ASSEMBLY, OPERATION AND MAINTENANCE MANUAL

MODEL "E" CORN SHELLER

MINNEAPOLIS-MOLINE COMPANY
MINNEAPOLIS 1, MINNESOTA, U.S.A.
ATTENTION OWNER

Did you sign a "SERVICE OR DELIVERY" certificate at the time you accepted delivery of your new Minneapolis-Moline machine? If not, please contact your Minneapolis-Moline dealer. It is important that you sign this form as it establishes the period of the warranty extended with the purchase of your new machine. Minneapolis-Moline is vitally interested in the assurance that you have received delivery service and instruction in machine operation and care.
SUPPLEMENT TO MANUAL S-148

Parts will be available to install a power take-off drive on Model "E" Shellers, Serial No. 3854900001 and after. If the tractor used has a PTO speed of 535 to 550 rpm, order bundles 22648X, 22649X, and 22651X. If the PTO speed is 551 to 600 rpm, order bundles 22648X, 22650X, and 22651X. The PTO shaft and guards are bundles 22030X and 1739X. The same cylinder speed can be attained with either tractor PTO speed, by using the sprocket supplied.

To install these parts, it is necessary to remove the bearing and housing from the blower end of the cylinder shaft, the support shaft, and the blower cover.

Bolt the new, heavier angle to the cover.

Ten 15/32" square holes must be punched (or drilled and squared) in the cover according to the dimensions given in Fig. 1.

A simple way to position these holes is to bolt the PTO drive housing to the two large holes in the angle. Make certain the housing is hanging squarely and mark the position of the holes.

NOTE: ON 1955 MACHINES, THESE HOLES ARE PARTIALLY PUNCHED. ALL THAT IS NECESSARY IS TO KNOCK OUT THE SLUGS.

Drill two 15/32" holes in the front cross angle between the frame sill angles, according to the dimensions given in Fig. 2.

Fig. 1 Dimensions for holes

Drill two 15/32" holes

Fig. 2 Dimensions for holes

Fig. 3 Drive installed
Install the outer support plate as shown in Fig. 4 and adjust the chain tightener sprocket. Bolt the cover to the side supports. Bolt the power shaft guard to the housing.

The slip clutch in the housing is the friction disc type. If it is desired to add more tension to the clutch, add a flat washer between the springs and the bolt heads.

Remove the drive pulley at the opposite end of the cylinder shaft and install the cylinder shaft guard.

The slip clutch in the housing is the friction disc type. If it is desired to add more tension to the clutch, add a flat washer between the springs and the bolt heads.

Fig. 4 Support plate and tightener

Fig. 5 Cylinder shaft guard

Fig. 6 Slip clutch

Fig. 7 PTO drive
FOREWORD

This manual is written as a guide to the owner and operator of the Model E Sheller.

Many suggestions are given to enable the operator to improve the life and efficiency of the machine.

If it becomes necessary to renew any parts, the owner should insist on getting genuine MM parts from an authorized dealer. MM parts are made from high grade materials which meet SAE specifications. There are on the market many parts identical in appearance to the genuine MM parts, but which are made of inferior materials and will not give satisfactory service.

When making major overhaul, it is best to take the Model E Sheller to your MM dealer as he has factory "Know How" and the tools to give better service.

We suggest that the maintenance section be carefully read. The Model E Sheller may have to be adjusted after the first few days with special consideration for the chain tighteners. If the Sheller needs adjusting do not become alarmed as this may be only paint wearing off and the assemblies becoming properly seated.
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**SERIAL NUMBER LOCATION**

To keep a permanent record and for your convenience in ordering parts, copy the model and serial numbers from the name plate riveted on the left hand side of the SHELLELER and write them in the proper blank spaces in the picture on the right of this page. When furnished with the model and serial numbers, your MM dealer will be able to supply the correct information and repair parts for your MODEL E SHELLER.
PRELIMINARY INSTRUCTIONS

The recommended way to assemble the model "E" Sheller is outlined in the following text.

Reference to the right or left side of the Sheller is determined by standing at the rear or feeder end and looking forward over the Sheller.

First unpack all bundles before beginning assembly.

When installing steel chains the open end of the chain links should always be toward the direction of travel and on the outside.

The model "E" Sheller may be purchased for "belt drive", "truck mount" or "mill installation". Basically each type is the same except for the frame assembly.

BELT PULLEY INSTALLATION

Remove the wire holding the key in the keyway of the shaft. Remove the key.

Remove the paint from the shaft and the inside of the pulley hub. Paint remover or sand paper may be used.

Install the pulley on the shaft so that the keyway in the pulley and the shaft are in line.

Drive the key into the keyway but leave about 1/2 inch protruding to permit pulling the key if the need arises (Fig. 1).

FEEDER TROUGH INSTALLATION

Remove the nuts and lock washers from the feeder hopper.

Remove the "Zerk" grease fittings from the upper bearings. This will permit the pivot bearing to slide out and over the bolts welded onto the hopper.

Lift the trough up and into the slots in the hopper. Slide the pivot bearings out and push the trough in until the pivot bearings will bolt onto the hopper. Replace lock washers and nuts securely (Fig. 1).

Install the belt. See page 21 for belt idler adjustment.
INSTALLING FEEDER TROUGH JACK

1. Remove a nut from the hinge rod and remove the spacer washers and pipe bushings from the jack legs.

2. Remove the cotter pin and the "U" bolt from the crank. Remove the crank.

3. Bolt the legs onto the sheller so that the crank will be on the right side. Make certain the pipe bushings are on the inside of the legs and that a flat washer is at each end of the pipe spacers. The legs should not bind. Tighten nuts securely on the rod.

4. Reinstall the crank and replace the cotter pin.

5. Turn the crank until the "U" bolt holes in the crank are perpendicular to the ground. Push the "U" bolt up from the bottom. Install the lock washers and start the nuts.

6. Slide the cable over the shaft and place the end under the "U" bolt. Draw the "U" bolt up tight (Fig. 2).

SWIVEL DRIVE MOUNTING INSTALLATION

1. Install the vertical angles on the right and left side of the hopper (Fig. 3).

2. Install the horizontal angle assembly as shown in Fig. 3.

3. Install the hopper side extensions.

4. Bolt the swivel drive assembly in place.

5. Install the chain and chain tightener (Fig. 3).

NOTE: See preliminary instructions before installing chain.

INSTALLATION OF SHEELLED CORN ELEVATOR

1. Place a jack under the right hand rear wheel and raise the sheller. Remove the wheel.

2. Remove the sprocket and bushing from the auger shaft (Fig. 4).
Fig. 4 - Wheel Removed

Remove the auger bearing plate on the left hand side. Pull the auger to the left about eight inches.

Loosen the wing nuts and the adjusting nuts on the brackets, near the top of the elevator. Slide the brackets down (Fig. 6).

Remove the curved elevator bottom (Fig. 5).

Fig. 5 - Elevator Bottom Removed

Lift the elevator upright and slide the thimble over the auger housing. Bolt the thimble to the sheller by means of the two clips (Fig. 5).

Fig. 6 - Elevator Installed

Bolt the plate support and rear angle support onto the elevator as shown in Fig. 6.

Remove the zerk fitting from the right, lower elevator bearing. Install the bearings. Replace the zerk fitting. Place the lower elevator sprocket in the chain and slide the auger shaft through the sprocket and through the bearing (Fig. 5). Do not tighten set screws on sprocket.

Replace the auger bearing plate on the left hand side. Make certain auger shaft is in the bearing.

From the opening in the bottom of the elevator slide the auger to the left as far as possible. Slide the elevator sprocket to the right until it is against the bearing. Tighten the two set screws on the sprocket. See Fig. 5.

Draw the adjusting nuts on top of the elevator until the chain fits firmly in the sprocket (Fig. 5). Tighten wing nuts and lock nuts (Fig. 6).
REPLACE LOWER CURVED ELEVATOR BOTTOM.
REPLACE REAR WHEEL.
INSTALL THE ELEVATOR DRIVE CHAIN AND FAN BELT (FIG. 7).

Fig. 7 - Elevator Chain and Belt Installed

BOLT THE SWINGING CONVEYOR DRIVE ONTO THE ELEVATOR. BOLT THE ANGLE BRACE IN PLACE (FIG. 8).

Fig. 8 - Conveyor Drive and Chain Installed

LOOSEN THE NUTS HOLDING THE SWIVEL YOKE UNTIL THE YOKE CAN BE EASILY TURNED.

Fig. 9 - Swinging Conveyor Installed

LOOSE THE BEVEL GEARS BIND TURN THE ADJUSTING NUT ON THE OUTER END OF THE CONVEYOR UNTIL THE GEARS RUN FREE (FIG. 9). BE CERTAIN THE LOCK NUT IS TIGHT ON THE ADJUSTING NUT.

Fig. 8 - Conveyor Drive and Chain Installed

REPLACE THE NUTS, WASHERS AND BOLTS FROM THE UPPER END OF THE SWIVEL YOKE.

REPLACE THE SWINGING CONVEYOR DRIVE (FIG. 8). INSTALL THE SWINGING CONVEYOR DRIVE CHAIN. SEE "PRELIMINARY INSTRUCTIONS" BEFORE INSTALLING CHAIN. PUSH TIGHTENER NUT (FIG. 8).

INSTALL THE SPOUT WITH THE HINGED COVER. INSTALL THE CHAIN ON THE SPOUT (FIG. 9).

Fig. 9 - Swinging Conveyor Installed
INSTALLATION OF COB STACKER

Loosen the chain tightener nuts on the discharge end of the cob stacker. Slide the roller in as far as possible. This permits the chain to be put on tighter.

Install the conveyor chain. See "Preliminary Instructions" before installing chain. Hook the chain together as tight as possible. Move the chain tightener out until the chain has the proper slack. Tighten the four bolts in the tightener.

Slide the gear end of stacker into the pivot yoke.

Hook the "S" shaped end of the support rod in the cob stacker. Remove the cotter key from the other end. Lift stacker up and insert the other end of the support rod in the blower housing (Fig. 10). Insert the cotter key.

INSTALL THE SLIDING RODS TO HOLD THE STACKER IN THE DESIRED POSITION (Fig. 10).

INSTALLATION OF CARRYING BRACKETS

Bolt the two inclined brackets to the braces on the left hand side of the machine as shown in Fig. 11 making certain the bracket having two lugs is placed on the rear of the machine.

The two identical brackets with the three horizontal bars bolt on the right side. The short angle brace goes on the rear and the long one on the front (Fig. 12).
EXTRA EQUIPMENT

DRAG SECTIONS

There are four different types of sections to make up the completed drag.

The inclined section is approximately 6 feet long and has the hangers and wedge pins. One inclined section of the drag is needed.

The inclined section is followed with an inner section. The inner section of the drag is 10 feet long and has a drive sprocket and chain tightener.

The center section of the drag is also 10 feet long; however no sprockets, shafts or chain tighteners are mounted on it. No center section is needed to operate the sheller drags. One or more of the center sections may be added depending on the length desired.

The outer section of the drag is approximately 18 inches long. The outer section is needed to hold the DRAG chain tight.

To install the inclined section remove the wedge pins from the hangers.

Install the hangers over the swivel drive and reinstall the wedge pins (Fig. 13).

Loosen the inclined drag sprocket and place it in line with the swivel drive sprocket. Tighten the set screw (Fig. 13).

Install the chain. See "Preliminary Instructions", slide the drag back on the arms until the chain is tight and tighten the adjusting nuts (Fig. 13).

Install the inner section on the inclined section (Fig. 14).
INSTALL THE CONVEYOR CHAIN IN THE INNER SECTION MAKING CERTAIN THE CHAIN IS IN THE BOTTOM SLIDE.

SEE "PRELIMINARY INSTRUCTIONS" BEFORE INSTALLING CHAIN. LEAVE THE CONVEYOR CHAIN OPEN NEAR THE BACK OF THE INNER SECTION.

TO ASSEMBLE A CENTER SECTION ON THE INNER SECTION LAY THE CENTER SECTION IN BACK OF THE INNER SECTION WITH THE NOTCHED PARALLEL STRAPS SEVERAL INCHES BEHIND THE REAR OF THE INNER SECTION.

SPLIT THE CONVEYOR CHAIN IN THE MIDDLE AND INSTALL HALF IN THE UPPER AND HALF IN THE LOWER TRACK OF THE CENTER SECTION.

ASSEMBLE THE CHAINS OF THE INNER AND CENTER SECTION.

INSTALL THE CENTER SECTION ON THE PEGS OF THE INNER SECTION AND LOCK IN PLACE WITH THE CLIPS (FIG. 15).

IF MORE CENTER SECTIONS OF THE DRAG ARE DESIRED EACH SECTION IS INSTALLED IN THE SAME WAY.


TIGHTEN THE CHAIN TIGHTENER UNTIL THE CHAIN HAS THE PROPER TENSION.

ONE SIDE BOARD COMES WITH EACH SECTION. THEY CAN BE INSTALLED ON EITHER SIDE OF THE 10 FOOT SECTIONS AS DESIRED (FIG. 16).

Fig. 15 - Outer Section Installed

Fig. 16 - Side Board Installed

THE OUTER SECTION OF THE DRAG SHOULD ALWAYS BE ASSEMBLED ON THE SAME CENTER SECTION.
BAGGER

A bagging attachment is available as extra equipment for the "E" sheller (Fig. 17). It is so constructed that two bags can be locked on the spouts and the filling of either sack is controlled by a damper. Height of the bagger is adjusted to any size bag.

INSTALLATION

To install the bagger remove the spout with hinged cover and the chain if sheller is so equipped (Fig. 9).

Hook one side of the bagger on one boss found on the thimble. With a long punch pry the opposite side of the bagger out and over the other thimble boss. Make certain the holes in the bagger are over the thimble bosses.

ADJUSTMENT

Loosen the nut on the outer telescoping end of the bagger. Pull the bagger down until a bag will just touch the ground with the top clamped under the spout (Fig. 17). Tighten the nut holding the telescoping section of the bagger.

Place the parallel braces out where they will keep the bagger firm (Fig. 17).