

FRONTIER PRODUCTS

Livestock & Equine Management

Grinder Mixer Equipment for Base Machine

Tank Capacity - Bushels: 135
 Tank Capacity - Cubic Ft.: 170
 Tank Diameter: 72"
 Diameter of Mixing Auger: 14" Diameter w/30" Base
 Ladder: Standard - Front Mount Over Mill
 Tank Windows: 2 - Full Length & 1 Port Hole Style
 Overall Height: 10' 7"
 Overall Width w/o Intake Auger: 7' 9"
 Overall Width w/ Intake Auger: ---
 Overall Length: 15' 8"
 Ground Clearance: 11.5 in.
 Supplement Hopper: 18 X 23 in.
 Supplement Hopper Height: 35 in.
 Feeder: Gravity Hopper or Standard Swinging Intake Auger (SIA)
 Fenders: Standard
 PTO Drive: 540 or 1000 RPM
 "H.P. Requirement: 540 RPM 50 to 115 HP
 1000 RPM 50 to 145 HP "
 Tires: 12.5L - 15 - 20 Ply
 Jack: Standard
 Safety Chain: Standard
 Weight w/Auger Feeder: 3,600 lbs
 Auger Feeder Length: 84 in.
 Auger Diameter: 12 in.
 Infeed Hopper: 42" w/Fold-In-Flare - Adjustable as low as 20" Drive: Direct Drive Independent

Hydraulic Motor
 Hammermill Width: 21 in.
 Cylinder Diameter: 20 in.
 Grinder Drive: 8 "A" Section Banded V-Belt
 Grinder Hammers: 66-4 Way Reversible Steel Alloy
 Grinder Screen Area: 600 Sq. In.
 Throat Magnet: 2 - 4"x18"
 Cylinder Speed: 2700 RPM
 Unloading Auger Tube Diameter: 8 in.
 Unloading Auger Length: 12 ft.
 Unloading Auger Rotation: 300 Degrees
 Unloading Auger Reach Standard: 19' @ 53 Degrees
 Unloading Auger w/3' Extension: 21' 6" @ 53 Degrees
 Unloading Auger w/6' Extension: 23' 10" @ 53 Degrees
 Self-Contained: Includes Pulley-Driven Pump, Reservoir & Pressure Relief Valve
 Pump Pressure: 2,600 PSI Maximum
 Oil Flow: 10.5 G.P.M.
 Hydraulic Reservoir: Cyclonic Reservoir
 Oil Filter: 10 Micron

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
Select One Code From Each Required Category			
BASE MACHINE			
5001XF		Grinder Mixer <i>135 bushel tank capacity. Includes Intake Auger, Fenders & Lights</i>	51,785.00
DISCHARGE AUGER EXTENSION			
1120		3 Ft. Discharge Auger Extension	893.00
1140		6 Ft Discharge Auger Extension	1,080.00
1195		No Discharge Auger Extension	In Base Price
POWER TAKE-OFF (PTO)			
1300		540 RPM PTO Overrunning/Torque Limiting Clutch	In Base Price
1320		1000 RPM PTO 1 3/8" Shearbolt	1,120.00
AXLES			
1420		EZ 2500 Scale <i>With Net/Tare/Gross modes</i>	3,430.00
1440		EZ 3400 Scale <i>With Net/Tare/Gross/Batch and Ingredient Accumulation modes, with external horn</i>	3,973.00
1495		Less Scale Monitor	In Base Price

FRONTIER PRODUCTS**Livestock & Equine Management****Grinder Mixer**

Continued

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
AXLES ...Continued...			
MISCELLANEOUS			
8000		High-Moisture Kit-540 RPM	2,079.00
8010		High-Moisture Kit - 1000 RPM	1,993.00
MISCELLANEOUS			
9000		1 In. Mill Screen	196.00
9010		1-1/2 In. Mill Screen	230.00
9020		1-1/4 In. Mill Screen	212.00
9030		1/2 In. Mill Screen	179.00
9040		1/4 In. Mill Screen	226.00
9050		1/8 In. Mill Screen	289.00
9060		2 In. Mill Screen	228.00
9070		3/16 In. Mill Screen	337.00
9080		3/4 In. Mill Screen	121.00
9090		3/8 In. Mill Screen	156.00
9100		5/16 In. Mill Screen	191.00
9110		5/8 In. Mill Screen	136.00
OPERATOR'S MANUAL AND DECALS			
9200		French Operators Manual and Decal Kit	No Added Cost

Attachment Information is not available in MOCI for the base code 5001XF

FRONTIER PRODUCTS**Livestock & Equine Management****MS1117 - 175 Bushel PTO Driven Two Speed Manure Spreader**
Equipment for Base Machine

Number of Paddles: 8
 Main Apron Chain: T-Rod
 Tractor HP (2WD): 38 HP
 Capacity - Cubic Foot Struck Level: 105
 Capacity - Heaped (Old Rating)
 Bushels: 175 Bushels
 Box Construction:
 Corrosion Resistant Galvanized Steel
 Frame Design: Box on Frame
 Floor Construction: Bonded Poly
 Shear Bolt Protection: Drive Line
 Apron Drive: Gearbox, 2 Speed PTO
 Swing Away Jack: Standard
 Inside Length: 11 Ft. 1 In.
 Diameter of Beater: 27 In.
 Weight with Tires: 2030 lbs.
 Standard Tire Size: 10R x 22.5
 Overall Width with Standard Tires: 83-1/2 In.
 Overall Height with Hydraulic Endgate: 49 In.
 Overall Loading Height
 - Top of Flare: 45-1/2 In.
 Inside Depth: 25-3/4 In.
 Inside Width: 54 In.
 Top of Flare Width: 63-1/2 In.

Approximate Tongue Weight Loaded: 1022 lbs.
 Approximate Weight Spreader
 - Fully Loaded: 8508 lbs.
 Overall Length: 17 Ft. 8 In.
 Spindle Size: 2 In.
 Rear Hydraulic Endgate: Optional
 Semi Liquid Rear Pan: Optional
 PTO Speed: 540 RPM
 Drive System - Apron and Beater: PTO Driven
 Replaceable Paddles: No
 Hub Style: Greaseable
 Axle: Single
 Set-Up Time: 30 Minutes
 Warranty: 1 Year Parts and Labor,
 Poly Floors - 10 Year Warranty
 to Original Owner when used to spread normal
 agricultural manure.

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
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Select One Code From Each Required Category

BASE MACHINE

0806XF		MS1117 - 175 Bushel PTO Driven Two Speed Manure Spreader <i>Includes 540 RPM PTO</i>	14,604.00
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REAR PAN

7000		Rear Pan <i>Recommended when spreading slurry.</i>	527.00
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END GATE

7050		Hydraulic End Gate	1,766.00
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BEATER

9000		Top Beater	1,226.00
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ATTACHMENTS FOR FIELD CONVERSION

Miscellaneous			
5HPMSO2B175	Hydraulic End Gate		2,454.68
5HPMSO3B3	Rear Pan <i>Recommended when spreading slurry.</i>		842.65
5HPMSOTB175	Top Beater		1,656.51

FRONTIER PRODUCTS

Livestock & Equine Management

MS1117 - 175 Bushel PTO Driven Two Speed Manure Spreader

Continued

FRONTIER PRODUCTS

Livestock & Equine Management

MS1112 - 125 Bushel PTO Driven Two Speed Manure Spreader
 Equipment for Base Machine

Swing Away Jack: Standard
 Main Apron Chain: #67XH Chain
 Tractor HP (2WD): 33 HP
 Capacity - Cubic Foot Struck Level: 75
 Capacity - Heaped (Old Rating)
 Bushels: 125 Bushels
 Box Construction:
 Corrosion Resistant Galvanized Steel
 Frame Design: Box Frame
 Floor Construction: Bonded Poly
 Shear Bolt Protection:
 One Bolt for Both Drive and Beater
 Weight with Tires: 1600 lbs.
 Number of Paddles: 10
 Standard Tire Size: 10.00 x 15
 PTO Drive: 540 RPM
 Top of Flare Width: 54 In.
 Overall Width with Standard Tires: 80 In.
 Overall Height with Hydraulic Endgate: N/A
 Overall Loading Height
 - Top of Flare: 43-1/2 In.
 Overall Length: 15 Ft. 3 In.
 Inside Depth: 22 In.
 Inside Length: 10 Ft. 6 In.

Inside Width: 48 In.
 Spindle Size: 2 In.
 Diameter of Beater: 22 In.
 Approximate Tongue Weight Loaded: 997 lbs.
 Approximate Weight Spreader
 - Fully Loaded: 6820 lbs.
 Semi Liquid Rear Pan: Optional
 Drive System - Apron and Beater: PTO Driven
 Apron Drive: Timken Drive, Two Speed
 Apron Speed: Single Speed
 Replaceable Beaters: No
 Hub Style: Greaseable
 Axle: Single
 Set-Up Time: 30 Minutes
 Warranty: 1 Year Parts and Labor,
 Poly Floors - 10 Year Warranty
 to Original Owner when used to spread normal
 agricultural manure.

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
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Select One Code From Each Required Category

BASE MACHINE

0805XF		MS1112 - 125 Bushel PTO Driven Two Speed Manure Spreader <i>Includes 540 RPM PTO</i>	11,403.00
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REAR PAN

7000		Rear Pan <i>Recommended when spreading slurry.</i>	484.00
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ATTACHMENTS FOR FIELD CONVERSION

Miscellaneous

5HPMSOPAN12		Rear Pan <i>Recommended when spreading slurry.</i>	744.52
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FRONTIER PRODUCTS

Livestock & Equine Management

MS1112 - 125 Bushel PTO Driven Two Speed Manure Spreader
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FRONTIER PRODUCTS**Livestock & Equine Management****MS1108 - 80 Bushel PTO Driven Two Speed Manure Spreader**
Equipment for Base Machine

Swing Away Jack: Standard
 Standard Tire Size: 6.70 x 15
 PTO Speed: 540 RPM
 Floor Construction: Bonded Poly
 Shear Bolt Protection:
 Drive Line and Beater
 Box Construction:
 Corrosion Resistant Galvanized Steel
 Frame Design: Box Frame
 Capacity - Heaped (Old Rating)
 Bushels: 80 Bushels
 Capacity - Cubic Foot Struck Level: 53
 Main Apron Chain: #67H Chain
 Tractor HP (2WD): 23 HP
 Number Of Paddles: 10
 Weight with Tires: 1140 lbs.
 Approximate Tongue Weight Loaded: 737 lbs.
 Approximate Weight Spreader
 - Fully Loaded: 4923 lbs.
 Overall Width with Standard Tires: 76 In.
 Overall Height with Hydraulic Endgate: N/A
 Overall Loading Height -
 Top of Flare: 37 In.
 Overall Length: 13 Ft. 8 In.

Inside Depth: 17 In.
 Inside Length: 96 In.
 Inside Width: 48 In.
 Top of Flare Width: 51 In.
 Spindle Size: 2 In.
 Diameter of Beater: 18-1/2 In.
 Semi Liquid Rear Pan: Optional
 Drive System - Apron and Beater: PTO Driven
 Apron Drive: Timken Drive, Two Speed
 Apron Speed: Two Speed
 Replaceable Paddle: No
 Hub Style: Greaseable
 Axle: Single
 Set-Up Time: 30 Minutes
 Warranty: 1 Year Parts and Labor,
 Poly Floors - 10 Year Warranty
 to Original Owner when used to spread normal
 agricultural manure.

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
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Select One Code From Each Required Category

BASE MACHINE

0804XF		MS1108 - 80 Bushel PTO Driven Two Speed Manure Spreader <i>Includes 540 RPM PTO</i>	8,937.00
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REAR PAN

7000		Rear Pan <i>Recommended when spreading slurry.</i>	448.00
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ATTACHMENTS FOR FIELD CONVERSION

5HPMSO3C		Miscellaneous Rear Pan <i>Recommended when spreading slurry.</i>	617.60
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FRONTIER PRODUCTS

Livestock & Equine Management

MS1108 - 80 Bushel PTO Driven Two Speed Manure Spreader
Continued

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FRONTIER PRODUCTS
Livestock & Equine Management

MS1108G - 80 Bushel Ground Driven Manure Spreader
 Equipment for Base Machine

Spindle Size: 2 In.
 Overall Height with Hydraulic Endgate: N/A
 Overall Loading Height -
 Top of Flare: 37 In.
 Overall Length: 13 Ft. 8 In.
 Inside Depth: 17 In.
 Inside Length: 96 In.
 Inside Width: 48 In.
 Top of Flare Width: 51 In.
 Standard Tire Size: 6.70 x 15
 Approximate Tongue Weight Loaded: 570 lbs.
 Approximate Weight Spreader
 - Fully Loaded: 4276 lbs.
 Weight with Tires: 1140 lbs.
 Swing Away Jack: Standard
 Apron Drive: Adjustable Ratchet
 Drive - Ground Driven
 Apron Speed: Single Speed
 Floor Construction: Bonded Poly
 Shear Bolt Protection: Driveline and Beater
 Frame Design: Box Frame
 Box Construction:
 Corrosion Resistant Galvanized Steel
 Capacity - Cubic Foot Struck Level: 53

Main Apron Chain: #67H Chain
 Tractor HP (2WD): 23 HP
 Number Of Paddles: 10
 Diameter Of Beater: 18-1/2 In.
 Capacity - Heaped (Old Rating)
 Bushels: 80 Bushels
 Overall Width with Standard Tires: 76 In.
 Semi Liquid Rear Pan: Optional
 Drive System - Apron and Beater:
 Ground Driven
 Replaceable Paddles: No
 Hub Style: Greaseable
 Axle: Single
 Set-Up Time: 30 Minutes
 Warranty: 1 Year Parts and Labor,
 Poly Floors - 10 Year Warranty
 to Original Owner when used to spread normal
 agricultural manure.

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
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Select One Code From Each Required Category

BASE MACHINE

0803XF		MS1108G - 80 Bushel Ground Driven Manure Spreader	7,124.00
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REAR PAN

7000		Rear Pan <i>Recommended when spreading slurry.</i>	448.00
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ATTACHMENTS FOR FIELD CONVERSION

	5HPMSO3C	Miscellaneous Rear Pan <i>Recommended when spreading slurry.</i>	617.60
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FRONTIER PRODUCTS

Livestock & Equine Management

MS1108G - 80 Bushel Ground Driven Manure Spreader
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FRONTIER PRODUCTS**Livestock & Equine Management****MS1105G - 50 Bushel Ground Driven Manure Spreader**
Equipment for Base Machine

Spindle Size: 1-3/4 In.
Capacity - Cubic Foot Struck Level: 35
Swing Away Jack: Standard
Weight with Tires: 790 lbs.
Apron Drive: Adjustable Ratchet
Drive - Ground Driven
Apron Speed: Two Speed - per Adjustable Ratchet
Floor Construction: Bonded Poly
Capacity - Heaped (Old Rating)
Bushels: 50 Bushels
Main Apron Chain: #62 Chain
Tractor HP (2WD): 17.7 HP
Number of Paddles: 8
Diameter of Beater: 17-1/2 In.
Inside Width: 36 In.
Frame Design: Box Frame
Box Construction:
Corrosion Resistant Galvanized Steel
Standard Tire Size: 7.60 x 15
Top of Flare Width: 36 In.
Inside Length: 97 In.
Inside Depth: 17-1/2 In.
Overall Length: 13 Ft. 4 In.
Approximate Tongue Weight Loaded: 422 lbs.

Approximate Weight Spreader
- Fully Loaded: 3266 lbs.
Overall Loading Height
- top Of Flare: 32-1/2 In.
Overall Height with Hydraulic Endgate: N/A
Overall Width with Standard Tires: 58 In.
Semi Liquid Rear Pan: Optional
Drive System - Apron and Beater:
Ground Driven
Replaceable Paddle: No
Hub Style: Greaseable
Axle: Single
Set-Up Time: 30 Minutes
Warranty: 1 Year Parts and Labor,
Poly Floors - 10 Year Warranty
to Original Owner when used to spread normal
agricultural manure.

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
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Select One Code From Each Required Category

BASE MACHINE

0802XF		MS1105G - 50 Bushel Ground Driven Manure Spreader	6,242.00
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REAR PAN

7000		Rear Pan <i>Recommended when spreading slurry.</i>	373.00
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ATTACHMENTS FOR FIELD CONVERSION

	5HPMSO3D	Miscellaneous Rear Pan <i>Recommended when spreading slurry.</i>	535.16
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FRONTIER PRODUCTS

Livestock & Equine Management

MS1105G - 50 Bushel Ground Driven Manure Spreader
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FRONTIER PRODUCTS**Livestock & Equine Management****MS1102G - 25 Bushel Ground Driven Manure Spreader**
Equipment for Base Machine

Main Apron Chain: #55 Chain
 Tractor HP (2WD): 17.7 HP
 Diameter of Beater: 20 In.
 Standard Tire Size: 5 x 12
 Overall Width with Standard Tires: 42 In.
 Overall Height with
 Hydraulic Endgate: N/A
 Apron Drive: Adjustable Ratchet
 Drive - Ground Driven
 Number of Paddles: 8
 Floor Construction: Bonded Poly
 Overall Loading Height
 - Top of Flare: 30 In.
 Weight with Tires: 350 lbs.
 Swing Away Jack: N/A
 Inside Width: 22 In.
 Inside Length: 72 In.
 Inside Depth: 17 In.
 Overall Length: 9 Ft. 1 In.
 Spindle Size: 1-1/4 In.
 Approximate Tongue Weight Loaded: 136 lbs.
 Approximate Weight Spreader
 - Fully Loaded: 1441 lbs.
 Box Construction:

Corrosion Resistant Galvanized Steel
 Frame Design: Box Frame
 Capacity:
 Heaped (Old Rating) Bushels: 25 Bushels
 Cubic Foot Struck Level: 13.6
 Top of Flare Width: 28-1/2 In.
 Semi Liquid Rear Pan: Optional
 Drive System - Apron and Beater:
 Ground Driven
 Replaceable Paddles: No
 Hub Style: Greaseable
 Axle: Single
 Set-Up Time: 30 Minutes
 Warranty: 1 Year Parts and Labor,
 Poly Floors - 10 Year Warranty
 to Original Owner when used to spread normal
 agricultural manure.

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
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Select One Code From Each Required Category

BASE MACHINE

0801XF		MS1102G - 25 Bushel Ground Driven Manure Spreader	3,874.00
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REAR PAN

7000		Rear Pan <i>Recommended when spreading slurry.</i>	316.00
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ATTACHMENTS FOR FIELD CONVERSION

	5HPMSO3E	Miscellaneous Rear Pan <i>Recommended when spreading slurry.</i>	467.12
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FRONTIER PRODUCTS

Livestock & Equine Management

MS1102G - 25 Bushel Ground Driven Manure Spreader
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FRONTIER PRODUCTS**Livestock & Equine Management****MS1223 - 235 Bushel Chain Unloading Manure Spreader**
Equipment for Base Machine

Minimum Tractor Weight: 7,742 lbs.
 Top of Flare Width: 68 In.
 Inside Width: 60 In.
 Inside Length: 12 Ft. 1 In.
 Inside Depth: 28-3/8 In.
 Overall Width with Standard Tires: 92-1/2 In.
 Spindle Size: 2 In.
 Overall Length: 18 Ft. 6 In.
 Overall Loading Height
 - Top of Flare: 51-1/2 In.
 Overall Height with Hydraulic Endgate: 55 In.
 Diameter of Beater: 29 In.
 Upper Beater: Optional
 Weight with Tires: 2890 lbs.
 Capacity - Old Rating: 235
 Capacity Cubic Foot Struck Level: 143
 Rear Hydraulic End Gate: Optional
 Semi Liquid Rear Pan: Standard

PTO Speed: 540 RPM
 Swing Away Jack: Standard
 Drive: 2 Speed
 Variable Speed Hydraulic Drive: Optional
 Front Splash Panel: Standard
 Hydraulic Cylinder on
 Hydraulic Endgate: One/2 Optional
 Warranty: 1st Year Parts and Labor
 Lifetime Warranty:
 Bonded Polyethylene Floor and Sides
 10-Year Warranty: Plywood (Against Rot) with normal
 agricultural manure

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
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Select One Code From Each Required Category

BASE MACHINE

0821XF		MS1223 - 235 Bushel Chain Unloading Manure Spreader <i>Includes 540 RPM PTO, and End Gate.</i>	19,979.00
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END GATE

1000		End Gate	In Base Price
1095		Less End Gate	-2,108.00

END GATE CYLINDERS

1105		One Cylinder	In Base Price
1110		Two Cylinders	725.00
1195		Less Cylinder	No Added Cost

APRON DRIVE

2000		Two Speed PTO Driven Apron	In Base Price
2020		Variable Speed Hydraulic Apron	No Added Cost

APRON CONTROLS

2040		Two Speed PTO Rope Control	In Base Price
2050		Electric Variable Speed Apron Control	589.00
2055		Manual Variable Speed Apron Control	No Added Cost

REAR PAN

FRONTIER PRODUCTS**Livestock & Equine Management****MS1223 - 235 Bushel Chain Unloading Manure Spreader**

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Code	Attachment Identifier	Description	List Price Suggested USD (\$)
		REAR PAN ...Continued...	
4000		Rear Pan	In Base Price
4020		No Rear Pan	-617.00
HYDRAULIC HOSE HOOK-UP			
2110		Standard Hose Hook-up	In Base Price
2105		2 Hose Hook-up <i>One SCV required, Tailgate and apron both controlled with one SCV. There is a sequence valve.</i>	2,255.00
2125		4 Hose Hook-up <i>Two SCV's required, One SCV will control the tailgate and One SCV will control the apron.</i>	1,911.00
TIRES			
3005		16.5 x 16.1 Flotation Tires	1,427.00
3060		295 x 22.5 Recapped Tires	In Base Price
BEATER			
9000		Top Beater	1,441.00
OPERATOR'S MANUAL AND DECALS			
9200		French Operators Manual and Decals	No Added Cost
ATTACHMENTS FOR FIELD CONVERSION			
		Miscellaneous	
5HPMSOEC		Electric Variable Speed Hydraulic Apron Control	611.60
5HPMSO2B235		End Gate (MS1223)	2,533.31
5HPMSO235HD4		Four Hose Hook-up (MS1223, & MS1227)	2,683.66
5HP608FK1223		French Operators Manual and Decals (MS1223)	47.31
5HPMSOPAN235		Rear Pan (MS1223, & MS1227)	754.98
5HPMSOTB235		Top Beater	1,799.14
5HPMSO235HD2		Two Hose Hook-Up (MS1223, & MS1227)	2,339.71

FRONTIER PRODUCTS**Livestock & Equine Management****MS1227 - 270 Bushel Chain Unloading Manure Spreader**
Equipment for Base Machine

Minimum Tractor Weight: 9,068 lbs.
 Top of Flare Width: 68 In.
 Inside Width: 60 In.
 Inside Length: 14 Ft. 1 In.
 Inside Depth: 28-3/8 In.
 Overall Width with Standard Tires: 92-1/2 In.
 Spindle Size: 2-1/2 In.
 Overall Length: 20 Ft. 5-1/2 In.
 Overall Loading Height
 - Top of Flare: 51-1/2 In.
 Overall Height with Hydraulic Endgate: 55 In.
 Diameter of Beater: 29 In.
 Upper Beater: Optional
 Weight with Tires: 3230 lbs.
 Capacity - Old Rating: 270
 Capacity Cubic Foot Struck Level: 167
 Rear Hydraulic End Gate: Optional
 Semi Liquid Rear Pan: Standard

PTO Speed: 540 RPM
 Swing Away Jack: Standard
 Drive: 2 Speed
 Variable Speed Hydraulic Drive: Optional
 Front Splash Panel: Standard
 Hydraulic Cylinder on
 Hydraulic Endgate: One/2 Optional
 Warranty: 1st Year Parts and Labor
 Lifetime Warranty:
 Bonded Polyethylene Floor and Sides
 10-Year Warranty: Plywood (Against Rot) with normal
 agricultural manure

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
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Select One Code From Each Required Category

BASE MACHINE

0822XF		MS1227 - 270 Bushel Chain Unloading Manure Spreader <i>Includes 540 RPM PTO, and End Gate.</i>	21,864.00
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END GATE

1000		End Gate	In Base Price
1095		Less End Gate	-2,112.00

END GATE CYLINDERS

1105		One Cylinder	In Base Price
1110		Two Cylinders	725.00
1195		Less Cylinder	No Added Cost

APRON DRIVE

2000		Two Speed PTO Driven Apron	In Base Price
2020		Variable Speed Hydraulic Apron	No Added Cost

APRON CONTROLS

2040		Two Speed PTO Rope Control	In Base Price
2050		Electric Variable Speed Apron Control	589.00
2055		Manual Variable Speed Apron Control	No Added Cost

REAR PAN

FRONTIER PRODUCTS

Livestock & Equine Management

MS1227 - 270 Bushel Chain Unloading Manure Spreader

Continued

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
REAR PAN ...Continued...			
4000		Rear Pan	In Base Price
4020		No Rear Pan	-617.00
HYDRAULIC HOSE HOOK-UP			
2110		Standard Hose Hook-up	In Base Price
2105		2 Hose Hook-up <i>One SCV required, Tailgate and apron both controlled with one SCV. There is a sequence valve.</i>	2,255.00
2125		4 Hose Hook-up <i>Two SCV's required, One SCV will control the tailgate and One SCV will control the apron.</i>	1,911.00
TIRES			
3005		16.5 x 16.1 Flotation Tires	1,427.00
3060		295 x 22.5 Recapped Tires	In Base Price
BEATER			
9000		Top Beater	1,441.00
OPERATOR'S MANUAL AND DECALS			
9200		French Operators Manual and Decals	No Added Cost
ATTACHMENTS FOR FIELD CONVERSION			
Miscellaneous			
5HPMSOEC		Electric Variable Speed Hydraulic Apron Control	611.60
5HPMSO2B270		End Gate (MS1227)	2,531.11
5HPMSO235HD4		Four Hose Hook-up (MS1223, & MS1227)	2,683.66
5HP608FK1227		French Operators Manual and Decals (MS1227)	47.31
5HPMSOPAN235		Rear Pan (MS1223, & MS1227)	754.98
5HPMSOTB235		Top Beater	1,799.14
5HPMSO235HD2		Two Hose Hook-Up (MS1223, & MS1227)	2,339.71

FRONTIER PRODUCTS**Livestock & Equine Management****MS1231 - 310 Bushel Chain Unloading Manure Spreader**
Equipment for Base Machine

Minimum Tractor Weight: 10,532 lbs.
 Top of Flare Width: 68 In.
 Inside Width: 60 In.
 Inside Length: 15 Ft. 7 In.
 Inside Depth: 28-3/8 In.
 Overall Width with Standard Tires: 97 In.
 Spindle Size: 2-1/4 In.
 Overall Length: 21 Ft. 11-1/2 In.
 Overall Loading Height
 - Top of Flare: 51-1/2 In.
 Overall Height with Hydraulic Endgate: 55 In.
 Diameter of Beater: 29 In.
 Upper Beater: Optional
 Weight with Tires: 4190 lbs.
 Capacity - Old Rating: 310
 Capacity Cubic Foot Struck Level: 185
 Rear Hydraulic End Gate: Standard
 Semi Liquid Rear Pan: Optional

PTO Speed: 540, 1000 RPM Optional
 Swing Away Jack: Standard
 Drive: 2 Speed
 Variable Speed Hydraulic Drive: Optional
 Front Splash Panel: Standard
 Hydraulic Cylinder on
 Hydraulic Endgate: One/2 Optional
 Warranty: 1st Year Parts and Labor
 Lifetime Warranty:
 Bonded Polyethylene Floor and Sides
 10-Year Warranty: Plywood (Against Rot) with normal
 agricultural manure

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
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Select One Code From Each Required Category

BASE MACHINE

0823XF		MS1231 - 310 Bushel Chain Unloading Manure Spreader <i>Hydraulic Endgate, and Rear Pan are standard.</i>	28,139.00
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END GATE CYLINDERS

1105		One Cylinder	In Base Price
1110		Two Cylinders	725.00

APRON DRIVE

2000		Two Speed PTO Driven Apron	In Base Price
2020		Variable Speed Hydraulic Apron	No Added Cost

APRON CONTROLS

2040		Two Speed PTO Rope Control	In Base Price
2050		Electric Variable Speed Apron Control	589.00
2055		Manual Variable Speed Apron Control	No Added Cost

REAR PAN

4000		Rear Pan	In Base Price
4020		No Rear Pan	-617.00

HYDRAULIC HOSE HOOK-UP

2110		Standard Hose Hook-up	In Base Price
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FRONTIER PRODUCTS

Livestock & Equine Management

MS1231 - 310 Bushel Chain Unloading Manure Spreader

Continued

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
2105		HYDRAULIC HOSE HOOK-UP ...Continued... 2 Hose Hook-up <i>One SCV required, Tailgate and apron both controlled with one SCV. There is a sequence valve.</i>	2,236.00
2125		4 Hose Hook-up <i>Two SCV's required, One SCV will control the tailgate and One SCV will control the apron.</i>	1,893.00
TIRES			
3005		16.5 x 16.1 Flotation Tires	2,773.00
3060		295 x 22.5 Recapped Tires	In Base Price
POWER TAKE-OFF (PTO)			
5012		540 RPM PTO	In Base Price
5011		1000 RPM PTO 1 3/8"	619.00
BEATER			
9000		Top Beater	1,441.00
OPERATOR'S MANUAL AND DECALS			
9200		French Operators Manual and Decals	No Added Cost
ATTACHMENTS FOR FIELD CONVERSION			
Miscellaneous			
5HPMSOEC		Electric Variable Speed Hydraulic Apron Control	611.60
5HPMSO310HD4		Four Hose Hook-Up (MS1231, MS1237, & MS1243)	2,683.66
5HP608FK1231		French Operators Manual and Decals (MS1231)	46.20
5HPMSOPAN310		Rear Pan (MS1231, MS1237, & MS1243)	754.98
5HPMSOTB235		Top Beater	1,799.14
5HPMSO310HD2		Two Hose Hook-Up (MS1231, MS1237, & MS1243)	2,319.91

FRONTIER PRODUCTS**Livestock & Equine Management****MS1237 - 370 Bushel Chain Unloading Manure Spreader**
Equipment for Base Machine

Minimum Tractor Weight: 13,264 lbs.
 Top of Flare Width: 68 In.
 Inside Width: 60 In.
 Inside Length: 16 Ft. 6 In.
 Inside Depth: 34-3/8 In.
 Overall Width with Standard Tires: 97 In.
 Spindle Size: 2-1/2 In.
 Overall Length: 23' 2-1/2 In.
 Overall Loading Height
 - Top of Flare: 57-1/2 In.
 Overall Height with Hydraulic Endgate: 61 In.
 Diameter of Beater: 29 In.
 Upper Beater: Optional
 Weight with Tires: 4920 lbs.
 Capacity - Old Rating: 370
 Capacity Cubic Foot Struck Level: 235
 Rear Hydraulic End Gate: Standard
 Semi Liquid Rear Pan: Optional

PTO Speed: 540, 1000 RPM Optional
 Swing Away Jack: Standard
 Drive: 2 Speed
 Variable Speed Hydraulic Drive: Optional
 Front Splash Panel: Standard
 Hydraulic Cylinder on
 Hydraulic Endgate: Two
 Warranty: 1st Year Parts and Labor
 Lifetime Warranty:
 Bonded Polyethylene Floor and Sides
 10-Year Warranty: Plywood (Against Rot) with normal
 agricultural manure

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
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Select One Code From Each Required Category

BASE MACHINE

0824XF		MS1237 - 370 Bushel Chain Unloading Manure Spreader <i>Hydraulic Endgate, and Rear Pan are standard.</i>	31,335.00
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APRON DRIVE

2000		Two Speed PTO Driven Apron	In Base Price
2020		Variable Speed Hydraulic Apron	No Added Cost

APRON CONTROLS

2040		Two Speed PTO Rope Control	In Base Price
2050		Electric Variable Speed Apron Control	589.00
2055		Manual Variable Speed Apron Control	No Added Cost

REAR PAN

4000		Rear Pan	In Base Price
4020		No Rear Pan	-617.00

HYDRAULIC HOSE HOOK-UP

2110		Standard Hose Hook-up	In Base Price
2105		2 Hose Hook-up <i>One SCV required, Tailgate and apron both controlled with one SCV. There is a sequence valve.</i>	2,236.00

FRONTIER PRODUCTS**Livestock & Equine Management****MS1237 - 370 Bushel Chain Unloading Manure Spreader**

Continued

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
2125		HYDRAULIC HOSE HOOK-UP ...Continued... 4 Hose Hook-up <i>Two SCV's required, One SCV will control the tailgate and One SCV will control the apron.</i>	1,893.00
TIRES			
3005		16.5 x 16.1 Flotation Tires	2,773.00
3060		295 x 22.5 Recapped Tires	In Base Price
POWER TAKE-OFF (PTO)			
5012		540 RPM PTO	In Base Price
5011		1000 RPM PTO 1 3/8"	619.00
BEATER			
9000		Top Beater	1,444.00
OPERATOR'S MANUAL AND DECALS			
9200		French Operators Manual and Decals	No Added Cost
ATTACHMENTS FOR FIELD CONVERSION			
Miscellaneous			
5HPMSOEC		Electric Variable Speed Hydraulic Apron Control	611.60
5HPMSO310HD4		Four Hose Hook-Up (MS1231, MS1237, & MS1243)	2,683.66
5HP608FK1237		French Operators Manual and Decals (MS1237)	46.20
5HPMSOPAN310		Rear Pan (MS1231, MS1237, & MS1243)	754.98
5HPMSOTB370		Top Beater	1,799.14
5HPMSO310HD2		Two Hose Hook-Up (MS1231, MS1237, & MS1243)	2,319.91

FRONTIER PRODUCTS

Livestock & Equine Management

MS1243 - 430 Bushel Chain Unloading Manure Spreader

Equipment for Base Machine

Minimum Tractor Weight: 15,340 lbs.
 Top of Flare Width: 68 In.
 Inside Width: 60 In.
 Inside Length: 16 Ft. 6 In.
 Inside Depth: 40-3/8 In.
 Overall Width with Standard Tires: 107 In.
 Spindle Size: 2-1/2 In.
 Overall Length: 23 Ft. 2-1/2 In.
 Overall Loading Height
 - Top of Flare: 63-1/2 In.
 Overall Height with Hydraulic Endgate: 67 In.
 Diameter of Beater: 29 In.
 Upper Beater: Optional
 Weight with Tires: 5220 lbs.
 Capacity - Old Rating: 430
 Capacity Cubic Foot Struck Level: 275
 Rear Hydraulic End Gate: Standard
 Semi Liquid Rear Pan: Optional

PTO Speed: 540, 1000 RPM Optional
 Swing Away Jack: Standard
 Drive: 2 Speed
 Variable Speed Hydraulic Drive: Optional
 Front Splash Panel: Standard
 Hydraulic Cylinder on
 Hydraulic Endgate: Two
 Warranty: 1st Year Parts and Labor
 Lifetime Warranty:
 Bonded Polyethylene Floor and Sides
 10-Year Warranty: Plywood (Against Rot) with normal
 agricultural manure

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
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Select One Code From Each Required Category

BASE MACHINE

0825XF		MS1243 - 430 Bushel Chain Unloading Manure Spreader <i>Top Beater, Hydraulic Endgate, and Rear Pan are standard.</i>	35,552.00
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APRON DRIVE

2000		Two Speed PTO Driven Apron	In Base Price
2020		Variable Speed Hydraulic Apron	No Added Cost

APRON CONTROLS

2040		Two Speed PTO Rope Control	In Base Price
2050		Electric Variable Speed Apron Control	589.00
2055		Manual Variable Speed Apron Control	No Added Cost

REAR PAN

4000		Rear Pan	In Base Price
4020		No Rear Pan	-617.00

HYDRAULIC HOSE HOOK-UP

2110		Standard Hose Hook-up	In Base Price
2105		2 Hose Hook-up <i>One SCV required, Tailgate and apron both controlled with one SCV. There is a sequence valve.</i>	2,236.00

FRONTIER PRODUCTS**Livestock & Equine Management****MS1243 - 430 Bushel Chain Unloading Manure Spreader**

Continued

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
2125		HYDRAULIC HOSE HOOK-UP ...Continued... 4 Hose Hook-up <i>Two SCV's required, One SCV will control the tailgate and One SCV will control the apron.</i>	1,893.00
POWER TAKE-OFF (PTO)			
5012		540 RPM PTO	In Base Price
5011		1000 RPM PTO 1 3/8"	619.00
OPERATOR'S MANUAL AND DECALS			
9200		French Operators Manual and Decals	No Added Cost
ATTACHMENTS FOR FIELD CONVERSION			
Miscellaneous			
5HPMSOEC		Electric Variable Speed Hydraulic Apron Control	611.60
5HPMSO310HD4		Four Hose Hook-Up (MS1231, MS1237, & MS1243)	2,683.66
5HP608FK1243		French Operators Manual and Decals (MS1243)	46.20
5HPMSOPAN310		Rear Pan (MS1231, MS1237, & MS1243)	754.98
5HPMSO310HD2		Two Hose Hook-Up (MS1231, MS1237, & MS1243)	2,319.91

FRONTIER PRODUCTS**Livestock & Equine Management****MS1442 - 425 Bushel Hydraulic Push Manure Spreader**
Equipment for Base Machine

Capacity Bushels Heaped: 425
 Capacity Cubic Foot Struck Level: 270
 Inside Width: 7 Ft. 2 In.
 Inside Depth: 34 In.
 Inside Length: 16 Ft.
 Overall Width: 10 Ft. 2 In.
 Overall Length:
 Horizontal Beaters - 26 Ft. 5 In.
 Vertical Beaters - 27 Ft. 5 In.
 Overall Height:
 Horizontal Beaters - 74-3/4 In.
 Vertical Beaters - N/A
 Loading Height: 61-1/4 In.
 Height - Top of End Gate: 65 In.
 Axle Type: Tandem
 Spindle Size: 3 In.
 Tire Size:
 425 x 22.5 Used Truck Tires
 Hub Type: 8 Bolt Greaseable
 Standard PTO: Choice
 Push Gate Cylinders:
 (2) Piggy Back - 3-1/2 In. x 90 In.
 Cylinders on Hydraulic End Gate:
 (2) - 2 In. x 20 In.
 Vertical Beater Diameter: (2) 34 In.
 Lower Beater Diameter: 29 In.

Number of Paddles on Lower Beater: 12
 Lower Beater Speed: 360 RPM
 Lower Beater Drive Chain: #80
 Top Beater Diameter: 20 In.
 Number of Paddles on Top Beater: 16
 Top Beater Speed: 300 RPM
 Top Beater Drive Chain: #60
 Replaceable Beaters: Yes
 Clean out Trip
 Horizontal Beaters - Optional
 Vertical Beaters - Standard
 Approximate Loaded Weight:
 24,800 lbs.
 Approximate Tongue Weight Loaded:
 2,802 lbs.
 Minimal Tractor Weight:
 16,534 lbs.
 Weight: 7,700 lbs.
 Side Rail Protection: Wood
 Set-Up Time: 45 Minutes

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
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Select One Code From Each Required Category

BASE MACHINE

0841XF		MS1442 - 425 Bushel Hydraulic Push Manure Spreader <i>Includes standard transport lights.</i>	41,947.00
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POWER TAKE-OFF (PTO)

5012		540 RPM PTO Overrunning/Torque Limiting Clutch	1,753.00
5011		1000 RPM PTO 1 3/8" Shearbolt	956.00
5017		1000 RPM PTO 1 3/8" Overrunning/Torque Limiting Clutch	2,014.00
5015		1000 RPM PTO 1 3/4" Shearbolt	956.00
5016		1000 RPM PTO 1 3/4" Overrunning/Torque Limiting Clutch	2,014.00

TIRES

3020		19L x 16.1 Flotation Tire	2,415.00
3002		Standard 425 X 22.5 Tires	In Base Price

BEATER TYPE

1100		Horizontal Beaters	In Base Price
1120		Vertical Beaters	12,196.00

FRONTIER PRODUCTS**Livestock & Equine Management****MS1442 - 425 Bushel Hydraulic Push Manure Spreader**

Continued

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
REAR PAN			
4020		Horizontal Beater Rear Pan	1,092.00
4095		Less Rear Pan	In Base Price
DESTINATION			
0202		UNITED STATES	No Added Cost
0184		CANADA	No Added Cost
0205		QUEBEC, CANADA	No Added Cost
OPERATOR'S MANUAL AND DECALS			
0409		MS1442/MS1455 ENGLISH OM/DECAL KIT	No Added Cost
0413		MS1442/MS1445 FRENCH OM/DECAL KIT	No Added Cost
OPERATOR'S MANUAL AND DECALS			
9201		French Operators Manual and Decals (MS14 Series with Horizontal Beaters)	No Added Cost
9200		French Operators Manual and Decals (MS14 Series with Vertical Beaters)	No Added Cost
ATTACHMENTS FOR FIELD CONVERSION			
Miscellaneous			
5HP608FK1442		French Operators Manual and Decals (MS1442 with Horizontal Beaters)	60.51
5HPMSHPOPAN		Horizontal Beater Rear Pan <i>NOT compatible with vertical beaters.</i>	1,335.94

FRONTIER PRODUCTS**Livestock & Equine Management****MS1455 - 550 Bushel Hydraulic Push Manure Spreader**
Equipment for Base Machine

Capacity Bushels Heaped: 550
 Capacity Cubic Foot Struck Level: 430
 Inside Width: 72 In.
 Inside Depth: 53 In.
 Inside Length: 16 Ft.
 Overall Width: 10 Ft. 2 In.
 Overall Length:
 Horizontal Beaters - 26 Ft. 5 In.
 Vertical Beaters - 27 Ft. 5 In.
 Overall Height:
 Horizontal Beaters - 86-3/4 In.
 Vertical Beaters - 121-1/2 In.
 Loading Height: 81 In.
 Height - Top of End Gate: 85-1/2 In.
 Axle Type: Tandem
 Spindle Size: 3 In.
 Tire Size:
 425 x 22.5 Used Truck Tires
 Hub Type: 10 Bolt Greaseable
 Standard PTO: Choice
 Push Gate Cylinders:
 (2) Piggy Back - 4-1/2 In. x 90 In.
 Cylinders on Hydraulic End Gate:
 (2) - 2 In. x 20 In.
 Vertical Beater Diameter: (2) 34 In.
 Lower Beater Diameter: 29 In.

Number of Paddles on Lower Beater: 12
 Lower Beater Speed: 360 RPM
 Lower Beater Drive Chain: #80
 Top Beater Diameter: 29 In.
 Number of Paddles on Top Beater: 12
 Top Beater Speed: 360 RPM
 Top Beater Drive Chain: #80
 Replaceable Beaters: Yes
 Clean out Trip
 Horizontal Beaters - Optional
 Vertical Beaters - Standard
 Approximate Loaded Weight:
 32,429 lbs.
 Approximate Tongue Weight Loaded:
 4,160 lbs.
 Minimal Tractor Weight:
 21,620 lbs.
 Weight: 9,680 lbs.
 Side Rail Protection: Wood
 Set-Up Time: 45 Minutes

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
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Select One Code From Each Required Category

BASE MACHINE

0842XF		MS1455 - 550 Bushel Hydraulic Push Manure Spreader <i>Includes standard transport lights.</i>	55,267.00
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POWER TAKE-OFF (PTO)

5011		1000 RPM PTO 1 3/8" Shearbolt	956.00
5017		1000 RPM PTO 1 3/8" Overrunning/Torque Limiting Clutch	2,014.00
5015		1000 RPM PTO 1 3/4" Shearbolt	956.00
5016		1000 RPM PTO 1 3/4" Overrunning/Torque Limiting Clutch	2,014.00

TIRES

3002		Standard 425 X 22.5 Tires	In Base Price
3003		High Flotation 600/50 X 22.5 Tires in lieu of Standard 425 X 22.5 Tires	10,420.00

BEATER TYPE

1100		Horizontal Beaters	In Base Price
1120		Vertical Beaters	13,593.00

REAR PAN

FRONTIER PRODUCTS**Livestock & Equine Management****MS1455 - 550 Bushel Hydraulic Push Manure Spreader**

Continued

Code	Attachment Identifier	Description	List Price Suggested USD (\$)
4020		REAR PAN ...Continued... Horizontal Beater Rear Pan	1,092.00
4095		Less Rear Pan	In Base Price
DESTINATION			
0202		UNITED STATES	No Added Cost
0184		CANADA	No Added Cost
0205		QUEBEC, CANADA	No Added Cost
OPERATOR'S MANUAL AND DECALS			
0409		MS1442/MS1455 ENGLISH OM/DECAL KIT	No Added Cost
0413		MS1442/MS1445 FRENCH OM/DECAL KIT	No Added Cost
OPERATOR'S MANUAL AND DECALS			
9201		French Operators Manual and Decals (MS14 Series with Horizontal Beaters)	No Added Cost
9200		French Operators Manual and Decals (MS14 Series with Vertical Beaters)	No Added Cost
ATTACHMENTS FOR FIELD CONVERSION			
Miscellaneous			
5HP608FK1455		French Operators Manual and Decals (MS1455 with Horizontal Beaters)	62.71
5HPMSHPOPAN		Horizontal Beater Rear Pan <i>NOT compatible with vertical beaters.</i>	1,335.94