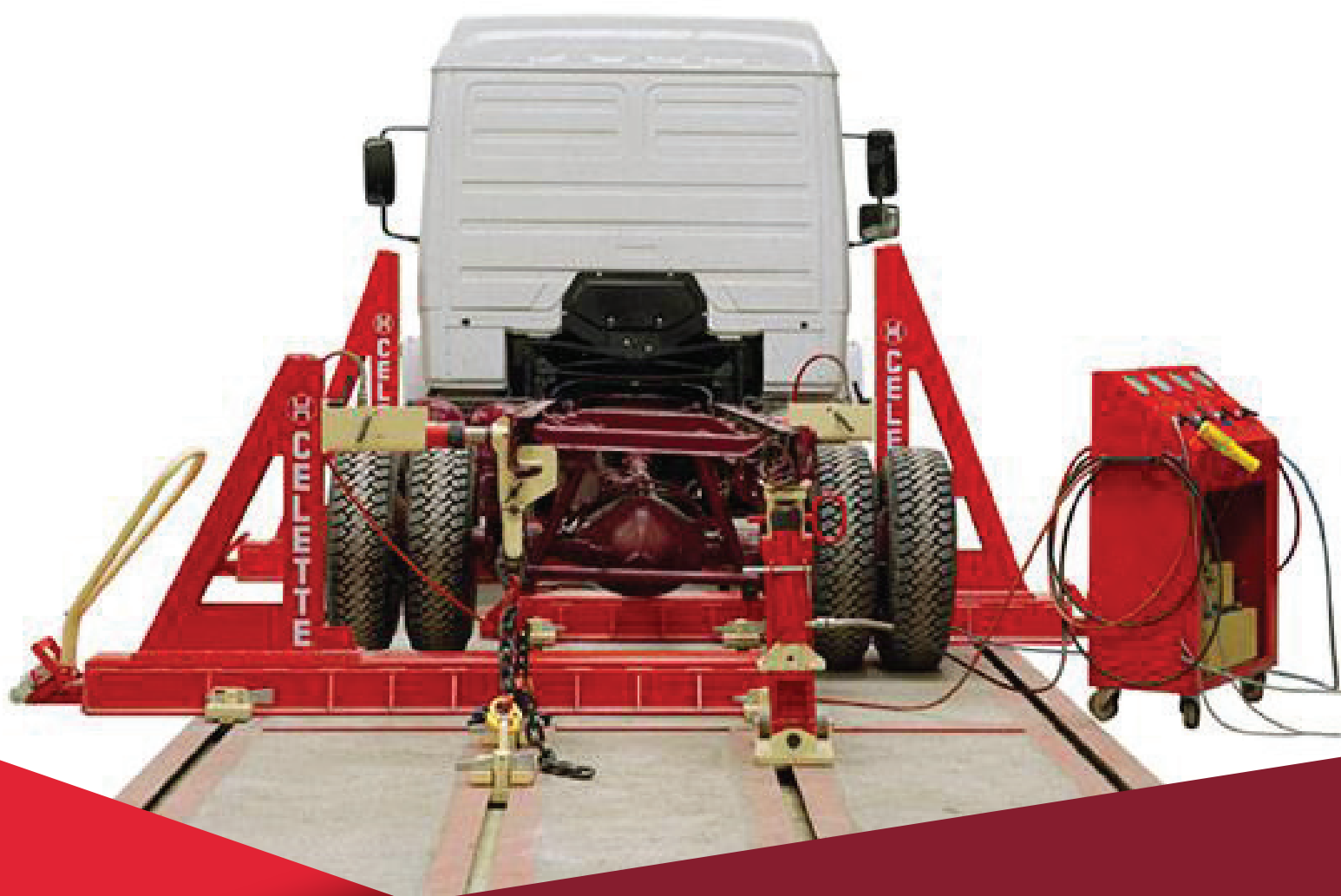


BPL 540

21.BPL.540.GBU



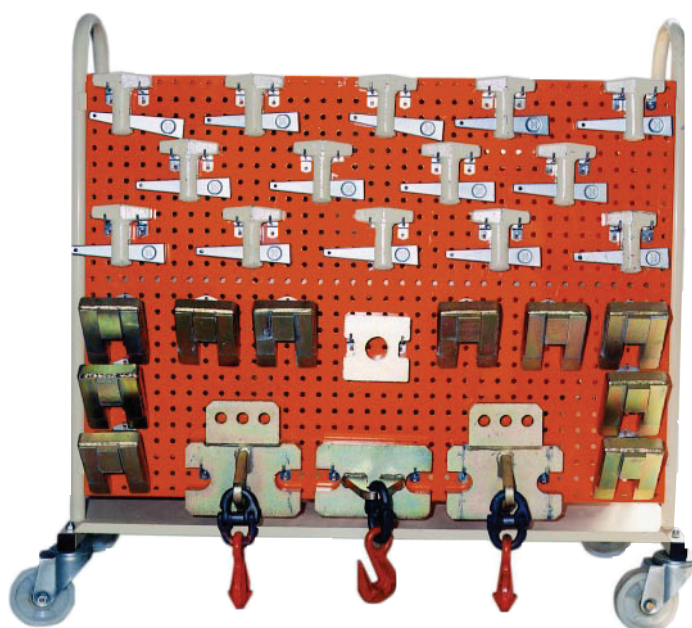
BPL 540

STORAGE TROLLEYS

H.Y.A.8

Examples of layout

A



BPL 540

CONTROL BOARD
Starting instructions

B

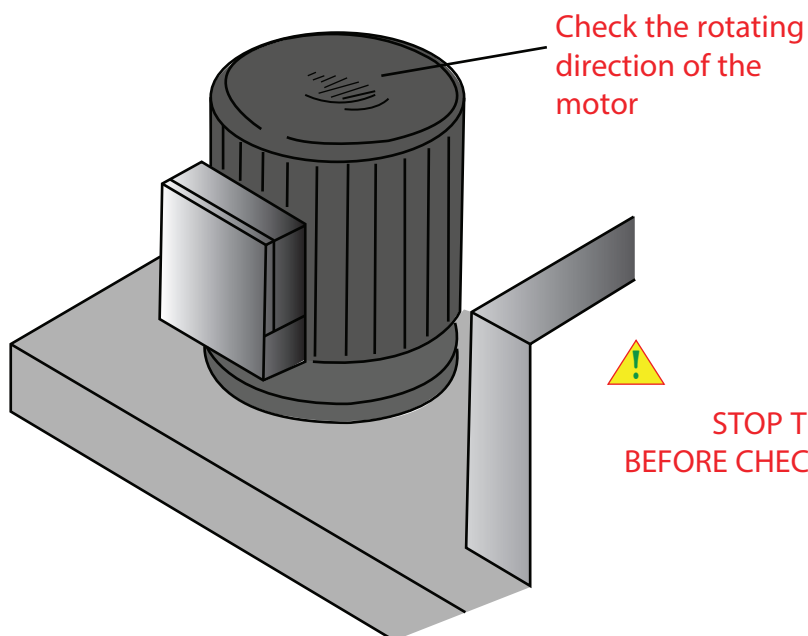
HYDRAULIC CONTROL BOARD



It is composed of

- an hydro-electric pump,
- of 4 ports,
- of 4 pressure gauges,
- of 4 control taps, each bearing a different colour corresponding to the ram supply hoses

- The control board cable is supplied without plug.
Install the plug corresponding to the workshop installation.
Cable $5 \times 2,5^2$ (3P + N + T)
- Voltage : 400V three phase
Intensity : 16 A
- Check the rotating direction of the motor.
The arrow showing the direction is located on the engine cover
if necessary, invert two phases, preferably the black wires.
- Check the oil level again.
The initial filling normally covers the whole level.
After a first utilization, the level will stabilize on the red line.

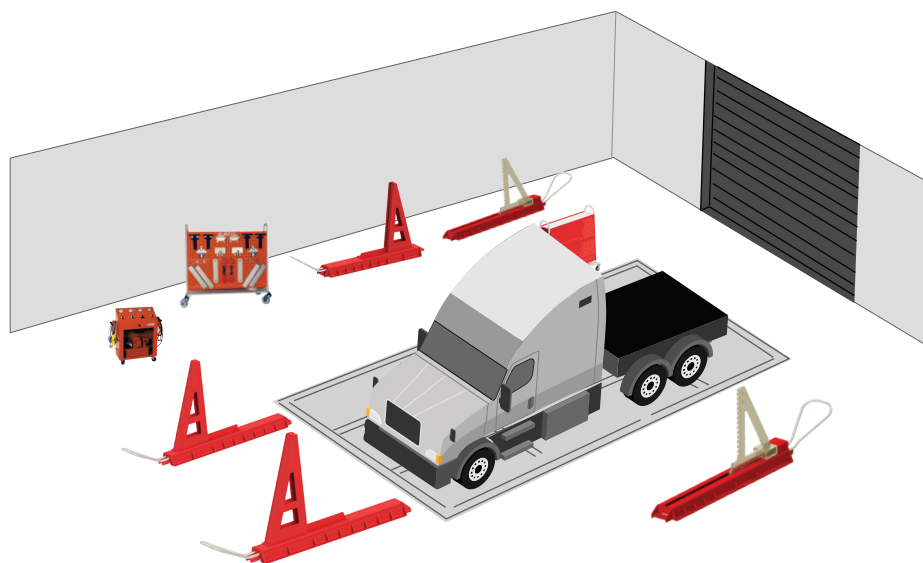


BPL 540

UTILIZATION AND OPERATION INSTRUCTIONS

C

THE FRAME



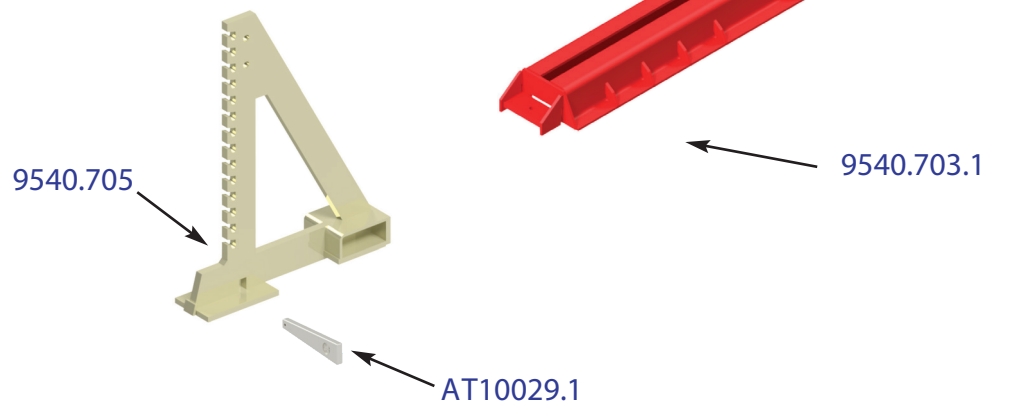
Any modification to the frame structure cancels the warranty

According to installation drawing [21.BPL.540](#)

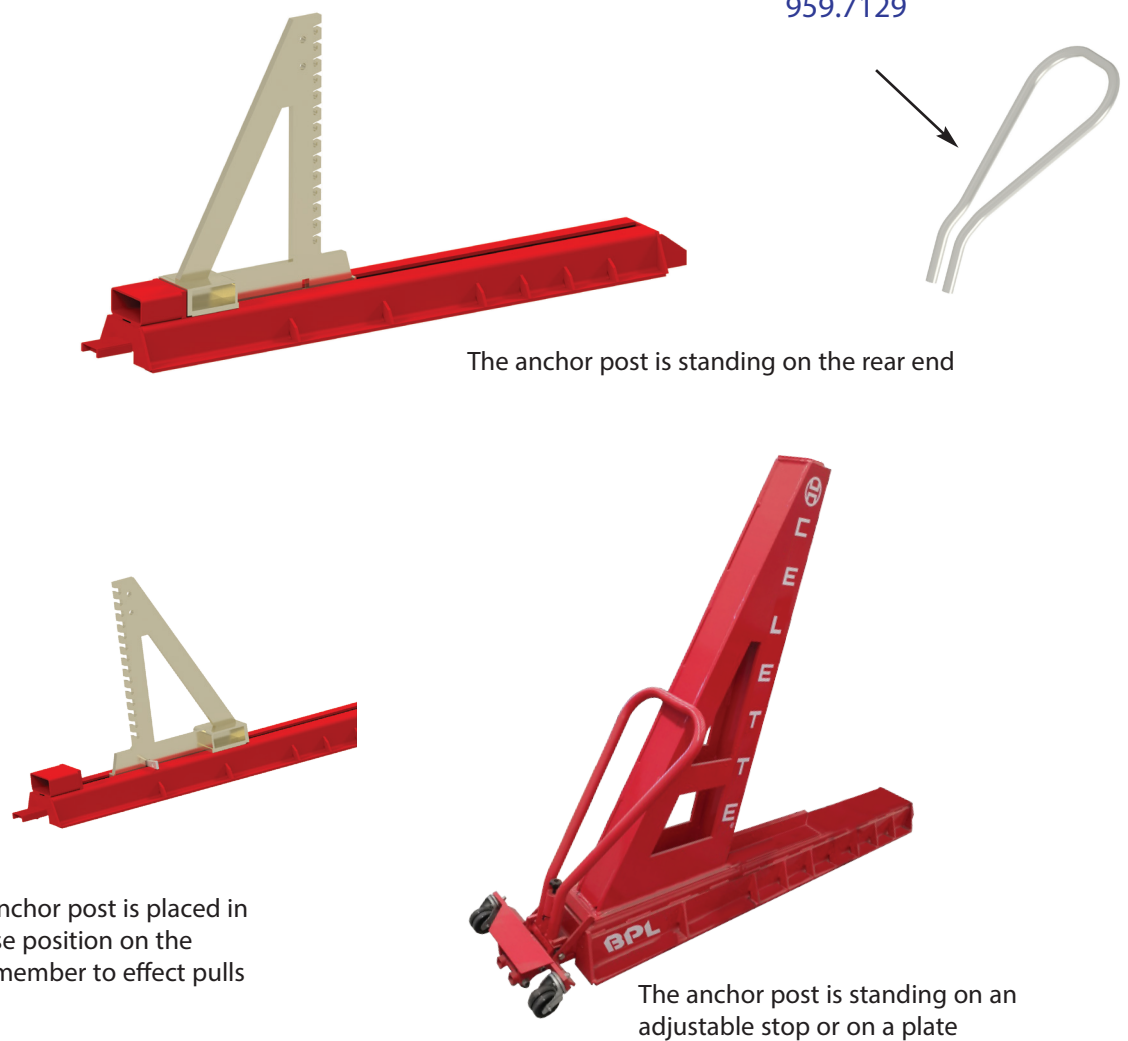


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REMOVABLE ANCHOR POSTS :



POSSIBILITIES :



DISTORTED CHASSIS



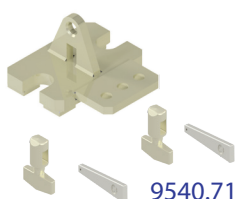
9540.714



9540.716



9540.731



9540.713.31

On-ground support

Vertical direction or tension



9540.720



SK.2201



SK.2202



SK.3206



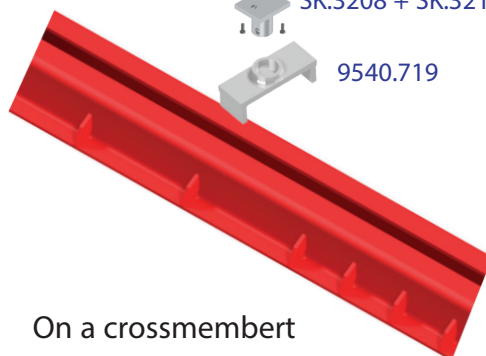
SK.3208 + SK.3210



9540.719



VV20.266



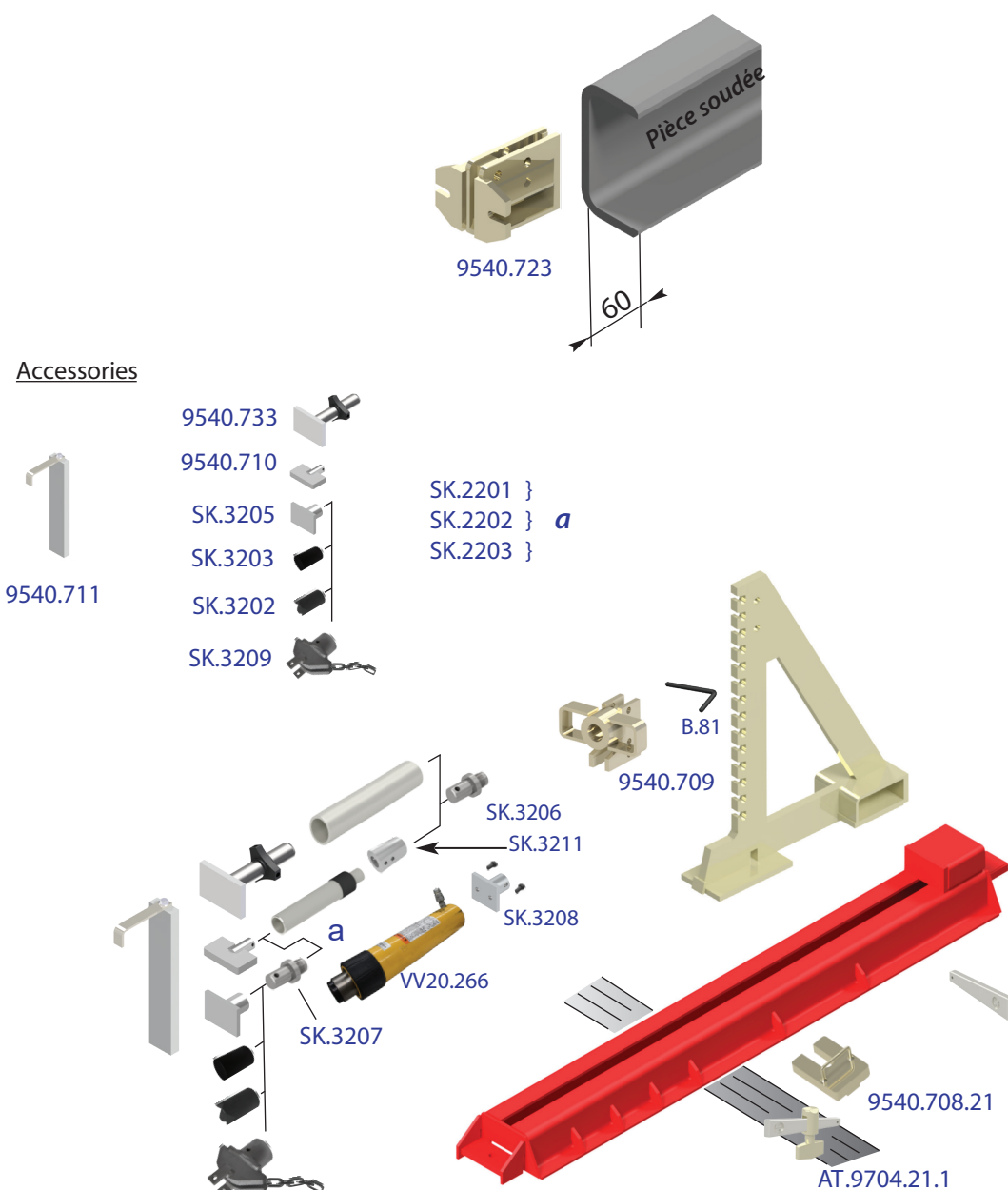
On a crossmember



959.7136

TO EFFECT PULLS THROUGH OUTER PUSHES

To effect some pulls at the rear end of a sidemember, it is necessary to weld a plate on the chassis to anchor the clamp



WORK HOLDING

- Fix crossmember (N°1 - 2 or 3) on the frame
- Place 4 locking pins 9540.708.21 on each side of the crossmember within the rail
- Place 4 flanges (or at least 2) AT.9704.21.1 anchored within the gussets
Fix by means of wedges AT.10029 without locking
- Effect a first pulling operation to have the crossmembers standing on the flanges, and lock wedges very tightly

9540.706

9540.702.1

9540.706

9540.702.1



HYP.50



HYA.6



HYP.1506



VV30.216

VV20.166

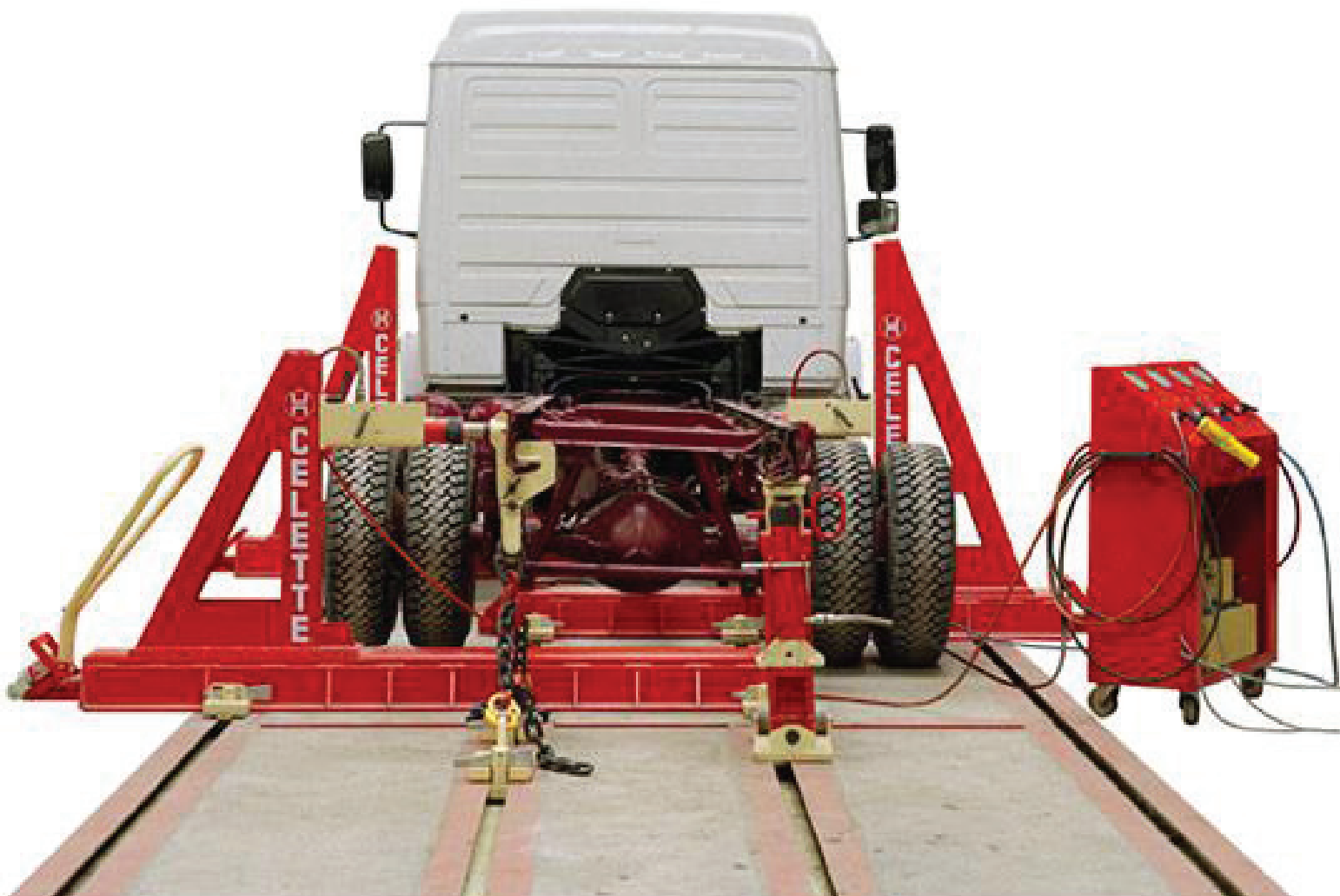
SK.3208



SC.15036

BPL 540

DIFFERENT TYPES OF STRAIGHTENING



Very often, the discrepancies noted are the result of different types of defects :

- horizontal or vertical bending
- twist
- diamond

The repairs will be effected in following order : first the vertical, then the horizontal bending, the twist being repaired in last position.

NOTE:

It will sometimes be necessary to come back in an alternative way to these types of distortions.

The leveling of the chassis profiles will be effected as one goes along by means of the straightening press, to eliminate distortions.

To check the untwisting of a chassis, it is necessary to release it from any constraint, while placing it on 3 bearing points.

Example :

Rear axle being placed on the ground, and the other end of the chassis resting on an axle stand placed in the center.

If the mechanical units have been dismantled, use a trestle composed of 2 axle stands [9540.717](#) and of a crossmember [9540.721](#) .

Place this trestle transversely under one end of a chassis, the other end will rest on one axle stand [9540.717](#) only, placed in the center.

During each straightening, stop the pulling operation when the sidemember to be straightened is visually right.

At this stage, note the pressure indicated by the manometer, release the pressure and check the alignment visually.

If the distortion remains, repeat the operations, while increasing the pressure each time, until the defect has disappeared.

In the case of a bent chassis, each lateral pushing operation, as well as the bearings, have to take place in front of a crossmember.

If this condition cannot be fulfilled, a mechanical ram will be placed between the 2 sidemembers.



CELESTE

Note the pressure before releasing it

Example : 300 bar



In case the chassis is still distorted after the pressure has been released, effect the operation again and add X bar to straighten it

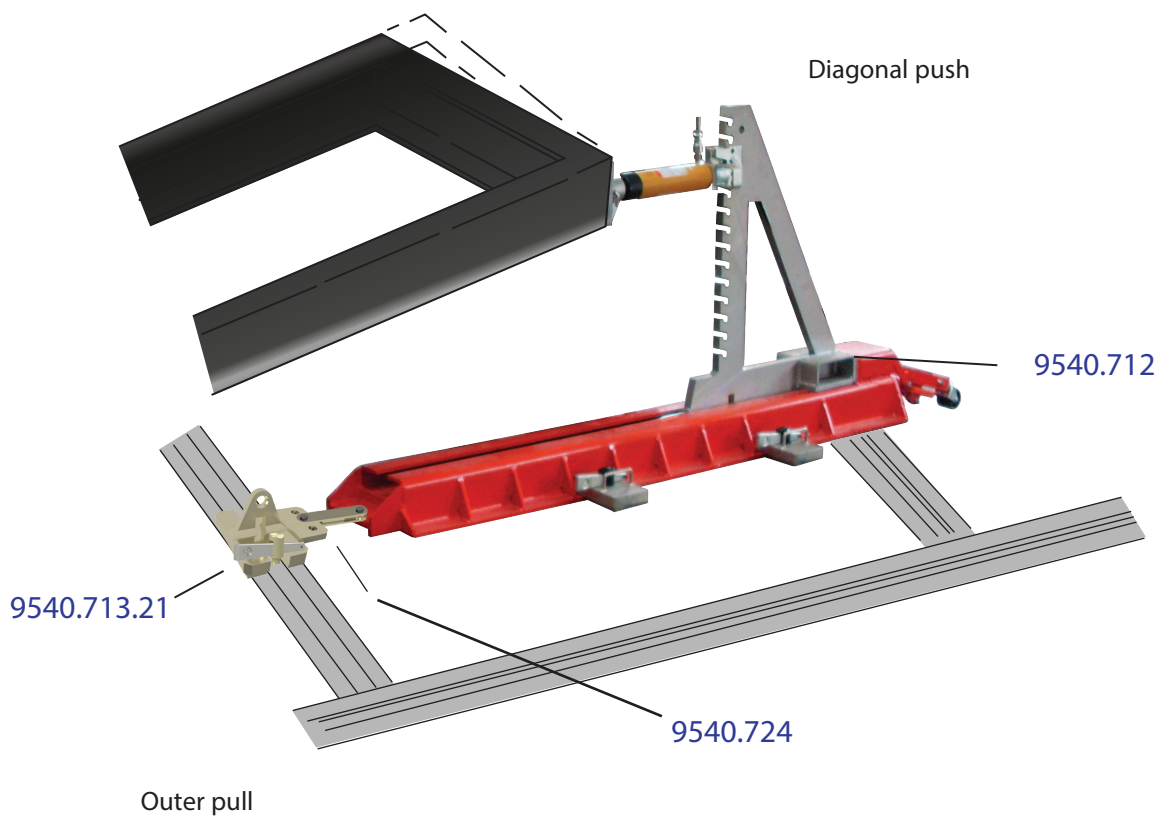
- Do not have two rams operate in opposite directions simultaneously.
- Do not use a pushing ram without its pulling ring at the end of the piston or its "steck" with screws, which will be previously screwed on the ram piston, and equipped with a pushing head or base.
- The "steck" sockets must not be hold directly.
- Use the maximal support surface during a pushing operation.
- Extend your support surfaces (large plates).
- In some cases, during a vertical pulling, place a support or guiding yoke on the sidemember.
- Before placing the rams under pressure, check the locking of the couplings.
- Before placing the unit under pressure, check that the colours on the control board correspond with those of the ram hoses.
- After each work holding operation, make sur that the piston goes back into the ram.
- Before disconnecting the hoses, it is necessary that the pistons are pushed back into the rams.
- On the hydraulic control board, place the switch on "OFF" position



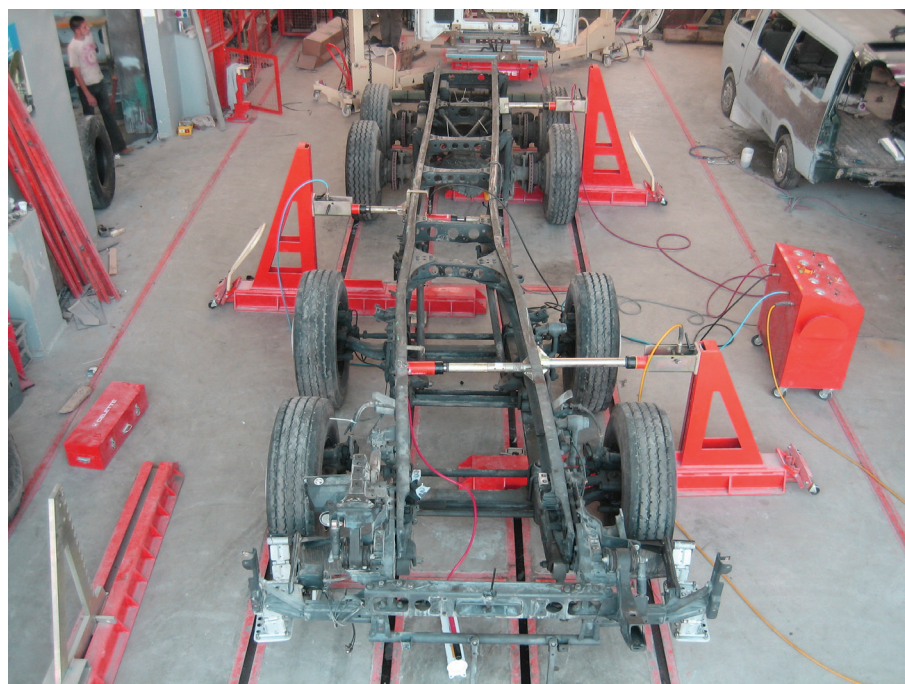
CELESTE

The choice of the method to be used will depend upon :

- The degree of distortion
- The accessibility
- The strength of the chassis



CHASSIS WITH A «BANANA» DISTORSION (Both sidemembers have been mashed)



THE CHASSIS IS BENT OR DISTORTED ON ONE SIDE ONLY (One sidemember has been mashed)

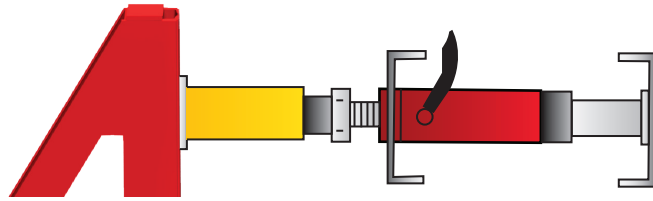


Above drawing with pulling unit for inner pushing

ONE SIDEMEMBER HAS BEEN MASHED

Different methods

Utilization of a pulling unit with fixed stop and rams between the 2 sidemembers

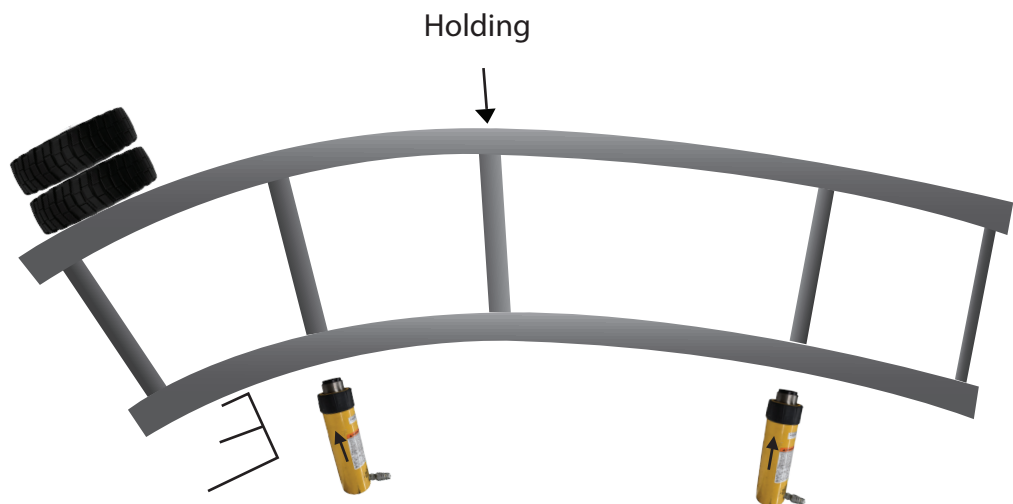


Utilization of the dismantable pulling unit for pulling operations



STRAIGHTENING OF A CHASSIS WITH A «BANANA» DISTORSION

Place the anchoring and pushing points as far as possible the one from the others to take advantage of the "lifting effect"

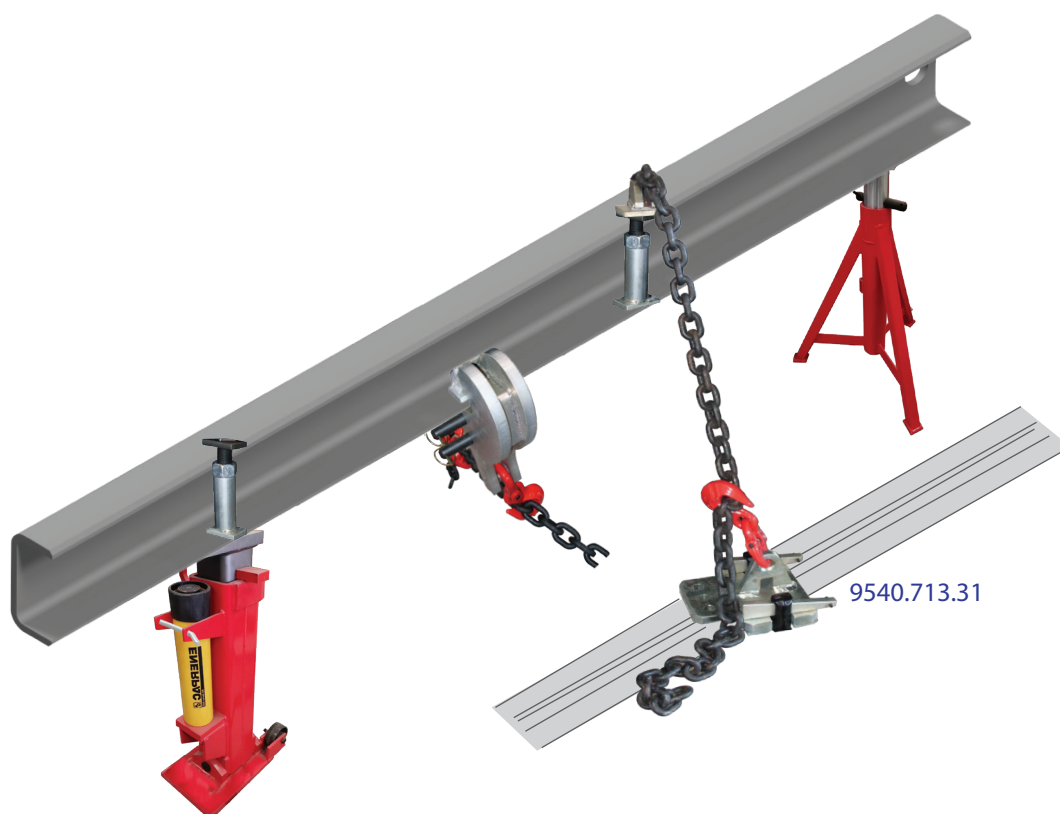


HOLDING OF THE SECOND RAM TO DOUBLE THE POWER

VERTICAL BENDING

Precautions : **Support - Wedging - Chaing anchoring**

To prevent the sidemember profiles to be distorted during a pushing operation, place the mechanical rams at the exact location of the effort.



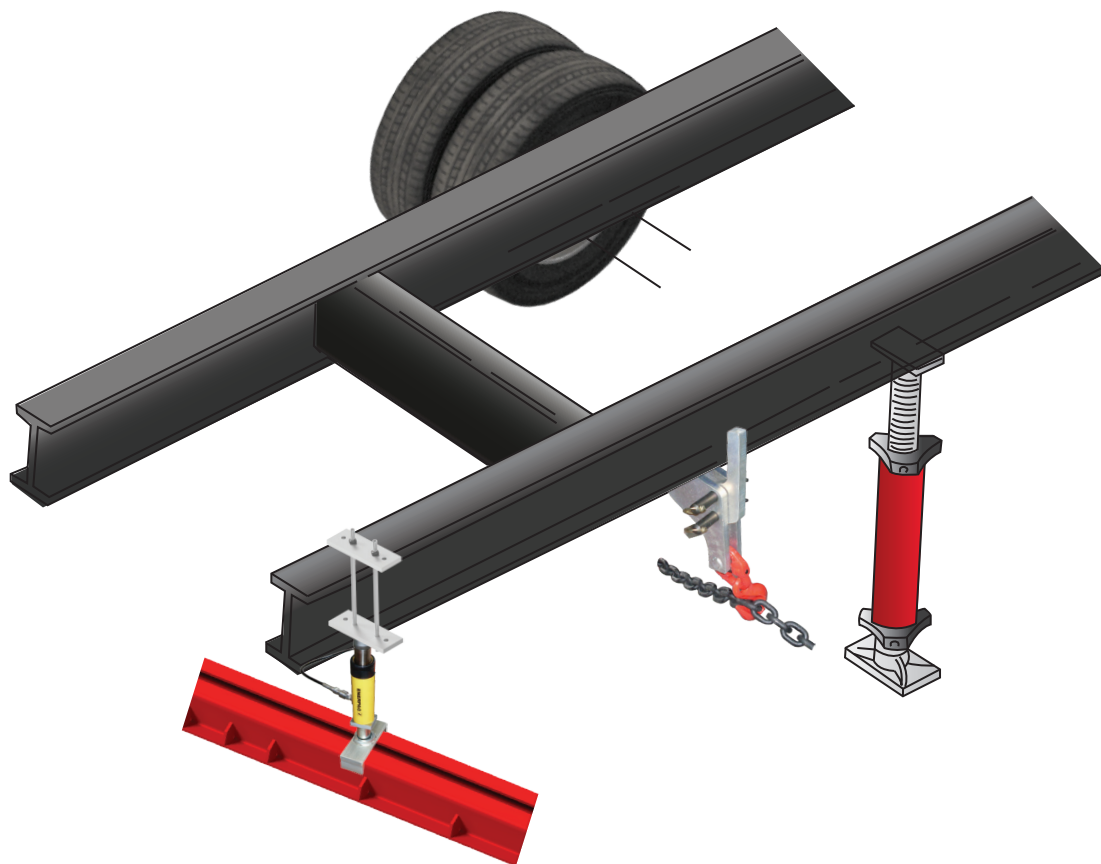
UNTWISTING RAM :

Especially designed for the untwisting of the chassis.
This operation requires an important travel of the ram.



always check the positioning of the on-ground base

VERTICAL PUSH ON A CROSSMEMBER LOCKING OF THE CHAINS TO THE GROUND



It is also possible to effect vertical pushes with a ram equipped with a steek male connector for ram base SK.3208, with a spheric head SK.3210 on a ram base placed on a crossmember 9540.719. The ram will be placed in pushing position on a bearing yoke 9540.720 placed on a chassis. Do not forget to include mechanical rams 9540.731 or 9540.716 (according to the case) between the sidemember profiles.

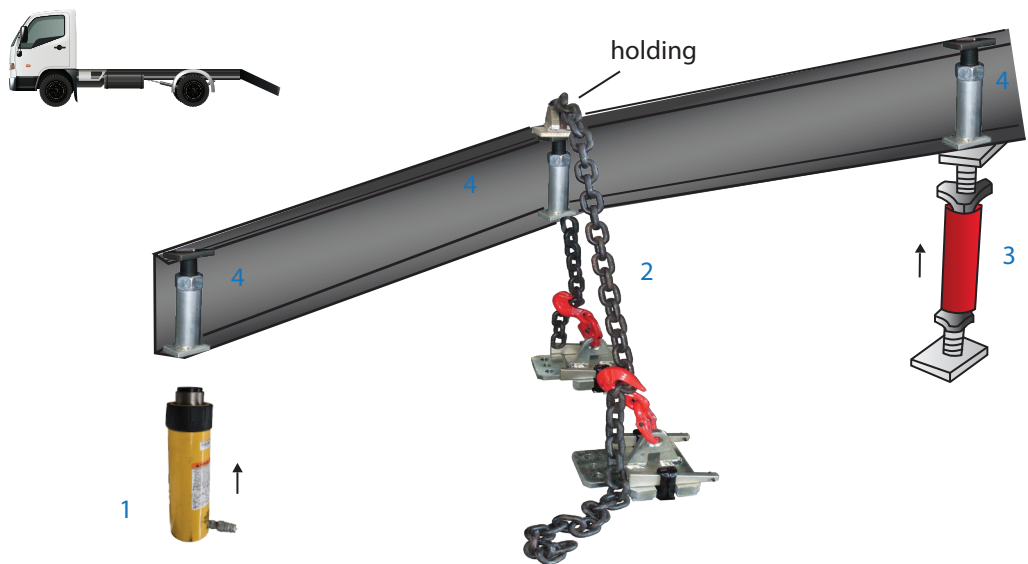
Place the chains on the chassis while including the guiding part 9540.714 and the mechanical rams between the profiles on the sidemembers or by means of a clamp 9540.715. In both cases, the in-ground fixing will be effected by means of 2 anchoring blocks 9540.713.31, 4 clamps 9540.708, 4 wedges AT.10029.1 and 2 locking axles AT.9704.21.1.

The 2 blocks, equipped with 4 axles, 4 clamps and 4 wedges, will be placed vertically under the two chain ends. The chain will then be tightened, while pulling both ends to the outside. Knock wedges with an hammer to lock.

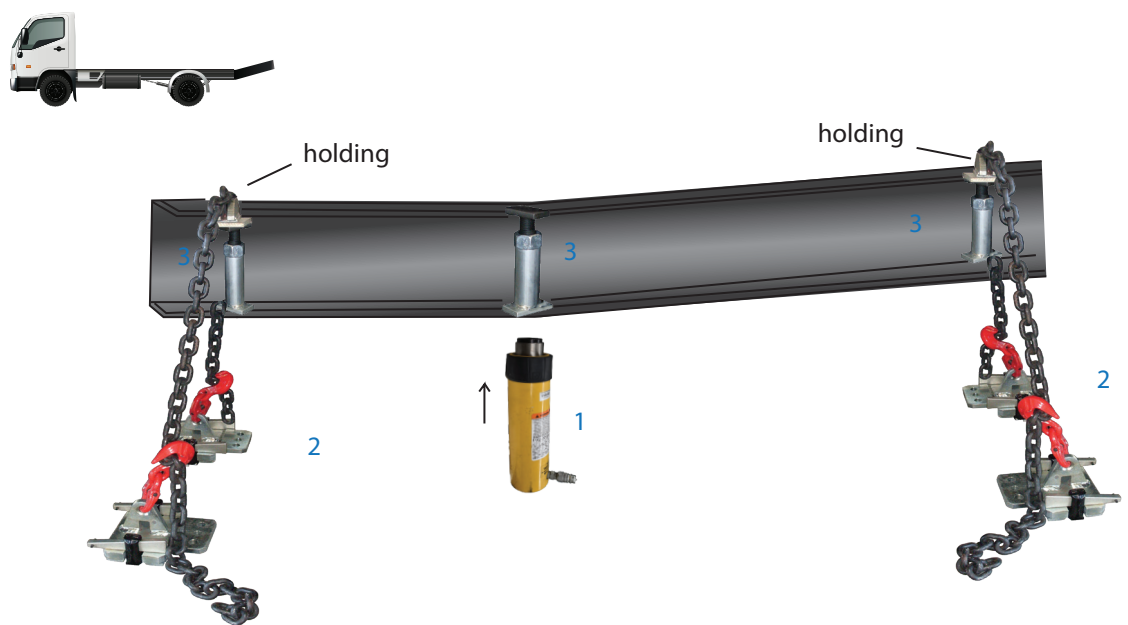
Chains may also be located in the same way, transversely on a crossmember 9540.703.1.



CELESTE



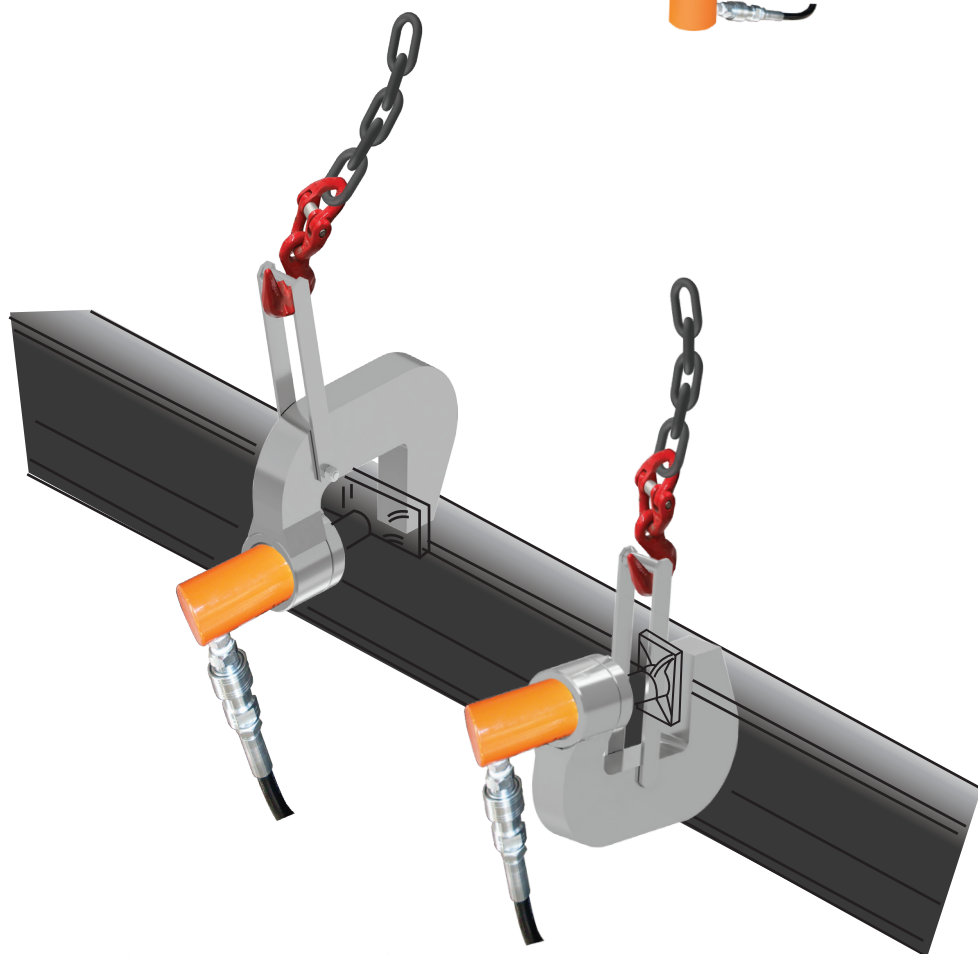
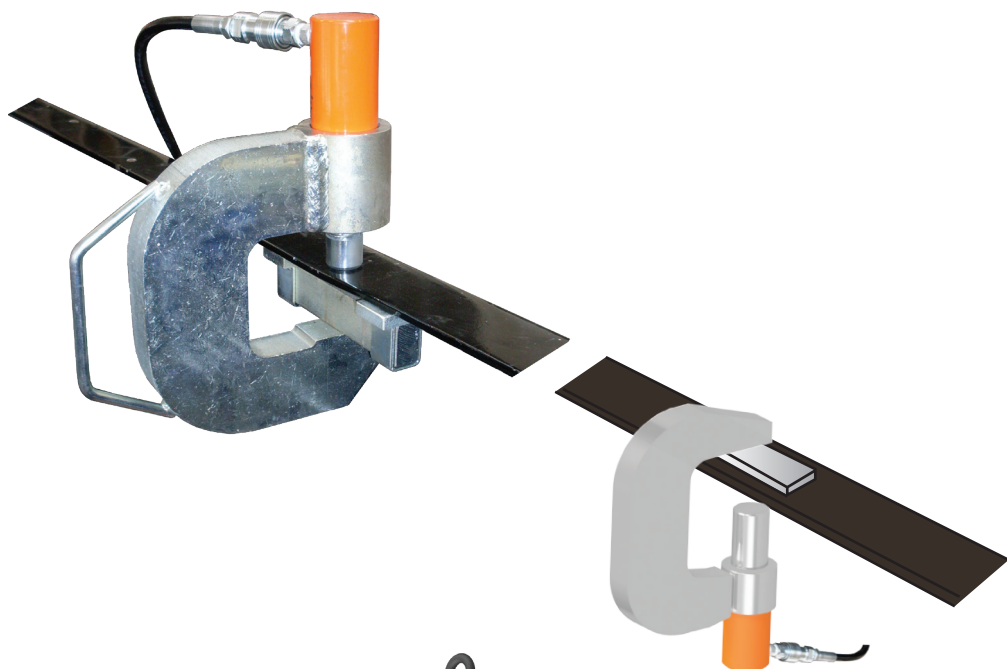
Example of a straightening of a vertically mashed sidemember end (downwards)
 The straightening is being effected by means of a ram placed in pushing position 1 , of an holding point 2 and of a bearing point 3 .
 Mechanical rams 4 will be placed between the profiles of the sidemember, as stated on the drawing.



Example of a staightening of a vertically mashed sidemember end (upwards)
 The straightening is being effected by means of two holging points 2 by chain and of a ram placed in pushing position 1 .

Note : to prevent the holding and bearing points of the sidemember from being distorted, place the mechanical rams 3 between the sidemember profiles.

3 TYPES

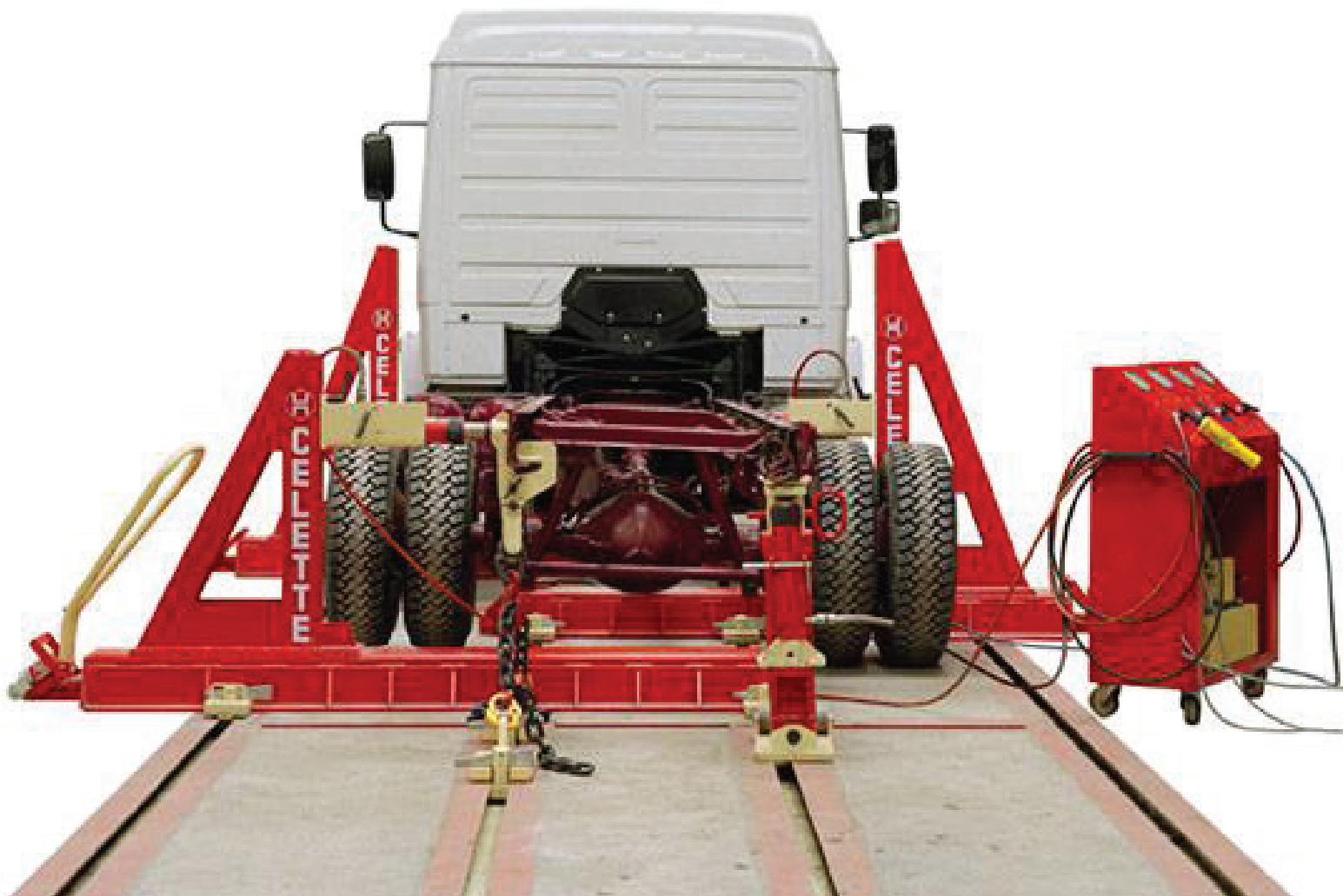


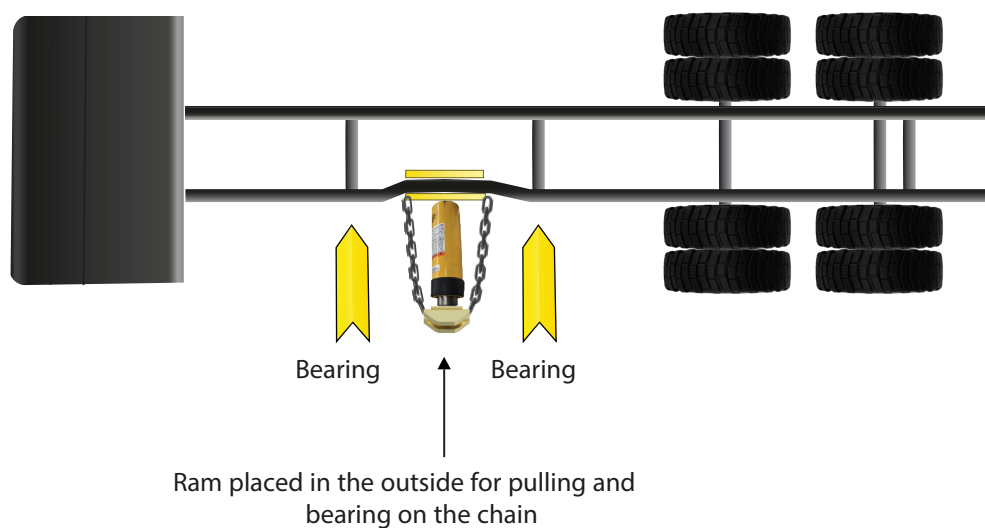
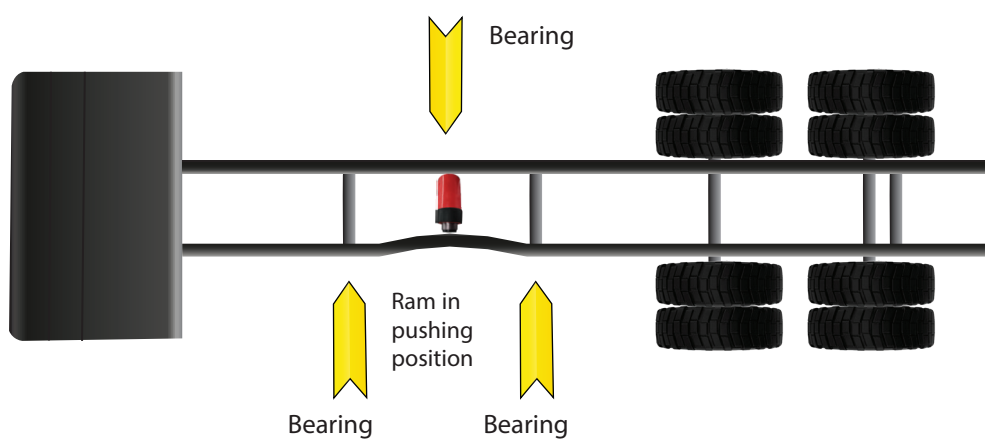
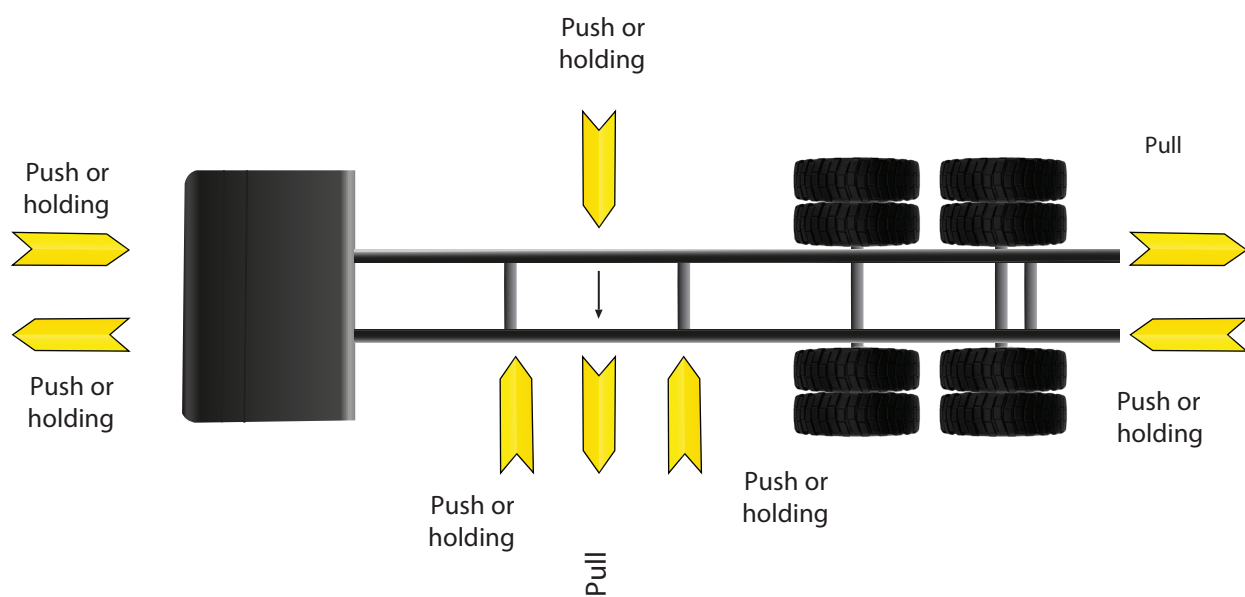
Straightening of an IPN chassis profile

Positioning is possible either on or under the sidemember

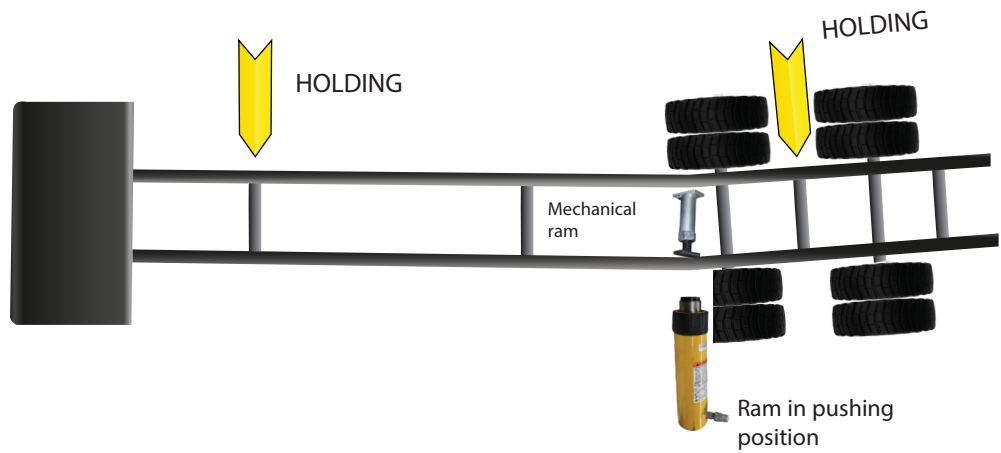
BPL 540

STAIGHTENING

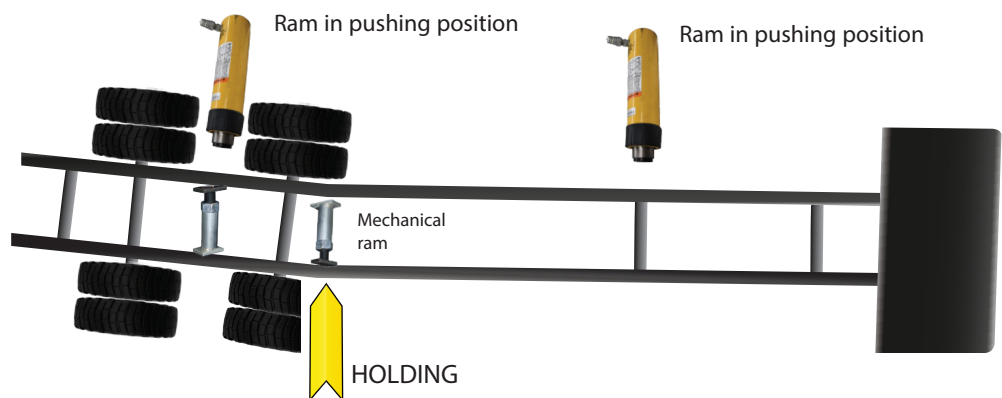




Two examples of chassis straightening, which sidemembers present a « BANANA» distorsion. Several possibilities of repair can be followed :



The straightening will be effected by means of 1 ram and 2 bearing points placed on crossmembers with mobile or fixed built-in squares



The straightening will be effected by means of 1 bearing point and 2 rams placed on crossmembers with mobile or fixed built-in squares

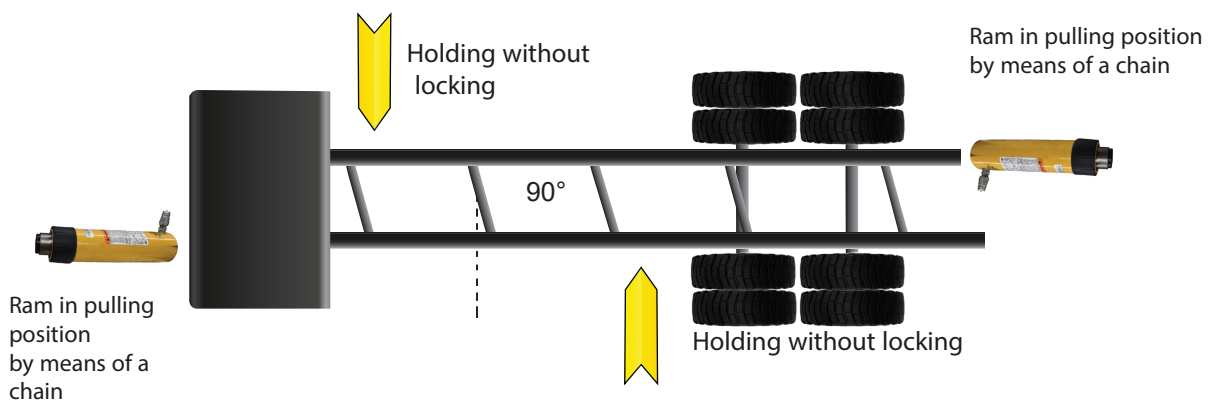
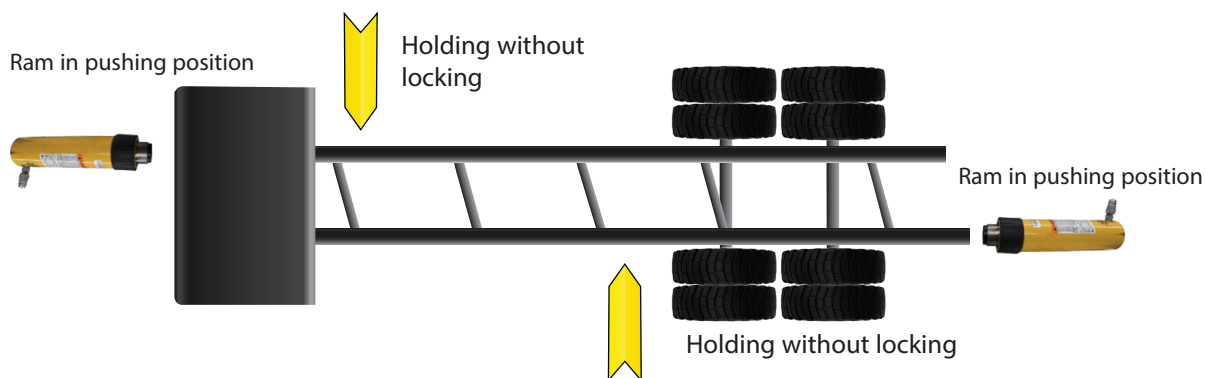
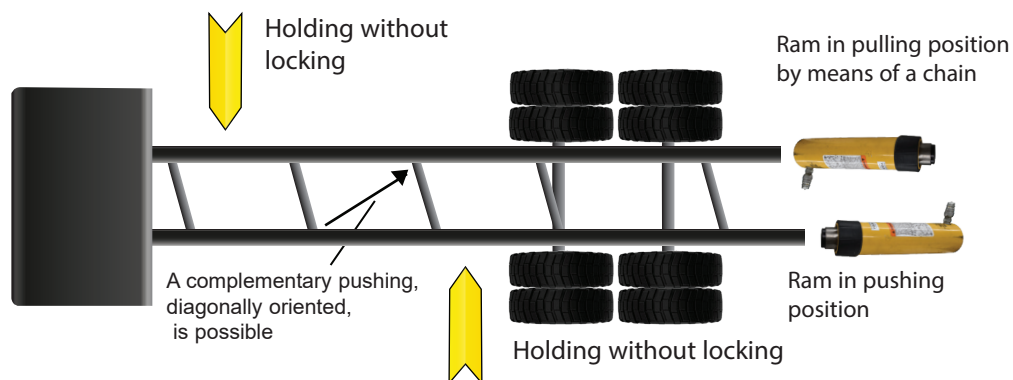
NOTE :

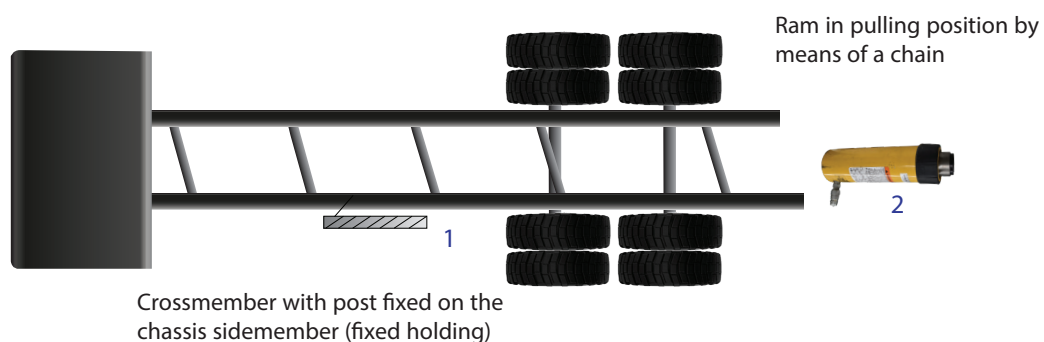
The use of the mechanical rams is compulsory when a bearing point or a ram is placed between 2 crossmembers of the chassis.
This enables the straightening of the 2 sidemembers, while keeping a correct parallelism.



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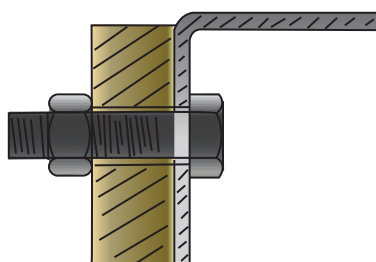
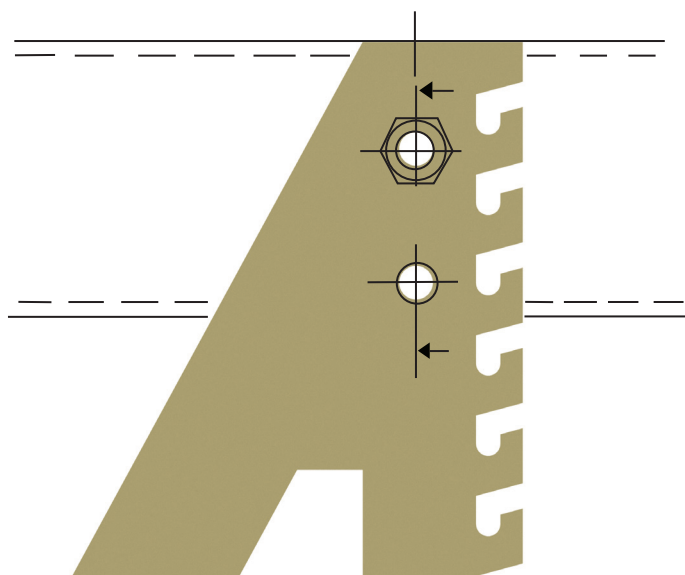
EXAMPLE OF A DIAGONALLY ORIENTATED STRAIGHTENING



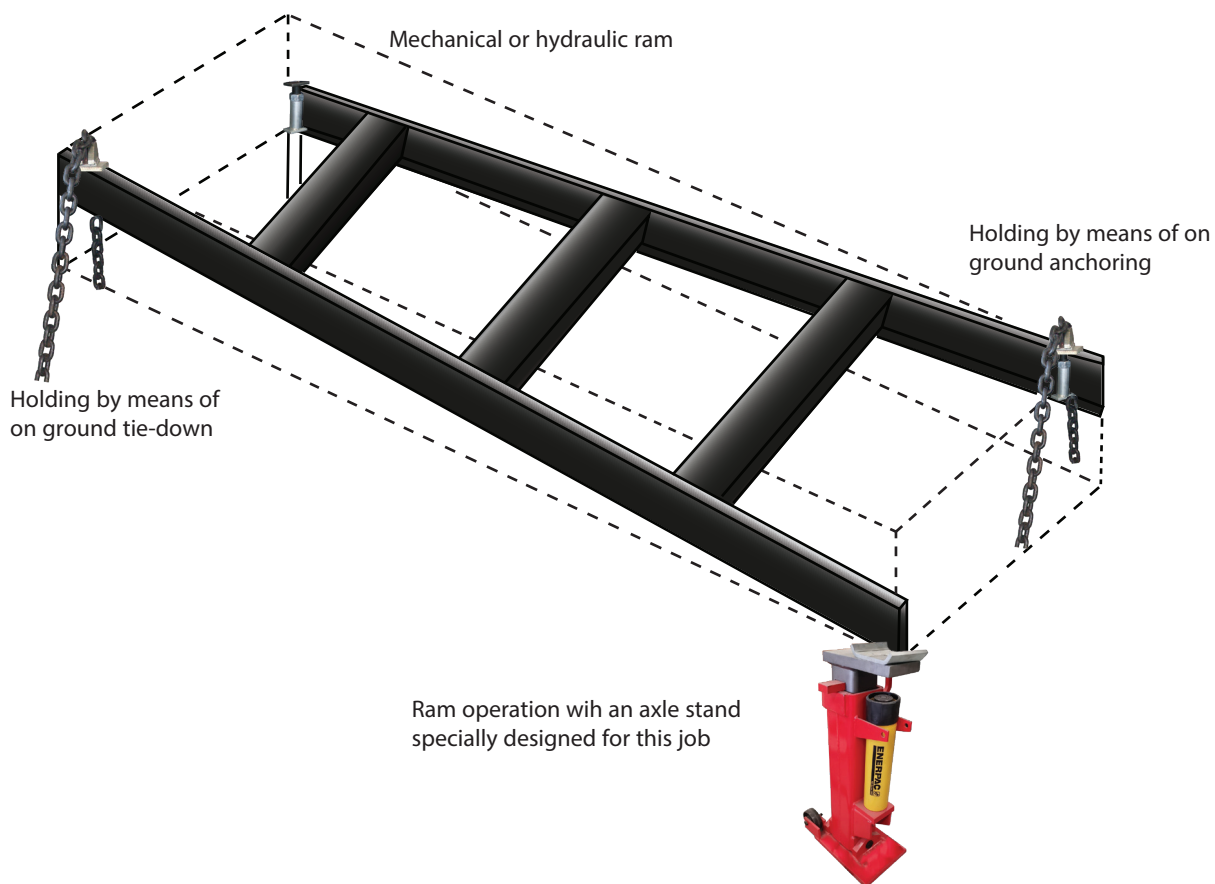


The straightening will be effected by means of 2 crossmembers with grooves equipped with slotted posts.

The one 1 in holding position, fixes on the sidemember by bolts. The other 2 equipped with a ram in pulling position by means of a chain.



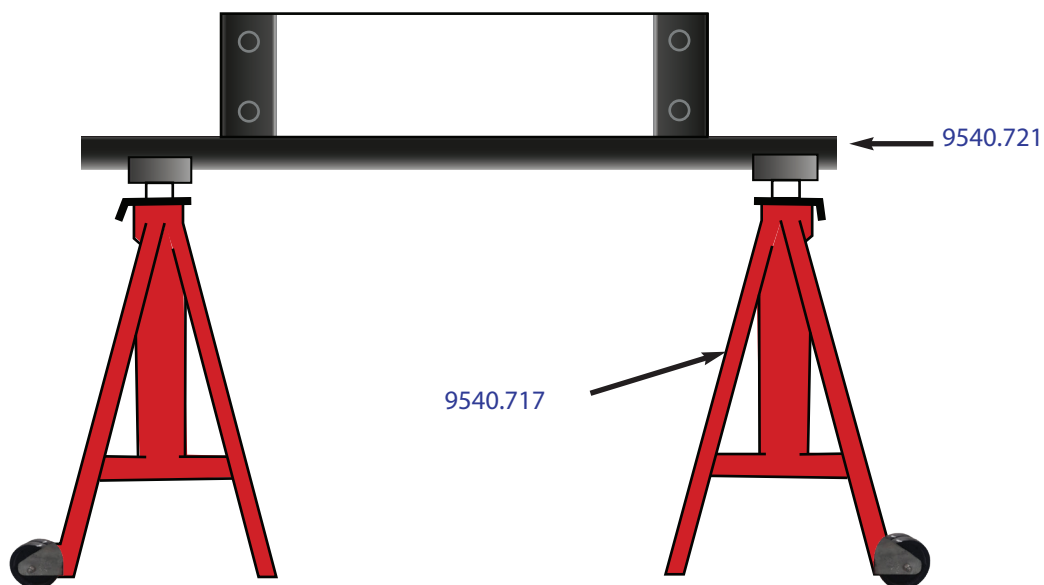
UNTWISTING



The untwisting is being effected by means of 2 ground anchoring points and by chains placed diagonally at the end of the upper chassis sidemembers.

A mechanical or hydraulic ram, actuated at the end of the diagonally opposed sidemember, will be placed in pushing position until the chains are tightened. At end of the other diagonally opposed sidemember, the axle stand designed for the untwisting will be positioned. The ram with an articulated base enables the swivelling, and is oriented in the same direction as the chassis during the untwisting operation

NOTE : In case of a chassis without mechanical units; 2 trestles are used to support the chassis



BPL 540

SAFETY INSTRUCTIONS

D



CELETTE

1) INDIVIDUAL PROTECTIONS

- Use gloves when handling the accessories.
- It is imperative to wear safety shoes .
- Use protection glasses during grinding operation : risk of throwing.

2) SHIFTING OF CROSSMEMBERS

- Check the correct locking of handles 959.7129 before any shifting.
- Locking of crossmembers.
 - Make sure that wedge sAT.9704.1 are duly equipped with corresponding pins .
 - Make sure that wheels are retracted, and that the pulling unit is correctly lying on the ground.
 - Crossmembers in transversal position :
effect the anchoring with 4 flanges 9540.708.21
 - Crossmembers in longitudinal position :
effect the front locking with 9540.713.21 + 9540.724
and the rear anchoring with 2 flanges 9540.708.21

3) ACCESSORIES ON STANDARD CROSSMEMBER

- Ram support 9540.706. Make sure that it is locked safely before placing the ram.
- Do not effect pulling operations before locking the ram into its support with the pin delivered with the support.
- To not leave accessories or heavy tools on the frame (hammer, pushing elements etc...)

4) ACCESSORIES ON CROSSMEMBER WITH SLOTS 9540.703.1

- The pulling unit 9540.705 will always be locked either directly against the crossmember rear end, or by means of a wedge, a screw ram 9540.716 or 731, or a flange 9540.708.21 + AT 9704.1
- Lock the pulling unit with the wedge.
- Always check the anchoring of accessories within vertical slots .

5) STECK ACCESSORIES

- All elements with simple fitting (steck) will be locked through pins B.81

6) JACK

- In case of an important shifting in height, direct the jack is such a way as to position the articulation according to the foreseen horizontal shifting.

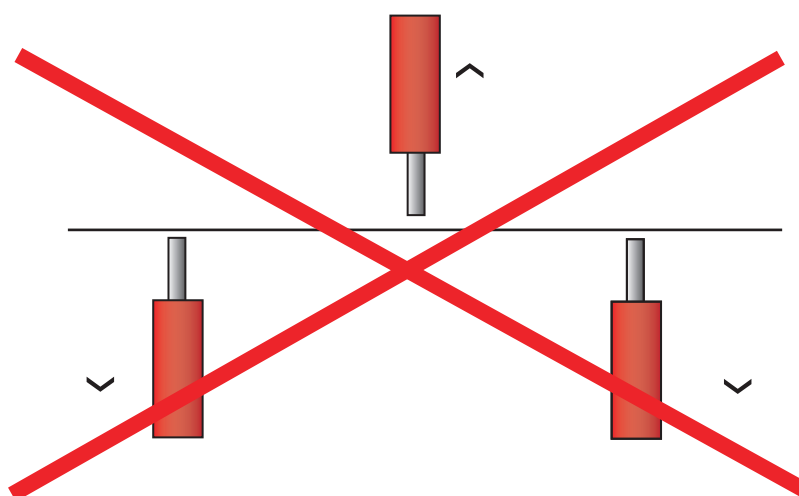


7) CONTROL BOARD HYP.50

- Regularly check the oil level. Use the hydraulic oil MOTUL.HM32 or equivalent.
- Check the cleanness of coupligs before connecting them to the rams.
- Always fold the pistons completely after use : risk of an important variation of the oil volume within the pump tank.

8) GENERAL SAFETY CONDITIONS

- Always respect the limit of utilization of each component.
- Follow the recommended pushing instructions.
- During straightening operations, stay away from the work area while moving the control board, and using the remote control system.
- Do not use 2 rams in opposition with one ram only.



BPL 540

SERVICING

E

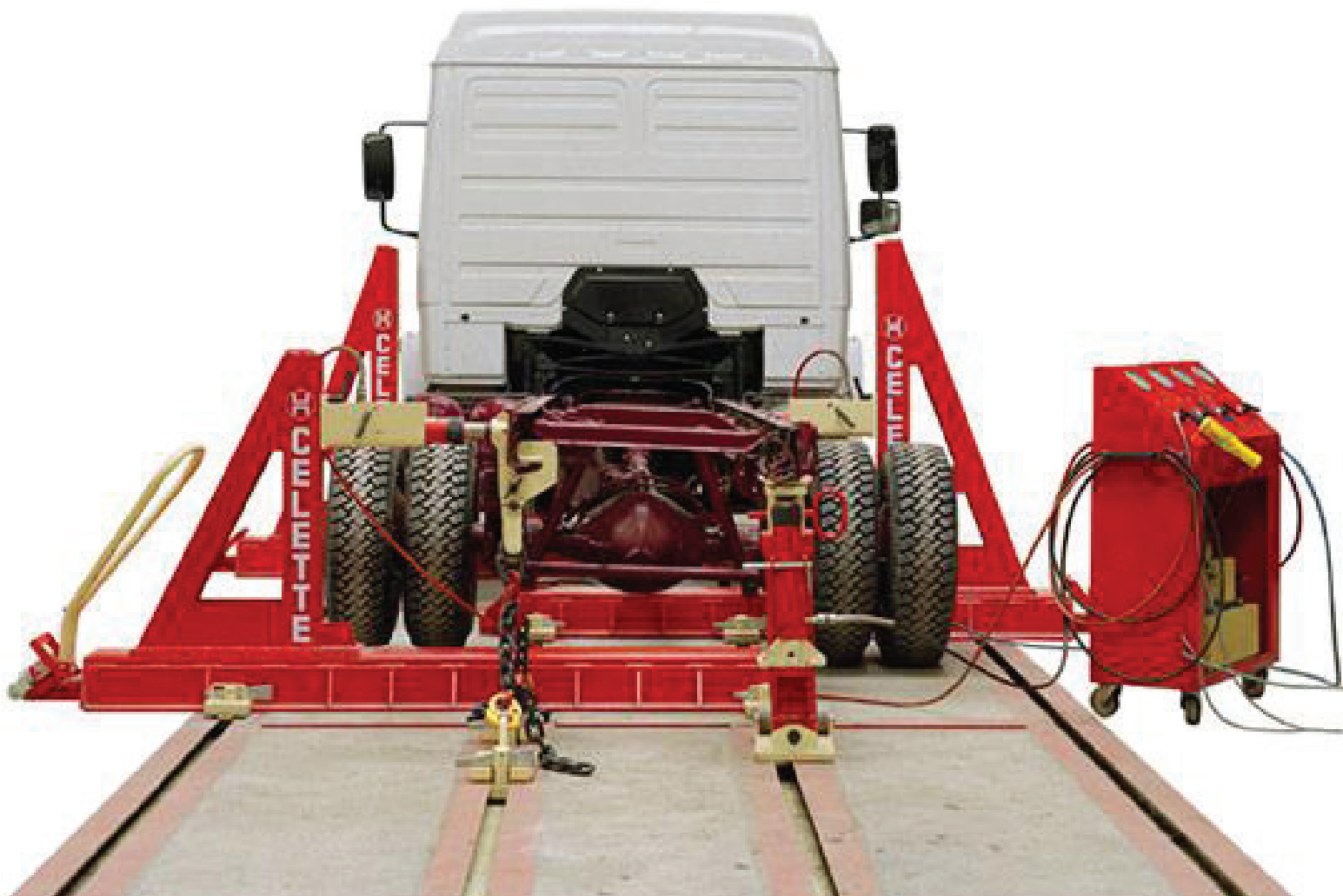
- Clean and lubricate the front and central parts of the crossmembers at least once a year.
- Regularly wipe the ram pistons.
- Clean the ram pistons regularly.
- Make sure that the hoses are in a good condition before each storage.



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BPL 540

LIST OF SPARE PARTS





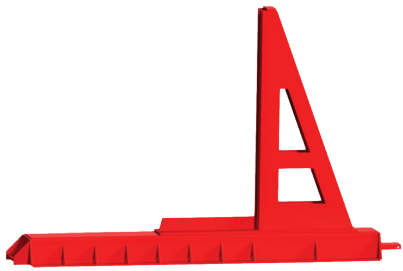
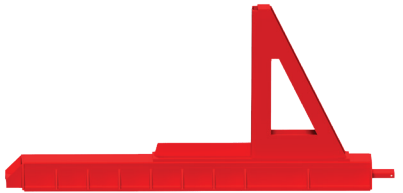
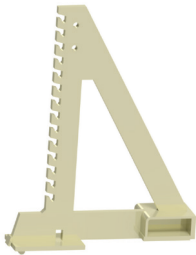
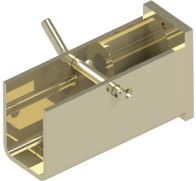
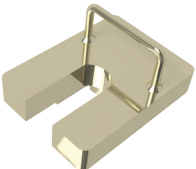
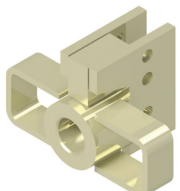
CELETTE®

ANCHORING TOOLS

SUPER
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STANDARD
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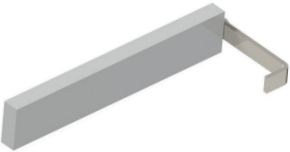
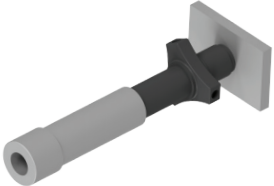
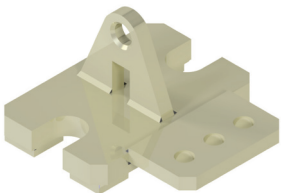
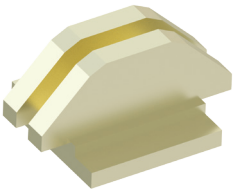
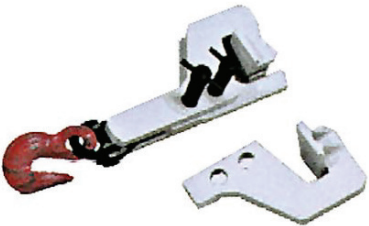
Customer
Composition

	Part N°	Châssis/Description	Qty	Qt	Qty
	9540.701.1	High pulling unit on crossmember	2	2	
	9540.702.1	Standard pullig unit on crossmember	1	0	
	9540.703.1	Crossmember with slots	2	1	
	9540.705	Pullig unit with gaps	2	1	
	9540.706	Tube for 20 or 30 t ram	3	2	
	9540.708.21	Crossmember rod	20	13	
	9540.709	Accessory holder for pulling unit with gaps	2	1	



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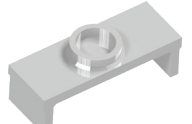
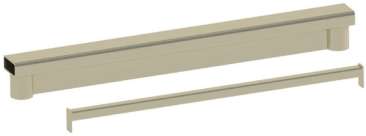
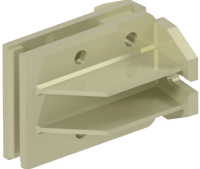
ANCHORING TOOLS

			03.BPL540.21 SUPER	03.BPL545.21 STANDARD	Customer Composition
	Part N°	Châssis/Description	Qty	Qt	Qty
	9540.710	Steck male pulling plate	2	0	
	9540.711	Plate to spread the load	4	1	
	9540.712	Screw-jack (mini 315mm - max 450mm)	2	1	
	9540.713.31	Chain anchoring block	4	0	
	9540.713.21	Chain anchoring block	2	4	
	9540.714	Orientable chain guide	2	2	
	9540.715	Clamp for U and I profiles (flanges 959.7121 not included)	2	1	



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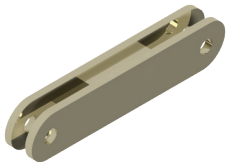
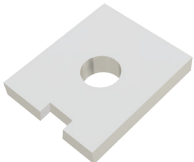
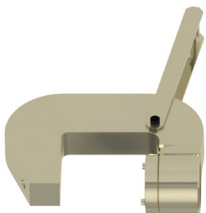
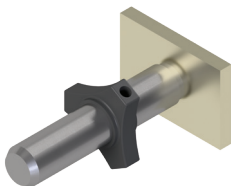
ANCHORING TOOLS

			SUPER 03.BPL540.21	STANDARD 03.BPL545.21	Customer Composition
	Part N°	Châssis/Description	Qty	Qty	Qty
      	9540.716	Supporting screw-jack for profiles (155-215mm)	2	2	
	9540.716.3	Key for screw-jack (60)	1	1	
	9540.717	Chandelle (sans la broche 959.7121)	4	0	
	9540.719	Ram supporting bridge on crossmember	1	1	
	9540.720	Ram supporting yoke	1	1	
	9540.721	Crossmember to support the frame (for axle stand)	2	0	
	9540.723	Rod for diagonal works	1	0	



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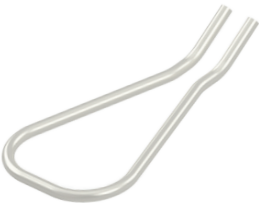
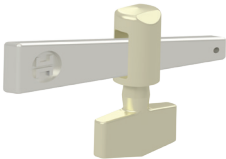
ANCHORING TOOLS

			03.BPL540.21 SUPER	03.BPL545.21 STANDARD	Customer Composition
	Part N°	Châssis/Description	Qty	Qty	Qty
	9540.724	Connecting rod	2	0	
	9540.727	Anchoring for transversal pulling on sidemember	1	0	
	9540.730.21	Double flange	2	0	
	9540.731	Supporting screw-jack for profiles (205mm -265mm)	2	2	
	9540.732	20t straightening press with lifting flange	1	0	
	9540.733	Supporting screw nut	2	0	
	9540.7121	Pin with safety system	16	2	



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ANCHORING TOOLS

			03.BPL540.21 SUPER	03.BPL545.21 STANDARD	Customer Composition
	Part N°	Châssis/Description	Qty	Qty	Qty
	959.7129	Beam for crossmember	2	1	
	959.7136	Long stroke jack	1	1	
	AT.9704.21.1	Work-holding axle with non-dismantable wedge	28	16	
	AT.1002.9.1	Work-holding wedge	2	0	
	BPL. TC542	Checking by measuring rods Supplied with wall support	1	0	
	HYA.8	Storage trolley for hydraulic components (accessories not included)	2	1	



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HYDRAULIC COMPONENTS AND ACCESSORIES

			03.BPL540.21 SUPER	03.BPL545.21 STANDARD	Customer Composition
	Part N°	Châssis/Description	Qty	Qty	Qty
	AV.3101	Serrated saddle	0	1	
	B.81	Locking pin	15	12	
	CN.3000.30	Chain Ø16mm link, 3m long	4	2	
	CR.210.30	Double hook	2	0	
	HYA.6	Hydraulic steel trolley (accessories not included)	1	2	
	HYA.151	5L oil tank (special)	1	1	
	HYP.1506	Hand pump, 2 speeds with 1,80m hose	1	1	
	HYP.2506	Oleopneumatic pump	0	3	



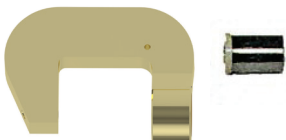
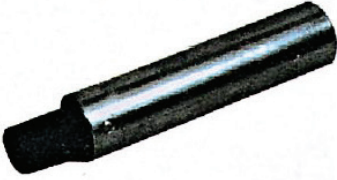
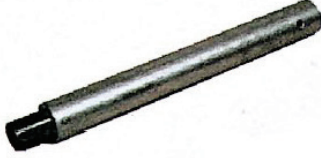
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HYDRAULIC COMPONENTS AND ACCESSORIES

03.BPL540.21
SUPER

03.BPL545.21
STANDARD

Customer
Composition

	Part N°	Châssis/Description	Qty	Qty	Qty
	HYP.50	Control board with hydro-electric pump, 4 exits with manometer	1	0	
	PRES.3104	10 and 4t straightening press	0	0	
	SC.15036F	Hydraulic kit 10t	1	0	
	SK.1105	10 t Steck male	1	0	
	SK.2201	125mm - 20 t Steck extension	4	3	
	SK.2202	250mm - 20t Steck extension	3	3	
	SK.2203	500mm - 20t steck extension	1	1	



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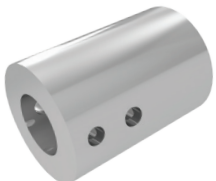
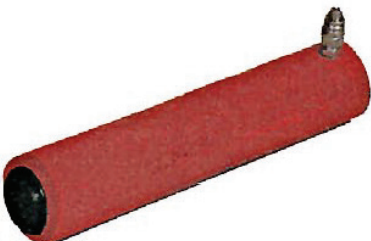
HYDRAULIC COMPONENTS AND ACCESSORIES

			SUPER 03.BPL540.21	STANDARD 03.BPL545.21	Customer Composition
	Part N°	Châssis/Description	Qty	Qty	Qty
	SK.3202	20t steck 90° «V» head	1	2	
	SK.3203	20t Steck serrated saddle	2	2	
	SK.3205	20t steck flat base	2	2	
	SK.3206	20t double Steck male connector	2	2	
	SK.3207	Steck male connector for 20t ram rod	4	3	
	SK.3208	steck male for 20t ram base	4	3	
	SK.3209	20t steck pushing head	2	1	
	SK.3203	20t steck spheric head	2	2	



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HYDRAULIC COMPONENTS AND ACCESSORIES

	Part N°	Châssis/Description	03.BPL540.21	03.BPL545.21	Customer Composition
			Qty	Qty	Qty
	SK.3211	20t double Steck female connector	2	2	
	VA10S.056	10t ram for straightening press	0	1	
	VV20S1.166	23t ram 160mm stroke	1	1	
	VV20S1.266	23t ram 260mm stroke	3	2	
	VV30S1.216	30t ram 210mm stroke	1	0	
	ENSEIGNE 05	BPL banner	1	1	

BPL 540



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