

- (1) Remove crating and take out parts fastened inside cleaner frame. Right and left sides are the related positions when standing at the back of the cleaner looking over feed hopper to the front air discharge.
- (2) Fit and bolt the Air Column Hood in position at the top of the air chamber - see Illustration 1.
- (3) Fasten the Grain Ejection Slide at front of the cleaner with the lip I-N-S-I-D-E the front wall of the air chamber. Always keep this slide level. For most cleaning bolt it through the slotted guides and set about 1" from the top position. Adjust up and down until best level is obtained.
- (4) Set Motor Mount in position and put the motor so the drive pulley will line up with the 10" driven pulley on the main drive shaft. Mark and drill holes for motor and fasten securely. Weight of the motor will keep the drive belt in proper tension. YOU MUST HAVE THE PROPER SIZE PULLEY ON YOUR MOTOR, OR USE AN ADJUSTABLE PULLEY, TO TURN THE MAIN DRIVE SHAFT OF THE CLEANER AT BETWEEN 370-380 RPM.
- (5) Wash screens with gasoline to remove oil and polish working surface with fine sandpaper. Oil guide slots of brush assembly and the eccentric until wood is well saturated. Oil all bearings at edges once each day. After machine is fully assembled turn by hand a few times before applying power.

NOTE: ONLY ON THE LINK 24 - Fit the 10" Pulley (wired on the main drive shaft) on the short extension of the main drive shaft beyond the bearing at the righthand side. Set the pulley with the extension of its hub against the edge of bearing.

ONLY ON THE LINK 36 - Bolt on the Extensions to the scalping and weed troughs. Fasten the two Triangle Bearing Castings and shaft assembly on the back of the cleaner frame - see Illustration 2. Connect the Eccentric Rod to the Rocker Arm on the brush shaft. Be sure to run the cap screw into the rocker arm thread until there is just enough clearance for the free turning of the eccentric rod on the shoulder and then secure this position with lock nut.

TOP BRUSH SCREEN CLEANING ASSEMBLY : In some cleaning where particles lodge in the top screen, such as with flax, a top brush assembly will be of value in maintaining capacity and provide better cleaning. It operates from the same shaft as the standard bottom brush assembly and in loose wood guide strips on the inside of the shoe held in position firmly when the screens are in place and tightened down.

NOTE: ONLY ON THE LINK 24 - The Top Brush Assembly operates from rods in the top holes of the already placed rocker arms. See Illustration 3.

ONLY ON THE LINK 36 - The Top Brush Assembly operates from rods in separate rocker arms to be set on the shaft directly opposite in position from those used for the bottom brush assembly. See Illustration 2.

ATTACHING THE BUCKET ELEVATOR : Driving belt, pulleys and fastening attachments are packed inside the elevator. All elevators are driven from the main drive shaft of the cleaner with a 3" diameter pulley. The driven pulley on all elevators is 5" diameter. To place the drive pulley and belt first remove the bolts and main drive shaft bearing on the lefthand side only. Mark the original position so you can replace the bearing in the same place.

NOTE: ONLY ON THE LINK 24 - The Elevator Drive Pulley must be fitted BETWEEN the two pulleys used to drive the air fan. Note carefully this position in Illustration 3.

ONLY ON THE LINK 36 - The Elevator Drive Pulley must be fitted AGAINST the inside of the shaft collar at the lefthand end of the main drive shaft. Note this position in Illustration 2.

Replace the main shaft bearing carefully in the original position.

Set the elevator upright against the side of the cleaner so the grain will discharge to the boot opening. Use the J bolts and clamp straps to secure the elevator leg to the cleaner frame but do not draw it too tight to bend the frame or collapse the elevator leg. The elevator will tilt back or forward sufficiently to get a proper belt tension. The driving belt need not be very tight for handling the load.

KEEP HEAD PULLEY IN ELEVATOR ADJUSTED SO CARRYING BELT WILL RUN IN EXACT CENTER AND NOT RUB ON INSIDE OF the elevator leg. Make adjustments on this pulley if necessary to take up any stretch that may develop as the machine is used. It is good practice to release the carrying belt tension when storing the machine after finishing cleaning. Always store carefully and safely away from rodents.

THE LINK AERO GRAIN AND SEED CLEANER, GRADER
AND TREATER HAS BEEN FITTED AT
THE FACTORY AS FOLLOWS:

KIND OF GRAIN	TOP SIEVE	BOTTOM SIEVE
Wheat	$12/64$ Round	$5\frac{1}{64}$ x $3/4$ Slotted
Oats	$8/64$ x $3/4$ Slotted	" "
Barley	$17/64$ Round	$6/64$ x $3/4$ Slotted
EXTRA		

**SUGGESTIONS FOR CLEANING AND GRADING SEED
AND THE OPERATION OF
LINK GRAIN AND SEED CLEANERS, GRADERS AND TREATERS:**

The aim in cleaning and grading seed is to produce a commodity free from foreign materials, selecting only the best and soundest kernels, to insure the most vigorous plant growth of the desired crop. Good equipment must provide the necessary screens, plus controlled air, applied in a manner that will accurately grade out by weight undesirable portions and permit the recovery of only the most suitable kernels or seeds.

LINK Cleaners provide better controls, adjustments and methods of operation for good cleaning and grading than most equipment. They are automatic and trouble-free when properly set and will give the results desired continuously with minimum effort and attention. The intelligent operator using care, and with a little experiment, can obtain a fully satisfactory seed selection under most farm conditions.

It would be impossible to give detailed instructions to apply to every condition which may be encountered. Different samples of the same kind of grain sometimes require different screen combinations and air volume for the desired results. The operator must depend on his experience and good judgement in adjusting and fitting his equipment.

SELECTION AND USE OF THE SCREENS:

Wash all screens carefully with gasoline and remove surface oil. The working surface (top side) should be kept very clean and smooth. Use a fine sandpaper on a block to polish the screen when necessary. Always insert screens in the machine with this smooth side up. When finished cleaning, wipe screens off carefully and store in a safe, dry place on their end or edge.

The front edge of the screens must always be forward to convey the scalplings or cleaned commodity to its discharge with no space for leakage. The screen separator sticks should be as far to the front as possible between the top and bottom screens and as far back as possible over the top screen. This will avoid danger of leakage between the screens.

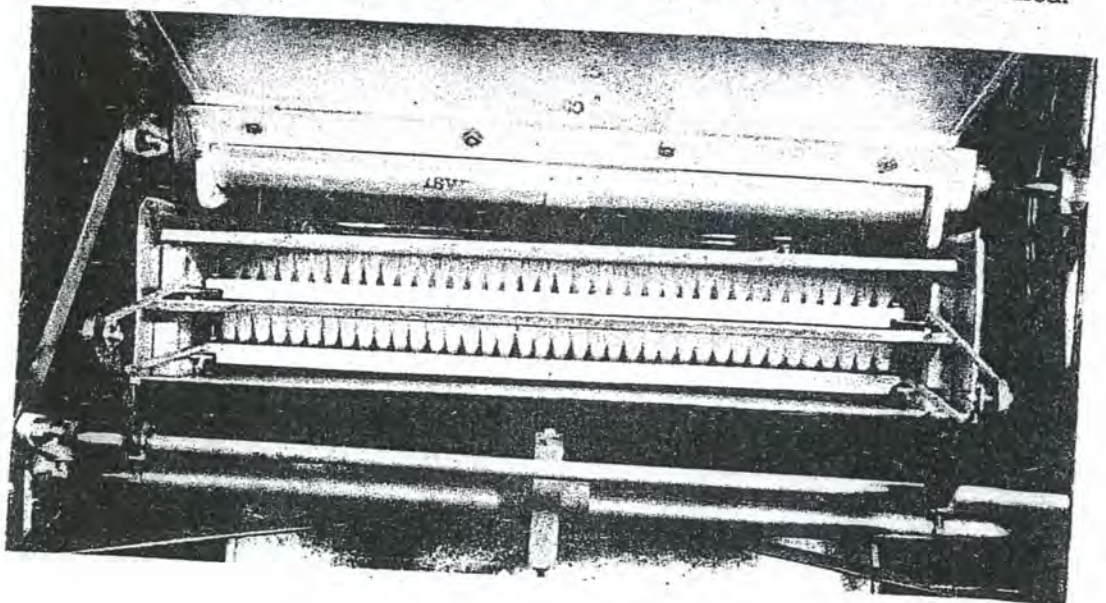
Slight changes in screen size, most particularly on the bottom, can result in important cleaning advantages. A small investment for extra screens will give you a greater range with which to get the desired results and is well worthwhile.

THE TOP SCREEN:

Only one top screen is required. The purpose is to scalp off material larger than the desired cleaned product. It may be of perforated metal or wire-cloth with openings of a size just large enough to let most of the good kernels pass through. No more than 1/3 of the top screen surface should be in use before most of the desired material being cleaned has passed through. A top screen-cleaning brush assembly is available. It is invaluable in cleaning some types of grain and flax and works similar to the bottom assembly with the brush-guide slats inserted as the separators between the top and bottom screen. — Note the illustration below:

The oilcloth scalping apron supplied can be used when long particles are to be removed by keeping them from up-ending or passing through round perforations of a top screen. It will be found very practical in scalping off wild oats in wheat. The metal raiser must fit under the top screen wood-holding sticks just ahead of the grain flow from the hopper feed. This allows the grain to pass under the oilcloth. It must be flat and float free over the top of the screen with the smooth side down. When worn or cracked, replace with a new piece of oilcloth. If the apron is too light, fasten cardboard or thin wood strips over the top surface to add slight weight.

If too many kernels scalp off the top screen a slightly larger perforation should be used.



THE BOTTOM SCREEN:

Only one bottom screen is required. Select it with care. It should let all material through that is smaller than the desired product. Oblong slots, round or triangle perforations or wire-cloth, give a wide variety of sizes to obtain the best separation. The bottom screen brush-cleaning assembly is to keep the openings free of material to allow full capacity at all times. A thin grain stream passing over the bottom screen allows removal of a maximum of impurities. If you want the best results — do not attempt to clean too fast!

Do not be "Penny-wise and Pound-foolish." Select a bottom screen with a large enough opening to let all the undesirable portions of the commodity pass through. It is much better to have a few small kernels lost in the screenings than to use a bottom screen that might save them but would not be as effective in removing weed seeds and other material you wish to clean out.

If screen-cleaning brushes are slightly warped through conditions of storage or moisture, or if they become worn, raise each brush not working against the underside of the screen. This can be done by lifting the brush from the bolt and setting washers over the metal guide strip sufficient to raise the brush to the required height to press firmly on the underside of the screen.

Screen-cleaning brushes should always be removed from the cleaner when the work is finished. Clean them carefully and pack them away in a clean, dry place where there is no danger of damage from moisture or rodents.

In selecting the bottom screen examine the commodity to be cleaned and note what must be removed for good results. If the parts to be removed are long and narrow select a slotted bottom screen with enough width and length to do the work. If the parts to be removed are round and smaller than the material to be saved a round perforated bottom screen can be selected to remove them. In cases where the parts to be removed are irregularly shaped like buckwheat the triangular perforation is best.

For market cleaning use a smaller bottom screen than would normally be used in producing seed — just to allow removal of most small weed seeds, broken particles and other small foreign material. For market cleaning, a 9 x 9 mesh bottom screen is recommended for wheat, barley and oats.

THE AIR GRADING:

The Controlled Vertical Air Column of LINK Cleaners is a most important feature. It provides constant pressure to lift and grade out by weight any desired percentage of light, immature, or undesirable portions. It must not be compared with the winnowing blast common to most fanning mills. It develops an equal and sustained pressure that works automatically for positive grading of any commodity. The amount to be taken out is determined by the operator. Material graded out need not be lost but can be used for market or feed.

Light, immature, shriveled and malformed kernels, and some foreign material can be lifted up and over the edge of the ejection hopper at the front of the machine. By careful attention to the grading properties of LINK Cleaners, the operator can produce a finished seed product of unusually even quality by removing the largest percentage of the undesirable kernels that may yield unsatisfactory plants.

Air-grading pressure may be regulated. There are 3 distinct fan speeds provided by the pulley drive and a wide range of air volume in each speed setting by adjustment of the air-fan shutters. The shutters must be adjusted to have the same opening on each side. For most grading the ejection hopper should be secured with the top about 1½" down from the top of the holding slots. Very fine grading can be accomplished on small seeds and grasses by adjustment of the ejection hopper, up or down.

LINK Cleaners do all the work of the ordinary "fanning mill", plus selective grading by weight. This is an all-important part of complete seed making. It is poor economy to grade seed too lightly. Select only the best and soundest kernels to obtain a crop of the greatest vigor and health for the highest yield of the finest quality.

For most cereal grains and heavy seeds the fan should be run at the highest speed range. For lighter commodities the center grooves of the pulleys should be used. For grass seed and similar materials use the slowest speed range. Once the desired air-grading pressure has been established fasten the air shutters so it will be maintained automatically.

If the air pressure is too great in cleaning very fine seeds or grasses paste cardboard over the holes in the bottom half of the fan sides.

CAPACITIES:

It is impossible to claim any definite capacity for any make of grain-cleaning machinery. Commodities so differ in quality and condition and user requirements are so varied that to declare a specified output would be misleading. It should be remembered that for best results — do not clean too fast!

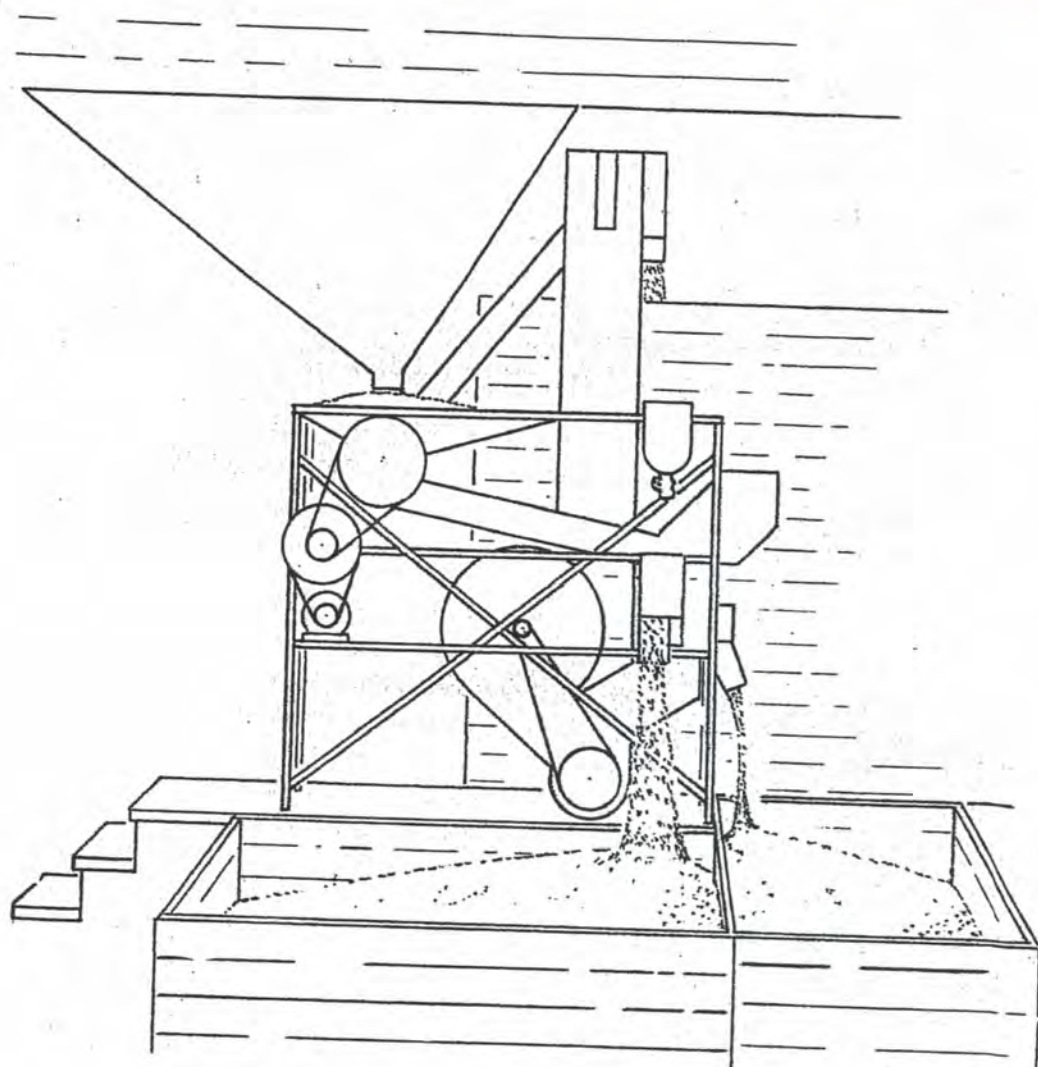
The sharp, smooth action of LINK Cleaners, and the extra work done by the air grading, provide greater capacity than in most other cleaning machines of similar size and screen width.

Capacity should not be the final measurement of value in cleaning equipment. Quality of the finished product, plus the amount of work necessary to produce the required seed, is a better level of assessment.

In most cleaning equipment constant attention is necessary. LINK Cleaners with the positive force-feed hopper, screen-cleaning brushes and set air-grading controls, offer continuous and automatic cleaning with very little personal attention. By building an overhead bin of sufficient capacity to feed the hopper for a day's supply, providing a bin to hold the finished seed, and setting the machine up to give space for screenings and graded out divisions, LINK Cleaners will operate to produce hundreds of bushels of finished seed with only occasional or casual attention. Some operators run LINK Cleaners 24 hours a day with no difficulty.

As a guide from the experience of users, the following will indicate usual capacities in bushels per hour under average conditions:

	LINK AERO	LINK AIR KING
ALFALFA, CLOVERS, ETC.,	4-6	6-10
BEANS, PEAS, LARGE, HEAVY SEEDS, ETC.,	40-50	60-75
BARLEY, HEAVY GRAINS, ETC.,	20-40	30-60
BROME, GRASS SEEDS, ETC.,	2- 6	3-10
FLAX, ETC.,	10-20	15-30
MILLET, MUSTARD, ETC.,	20-30	30-50
OATS, ETC.,	20-40	30-60
WHEAT, ETC.,	20-40	30-60
MARKET CLEANING OF WHEAT & COARSE GRAINS,	40-60	60-90



The work required for production and the quality of the finished seed are the best measures of value for any grain-cleaning equipment. Special features of Link Cleaners allow continuous and automatic processing of seed with little or no attention by the operator. A little care and thought in making provisions for full use of your cleaner will bring valuable savings in time and labor.

Set your cleaner up on a framework to give space underneath for screening and air gradings. Build an overhead bin to hold a day's supply of the grain to be cleaned so that you can fill it with your auger elevator. Have a bin made to receive the finished seed from the bucket elevator of the cleaner. Once you have these arrangements and set your cleaner to produce the desired results, it will operate automatically and continuously with little or no personal attention.

OPERATION, CARE AND ADJUSTMENT OF LINK GRAIN AND SEED CLEANERS, GRADERS AND TREATERS:

It is very important to set up your machine correctly. Complete assembly instructions were in the marked envelope attached to the front framework of your LINK Cleaner when it was shipped. If you have followed them correctly your machine turns freely and is now ready to operate.

LINK Cleaners must run at the same speed for cleaning all commodities. This must be between 370-380 RPM for the main drive shaft. Action of the shoe must be within this speed range or the grain will not be moved in the most effective manner on the screens. All drives work correctly from the main shaft when it is operated between 370-380 RPM.

Proper speed being very important it is recommended users obtain a variable pitch pulley for their motor. These are obtainable with the machine with bores of $\frac{1}{2}$ ", $\frac{5}{8}$ " and $\frac{3}{4}$ ", and can be adjusted for A-belts from a pitch diameter of 1.75" to 3.1". This is adequate for drive of the cleaners with a standard 1750 RPM electric motor. A $2\frac{1}{4}$ " outside diameter A-belt pulley on a 1750 RPM standard electric motor will give the main drive shaft of LINK Cleaners the proper speed for operation.

In selecting a motor for drive, a split-phase electric motor is not recommended. The motor should be either the Capacitor Type or the Repulsion - Induction Type. For the LINK AERO, a $\frac{1}{3}$ HP electric motor will serve for normal work loads, and a $\frac{1}{2}$ HP electric motor for heavy loads and where the elevator is used. For the LINK AIR KING, a $\frac{1}{2}$ HP electric motor will handle normal loads, and a $\frac{3}{4}$ HP electric motor for heavy loads and with elevator. (Double these ratings for gasoline engines and be sure they are properly governed to maintain a constant speed.)

For proper operation of your cleaning equipment, please remember that the proper speed is very important, and adjust your motor pulley to see that you get this correct speed.

When a gasoline engine is used it may be necessary to drive through a jack shaft to get sufficient speed reduction to turn the main drive shaft between 370-380 RPM. Machines can be fitted at the factory at additional cost for engine drive.

PROPER SPEED OF THE MAIN DRIVE SHAFT MUST BE MAINTAINED!

SUGGESTED SCREEN SIZES

	TOP SCREEN	BOTTOM SCREEN
BARLEY:		
SMALL	16/64 RD	(*) 5/64 x 3/4 SL
MEDIUM	17/64 RD	(*) 5½/64 x 3/4 SL
LARGE	18/64 RD	(*) 6/64 x 3/4 SL
BEANS:		
NAVY	20/64 RD	11/64 x 3/4 SL
GREAT NORTHERN	22 - 24 - 26/64 RD	12/64 x 3/4 SL
SOY: SMALL	18/64 RD	8/64 x 3/4 SL
MEDIUM	20/64 RD	10/64 x 3/4 SL
LARGE	22/64 RD	12/64 x 3/4 SL
CLOVERS:		
ALFALFA	5/64 RD	4 x 24 MESH
ALSIKE	1/20 - 1/19 - 1/18 RD	4 x 32 MESH
CRIMSON	5/64 RD	4 x 24 MESH
LADINO	1/20 RD	4 x 32 MESH
RED	1/15 - 1/14 - 5/64 RD	4 x 24 MESH
SWEET	5/64 - 1/12 RD	4 x 24 MESH
WHITE DUTCH	1/20 - 1/19 RD	4 x 32 MESH
FLAX:		
SMALL	4 x 17 - 4 x 16 MESH	5 - 5½/64 RD
MEDIUM	4 x 16 - 4 x 15 MESH	5½/64 RD
LARGE	4 x 15 - 4 x 14 MESH	5¾/64 RD
GRASSES:		
BLUE	1/20 - 1/19 RD	4 x 32 MESH
BROME	4/64 x 3/4 SL	4 x 20 - 4 x 18 MESH
CRESTED WHEAT	4 x 18 - 4 x 17 MESH	1/18 RD - 4 x 32 MESH
INTERMEDIATE WHEAT	4 - 5/64 x 3/4 SL	4 x 22 - 4 x 20 MESH
MEADOW FESCUE	4 x 15 - 4 x 14 MESH	1/18 RD - 4 x 24 MESH
ORCHARD	4 x 20 - 4 x 18 MESH	1/20 RD - 4 x 32 MESH
RYE	4/64 x 3/4 SL	1/18 RD - 4 x 24 MESH
TIMOTHY	1/20 - 1/19 RD	4 x 32 MESH
WESTERN WHEAT	4 - 5/64 x 3/4 SL	4 x 22 - 4 x 20 MESH

Sizes suggested are for normal and usual cleaning conditions. Other sizes could be used. Separations are practically impossible on any cleaning equipment when the size and weight of the different parts are substantially the same. Users who encounter problems cleaning any commodity are invited to send a two ounce sample for testing and recommendations.

Abbreviations used : RD - Round perforations in 64ths of an inch diameter.
 SL - Slotted perforations in 64ths of an inch - width - length.
 MESH - Woven wire cloth indicating openings per inch each way.

Where more than one size is suggested selection should be based on the size of the grain or seed to be cleaned and the type of foreign material to be removed. Study the cleaning problem and select screens to give the most desirable results.

SUGGESTED SCREEN SIZES

	TOP SCREEN	BOTTOM SCREEN
LEZPEDEZA:		
KOBÉ	4 x 14 MESH	1/14 - 5/64 RD
KOREAN	4 x 15 MESH	4 - 5/64 RD
SERICEA	4 - 5/64 RD	4 x 24 MESH
MILLET:		
GERMAN	6/64 RD	4 x 24 - 4 x 20 MESH
PROSO	6 - 7/64 RD	4 x 16 - 4 x 15 MESH
SIBERIAN	5 - 5 1/2/64 RD	4 x 24 - 4 x 22 MESH
MILO:		
MAIZE	13 - 14/64 RD	5 1/2/64 x 3/4 SL
MUSTARD:		
BROWN	5 1/2/64 RD	4 x 24 MESH
WHITE	7/64 RD	4/64 x 3/4 SL - 4 x 20 MESH
OATS:		
SMALL	8/64 x 3/4 SL - 17/64 RD	(*) 5/64 x 3/4 SL
MEDIUM	8/64 x 3/4 SL - 17/64 RD	(*) 5 - 5 1/2/64 x 3/4 SL
LARGE	9/64 x 3/4 SL - 18/64 RD	(*) 5 1/2 - 6/64 x 3/4 SL
PEAS:		
SMALL	17/64 RD	8/64 x 3/4 SL
MEDIUM	20/64 RD	10/64 x 3/4 SL
LARGE	22/64 RD	12/64 x 3/4 SL
RAPE:		
SMALL (Polish)	5 1/2/64 RD	1/18 RD - 4 x 18 MESH
MEDIUM (Argentine)	6/64 RD	4 x 15 MESH
LARGE	7/64 RD	4/64 RD - 4 x 15 MESH
TREFOIL:		
BIRDSFOOT	1/18 - 4/64 RD	4 x 32 - 4 x 24 MESH
WHEAT:		
SMALL	11/64 RD	(*) 5/64 x 3/4 SL
MEDIUM	12/64 RD	(*) 5 1/2/64 x 3/4 SL
LARGE	13/64 RD	(*) 5 1/2 - 6/64 x 3/4 SL
DURUM	14 - 15/64 RD	(*) 5 1/2 - 6/64 x 3/4 SL

(*) In cleaning wheat and coarse grains to remove material other than round or oblong, such as wild buckwheat, use a bottom screen with a 10 1/2/64 double cut triangle perforation. For market cleaning and large capacity use a 9 x 9 mesh screen on the bottom, increase feed and reduce air grading pressure. All screens suggested are for Link Grain Cleaners only and may not apply or be practical for other makes of grain cleaning equipment.

Aug 14 RD

SPECIAL ITEMS FOR ATTENTION:

Set air-fan shutters to open equally on both sides.

Keep your machine really clean and dry at all times.

Maintain all belt adjustments for just moderate tightness.

Check all nuts and set screws regularly and keep them tight.

Always store screens on end or edge in a clean, dry, safe place.

Oil all bearings occasionally, using a light oil applied to the edges.

Secure screens firmly in the shoe and polish on the grain side if not smooth.

Oil hardwood eccentric arm often until a good fit develops. If the shoe vibrates sideways at the back, move eccentric on drive shaft to right or left until proper position is obtained to give smooth action of shoe, forward and back.

Clean machine out well after using or when changing varieties. It may be tipped when running to clear out grain in the discharge trough. Clean the entire machine carefully after each season.

To raise screen brushes when worn or warped, place washers under the wood at each end of brush on the top of the steel guide bars. Do not raise brushes more than necessary at one time.

All bearings other than the eccentric and brush rocker shaft are porous bronze. They will last a long time with only occasional oiling applied to the edges of the bushings. All bushings are the same size on the entire machine and elevator excepting the 1" pillow blocks on the main drive shaft. Bushings are for a 5/8" diameter shaft.

It is important to keep the carrying belt of the elevator true and in the center of the head pulley so it will not rub on the inside of the elevator leg. Care must be taken to adjust the top tighteners to insure even travel of the carrying belt. Check these frequently. It is important to check and keep tight the set screw in the head pulley of the elevator. Clean out the boot when changing varieties and very carefully at the end of each season.

Remove the entire screen-cleaning brush assembly when not needed for any length of time and particularly when finished cleaning. Clean carefully and pack in a clean, dry place, where rodents cannot damage the bristles. When in use, occasionally remove any weed seeds or trash that may be lodged at the base of the bristles. The brushes in your machine are important — take good care of them!

If the holes in the activating arm between the hopper feed and brush shaft become worn this arm may be replaced with either of the two bars used to fasten the elevator to the cleaner frame.

SPECIAL INSTRUCTIONS FOR HANDLING GRASSES:

General instructions should be followed as previously given. Because of the light, bulky nature of grass seed, it may arch in the hopper, making it difficult to maintain an even feed. When it seems advisable, feed rakes and bulk agitators are recommended as shown in the illustration below:

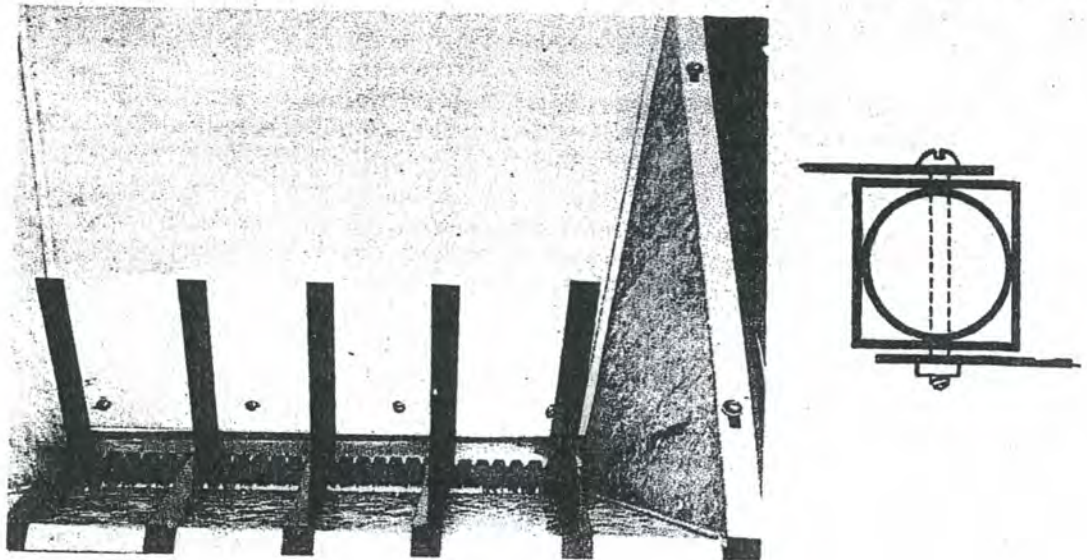
FEED RAKES:

Cut 2 pieces of light sheet metal in strips $1\text{-}1/16$ " wide as long as the square feed bar in the bottom of the hopper. Notch one edge to make teeth about $3/8$ " deep and $1/2$ " apart. Bolt these to opposite sides of the square feed bar with the teeth just clearing the hopper discharge edge.

FEED AGITATORS:

Cut 4 or 5 pieces of band iron not thicker than $1/8$ " and between 1 & $1\text{-}1/2$ " wide, and long enough to bend over the edge of the hopper and bend up over the feed rakes as shown in the illustration.

When the cleaner is operating, the feed rakes turn and expel the grass seed from the hopper bottom and at the same time agitate the strips sufficiently to keep the bulky material working down to the bottom of the hopper giving a continuous and even feed to the top screen.



INFORMATION AND INSTRUCTIONS FOR THE LINK SEED TREATER:

Disinfecting for protection against seed and soil-bourne diseases and treating for the control of pests like wireworm, have been so proven as to leave no doubt of their importance in modern practical farming. Higher yields and quality are assured under most conditions. Tests indicate it is best to disinfect seed early—4 to 6 months prior to seeding—and hold it in storage until time to plant. Never disinfect seed that is not sound, dry and mature. If impossible to disinfect your seed 4 to 6 months before planting, a minimum of 72 hours must be allowed. Some wireworm treatments should only be applied a few days before seeding. Others can be left on the seed indefinitely without harmful results. Some new products now available both disinfect and treat for wireworm in one application. Read and follow carefully the instructions of the manufacturer of the material you use.

Liquids for disinfecting and treating seed are the most desirable. There is normally less danger to the user than with dust applications. A mask is not necessary if care is exercised. Good ventilation in the building where the work is done is a safety essential.

LINK perfected the first simple and effective means of applying liquids to finished seed as part of the preparation process. No complicated mechanism is required for good results. Be sure sufficient active ingredients are applied. In view of the low cost a slight over-dosage does no harm but insures proper disinfecting with a safety factor.

Liquids are applied at a set flow to a constant volume of grain coming from the machine. Dispensing is even and not in large periodic dosage. Mixing is immediate and thorough. It is not necessary for each kernel of seed to be covered with the liquid to get proper disinfection.

The volatile gasses carry the active material to all kernels in the mass. These adhere and dry on the kernel surface in storage and again become active in soil around the sprouting seed after planting. When bagged or stored, the seed soon becomes dry and clean to handle.

Most disinfecting concentrates will not freeze in moderate winter weather but may thicken. If the material thickens, the flow rate will slow up. Therefore, it is important to watch the rate of flow if there is any temperature change of the disinfecting fluid from the time the flow rate was originally set.

Do not allow disinfecting liquids to remain on skin or clothing! Do not get any of the liquid into scratches or cuts or lips, eyes or nose. Keep safely away from children. Be careful! Wash skin or clothing immediately if contaminated with the disinfecting liquids.

Disinfected or treated seed must under no condition be used for human or animal food or delivered to any market. Any surplus can be stored and used another season. Bag, tag and store it away from children and animals!

INSTRUCTIONS FOR ASSEMBLING AND USING
THE LINK SEED TREATER:

Fasten the Treater Attachment as shown in the illustration. The flow assembly is put together at the factory and should be inserted as illustrated with the funnel placed underneath the shelf which supports the container. Insert the top section of rubber tubing back of the screw-flow control and thread the discharge hose through the clamps to the small opening in the mixing conveyor at the bottom of the air chamber.

Put on the clamps to hold a standard 1-gallon glass container. Fasten in the holes to make the narrowest circumference for US Gallons (128 fluid ounces), and the largest for the Canadian or Imperial Gallon (160 fluid ounces).

Obtain one or two extra gallon containers of clear glass with screw tops. Clean them well and remove all outside paper labels and fasten to the container handle or glue to the side a label titled "POISON" - FOR GRAIN TREATING OR DISINFECTING".

Always follow the instructions of the manufacturer of your material as to the proper rates of application. Estimate your requirements of disinfectant or liquid treatment and prepare a supply of material according to the manufacturer's recommendations.

Most mercurial disinfectants are of sufficient strength that application in the concentrated form of ½ oz. per bushel is sufficient.

We recommend that users dilute the concentrated mercurial disinfectant to at least double the volume and put on twice the recommended dosage of the diluted fluid. This will insure a better coverage of the seed and costs no more. It also permits a larger flow through the Link Treater which is easier to control and regulate. If the weather is to be cold, it is recommended that dilution of the concentrate be made for each gallon with two (2) quarts of alcohol and two (2) quarts of water. Thus the alcohol-water mixture constitutes one (1) gallon and when mixed with the gallon of concentrate should be applied to the seed at double the dosage recommended by the manufacturer to insure application of the correct amount of concentrate. If you wish to dilute more than one (1) gallon of concentrate with one (1) gallon of water or water-alcohol mixture remember:

When mixing one (1) gallon of concentrate with:

1 gallon of water you apply	TWO times	the originally
2 gallons of water you apply	THREE times	specified dose
3 gallons of water you apply	FOUR times	per bushel.

To begin the process of treating, determine the quantity of seed being produced per hour. Start cleaning and make all adjustments until you are getting the results you want. Measure or weigh the finished seed to calculate the bushels per hour being cleaned. Do not change any controls of feed or air but let the hopper run empty.

Have the Treater Attachment on your machine with flow parts ready to operate. Apply the squeeze shut-off clamp to the rubber hose just below the funnel discharge. Press the rubber stopper with the liquid discharge and air-vent tubes into the top of the gallon container you are to use. Place this in the holder bracket with the edges of the stopper resting on the metal shelf and the tubes down into the funnel. If the funnel fills too full, press the tubes slightly out of the rubber stopper to go deeper into the funnel. When the liquid has filled the funnel above the air-vent tube, the flow will stop.

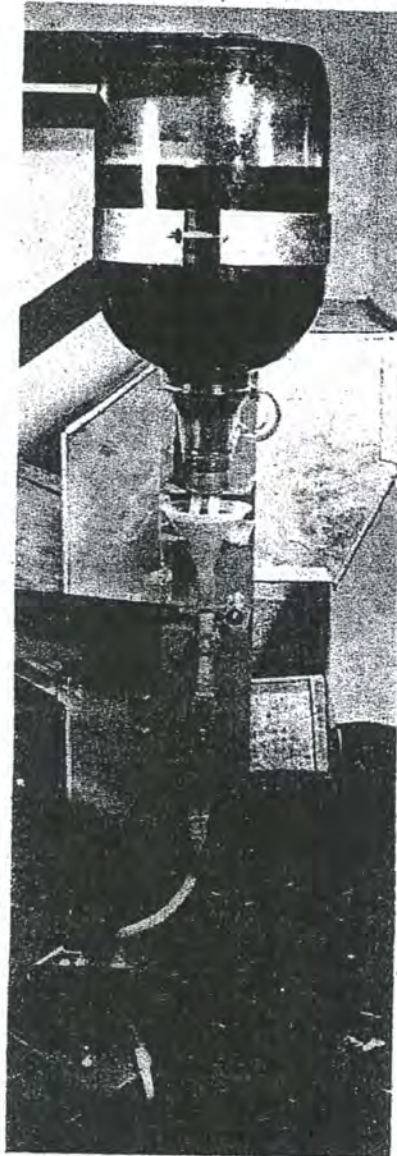
Use the measuring cup or another vessel to receive the liquid until the rate of flow has been set. Completely close the rubber tube with the screw shut-off clamp and release the squeeze shut-off clamp. Then adjust the flow to the desired rate with the screw shut-off clamp, using the other clamp to start and stop flow without having to change the rate.

Study the Tables at the back of this book. Determine how many drops per minute or ounces every two (2) minutes you should apply to properly disinfect the amount of seed you are producing per hour. Remember — if you have diluted your concentrate 1 to 1 you must double the fluid flow. If the flow rate necessary is faster than you can count in drops per minute, then work it out in fluid ounces using the ounce graduations on the measuring cup supplied. Once the flow has been set **DO NOT CHANGE ANY OF THE CONTROLS!** Shut off the flow with the squeeze shut-off clamp and place the flow tube into the mixing conveyor at the bottom of the air chamber of the cleaner. Start the machine and fill the hopper and proceed to clean on the same settings as you had made originally. As soon as the first grain reaches the mixing conveyor remove the squeeze shut-off clamp and let the flow of liquid begin. You will automatically disinfect your grain at the proper application for the bushels per hour being cleaned.

By having several containers mixed where a large volume of fluid is to be applied they can be ready and inserted in the Attachment as soon as one has been emptied. Merely place the stopper from the spent container in the one to be used and insert and proceed as previously.

Liquids for wireworm control come in several degrees of concentration. The manufacturer will recommend the dosage per bushel or per acre. In some areas the liquid treatment for wireworm control is not yet available but it is being more widely distributed each year and should soon be in most dealer's stocks where it may be required.

Check the flow rate of your liquid often to see that you are getting the proper application to the volume of seed being produced. You will soon be able to tell by merely watching the flow in the Vaco-drip Tube if there has been any material change in the rate.



If you stop cleaning or the feed runs out, do not shut off the flow with the screw-flow control. Use the squeeze shut-off clamp. When finished for the day shut off the flow and run back 1 or 2 bushels of grain you have already treated to dry out the mixing conveyor case. When finished for a few days, or at the end of the season, thoroughly wash all parts of the Treater Attachment, mixing conveyor case, and elevator boot, and allow them to dry properly. Pack your Treater Attachment away carefully and clean and it will serve you well for many seasons.

If the weather cools or if you have brought a warm container of fluid to a cold outside temperature, the flow is likely to slow up as the fluid cools. Be sure to check your flow occasionally and if it thickens increase the rate slightly and be sure you are applying sufficient to give proper disinfecting.

Disinfected or treated seed must under no conditions be used for human or animal food! Any surplus will keep and can be stored away carefully and used next season.

The cost of putting a little more than is required on your seed is so small that it is better to have an adequate flow than too little.

Cut a slot in a piece of cardboard or metal and cover the funnel top to keep out dirt, dust and chaff.

Be careful with all disinfecting materials. It pays to be safe. Being careful will help to keep you safe.

CHART FOR APPLICATION OF LIQUID DISINFECTANT
IN THE LINK AERO SEED TREATER

RATE OF CLEANED SEED
IN BUSHELS PER HOUR:

DROPS PER MINUTE TO TREAT
AT THE RATE PER BUSHEL OF

1/2 Oz 1 Oz 1-1/2 Oz

4	15	30	45
5	19	38	57
6	23	46	69
7	27	54	81
8	31	62	93
9	35	70	105
10	38	76	114
11	42	84	126
12	46	92	138
13	50	100	150
14	54	108	162
15	58	116	174
16	61	122	183
17	65	130	195
18	69	138	207
19	73	146	219
20	77	154	230
21	81	162	
22	85	170	
23	89	178	
24	93	186	
25	96	192	
26	100	200	
27	104	208	
28	108	216	
29	112	224	
30	115	230	
32	123		
34	131		
36	139		
38	146		
40	154		
45	173		
50	192		

*Answers on hand 17-64 RD
12-64 RD
5 1/2-64 SL
8-64 SL
6-64 SL*

WHEN CLEANING OR
 DEBITTING AND SEED
 THROUGH THE FEED
 AUGER AT THE RATE
 TEN BUSHELS PER
 HOUR
 OF:

TO APPLY RELATING LIQUID
 AND
 RATE
 OF

1 2 3 4 5 6 7 8
 POUNDS OUNCES PER BUSHEL OF SEED

THE RATE OF FLOW EVERY (2) TWO (2) MINUTES SHOULD BE SET
 TO GIVE IN POUNDS OUNCES

15	.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00
16	.54	1.07	1.60	2.13	2.67	3.20	3.75	4.26
17	.57	1.13	1.70	2.27	2.83	3.40	3.97	4.54
18	.60	1.20	1.80	2.40	3.00	3.60	4.20	4.80
19	.64	1.27	1.90	2.53	3.17	3.80	4.43	5.06
20	.67	1.33	2.00	2.66	3.33	4.00	4.66	5.32
21	.70	1.40	2.10	2.80	3.50	4.20	4.90	5.60
22	.74	1.47	2.20	2.93	3.67	4.40	5.13	5.86
23	.77	1.53	2.30	3.07	3.83	4.60	5.37	6.14
24	.80	1.60	2.40	3.20	4.00	4.80	5.60	6.40
25	.84	1.67	2.50	3.33	4.17	5.00	5.83	6.66
26	.87	1.73	2.60	3.47	4.33	5.20	6.07	6.94
27	.90	1.80	2.70	3.60	4.50	5.40	6.30	7.20
28	.94	1.87	2.80	3.74	4.67	5.60	6.54	7.48
29	.97	1.93	2.90	3.86	4.83	5.80	6.76	7.72
30	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00
32	1.07	2.13	3.26	4.29	5.33	6.40	7.46	8.52
34	1.14	2.27	3.40	4.54	5.66	6.80	7.94	9.08
36	1.20	2.40	3.60	4.80	6.00	7.20	8.40	9.60
38	1.27	2.53	3.83	5.07	6.33	7.60	8.86	10.12
40	1.34	2.67	4.00	5.33	6.67	8.00	9.34	10.66
42	1.40	2.80	4.20	5.60	7.00	8.40	9.80	11.20
44	1.47	2.93	4.40	5.86	7.33	8.80	10.26	11.72
46	1.54	3.07	4.60	6.14	7.67	9.20	10.74	12.28
48	1.60	3.20	4.80	6.40	8.00	9.60	11.20	12.80
50	1.67	3.33	5.00	6.66	8.33	10.00	11.66	13.33
52	1.74	3.47	5.20	6.94	8.67	10.40	12.14	13.88
54	1.80	3.60	5.40	7.20	9.00	10.80	12.60	14.40
56	1.87	3.73	5.60	7.46	9.33	11.20	13.06	14.92
58	1.94	3.87	5.80	7.74	9.67	11.60	13.54	15.48
60	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00

(All figures following the period (.) are decimal fractions of one ounce.)

STOCK SCREEN SIZES FOR LINK AERO GRAIN AND SEED CLEANER, GRADER AND TREATER

ROUND PERFORATIONS	SLOTTED PERFORATIONS	WIRE MESH CLOTH
1/20	4/64 x 3/8	2 x 7
1/19		2 x 8
1/18	1/14 x 1/2	2 x 9
1/17		2 x 10
4/64	5/64 x 3/4	2 x 11
1/15	5-1/2 /64 x 3/4	
1/14	6/64 x 3/4	3 x 13
5/64	7/64 x 3/4	
5-1/2 /64 (1/12)*	8/64 x 3/4	4 x 4
5-3/4 /64 (.090)*	9/64 x 3/4	4 x 15
6/64	10/64 x 3/4	4 x 16
	11/64 x 3/4	4 x 17
8/64	12/64 x 3/4	4 x 18
9/64	13/64 x 3/4	4 x 20
10/64	14/64 x 3/4	4 x 22
11/64		4 x 24
12/64		4 x 25
13/64		4 x 32
14/64		
15/64	TRIANGULAR PERFORATIONS	9 x 9
16/64		
17/64	8/64	30 x 30
18/64	9/64	
20/64	10/64	
22/64	10-1/2 /64 (.097)*	
24/64		
26/64		
28/64		

(PLEASE NOTE THAT ITEMS MARKED (*) ARE THE FORMER DESIGNATION OF SIZE WHICH HAS BEEN CHANGED TO THE MORE READILY UNDERSTOOD FRACTIONAL DESCRIPTION IN 64THS OF AN INCH.)

WHEN ORDERING SCREENS STATE CLEARLY THE SIZE AS SHOWN ABOVE AND INDICATE THE PERFORATION AS EITHER ROUND, SLOTTED, MESH OR TRIANGULAR.

CAREFUL SCREEN SIZE SELECTION IS IMPORTANT TO GIVE BEST CLEANING RESULTS.

LINK MANUFACTURING COMPANY INCORPORATED, FARGO, NORTH DAKOTA, U.S.A.

SUGGESTED SCREEN SIZES

TOP SCREEN BOTTOM SCREEN

BARLEY:	TOP SCREEN	BOTTOM SCREEN
SMALL	16/64 RD	(*) 5/64 x 3/4 SL
MEDIUM	17/64 RD	(*) 5/64 x 3/4 SL
LARGE	18/64 RD	(*) 5/64 x 3/4 SL
BEANS:		
NAVY	20/64 RD	11/64 x 3/4 SL
GREEN NORTHERN	22 - 24	12/64 x 3/4 SL
SOY	18/64 RD	8/64 x 3/4 SL
SMALL	20/64 RD	10/64 x 3/4 SL
MEDIUM	21/64 RD	12/64 x 3/4 SL
LARGE	22/64 RD	12/64 x 3/4 SL
CLOWERS:		
ALFAIRA	5/64 RD	4 x 24 MESH
ALSIKE	1/20 = 1/19	4 x 32 MESH
CRIMSON	5/64 RD	4 x 24 MESH
LADINO	1/20 RD	4 x 32 MESH
RED	1/15 = 1/14 = 5/64	4 x 24 MESH
SWEET	5/64 = 1/12 RD	4 x 24 MESH
WHITE DUTCH	1/20 = 1/19 RD	4 x 32 MESH
FLAX:		
SMALL	4 x 17 = 4 x 16 MESH	5 - 5/64 RD
MEDIUM	4 x 16 = 4 x 15 MESH	5/64 RD
LARGE	4 x 15 = 4 x 14 MESH	5/64 RD
GRASSES:		
BROME	1/20 = 1/19 RD	4 x 32 MESH
CRUSTED WHEAT	4/64 x 3/4 SL	4 x 20 = 4 x 16 MESH
TEMPERATURE WHEAT	4 x 18 = 4 x 17 MESH	7/18 RD = 4 x 32 MESH
Meadow Bescue	4 - 5/64 x 3/4 SL	4 x 22 = 4 x 20 MESH
ORCHARD	4 x 15 = 4 x 14 MESH	1/18 RD = 4 x 24 MESH
RYE	4 x 20 = 4 x 18 MESH	1/20 RD = 4 x 32 MESH
TYMOTHY	4/64 x 3/4 SL	1/18 RD = 4 x 24 MESH
WESTERN WHEAT	1/20 = 1/19 RD	4 x 32 MESH

Sizes suggested are for normal and usual cleaning conditions. Other sizes could be used. Separations are practically impossible on any cleaning equipment when the size and weight of the different parts are substantially the same. Users who encounter problems cleaning any commodity are invited to send a two ounce sample for testing and recommendations. Abbreviations used: RD - Round perforations in diameter. SL - Slotted perforations in slots of an inch width. Length. MESH - Mesh wire cloth indicating openings per inch each way. Where more than one size is suggested selection should be based on the size of the grain or seed to be cleaned and the type of foreign material to be removed. Study the cleaning problem and select screens to give the most desirable results.

SUGGESTED SCREEN SIZES

TOP SCREEN BOTTOM SCREEN

LEZBEDEZA:	TOP SCREEN	BOTTOM SCREEN
KOBE	4 x 14 MESH	1/14 = 5/64 RD
KOREAN	4 x 15 MESH	4 - 5/64 RD
SARAKOBA	5 - 5/64 RD	4 x 24 MESH
CHERRY	6/64 RD	4 x 24 = 4 x 20 MESH
FRISO	6 - 7/64 RD	4 x 16 = 4 x 15 MESH
SIBIRIAN	5 - 5/64 RD	4 x 24 = 4 x 22 MESH
MATZE	13 - 14/64 RD	5/64 x 3/4 SL
MUSTARD:		
BROWN	5/64 RD	4 x 24 MESH
WHITE	7/64 RD	4 x 20 MESH
SOY:		
SMALL	5/64 x 3/4 SL	(*) 5/64 x 3/4 SL
MEDIUM	5/64 x 3/4 SL	(*) 5/64 x 3/4 SL
LARGE	5/64 x 3/4 SL	(*) 5/64 x 3/4 SL
PEAS:		
SMALL	17/64 RD	8/64 x 3/4 SL
MEDIUM	20/64 RD	10/64 x 3/4 SL
LARGE	23/64 RD	12/64 x 3/4 SL
RAPE:		
SMALL (Polish)	5/64 RD	3/18 RD = 4 x 18 MESH
MEDIUM (Argentine)	5/64 RD	4 x 15 MESH
LARGE	7/64 RD	4/64 RD = 4 x 15 MESH
TRIFOLI:		
FEEDSTOCK	1/18 = 4/64 RD	4 x 32 = 4 x 24 MESH
WHEAT:		
SMALL	11/64 RD	(*) 5/64 x 3/4 SL
MEDIUM	12/64 RD	(*) 5/64 x 3/4 SL
LARGE	13/64 RD	(*) 5/64 x 3/4 SL
BEAN	14 - 15/64 RD	(*) 5/64 x 3/4 SL

In cleaning grain, such as peas, to remove material other than round or oblong, such as wild buckwheat, use a bottom screen with a 10/64 diameter of circular perforation. For market cleaning and large capacity use a 9 x 9 mesh screen on the bottom, increase cost and reduce wear grading pressure. All screens suggested are for Link Grain Cleaners only and may not apply or be practical for other makes of grain cleaning equipment.

INSTRUCTIONS FOR ASSEMBLING THE
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K AERO GRAIN AND SEED CLEANER, GRADER AND TREATER

1. Remove crating strips, wire from the eccentric arm, carton of parts and main drive shaft. The air chamber hangs from supports at each side on the fan bearings and rests at the front on angle strips. Right and Left sides are in relation to the position standing at the back of the machine looking over the feed hopper to the front air discharge.
2. Fit the EJECTION HOPPER at the front with the lip I-N-S-I-D-E the front wall of the air chamber. Bolt it through the slotted guides to be secure about 1" from the top.
3. Fasten the STEP CONE PULLEY securely on the fan shaft at the LEFT HAND SIDE with small groove in. Allow about 1/16" play in the shaft only.
4. Put one 5" PULLEY on the RIGHT HAND SIDE of the auger discharge shaft - line it up with the 2" PULLEY on the fan shaft on the same side and connect these with belt 4L430.
5. Place the 12" PULLEY on the HOPPER FEED SHAFT at the RIGHT HAND SIDE with the hub flange in, but do not tighten it to the shaft until later described.
6. DO NOT REMOVE OR CHANGE ANY PULLEYS OR FITTINGS ON MAIN DRIVE SHAFT. Clean it off well and then insert the end opposite the pulley in the LEFT HAND Pillow block bearing, through the eccentric and then through the RIGHT HAND pillow block bearing until the collar inside the step cone pulley is flush against the bearing. Tighten the 3" PULLEY with the flange IN against the bearing at the RIGHT HAND SIDE. Fasten the eccentric as close to center as you can. (When the machine is run if the shoe does not travel true, move the eccentric to one side or the other until you obtain a smooth, straight movement.) Line up the 12" PULLEY on the HOPPER FEED SHAFT with the 3" PULLEY on the MAIN DRIVE SHAFT and fit belt 4L470. If necessary move FEED HOPPER back or forward to get proper belt tension. Finally put on the 10" PULLEY at the RIGHT HAND END of the main drive shaft. This connects to the drive motor with belt 4L360. The weight of the motor will keep this belt tight.
7. CONNECT THE TWO STEP CONE PULLEYS ON THE LEFT HAND SIDE WITH BELT 4L640 TWISTED ONLY ONCE. It is important to remember that this is the only twisted belt run on the Link Aero.
8. Put on the MOTOR MOUNT BOARD and fasten the motor so the drive pulley will line up with the 10" PULLEY on the RIGHT HAND END of the main drive shaft. Use only a 2-1/4" A Groove pulley on the motor or obtain a VARIABLE PITCH PULLEY to be sure you get the proper speed on the MAIN DRIVE SHAFT - 360 to 390 RPM. Proper speed is very important.
9. Check all nuts and bolts - keep them tight. Wash sieves with gasoline and smooth working surface with fine sandpaper. Turn machine a few times by hand before applying the power. Oil bearings at edges occasionally and the guide slots of the brushes until the wood is well saturated. Oil eccentric often until it is polished and fits well and runs cool. READ YOUR INSTRUCTION BOOK CAREFULLY, it contains particulars for fitting the Treater.
10. Bolt on the extension end of the WEED DISCHARGE TROUGH - You are now ready to clean.
11. Drive belt, pulleys and attachment fittings for the bucket elevator are all packed in the elevator. Fasten the 5" PULLEY on the head drive shaft IN against the edge of the bearing. Line up the 3" PULLEY on the LEFT HAND END of the main drive shaft for driving. BE SURE TO KEEP THE SET SCREW IN THE HEAD PULLEY TIGHT AT ALL TIMES.
12. Set the bucket elevator upright with the hopper under the grain discharge and place the fastening bolts in the slotted guides. Tilt forward or backward until the drive belt is properly tight. Adjust the head pulley carefully so the elevating belt runs centered and does not rub on the sides. Adjust occasionally for any stretch.