



Ground Driven Spreader PTS-100 / PTS-160

Operator's Manual



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.**

Keep safety signs clean and legible at all times.



SAFETY DECAL CARE

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 stick 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.
Keep wheel lug nuts or bolts tightened to specified torque.
Assure that agricultural implement 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.

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



DURING OPERATION

on public roads and highways. Lights and slow moving signs must be clean and visible by overtaking or oncoming 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.

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.



HIGHWAY AND TRANSPORT OPERATIONS

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 levellest 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.

Assembly Instructions

1. Begin assembly by sliding the threaded bushing (#7) through the bottom center hole of the hopper. Fasten the mobile shutter (#48) to it with the nut (#47). Make sure the slots in the mobile shutter are facing away from the bottom of the hopper. Tighten the nut securely.
2. Bolt the guard (#14) to the frame (#11) with the 8 x 16mm (#16) bolts, washers and hex nuts.
3. Slide the Spinner disc (#46) and the hopper with mobile shutter attached, over the gearbox shaft. Secure the spinner disc in place with the R pin (#43) and secure the rear of the hopper to the square tubing section of the frame (#11) using the 8 x 40 carriage bolts (#8), 8mm washer (#9) and hex nut.
4. Place the dust cap and agitator (#4) over the output shaft and secure it using the 6 x 30mm (#5) bolt and lock nut.
5. Place the distributor shield (#3) inside the hopper (#2) and fasten with the two M8x20 carriage bolts (#50), M8 washers (#9) and M8 hex nuts (#10) that connect the sides of the frame to the hopper.
6. Slide the flow control assembly (#19) into the slot of the mobile shutter (#48) and fasten to the guard (#14) with the adjustment knob (#20) and M8 washer (#14).
7. The wheel hubs are offset and are mounted on the shaft (#28) with the long end (that with the hole) to the inside. Assemble the wheels, followed by the 20mm washer (#31). Secure in place with the bent R cotter pin (#45). On the right wheel (#25), insert the M6x45 bolt (#26) through the hole in the hub and axle. Secure in place with the washer and lock nut.
8. Attach the drawbar tongue (#51) to the square tubing of the frame utilizing the right plate (#17) and left plate (#18) and the 8 x 40mm bolts (#15), washers and nuts. Select the hole in plate (#17) that allows the spreader to run parallel to the ground. The correct hole will depend on the hitch height of the towing unit.
9. Attach plates (#21 & #22) by sliding the round stock ends of these two plates through the tubes that are welded to the ends of the tongue. Bolt the outer end to the frame (the two plates should be angled upwards with the stock ends pointed inwards after they are bolted).
10. Tighten all hardware.

Operation

The PTS series is ideal for lawns, parks, nurseries, athletic fields, parking lots, etc. It is designed for small tractors or ATVs. It may also be used as a salt spreader for snow or ice covered roads during winter months. The PTS Spreader can be used to distribute granular fertilizers, seeds, sand and small granular salt.

The anti-corrosive rotating spreader disc is ground driven by the air tires which are attached to a drive axle that runs through a sealed gearbox with tempered high carbon steel gears.

Operation

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

1. Spreader ground speed.
2. Unit weight and size of the material to be spread.
3. Spreading width.
4. Lever position that regulates opening size.

The working speed depends on ground conditions.

To regulate the spread pattern slide (to the left or right) the lever (see #19), which is located under the hopper and runs through the slot in the disc shielding (see #14). This moves the spread pattern from 180° at position 0 (in the center), to either mostly 90° right with the lever shifted all the way to the left or mostly 90° left when shifted to the right completely.

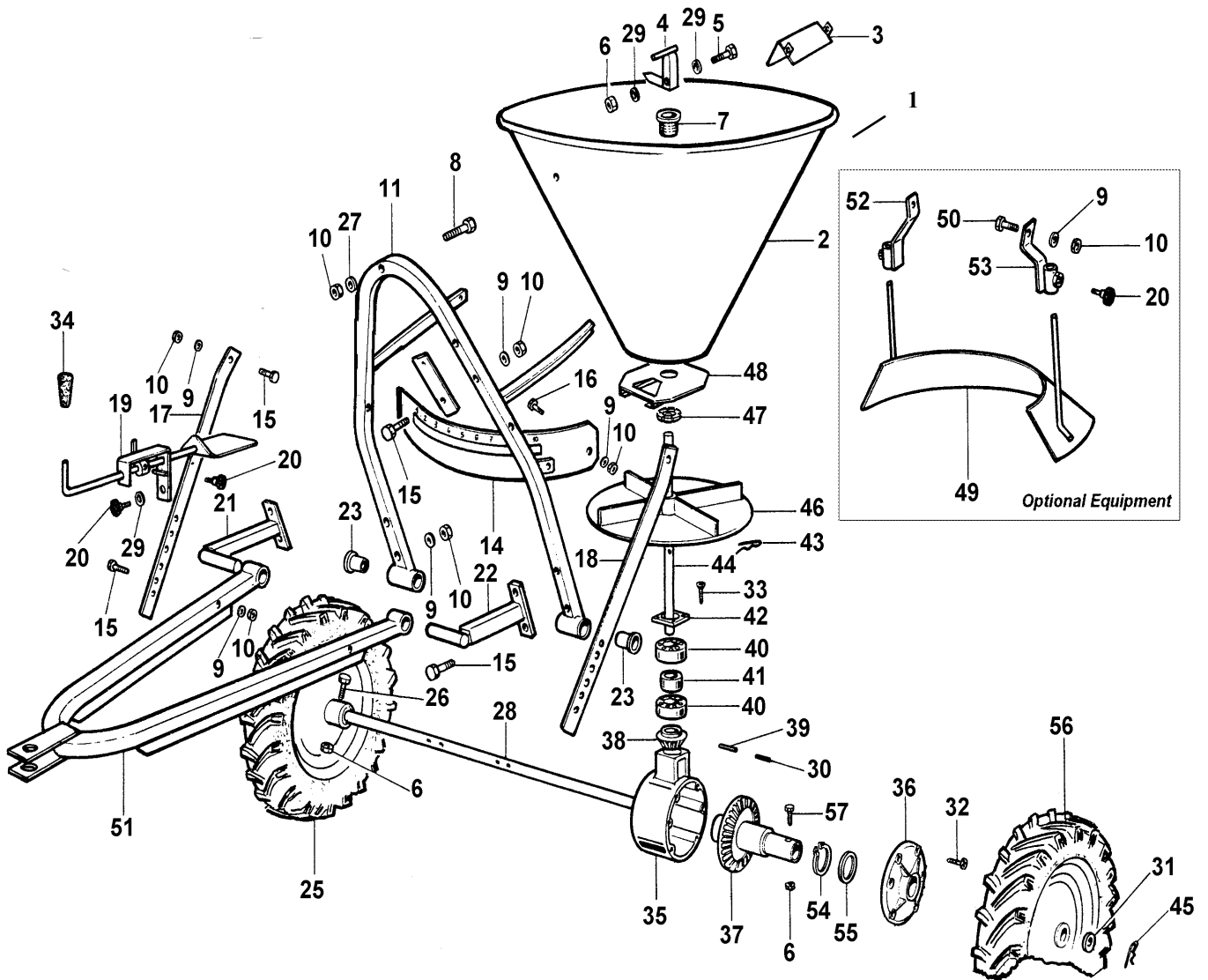
To regulate the amount of material to be spread, using the same lever as above (#19), slide it in and out to regulate the size of opening at the bottom of the hopper. Use the scale located near the lever to gauge the size opening needed. Example: if it is determined that the appropriate opening desired is position #6, loosen the knob (see #20,) so the blocking plate will slide. Push the lever in until the hole is completely closed and move the blocking plate to position #6 and tighten the knob. To spread, pull the lever back until it stops in position #6.

To adjust the spreading width, ground speed is the most important factor, the faster the ground speed the further the material is thrown. An optional rear deflector (see #49) is available for additional regulation. Move the deflector up and down to change the spreading distance. The higher the deflector is up the further the spread width, the lower the deflector, the less distance the material travels. An optional metal skirting is available to regulate swath spread

Swath Spreading Patterns (lb/1000 sq.ft)

Lever Position	Spreading width 6.5 feet		Spreading width 13 feet		
	2mph	4mph	2mph	4mph	
1	6	4	3	2	
2	12	6	6	3	
3	19.5	10	10	5	
4	28	14	14	7	
5	37	18	19	9	
6	46.5	23	23	11.5	
7	56	28	28	14	
8	65.5	33	33	16.5	
9	77	39	38.5	19.5	
10	-	44	-	22	

Belco Resources Equipment SPT-100 / SPT-160



Belco Resources Equipment SPT-100 / SPT-160

POS.	Part #	Description	Qty
1	RP02-100-02-00	Hopper SPT-100	-
2	RP02-150-02-00	Hopper SPT-160	-
3	RP02-000-03-00	Guard - Agitator	1
4	RP02-000-04-00	Agitator	1
5	BM610030	Bolt 6 x 30	1
6	LNM0600	Nut 6mm Lock Nut	3
7	RP02-000-07-00	Threaded Bushing	1
8	RP02-000-08-00	Carriage Head Bolt 8 x 40	1
9	FW8000	Flat Washer 8 mm	12
10	NM08000	Nut 8mm	13
11	RP02-000-11-00	Frame SPT-100	-
	RP02-000-11-15	Frame SPT-160	-
14	RP02-000-14-00	Deflector	1
15	BM0812540	Bolt 8 x 40	8
16	BM812516	Bolt 8 x 16	2
17	RP02-000-17-00	Tow Bar Adjustment - Left	1
18	RP02-000-18-00	Tow Bar Adjustment - Right	1
19	RP02-000-19-00	Shutter Adjustment	2
20	RP02-000-20-00	Knob - Adjustment	1
21	RP02-000-21-00	Tow Bar - Connector - Left	1
22	RP02-000-22-00	Tow Bar - Connector - Right	1
25	RP02-000-25-00		
26	BM610050	Bolt 6 x 50	1
27	FW08000	Flat Washer 8mm	1
28	RP02-000-28-00	Axle	1
29	FW06000	Flat Washer 6mm	3
30	RP320	Roll Pin 3 x 20	1
31	RP000.31.00	Flat Washer 20 x 40	2
32	RP02-016-32-01	Bolt - Self threading 3.9 x 22	6
33	RP02-016-33-01	Bolt - Self threading 3.9 x 16	4
34	RP02-000-34-00	Knob - Shutter Regulation	1
35	RP02-016-35-01	Housing	1
36	RP02-016-36-01	Cover - Housing	1
37	RP02-016-37-01	Ring Gear	1
38	RP02-016-38-00	Pinion Gear	1
39	RP520	Roll Pin 5 x 20	1
40	B6202	Bearing 6202	2

Belco Resources Equipment

SPT-100 / SPT-160

POS.	Part #	Description	Qty
41	RP02-016-41-00	Spacer	1
42	RP02-016-42-01	Cover - Housing Hub	1
43	RP02-000-43-00	R Shaped Cotter D.5	1
44	RP02-016-44-01	Shaft - Output	1
45	RP06-000-06-00	R Shaped Cotter D.4	1
46	RP02-000-46-01	Spreader Disc	1
47	RP02-000-47-01	Nut M30 BPF	1
48	RP02-000-48-00	Shutter	1
49	RP02-000-49-00	Deflector - Directional	1
50	BM812525	Bolt 8 x 25	2
51	RP02-000-51-00	Tow Bar	1
52	RP02-000-52-00	Connector - Def. Dir. Right	1
53	RP02-000-53-00	Connector - Def. Dir. Left	1
54	SRE3000	Snap Ring 30 Ext.	1
55	RP02-016-55-01	Shim 30 x .05	1
56	RP02-000-56-00	Tire - High Floation - Right	1
57	RP02-000-57-00	Bolt 6 x 40	1
	RP02-016-71.01	Gearbox Complete	1

LIMITED WARRANTY

Belco Resources Equipment Division, LLC warrants to the original purchaser of any new Belco Resources, Inc equipment, purchased from an authorized Belco Resources, Inc 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 Division, LLC 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 Division, LLC dealer during regular working hours. Belco Resources Equipment Division, LLC 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 Division, LLC 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 Division, LLC 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 Division, LLC; 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.

Increasing agricultural productivity since 1974
Belco Resources Equipment

P.O. Box 8164
Rocky Mount, NC 27804
www.BR-Equipment.com



Tel: 252-442-0700
Fax: 252-442-0787
Sales@BRGlimited.com