



SR-600 & SR-800 Spin Fertilizer Spreader

Operator's Manual Parts Breakdown



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INTRODUCTION

Thank you for purchasing your Belco Resources Equipment Compact RS Spreader. Your spreader is design to be used on 540 rpm tractors. It is important to properly maintain and keep in place all safety guards and shields that came with your tiller.

SAFETY

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

TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR 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!**



SAFETY SIGNAL WORDS

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.



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 CAUTION, WARNING, DANGER or instruction safety decal that is not readable or is missing. Location of such decals is indicated in this booklet.

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 unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.**

To prevent injury or death, use a tractor equipped with a Roll Over Protective System (ROPS). Do not paint over, remove or deface any safety 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 sign.
- Safety signs are available from your Distributor or Dealer Parts Department or the factory.

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 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 unit a visual inspection for any loose bolts, worn parts or cracked welds, and make necessary repairs. Follow the maintenance safety instructions included in this manual.
- Be sure that there are no tools lying on or in the equipment.
- Do not use the unit until you are sure that the area is clear, especially children and animals.

- Don't hurry the learning process or take the unit 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 Protective System (ROPS) and fasten your seat belt prior to starting the 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.

DURING OPERATION

- Children should not be allowed on the product.
- Clear the area of small children and bystanders before moving the feeder.
- If using a towing unit, securely attach feeder 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 on-coming traffic when feeder 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 unit. 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 other 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 overturn may result.
- Operate up and down (not across) intermediate slopes. Avoid sudden starts and stops

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 UNIT 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 to 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 lighting 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 flashing 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 lower than the gross weight as which you are operating..
- Watch for obstructions overhead and to the side while transporting.
- Always operate equipment 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 unit, etc.
- Pick the most level possible route when transporting across fields. Avoid the edges of ditches or gullies and steep hillsides.
- Be extra careful when working on inclines.
- 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 unit length when making turns.
- Operate the towing vehicle from the operator's seat only.
- Never stand alongside of unit with engine running or attempt to start engine and/or operate machine while standing alongside of unit.
- 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
- Following operation, or when unhitching, stop the tractor or towing vehicle, set the brakes, disengage the

FOLLOWING OPERATION

PTO and all power drives, shut off the engine and **remove the ignition keys**.

- Store the unit in an area away from human activity.
- Do not park equipment where it will be exposed to livestock for long periods of time. Damage and livestock injury could result.
- Do not permit children to play on or around the stored unit.
- Make sure all parked machines are on a hard, level surface and engage all safety devices.
- Wheel chocks may be needed to prevent unit from rolling.
- Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.

PERFORMING MAINTENANCE

- Make sure there is plenty of ventilation. Never operate the engine of the towing vehicle in a closed building. The exhaust fumes may cause asphyxiation.
- Be certain all moving parts on attachments have come to a complete stop before attempting to perform maintenance.
- Always use the proper tools or equipment for the job at hand.
- Use extreme caution when making adjustments.
- Never replace hex bolts with less than grade five bolts unless otherwise specified.
- After servicing, be sure all tools, parts and service equipment are removed.
- Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not claim responsibility for use of unapproved parts and/or accessories and other damages as a result of their use.
- If equipment has been altered in any way from original design, the manufacturer does not accept any liabil-

Assembly

SR

The SR spreader arrives completely assembled.

ATTACHING TO THE TRACTOR

To attach the implement to the tractor do the following:

Back the tractor up to the implement in order to slip the tractor hitch arms over the hitch pins bolted to the frame. **Turn off the tractor engine and engage the park brake.** Secure the two tractor hitch arms to the implement with lynch pins. Tighten the tractor arms side movement with either the sway chains or blocks to limit side swing. Connect the top link, locking it in place with the top hitch pin. Adjust it so the implement is as near parallel to the ground as possible with spout at a distance of 28 to 32 inches above the ground level .

Shortening a PTO Driveline if necessary

1. With the implement attached to the tractor's three point hitch, and the PTO driveline not installed, separate the PTO driveline. Attach the implement end to the implement and the other end to the tractor PTO input shaft.
2. Raise the implement by using the tractor's hydraulic 3-point hitch to it's maximum lift height.
3. Hold the half shafts next to each other and mark them so each end is approximately ½" from hitting the end of the telescopic profiles.
4. Shorten the inner and out guard tubes equally.
5. Shorten the inner and outer profiles by the same length as the guard tubes. Using a rattail file, round off all sharp edges and burrs. Grease the telescopic profile generously before reassembling.

Be sure each end of the driveline is connected securely with the locking pin on the tractor end and 2 roll pins on the implement end. Connect the driveline shielding chains to the tractor and to the implement to prevent the protective shielding from rotating during operation. If it was necessary to remove the PTO shielding to do any of the above operations, do not forget to replace it..

CAUTION: Load hopper with product only after the spreader has been properly attached to the tractor.

WARNING: Chemicals may cause eye, skin or breathing problems. Always wear a face mask, gloves and goggles when filling hopper. Refer to chemical manufacturer's label for specific safety information.

Operation

Before starting to use, never forget that the **operator is responsible** for the following:

1. Safe and correct driving of the tractor and spreader.
2. To learn precise, safe operating procedures for both the tractor and the spreader.
3. To ensure all maintenance and lubrication has been performed on the spreader.
4. To have read and understood all safety aspects for the spreader in the Operator's Manual.
5. To have read and understood all safety decals on the spreader.
6. Checking the tractor tires for the proper pressure in accordance with the tractor Operator's Manual.
7. **Checking that all shields are on the machine and securely in place.**
8. Making sure the proper attire is worn. Avoiding loose fitting clothing which can become entangled. Wearing sturdy, tough-soled work shoes and protective equipment for eyes, hands, ears and head. Never operate tractor or implements in bare feet, sandals or sneakers.
9. Ensuring proper lighting is available, sunlight or good artificial lighting.

Prior to start working do the following:

1. Make sure there are no obstructions.
2. Run machine under a no-load condition for a short while to assure that everything is functioning properly.
3. Adjust all settings for the desired quantity distribution and spread pattern.
4. Shift the transmission to a slow speed gear and start forward, increase the ground speed by shifting upward until the desired speed is obtained. Do not use in reverse unless absolutely necessary and only after careful observation of the area behind the spreader.

Operating Techniques

The material delivery is controlled by a lever that opens the orifices in the hopper bottom. To ensure a constant output of product always keep the following factors into account.

The quantity of material distributed per acre depends on the following factors:

1. Tractor ground speed.
2. Unit weight and size of the material to be spread.
3. Spreading width.
4. Position of the lever connected to the hopper gates.

The working speed depends on ground conditions. Only a test run will enable you to gauge the optimal working speed for your conditions.

The Compact SR Spreader comes standard with row deflectors. If these are removed, the spreader will work as a traditional spin spreader delivering product full width behind the machine.

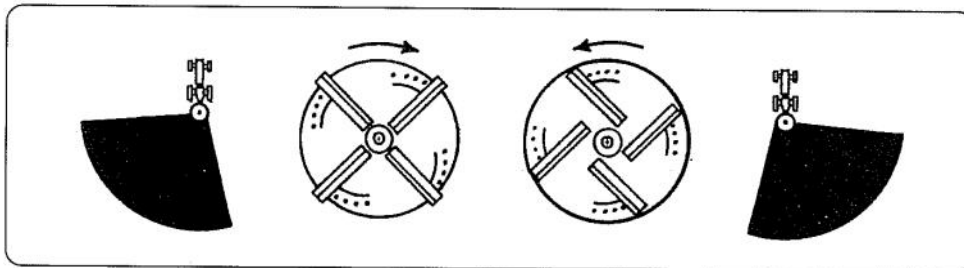
Adjusting Spread Pattern without row deflectors installed.

There are two means of adjusting the spread pattern of the spreader:

There are two spring loaded gates at the bottom of the hopper, by opening one or the other, or both varies the spread pattern.

When spreading center behind the tractor, both gates should be open. To spread more to one side or the other, open the opposite side and close the gate on the side to which the spread pattern is desired. The side that the closed gate is on, more material will be dispersed towards that side.

Further adjustments can be made by positioning the spreading vane in one of 5 holes supplied on the disc. Moving the vanes counterclockwise makes the material to spread more to the right.



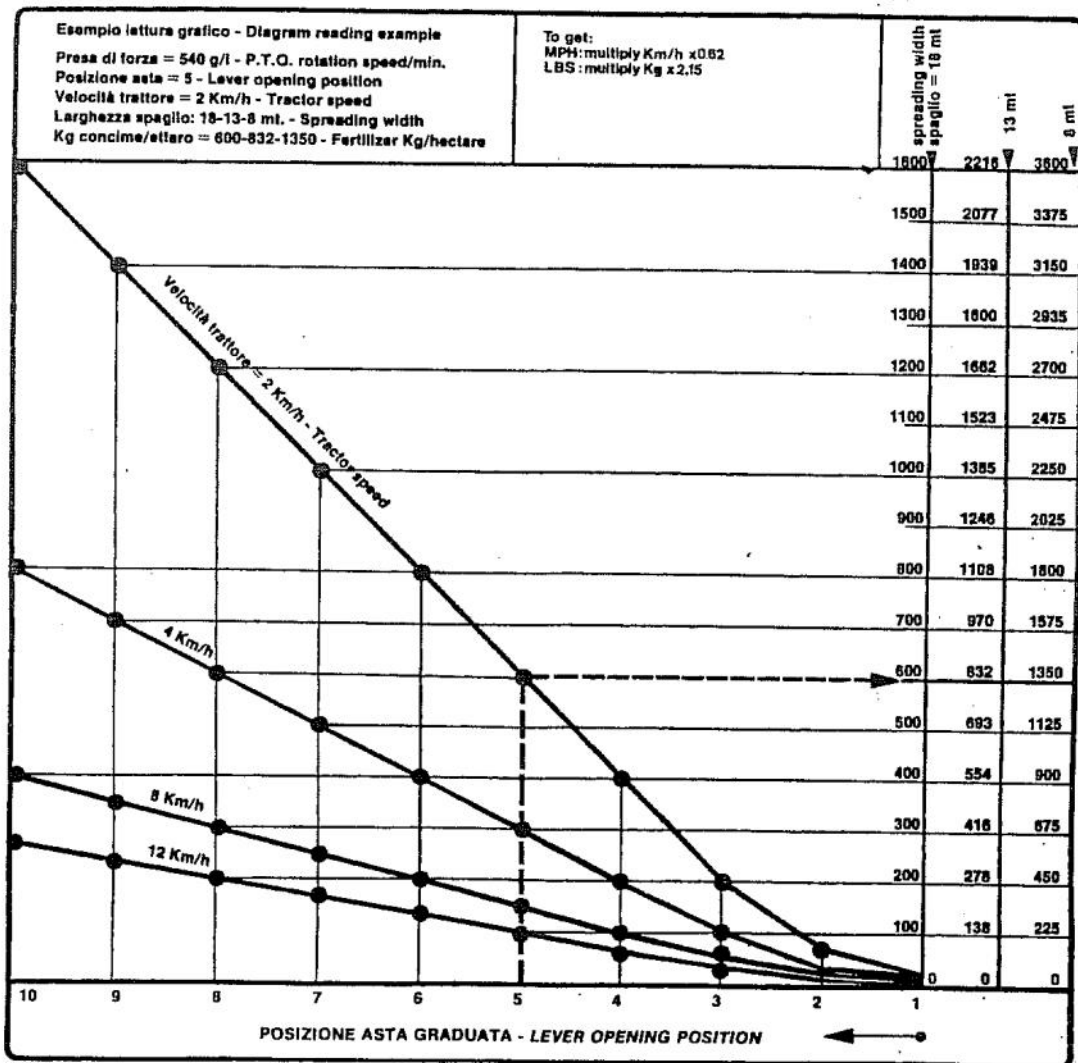
Service

After each use:

1. Be sure to thoroughly wash the machine without using excessive pressure especially on the moving parts. It is particularly important to wash the implement after using salt or fertilizer. This will help prevent the caustic chemicals in the salt and fertilizer from destroying the metal of the machine.
2. Carefully dry the machine.
3. Apply a thick layer of grease to all exposed moving parts.
4. Apply a film of biodegradable oil in crevices and corners.
5. Grease the driveline cross and bearing and shielding.
6. Grease the telescoping inner and outer tubes .

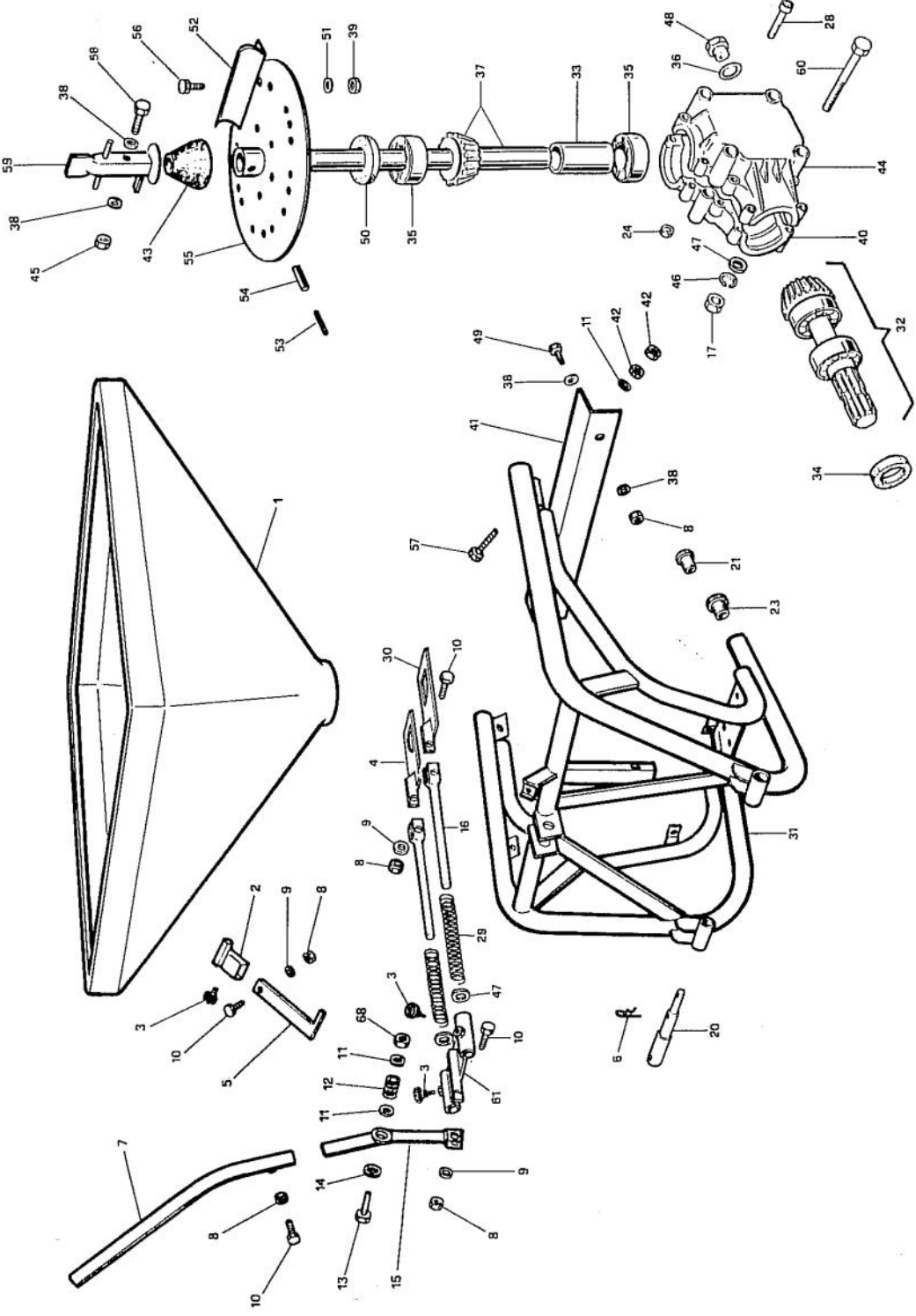
Spread Charts without deflectors

Model SR— SWATH SPREAD PATTERNS (lbs/acre)			
Spreading width 46 feet			
Lever	2.5 mph	5 mph	7.5 mph
1	89	39	16
2	143	61	43
3	223	123	82
4	312	184	123
5	419	246	166
6	553	307	201
7	651	369	246
8	767	430	282
9	874	492	323



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Belco Resources Equipment SR-600 & SR-800

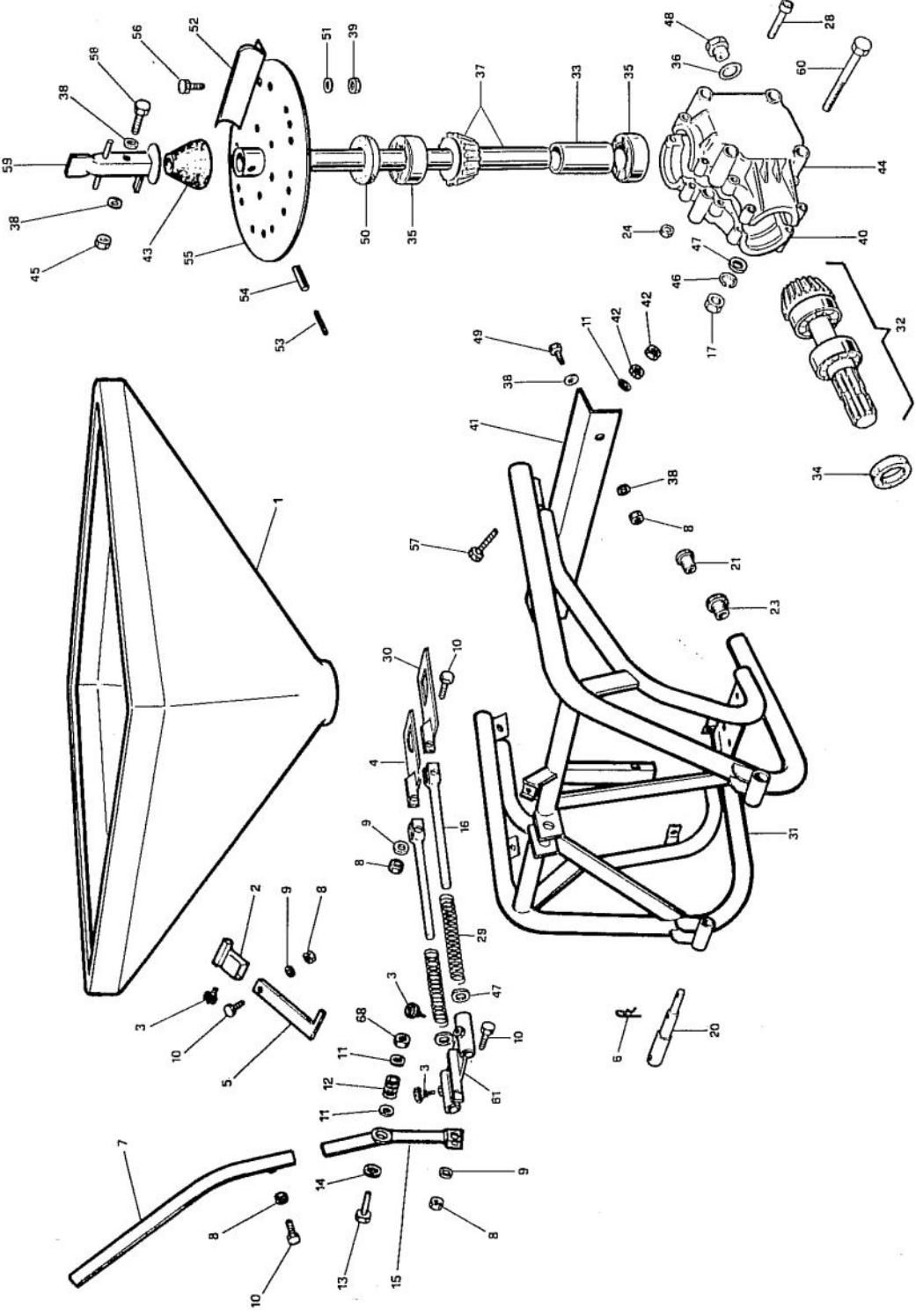


Belco Resources Equipment

SR-600 & SR-800

Pos.	Part #	Description	Qty
1	RP06-610-01-01	Hopper SR 610/S DG	1
	RP06-810-01-01	Hopper SR 810/S DG	1
2	RP04-000-29-00	Lever Stopper	1
3	RP04-000-28-00	Hand Wheel M8x15	3
4	RP04-002-15-01	L.S. Shutter DG	1
5	RP04-002-31-01	Scaled Rod DC	1
6	RP06-000-06-00	R Shaped Cotter Pin Ø4	2
7	RP05-000-09-00	Lever SR 410/S	1
7a	RP06-000-07-00	Lever SR 610/S - 810/S - 1010/S	1
8	RP04-000-05-00	Nut M8	7
9	RP04-000-04-00	Spring Washer Ø8	4
10	RP04-000-03-00	Hex Screw M8x25	5
11	RP04-000-06-00	Washer Ø14x28	8
12	RP04-000-13-00	Spring	1
13	RP04-000-11-00	Hex Screw M12x80	1
14	RP04-000-12-00	Nylon Washer Ø12x48x3	1
15	RP05-002-10-01	Lever Bracket SR 410/S DG	1
15a	RP06-002-15-01	Lever Bracket SR 610-810-1010/S DG	1
16	RP06-410-16-01	Tie SR 410/S DG	2
16a	RP06-610-16-01	Tie SR 610-810-1010/S DG	2
17	RP04-000-55-00	Nut M10	5
20	RP06-000-20-00	Elevator Connecting Pin cat. 1/2	2
21	RP06-610-21-00	Rubber Cap Ø42 for 610/S	4
21a	RP04-000-52-00	Rubber Cap Ø60 for SR 810-1010/S	4
23	RP04-000-520-0	Rubber Cap Ø60 for SR 610-810-1010/S	4
24	RP04-150-50-01	Nut M8 5588	8
28	RP04-150-27-01	Allen Screw M8x45 8.8	8
29	RP04-002-61-00	Spring's Tie DG	2
30	RP04-002-30-01	R.S. Shutter DG	1
31	RP06-025-31-41	Frame SR 410/S	1
31a	RP06-025-31-61	Frame SR 610/S	1
32	RP04-025-61-00	Ingoing Shaft	1
33	RP04-025-24-00	Spacer	1
34	RP04-025-60-00	Seal Ring Ø35x47x7	1
35	RP04-150-49-01	Bearing 6205	2
36	RP04-025-54-00	O. Ring Seal 3062	1
37	RP04-025-45-00	Outgoing Shaft	1
38	RP04-000-07-00	Washer Ø8x17	6
39	RP04-000-47-00	Nut M6	12

Belco Resources Equipment SR-600 & SR-800



Belco Resources Equipment SR-600 & SR-800

Pos.	Part #	Description	Qty
40	RP04-025-63-00	L.S. Half Box L25	1
41	RP06-410-41-00	Guard SR 410/S	1
41a	RP06-610-41-00	Guard SR 610-810-1010/S	1
42	RP04-000-01-00	Nut M12	12
43	RP05-000-27-00	Rubber Bell	1
44	RP04-025-59-00	R.S. Half Box L25	1
45	RP04-000-38-00	Self-Locking Nut M8	1
46	RP04-000-56-00	Spring Washer Ø10	4
47	RP04-000-57-00	Washer Ø10x21	6
48	RP04-025-55-00	Oil Cap	1
49	RP04-000-34-00	Hex Screw M8x20	2
50	RP04-025-48-00	Seal Ring Ø25x47x7	1
51	RP04-000-44-00	Spring Washer Ø6	12
52	RP05-000-42-00	Spreader Wing	6
53	RP04-000-36-00	Spring Pin Ø5x40	1
54	RP04-000-37-00	Spring Pin Ø8x40	1
55	RP05-000-43-00	Spreader Disc	1
56	RP04-000-41-00	Hex Screw M6x14	12
57	RP04-000-02-00	Cyl. Screw M12x30	6
58	RP04-000-40-00	Hex Screw M8x40 8.8	1
59	RP04-000-39-00	Stationary Stirrer	1
60	RP04-025-53-00	Hex Screw M10x120	4
61	RP04-002-62-00	Tie Attachment Plate DG	1
-	RP05-500-80-00	Joint Assembly SR 410/S	1
-	RP06-610-90-00	PTO shaft complete	1
-	RP04-025-71-00	Gearbox Assembly	1

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 preformed 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.



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