



SIVER[®]

That's what you need for efficient work!

INGROUND PULLING SYSTEM SIVER H SIVER HV

USERS MANUAL & PASSPORT

**CJSC «Siver»
Kaluga, Russia
2011**



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 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


Certified

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This manual is designed as an owners manual and as a training tool for SIVER H 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 H 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.
- All towers are properly secured to machine.
- Load is 2000 kg or less.
- Field of motion of load carrying device is free of persons and obstructions.


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


Maintain a free space of 50 cm minimum around all moving parts and pinch points on machine. DO NOT move machine if a vehicle is on it.

Tower movement

 Keep hands away from all pinch points and holes.

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 objects check for serviceability of 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.



The chain should be passed under the lower collar, and then over upper one; or over upper collar, and then lower one if necessary to direct the effort of extract downwards.



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.

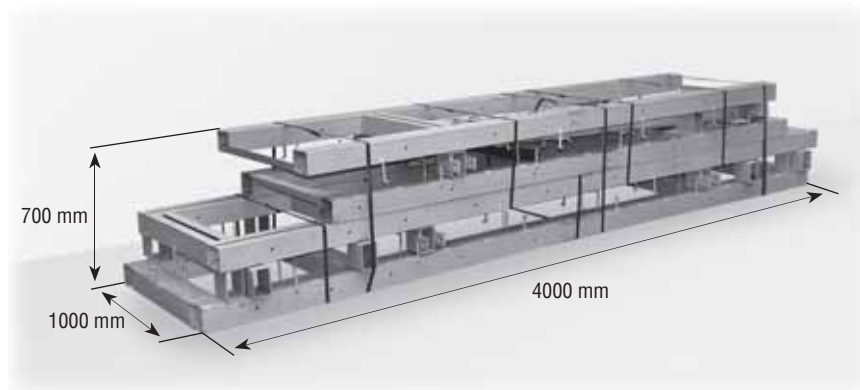
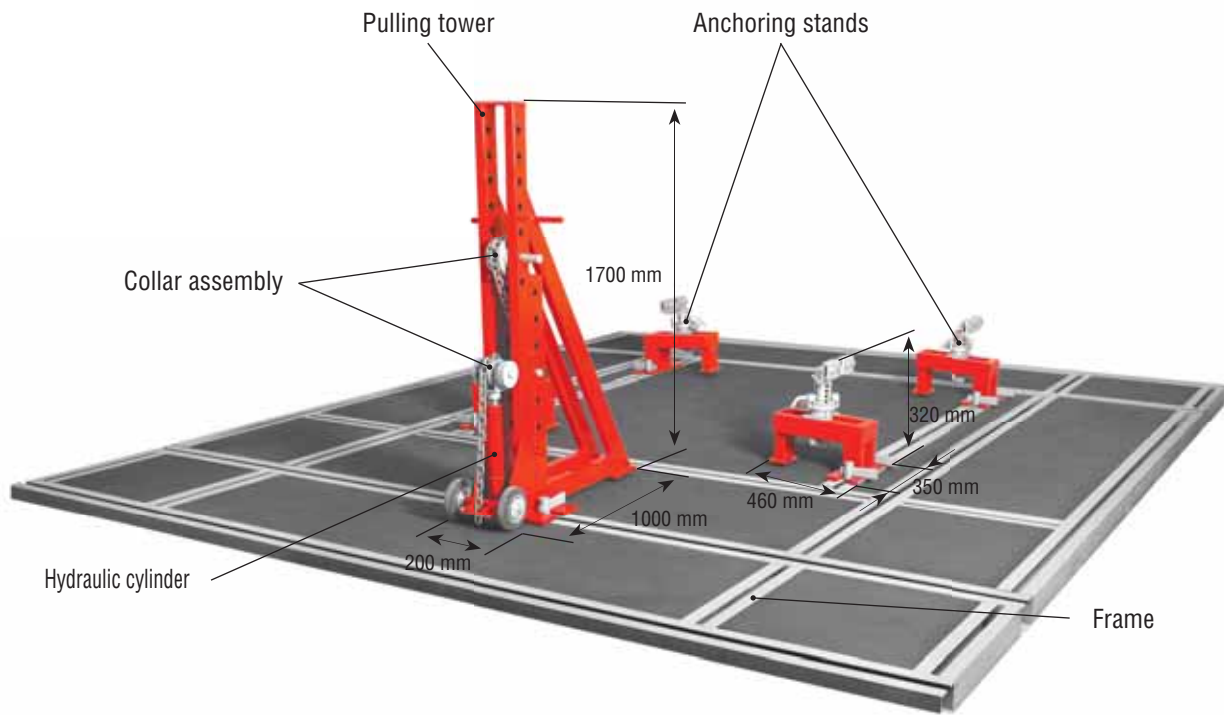


Improper handling and/or modification of parts is forbidden and may cause a hazardous situation for the user. Such action immediately voids the guarantee and releases the manufacturer from all liability.



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

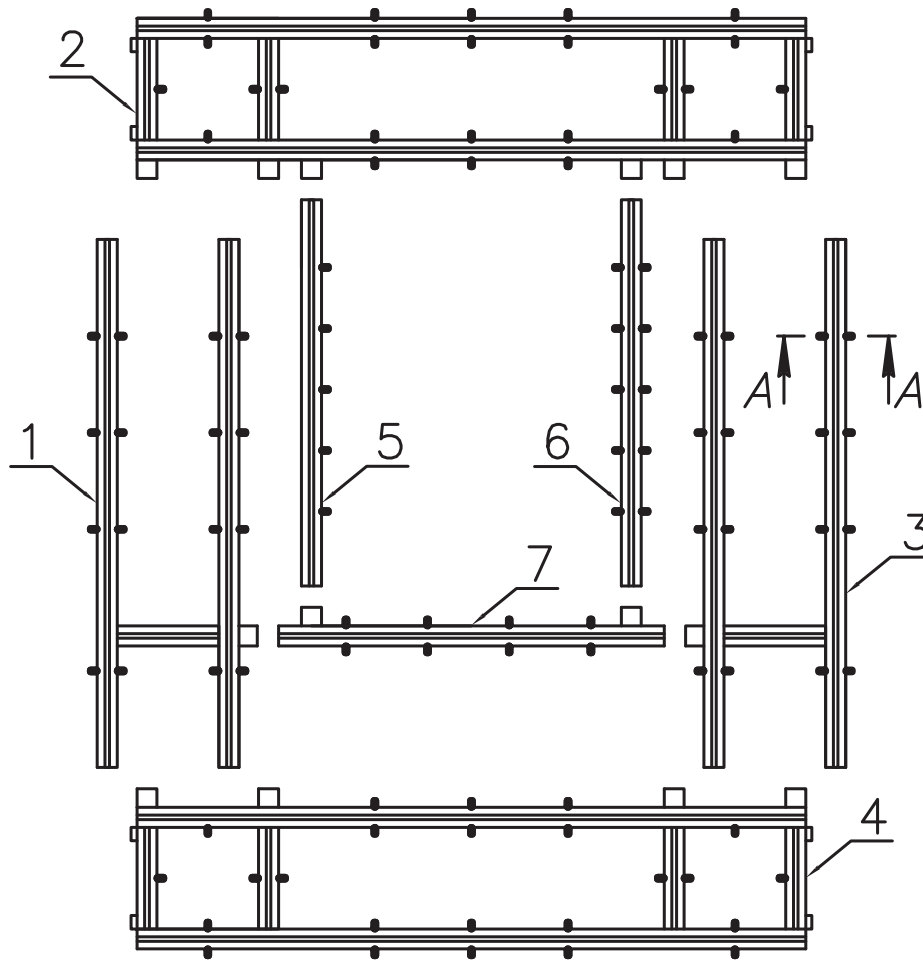
Pulling system SIVER H is intended for collision repair of damaged vehicles with rocker (sill) panel. For securing bodies without pinchweld of a rocker (sill) panel and frame vehicles specially designed clamping adapters are used (available as an option).



Pulling systems SIVER H/HV in standart configuration equipped with one or two pulling devices.

| | Siver HV-110 | Siver HV-210 | Siver H-110 | Siver H-210 |
|--------------------------|--------------|--------------|-------------|-------------|
| Frame length, mm | 4822 | | | |
| Frame width, mm | 3920 | | | |
| System's height, max, mm | 1746 | | | |
| Weight, kg | 1250 | 1350 | 1250 | 1350 |
| Lift capacity, kg | 2000 | 2000 | 2000 | 2000 |
| Quantity of towers, pc. | 1 | 2 | 1 | 2 |
| Hydraulics, t | 10 | 10/10 | 10 | 10/10 |
| Controls | hydraulic | | | |

Floor-mounted frame

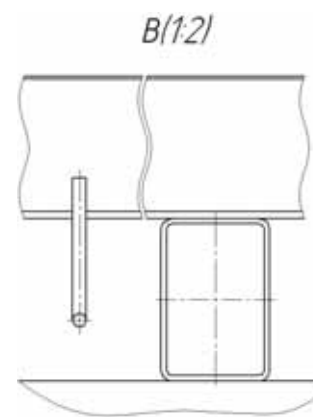
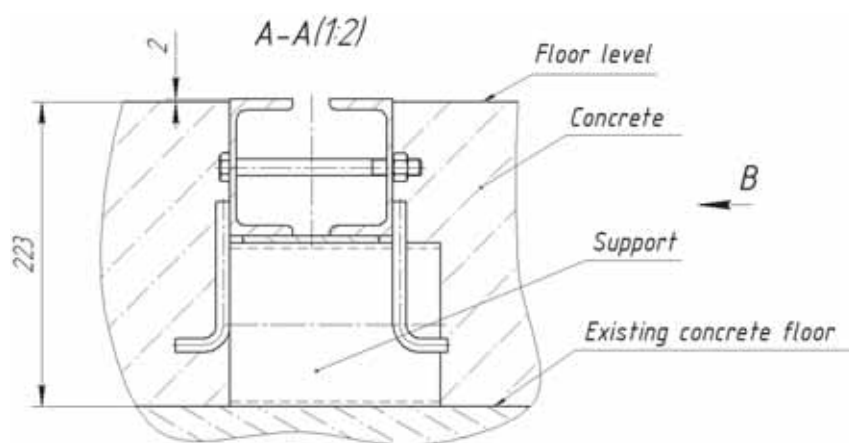
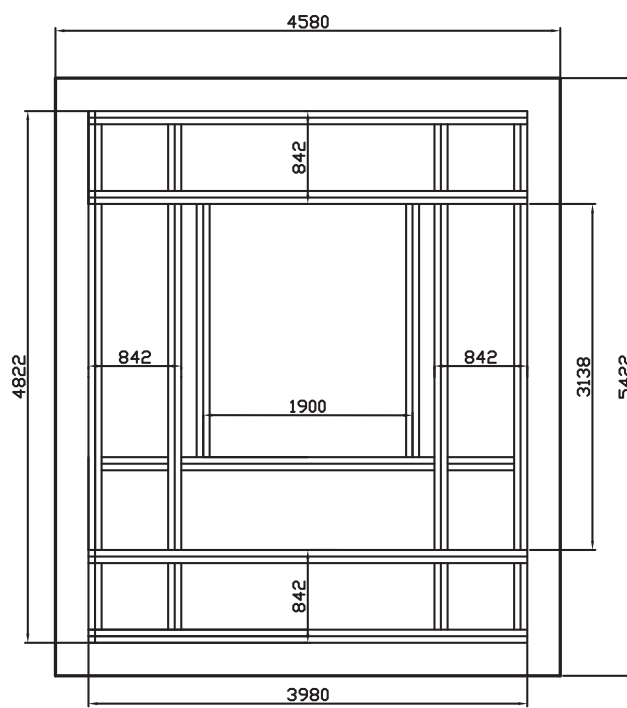


Assemble the platform.

Required instruments: wrench kit and carpenter's level.



1. For installation and assembling the frame it is possible to use as existing concrete floor, and specially prepared pit with the concrete basis.
2. The frame securing on the support (the pipe 120x80) levelling horizontally (if necessary use spacers of different thickness) according to the scheme of Assemblage floor-mounted frame with one workers place.
3. Fill in with a mix of concrete W6 to floor level.
4. Let the concrete to harden before starting to work on the frame (full time hardening of concrete 28 days).



Anchoring a vehicle on the frame

Load the car on a frame and locate it close to the place where you would like to anchor the body on the stands. Get into gear (mode Parking on Automatic Gears) and parking brake.



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

- Lift entire side of vehicle high enough to install anchoring stands at both front and rear of center section.
- Lift the vehicle using jacks on height, sufficient for installation stands on a frame in a forward and back part of the car.

Install clamps on the stand assembly and locate them on approximate place of fixing.

- Install and secure anchoring stands on the frame using keys and pins (photo 1).

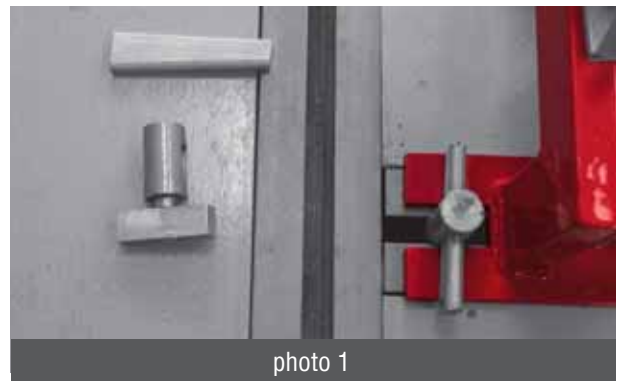


photo 1

- Lower the vehicle until the rocker panel seats firmly against top surface of pinchweld clamps, and the pinchweld fits completely into the clamps.
- Secure assembly starting with clamp jaw bolts and then mounting bolts, tightening each to 108 Nm torque (photo 2).
- Make sure the vehicle fixed firmly.



photo 2



After first pulling tighten mounting bolts of the clamp again.



Fixing the tower

- Tilt the pulling device on wheels and drive up to desired place. Then fix it to the frame by keys and pins (photo 3).



- Install the hydraulic cylinder in rack plugs and in beams of the power device.



- Fix the hydraulic cylinder on the pulling tower.
 - Connect a hydraulic hose to the hydraulic cylinder of the power device.
 - Prepare the hydraulic cylinder of the power device for work.
 - Install the collars in a desired position.
 - Release necessary length of a chain.
-
- Using pulling equipment and accessories, align geometry of vehicle's body. Using jack lift up the vehicle to uninstall anchoring stands. Smoothly lower the vehicle on a frame.





- Put the chain in elements of power devices, having fixed the free end of a chain in a groove of the pulling tower (photo 5).



photo 5

Adjusting chains and roller assembly

- Adjust desired pulling angle replacing the collars by height (figure 1).

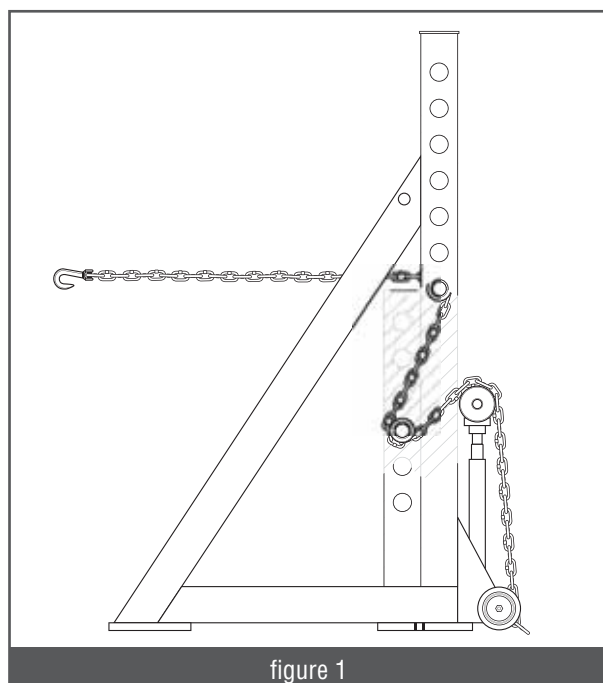


figure 1

Remove twist from chain.
In the same manner assemble second pulling device.



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

The machine is ready for using.





Installation of the vector pulling device

Assemble vector and hydraulics elements in the following sequence:

- Firmly fix ball end (support) in the hydraulic cylinder as shown on photo 6.



- Assemble necessary quantity of parts and on last one install adapter for connecting with chain. (photos 7 and 8). Connect hydraulic hose with the hydraulic cylinder.





- Fix on a frame support for hydraulic cylinder and a support for chain fixing using keys and pins. (photos 9 and 10).

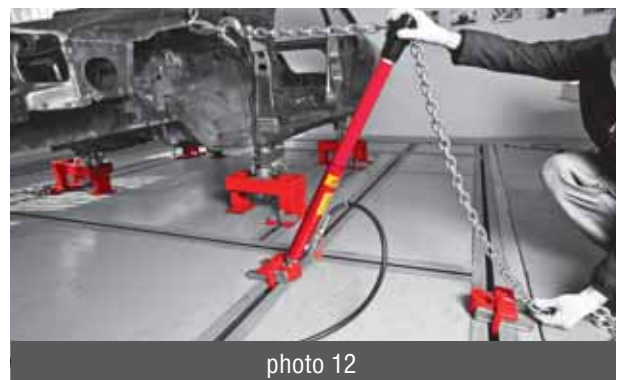


Fix on a frame support for hydraulic cylinder and a support for chain fixing using keys and pins.

- Anchor the clamp to the body.
- Fix a chain for a clamp by hook. (photo 11).



- Install the vector assembly into support for cylinder, and holding it by on hand put the chain in adapter (other side of the vector pulling device)
- Fix the free end of chain in a support for chain fixing.
- Fix the second free end of a chain in a groove of an emphasis for a chain (photo 12).



The machine is ready for using.





Taking off the vehicle from the anchoring stands

- Using jack, lift the vehicle body high enough to remove the stands. Remove stands. Smoothly lower the vehicle on the floor.

5

MACHINE MAINTENANCE

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 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.

Pulling devices

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

Collars

- Use compressed air to blow out dirt or dust that collects between collar ears and rollers.
- Place a few drops of oil on roller pin between roller and collar ears (each side). Then turn roller a few times. Roller must turn freely



Wear safety glasses while using compressed air to blow out dirt and dust.

6

SPECIFICATIONS

| | | SIVER HV-110 | SIVER HV-210 | SIVER H-110 | SIVER H-210 |
|-----------|--|--------------|--------------|-------------|-------------|
| 1 | Frame in gathering | 1 | | | |
| 1.1 | Frame | 1 | | | |
| | Anchoring clamp | 4 | | | |
| | Lock pin | 8 | 8 | 10 | 12 |
| | Key | 12 | 12 | 14 | 16 |
| | Lewis M12x140 | 83 | | | |
| | Nut M 12 | 83 | | | |
| 2 | Pulling device in gathering | 1 | 2 | 1 | 2 |
| | 10 t pulling device | | | 1 | 2 |
| | Caster wheel | | | 2 | 4 |
| JTC-8P102 | Hydraulic cylinder with rams kit | 1 | 2 | | |
| JTC-8P111 | Support for hydraulic cylinder (BALL PIVOT BASE) | 1 | 2 | | |
| JTC-8P105 | Extension bar | 1 | 2 | | |
| JTC-8P103 | Clamp anchor base | 1 | 2 | | |
| JTC-8P104 | Clamp anchor base | 1 | 2 | | |
| JTS-8P109 | Chain fixing base | 1 | 2 | | |
| JTC-HB600 | Hand hydraulic pump | 1 | 2 | 1 | 2 |
| | Hose | 1 | 2 | 1 | 2 |
| 3 | Accessory package | 1 | | | |
| | Metal box | 1 | | | |
| | Chain with hook | 1 | 2 | 1 | 2 |
| | Handy link | 1 | 2 | 1 | 2 |
| | Small mouth pull clamp, 5 t | 1 | | | |
| | Box clamp, 3 t | 1 | | | |
| | Mini clamp, 3 t | 1 | | | |
| | Frame rack clamp, 5 t | 1 | | | |
| | Users manual & passport | 1 | | | |

7

OPTIONS AND ADDITIONAL ACCESSORIES

Optional anchoring adapters and clamps



Mercedes



BMW



BMW E39



HONDA CRV



AUDI A8



NISSAN



RENAULT



РАМНЫЕ АВТОМОБИЛИ

Accessories



JackAir



Hydraulic jackLow



Height lift



8

PASSPORT

Pulling system SIVER H/HV –

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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