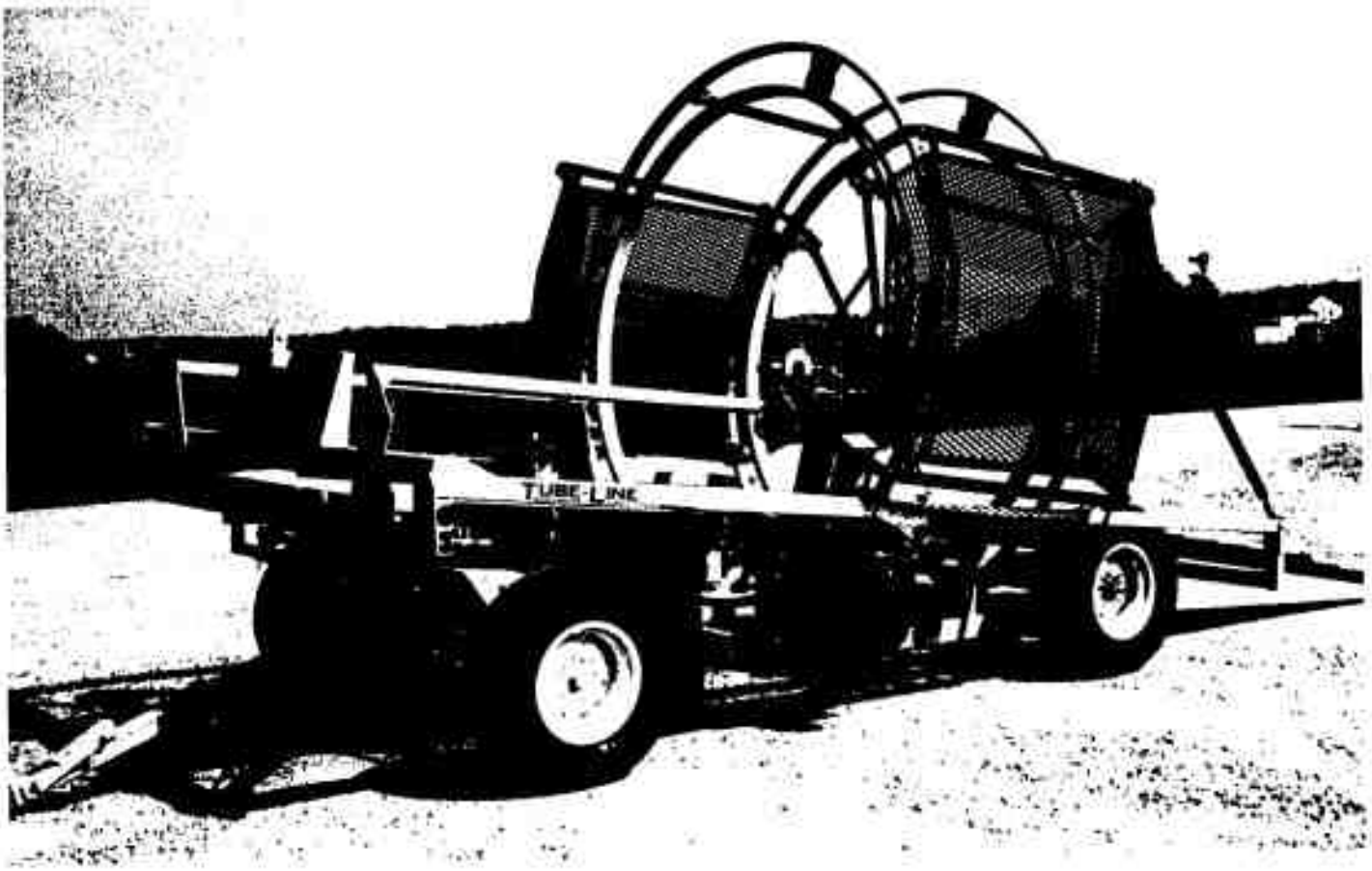
Operators Manual
Tube Line Bale Wrapper

Model 500



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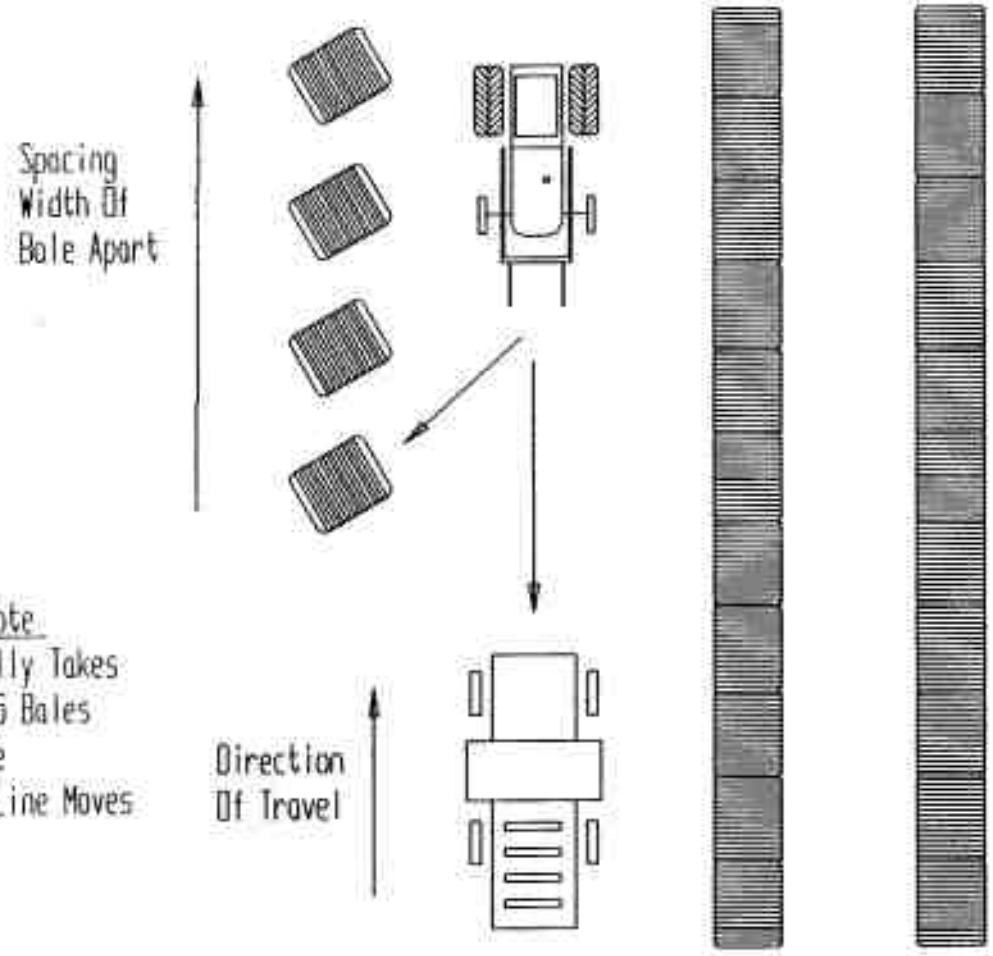
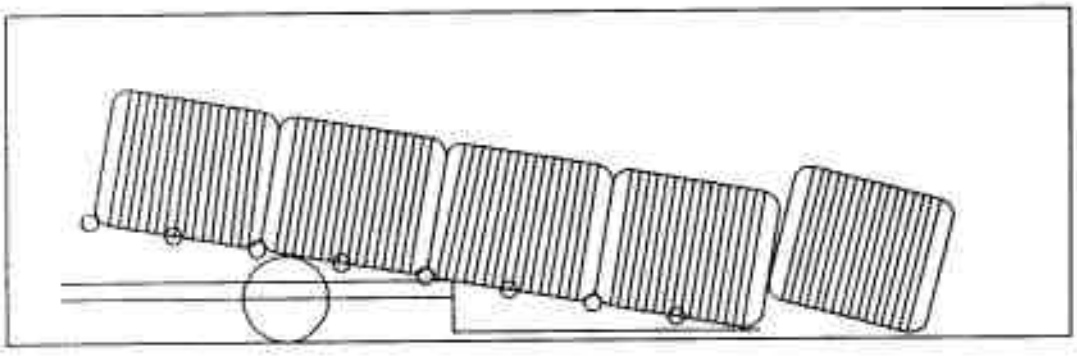
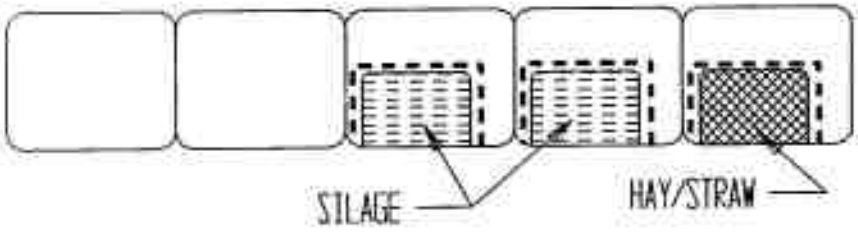
Set Up For Tube Line



If bales are brought to the site before wrapping, arrange then to allow easy access to bales and allow tubeline plenty of room to move



The first bale tips as the line forms and may be picked up when the row is well started



A bale of hay or straw is added to protect the end of the line

TLSET1

Operating The Model 500
Tube Line Bale Wrapper

Big Bale Silage

The objective of big bale silage is to provide high quality forage using a minimum of equipment. To do this crop must be cut at the correct stage of maturity, wilted, baled tightly and wrapped air tight using a good quality stretch wrap.

The Tubeline Wrapper makes timely harvest possible by reducing the dependence on the weather. It is much easer to get weather to wilt silage than to make dry hay. This also extends the working day as forage is at the correct moisture to bale earlier and later in the day.

Bales

Well shaped firm bales are necessary for successful wrapping. Bales are best wrapped as soon as possible after baling. If bales are left unwrapped they will sag and lose shap. Heating will start soon after baling and protein quality will be lost. It is desirable to wrap within four hours. In an emergency such as rain bales can be left 12 to 16 hours.

Moisture

Successful silage can be made over a wide moisture range. In general, 40 to 50% moisture is satisfactory for dairy cows. Some beef farmers prefer 60 to 70% moisture as it limits intake. A good rule of thumb is to dry "Half way to Hay". Drier silage gives you:

1. **lighter bales to handle**
2. **more desirable fermentation with less odour**
3. **less freezing in the winter**
4. **higher dry matter intake**

Wrapping Site

Select a site which will allow for making an adequate bale row length. The TubeLine is a very fast wrapper but requires time to set up and move to a new line. There should be space for at least 50 or more bales in a row.

Select a site that is accessable in winter conditions and does not flood in spring.

A firm surface is necessary for the successful operation of the TubeLine. Avoid soft ground as the wrapper will not move forward smoothly if it is sinking into the ground. Wrap on the level or up a slight grade.

A site that is free from grass and debris will be less likely to attract rodents that can damage the plastic.

Bale Size

ROUND BALES **The Modle 500 will wrap bales of up to 5 1/2 ft. wide and uo to 5 ft high. It will wrap all sizes smaller than these dimensions.**

Remember when making big bale silage the bales will be heavier than dry hay. This puts extra strain on loading and transporting equipment. Also the bales will be heaver when feeding out and may have to be moved on wet ground or snow. As a result most operators reduce silage bale diameters to 4 to 4 1/2 ft even though the wrapper and baler will handle larger bales.

Square Bales

The Model 500 will wrap most sizes of square bales. The length should be reduced to 5 ft. This is to allow the bales to be placed on the bale receiver. This may also be the maximum length advisable to handle big square bales of silage.

Bales which are approximatlely 4 ft wide and 2 ft high can be stacked two high for wrapping.

Bales which are approximately 3 ft wide and 3 ft high do not stack well. These may be wrapped in a single tier of bales.

Big square bales must be wrapped manually. When stacking two high the first bale would activate the automatic device prior to loading the second bale.

Extra care must be taken to insure that extra film is applied at the bale joints if the bales are uneven.

Recommended Operating Procedure

We suggest the following method of operating the 500 Tube Line Wrapper.

Park the wrapper where you want the end of the row, facing in the correct direction.

Fold front section of tongue and insert bracket in hydraulic steering pin.

Start the engine

Caution: To Prevent Injury - Prior to lowering wrapper tail section. Check to be certain that bystanders are standing clear.

- Lower the tail section using the operating valve.

Trouble Shooting Plastic Installation

1. Wrinkles in the plastic with seams between layers easily visible.
Check to determine if plastic is properly routed through red tensioner rollers.

Check tensioner installation. Use the red dot (if there is one) as reference to determine if tensioner was properly installed. Location of red dot is explained further in Installation Of Plastic.

2. Plastic tears between tensioner and bale.

Reel holders not turning freely. Lubricate and turn manually until free.

Slave roller not turning freely. Lubricate and turn manually until free.

Poor quality plastic. Use a brand with good tear resistance.

Tack build up on rollers. Particularly in hot weather the tack which sticks the layers of plastic together can build up on the rollers. Clean the tensioner with warm soapy water.

Plastic roll too hot. In very hot weather the plastic can become soft if left in the sun for for long periods. In these condtitions the spare rolls should be kept in the shade. The roll after installation on the machine can be parked under the roll of wrapped bales if not used for a extended period of time. In extreme heat the top position roll on twin tensioner machines can be covered to provide shade when not in use.

Roll of plastic catching on bottom of the bale. If bales are mis-shaped the roll of plastic can drag on the bottom of the bale causing the plastic to break.

If the wrapper is equipped with electronic automation.
Switch the control to manual

Caution: Prior to rotating hoop check to be sure guards are in place and all persons are clear of hoop.

- Test the hydraulics by rotating the hoop and moving the push bar back and forth.
- Install the roll of plastic according to Plastic Installation diagram.

Caution: Close guards after installing plastic to avoid injury.

Caution: Round bales are heavy and silage bales are even heaver. Use only authorized bale handling equipment. Keep bales low when turning loader.

Bale guide bars.

The bale guide bars are designed to align the bales as the bales are set on the wrapper. These bars should be adjusted to set firmly against the bale when the bale is placed on the wrapper. If the bars are too far apart the bales will not align and the plastic joints will not be as tight.

If the guide bars are too close the bales will not set down until they have entered the wrapping hoop. This will cause the row of bales to have a "saw toothed " apperance. Again the seal between the bales will not be as tight.

Adjust the guide bars when a change is made in bale size.

To Wrap Bales

- Open the bale pusher and place the first bale on the table. Push this bale and two other bales through the hoop. This gives a stable end for the line. These bales can be picked up and placed on the wrapper later when the line is formed and wrapped later. Alternatively a bale of straw can be used to form a tight seal in addition to the plastic sheet or bag.

- Pull about 4 ft of plastic through each plastic stretcher and tie it under the twine on the third bale.

- Place a single bale bag or a sheet of plastic on the next bale to form the end seal.

- Set the selector valve to " bale only." This will allow the bale to be moved without the plastic stretcher applying plastic.

- Place this bale on the table. Push it to the hoop.

- As the bale is pushed through the hoop, start the plastic dispenser rotating to apply plastic by operating the " Wrap " valve.

- The bale should be advanced 4 inches for each rotation of the plastic dispenser. This will apply 4 to 5 layers of plastic.

- Until the operator is familiar with the operation of the wrapper it is best to advance the bale about 4 inches, do a wrap of plastic, advance the bale, do a wrap. etc. When the operator is familiar with the machine set the flow valve so that the correct amount of plastic is applied as the bale is moved forward.

- Set the selector valve to "Both ". This will start the plastic when the bale is being pushed.

If there is a space between the bale after it is loaded and the previous bale,

Set selector valve to "Cylinder Only " ,
Advance the bale until it contacts the previous bale.
Then move the selector valve to " Both"

- If the bales do not line up then put on extra wrap at junction of the bales to ensure a good seal.

With the Automatic wrapper, after several bales are wrapped manually and the line is started, switch the panel setting to AUTO. As each bale is placed on the wrapper it will activate the wrapping cycle.

Careful aplication of an adquate amount of plastic is critical to give a good quality product. Careless application of plastic will result in losses.

- Continually watch the row for dark "window" indicating that not enough plastic has been applied.

Steering

The wrapper is equipped with hydraulic steering. The purpose of this is to keep the wrapper operating in a straight line or direct the wrapper around obstacles. If the ground is uneven or the wrapper is operated on a side hill then it can drift out of line. The loader operator is usually able to detect if the wrapper is not moving in the desired direction. Also the steering can be used to go around obstacles in the wrapping path. Do not make sharp turns as this prevents the bales from being tightly packed together.

When starting the row align the wrapper in the direction desired for the row and insure that the tongue is in the center position.

Wrapping dry hay and straw

The Tube Line wrapper can be used to weather protect dry hay and straw. HAY SHOULD NOT BE WRAPPED TIGHTLY AS IT STILL CONTAINS SOME MOISTURE.

Only two layers of plastic are necessary. For hay leave space in the plastic at the joints of bales. This is done by stopping the plastic dispenser and pushing the bale through to leave a space. This will allow the moisture to bleed out and still protect the bale from rain and ground moisture.

If straw is dry it may be wrapped continuously without spaces. Straw that has some moisture is best wrapped with spaces in the plastic.

After wrapping

After wrapping inspect rows of silage regulary to insure there is no damage occuring from birds , rodents or livestock.

Feeding out

With the Tube Line, bales can be picked by a loader without cutting the plastic. The plastic breaks away between bales and can be removed from the sides of the bales before dropping the bales in the feeder.

Tube Line wrapped bales do not spoil as the line is fed. Unlike long bags of bales the stretch wrap prevents air from moving past the bales and causing the bales at the far end to heat. As the next bale is undisturbed it will not spoil for one to two dys in warm weather and for at least a week in cooler weather.

Disposal of plastic

Users of bale wrappers are encouraged to collect all plastic to prevent it from becoming an enviromental problem. If there is a high temperature incinerator in your area the plastic can be safely burned without producing hazardous by-products.

Plastic although bulky is inert in a landfill and will not pollute ground water.

Manufacturers are making serious efforts to economically recycle silage plastic. Use a recycling service when available collect and dispose of all plastic. Unsightly used silage film will encourage complaints.

The design of Tubeline bale wrappers are protected under Canadian Patent 1285862 and USA Patent 4793124

These patents are held by Mr. David Anderson, Aberdeenshire,Scotland.
Distribution rights to the Tubeline in North America are held by
New Perth Agritech, Carigan, RR# 6 PEI Canada.

8 Jan 1997

Use Of The Operating Brake

The model 500 is equipped with an operating brake. It is essential that bales be packed tightly together to insure that the silage is sealed and will keep well. If the bales are not securely packed end to end air can enter between the bales and cause spoilage.

It is best to choose a wrapping site where the wrapper operates on the flat or slightly up hill. If the ground is very hard and causes very little rolling resistance, or the wrapper must be operated down hill, then the brake must be used to pack bales.

The brake is operated by using the brake hydraulic valve. Moving hydraulic lever will cause oil pressure to apply brakes on the rear wheels. Increase pressure to the point where the bales are packed firmly together, then close ball valve on top of valve bank to retain pressure in brake line.

RELEASE BRAKES WHEN THE ROW IS FINISHED AND PRIOR TO TRANSPORTING THE WRAPPER.

Completing The Row

- When the desired row length has been reached, place a bale bag on the bale to seal the end.
- Continue to apply stretch wrap until the bag si completely wrapped.

THE AUTOMATIC WRAPPER SHOULD BE SWITCHED TO MANUAL POSITION FOR PUSHING OFF.

CAUTION: THE USE OF AUTOMATIC SETTING WHEN PUSHING OFF COULD INCREASE THE RISK OF THE OPERATOR BEING INJURED BY THE PUSHER.

- A push-off tube is supplied and stored in the long slider tube.

To push off the bales.

Open the bale pusher

Pull pin holding push plate, insert push-off tube into push plate tube move, tube through ram plate until retainer pin can be fastened through tube, holding plate and tube together. Push long tube with plate attached through to bale.

Close the pusher, moving the wrapper away from the row of bales.
Open the bale pusher.
Push long tube through again to bale
Close the pusher a second time to push bales off the wrapper.
Remove push rod and store it inside slider tube
Fasten push plate into ram plate
Fold up tail end of roller table using the "Tail" valve.
Undo steering, unfold tongue and insert lockpin

CAUTION: DO NOT TOW BALE WRAPPER AT SPEEDS OVER 35KPH.

Daily Maintenance

Lubricate all grease points.

Apply liberal amounts of grease to the pusher slides daily or when the slides appear dry.

NOTE: PLASTIC STRETCHER IS TO BE GREASED ONLY ONCE PER SEASON.

When wrapping in hot weather there can be a build up of adhesive on the plastic stretcher. This can cause the plastic to break. If there is a build up of adhesive, wash stretcher with soap and water.

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Installation Of Plastic

The roll of plastic should be installed so that the inside of the plastic film should go next to the bale of silage. The plastic then passes over the slave roller and is threaded through the two red rollers on the tensioner as shown in the diagram.

The two red stretcher rollers rotate at different speeds. This causes the plastic to be stretched. It is very important that the plastic go over the slow roller first and the faster roller second. The faster roller should be marked by a red dot opposite it on the gear case.

If there is any question of which is the fast roller:

1) Place a pen mark on each roller and rotate one roller one turn.
2) Check the location of the mark on the other roller.
    If it has advanced further, then it is the fast roller
    If it has advanced less, then it is the slow roller

When the plastic is installed correctly it should stretch tight on the bale to form a smooth tube.