

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

**SIVER**®

**That's what you need for efficient work!**

# **Pulling system SIVER A**

**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.

Siver'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 put 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**


Certified

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This manual is designed as an owners manual and as a training tool for SIVER A series frame alignment machines. 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 A 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 A pulling system.

Before start working make sure that all split pins are secured by pins.

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

It is strongly recommended to center a vehicle on the frame precision.

### Pulling devices



All pulling devices are properly secured to the 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.

## 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.

Fox 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.

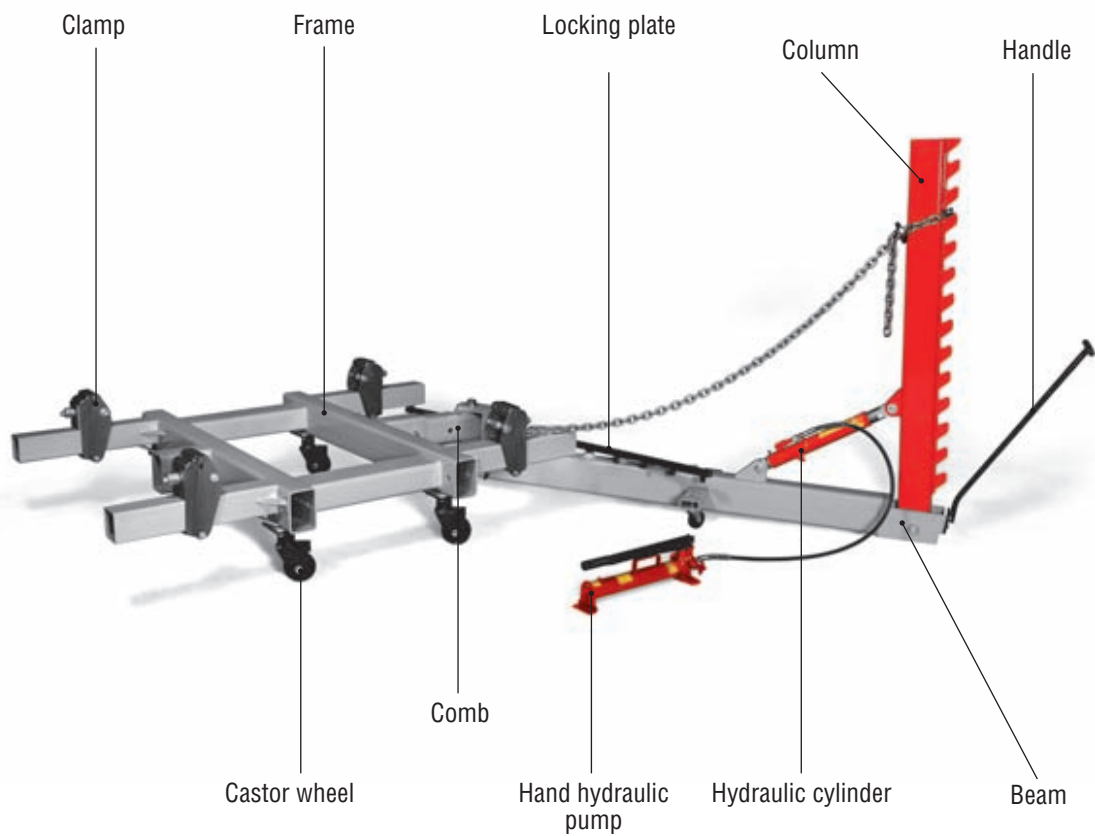


Keep foot pump in upright position. DO NOT turn foot pump upside down or lay on its side.



Locate pump only outside the frame.

Pulling system SIVER A is intended for collision repair of passenger cars with a pinchweld of a rocker (sill) panel.



	Siver A-110	Siver A-210
Frame length, mm		1900
Frame length with pulling devices, max, mm	3500	5000
Frame width, max, mm		1450
Machine width with pulling devices, mm	3100	4730
Machine height, max, mm		1600
Weight, kg	660	560
Lift capacity (kg)		2000
Hydraulics (t)	10	10/10

**Frame**

Assemble the frame.

Required instruments: wrench kit and pliers.

Put the frame on the floor upside down for tightening the wheels to the frame.

- Install 4 castor wheels to the frame, using bolts M10\*20 (photo1).

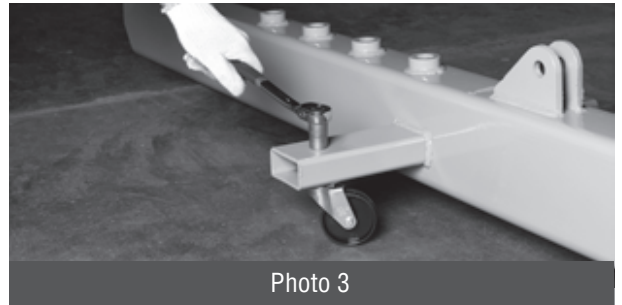


- Put the frame on the wheels (photo 2).

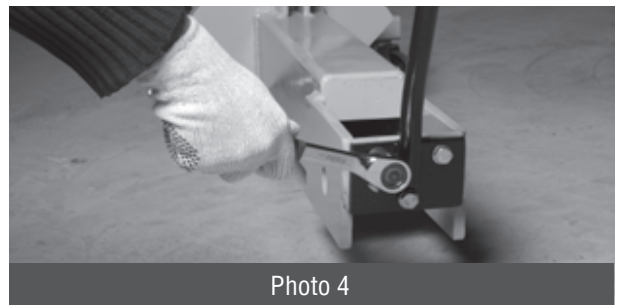


## Pulling devices

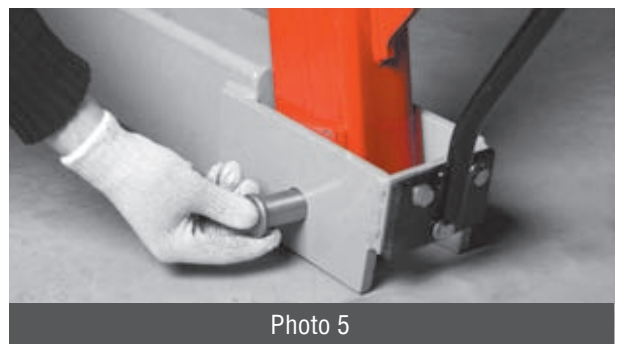
- Install castor wheels on beam of pulling device, using bolts M10\*55 (photo 3).



- Install handle, using bolts M10\*20 (photo 4).



- Put the column of pulling device in beam's bracket and fix it by the axle with washer and split pin (photo 5).



- Put the adapters in hydraulic cylinder and fix them by bolts (photo 6).



- Install hydraulic cylinder in brackets of the pulling device and fix it by pins with washers and split pins (photo 7). 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

- Drive up a car to the chosen place for installing it on the frame.
- Raise a car using rolling jacks on the each side; it is required for rolling the frame under the car.
- Roll the frame under the center of the car. Slacken all clamps bolts and slide the jaws apart as wide as possible. Then install 4 clamps on the frame under the car's pinchweld.
- Lower the car on the clamps so that pinchweld fits between the clamp's jaws.
- Tighten all clamping bolts.



Always use a helper for installing a vehicle on or off the frame.



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

**The machine is ready for using.**

### Fixing the pulling devices

- There are following places of fixing pulling devices to the frame: A, B, C, D, E and F. Each of these places provides 10 various fixing positions. It allows making pulls in any direction around the car (figure 1).

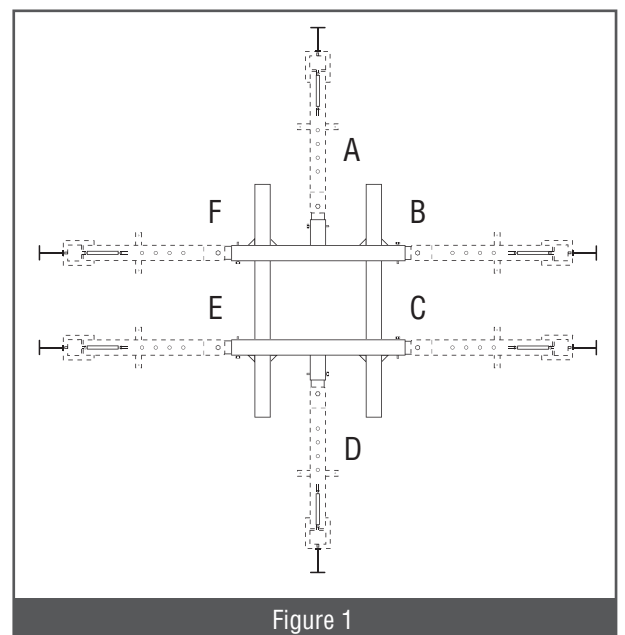


Figure 1



- Insert the fixing comb in the frame's beam and fix it by lock pin (photo 8).

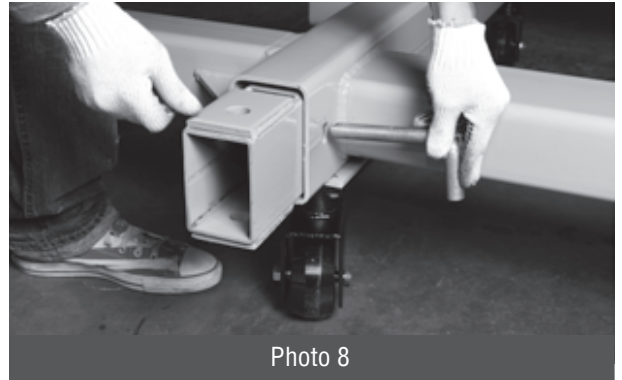


Photo 8

- In any fixing place of pulling device to the frame it is fixed by threaded pin (photo 9)

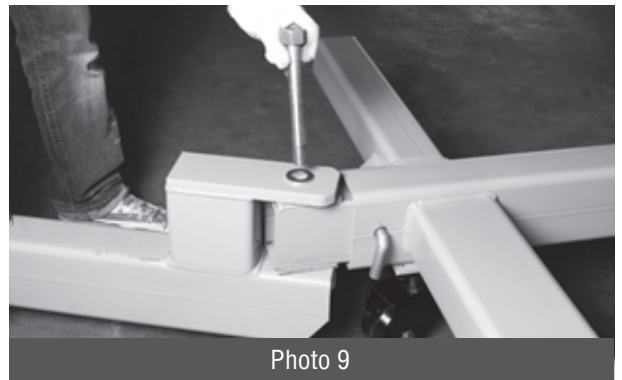


Photo 9

- And for fixing exact position the pulling device is used locking plate (photo 10).

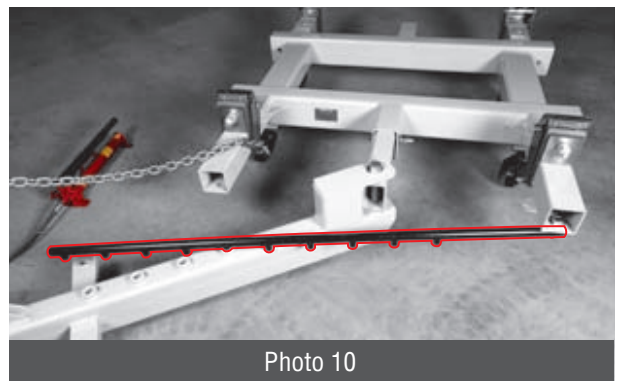


Photo 10

- For fixing a chain to the column of pulling device use handy link (figure 2).

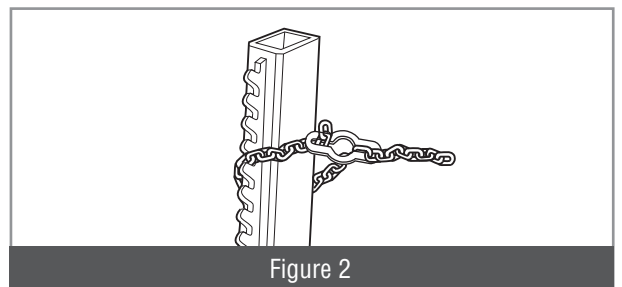


Figure 2

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

### Unloading a vehicle

- Uninstall pulling devices and move them away.
- Slacken fixing bolts on the each clamp.
- Using rolling jack lift a car and roll out the frame.
- Lower a car on the ground.
- Locate the frame in any place for storage.

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

- 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.
- Check the condition of wheels before use the frame, keep them clean.

		SIVER A-110	SIVER A-210
1	Frame in gathering		1
1.1	Frame		1
1.2	Castor wheel		2
1.3	Fasteners for castor wheels (bolts M10*20)		16
1.4	Clamp in gathering		4
2	Pulling device in gathering	1	2
2.1	Beam	1	2
2.2	Column	1	2
2.3	Fasteners for column (pin, washer, split)	1	2
2.4	Hydraulic cylinder, 10 t	1	2
2.5	Fasteners for hydraulic cylinder (pins, washers 20)	2	4
2.6	Adapters for cylinder	2	4
2.7	Hand hydraulic pump	1	2
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	Threaded pin	1	2
2.13	Comb	1	2
2.14	Fasteners for comb (lock pin, washer, split)	1	2
2.15	Locking plate	1	2
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	Users manual & passport		1

Pulling system SIVER A –

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:

**WWW.SIVER.SU**

**CJSC «SIVER» reserves the right to alter product specifications, accessories and/or package components without notice.**

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