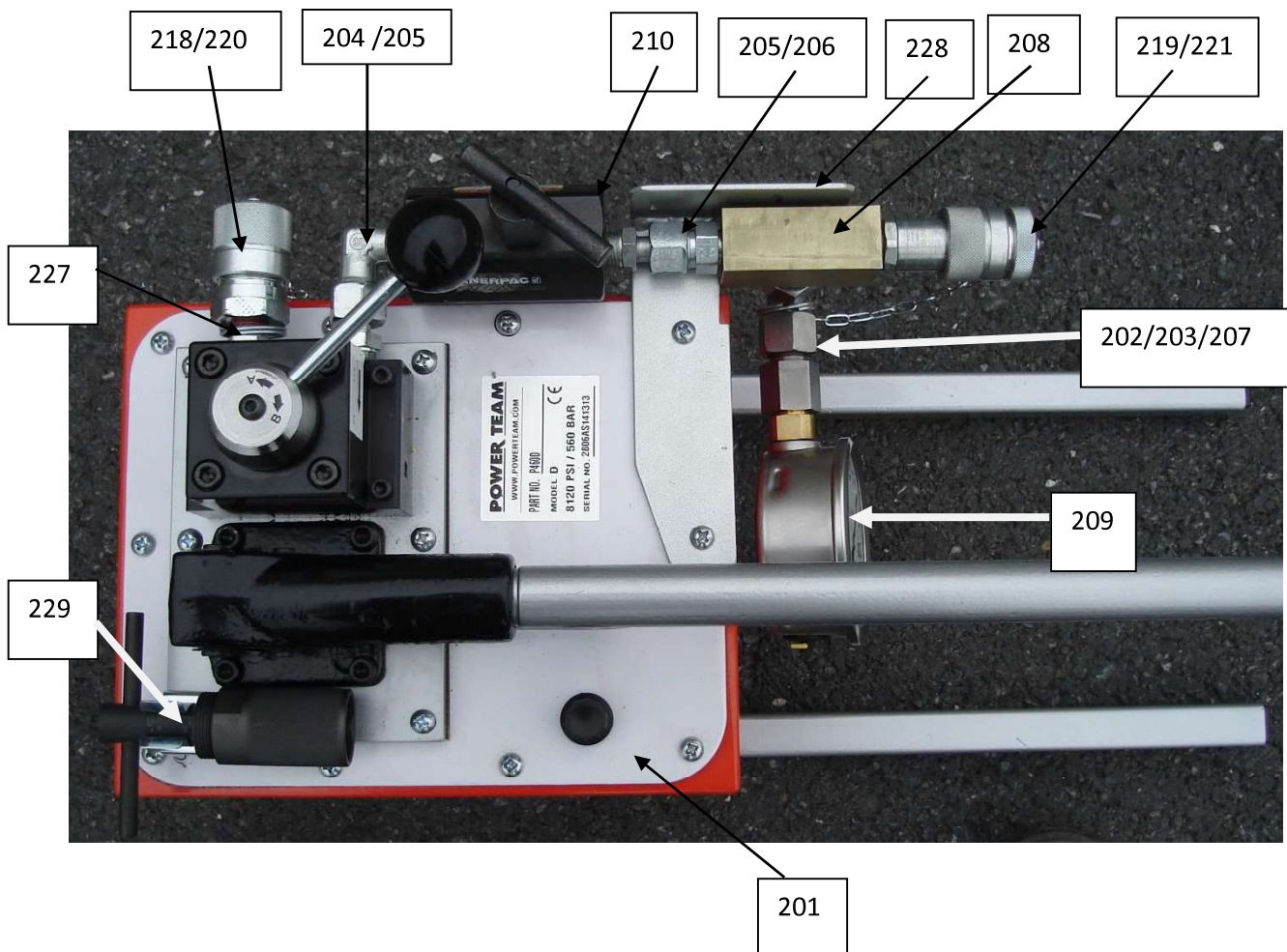
PUMP HYDRAULIC SCHEMATIC



VALVE HYDRAULIC SCHEMATIC

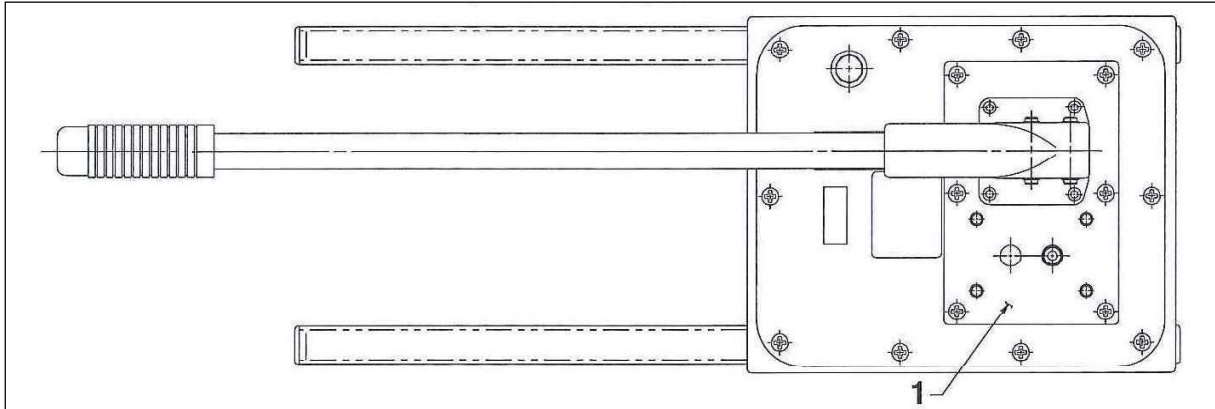


Rep.	Ref	Qty	Désignation	Description
201	547103013	1	Pompe P460	Pump P460
205	547701044	2	Adaptateur	Adaptator
206	547701050	1	Union UMA 12	Union UMA 12
204	547701059	2	Coude CMA12	Elbow CMA 12
208	531910052	1	Bloc raccord mano	Block control
210	547702022	1	Vanne de réglage	Flow control valve
209	548101010	1	Mano Ø 100	Pressure reducer Ø 100
207	547701137	1	Adaptateur AA14S	Adaptator AA14S
202	547701139	1	Union UFA 14S	Union UFA 14S
203	547701138	1	Coude CELA	Elbow CELA
227	547701017	1	Mamelon MM3/BNPT	Nipple MM3/BNPT
218	547702013	1	Coupleur mâle à billes	Male coupling
219	547702012	1	Coupleur femelle à billes	Female coupling
220	577701011	1	Bouchon femelle à visser	Female coupling cap
221	577701010	1	Bouchon mâle à visser	Male coupling cap
229	511121010	1	Casse pression	Pressure break
228		1	Protection de sortie	Power output



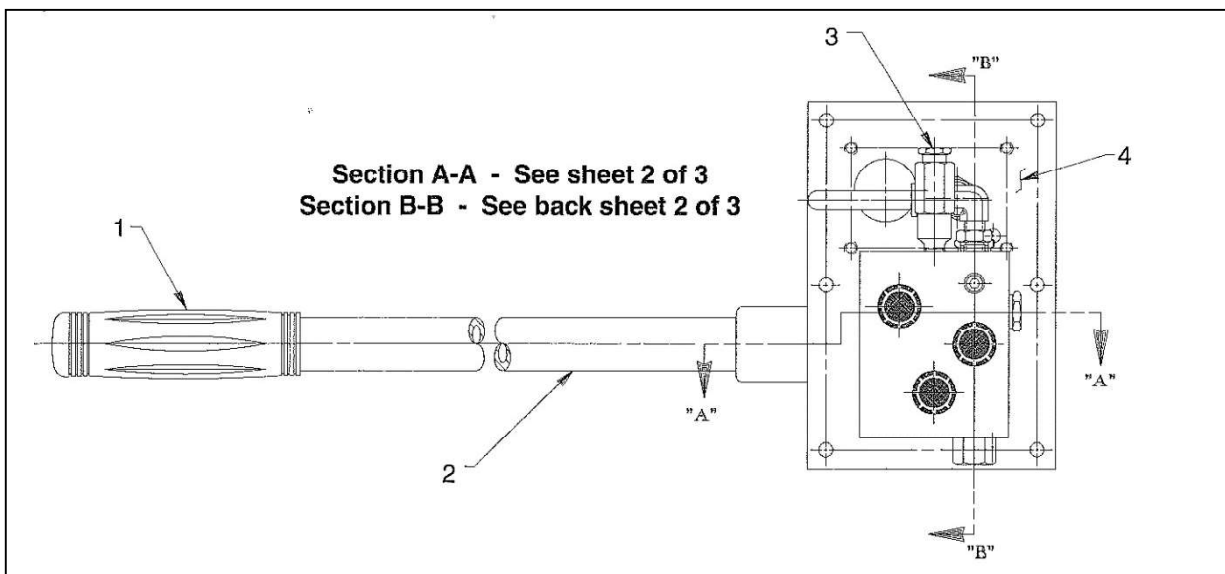
Rep.	Ref	Qty	Désignation	Description
------	-----	-----	-------------	-------------

1	9500	1	Distributeur 4 voies	Valve 4 Way
---	------	---	----------------------	-------------



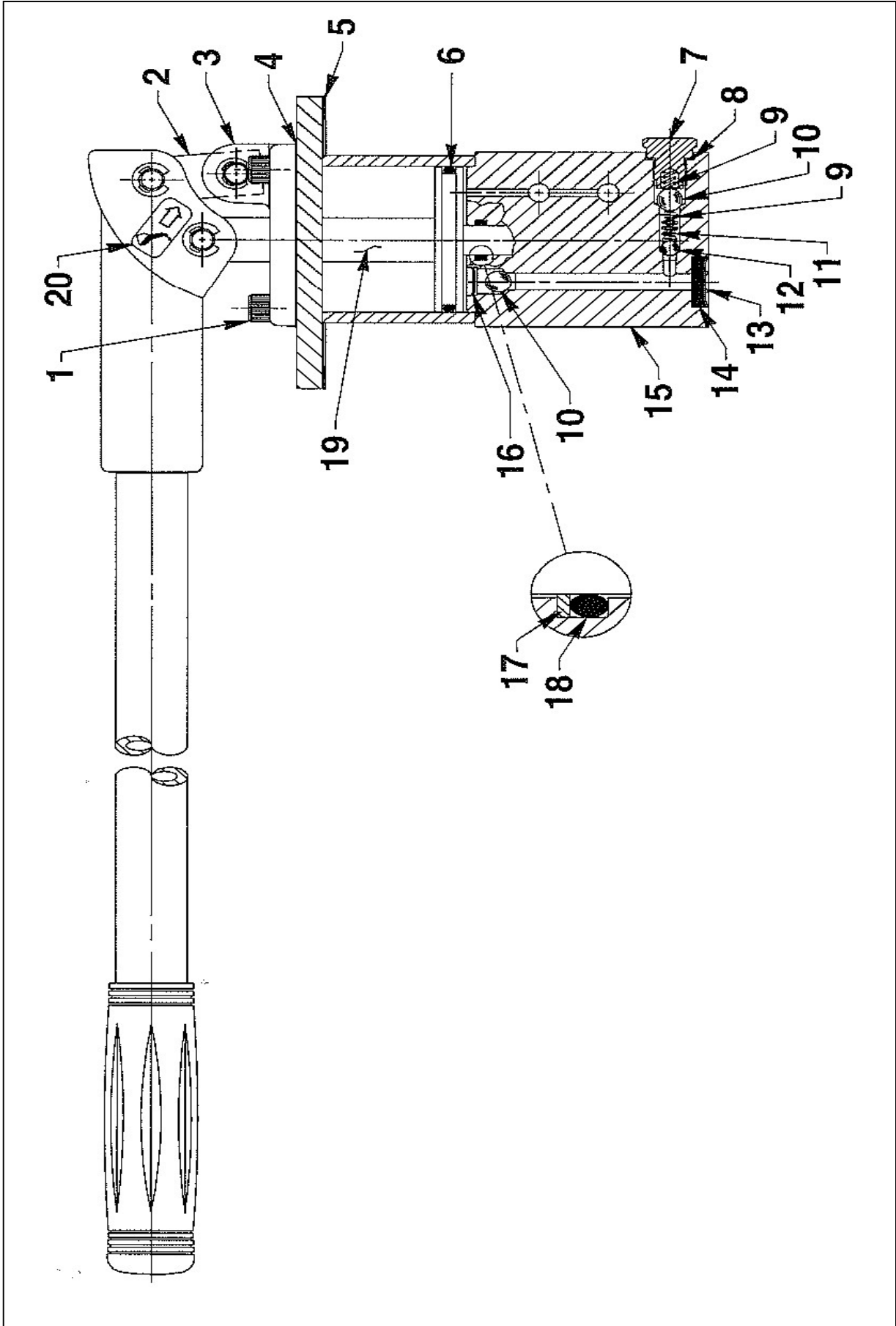
Rep.	Ref	Qty	Désignation	Description
------	-----	-----	-------------	-------------

1	11390	1	Poignée	Flex Grip Handle
2	30708	1	Levier	Handle
3	21278	1	Limiteur de pression 560 bar	Relief valve assembly
4	420418GY8	1	Plaque support	Cover plate



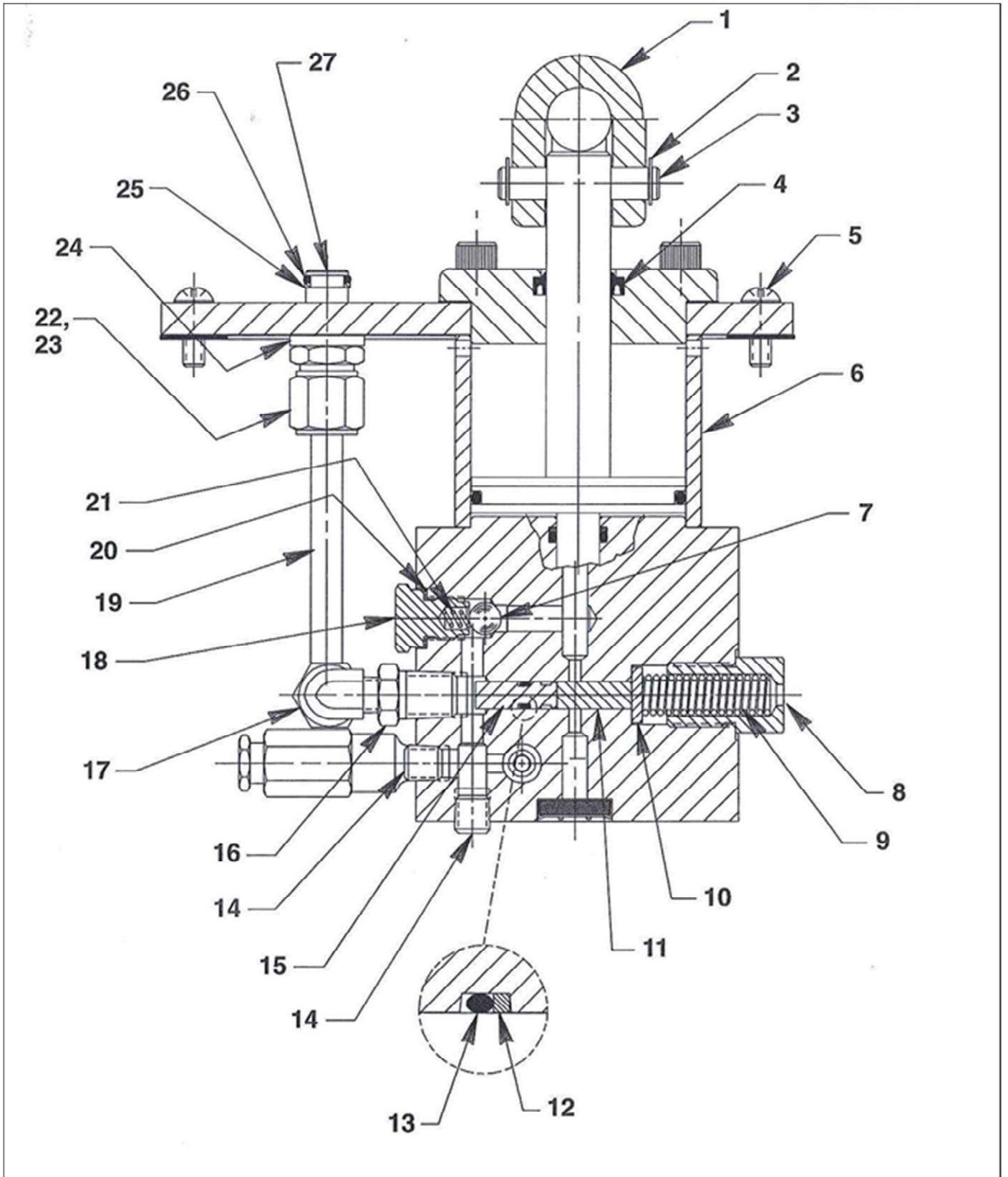
Rep.	Ref	Qty	Désignation	Description
1	250671	4	Vis 5/16-24UNF x3-1/2Lg	Screw 5/16-24UNF x3-1/2Lg
2	21603	1	Biellette	Pivot block
3	420978BK2	1	Couvercle de pompe	End cap
4	*22143	1	Joint de couvercle	End cap Gasket
5	*30709	1	Joint de réservoir	Reservoir gasket
6	*10295	1	Joint torique	O-ring
7	351952	1	Vis du limiteur de pression	Valve screw
8	*14874	1	Joint cuivre	Soft copper washer
9	*10444	1	Ressort de compression	Compression spring
10	*10378	3	Bille Ø3/8 "	Steel ball Ø3/8 "
11	*211797	1	Ressort	Spring
12	*10375	1	Bille Ø1/4"	Steel ball Ø1/4 "
13	*214586	3	Clip	Retaining ring
14	*214578	3	Filtre	Filter
15	61202	1	Corps de pompe	Pump body
16	*250670	2	Clip	Retaining ring
17	*12398	1	Bague anti extrusion	Backup washer
18	*11564	1	Joint torique	O-ring
19	253372	1	Ensemble piston	Piston assembly
20	253234	1	Autocollant de point de graissage	Oil pivot pins decal

(*) Kit N° 300811



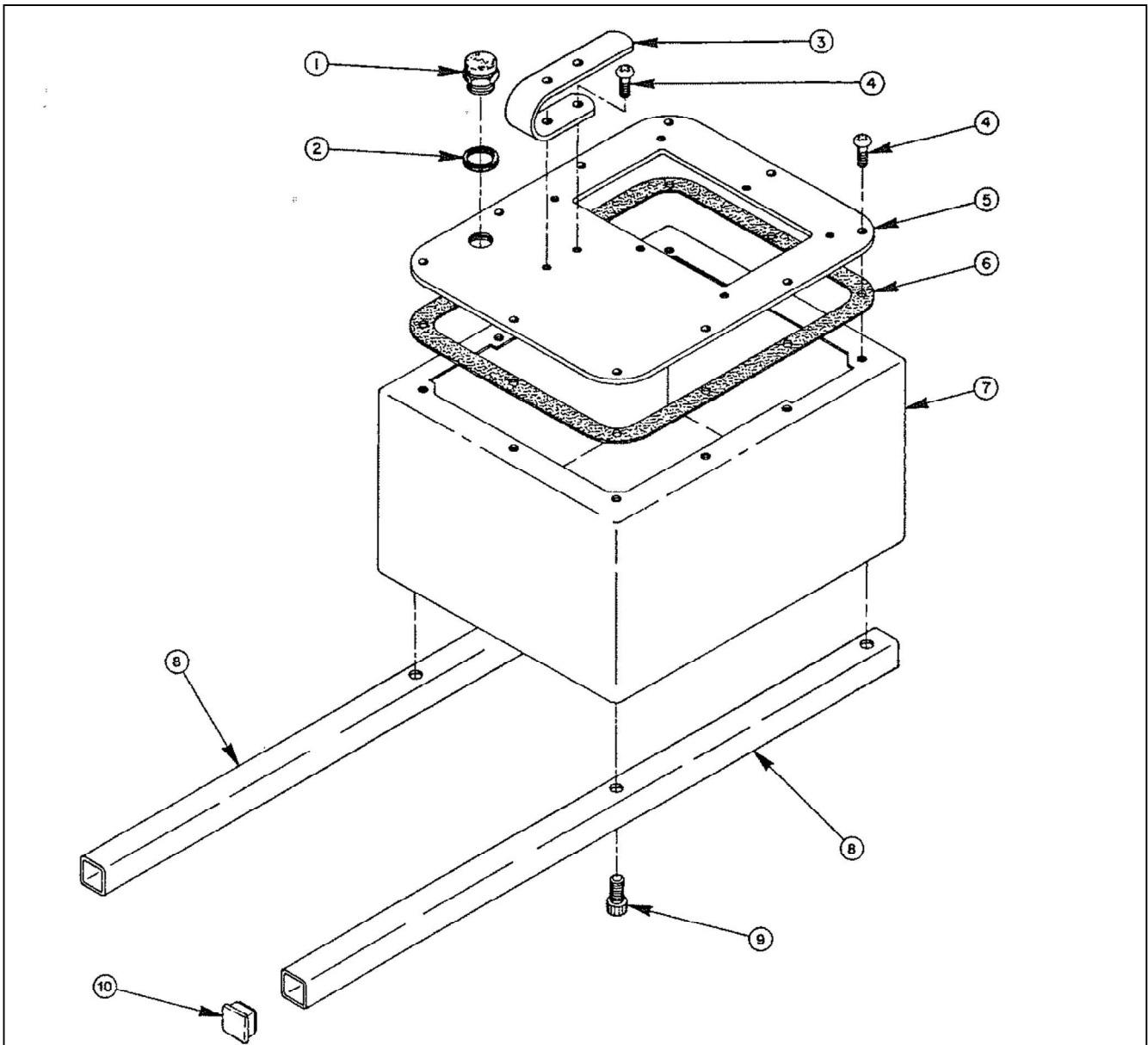
Rep.	Ref	Qty	Désignation	Description
1	30701	1	levier	Lever
2	11032	6	clip	Retaining ring
3	21609	1	Axe	Clevis pin
4	*251728	1	joint racleur	Rod wiper
5	10177	6	vis ¼-20 UNC X Lgr ¾"	Machine screw vis ¼-20UNC X Lgr ¾"
6	350302	1	cylindre	Spacer
7	*10378	1	bille Ø3/8"	Steel ball Ø3/8"
8	308430	1	vis de limiteur de pression	Unloading valve fitting
9	*10367	1	ressort de compression	Compression spring
10	214692	1	Rondelle	Disc
11	250672	1	poussoir	Dowel pin
12	*15174	1	bague anti extrusion	Backup ring
13	*10265	1	joint torique	O-ring
14	*10427	2	bouchon	Pressure plug
15	250658	1	piston du limiteur de pression	Unloading valve piston
16	13269	1	réduction	Reducer bushing
17	10475	1	coude	Tube Elbow
18	305975	1	vis de limiteur	Valve screw
19	350340	1	tuyauterie	Oil line
20	14874	1	joint cuivre	Soft copper washer
21	*10444	1	ressort de compression	Compression spring
22	10430	1	Passage de cloison	Tube sleeve
23	10431	1	Ecrou de tuyauterie	Tube nut
24	21484	1	Entretoise	Spacer
25	*11863	1	Bague anti extrusion	Backup washer
26	*10268	1	Joint torique	O-ring
27	20787	1	Connecteur de distributeur	Valve connector

(*) Kit N°
300811

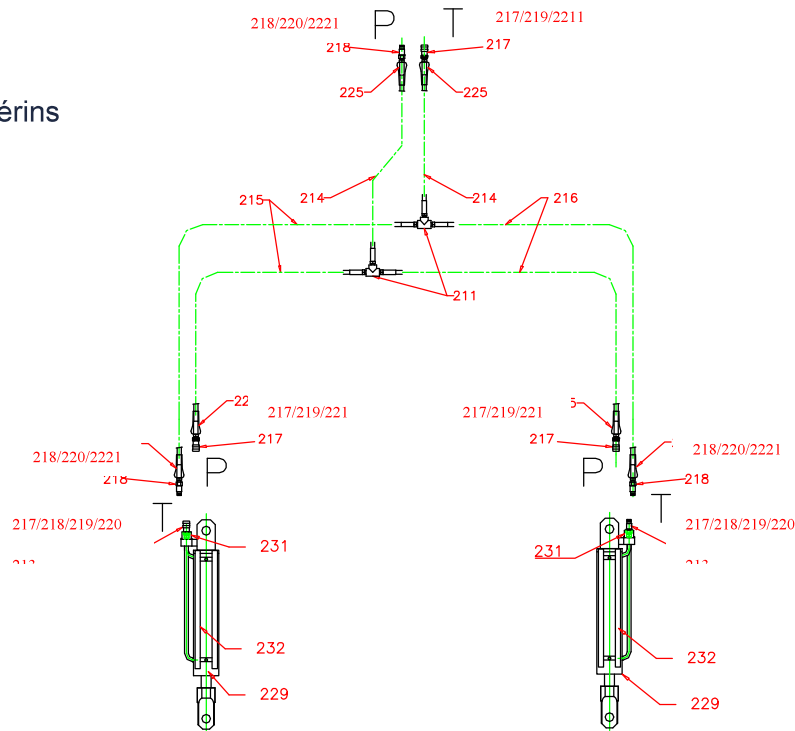


Rep.	Ref	Qty	Désignation	Description
1	251689		bouchon avec évent	Vent cap
2	*200415		joint torique	O-ring
3	24066		poignée de transport	Carrying handle
4	10177		vis 1/4-20UNC x 3/4"	Screw 1/4-20UNC x 3/4"
5	41810WH2		couvercle du réservoir	reservoir cap

(*) Kit N° 300811



Ensemble flexible et vérins



P: poussée / open
T: traction / close

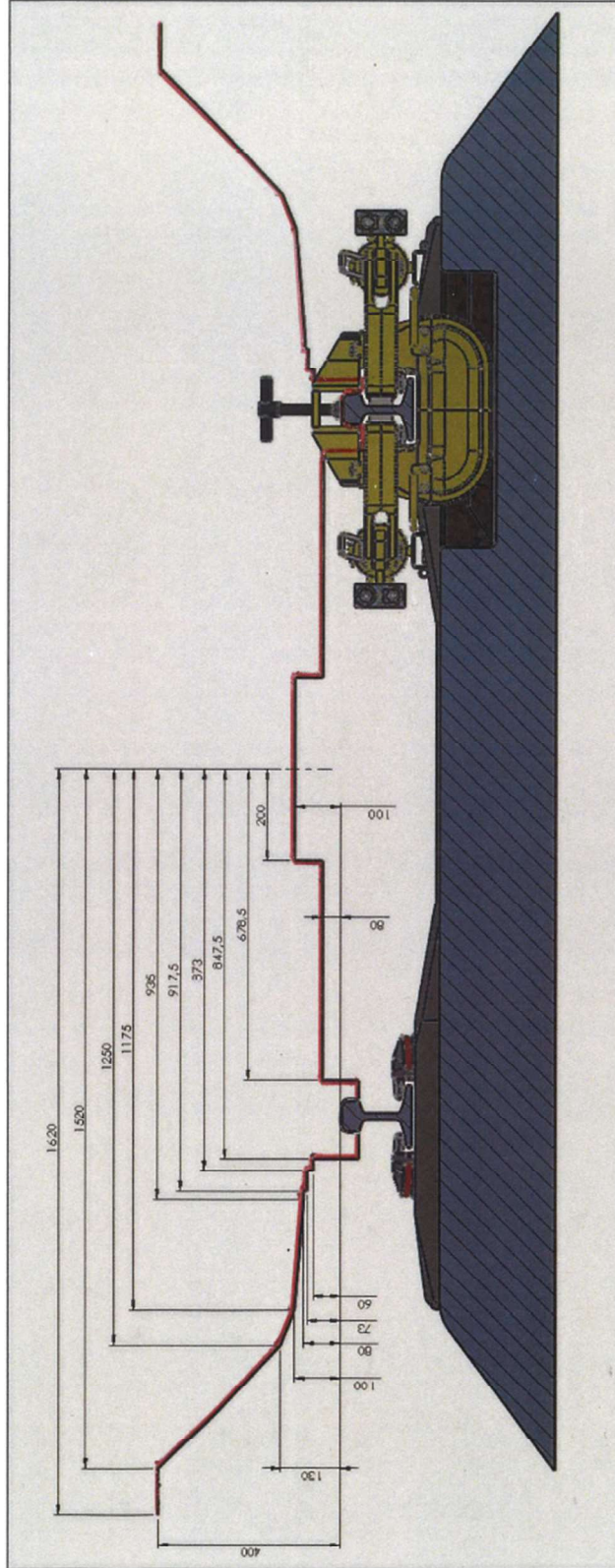
Rep.	Ref	Qty	Désignation	Description
211	47701018	2	Té femelle	Female tee
213	47701017	4	Mamelon MM 3/8 NPT	
214	21121053 (le jeu, the set)	2	Flexible lg. 3m avec protection	Flexible pipe length 3m with protection
215		2	Flexible lg. 2.4m avec protection	Flexible pipe length 2.4m with protection
216		2	Flexible lg. 0.9m avec protection	Flexible pipe length 0.9m with protection
217	47702046	3	Demi Coupleur plat femelle	Half Female coupling
218	47702047	3	Demi Coupleur plat male	Half Male coupling
			OU	
219	47701012	3	Coupleur à bille femelle	Female coupling
220	47701013	3	Coupleur à bille male	Male coupling
221	47701010	3	Bouchon pour coupleur femelle	Female cap for coupling
222	47701011	3	Bouchon pour coupleur male	Male cap for coupling
229	47501020	2	Vérin Ø100 course 380 mm	
231	31930039	2	Protection des coupleurs	
232	35910434	2	Poignée de vérin	

PIECES DE MAINTENANCE PRECONISEES
(NON FOURNIE AVEC LA MACHINE)

RECOMMENDED MAINTENANCE SET
(NOT SUPPLIED WITH THE STRETCHER)

REFERENCE	QTE.	DESIGNATION	DESCRIPTION
21121008		POCHETTE DE MAINTENANCE TENDEUR comprenant	RAIL TENSOR MAINTENANCE KIT including :
21121009	4	Mâchoires avec vis et coupelles	Jaw with rubber cup and screw
47702012	2	Coupleur femelle	Female coupling
47702013	2	Coupleur mâle	Male coupling
21121043	2	Flexible L. 3m avec protection	Flexible pipe 3m length with protection
(le jeu, <i>the set</i>)	2	Flexible L. 2,4m avec protection	Flexible pipe 2,4m length with protection
	2	Flexible L. 0,90m avec protection	Flexible pipe 0,90m length with protection
47104013	1	Pochette de dépannage de pompe Enerpac	Manual pump repair kit
47501021	1	Pochette de joints pour vérins 560 bar	Gasket kit for hydraulic jack 560 bar
111210101	1	Casse pression pour coupleurs bille	

VIII - PLAN DE CONTRÔLE SUIVANT EN13977



**FICHE DE CONTROLE
CLIENT**

TENDEUR HYDRAULIQUE TR75

**CONTROL CARD
CUSTOMER'S COPY**

HYDRAULIC RAIL STRETCHER TR75

N°	Désignation des contrôles <i>Description of controls</i>	Contrôlé <i>Checked by</i>
1	VERINS : <i>HYDRAULIC JACKS :</i> Contrôle dimensionnel <i>Inspection of dimensions</i> Test de pression à 560 bars <i>Test pressure at 560 bars</i>	
2	POMPE : <i>PUMP :</i> Tarage de la pression maxi à 560 bars <i>Limited pressure at 560 bars</i>	
3	CAME : <i>TIGHTENING CAM :</i> Rotation des mâchoires <i>Jaws rotation</i>	
4	Essai de traction en voie du tendeur assemblé <i>Test work on track</i>	
5	Etanchéité du circuit hydraulique <i>Inspection of hydraulic components</i>	
6	Vérification des liaisons (raccords, tuyaux) <i>Check of connections (couplings, piping)</i>	
7	Niveau d'huile de la pompe <i>Pump oil level</i>	
8	Aspect général <i>General aspect</i> Peinture <i>Paintwork</i> Graissage des parties tournantes <i>Lubrication of mechanical parts</i>	
9	Notice d'utilisation / <i>User's manual - N° 41121010</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	<i>Engine Type.....</i>
Numéro	<i>Number.....</i>

**FICHE DE CONTROLE
CLIENT**

TENDEUR HYDRAULIQUE TR75

**CONTROL CARD
CUSTOMER'S COPY**

HYDRAULIC RAIL STRETCHER TR75

N°	Désignation des contrôles <i>Description of controls</i>	Contrôlé <i>Checked by</i>
1	VERINS : <i>HYDRAULIC JACKS :</i> Contrôle dimensionnel <i>Inspection of dimensions</i> Test de pression à 560 bars <i>Test pressure at 560 bars</i>	
2	POMPE : <i>PUMP :</i> Tarage de la pression maxi à 560 bars <i>Limited pressure at 560 bars</i>	
3	CAME : <i>TIGHTENING CAM :</i> Rotation des mâchoires <i>Jaws rotation</i>	
4	Essai de traction en voie du tendeur assemblé <i>Test work on track</i>	
5	Etanchéité du circuit hydraulique <i>Inspection of hydraulic components</i>	
6	Vérification des liaisons (raccords, tuyaux) <i>Check of connections (couplings, piping)</i>	
7	Niveau d'huile de la pompe <i>Pump oil level</i>	
8	Aspect général <i>General aspect</i> Peinture <i>Paintwork</i> Graissage des parties tournantes <i>Lubrication of mechanical parts</i>	
9	Notice d'utilisation / <i>User's manual - N° 41121010</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	<i>Engine Type.....</i>
Numéro	<i>Number.....</i>

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

X - 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)

Désignation	Référence	N° série
Tendeur hydraulique de rail type TR75 NU coupleur plats (<i>Hydraulic rail stretcher TR75 Type with flat coupler</i>)	21121054	
Groupe hydraulique thermique 2 sorties coupleur plats (<i>Hydraulic rail stretcher TR75 Type with hydraulic power group with flat coupler</i>)	21121058	
Pompe manuelle séparée coupleur plats (Manual pump with flat coupler)	21121063	
Jeu de flexible (Flexbile pipes set) à coupleur à billes	21121053	

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
Responsable division matériel et équipement

PANDROL

Find out more at
pandrol.com

Partners in excellence