

There are 2 page 6's
- one for box without optional hyd. cylinder expansion (tab 13) and two for boxes with standard hyd. cylinder expansion (see tab 6 & 7)

There are 2 page 9's
- one for new sideshift/draglinks (tab 10) and one for old sideshift/draglinks (tab 14)

There are 3 page 10's
- one for new 2" augers (tab 11 - revised 08/27/08 - CMB S/N CMB1041 & newer), one for older augers/bearings (tab 15 - revised 01/18/06 - MP S/N 050116 & newer) and one for old augers/bearings (see tab 16)

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Safety Information

Be alert when seeing this symbol in this manual.

There is the potential for personal injury

Follow recommended precautions and safe operating practices.

Personnel must be fully qualified to perform procedures in this manual.



Follow Safety Instructions

Learn how to operate the machine properly. Do not let anyone operate without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the machine's function and/or safety features and may also affect machine life.

Prevent Auger Injuries

Avoid possible injury or death from entanglement with spreader box augers.

Do not wear loose clothing.

ALWAYS stop auger rotation when making depth adjustments to spreader box. Shut off engine and remove and pocket the ignition key.

ALWAYS disconnect auger hydraulic quick disconnects from paver when working on spreader box.

Prepare for Emergencies

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher and emergency numbers handy.

General Description

The Macropaver Microsurfacing Box is used when applying microsurfacing mixes. Microsurfacing is a specialized form of slurry surfacing. The asphalt emulsion used in microsurfacing is polymer modified and the additives are specialized for fast setting and break control. The spreader box is also specialized in that it always uses augers for material distribution and it provides more control over depth, flatness and texture of the material.

In operation, the spreader box is connected to and is pulled along the pavement by the Macropaver. It can be shifted side-to-side to follow the pavement edge by the side shift mechanism on the Macropaver. The box is lifted from the pavement at the end of the paving operation by the box lift mechanism on the Macropaver. Slurry is deposited into the box from the Macropaver pugmill. It can be placed in the center, or either side, by the diverter rubber located on the outlet of the pugmill.

As the box is pulled along the pavement the front rubber helps keep the slurry in the auger chamber of the box. The rear rubber, or strike-off, brings it down to the actual final thickness. The thickness is adjusted by adjusting the height of the rear strike-off. The texture flap, which trails out behind the box, applies the final finish and texture to the slurry. Side plates with skids keep the slurry from exiting the sides of the box. The augers are used to help distribute the slurry evenly throughout the box. The box is longer than standard slurry boxes, with full length side skids, to help level the slurry mat and provide a flat surface.

The box width paving capacity can vary from 8' to 14' (2.4m to 4.3m) in 12" (30cm) increments. The outside box width varies from 102" to 174" (259cm to 442cm).

Assembly Instructions

Box Rubber Installation

The spreader box is shipped with the box rubber shipped loose to prevent shipping damage. The box rubber will have to be cut to length and installed. It is easiest to install the box rubber if the box is lifted up and the rubber is installed from the bottom. Make SURE the box is adjusted to the required width before installing the rear rubber. All box rubbers are held in place by the clamping strips. It is not necessary to drill holes in the rubber to install it in place. See illustration on following page for installation locations.

The rubber should be cut as follows:

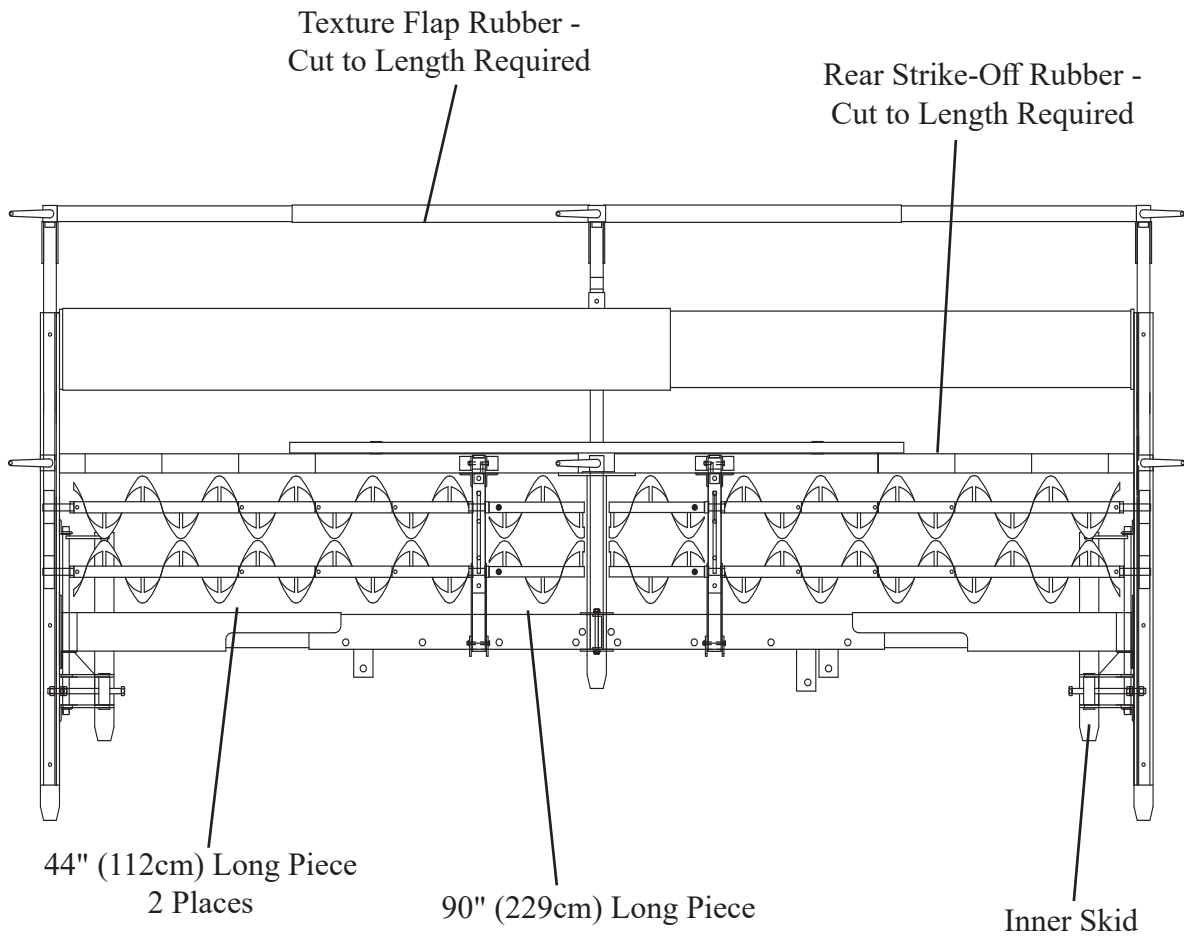
1. One 6" (15cm) wide piece cut 90" (229cm) long for front screed inner position.
2. Two 6" (15cm) wide pieces cut 44" (112cm) long for front screed outer positions.
3. One 6" (15cm) wide piece cut to length for rear strike-off position.
4. One 7" (18cm) wide pieces cut to length for the texture flap. The outer edges of the texture flap rubber should extend about 3-5" (8-13cm) wider than the rear of the spreader box.



WARNING: PROPER AND SAFE LIFTING AND SUPPORT PROCEDURES MUST BE USED TO LIFT AND SUPPORT THE SPREADER BOX. FAILURE TO DO SO COULD CAUSE POSSIBLE INJURY OR DEATH.

Assembly Instructions (cont'd)

Box Rubber Installation (cont'd)



Texture Flap Installation

See illustration for texture flap location. The texture flap assembly is inserted into the support brackets. It is then held in place with the hitch pins supplied with the box. Adjustment of the texture flap is described in the next section.

Spreader Box Adjustment

Box Height

Microsurfacing application thickness is controlled by adjusting the height of the spreader box's rear strike-off. For thinner application, lower the height of the strike-off by rotating the two outer depth control handles clockwise. This will lower the strike-off, thereby reducing the thickness of the application. For thicker applications, raise the height of the rear strike-off by rotating the depth control handles counter-clockwise. Be sure to rotate the handles equally to make sure the microsurfacing thickness is consistent from one side of the box to the other. The center adjustment handle can be adjusted differently from the outer handles to adjust for crown in the road. Rotating the handle counter-clockwise will raise the center of the strike-off by pushing down on the center skid, to allow for the increased height of the crown in the road. At the same time the center handle is being rotated, it is also necessary to adjust the center turnbuckle mechanism. Crank the turnbuckle so that it moves the center of the rear strike-off up or down in the same direction that the center depth adjuster is moving.



WARNING: ALWAYS STOP AUGER ROTATION BEFORE ATTEMPTING ANY ADJUSTMENTS ON SPREADER BOX. FAILURE TO DO SO COULD CAUSE ENTANGLEMENT WITH THE AUGERS AND POSSIBLE INJURY OR DEATH.

Inner Skid

The inner skids are the two adjustable skids just inside each side plate of the spreader box (see page 4). These skids are adjusted when making multiple passes with the spreader box, to allow for the side plate to overlap the previous pass. To increase the height of the side plate to match the height of the previous pass, turn the threaded skid adjuster screw clockwise. This will cause the skid to be pushed down toward the pavement, thereby raising the side plate. The side plate should be raised to the approximate height of the previous pass. When going back to single pass or first pass operation, be sure to raise the inner skid off the pavement by rotating the threaded skid adjuster counter-clockwise.

Texture Flap

The height and angle of the texture flap, as well as the distance that the texture flap trails the box, can be adjusted to modify the finish of the microsurfacing. The height is adjusted the same way as the height adjustment for the rear strike-off described above. The angle is adjusted by removing the hitch pin from the angle adjustment plates, rotating the flap to the desired angle and then reinserting the pins. The trailing distance is adjusted by removing the three hitch pins from the texture flap support brackets, sliding the flap in or out and then reinserting the pins. The actual adjustments required will depend upon the application and finish desired.

Spreader Box Adjustment (cont'd)

Box Width

The box width is adjusted by moving the outer ends of the spreader box in or out hydraulically as required, as follows:

1. Remove the texture flap and the rear strike-off rubber from the spreader box. The texture flap is removed by removing the retaining hitch pins from the support brackets. The rear strike-off rubber is removed by loosening the rear clamp nuts.
2. Remove the bolts that hold each outermost rear strike-off extension to the narrow rear strike-off plate that is attached to the box side plates.
3. If the box is being made narrower, remove the required number of rear strike-off extensions from the box. (NOTE: At least one set of the bolts on each side of the box holding the rear strike-off extensions together must be removed before proceeding to step #4.)
4. To adjust spreader box hydraulically:
 1. Remove hydraulic hose quick-disconnects from auger drive motor quick-disconnects.
 2. Attach hydraulic hose quick-disconnects to hydraulic cylinder quick-disconnects.
 3. Remove the hitch pins from the front screed. NOTE: Remove the hitch pins that are in-line with the adjustment holes. The hitch pins in the center on the front screed hold the hydraulic cylinder in place - do not remove these two pins.
 4. Start Macropaver, adjust Auger Speed Control knobs to about 1/4 - 1/3 speed.
 5. Turn on Pump Load switch and activate Auger Direction switches for the side that is being adjusted in the direction required for extend or retract of the box.



CAUTION: WHILE ADJUSTING BOX WIDTH, CARE MUST BE TAKEN WHILE ALIGNING AUGERS TO PREVENT PERSONNEL FROM PLACING THEIR HANDS OR FEET WHERE THEY COULD BE PINCHED OR CRUSHED BY BOX COMPONENTS. FAILURE TO DO SO COULD CAUSE POSSIBLE INJURY.

5. If the box is being made narrower, remove the required number of extension augers. It will be necessary to spread the box slightly to remove the extension augers. The extension augers are removed from between the drive end auger section and the the center hanger auger section.

Spreader Box Adjustment (cont'd)

6. If the spreader box is being made wider, spread the box slightly wider than is required and insert the correct number of extension augers onto each primary auger. The extension augers are inserted between the drive end auger section and the the center hanger auger section.
7. The box adjusts in 6", 12" & 18" (15, 30 & 45cm) increments on each side. Extend or retract the box as required to align the pin holes and re-insert the hitch pins into each section.
8. As the box is being adjusted to the final width, insert the appropriate auger sections into the mating augers. Be sure to time each section of auger so that the auger flighting will line up.
9. If the box has been made wider, install the required number of rear strike-off plates into the box by inserting the plate and bolting into place.
10. Cut and install a new rear strike-off rubber. See assembly instructions on page 3 and 4 for details.

Spreader Box Adjustment (cont'd)

Texture Flap Width

Once the spreader box has been adjusted to width, it will be necessary to adjust the rear texture flap to the same width. To adjust texture flap:

1. Remove the texture flap rubber by loosening clamp nuts.
2. Remove the bolt that holds the texture flap to the outer adjusting jack.
3. To make the texture flap narrower, remove the required number of extension plates by removing the bolt which holds the plates together.
4. To make the texture flap wider, add the required number of extension plates by inserting the support tube of the extension plate into the adjoining plate and bolt the plates together.
5. Slide the texture flap tubes as required to align the holes in the outer texture flap to the bracket on the outer adjusting jacks. Re-install the bolt that holds the texture flap to the jack.
6. Cut and install a new rear texture flap rubber. See assembly instructions on page 3 and 4 for details.

Maintenance

Box Rubber

Box rubber maintenance consists of daily cleaning of the spreader box and box rubbers. Use a solvent to soften the hardened slurry and high-pressure washer to remove it. After cleaning, inspect the rubber for excessive wear, loose mounting conditions or damage. Repair or replace as required.

Height Adjusters

Height adjuster maintenance consists of cleaning and inspection. Inspect the adjusters for wear or damage and repair or replace as required.

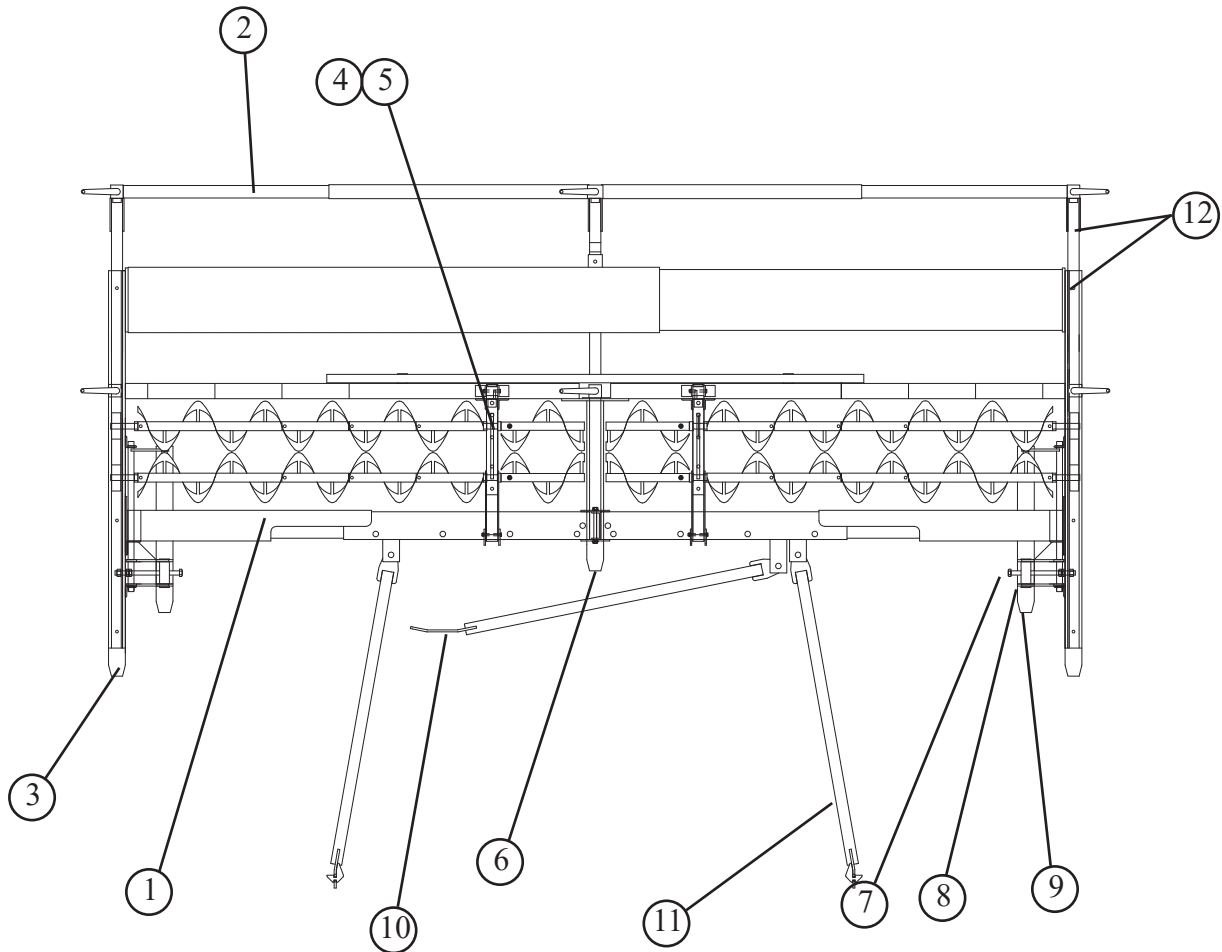
Augers

Auger bearings are made of UHMW material and do not require greasing. The bearings should be cleaned regularly along with the cleaning of the spreader box. Inspect augers and bearings for wear or damage after daily cleaning. Repair or replace components as required. Worn auger flighting can be built back up to required diameter by application of hard-facing material providing wear is not excessive. The auger diameter is 9" (229mm) when new.

Skids

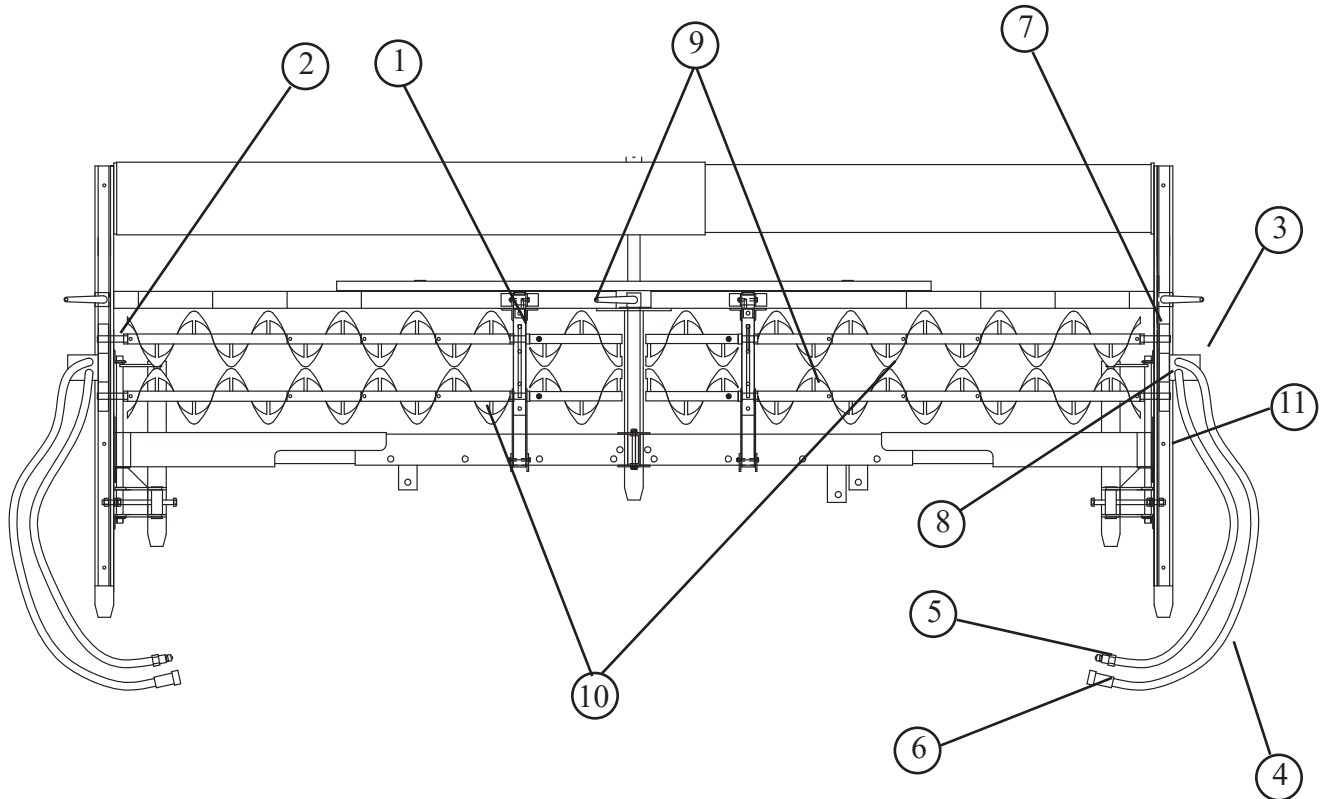
The side plates and the center and outer skids are made of a hardened steel. Inspect regularly for wear. Minor wear can be corrected with hard-facing the affected area. Excessive wear will require replacement of the worn components.

Spreader Box Components



ITEM	PART NO.	DESCRIPTION	QTY
1	270-0014-18	Spreader Box Rubber - 1/4" x 6" x 18 Ft. Long	2
2	270-0015-15	Spreader Box Rubber - 1/4" x 7" x 15 Ft. Long	1
3	CMB01005	Side Plate Skid(Skid Only)	2
4	225-0035	Chain, 3/8" Proofcoil	6'
5	715-0008	Chain Shackle, 3/8"	2
6	CMB05002	Center Skid (Skid Only)	1
7	CMB06001-8	Inner Skid Adjuster Screw	2
8	CMB06001-9	Inner Skid Adjuster Nut	2
9	CMB06002	Inner Skid (Skid Only, w/ Mounting Tabs)	2
10	EMB1022	Side Shift Arm - Quick-Attach Style (w/ Pin)	1
	EMB1025	Side Shift Arm Pin (Included w/ Side Shift Arm)	1
11	EMB1021	Drag Link - Quick-Attach Style (Set of 2)	1
12	715-0075	Hitch Pin, Texture Flap Adjusters	6

Auger Components



ITEM	PART NO.	DESCRIPTION	QTY
1	210-0115	Pillow Block Bearing - 1-1/8"Ø x 2" Thick	4
2	210-0113	Four Bolt Flange Bearing - 1-1/2"Ø x 2" Thick	4
3	255-0102	Hydraulic Motor - Auger Drive	2
4	250-0200	Hydraulic Hose - Auger Drive Motor	4
5	255-0968P	Hydraulic Quick Disconnect - Male	2
6	255-0970P	Hydraulic Quick Disconnect - Female	2
7	285-0130	Auger Drive Sprocket	2
	285-0131	Auger Driven Sprocket	4
8	225-0037	Auger Drive Chain - 5' Long	2
	225-0029	Master Link - Auger Drive Chain	2
9	CMB04008BRH	Auger Assembly, w/ 6", 12" & 18" Extensions	2
10	CMB04008BLH	Auger Assembly, w/ 6", 12" & 18" Extensions	2
11	255-0237	Hydraulic Cylinder - Box Adjustment (Optional)	2

PARTS ORDER FORM



To order parts in this manual, please copy this form and FAX or mail to:

VSS Macropaver
P.O. Box 178
Hickman, CA 95323 USA
FAX (209) 874-1174

MY MAILING ADDRESS

MY SHIPPING ADDRESS

SHIP VIA: _____

ATTN: _____

DATE: _____

EQUIP. S/N: _____

Part Number	Part Name	Quantity

ORDERED BY: _____

PAYMENT: CHECK P.O.# _____ COD

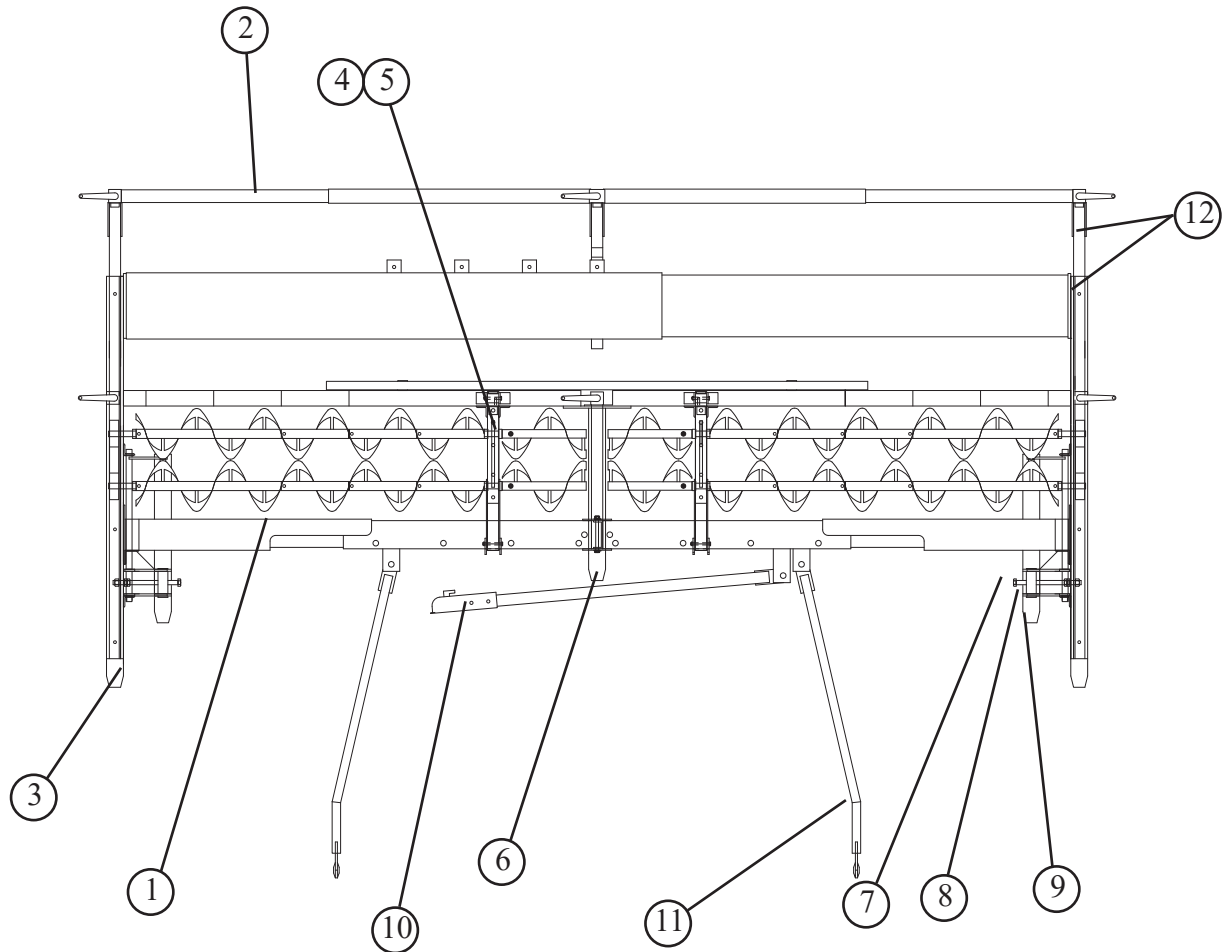
Spreader Box Adjustment (cont'd)

Box Width

The box width is adjusted by moving the outer ends of the spreader box in or out as required, as follows:

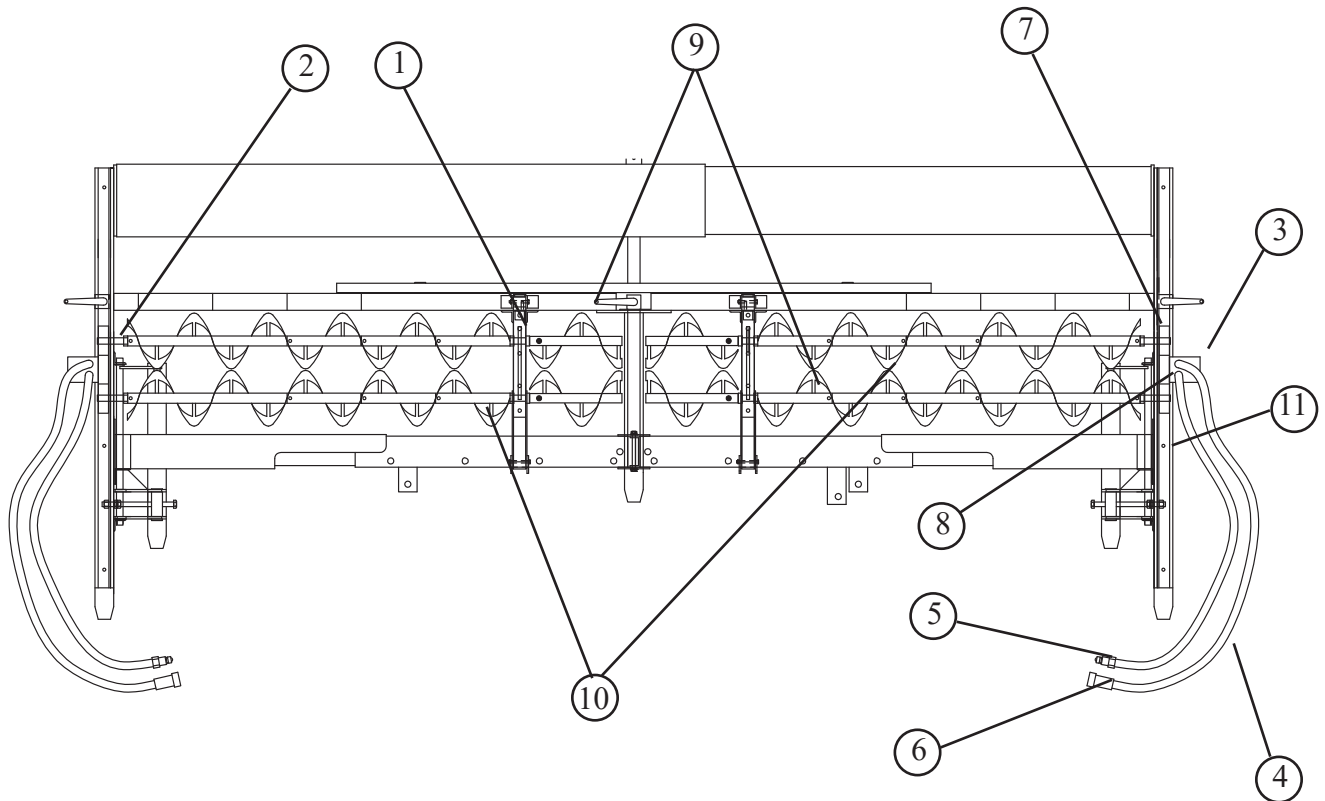
1. Remove the texture flap and the rear strike-off rubber from the spreader box. The texture flap is removed by removing the retaining hitch pins from the support brackets. The rear strike-off rubber is removed by loosening the rear clamp nuts.
2. Remove the bolts that hold each outermost rear strike-off extension to the narrow rear strike-off plate that is attached to the box side plates.
3. If the box is being made narrower, remove the required number of rear strike-off extensions from the box.
4. If the box is being made narrower, remove the required number of extension augers. It will be necessary to spread the box slightly to remove the extension augers. The extension augers are removed from between the drive end auger section and the the center hanger auger section.
5. If the spreader box is being made wider, spread the box slightly wider than is required and insert the correct number of extension augers onto each primary auger. The extension augers are inserted between the drive end auger section and the the center hanger auger section.
6. Remove the hitch pins from the front screed and slide the outer box sections in or out to achieve the required box width. The box adjusts in 12" (30cm) increments on each side. Slide the box as required to align the pin holes and re-insert the hitch pins into each section.
7. As the box is being adjusted to the final width, insert the auger sections into the mating augers. Be sure to time each section of auger so that the auger flighting will line up.
8. If the box has been made wider, install the required number of rear strike-off plates into the box by inserting the plate and bolting into place.
9. Cut and install a new rear strike-off rubber. See assembly instructions on page 3 and 4 for details.

Spreader Box Components



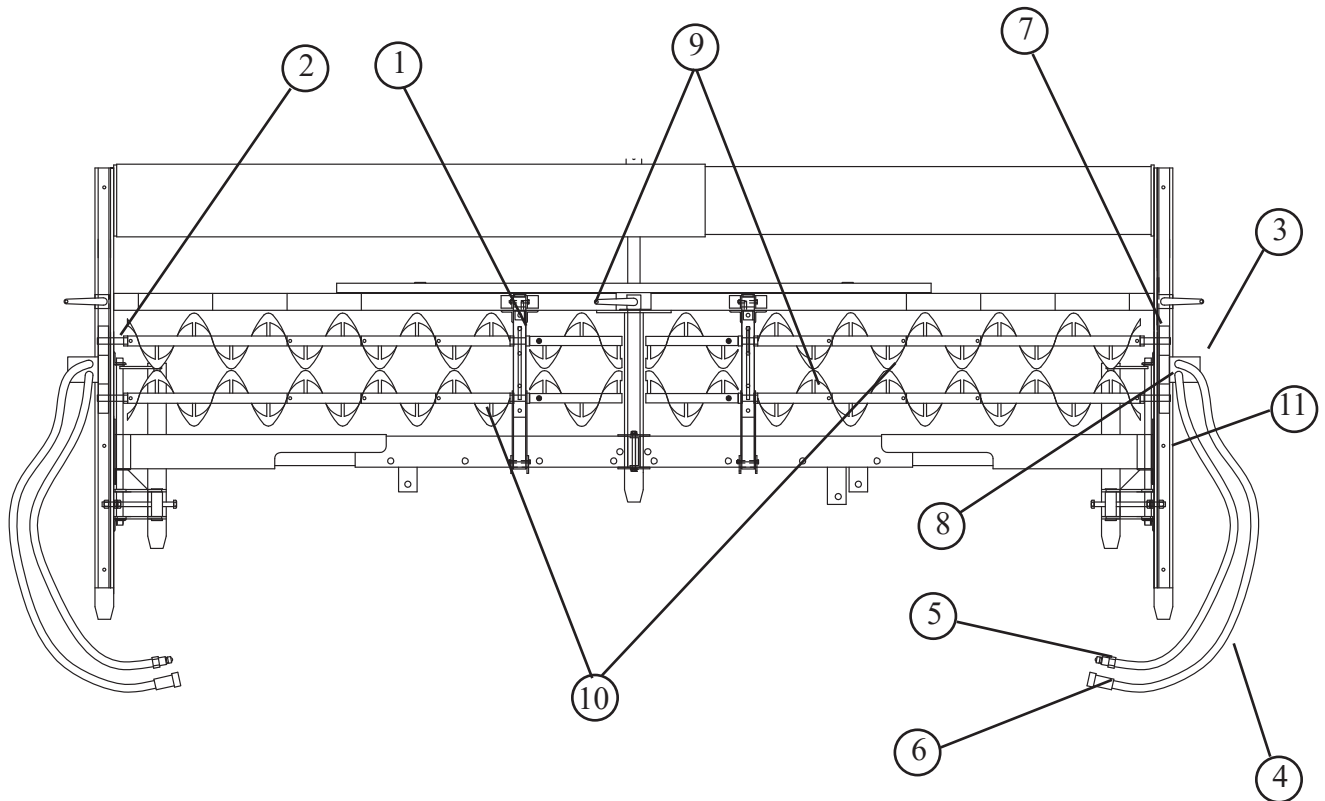
ITEM	PART NO.	DESCRIPTION	QTY
1	270-0014-18	Spreader Box Rubber - 1/4" x 6" x 18 Ft. Long	2
2	270-0015-15	Spreader Box Rubber - 1/4" x 7" x 15 Ft. Long	1
3	CMB01005	Side Plate Skid(Skid Only)	2
4	225-0035	Chain, 3/8" Proofcoil	8'
5	715-0008	Chain Shackle, 3/8"	2
6	CMB05002	Center Skid (Skid Only)	1
7	CMB06001-8	Inner Skid Adjuster Screw	2
8	CMB06001-9	Inner Skid Adjuster Nut	2
9	CMB06002	Inner Skid (Skid Only, w/ Mounting Tabs)	2
10	CMB09006	Side Shift Arm	1
11	CMB09007	Drag Link	2
12	715-0075	Hitch Pin, Texture Flap Ajusters	6

Auger Components



ITEM	PART NO.	DESCRIPTION	QTY
1	210-0112	Pillow Block Bearing - 1"Ø x 2" Thick	4
2	210-0113	Four Bolt Flange Bearing - 1-1/2"Ø x 2" Thick	4
3	255-0102	Hydraulic Motor - Auger Drive	2
4	250-0200	Hydraulic Hose - Auger Drive Motor	4
5	255-0968P	Hydraulic Quick Disconnect - Male	2
6	255-0970P	Hydraulic Quick Disconnect - Female	2
7	285-0130	Auger Drive Sprocket	2
	285-0131	Auger Driven Sprocket	4
8	225-0037	Auger Drive Chain - 5' Long	2
	225-0029	Master Link - Auger Drive Chain	2
9	CMB04008ARH	Auger Assembly, w/ 6", 12" & 18" Extensions	2
10	CMB04008ALH	Auger Assembly, w/ 6", 12" & 18" Extensions	2
11	255-0237	Hydraulic Cylinder - Box Adjustment (Optional)	2

Auger Components



ITEM	PART NO.	DESCRIPTION	QTY
1	210-0018	Pillow Block Bearing - 1"	4
2	210-0020	Four Bolt Flange Bearing - 1"	4
3	255-0102	Hydraulic Motor - Auger Drive	2
4	250-0200	Hydraulic Hose - Auger Drive Motor	4
5	255-0968	Hydraulic Quick Disconnect - Male	8
6	255-0970	Hydraulic Quick Disconnect - Female	8
7	285-0130	Auger Drive Sprocket	6
8	225-0037	Auger Drive Chain - 5' Long	2
	225-0029	Master Link - Auger Drive Chain	2
9	CMB04008RHA	Auger Assembly, w/ 6", 12" & 18" Extensions	2
10	CMB04008LH	Auger Assembly, w/ 6", 12" & 18" Extensions	2
11	255-0237	Hydraulic Cylinder - Box Adjustment (Optional)	2