

INSTALLATION

First check your new machine to assure that it has arrived complete and without damage. Each individual spiral should have four adjustable units. Each adjustable unit should have 5 fingers. There should be a set of 4 inserts for each individual spiral.

CAUTION: THE SPIRALS ARE SHARP. HANDLE WITH CARE.

IMPORTANT: The spirals should be turned in the cabinet so that the cull discharge is opposite the adjustable units. The cull discharge is the slot where the culls go into the tube around which the spirals are wound.

Remove the backing paper from the plexiglass inspection doors. Check to see that the plastic has not been chipped or scratched in shipment.

The AMOS Soybean Spiral should be installed in the processing plant after the aircscreen machine. The AMOS Soybean Spiral is designed to remove cracked and split seed. Because of this, bucket elevators or other conveyers should be designed for gentle handling. "Easy Dump" type bucket elevators are recommended.

Most spiral separators are installed in processing plants that are also used for seed which should not go through a spiral. For example, when cleaning wheat seed the soybean spiral is not normally used. Consequently, the soybean spiral should be installed so that it can be bypassed.

A surge bin should be installed with your AMOS Soybean Spiral. The function of the surge bin is to insure a constant feed of seed into the soybean spiral. If possible, the surge bin should have a gate for controlling the feed rate into the Soybean Spiral. The surge bin should have a capacity of at least 10% of the hourly capacity of the soybean spiral. For example, a model 50 should have a surge bin of at least 5 bushels capacity. The surge bin can often be supported by the soybean spiral itself if the capacity of the bin does not exceed 10% of the soybean spiral's hourly capacity.

If you are going to operate the AMOS Spiral without a surge bin with a flow control, use the flow control "inserts" included with your machine. These inserts will

you to control the rate of flow to each spiral while "choke feeding" the machine. Four sizes are included with the machine. 1 11/16" is the normal size used but we also include two smaller plates, 1 4/16" and 1 7/16", if you desire to feed your machine slower. If you desire to feed the spiral faster use the larger insert of 1 7/8". These "inserts" fit in the bottom of the hopper in the top of each spiral.

OPERATION AND ADJUSTMENT

The AMOS Soybean Spiral is unique in that it is adjustable. The four adjustable units on each individual spiral give the user a wide range of adjustments and settings. Also the AMOS Spiral has a sliding baffle plate adjustment at the bottom of each spiral. In essence, the fingers allow you to remove a higher percentage of seed and the sliding plate adjustment allows you to remove less seed. These adjustments should be based on the type of seed you are processing.

The operation of all spirals is based on shape and surface texture of the seed. The spiral separates round seed with smooth seed coats from flattened particles with rough exteriors. The round seed roll off the spiral flighting while the flattened culls slide down the flights. The adjustable units prevent the culls from attaining a speed sufficient to carry them out with the good seed.

Your AMOS Soybean Spiral has four complete turns on each individual spiral. Normally, over 65% of the good seed should come off in the top two turns of the spiral. Culls with rough seed coats or slightly flattened shaped begin coming off with the good seed about the third turn. Flattened seed, splits, and other culls with flattened shapes may come off with the good seed on the fourth turn of the spiral. These principles allow the operator to adjust his machine to each different seed lot.

The table on page 5 gives some approximate settings for different conditions.

In some years dry weather results in a high proportion of extremely flattened seed. Some varieties also tend to be flatter than others. Both of these conditions often result in a larger than acceptable clean-out of good seed if you are using spirals without AMOS's patented sliding baffle plate adjustment. This feature allows you to clean your seed and keep the "good" flat seed. You can control the rate of the clean-out.

If your clean-out is too high, slide the plate in. If your clean-out is too low, slide the plate outward.

The AMOS Soybean Spirals can also be used to remove corn from commercial soybeans. When so used, the soybean-corn mixture should be cleaned over a scalper before being cleaned by the spiral separator. Approximate screens to be used are a 20/64" round hole on top and a 9/64" x 3/4" cross slot bottom screen.

If a spiral separator is fed too fast the clean-out will increase. If, after sliding the baffle plate in, the clean out is still too great, feed the spiral separator slower. This means putting in a smaller insert.

PARTS

Replaceable parts for your AMOS Soybean Spiral include those listed below:

Spirals	Sliding Baffle Plates
Adjustable Units	Inserts
Inspection Doors	

Parts should be ordered directly from the factory.

MODELS

Model	Capacity	Dimensions	(Matching Cleaners)	
			Ferrel-Ross	Crippen
50	50bu/hr	24"x24"x73"	27D or 47D	Series A
100	100bu/hr	24"x48"x84"	29D	342 or 442
200	200bu/hr	48"x48"x90"	298D	454 or 5460

Many parts are interchangeable between the various models. These include the spirals, inserts, adjustable units and inspection doors.

When capacities greater than 200bu/hr are required, two or more Model 200's may be used together.

TABLE I Approximate Settings*

Situation	#1 (Top)	#2	#3	#4 (Bottom)
1. Round Seed, few impurities	off	off	20-40°	40-60°
2. Round Seed, few splits	off	off	20-40°	60-90°
3. Round Seed, many splits	off	off-20°	40-60°	60-90°
4. Round Seed, few weedseed	off	off	20-60°	60-90°
5. Round Seed, many weedseed	off	20-40°	40-60°	60-90°
6. Round Seed, few diseased beans	off	off	20-60°	60-90°
7. Round Seed, many diseased beans	off	10-30°	20-60°	60-90°
8. Flat Seed, few impurities	off	off	off-20°	20-40°
9. Flat Seed, few splits	off	off	20-30°	20-40°
10. Flat Seed, many splits	off	off	20-50°	20-60°
11. Flat Seed, few weedseed	off	off	20-30°	20-40°
12. Flat Seed, many weedseed	off	10-20°	20-50°	30-60°
13. Flat Seed, few diseased beans	off	off	20-60°	40-60°
14. Flat Seed, many diseased beans	off	10-20°	20-60°	40-60°

1. When seed lots have a high proportion of impurities, capacities of both air-screen machines and spirals should be reduced.
2. When seed lots have combinations of problems shown above, settings should be a compromise between the situations shown.
3. With a very good seed lot having round seed a setting with top and bottom units on and #2 and #3 off often gives good results.

*DIAGRAMS for Adjustable Unit Settings

