

Manufactured By: **TubeLine Manufacturing Inc.**

RR#3 Listowel, Ontario , Canada N4W 3G8 Tel: (519)291-4162 Fax: (519)291-5388 e-mail: sales(*a* horstwelding.com -

TubeLine 6500 X2 New for 2007

- 1. Reinforced the front Ram Cross Tube at the bolt-on point.
- 2. Slide tubes instead of Flip-out Arms for the final push-off
- 3. Channel Track at the bottom of the Safety Door
- 4. New Safety Door handle
- 5. Changed battery location
- 6. Better Engine Access
- 7. Removable Tapered Bale Spears
- 8. New Hillside Roller
- 9. Riser Table side angles turned down (more clearance for plastic
- 10. Longer Riser Table Handle
- 11. Twin wrap added a plastic roller to guide film over edge of wrap carrier

the second se

Introducing Tubeline T6500 X2 Tubeline Owner

Thank you for choosing the Tubeline Bale Wrapper. Our hope is that it will give you many years of productive service. This machine is designed to wrap a film of plastic in a continuous line of round or square bales.

Please read and understand this manual and the machine before operation.



Tube Line 6500 X2 New for 2006

Moveable Center Bale Spears

The center bale spears slide back into the machine instead of having to remove them.

To retract the spears: Push the spears underneath the table until they hit the stop. You may turn the spear to engage the lock tab. To extend the spears turn the spear to unlock the tab, and pull out.

Bale Saddle/Riser

The Riser can fold down flat and become part of the table; this will accommodate 3ft bales the long way, side by side through the wrapper.

The Riser can also be used as a Bale Saddle for round bales, with the bales sitting on the rails. The round bale should not sit on the table. When wrapping round bales, the spears need to dig into the bale to keep the plastic film from sticking to the spears.

Square bales can be place crossways on the Riser Rails; in this mode the center spears should be retracted.

The rear roller riser can be adjusted up and down with the handle stored in the right door track. Insert it into the pocket, and lever the rollers up or down. In the up position the sliding lock keeps the rollers in position. This lever can also be used to move the bale saddle. The back riser adjusters are held in place with a spring-loaded pin that can be unlatched from the front via a pull cable with a handle.

- Engine on the control side
- Rolling Safety doors
- Marine style fuel tank
- Low Right Side for Side Loading
- Higher Control Panel Guard to assist with side loading

Tubeline 6500 X2 2006 Bale Saddle



In this view the saddles are in the extreme up position. They can also be turned to be flat with the table.









The two center spears can be moved back and forth and are secured in the retracted position with the spear tab dropped into a notch in the table frame. To extend the spear, turn it to disengage the tab and then slide the spear out until it is extended as far as it will go. There is no lock in this position.

Safety

Take note! This safety alert symbol is found throughout this manual to call your attention to instructions involving yourself and others working around the machine.

• Failure to follow these instructions can result in injury or death!



This symbol means

-Attention! -Become Alert! -Your Safety is involved!

Signal Words are used in this book.

Caution: Indicates a potentially hazardous situation that may result in injury.

Warning: Indicates a potentially hazardous situation that could result is serious injury or death.

Danger: Indicates a hazardous situation that needs to be avoided. It is you the operator that needs to be aware of these dangers.

If you have any questions not answered in this manual, please contact your dealer or Tubeline Manufacturing Inc

RR # 3 Listowel		Tel: (519-291-4162
Ontario Canada		Fax (519-291-5388
N4W 3G8	e-mail	sales@horstwelding.com



Safety Guidelines Safety of the operator is one of our main concerns, however we do hear of some accidents that could have been avoided if some precautions had been taken. To avoid personal injury study the following precautions and insist those working with you or for you, follow them.

In most cases the pictures will have the shielding in place, in some they may be removed, only to show a view behind the shield.

Keep all the shields, safety doors in place. If they become faulty and fail to work replace them. They are for your safety, do not operate the equipment with them removed.

Replace any decals that may be missing or that are not readable. Location of the decals is indicated in this manual.

Do not operate this machine while under the influence of drugs or alcohol.

Review the safety instructions with all users annually.

This equipment should not be operated by children, or with those unfamiliar with the operation of the machine. Do not allow persons to operate this machine until they have read this manual and/or were instructed by a qualified person.

Do not paint over, remove or deface any safety signs or warning decals on your equipment. Observe all safety signs and practice the instructions on them.

If the bale seems to be larger then the hoop do not try to force the material through as the film spools my touch the bale and break the plastic. If it stalls halfway through you can't back up, you will have to pull the bale apart by hand.

Lighting and marking

This machine is equipped with lights and reflectors as required by the most stringent government and ASAE specifications. They should work with the tractor plug. You may have to make an adaptor when towing behind a truck.

Safety Decal Location





B **Both Sides**



D

F





Ε UP OFF BRAKE Т A T. DOWN ON

С



To prevent Serious Injury or Death: Avoid unsafe operation or maintenance.

Do not operate or work on this machine without reading and understanding the operator's manual.

+If manual is lost, contact your nearest dealer for a new manual.







Red Reflector Strip

J



- Keep safety signs clean and legible at all times
- Replace safety signs that are missing or illegible
- Decals are available through your Dealer, Distributor or Factory.



• On the rear axle replace tire with the same type and brand if possible. If this is not practical then replace with a tire that has the same outside diameter as the original as the brakes may or may not release. (We have found ³/₄" diameter difference between brands)



Your best assurance against accidents or damage to the machine is to know how it operates. If you do not understand a portion of the manual or a function of the wrapper please contact your dealer or an experienced operator.



Before Operation

- Carefully study and understand the manual or be trained by an experienced operator.
- Do not wear loose clothing that may get caught in moving parts.
- Visually inspect the machine to make sure no parts are loose or missing
- Be sure that no tools are left on the machine
- Make sure no hay is lying on the engine and that the cooling fins are not clogged with dust and hay (**this could cause a fire**)
- Do not hurry the learning process. Be familiar with one part before trying the next part.
- Practice by running the machine through its paces, first in manual mode with no bales in the machine until you are comfortable and familiar with the operation. After you become familiar with the operation, switch the machine to Auto mode. Use a stick and push the table switch down to start the cycle. Do not reach in and push the switch paddle down by hand.

Tube Line Set up



Operating the Model TL6500 X2

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 Tube-Line wrapper makes timely harvest possible by reducing the dependence on the weather. It is much easer to get to wilt silage then to make dry hay. This also extends the working day, as the correct moisture to bale earlier and later in the day.

Bales

Well-shaped firm bales are necessary for successful wrapping, using a hard-core baler. Bales are best wrapped as soon as possible after baling. If bales are left unwrapped they will sag and loose shape. 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, the 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 fewer odors
- 3. Less freezing in the winter
- 4. Higher dry matter intake

Wrapping Site

Select a site that will allow room to make an adequate bale row length. The Tube-Line 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 bales in a row.

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

A firm surface is necessary for the successful operation of the Tube-Line wrapper. Avoid soft ground, as the wrapper will not move forward smoothly if it is sinking into the ground. Wrap on level ground or a slight uphill 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 Model TL6500 X^2 will wrap bales up to 5 $\frac{1}{2}$ wide and up to 6' high. It will wrap all sizes smaller then these dimensions as well.

Remember when making big bale silage the bales will be heaver them dry hay. This puts extra strain on loading and transporting equipment. Also, bales will be heavier when feeding out and may have to be moved on wet ground or snow. As a result most operators reduce silage bale diameter to $4-4 \frac{1}{2}$, even though the wrapper will handle larger size.

Square Bales

The Model TL6500 X^2 will wrap most sizes of square bales. The length should be reduced to 5'. This is to allow the bales to be placed on the bale receiver. This may also be the maximum length advisable to handle big bale square bales of silage.

Bales, which are approximately 4' wide and 2' high can be stacked two high for wrapping, <u>one</u> <u>drawback</u>, the ends of the bales tend to be rounded somewhat and will form an air tunnel the full length of the row.

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

Big square bales must be wrapped manually, or with the remote control kit. When stacking two high, the first bale would activate the automatic device prior to loading the second bale.

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

Recommended Operating Procedure

We suggest the following method or operating the TL6500 X2 Tube-Line Wrapper.

- Park the wrapper where you want the end of the row to be, facing in the appropriate direction.
- Fold in the first section of the tongue and fasten the bracket into the hydraulic steering slider with the pin that held the tongue.
- Start the engine
- Undo the tail Tiebar hairpin and lay the bar over the rear axle and put the hairpin back into place to prevent loss.



Prior to lowering the tail section, be sure to check that all bystanders are standing clear!!

• Lower the tail section using the manual operating valve.



- Never ride on the machine while being used or transported
- Never climb on the table or inside the wrap chamber with the Engine running
- Turn control panel to "man" or stop the engine when changing plastic rolls. <u>Never</u> leave it in "auto" as your helper may set a new bale on the table or press the start button on the remote.

Installation of Plastic

Danger!! Stop Engine! Before attempting to install plastic.

Plastic from the factory has a natural *tack* on the inside. In the event of the plastic being stored for an extended period of time the *tack* may migrate to the opposite side. To test for *tacky* side fold plastic inside to inside and pull apart. Fold opposite way (top to top) to determine tackier side.

The roll of plastic should be installed with the *tack* on the inside of the plastic film next to the bale of silage. The plastic then passes over the slave roller and is threaded through the two metal rollers on the Tensioner as shown in the diagram.

The two metal stretcher rolls rotate at different speeds. This causes the plastic to be stretched. It is very important that the plastic goes over the slow roller first and the faster roll second. If there is any question, which is the faster roller:

1. Turn one roller by hand and watch the speed of the other roller, this should help you determine which is the fast and slow roller.

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



Trouble Shooting Plastic Installation

- 1. Wrinkles in the plastic with seams between layers easily visible
- Check to determine if the plastic is properly routed through the Tensioner rollers.
- 2. Plastic tears between the Tensioner and the bale

Film spool holders: not turning freely. Lubricate and turn by hand until free.

Slave roller not turning freely. Lubricate and turn by hand until free.

Tensioner rolls not turning freely: Loosen the bolts holding the bearing and check if this makes a difference. I may be that the bearings have too much end pressure, in this case retighten the bearings and loosen the locking collar on the roller shaft this will allow the shaft to slide in the bearing; retighten the bearing collar. The gears can also be meshed too tight; this can be fixed by slightly loosening one set of bearing bolts and using a hammer and punch lightly tap the bearing away from the other roller. **Caution** Do not use a hammer on the aluminum stretcher rolls.

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

Tack built up on the rollers: Particularly in hot weather. Clean the Tensioner with warm soapy water.

Plastic roll is too hot: In very hot weather the plastic can become soft if left in the sun for long periods of time. In these conditions, the spare rolls should be kept in the shade. After the rolls have been installed on the machine one can be parked on the bottom and a cover can be placed on the top one.

Roll of plastic may catch on the bottom of the bale. If the bales are misshapen the roll of plastic may drag on the bottom of the bale, causing the plastic to break.

If wrapper is equipped with electric automation

Switch the control to "Man"

Danger!! When the machine is in manual mode the safety door switches and the film sensor (if so equipped) Do Not Function.

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

Caution! Close safety doors after installing plastic to avoid injury. Caution! Round bale are heavy and silage bales are even heaver. Use only approved balehandling equipment. Keep bales low when turning loader.

Bale Guide Bars/ Riser

The bale guide bars are designed to align the round bales as the bales are set on the wrapper. These bars should be adjusted to the narrow setting to wrap round bales up to 5ft diameter. For bale larger than this use the wide setting.

Caution! It is important that the bale sit firmly on the bars, as the bale spears should deflect the hay somewhat. Failure to do this may cause the plastic to stick to the spears and tear the plastic inside the bale.

When wrapping square bales the bare can be pivoted flat into the table and the middle spears can be extended. To wrap bales crossway through the wrap chamber; the guide bars can be pivoted up and used as a riser to hold the bales. When using the riser, retract the middle bale spears.

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

To Wrap Bales with Model TL6500 X2 A (Automatic)

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 of bales. These bales can be picked up and placed on the wrapper later after the line has formed.

Before the first bale that will stay on the line is placed on the wrapper, place an end cap on the bale. Check with your plastic supplier for suggestions.

- Pull about 4ft of plastic through each stretcher and tie it under the twine on the bale.
- With the control panel switch "auto/man" set to "man" turn "forward switch to advance the bale without the plastic stretcher applying plastic.
- As the bale is pushed through the hoop, start the hoop rotating to apply plastic by pushing in the "Rotate" button.
- When the ram hits the switch at the end of the stroke the forward motion on the cylinder will stop. (This switch can be moved on the slider arm to accommodate your needs). More about this later.
- With the switch set to "man" the switch buttons will have to be turned and/or pushed and held, when you let them go the function will stop.
- Turning the reverse switch will retract the ram and open the bale pusher to accommodate the next bale.
- After you have wrapped a few bales in this way, switch "auto/man" switch to "auto" and place bale on the bale table. As the bale depresses the table trigger the ram will start automatically. Adjust the second slider switch to start the wrap cycle at the same time that the bale makes contact with the bales on the machine.



To stop the cycle: after the cycle has started in the automatic mode, turn "**auto/man**" switch to "man" (or if you have the optional remote kit, push the "stop" button on the hand unit to stop the cycle. After the problem is rectified, finish the rest of the cycle in the "man" mode and then return to "auto" mode. (If you press start button on the hand unit it will also start the ram forward again except if the ram had passed the hoop start switch the hoop will not start with the ram).

For safety reasons, safety switches are installed in the doors. In "auto" mode the safety doors must be closed for the machine to work. In "man" these switches are bypassed.



This wrapper is equipped with hydraulic steering. The purpose of this is to keep the wrapper operating in a straight line or to direct the wrapper around obstacles. If the ground is uneven or the wrapper is operated on the side of a 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. When steering around obstacles in the wrapping path <u>do not make sharp turns as this prevents the bales from being tightly packed together</u>. The steering speed can be adjusted with the needle valve at the manifold block.

 When starting a row, align the wrapper in the desired direction for the row and ensure the steering is in the <u>center</u> position.



Optional - Remote Control

With the remote control the machine can be controlled with a hand held unit. The table trigger switch should be unplugged. When the control panel "auto/man" switch is on "auto" the bale can be placed on the table without the cycle starting. After the bale has been placed on the table and you want the cycle to start, press the start button on the hand unit. The machine will now go through the complete wrap cycle and stop at the end of the cycle. Two of the remote buttons are used to control right and left steering. The fourth button is the remote cycle stop.

Notice – the "on/off" switch on the control panel will turn off all the electric current to the Control Panel and also Engine Stop. The Honda engine does not have an electric ignition therefore the key can be left "on" without the battery draining. The 20hp engine has an electric fuel valve and the key needs to be "off" when the engine is not running, as the valve will drain the battery.



Slider Switch

Adjust the <u>second</u> slider switch to start the rotate motor when the bales have made contact. By adjusting the slider switch at the <u>rear</u> of the slider bar, which will stop the ram and the wrap motor, and reverse the ram cylinders. -TIP- Adjust the rear switch so that the junctions of the 2 bales are in the middle of the wrap chamber. It is possible to adjust the second switch so that the wrap will start just before the bales start moving through the wrap chamber. thereby putting extra plastic on the joint of the bale. The <u>front</u> slider switch is set to stop the ram retract stroke after the engine has throttled down and before the cylinder bottoms out.

Brake

The brake is operated, by using the brake hydraulic valve. Moving the hydraulic lever apply oil pressure to the brakes on the rear wheel. Increase pressure to the point where the bales are packed firmly together. <u>Close brake ball valve</u> to maintain positive pressure on the wheels. Open the ball valve and **RELEASE BRAKES** when the row is finished and prior to transporting the wrapper.

Pushing off Bales from the Wrapper

The automatic wrapper will have to be switched to "man" position for pushing the bale off.

Danger!!

The use of automatic setting when pushing off bales can cause severe injury or death.

To push off the bales

Open the bale pusher

- Remove the lynch pin from the front push plate arms
- Unfold the arms to extend the push plate
- Remove the lynch pin from the top of the arms and swing the X bars onto the pins. replace the lynch pin to secure the X bar
- 1. Push the bale through the wrapper by using the forward button and the wrap button with the automatic machine or with the manual machine with the lever in "both" mode until you have enough plastic on the bale. Continue pushing the bale through the wrap chamber until you have reached the end of the stroke.
- 2. Retract the bale pusher
- 3. Refold the push plate arms and secure with lynch pins at the front arms
- 4. Open the safety doors, remove 2 x 3 tube from the Hydraulic tank side of the wrapper and lay it across the top of the Pushoff brackets
- 5. Close the pusher a second time to push the bales further off the wrapper
- 6. Extend rear extension tubes at the rear of the ram tubes
- 7. Open the pusher and move the 2 x 3 tube to the socket at the rear end of the arms. (Insert the pegs on the arms into the holes in the tube. This will keep the tube from sliding on the arms). Close the pusher to finish pushing off the bales from the tail
- 8. Open the bale pusher, store the 2 x 3 tube in bracket secure with lock pin
- **9.** Retract the extensions at the rear of the ram tubes back into the original position and secure with pin.
- 10. Fold up the tail end of the roller table using the "tail" valve and secure with the tie bar
- 11. Undo steering, unfold tongue and insert lock pin





Before moving the wrapper any distance close the fuel valve at the engine! As the machine is towed it will bounce and shake, as it does this the carburetor float will let too much fuel into the system. Raw fuel can get into the engine cylinder and wash the cylinder walls down and end up in the engine oil.

Do Not Tow the Bale Wrapper at Speeds Over 35 KPH









Hoop Axle 2 shots daily



Points to be oiled Oil these points occasionally to keep the parts moving freely





Check Hydraulic Level Daily With Ram Retracted and Tail Up <u>Oil Level at Full Mark</u>

Fill with SAE #10 Hydraulic Oil

When wrapping in hot weather there can be a build-up of adhesive on the stretcher rollers. This can cause the plastic to break. Remove the adhesive with soap and water.

Wrapping Straw

The TL6500 X2 wrapper can be used to weather - protect straw. Only two layers of plastic are necessary.

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

After Wrapping

After wrapping, inspect the rows of silage regularly to ensure there is no damage occurring from birds, rodents or livestock.

Feeding out

With the TL6500 λ 2, a loader can pick bales without cutting the plastic. The plastic breaks away between bales and can be removed from the side 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 and spoil. As the next bale is undisturbed it will not spoil for one to two days in the 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 environmental problem. Plastic, although bulky, is inert in a landfill and will not pollute the ground water. Manufactures are making serious efforts to economically recycle silage plastic. Use a recycling service when available. Please do not burn or bury the plastic! Collect and dispose all plastic in an Environmentally Friendly manner.

Remember the air and the ground that you contaminate is your visible footprint for many generations!

Unsightly used silage film will encourage complaints.

The design of the Tube-Line Bale Wrappers is protected under Canadian Patent 1285862 and USA Patent 4793124

Edited 02/13/2007 for model year 2007

















Notes

Electric Solenoid valves can be manually operated by pushing a small punch into the end of spool and holding it in. **Do Not Use a Hammer!!**



Inside of Control Panel, control relays are numbered CR1 to CR5 from left to right. Relay CR1 is wired to table trigger. CR1 will activate solenoid valve to extend ram cylinder. CR2 is wired to switch at the front slider, when ram is extended to this switch CR2 will close, energizing the wrap motor valve. Ram cylinder will extend and wrap motor will turn until ram comes in contact with slider switch at rear, then CR1 and CR2 will turn off and CR3 will turn on. Wrap motor will stop and ram cylinder will retract until ram cylinder trips limit switch at front end of table. All controls will then turn off. Testing can be done by pushing trigger plate and wait until machine goes through cycle, or you can push small square button on the front of relay 1 and let machine go through cycle.

When control relays are activated a small light goes on inside the relay. When running machine through the cycle and wrapper motor or the cylinders do not work, check flowcontrol valve to see if flow is going to both motor and cylinder. Engine is stopped by grounding ignition, in case of ignition failure make sure that stop switch wire is not grounded to frame and engine switch is not in stop position. Steering is controlled by switch right/left on control panel through CR4 and CR5 activating coil A or B on steering solenoid valve.

28



Tube Line 6500 X2

Item #	Description	Part No
1	Lower Inner Ring	6x2-100-001
2	Upper Inner Ring	6x2-100-002
3	Outer Ring – 3 Wheel	6x2-100-003
4	Outer Ring – 2 Wheel	6x2-100-004
5	5/8 x 2 Bolt c/w Nut-Lockwasher	
6	3/8 x 1 Bolt c/w Nut-Lockwasher	





Item #	Description	Part No	Item #	Description	Part No
1	Main Wrap Bracket	550-100-089	15	ABS Bracket	550-100-016
LA	Main Wrap Side Insert	550-200-090	16	Spacer	550-100-017
2	1-14 UNF Casselnut	550-100-005	17	Spring	500-100-135
3	Tensioner Roller	550-100-006	18	Axle Shaft	550-100-018
4	¾ inch Bearing	550-100-007	19	1/2 x 2 Bolt	550-100-003
5	Small Gear	550-100-008	20	5/16 Carriage Bolt	550-100-019
6	Large Gear	550-100-009	21	3/16 Keystock	550-100-020
7	Gear Cover	550-100-010	22	Grease Fitting	550-100-021
8	Spool Holder	550-200-115	23	10-24 x ¼ Bolt	599-100-006
9	Plastic Wrap Spool	550-200-012	24	3/8 x 1 #5 Bolt	550-200-100
10	5/8 Flat Washer	550-100-013	25	3/8 Locknut	550-200-101
11	5/8 Nylocknut	550-100-014	26	3/8 x 2 ½ Bolt	550-200-102
13	ABS Pipe	550-100-022	27	Latch	550-200-103
14	HMWPVC Bearing	500-100-021	28	3/16 Linch Pin	550-100-104



Item #	Description	Item No	
1	Right Hoop Post	6x2-101-102	
2	Left Hoop Post	the second se	
	1	6x2-100-103	



		Part No	Item No	Description	Part No
Item No	Description	6x2-101-100	7	Control Panel	6x2-102-107
I Right Brace	Right Brace	082-101-100	1	Guard	
		(2 100 101	8	Switch Slider	6x2-100-108
2	Left Brace	6x2-100-101	0	Rear Switch Slider	6x2-100-109
3	Switch Adjuster Screw	599-100-104	9		Uniter Ford
4	Control Panel Upper	5x2-100-105	10	3/8 x 3 bolt	
Mount	Mount			Manual Holder	6x2-101-101
	Control Panel Base	6x2-100-106	11	Mount	
			12	Manual Holder	5x2-201-111
6	1/2 x 3 bolt	0.132	14	Internet internet	




Item #	Description	Part No	
1	Safety Door	5X2-301-022 R	
2	Safety Guard Bracket	6X2-100-024 R	
3	Upper Right Hand Door Bracket	5X2-301-103	
4	Door Roller	5X2-301-121	
5	1/2 SAE Washer	550-301-100	
6	1/2 -13 Jam Nut	550-301-101	



Item #	Description	Part No	
1	Safety Door	5X2-301-023L	
2	Safety Guard Bracket	6X2-100-025L	
3	Top Roller Bracket	5X2-301-120	
4	Door Roller	5X2-301-121	
5	1/2 SAE Washer	550-301-100	
6	1/2 - 13 Jam Nut	550-301-101	
7	Hoop Lock Pin	550-200-050	

Tube Line 6500 X 2 Ram Cylinder Support



Item #	Description	Part No
1	Right Support Bracket	6x2-100-130
2	Left Support Bracket	6x2-100-131
3	Right Cylinder Clamp	5x2-100-132
4	Left Cylinder Clamp	5x2-100-133
5	Cylinder Support	550-200-109
6	5/16 x 1 ¼ Bolt	
7	3/8 x 3 Bolt	
8	3/8 x 1 Bolt	
9	1/2 x 3 Bolt	



Item #	Description	Part No	Item #	Description	Part No
1	Drive Base	5X2-100-049	11	Check Valve (manual only)	500-100-059
2	Hydraulic Motor	500-006-050	12	Wheel Washer	500-100-060
3	Wheel Hub	500-100-051	13	1/4 x 1 Bolt c/w Lockwasher	
4	Drive Wheel	500-100-052	14	Relief Valve (manual only)	500-101-222
5	1/2 x 3 UNF Bolt	500-100-053	15	Wheel Tensioner Spring	500-101-231
6	1/2 Wheel Nut	500-100-054	16	Spring Tensioner Bolt	500-101-232
7	5/8 x 1 ½ Bolt	500-100-055	17	1/2 Nuts	
8	5/8 Locknut	500-100-056	18	Drive Base Mount	550-100-090
9	3/8 x ³ / ₄ Bolt		19	3/8 x 1 ½ Bolt	
10	3/8 Lockwasher	N2			

Tube Line 6500 X 2 Axle / Spindle / Hub



Item #	Description	Part No
1	Spindle	650-200-001
2	Hub	650-100-066
3	Dust Cap	650-100-073
4	Castellated Nut	650-100-070
5	Outer Bearing	650-100-068
6	Inner Bearing	650-100-064
7	Inner Seal	650-100-063



Item #	Description	Part #	ltem #	Description	Part #
	1 1/8 x 10 Bolt	650-111-059	13	Tongue Bracket Timkin	550-111-010
				Bearing	12
2	1 1/8 Locknut	650-111-060	14	Tongue Bracket Timkin Cup	550-111-009
3	Tongue Bracket Bushing	650-111-064	15	Tongue Bracket Pin	650-221-055
4	Tongue Bracket Assy	650-221-083	16	13/16 Flatwasher	550-111-014
5	Tie Rod End Right Thread	550-111-006	17	Tongue Bracket Nut	550-111-015
6	3/4 Jam Nut (NF RH)	550-111-003	18	3/16 x 2 Cotter Pin	550-111-016
7	Tie Rod	650-221-082	19	Spindle Bearing Timkin Cone	550-200-080
8	Tie Rod End Left Thread	550-111-007	20	Spindle Bearing Timkin Cup	550-200-081
9	3/4 Jam Nut (NF LH)	550-111-002	21	Spindle Bearing Seal	550-200-082
10	9/16 NF Slotted Hex Nut	550-111-004	22	Left Side Spindle Assy	650-100-083
11	1/8 Cotter Pin	550-111-005	23	Right Side Spindle Assy	650-100-084
12	Tongue Bracket Seal	550-111-011	24	Spindle Pin	650-100-085

Tube Line 6500 X 2 Front Steering



Brake

Item No	Description	Part No
1	Rocker Tube	650-100-028
2	Left Brake Eccentric	650-100-029
3	Right Brake Eccentric	650-100-030
4	¹ / ₂ x 3 ¹ / ₂	
5	¹ / ₂ Locknut	
6	Hydraulic Cylinder	$2\frac{1}{2} \times 8$

Rear Roller



Item	Description	Part No	Item	Description	Part No
1	Large Roller	650-100-086	8	Amber Light	5X2-100-034
2	Riser Frame	6X2-100-007	9	Red Light	5X2-100-034
	Riser Link	6X2-100-008	10	3/8 x 1 1/2	
	Right Rear Light Bkt	6X2-100-009	11	3/8 x 4	
5	Left Rear Light Bkt	6X2-100-010	12	5/8 x 4	
6	1" Bearing	500-100-030	13	5/8	Locknut
7	Red Reflector	5X2-100-033		2	



Item	Description	Part No	Item	Description	Part No
I	Tail Base	650-100-033	10	5/16 x 1 1/2 Fathead	
2	Large Roller	650-100-086	11	1 x 4	
3	4" Roller	650-100-099	12	1" Locknut	
4	2 7/8" Roller	650-100-100	13	#1 Small Roller Bkt	550-200-002
5	³ / ₄ " Nylon Bearing	550-200-007	14	#2 Small Roller Bkt	550-200-003
6	1" Bearing	550-100-030	15	#3 RH Small Roller Bkt	550-200-004
7	3x12 Hydraulic Cyl	599-100-107	16	#3 LH Small Roller Bkt	550-200-005
8	Tail Tie Bar	599-100-035	17	SMV Sign	1
9	3/8 x 1 ½			X	

Bale Saddle



Item	Description	Part No	Item	Description	Part No
1	Left Bale Guide	6X2-101-140	9	Front Guide Pin	550-200-104
2	Right Bale Guide	6X2-101-141	10	3/16 Lynch Pin	550-200-108
3	Center Bale Spear	6X2-101-144	11	½ x 1	
4	Center Spear Handle	6X2-101-145	12	1/2 Lockwasher	
5	Trigger Plate	6X2-101-142	13	5/8 x 6	
6	Cable Handle	6X2-101-146	14	5/8 Locknut	
7	Rear Guide Pin	6X2-101-147	15	Grommet	5X2-100-143
8	Rear Guide Pin Spring	6X2-101-148			





Item	Description	Part No	Item	Description	Part No
	Front Ram Member	6X2-301-150	8	Ram Cylinder	550-100-043
2	Right Ram Tube	5X2-301-151	9	Ram Wheel Axle	5X2-301-156
3	Right Rear Extension	5X2-301-152	10	Ram Wheel	5X2-301-157
4	Left Ram Tube	5X2-301-153	11	3/4" UNF Jam Nut	
5	Left Rear Extension	5X2-301-154	12	Cylinder Pin	550-100-043
6	³ / ₄ Drawbar Pin		13	5/8 x 1 ½ UNF # 5	00010010
7	Push-off Tube	500-100-048	14	5/8 UNF Nut	



Item	Description	Part No	Item	Description	Part No
1	Right Side Rail	5X2-301-170	6	Left Cylinder Mount	6X2-100-174
2	Left Side Rail	5X2-301-171	7	Reinforcing Plate	5X2-100-175
3	Right Guard Track	5X2-301-172	8	5/8 x 1 ½ UNF #5	
4	Left Guard Track	5X2-301-176	9	5/16 Flathead	
5	Right cylinder Mount	6X2-100-173	10	3/8 x 1	



Tube Line 6500 X 2 Push Off

Item #	Description	Part No
1	Left Front Arm	5X2-100-180
2	Right Front Arm	5X2-100-181
3	Left Rear Arm	5X2-100-182
4	Right Rear Arm	5X2-100-183
5	Push Plate	5X2-301-016
6	X Bar	599-100-017
7	³ / ₄ x 5 Bolt	
8	³ / ₄ Locknut	
9	3/16 Linch Pin	550-200-104





Item	Description	Part No	
1	Main Tongue	6X2-101-051	
2	Swinging Tongue	6X2-101-052	
3	Sliding Tongue	650-100-053	
4	Tongue Holder	650-100-160	
5	2x16 Cylinder	500-100-103	
6	Tongue Pin	650-10-154	
7	5/8 x 5 c/w Locknut		



Item #	Description	Part No
1	Mud Flap	550-100-054
2	Metal Strip	500-100-164
3	5/16 x 1 Bolt	
4	5/16 Lockwasher	
5	5/16 Nut	

Hydraulic Tank Assy



Item	Description	Part No	Item	Description	Part No
1	Hydraulic Tank	5X2-100-190	8	Suction Strainer	500-100-175
2	Breather Cap	500-100-169	9	3/8 x 1 bolt	
3	Filler Plug	500-100-170	10	3/8 Lockwasher	
4	Sight Gauge	500-100-171	11	3/8 nut	
5	Filter Base	500-100-172			
6	10 Micron Filter	500-100-173			
7	3/4" Magnetic Plug	500-100-174			

Filter Cross Reference

Stauf SF6520
Gresen F22001
Fram P1653-A
Fleetguard HF6510
Cross 1A9021

Tube Line 6500 X2 Pump / Motor



13 Hp

Item #	Description	Item #	Description
1	13 HP Honda Engine	7	3/8 x 1 Bolt
2	Hydraulic Pump	8	3/8 Lockwasher
3	Engine – Pump Adaptor	9	3/8 x 1 ¼ Bolt
4	Love Joy Coupling (pump)	10	3/8 Lockwasher
5	Coupling Spacer	I1	3/8 Flatwasher
6	Love Joy Coupling (engine)	12	Fuel Filter





Item #	Description	Item #	Description
1	13 HP Honda Engine	7	3/8 x 1 Bolt
2	Hydraulic Pump	8	3/8 Lockwasher
3	Engine – Pump Adaptor	9	3/8 x 1 ¼ Bolt
4	Love Joy Coupling (pump)	10	3/8 Lockwasher
5	Coupling Spacer	11	3/8 Flatwasher
6	Love Joy Coupling (engine)	12	Fuel Filter





Item No.	Description	Part No.
1	Tandem Center 12 volt DC Valve	5X2-201-200
2	Single 12 volt DC Valve	5X2-201-201
3	Flow Control	500-100-193
4	2 Spool Mono-Block Valve	5X2-201-055
5	3 Station Custom Manifold	550-100-056
6	Steering Speed Control	550-200-006
7	Valve Coil	5X2-201-007
8	Ball Valve	550-200-112
9	Manifold Mount	550-200-113
10	Dump Valve Body (20HP)	850-301-109
11	Valve Cartridge (20HP)	850-301-110
12	<i>12 V Coil</i> (20HP)	850-301-111

Limit Switch



Item No	Description	Part No
	Limit Switch Assembly	550-100-060
1	Switch Body	550-100-057
2	Actuator	550-100-058
3	Arm	550-100-059
4	Wire Clamp	550-100-082
`5	Wire Arm	550-100-049
6	PVC Box Connector	550-100-086
7	Metric to Pipe Adaptor	550-200-086
8	NO - NC Contact	550-200-087
9	NC - NC Contact	850-200-087



Item	Description	Part No
1	Control Panel Assy	550-200-061
2	Control Relay	500-100-221
3	11 Pin Relay Base	500-100-223
4	15 Amp Fuse	550-100-079
5	DIN Rail Fuse Holder	550-100-083
6	DIN Rail Terminal Block	550-100-084
7	On/Off Switch-Hand /Auto	550-100-076
8	Rotate (push button)	550-100-075
9	Ram/Steering	550-100-177
10	Power Indicator LED	550-100-078
11	Diode	550-150-085



Item #	Description	Part No
1	Switch Base	5X2-100-220
2	Switch	5X2-100-221
3	3/8 x 1 Bolt	500-100-046
4	3/8 Coupling Nut	5X2-100-222
5	Push Rod	5X2-100-223
6	Spring	500-100-062
7	Adaptor metric to inch	550-200-086
8	Wire Clamp	550-100-082
9	Battery Hold – Down	500-301-221
10	Battery Bolts	500-100-212

6500 Throttle 20HP



Item	Description	Part No	Item	Description	Part No
1	Engine Bracket	6X2-120-001	8	Throttle Spring	550-100-069
2	Swing Link	6X2-120-002	9	Striker Block	5X2-100-232
3	Ball Joint	550-100-065	10	Main Link	6X2-120-005
4	Short Rob	6X2-120-003	11	5/16 x 1 1/2	Bolt
5	1/2 Locknut		12	1/2 SAE	Washer
6	Linkage Pivot	550-100-067	13	Modified Engine Link	6X2-120-006
7	Long Rod	6X2-120-004		Ç	

T6500 13 HP Throttle



Item	Description	Part No	Item	Description	Part No
1	Engine Bracket	5X2-113-001	8	Long Rod	6X2-120-004
2	1 st Swing Link	5X2-113-002	9	Linkage Pivot	550-100-067
3	Ball Joint	550-100-065	10	Striker Block	5X2-100-232
4	Short Rod	5X2-113-003	11	5/16 x 1 ½	Bolt
5	Medium Rod	5X2-113-004	12	1/2 Locknut	
6	2 nd Swing Link	5X2-113-005	13	1/2 SAE	Washer
7	Throttle Spring	550-100-069	14	Main Link	5X2-113-006



Item	Description	Part No 550-204-100	
1	Fuel Tank		
2	Fuel Tank Bracket	6X2-100-240	
3	Tie Down Strap	550-204-110	
4	Fuel Line	550-204-107	
5	Fuel Filter	550-200-111	
6	Hose clamp	550-204-109	





Item #	Description	Part No		
1	7 Pin Plug	550-200-117		
2	Junction Box	550-200-118		
3	Strain Relief	550-200-119		
4	7 Wire Conductor	550-200-120		
5	Red Lamp	550-200-121		
6	Amber Lamp	550-200-122		

Tube Line 6500 X2 Electric Hydraulic Schematic













Tube Line 6500 X 2 Wiring

Tube Line 6500 X 2

Electric Hydraulic Sequence of operation

- 1 With valves in neutral position, control panel on/off switch in off position, engine running, fluid is pumped through valve stack and returned to reservoir.
- 2 Brakes and tail are standard hydraulic cylinder operation.
- Wrap cycle fluid flows from power beyond port on 2 spool valve to flowcontrol, and is split into 2 circuits one circuit goes to double solenoid valve for ram cylinder, the other circuit goes to single solenoid valve for hydraulic motor. By moving flowcontrol handle more or less fluid will flow to cylinder or motor ie. as more fluid flows to cylinder less fluid will flow to motor and vise-versa.
- Electric control panel- "Man-Auto" switch turned to "Man". Turn "On/Off" switch to On, then red LED will light up indicating 12V power is at control circuits, with engine running. Turn "Forward" switch in to energize solenoid A on double solenoid valve. Ram cylinder will extend. Turn "Reverse" switch to energize solenoid B on same valve. Ram cylinder will retract. Push Rotate button in and hydraulic motor will turn. "For/Rev and Push" buttons have to be held to operate, by releasing them action will stop. Engine throttle has linkage to slow engine down when ram is all the way to the front. Spring on linkage will speed engine up as soon as Ram cylinder starts to extend.
- 5 When "Man/Auto" switch is turned to Auto, "For/Rev and Rotate" switches no longer function. Depress trigger switch located on bale table, Ram hydraulic valve is energized. The ram cylinder will extend and engine will speed up. When ram extends to front slider switch, this switch will energize the single solenoid valve and turning the wrap motor. When ram is extended to the limit switch at the end of stroke, single solenoid valve and double solenoid valve "A" will turn off. Solenoid B will energize causing ram cylinder to retract until it trips limit switch at the front end of bale table, solenoid "B" will turn off, the ram cylinder will stop and engine will idle down.
- 6 Steering is done by steering switch, right/left activating steering double solenoid valve A or B. This valve will work in either manual or automatic mode.

Tube Line 6500 X 2 Film Sensor



Installation

This machine is pre-wired for a film switch. To install, locate 2-wire plug on the end of a wire that is located close to the rear left pivot on the Bale Saddle. Remove the plug and plug film switch onto it.

Install toggle switch into the bottom of the control panel as shown. Remove JUMPER wire and wire toggle switch in where the jumper was. The wires are not polarity sensitive. With this switch the sensor can be disabled in the "auto" position.

Notice: in "man" the sensor and the safety doors **Do not** work.

Adjust the wire arm with no plastic in the machine. Make sure the wire does not interfere with the plastic roll assy. When plastic is in the machine it will hold the wire up, causing the switch to close. Make the switch closes with the wire parallel with the bale spears. Wire can be shortened to suit your needs. The switch bracket can be adjusted back and forth so only one layer of plastic holds the wire up, if more then one layer contacts the wire then the unbroken roll of plastic will hold the switch up and defeating the sensor.





TubeLine 6500 X 2 Wheel Drive Hydraulic Valve Locations



Item #	Description	Part No
2	Selector Valve	550-200-121
3	Selector Valve Mount	550-200-122
4	Mount Clamp	550-200-123

Notice This page is blank No information is missing

Wheel Motor Hydraulics

Remove wheel from Rear left hub, and unbolt the spindle assy.

Mount the hydraulic motor assy on the outside of spindle bracket with the longer 1/2 bolts.

Install the new rim with gear welded on the inside.

After rim is installed adjust gear so that the backlash is at a minimum but allowing the gear to turn freely.

To do this engage handle to top, loosen bolts A and move plate up or down by adjusting height bolt and retighten bolts.

After adjustment is OK, lock height adjustor bolt with jam nut.

Mount selector valve on $\frac{1}{4}$ x 4 $\frac{1}{4}$ plate with 2 pc 3/8 bolts. Fasten selector valve bracket on bottom of axle beam with smaller plate on top of axle and bolt with long 3/8 bolts through plates. Clamping assy. on to axle.

Remove Hydraulic lines from port C and D on control valve.

Install 3/8 in. line x 164 from port D on control valve to port D on Selector Valve Install 3/8 in. line x 164 from port C on control valve to port. C on selector Valve Install 3/8 in. line x 14 from port E on selector vale to Bottom port on Motor. Install 3/8 in. line x 14 from port A on selector valve to Top port on Motor. Install ¼ in. line x 64 from port F on selector valve to Bottom port on Tail Cylinder. Install ¼ in. line x 64 from port B on selector valve to Top port on Tail Cylinder.

To Use The Wheel

-The control valve that is used to raise and lower the tail will now also be used to drive the wheel through the selector valve. By shifting the selector valve you can select between the wheel motor and tail cylinder.

-To engage the wheel motor, swing the handle beside the motor all the way up to the top position until the handle slides down behind handle stop.

Notice: Do not force the handle. If the gears do not mesh, try to turn the small gear a little bit with the hydraulic valve and try again.

-To disengage pull handle Up then and swing handle all the way down.

Coat Motor Gear Lightly with grease before installing

TubeLine 6500 *X* **2 Twin Wrap** Film from 2nd Roll Mounting Bolts

Note

The film from the 2^{nd} roll goes over top of the first roll and through the tension rolls together with the first film from the first roll

Item #	Description	Part No
1	Twin Wrap Frame	550-200-139
2	Plastic Wrap Spool	550-200-140
3	3/8 x 1 Bolts, Nut Lockwasher	550-200-141
4	Spool Holder	550-200-115

TubeLine

Model TL5500 X2 & TL6500 X2 Re: Mounting Accessories (year 2005--) Remote Package consists of Pause –Cycle stop, Start – start wrap cycle, Steering – Right/Left

1: Installing Remote Package

Bolt receiver assembly to inside rear right of control box with connector plug at bottom <u>Remove the plug with the jumper between term #8 and #10</u>. Plug the connector together at the bottom of the panel.

Notice Antenna wire stays inside the control box

2: To frequency has been preset at the factory. If in the event that another machine would be in close proximity to this machine, there is a slight chance that the frequencies will interfere with each other. The frequencies can be changed by removing the receiver from the control panel and changing the DIP switches on the channels. The hand unit will also have to have the switches set the same as the receiver.

3: When using the remote start of ram, unplug the wire from the switch at the table trigger to disable the switch. Secure the end of wire somewhere so it does not get tangled in the steering of the wrapper, make sure the plug will not short out to the frame.



TubeLine 5500 X 2 Guide Roller Kit

Kit consists of two rollers that are used on the lower side to keep the bales from rolling off to one side.



Item #	Description	Part No	
1	Roller	550-301-238	
2	Spindle	550-301-239	
3	5/16 PTO Pin	550-301-233	

Tube Line 6500 X 2 Lights



The light brackets can be mounted on top of side guards as shown. Light package consists of 3 lights and one on/off toggle switch.

Usually the lights are mounted with 2 lights facing to the rear and 1 facing to the front. The toggle switch can be mounted by drilling a $\frac{1}{2}$ hole into the side of the control panel.

be careful that you don't damage wires on the inside. Install the switch, and wire it into the bottom of fuse block with inline fuse. This way lights are fused separate from wrapper controls.

The engine has an 18 Amp charging system and should keep the battery charged. Note: the engine only charges 18 amp when running at high speed; at an idle it charges very little. With the lights on an the engine not revved up, over a period of time the battery will slowly discharge.

Bol	t Tor	.que
As used or	n this	equipment

Bolt torque table shown below gives torque values for the various bolts used. This chart is for non-lubricated threads. Replace with the same strength bolt.

Torque Specifications.	Torque values are identified by their head markings
------------------------	---

Diameter	SAE 2		SAE 5		SAE 8	
"A"	Lb-ft	N.m	Lb-ft	N.m	Lb-ft	N.m
1/4	6	(8)	9	(12)	12	(17)
5/16	10	(13)	19	(25)	27	(36)
3/8	20	(27)	33	(45)	45	(63)
7/16	30	(41)	53	(72)	75	(100)
1/2	45	(61)	80	(110)	115	(155)
5/8	95	(128)	160	(215)	220	(305)
3/4	165	(225)	290	(390)	400	(540)
	225	(345)	630	(850)	970	(1320)

Allen head cap screws are similar to SAE 8 quality.



These torques are for a reference only. Not all these sizes and grades are necessarily used in this machine. Bolts that are used as a pivot or hinge have to be used with a locknut, therefore only tighten enough to secure the bolt and still allowing the part to rotate freely.



