

Tube - Line 5500 X 2

Owner's Manual

2005



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Tubeline 5500 X 2

New for 2005

1. Roll-Away Safety Guard
2. Engine placement at Control Panel side
3. 18 Amp. Charging System
4. Bale Saddle/Riser integrated
5. Roller Bed Leveler (lever actuated)
6. Fold – Away Push Off Arms
7. Outside Frame parts Bolt On (can be shipped in van trailer) will require more assembly. With Doors removed Rail to Rail is 100 inches.

Welcome to this new Operators Manual

After the cover page comes a Table of Contents. This is a list of “HOT” buttons on the different topics and parts drawings. At the bottom of most pages is a “Hot” button back to the table of contents. On the bottom of the parts drawings is also a “Hot” button to the list of part numbers. Clicking on the “Hot button in parts list will take you back to the parts drawing again.

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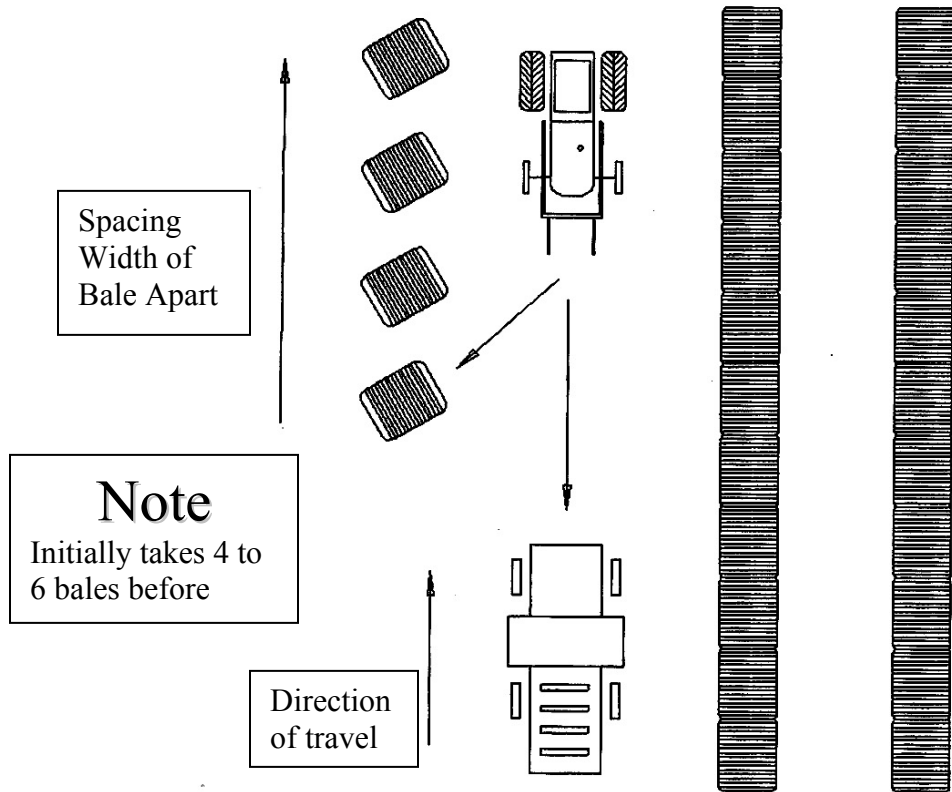
Warranty

Warranty and Limitation Of Liability

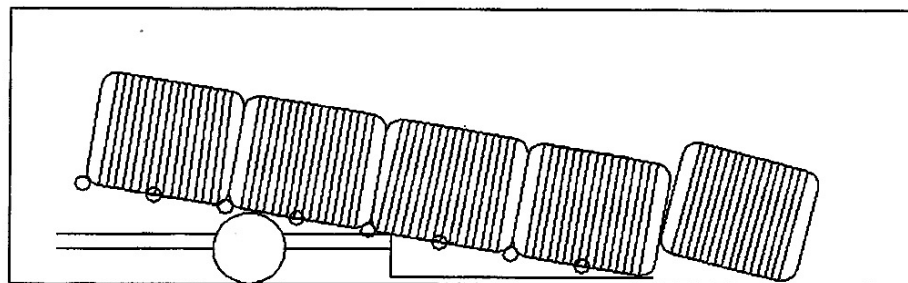
All Equipment is sold subject to mutual agreement that it is Warranted by the company to be free from defects of material and workmanship. But the company shall not be liable for special, indirect or consequential, damages of any kind under this contract or otherwise. The company's liability shall be limited exclusively to replacing or repairing without charge, at it's factory or elsewhere, at it's discretion. Any material, or workmanship defects which become apparent within one year from the date on which the equipment was purchased, and the company shall have no liability for damages of any kind. The buyer by the acceptance of the equipment will assume all liability for any damages which may result from the use or misuse by his employees or others.

Warranty coverage is null and void unless Warranty Registration form has been completely filled in and is on file at Tube-Line Manufacturing Inc.

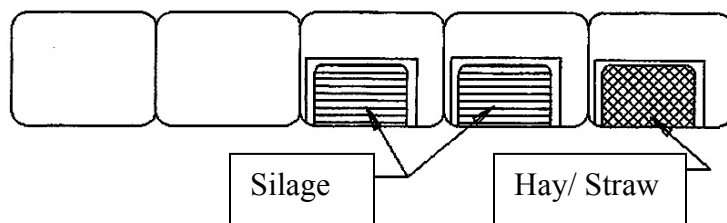
Tube Line Set up



If bales are brought to the site before wrapping, arrange them to allow easy access to bales and allow Wrapper 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.

Operating the Model TL5500

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 easier 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 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, bales can be left 12 to 16 hours.

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

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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 or more 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. 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 Model TL5500 will wrap bales of up to 5½' wide and up to 5' high. It will wrap all sizes smaller than these dimensions as well.

Remember when making big bale silage, the bales will be heavier than 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 diameters to 4-4½', even though the wrapper and baler will handle larger bales.

Square Bales

The Model TL5500 X2 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 square bales of silage.

Bales, which are approximately 4' wide and 2' high, can be stacked two high for wrapping.

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 is applied at the bale joints if the bales are uneven.

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Recommended Operating Procedure

We suggest the following method of operating the TL5500 X2 Tube-Line Wrapper.

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

Caution: To Prevent Injury—Prior to lowering wrapper tail section, be sure to check that all bystanders are standing clear.

- Lower the tail section using the manual operating valve

Installation Of Plastic

Plastic from factory has a natural *tack* on inside. In event of plastic being stored for an extended period of time, the tack may migrate to opposite side. To test for *tacky* side, fold plastic inside to inside and pull apart. Fold opposite (top to top) to determine tackier side. The roll of plastic should be installed with *tack* on 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 rollers 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 roller second.

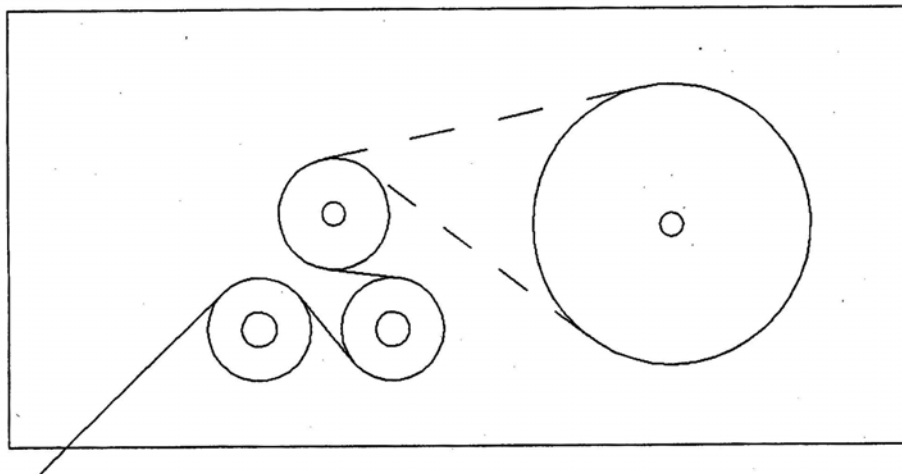
If there is any question on which is the faster roller:

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.



Trouble Shooting Plastic Installation

1. Wrinkles in the plastic with seams between layers easily visible.
Check to determine if plastic is properly routed through the metal tensioner rollers.
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 a 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 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 installation on the machine the roll can be parked under the row of wrapped bale if not used for an 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 the bottom of the bale. If 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 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 bale ram 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 heavier. Use only authorized bale-handling equipment. Keep bales low when turning loader.

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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 dia. For bales larger than this use the wide setting.

When wrapping square bales use the narrow setting and change the switch plate to the top

To Wrap Bales with **Model TL5500 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. 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' of plastic through each plastic stretcher and tie it under the twine on the third bale. Or tie it to the bracket at control panel (see picture on page 14).

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

-With control panel switch “auto/man” set to “man” turn “forward” switch to advance bale without the plastic stretcher applying plastic.

-As the bale is pushed through the hoop, start the plastic dispenser rotating to apply plastic by pushing in the “Rotate” button.

-When the ram hits the switch at the end of stroke forward motion on cylinder will stop, “this switch can be moved on the slider arm to accommodate your needs. More about this later.”

-With switch set to “man”, the switch buttons have to be turned and/or pushed and held, when you let them go the function will stop.

-Turning, 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 onto bale table. As bale depresses the table trigger the ram will start automatically. Adjust second slider switch to start the wrap cycle where you prefer.



-To stop 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 **stop** switch to stop the wrap cycle.) After you have rectified the problem finish the rest of cycle in the “man” mode and then return to “auto” mode.

-For safety reasons safety switches are installed in doors. In “auto” the safety doors must be closed for machine to function properly.

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. With the automatic wrapper the steering speed can be adjusted with the needle valve at the manifold block.

-When starting the row, align the wrapper in the desired direction for the row and ensure the steering is in the center position.

With - Optional Remote Control-

With optional remote control the machine can be controlled with the hand held unit. The table trigger switch should be unplugged. Then the control panel, "man/auto" switch on "auto", bale can be placed on table without cycle starting. After the bale has been placed, 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 the electric current to the control panel.

-Slider Switches-

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

Brake

The **brake** is operated by using the brake hydraulic valve. Moving hydraulic lever will cause oil pressure to apply brakes on the rear wheel. Increase pressure to the point where the bales are packed firmly together. Close brake ball valve to maintain positive pressure on brakes.

Open ball valve and **RELEASE BRAKES** WHEN THE ROW IS FINISHED AND PRIOR TO TRANSPORTING THE WRAPPER!!

To Wrap Bales with **Model TL5500** (with the manual hydraulics)

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' of plastic through each plastic stretcher and tie it under the twine on the third bale. Or tie it to the plastic loop bracket at the control panel, see picture on page 14.

-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" 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", 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.

-Careful application of an adequate 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.

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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 desired direction for the row and ensure the steering is in the center position.

Use Of The Operating Brake

The Model TL5500 X2 is equipped with an operating brake. It is essential that bales be packed tightly together to ensure 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 wheel. Increase pressure to the point where the bales are packed firmly together. Close brake ball valve to maintain positive pressure on brakes.

Open ball valve and 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 is completely wrapped.

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Pushing off the bales from wrapper

-The automatic wrapper will have to be switched to manual position for pushing bale off.



Caution: The use of automatic setting when pushing off bales will increase the risk of injury.

-To push off the bales

Open the bale pusher

-Remove the lynch pins from the front of push plate arms; unfold the arms to extend the push plate.

-Remove the lynch pins from the top of arms and swing the X bars onto the pins, replace the lynch pins to secure the X bar.

#1 Push bale through wrapper by using the forward button and wrap button with automatic machine or with manual machine with lever in “both” mode until you have enough plastic on bale.

Continue pushing bale through wrap chamber until you have reached the end of stroke.

#2 Retract the bale pusher.

#3 Refold the push plate arms and secure with lynch pins at front of arms.

#4 Open the safety doors, Remove 2 x 3 tube from engine side of wrapper and lay across the top of pushoff Brackets.

#5 Close pusher a second time to push bales off the wrapper.

#6 Flip the folded arms open at the rear of the ram tubes.

#7 Open the pusher and move 2 x 3 tube to the socket at the rear end of the arms. Close the pusher to finish pushing off the bales from the tail.

#8 Open the bale pusher, store 2 x 3 tube in bracket with lock pin.

#9 Fold the arms at the rear of the ram tubes back into the original position.

#10 Fold up tail end of roller table using the “tail” valve and secure with tie bar.

#11 Undo steering, unfold tongue and insert lock pin.

#12 Check to make sure the brakes are released before driving away.



CAUTION:

Before moving the wrapper any distance close fuel valve at the engine. As the machine is towed it will bounce and shake, and the carburetor float will let too much fuel into the engine and washing the cylinder walls down and ending up in the engine oil.

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.

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.

Wrapping Straw

The TL5500 X2 wrapper can be used to weather protect straw.
Only two layers of plastic are necessary.

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 regularly to ensure there is no damage occurring from birds, rodents or livestock.

Feeding Out:

With the TL5500 X2, 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. As the next bale is undisturbed it will not spoil for one to two days 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 environmental 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 all plastic. Unsightly used silage film will encourage complaints.

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

Edited 11/08/2004 for Model year 2005

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Specification

TUBE-LINE 5500

Hydraulic Pump

Prince Model # SP20A11A9HR
.677 cu in/rev
Side ports inlet port 1 1/16-12 O-ring
 Outlet port 7/8-14 O-ring
Mounting 2 bolt 'A' flange
Shaft 5/8 keyed
Rotation clockwise

Manual Valve

Prince model RD5300RD532CCCAA5A4B1
Tandem center
Spring center to neutral from work position
Work ports blocked in neutral
Prince model LS3000 LS-3010-01
4 way 3 position
Pressure release detent spring center to neutral
3/4 NPTF In\Out ports
1/2 NPTF Work ports

Electric Hydraulic Valve

Continental tandem center 12 volt DC VS12MBLGB75
Continental single center 12 volt DC VS12M1AGB75L
Prince 2-spool monoblock RD522CCAA5A4B1
Prince Power Beyond Plug #8 SAE 66028001

Hydraulic Motor

Charr Lynn 101-1004
1" keyed straight shaft
1/2" pipe ports
9.7 cu in/rev displacement
4-bolt flange

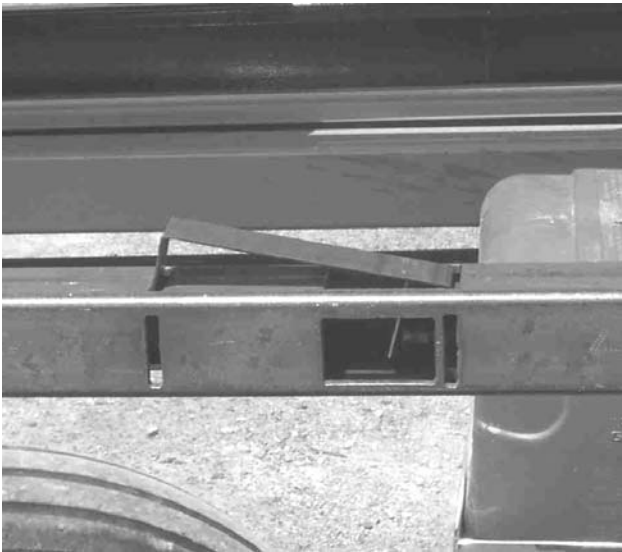
Hydraulic Oil

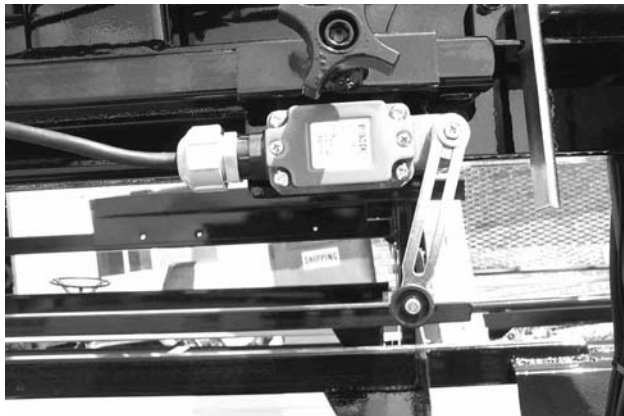
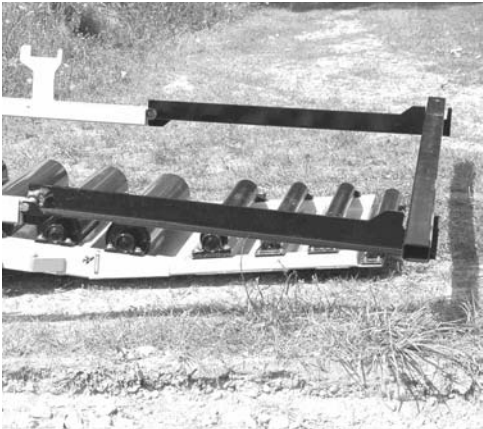
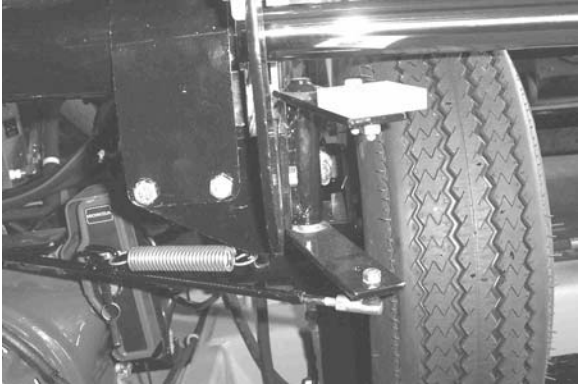
SAE # 10 Hydraulic Oil
10 US gal

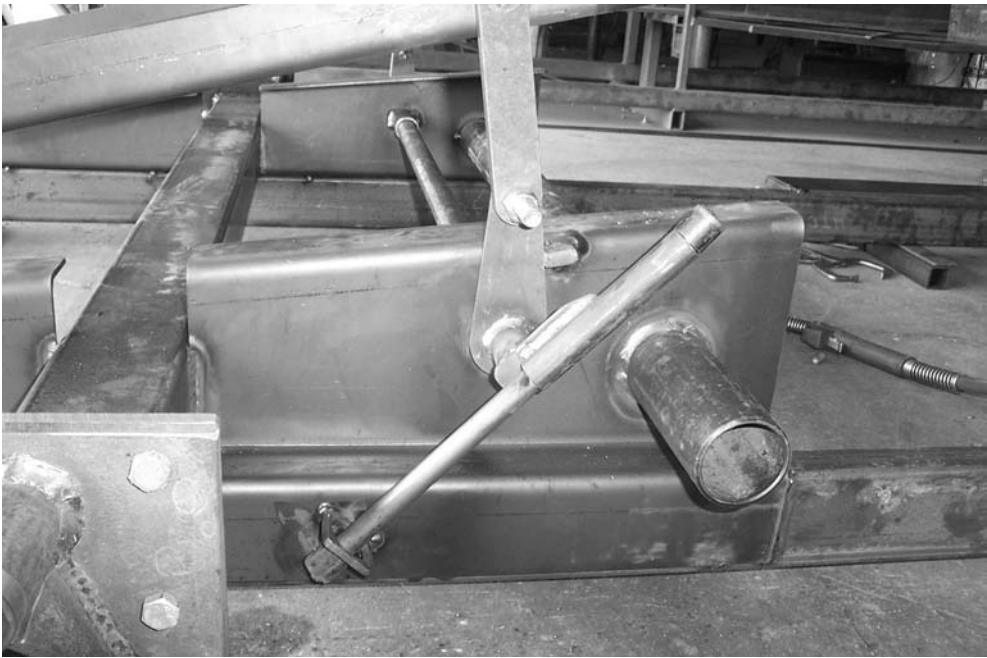
Hydraulic Filter 10 micron

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

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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!!**



Caution Stay Away From Hoop When Engine Is Running

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.

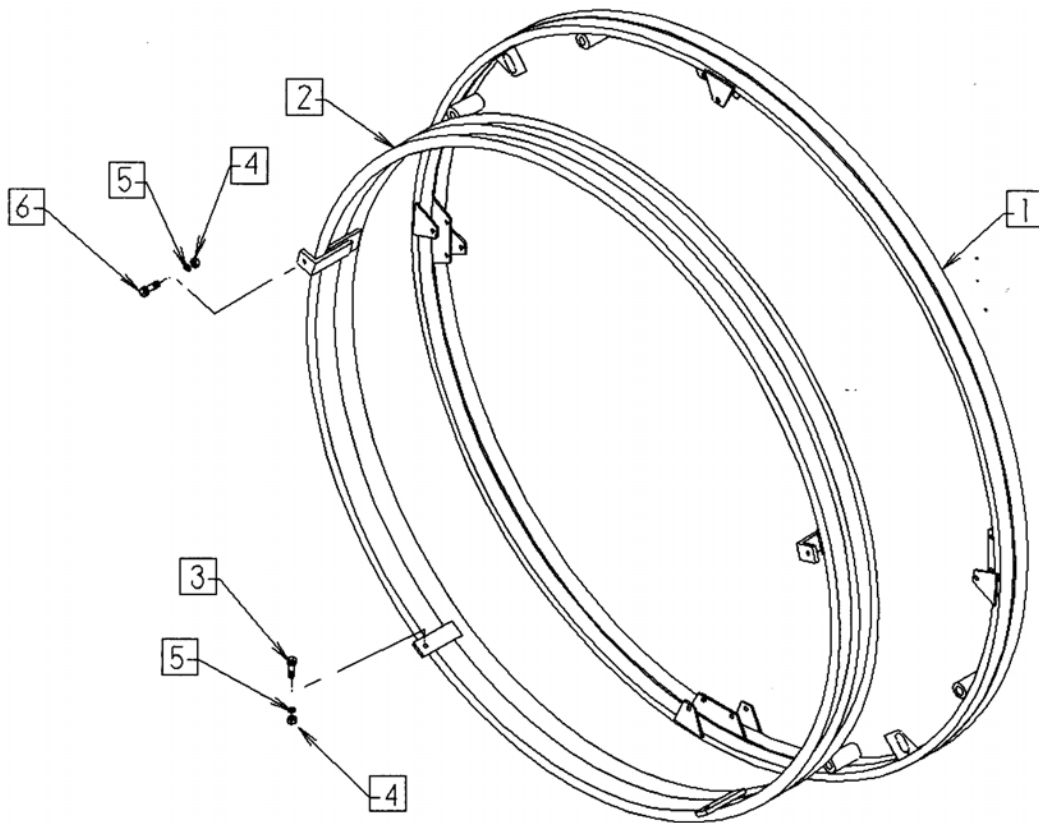
When running machine through the cycle and wrapper motor or the cylinders do not work, check flowcontrol valve to see if flow is going to both motor and cylinder.

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.

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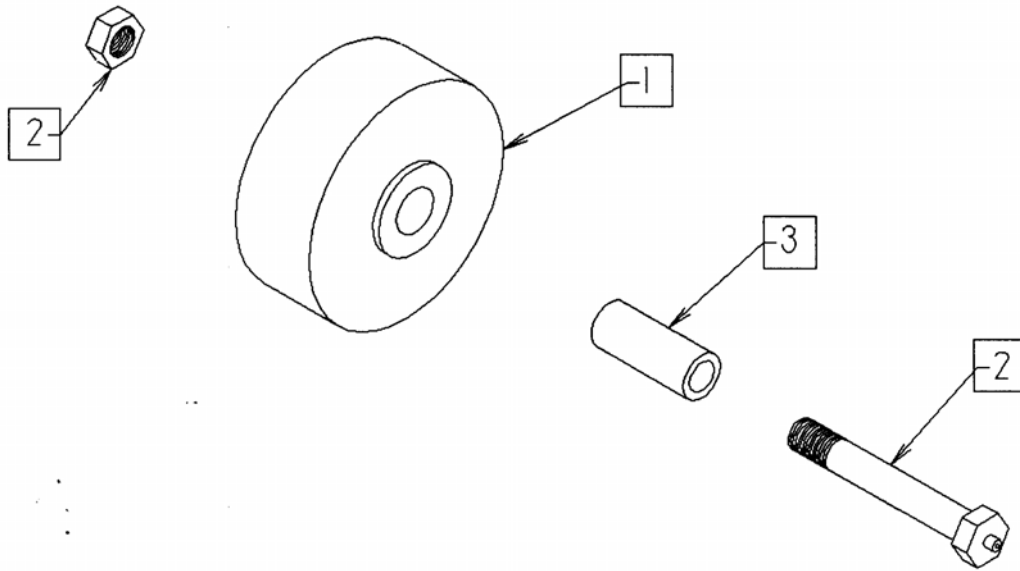
Tube Line 5500 Hoop



Item #	Description
1	Outer Ring
2	Inner Ring
3	5/8 x 2 Bolt
4	5/8 Nut
5	5/8 Lockwasher
6	5/8 x 3 1/2 Bolt

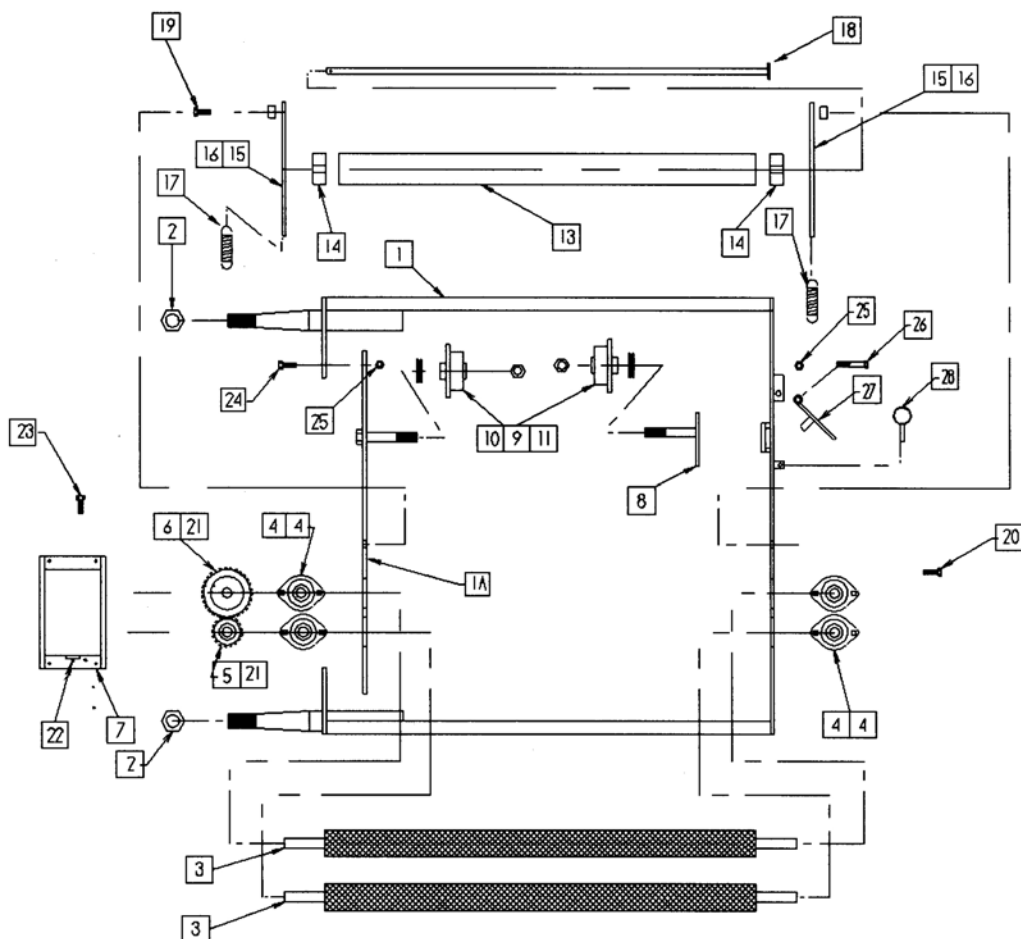
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Tube Line 5500 Hoop Wheels



Item #	Description
1	4 inch Wheel
2	Axle Bolt / Locknut
3	Spanner

Tube Line 5500 Plastic Wrap Carrier

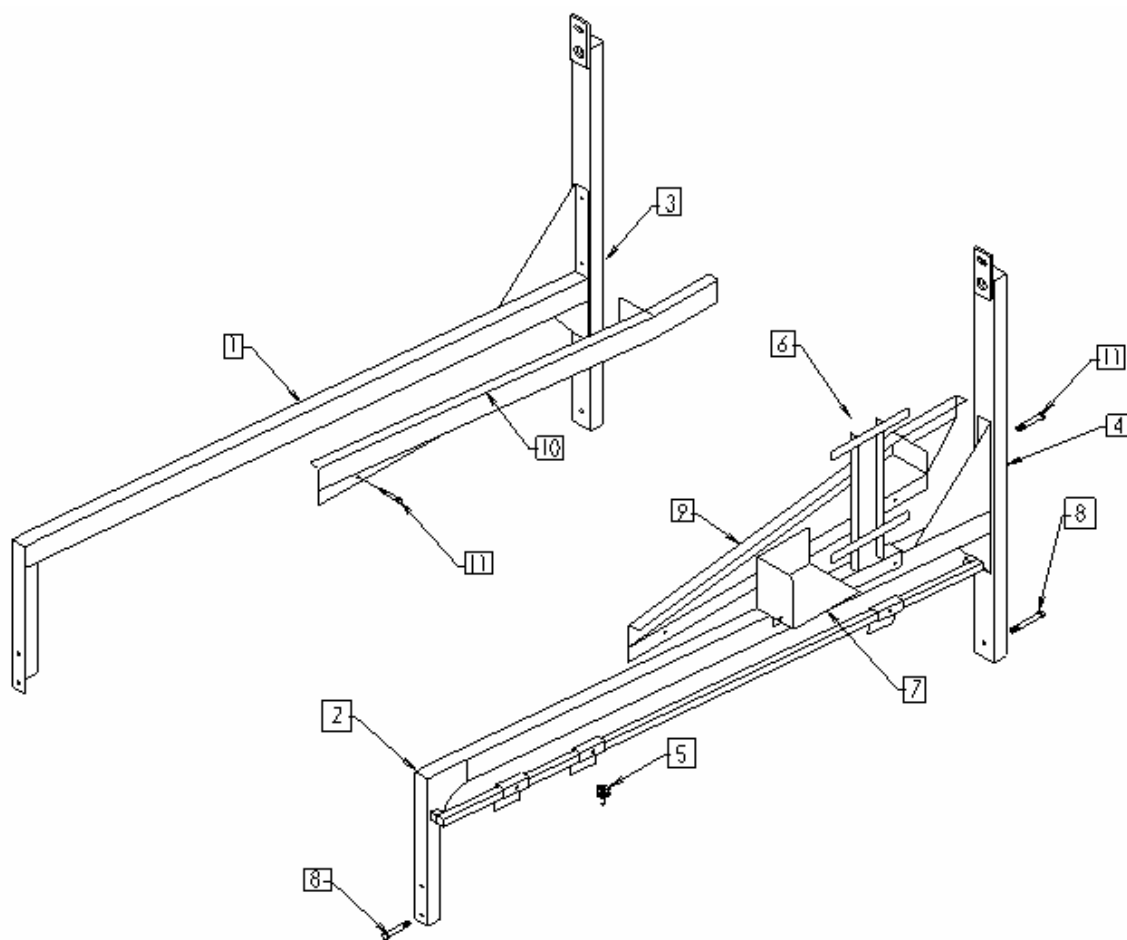


Item #	Description	Item #	Description
1	Main Wrap Bracket	15	ABS Bracket
1A	Main Wrap Side Insert	16	Spacer
2	1-14 UNF Casselnut	17	Spring
3	Tensioner Roller	18	Axle Shaft
4	$\frac{3}{4}$ inch Bearing	19	$\frac{1}{2}$ x 2 Bolt
5	Small Gear	20	5/16 Carriage Bolt
6	Large Gear	21	3/16 Keystock
7	Gear Cover	22	Grease Fitting
8	Spool Holder	23	10-24 x $\frac{3}{4}$ Bolt
9	Plastic Wrap Spool	24	3/8 x 1 #5 Bolt
10	5/8 Flat Washer	25	3/8 Locknut
11	5/8 Nylocknut	26	3/8 x 2 $\frac{1}{2}$ Bolt
13	ABS Pipe	27	Latch
14	HMWPVC Bearing	28	3/16 Linch Pin

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Tube-Line 5500 X2

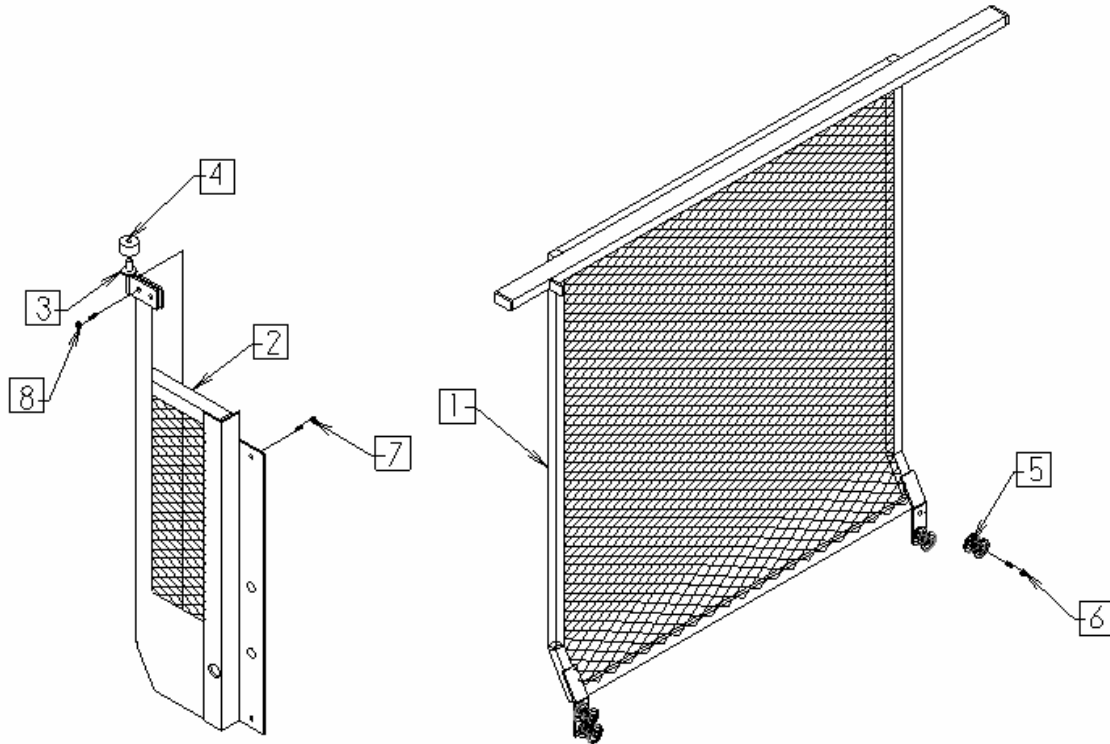
Hoop Brace Assembly



Item #	Description	Item #	Description
1	Right Brace	7	Manual Control Mount
2	Left Brace	8	1/2 x 3 bolt
3	Right Hoop Post	9	Left Bale Deflector
4	Left Hoop Brace	10	Right Bale Deflector
5	Switch Adjuster Screw	11	3/8x 3 Bolt
6	Automatic Control Panel Mount		

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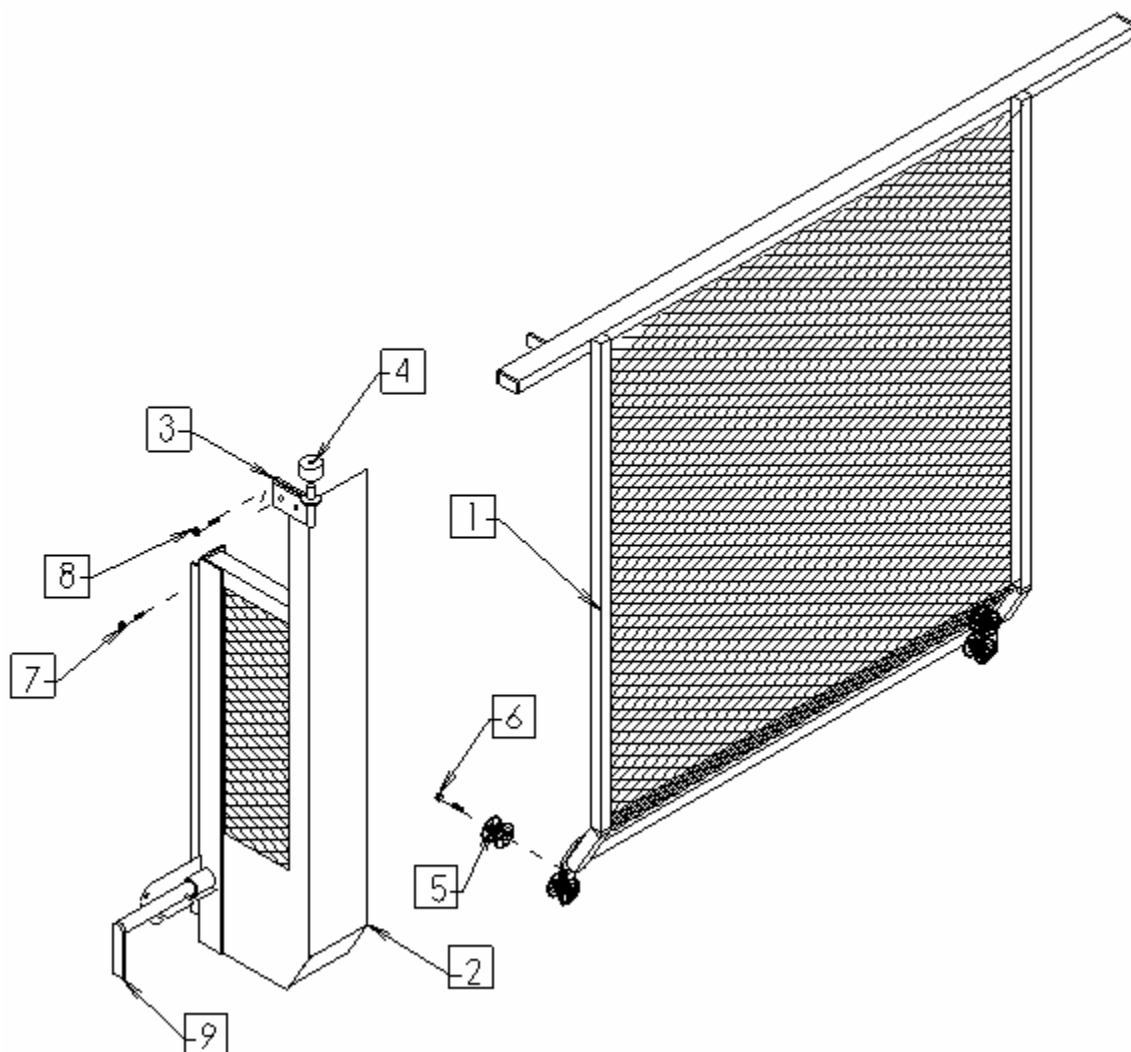
Tube – Line 5500 X 2
Right Safety Guard



Item #	Description
1	Safety Door
2	Safety Guard Bracket
3	Top Roller Bracket
4	Top Roller
5	Bottom Roller
6	½ x 3 Bolt
7	3/8 x 3 Bolt
8	3/8 x 1 ½ Bolt

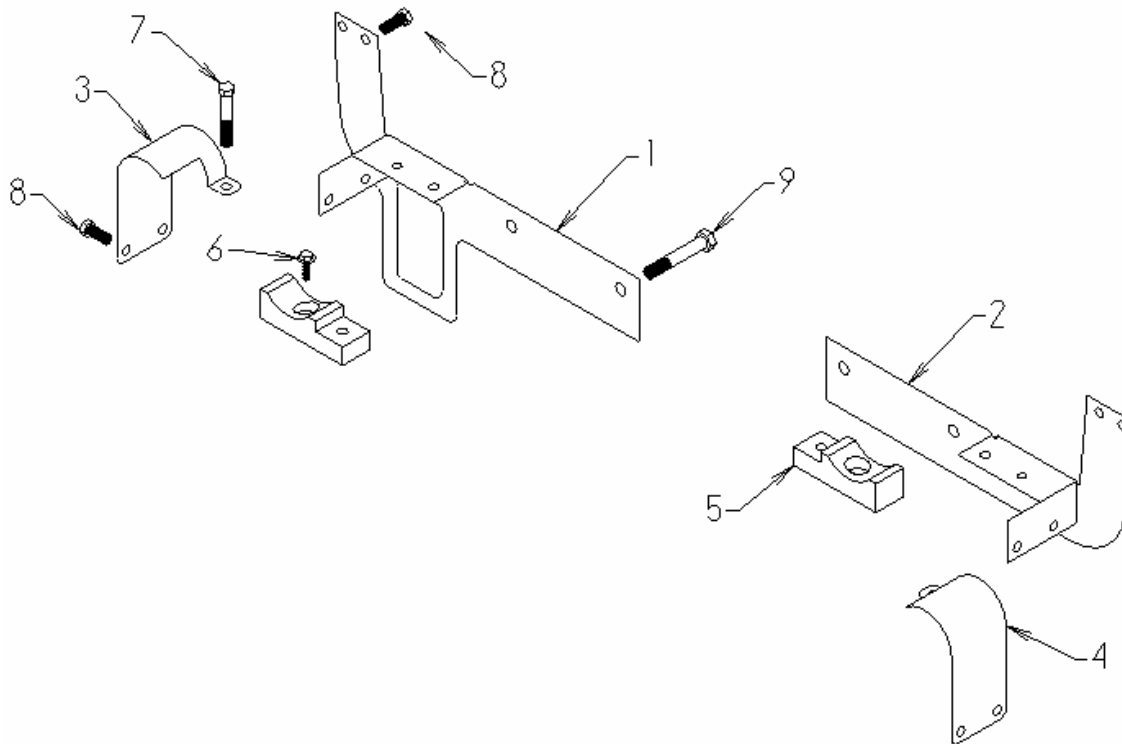
[Contents](#)
[Parts 2](#)

Tube – Line 5500 X 2
Left Safety Guard



Item #	Description
1	Safety Door
2	Safety Guard Bracket
3	Top Roller Bracket
4	Top Roller
5	Bottom Roller
6	1/2 x 3 Bolt
7	3/8 x 3 Bolt
8	3/8 x 1 1/2 Bolt
9	Hoop Lock

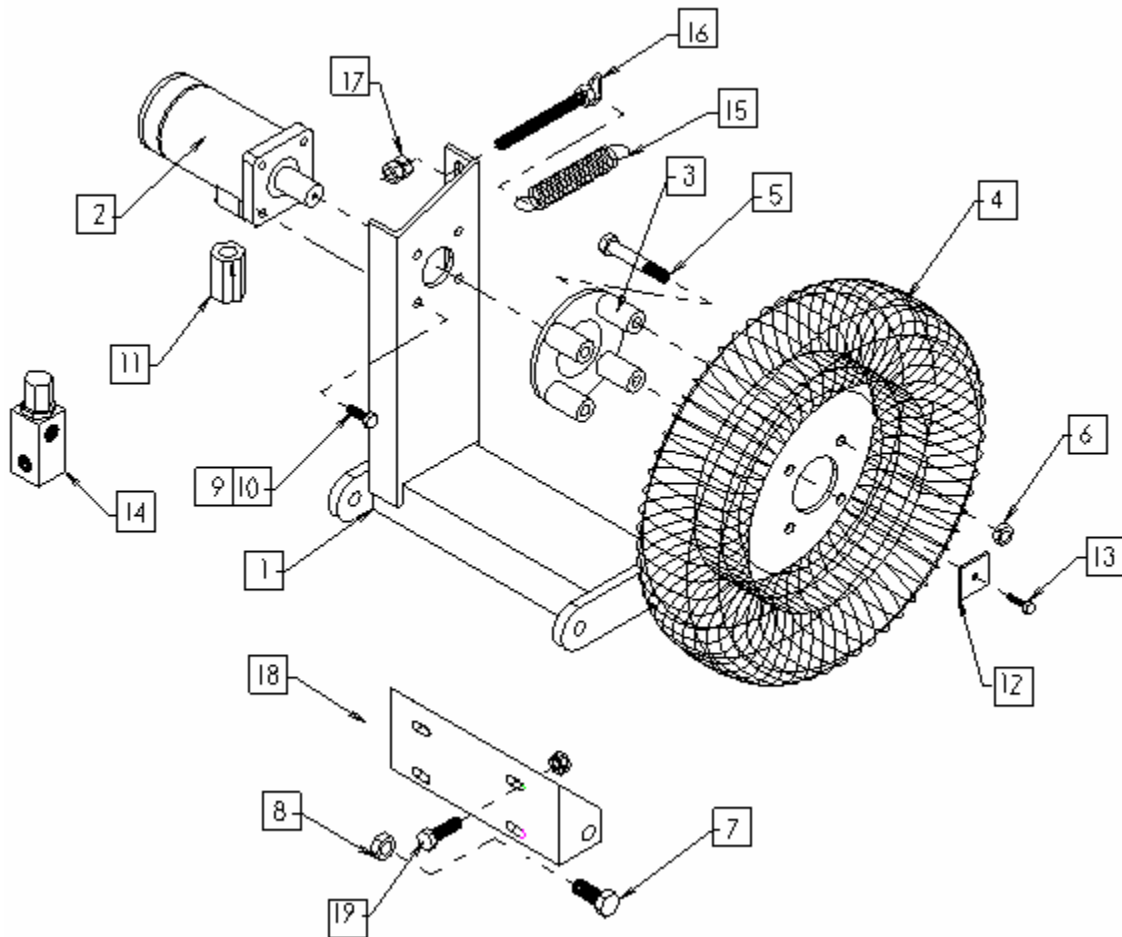
Tube – Line 5500 X 2
Ram Cylinder Support



Item #	Description
1	Right Support Bracket
2	Left Support Bracket
3	Right Cylinder Clamp
4	Left Cylinder Clamp
5	Cylinder Support
6	5/16 x 1 1/4 Bolt
7	3/8 x 3 Bolt
8	3/8 x 1 Bolt
9	1/2 x 3 Bolt

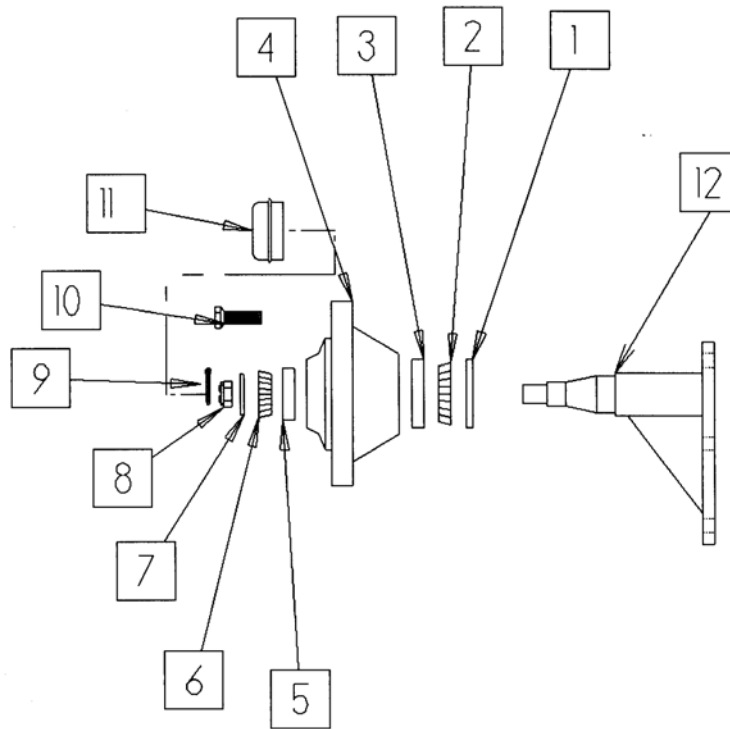
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Tube – Line 5500 X 2
Hoop Drive



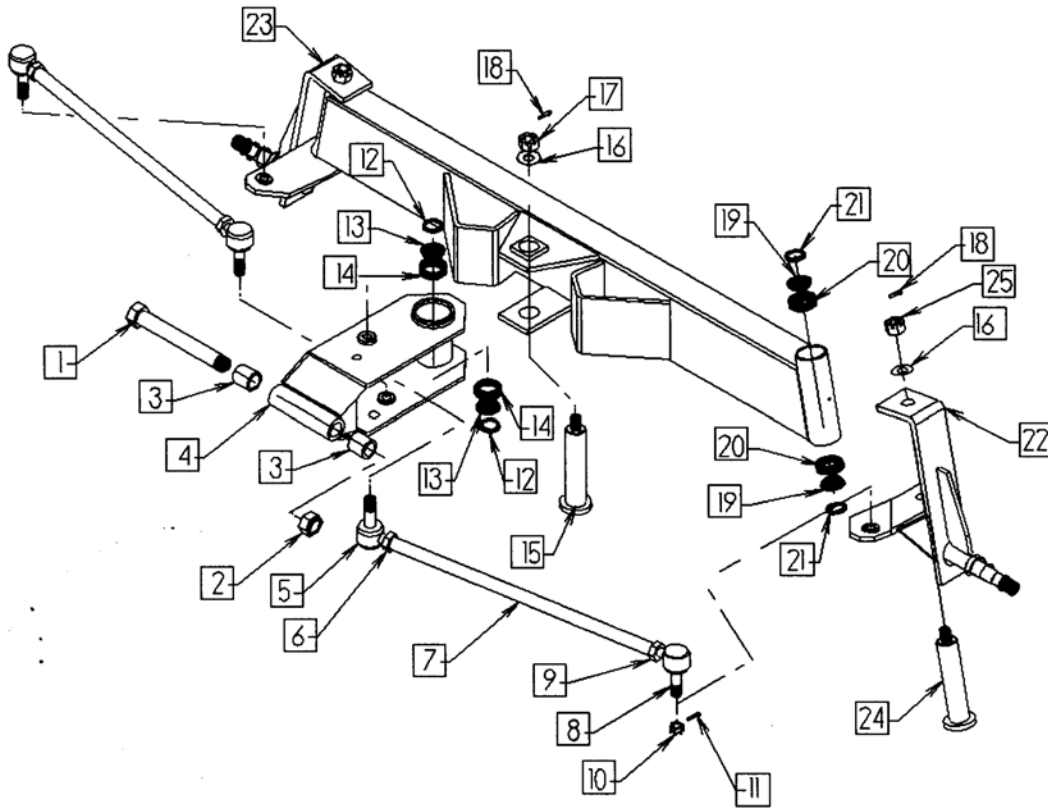
Item #	Description	Item #	Description
1	Drive Base	11	Check Valve (manual only)
2	Hydraulic Motor	12	Wheel Washer
3	Wheel Hub	13	1/4 x 1 Bolt c/w Lockwasher
4	Drive Wheel	14	Relief Valve (manual only)
5	1/2 x 3 UNF Bolt	15	Wheel Tensioner Spring
6	1/2 Wheel Nut	16	Spring Tensioner Bolt
7	5/8 x 1 1/2 Bolt	17	1/2 Nuts
8	5/8 Locknut	18	Drive Base Mount
9	3/8 x 3/4 Bolt	19	3/8 x 1 1/2 Bolt
10	3/8 Lockwasher		

Tube Line 5500 X 2
Axle / Spindle / Hub



Item #	Description
1	Seal
2	Inner Bearing
3	Inner Bearing Race
4	Hub
5	Outer Bearing Race
6	Outer Bearing
7	Flat Washer
8	Wheel Nut
9	Cotter Pin
10	Wheel Stud
11	Dust Cap
12	Spindle

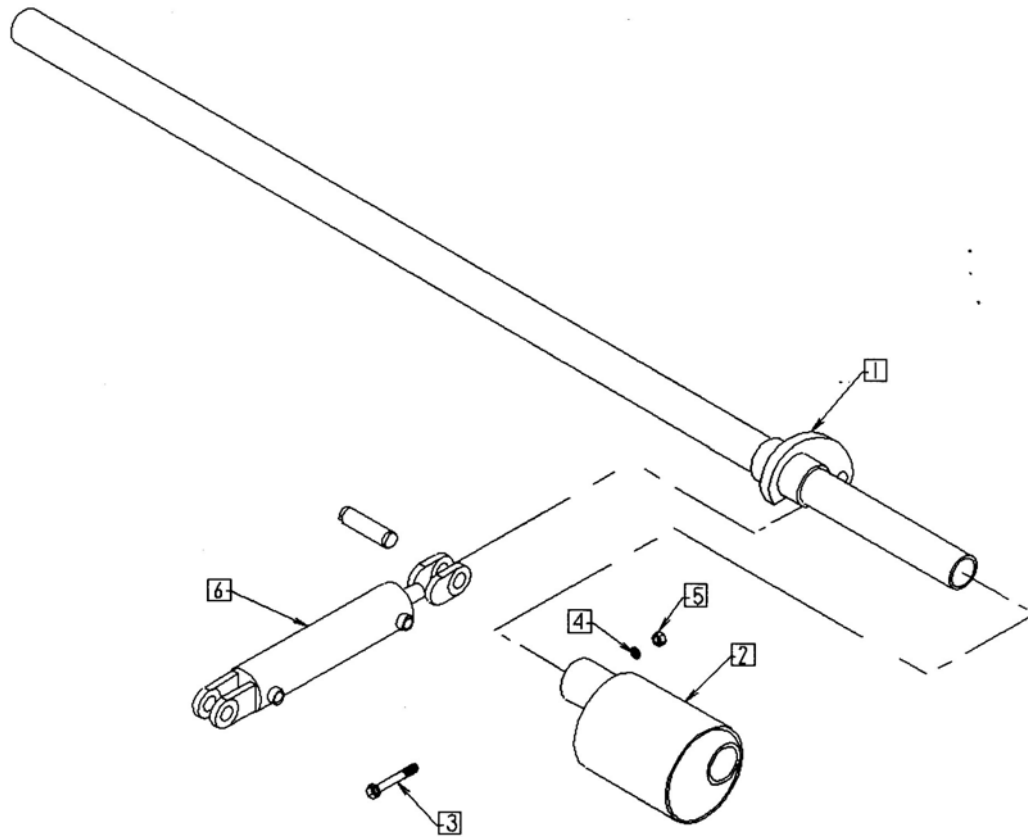
Tube Line 5500 X 2 Front Axle



Item #	Description	Item #	Description
1	7/8 x 8 Bolt	13	Tongue Bracket Timkin Bearing
2	7/8 Locknut	14	Tongue Bracket Timkin Cup
3	Tongue Bracket Bushing	15	Tongue Bracket Pin
4	Tongue Bracket Assy	16	13/16 Flatwasher
5	Tie Rod End Right Thread	17	Tongue Bracket Nut
6	3/4 Jam Nut (NF RH)	18	3/16 x 2 Cotter Pin
7	Tie Rod	19	Spindle Bearing Timkin Cone
8	Tie Rod End Left Thread	20	Spindle Bearing Timkin Cup
9	3/4 Jam Nut (NF LH)	21	Spindle Bearing Seal
10	9/16 NF Slotted Hex Nut	22	Left Side Spindle Assy
11	1/8 Cotter Pin	23	Right Side Spindle Assy
12	Tongue Bracket Seal	24	Spindle Pin

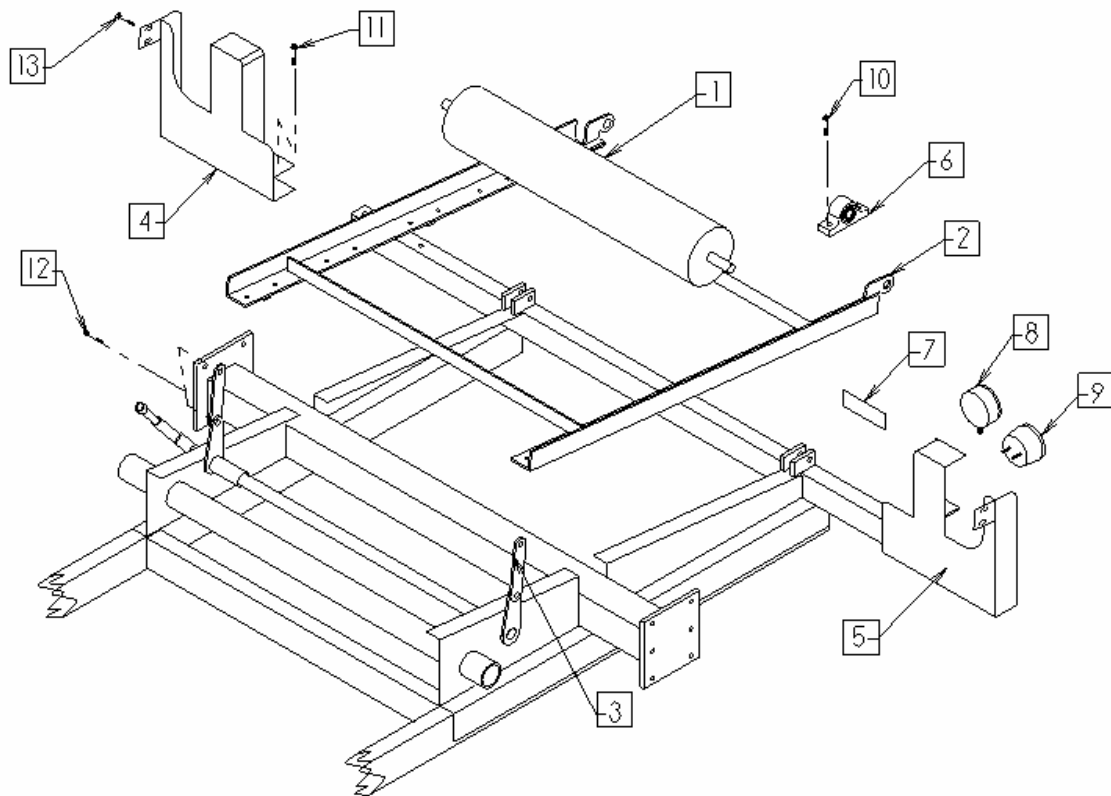
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Tube Line 5500 X 2 Brakes



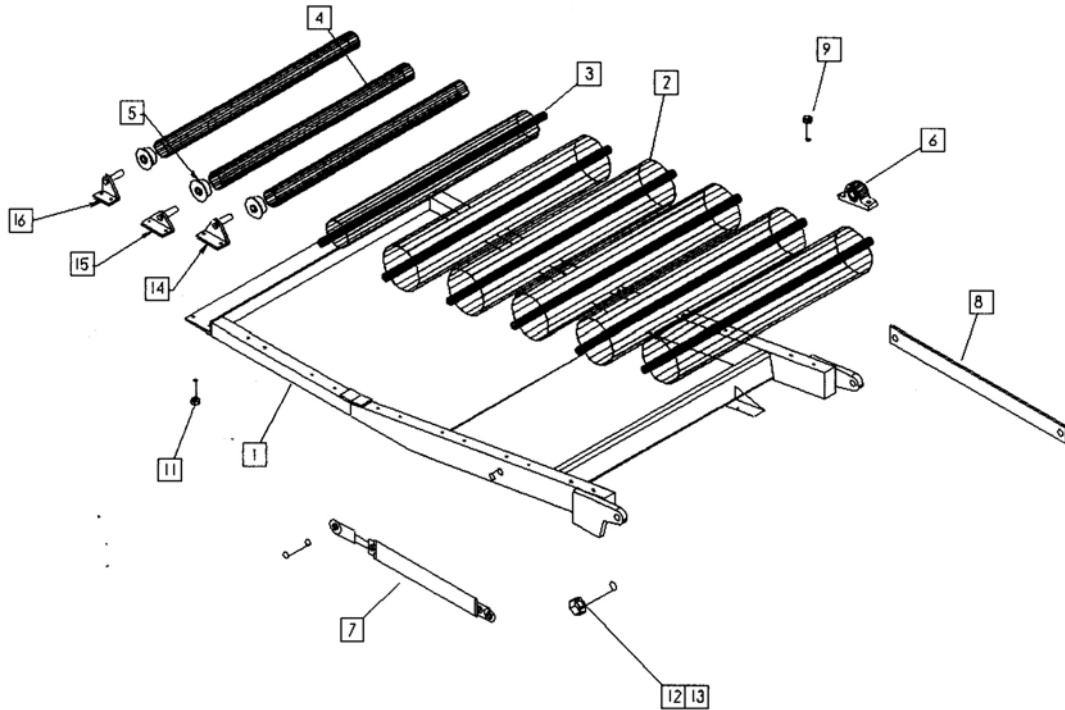
Item #	Description
1	Rocker Tube
2	Brake Eccentric
3	½ x3 ½ Bolt
4	Lockwasher
5	½ Nut
6	2 ½ x 8 Hydraulic Cylinder

Tube – Line 5500 X 2
Rear Roller



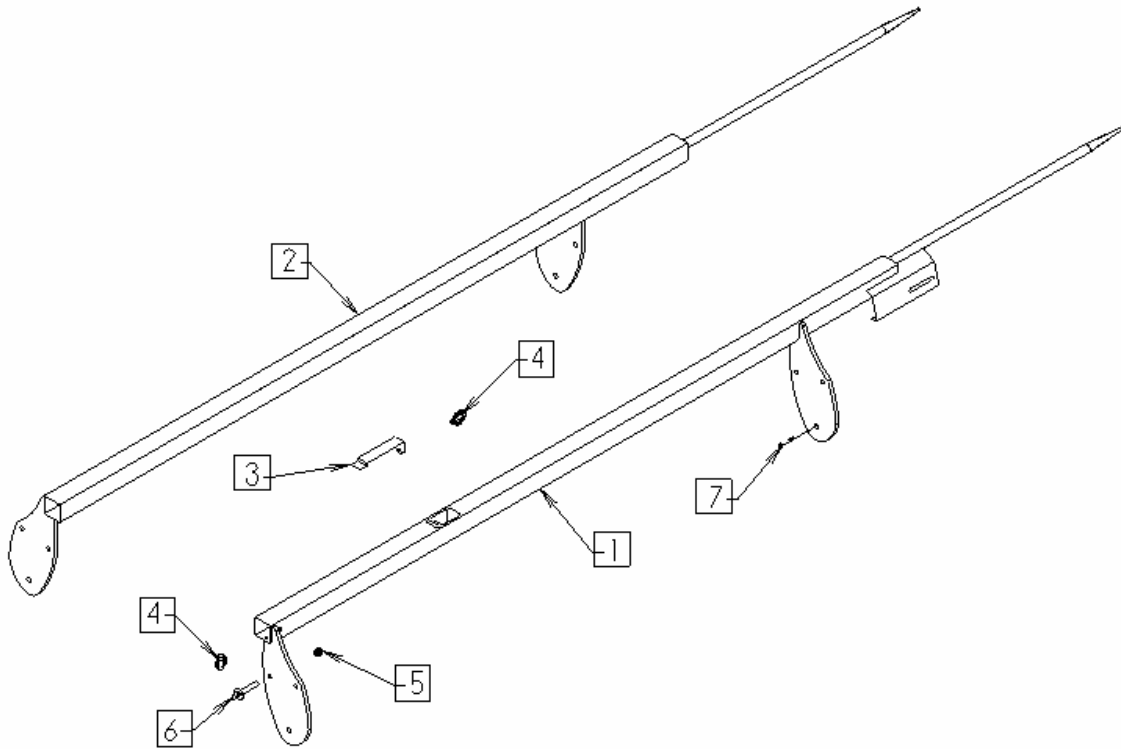
Item #	Description	Item #	Description
1	Large Roller	8	Amber Light
2	Riser Frame	9	Red Light
3	Riser Link	10	3/8 x 1 1/2 Bolt
4	Right Light Bracket	11	3/8 x 4 Bolt
5	Left Light Bracket	12	5/8 x 2 Bolt
6	Bearing	13	3/8 x 1 1/2 Bolt
7	Red Reflector		

Tube Line 5500 X 2 Tail



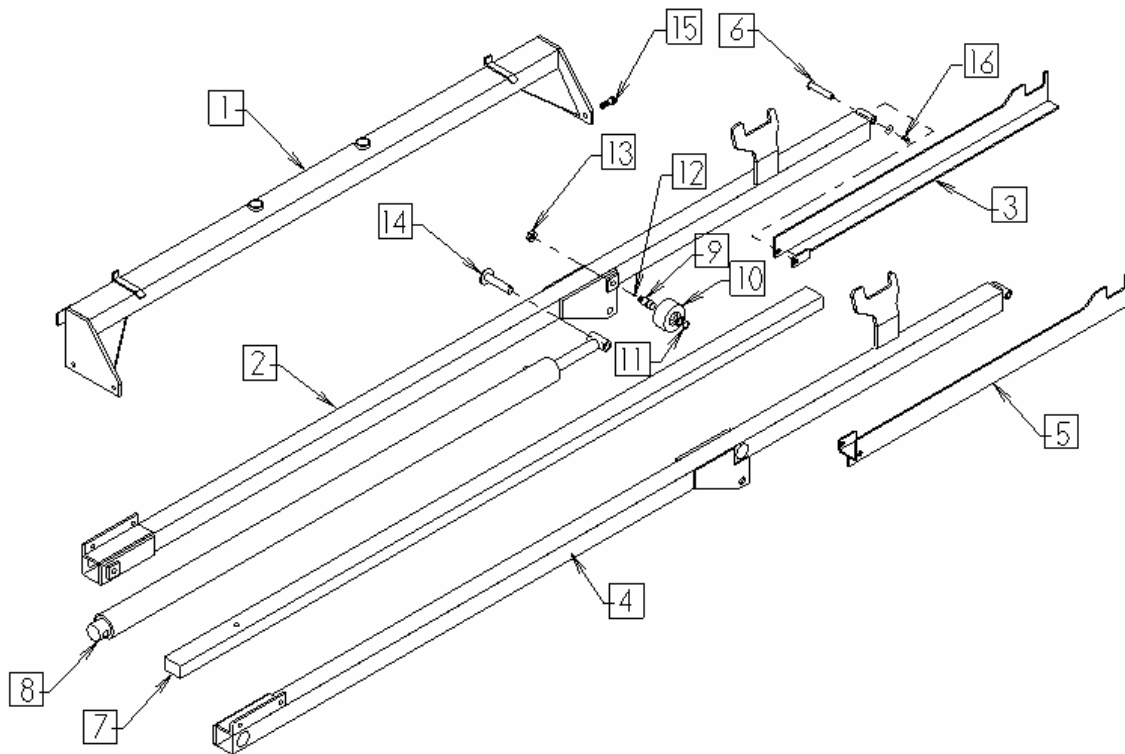
Item #	Description
1	Tail Base
2	Large Roller
3	4" Roller
4	Small Roller
5	3/4" Bearing
6	1" Bearing
7	3 x 12 Hydraulic Cylinder
8	Tail Tie Bar
9	3/8 x 1 1/2 Bolt
11	5/16 x 1 1/2 Bolt
12	1 x 4 Bolt
13	1" Nylocknut
14	1 st Small Roller Bracket
15	2 nd Small Roller Bracket
16	3 rd Small Roller Bracket Right
17	3 rd Small Roller Bracket Left

Tube – Line 5500 X 2
Bale Saddle



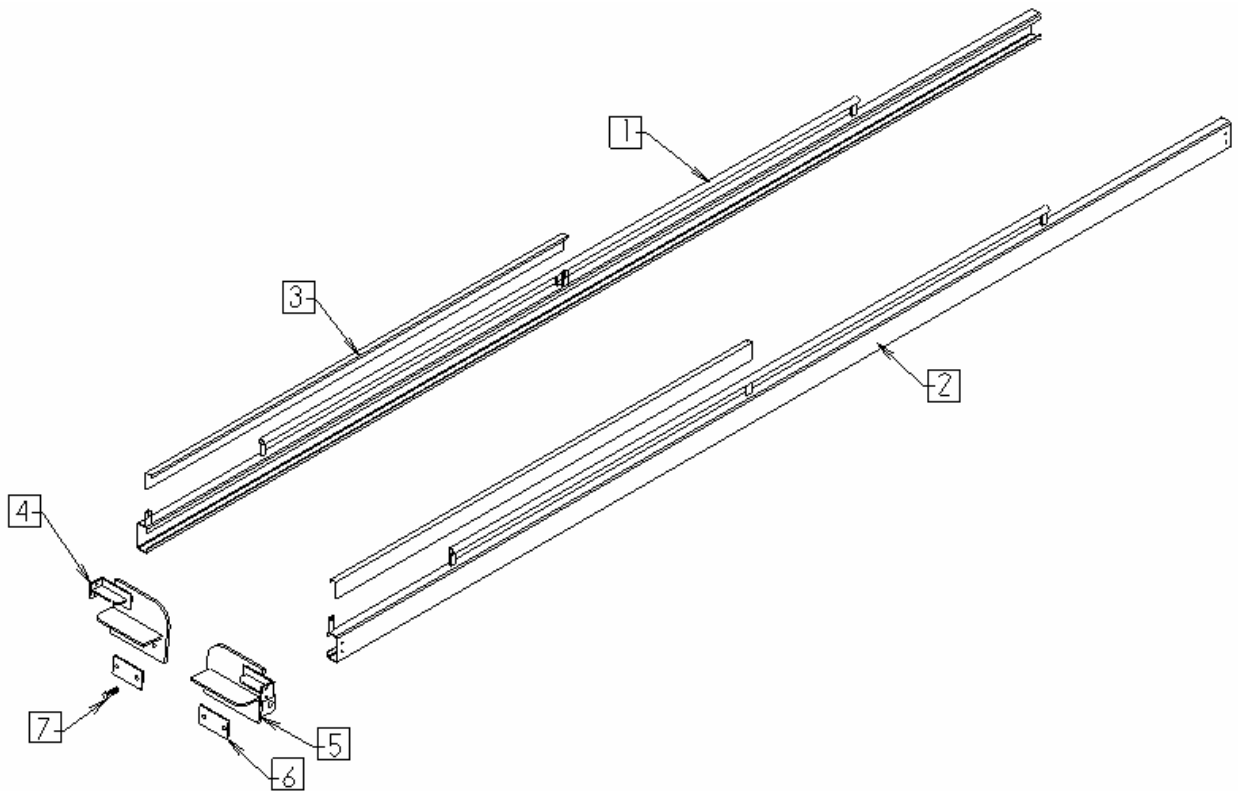
Item #	Description
1	Left Bale Guide
2	Right Bale Guide
3	Bale Trigger Plate
4	Lynch Pin
5	Grommet
6	½ Pin
7	½ x 2 Bolt

Tube – Line 5500 X 2
Bale Ram



Item #	Description	Item #	Description
1	Front Ram Member	9	Ram Axle
2	Right Ram Tube	10	Ram Roller
3	Right Push-off Arm	11	Snap Ring
4	Left Ram Tube	12	Grease Fitting
5	Left Push-off Arm	13	3/4 UNF Nut
6	Push-off Arm Pivot Pin	14	Cylinder Pin
7	Push-off Cross Tube	15	5/8 x 1 1/2 #5 Bolt
8	Ram Cylinder	16	3/8 x 3/4 Bolt

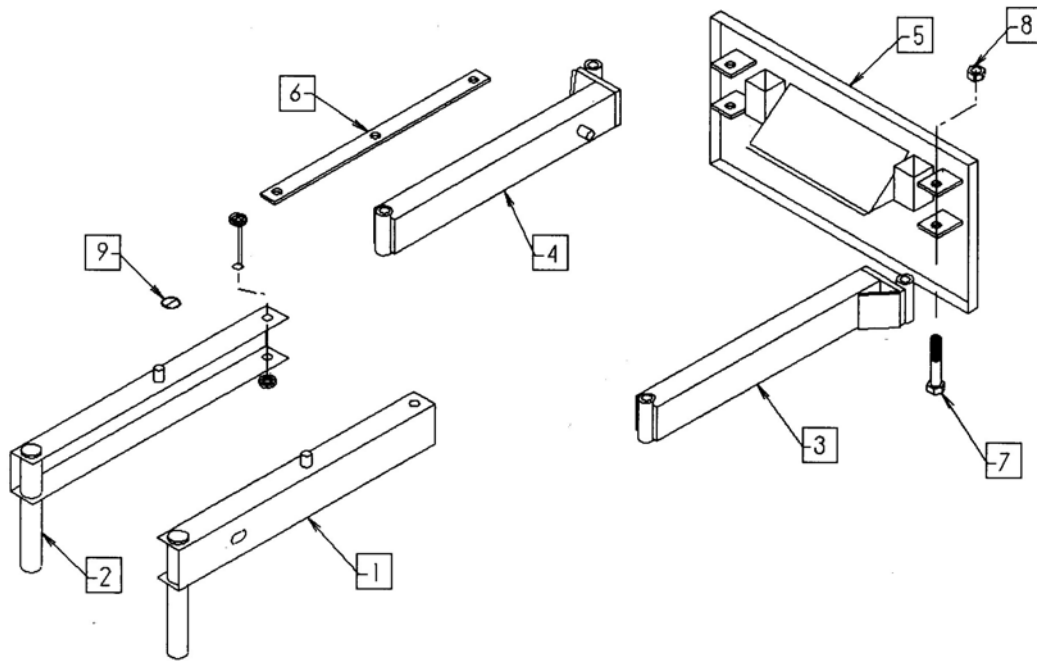
Tube – Line 5500 X 2
Side Rail



Item #	Description
1	Right Side Rail
2	Left Side Rail
3	Guard
4	Right Front Cylinder Mount
5	Left Front Cylinder Mount
6	Reinforcing Plate
7	5/8 x 1 ½ UNF Bolt

[Contents](#) [Parts 6.5](#)

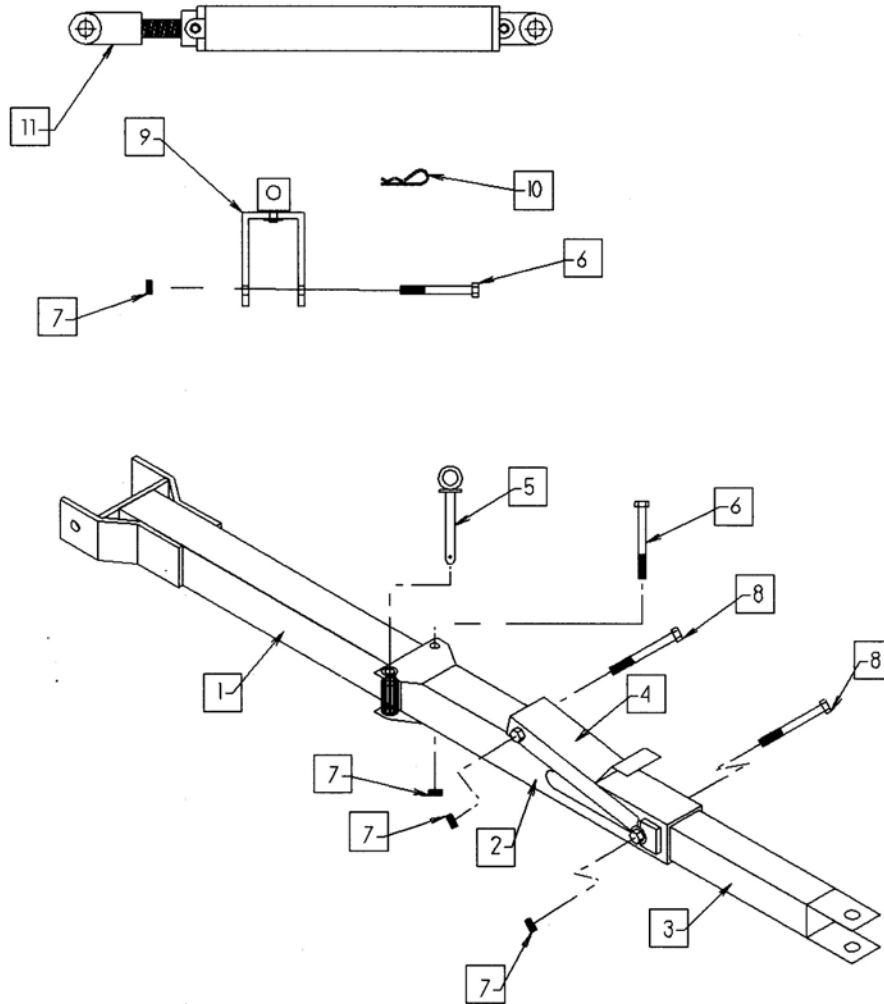
Tube Line 5500 X 2 Push Off



Item #	Description
1	Left Front Arm
2	Right Front Arm
3	Left Rear Arm
4	Right Rear Arm
5	Push Plate
6	X Bar
7	3/4 x 5 Bolt
8	3/4 Locknut
9	3/16 Linch Pin

Tube – Line 5500 X 2

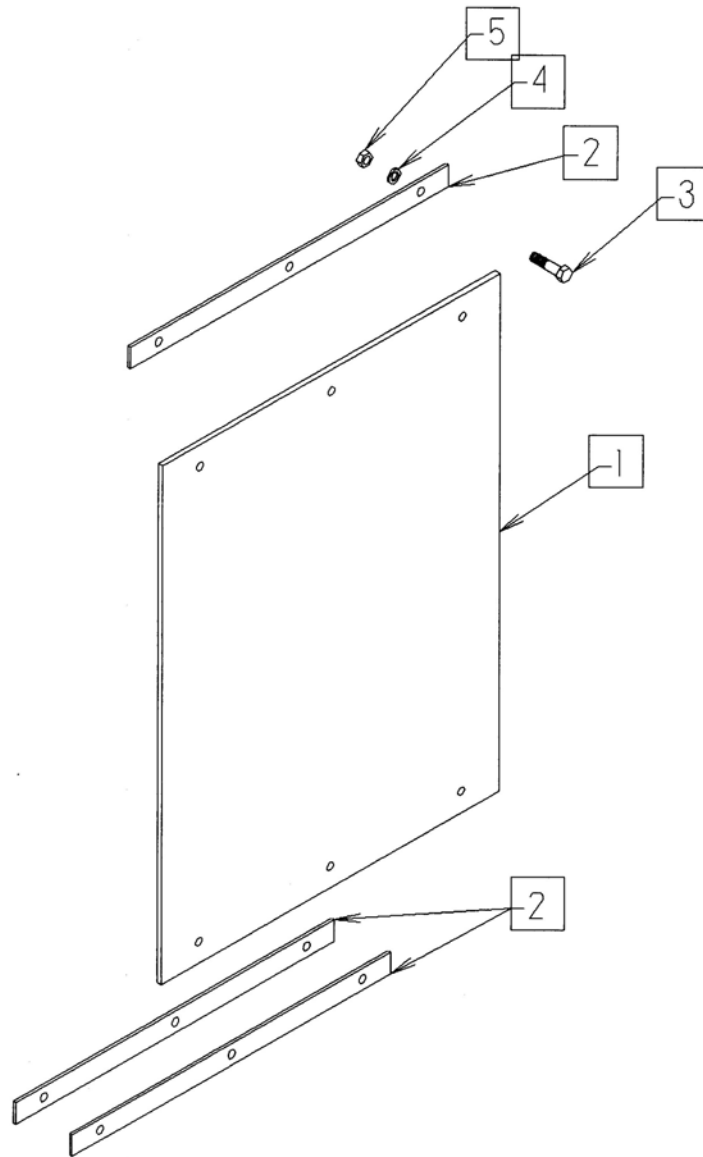
Tongue



Item #	Description	Item #	Description
1	Main Tongue	7	5/8 Locknut
2	Swinging Tongue	8	5/8 x 4 1/2 Bolt
3	Sliding Tongue	9	Tongue Holder
4	Tongue Latch	10	Hair Pin
5	Tongue Pin	11	2 x 16 Hydraulic Cylinder
6	5/8 x 5 Bolt		

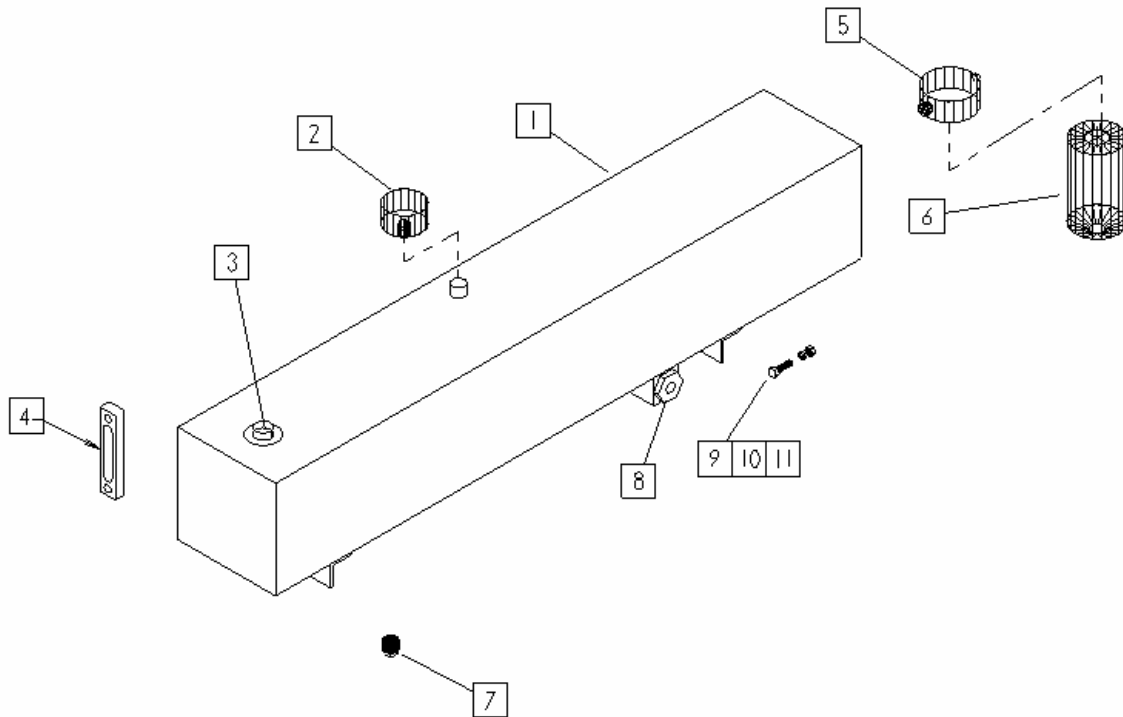
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Tube Line 5500 X 2 Mud Flap



Item #	Description
1	Mud Flap
2	Metal Strip
3	Bolt
4	Lockwasher
5	Nut

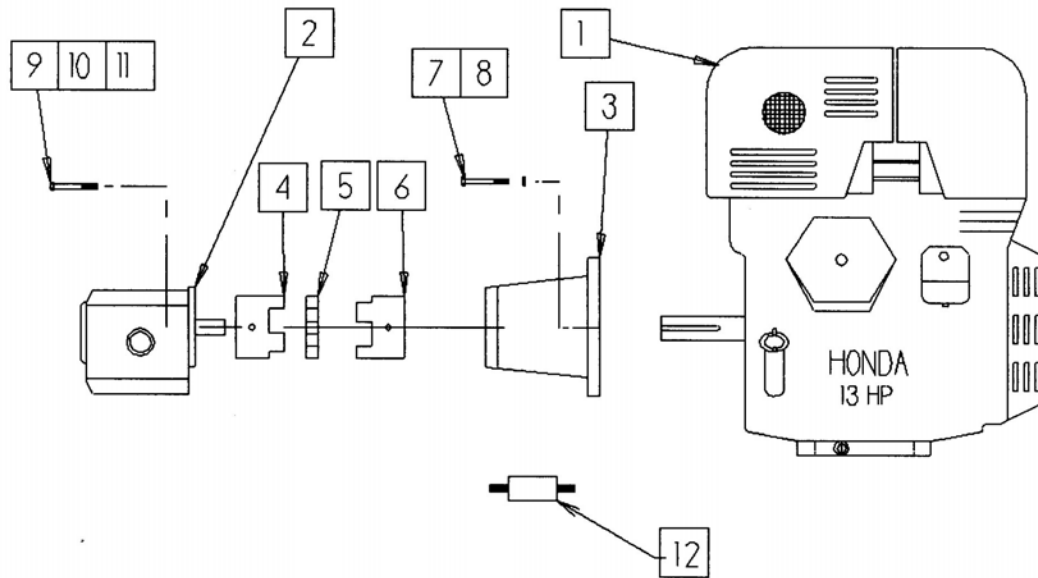
Tube – Line 5500 X 2
Hydraulic Tank



Item #	Description	Filter	Cross Ref
1	Hydraulic Tank	Stauf	SF6520
2	Breather Cap	Gresen	F22001
3	Filler Plug (1 1/4 pipe)	Fram	P1653-A
4	Sight Gauge	Fleetguard	HF6510
5	Filter Base	Cross	1A9021
6	10 micron Filter		
7	Magnetic Plug		
8	Suction Strainer		
9	3/8 x 1 Bolt		
10	3/8 Lockwasher		
11	3/8 Nut		

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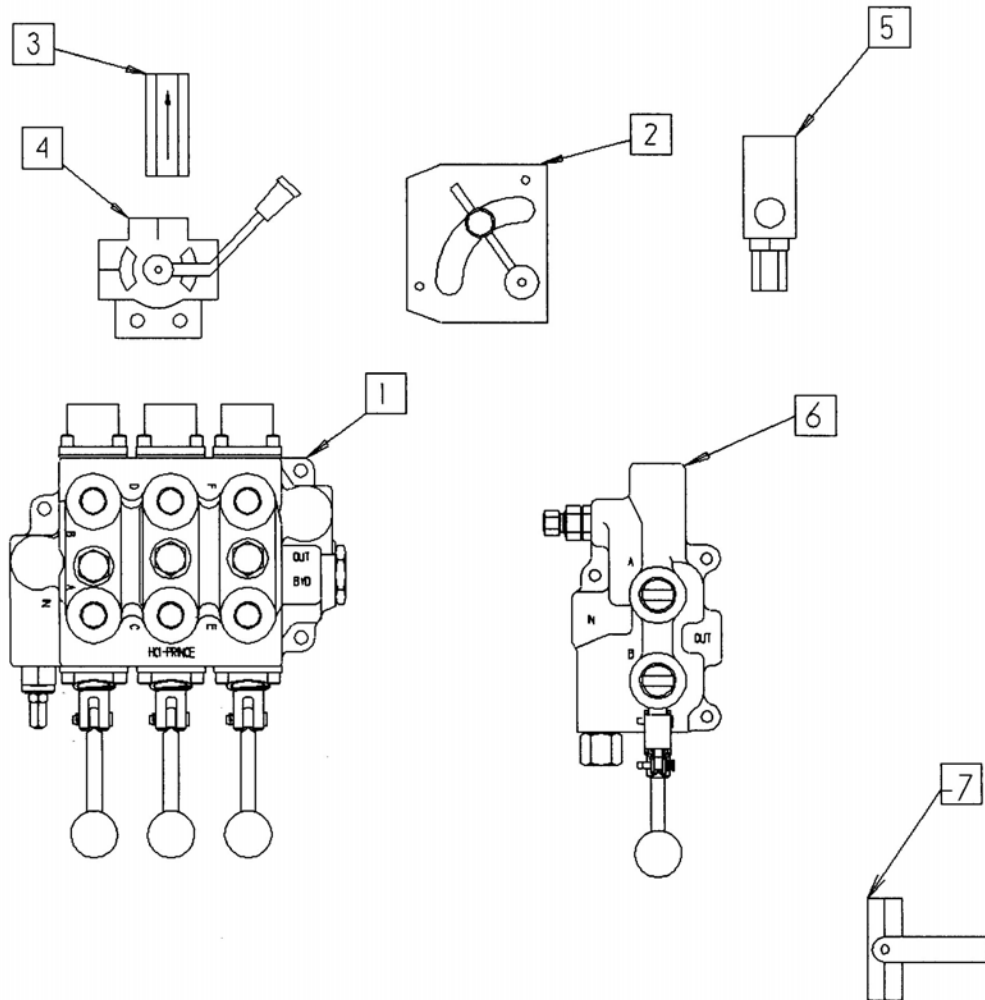
Tube Line 5500 X2 Pump / Motor



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

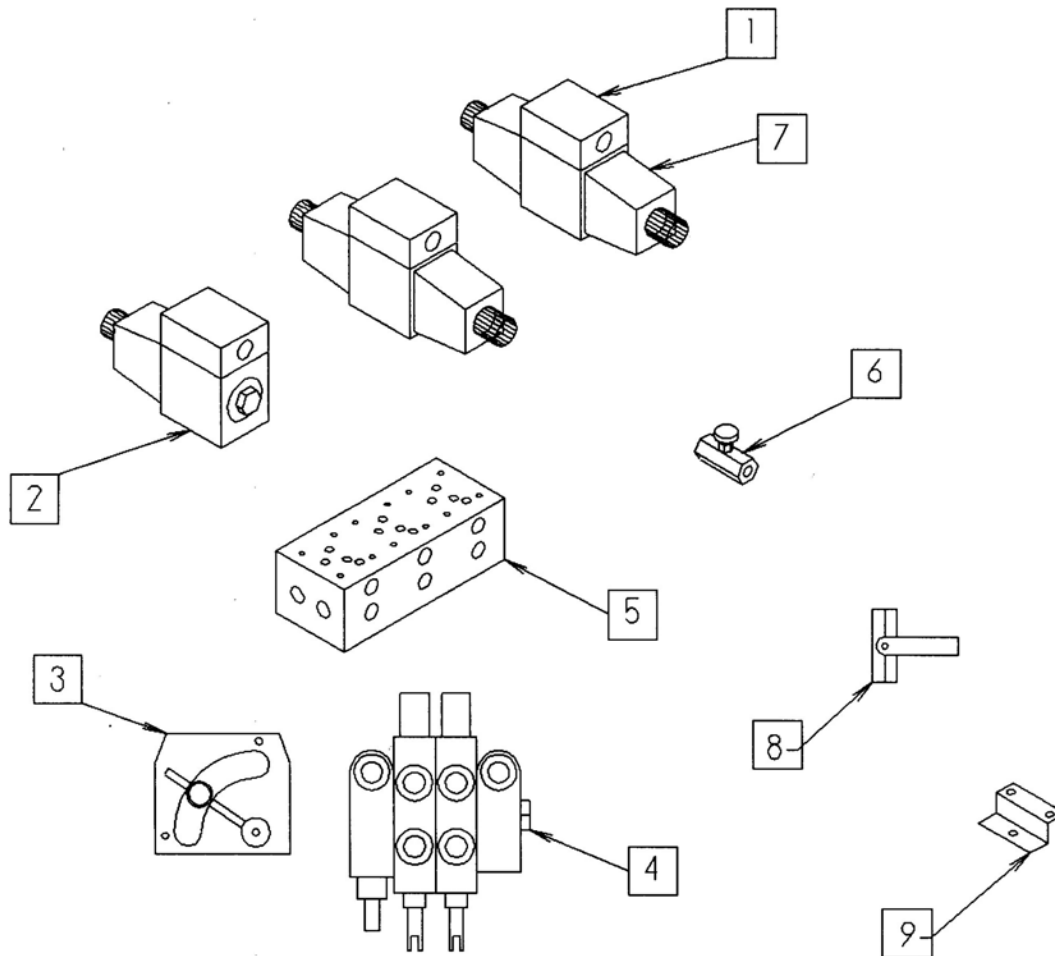
[Contents](#) [Parts 7](#)

Tube Line 5500 X 2 Manual Valve Bank



Item #	Description
1	RD5300 Valve
2	RD- 150 -08 Flow Control
3	1/2 " Check Valve
4	Selector Valve
5	Relief Valve
6	LS3010-1 Valve
7	Ball Valve

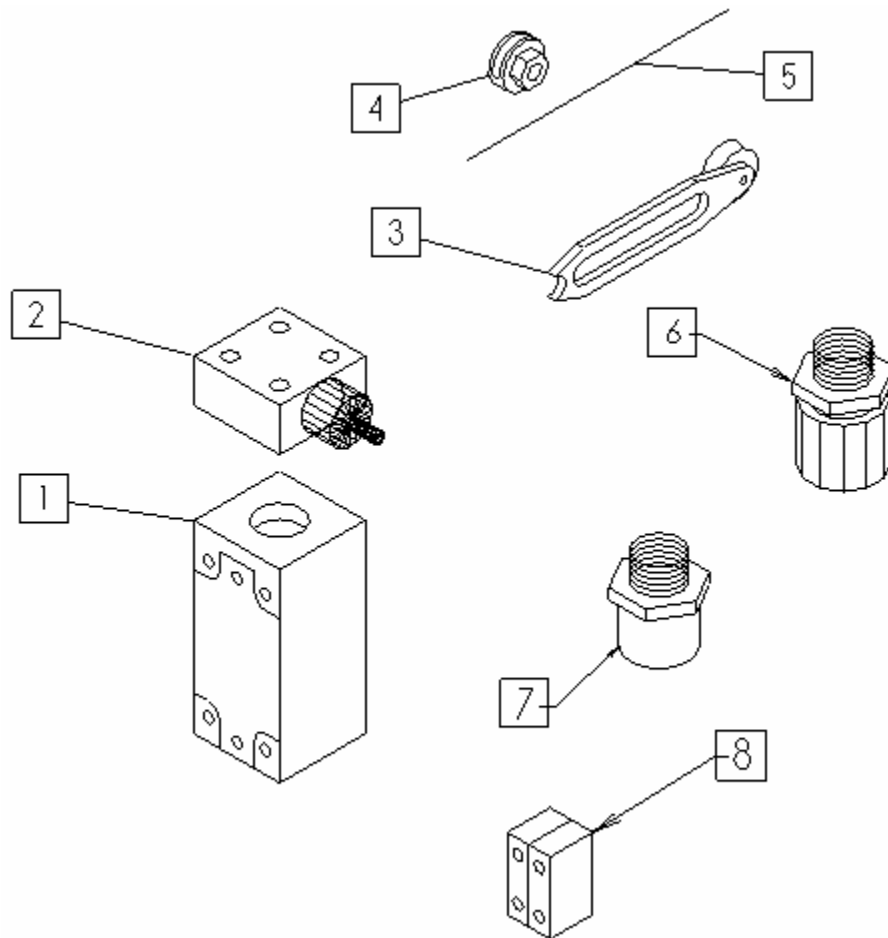
Tube Line 5500 X 2 Automatic Valve Bank



Item #	Description
1	Tandem Center 12 volt DC Valve
2	Single 12 volt DC Valve
3	RD-150-08 Flow Control
4	2 Spool Mono Block Valve
5	3 Station Manifold
6	Steering Speed Control Valve
7	Valve Coil
8	Ball Valve
9	Manifold Mount

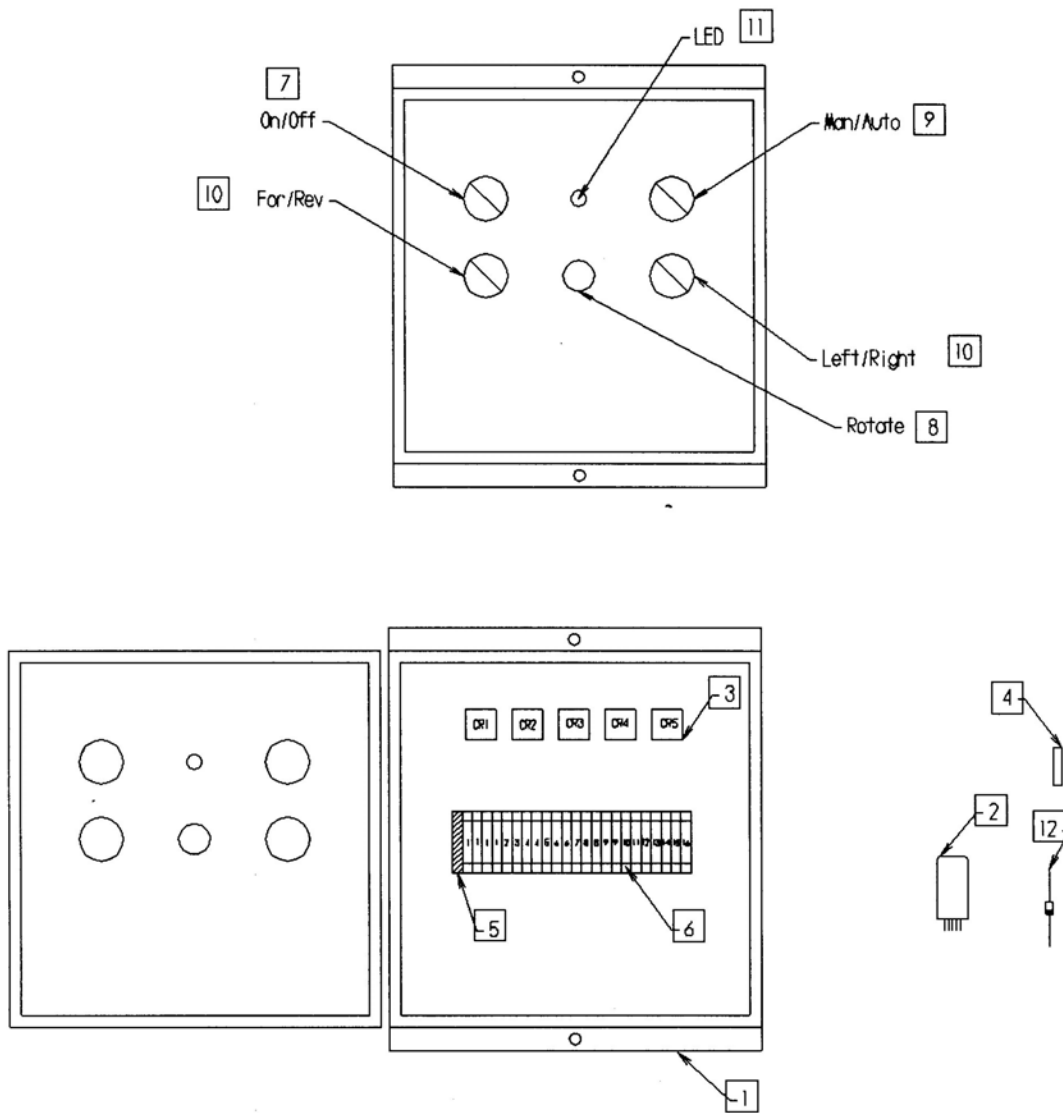
[Contents](#) [Parts 8](#)

Tube Line 5500 X 2 Limit Switch



Item #	Description
1	Body
2	Actuator
3	Arm
4	Wire Clamp
5	Wire Arm
6	PVC Box Connector
7	Metric to pipe Adaptor
8	Contact Block

Tube Line 5500 X 2 Control Panel

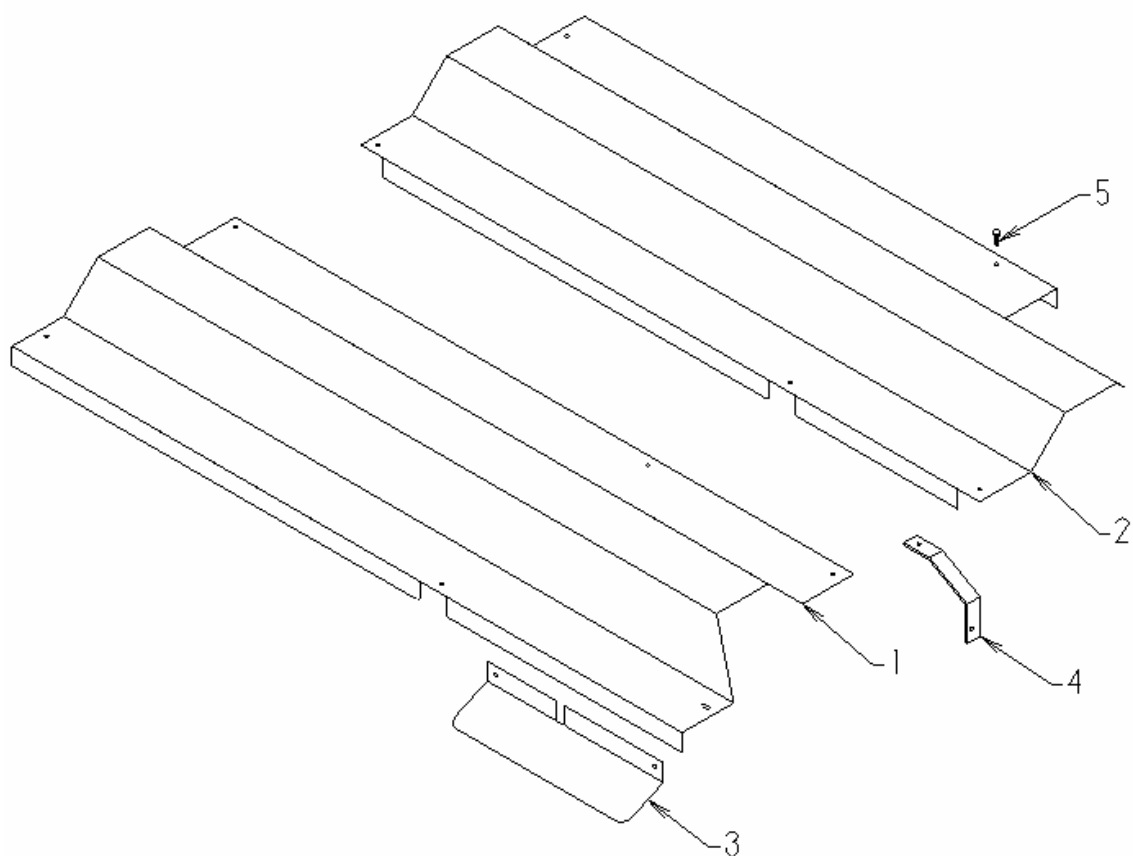


On / Off switch is also the **Engine STOP**

Item #	Description	Item #	Description
1	Control Panel Assy	7	On /Off Switch
2	Control Relay	8	Rotate Switch (push button)
3	11 Pin Base	9	Man/Auto Switch (dial type)
4	15 Amp Fuse	10	Ram & Steering (dial type)
5	DIN Rail Fuse Holder	11	LED
6	DIN Rail Terminal Block	12	Diode

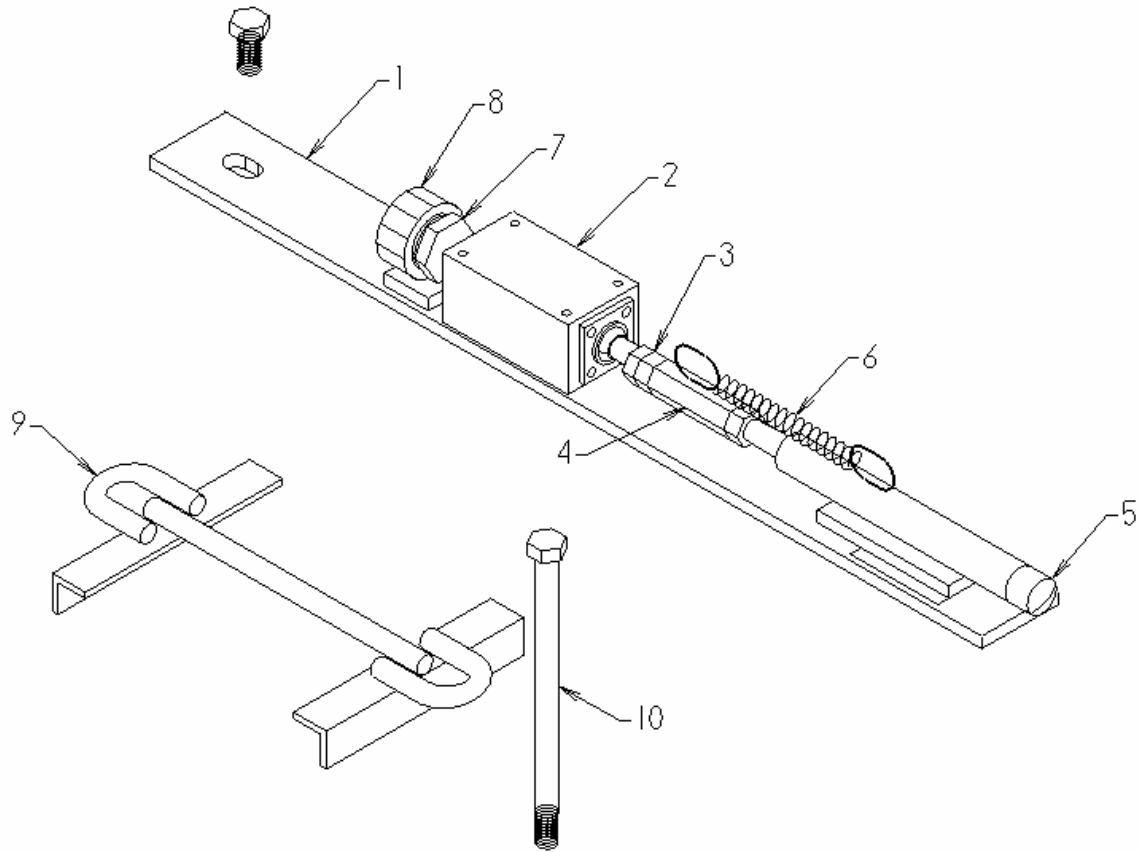
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Tube – Line 5500 X 2
Fender



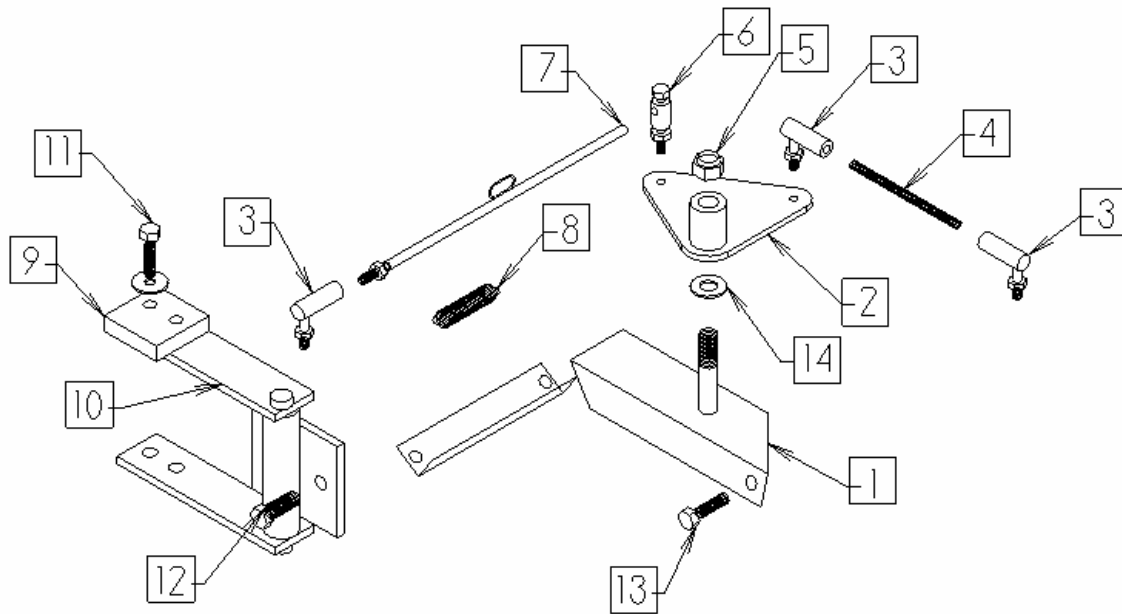
Item #	Description
1	Left Fender
2	Right Fender
3	Engine Shield
4	Rear Bracket
5	3/8 x 1 Bolt

Tube – Line 5500 X 2
Bale Switch



Item #	Description
1	Switch Base
2	Switch
3	3/8 x 1 Bolt
4	3/8 Coupling Nut
5	Push Rod
6	Spring
7	Adaptor metric to inch
8	Wire Clamp
9	Battery Hold – Down
10	Battery Bolts

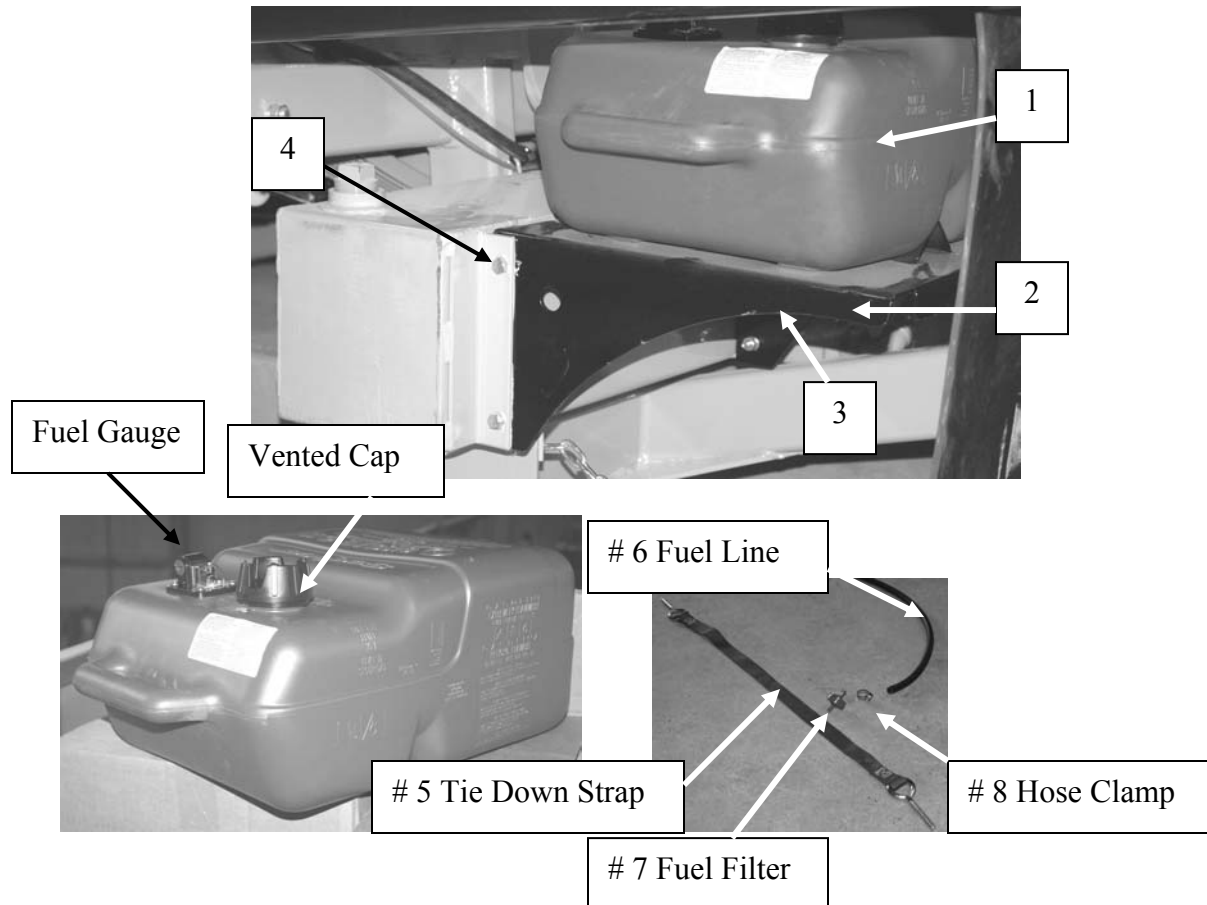
Tube – Line 5500 X 2
Throttle



Item #	Description	Item #	Description
1	Engine Bracket	8	Spring
2	Swing Link	9	Striker Block
3	Ball Joint	10	Main Link
4	1/4 UNF Rod	11	5/16 x 1 1/2 Bolt
5	1/2 Locknut	12	3/8 x 1 1/2 Bolt
6	Linkage Pivot	13	5/16 x 1 Bolt
7	Control Rod	14	1/2 SAE Washer

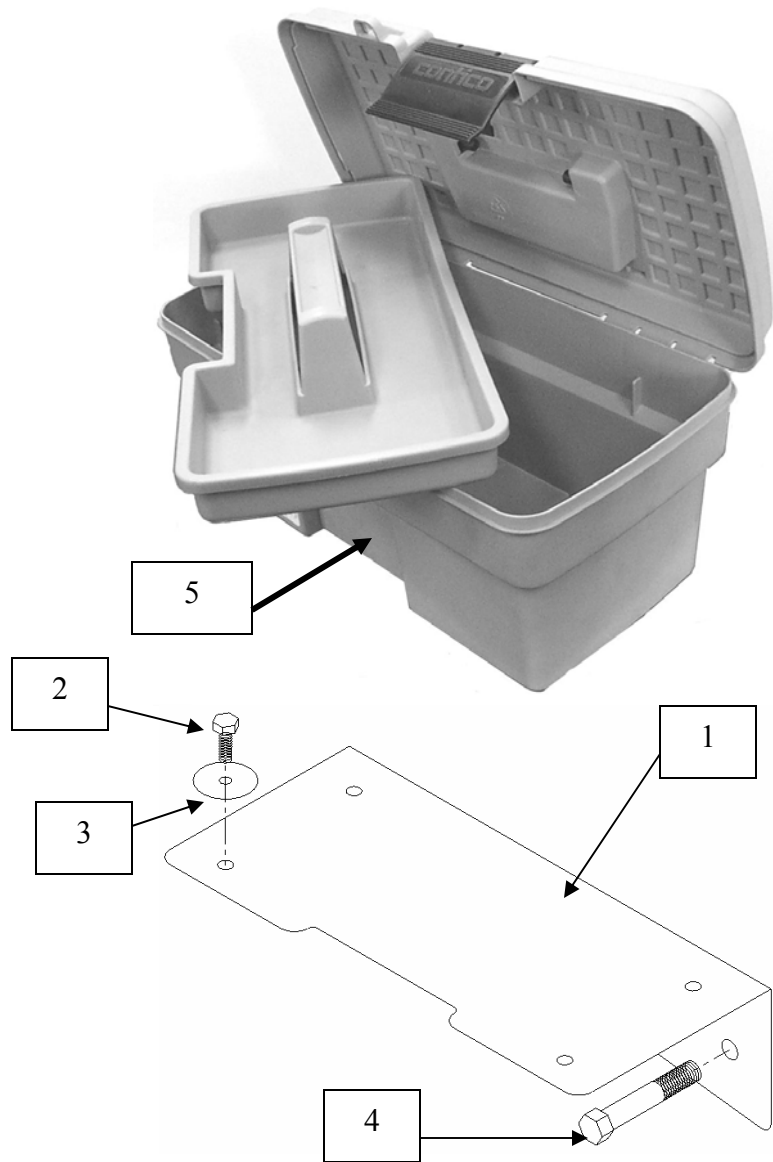
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Tubeline 5500 X2 Fuel Tank / Mount



Item #	Description
1	Fuel Tank
2	Fuel Tank Bracket
3	Grommet
4	3/8 x 1 Bolt
5	Tie Down Strap
6	Fuel Line
7	Fuel Filter
8	Hose clamp

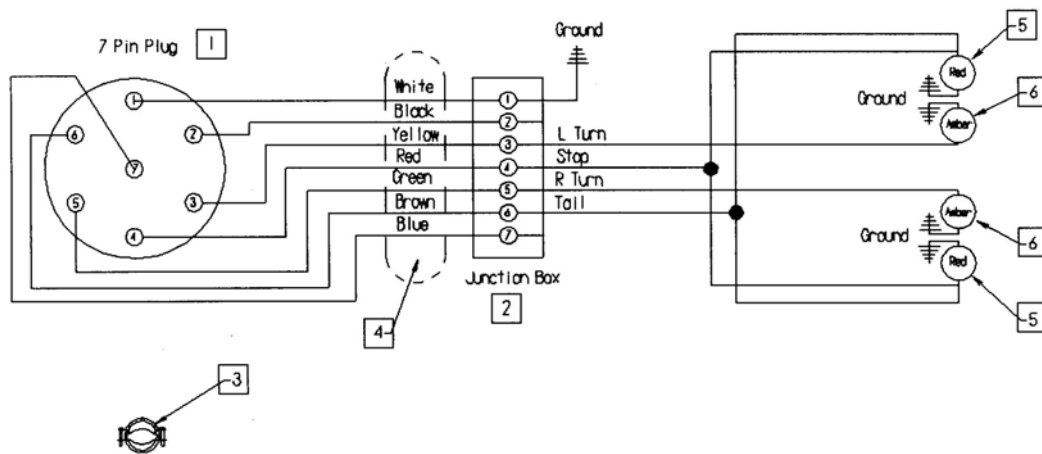
Tube Line 5500 X 2 Tool Box



Item #	Description	Item #	Description
1	Mounting Bracket	4	3/8 x 2 1/2 Hex Bolt – Nut / Lockwasher
2	1/4 x 1 Hex Bolt – Locknut	5	Tool Box with Tray
3	Large dia. Washer		

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Tube Line 5500 X 2 Running Lights

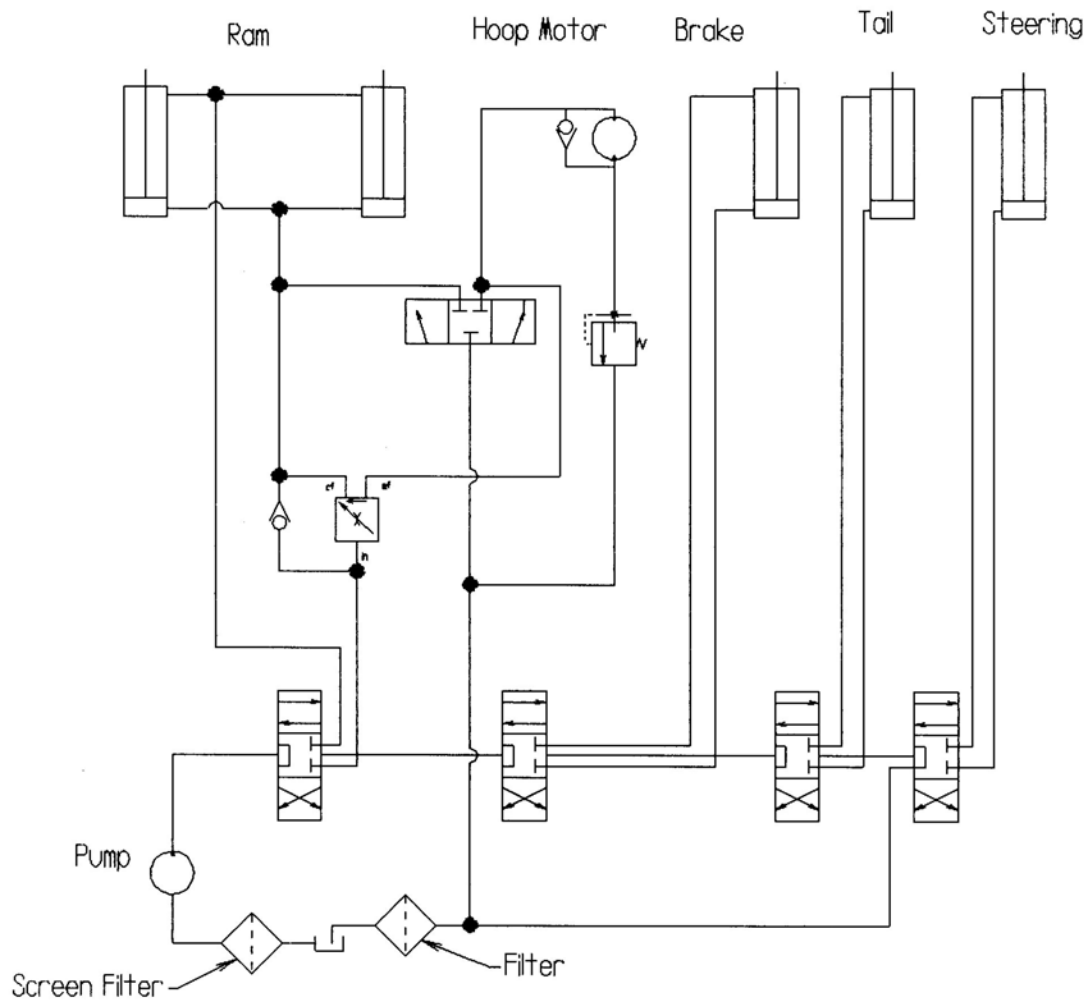


Item #	Description
1	7 Pin Plug
2	Junction Box
3	Strain Relief
4	7 Wire Conductor
5	Red Lamp
6	Amber Lamp

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Tube Line 5500 X 2

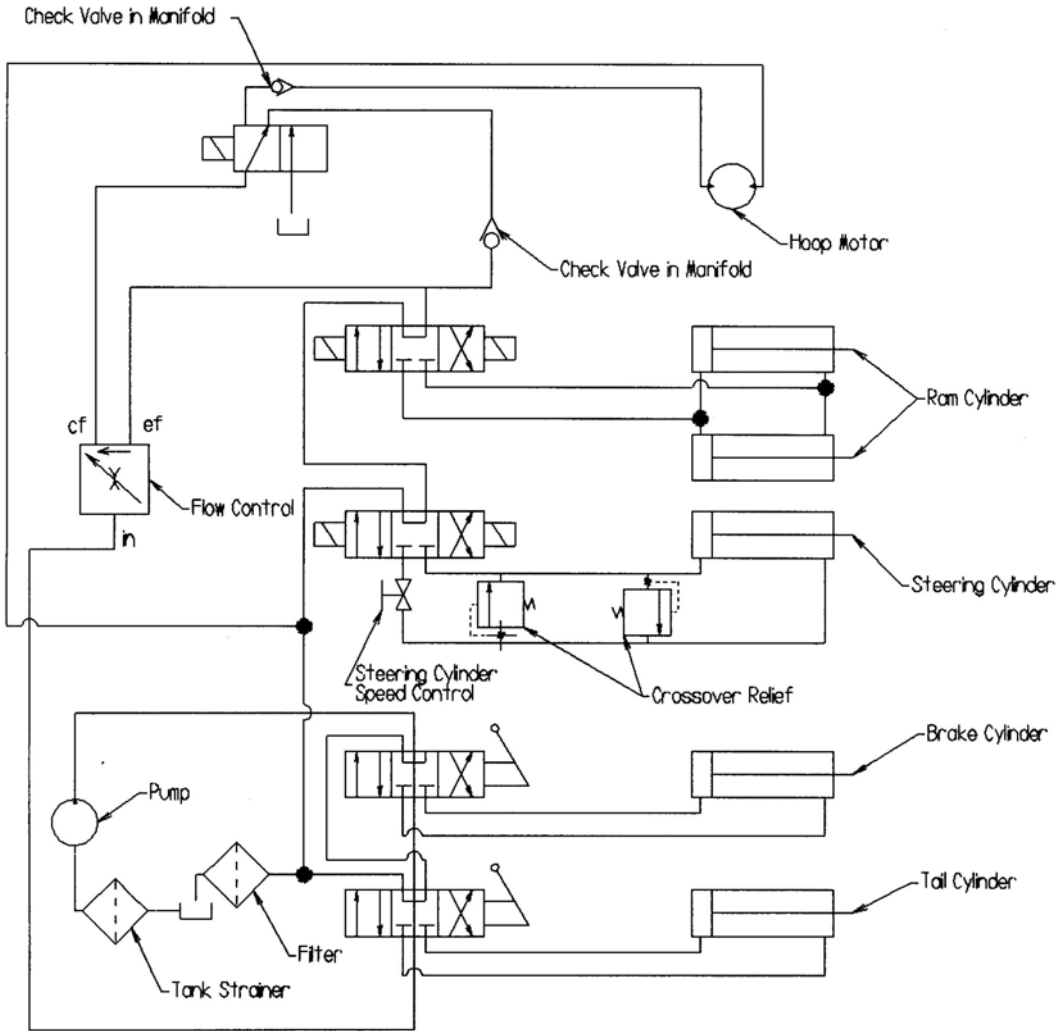
Manual Hydraulic Schematic



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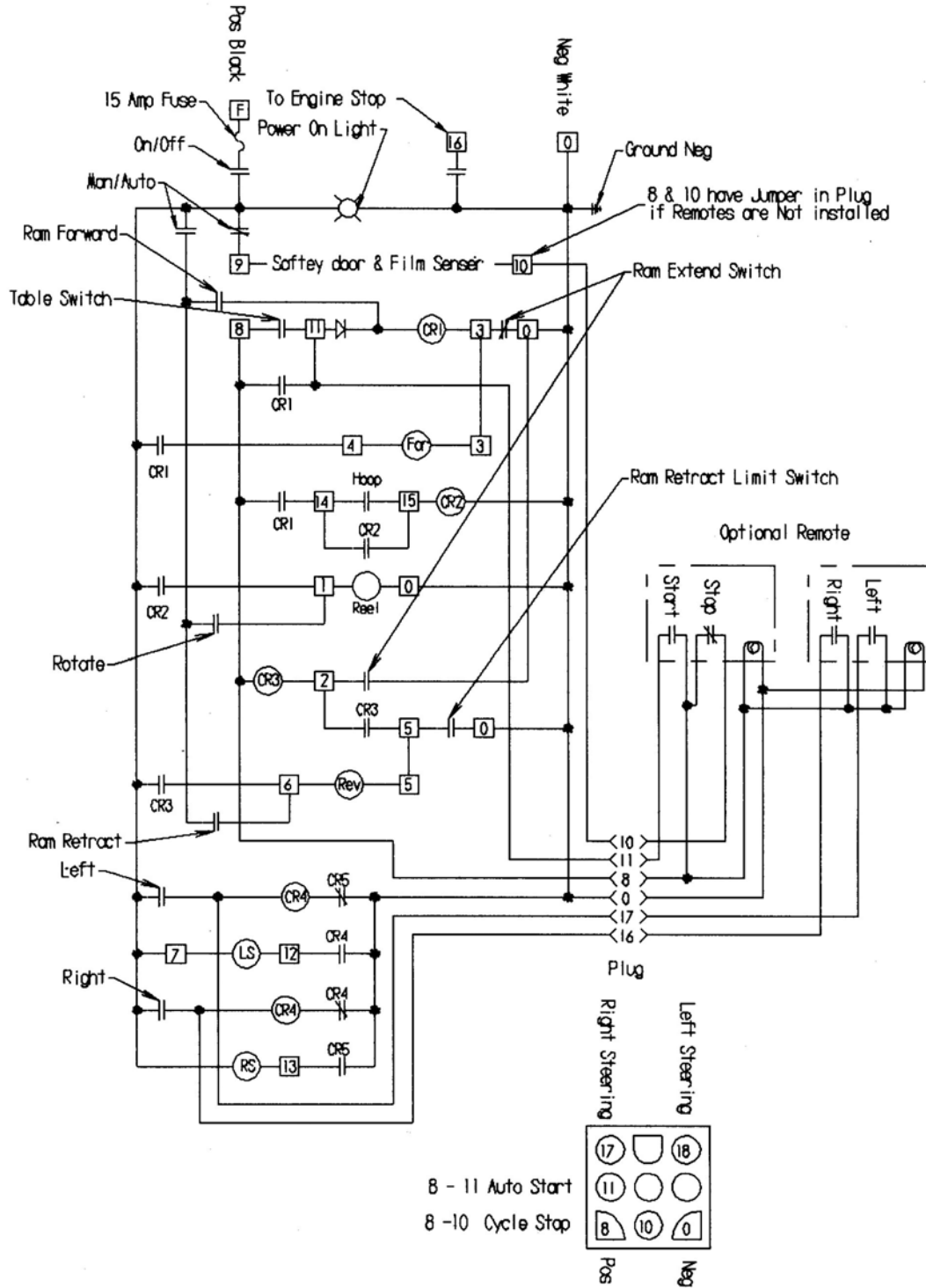
Tube Line 5500 X 2

Electric Hydraulic Schematic



Contents

Tube Line 5500 **Electric Control Panel Schematic**



Tube-Line 5500 X 2

Manual Hydraulic

Sequence of Operation

- 1 With valves in neutral position, engine running hydraulic fluid is pumped through valve bank and returned to reservoir.
- 2 Brakes, tail and steering are standard hydraulic cylinder operation.
- 3 Wrap cycle – push wrap valve in, detent will hold valve in position, fluid flows from valve through flowcontrol and is split into 2 circuits, one circuit will go to ram cylinders and the other will go to hydraulic motor. These circuits are proportioned with the lever on flowcontrol valve. With the selector valve handle in “Both” position flow will go to cylinder and motor. By changing flowcontrol handle, the cylinders will speed up or slow down accordingly. At the same time motor will change speed inversely to cylinder ie. When cylinder slows down motor will speed up.
- 4 Selector valve is used to bleed either cylinder or motor flow back to tank, or block both circuits causing both cylinder and motor to operate. Ie. With handle in wrap only position the fluid that would normally go to the cylinder will flow back to tank. With handle in ram only position motor fluid will go to tank.
- 5 Wrap cycle – pull wrap valve out, detent will hold valve in position, fluid will flow from valve port causing cylinder to retract. Fluid from other end of cylinder will return through check valve, at flowcontrol back through valve stack and to tank.
- 6 Check valve at motor lets motor freewheel in one direction without cavitating. Relief valve at motor return acts as a restrictor valve to keep motor from turning when ram cylinder is retracting.

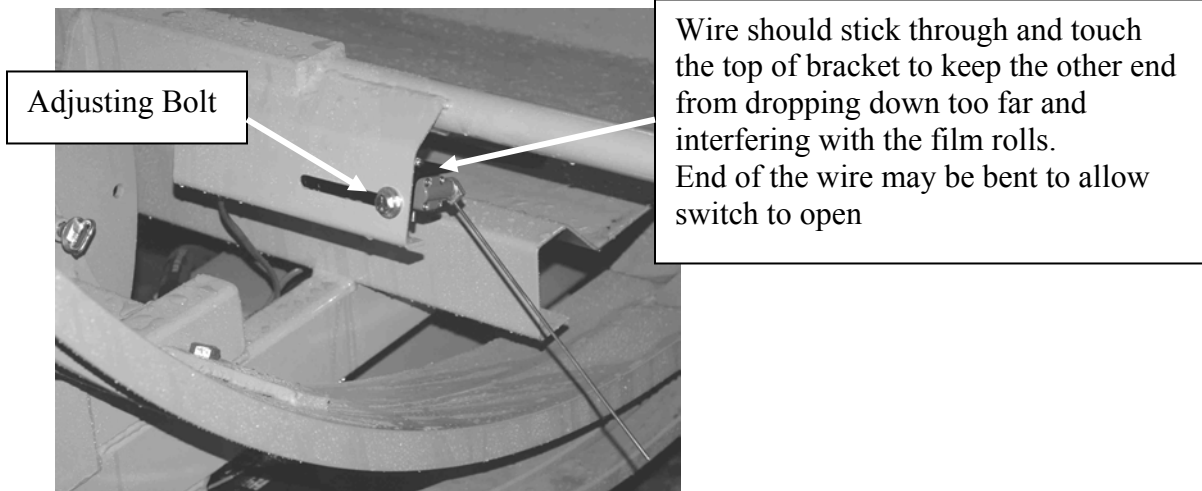
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Tube-Line 5500 X 2

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.
- 3 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.
- 4 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 5500 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.

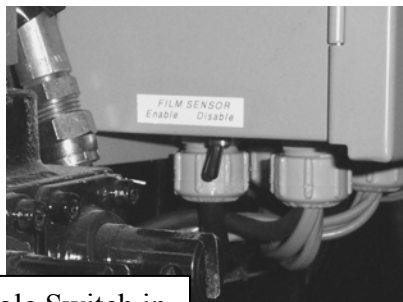
Install toggle switch into the bottom of the control panel as shown. Remove JUMPER wire and wire toggle switch in where the jumper was. The wires are not polarity sensitive. With this switch the sensor can be disabled in the “auto” position.



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

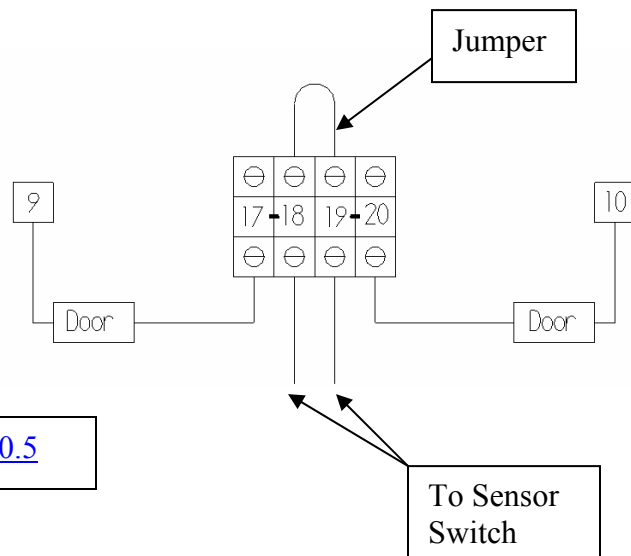
Adjust the wire arm with no plastic in the machine. Make sure the wire does not interfere with the plastic roll assy. When plastic is in the machine it will hold the wire up, causing the switch to close. Make the switch closes with the wire parallel with the bale spears.

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.

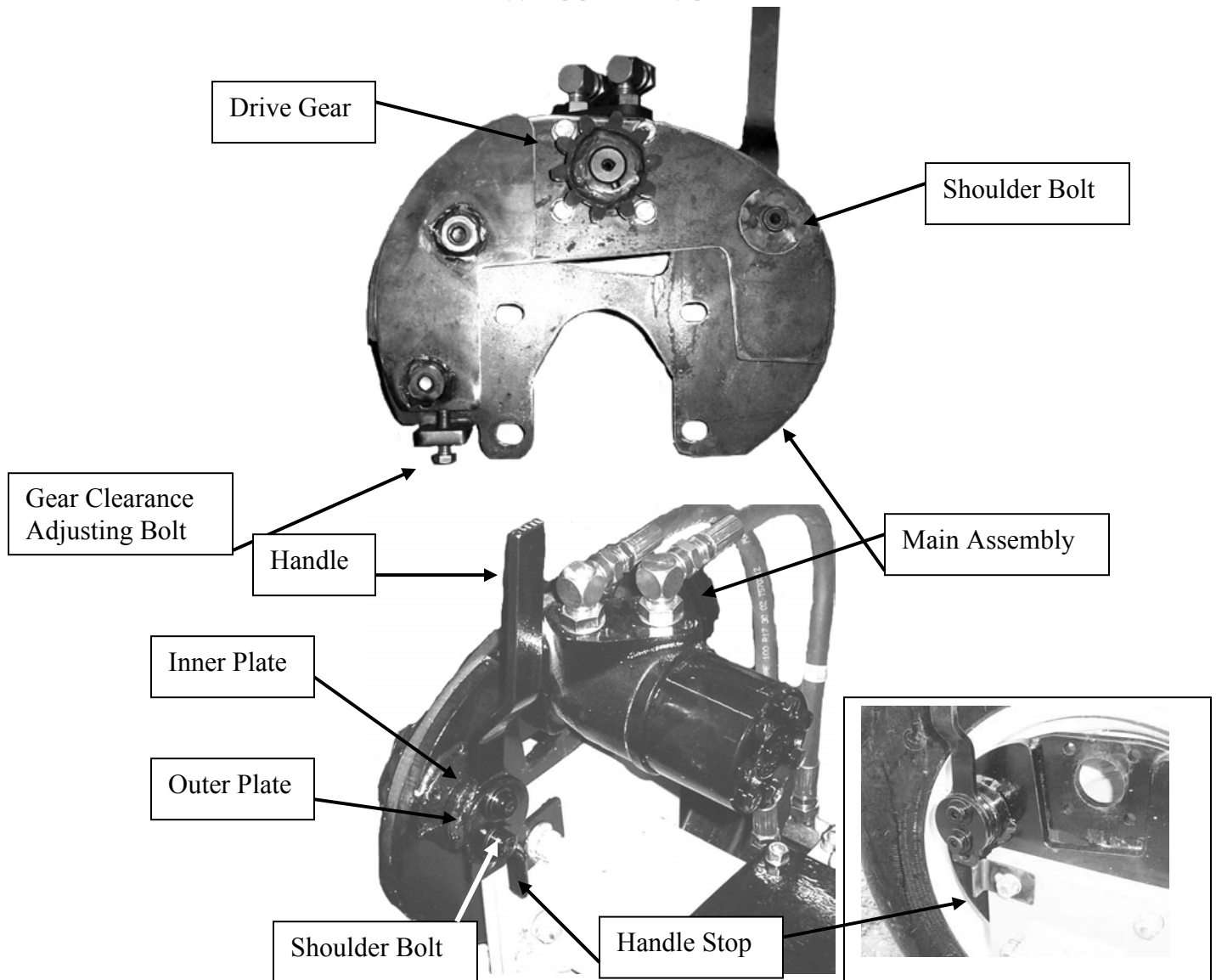


Toggle Switch in
Control Panel

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TubeLine5500 X 2 Wheel Drive



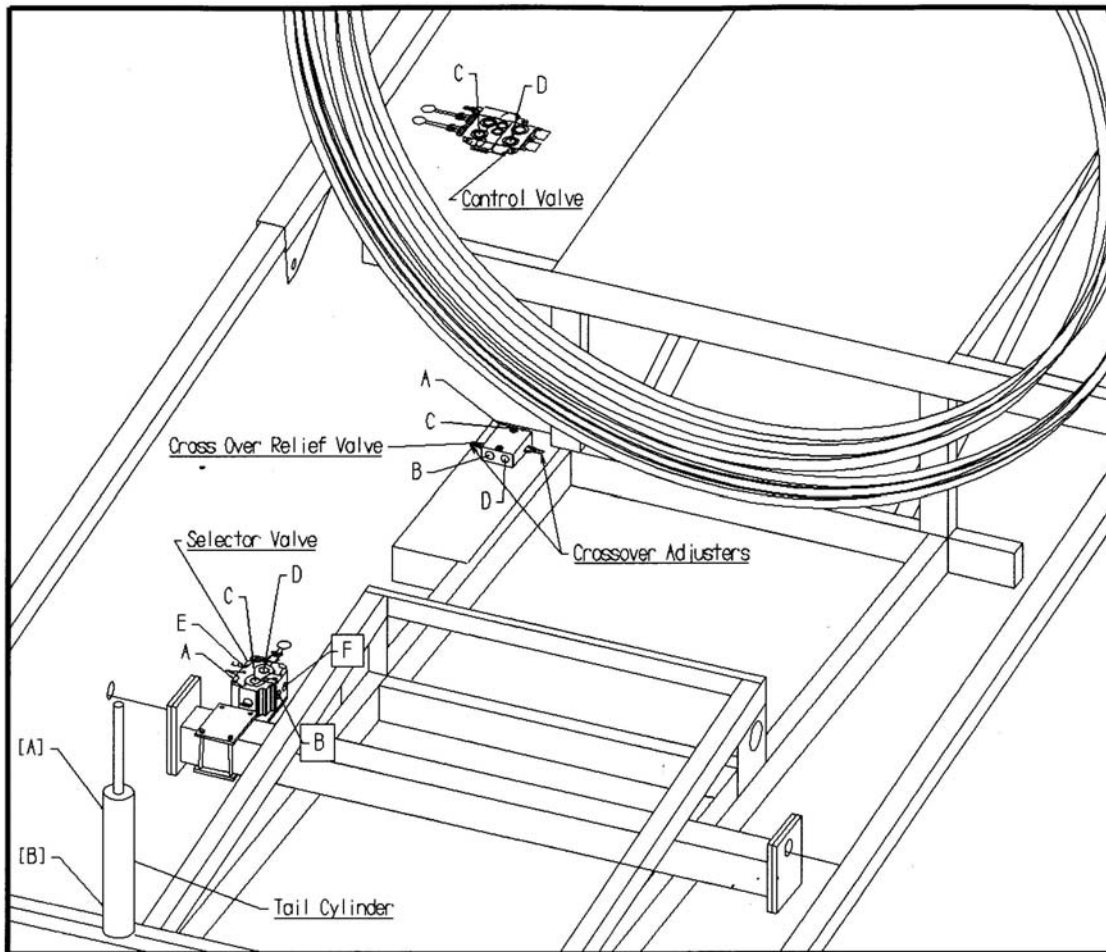
Handle Update kit	Item #	Description	Part #
#550-203-242	1	Rim with Gear (not shown)	550-200-134
Consists of	2	Main Assembly	550-200-135
2 pc c/w SAE Washer	3	Shoulder Bolt	550-200-136
	4	Gear	550-203-237
	5	Motor	550-200-138
1 pc	6	Handle	550-203-240
1 pc	7	Inner Plate	550-203-238
1 pc	8	Outer Plate	550-203-239
1 pc	9	Handle Stop	500-203-241

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TubeLine 5500 X 2

Wheel Drive

Hydraulic Valve Locations



Item #	Description
1	Crossover Relief Valve
2	Selector Valve
3	Selector Valve Mount
4	Mount Clamp

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 crossover relief valve on base of hoop wheel motor bracket with 2 pc 5/16 bolts.

Ports A and C should be facing to the front.

Mount selector valve on 1/4 x 4 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 84 from port D on control valve to port A on Crossover relief valve.

Install 3/8 in. line x 84 from port C on control valve to port C on Crossover relief valve.

Install 3/8 in. line x 60 from port B on crossover valve to port D on Selector Valve.

Install 3/8 in. line x 60 from port D on crossover valve to port C on selector valve

Install 3/8 in. line x 14 from port E on selector valve to Bottom port on Motor.

Install 3/8 in. line x 14 from port A on selector valve to Top port on Motor.

Install 1/4 in. line x 64 from port F on selector valve to Bottom port on Tail Cylinder.

Install 1/4 in. line x 64 from port B on selector valve to Top port on Tail Cylinder.

DO NOT ADJUST RELIEF VALVE –Preset at factory 1700 psi

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.

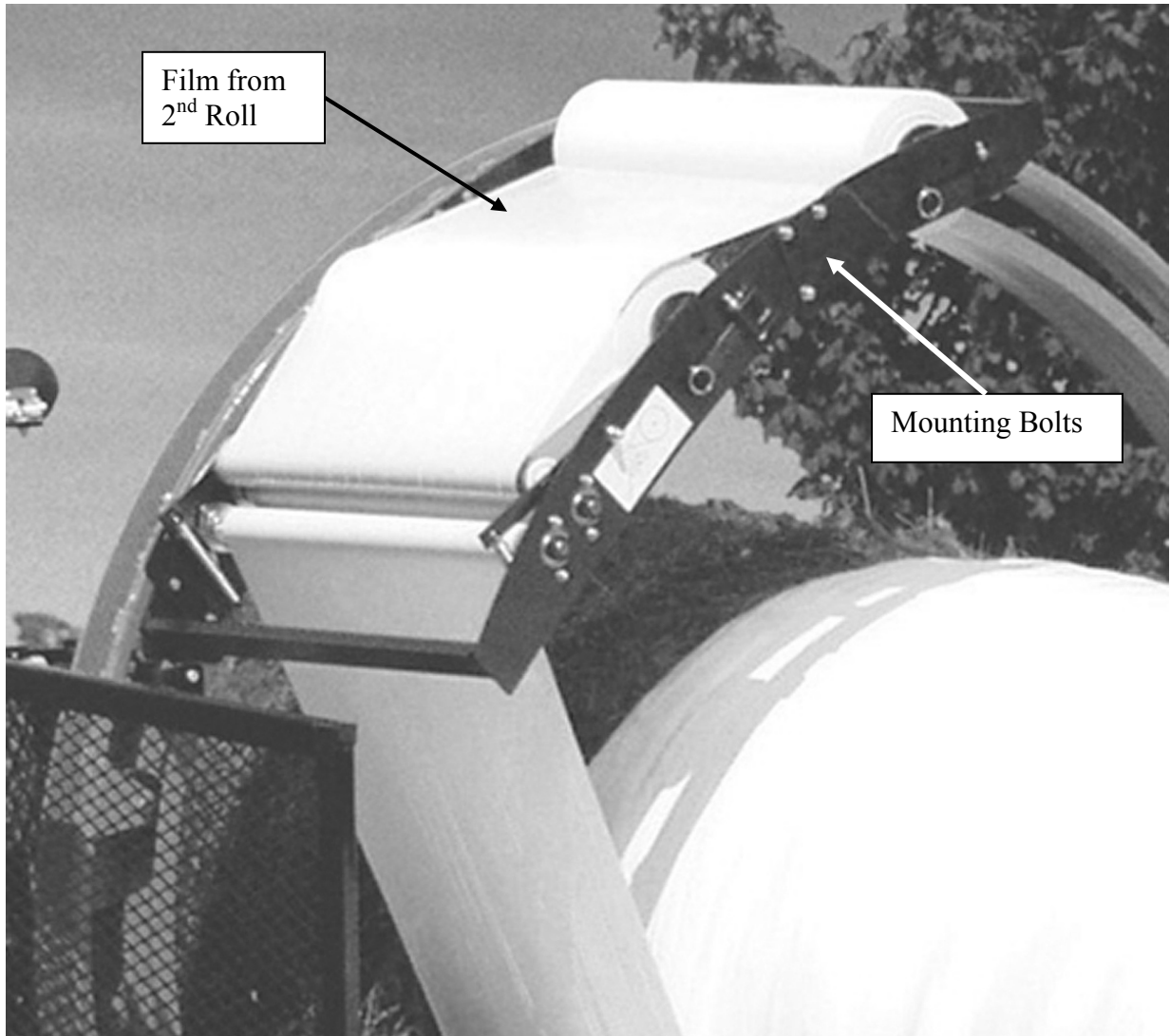
-By leaving selector valve in tail position crossover valve will function somewhat as a float valve.

-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 lock pin out (if used) and swing handle all the way down.

**Coat Motor Gear Lightly with grease before installing
TubeLine 5500 X 2
Twin Wrap Kit**



Note

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

Item #	Description
1	Twin Wrap Frame
2	Plastic Wrap Spool
3	3/8 x 1 Bolts, nut lockwasher
4	Spool Holder

TubeLine

Model TL5500 X2 & TL6500 X2

Re: Mounting Accessories (year 2003)

Remote Package consists of Pause – Cycle stop, Start – start wrap cycle,
Steering – Right/Left

1: Installing Remote Package

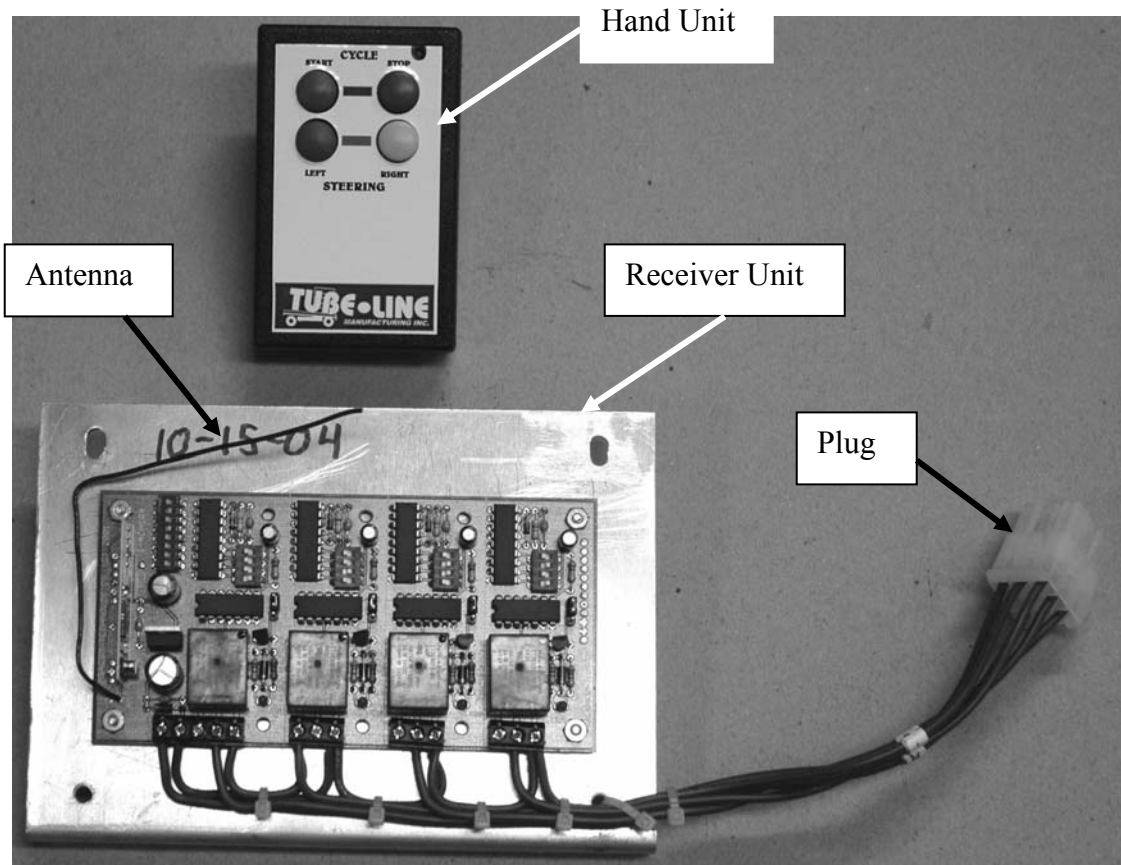
Bolt receiver assembly to inside rear right of control box with connector plug at bottom
Remove the jumper between term #8 and #10. Plug the connector together at the bottom
of the panel.

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.

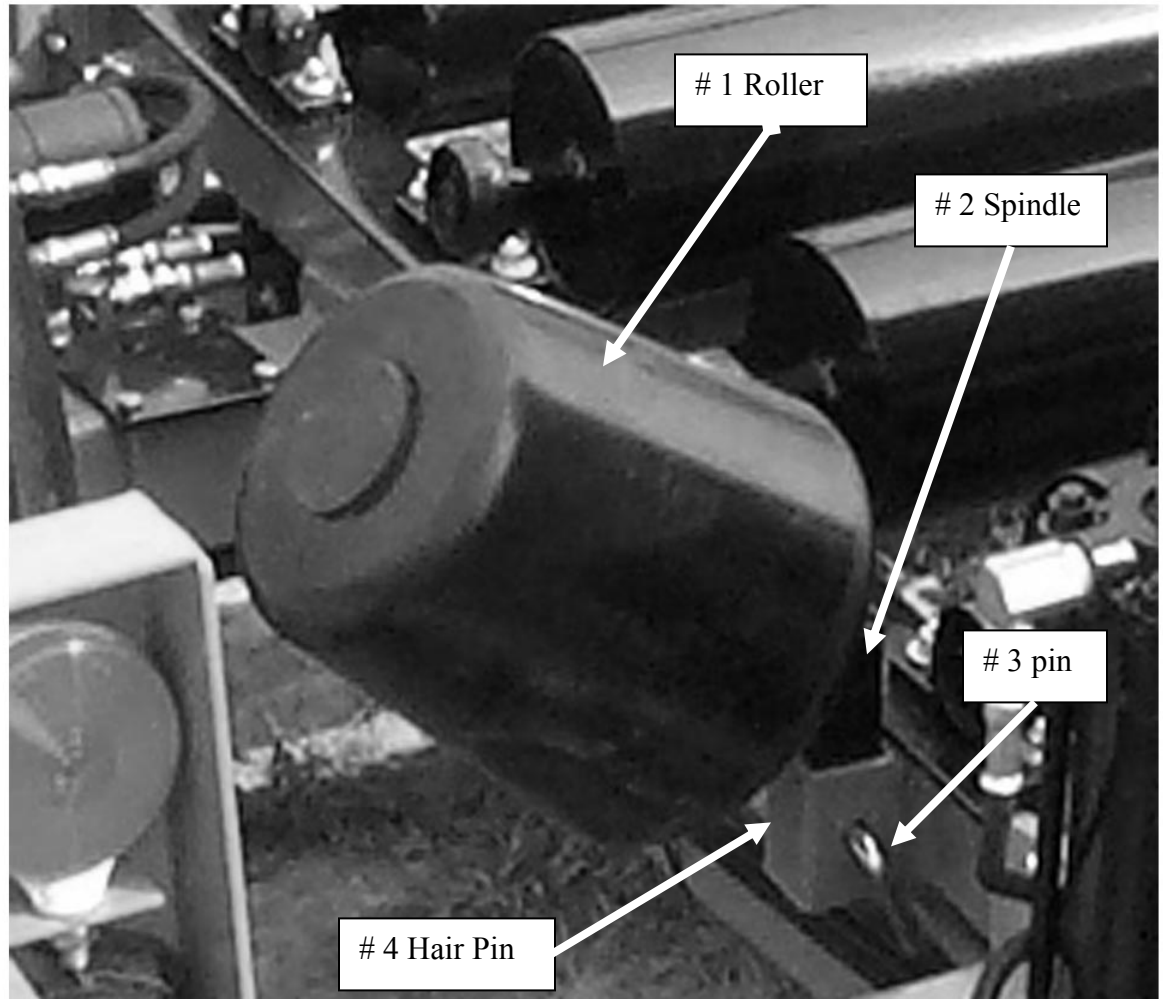
3: When using the remote start of ram, unplug the wire from the switch at the table trigger to disable the switch. Secure the end of wire somewhere so it does not get tangled in the steering of the wrapper, make sure the plug will not short out to the frame.



TubeLine 5500 X 2

Guide Roller Kit

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



Item #	Description
1	Roller
2	Spindle
3	Pin
4	Hair Pin

[Contents](#) [Parts 11.5](#)

Tube Line 5500 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 ½" hole into the side of the control panel,

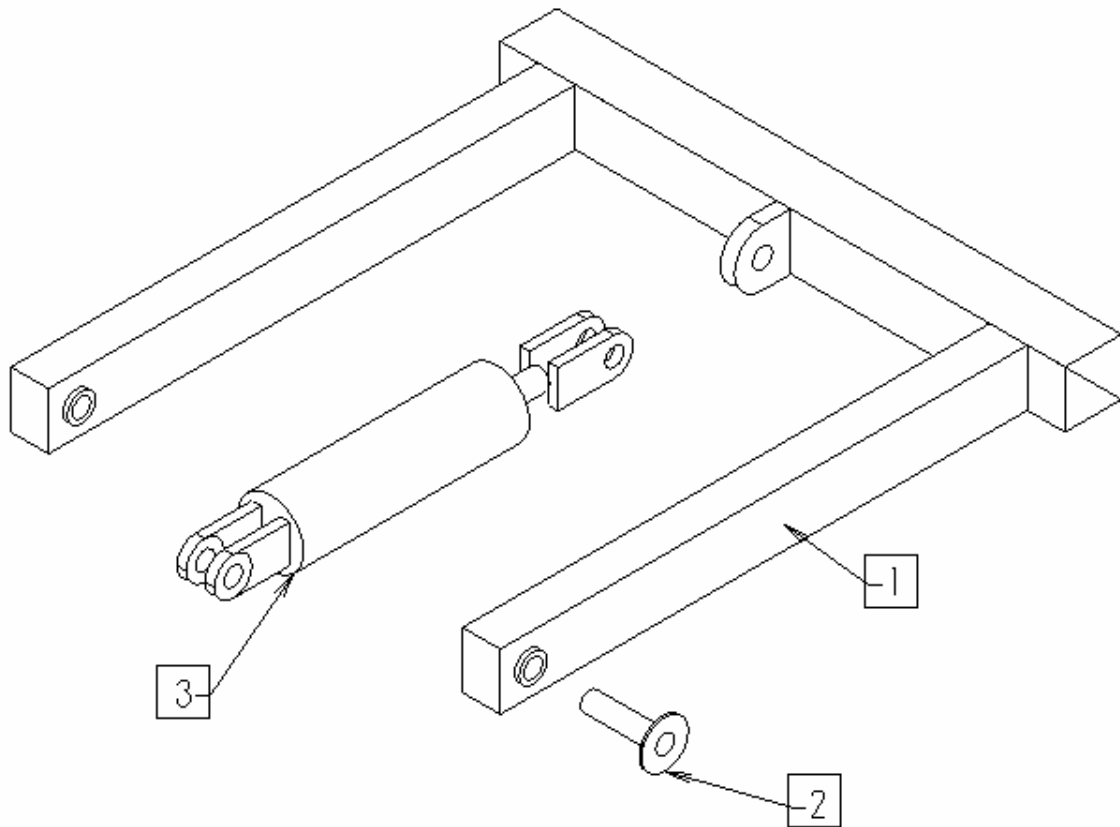


be careful that you don't damage wires on the inside. Install the switch, and wire it into the bottom of fuse block with inline fuse. This way lights are fused separate from wrapper controls.

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 the engine not revved up, over a period of time the battery will slowly discharge.

Tube – Line 5500 X 2
Leveler



Item #	Description
1	Main Stand
2	Pivot Pin
3	3 1/2 x 8 Cylinder

Page #	Ref #	Part #	Qty	Description
Hoop		Hoop		Parts 1
18	1	550-100-001	1	Hoop Outer Ring
18	2	550-100-002	1	Hoop Inner Ring
18	3	550-200-116	2	Mounting Bolt 5/8 x 2
18	4	599-100-004	2	5/8 Nut
18	5	599-100-005	2	5/8 Lockwasher
18	6	599-100-003	2	Mounting Bolt 5/8 x 3 1/2
		Hoop Wheels		
19	1	500-200-014	8	4" Wheel
19	2	500-100-015	8	Axle Bolt \ Locknut
19	3	550-200-016	8	Spanner
		Plastic Wrap Carrier		
20		550-100-072		Complete Main Wrap Assembly
20	1	550-100-089	2	Main Wrap Bracket
20	1A	550-200-090	2	Main Wrap Side Insert
20	2	550-100-005	4	1-14 UNF Castellated nut
20	3	550-100-006	4	Tensioner Roller
20	4	550-100-007	8	3/4 Flange Bearing
20	5	550-100-008	2	Small Gear
20	6	550-100-009	2	Large Gear
20	7	550-100-010	2	Gear Cover
20	8	550-200-115	2	Spool Holder
20	9	550-200-012	4	Wrap Spool
20	10	550-100-013	8	5/8 Flatwasher
20	11	550-100-014	4	5/8 Nylocknut
20	13	500-100-022	2	Plastic Pipe
20	14	500-100-021	4	Plastic Bearing
20	15	550-100-016	4	Bracket
20	16	550-100-017	4	Spacer
20	17	500-100-135	4	Spring
20	18	550-100-018	2	Axle Plastic Roller
20	19	550-100-003	2	1/2 x 2 Bolt c/w Locknut
20	20	550-100-019	16	5/16 Carriage Bolt
20	21	550-100-020	4	3/16 Keystock
20	22	550-100-021	2	Grease Fitting
20	23	599-100-006	8	10-24 x 3/4 Machine Bolt
20	24	550-200-100	8	3/8 x 1 #5 bolt
20	25	550-200-101	8	3/8 locknut

20	26	550-200-102	2	3/8 x 2 1/2 bolt
20	27	550-200-103	2	Latch
20	28	550-200-104	2	3/16 lynch pin

Page #	Ref #	Part #	Qty	Description
		Hoop Brace Assembly	Parts 2	
21	1	5X2-100-100	1	Right Hoop Brace
21	2	5X2-100-101	1	Left Hoop Brace
21	3	5X2-100-102	1	Right Hoop Post
21	4	5X2-100-103	1	Left Hoop Post
21	5	599-100-104	2	Switch Adjuster Screw
21	6	5X2-100-105	1	Automatic Control Panel Mount
21	7	5X2-100-106	1	Manual Control Mount
21	8	599-100-110	4	1/2 x 4 1/2 Bolt
21	9	5X2-100-110	1	Left Bale Deflector
21	10	5X2-100-111	1	Right Bale Deflector
21	11	599-100-111	14	3/8 x 3 Bolts
		Right Safety Guard		
22	1	5X2-100-022 R	1	Right Safety Door
22	2	5X2-100-024 R	1	Right Side Safety Door Bracket
22	3	5X2-100-120	1	Top Roller Bracket
22	4	5X2-100-121	1	Top Roller
22	5	5X2-100-122	4	Bottom Roller
22	6	500-100-083	2	1/2 x 3 Bolts
22	7	599-100-111	2	3/8 x 3 Bolts
22	8	599-100-031	2	3/8 x 1 1/2 Bolts
		Left Safety Guard		
23	1	5X2-100-023 L	1	Left Safety Door
23	2	5X2-100-025 L	1	Left Side Safety Door Bracket
23	3	5X2-100-120	1	Top Roller Bracket
23	4	5X2-100-121	1	Top Roller
23	5	5X2-100-122	4	Bottom Roller
23	6	500-100-083	2	1/2 x 3 Bolts
23	7	599-100-111	2	3/8 x 3 Bolts
23	8	599-100-031	2	3/8 x 1 1/2 Bolts
23	9	550-200-050	1	Hoop Lock Pin

Page #	Ref #	Part #	Qty	Description
		Ram Cylinder Support	Parts 3	
24	1	5X2-100-130	1	Right Cylinder Support Bracket
24	2	5X2-100-131	1	Left Cylinder Support Bracket
24	3	5X2-100-132	1	Right Cylinder Clamp
24	4	5X2-100-133	1	Left Cylinder Clamp
24	5	550-200-109	2	Cylinder Support Block
24	6	5X2-100-134	2	5/16 x 1 1/4 Bolt
24	7	599-100-111	2	3/8 x 3 Bolt
24	8	500-100-046	4	3/8 x 1 Bolt
24	9	500-100-083	4	1/2 x 3 Bolt
		Hoop Drive		
25	1	5X2-100-049	1	Drive Wheel Base
25	2	500-100-050	1	Hydraulic Motor Char Lynn 101-1005
25	3	500-100-051	1	Motor Hub
25	4	500-100-052	1	Drive Wheel
25	5	500-100-053	4	1/2 x 3 UNF Bolt
25	6	500-100-054	4	1/2 Wheel Nut
25	7	500-100-055	2	5/8 x 1 1/2 Bolt
25	8	500-100-056	2	5/8 Locknut
25	9	500-100-057	4	3/8 x 3/4 Bolt
25	10	500-100-038	4	3/8 Lockwasher
25	11	500-100-059	1	Check Valve (maual model only)
25	12	500-100-060	1	Wheel Washer
25	13	500-100-061	1	1/4 x 1 Bolt & Lockwasher
25	14	500-101-222	1	Relief Valve (manual model only)
25	15	500-101-231	1	Wheel Tensioner Spring
25	16	500-101-232	1	Spring Tensioner Bolt
25	17	500-100-076	2	1/2 Nut
25	18	5X2-100-090	1	Base Bracket
25	19	599-100-031	4	3/8 x 1 1/2 Bolt
		Axle / Spindle / Hub	Parts 3.5	
26	1	500-100-063	4	Inner Seal
26	2	500-100-064	4	Inner Bearing
26	3	500-100-065	4	Inner Bearing Race
26	4	500-100-066	4	Hub
26	5	500-100-067	4	Outer Bearing Race
26	6	500-100-068	4	Outer Bearing
26	7	500-100-069	4	Flatwasher
26	8	500-100-070	4	Castellated Nut
26	9	500-100-071	4	Cotter Pin
26	10	500-100-072	20	Wheel Stud
26	11	500-100-073	4	Dust Cap

Page #	Ref #	Part #	Qty	Description
26	12	550-200-001	4	Rear Spindle Assy
		Front Axle		Parts 4
27	1	500-100-152	1	7/8 x 8 Bolt
27	2	500-100-153	1	7/8 Locknut
27	3	550-111-012	2	Bushing (1-1/8 x 7/8 x 1-1/2)
27	4	550-221-008	1	Tongue Bracket
27	5	550-111-006	2	Rod End R Thread
27	6	550-111-003	2	3/4 Jam Nut (NF RH)
27	7	550-221-001	2	Tie Rod
27	8	550-111-007	2	Rod End L Thread
27	9	550-111-002	2	3/4 Jam Nut (NF LH)
27	10	550-111-004	4	9/16 NF Slotted Hex Nut
27	11	550-111-005	4	1/8 x 1 Cotter Pin
27	12	550-111-011	2	Tongue Bracket Seal CR20952
27	13	550-111-010	2	Bearing Cone (13686)
27	14	550-111-009	2	Bearing Cup (13620)
27	15	550-221-013	1	Tongue Timkin Pin
27	16	550-111-014	3	13/16 Flat Washer
27	17	550-111-015	3	3/4 Slotted Hex Nut
27	18	550-111-016	3	3/16 x 2 Cotter Pin
27	19	550-200-080	4	Spindle Bearing Cone L44643
27	20	550-200-081	4	Spindle Bearing Cup L44610
27	21	550-200-082	4	Spindle Bearing Seal CR523696
27	22	550-100-083	1	Left Spindle
27	23	550-100-084	1	Right Spindle
27	24	550-100-085	2	Spindle Timkin Bolt
		Brakes		
28	1	5X2-100-028	1	Brake Rocker Tube
28	2	550-100-029	2	Brake Eccentric
28	3	500-100-113	2	1/2 x 3 1/2 Bolt
28	4	500-100-075	2	1/2 Lockwasher
28	5	500-100-076	2	1/2 Nut
28	6	500-100-082	1	2 1/2 x 8 Hydraulic Cylinder

Parts 5

Page #	Ref #	Part #	Qty	Description
		Rear Roller		
29	1	500-100-086	5	Large Roller
29	2	5X2-100-007	1	Riser Frame
29	3	5X2-100-030	2	Riser Link
29	4	5X2-100-031	1	Right Light Bracket
29	5	5X2-100-032	1	Left Light Bracket
29	6	500-100-030	10	1" Bearing
29	7	5X2-100-033	2	Red Reflector
29	8	5X2-100-034	2	Amber Light
29	9	5X2-100-035	2	Red Light
29	10	599-100-031	20	3/8 x 1 1/2 Bolt
29	11	5X2-100-036	4	3/8 x 4 Bolt
29	12	550-200-116	4	5/8 x 2 Bolt
29	13	500-100-119	4	3/8 x 1 1/4 Bolt
		Tail		
30	1	550-100-033	1	Tail Base
30	2	500-100-086	5	Large Roller
30	3	500-100-099	1	4" Roller
30	4	550-200-106	3	2 7/8" Roller
30	5	550-100-092	6	3/4" Tube End Nylatron Bearing
30	6	550-100-030	12	1" Bearing
30	7	599-100-107	1	3 x 12 Hydraulic Cylinder
30	8	599-100-035	1	Tail Tiebar
30	9	599-100-031	28	3/8 x 1 1/2 Bolt
30	11	550-100-037	4	5/16 x 1 1/2 Flathead Bolt
30	12	599-100-008	2	1 x 4 Bolt
30	13	599-100-009	2	1" Nylocknut
30	14	550-200-002	2	First Small Roller Bracket
30	15	550-200-003	2	2 nd Small Roller Bracket
30	16	550-200-004	1	Last Right Roller Bracket
30	17	550-200-005	1	Last Left Roller Bracket
		Bale Saddle		
				Parts 5.5
31	1	5X2-100-140	1	Left Bale Guide
31	2	5X2-100-141	1	Right Bale Guide
31	3	5X2-100-142	1	Bale Trigger Plate
31	4	550-200-108	1	3/16 Lynch Pin
31	5	5X2-100-143	1	Grommet
31	6	550-200-104	4	3/16" Lynch pin
31	7	500-100-008	4	1/2 x 2 Bolt

Page #	Ref #	Part #	Qty	Description
		Bale Ram		Parts 6
32	1	5X2-100-150	1	Front Ram Member
32	2	5X2-100-151	1	Right Ram Tube
32	3	5X2-100-152	1	Right Push-off Arm
32	4	5X2-100-153	1	Left Ram Tube
32	5	5X2-100-154	1	Left Push-off Arm
32	6	5X2-100-155	2	Push-off Arm Pivor Pin
32	7	500-100-048	1	Push-off Tube
32	8	550-100-043	2	Hydraulic Ram Cylinder
32	9	5X2-100-156	4	Ram Axle
32	10	5X2-100-157	4	Ram Roller
32	11	5X2-100-158	4	Snap Ring
32	12	5X2-100-159	4	Grease Fitting 1/4-28
32	13	5X2-100-160	4	3/4" UNF Nut
32	14	500-100-042	4	Cylinder Pin
32	15	5X2-100-161	4	5/8 x 1 1/2 UNF Bolt #5
32	16	500-100-087	2	3/8 x 3/4 Bolt

		Side Rail		Parts 6.5
34	1	5X2-100-170	1	Right SideRail
34	2	5X2-100-171	1	Left Side Rail
34	3	5X2-100-172	2	Guard
34	4	5X2-100-173	1	Right Front CylinderMount
34	5	5X2-100-174	1	Left Front CylinderMount
34	6	5X2-100-175	2	Reinforcing Plate
34	7	5X2-100-161	4	5/8 x 1 1/2 UNF Bolt #5

		Push Off		
35	1	5X2-100-180	1	Push Off Left Front Arm
35	2	5X2-100-181	1	Push Off Right Front Arm
35	3	5X2-100-182	1	Push Off Left Rear Arm
35	4	5X2-100-183	1	Push Off right Rear Arm
35	5	599-100-016	1	Push Plate
35	6	599-100-017	2	X Bar
35	7	599-100-018	4	3/4 x 5 Hinge Bolt
35	8	599-100-019	4	3/4 Nylocknut
35	9	550-200-104	4	3/16 Linch Pin

		Tongue		
36	1	550-100-051	1	Main Tongue
36	2	550-100-052	1	Swinging Tongue
36	3	550-100-053	1	Sliding Tongue
36	4	500-100-151	1	Tongue Latch
36	5	500-100-154	1	Tongue Pin
36	6	500-100-155	2	5/8 x 5 Bolt

36	7	500-100-056	4	5/8 Locknut
36	8	500-100-157	2	5/8 x 4 1/2 Bolt
36	9	500-100-160	1	Tongue Holder
36	10	500-100-112	1	Hair Pin
36	11	500-100-103	1	2 x 16 Hydraulic Cylinder

Page #	Ref #	Part #	Qty	Description
				Parts 7
				<u>Mud Flap</u>
37	1	550-100-054	2	Mud Flap
37	2	500-100-164	4	Metal Strip
37	3	500-100-165	12	5/16 x 1 Bolt
37	4	500-100-092	12	5/16 Lockwasher
37	5	500-100-093	12	5/16 Nut
				<u>Hydraulic Tank</u>
38	1	5X2-100-190	1	Hydraulic Tank
38	2	500-100-169	1	Breather Cap
38	3	500-100-170	1	Filler Plug 1 1/4 Pipe
38	4	500-100-171	1	Sight Gauge
38	5	500-100-172	1	Filter Base
38	6	500-100-173	1	10 Micron Filter
38	7	500-100-174	1	Magnetic Drain Plug
38	8	500-100-175	1	Suction Filter
38	9	500-100-176	4	3/8 x 1 Bolt
38	10	500-100-038	4	3/8 Lockwasher
38	11	500-100-039	4	3/8 Nut
				<u>Pump / Motor</u>
39	1	500-100-179	1	13 HP Honda Engine (rope start QA)
39	1	5X2-100-200	1	13 HP Honda Engine (electric start QNR)
39	2	500-100-181	1	Hydraulic Pump Prince # SP20A11A9HR
39	3	500-100-182	1	Engine – Pump Adapter
39	4	500-100-183	1	Love Joy Coupling (Pump Side)
39	5	500-100-184	1	Coupling Spacer
39	6	500-100-185	1	Love Joy Coupling (Engine Side)
39	7	500-100-176	4	3/8 x 1 Bolt
39	8	500-100-038	4	3/8 Lockwasher
39	9	500-100-188	2	3/8 x 1 1/4 Bolt
39	10	500-100-038	2	3/8 Lockwasher
39	11	500-100-190	2	3/8 Flatwasher

Page #	Ref #	Part #	Qty	Description
		Manual Valve Bank		Parts 7.5
40	1	500-200-192	1	Prince RD532CCCAA5A4B1
40	2	500-100-193	1	Flow Control Prince RD-150-08
40	3	500-100-194	1	1/2" Check Valve
40	4	500-100-195	1	Selector Valve
40	5	500-101-222	1	Relief Valve Prince RD18375
40	6	500-200-193	1	Prince # LS3010-1
40	7	550-200-112	1	Ball Valve
		Automatic Valve Bank		Parts 8
41	1	500-100-200	2	Continental Tandem Center 12 VDC VS12MBLGB75L
41	2	500-100-201	1	Continental Single Center 12 VDC VS12M1AGB75L
41	3	500-100-193	1	Flow Control Prince RD-150-08
41	4	550-100-055	1	2 Spool Monoblock Valve c/w Power Beyond
41	5	550-100-056	1	Triple Manifold Block
41	6	550-200-006	1	Steering Speed Control (needle valve)
41	7	550-200-007	5	12 VDC 48W Valve Coil
41	8	550-200-112	1	Ball Valve
41	9	550-200-113	2	Manifold mount
		Limit Switch		
42		550-100-060	3	Limit Switch Assembly
42	1	550-100-057	1	Limit Switch Body
42	2	550-100-058	1	Limit Switch Actuator
42	3	550-100-059	2	Limit Switch Arm
42	4	550-100-082	2	Wire Clamp
42	5	599-100-049	2	Wire Arm
42	6	550-100-086	12	PVC Box Connector
42	7	550-200-086		Metric to Pipe Adaptor
42	8	550-200-087	3	NO/NC Contact
		Control Panel		Parts 8.5
43	1	550-200-061	1	Control Panel
43	2	500-100-221	5	Control Relay
43	3	500-100-223	5	11 pin Relay Base
43	4	550-100-079	1	15 amp Fuse
43	5	550-150-083	1	Din rail Fuse Holder
43	6	550-150-084	20	Din rail Terminal Block
43	8	550-100-075	1	Panel Rotate Button Push
43	9	550-100-076	2	Panel on/off Hand/Auto Switch Dial
43	10	550-100-077	2	Panel Ram and Steering Switch Dial

43	11	550-100-078	1	LED (light emitting diode)
43	12	550-150-085	1	Diode 1N5406 3 amp 600 V (100 V will work)

Page #	Ref #	Part #	Qty	Description	Parts 9
		Fender			
44	1	5X2-100-210	1	Left Fender	
44	2	5X2-100-211	1	Right Fender	
44	3	5X2-100-212	1	Engine Shield	
44	4	5X2-100-213	1	Rear Bracket	
44	5	500-100-046	2	3/8 x 1 Bolt	
		Bale Switch			
45	1	5X2-100-220	1	Bale Switch Base	
45	2	5X2-100-221	1	Switch	
45	3	500-100-046	1	3/8 x 1 Bolt	
45	4	5X2-100-222	1	3/8 Coupling Nut	
45	5	5X2-100-223	1	Push Rod	
45	6	500-100-062	1	Spring	
45	7	550-200-086	1	Metric to Pipe Adaptor	
45	8	550-100-082	1	Wire Clamp	
45	9	500-100-221	1	Battery Holddown	
45	10	500-100-212	1	5/16 x 7 Bolt	
		Throttle			
46	1	599-100-067	1	Engine Throttle Bracket	
46	2	5X2-100-230	1	Swing Link	
46	3	550-100-065	3	Ball Joint	
46	4	599-100-069	1	1/4 x 4 UNF Rod	
46	5	500-100-114	1	1/2 Locknut	
46	6	550-100-067	1	Link Pivot	
46	7	5X2-100-231	1	Control Rod	
46	8	550-100-069	1	Throttle Spring	
46	9	5X2-100-232	1	Striker Block	
46	10	5X2-100-233	1	Main Link	
46	11	599-100-070	2	5/16 x 1 1/2 Bolt	
46	12	599-100-031	2	3/8 x 1 1/2 Bolt	
46	13	500-100-165	3	5/16 x 1 Bolt	
46	14	5X2-100-234	1	1/2" SAE Washer	

Page #	Ref #	Part #	Qty	Description
		Fuel Tank / Mount		Parts 9.5

47	1	550-204-100	1	Fuel Tank
47	2	5X2-100-240	1	Fuel Tank Mount
47	3	5X2-100-143	1	Grommet
47	4	500-100-046	1	3/8 x 1 Bolt
47	5	550-204-110	1	Tie Down Strap
47	6	550-204-107	1	1/4 Fuel Line
47	7	550-200-111	1	Fuel Filter
47	8	550-204-109	8	Hose Clamp

		Tool Box		Parts 10
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48	1	550-204-112	1	Tool Box Mount
48	2	550-204-113	4	1/4 x 1 Hex Bolt with Locknut
48	3	550-204-114	4	1/4 Large dia Washer
48	4	550-200-102	2	3/8 x 2 1/2 Bolt
48	5	550-204-115	1	Tool Box

		Running Lights		
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49	1	550-200-117	1	7 Pin Plug
49	2	550-200-118	1	Junction Box
49	3	550-200-119	1	Strain Relief
49	4	550-200-120	1	7 Wire Conductor
49	5	550-200-121	2	Red Lamp
49	6	550-200-122	2	Amber Lamps

		Accessories		
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		Film Sensor		Parts 10.5
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56	1	550-200-234	1	Switch Bracket
56	1	550-100-060	1	Limit Switch (check page 39)
56	1	550-200-235	1	Toggle Switch

		Wheel Drive		
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57	1	550-203-242	1	Rim with Gear (not shown)
57	2	550-200-135	1	Main Assembly
57	3	550-200-136	3	Shoulder Bolt
57	4	550-203-237	1	Gear
57	5	550-200-138	1	Hydraulic Motor
57		550-203-240	1	Lock Handle
57		550-203-238	1	Inner Plate
57		550-203-239	1	Outer Plate
57		550-203-241	1	Handle Stop

				Parts 11
Wheel Drive				
58	1	550-200-120	1	Crossover Relief Valve
58	2	550-200-121	1	Selector Valve
58	3	550-200-122	1	Selector Valve Mount
58	4	550-200-123	1	Mount Clamp
Twin Wrap Kit				
60	1	550-200-139	2	Twin Wrap Frame
60	2	550-200-140	4	Plastic Wrap Spool
60	3	550-200-141	10	3/8 x 1 Bolt c/w Nut lockwasher
60	4	550-200-115	4	Spool Holder
Re: Mounting Accessories (year 2003) (remote				
61			1	Hand Unit (Transmitter)
61			1	Receiver Unit (Receiver)
Guide Roller Kit				Parts 11.5
62	1	550-200-238	2	Roller
62	2	550-200-239	2	Spindle
62	3	550-200-233	2	Pin
62	4	500-100-112	2	Hair Pin
Lights				
63		5X2-100-201	2	Light Bracket
Leveler				
64	1	5X2-100-205	1	Main Stand
64	2	5X2-100-206	2	Pivot Pin
64	3	5X2-100-207	1	3 1/2 x 8 Hydraulic Cylinder

Dated -- Nov 24 2004