

The logo for SIVER, featuring the word "SIVER" in a bold, white, sans-serif font with a red outline, set against a red horizontal bar. 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 E

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 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 E series pulling system. 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 E 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 3500 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



Fully engage “Sure-Lock” force clamp with pinning hole on mainframe to prevent tower movement during the pull or during a raising or lowering procedure.



Keep hands away from all pinch points: roller assemblies on bottom mainframe plate and force clamp pinning location on top mainframe plate.

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.

Raising /lowering machine



Lifting of persons is prohibited.



Keep feet and objects clear of mainframe when lowering machine.

Loading /unloading machine



Prior driving or winching vehicle on or off the machine to make sure loading ramps are installed correctly.



When driving or winching a 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.



Position vehicle far enough onto mainframe so that wheels do not rest on loading ramps. Remove ramps before raising machine.



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



DO NOT exceed the machine's 3500 kg lifting capacity.



When raising or lowering machine with vehicle aboard, DO NOT walk behind rear of machine.



Always install wheel chocks when raising or lowering machine with a vehicle aboard.

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.



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.



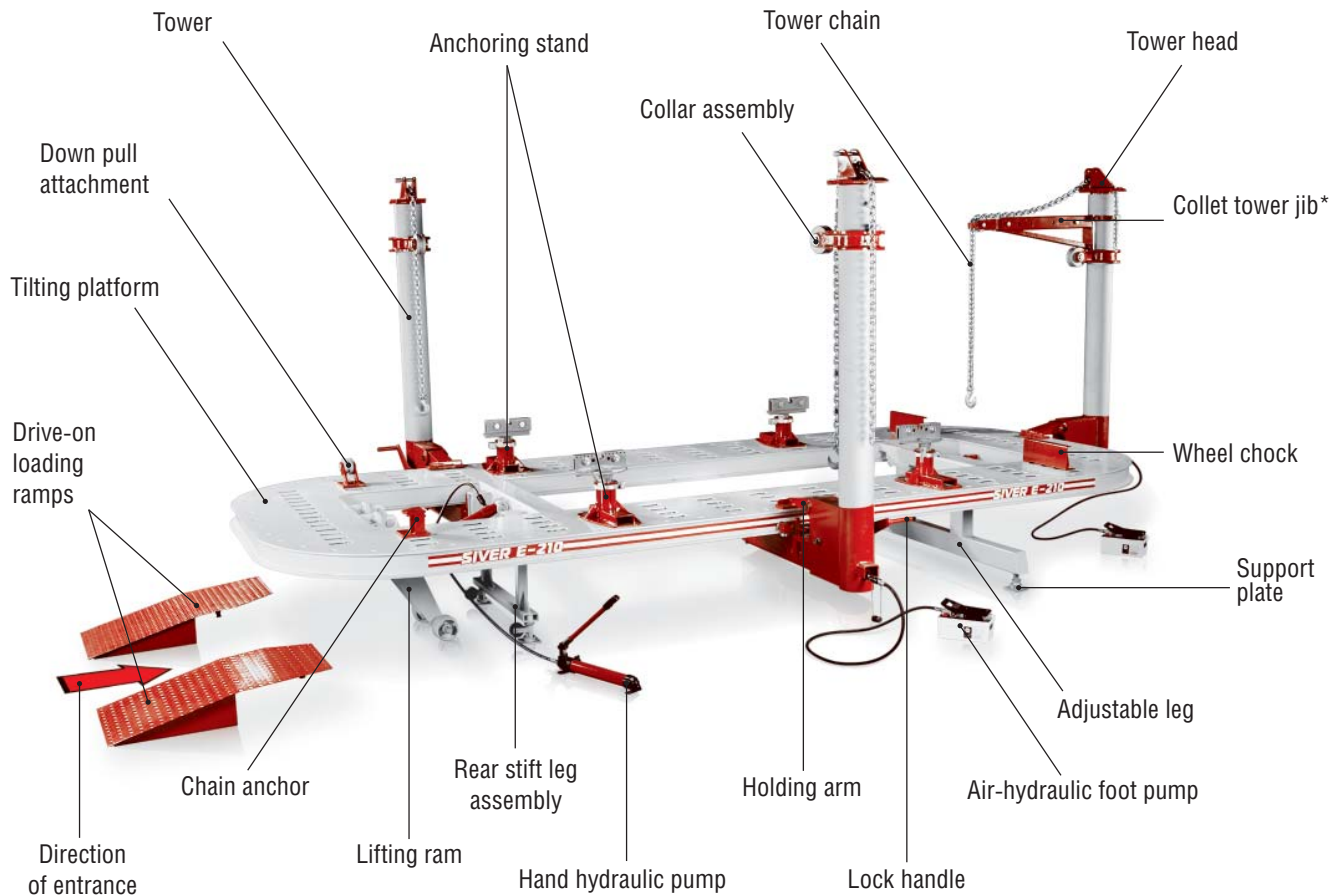
Improper handling and/or modification of parts is forbidden and may cause a hazardous situation for the user. Such action immediately voids the guarantee and releases the manufacturer from all liability.



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 E is intended for collision repair of passenger cars, SUV's and commercial vehicles.

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 E shown with optional (third) tower, jib and hand pump.

	Siver E-105	Siver E-110	Siver E-205	Siver E-205/10	Siver E-210
Platform length, mm			5138		
Length with tower extended, max, mm			6288		
Platform width, mm			2112		
Width with tower extended, max, mm			3262		
Platform height, max, mm			2828		
Weight, kg	1710	1730	1910	1930	1950
Lift capacity, kg			3500		
Work height, mm			720		
Quantity of towers, ea.	1	1	2	2	2
Hydraulics, t	5	10	5/5	5/10	10/10
Controls			hydraulic		
Operating rod stroke, mm			226		

Platform

Assemble the platform.

Required instruments: wrench kit and jack.

Put platform on the floor where you want to install it. Rear of machine has to face the direction of car loading.

Raise the front of platform until stiff leg off floor, using jack.

Install adjustable leg to platform. Then lower platform on support plates by removing jack. Attach foot pump's hose to hydraulic cylinder. Swing lift ram until their upright/vertical position (see chapter "Pump"). Locate pump out of platform.

Remove safety clips and pins from rear of stiff leg (photo 1), then lower it and fix in vertical position. Lower lift ram until stiff leg is off floor and swing it in vertical position and fix it again, then raise lift ram.



Photo 1

Level the machine, adjusting leveling bolts at base of front and rear stiff leg assembly (photo 2).

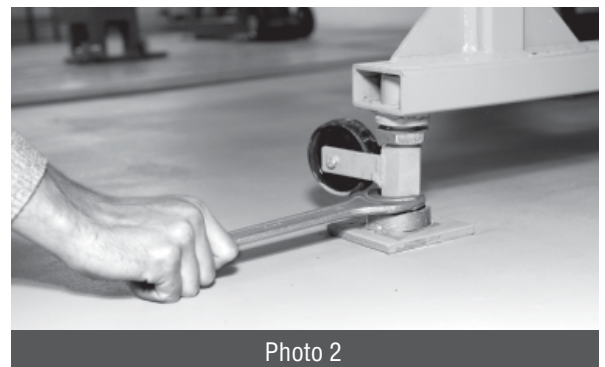


Photo 2

Tower

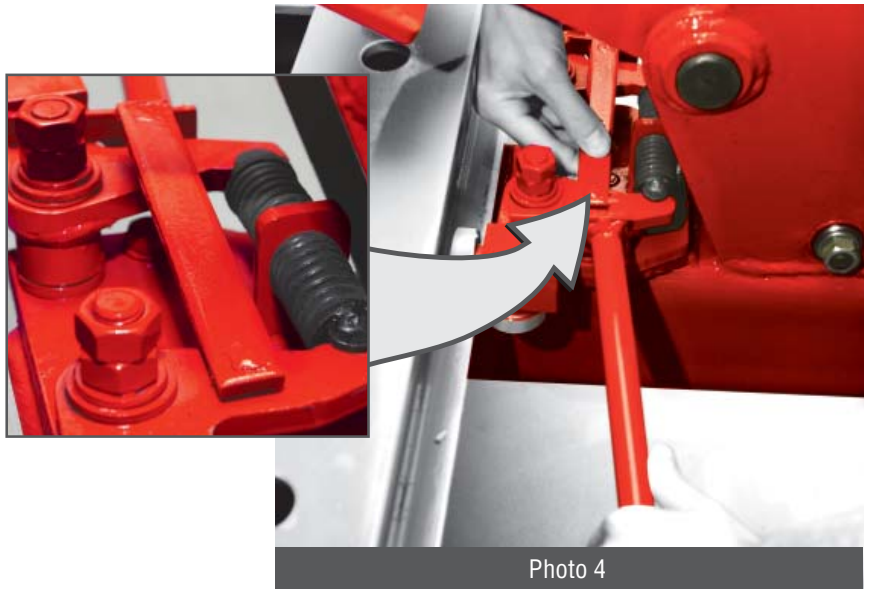
Remove back block. Using lifting device (jack, hydraulic, stacker), install tower to machine.

Install back block using fastening bolts (photo 3).



Photo 3

Remove splint under tower's holding arm by compressing the spring (photo 4).



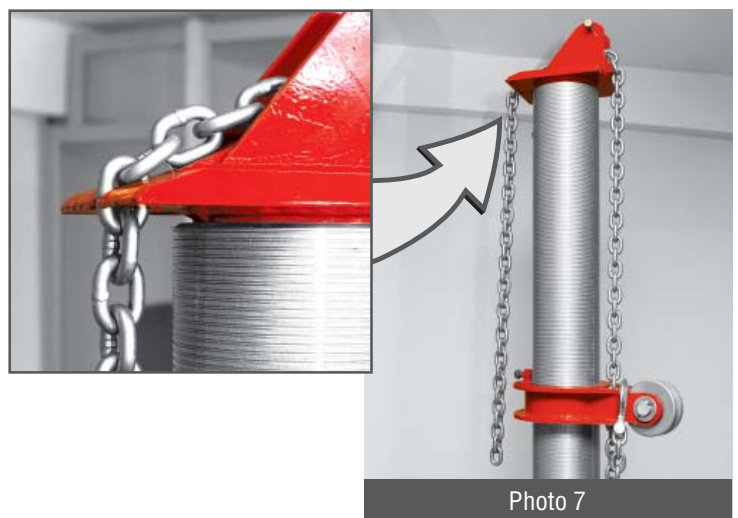
Fix the collar locking knob on tower in the middle position (photo 5).



Remove transportation bolt on tower's top (photo 6).



Pull on tail of chain through collar and elements of tower head, engage chain in tower head lock (photo 7). Remove twist from chain.





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

Standard configurations Siver E equipped by one or two towers.

Optionally can be installed up to 5 towers.

Hydraulic pneumatic pump

- Take off all components of the foot pump from box.
- Apply teflon tape to threads of all fittings.
- Remove thread protectors from hydraulic fluid outlet port.
- Secure restrictor orifice and coupler to foot pump's hydraulic output port.
- Secure air coupler to air input port and then attach air hose to air coupler.
- To bleed air from the system press the pedal down (to open air intake valve) till oil comes out from the end of hose.
- Attach foot pump's hydraulic hose to quick coupler of tower ram or lift ram.



Before start using hydraulic pneumatic pump change red tap on black one.

The machine is ready for using.

Loading a vehicle

Before loading a vehicle:

- install towers on the platform
- make sure wheel chokes are installed
- attach foot pump's hydraulic hose to lift ram's quick coupler
- swing lift ram until their upright/vertical position
- remove safety pins from rear of stiff leg
- swing stiff leg assembly out of the way and slowly lower rear of machine by tilting lift ram
- locate loading ramps

The machine is ready for loading a vehicle

Loading a vehicle on the machine:

- using a helper, center vehicle and drive up mainframe
- set parking brake and put gear selector in park (automatic transmission) or gear (manual transmission)
- remove loading ramps

Raising the machine:

- raise machine until stiff leg swings into upright position
- lock stiff leg by safety pins
- raise lift ram

Installing anchoring system

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

- Lift entire side of vehicle high enough to install anchoring stands at both front and rear of center section.
- Position anchoring stand below attachment points on pinchweld making certain anchoring stand base spans treadway slot.
- Lower 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 8).

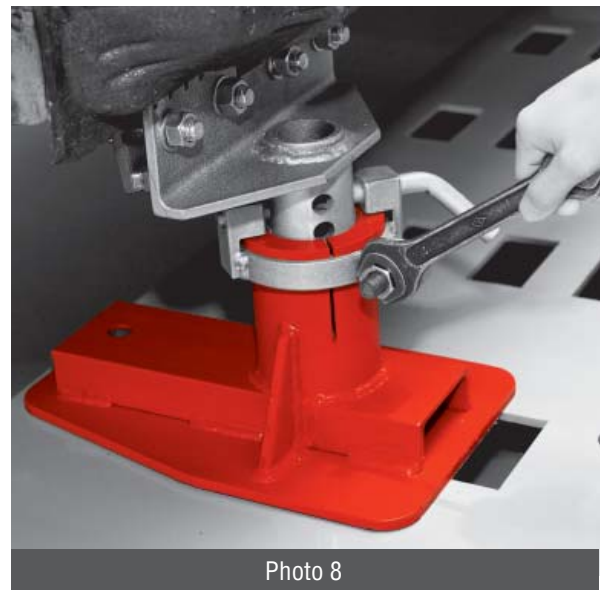


Photo 8

- Position mounting plate and insert bolt upward through the plate and the treadway slot on the underside of mainframe. Thread the bolt into the fastener bar inside the anchoring stand base (photo 9).

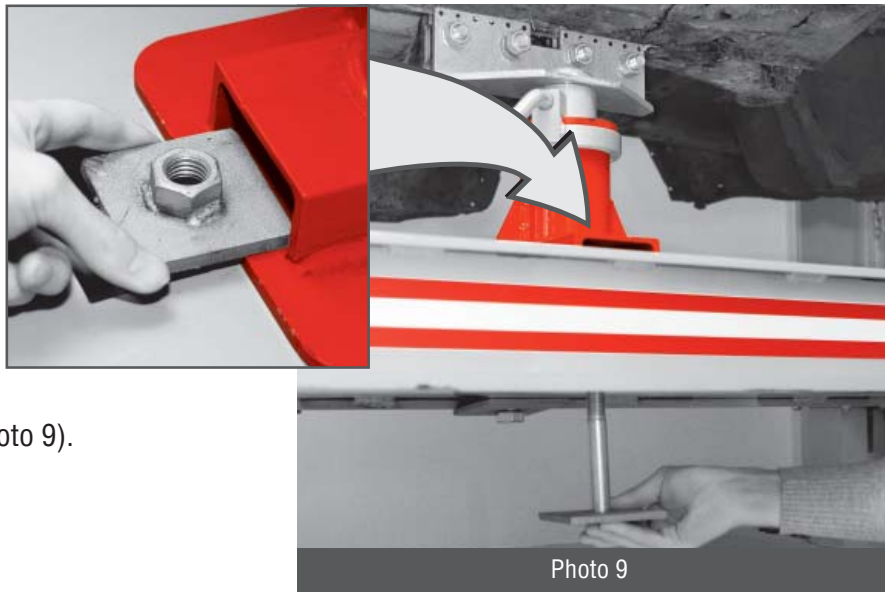


Photo 9

Fixing the tower

- Swing tower to desired location on machine and secure it to mainframe by lock handle and safety lock (photo10).

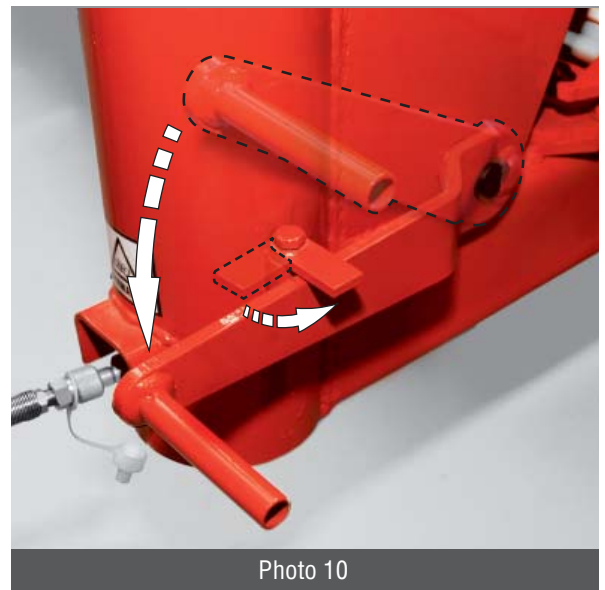


Photo 10

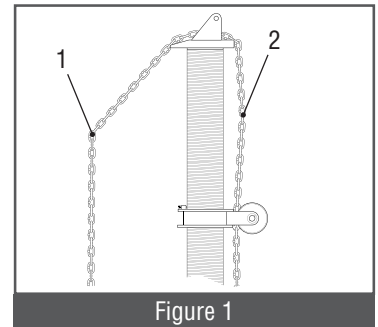
- Force clamps secure towers to the mainframe while removing stress from the roller assemblies (photo11).



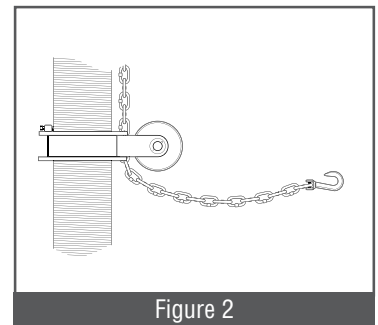
Photo 11

Adjusting chains and roller assembly

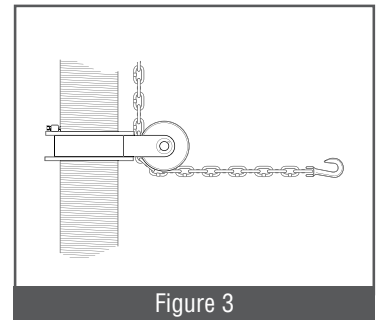
- Pull chain out at a 45 degree angle (1), disengage chain from tower head lock (2) and adjust to desired length (Figure 1).



- Support collar assembly with one hand and loosen collar locking knob. Position collar at desired position for pull and tighten collar locking knob (Figure 2).



- Remove twist from chain.
- Attach desired clamp to the vehicle and attach hook to clamp.
- Pull on tail of chain to remove slack and engage chain in tower head lock (Figure 3).

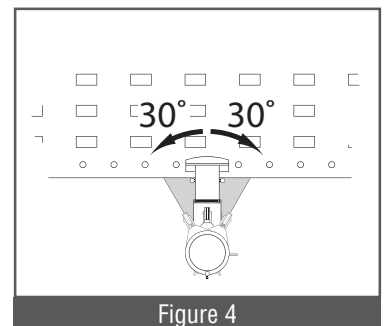


- Check collar and tower head to make sure they are rotated to be in line with direction of pull.

The machine is ready for using.

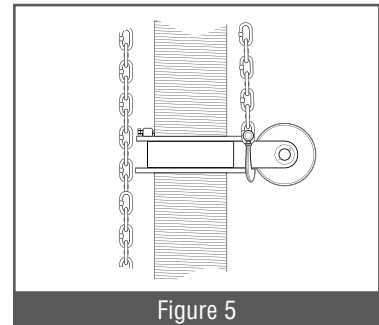


Pulling angle must not exceed 30 degree range from tower base (Figure 4).

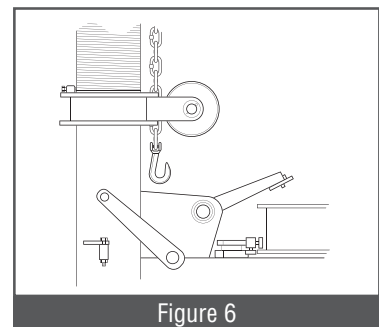


For storage collar and chain with hook choose one of the following positions:

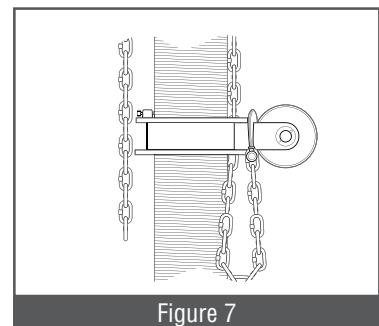
- Collar supported by tower chain (Figure 5).



- When collar and chain are stored this way, collar locking knob must be tightened before removing tower chain and hook from vehicle (Figure 6).



- Collar rests on tower base (Figure 7).



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.

Tower track and tower roller wheels

Inspect inside and outside tower tracks. Blow or brush dirt and debris from tracks.

Inspect inside and outside tower roller wheels for damage. Use compressed air to clean.

Loading ramps

Properly locate loading ramps to mainframe before loading/unloading a vehicle and put them away before raising machine.

Lift assembly / stiff leg assemblies

Clean dirt and grease from all pivot points and lubricate them 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.

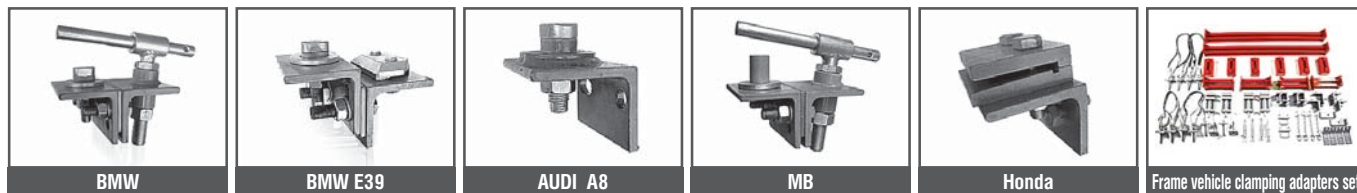
Tower heads

Clean tower heads every six months.

- Remove tower chain from tower head.
- Remove tower head from tower pipe.
- Clean dirt from tower head pipe and where tower head pipe rubs on inside of tower pipe.
- Reinstall tower head and tower chain.

			Siver E-105	Siver E-110	Siver E-205	Siver E-205/10	Siver E-210	
1	SP 02.01.00.000	Platform in gathering						1
1.1	SP 02.01.01.000	Platform						1
1.2	SP 02.01.04.000	Adjustable leg						1
1.3	SP 02.01.05.000	Lift ram						1
1.4	SP 02.01.06.000	Stiff leg assembly						1
1.5		Fasteners for stiff leg assembly (bolt M12*20, shim M12)						8
1.6		Support plate						2
1.7	SP 02.02.00.000	Loading ramp						2
1.8	ARS 00.008.000	Chain anchor						1
1.9	ARS 00.007.000	Down pull attachment						1
2	ARS 18.000.000	Anchoring stand						4
3	03.000.002	Tower	1	1	2	2	2	
3.1	SP 02.03.00.000	10 t pulling tower		1		1	2	
3.2	SP 02.03.00.000-1	5 t pulling tower	1		2	1		
3.3	ASP 03.00.002	Dowel pin	1	1	2	2	2	
3.4		Pin 4*40 GOST 397-79	1	1	2	2	2	
3.5	Shinn Fu A5701	Hydraulic pneumatic pump	1	1	2	2	2	
3.6	JTC-HS2302H	Hose	1	1	2	2	2	
3.7		Mounting arm						1
4	SIVER MAXI	Accessory package						1
4.1	JTC Metal box	Metal box						1
4.2	JTC-8P107	Chain with hook						2
4.3	JTC-C903	Handy link						1
4.4	JTC-C101	Small mouth pull clamp, 5 t						1
4.5	JTC-C102NN	Box clamp, 3 t						1
4.6	JTC-C302	Mini clamp, 3 t						1
4.7	JTC-C601N	Frame rack clamp, 5 t						1
4.8	JTC-YC105	Deep hook set						1
4.9		Splint demounting device						2
5		Users manual & passport						1

Optional anchoring adapters and clamps



Accessories



Pulling system SIVER E –

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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