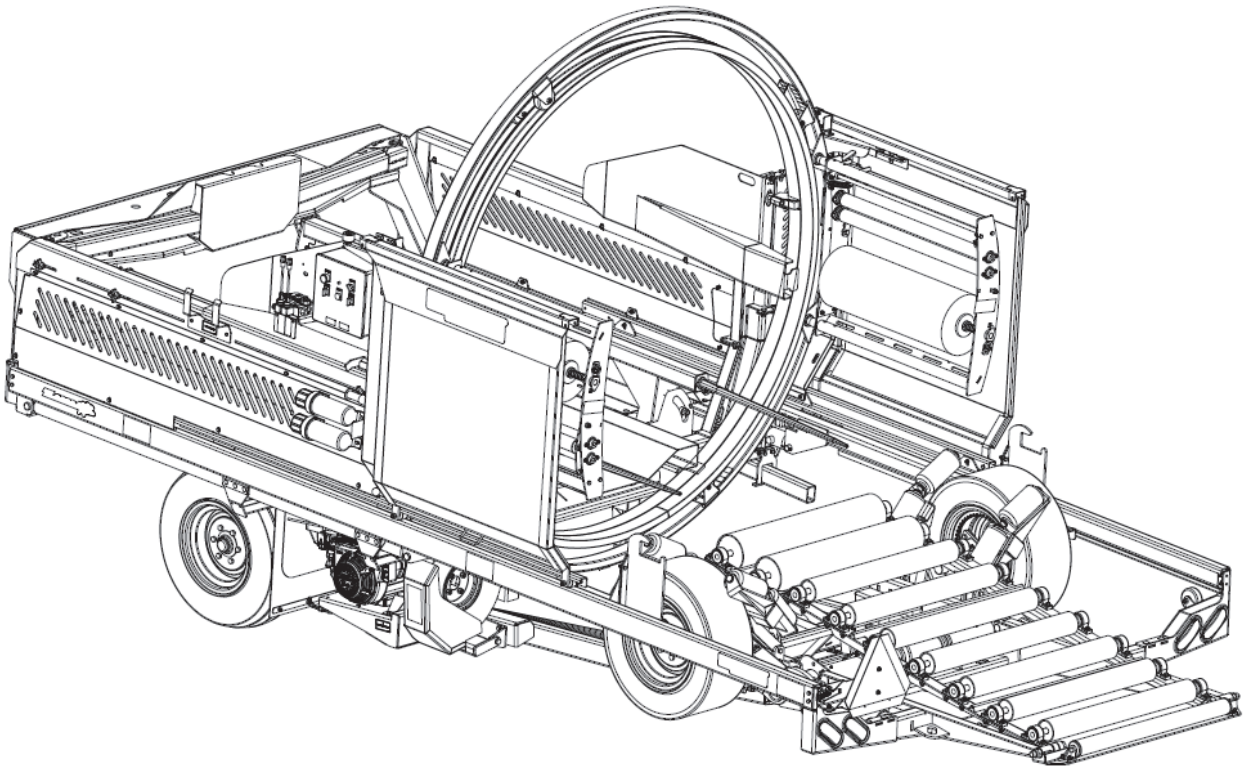
Tube-Line Balewrapper

TL6000AX2



Operator's Manual
& Parts Book

TUBE•LINE™ MANUFACTURING LTD

42005 (17/07/18)

Operator's Manual

Thank you for choosing the Tubeline TL6000AX2 Balewrapper.
Our hope is that it will give you many years of productive service.
This machine is designed to wrap bales in a continual line with plastic film.
Please read and understand this manual and the machine before operation.

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 materials 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 its factory or elsewhere, at its 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
Tubeline Manufacturing Ltd.

Serial Number

The implement serial number is located on the front left corner of the frame. *(See below)*
This number helps us to track changes and improvements and must be mentioned when ordering parts or requesting service. For your convenience, a space has been provided inside the front cover of this manual to record the serial number, model number, purchase date, and dealer name.

Model # : _____

Serial # : _____

Date Purchased : _____

Dealer Name : _____

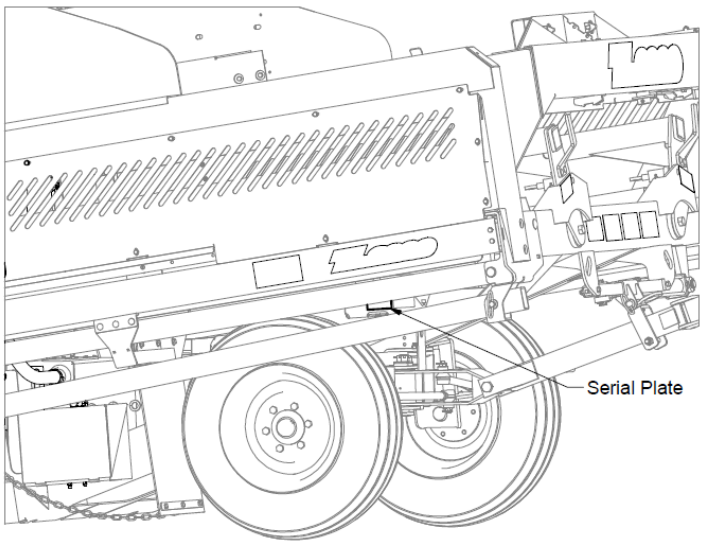


Table of Contents

Section 1 - 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!

Safety Signal Words / Safety Messages

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 Ltd.

Newest manual version can be found at www.tubeline.ca/support

6455 Reid Woods Drive,
R. R. #4 Elmira
Ontario, Canada
N3B 2Z3

Email : sales@tubeline.ca
Fax : (519)-669-5808
Tel : (519)-669-9488

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.

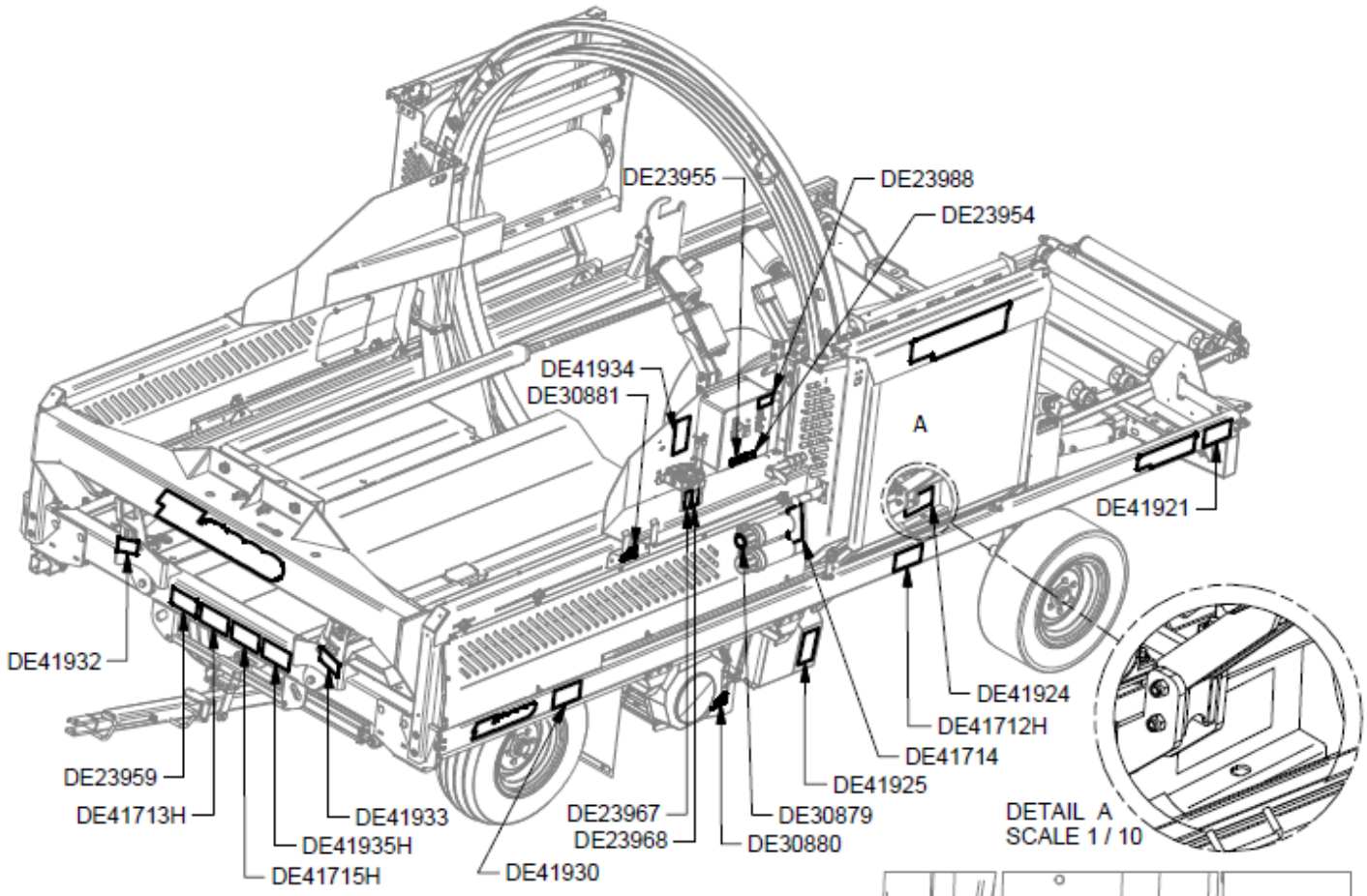
This equipment should not be operated by children, or with those unfamiliar with the operation of the machine. Do not allow persons to operate this machine until they have read this manual and/or were instructed by a qualified person.

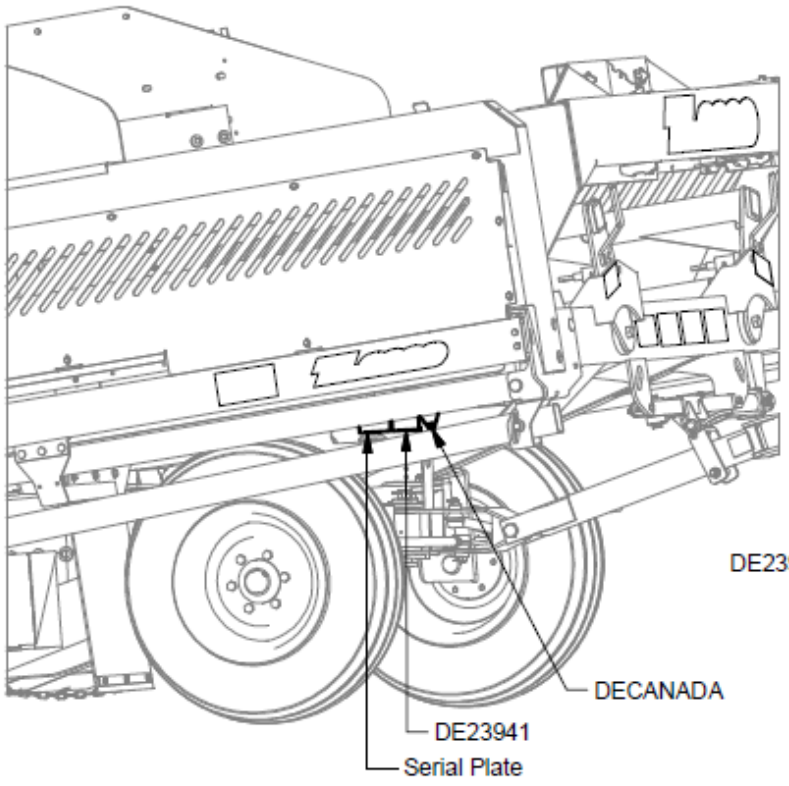
Do not paint over, remove or deface any safety signs or warning decals on your equipment. Observe all safety signs and practice the instructions on them.

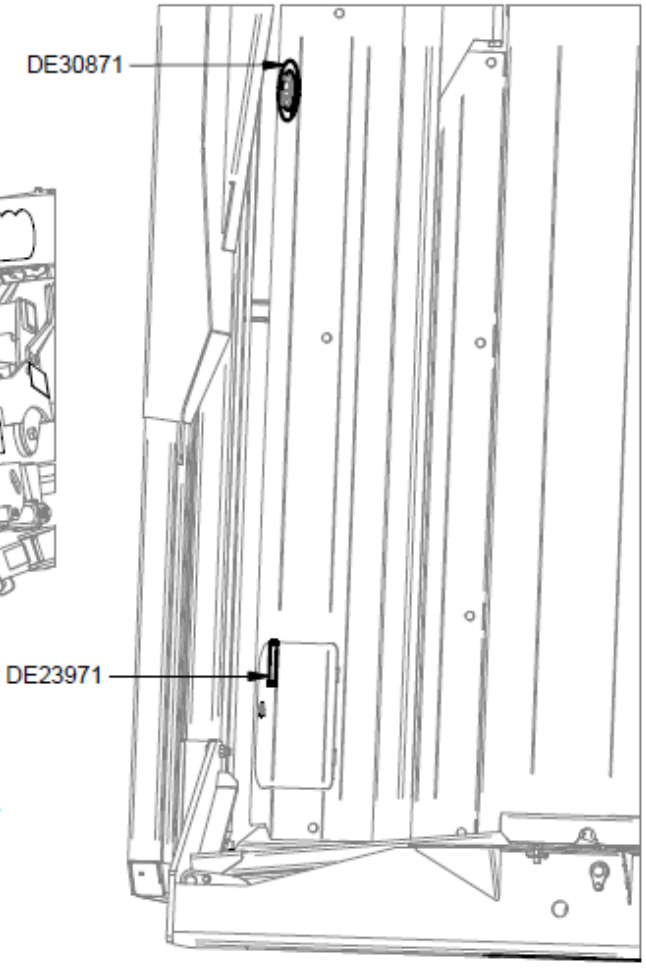
Lighting & Marking

This machine is equipped with lights and reflectors as required by the most stringent government and ASAE specifications. They should work with the tractor 7-pin connector.

Safety Decal Location



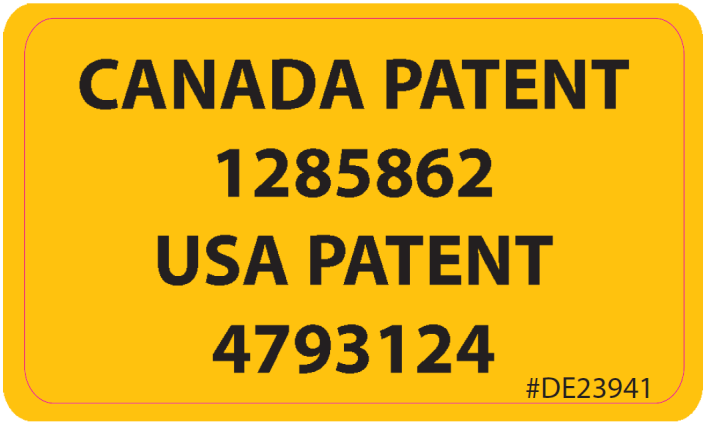




Safety Decal Illustrations

Part # : DE23941

Canada, United States patent information decal.

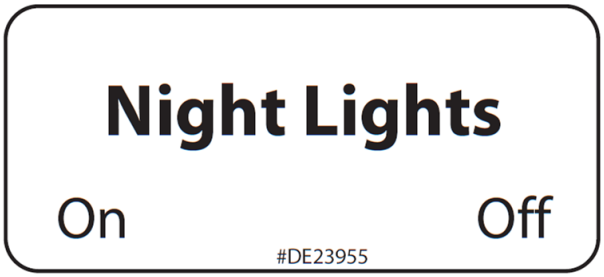


Part # : DE23954

Optional Film Sensor Enable - Disable switch decal.

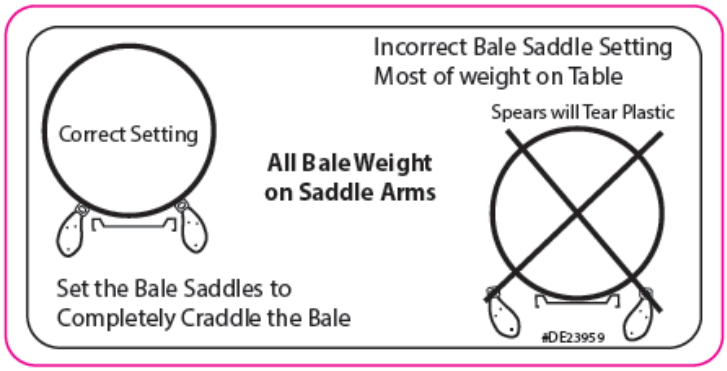
Part # : DE23955

Optional Night Light On - Off switch decal.



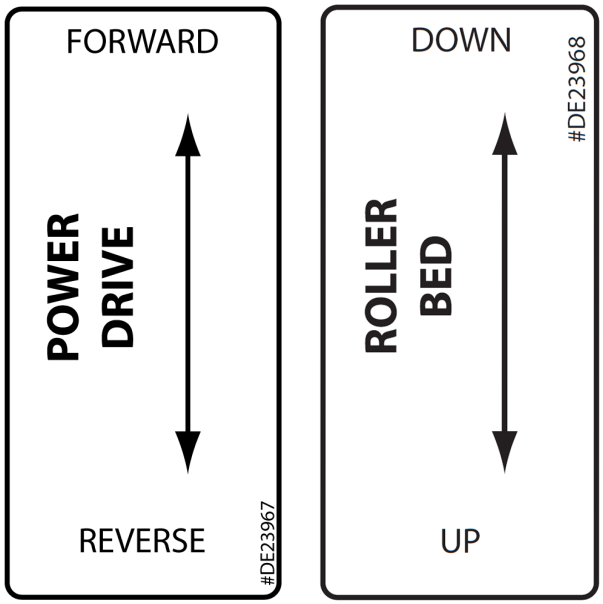
Part # : DE23959

Decal shows correct and incorrect Bale Saddle settings.



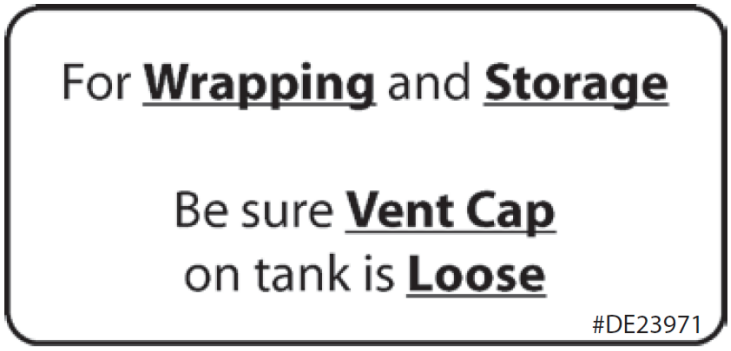
Part # : DE23967

Decal shows hydraulic lever function for driving the machine forward or reverse (requires optional Power Drive).



Part # : DE23971

Loosen vent cap on top of fuel tank to release any fume build-up.



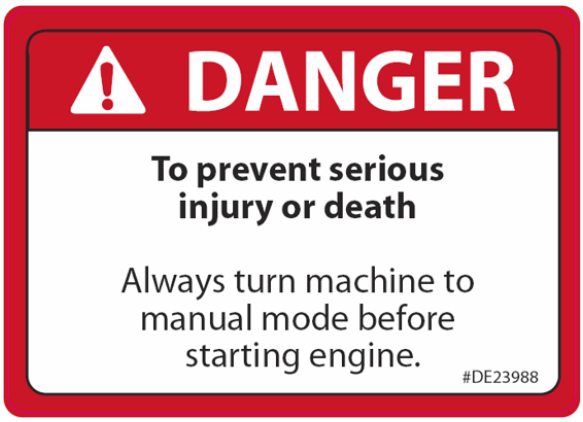
Part # : DE30871

Oil Fill Cap decal, use SAE10 oil when refilling.

Safety Decal Illustrations

Part # : DE23988

Turn knob to manual mode on startup to avoid unexpected auto start cycle.



Part # : DE30879

Remote Control Enclosed decal.

Part # : DE30880

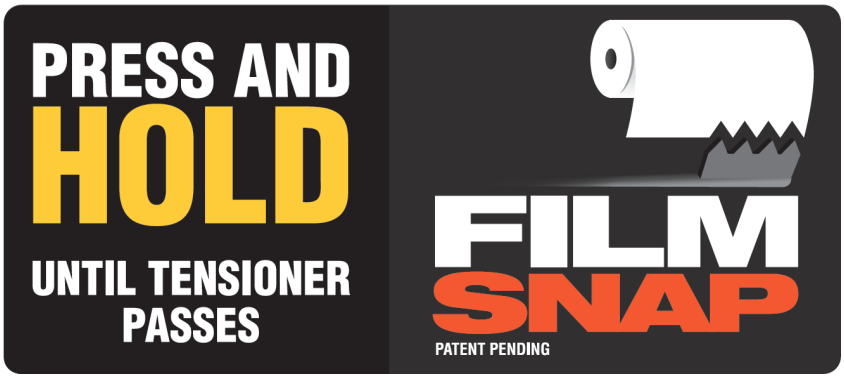
Positive charging terminal for use a battery boost.

Part # : DE30881

Wrap tape can be stored on this holder.

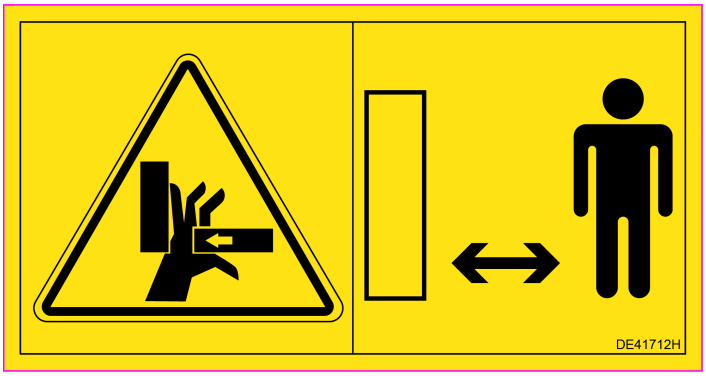
Part # : DE37509

Film Snap tensioner decal.



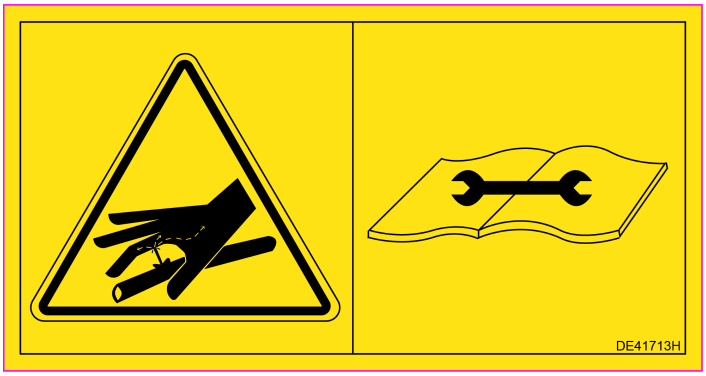
Part # : DE41712H

Pinch point hazard, stand clear of machine while in motion, use caution when opening and moving safety gaurds.

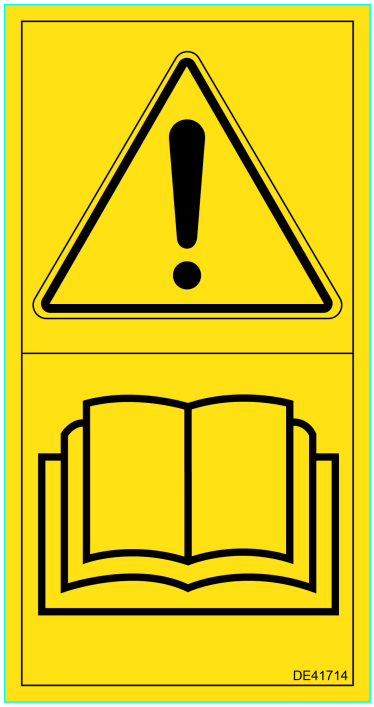


Part # : DE41713H

Do not use hand to check for hydraulic leaks, alternatively use a piece of cardboard.



Safety Decal Illustrations

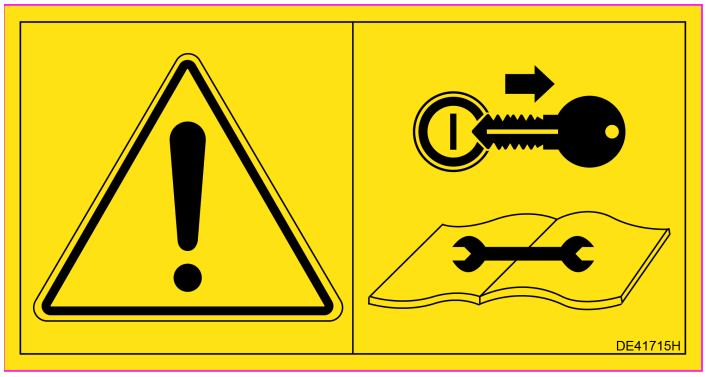


Part # : DE41714

Read this manual and learn the machine functions before attempting to wrap bales.

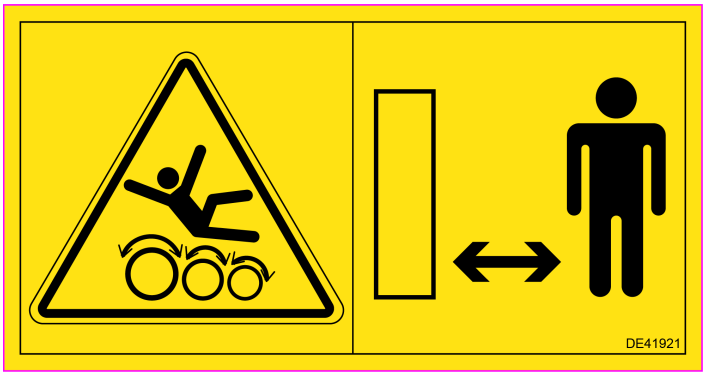
Part # : DE41715H

Read this service manual before attempting repairs, remove key from engine before attempting repairs.



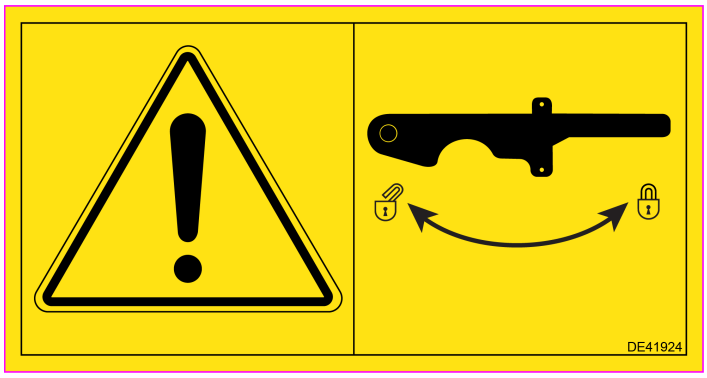
Part # : DE41921

Do not stand on rollers, stand clear of machine while in operation. Use caution when attempting repairs in this area.



Part # : DE41925

Remove pin before unlocking transport lock arm. Raise rear cam axle to allow transport lock to move to desired position.

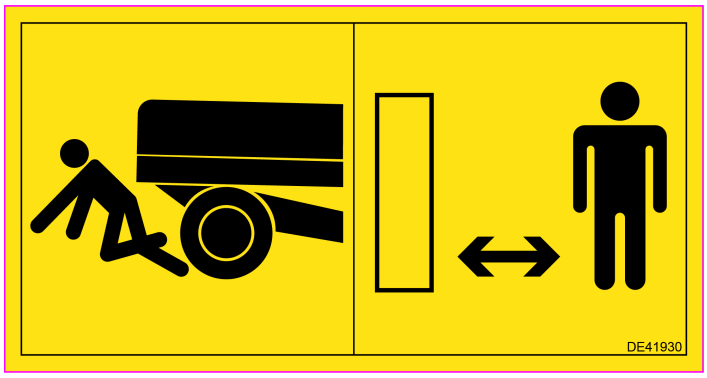


Part # : DE41925

Entanglement hazard, do not remove wheel drive shield while engine running.

Part # : DE41930

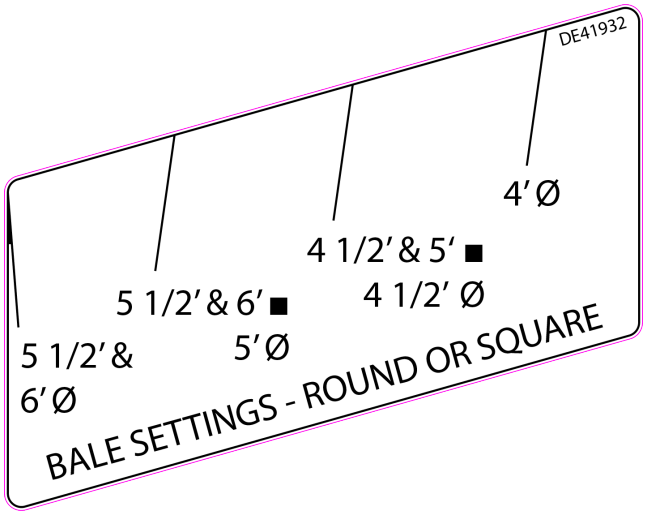
Stay clear of wheels while in operation and transport.



Safety Decal Illustrations

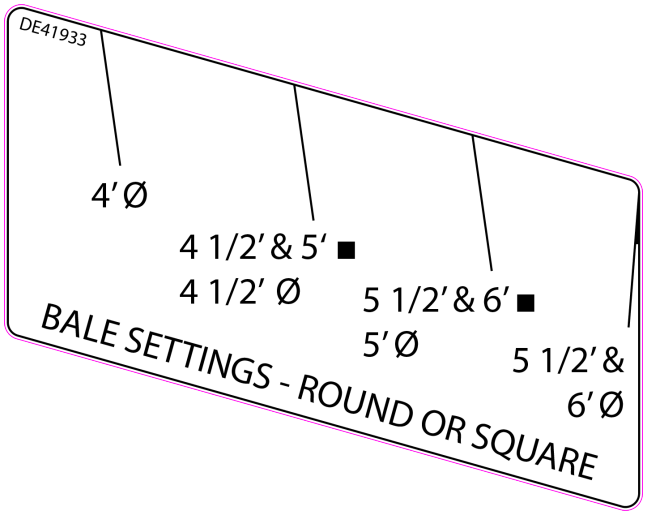
Part # : DE41932

Left side Bale Saddle settings decal. Align outer edge of bale saddle with desired bale size as shown on decal.



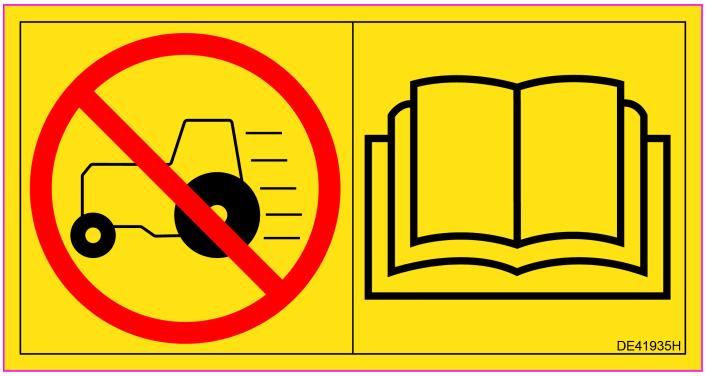
Part # : DE41933

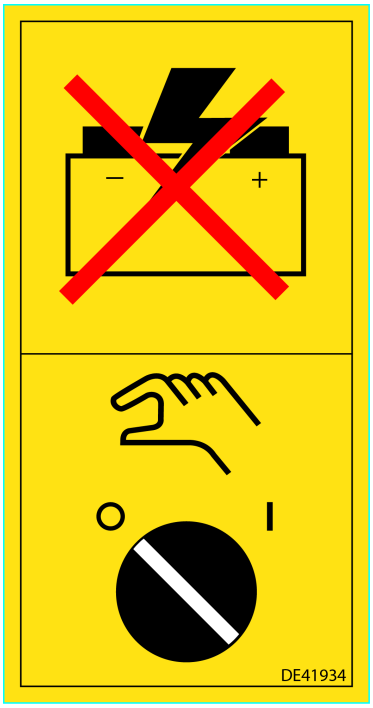
Right side Bale Saddle settings decal. Align outer edge of bale saddle with desired bale size as shown on decal.



Part # : DE41935H

Do not exceed top speed of 32km/h (20mph) while transporting this machine.





Part # : DE41934

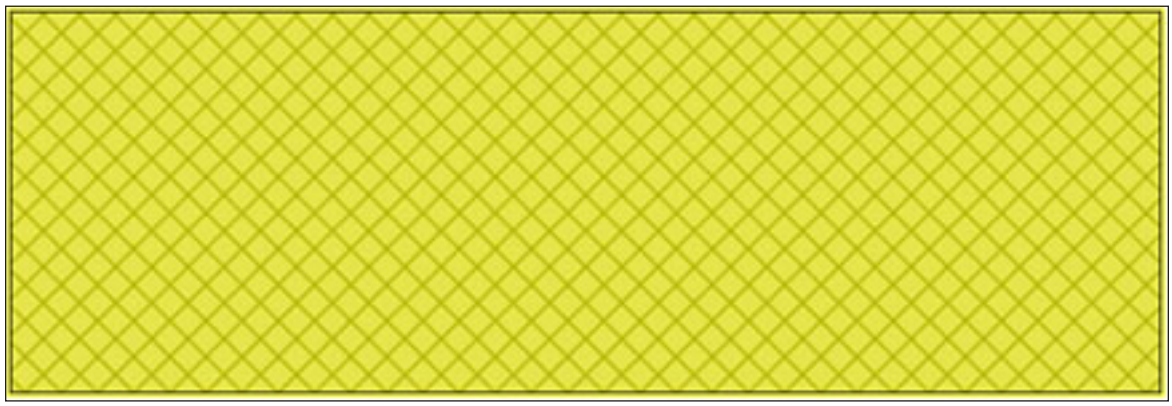
Turn off engine power and control panel before boosting battery.

Part # : DECANADA

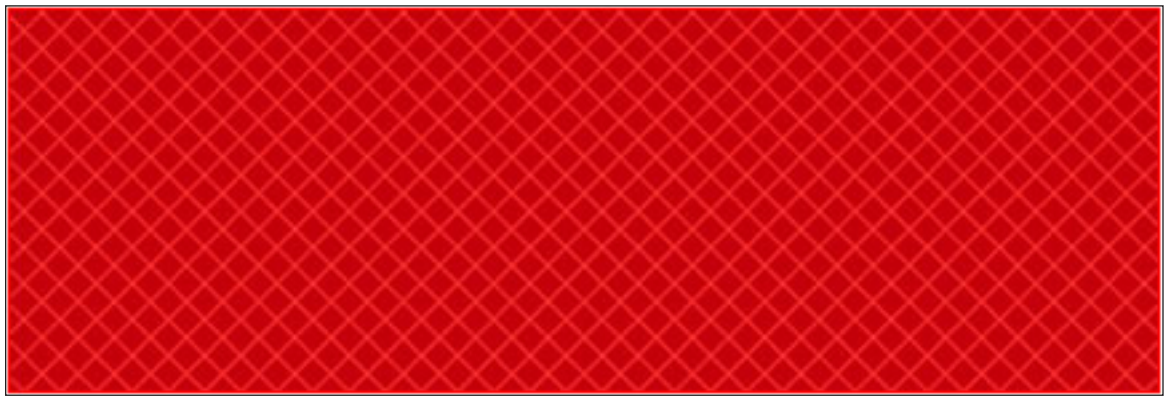
Manufacturer of origin decal.

Clearance Decal Illustrations

Part # : DEAMBER



Part # : DERED



Section 2: Operation

Pre-operation

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.

1. Carefully study and understand the manual or be trained by an experienced operator.
2. Do not wear loose clothing that may get caught in moving parts.
3. Visually inspect the machine to make sure no parts are loose or missing.
4. Be sure that no tools are left on the machine.
5. 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).
6. Do not hurry the learning process. Be familiar with one part before trying the next part.
7. 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 to push the bale trigger switch down to start the cycle.

Recommended In-field Setup

We suggest the following method of operating the TL6000AX2 Tubeline Wrapper:

1. Park the wrapper where you want the end of the row to be, facing in the appropriate direction with the rear axle in it`s raised position.
2. Apply brake. This is done by either engaging the drive wheel or completely lowering the bed. Engage the drive wheel by pulling the handle located inside the left rear wheel.
3. Fold in the first section of the tongue and fasten the bracket into the hydraulic steering slider with the pin that held the tongue.

Caution! Be Safe

Never ride on the machine while being used or transported.

Never climb on the table or inside the wrap chamber with the Engine running.

WARNING: Do not push down the bale trigger switch by hand.

Tire Pressure

Proper tire pressure is 36 psi and should be maintained at all times. 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.

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 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, 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:

- Lighter bales to handle.
- More desirable fermentation with fewer odors.
- Less freezing in the winter.
- Higher dry matter intake.

Wrapping Site

Select a site that will allow room to make an adequate bale row length.

The Tubeline wrapper is very fast, 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 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 is less likely to attract rodents that can damage the plastic.

Round Bale Size

The TL6000AX2 will wrap round bales up to 6’ in diameter. It will wrap all sizes smaller than this dimension 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 diameter to 4–5’, even though the wrapper will handle larger size.

Square Bales

Square Bales - The TL6000AX2 will wrap most sizes of square bales. The length should be a maximum of 6’. This is to allow the bales to be placed on the bale receiver. This is also 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, however there is one drawback, 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’ x 3’, do not stack well. These may be wrapped in single tier of bales.

Big Bale Silage

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

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

Adjusting Bale Saddles

The bale saddle tubes are designed to align bales as they are set on the wrapper. These bars should be adjusted to the narrow setting to wrap round bales up to 5’ diameter. For larger bales use the wide setting. Rotate spring pin behind front plate, lock it open, use handle to move saddle to desired position, rotate spring pin back so it snaps into locked position.

Caution! It is important that the bale sit firmly on the deck, 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.

Installation of Plastic

Turn control panel to **MAN** or stop the engine when changing plastic rolls. Never leave it in **AUTO** as your helper may set a new bale on the table or press the start button on the remote.

Procedures for maintenance, repairs or plastic rolls replacement:

1. Push the Emergency Button.
2. Remove the key from the motor (has to be kept by the end user to avoid accident).
3. Complete the required work.

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.

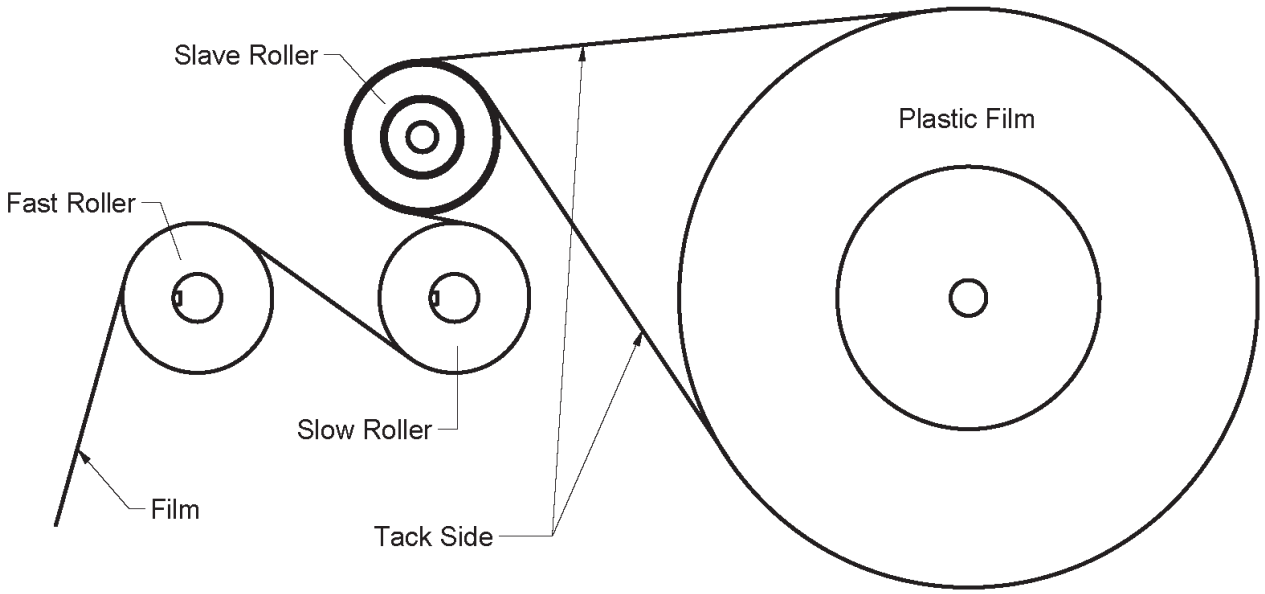
The roll of plastic should be installed with the tack on the inside of the plastic film next to the bale silage. The plastic then passes over the slave roller and is threaded through the two metal rollers on the Tensioner as shown in the diagram.

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:

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. It may be that the bearings have too much end pressure, in this case re-tighten the bearings and loosen the locking collar on the roller shaft this will allow the shaft to slide in the bearing; re-tighten the bearing collar. The gears can also be meshed too tight; this can be fixed by slightly loosening one set of bearing bolts. 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 build 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.

Rolls of plastic may catch on the bottom or sides of the bale. If bales are misshaped the roll of plastic may drag on the bottom or sides 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 switches and the film sensor 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 heavier. Use only bale-handling equipment. Keep bales low when turning loader.

Caution! It is important that the bale sit firmly on the deck, 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.

To Wrap Bales with Model TL6000AX2

1. To start the machine disengage control panel emergency stop, turn power switch to **ON** and turn engine key to **START**. Choke engine if starting in cold weather or after long periods of unuse.
2. Set control panel wrap function switch to **MAN** (Manual) mode.

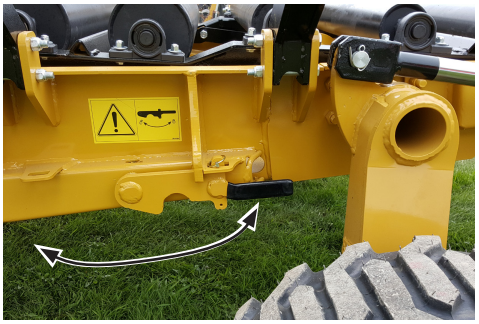


Fig.1.0 - Transport Lock Locked

Fig.1.1 - Transport Lock Pivot

Fig.1.2 - Transport Lock Unlocked

3. Transport lock must be unlocked. Raise rear axle completely, unlatch pin holding lock, pivot lock to left hand position and reattach pin. This allows rear roller bed to lower to ground.

Fig.1.3 - Axle Pin Engaged

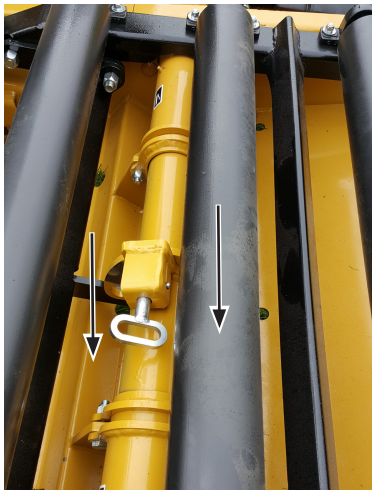


Fig.1.4 - Axle Pin Disengaged

Fig.1.5 - Rear Axle (Raised)

Fig.1.6 - Roller Bed

4. Round bales are wrapped with the roller bed (*Fig. 1.6*) completely lowered to the frame.

5. Square bales require the roller bed to be raised from the frame. Raise rear axle (*Fig. 1.5*), engage axle pin located in the middle of the rear axle (*Fig. 1.3*). Completely lower rear axle. If you require initial compaction for square bales, disengage axle pin (*Fig. 1.4*) with rear axle lowered and roller bed raised before raising the rear axle again.

Warning: Attempting to raise roller bed while under bale load will cause damage to machine. Refer to Maintenance Section - Roller Bed Linkage, *pg.4-3.*

6. Lower roller bed to frame before transport or to wrap round bales.

7. With the control panel switch **AUTO-MAN** set to **MAN** turn **FWD** switch to advance the bale without the plastic stretcher applying plastic. The engine will rev up to a higher rpm.

8. As the bale is pushed through the hoop, start the hoop rotating to apply plastic by pushing in the **ROTATE** button. Skip this step if you are pushing initial bales through as compaction for the row.

9. When the ram hits the switch at the end of the stroke the **FWD** motion on the cylinder will stop. (This switch can be moved in the slider slot to accommodate your needs). More about this later.

10. With the switch set to **MAN** the switch buttons will have to be turned and/or pushed and held, when you let go the function will stop.

11. Turning the **REV** switch will return the ram to its home position and open the bale chamber to accommodate the next bale. The engine will also drop to an idle.

12. 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).

13. Pull about 4 ft of plastic through each stretcher and tie it under the twine on the bale, or tie it in the slots on the hoop brace (both sides).

14. Wrap the 1st few bales in **MAN** until the first bale overhangs the rear of the machine by 6 inches. Lower machine to the ground and disengage parking brake, if equipped with a power drive, disengage the hydraulic lever.

NOTE- You may want to leave some weight on the wheels until the wrapper starts moving to avoid bales from sliding on the ground.

1. 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 bales on the machine.

Warning!

Stopping the Cycle

If a problem occurs after the cycle has started in 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 but if the ram has 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.

Steering

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 do not make sharp turn as this prevents the bales from being tightly packed together. 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 center 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 bales have 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.

NOTE- 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, otherwise the valve will drain the battery.

Slider Switch

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 the wrap motor, and reverse the ram cylinders. **-TIP-** Adjust the rear switch so that the junction 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 front slider switch is set to stop the ram retract stroke after the engine has throttled but before the cylinder bottoms out.

Brake

The TL6000AX2 is equipped with a manual parking brake in rear left wheel.

If the wrapper is equipped with optional POWER DRIVE, the power drive is engaged and used as a parking brake.

NOTE- Make sure BRAKE IS **DISENGAGED** before transporting the wrapper.

Drag

To create more compaction in a row of bales, simply lower the roller bed more. If there is too much compaction causing the bales to spring back then simply raise the bed and add more pressure on the rear wheels.

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 end bale row:

1. Move the “end cycle” switch to the complete rear of the slider slot.
2. Start pushing last bale through the wrapper by using the **FWD** button and **WRAP** button on the control panel. Continue pushing the bale through the wrap chamber until you have reached the end of the stroke.
3. Retract the bale pusher.
4. Open the bale pusher by pivoting the handle under the ram to the opposite side of that machine.
5. Continue pushing last bale through the wrapper by using the **FWD** switch and **WRAP** button until the bale is completely wrapped. Stop the ram and wrap several more layers on the end of the bale.

Fig.1.7 - Stored Last Pushoff Bar

Fig.1.8 - Extended Last Pushoff Bar

Fig.1.9 - Last Pushoff Bar on hooks

6. After sufficient wrap has been applied on the last bale, press and hold the film snap while rotating the hoop, this will cut the wrap without needing to manually cut it with a knife.

Fig.1.10 - Optional Last Bale Pushoff Arm

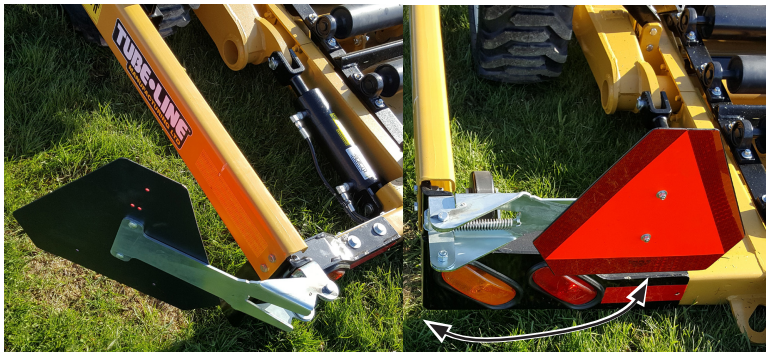


Fig.1.11 - Swinging SMV Sign

Fig.1.12 - Front Pushoff Handle

Fig.1.13 - Extended Front Pushoff

7. After film is cut continue pushing the bale. After reaching the end of the stroke, retract the bale pusher and use the handle to return it to its home position.

8. To complete wrapped bale row, move last pushoff bar from its stored position on front right side (*Fig.1.7*), to the last pushoff hooks (*Fig.1.9*). Fold down the optional last pushoff arm (*Fig.1.10*) if machine is equipped with it. Hold the FWD switch until the ram is fully extended (*Fig.1.8*).

9. Retract ram using **REV** switch and close front pushoff (*Fig.1.13*) with handle under ram (*Fig.1.12*).

10. Undo steering, unfold tongue and insert lock pin.

11. Store the 2 x 3 last pushoff tube in bracket secure with lock pin, or use handle to raise optional last pushoff arm. Optional last pushoff should be kept down for transport.

12. Undo steering, unfold tongue and insert lock pin.

13. Make sure the parking brake, or optional power drive are disengaged before transporting. Also fold swinging SMV sign back to its transport position (*Fig.1.11*)

NOTE - If plastic rolls one aligned so they are behind the safety doors then the plastic is less likely to unroll during transport.

Caution: 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.

NOTE - Read Maintenance Section for information about Roller Bed Linkage replacement procedure.

Observe Maximum Transport Speed

The maximum transport speed for this implement is 32 km/h (20 mph). Some tractors are capable of operating at speeds that exceed the maximum transport speed of this implement. Regardless of the maximum speed capability of the tractor being used to tow this implement, do not exceed the implement's maximum transport speed. Exceeding the implements maximum transport speed can result in: - Loss of control of the tractor/implement combination - Reduced or no ability to stop during braking - Implement tire failure - Damage to the implement structure or its components Use additional caution and reduce speed when towing under adverse surface conditions, when turning, and when on inclines. Do not attempt transport if the fully loaded implement weighs more than 1.5 times the weight of the tractor.

Build-up on Stretchers

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 TL6000AX2 wrapper can be used to weather-protect straw. Only four 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 TL6000AX2, a loader can pick up 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. However this can also cause bales in the line to separate causing air pockets.

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 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 inserted in a landfill and will not pollute the ground water. Manufactures are making serious efforts to economically recycle silage plastic.

Use recycling services when available. Please do not burn 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.

Section 3: Diagnostics

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 contract 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 the limit switch at the front end of table. All control 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 flow control 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 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.

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.

Wrap cycle fluid flows from power beyond port on 2 spool valve to flow control, 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 flow control 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 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. Wrap cycle fluid flows from power beyond port on 2 spool valve to flow control, 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 flow control 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.

3. 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 on 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 run. **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.

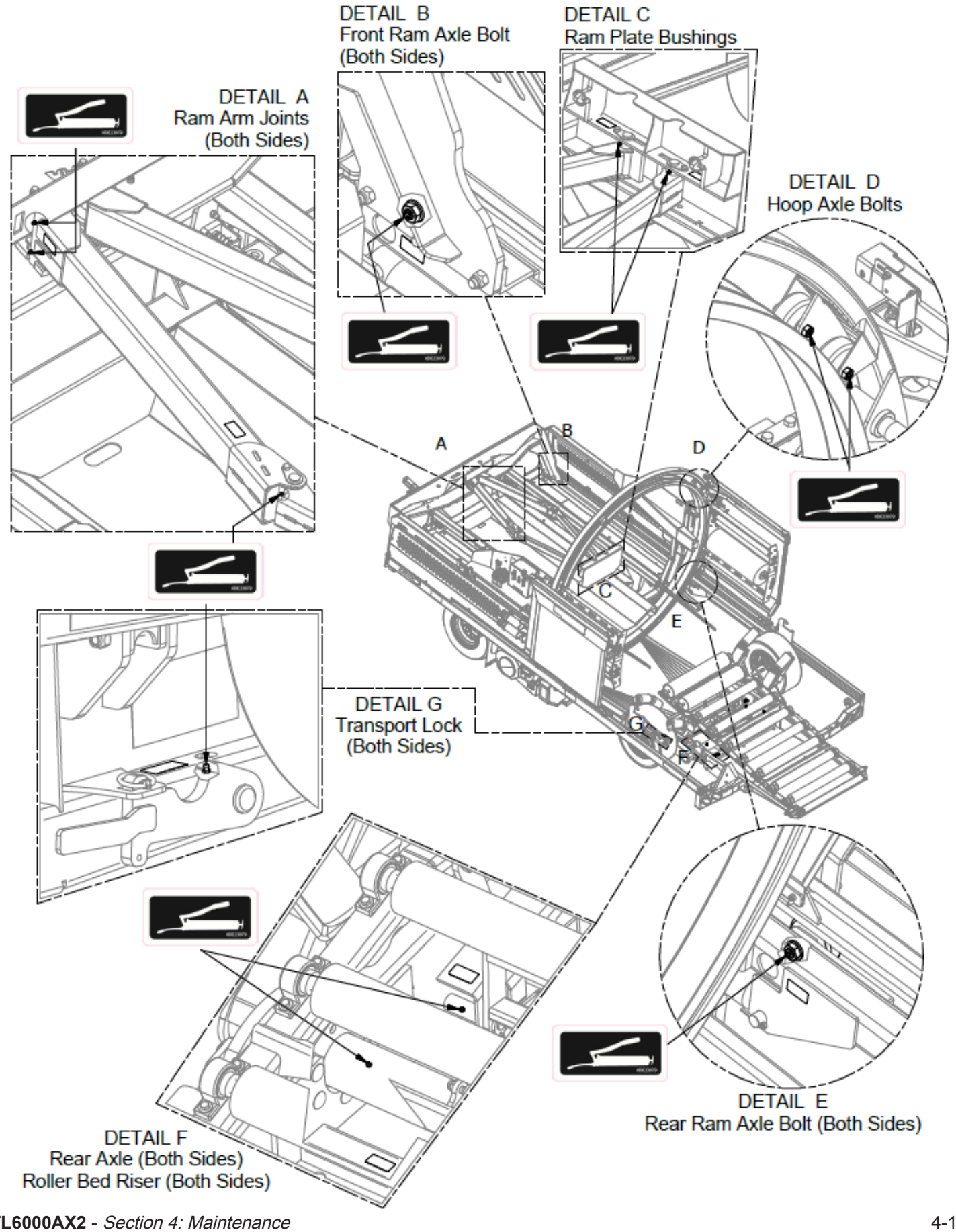
4. When **MAN-AUTO** switch is turned to **AUTO**, **FOR-REV** and **ROTATE** switches no longer function. Depress trigger switch located on bale table, Ram hydraulic valve is energized. The Ram cylinder will extend and engine will speed up. When Ram extends to front slider, this switch will energize 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.

5. 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.

Section 4: Maintenance

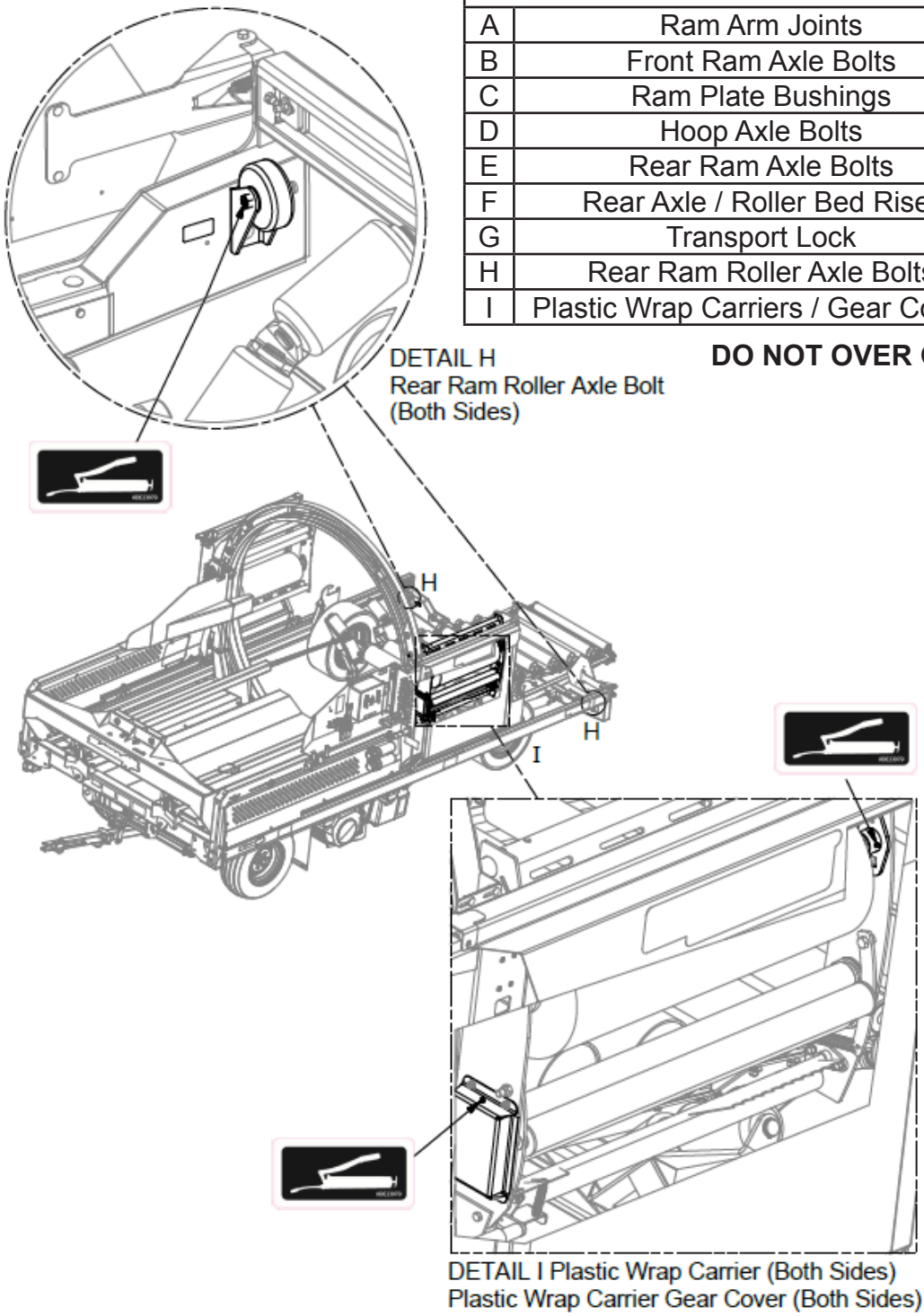
Grease Points

Grease decals on machine signify an area to occasionally grease, see next page for further detail.



Grease Timeline		
A	Ram Arm Joints	Monthly
B	Front Ram Axle Bolts	Weekly
C	Ram Plate Bushings	Monthly
D	Hoop Axle Bolts	Twice Daily, 8 Bolts
E	Rear Ram Axle Bolts	Weekly
F	Rear Axle / Roller Bed Riser	Monthly
G	Transport Lock	Monthly
H	Rear Ram Roller Axle Bolts	Weekly
I	Plastic Wrap Carriers / Gear Covers	Monthly

DO NOT OVER GREASE



DETAIL H
Rear Ram Roller Axle Bolt
(Both Sides)

DETAIL I Plastic Wrap Carrier (Both Sides)
Plastic Wrap Carrier Gear Cover (Both Sides)

Oil Points

Spray tensioner aluminum rollers with WD40 occasionally to avoid plastic build-up.

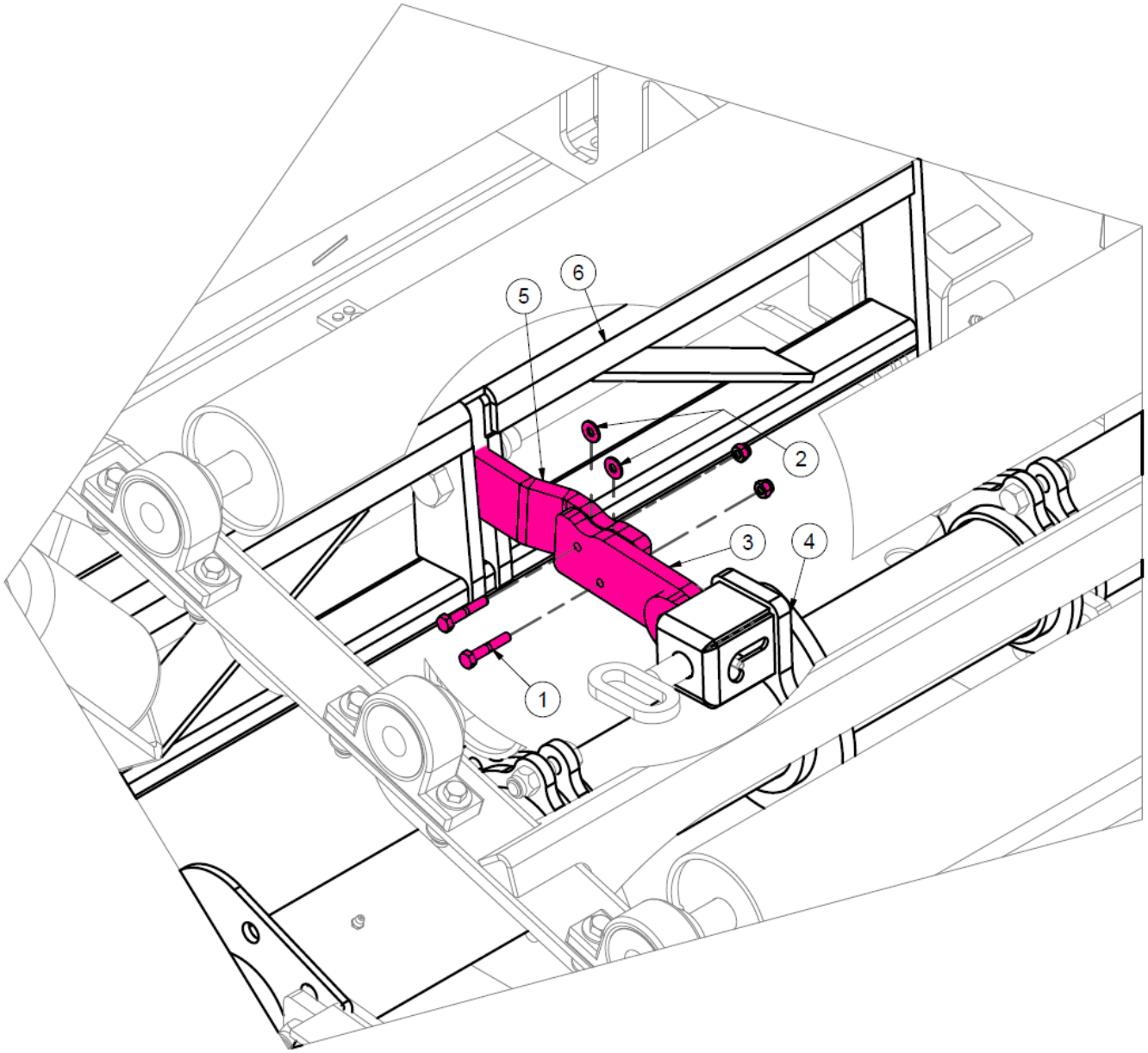
Roller Bed Linkage

Warning!

The two piece roller bed linkage located underneath the rear roller bed is designed to shear bolts **(1)** if roller bed is lifted while under bale load. This prevents further damage to linkage plates and/or frame. Replacement bolts **MUST** be Grade 5 or lower. Washers **(2) MUST** be installed between linkage plates to break surface tension.

If replacing linkage plates, straight linkage plate **(3)** connects to rear axle **(4)**, formed linkage piece **(5)** connects to roller bed pivot frame **(6)**.

Refer to *pg.5-26* when ordering replacement parts.



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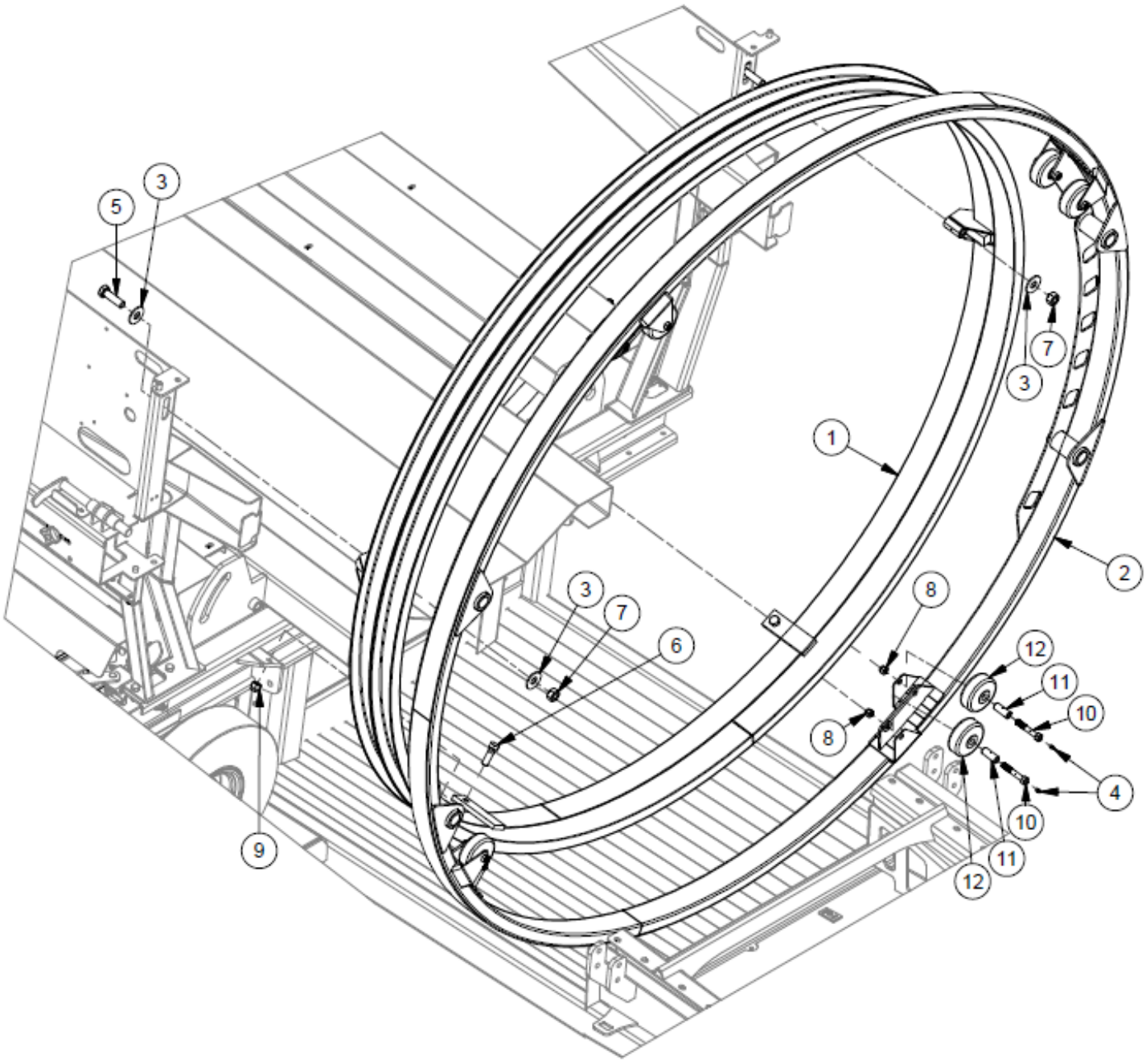
Section 5: Parts Lists

Illustrations may vary slightly from actual parts.

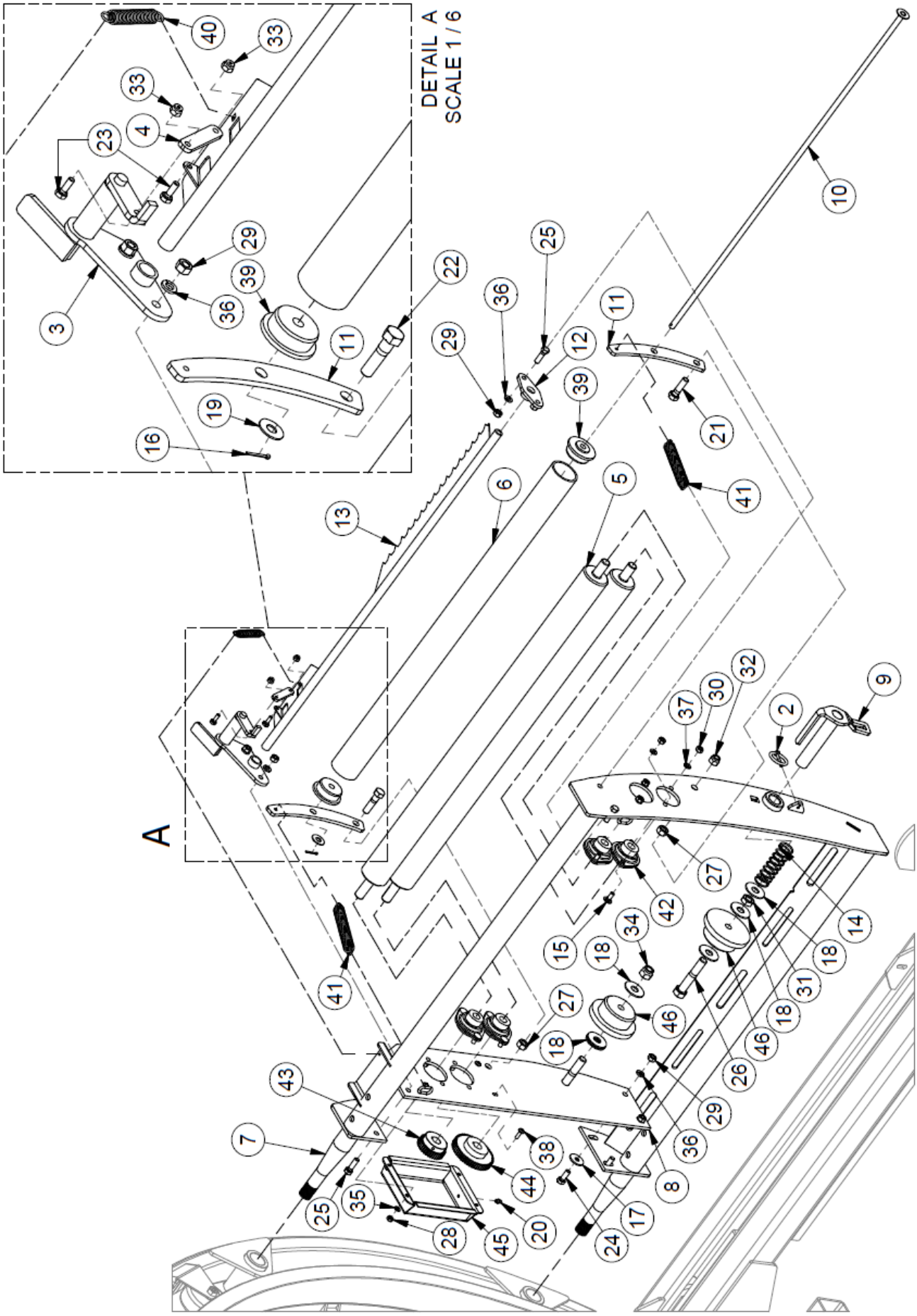
Hoop



Hoop

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	39532	Large Inner Hoop
2	1	39537	Large Outer Hoop
3	4	FW 3/4	Flatwasher Plated - 3/4” Zinc Plated USS (400)
4	8	GR.25X28	Grease Fitting 1/4-28 Strght-Standrd Zerk
5	2	HB 3/4-10X2.1/2 YZ8	Hex Bolt 3/4”-10 x 2.5” Grade 8 Yellow Zinc Hex Cap Screw
6	2	HB 5/8-11X2.0 Z5	Hex Bolt 5/8-11 x 2 Grade 5 Zinc Plated Hex Cap Screw NC
7	2	HN 3/4 - 10	Hex Nut - 3/4”-10 Grade 5 Zinc Plated Finished NC
8	10	LN 1/2 N	Locknuts - 1/2-13 Zinc Plated Nylon Insert Lock Nut
9	10	LN 5/8 N	Locknut - 5/8-11 Zinc Plated Nylon Insert Lock Nut
10	10	TL500-100-015	Hoop Wheel Axle Bolt
11	10	TL550-200-016	Spanner
12	10	TLWHEEL01	Hoop Wheel

Plastic Wrap Carrier



Plastic Wrap Carrier

ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	41610	Complete Offset Tensioner
2	1	25680	Lynch Pin 3/16 x 1.5
3	1	33354	Wrap Cut Swivel Handle
4	1	36068	Swivel Plate
5	2	39916	Extended Tensioner Roller
6	1	39917	Extended Plastic Roller
7	1	41611	Main Wrap Frame
8	1	41619	Main Wrap Side Plate
9	1	41621	Wrap Spool Slider Shaft
10	1	41624	Plastic Roller Pin
11	2	41625	Plastic Roller Mount
12	1	41626	Pivot Support Bracket
13	1	41628	Wrap Cut
14	1	41888	Offset Tensioner Spring
15	8	CB 5/16-18X 3/4 Z5	Carriage Bolt - 5/16-18 x 3/4” Zinc Plated Grade 5
16	1	CP 18X1	Pin, Cotter 1/8 x 1.0
17	2	FW 3/8	Flatwasher Plated, 3/8” Zinc Plated USS
18	7	FW 5/8	Flatwasher - 5/8” Zinc Plated USS
19	1	FW 7/16	Flatwasher - 7/16” Zinc Plated USS
20	2	GR 1/4 X 28	Grease Fitting 1/4-28 Strght-Standrd Zerk
21	1	HB 1/2-13X1.3/4 Z5	Hex Bolt Plated - 1/2”-13 x 1-3/4” Zinc Finish SAE J429 Gr. 5 NC
22	1	HB 1/2-13X2.0 Z5	Hex Bolt 1/2-13 x 2” Grade 5 Zinc Plated Hex Cap Screw NC
23	2	HB 1/4-20X 3/4 Z5	Hex Bolt - 1/4”-20 x 3/4” Grade 5 Zinc Plated Hex Cap Screw NC
24	2	HB 3/8-16X1.0 Z5	Hex Bolt 3/8-16 x 1” Grade 5 Zinc Plated Hex Cap Screw NC
25	4	HB 3/8-16X1.1/4 Z5	Hex Bolt 3/8-16 x 1 1/4” Grade 5 Zinc Plated Hex Cap Screw NC
26	1	HB 5/8-11X3.1/2 Z5	Hex Bolt 5/8”-11 x 3-1/2” Zinc Finish SAE J429 Grade 5 Hex Cap Screw NC
27	2	HN 1/2	Hex Nut 1/2”-13 Grade 5 Zinc Plated Finished NC
28	4	HN 1/4	Hex Nut 1/4”-20 Grade 5 Zinc Plated Finished NC
29	6	HN 3/8	Hex Nut 3/8”-16 Grade 5 Zinc Plated Finished NC
30	8	HN 5/16	Hex Nut 5/16”-18 Grade 5 Zinc Plated Finished Hex Nut NC

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31	1	HN 5/8 JAM	Hex 5/8 Jam Nut (Half Thickness Nut)
32	2	LN 1/2 N	Locknuts - 1/2-13 Zinc Plated Nylon Insert Lock Nut
33	2	LN 1/4 N	Locknuts - 1/4-20 Zinc Plated Nylon Insert
34	1	LN 5/8 N	Locknut - 5/8-11 Zinc Plated Nylon Insert Lock Nut
35	4	LW 1/4	Lockwasher - 1/4” Zinc Plated Medium Split
36	6	LW 3/8	Lockwasher - 3/8” Zinc Plated Medium Split
37	8	LW 5/16	Lockwasher - 5/16” Zinc Plated Medium Split
38	4	MS 1/4X1.1/2 SDS	Machine Screw - 1/4”-14 x 1-1/2” Unslotted Hex Washer Head Self Drilling Screw Z
39	2	TL500-100-021	HMWPVC Bearing - Plastic End Cap
40	1	TL500-100-062	Extension Spring
41	2	TL500-100-135	Spring - Tensioner
42	4	TL550-100-007	Flange Bearing, 3/4” (2 Flanges & Bearing)
43	1	TL550-100-008	Small Gear - 3/4 Bore, KW, SS, 14 1/2 deg, 2.25 P.D.
44	1	TL550-100-009	Large Gear - 3/4 Bore, KW, SS, 14 1/2 deg, 3.50 P.D.
45	1	TL550-100-010	Gear Cover
46	2	TL550-200-012	Plastic Wrap Spool

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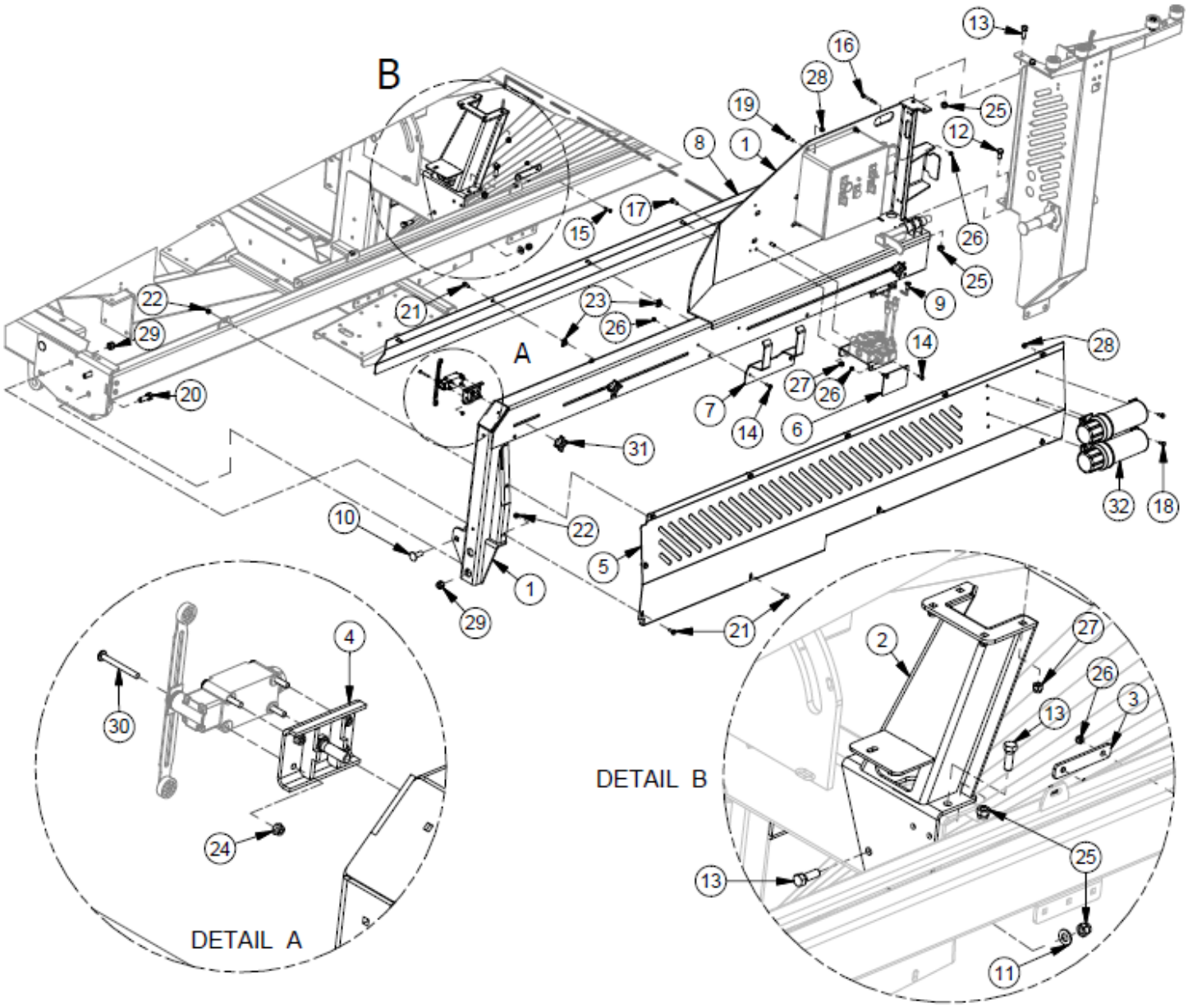
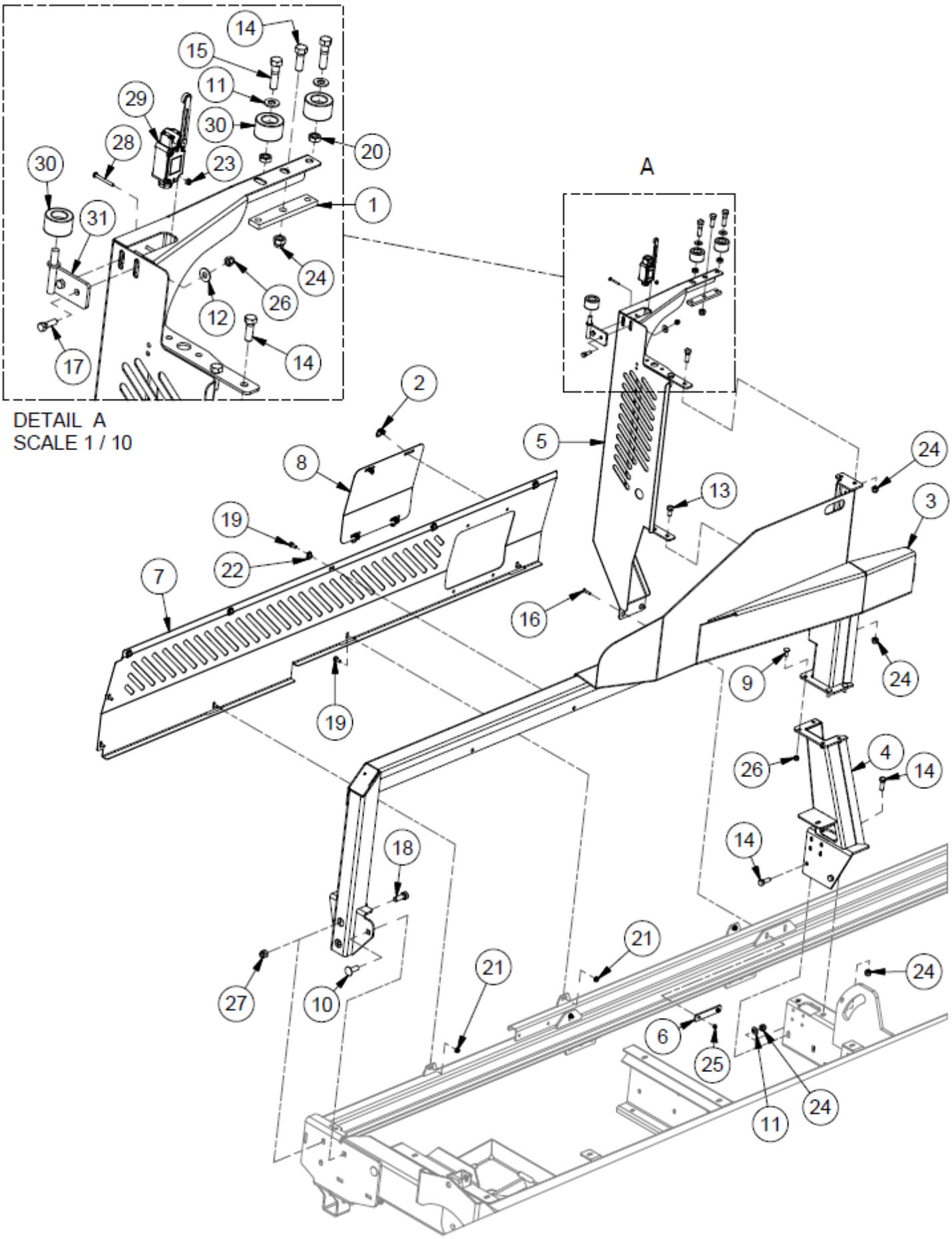
Left Hoop Brace



Left Hoop Brace

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	41215	Left Hoop Brace
2	1	41238	Left Hoop Brace Post
3	2	41279	HRP 0.188 in
4	3	41280	Limit Switch Mount Bracket
5	1	41287	Left Side Shield
6	1	41290	Decal Plate
7	1	41291	Tape Holder
8	1	41391	Limit Switch Shield
9	4	CB 3/8-16 X1 Z5	Carriage Bolt - 3/8-16 x 1" Grade 5 Zinc
10	4	CB 5/8-11 X1.75 Z5	Carriage Bolt - 5/8-11 x 1 3/4" Grade 5 Zinc
11	4	FW 1/2	Flatwasher - 1/2" Zinc Plated USS
12	4	HB 1/2-13X1 Z5	Hex Bolt 1/2-13x1 Grade 5 Zinc Plated Hex Cap Screw
13	4	HB 1/2-13X1.5 Z5	Hex Bolt 1/2-13x1 1/2 Grade 5 Zinc Plated Hex Cap Screw
14	2	HB 1/4-20X0.75 Z5	Hex Bolt 1/4-20x3/4 Grade 5 Zinc Plated Hex Cap Screw
15	2	HB 1/4-20X1.25 FHSCS	Hex Bolt - 1/4"-20 x 1 1/4" Flat Socket Cap Screw
16	2	HB 1/4-20X2.5 Z5	Hex Bolt 1/4-20x2 1/2 Grade 5 Zinc Plated Hex Cap Screw
17	4	HB 3/8-16X1 Z5	Hex Bolt 3/8-16x1 Grade 5 Zinc Plated Hex Cap Screw
18	6	HB 5/16-18X0.75 Z5	Hex Bolt 5/16-18x3/4 Grade 5 Zinc Plated Hex Cap Screw
19	4	HB 5/16-18X1 Z5	Hex Bolt 5/16-18x1 Grade 5 Zinc Plated Hex Cap Screw
20	2	HB 5/8-11X1.75 Z5	Hex Bolt 5/8-11x1 3/4 Grade 5 Zinc Plated Hex Cap Screw
21	10	HBC5/16X0.75	Hex Bolt Cerrated 5/16-18 x 3/4 Zinc Flange Bolt
22	5	HNC5/16	Serrated Hex Nut
23	5	HNP 5/16	Panel Nut - 5/16" U-Type Spring
24	16	LN #10 N	LN 3/16-24 Zinc Plated Nylon Insert Lock Nut
25	4	LN 1/2 N	LN 1/2-13 Zinc Plated Nylon Insert Lock Nut
26	9	LN 1/4 N	LN 1/4-20 Zinc Plated Nylon Insert Lock Nut
27	10	LN 3/8 N	LN 3/8-16 Zinc Plated Nylon Insert Lock Nut
28	4	LN 5/16 N	LN 5/16-18 Zinc Plated Nylon Insert Lock Nut
29	3	LN 5/8 N	LN 5/8-11 Zinc Plated Nylon Insert Lock Nut
30	16	MS #10X24X1.75	Machine Screw - (Inch)
31	3	TL5X2-100-104	Switch Adjuster Screw
32	2	TL5X2-201-111	Operator's Manual Holder

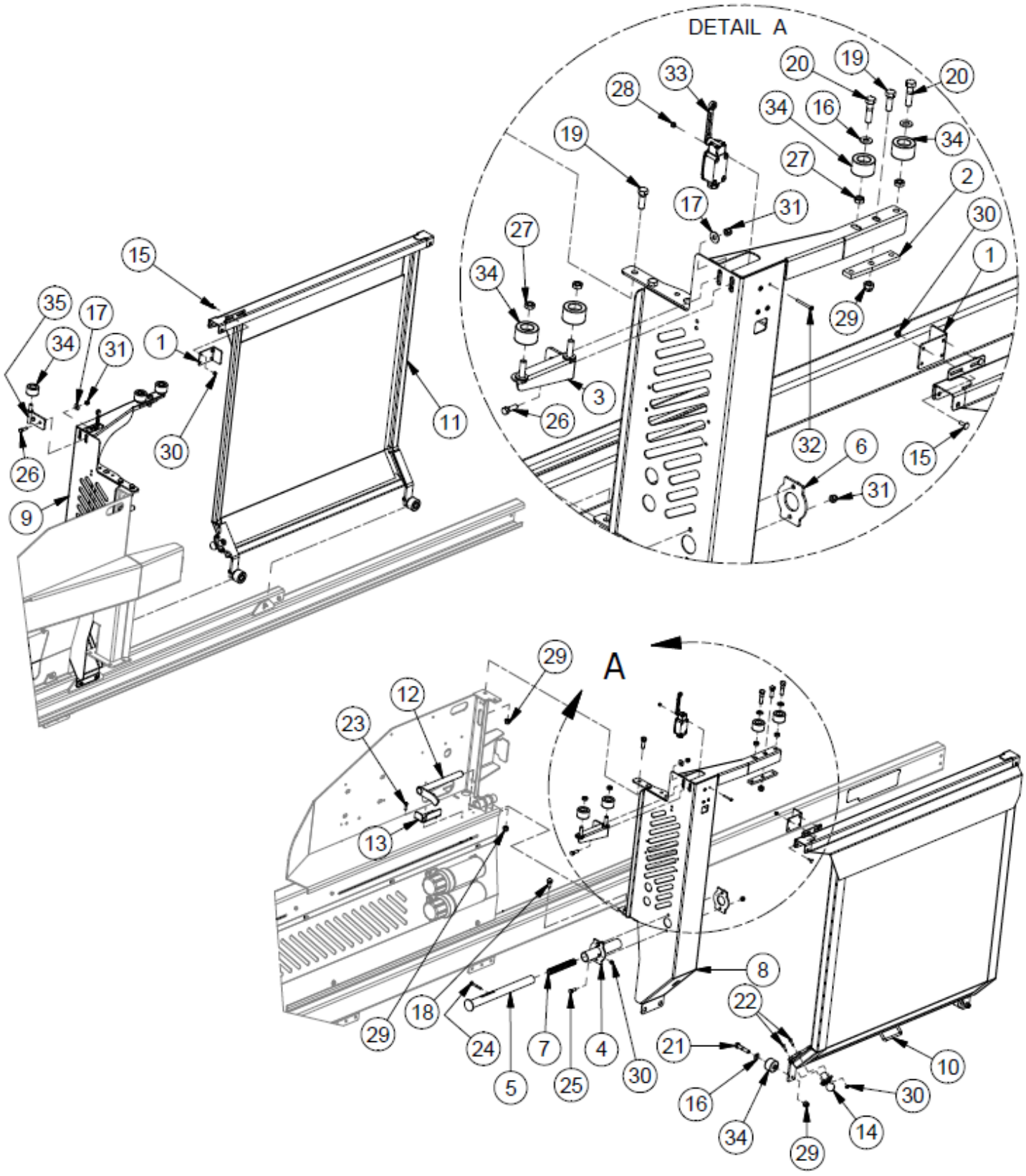
Right Hoop Brace



Right Hoop Brace

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	28741	Door Roller Mount
2	4	36268	Cam Lock
3	1	41228	Right Hoop Brace
4	1	41242	Right Hoop Brace Post
5	1	41264	Right Side Door Mount
6	1	41279	Door Mount Pinch Plate
7	1	41288	Right Side Shield
8	1	41289	Oil Fill Lid
9	4	CB 3/8-16 X1 Z5	Carriage Bolt - 3/8-16 x 1" Grade 5 Zinc
10	1	CB 5/8-11 X1.75 Z5	Carriage Bolt - 5/8-11 x 1 3/4" Grade 5 Zinc
11	4	FW 1/2	Flatwasher - 1/2" Zinc Plated USS
12	2	FW 3/8	Flatwasher - 3/8" Zinc Plated USS
13	1	HB 1/2-13X1 Z5	Hex Bolt 1/2-13x1 Grade 5 Zinc Plated Hex Cap Screw
14	7	HB 1/2-13X1.5 Z5	Hex Bolt 1/2-13x1 1/2 Grade 5 Zinc Plated Hex Cap Screw
15	2	HB 1/2-13X2 Z5	Hex Bolt 1/2-13x2 Grade 5 Zinc Plated Hex Cap Screw
16	2	HB 1/4-20X1.25 FHSCS	Hex Bolt - 1/4"-20 x 1 1/4" Flat Socket Cap Screw
17	2	HB 3/8-16X1.25 Z5	Hex Bolt 3/8-16x1 1/4 Grade 5 Zinc Plated Hex Cap Screw
18	2	HB 5/8-11X1.75 Z5	Hex Bolt 5/8-11x1 3/4 Grade 5 Zinc Plated Hex Cap Screw
19	10	HBC5/16X0.75	Hex Bolt Cerrated 5/16-18 x 3/4 Zinc Flange Bolt
20	2	HN 1/2 JAM	Hex Nut - 1/2-13 Zinc Plated Hex Jam Nut
21	5	HNC5/16	Serrated Hex Nut
22	5	HNP 5/16	Panel Nut - 5/16" U-Type Spring
23	4	LN #10 N	LN 3/16-24 Zinc Plated Nylon Insert Lock Nut
24	9	LN 1/2 N	LN 1/2-13 Zinc Plated Nylon Insert Lock Nut
25	2	LN 1/4 N	LN 1/4-20 Zinc Plated Nylon Insert Lock Nut
26	6	LN 3/8 N	LN 3/8-16 Zinc Plated Nylon Insert Lock Nut
27	2	LN 5/8 N	LN 5/8-11 Zinc Plated Nylon Insert Lock Nut
28	4	MS #10X24X1.75	Machine Screw - (Inch)
29	1	TL550-100-060	Limit Switch
30	3	TL559906	Safety Door Wheel
31	1	TL5X2-301-103	Upper Right Hand Safety Door Bracket

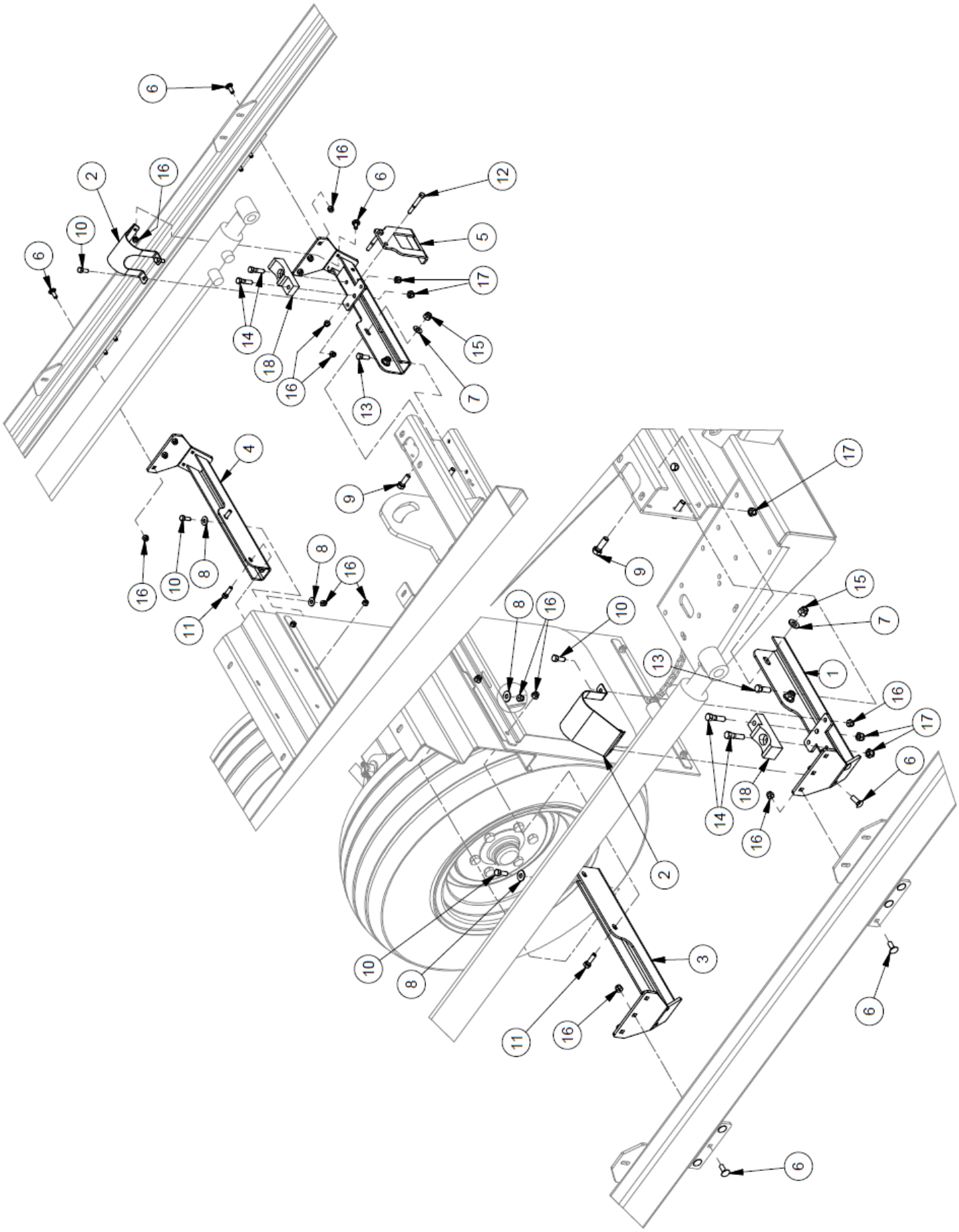
Safety Guards



Safety Guards

ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	25062	Door Switch Tab
2	2	28741	Door Roller Mount
3	1	31565	Door Mt. Extension for Folding Pushoff Arm
4	1	33352	Wrap Cut Tube Support
5	1	33355	Cut Push Tube
6	1	36629	Pipe Support
7	1	36900	Film Snap Spring
8	1	41258	Left Side Door Mount
9	1	41264	Right Side Door Mount
10	1	41267	Left Side Door
11	1	41274	Right Side Door
12	1	41276	Hoop Lock Pin
13	1	41325	Hoop Handle Lock
14	2	41658	Door Lock
15	4	CB 1/4-20 X0.75 Z5	Carriage Bolt - 1/4-20 x 3/4" Grade 5 Zinc
16	8	FW 1/2	Flatwasher - 1/2" Zinc Plated USS
17	4	FW 3/8	Flatwasher - 3/8" Zinc Plated USS
18	2	HB 1/2-13X1 Z5	Hex Bolt 1/2-13x1 Grade 5 Zinc Plated Hex Cap Screw
19	4	HB 1/2-13X1.5 Z5	Hex Bolt 1/2-13x1 1/2 Grade 5 Zinc Plated Hex Cap Screw
20	4	HB 1/2-13X2 Z5	Hex Bolt 1/2-13x2 Grade 5 Zinc Plated Hex Cap Screw
21	4	HB 1/2-13X2.5 Z5	Hex Bolt 1/2-13x2 1/2 Grade 5 Zinc Plated Hex Cap Screw
22	2	HB 1/4-20X1 FHSCS	Hex Bolt - 1/4"-20 x 1" Flat Socket Cap Screw
23	2	HB 1/4-20X1 Z5	Hex Bolt 1/4-20x1 Grade 5 Zinc Plated Hex Cap Screw
24	1	HB 1/4-20X2 Z5	Hex Bolt 1/4-20x2 Grade 5 Zinc Plated Hex Cap Screw
25	2	HB 3/8-16X1 Z5	Hex Bolt 3/8-16x1 Grade 5 Zinc Plated Hex Cap Screw
26	4	HB 3/8-16X1.25 Z5	Hex Bolt 3/8-16x1 1/4 Grade 5 Zinc Plated Hex Cap Screw
27	6	HN 1/2 JAM	Hex Nut - 1/2-13 Zinc Plated Hex Jam Nut
28	8	LN #10 N	LN 3/16-24 Zinc Plated Nylon Insert Lock Nut
29	10	LN 1/2 N	LN 1/2-13 Zinc Plated Nylon Insert Lock Nut
30	7	LN 1/4 N	LN 1/4-20 Zinc Plated Nylon Insert Lock Nut
31	6	LN 3/8 N	LN 3/8-16 Zinc Plated Nylon Insert Lock Nut
32	8	MS #10X24X1.75	Machine Screw - (Inch)
33	2	TL550-100-060	Limit Switch
34	11	TL559906	Door Roller
35	1	TL5X2-301-103	Upper Right Hand Safety Door Bracket

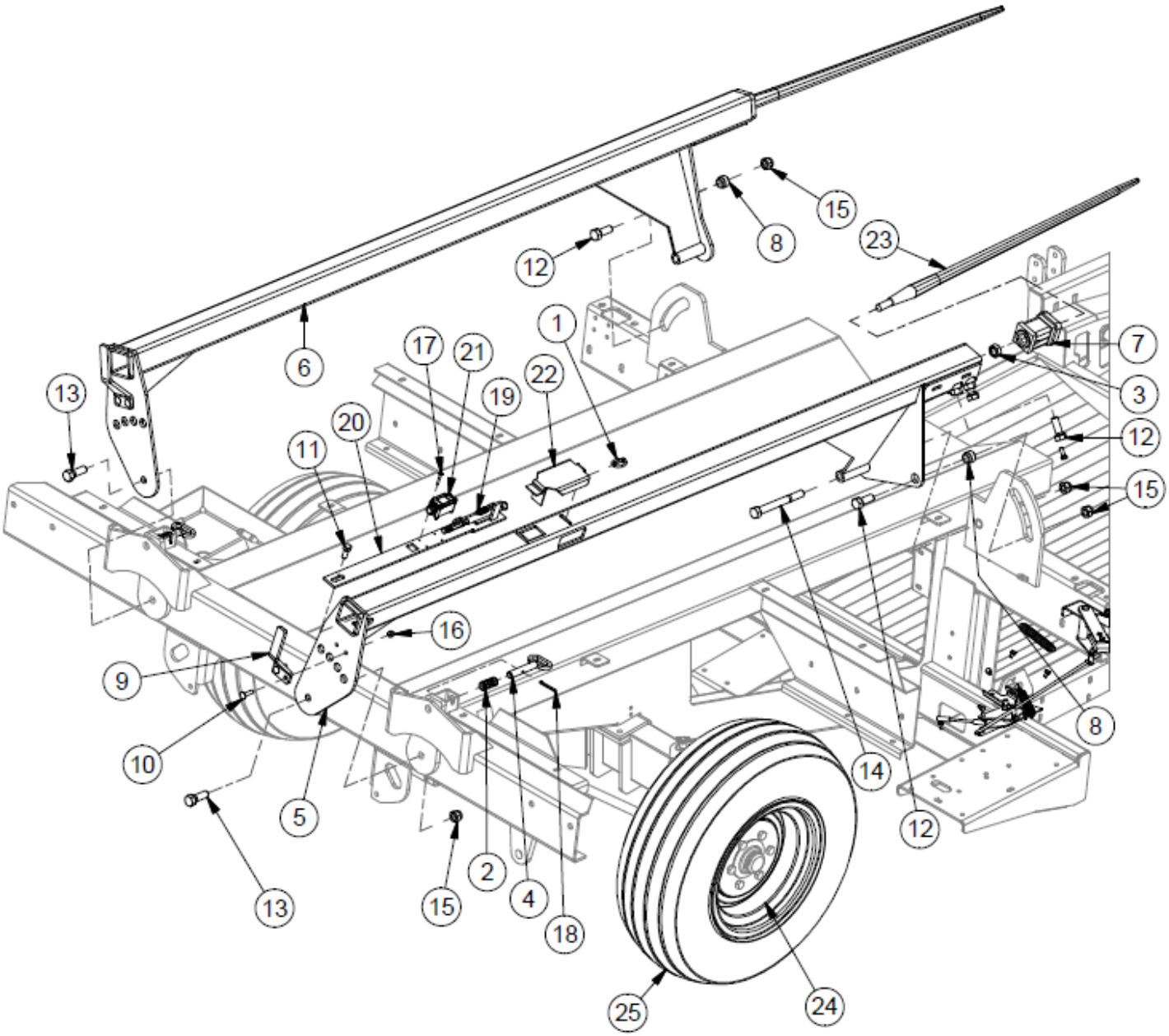
Cylinder Supports



Cylinder Supports

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	41249	Left Center Cylinder Support
2	2	41294	Cylinder Tie Down
3	1	41369	Left Side Channel Support
4	1	41372	Right Side Channel Support
5	1	41653	Pushoff Tube Holder
6	16	CB 3/8-16X1.0 Z5	Carriage Bolt - 3/8-16 x 1” Grade 5 Zinc
7	4	FW 1/2	Flatwasher - 1/2” Zinc Plated USS
8	8	FW 3/8	Flatwasher - 3/8” Zinc Plated USS
9	4	HB 1/2-13X1.1/2 Z5	Hex Bolt 1/2-13 x 1 1/2” Grade 5 Zinc Plated Hex Cap Screw NC
10	8	HB 3/8-16 UNC - 1	Hex Bolt 3/8-16 x 1” Grade 5 Zinc Plated Hex Cap Screw NC
11	4	HB 3/8-16X1.1/4 Z5	Hex Bolt 3/8-16 x 1 1/4” Grade 5 Zinc Plated Hex Cap Screw NC
12	2	HB 3/8-16X2.3/4 Z5	Hex Bolt 3/8”-16 x 2-1/4” Grade 5 Zinc Plated Hex Cap Screw NC
13	4	HB 7/16-14X1.1/4 Z5	Hex Bolt Plated Gr. 5 NC
14	4	HB 7/16-14X1.3/4 Z5	Hex Bolt Plated Gr. 5 NC
15	59	LN 1/2 N	Locknuts - 1/2-13 Zinc Plated Nylon Insert Lock Nut
16	107	LN 3/8 N	Locknuts - 3/8-16 Zinc Plated Nylon Insert Lock Nut
17	12	LN 7/16	Center Locknuts - 7/16-14 Top Lock Nut
18	2	TL550-200-109	Cylinder Support

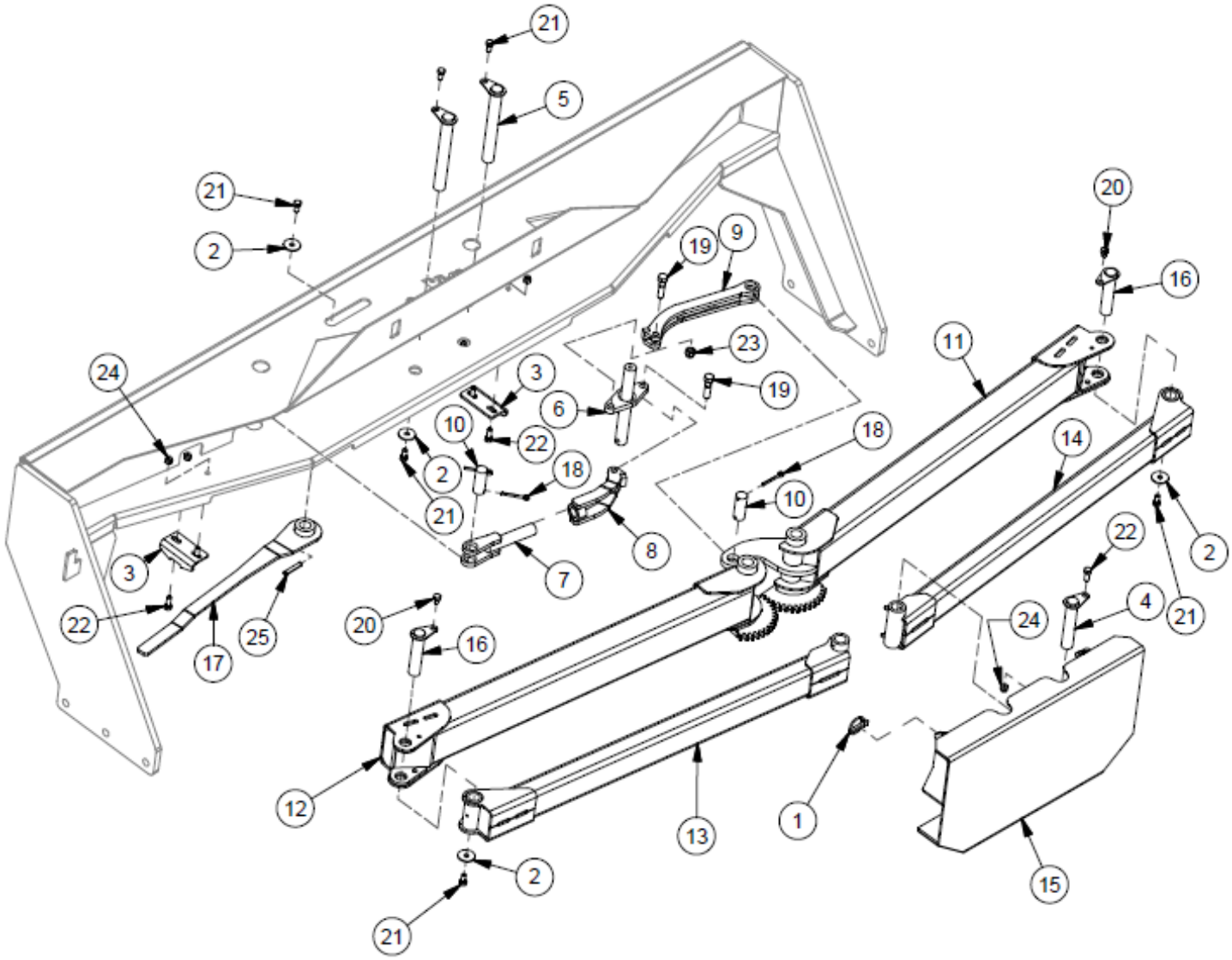
Bale Saddles



Bale Saddles

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	25680	Lynch Pin 3/16 x 1.5
2	2	27566	Last Pushoff Spring Pin
3	2	39510	Conus 1 Bale Spear Nut
4	2	41110	Bed Lock Handle
5	1	41128	Left Bale Saddle
6	1	41132	Right Bale Saddle
7	2	41134	Spear Socket
8	2	41141	Bolt Bushing
9	2	41149	Handle
10	4	CB 3/8-16X1.1/2 Z5	Carriage Bolt - 3/8-16 x 1 1/2” Grade 5 Zinc
11	1	HB 1/2-13X1.1/4 Z5	Hex Bolt 1/2-13 x 1 1/4” Grade 5 Zinc Plated Hex Cap Screw NC
12	6	HB 3/4-10X2.0 Z5	Hex Bolt - 3/4-10 x 2” Grade 5 Zinc Plated Hex Cap Screw NC
13	2	HB 3/4-10X2.1/2 Z5	Hex Bolt - 3/4-10 x 2 1/2” Grade 5 Zinc Plated Hex Cap Screw NC
14	2	HB 3/4-10X7.0 Z5	Hex Bolt - 3/4”-10 x 7” Grade 5 Zinc Plated Hex Cap Screw
15	6	LN 3/4 N	Locknuts - 3/4-10 Zinc Plated Nylon Insert
16	107	LN 3/8 N	Locknuts - 3/8-16 Zinc Plated Nylon Insert Lock Nut
17	4	MS 10X1 1/2	Machine Screw 10-24x1-1/2
18	2	RP 1/4X2.1/4	Pin - Roll Pin 1/4 x 2 1/4” (Slotted Spring Pin)
19	1	TL500-100-062	Extension Spring (Trigger)
20	1	TL553900	Trigger Switch
21	1	TL5X2-100-221	Switch
22	1	TL5X2-301-142	Bale Trigger
23	2	TL5X2-301-144	Bale Spear (43” Tine Conus 1)
	2	WHE 11LX15X8	11L x 15 8 Ply Tubeless Tire - Galaxy-Assembly
24	2	WHE 1586	Bolt Rim - 15 x 8 x 6
25	2	WHE TI11-15-8	Tire Only - Galaxy

Front Pushoff

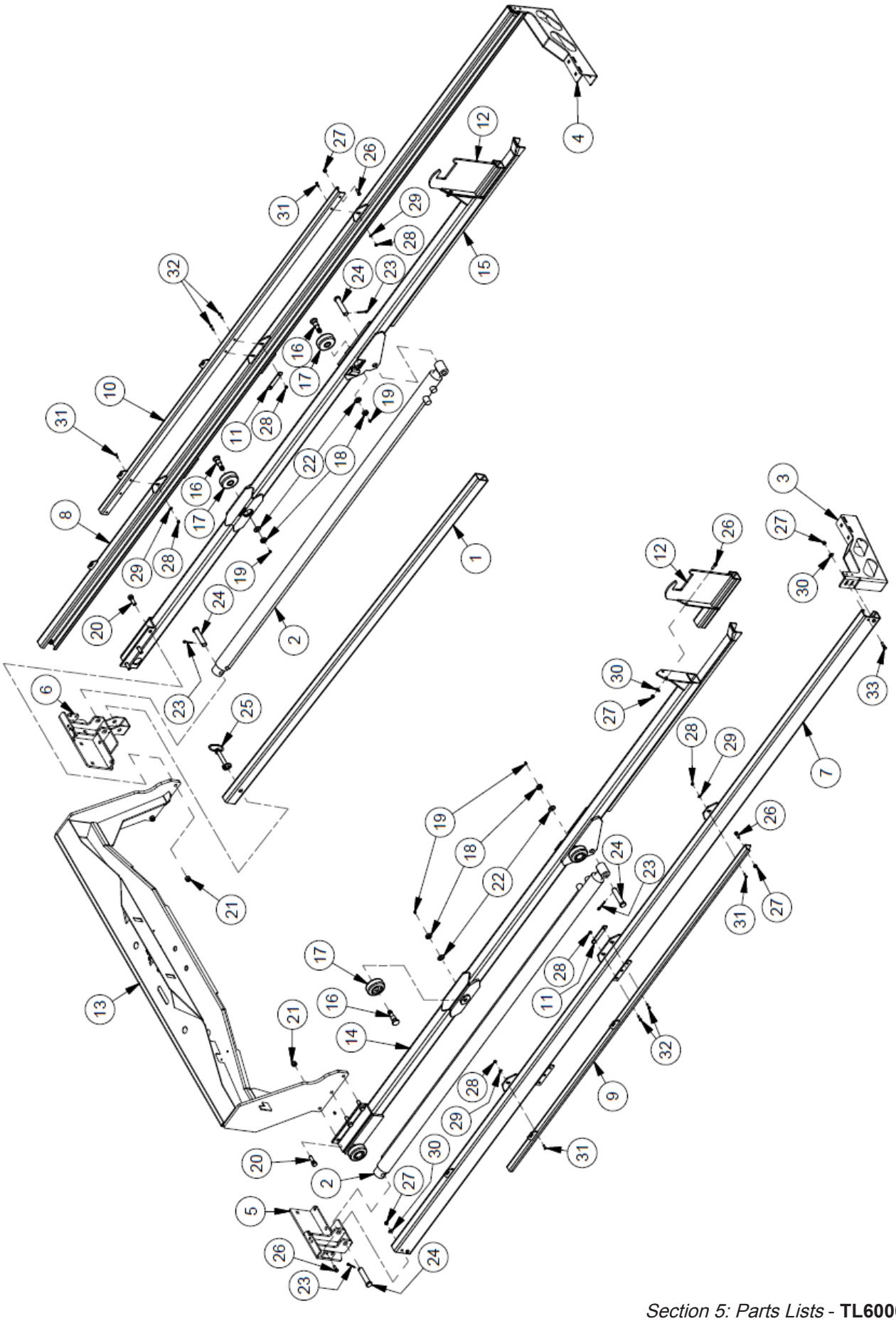


Front Pushoff

ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	28940	Lynch Pin - 3/8 x 1-3/4”
2	5	30924	Pin Washer
3	2	30958	Handle Holder
4	2	30980	Last Pushoff Plate Pin
5	2	30982	Pushoff Middle Pin
6	1	30983	Linkage Pivot
7	1	30985	Linkage Adjuster
8	1	30986	Pivot Adjuster
9	1	30989	Solid Pivot Arm
10	2	30993	Ram Linkage Mount Pin
11	1	41164	Right Front Arm
12	1	41175	Left Front Arm
13	1	41176	Left Short Arm
14	1	41185	Right Short Arm
15	1	41187	Push Plate
16	2	41192	Last Pushoff Arm Pin
17	1	41338	Last Pushoff Handle
18	4	CP 3/16 X 2.0	Pin, Cotter - 3/16 x 2.0
19	2	HB 1/2-13X2.0 Z5	Hex Bolt 1/2-13 x 2” Grade 5 Zinc Plated Hex Cap Screw NC
20	2	HB 3/8-16X 1/2 Z5	Hex Bolt Plated Gr. 5 NC
21	7	HB 3/8-16X 3/4 Z5	Hex Bolt - 3/8-16 x 3/4” Grade 5 Zinc Plated Hex Cap Screw NC
22	6	HB 3/8-16X1.0 Z5	Hex Bolt 3/8-16 x 1” Grade 5 Zinc Plated Hex Cap Screw NC
23	2	LN 1/2 N	Locknuts - 1/2-13 Zinc Plated Nylon Insert Lock Nut
24	6	LN 3/8 N	Locknuts - 3/8-16 Zinc Plated Nylon Insert Lock Nut
25	1	RP 3/8X 2.0	Pin - Roll Pin 3/8 x 2.0

Side Rails

When replacing Items 14 or 15, wrappers prior to serial number 1860032 require additional two (2) pieces of Items 16-19 and 22. Four (4) peices each if replacing both 14 and 15.

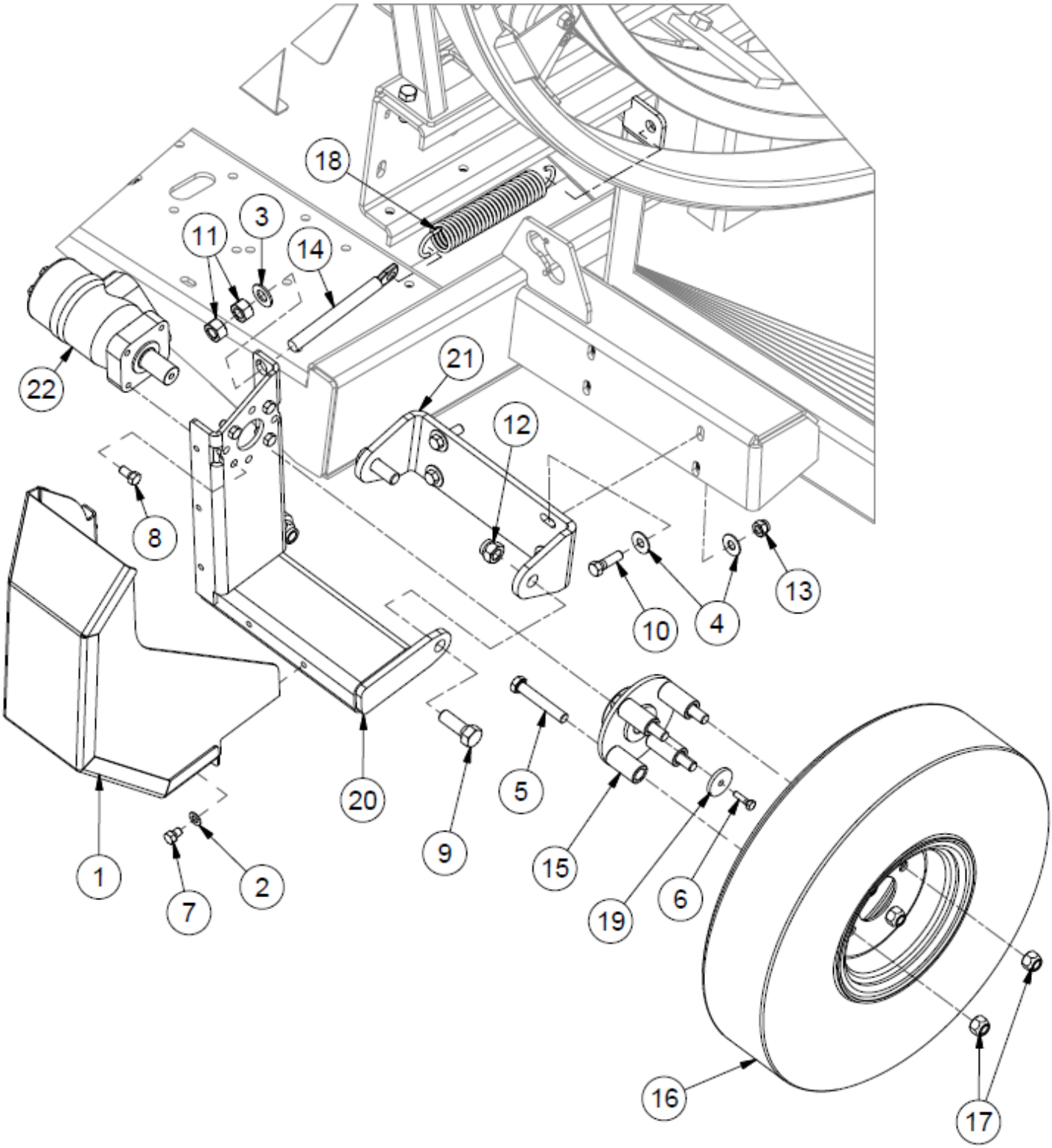


Side Rails

When replacing Items 14 or 15, wrappers prior to serial number 1860032 require additional two (2) pieces of Items 16-19 and 22. Four (4) peices each if replacing both 14 and 15.

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	28291	Pushoff Tube
2	2	40253	Ram Cylinder
3	1	41120	Left Side Light Bracket
4	1	41124	Right Side Light Bracket
5	1	41200	Front Left Corner
6	1	41202	Front Right Corner
7	1	41208	Left Side Rail
8	1	41214	Right Side Rail
9	1	41245	Left Door Track
10	1	41247	Right Door Track
11	2	41279	Door Mount Pinch Plate
12	2	41654	Last Pushoff Bracket
13	1	41150	6000 Ram
14	1	41194	Left Side Ram Tube
15	1	41196	Right Side Ram Tube
16	6	TL5X2-301-156	Ram Wheel Axle
17	6	TLWHEEL0205	Wheel, Ram
18	6	HN 3/4 JAM	Hex Nut - 3/4-16 Zinc Plated Hex Jam Nut
19	6	GR.25X28	GREASE NIPPLE
20	6	HB 5/8-18X2 Z5	Hex Bolt 5/8-18x2 Grade 5 Zinc Plated Hex Cap Screw
21	6	LN 5/8 F	Center Locknuts (5/8-18) 2-Way Fine Thread
22	6	FW 3/4	Flatwasher - 3/4" Zinc Plated USS
23	4	CP 3/16 X 2.0	Pin, Cotter - 3/16 x 2.0
24	4	TL550-100-042	Cylinder Pin
25	1	TL550-100-050	Pushoff Tube Pin
26	10	HB 3/8-16X1.25 Z5	Hex Bolt 3/8-16x1 1/4 Grade 5 Zinc Plated Hex Cap Screw
27	14	LN 3/8 N	LN 3/8-16 Zinc Plated Nylon Insert Lock Nut
28	8	LN 1/4 N	LN 1/4-20 Zinc Plated Nylon Insert Lock Nut
29	4	FW 1/4	Flatwasher - 1/4" Zinc Plated USS
30	12	FW 3/8	Flatwasher - 3/8" Zinc Plated USS
31	4	HB 1/4-20X1 FHSCS	Hex Bolt - 1/4"-20 x 1" Flat Socket Cap Screw
32	4	HB 1/4-20X1.25 FHSCS	Hex Bolt - 1/4"-20 x 1 1/4" Flat Socket Cap Screw
33	4	HB 3/8-16X1.5 Z5	Hex Bolt 3/8-16x1 1/2 Grade 5 Zinc Plated Hex Cap Screw

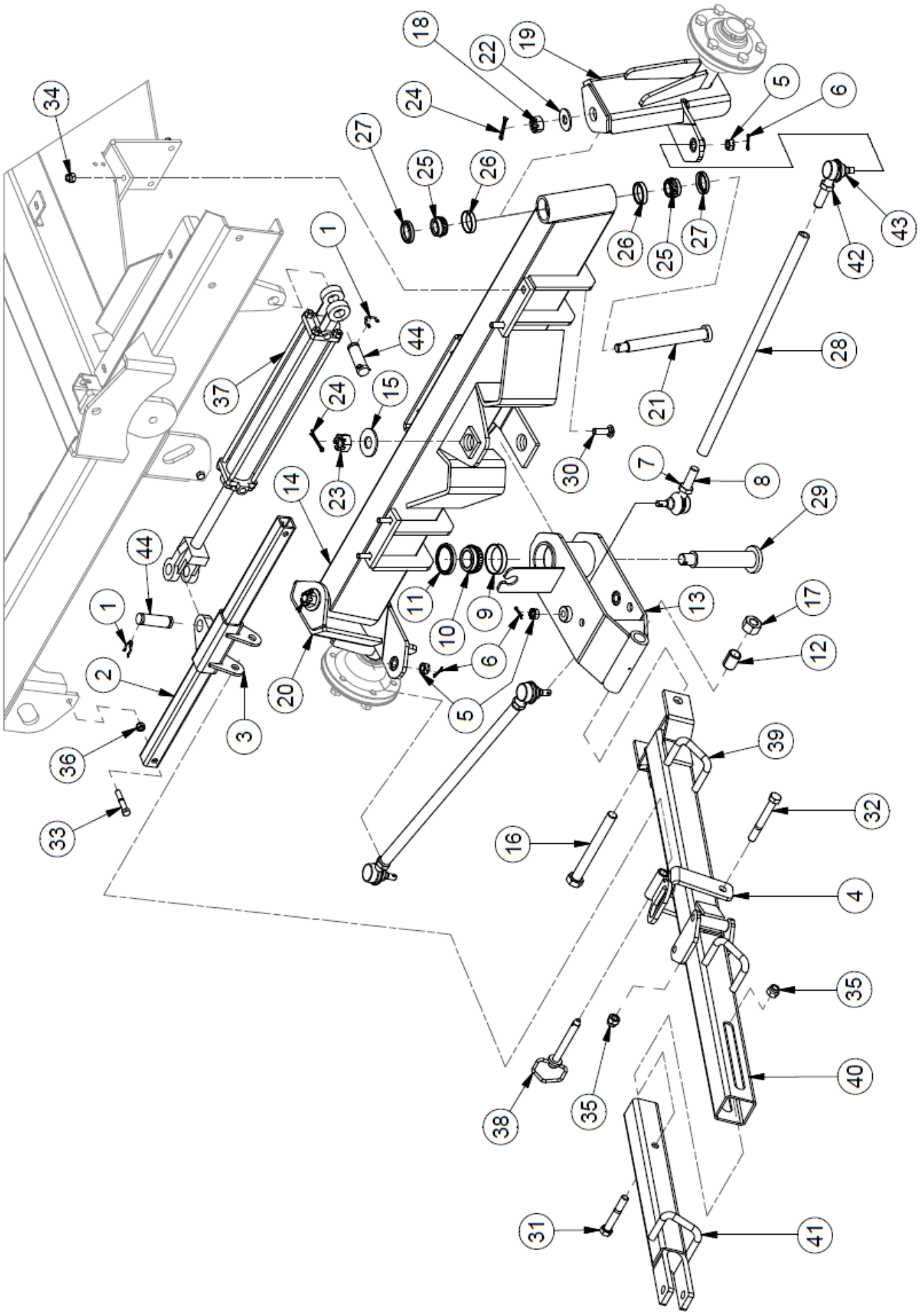
Hoop Drive



Hoop Drive

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	41378	Hoop Wheel Guard
2	5	FW 3/8	Flatwasher - 3/8" Zinc Plated USS
3	1	FW 5/8	Flatwasher - 5/8" Zinc Plated USS
4	8	FW 7/16	Flatwasher - 7/16" Zinc Plated USS
5	4	HB 1/2-20X3.0 Z5	Hex Bolt 1/2"-20 x 3" Grade 5 Zinc Plated Hex Cap Screw NF
6	1	HB 1/4-20X1 Z5	Hex Bolt 1/4-20x1 Grade 5 Zinc Plated Hex Cap Screw
7	5	HB 3/8-16X0.5 Z5	Hex Bolt 3/8-16x1/2 Grade 5 Zinc Plated Hex Cap Screw
8	4	HB 3/8-16X0.75 Z5	Hex Bolt 3/8-16x3/4 Grade 5 Zinc Plated Hex Cap Screw
9	2	HB 5/8-11X1.75 Z5	Hex Bolt 5/8-11x1 3/4 Grade 5 Zinc Plated Hex Cap Screw
10	4	HB 7/16-14X1.5 Z5	Hex Bolt 7/16-14x1 1/2 Grade 5 Zinc Plated Hex Cap Screw
11	2	HN 5/8	Hex Nut 5/8"-11 Grade 5 Zinc Plated Finished
12	2	LN 5/8 N	LN 5/8-11 Zinc Plated Nylon Insert Lock Nut
13	4	LN 7/16 N	LN 7/16-14 Zinc Plated Nylon Insert Lock Nut
14	1	PP00051	Flat Eye Bolt 5/8 x 7.0
15	1	TL500-100-051	Wheel Hub- 1" Shaft
16	1	TL500-100-052	Drive Wheel
17	4	TL500-100-054	Wheel Nut, 1/2"
18	1	TL500-101-231	Wheel Tensioner Spring
19	1	TL552404	Hoop Motor Plate
20	1	TL5X2-100-049	Hoop Wheel Mount
21	1	TL5X2-100-090	Drive Base Bracket
22	1	TL5X2-200-050	Hydraulic Motor

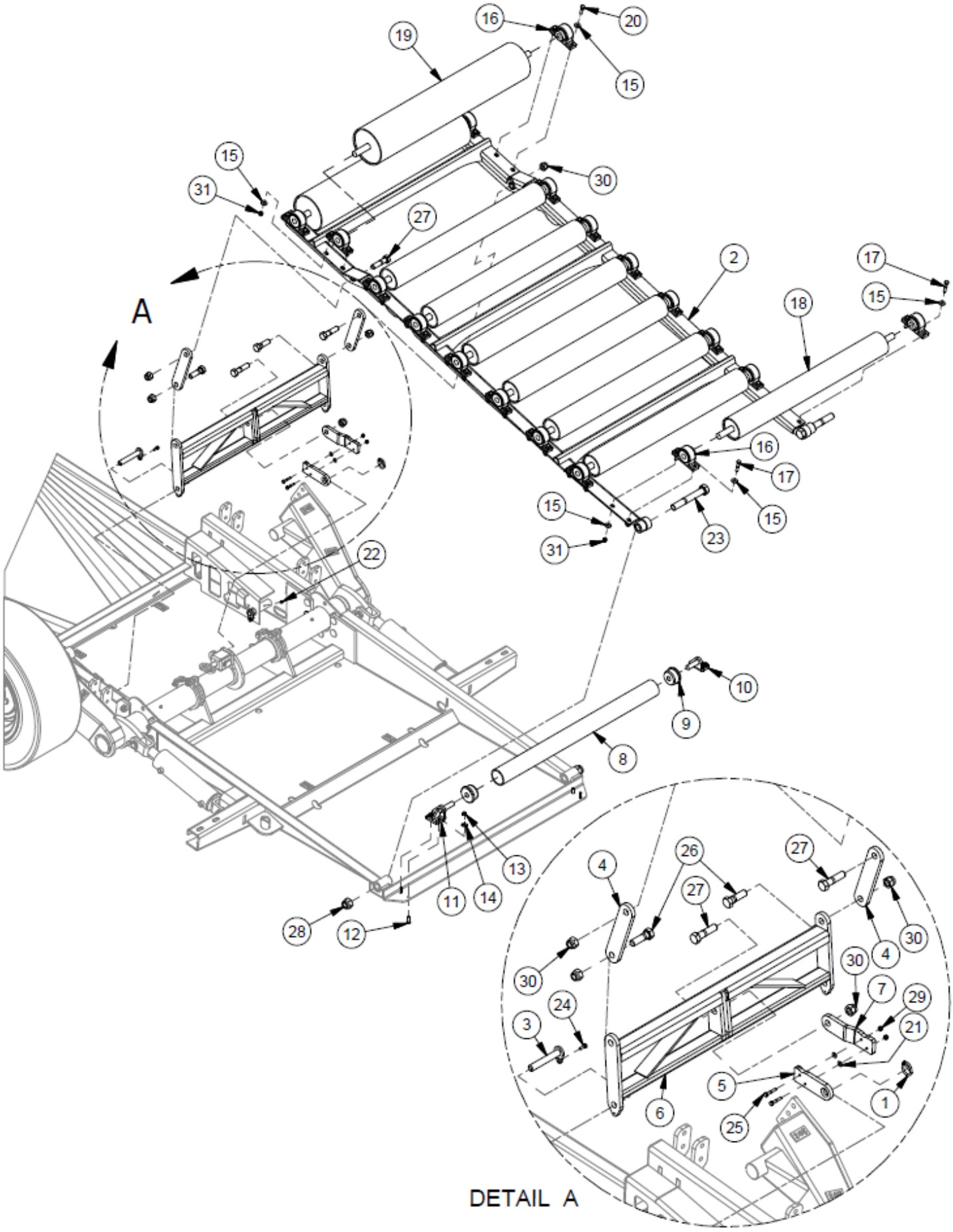
Front Steering



Front Steering

ITEM	QTY	PART NUMBER	DESCRIPTION
1	4	25299	Cylinder Clip
2	1	41096	Steering Tube
3	1	41100	Steering Cylinder Mount
4	1	41126	Tongue Holder
5	4	TL550-111-004	Hex Nut, Slotted 9/16” NF
6	4	TL550-111-005	Cotter Pin, 1/8 x 1
7	4	TL550-111-003	Jam Nut, 3/4 (NF RH)
8	4	TL550-111-006	Tie Rod End Right Thread
9	2	TL550-111-009	Tongue Bracket Timkin Cup
10	2	TL550-111-010	Tongue Bracket Timkin Cone
11	2	TL550-111-011	Tongue Bracket Seal
12	2	TL550-111-012	Tongue Bracket Bushing
13	1	TL550-221-008	Tongue Bracket
14	1	41971	TL6000 Front Axle Weldment
15	1	FW 1.0	Flatwasher - 1” Zinc Plated USS
16	1	HB 7/8-9X8.0 Z5	Hex Bolt Plated Gr. 5 NC
17	1	LN 7/8 N	Locknuts 7/8-9 Zinc Plated Nylon Insert Lock Nut
18	2	TL500-100-070	Hex Nut, Slotted 1”
19	1	TL550-100-083	Left Side Spindle Assy.
20	1	TL550-100-084	Right Side Spindle Assy.
21	2	TL550-100-085	Spindle Pin
22	2	TL550-111-014	Flat Washer, 13/16
23	1	TL550-111-015	Tongue Bracket Nut
24	3	TL550-111-016	Cotter Pin, 3/16 x 2
25	4	TL550-200-080	Spindle Bearing Timkin Cone
26	4	TL550-200-081	Spindle Bearing Timkin Cup
27	4	TL550-200-082	Spindle Bearing Seal
28	2	TL550-220-001	Tie Rod
29	1	TL550-221-013	Tongue Bracket Pin
30	8	CB 1/2-13X1.3/4 Z5	Carriage Bolt Zinc
31	1	HB 5/8-11X4.0 Z5	Hex Bolt 5/8-11 x 4” Grade 5 Zinc Hex Cap Screw NC
32	1	HB 5/8-11X5.0 Z5	Hex Bolt - 5/8”-11 x 5” Grade 5 Zinc Plated Hex Cap Screw NC
33	2	HB 7/16-14X2.1/2 Z5	Hex Bolt Plated Gr. 5 NC
34	8	LN 1/2 N	Locknuts - 1/2-13 Zinc Plated Nylon Insert Lock Nut
35	2	LN 5/8 N	Locknut - 5/8-11 Zinc Plated Nylon Insert Lock Nut
36	2	LN 7/16	Center Locknuts - 7/16-14 Top Lock Nut
37	1	TL500-100-103	Hydraulic Cylinder, 2 x 16
38	1	TL500-100-154	Tongue Pin
39	1	TL550-100-051	Upper Tongue Assembly
40	1	TL550-100-052	Tongue Swinging End
41	1	TL550-100-053	Sliding Tongue
42	1	TL550-111-002	Jam Nut, 3/4 (NF LH)
43	1	TL550-111-007	Tie Rod End Left Thread
44	6	TL5X2-500-116	Cylinder Pin

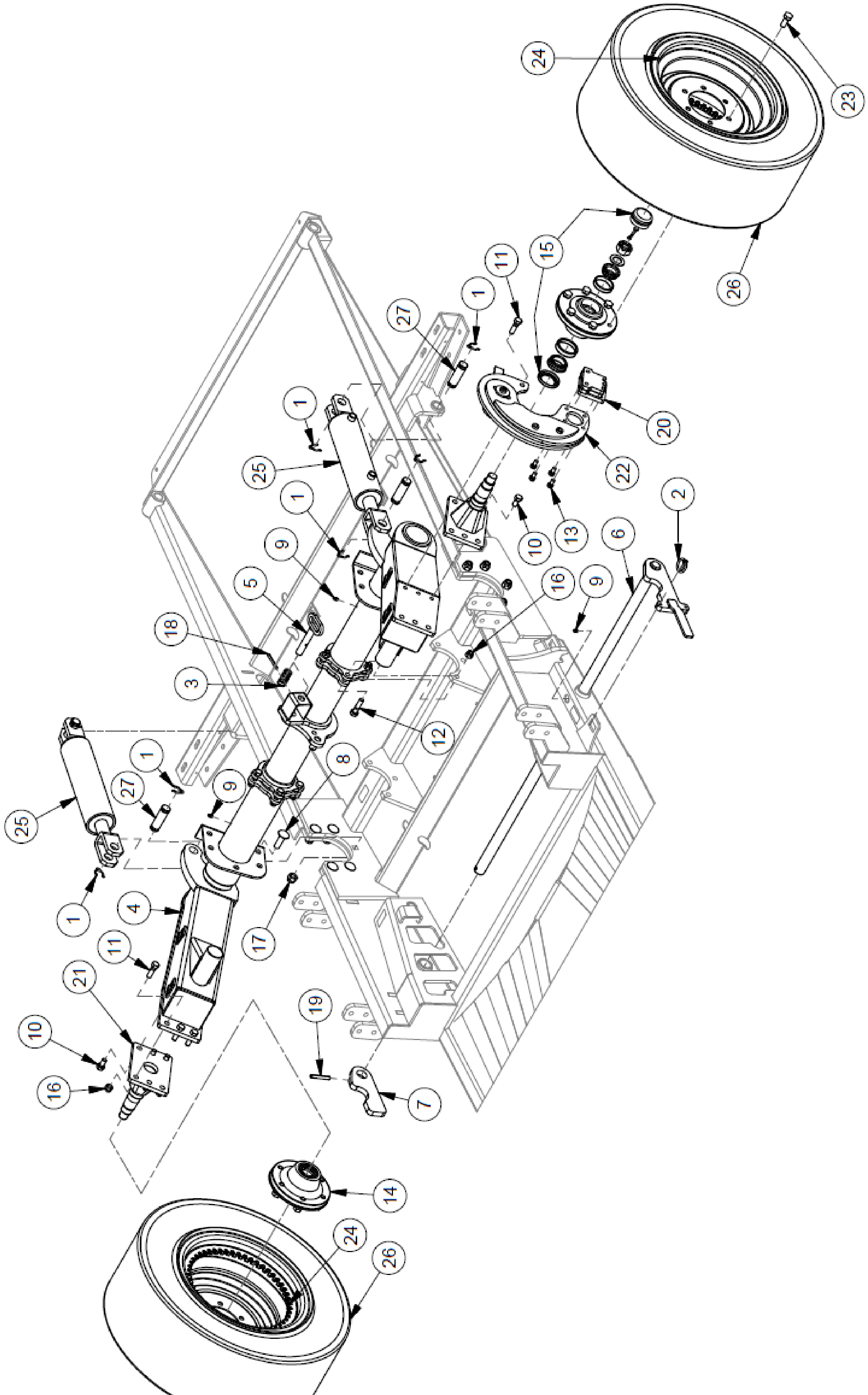
Roller Bed



Roller Bed

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	25680	Lynch Pin 3/16 x 1.5
2	1	41089	Roller Bed (weldment)
3	2	41105	Bed Pivot Pin
4	2	41107	Linkage
5	1	41108	Bed Linkage
6	1	41114	Roller Bed Pivot Frame
7	1	41666	Bed Linkage
8	1	31384	Roller
9	2	T650RL04	Small Roller Bearing
10	1	TL550-200-004	Last Right Small Roller Bracket
11	1	TL550-200-005	Last Left Small Roller Bracket
12	4	HB 5/16-18X1.25 FHSCS	Hex Bolt - 5/16"-18 x 1 1/4" Flat Socket Cap Screw
13	4	LN 5/16 N	LN 5/16-18 Zinc Plated Nylon Insert Lock Nut
14	4	FW 5/16	Flatwasher - 5/16" Zinc Plated USS
15	72	FW 3/8	Flatwasher - 3/8" Zinc Plated USS
16	18	BEA P205-16-1	Pillow Block Bearing 1"- BEA SBP205-16-1
17	28	HB 3/8-16X2 Z5	Hex Bolt 3/8-16x2 Grade 5 Zinc Plated Hex Cap Screw
18	7	TL500-100-099	Roller, 4"
19	2	TL500-100-086	Roller, Large
20	8	HB 3/8-16X1.5 Z5	Hex Bolt 3/8-16x1 1/2 Grade 5 Zinc Plated Hex Cap Screw
21	2	FW 1/4	Flatwasher - 1/4" Zinc Plated USS
22	2	GR 1/4 X 28	Grease Fitting 1/4-28 Strght-Standrd Zerk
23	2	HB 1-8X7 Z5	Hex Bolt 1-8x7 Grade 5 Zinc Plated Hex Cap Screw
24	6	HB 1/4-20X0.75 Z5	Hex Bolt 1/4-20x3/4 Grade 5 Zinc Plated Hex Cap Screw
25	2	HB 1/4-20X1.5 Z5	Hex Bolt 1/4-20x1 1/2 Grade 5 Zinc Plated Hex Cap Screw
26	2	HB 3/4-10X2.5 Z5	Hex Bolt 3/4-10x2 1/2 Grade 5 Zinc Plated Hex Cap Screw
27	3	HB 3/4-10X3 Z5	Hex Bolt 3/4-10x3 Grade 5 Zinc Plated Hex Cap Screw
28	2	LN 1 N	LN 1-8 Zinc Plated Nylon Insert Lock Nut
29	2	LN 1/4 N	LN 1/4-20 Zinc Plated Nylon Insert Lock Nut
30	5	LN 3/4 N	LN 3/4-10 Zinc Plated Nylon Insert Lock Nut
31	36	LN 3/8 N	LN 3/8-16 Zinc Plated Nylon Insert Lock Nut

Rear Axle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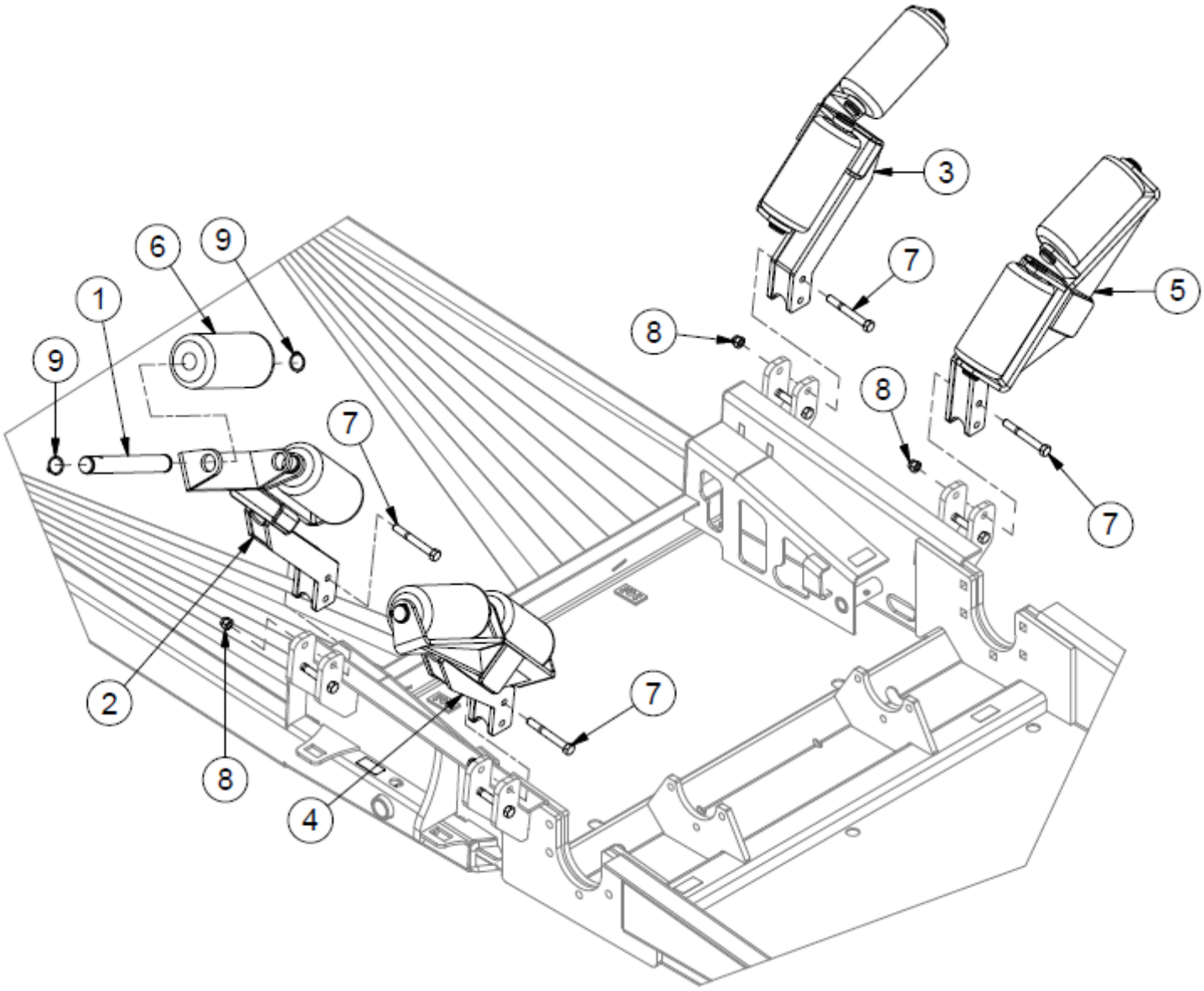
Rear Axle

ITEM	QTY	PART NUMBER	DESCRIPTION
1	8	25299	Cylinder Clip
2	3	25680	Lynch Pin 3/16 x 1.5
3	3	27566	Spring Compression for Wrappers .97 OD x 2.0 Long
4	1	41074	Rear Cam Axle (weldment)
5	3	41110	Bed Lock Handle (weldment)
6	1	42528	Left Side Lock Yoke
7	1	42530	Right Side Lock Yoke
8	10	CB 5/8-11 X2 Z5	Carriage Bolt - 5/8-11 x 2" Grade 5 Zinc
9	4	GR 1/4 X 28	Grease Fitting 1/4-28 Strght-Standrd Zerk
10	3	HB 1/2-13X1 Z5	Hex Bolt 1/2-13x1 Grade 5 Zinc Plated Hex Cap Screw
11	4	HB 1/2-13X1.75 Z5	Hex Bolt 1/2-13x1 3/4 Grade 5 Zinc Plated Hex Cap Screw
12	6	HB 1/2-13X2 Z5	Hex Bolt 1/2-13x2 Grade 5 Zinc Plated Hex Cap Screw
13	4	HB 3/8-16X0.75 Z5	Hex Bolt 3/8-16x3/4 Grade 5 Zinc Plated Hex Cap Screw
14	2	HUB 4000#	Hub 4000 lb
15	2	HUB4000-CCS	Complete Bearing and Seals Kit (Item 13-18)
16	9	LN 1/2 N	LN 1/2-13 Zinc Plated Nylon Insert Lock Nut
17	10	LN 5/8 N	LN 5/8-11 Zinc Plated Nylon Insert Lock Nut
18	1	RP 1/4 x 2 1/4	Pin - Roll Pin 1/4 x 2 1/4
19	1	RP 3/8 x 2 1/2	Pin - Roll Pin 3/8 x 2 1/2
20	1	TL109-100-345	Brake Pad
21	2	TL109-100-356	Spindle Weldment Rear
22	1	TL109-100-360	Power Drive Assembly RH
23	12	TL500-100-072	Wheel Stud - Wheel Bolt 9/16 x 1 3/4
24	2	TL550-200-134	Rim c/w Gear
25	2	TL5X2-100-207	Cylinder, 3 .5 x 8
26	2	TL5X2-500-114	Lug Tire
27	4	TL5X2-500-116	Cylinder Pin

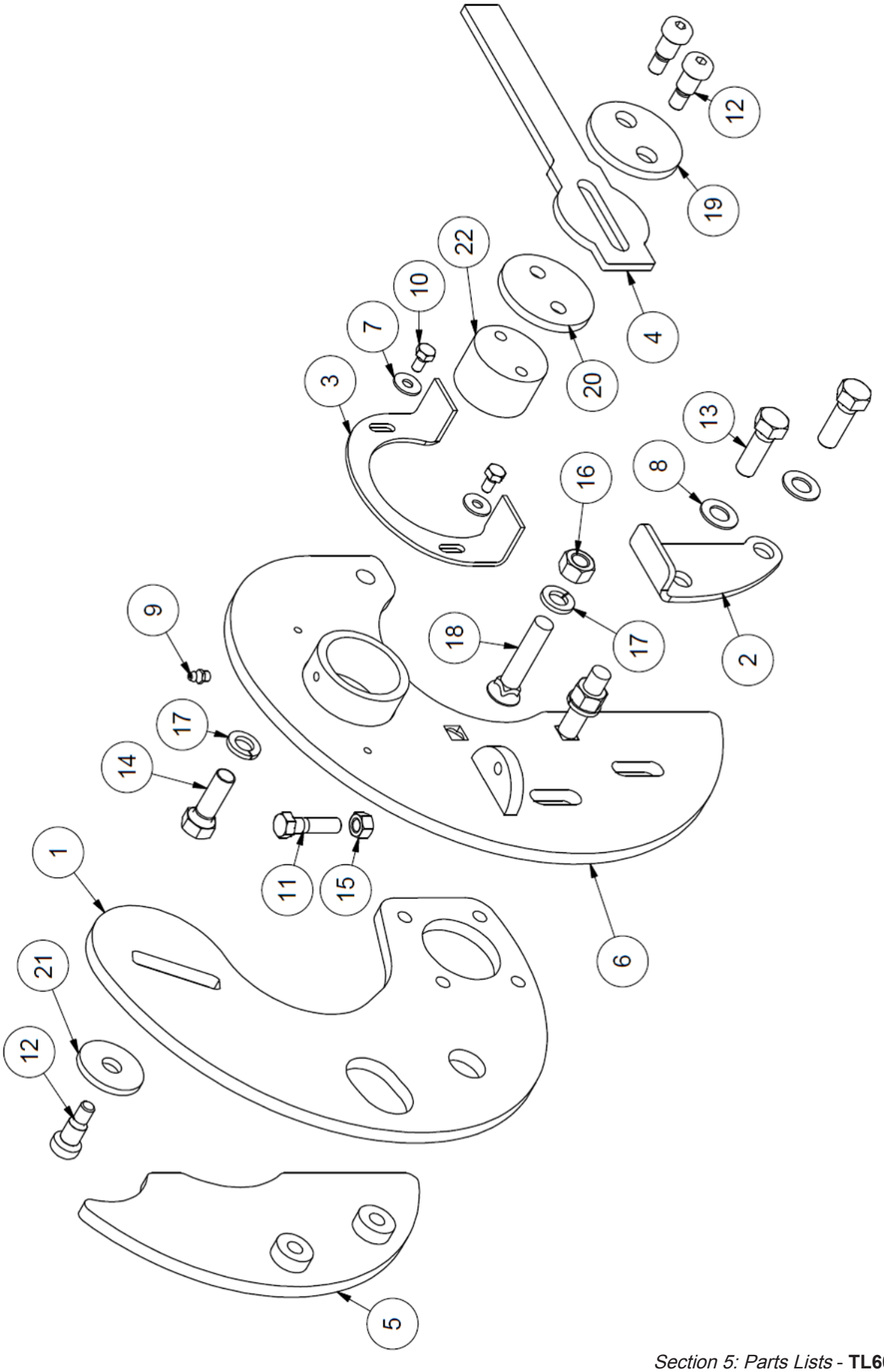
Guide Rollers



Guide Rollers

ITEM	QTY	PART NUMBER	DESCRIPTION
1	8	41302	Guide Roller Shaft
2	1	41310	L F Guide Roller Mount
3	1	41344	R F Guide Roller Mount
4	1	41346	L B Guide Roller Mount
5	1	41352	R B Guide Roller Mount
6	8	41604	8" UHMW Guide Roller
7	8	HB 1/2-13X4 Z5	Hex Bolt 1/2-13x4 Grade 5 Zinc Plated Hex Cap Screw
8	8	LN 1/2 N	LN 1/2-13 Zinc Plated Nylon Insert Lock Nut
9	16	RR 1.188	Retaining Ring-1 3/16- External

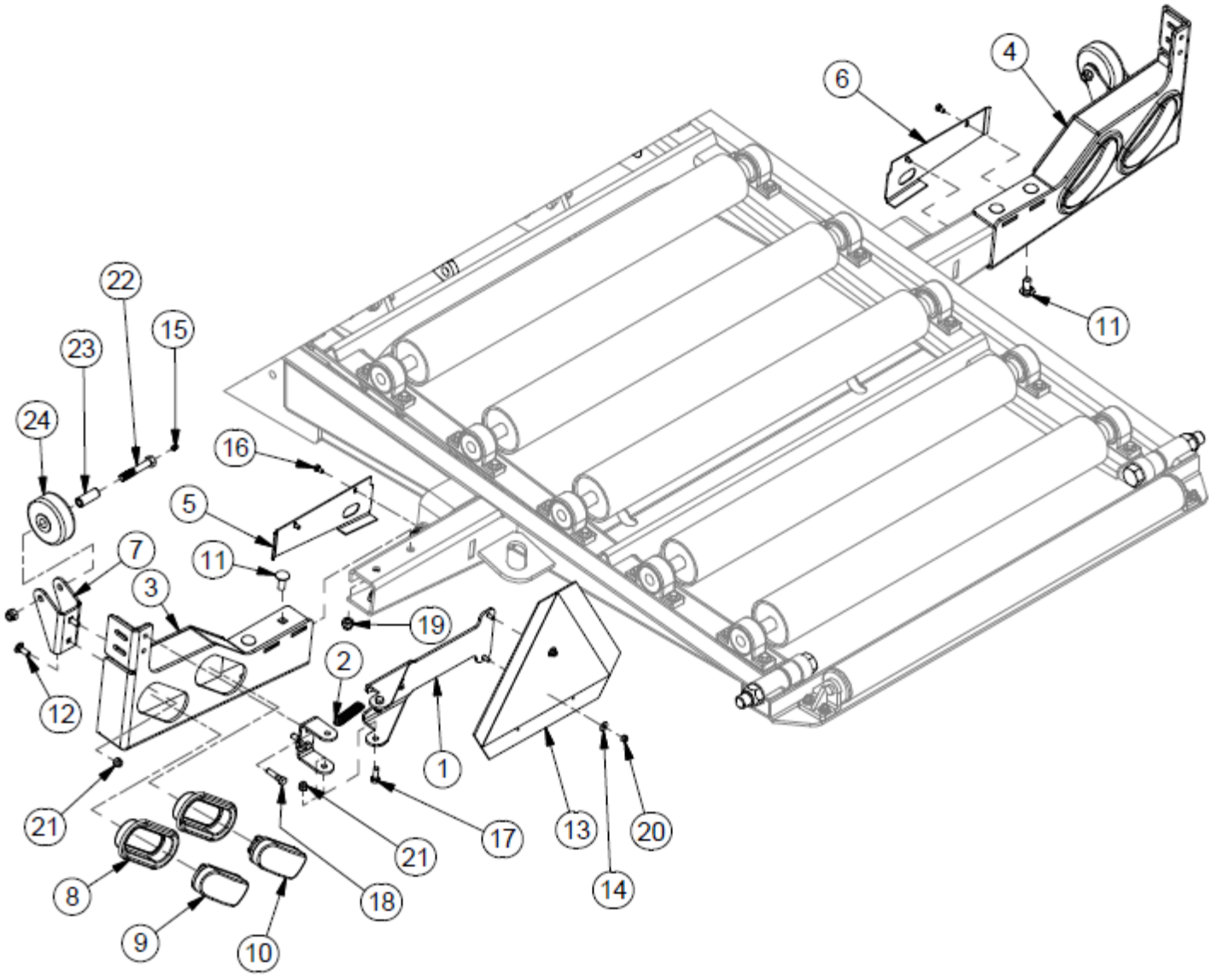
Power Drive Bracket



Power Drive Bracket

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	25116	Drive Engaging Plate
2	1	25119	Outside Plate Guide
3	1	25121	Handle Lock
4	1	25122	Handle
5	1	25123	Bolt-On Plate
6	1	25124	Main Bracket
7	2	Obtain Locally	FW .25 Flat Washer
8	2	Obtain Locally	FW .5 Flat Washer
9	1	Obtain Locally	.25 Grease Zerk
10	2	Obtain Locally	HB .25 X .5 Hex Bolt
11	1	Obtain Locally	HB .375 X 1.5 Hex Bolt
12	3	Obtain Locally	HB .375 X .625 SS
			Socket Head Shoulder Screw
13	2	Obtain Locally	HB .5 X 1.5 Hex Bolt
14	1	Obtain Locally	HB .5 X 1.5 UNF Hex Bolt
15	1	Obtain Locally	HN .375 Hex Nut
16	2	Obtain Locally	HN .5 Hex Nut
17	3	Obtain Locally	LW .5 Lock Washer
18	2	Obtain Locally	PB .5 X 2.5 Plow Bolt
19	1	WHEEL2012	Outside Handle Washer
20	1	WHEEL20121	Inside Handle Washer
21	1	WHEEL2013	Inside Cam Washer
22	1	WHEEL9	Eccentric

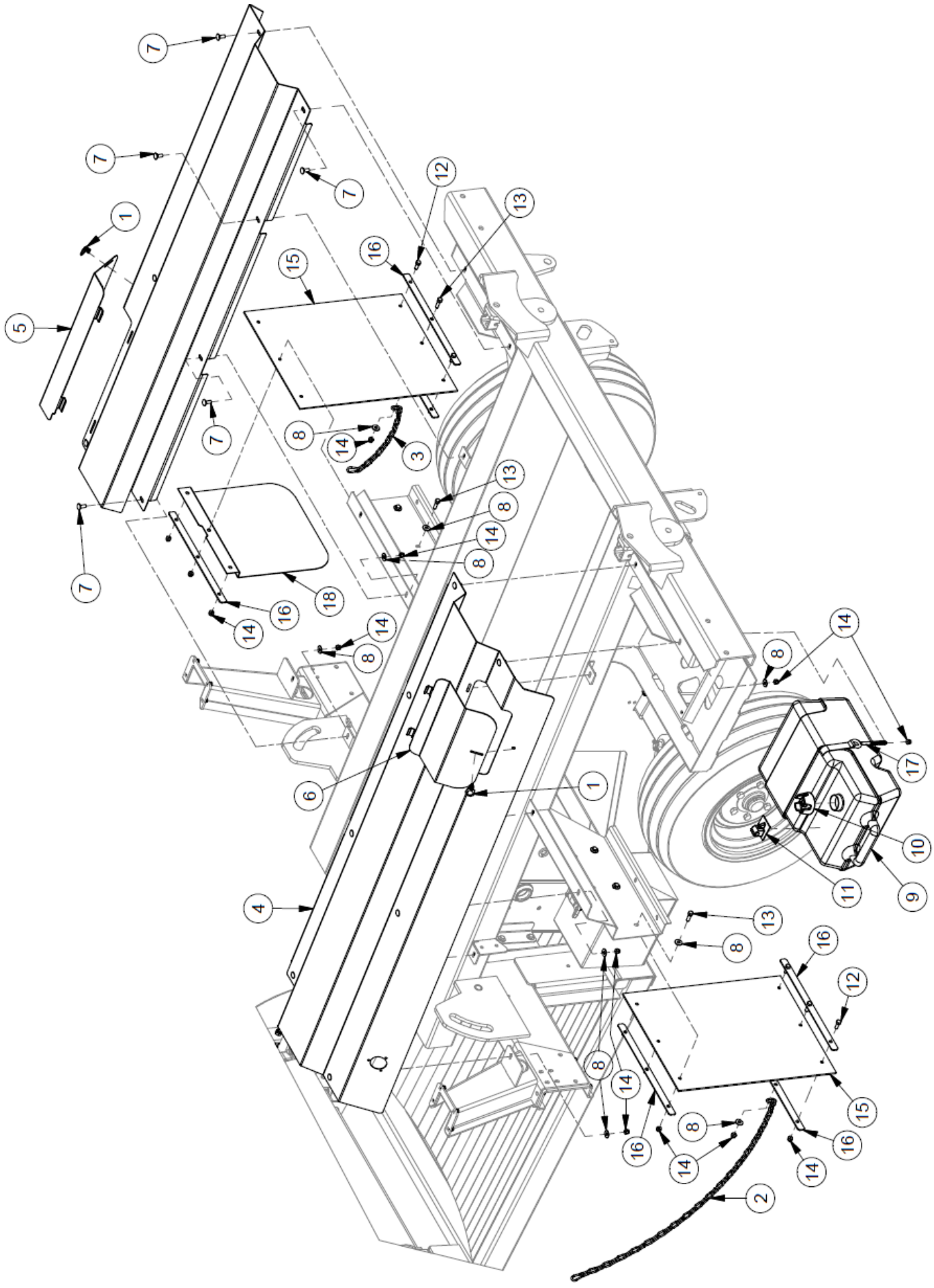
Rear Light Brackets



Rear Light Brackets

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	25075	SMV Attachment
2	1	28771	SMV Spring
3	1	41120	Left Side Light Bracket
4	1	41124	Right Side Light Bracket
5	1	41292	Rear Left Cap
6	1	41293	Rear Right Cap
7	2	41377	Back Guide Wheel Mount
8	4	TL5X2-500-136	Light Mount Grommet
9	2	TL5X2-500-138	Amber Light
10	2	TL5X2-500-137	Red Brake Light
11	8	CB 1/2-13X1.1/4 Z5	Carriage Bolt Zinc
12	4	CB 3/8-16X1.0 Z5	Carriage Bolt - 3/8-16 x 1” Grade 5 Zinc
13	1	DESMV	Slow Moving Vehicle Sign
14	2	FW 1/4	Flatwasher - 1/4” Zinc Plated USS
15	2	GR 1/4 X 28	Grease Fitting 1/4-28 Strght-Standrd Zerk
16	4	HB 1/4-20X 1/2 Z5	Hex Bolt
17	2	HB 3/8-16X1.0 Z5	Hex Bolt 3/8-16 x 1” Grade 5 Zinc Plated Hex Cap Screw NC
18	2	HB 3/8-16X1.1/2 Z5	Hex Bolt - 3/8-16 x 1 1/2” Grade 5 Zinc Plated Hex Cap Screw NC
19	8	LN 1/2 N	Locknuts - 1/2-13 Zinc Plated Nylon Insert Lock Nut
20	4	LN 1/4 N	Locknuts - 1/4-20 Zinc Plated Nylon Insert
21	4	LN 3/8 N	Locknuts - 3/8-16 Zinc Plated Nylon Insert Lock Nut
22	2	TL500-100-015	Axle Bolt & Locknut
23	2	TL550-200-016	Spanner
24	2	TLWHEEL01	Hoop Wheel

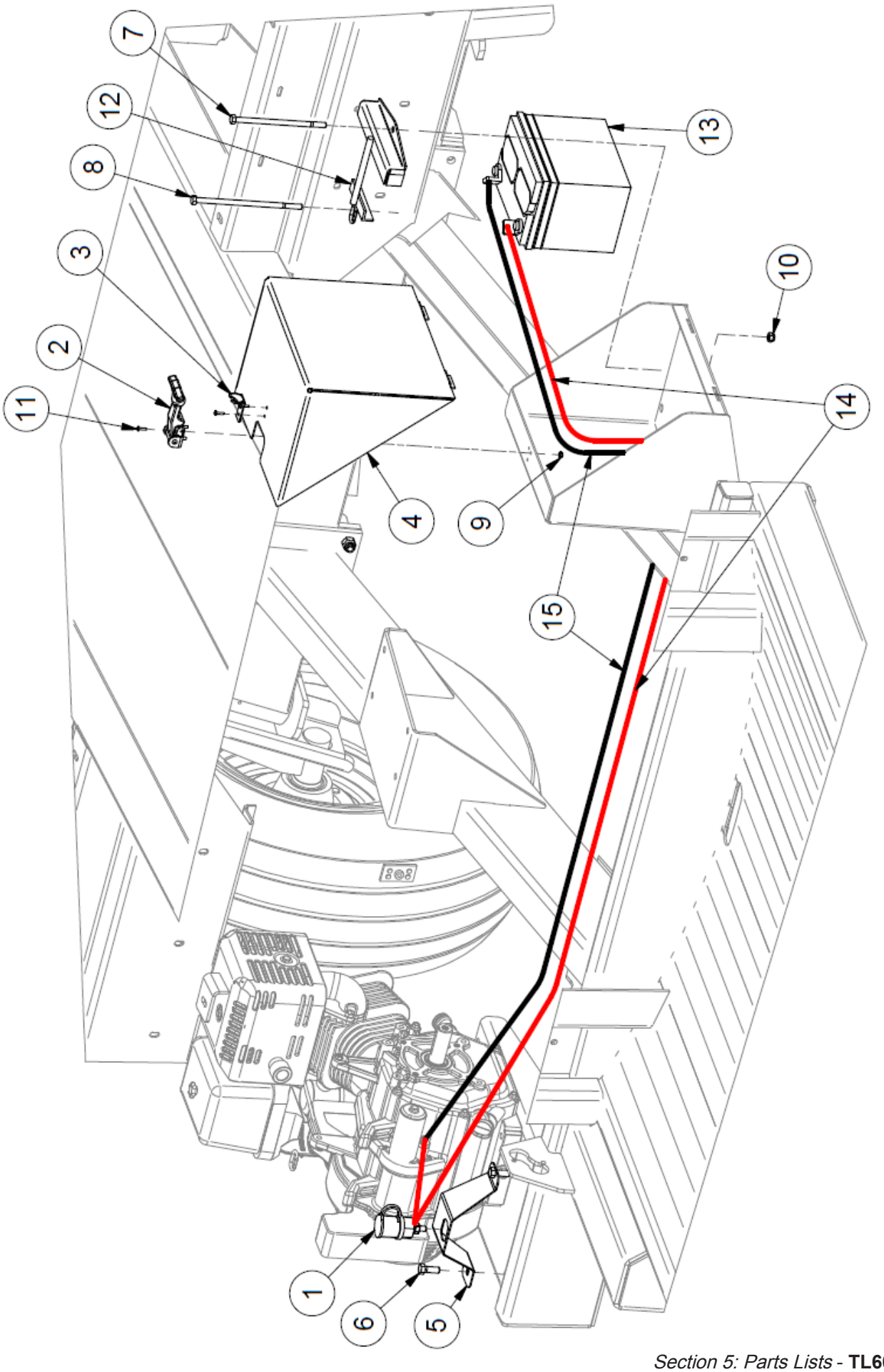
Gas Tank - Fenders



Gas Tank - Fenders

ITEM	QTY	PART NUMBER	DESCRIPTION
1	6	36268	Cam Lock
2	1	40958	Right Mud Flap Chain
3	1	40959	Right Mud Flap Chain
4	1	41284	Right Fender
5	1	41285	Engine Cover
6	1	41286	Gas Fill Lid
7	16	CB 3/8-16X1.0 Z5	Carriage Bolt - 3/8-16 x 1” Grade 5 Zinc
8	18	FW 3/8	Flatwasher Plated, 3/8” Zinc Plated USS
9	1	TL550-204-100	Fuel Tank
10	1	TL550-204-101	Vented Cap for Fuel Tank
11	1	TL550-204-103	Fuel Gauge - Bale Wrapper
12	4	HB 3/8-16X1.0 Z5	Hex Bolt 3/8-16 x 1” Grade 5 Zinc Plated Hex Cap Screw NC
13	2	HB 3/8-16X1.1/4 Z5	Hex Bolt 3/8-16 x 1 1/4” Grade 5 Zinc Plated Hex Cap Screw NC
14	22	LN 3/8 N	Locknuts - 3/8-16 Zinc Plated Nylon Insert Lock Nut
15	2	TL500-100-163	Mud Flap
16	6	TL500-100-164	Mud Flap Bracket
17	1	TL550-204-110	Tie Down Strap (Fuel Tank)
18	1	TL5X2-500-149	Mud Flap Shield

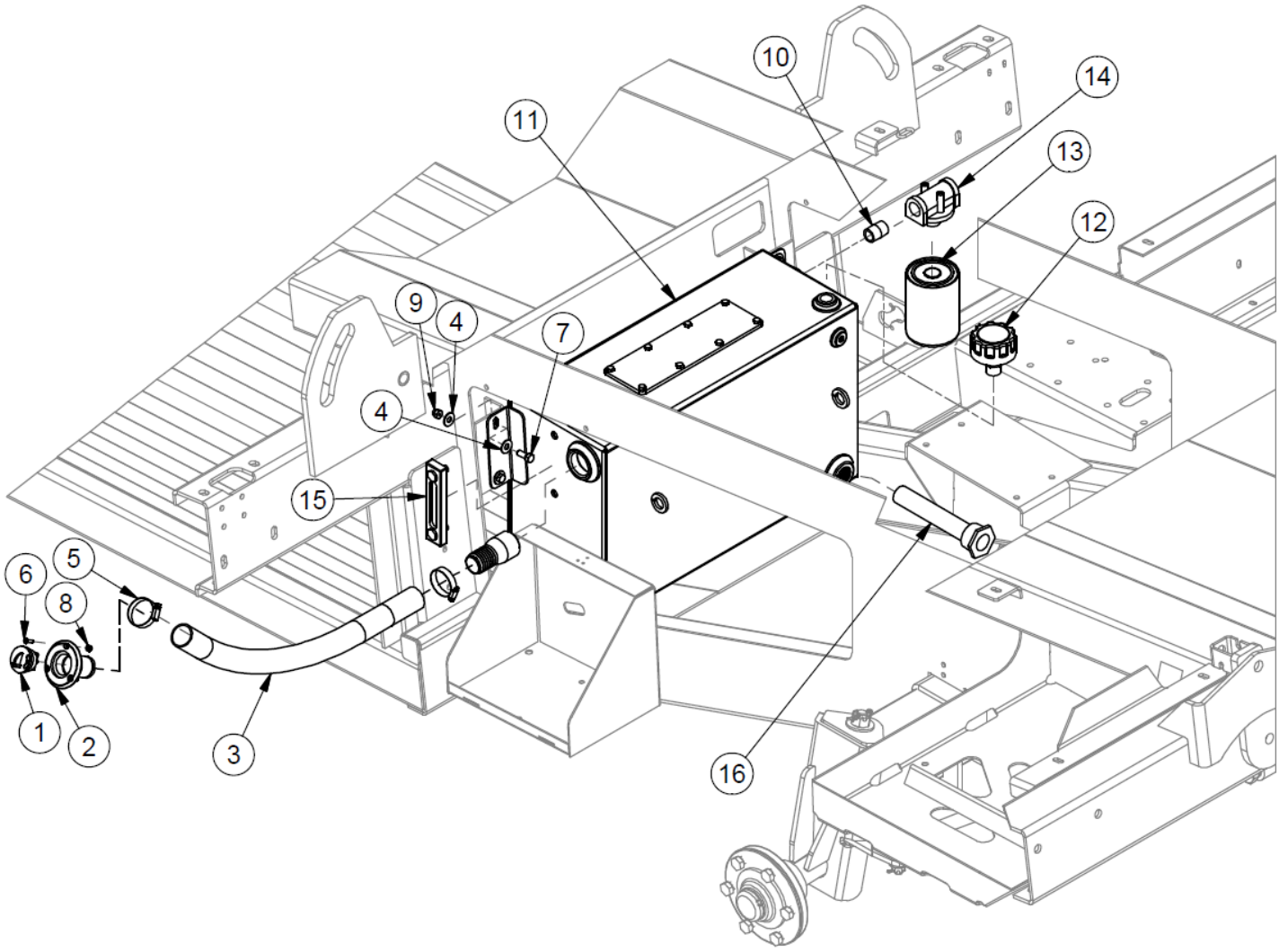
Battery



Battery

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	30873	Battery Post
2	1	38048	Rubber Latch
3	1	38343	T Strap Brace
4	1	41101	Battery Cover
5	1	41601	Battery Jumper Post Mount
6	2	HB 3/8-16X1.0 Z5	Hex Bolt 3/8-16 x 1” Grade 5 Zinc Plated Hex Cap Screw NC
7	1	HB 5/16-18X6.0 Z5	Hex Bolt - 5/16-18 x 6 Grade 5 Zinc Hex Cap Screw
8	1	HB 5/16-18X7.0 Z5	Hex Bolt - 5/16”-18 x 7” Grade 5 Zinc Plated Hex Cap Screw
9	5	HN 6	Hex Nut #6-32 Zinc
10	2	LN 5/16 N	Locknut - 5/16-18 Type NE Zinc Plated Nylon Insert
11	5	MS 6X1/2	Machine Screw #6-32x1/2
12	1	TL500-301-221	Battery Hold-Down
13	1	TLBATSP35	SP-35 Interstate Battery
14	1	TL5X2-500-159	Red Battery Cable
15	1	TL5X2-500-160	Black Battery Cable

Oil Tank - Current



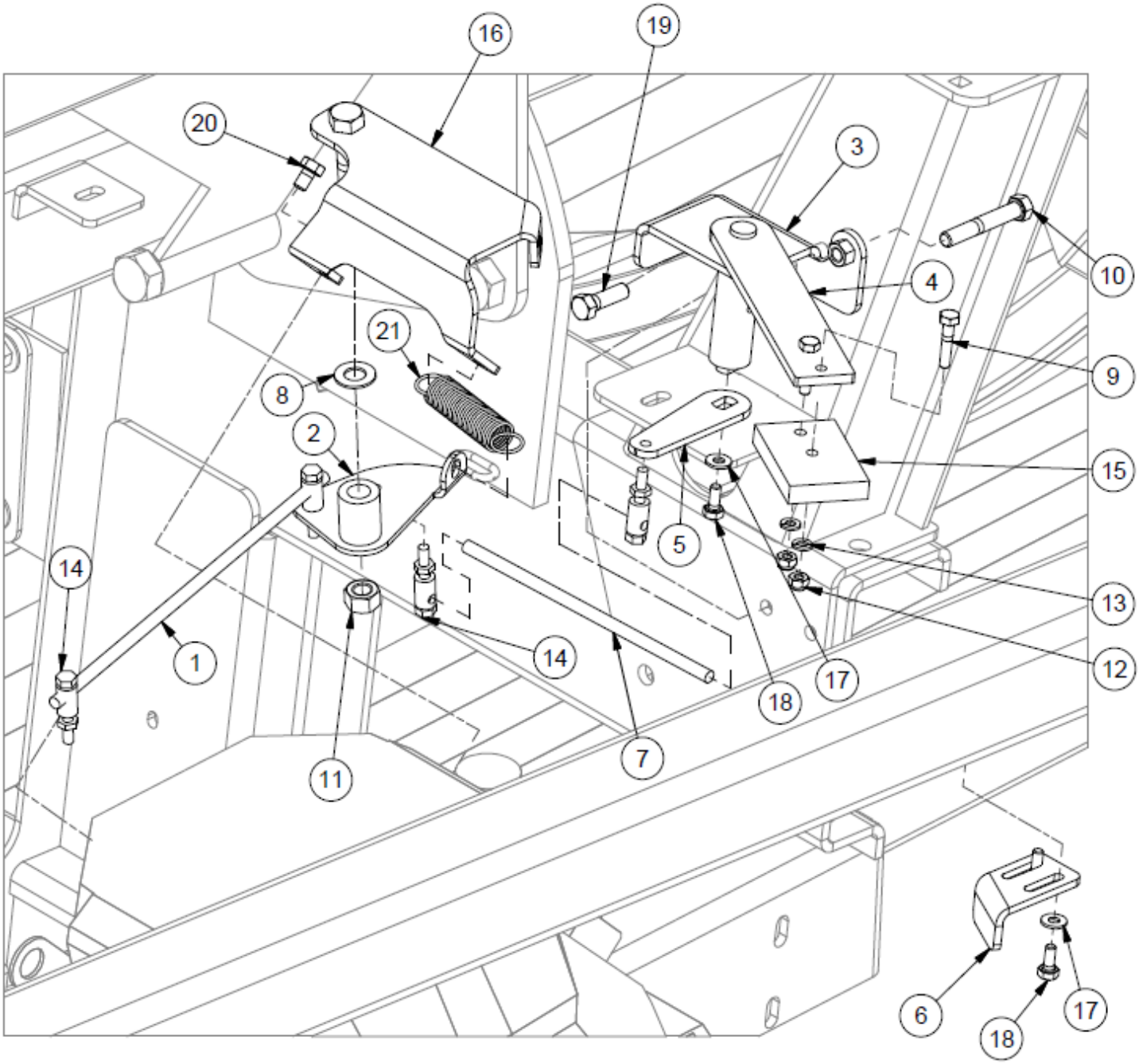
Oil Tank

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	30868	Hydraulic Oil Fill Cap
2	1	30869	Hydraulic Oil Fill Body
3	1	30883	Hydraulic Fill Hose
4	53	FW 3/8	Flatwasher Plated, 3/8” Zinc Plated USS
5	2	GC 12	Gear Clamp #12-1/2” to 1-1/4”Dia 9/16”W S/S Worm Drive Clamp w/ 410 S/S Screw
6	3	HB 10-24X 3/4 Z5	Hex Bolt - #10-24 x 3/4 Zinc Finish Flat Socket Cap Screw
7	28	HB 3/8-16X1.0 Z5	Hex Bolt 3/8-16 x 1” Grade 5 Zinc Plated Hex Cap Screw NC
8	3	LN 10-24	K-Lok Locknut
9	107	LN 3/8 N	Locknuts - 3/8-16 Zinc Plated Nylon Insert Lock Nut
10	1	PI 3/4 CLOSE NIPPLE	Close Nipple Sch 80 3/4
11	1	TL5X2-500-151	Hydraulic Oil Tank
12	1	VAL HB70-B-8	HB70-B-8-L-1-NE-G-1-R Filter Breather
13	1	VAL HEK44	HEK44-20-135-AS-SP010-B Filter Element
14	1	VAL HF620	HF620.20-B17-NE-XA-NA-XB-NA Filter Base
15	1	VAL HL91	HL91-20-T1-T-B Level Gauge
16	1	VAL TMT-10-NPT	TMT-10-NPT Strainer

Oil in Unit: AW32 Hydraulic Oil

FILTER CROSS REFERENCE	
FILTER	**REFERENCE**
Stauf	SF6520
Gresen	F22001
Fram	P1653-A
Fleetguard	HF6510
Cross	1A9021

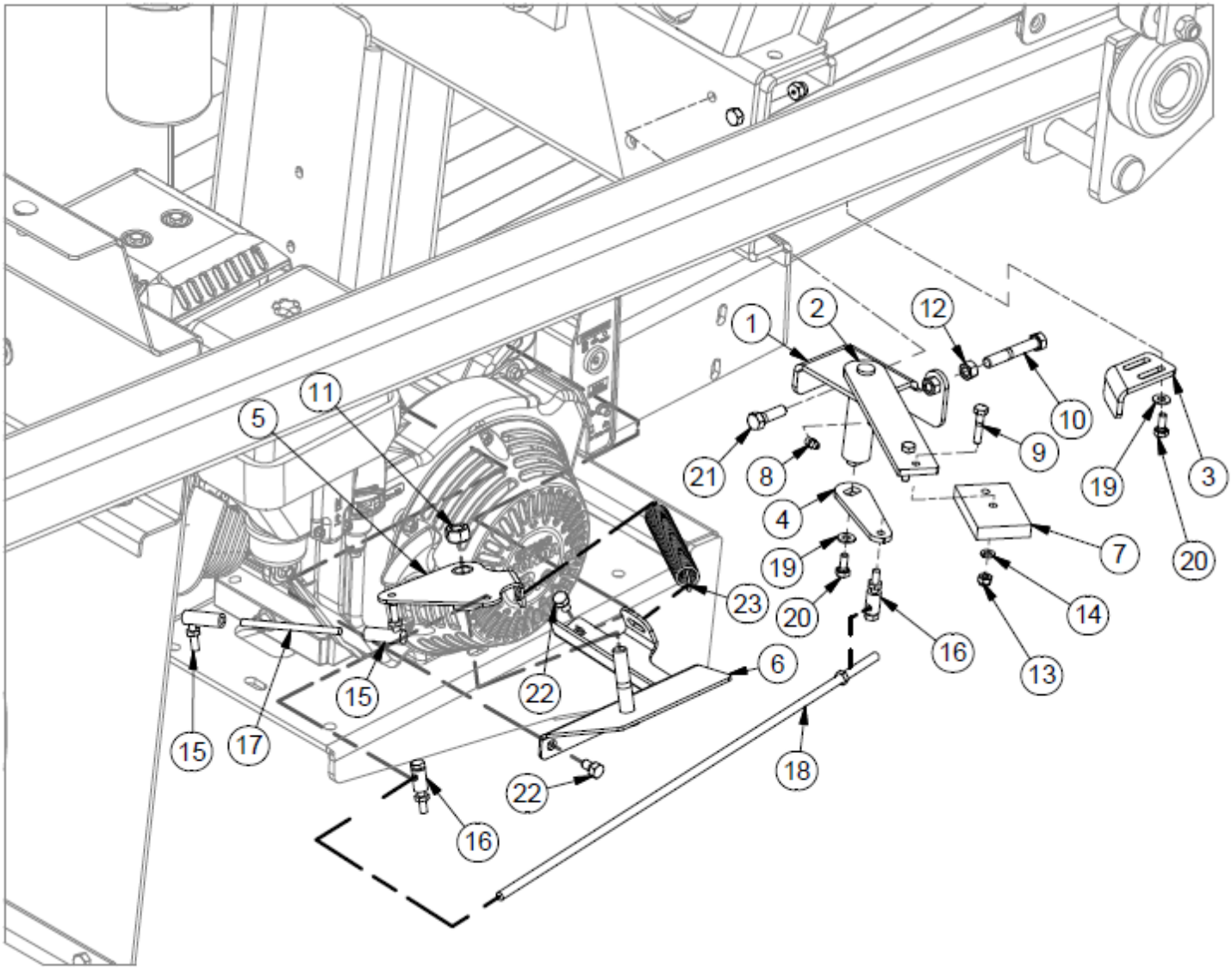
20HP Throttle Linkage



20HP Throttle Linkage

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	25715	20hp Rod
2	1	41326	20hp Swing Link
3	1	41328	Throttle Bracket
4	1	41331	Throttle Pivot
5	1	41334	Pivot Link Plate
6	1	41335	Throttle Bracket
7	1	41336	Link Rod
8	1	FW 1/2	Flatwasher - 1/2” Zinc Plated USS
9	2	HB 1/4-20X1.1/4 Z5	Hex Bolt - 1/4”-20 x 1-1/4” Grade 5 Zinc Plated Hex Cap Screw
10	1	HB 3/8-16X2.1/2 Z5	Hex Bolt 3/8”-16 x 2-1/2” Grade 5 Zinc Plated Hex Cap Screw NC
11	1	HN 1/2	Hex Nut 1/2”-13 Grade 5 Zinc Plated Finished NC
12	2	LN 1/4 N	Locknuts - 1/4-20 Zinc Plated Nylon Insert
13	2	LW 1/4	Lockwasher - 1/4” Zinc Plated Medium Split
14	4	TL550-100-067	Linkage Pivot
15	1	TL5X2-100-232	Striker Block 1/2 x 2 x 3
16	1	TL6X2-120-001	Engine Bracket for 20HP
17	3	FW 1/4	Flatwasher - 1/4” Zinc Plated USS
18	3	HB 1/4-20X 5/8 Z5	Hex Bolt - 1/4”-20 x 5/8” Grade 5 Zinc Plated Hex Cap Screw
19	2	HB 3/8-16X1.1/4 Z5	Hex Bolt 3/8-16 x 1 1/4” Grade 5 Zinc Plated Hex Cap Screw NC
20	2	HB 5/16-18X 1/2 Z5	Hex Bolt 5/16-18 x 1/2” Grade 5 Zinc Plated Hex Cap Screw NC
21	1	TL550-100-069	Throttle Spring

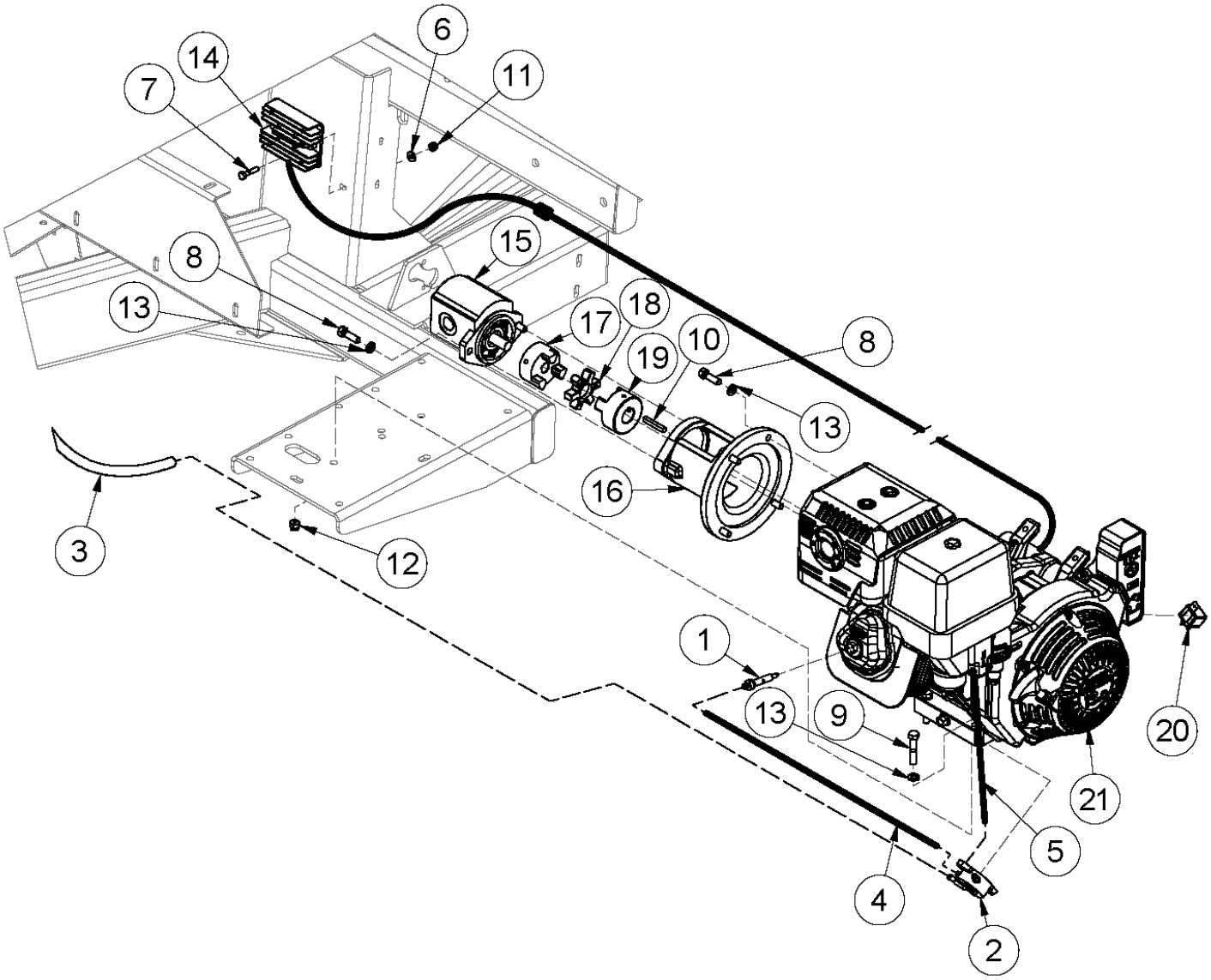
13HP Throttle Linkage



13HP Throttle Linkage

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	41328	Throttle Pivot Mount
2	1	41331	Throttle Pivot
3	1	41335	Throttle Bracket
4	1	41659	Pivot Link Plate
5	1	41660	Throttle Swivel Palte
6	1	41662	Throttle Swivel Mount Base
7	1	5X2-100-232	Striker Block
8	1	GR 1/4 X 28	Grease Fitting 1/4-28 Strght-Standrd Zerk
9	2	HB 1/4-20X1.1/4 Z5	Hex Bolt - 1/4”-20 x 1-1/4” Grade 5 Zinc Plated Hex Cap Screw
10	1	HB 3/8-16X2.1/2 Z5	Hex Bolt 3/8”-16 x 2-1/2” Grade 5 Zinc Plated Hex Cap Screw NC
11	1	HN 1/2	Hex Nut 1/2”-13 Grade 5 Zinc Plated Finished NC
12	1	HN 3/8	Hex Nut 3/8”-16 Grade 5 Zinc Plated Finished NC
13	2	LN 1/4 N	Locknuts - 1/4-20 Zinc Plated Nylon Insert
14	2	LW 1/4	Lockwasher - 1/4” Zinc Plated Medium Split
15	2	TL550-100-065	Ball Joint
16	2	TL550-100-067	Linkage Pivot
17	1	TL599-100-069	1/4 x 4 UNF Threaded Rod C/W 2 Nut
18	1	TL5X2-100-231	13hp Control Rod
19	9	FW 1/4	Flatwasher - 1/4” Zinc Plated USS
20	3	HB 1/4-20X 5/8 Z5	Hex Bolt - 1/4”-20 x 5/8” Grade 5 Zinc Plated Hex Cap Screw
21	24	HB 3/8-16X1.1/4 Z5	Hex Bolt 3/8-16 x 1 1/4” Grade 5 Zinc Plated Hex Cap Screw NC
22	5	HB 5/16-18X 1/2 Z5	Hex Bolt 5/16-18 x 1/2” Grade 5 Zinc Plated Hex Cap Screw NC
23	2	TL550-100-069	Throttle Spring

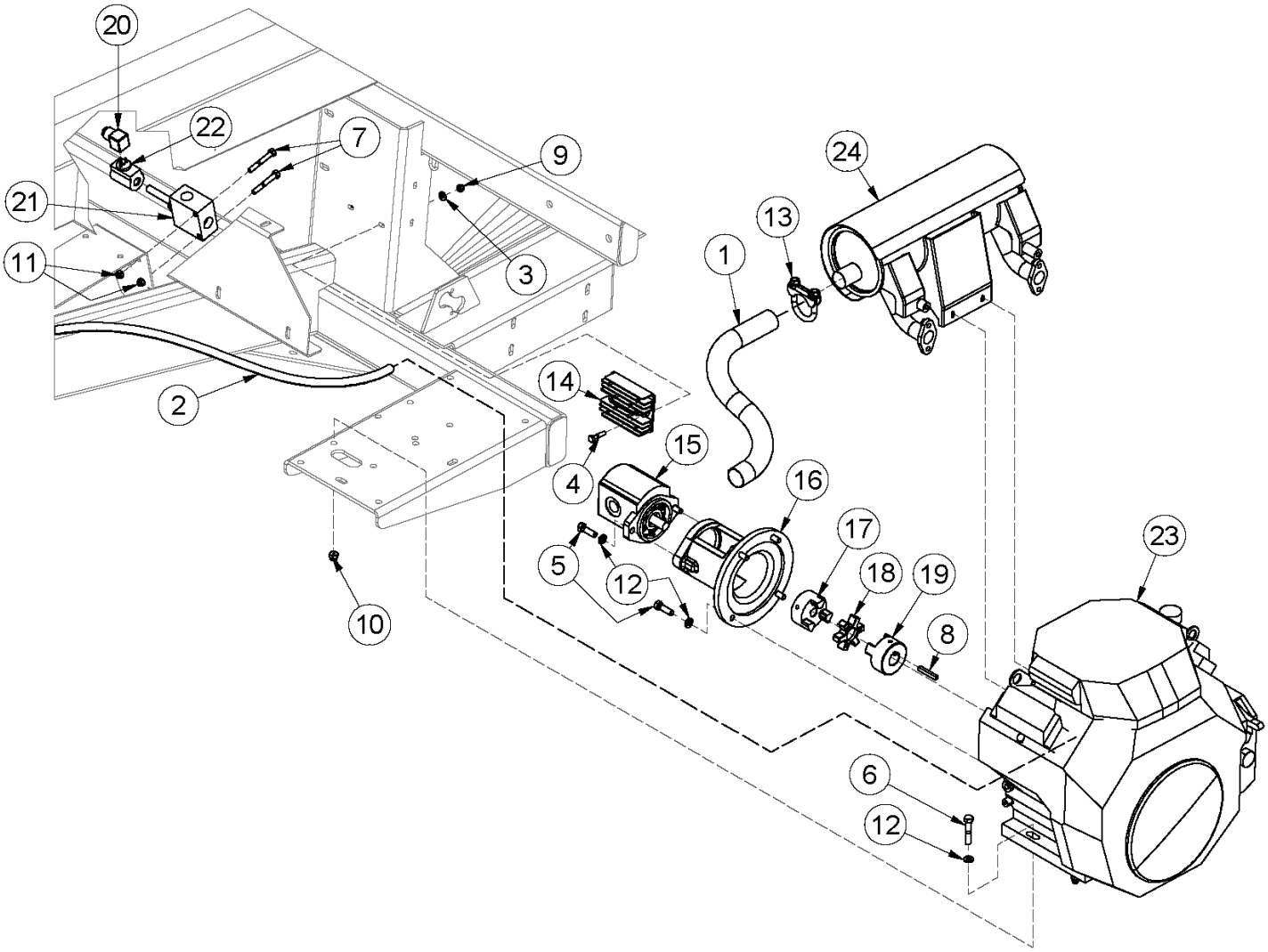
13 HP Engine (TL13HP)



13 HP Engine (TL13HP)

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	25591	13HP Valve Cover Bolt for Fuel Pump
2	1	25649	Fuel Pump (Honda #16700Z0J013)
3	1	40957	Long Fuel Line
4	1	40962	Piston Discharge Line
5	1	40963	Engine Fuel Line
6	2	FW 1/4	Flatwasher - 1/4” Zinc Plated USS
7	2	HB 1/4-20X1.1/4 Z5	Hex Bolt - 1/4”-20 x 1-1/4” Grade 5 Zinc Plated Hex Cap Screw
8	6	HB 3/8-16X1.1/4 Z5	Hex Bolt 3/8-16 x 1 1/4” Grade 5 Zinc Plated Hex Cap Screw N.C.
9	4	HB 3/8-16X2.0 Z5	Hex Bolt 3/8-16 x 2” Grade 5 Zinc Plated Hex Cap Screw N.C.
10	1	KS40960	Key .25 x 1.75
11	2	LN 1/4 N	Locknuts - 1/4-20 Zinc Plated Nylon Insert
12	4	LN 3/8 N	Locknuts - 3/8-16 Zinc Plated Nylon Insert Lock Nut
13	10	LW 3/8	Lockwasher - 3/8” Zinc Plated Medium Split
14	1	TL31620-ZG5-033	Honda 20 Amp Rectifier for 13.5 & 20 HP (GX620 Engine Only)
15	1	TL500-100-181	Hydraulic Pump (13 HP Engine)
16	1	TL500-100-182	Adapter, Engine to Pump
17	1	TL500-100-183	Lovejoy Coupling Pump Side
18	1	TL500-100-184	Coupling Spacer
19	1	TL500-100-185	Love Joy Coupling Engine Side
20	1	TL500-100-220	35 AMP Relay
21	1	TL5X2-100-200	13 HP Honda 18 Amp Engine

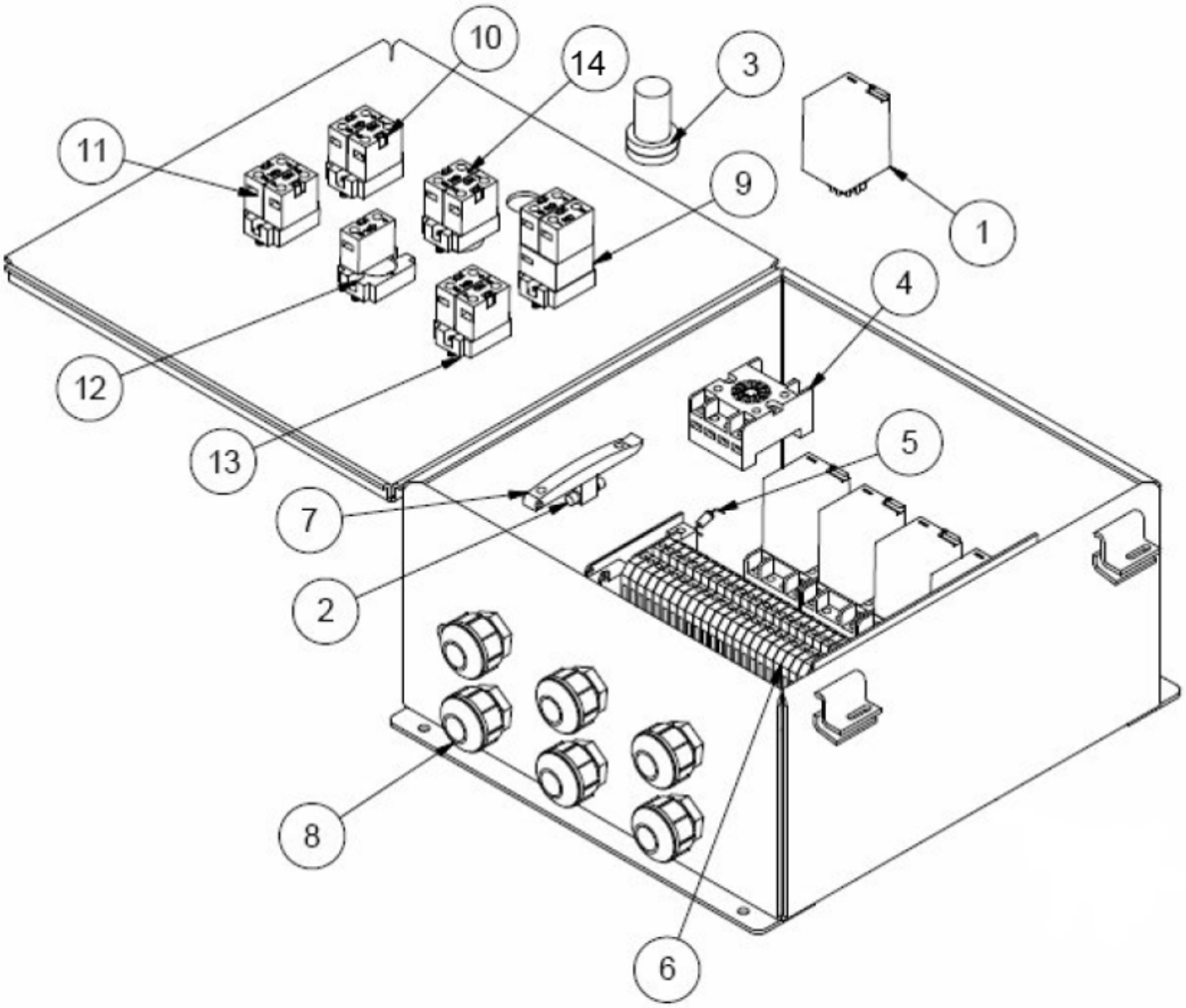
20 HP Engine (TL20HP)



20 HP Engine (TL20HP)

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	36945	20 HP Muffler Pipe
2	1	40957	Long Fuel Line
3	2	FW 1/4	Flatwasher - 1/4” Zinc Plated USS (6480)
4	2	HB 1/4-20X1.1/4 Z5	Hex Bolt - 1/4”-20 x 1-1/4” Grade 5 Zinc Plated Hex Cap Screw
5	6	HB 3/8-16X1.1/4 Z5	Hex Bolt 3/8-16 x 1 1/4” Grade 5 Zinc Plated Hex Cap Screw N.C.
6	4	HB 3/8-16X2.0 Z5	Hex Bolt 3/8-16 x 2” Grade 5 Zinc Plated Hex Cap Screw N.C.
7	2	HB 5/16-18X2.1/4 Z5	Hex Bolt - 5/16-18 x 2-1/4 Grade 5 Zinc Hex Cap Screw
8	1	KS40960	Key .25 x 1.75
9	2	LN 1/4 N	Locknuts - 1/4-20 Zinc Plated Nylon Insert
10	4	LN 3/8 N	Locknuts - 3/8-16 Zinc Plated Nylon Insert Lock Nut
11	2	LN 5/16 N	Locknut - 5/16-18 Type NE Zinc Plated Nylon Insert
12	10	LW 3/8	Lockwasher - 3/8” Zinc Plated Medium Split (5500)
13	1	MC 1 1/2	Muffler Clamp 1 1/2” Pipe (MC7112)
14	1	TL31750-Z2E-803	Honda 20AMP Rectifier for GX630 Engine
15	1	TL500-100-181	Hydraulic Pump (13 HP Engine)
16	1	TL500-100-182	Adapter, Engine to Pump
17	1	TL500-100-183	Lovejoy Coupling Pump Side
18	1	TL500-100-184	Coupling Spacer
19	1	TL500-100-185	Love Joy Coupling Engine Side
20	1	31305	Wiring Harness for Dump Valve
21	1	TL6X2-102-202	Dump Valve (Includes Base and Relief)
21A	1	31545	Dump Valve Body and Cartridge (20 HP)
22	1	TL6X2-102-204	Dump Valve Solenoid (Coil) Round Coil
22A	1	31546	Dump Valve Solenoid (Coil)Square Coil
23	1	TL6X2-100-200	20 HP Honda Engine
24	1	TLVHRM6	Muffler

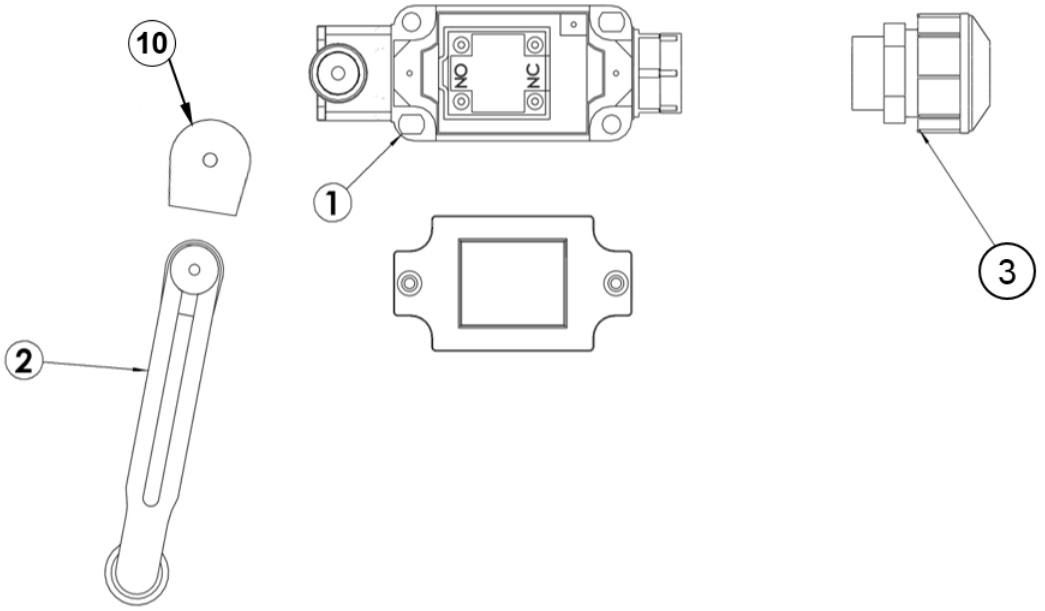
Control Panel



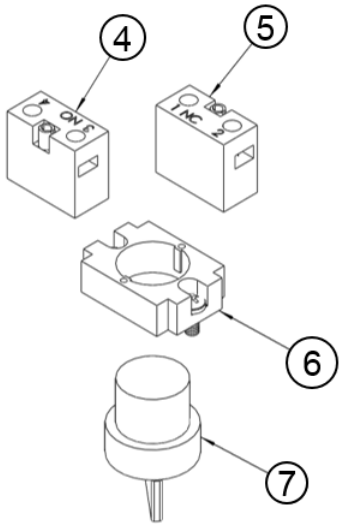
Control Panel

ITEM	QTY	PART NUMBER	DESCRIPTION
	1	TL550-200-061	Complete Control Panel
1	5	TL500-100-221	Control Relay
2	1	TL550-100-079	15 AMP Fuse
3	1	TL25764	LED Light
4	5	TL5X2-500-158	11 Pin Relay Base
5	1	TL550-150-085	Diode 1N5406 3amp 600V
6	26	TL550-150-084	DIN Rail Terminal Block
7	1	TL550-150-083	DIN Rail Fuse Holder
8	6	TL550-100-086	PVC Wire Holder
9	1	TL25762	On/Off Switch
10	1	TL550-100-076	Man/Auto Switch
11	1	TL550-100-077	Steering Switch
12	1	TL550-100-075	Rotate Switch
13	1	TL550-100-077	Forward/ Reverse Switch
14	1	TL25763	Emergency Stop Button

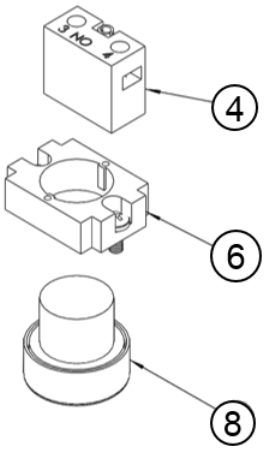
Limit Switch



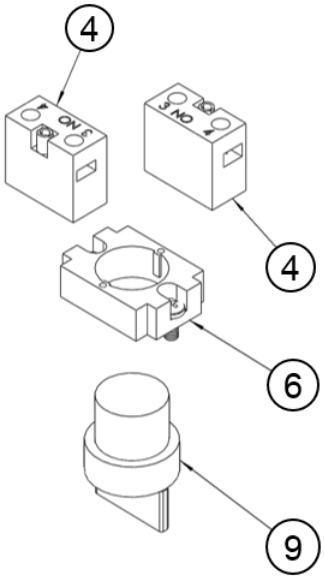
On/Off - Man/Auto Switch



Rotate Switch



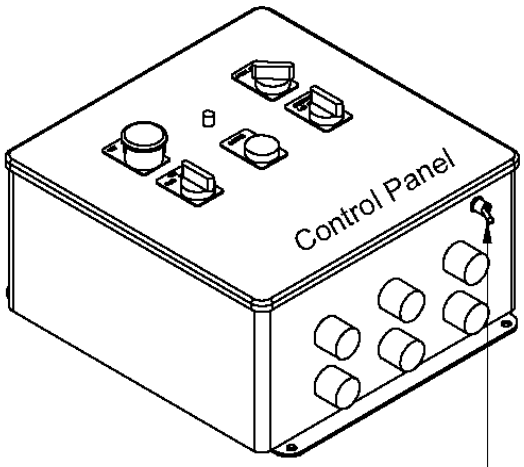
Ram - Steering Switch



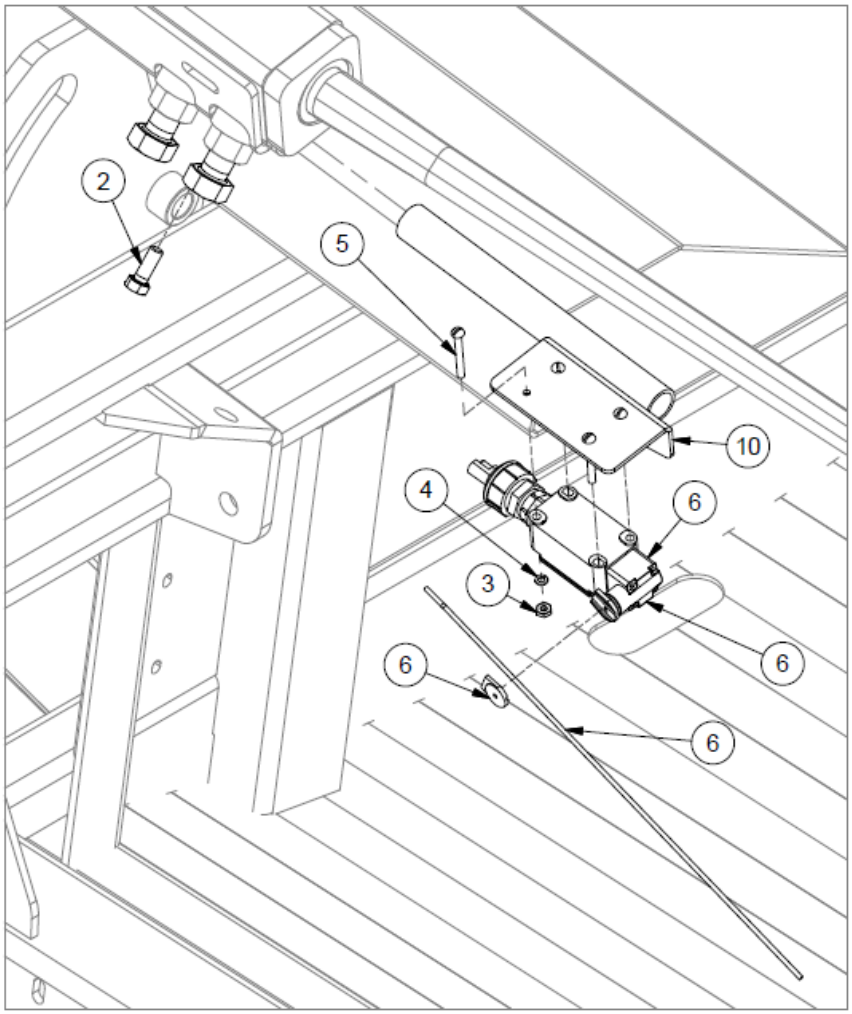
Limit Switch

ITEM	QTY	PART NUMBER	DESCRIPTION
1	5	TL550-100-060	Complete Limit Switch (Ref # 1, 2, & 4)
2	5	TL550-100-059	Limit Switch Arm
3	1	TL550-100-086	PVC Box Connector
4	7	TLRB2BE101	Contact Block Normally Open (NO)
5	2	TLRB2BE102	Contact Block Normally Closed (NC)
6	5	TLRB2B	Switch Mount Collar
7	1	TLRB2BD2	Selector Switch – 2 Position
8	1	TLRB2BA2	Push Button
9	1	TLRB2BDR3	Selector Switch – 3 Position Spring Return
	2	TL550-100-076	On/Off – Man/Auto Switch (Complete)
	1	TL550-100-075	Rotate Switch (Complete)
	2	TL550-100-077	Ram/Steering Switch (Complete)
10	1	TL550-100-082	Wire Clamp

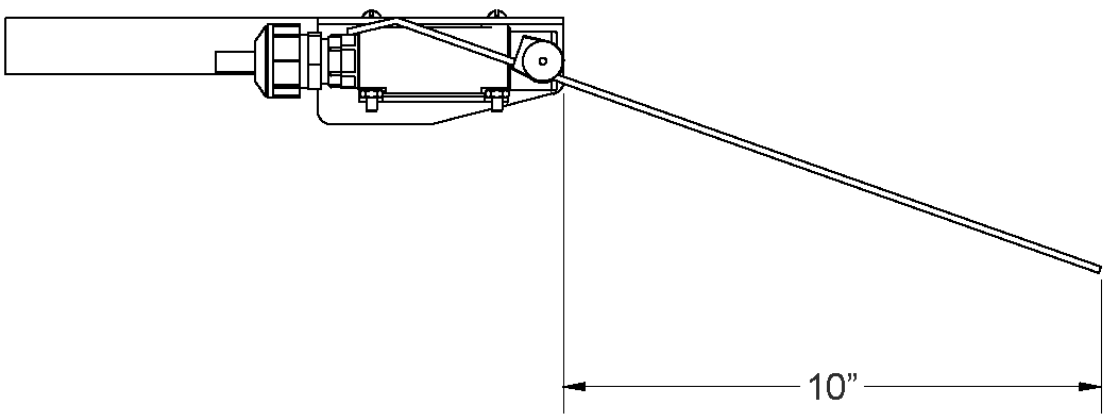
Film Sensor



TL550-200-235 - Toggle Switch



Sensor wire must be adjusted so that only one layer of plastic is covering the end of the wire while wrapping. Adjustment can be made on the bracket and on the sensor wire. The end of the sensor wire behind the switch can be bent to allow the wire in front of the switch to drop down far enough to trip the switch when no plastic is present.

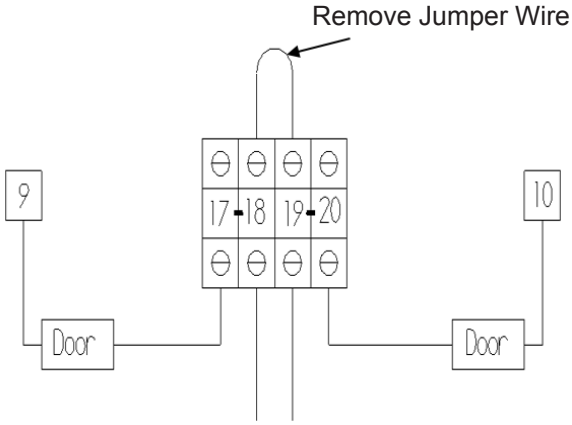


Film Sensor

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	30895	Film Sensor Wire
2	1	HB 3/8-16X1.0 Z5	Hex Bolt 3/8-16 x 1” Grade 5 Zinc Plated Hex Cap Screw NC
3	4	HN 10-24	Nut - 10-24 Low Carbon Zinc Plated Machine Screw Nut
4	4	LW 10	Lockwasher - #10 Zinc Plated Medium Split (3/16)
5	4	MS 10X1 3/4	Machine Screw 10-24x1-3/4
6	1	TL109-100-348	Film Sensor Limit Switch
7	1	TL550-100-082	Wire Arm Clamp
8	1	TLFSB2007	Film Sensor Mounting Bracket
9	1	25067	Film Sensor Mtg. Bracket Tube
10	1	25068	Film Sensor Mtg. Bracket

Film Sensor Installation

- Install film sensor bracket
- Locate the wire labeled film sensor (pre-wired machine)
- Remove the plug and connect to film sensor switch
- Install toggle switch in the control panel
- Remove the jumper wire between terminal 18 & 19
- Connect wires from toggle switch to terminal 18 & 19



Toggle Switch

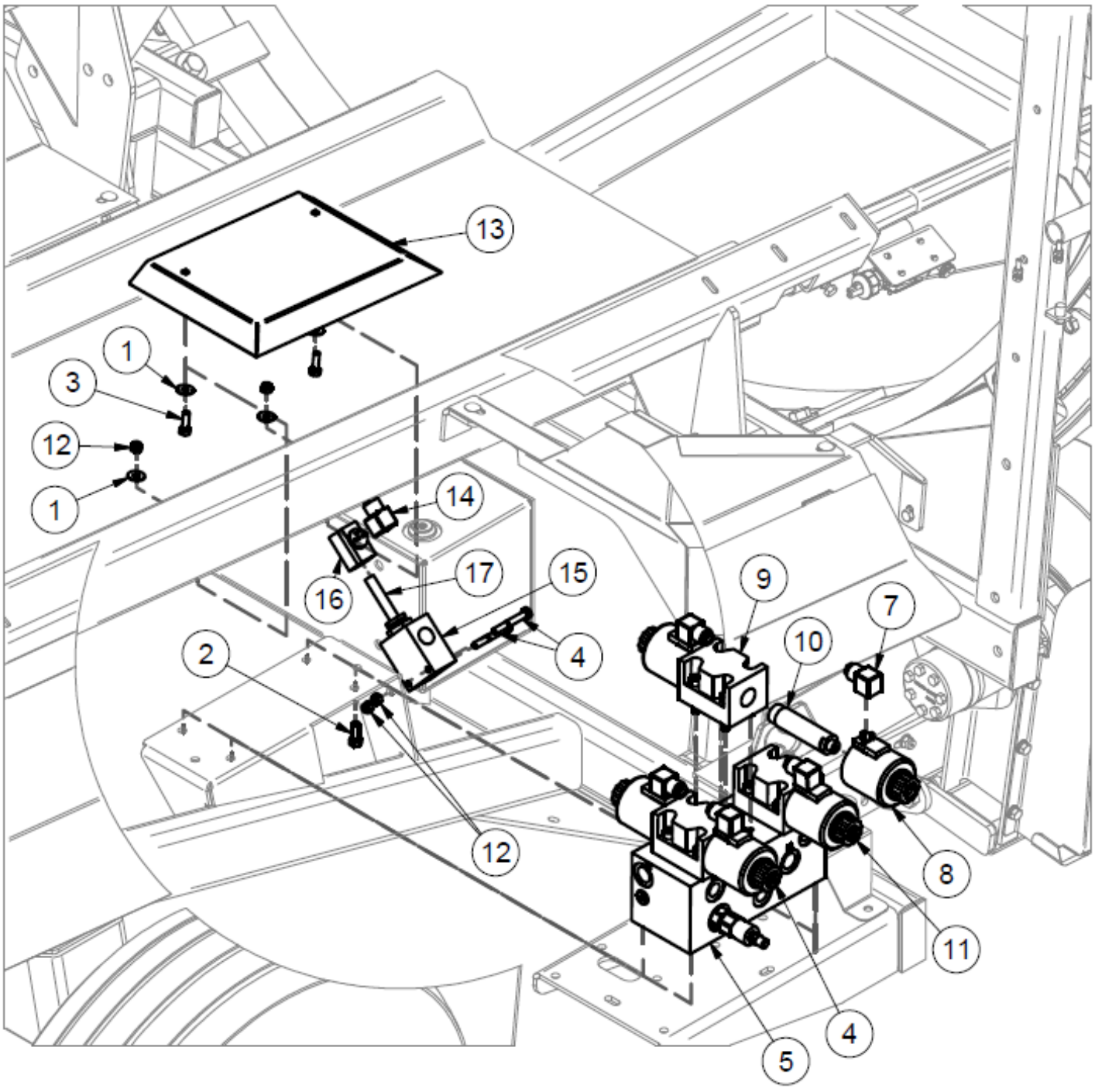
Film Sensor Wire Adjustment

Note: Use measurements as initial guide only.

- Measure length of wire from the hoop face (see previous page)
- 9.5” wire = approx. 3” between wraps = 8-9 layers per bale
- 9.5” wire should stop hoop rotation just after an empty tensioner passes the wire
- Lengthen wire 3” for 4 layers of wrap or 1.5” for 6 layers
- Shorten wire by 1.5” for 10 layers per bale

As a guide, if the hoop stops before an empty tensioner passes the film sensor wire, the wire is too short and if the hoop does not stop with one empty tensioner the film sensor is too long.

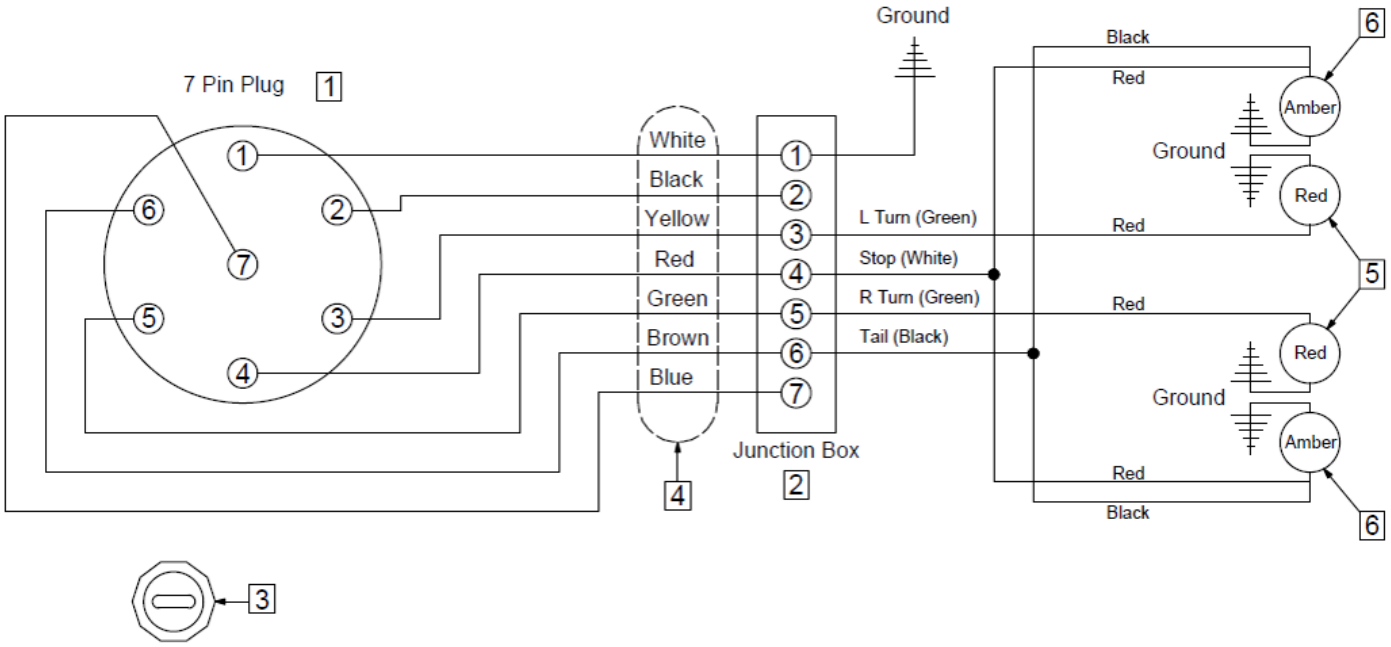
Hystar Hydraulic Valve



Hystar Hydraulic Valve

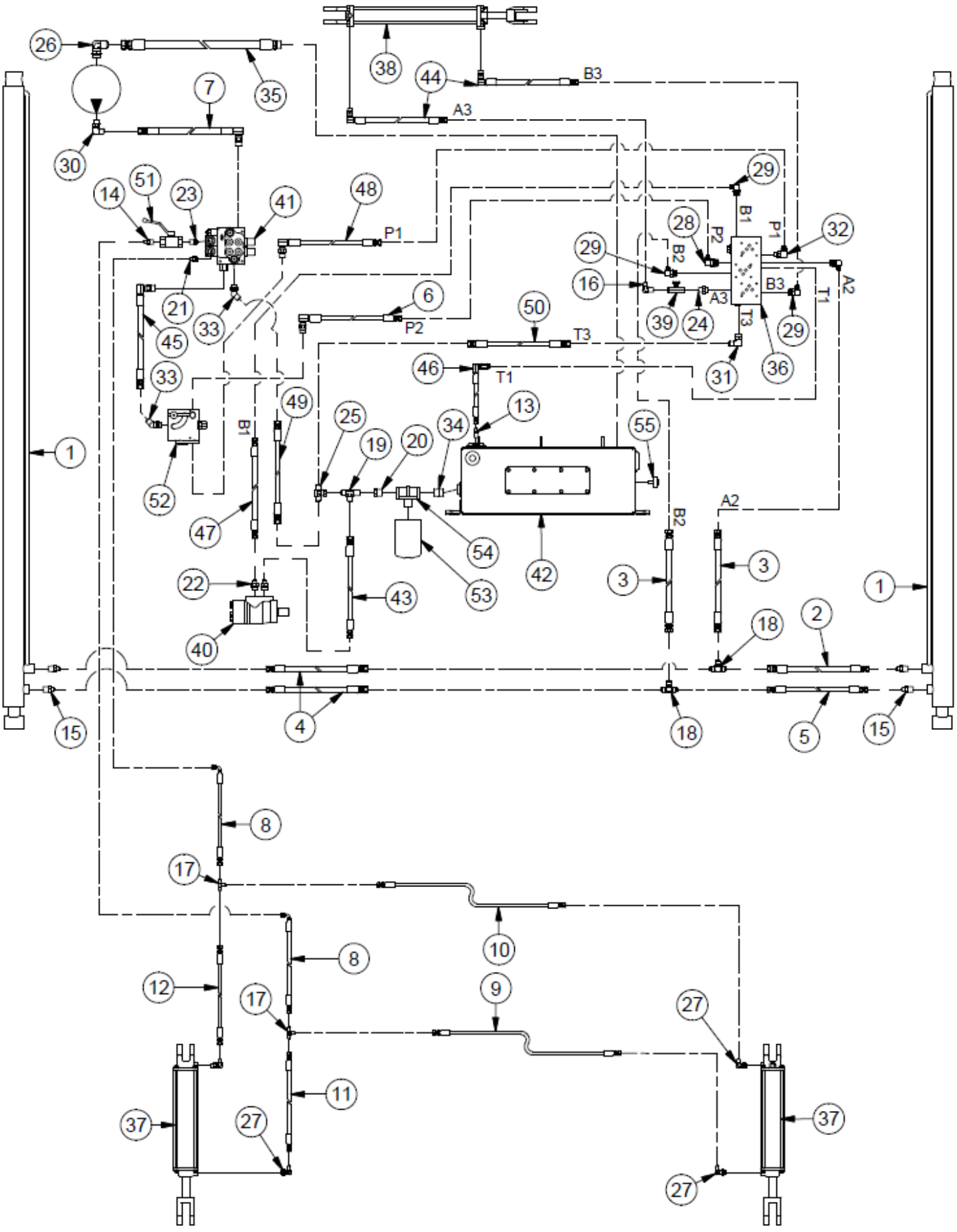
ITEM	QTY	PART NUMBER	DESCRIPTION
1	4	FW 5/16	Flatwasher - 5/16” Zinc Plated USS
2	6	HB 3/8-16X1.0 Z5	Hex Bolt 3/8-16 x 1” Grade 5 Zinc Plated Hex Cap Screw NC
3	2	HB 5/16-18X1.0 Z5	Hex Bolt 5/16-18 x 1” Grade 5 Zinc Plated Hex Cap Screw NC
4	2	HB 5/16-18X2.1/4 Z5	Hex Bolt - 5/16-18 x 2-1/4 Grade 5 Zinc Hex Cap Screw
5	1	TL550-100-056	3 Station Custom Manifold
6	2	TL5X2-201-200-1	Tandem Center 12 Volt DC Valve
7	2	28534	DIN Connector
8	2	TL5X2-201-007	Valve Coil
9	1	VAL25285	Valve Body
10	2	VAL25288	Tube Assembly
11	1	TL5X2-201-201	Single 12 Volt DC Valve
12	6	LN 5/16 N	Locknut - 5/16-18 Type NE Zinc Plated Nylon Insert
13	1	TL559925	HRP 0.070 in
14	1	28534	DIN Connector
15	1	TL850-301-109	Dump Valve Body (20hp Only)
16	1	TL850-301-111	12 Volt Coil (20hp Only)
17	1	TL850-301-110	Valve Cartridge (20hp Only)

Running Lights



ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	TL550-200-117	7 Pin Plug
2	1	TL550-200-118	Junction Box
3	1	TL550-200-119	Strain Relief
4	1	TL550-200-120	7 Wire Conductor
5	2	TL550-200-121	Red Lamp
6	2	TL550-200-122	Amber Lamp

Hydraulic Layout - 13hp



Hydraulic Layout - 13hp

ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	40253	Ram Cylinder
2	1	41543	HH53-6AT1(8FJX-6FJX) HCL 53”
3	2	41830	HH30”- 8ATI(8FJX-8FJX)30” HCL
4	1	41831	HH28”- 6ATI(6FJX-8FJX)28” HCL
5	1	41832	HH56”- 6ATI(6FJX-8FJX)56” HCL
6	1	41833	HH95”- 6ATI(8MBX90-6FJX)95” HCL
7	1	41834	HH104”- 8ATI(8MBX90-8FJX)104” HCL
8	2	41838	HH200”- 4ATI(4FJX-4FJX90S)200” HCL
9	1	41839	HH62”- 4ATI(4FJX-4FJX)62” HCL
10	1	41840	HH52”- 4ATI(4FJX-4FJX)52” HCL
11	1	41841	HH24”- 4ATI(4FJX-4FJX)24” HCL
12	1	41842	HH14”- 4ATI(4FJX-4FJX)14” HCL
13	1	HF 2404-4-4	Hyd. Fitting - Male JIC - Male Pipe
14	1	HF 2404-4-6	Hyd. Fitting - Male JIC - Male Pipe
15	4	HF 2404-6-8	Hyd Fitting, Male JIC - Male Pipe
16	1	HF 2501-6-6	Hyd Fitting - Male JIC - Male Pipe 90 Degree
17	2	HF 2603-4-4-4	Hyd Fitting - Male JIC Tee
18	2	HF 2603-8-8-8	Hyd Fitting
19	1	HF 2605-8-8	Male JIC - Male Pipe
20	1	HF 5406-12-8	Hyd. Fitting - Reducer Bushing
21	1	HF 6400-4-6	Hyd Fitting - Male JIC - Male ORB
22	2	HF 6400-6-10	Hyd Fitting -Male JIC - Male ORB
23	1	HF 6401-6-6	Hydraulic Adapter - Male OTB - Male Pipe
24	1	HF 6401-8-6	Hydraulic Adapter - Male ORB - Male Pipe
25	1	HF 6600-8-8-8	Hyd. Fitting - Male JIC - Female JIC Tee
26	1	HF 6801-12-12	Forged Fitting - 3/4” JIC x 3/4” SAE 90 Deg. Elbow
27	4	HF 6801-4-6	Hyd Fitting - Male JIC - Male ORB 90 Degree
28	1	HF 6801-6-10	Hyd. Fitting -Male JIC - Male ORB 90 Degree Elbow
29	4	HF 6801-6-8	Hyd Fitting - Male JIC - Male ORB 90 Degree
30	1	HF 6801-8-10	Hyd. Fitting -1/2” JIC - 5/8” 90 Degree Elbow
31	1	HF 6801-8-6-NWO	Adapter
32	1	HF 6801-8-8	Hyd. Fitting- 1/2” JIC- 1/2” SAE 90 Deg Elbow
33	2	HF 6802-8-8	Hyd. Fitting- Male JIC- Male ORB 45 Deg
34	1	PI 3/4 CLOSE NIPPLE	Close Nipple Sch 80 3/4
35	1	TL-TLM517	HH37.5 - 12G4H(12MP,12FJXH) 37.5HCL
36	1	TL500-100-056	3 Station Custom Manifold
37	2	TL500-100-082	Hydraulic Cylinder (HYS25SPE08-2176)
38	1	TL500-100-103	Hydraulic Cylinder, 2 x 16
39	1	TL550-200-006	Steering Speed Control (Needle Valve)
40	1	TL5X2-200-050	Hydraulic Motor (M t S 2009 Models)

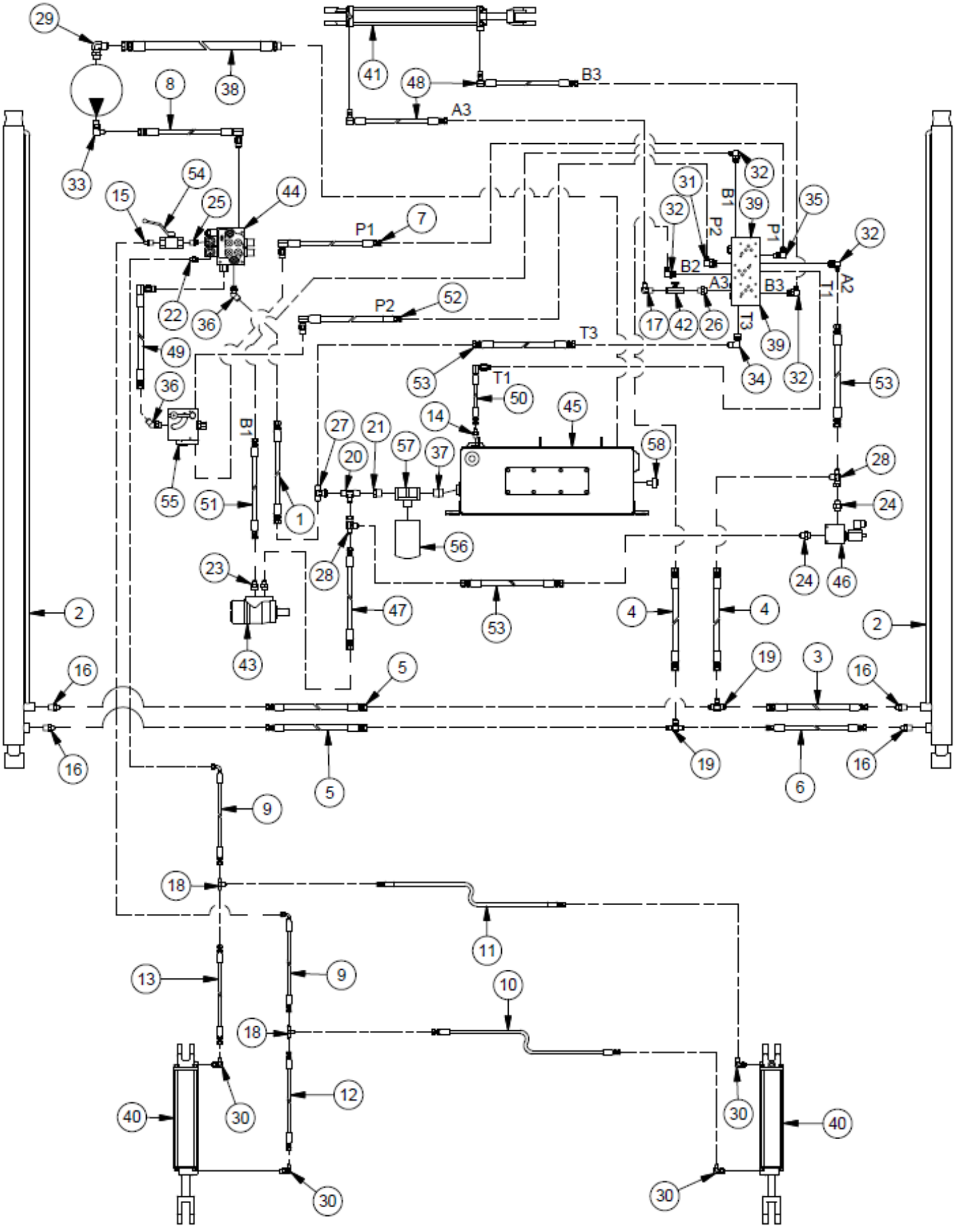
Continued on next page.

Hydraulic Layout - 13hp

Continued from previous page.

41	1	TL5X2-201-055	2 Spool Monoblock Valve
42	1	TL5X2-500-151	Hydraulic Oil Tank
43	1	TLT5E102-09	HH48 - 6ATI(8FJXH-6FJXH)48HCL
44	2	TLT5E606-09	HH92.50 - 6ATI(6MBX90,6FJXH) 92.50” E/E
45	1	TLT5M111-09	HH24.75- 8ATI(8MBX90-8FJX)24.75 - E/E
46	1	TLTLE101-09	HH25-4ATI(4FJXH-6MBX90)25”HCL
47	1	TLX202-09	HH54.75-6ATI-6FJX-6FJX-54.75-E/E
48	1	TLX204-09	HH80-6ATI-8MBX90-6FJX-80-CL/E
49	1	TLX205-09	HH74.25-6ATI-8FJX-8FJX-74.25-E/E
50	1	TLX210-09	HH22.25 - 8ATI(8FJX-8FJX) 22.25-CL/E
51	1	VAL BV73-100	Valve 1/2” Ball
52	1	VAL FCR51-3/4	Flow Control, FCR51-3/4
53	1	VAL HEK44	HEK44-20-135-AS-SP010-B Filter Element
54	1	VAL HF620	HF620.20-B17-NE-XA-NA-XB-NA Filter Base
55	1	VAL HL91	HL91-20-T1-T-B Level Gauge

Hydraulic Layout - 20hp



Hydraulic Layout - 20hp

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	25274	HH80 - 8AT1(8FJ,8FJX)HCL 80”
2	2	40253	Ram Cylinder
3	1	41543	HH53-6AT1(8FJX-6FJX) HCL 53”
4	2	41830	HH30”- 8ATI(8FJX-8FJX)30” HCL
5	2	41831	HH28”- 6ATI(6FJX-8FJX)28” HCL
6	1	41832	HH56”- 6ATI(6FJX-8FJX)56” HCL
7	1	41833	HH95”- 6ATI(8MBX90-6FJX)95” HCL
8	1	41834	HH104”- 8ATI(8MBX90-8FJX)104” HCL
9	2	41838	HH200”- 4ATI(4FJX-4FJX90S)200” HCL
10	1	41839	HH62”- 4ATI(4FJX-4FJX)62” HCL
11	1	41840	HH52”- 4ATI(4FJX-4FJX)52” HCL
12	1	41841	HH24”- 4ATI(4FJX-4FJX)24” HCL
13	1	41842	HH14”- 4ATI(4FJX-4FJX)14” HCL
14	1	HF 2404-4-4	Hyd. Fitting - Male JIC - Male Pipe
15	1	HF 2404-4-6	Hyd. Fitting - Male JIC - Male Pipe
16	4	HF 2404-6-8	Hyd Fitting, Male JIC - Male Pipe
17	1	HF 2501-6-6	Hyd Fitting - Male JIC - Male Pipe 90 Degree
18	2	HF 2603-4	Hyd Fitting - Male JIC Tee
19	2	HF 2603-8-8-8	Hyd Fitting
20	1	HF 2605-8-8-8	Male JIC - Male Pipe
21	1	HF 5406-12-8	Hyd. Fitting - Reducer Bushing
22	1	HF 6400-4-6	Hyd Fitting - Male JIC - Male ORB
23	2	HF 6400-6-10	Hyd Fitting -Male JIC - Male ORB
24	2	HF 6400-8-10	Hyd Fitting - Male JIC - Male ORB
25	1	HF 6401-6-6	Hydraulic Adapter - Male OTB - Male Pipe
26	1	HF 6401-8-6	Hydraulic Adapter - Male ORB - Male Pipe
27	1	HF 6600-8-8	Hyd. Fitting - Male JIC - Female JIC Tee
28	2	HF 6602-8-8-8	Hyd Fitting Run Tee M-JIC/F-JIC/M-JIC
29	1	HF 6801-12-12	Forged Fitting - 3/4” JIC x 3/4” SAE 90 Deg. Elbow
30	4	HF 6801-4-6	Hyd Fitting - Male JIC - Male ORB 90 Degree
31	1	HF 6801-6-10	Hyd. Fitting -Male JIC - Male ORB 90 Degree Elbow
32	4	HF 6801-6-8	Hyd Fitting - Male JIC - Male ORB 90 Degree
33	1	HF 6801-8-10	Hyd. Fitting -1/2” JIC - 5/8” 90 Degree Elbow
34	1	HF 6801-8-6-NWO	Adapter
35	1	HF 6801-8-8	Hyd. Fitting- 1/2” JIC- 1/2” SAE 90 Deg Elbow
36	2	HF 6802-8-8	Hyd. Fitting- Male JIC- Male ORB 45 Deg
37	1	PI 3/4 CLOSE NIPPLE	Close Nipple Sch 80 3/4
38	1	TL-TLM517	HH37.5 - 12G4H(12MP,12FJXH) 37.5HCL
39	1	TL500-100-056	3 Station Custom Manifold
40	2	TL500-100-082	Hydraulic Cylinder (HYS25SPE08-2176)

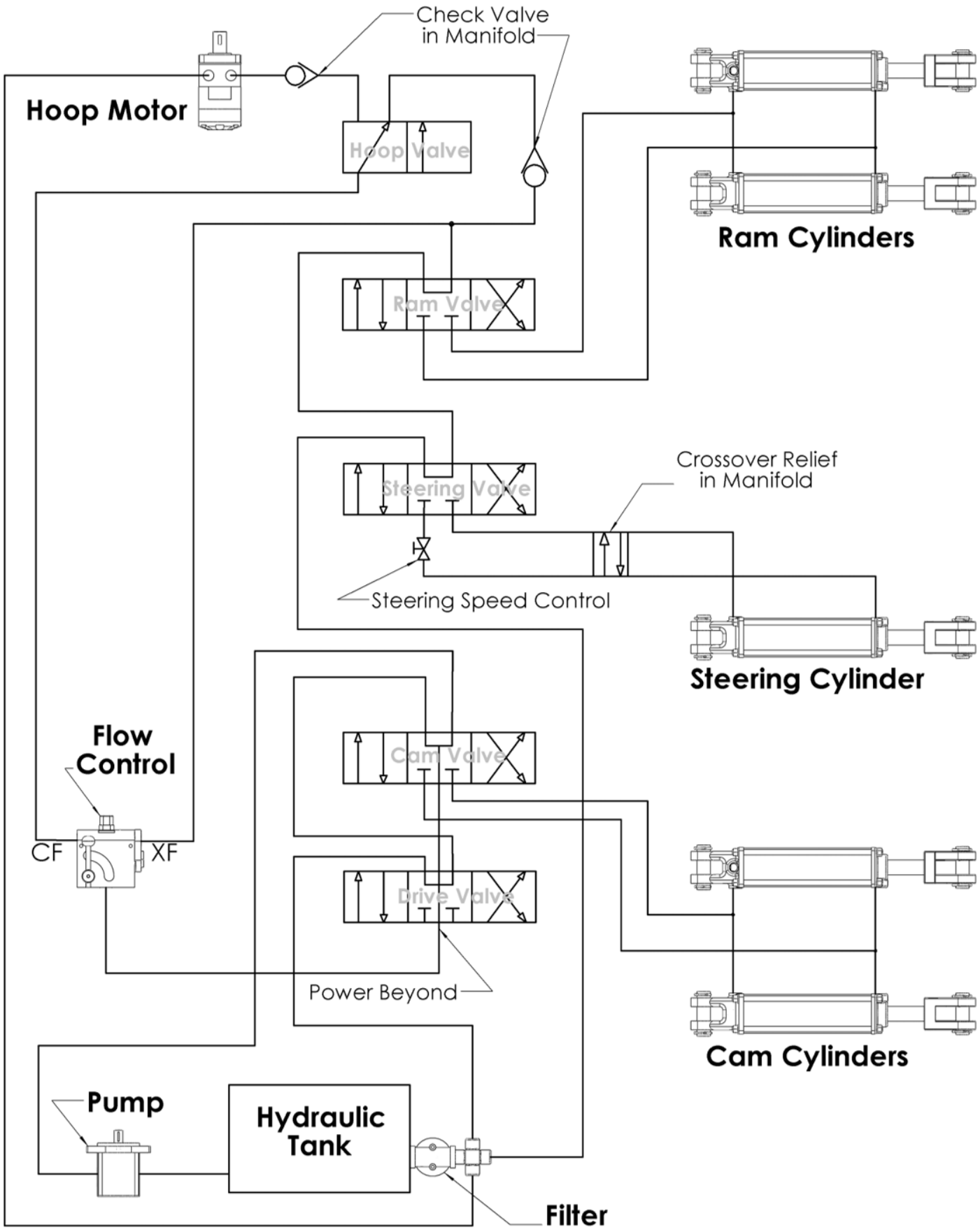
Continued on next page.

Hydraulic Layout - 20hp

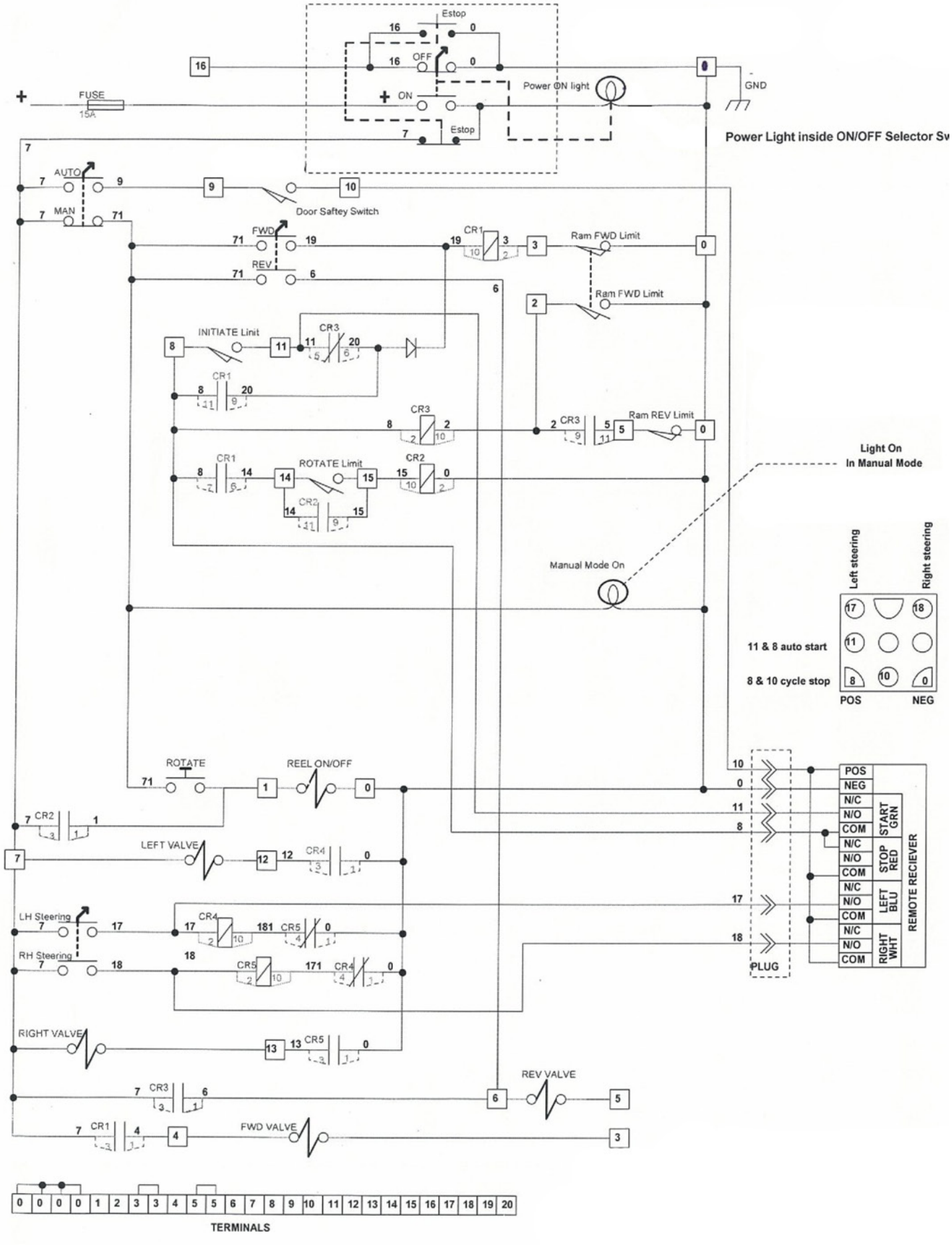
Continued from previous page.

41	1	TL500-100-103	Hydraulic Cylinder, 2 x 16
42	1	TL550-200-006	Steering Speed Control (Needle Valve)
43	1	TL5X2-200-050	Hydraulic Motor (M t S 2009 Models)
44	1	TL5X2-201-055	2 Spool Monoblock Valve
45	1	TL5X2-500-151	Hydraulic Oil Tank
46	1	TL5X2-500-161	Dump Valve
47	1	TLT5E102-09	HH48 - 6ATI(8FJXH-6FJXH)48HCL
48	2	TLT5E606-09	HH92.50 - 6ATI(6MBX90,6FJXH) 92.50” E/E
49	1	TLT5M111-09	HH24.75- 8ATI(8MBX90-8FJX)24.75 - E/E
50	1	TLTLE101-09	HH25-4ATI(4FJXH-6MBX90)25”HCL
51	1	TLX202-09	HH54.75-6ATI-6FJX-6FJX-54.75-E/E
52	1	TLX204-09	HH80-6ATI-8MBX90-6FJX-80-CL/E
53	3	TLX210-09	HH22.25 - 8ATI(8FJX-8FJX) 22.25-CL/E
54	1	VAL BV73-100	Valve 1/2” Ball
55	1	VAL FCR51-34	Flow Control, FCR51-3/4
56	1	VAL HEK44	HEK44-20-135-AS-SP010-B Filter Element
57	1	VAL HF620	HF620.20-B17-NE-XA-NA-XB-NA Filter Base
58	1	VAL HL91	HL91-20-T1-T-B Level Gauge

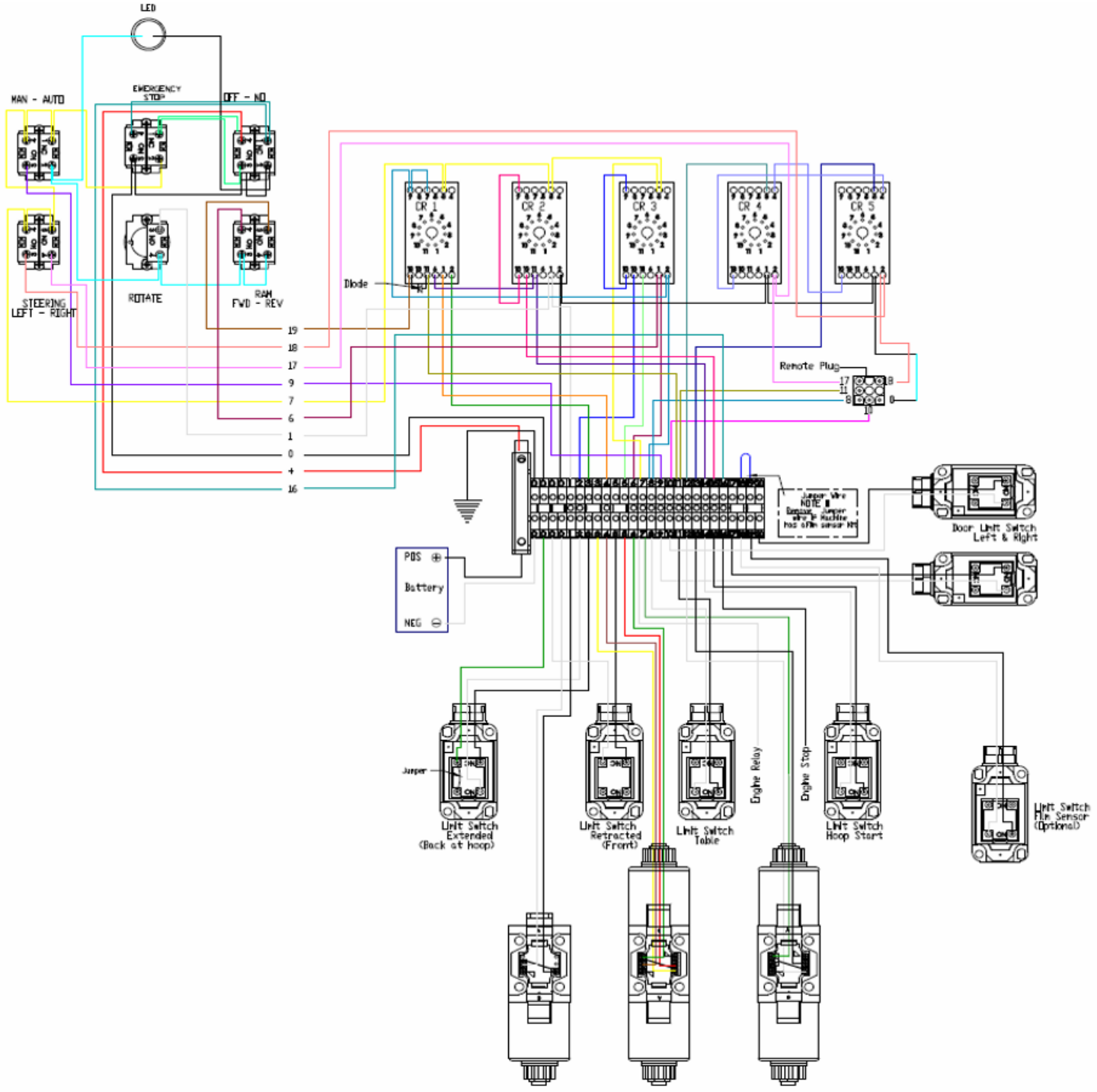
Hydraulic Schematic



Electrical Schematic



Wiring Diagram



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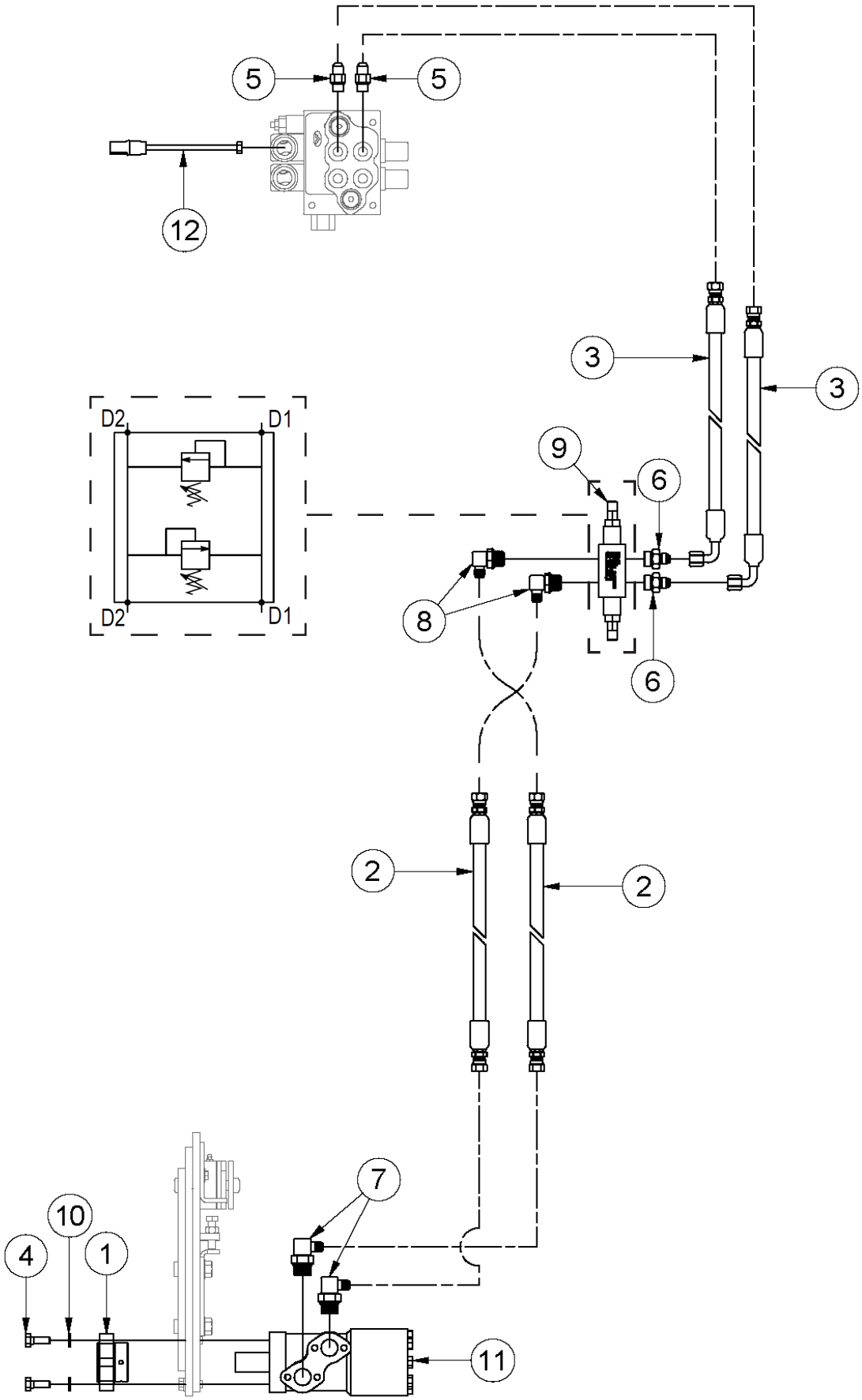
Section 6: Options

- Single Power Drive
- Dual Power Drive
- Light Kit(s)
- Remote Control
- Twin Wrap Kit
- Manual Pushoff Arm

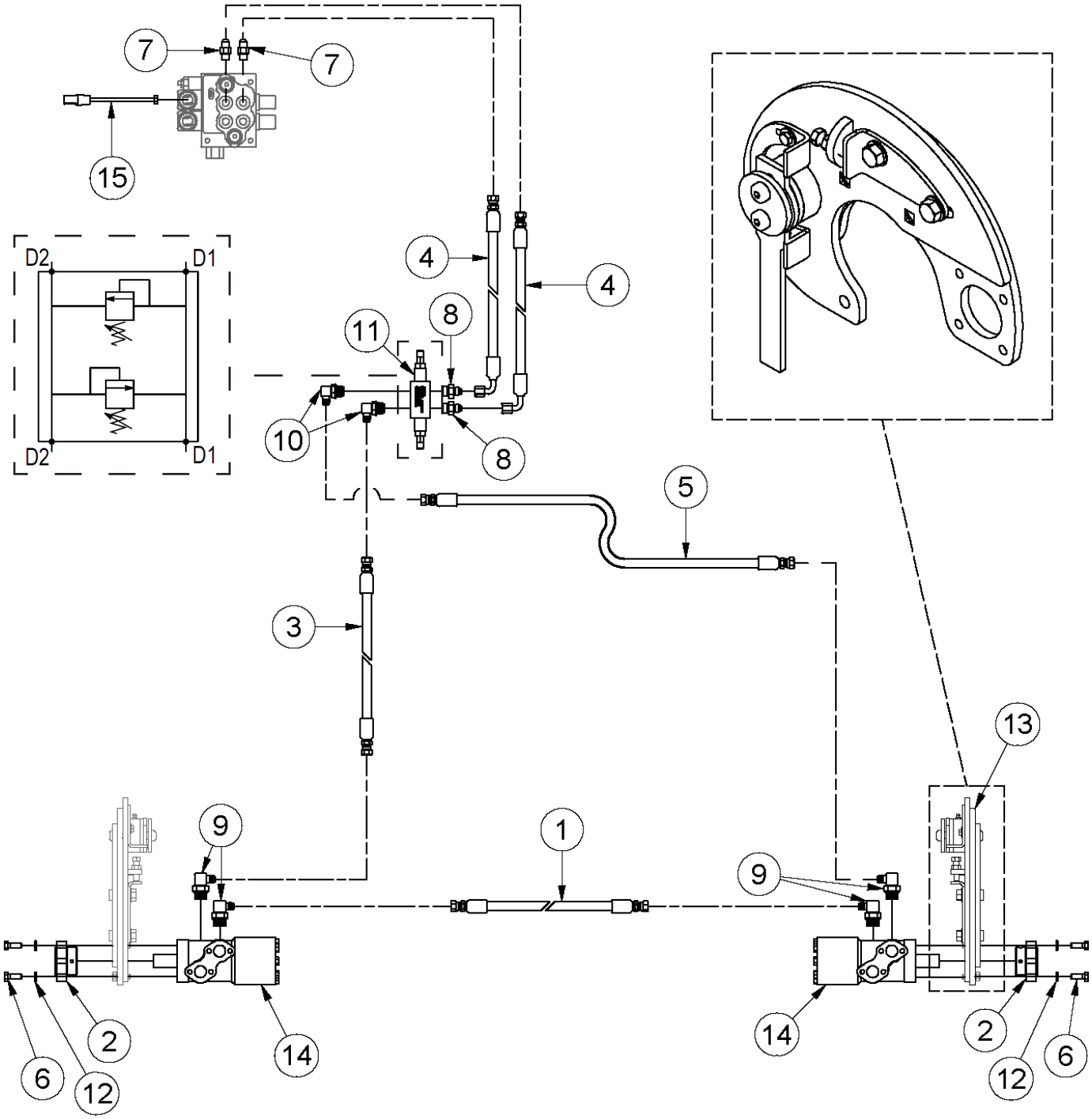
Single Power Drive



Single Power Drive

ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	28772	Power Drive Sprocket for TL5500,TLR5000
2	2	41835	HH132”- 6ATI(6FJX-6FJX)132” HCL
3	2	41512	HH80- 6AT1(6FJXH-6FJX90S) HCL80”
4	4	HB 3/8-16X1.0 Z5	Hex Bolt 3/8-16 x 1” Grade 5 Zinc Plated Hex Cap Screw NC
5	2	HF 6400-6-6	Hyd Fitting
6	2	HF 6400-6-8	Hyd Fitting -Male JIC - Male ORB
7	4	HF 6801-6-10	Hyd. Fitting -Male JIC - Male ORB 90 Degree Elbow
8	2	HF 6801-6-8	Hyd Fitting - Male JIC - Male ORB 90 Degree
9	1	LA-SB2000RV	Relief Valves
10	4	LW 3/8	Lockwasher - 3/8” Zinc Plated Medium Split
11	2	VAL 1008	Motor, Hydraulic - (BS208107A)
12	1	VAL 21733	Valvoil SD/5 2 Lever Handle

Dual Power Drive

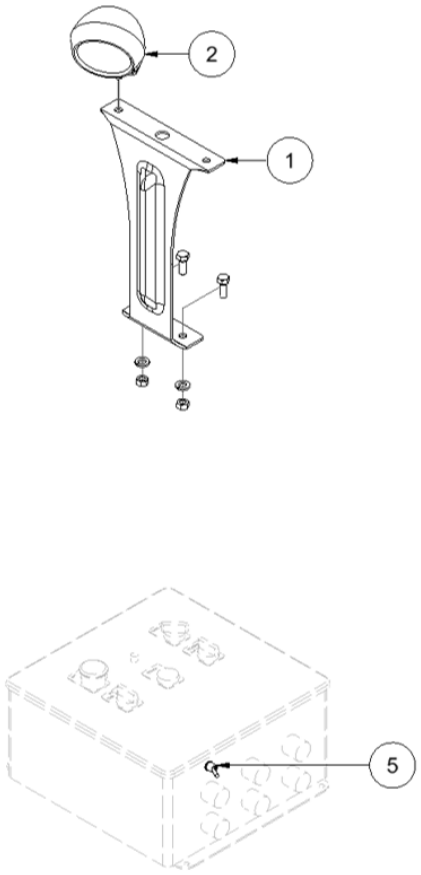


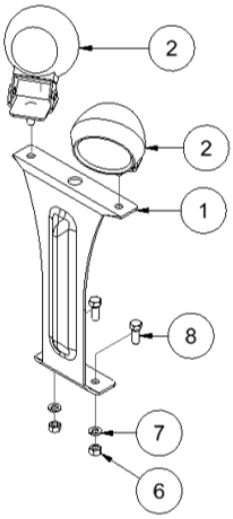
Dual Power Drive

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	41836	HH150”- 6ATI(6FJX-6FJX)150” HCL
2	2	28772	Power Drive Sprocket for TL5500,TLR5000
3	1	41835	HH132”- 6ATI(6FJX-6FJX)132” HCL
4	2	41512	HH80- 6AT1(6FJXH-6FJX90S) HCL80”
5	1	41837	HH170”- 6ATI(6FJX-6FJX)170” HCL
6	8	HB 3/8-16X1.0 Z5	Hex Bolt 3/8-16 x 1” Grade 5 Zinc Plated Hex Cap Screw NC
7	2	HF 6400-6-6	Hyd Fitting
8	2	HF 6400-6-8	Hyd Fitting -Male JIC - Male ORB
9	4	HF 6801-6-10	Hyd. Fitting -Male JIC - Male ORB 90 Degree Elbow
10	2	HF 6801-6-8	Hyd Fitting - Male JIC - Male ORB 90 Degree
11	1	LA-SB2000RV	Relief Valves
12	8	LW 3/8	Lockwasher - 3/8” Zinc Plated Medium Split
13	1	TL109-100-360	Power Drive Assembly RH
14	2	VAL 1008	Motor, Hydraulic - (BS208107A)
15	1	VAL 21733	Valvoil SD/5 2 Lever Handle

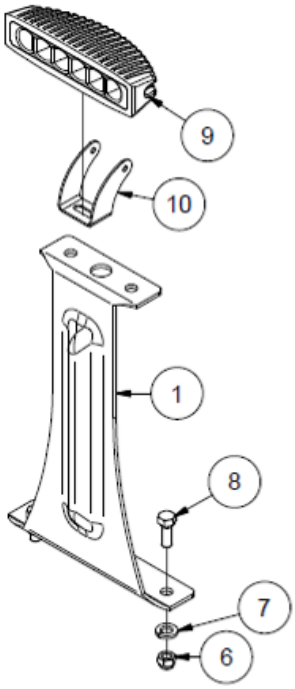
Light Kit(s)

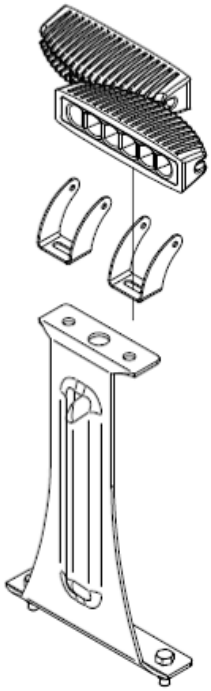
TLNWLK (Halogen)





TLNWLKLED (LED)

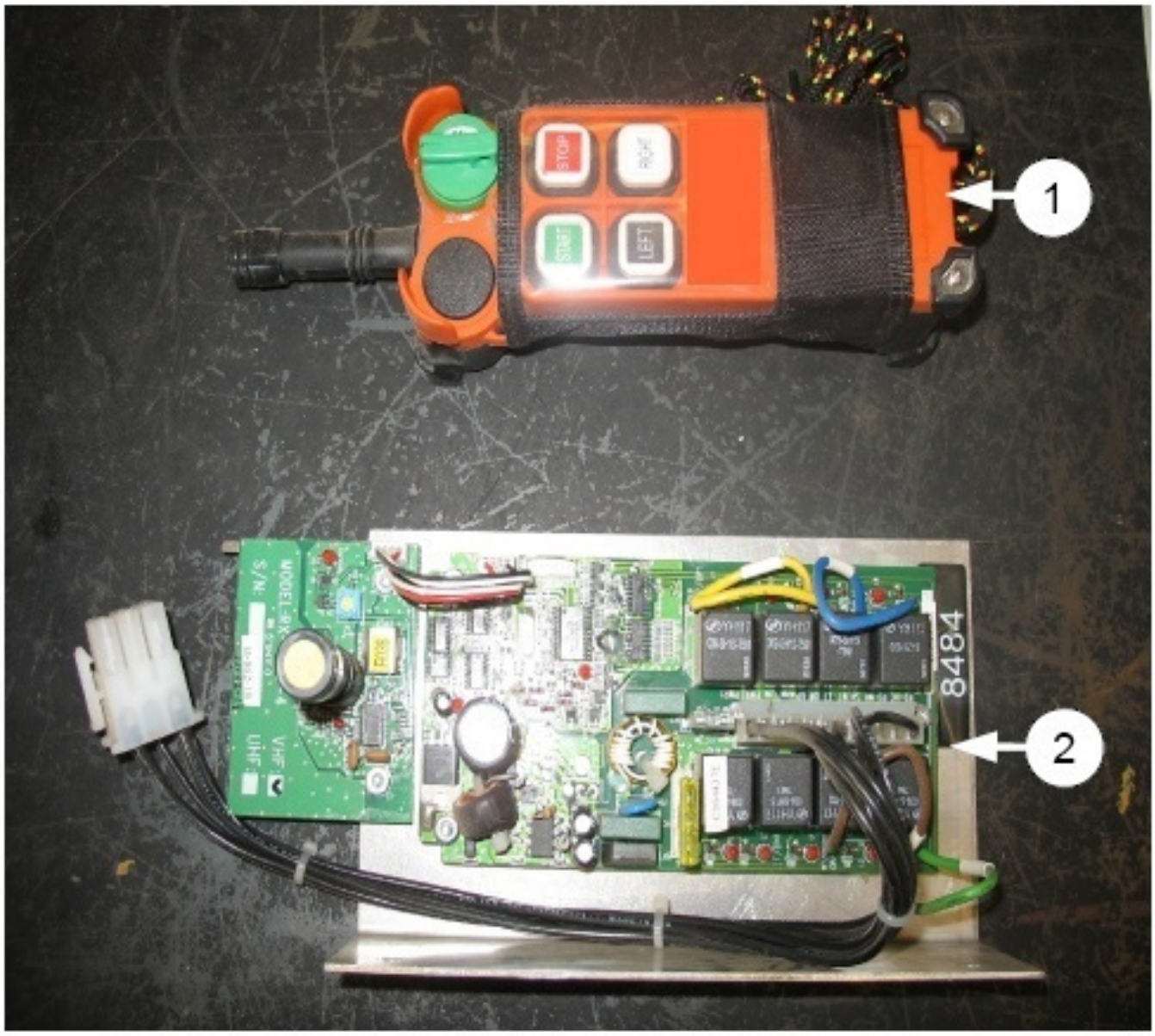




Light Kit(s)

ITEM	QTY	PART NUMBER	DESCRIPTION
		TLNWLK	Complete Halogen Kit
		TLNWKLED	Complete LED Kit
1	2	TL5X2-100-201	Light Bracket
2	3	TL64931B	Light
3	1	FUSEATC-15	15 Amp Blade Type Fuse
4	1	TL82-2164	Fuse Holder
5	1	TL550-200-235	Toggle Switch
6	4	HN 3/8	Hex Nut 3/8”-16 Grade 5 Zinc Plated Finished NC
7	2	LW 3/8	LW 3/8” (Lock Washer)
8	4	HB 3/8-16X1.0 Z5	Hex Bolt 3/8-16 x 1” Grade 5 Zinc Plated Hex Cap Screw NC
9	3	33237	LED Light
10	3	33223	LED Light Bracket

Remote Control



Remote Control

ITEM	QTY	PART NUMBER	DESCRIPTION
		TLR SSKX2HD	Remote Control Kit
1	1	TLH HCX2HD	Hand-held Unit
2	1	TLR SSKX2HDL	Receiver Unit

Remote Control Installation

- Bolt receiver assembly to inside rear right of control box with connector plug at bottom.
- Locate the plug with 6 wires inside the control panel.
- Remove the jumper plug and connect the remote control board.

Note: All remote control units use the same frequency, no programming is required.

Remote Control Function

ON/OFF – Turns handheld unit on/off (detent has no function).

START – Starts the wrap cycle (unplug the table switch if you prefer to start each cycle with this button), this will not restart the hoop if cycle is broken after Hoop Start was triggered.

STOP – Stops the wrap cycle (if the table switch is not unplugged and it has a bale holding it down, it is nessecary to hold stop until the circuit is broken by switching to manual mode at the control panel).

LEFT - Steers left.

RIGHT - Steers right.

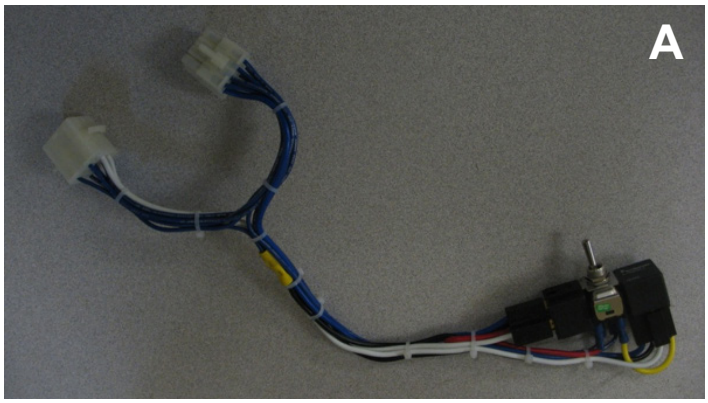
Optional Remote Start Add-on*

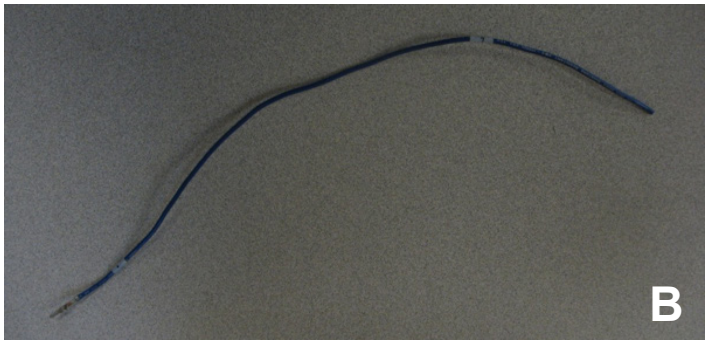
* To order this option you must have a remote control [see previous page(s)]

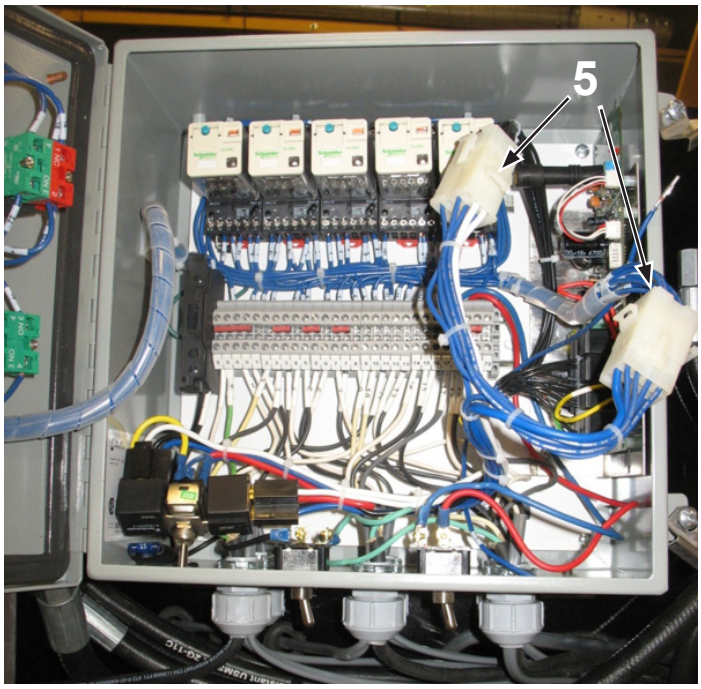
Remote Start Add-on Installation

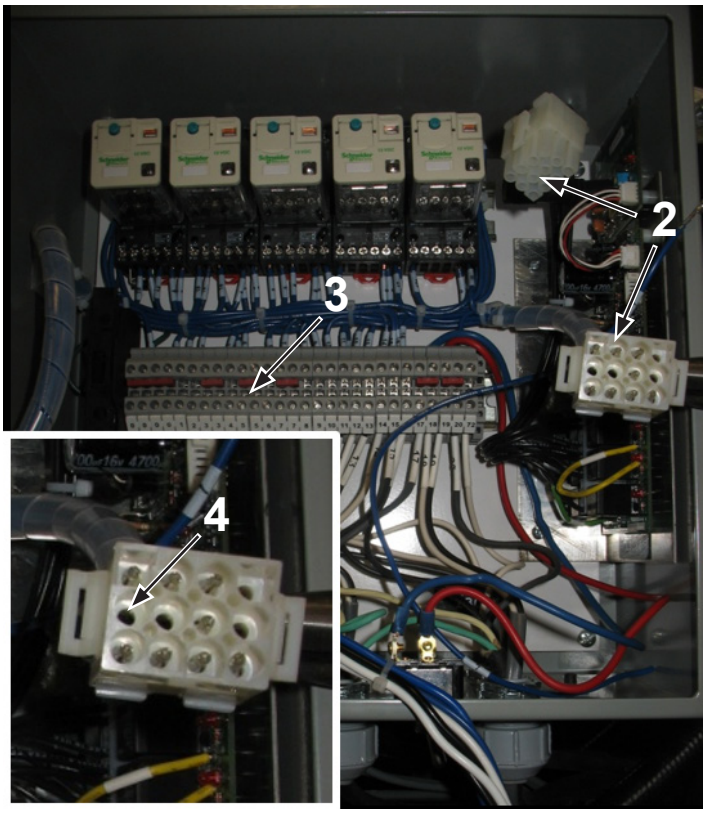
Read the following instructions before attempting to install.

1. Make sure you have both Item A (remote switch) & B (power wire).
2. After making sure your wrapper's engine and control panel are switched off, open your control panel and unplug the 2 white pin plugs.
3. Connect the provided power wire (B) into the top #7 port on the control panel terminal strip. Older machines (Prior to serial # 13R058) will have only one top #7 on their terminal strip. Splice this new wire into the existing #7 wire to install.
4. The silver capped end on the provided wire MUST be threaded into this plug AND this port. (Fins on the cap will hold the wire in place once inserted).

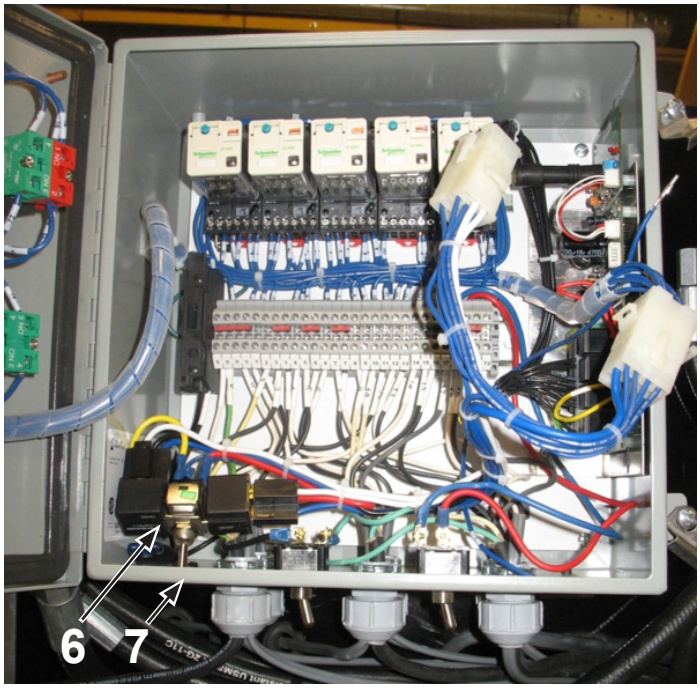








5. Plug 2 white existing plugs into the 2 white plugs on the provided remote start switch (A).
6. Unscrew one of the hex jam nuts from the bottom of the switch on the remote start.
7. Drill 1/2” hole into bottom of control panel if your machine is older than serial # 13R058. If newer, remove black plug.
8. Slide the switch through the hole in the bottom of the control panel and refasten the hex jam nut you took off in step 6.
9. Close the control panel.
10. Apply provided decal to front of control panel, above installed switch.



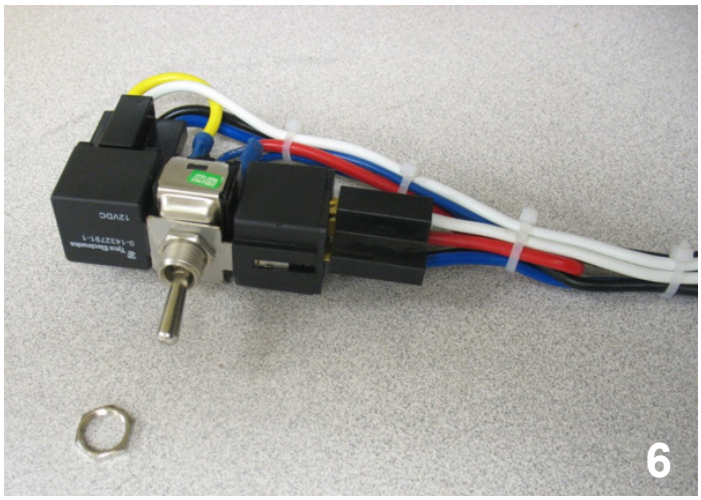
Remote Start Add-on Test Run

Your new remote start is now complete.

To test this feature follow these steps:

1. Flip switch on bottom of control panel to Remote Engine Start.
2. Twist the green dial on your orange remote. (You may have to hold it open for a moment, especially if cold starting).
3. If the machine doesn’t start you may want to engage the throttle slightly.

For troubleshooting please contact your local dealer or contact us using the information provided on pg. 1-1 of this manual.



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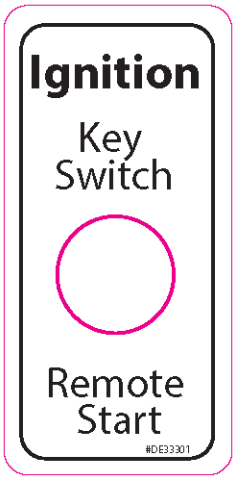
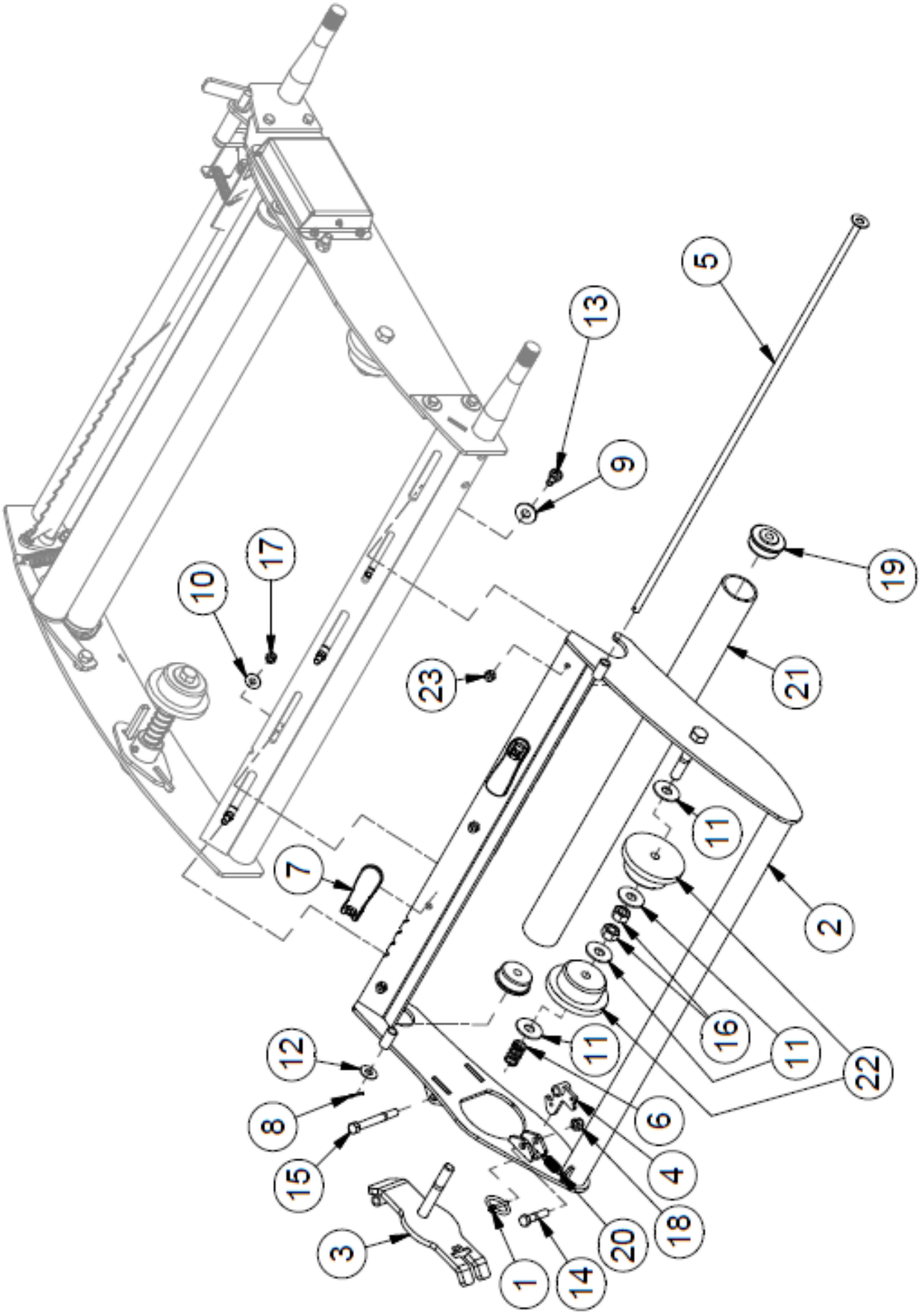


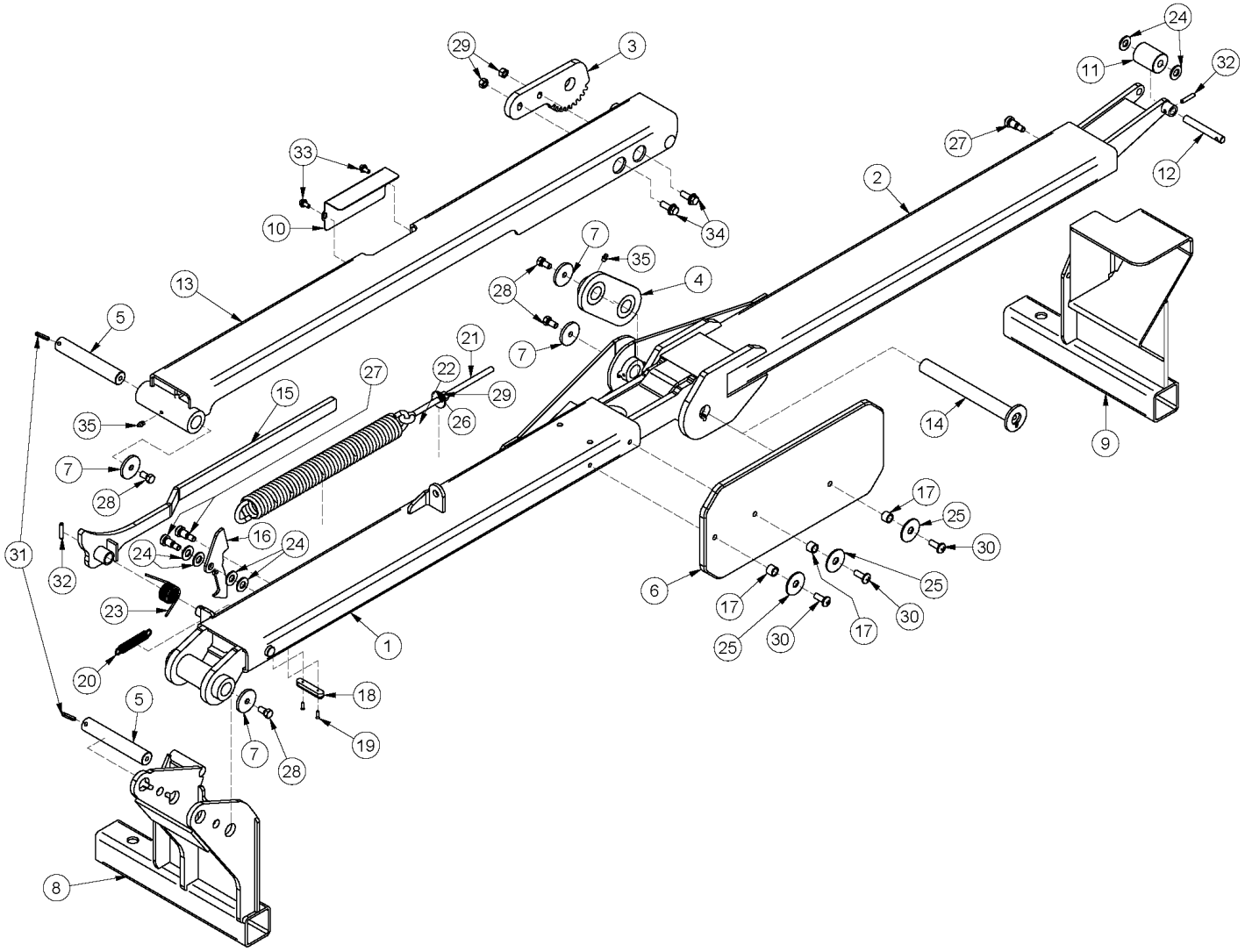
Twin Wrap Kit



Twin Wrap Kit

ITEM	QTY	PART NUMBER	DESCRIPTION
	1	41631	Twin Wrap Kit
1	1	25680	Lynch PinIniti 3/16 x 1.5
2	1	41632	Twin Wrap Frame
3	1	41641	Spool Latch
4	1	41645	Latch Hook
5	1	41648	Twin Wrap Roller Pin
6	1	41916	Twin Wrap Spring
7	2	41927	Quick Positioning Cam Handle
8	1	CP 18X1	Pin, Cotter 1/8 x 1.0
9	3	FW 1/2	Flatwasher - 1/2” Zinc Plated USS
10	2	FW 3/8	Flatwasher Plated, 3/8” Zinc Plated USS
11	4	FW 5/8	Flatwasher - 5/8” Zinc Plated USS
12	1	FW 7/16 B	Flatwasher - 7/16” Plain Finish USS
13	3	HB 1/2X 3/8 SS	Shoulder Bolt - 1/2” Shldr x 3/8” x 3/8-16
14	1	HB 7/16-14X1.3/4 Z5	Hex Bolt Plated Gr. 5 N.C
15	1	HB 7/16-14X4.0 Z5	Hex Bolt Plated Gr. 5 NC
16	2	HN 5/8	Hex Nut - 5/8”-11 Grade 5 Zinc Plated Finished NC
17	3	LN 3/8 N	Locknuts - 3/8-16 Zinc Plated Nylon Insert Lock Nut
18	1	LN 7/16	Center Locknuts - 7/16-14 Top Lock Nut
19	2	TL500-100-021	HMWPVC Bearing - Plastic End Cap
20	1	TL500-100-062	Extension Spring (Trigger)
21	1	TL550-100-022	Pipe, ABS (Plastic Idler)
22	2	TL550-200-012	Plastic Wrap Spool
23	3	LN 3/8 N	Locknuts - 3/8-16 Zinc Plated Nylon Insert Lock Nut

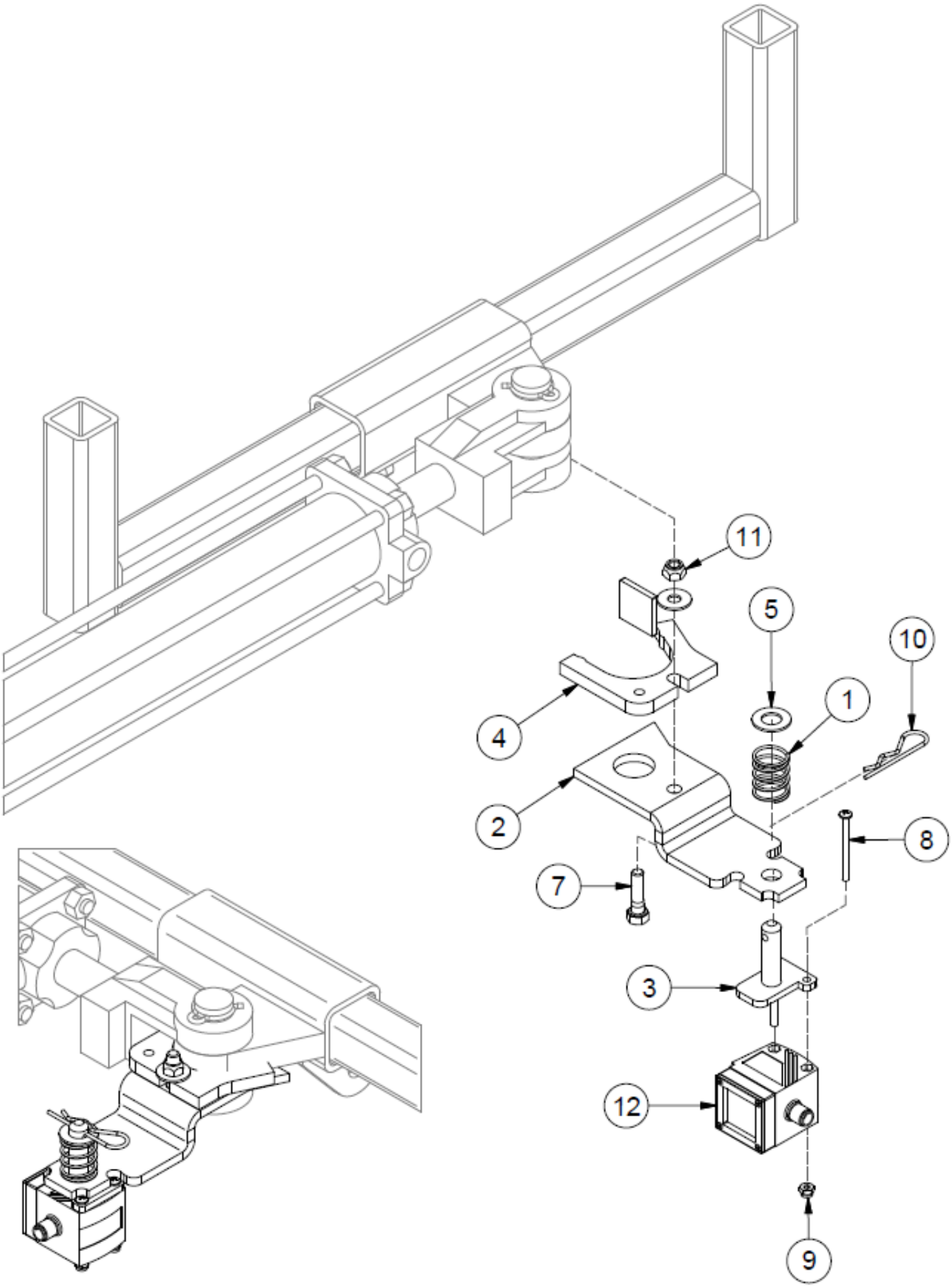
Manual Pushoff Arm - TLMPO-6000



Manual Pushoff Arm - TLMPO-6000

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	31186	Folding Pushoff Left Arm
2	1	31188	Folding Pushoff Right Arm
3	1	31192	Top Pushoff Arm Sprocket
4	1	31300	Folding Pushoff Arm Link
5	2	31301	Pushoff Pin
6	1	31302	Rubber Pushoff Pin
7	4	31303	Pin Endcap
8	1	41320	Folding Pushoff Left Base
9	1	41323	Folding Pushoff Right Base
10	1	31367	Spring Tension Access Cover
11	1	31369	Last Pushoff Roller
12	1	31385	Pushoff Roller Pivot Pin
13	1	31388	Folding Pushoff Guide Arm
14	1	31535	Pushoff
15	1	33231	Folding Pushoff Handle
16	1	36690	Folding Pushoff Latch
17	3	36942	Rubber Plate Spacer
18	1	PP-00685	Rubber Stop
19	2	PP-00686	Wood Screw, #6 x 5/8”
20	1	31395	Tension Spring
21	1	EB3/8-16X6.0	Eye Bolt - 3/8-16 x 6” Shank Zinc Plated Turned
22	1	TL550-100-069	Throttle Spring
23	1	33230	Torsion Spring
24	6	FW 1/2	Flatwasher - 1/2” Zinc Plated USS (1096)
25	3	FWSAE 1/2	Flatwasher, 1/2” Zinc Plated SAE
26	1	FW 3/8	Flatwasher Plated, 3/8” Zinc Plated USS (2984)
27	3	HB 1/2X 5/8 SS	Shoulder Bolt - 1/2” Shldr x 5/8” x 3/8-16
28	4	HB 3/8-16X 3/4 Z5	Hex Bolt - 3/8-16 x 3/4” Grade 5 Zinc Plated Hex Cap Screw NC
29	4	HN 3/8	Hex Nut 3/8”-16 Grade 5 Zinc Plated Finished NC
30	3	MS 3/8X1	Machine Screw Slot Head -Slot Truss Head
31	2	RP 14X112	Pin - Roll Pin 1/4 x 1 1/2
32	2	RP 1/4X1.1/4	Pin - Roll Pin 1/4 x 1 1/4
33	2	HBC14X12	Hex Bolt 1/4-20 x 1/2 Grade 8.2 Zinc Flange Bolt SAE
34	2	HBC38X1	Hex Bolt Cerrated
35	7	GR 1/4 X 28	Grease Fitting 1/4-28 Strght-Standrd Zerk

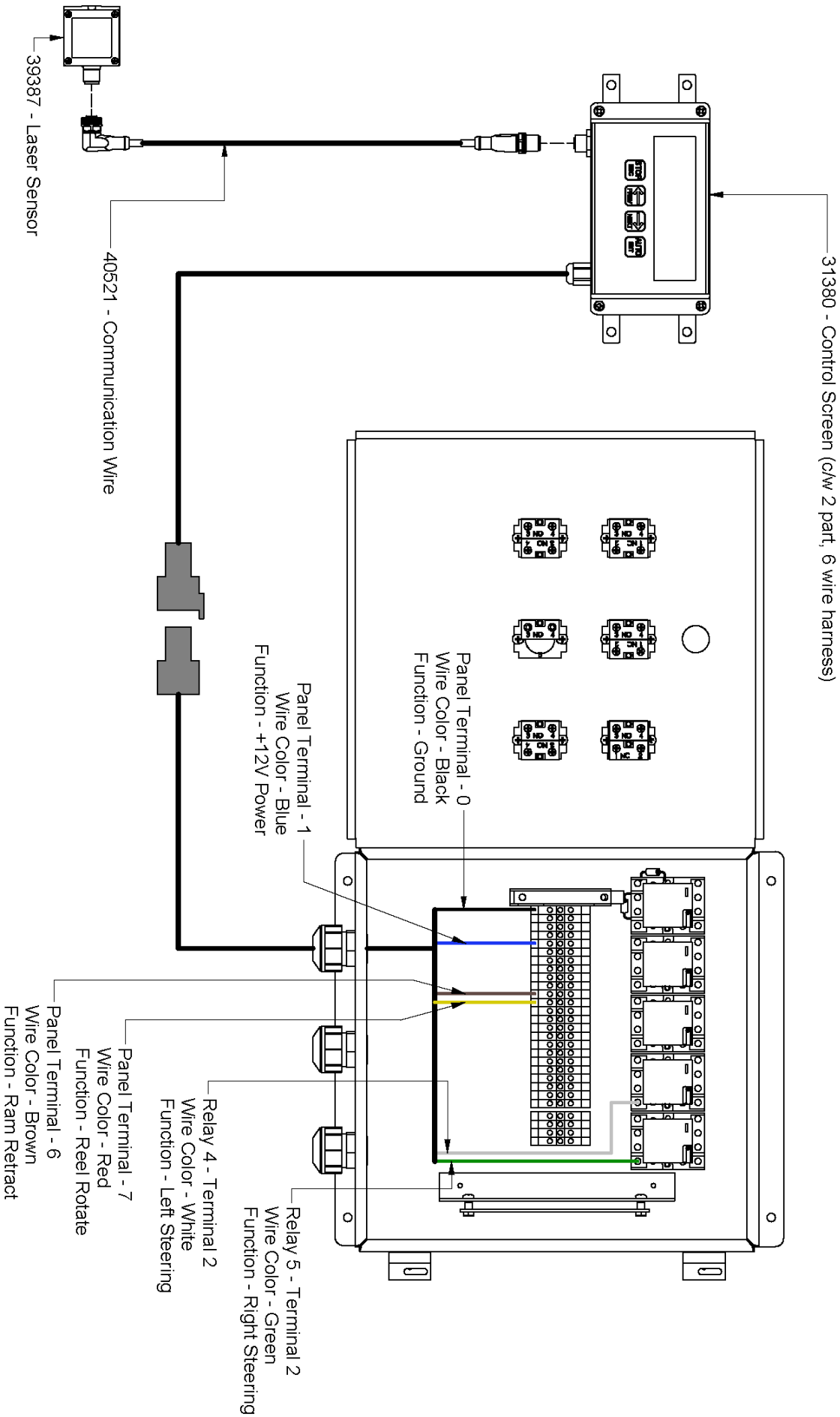
Laser Guidance System - TLGS



Laser Guidance System - TLGS

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	27566	Spring Compression .97 OD x 2.0 Long
2	1	39367	Laser Pin Bracket
3	1	39372	Pivot Bracket
4	1	40846	Stiffener Plate
5	1	FW 1/2	Flatwasher - 1/2" Zinc Plated USS (1096)
6	1	FW 5/16	Flatwasher - 5/16" Zinc Plated USS (3840)
7	1	HB 5/16-18X1.1/4 Z5	Hex Bolt - 5/16"-18 x 1 1/4" Grade 5 Zinc Plated Hex Cap Screw
8	2	HB 8-32X32 Z5	Hex Bolt - #8-32 x 2 Zinc Finish Flat Socket Cap Screw
9	2	HN 8	Hex Nut #8-32 Zinc
10	1	HP .125 X 1.5	Hair Pin
11	1	LN 5/16	Center Locknuts
12	1	39387	Sensor for Wrapper Guiding System

Laser Guidance System - TLGS Wiring



Laser Guidance System - TLGS Installation

To install your TLGS - Laser Guidance System on a balewrapper follow these instructions:

1. Position screen in such a way that the 2 part, 6 wire harness can easily reach the control panel. It may be necessary to drill holes in the left door mount to allow mounting of the control screen. Fasten in place with 1/4” bolts and lock nuts.

2. Route the 2 part, 6 wire harness from the control screen, down the door mount and into the control panel.

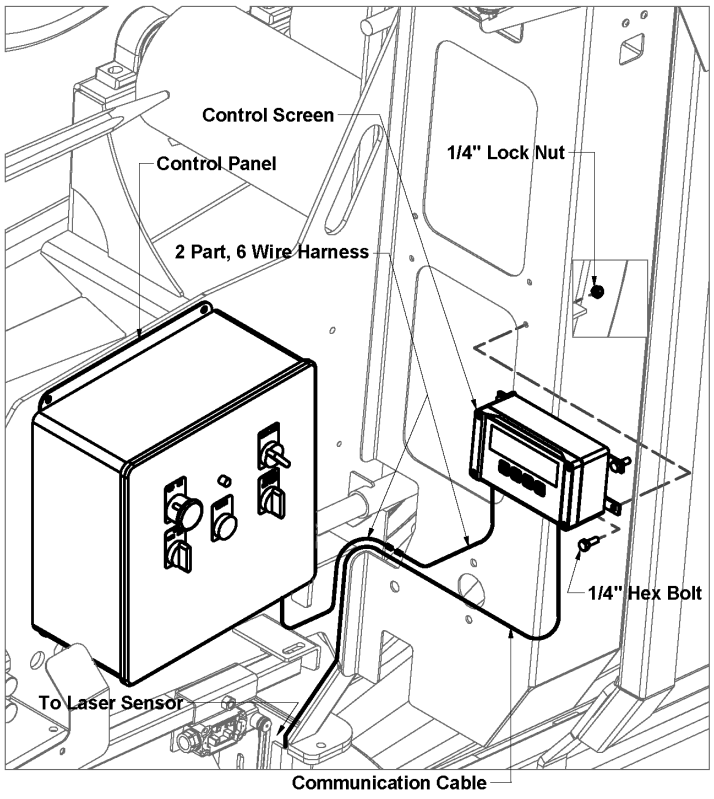
3. Follow the wiring diagram on *page.6-18* to connect the 6 wire to their correct terminals within the control panel.

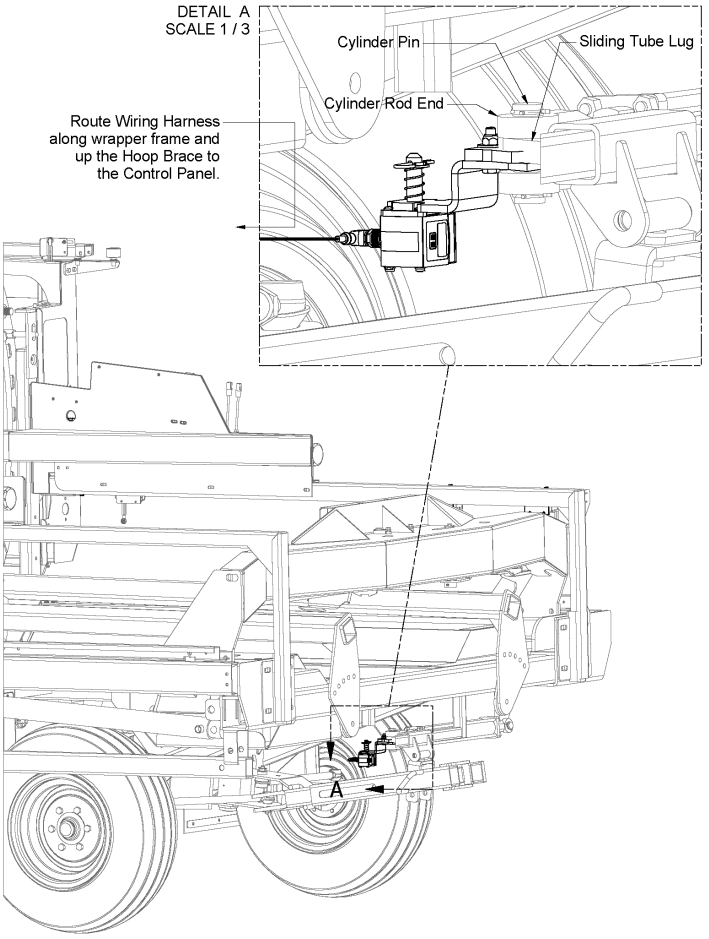
4. The communication cable must be routed down the door mount and hoop brace and along the balewrapper frame to the front steering cylinder. It must then be connected to the mounted laser sensor.

Note: It may be possible to route the communication cable along side existing wires.

5. The laser sensor and mount assembly must be mounted to the rod side of the front steering cylinder. The pin holding the front steering cylinder rod end in place will need to be removed to allow the laser sensor mount bracket to slide between the cylinder rod end and the sliding tube lug. Reinstall cylinder pin.

See picture to right and parts breakdown on page.6-17 for illustration.



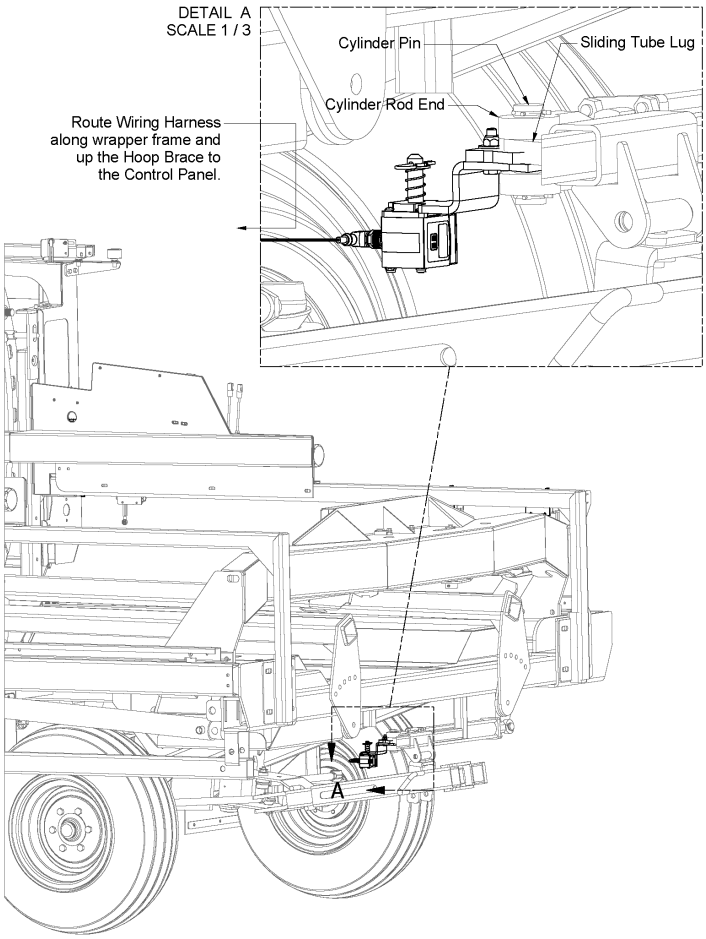


Laser Guidance System - TLGS Installation

To operate your Tubeline Balewrapper with the Laser Guidance System option installed follow these instrictions:

1. The mirrored face of the sensor must be pointing towards the row you want the wrapper to follow. The sensor can be repositioned as needed by pulling down on the sensor, then pivoting it in the correct position.

2. Release the sensor. The machine screw heads holding the sensor to its mounting plate should fit neatly into the pivot plate, item 2 on *page.6-17*, to lock the necessary position in place.



Laser Guidance System - TLGS Control Screen Functions

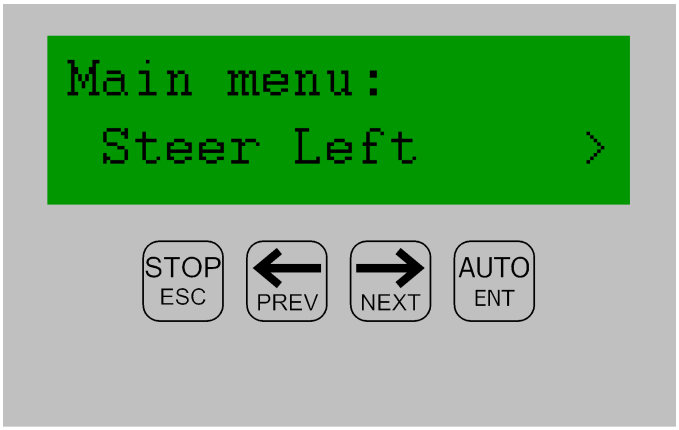
Screen Layout

Note: Directions are written as if you are driving a tractor in FRONT of the balewrapper.

Main Menu Screen

The default screen is **Main Menu**. From this screen you can select which side of the wrapper the laser sensor is pointed towards. Use the **PREV** arrow button or the **NEXT** arrow button to toggle between **Steer Left**, **Steer Right**, and **Count Bales**. Press **AUTO - ENT** to select desired option.

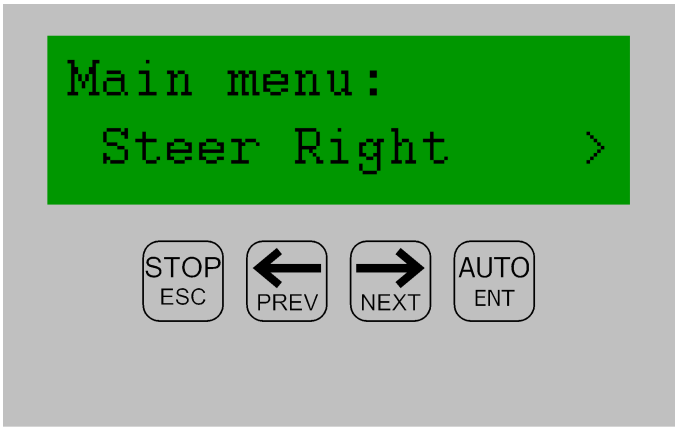
*Note: At any time, press the **STOP - ESC** button to return to the Main Menu screen.*

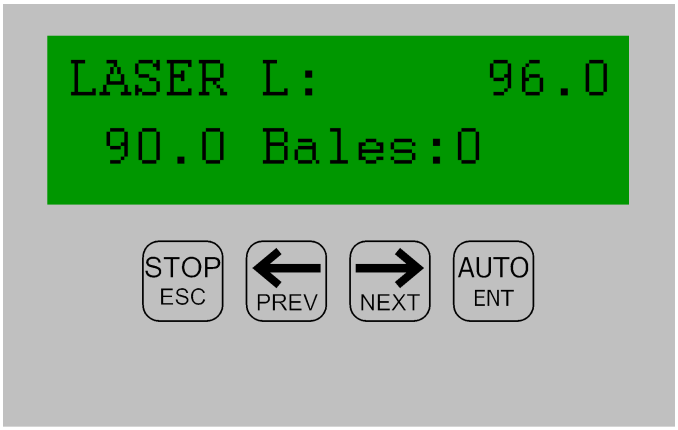


Laser L Screen

After choosing which side your laser sensor is pointing towards you will be taken to the Laser L screen. Use this screen to alter the current distance between rows. The top right corner value is the targeted distance from bale row (measured in inches) while the lower left value is the current distance from bale row(measured in inches).

Example: Noticing a root in the path of a started row, a farmer uses the Laser L screen and the NEXT arrow button to adjust the targeted distance between the existing bale row and current row from 90" to 96". This creates a slight bend in the row but allows it to skirt around the root. The farmer then uses the PREV arrow button to get the row back on the desired path.

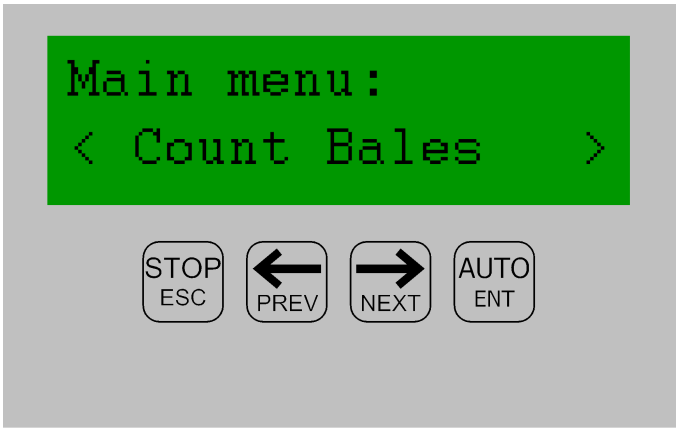


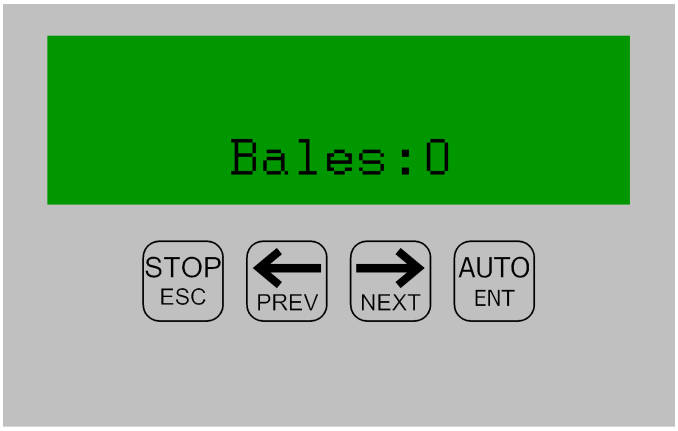


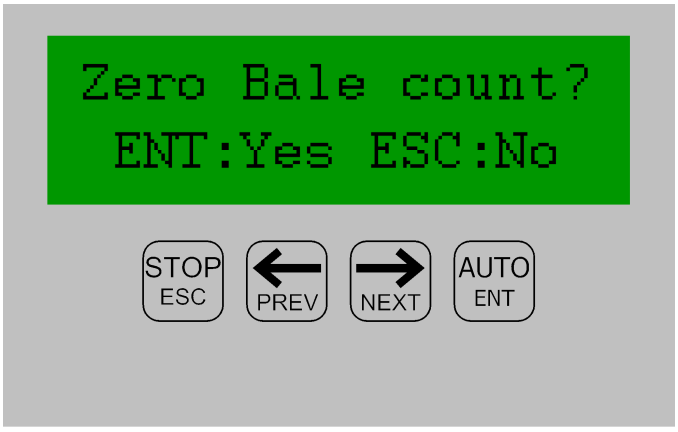
Main Menu : Count Bales

After selecting this option from the Main Menu Screen you will see the current Bale Count.

If you would like to reset bale count to zero simply hit the **NEXT** arrow button followed by the **AUTO - ENT** button, or the **STOP - ESC** button to cancel.







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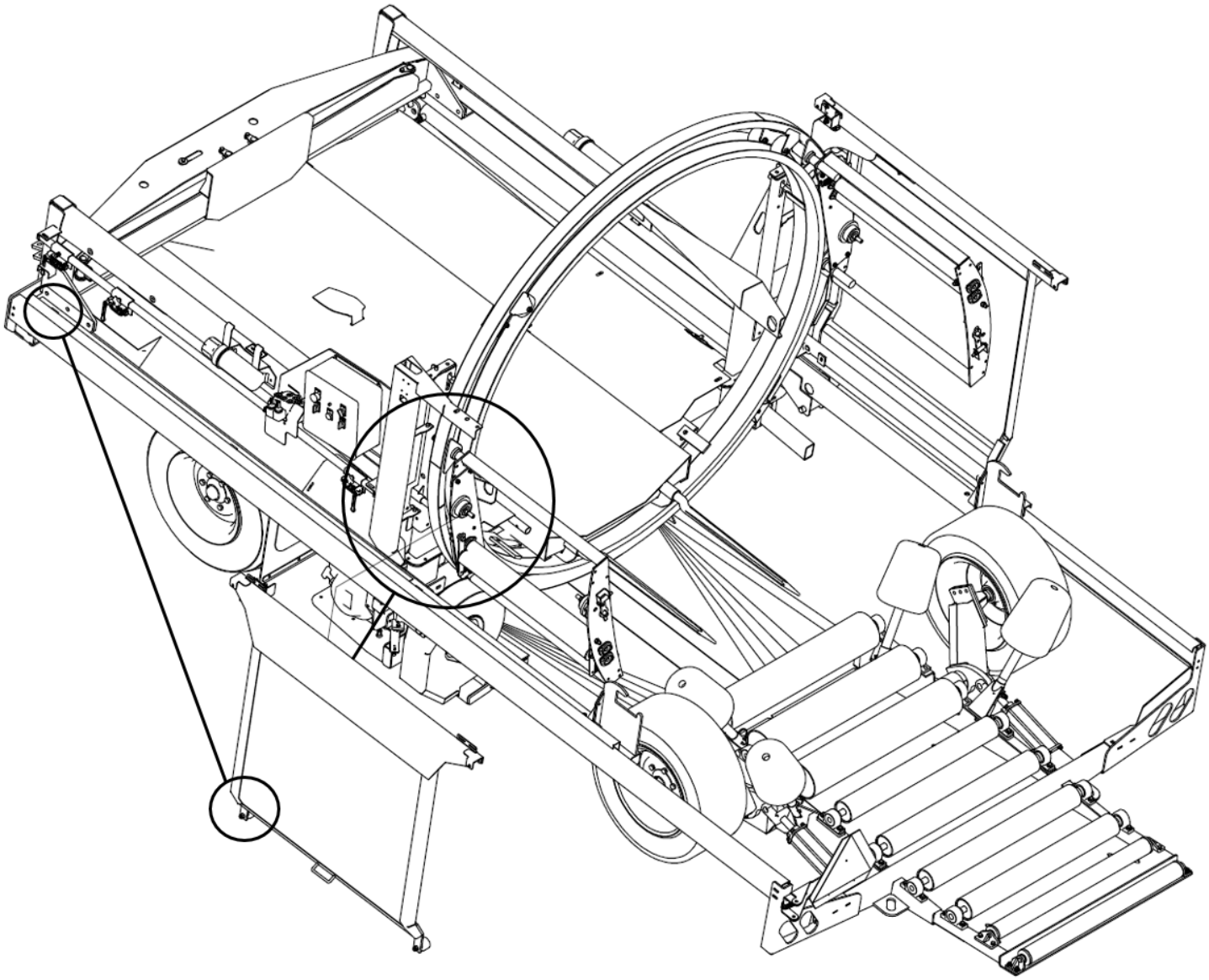
Dealer Installation



Dealer Installation

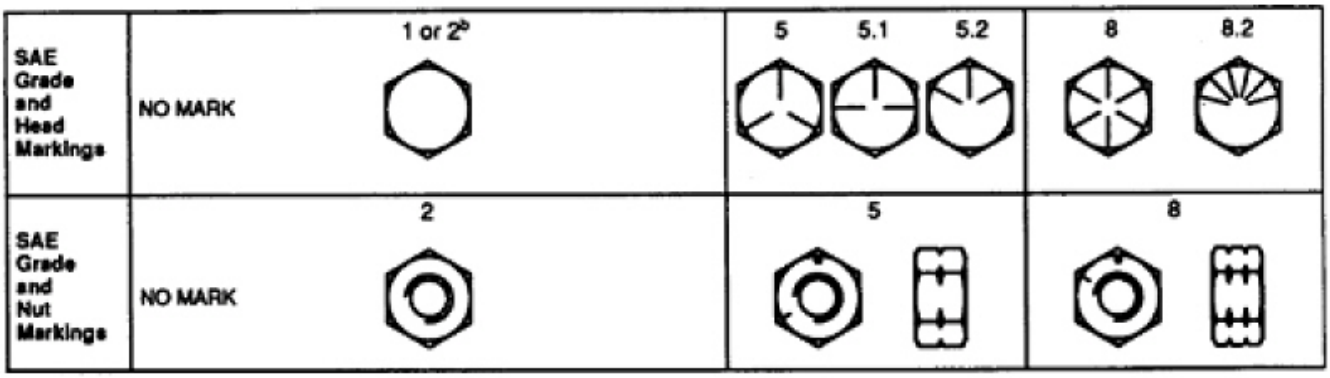
1. Remove the doors, which are strapped to the machine.
2. Move the Door Mount into position but do not fully tightened.
3. Add the wheels attached to the Door Mount mesh to their proper position on top of the Door Mount
4. Remove the door track bolt on the Door Track (towards front).
5. Slide the Doors into the Door Track, the top channel fits over the top wheel of the Door Mount. This keeps the door in line with the wheels in the Door Track .
6. Refasten the door stop bolt on the Door Track, and fully tighten the Door Mount bolts.

Note: Use the slots in the Top Door Wheel Bracket to move it up or down. The wheels should be about a 1/4” from touching the top channel on the Doors.

1. Bolt red battery cable to battery (On the 13 hp Honda, open the gas valve).
2. Start the Honda.
3. To test the wrapper; switch to manual mode, jog the ram to speed up the engine.
4. The hoop, power drive and steering can now be tested.
5. If you ordered your machine with a steering remote and shut down kit you will find it in gray tube next to the control panel.

Imperial Torque Value Chart

UNIFIED INCH BOLT AND CAP SCREW TORQUE VALUES



TS1162 -19-04MAR91

Size	Grade 1				Grade 2[b]				Grade 5, 5.1, or 5.2				Grade 8 or 8.2			
	Lubricated[a]		Dry[a]		Lubricated[a]		Dry[a]		Lubricated[a]		Dry[a]		Lubricated[a]		Dry[a]	
	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft
1/4	3.7	2.8	4.7	3.5	6	4.5	7.5	5.5	9.5	7	12	9	13.5	10	17	12.5
5/16	7.7	5.5	10	7	12	9	15	11	20	15	25	18	28	21	35	26
3/8	14	10	17	13	22	16	27	20	35	26	44	33	50	36	63	46
7/16	22	16	28	20	35	26	44	32	55	41	70	52	80	58	100	75
1/2	33	25	42	31	53	39	67	50	85	63	110	80	120	90	150	115
9/16	48	36	60	45	75	56	95	70	125	90	155	115	175	130	225	160
5/8	67	50	85	62	105	78	135	100	170	125	215	160	240	175	300	225
3/4	120	87	150	110	190	140	240	175	300	225	375	280	425	310	550	400
7/8	190	140	240	175	190	140	240	175	490	360	625	450	700	500	875	650
1	290	210	360	270	290	210	360	270	725	540	925	675	1050	750	1300	975
1-1/8	400	300	510	375	400	300	510	375	900	675	1150	850	1450	1075	1850	1350
1-1/4	570	425	725	530	570	425	725	530	1300	950	1650	1200	2050	1500	2600	1950
1-3/8	750	550	950	700	750	550	950	700	1700	1250	2150	1550	2700	2000	3400	2550
1-1/2	1000	725	1250	925	990	725	1250	930	2250	1650	2850	2100	3600	2650	4550	3350

DO NOT use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Fasteners should be replaced with the same or higher grade. If higher grade fasteners are used, these should only be tightened to the strength of the original.

Make sure fasteners threads are clean and that you properly start thread engagement. This will prevent them from failing when tightening.

Tighten plastic insert or crimped steel-type lock nuts to approximately 50 percent of the dry torque shown in the chart, applied to the nut, not to the bolt head. Tighten toothed or serrated-type lock nuts to the full torque value.

[a] "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry" means plain or zinc plated without any lubrication.

[b] Grade 2 applies for hex cap screws (not hex bolts) up to 152 mm (6-in.) long. Grade 1 applies for hex cap screws over 152 mm (6-in.) long, and for all other types of bolts and screws of any length.

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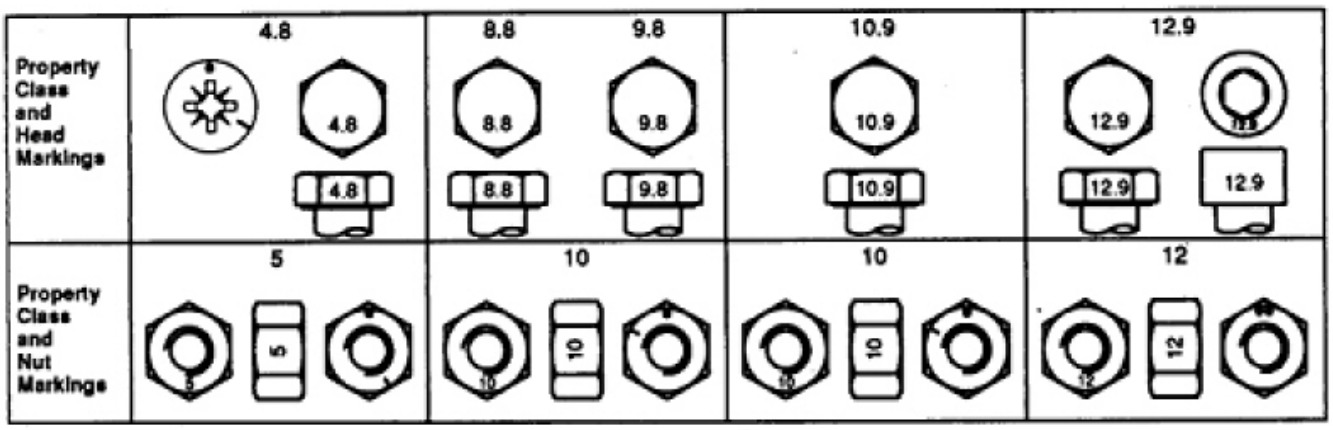
Metric Torque Value Chart

METRIC BOLT AND CAP SCREW TORQUE VALUES



Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Lubricated[a]		Dry[a]		Lubricated[a]		Dry[a]		Lubricated[a]		Dry[a]		Lubricated[a]		Dry[a]	
	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft
M6	4.8	3.5	6	4.5	9	6.5	11	8.5	13	9.5	17	12	15	11.5	19	14.5
M8	12	8.5	15	11	22	16	28	20	32	24	40	30	37	28	47	35
M10	23	17	29	21	43	32	55	40	63	47	80	60	75	55	95	70
M12	40	29	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	47	80	60	120	88	150	110	175	130	225	165	205	150	260	190
M16	100	73	125	92	190	140	240	175	275	200	350	255	320	240	400	300
M18	135	100	175	125	260	195	330	250	375	275	475	350	440	325	560	410
M20	190	140	240	180	375	275	475	350	530	400	675	500	625	460	800	580
M22	260	190	330	250	510	375	650	475	725	540	925	675	850	625	1075	800
M24	330	250	425	310	650	475	825	600	925	675	1150	850	1075	800	1350	1000
M27	490	360	625	450	950	700	1200	875	1350	1000	1700	1250	1600	1150	2000	1500
M30	675	490	850	625	1300	950	1650	1200	1850	1350	2300	1700	2150	1600	2700	2000
M33	900	675	1150	850	1750	1300	2200	1650	2500	1850	3150	2350	2900	2150	3700	2750
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2750	4750	3500

DO NOT use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class.

Fasteners should be replaced with the same or higher property class. If higher property class fasteners are used, these should only be tightened to the strength of the original.

Make sure fasteners threads are clean and that you properly start thread engagement. This will prevent them from failing when tightening.

Tighten plastic insert or crimped steel-type lock nuts to approximately 50 percent of the dry torque shown in the chart, applied to the nut, not to the bolt head. Tighten toothed or serrated-type lock nuts to the full torque value.

[a] *"Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry" means plain or zinc plated without any lubrication.*

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