



Spring Loaded Cultivator

SLC Series



Operator's Manual

Printed October 2023

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TO THE DEALER:

Assembly and proper installation of this product is the responsibility of the Tar River dealer. Read manual instructions and safety rules. Make sure all items on the Dealer's Pre-Delivery and Delivery Check Lists in the Owner's/Operator's Manual are completed before releasing equipment to the owner.

TO THE OWNER:

Read this manual before operating your Tar River equipment. The information presented will prepare you to do a better and safer job. Keep this manual handy for ready reference. Require all operators to read this manual carefully and become acquainted with all the adjustment and operating procedures before attempting to operate. Replacement manuals can be obtained from your selling dealer. The equipment you have purchased has been carefully engineered and manufactured to provide dependable and satisfactory use. Like all mechanical products, it will require cleaning and upkeep. Lubricate the machine as specified. Observe all safety information in this manual and safety decals on the equipment. For service, your authorized Tar River dealer has trained mechanics, genuine Tar River service parts, and the necessary tools and equipment to handle all your needs. Use only genuine Tar River service parts. Substitute parts will void the warranty and may not meet standards required for safe and satisfactory operation.

Record your machine model and serial number in the space provide below. Your dealer will need this information to give you prompt, efficient service.

Model Number: _____

Serial Number: _____

Date Purchased: _____

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Introduction

Thank you for purchasing your Tar River Implements Spring Loaded Cultivator. The Tar River Implements Spring Loaded Cultivators are available in three sizes; 36", 54" & 72" working widths. Each implement is made using 3/8" Steel Angle Iron with 3/4" wide shanks.

Technical Specifications

- Suitable for stone and root filled soil, light, and medium soil conditions
- Used for loosening and aerating soil up to 9 inches below the surface
- Prepares seedbeds quickly and economically
- When one tine strikes a hidden obstruction the others continue to work at the correct depth.
- Strength derived from heavy duty shanks, which once fixed to the frame cannot move or strain out of position
- Shovel to Shovel Distance 15"
- Height 21"

	SLC-5	SLC-7	SLC-9
Spring	3/8" x 50"	3/8" x 50"	3/8" x 50"
Tines	3/8" x 2-1/2"	3/8" x 2-1/2"	3/8" x 2-1/2"
Working width	36"	54"	72"
Total width	50"	68"	72"
Tractor HP	15-45	30-45	40-45
Weight	260 lbs.	396 lbs.	482 lbs.

Important Safety Information

Safety

It is important that you read the entire manual and to become familiar with this product before you begin using it. This product is designed for certain applications only. The manufacturer cannot be responsible for issues arising from modification. We strongly recommend this product not be modified and /or used for any application other than that for which it is designed. If you have any questions relative to a particular application, DO NOT use the product until you have first contacted us to determine if it can or should be performed on the product.

Read and understand this manual and all safety signs before operating and maintaining. Review the safety instructions and precautions annually.

Safety Signal Words

TAKE NOTE! This safety alert symbol found though out this manual is used to call you attention to instructions involving you personal safety and the safety of others. Failure to follow these instructions can result in injury or death.



**This symbol means:
Attention!
Become alert!
Your safety is involved!**

Note the use of the signal words, DANGER, WARNING and CAUTION with the safety messages. The appropriate signal word for each has been selected using the following guidelines:



DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.



WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.



CAUTION: Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Important Safety Information

General Safety Guidelines

Safety of the operator is one of the main concerns in designing and developing a new piece of equipment. Designers and manufacturers build in as many safety features as possible. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury, study the following precautions and insist those working with you, or for you, follow them.

Replace any **DANGER, WARNING, CAUTION** or instruction safety decal that is not readable or is missing. Location of such decals are indicated in this manual. Do not attempt to operate this equipment under the influence of drugs or alcohol.

Review the safety instructions with all users annually.

This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible adult familiar with farm machinery and trained in this equipment's operations. **Do not allow persons to operate or assemble this machine until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.**

To prevent injury of death, use a tractor equipped with a Roll Over Protection System (ROPS). Do not paint over, remove or deface any signs or warning decals on your equipment. Observe all safety signs and practice the instructions on them.

Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question - **Don't try it!**



Safety Decal Care

- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or have become illegible.
- Replaced parts that displayed a safety sign should also display the current safety sign
- Safety signs are available from your Distributor or Dealer Parts Department or the factory.

Important Safety Information

How to Install Safety Signs

- Be sure that the installation area is clean and dry.
- Decide on the exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the decal over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place.
- Small air pockets can be pierced with a straight pin and smoothed out using the piece of decal backing paper.



Before Operation

- Carefully study and understand this manual.
- Do not wear loose-fitting clothing, which may catch in moving parts.
- Always wear protective clothing and substantial shoes.
- Assure that all tires are inflated evenly.
- Give the machine a visual inspection for any loose bolts, worn parts or cracked welds, and make necessary repairs. Follow the maintenance safety instructions included with this manual.
- Be sure that there are no tools lying on or in the equipment.
- Do not use the machine until you are sure that the area is clear, especially of children and animals.
- Don't hurry the learning process or take the machine for granted. Ease into it and become familiar with your new equipment.
- Practice operation of your equipment and its attachments. Completely familiarize yourself and other operators with its operation before using.
- Use a tractor equipped with a Roll Over Protection System (ROPS) and fasten your seat belt prior to starting engine.
- The manufacturer does not recommend usage of tractor with ROPS removed.
- Move tractor wheels to the widest recommended settings to increase stability.
- Securely attach to towing unit. Use a high strength, appropriately sized hitch pin with a mechanical retainer and attach safety chain.
- Do not allow anyone to stand between the tongue or hitch and the towing vehicle when backing up to the equipment.

Important Safety Information



During Operation

- Children should not be allowed on the product.
- Clear the area of small children and bystanders before moving the machine.
- If using a towing unit, securely attach machine by using a hardened 3/4" pin, a metal retainer, and safety chains if required. Shift towing unit to a lower gear before going down steep downgrades, thus using the engine as a retarding force. Keep towing vehicle in gear at all times. Slow down for corners and rough terrain.
- Make sure you are in compliance with all local and state regulations regarding transporting equipment on public roads and highways. Lights and slow moving signs must be clean and visible by overtaking or oncoming traffic when machine is transported.
- Beware of bystanders, **particularly children!** Always look around to make sure that it is safe to start the engine of the towing vehicle or move the machine. This is particularly important with higher noise levels and quiet cabs, as you may not hear people shouting.
- **NO PASSENGERS ALLOWED!** Do not carry passengers anywhere on, or in, the tractor or equipment, except as required for operation.
- Keep hands and clothing clear of moving parts.
- Do not clean, lubricate or adjust your equipment while it is moving.
- When halting operation, even periodically, set the tractor or towing vehicle brakes, disengage the PTO, shut off the engine and **remove the ignition key.**
- Be especially observant of the operating area and terrain. Watch for holes, rocks or hidden hazards. Always inspect the area prior to operation.
- **DO NOT** operate near the edge of drop-offs or banks.
- **DO NOT** operate on steep slopes as overturns may result.
- Operate up and down (not across) intermediate slopes. Avoid sudden starts and stops.



Warning: Never backup with the machine on the ground! This will cause damage to the machine. Always lift the machine high enough to clear the ground before backing up.

Important Safety Information



Highway and Transport Operations

- Adopt safe driving practices.
- Keep the brake pedals latched together at all times. **Never use independent braking with machine in tow as loss of control and/or upset of machine can result.**
- Always drive at a safe speed relative to local conditions and ensure that your speed is low enough for an emergency stop to be safe and secure. Keep speed at a minimum.
- Reduce speed prior to turns to avoid the risk of overturning.
- Avoid sudden uphill turns on steep slopes.
- Always keep the tractor or towing vehicle in gear to provide engine braking when going downhill. Do not coast.
- Do not drink and drive!
- Comply with state and local laws governing highway safety and movement of farm machinery on public roads.
- Use approved accessory lighting flags and necessary warning devices to protect operators of other vehicles on the highway during daylight and nighttime transport. Various safety lights and devices are available from your dealer.
- The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway and marking requirements.
- When driving the tractor and equipment on the road or highway under 40 kph (20 mph) at night or during the day, use the amber warning lights and a slow moving vehicle (SMV) identification emblem.
- Plan your route to avoid heavy traffic.
- Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc.
- Be observant of bridge loading ratings. Do not cross bridges rated at lower than the gross weight at which you are operating.
- Watch for obstructions overhead and to the side while transporting.
- Always operate in a position to provide maximum visibility at all times. Make allowances for increased length and weight of the equipment when making turns, stopping the machine, etc.
- Pick the most level route when transporting across fields. Avoid the edges of ditches or gullies and steep hillsides.
- Be extra careful when working in inclines.

Important Safety Information



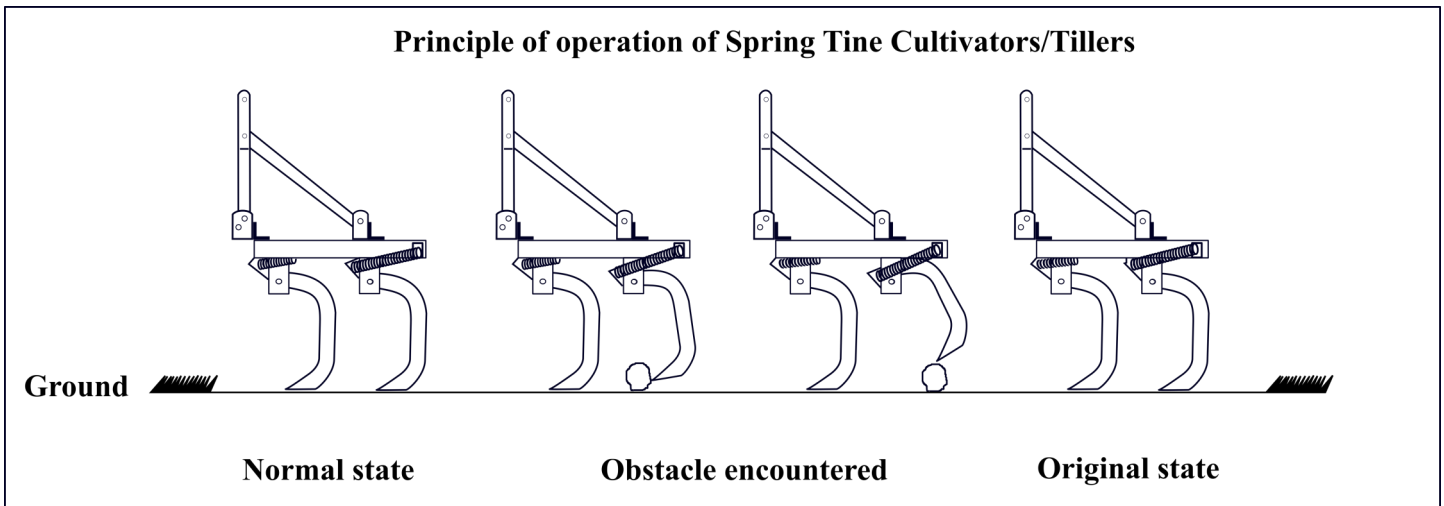
Highway and Transport Operations

- Maneuver the tractor or towing vehicle at safe speeds.
- Avoid overhead wires or other obstacles. Contact with overhead lines could cause serious injury or death.
- Avoid loose fill, rocks and holes, they can be dangerous for equipment operation or movement.
- Allow for machine length when making turns,
- Operate the towing vehicle from the operator's seat only.
- Never stand alongside of machine with engine running or attempt to start engine and/or operate machine while standing alongside of machine.
- Never leave running equipment attachments unattended.
- As a precaution, always recheck the hardware on equipment following every 100 hours of operation. Correct all problems. Follow the maintenance safety procedures.

Operating Instructions

The Spring Loaded Cultivator is extremely suitable for use in stone and root obstructed soil. When one tine strikes a buried, immovable object, the other tines will continue to work at the set depth. The Spring Loaded Cultivator may be used for loosening and aerating soil to a depth of nine inches, preparing seed beds quickly and economically.

The Spring Shank Cultivator is designed for tough operations. It is suitable for varying soil conditions. Spring Loaded Cultivator tine assemblies derive their strength from heavy duty angles, which once fixed to the structurally sound main frame, cannot move or strain out of position.



Operating Instructions

Before Use & Adjustments

Before mounting of cultivator make sure that all nuts & bolts are properly secured. Also determine soil and trash conditions of the field and make the preliminary adjustments. e.g.

Tine leveling

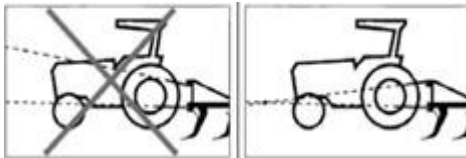
To eliminate uneven working and side draft, leveling is done by means of top link.

Depth Control

The depth at which the implement is required to work is controlled hydraulically by raising or lowering the control lever on the tractor.

Attaching the Cultivator to the Tractor

1. Place the cultivator duly leveled on the flat piece of land.
2. Reverse the tractor to the cultivator (Do not drag the cultivator up to the tractor).
3. Attach the left arm of the tractor to the cultivator first.
4. Attach the central arm to the cultivator. To attach, turn the screws on both sides to an equal length. If the arm is too short or too long, turn the screw to adjust both at the same time until aligned with the hole on the central arm.
5. Attach the lower right arm, turn the screw until the mounting pin is at the same level as the hole on the tractor arm. If the gap between the hole and mounting pin is too close or too distant, turn the control arm in or pull it away to an appropriate distance. You may have to adjust both height and distance at the same time. When the hole at tractor arm and mounting pin are even, insert the pin in the hole and lock it with the lynch pin.
6. After attaching the cultivator, lift it and adjust the control arm parallel to the ground. When you look from both rear or sideways, all shovels should be touching the ground uniformly.



Danger:

In operating position the top link must be higher on the machine side than on the tractor side!

Maintenance Instructions

Operation, Care & Maintenance of Cultivator

1. All the shovels of the tines should be set at equal depth. To do this, place the cultivator on level ground and see that all the shovels touch the ground.
2. Before commencing work with a cultivator, check it for loose bolts and nuts and fasten them properly. After having taken all these precautions, run the cultivator for one hour and then inspect it once more for any loose parts.
3. Never turn or reverse your tractor while cultivator is ploughed deep in field. This will twist the assemblies out of alignment and damage them extensively.
4. Reverse or replace the shovel point when worn out. Delay may result in wearing out of the tines which will result into expensive repairing/replacements. Avoid use of extra wide shovels as they do not improve tillage quality but only put extra load on the tractor and also result into extra fuel consumption.

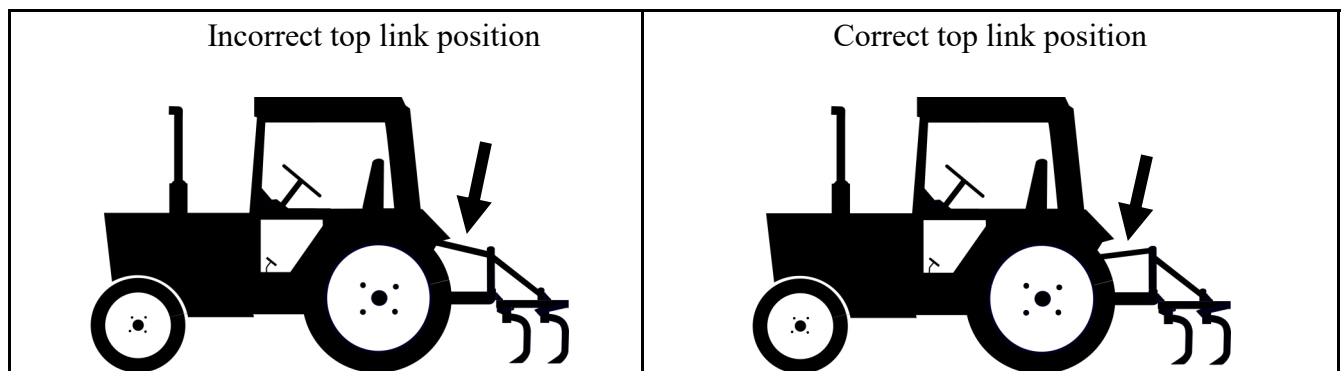
Storage of Cultivator After Work

1. All the shovels of the tines should be set at equal depth. To do this, place the cultivator on level ground and see that all the shovels touch the ground.
2. Replace the worn out nuts & bolts.
3. If cultivator has to remain unused for long time then clean it & apply a layer of used oil for rust prevention.
4. These steps will enhance the life of your cultivator.



Danger

In the operating position, the top link must be higher on the machine side than on the tractor side!



Torque Specifications

Torque Specifications for Common Bolt Sizes															
Inches		Bolt Head Identification						Metric		Bolt Head Identification					
Bolt size (inches)	Thread pitch	Grade 2		Grade 5		Grade 8		Bolt size (metric)	Thread pitch	Class 5.8		Class 8.8		Class 10.9	
		N.m	ft-lb	N.m	ft-lb	N.m	ft-lb			N.m	ft-lb	N.m	ft-lb	N.m	ft-lb
1/4"	20	7	5	11	8	16	12	M5	0.08	4	3	6	4	9	7
1/4"	28	8	6	13	10	19	14	M6	1	6	4	10	7	15	11
5/16"	18	15	11	24	17	33	25	M8	1.25	16	12	25	18	36	27
5/16"	24	17	13	26	19	37	27	M8	1	17	13	26	19	38	28
3/8"	16	27	20	42	31	59	44	M10	1.5	31	23	48	35	71	52
3/8"	24	31	23	47	35	67	49	M10	1.25	33	24	51	38	75	55
7/16"	14	43	32	67	49	95	70	M10	1	35	26	53	39	78	58
7/16"	20	48	36	75	55	106	78	M12	1.75	54	40	84	62	123	91
1/2"	13	66	48	102	75	144	106	M12	1.5	56	41	87	64	128	94
1/2"	20	75	55	115	85	163	120	M12	1.25	59	44	90	66	133	98
9/16"	12	95	70	147	109	208	154	M14	2	84	62	133	98	195	144
9/16"	18	106	79	164	121	232	171	M14	1.5	94	69	142	105	209	154
5/8"	11	132	97	203	150	287	212	M16	2	131	97	206	152	302	223
5/8"	18	149	110	230	170	325	240	M16	1.5	141	104	218	161	320	236
3/4"	10	233	172	361	266	509	376	M18	2.5	181	133	295	218	421	310
3/4"	16	261	192	403	297	569	420	M18	2	196	145	311	229	443	327
7/8"	9	226	167	582	430	822	606	M18	1.5	203	150	327	241	465	343
7/8"	14	249	184	642	473	906	668	M20	2.5	256	189	415	306	592	437
1"	8	339	250	873	644	1232	909	M20	1.5	288	212	454	335	646	476
1"	12	371	273	955	704	1348	995	M22	2.5	344	254	567	418	807	595
1-1/8"	7	480	354	1077	794	1746	1288	M22	1.5	381	281	613	452	873	644
1-1/8"	12	539	397	1208	891	1958	1445	M24	3	444	327	714	526	1017	750
1-1/4"	7	677	500	1519	1120	2463	1817	M24	2	488	360	769	567	1095	808
1-1/4"	12	750	553	1682	1241	2728	2012	M27	3	656	484	1050	774	1496	1103
1-3/8"	6	888	655	1992	1469	3230	2382	M27	2	719	530	1119	825	1594	1176
1-3/8"	12	1011	746	2268	1673	3677	2712	M30	3.5	906	668	1420	1047	2033	1499
1-1/2"	6	1179	869	2643	1949	4286	3161	M30	2	1000	738	1600	1180	2250	1659
1-1/2"	12	1326	978	2974	2194	4823	3557	M36	4	1534	1131	2482	1830	3535	2607

Notes:

This chart is an approximate estimate of torque values.

Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

Fasteners must always be replaced with the same grade as specified in the manual.

Always use the proper tool for tightening hardware: SAE for SAE hardware and Metric for Metric hardware.

Make sure that fastener threads are clean and that you properly start thread engagement.

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Spring Loaded Cultivator

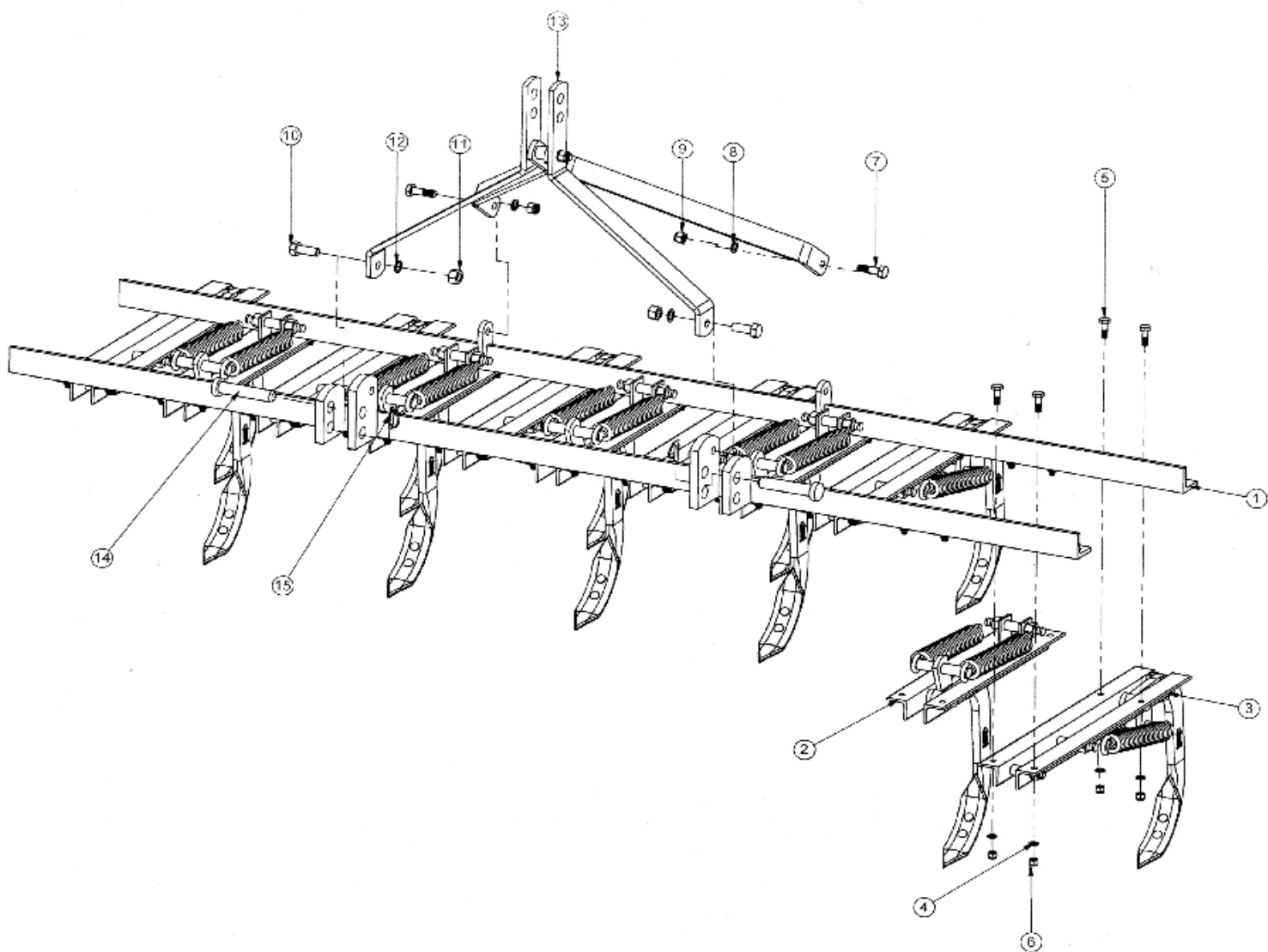
SLC Series



Parts Manual

Printed October 2023

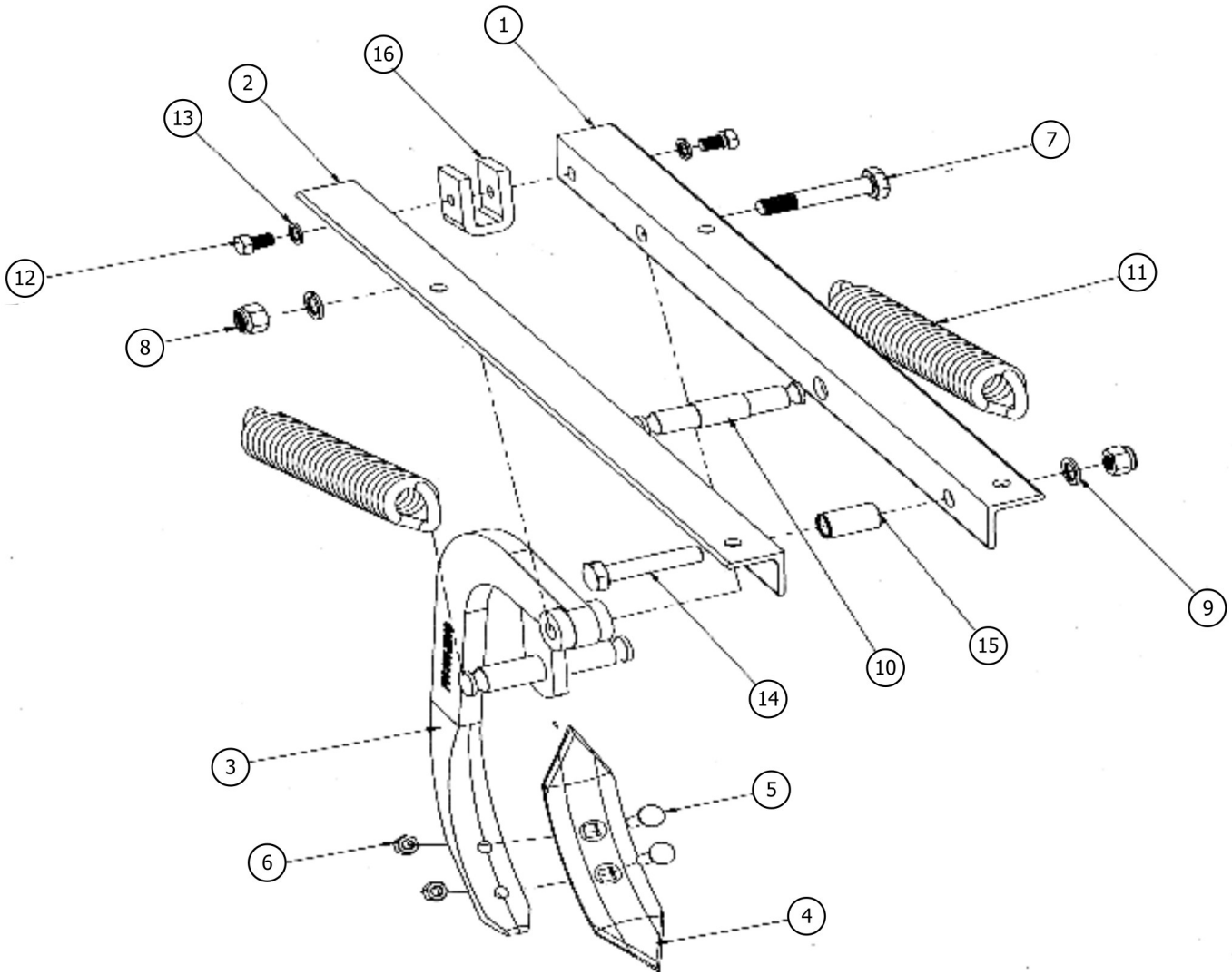
Frame Assembly



Frame Assembly

Item	Part #	Description	Qty.
1	SLC70310004	Frame assembly 7 tine	1
	SLC70310005	Frame assembly 9 tine	1
	SLC70310006	Frame assembly 11 tine	1
	SLC70310007	Frame assembly 13 tine	1
2	SLC70330005	Big pair tine assembly	4-7
3	SLC70340003	Small pair tine assembly	3-6
4	SLC10270003	Spring washer M12	28-52
5	SLC10260362	Hex head bolt M12x35	28-52
6	SLC10280025	Nylock nut M12	28-52
7	SLC10260378	Hex head bolt M16x65	2
8	SLC10270005	Spring washer M16	2
9	SLC10280005	Nylock nut M16	2
10	SLC10260376	Hex head bolt M18x65	2
11	SLC10280020	Hex nut M18-2.50	2
12	SLC10270006	Spring washer M18	2
13	SLC70320003(Cat.1)	3 Point linkage assembly 7-11 tine	2
	SLC70320006(Cat.2)	3 Point linkage assembly 13 tine	2
14	SLC10020138(Cat.1)	Hitch pin 7-11 tine	2
	SLC10020013(Cat.2)	Hitch pin 13 tine	2
15	SLC10020022	Lynch pin	2

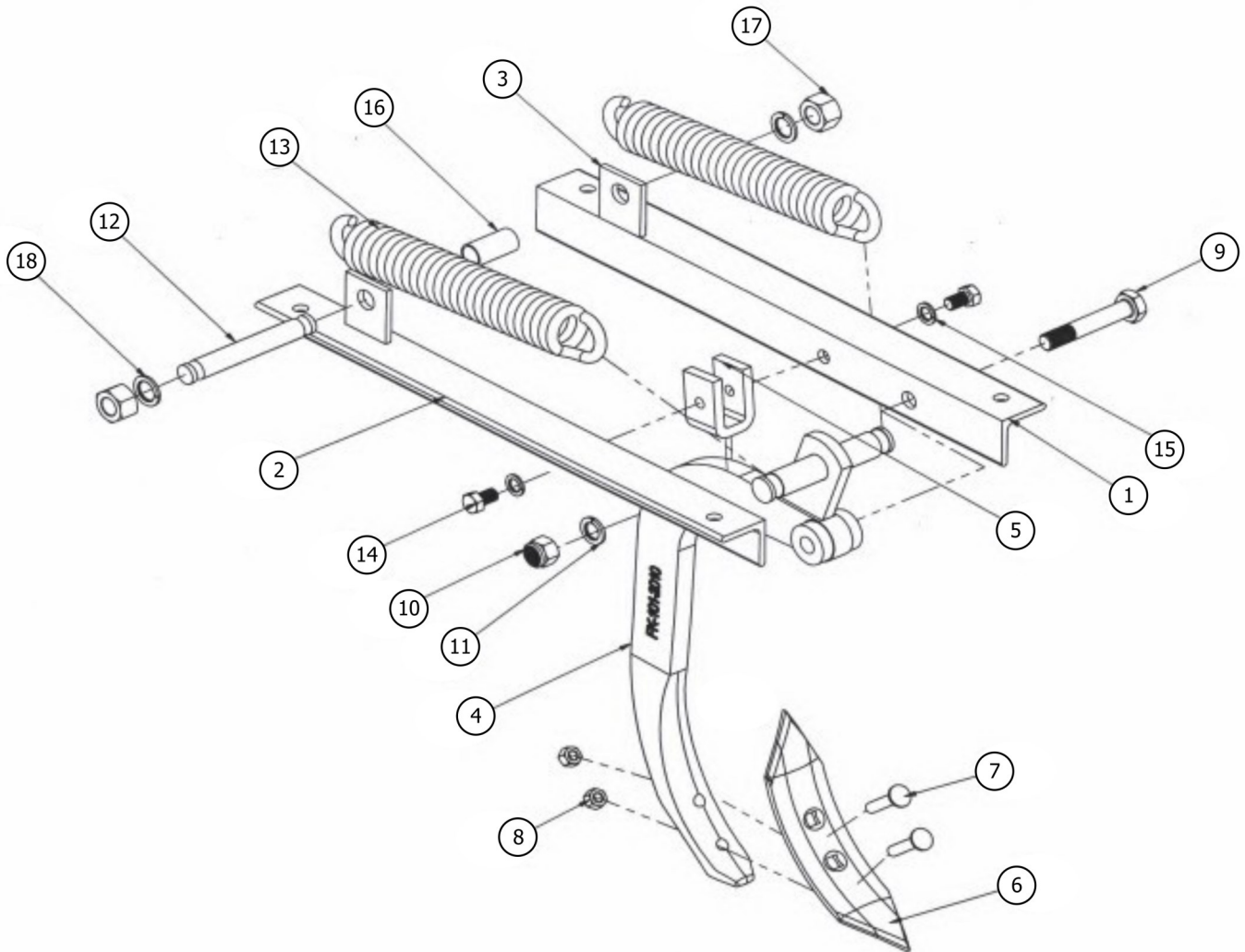
Frame Assembly



Frame Assembly

Item	Part #	Description	Qty.
1	SLC70330001	Big pair angle (LHS)	1
2	SLC70330006	Big pair angle (RHS)	1
3	SLC70330007	Tine assembly	1
4	SLC10320004	Shovel	1
5	SLC10260137	Round head bolt (7/16x2.5" BSW)	2
6	SLC10280033	Plain nut 7/16	2
7	SLC10260418	Hex head bolt M16X95	1
8	SLC10280005	Nylock nut M16	1
9	SLC10270005	Spring washer M16	1
10	SLC10020039	Anchor pin 25X140	1
11	SLC10210004	Spring	2
12	SLC10260058	Bolt M12x20	2
13	SLC10270003	Spring washer M12	2
14	SLC10260383	Hex head bolt M16x85	1
15	SLC70330009	Bushing	1
16	SLC70330004	Tine U	1
-	SLC70330005	Big pair tine assembly	1

Frame Assembly



Frame Assembly

Item	Part #	Description	Qty.
1	SLC70340004	Small pair (LHS)	1
2	SLC70340001	Small pair (RHS)	1
3	SLC70340005	Support flat	1
4	SLC70340006	Tine assembly	1
5	SLC70330004	Tine U	1
6	SLC10320004	Shovel (Beri type)	1
7	SLC10260137	Round head bolt (7/16X2.5"LBSW)	2
8	SLC10280033	Plain nut (7/16 BSW)	2
9	SLC10260418	Hex head bolt M16X95	1
10	SLC10280005	Nylock nut M16	1
11	SLC10270005	Spring washer M16	1
12	SLC10020117	Anchor pin 22X140	1
13	SLC10210004	Spring (10MM)	2
14	SLC10260058	Bolt M12X20	2
15	SLC10270003	Spring washer M12	2
16	SLC70330010	Bushing (Anchor pin)	1
17	SLC10280037	Plain nut M18	2
18	SLC10270006	Spring washer M18	2
-	70340003	Small pair tine assembly	1

Warranty

LIMITED WARRANTY

Belco Resources Equipment warrants to the original purchaser of any new piece of machinery from Belco Resources Equipment, purchased from an authorized Belco Resources Equipment dealer, that the equipment be free from defects in material and workmanship for a period of one (1) year for non-commercial, state, and municipalities' use, ninety (90) days for commercial use from date of retail sale. Warranty for rental purposes is thirty (30) days. The obligation of Belco Resources Equipment to the purchaser under this warranty is limited to the repair or replacement of defective parts.

Replacement or repair parts installed in the equipment covered by this limited warranty are warranted for ninety (90) days from the date of purchase of such part or to the expiration of the applicable new equipment warranty period, whichever occurs later. Warranted parts shall be provided at no cost to the user at an authorized Belco Resources Equipment dealer during regular working hours. Belco Resources Equipment reserves the right to inspect any equipment or parts, which are claimed to have been defective in material or workmanship.

This limited warranty does not apply to and excludes wear items such as shear pins, tires, tubes knives, blades or other wear items. Oil or grease is not covered by this warranty.

All obligations of Belco Resources Equipment under this limited warranty shall be terminated if:

- Proper service is not performed on the machine.

- The machine is modified or altered in any way.

- The machine is being used or has been used for purposes other than those for which the machine was intended.

DISCLAIMER OF IMPLIED WARRANTIES & CONSEQUENTIAL DAMAGES

Belco Resources Equipment obligation under this limited warranty, to the extent allowed by law, is in lieu of all warranties, implied or expressed, including implied warranties of merchantability and fitness for a particular purpose and any liability for incidental and consequential damages with respect to the sale or use of the items warranted. Such incidental and consequential damages shall include but not be limited to: transportation charges other than normal freight charges; cost of installation other than cost approved by Belco Resources Equipment; duty; taxes; charges for normal service or adjustment; loss of crops or any other loss of income; rental of substitute equipment, expenses due to loss, damage, detention or delay in the delivery.

REGISTRATION

The online Warranty Registration must be completed in order to qualify for coverage on this Limited Warranty. Visit br-equipment.com, click on "Warranty Registration" and completely fill out the form to register the new piece of equipment.

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