

The logo for SIVER, featuring the word "SIVER" in a bold, italicized, sans-serif font. The letters are white with a thick red outline. A registered trademark symbol (®) is located at the top right of the letter 'R'. The logo is centered on a thick, solid red horizontal bar that spans the width of the page.

SIVER®

That's what you need for efficient work!

Pulling system SIVER B

USERS MANUAL & PASSPORT

**CJSC «Siver»
Kaluga, Russia
2009**

WARRANTY & LIABILITY

Closed joint stock company Siver warrants for one year from date of purchase any of its products which do not perform satisfactorily due to defect caused by faulty material or workmanship.

Saver's obligation under this warranty is limited to the repair or replacement of products which are defective and which have not been misused, carelessly handled, or defaced by repair or repairs made or attempted by others.

CJSC SIVER does not assume responsibility for any death, injury or property damage resulting from the operator's negligence or misuse of this product or its attachments.

Claim information

The consumer puts in claim to manufacturer according with existing industrial products supply regulations. No returned components will be accepted without damage claim with complete explanation of breakdowns reasons. Damage claim must include names of parts and assembly units, time and place of breakdown identification as well as the detailed circumstances of breakdown.

All returned merchandise must be shipped freight prepaid to:

Closed joint stock company Siver, 27 Novoslobodskya st., Kaluga, 248025, Russia tel.: +7 4842 79 18 04 or to Your local dealer.


Certified

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This manual is designed as an owners manual and as a training tool for SIVER B series pulling machine. It provides information on system components, assembly, basic setup, safe operation, maintenance, and general safety tips.



Complete safety information is highlighted throughout this manual and is identified using this safety alert symbol . Operator injury may result if these caution notes are not followed.



DO NOT attempt to operate a SIVER B series machine without first viewing the training video and completely reading the users manual.

1

General safety tips

General



DO NOT operate this machine unless:

- You are authorized in writing by your employer.
- Load is 2000 kg or less.
- Field of motion of load carrying device is free of persons and obstructions.



Persons operating the repair system must be at least 18 years of age, must be trained in the operation of SIVER B pulling system.



Maintain a free space of 50 cm minimum around all moving parts and pinch points on machine.

Pulling device movement



All pulling devices are properly secured to machine: two threaded pins must be fully involved to prevent pulling device movement during the pulling procedure or system movement.



Keep hands away from all pinch points: roller assemblies on bottom mainframe plate and force clamp pinning location on top mainframe plate. DO NOT try to check coaxiality of holes by your fingers.

Pulling



To avoid severe personal injury to yourself and others: DO NOT position yourself close to, or in line with chains, clamps, or other accessories while pressure is applied to this system.



To prevent personal injury from flying elements of pulling system check for serviceability all bolts, nuts and clamps prior start using pulling system.

Raising/lowering machine



Lifting of persons is prohibited.



To prevent frame falling during raising /lowering the frame make sure that knob on rolling jack is in hole on lifting bracket.

Loading/unloading machine



Prior driving or winching a vehicle on or off the machine, make sure all ramps and rolling cart are installed correctly.



When driving or winching vehicle on or off machine, use helper to guide you. If vehicle's brakes are inoperable, use a winch and refer to packaged instructions with that accessory.



DO NOT run over air hoses or hydraulic lines when loading or unloading vehicles.



DO NOT exceed the machine's 2000 kg lifting capacity.

Chain

The 3/8" tower chain is proof tested to 10 t.

Chain must be clean.

Tower chains must be inspected for wear, nicks, gouges, stretched and bent links. If found, replace chain. For fixing a chain to column of pulling device use only handy link.



To avoid personal injury or damage to property, DO NOT:

- Heat chain or hook while repairing vehicle. 316 degrees C of heat on chain will weaken it.
- Tip load chain hook.
- Pull with twisted chain links.

Hydraulics



Always release hydraulic pressure before disconnecting hydraulic hoses.



Improper handling and/or modification of parts is forbidden and may cause a hazardous situation for the user. Such action immediately voids the guarantee and releases the manufacturer from all liability.



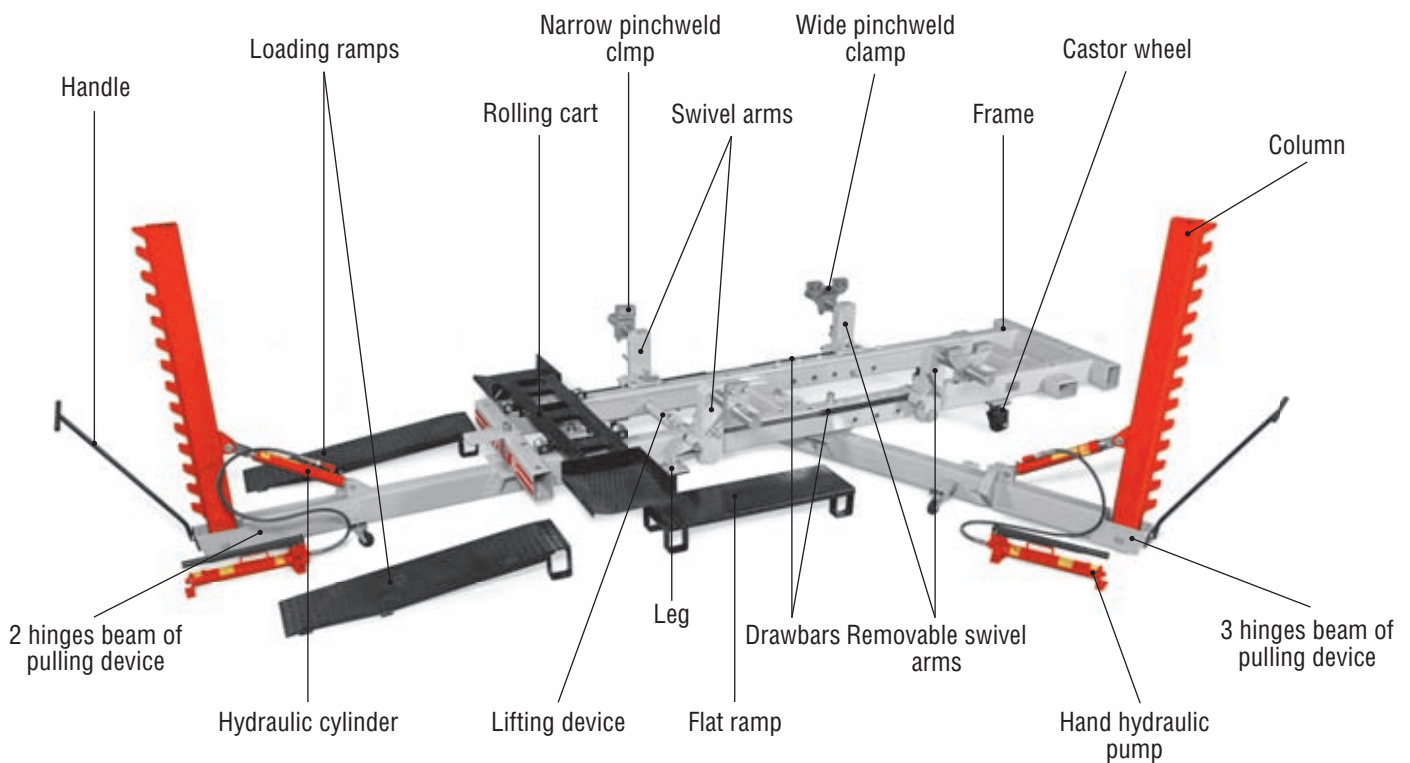
Keep foot pump in upright position. DO NOT turn foot pump upside down or lay on its side.



Locate pump only outside the frame.

Pulling system SIVER B is intended for collision repair of passenger cars and SUV's.

For securing bodies without pinchweld of a rocker (sill) panel and frame vehicles specially designed clamping adapters are used (available as an option).



Pulling system SIVER B can be equipped with one or two pulling devices.

	Siver B-110	Siver B-210
Frame length, mm		3800
Frame length with pulling devices, mm	5500	7200
Frame width, mm		1000
Machine width with swivel arms, mm		1800
Machine width with pulling devices, mm	2700	4400
Machine height, max, mm		1600
Weight, kg	700	800
Lift capacity, kg		2000
Hydraulics, t	10	10/10

Frame

Assemble the frame.

Required instruments: wrench kit, hammer and rolling jack.

Put the frame on the floor where you want to install it.

- Raise the rear of frame, using rolling jack (photo 1).



Photo 1

- Install legs to the frame, using bolts M10*20. Lower the frame (photo 2).

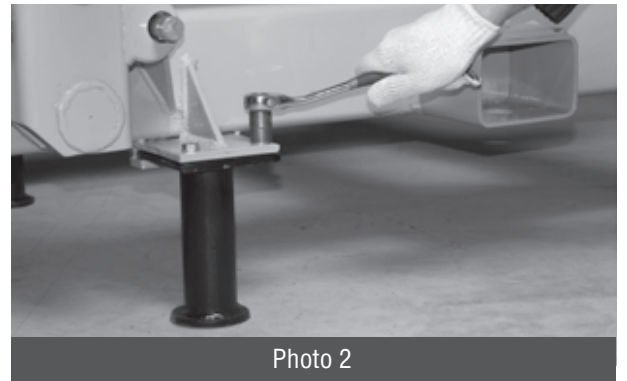


Photo 2

- Raise the front of frame, using rolling jack.

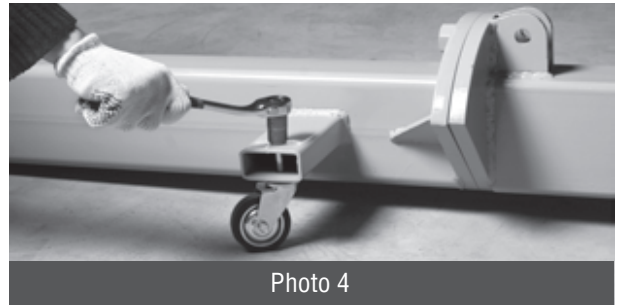
- Install castor wheels to frame, using bolts M10*20. Then lower the frame (photo 3).



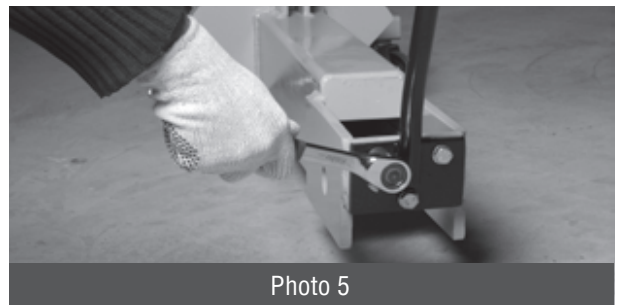
Photo 3

Pulling devices

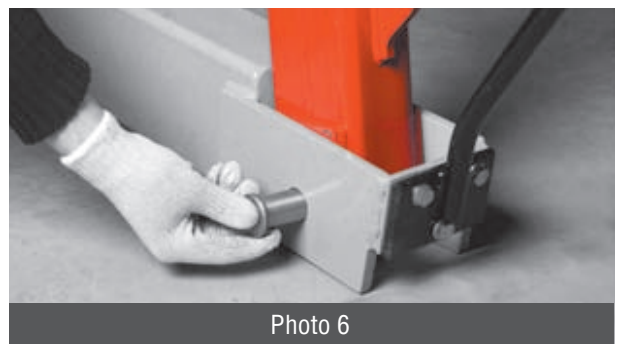
- Install castor wheels on beam of pulling device, using bolts M10*55 (photo 4).



- Install handle, using bolts M10*20 (photo 5).



- Put the column of pulling device in beam's bracket and fix it by axle with washer and split pin (photo 6).



- Put adapters in hydraulic cylinder and fix them by bolts (photo 7).



- Install hydraulic cylinder in brackets of pulling device and fix it by pins with washers and split pins (photo 8). Connect the pump hose to hydraulic cylinder.
- In the same manner assemble the second pulling device.



The 3/8" tower chain is proof tested to 10 t.

Installing a vehicle

- Measure the pinchweld length (photo 9).



Photo 9

- Adjust the anchoring base in accordance with pinchweld length and type of damage (photo 10). Possible anchoring base length: 1000 mm, 1140 mm, 1280 mm, 1420 mm, 1560 mm and 1700 mm.



Photo 10

- Install the removable swivel arms in accordance with chosen anchoring base length. Fix the arms in chosen positions by pivot with washer, bolting together swivel arm and drawbar to the frame (photo 11).



Photo 11

NOTE: Possible to adjust different anchoring base lengths on the left and right sides.



Rocker sill panel in places of anchoring is supposed to be cleaned up from dust and primer to the metal layer and aligned.

- Put a hydraulic cylinder* in brackets of lifting device and fix it by pins and bush.



Locate pump only outside the frame.

- Raise the rear of frame by rolling jack to remove legs, and then lower the rear of frame on the ground.

* Standard complete set does not include hydraulic cylinder of lifting device. For it can be used hydraulic cylinder of pulling device.

- Locate loading ramps.

- Install the rolling cart in the front of frame and roll it in the beginning of the rear of frame (photo 12).

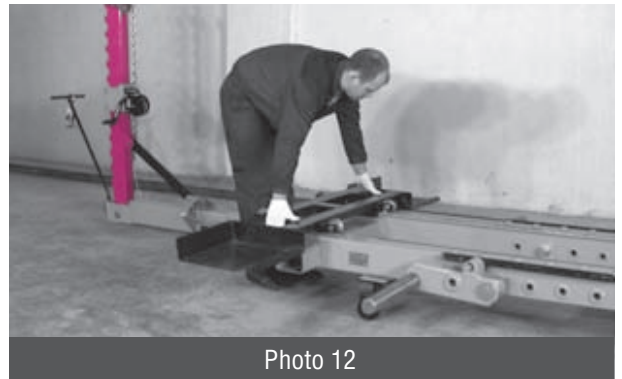


Photo 12

- Using a helper, center vehicle and drive up front wheels (in order of driving direction) by loading ramps on rolling cart. Keep driving approximately for 1 m, then install flat ramps write after loading ramps from the both sides of machine.
- Drive on the vehicle to required position for anchoring (photo 13).



Photo 13



When driving or winching a vehicle on or off machine, use helper to guide you.

NOTE: Even if vehicle's brakes are inoperable it can be installed on the frame using optional winch. For it perform following actions:

- Install a pulling device in "A-0" position, and fix it by two threaded pins, in the front of frame (photo 14).

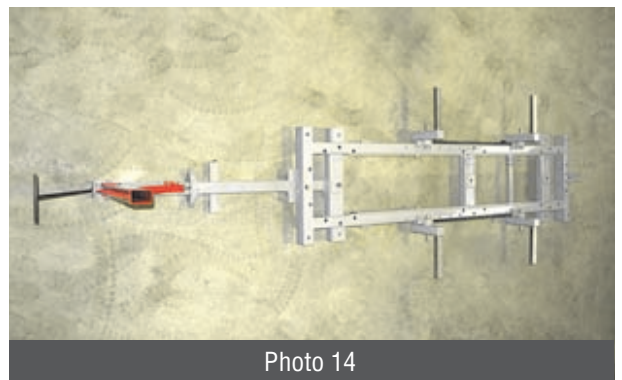


Photo 14

- Install the winch on pulling device.
- Loosen winch cable, fix it to the vehicle and winch vehicle on the frame (photo 15).



Photo 15

- Pass the clamps through rollers of removable swivel arms. Slacken all clamps bolts and slide the jaws apart as wide as possible.

- Keep raising swivel arms till rocker panel pinchweld fits completely into the clamps by turning on hydraulic pump connected to a hydraulic cylinder of lifting device. Draw up all clamps bolts (photo 16).

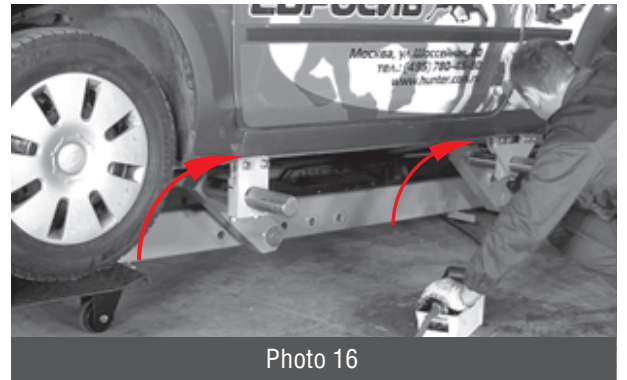


Photo 16

- Continue raising swivel arms till their vertical position. Install clips for all 4 swivel arms using bolts M16*30. Insert cone pins through the holes of clips and swivel arms (photo 17).

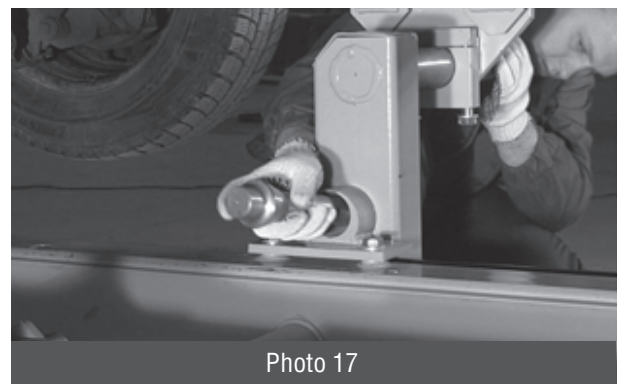


Photo 17

- Lock in swivel arms by hammering keys in cone pins holes (photo 18).



Photo 18

- Tighten fixing clamps bolts (photo 19).

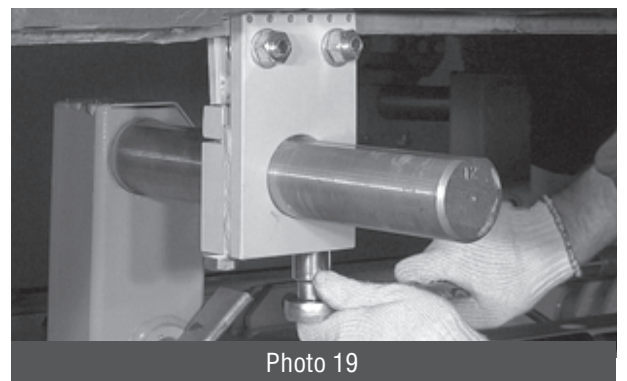


Photo 19



Clamps fixing bolts must be retightened after primary pulling.

- Remove all ramps.
- Easy open the valve of hydraulic pump connected with cylinder of lifting device. Disconnect hydraulic pump from cylinder. Take out fixing bolts from the brackets of lifting device, take off hydraulic cylinder and install it in pulling device (see chapter “Assembly of pulling devices”).
- Raise the frame until it in vertical position using rolling jack and then install legs to frame.
- Lower the frame and take away rolling cart.

The machine is ready for using.

Fixing the pulling devices

Pulling system Siver B is supplied with 2 and 3 hinges pulling devices. 3 hinges pulling device provides more accurate pulling direction.

- There are following places of fixing pulling devices to the frame: A, B, C, D1-D4. A and C places provide 9 various positions, B – 6. Each of D1-D4 places of fixing pulling devices has one fixing position (Figure 1).

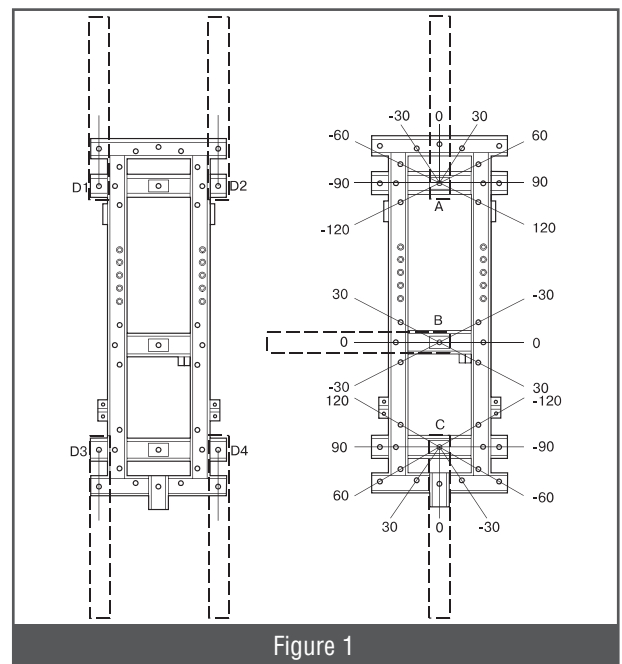


Figure 1

- Choose required tilting angle of 3 hinges pulling device and fix its beam by bolt and washer in one of five positions (figure 2).

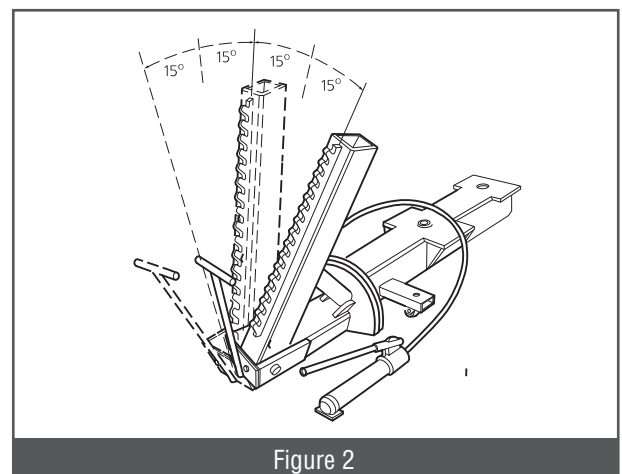
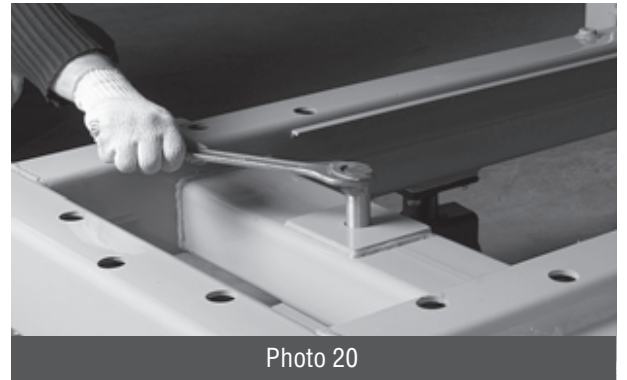
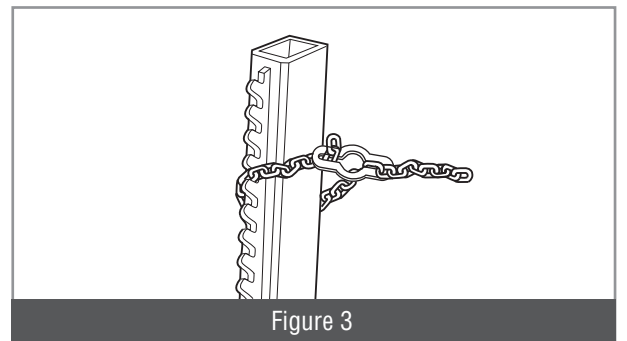


Figure 2

- For fixing pulling device to the cross beam use long threaded pin and for fixing it along the frame's perimeter use short threaded pin (photo 20).



- For fixing a chain to column of pulling device use handy link (figure 3).



- Connect the hose with hydraulic cylinder and pump. Locate the pump outside the frame.

Unloading a vehicle

- Uninstall pulling devices and move them away.
- Install hydraulic cylinder in brackets of lifting device and fix it by two pins.
- Pump hydraulic cylinder until deterioration of a limit valve.
- Slacken fixing bolts on the each clamp.
- Hammer off all keys from cone pins.
- Take out all con pins and clips.
- Install rolling cart, flat and loading ramps.
- Raise the rear of frame, using rolling jack and remove legs. Then lower frame and roll away jack.
- Easy open hydraulic pump's valve and lower a vehicle on rolling cart and flat ramp.
- Slacken all clamps bolts and take clamps off from swivel arms.
- Drive the vehicle off machine.

These components should be checked prior to use and anytime a problem is suspected.

Chains

- Clean chain before inspecting.
- Inspect each link for wear, nicks, gouges, stretched or bent links. If found, replace the chain.



To avoid personal injury or damage to property, DO NOT:

- Heat chain or hook while repairing vehicle. 316 degrees C of heat on chain will weaken it.
- Pull with twisted chain links.

Lifting device

Clean dirt and grease from all pivot points and lubricate them every two months.

Optional clamping adapters



BMW



BMW E39



MB

Accessories



Handwinch



Anchoring adapter for winch



Electric winch

		SIVER B-110	SIVER B-210
1	Frame in gathering		1
1.1	Frame		1
1.2	Removable swivel arm		2
1.3	Pivot		2
1.4	Swivel arm		2
1.5	Clip		4
1.6	Fasteners for arms (bolts M16*30)		8
1.7	Cone pin		4
1.8	Key		4
1.9	Drawbar		2
1.10	Drawbar threaded pin		4
1.11	Bush pin		1
1.12	Fasteners for cylinder (pin, washer 20)		1
1.13	Bush		1
1.14	Pin		1
1.15	Leg		2
1.16	Fasteners for legs (bolts M10*20)		4
1.17	Castor wheel		2
1.18	Fasteners for castor wheels (bolts M10*20)		8
1.19	Rolling cart		1
1.20	Flat ramp		2
1.21	Loading ramp		2
1.22	Narrow pinchweld clamp		2
1.23	Wide pinchweld clamp		2
2	Pulling device in gathering	1	2
2.1	3 hinges beam		1
2.2	2 hinges beam		1
2.3	Column	1	2
2.4	Fasteners for column (pin, washer, split)	1	2
2.5	Hydraulic cylinder 10 t	1	2
2.6	Fasteners for hydraulic cylinder (pins, washers 20)	2	4
2.7	Adapters for cylinder	2	4
2.8	Handle	1	2
2.9	Fasteners for handle (bolts M10*20, washers, nuts)	3	6
2.10	Castor wheel	2	4
2.11	Fasteners for castor wheel (bolts M10*55)	2	4
2.12	Short threaded pin	1	2
2.13	Long threaded pin	1	2
2.14	Fasteners for 3 hinges beam (bolt, washer)		1
3	Accessory package		1
3.1	Metal box		1
3.2	Chain with hook	1	2
3.3	Handy link	1	2
3.4	Small mouth pull clamp, 5 t		1
3.5	Box clamp, 3 t		1
3.6	Mini clamp, 3 t		1
3.7	Frame rack clamp, 5 t		1
4	Users manual & passport		1

Pulling system SIVER B –

Serial number:

Issue date: « _____ » _____ 20 year

Collected by:

Engineer of QCD

Date of sale « _____ » _____ 20 year

Seller:

Contact information

Seller's signature :

Seller's stamp:

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