Highline Mfg. Inc.

July 2001

# BALE MOVER 1400 (A) Owner's Manual



Before operating the Bale Mover 1400, be sure to review *all* the instructions and familiarize yourself with its features.

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## Warranty

#### **Highline New Agricultural Equipment Limited Warranty**

Effective July 1, 2000 Two (2) Year / 24 Months 1st Year Parts and Labour –2nd Year Parts Only

Highline Mfg. Inc (hereinafter "Highline") warrants each new Agricultural product of Highline's manufacturer to be free from defects in material and workmanship, under normal use and service for two (2) full years after initial purchase/retail sale. Highline will warrant its product for one (1) year parts and labour, if performed by a qualified Dealer and on the second year parts only. This Limited Warranty shall apply only to complete machines of Highline's manufacture, parts are covered by a separate Limited Warranty.

# EQUIPMENT AND ACCESSORIES NOT OF HIGHLINE'S MANUFACTURE ARE WARRANTED ONLY TO THE EXTENT OF THE ORIGINAL MANUFACTURER'S WARRANTY AND SUBJECT TO THEIR ALLOWANCE TO HIGHLINE ONLY IF FOUND DEFECTIVE BY SUCH MANUFACTURER.

During the Limited Warranty period specified above, any defect in material or workmanship in any warranted item of Highline Agricultural Equipment not excluded below shall be repaired or replaced at Highline's option without charge by any authorized independent Highline Dealer. An authorized Dealer must make the warranty repair or replacement. Labour in accordance with Highline's labour reimbursement policy. Highline reserves the right to supply remanufactured replacement parts as it deems appropriate.

**RETAIL PURCHASER RESPONSIBILITY:** This Limited Warranty requires proper maintenance and periodic inspections of the Agricultural Equipment as indicated in the Operator's Manual furnished with each new Agricultural Equipment. The cost of routine or required maintenance and services is the responsibility of the retail purchaser. The retail purchaser is required to keep documented evidence that these services were performed. This Highline New Agricultural Equipment Limited Warranty may be subject to cancellation if the above requirements are not performed

#### EXCLUSIONS AND LIMITATIONS

The warranties contained herein shall NOT APPLY TO:

- (1) Any defect which was caused (in Highline's sole judgement) by other than normal use and service of the Agricultural Equipment, or by any of the following: (i) accident (ii) misuse or negligence (iii) overloading (iv) lack of reasonable and proper maintenance (v) improper repair or installation (vi) unsuitable storage (vii) non-Highline approved alteration or modification (viii) natural calamities (ix) vandalism (x) parts or accessories installed on Agricultural Equipment which were not manufactured or installed by Highline authorized Dealers (xi) the elements (xii) collision or other accident.
- (2) Any Agricultural Equipment whose identification numbers or marks have been altered or removed.
- (3) Any Agricultural Equipment which any of the required or recommended periodic inspection or services have been performed using parts not manufactured or supplied by Highline or meeting Highline Specifications including, but without limitation, lubricants (oil, grease), belt lacings, and hydraulic fluids.
- (4) Equipment used for rental, custom work, industrial and construction or if equipment is used for any other purpose than the intended agricultural application.
- (5) Any Agricultural Equipment used in demonstrations not performed by a Highline Dealer. Warranty will be at the discretion of Highline for all other demonstration warranty.
- (6) New Agricultural Equipment delivered to the retail purchaser in which the warranty registration has not been completed and returned to Highline within ten (10) days from the date of purchase
- (7) Any defect that was caused (in Highline's sole judgement) by operation of the Agricultural Equipment not abiding by standard operating procedures outlined in the Operator's Manual.
- (8) Tire Limited Warranties and support are the responsibility of the respective product's manufacturer.
- (9) Transportation costs, if any, of transporting to the Highline Dealer.
- (10) In no event shall Highline's liability exceed the purchase price of the product.
- (11) Highline shall not be liable to any person under any circumstances for any incidental or consequential damages (including but not limited to, loss of profits, out of service time and damage to equipment which this equipment may be attached) occurring for any reason at any time.
- (12) Diagnostic and overtime labour premiums are not covered under this Limited Warranty Policy.
- (13) Depreciation damage caused by normal wear, lack of reasonable and proper maintenance, failure to follow operating instructions, misuse, and/or lack of proper protection during storage.
- (14) Accessory systems and electronics not of Highline's manufacture are warranted only to the extent of such manufacturer's respective Limited Warranty if any.
- (15) Wear items which are listed by product group below:

**COMMON WEAR ITEMS:** roller chain, sprockets, clutches, shear bolts, clutch components, chains, gearbox housings bolts/torqued parts, flails, feed roller belting, coupler chain, DRV couplers, bogie wheels, apron tines and hoses.

#### PARTS WARRANTY

Parts replaced in the warranty period will receive the balance of the two year New Agricultural Equipment Limited Warranty. Replacement parts after the original machine warranty are warranted to be free from defects of material for ninety (90) days or the part will be repaired or replaced, without labour coverage for removal and reinstallation.

EXCLUSION OF WARRANTIES. UNLESS OTHERWISE REQUIRED BY LAW, AND EXCEPT FOR THE WARRANTIES EXPRESSLY AND SPECIFICALLY MADE HEREIN, HIGHLINE MAKES NO OTHER WARRANTIES, AND ANY POSSIBLE LIABILITY OF HIGHLINE HEREIN UNDER IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED, OR STATUTORY, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANT ABILITY OR FITNESS FOR A PARTICULAR PURPOSE. HIGHLINE RESERVES THE RIGHT TO MODIFY, ALTER AND IMPROVE ANY PRODUCT WITHOUT INCURRING ANY OBLIGATION TO REPLACE ANY PRODUCT PREVIOUSLY SOLD WITH SUCH MODIFICATION. NO PERSON IS AUTHORIZED TO GIVE ANY OTHER WARRANTY, OR TO ASSUME ANY ADDITIONAL OBLIGATION ON HIGHLINE'S BEHALF.

## **President's Message**

The Bale Mover 1400, a proven name in the bale handling field, is made by Highline Mfg. Inc. The Bale Mover 1400 was designed to work in the most difficult of bale handling situations. A little time and effort will ensure the performance and durability of your Bale Mover.

This manual has been prepared to provide the information necessary for the safe and efficient operation of your Bale Mover. In it, you will find safety procedures, maintenance routines and detailed parts diagrams.

In order to maintain our high standards, changes or improvements are made from time to time. Highline Mfg. Inc. reserves the right to make those changes and add improvements when practical to do so without incurring any obligation to make such changes on machines previously sold.

Should the need arise, this manual will assist you in acquiring replacement parts. If your dealer does not have the parts you need in stock, they will be happy to order them for you. Feel free to contact Highline Mfg. Inc. or your local dealer if you need information that is not included in this manual.

Highline Mfg. Inc. thanks and congratulates you for selecting the Bale Mover 1400 as the machine for your bale handling needs.

Raymond J. Bussière, President Highline Mfg. Inc.

P.O. Box 307, Vonda, Saskatchewan, S0K 4N0 Phone 1-800-665-2010 Fax (306) 258-2010

Internet Address: http://www.highline@highlinemfg.com

## **Safety Precautions**

### WORK SAFELY - FOLLOW THESE INSTRUCTIONS

Failure to follow these safety instructions could result in serious injury or death.

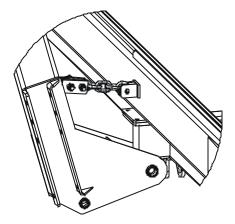
## CAREFUL OPERATION IS THE BEST INSURANCE AGAINST AN ACCIDENT!

- Always disengage the PTO and hydraulic motors before dismounting tractor for any reason. Always ensure PTO is disengaged before starting tractor.
- Keep yourself and others clear of any rotating or moving parts to prevent injury.
- Never allow anyone to stand near the Bale Mover while loading or unloading bales.
- Never attempt to manually remove bales from rails while hydraulic motors are engaged. Disconnect hydraulic motors before cleaning the Bale Mover.
- Remove transport locks before lowering forks. To remove transport locks, raise forks to slacken the transport chain and then remove the transport pin. **DO NOT** lower the forks when transport locks are in position otherwise **SEVERE DAMAGE WILL OCCUR!**
- Relieve pressure in hydraulic lines before disconnecting lines or performing maintenance on the hydraulic system.

## **1.0 Operating Instructions**

#### 1.1 Pre-Start Instructions

Transport chains need to be removed before operation of the forks. To remove transport chains, raise forks slightly and remove transport pins. DO NOT lower forks when transport chains are in position otherwise severe damage WILL occur.



**Figure 1 - Locks in Transport Position** 

## 1.2 Transporting Instructions

To ensure safe transport of the Bale Mover 1400, forks should be in the transport position with the transport chains in place. To put transport chains in place, raise the forks until the transport pin can be put in place safely. Lower forks to take the slack up in the transport chains.

# 1.3 Bale Size Adjustment

The bale size is adjustable through the fork adjusting plate. By moving the forks (Figure 2), you adjust for the correct size of bale.



Figure 2 – Adjusting Forks

## 1.4 Field Instructions

For proper operation, the Bale Mover 1400 should run at a field speed of 3-4 mph (4.8-6.5 km/h). When picking bales, a full stop is not required. Bales are picked and placed on the bed continuously by lifting the bale into position and moving the preceding bales back to fit the new bale on.

## 2.0 Maintenance Instructions

To ensure a long operating life of your Bale Mover 1400, follow these maintenance procedures.

- Periodically check tire air pressure to maintain equal tire pressure. The operating tire pressure should be 90 psi.
- · Periodically check all bolts for tightness.
- Periodically check the chain tightener. The chain should be just off the bottom of the rail.

  This can be seen through the sight hole in the rail.
- Wheel bearings should be repacked yearly.
- · Grease the following points as described.

#### 2.1 Grease Locations



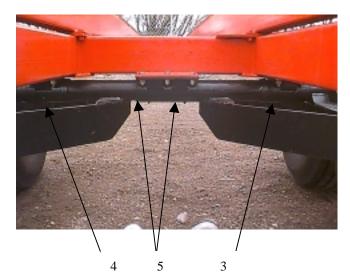
Figure 3 - Pivot Arm Grease Location

| Grease No | Description       | Frequency |
|-----------|-------------------|-----------|
| 1         | Arm, Pivot, Right | Daily     |



Figure 4 - Pivot Slide Arm Grease Location

| Grease No | Description              | Frequency |
|-----------|--------------------------|-----------|
| 2         | Arm, Slide, Pivot, Right | Daily     |



| Grease No | Description                     | Frequency |
|-----------|---------------------------------|-----------|
| 3         | Pocket, Beam Walking, Left,     | Weekly    |
| 4         | Pocket, Beam Walking, Right     | Weekly    |
| 5         | Pocket, Beam Walking,<br>Middle | Weekly    |

**Figure 5 - Oscillating Tandem Grease Location** 



| Grease No | Description                 | Frequency |
|-----------|-----------------------------|-----------|
| 6         | Pin, Sprocket, Rear, Left,  | Weekly    |
| 7         | Pin, Sprocket, Rear, Right, | Weekly    |

Figure 6 - Rear Sprocket Pin

#### 2.2 Tire Removal Procedure

There are several methods used to remove the tires on the 14 Bale Mover. Following are the common procedures used.

#### RAISING THE TIRES OFF THE GROUND

A.

- 1. Leaving the tractor hitched to the Bale Mover and apply the parking brake.
- 2. Block the Bale Mover tires opposite the side which the tire will be removed.
- 3. Use two jacks (hydraulic or pin) under the main frame of the Bale Mover to raise the side of the bale Mover high enough to swing the axle so the tire can be removed. Block the Bale Mover frame in this location.

B.

- 1. Leave the tractor hitched to the Bale Mover and apply the parking brake.
- 2. With the deck cylinder retracted, secure the end of the Bale Mover rails so they cannot be lowered. This can be done by blocking each rail or backing the bale mover into a sloped roadway and then applying the tractor parking brake.
- 3. Extend the deck cylinder to raise the tires off the ground.
- \*\*ENSURE THE DECK AND/OR DECK CYLINDER IS SECURED SO THE DECK CANNOT BE LOWERED\*\*

#### TIRE REMOVAL

A.

- 1. With the tires off the ground, rotate the axle so the tire to be removed is below the frame. Secure the axle so the axle cannot rotate.
- 2. Remove the tire.

В.

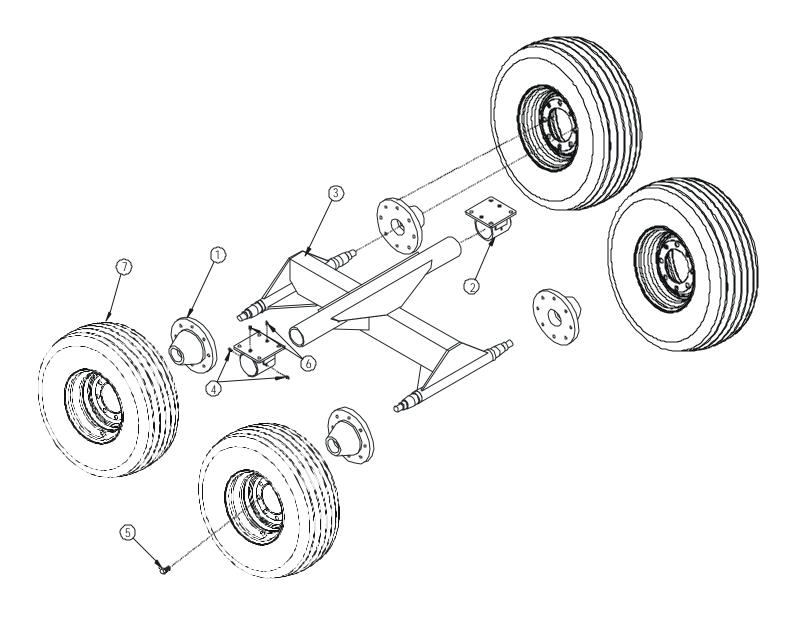
- 1. With the tires off the ground, remove the outside axle mount and loosen the inside axle mount. Remove the axle with tires attached.
- 2. Remove the tire.

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# 3.0 Parts Information

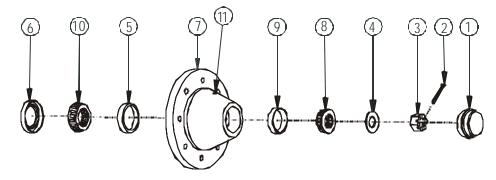
# 3.1 Tandem Axle Assembly

| Item | Part No. | Description                    | Quantity |
|------|----------|--------------------------------|----------|
| 1    | 30102    | Hub, EM5500, 5000lbs, Complete | 8        |
| 2    | 45243    | Pocket, End, Axle              | 4        |
| 3    | 45242    | Axle                           | 2        |
| 4    | 91704    | Zerk, ¼ - 28, 90?              | 8        |
| 5    | 91061    | Bolt, Wheel, 9/16              | 64       |
| 6    | 30207    | Zerk,1/4-28, Straight          | 8        |
| 7    | 31795    | Wheel, Complete, Off-white     | 8        |



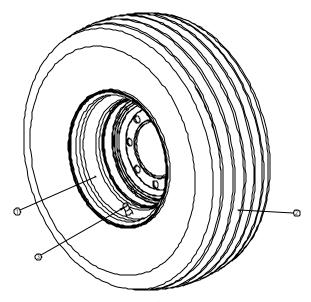
# **3.1.1 Hub Assembly (Part No. 30102)**

| ITEM NO. | PART NO. | DESCRIPTION                     | QTY. |
|----------|----------|---------------------------------|------|
| 1        | 30220    | SUSP, CAP, DUST                 | 1    |
| 2        | 30221    | PIN,COTTER,3/16X1-3/4           | 1    |
| 3        | 30222    | NUT,SLOTTED,1,UNF               | 1    |
| 4        | 30223    | WASHER,FLAT,1IDX2OD,.2385       | 1    |
| 5        | 30226    | DRV,BRG,RACE,INNER,1.781        | 1    |
| 6        | 30228    | DRV, BRG,SEAL, 1.98             | 1    |
| 7        | 30229    | SUSP,HUB,EM5500,8BOLT           | 1    |
| 8        | 91111    | DRV, BRG, TAPERED, OUTER, 1.375 | 1    |
| 9        | 91131    | DRV,BRG,RACE,OUTER,1.375        | 1    |
| 10       | 91133    | DRV, BRG, TAPERED, INNER, 1.781 | 1    |
| 11       | 30207    | ZERK,1/4-28,GF641,STRAIGHT      | 1    |



# **3.1. 2 Wheel Assembly (Part No. 31795)**

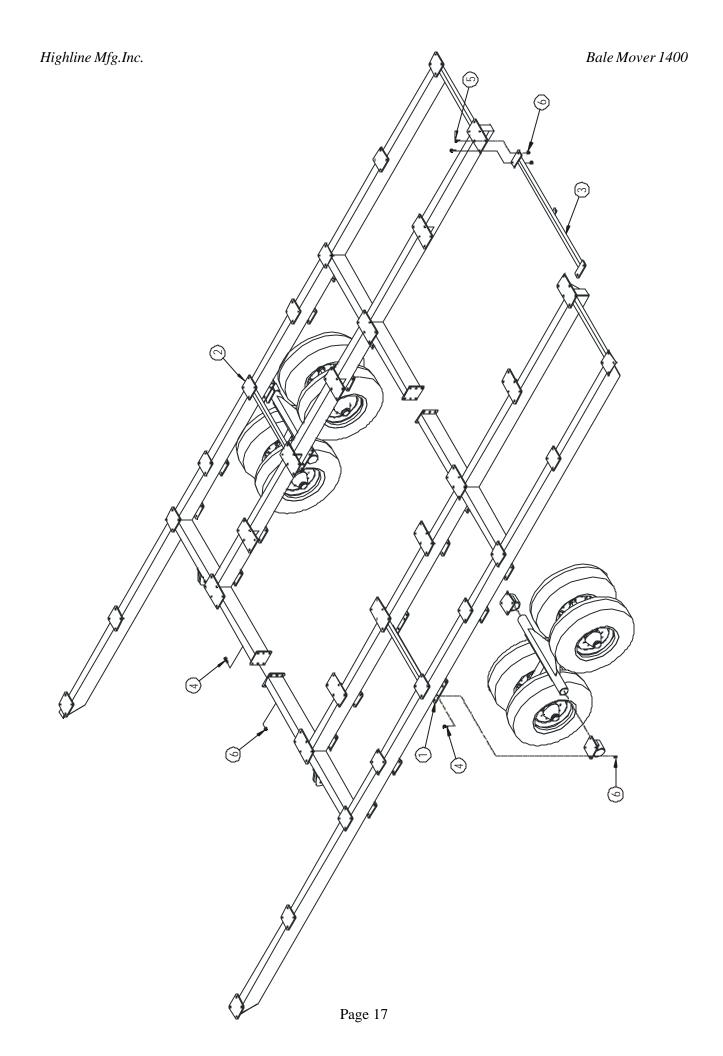
| ITEM NO. | PART NO. | DESCRIPTION                  | QTY. |
|----------|----------|------------------------------|------|
| 1        | 30104    | RIM,1.5X8,-1.5,8,0FFWHITE    | 1    |
| 2        | 30100    | SUSP, TIRE, 11LX 15FI, 12PLY | 1    |
| 3        | 91048    | SUSP, STEM, VALVE, TR801HP   | 1    |
| 4        | 33014    | SUSP,TUBE,11L-15             | 1    |



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# 3.2 Subframe Assembly

| Item | Part No. | Description                    | Quantity |
|------|----------|--------------------------------|----------|
| 1    | 45246    | Subframe, Main, Left           | 1        |
| 2    | 45245    | Subframe, Main, Right          | 1        |
| 3    | 40105    | Crossmember, Sign, Slow Moving | 1        |
| 4    | 30106    | Bolt, ½ x 1-½                  | 28       |
| 5    | 30107    | Bolt, ½ x 1-3/4                | 4        |
| 6    | 31173    | Nut, Nylock, 1/2               | 32       |



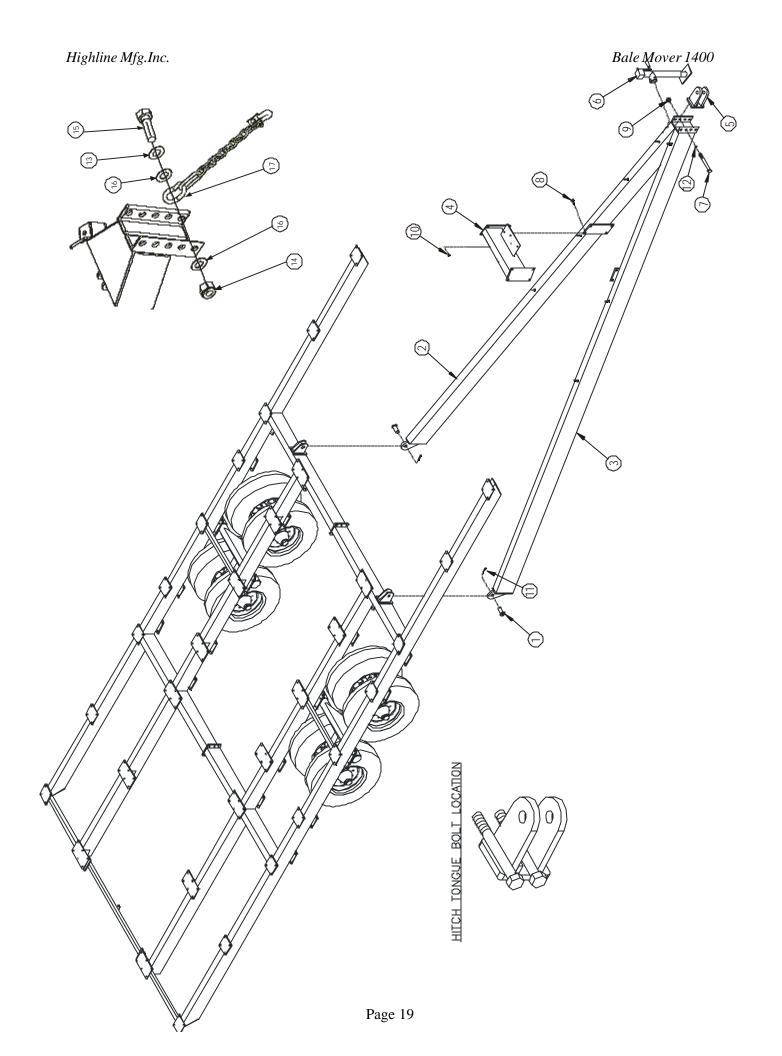
# 3.3 Hitch Assembly

| Item | Part No. | Description                 | Quantity |
|------|----------|-----------------------------|----------|
| 1    | 40003    | Pin, Hitch                  | 2        |
| 2    | 40062    | Hitch, A-Frame, Left        | 1        |
| 3    | 40063    | Hitch, A-Frame, Right       | 1        |
| 4    | 40487    | Hitch, Crossmember          | 1        |
| 5    | 40142    | Hitch, Tongue, Double       | 1        |
| 6    | 31933    | Jack, Sidewind, 7000lb x 15 | 1        |
| 7    | 31038    | Bolt, Hex, 1 x 7-1/2        | 2        |
| 8    | 31053    | Bolt, Hex, 5/8 x 1-3/4      | 8        |
| 9    | 31162    | Nut, Hex, 1                 | 2        |
| 10   | 31178    | Nut, Nylock, 5/8            | 8        |
| 11   | 31182    | Pin, Cotter, 1/4 x 2-1/2    | 2        |
| 12   | 31243    | Washer, Lock, 1,ZP          | 2        |

Optional Safety Chain

| ITEM NO. | PART NO. | DESCRIPTION                        | QTY. |
|----------|----------|------------------------------------|------|
| 13       | 31243    | WASHER,LOCK,1,ZP                   | 1    |
| 14       | 31162    | NUT,HEX,1,UNC,GR5,ZP               | 1    |
| 15       | 31471    | 1"X3" HEX BOLT, UNC,GR5            | 1    |
| 16       | 31235    | 1" FLAT WASHER                     | 2    |
| 17       | 31590    | CHAIN, SAFETY, ASAE, 10100LB, 5'4" | 1    |

<sup>\*</sup>Place hitch crossmember (Item 4) in place leaving bolts loose. Insert double tongue hitch (Item 5) and tighten making sure angles are flush.



## 3.4 Rail and Crossmember Assembly

| Item | Part No. | Description            | Quantity |
|------|----------|------------------------|----------|
| 1    | 40006    | Subframe, Rear         | 1        |
| 2    | 45235    | Subframe, Front        | 1        |
| 3    | 40143    | Subframe, Middle       | 1        |
| 4    | 40486    | Tube, Deck, Cylinder   | 1        |
| 5    | 40144    | Rail, Outside, Left    | 1        |
| 6    | 40145    | Rail, Inside, Left     | 1        |
| 7    | 40146    | Rail, Outside, Right   | 1        |
| 8    | 40147    | Rail, Inside, Right    | 1        |
| 9    | E4740    | Bracket, Solenoid, Hyd | 1        |
| 10   | 31016    | Bolt, Hex, ½ x 1-½     | 184      |
| 11   | 31173    | Nut, Nylock, 1/2       | 184      |
| 12   | 40140    | Bracket, Cylinder      | 2        |
| 13   | 31052    | Bolt, Hex, 5/8 x 2     | 12       |
| 14   | 31178    | Nut, Nylock, 5/8       | 12       |

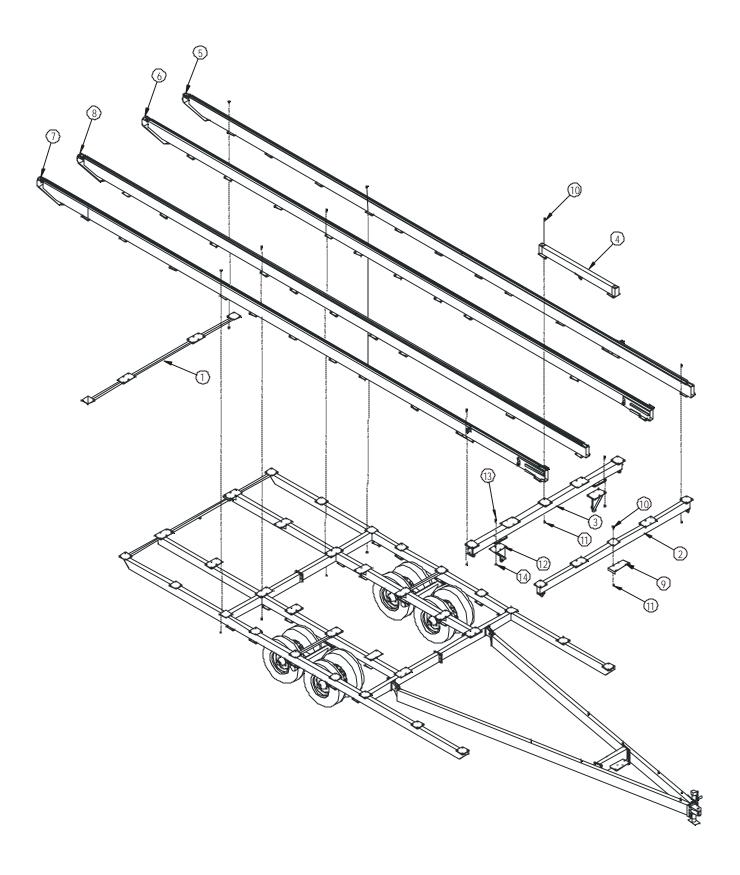
<sup>\*</sup>Install all rails on subframe leaving bolts loose.

Install front crossmembers leaving bolts loose.

Install cylinder deck tube leaving bolts loose.

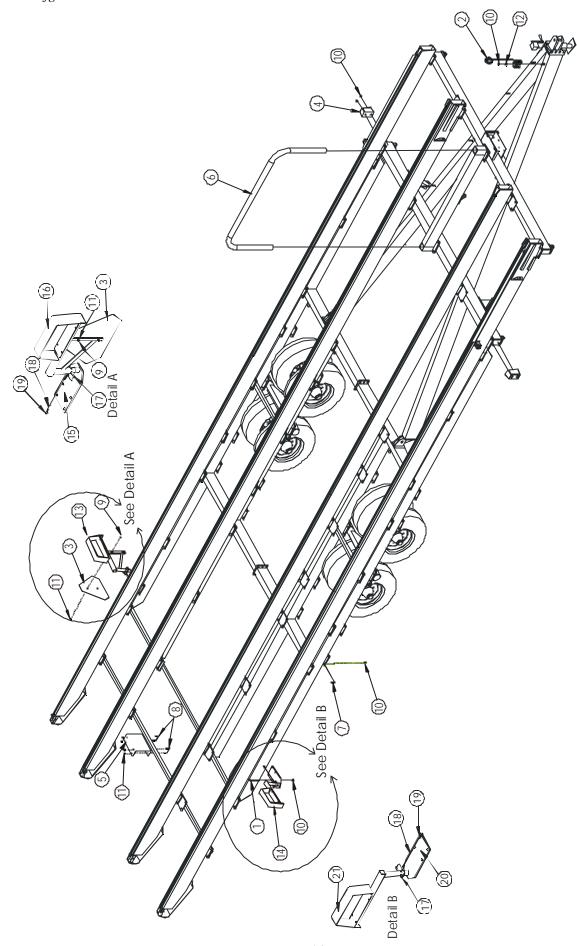
Install deck cylinder in the fully closed position between hitch and deck tube.

Lift hitch until front of Bale Mover is fully supported, then tighten all bolts.



# 3.5 Subframe Supports

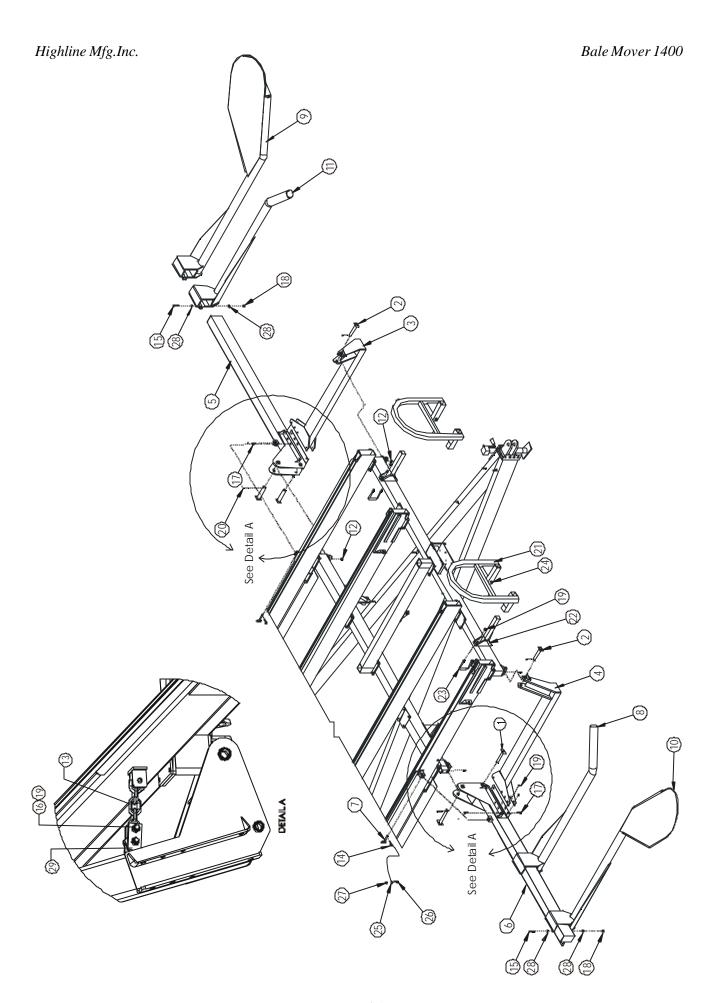
| Item | Part No. | Description                      | Quantity |
|------|----------|----------------------------------|----------|
| 1    | 31061    | Bolt, U, Square, ½ x 3 x 7       | 4        |
| 2    | 30206    | Hose, Holder, ½                  | 1        |
| 3    | 92028    | Sign, Slow Moving                | 1        |
| 4    | 92061    | Bumper, Rubber                   | 2        |
| 5    | E4814    | Bracket, Light, Middle           | 1        |
| 6    | E4779    | Tube, Divider, Bale              | 1        |
| 7    | 31016    | Bolt, Hex, ½ x 1 - ½             | 20       |
| 8    | 31663    | Bolt, U, Square, ¼ x 1-½ x 2-¼   | 2        |
| 9    | 31033    | Bolt, Hex, 1/4x3/4, UNC, GR5, ZP | 14       |
| 10   | 31173    | Nut, Nylock, ½                   | 33       |
| 11   | 31174    | Nut, Nylock, ¼                   | 18       |
| 12   | 31236    | Washer, Flat, 1/2, ZP            | 1        |
| 13   | 45282    | Assy, Mount, Light, BM, Left     | 1        |
| 14   | 45283    | Assy, Mount, Right, BM, Right    | 1        |
| 15   | 45278    | Mount, Light, BM, Left           | 1        |
| 16   | 45280    | Mount, Brkt, Light, BM, LT       | 1        |
| 17   | 31442    | Pin, Hitch, 3/8x3                | 2        |
| 18   | E5351    | Tether, 16"                      | 2        |
| 19   | 30559    | Clamp, Rope, Wire, 1/16          | 4        |
| 20   | 45279    | Mount, Light, BM, Right          | 1        |
| 21   | 45281    | Mount, Brkt, Light, BM, RT       | 1        |



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# 3.6 Fork Assembly

| Item | Part No. | Description                      | Quantity |
|------|----------|----------------------------------|----------|
| 1    | 40008    | Pin, Arm, Pivot                  | 2        |
| 2    | 40010    | Pin, Arm, Side, Pivot            | 4        |
| 3    | 45237    | Arm, Pivot, Left                 | 1        |
| 4    | 45236    | Arm, Pivot, Right                | 1        |
| 5    | 40148    | Arm, Slide, Pivot, Left          | 1        |
| 6    | 40149    | Arm, Slide, Pivot, Right         | 1        |
| 7    | 40019    | Pin, Transport                   | 2        |
| 8    | 40151    | Fork, Right                      | 1        |
| 9    | 40152    | Fork, Left, ¼ Turn               | 1        |
| 10   | 40153    | Fork, Right, ¼ Turn              | 1        |
| 11   | 40154    | Fork, Left                       | 1        |
| 12   | 30207    | Zerk,1/4-28, Straight            | 4        |
| 13   | E5653    | Chain, Link, 1/2, GR40, 5 Links  | 2        |
| 14   | 91608    | Pin, Hair, 1/8 x 2-9/16          | 2        |
| 15   | 31041    | Bolt, Hex, ¾ x 3                 | 8        |
| 16   | 31336    | Bolt, Hex, 5/8 x 3, UNC, GR5, ZP | 4        |
| 17   | 31051    | Bolt, Hex, 5/8 x 1-1/2           | 16       |
| 18   | 31175    | Nut, Nylock, ¾                   | 8        |
| 19   | 31178    | Nut, Nylock, 5/8                 | 26       |
| 20   | 31182    | Pin, Cotter, 1/4 x 2-1/2         | 6        |
| 21   | 40088    | Bumper, Bale                     | 2        |
| 22   | 40118    | Mount, Bumper, Bale              | 4        |
| 23   | 30269    | Bolt, U, Square, 5/8 x 6 x 4-1/2 | 4        |
| 24   | 31016    | Bolt, Hex, 1/2 x 1-1/2           | 4        |
| 25   | E3764    | Tether, Cable, Shield, Small     | 2        |
| 26   | 31070    | Bolt, Hex, 1/2 x 2               | 2        |
| 27   | 31173    | Nut, Nylock, 1/2                 | 2        |
| 28   | 31238    | Washer, Flat, 3/4, ZP            | 16       |
| 29   | E5652    | Lug, Extension                   | 4        |



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## 3.7 Chain Assembly

| Item | Part No. | Description                    | Quantity |
|------|----------|--------------------------------|----------|
| 1    | 40115    | Tightner, Motor, Left          | 2        |
| 2    | 40116    | Tightner, Motor, Right         | 2        |
| 3    | 40121    | Pin, Sprocket, Rear            | 4        |
| 4    | 30197    | Pin, Spring, 3/16 x 1-1/2      | 4        |
| 5    | 30207    | Zerk, 1/4-28, Straight         | 4        |
| 6    | 91508    | Chain, C2062H x 304PI          | 8        |
| 7    | 91510    | Chain, Connector, C2062H       | 8        |
| 8    | 30651    | Roller, Chain, 3 OD x 1-1/4 ID | 4        |
| 9    | 92024    | Bushing                        | 4        |
| 10   | 31159    | Nut, Acme, 1", 5tpi, RH        | 8        |
| 11   | 31243    | Washer, Lock, 1, ZP            | 4        |
| 12   | 91517    | Chain, Length, C2064H          | Per foot |
| *13  | 91511    | Link, Connecting, Half, C2062  | 1        |

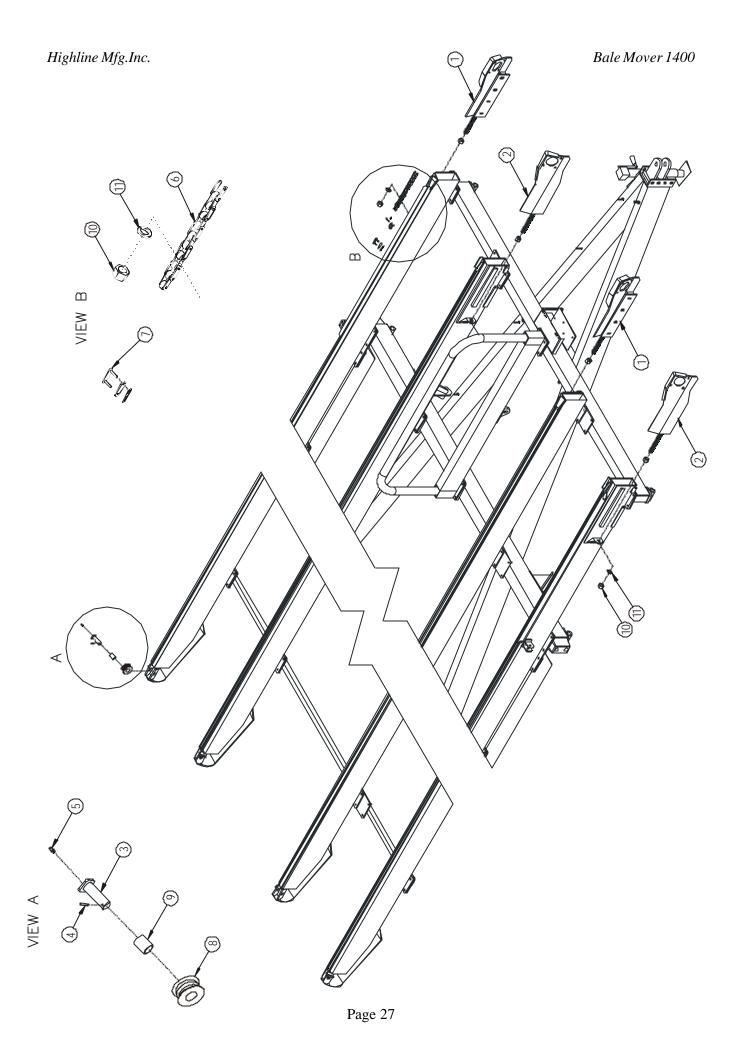
<sup>\*</sup>Not Shown

The motors have been loosened so that the fittings can be turned into place. The fittings go in the back port of the motors.

Chain is fed from the back of the machine. This is accomplished by feeding a piece of wire from the front through the tube and pulling the chain through. One person can do this, but two people make the operation easier.

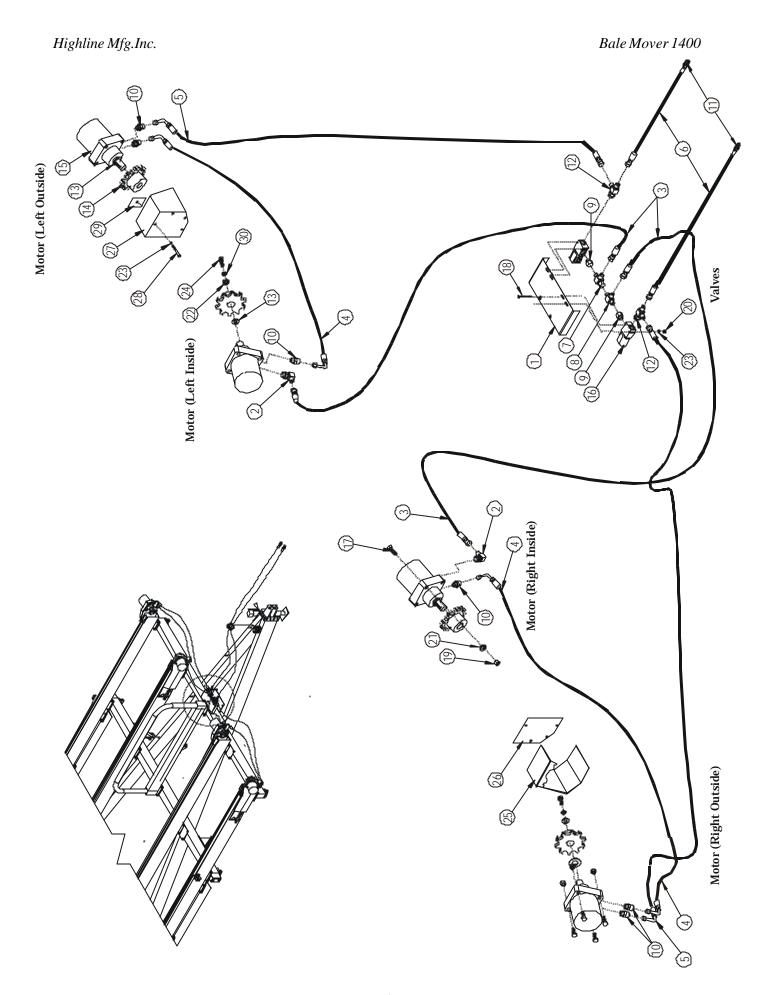
The chain should be tightened so that the top of the chain is visible in the bottom of the sight hole on the rail.

<sup>\*\*</sup>Install inside motor hydraulic fittings before installing chain and chain tighteners.



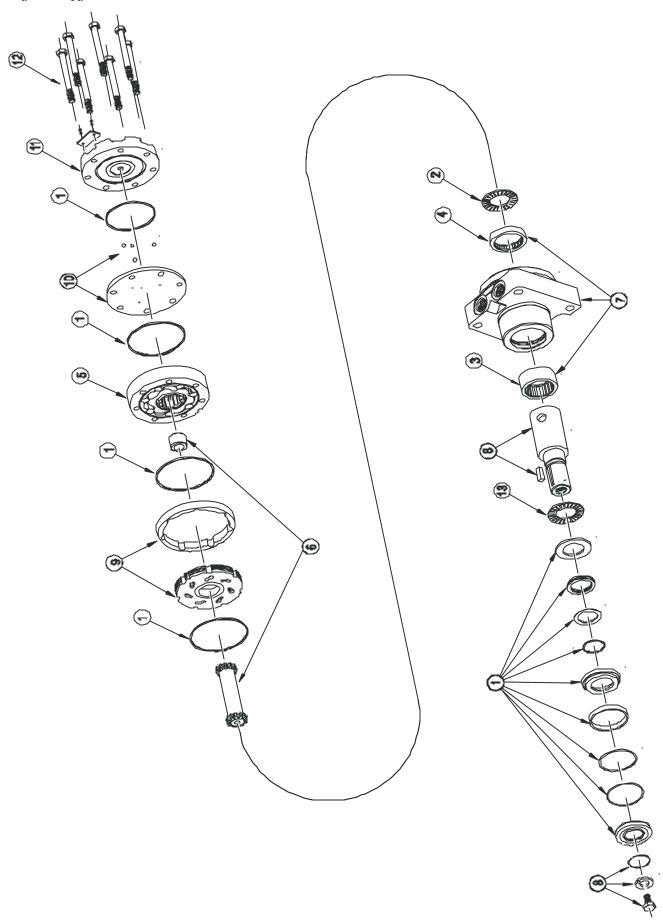
# 3.8 Motor Hydraulics

| Item | Part No. | Description                           | Quantity |
|------|----------|---------------------------------------|----------|
| 1    | E4740    | Bracket, Solenoid                     | 1        |
| 2    | 30145    | Fitting, Elbow, 10MB-8MJ90            | 2        |
| 3    | 30146    | Hose, 1/2 x 33, 8FJX-8FJ90T, 1W       | 2        |
| 4    | 30147    | Hose, 1/2 x 52, 8FJ90TL, 1W           | 2        |
| 5    | 30148    | Hose, 1/2 x 72, 8FJX-8FJ90TL, 1W      | 2        |
| 6    | 30149    | Hose, 1/2 x 108, 8FJX-8MP, 1W         | 2        |
| 7    | 30150    | Fitting, Tee, 8FJXR-8MJT              | 1        |
| 8    | 30313    | Fitting, Tee, 8MJ-8MJ-8MJ             | 1        |
| 9    | 30152    | Fitting, Adapter, 8MB-8FJX            | 2        |
| 10   | 30204    | Fitting, Adapter, 10MB-8MJ            | 6        |
| 11   | 30209    | Fitting, Pioneer, Male, 8FP           | 2        |
| 12   | 30214    | Fitting, Tee, 8MBR-8MJT               | 2        |
| 13   | 32071    | Washer, Motor, 1-1/4 x 1-7/8          | 4        |
| 14   | 92063    | Drv, Sprocket, 2062, 10 Tooth, 1-1/4  | 4        |
| 15   | 92184    | Motor, Hydraulic, 45 cu.in., 2000psi  | 4        |
| 16   | 92070    | Valve, Solenoid                       | 2        |
| 17   | 31797    | Bolt, Socket, 1/2 x 2-3/4, UNC, Gr5   | 16       |
| 18   | 31580    | Bolt, Carr, 1/4 x 2-1/2, UNC, GR5, ZP | 4        |
| 19   | 31173    | Nut, Nylock, 1/2                      | 16       |
| 20   | 31174    | Nut, Nylock, 1/4                      | 4        |
| 21   | 31236    | Washer, Flat, 1/2, ZP                 | 16       |
| 22   | 31240    | Washer, Flat, 5/8, ZP                 | 4        |
| 23   | 31237    | Washer, Flat, 1/4, ZP                 | 3        |
| 24   | 31545    | Bolt, Hex, 5/8 x 1, UNF, GR5, ZP      | 4        |
| 25   | E4802    | Housing, Guard, BM, Left              | 2        |
| 26   | E4803    | Plate, Face, Guard                    | 4        |
| 27   | E4810    | Housing, Guard, BM, Right             | 2        |
| 28   | 31029    | Bolt, Hex, 1/4 x 1                    | 16       |
| 29   | 31593    | Clip, Automotive, 1/4                 | 16       |
| 30   | 31218    | Washer, Lock, 5/8, ZP                 | 4        |



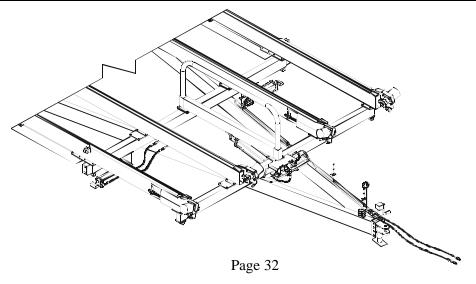
# 3.8.1 Orbit Motor Assembly (Part No. 92184)

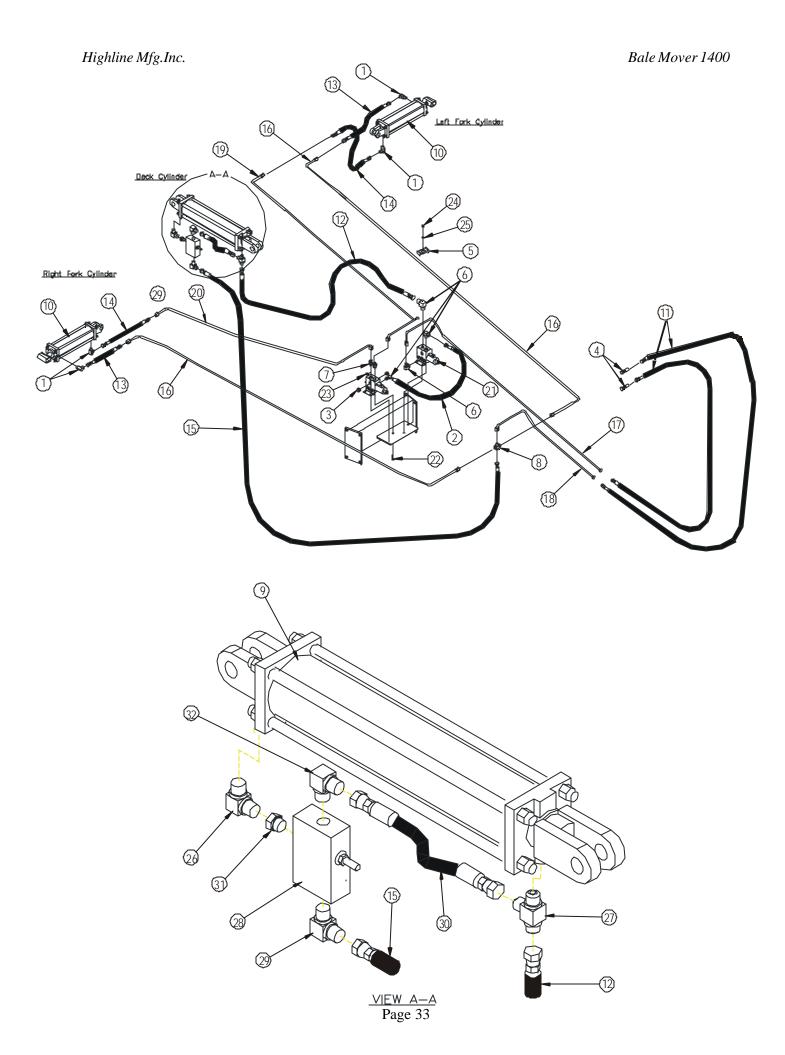
| ITEM NO. | PART NO. | DESCRIPTION                     | QTY |
|----------|----------|---------------------------------|-----|
| 1        | 32647    | HYD,MOTOR,SEALKIT,ROLLER,STATOR | 1   |
| 2        | 32651    | BEARING,THRUST,REAR             | 1   |
| 3        | 32720    | BRG,HOUSING,FRONT               | 1   |
| 4        | 32649    | BEARING,HOUSING,REAR, 1/2"      | 1   |
| 5        | 32721    | KIT,ROTOR                       | 1   |
| 6        | 32722    | KIT,LINK,DRIVE                  | 1   |
| 7        | 32723    | KIT, HOUSING                    | 1   |
| 8        | 32724    | KIT,SHAFT                       | 1   |
| 9        | 32725    | KIT,MANIFOLD                    | 1   |
| 10       | 32726    | PLATE ,BALANCE                  | 1   |
| 11       | 32727    | COVER,END                       | 1   |
| 12       | 32728    | KIT,BOLT                        | 1   |
| 13       | 32639    | BEARING,THRUST,FRONT            | 1   |



# 3.9 Cylinder Hydraulics (Part No. 40174)

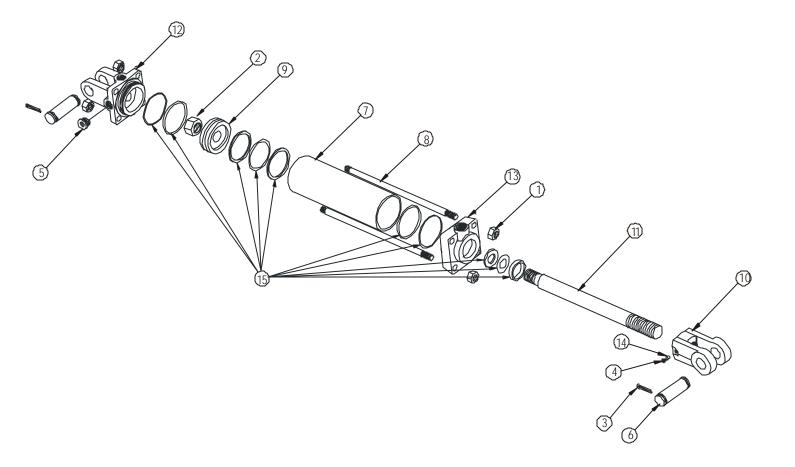
| Item | Part No. | Description                      | Quantity |
|------|----------|----------------------------------|----------|
| 1    | 30212    | Fitting, Elbow, 8MP-8MJ90        | 4        |
| 2    | 90313    | Hose, 3/8 x 18, 8FJX-8FJX, 1W    | 1        |
| 3    | 30200    | Fitting, Plug, 8MB               | 2        |
| 4    | 30209    | Fitting, Pioneer, Male, 8FP      | 2        |
| 5    | 30210    | Clamp, Hose, 1/2                 | 6        |
| 6    | 30211    | Fitting, Elbow, 8MB-8MJ90        | 4        |
| 7    | 30215    | Fitting, Adapter, 8MB-8MJ        | 2        |
| 8    | 30216    | Fitting, Cross, 8MJ              | 1        |
| 9    | 90103    | Cylinder, 3.5 x 16, 1.5, 8FP     | 1        |
| 10   | 90120    | Cylinder, 3.5 x 13, 1.5, 8FP     | 2        |
| 11   | 90223    | Hose, 3/8 x 58, 8MJ-8MP, 1W      | 2        |
| 12   | 30583    | Hose, 3/8 x 30, 8FJ90TL, 180     | 1        |
| 13   | 90243    | Hose, 3/8 x 44, 8FJX-8MJ, 1W     | 2        |
| 14   | 90245    | Hose, 3/8 x 28, 8FJX-8MJ, 1W     | 2        |
| 15   | 90271    | Hose, 3/8 x 42, 8FJX-8FJX, 1W    | 1        |
| 16   | 90421    | Line, Steel, ½ x 0.049, 8FJ      | 2        |
| 17   | 90422    | Line, Steel, ½ x 0.049, 8FJ      | 1        |
| 18   | 90423    | Line, Steel, ½ x 0.049, 8FJ      | 1        |
| 19   | 90424    | Line, Steel, ½ x 0.049, 8FJ      | 1        |
| 20   | 90425    | Line, Steel, ½ x 0.049, 8FJ      | 1        |
| 21   | 92089    | Valve, Solenoid                  | 2        |
| 22   | 31043    | Bolt, Hex, 3/8 x 1, UNC, Gr5, ZP | 4        |
| 23   | 31176    | Nut, Nylock, 3/8, UNC, ZP        | 4        |
| 24   | 31177    | Nut, Nylock, 5/16, UNC, ZP       | 6        |
| 25   | 31239    | Washer, Flat, 5/16, UNC, ZP      | 6        |
| 26   | 30580    | Fitting, Elbow, 8MP-6MJ90        | 1        |
| 27   | 32035    | Fitting, Tee, 8MPR-8MJ           | 1        |
| 28   | 31271    | Valve, Check, Pilot              | 1        |
| 29   | 32079    | Fitting, Elbow, 6MB-8MJ90        | 1        |
| 30   | 30582    | Hose, 3/8 x 14.5, 8FJX-6FJX, 1W  | 1        |
| 31   | 30581    | Fitting, Adapter, 6FJX-6MB       | 1        |
| 32   | 32056    | Fitting, Elbow, 4MB-6MJ90        | 1        |





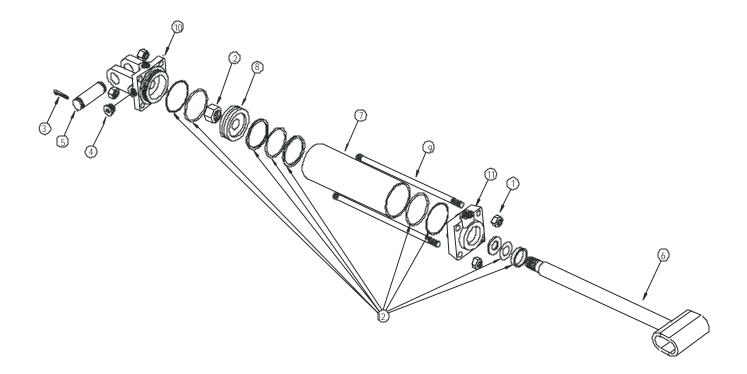
# 3.9.1 3 1/2 x 16 Cylinder (Part No. 90103)

| Item | Part No. | Description                        | Quantity |
|------|----------|------------------------------------|----------|
| 1    | 30236    | Nut, Hex, 5/8, UNC, GR5, ZP        | 8        |
| 2    | 30237    | Nut, Hex, 1, UNS, GR5              | 1        |
| 3    | 30238    | Pin, Cotter, 3/16 x 1-1/2          | 4        |
| 4    | 30239    | Setscrew, Socket, 3/8 x 1/2 Knur   | 1        |
| 5    | 30240    | Hyd, Fit, Plug, 1/2-14 NPTF, Dry   | 1        |
| 6    | 32250    | Hyd, Cyl, Pin, 1                   | 2        |
| 7    | 30246    | Hyd, Cyl, 3-1/2 x 16, H6206        | 1        |
| 8    | 30249    | Hyd, Cyl, Tie rod, 5/8 x 16, H6678 | 4        |
| 9    | 30251    | Hyd, Cyl, Piston, 3-1/2, H6688     | 1        |
| 10   | 30253    | Hyd, Cyl, Clevis, 1-1/4, 1 Pin     | 1        |
| 11   | 30252    | Hyd, Cyl, Tie Rod, 1-1/2 x 16      | 1        |
| 12   | 30258    | Hyd, Cyl, Clevis, Cap, 3-1/2, NPTF | 1        |
| 13   | 30259    | Hyd, Cyl, Cap, Rod, 3-1/2 x 1-1/2  | 1        |
| 14   | 30261    | Lock, Thread, Nylock               | 1        |
| 15   | 30263    | Hyd, Cyl, Seal kit, 3-1/2          | 1        |



# 3.9.2 3 1/2 x 13 Cylinder (Part No. 90120)

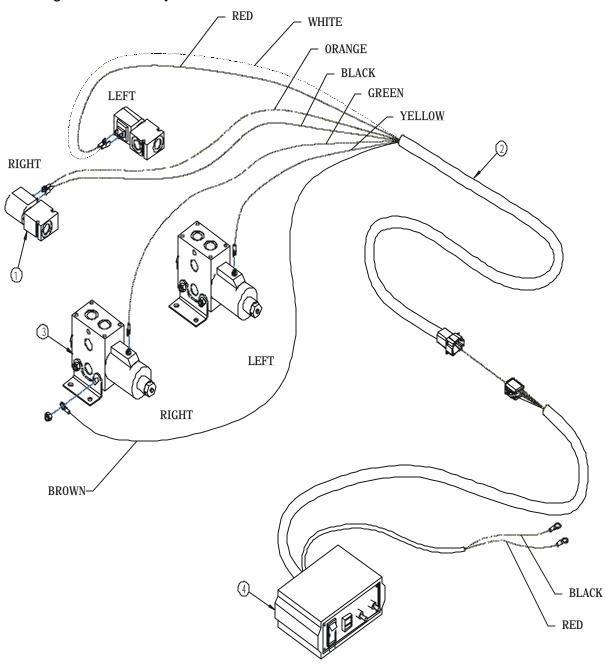
| Item | Part No. | Description                            | Quantity |
|------|----------|--|----------|
| 1    | 30236    | Nut, Hex, 5/8, UNC, GR5, ZP            | 8        |
| 2    | 30237    | Nut, Hex, 1, UNS, GR5                  | 1        |
| 3    | 30238    | Pin, Cotter, 3/16 x 1-1/2              | 2        |
| 4    | 30240    | Hyd, Fit, Plug, 1/2-14, NPTF, Dryseal  | 1        |
| 5    | 32250    | Hyd, Cyl, Pin, 1                       | 1        |
| 6    | 30242    | Hyd, Cyl, Rod,1-1/2 x 17               | 1        |
| 7    | 30245    | Hyd, Cyl, 3-1/2 x 13, H6203            | 1        |
| 8    | 30251    | Hyd, Cyl, Piston, 3-1/2, H6688         | 1        |
| 9    | 30255    | Hyd, Cyl, TieRod, 5/8 x 13, Special    | 4        |
| 10   | 30258    | Hyd, Cyl, Clevis, Cap, 3-1/2, NPTF     | 1        |
| 11   | 30259    | Hyd, Cyl, Cap, Rod, 3-1/2 x 1-1/2, 8FP | 1        |
| 12   | 30263    | Hyd, Cyl, Seal Kit, 3-1/2              | 1        |



## 3.10 Electrical Schematic

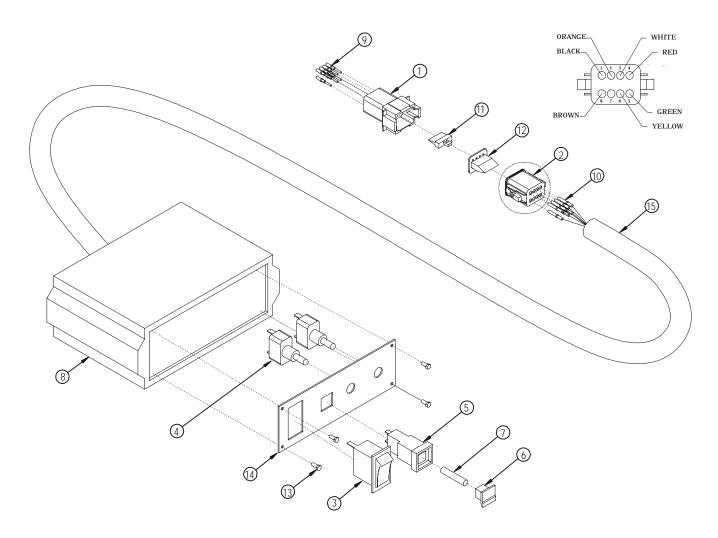
| Item | Part No. | Description        | Quantity |
|------|----------|--------------------|----------|
| 1    | 92070    | Valve, Solenoid    | 1        |
| 2    | 92077    | Harness, Extension | 1        |
| 3    | 92089    | Valve, Solenoid    | 1        |
| 4    | 92125    | Box, Control       | 1        |

\*Black wire goes from control box to tractor ground. Red wire goes from control box to tractor ignition accessory.



## 3.10.1 Control Box (Part No. 92125) and Wiring Harness (Part No. 92077)

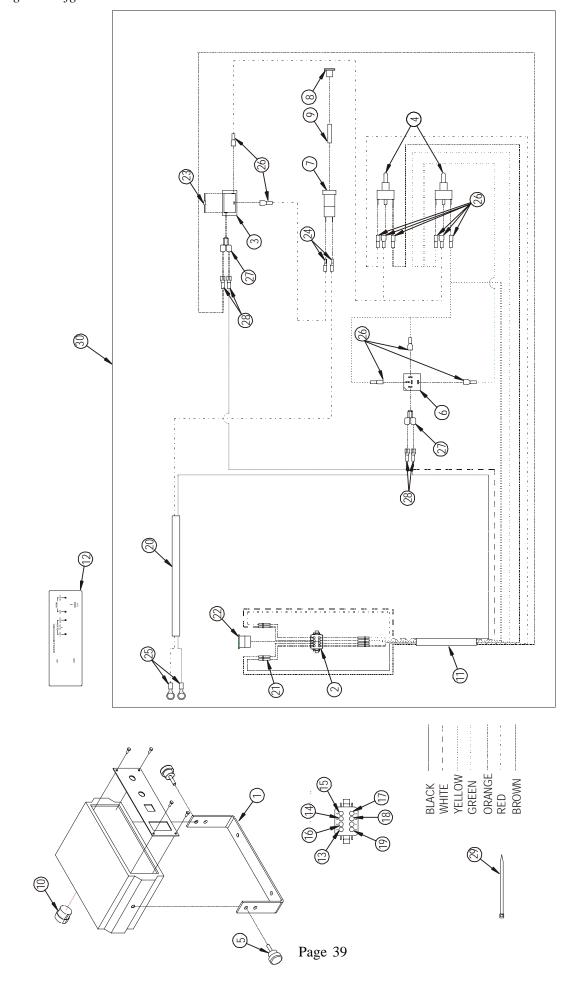
| Item | Part No. | Description                              | Quantity |
|------|----------|--|----------|
| 1    | 92104    | Connector, 7-Pin, Male                   | 1        |
| 2    | 92106    | Connector, 7-Pin, Female                 | 1        |
| 3    | 92107    | Switch, Rocker                           | 1        |
| 4    | 92108    | Switch, Toggle                           | 2        |
| 5    | 92138    | Holder, Bus, Body                        | 1        |
| 6    | 92139    | Holder, Bus, Cap                         | 1        |
| 7    | 92140    | Fuse, Bus, 12V20A, Fast                  | 1        |
| 8    | 92146    | Enclosure, Plastic                       | 1        |
| 9    | 92157    | Pin, Male                                | 7        |
| 10   | 92158    | Connector, Socket, Female                | 7        |
| 11   | 92161    | Wedge, Male                              | 1        |
| 12   | 92162    | Connector, Wedge, Female                 | 1        |
| 13   | 92164    | Screw, Tapping, #4 x 1/4                 | 4        |
| 14   | 92220    | Aluminum, Plate, Box, Control            | 1        |
| 15   | 90138    | Wiring, Box, Control, 14BM (see Page 38) | 1        |



#### 3.10.2 Control Box Schematic

| Item | Part No. | Description                 | Quantity |
|------|----------|-----------------------------|----------|
| 1    | E4751    | Bracket, Box, Control       | 1        |
| 2    | 92106    | Connector, 7-Pin, Female    | 1        |
| 3    | 92107    | Switch, Rocker              | 1        |
| 4    | 92108    | Switch, Toggle              | 2        |
| 5    | 92119    | Screw, Thumb                | 2        |
| 6    | 92130    | Relay, 12V, 30A             | 1        |
| 7    | 92138    | Holder, Bus, Body           | 1        |
| 8    | 92139    | Holder, Bus, Cap            | 1        |
| 9    | 92140    | Fuse, Bus, 12V20A, Fast     | 1        |
| 10   | 92141    | Bushing, Relief             | 1        |
| 11   | 92143    | Wire, Corrugated, 1/2       | 5        |
| 12   | E5805    | Decal, Box, Control         | 1        |
| 13   | 92149    | Wire, 16, Black, Strand     | 5.5      |
| 14   | 92150    | Wire, 16, White, Strand     | 5        |
| 15   | 92151    | Wire, 16, Red Strand        | 6        |
| 16   | 92152    | Wire, 16, Orange, Strand    | 5        |
| 17   | 92153    | Wire, 16, Green, Strand     | 5        |
| 18   | 92154    | Wire, 16, Yellow, Strand    | 5.5      |
| 19   | 92155    | Wire, 16, Brown, Strand     | 5        |
| 20   | 92156    | Cables, 2C – 16GA           | 8.5      |
| 21   | 92158    | Connector, Socket, Female   | 7        |
| 22   | 92162    | Connector, Wedge, Female    | 1        |
| 23   | 92163    | Diode, 12V, 20A             | 1        |
| 24   | 92165    | Connector, QD, Female, 3/16 | 2        |
| 25   | 92166    | Connector, Ring, 3/8, 16GA  | 2        |
| 26   | 92167    | Connector, QD, Female, 1/4  | 11       |
| 27   | 92168    | Connector, ADP, F/M/M, 1/4  | 2        |
| 28   | 92169    | Connector, QD, Female, 1/4  | 4        |
| 29   | 92170    | Tie, Cable, 4, Black        | 5        |
| 30   | 90138    | Wiring,Box,Control,14BM     | 1        |

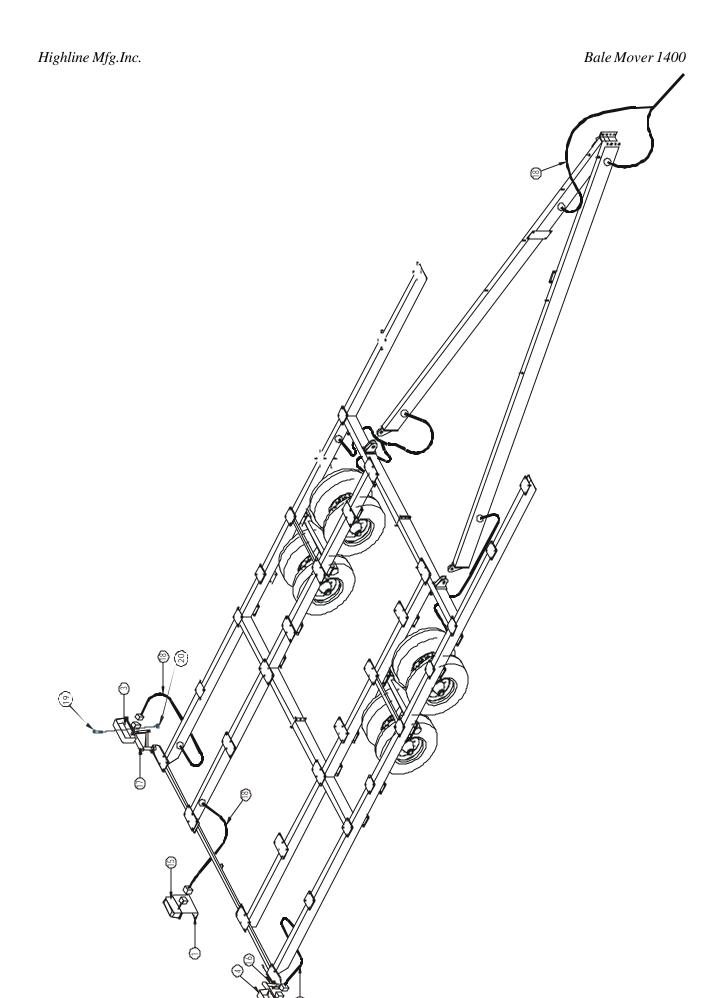
Items 30 includes Items 2, 11, 20, 21, 22, 25 and 28



# 3.11 Lighting Assembly (Part No. 40169)

| Item | Part No. | Description                          | Quantity |
|------|----------|--------------------------------------|----------|
| 1    | E4814    | Bracket, Light, Middle               | 1        |
| 2    | *30294   | Screw, Tek, 1/4 x 1                  | 3        |
| 3    | 30526    | Light, Red & Amber, Left             | 1        |
| 4    | 30527    | Light, Red & Amber, Right            | 1        |
| 5    | *31033   | Bolt, Hex, 1/4 X 3/4, UNC, Gr5, ZP   | 2        |
| 6    | *31061   | Bolt, U, Sq, 1/2-13, 3 X 7           | 4        |
| 7    | *31173   | Nut, Nylock, 1/2, UNC, ZP            | 8        |
| 8    | *31174   | Nut, Nylock, 1/4, UNC, ZP            | 18       |
| 9    | *31535   | Bolt, Hex, 1/4 X 1-1/2, UNC, Gr5, ZP | 12       |
| 10   | *31613   | Tie, Cable, Nylon, Black, 11-1/2, 40 | 10       |
| 11   | *31648   | Grommet, Rubber, 1-3/8, 3/4, 1-1/16  | 10       |
| 12   | *31649   | Clamp, Cable, 1/2                    | 2        |
| 13   | *31650   | Clamp, Cable, 3/4                    | 1        |
| 14   | *31663   | Bolt, U, Sq, 1/4-20, 1/2 X 2-1/4     | 2        |
| 15   | 31664    | Light, Dual, Red                     | 1        |
| 16   | 45283    | Assy, Mount, Light, BM, Right        | 1        |
| 17   | 45282    | Assy, Mount, Light, BM, Left         | 1        |
| 18   | 40168    | Elec, Harness, Lights                | 1        |
| 19   | 31581    | 1/4X1-1/4 Hex Bolt, UNC, Gr5         | 8        |
| 20   | 31174    | 1/4 Nylock Locknut, UNC, Gr5         | 8        |

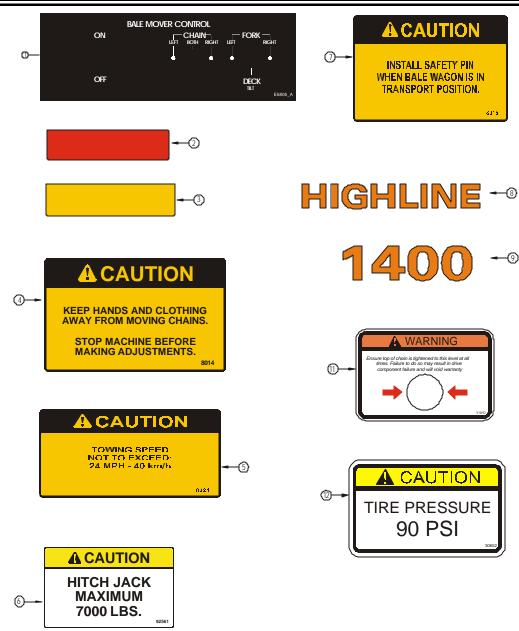
<sup>\*</sup>Not Shown.

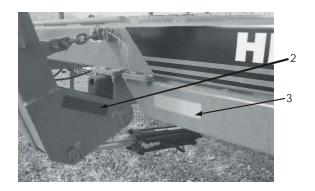


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#### 3.12 Decal Assembly (Part No. 45258)

| Item | Part No. | Description                           | Quantity |
|------|----------|---------------------------------------|----------|
| 1    | E5805    | Decal, Control box, Faceplate         | 1        |
| 2    | 30577    | Decal, Red, Reflective, 2 x 9         | 2        |
| 3    | 30578    | Decal, Amber, Reflective, 2 x 9       | 9        |
| 4    | 92556    | Decal, Caution, #8014                 | 2        |
| 5    | 92559    | Decal, Caution, #8321                 | 1        |
| 6    | 92561    | Decal, Warning, Hitch, Jack, 7000 lbs | 1        |
| 7    | 92563    | Decal, Caution, #8015                 | 2        |
| 8    | 92583    | Decal, Highline, 3-1/2                | 4        |
| 9    | 92584    | Decal, Highline, 1400                 | 4        |
| 10   | 92586    | Decal, Pin Striping                   | 62 ft    |
| 11   | 31892    | Decal, Warning, Tension, Chain        | 4        |
| 12   | 30652    | Decal, Caution, Tires, 90 PSI         | 4        |
| 13   | 30208    | Plt,Serial#                           | 1        |



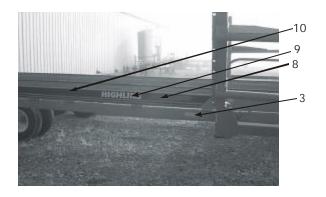












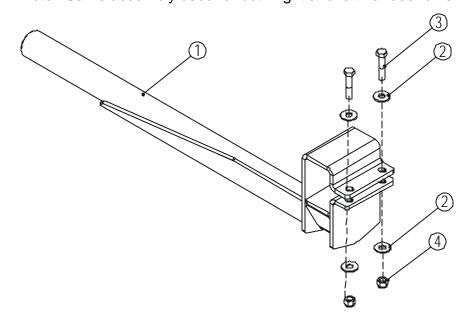


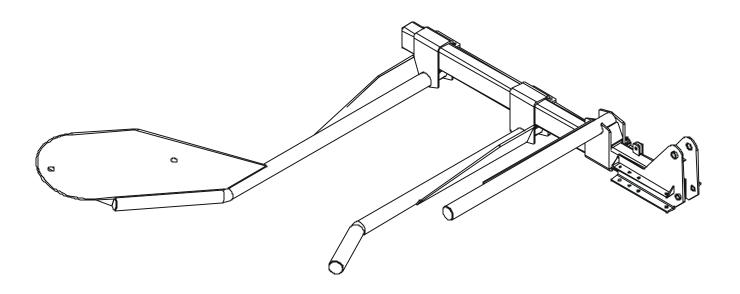


## 3.13 Short Fork Kit Option (Part No. 40178)

| ITEM NO. | PART NO. | DESCRIPTION                   | QTY. |
|----------|----------|-------------------------------|------|
| 1        | 40177    | FORK,SHORT                    | 1    |
| 2        | 31238    | WASHER,FLAT,3/4,ZP            | 4    |
| 3        | 31340    | BOLT,HEX,3/4X3-1/2,UNC,GR5,ZP | 2    |
| 4        | 31175    | NUT,NYLOCK,3/4,UNC,ZP         | 2    |

Note: Same assembly used for both right and left handed forks.





# 4.0 Parts Index

| PartNum | DESCRIPTION                        | PAGE     | ITEM |
|---------|------------------------------------|----------|------|
| 30100   | Susp, Tire, 11Lx15FI, 12 Ply       | 15       | 2    |
| 30102   | Hub, EM5500, 5000lbs, Complete     | 14       | 1    |
| 30104   | Rim, 15 x 8, 1.5 Off, 8, Off-white | 15       | 1    |
| 30106   | Bolt, ½ x 1-½                      | 16       | 4    |
| 30107   | Bolt, ½ x 1-¾                      | 16       | 5    |
| 30145   | Fitting, Elbow, 10MB-8MJ90         | 28       | 2    |
| 30146   | Hose, 1/2 x 33, 8FJX-8FJ90T, 1W    | 28       | 3    |
| 30147   | Hose, 1/2 x 52, 8FJ90TL, 1W        | 28       | 4    |
| 30148   | Hose, 1/2 x 72, 8FJX-8FJ90TL, 1W   | 28       | 5    |
| 30149   | Hose, 1/2 x 108, 8FJX-8MP, 1W      | 28       | 6    |
| 30150   | Fitting, Tee, 8FJXR-8MJT           | 28       | 7    |
| 30152   | Fitting, Adapter, 8MB-8FJX         | 28       | 9    |
| 30197   | Pin, Spring, 3/16 x 1-1/2          | 26       | 4    |
| 30200   | Fitting, Plug, 8MB                 | 32       | 3    |
| 30204   | Fitting, Adapter, 10MB-8MJ         | 28       | 10   |
| 30206   | Hose, Holder, ½                    | 22       | 2    |
| 30207   | Zerk, ¼ - 28, Straight             | 14       | 6    |
| 30207   | Zerk, Grease, 1/4-28, Straight     | 15       | 11   |
| 30207   | Zerk, Grease, 1/4-28, Straight     | 24       | 12   |
| 30207   | Zerk, Grease, 1/4 –28, Straight    | 26       | 5    |
| 30208   | Plt,Serial #                       | 42       | 13   |
| 30209   | Fitting, Pioneer, Male, 8FP        | 28       | 11   |
| 30209   | Fitting, Pioneer, Male, 8FP        | 32       | 4    |
| 30210   | Clamp, Hose, 1/2                   | 32       | 5    |
| 30211   | Fitting, Elbow, 8MB-8MJ90          | 32       | 6    |
| 30212   | Fitting, Elbow, 8MP-8MJ90          | 32       | 1    |
| 30214   | Fitting, Tee, 8MBR-8MJT            | 28       | 12   |
| 30215   | Fitting, Adapter, 8MB-8MJ          | 32       | 7    |
| 30216   | Fitting, Cross, 8MJ                | 32       | 8    |
| 30220   | Susp,Cap,Dust                      | 15       | 1    |
| 30221   | Pin,Cotter,3/16x1-3/4              | 15       | 2    |
| 30222   | Nut,Slotted,1,UNF                  | 15       | 3    |
| 30223   | Washer,Flat,1IDx2OD,.2385          | 15       | 4    |
| 30226   | Drv,Brg,Race,Inner,1.781           | 15       | 5    |
| 30228   | Drv,Brg,Seal,1.98                  | 15       | 6    |
| 30229   | Susp,Hub,EM5500,8Bolt              | 15       | 7    |
| 30236   | Nut, Hex, 5/8, UNC, GR5, ZP        | 34       | 1    |
| 30236   | Nut, Hex, 5/8, UNC, GR5, ZP        | 35       | 1    |
| 30237   | Nut, Hex, 1, UNS, GR5              | 34       | 2    |
| 30237   | Nut, Hex, 1, UNS, GR5              | 35       | 2    |
| 30238   | Pin, Cotter, 3/16 x 1-1/2          | 34       | 3    |
| 30238   | Pin, Cotter, 3/16 x 1-1/2          | 35       | 3    |
| 30239   | Setscrew, Socket, 3/8 x 1/2 Knur   | 34       | 4    |
| 30240   | Hyd, Fit, Plug, 1/2-14 NPTF, Dry   | 34       | 5    |
| 30240   | Hyd, Fit, Plug, 1/2-14 NPTF, Dry   | 35<br>25 | 4    |
| 30242   | Hyd, Cyl, 3 1/2 x 13 He202         | 35<br>35 | 6    |
| 30245   | Hyd, Cyl, 3-1/2 x 13, H6203        | 35       | 7    |
| 30246   | Hyd, Cyl, 3-1/2 x 16, H6206        | 34       | 7    |
| 30249   | Hyd, Cyl, Tie rod, 5/8 x 16, H6678 | 34       | 8    |

| 30251 | Hyd, Cyl, Piston, 3-1/2, H6688          | 34       | ! | 9      |
|-------|---|----------|---|--------|
| 30251 | Hyd, Cyl, Piston, 3-1/2, H6688          | 35       | ; | 8      |
| 30252 | Hyd, Cyl, Tie Rod, 1-1/2 x 16           | 34       | 1 | 1      |
| 30253 | Hyd, Cyl, Clevis, 1-1/4, 1 Pin          | 34       | 1 | 0      |
| 30255 | Hyd, Cyl, Tie Rod, 5/8 x 13, Special    | 35       | ! | 9      |
| 30258 | Hyd, Cyl, Clevis, Cap, 3-1/2, NPTF      | 34       | 1 | 2      |
| 30258 | Hyd, Cyl, Clevis, Cap, 3-1/2, NPTF      | 35       | 1 | 0      |
| 30259 | Hyd, Cyl, Cap, Rod, 3-1/2 x 1-1/2       | 34       | 1 | 3      |
| 30259 | Hyd, Cyl, Cap, Rod, 3-1/2 x 1-1/2, NPTF | 35       | 1 | 1      |
| 30261 | Lock, Thread, Nylock                    | 34       | 1 | 4      |
| 30263 | Hyd, Cyl, Seal kit, 3-1/2               | 34       | 1 | 5      |
| 30263 | Hyd, Cyl, Seal Kit, 3-1/2               | 35       | 1 | 2      |
| 30269 | Bolt, U, Square, 5/8 x 6 x 4-1/2        | 24       | 2 | 23     |
| 30294 | Screw, Tek, 1/4 x 1                     | 40       |   | 2      |
| 30313 | Fitting, Tee, 8MJ-8MJ-8MJ               | 28       |   | 8      |
| 30526 | Light, Red & Amber, Left                | 40       |   | 3      |
| 30527 | Light, Red & Amber, Right               | 40       |   | 4      |
| 30559 | Clamp, Rope, Wire, 1/16                 | 22       | 1 | 9      |
| 30577 | Decal, Red, Reflective, 2 x 9           | 42       |   | 2      |
| 30578 | Decal, Amber, Reflective, 2 x 9         | 42       |   | 3      |
| 30580 | Fitting, Elbow, 8MP-6MJ90               | 32       |   | 26     |
| 30581 | Fitting, Adapter, 6FJX-6MB              | 32       |   | 1      |
| 30582 | Hose, 3/8 x 14.5, 8FJX-6FJX, 1W         | 32       |   | 0      |
| 30583 | Hose, 3/8 x 30, 8FJ90TL, 180            | 32       |   | 2      |
| 30651 | Roller, Chain, 3 OD x 1-1/4 ID          | 26       |   | 8      |
| 30652 | Decal, Caution, Tires, 90PSI            | 42       |   | 2      |
| 31016 | Bolt, Hex, 1/2 x 1-1/2                  | 20       |   | 0      |
| 31016 | Bolt, Hex, 1/2 x 1-1/2                  | 22       |   | 7      |
| 31016 | Bolt, Hex, 1/2 x 1-1/2                  | 24       |   | 4      |
| 31029 | Bolt, Hex, 1/4 x 1                      | 28       |   | 28     |
| 31023 | Bolt, Hex, 1/4x3/4, UNC, GR5, ZP        | 22       |   | 9      |
| 31033 | Bolt, Hex, 1/4 X 3/4, UNC, Gr5, ZP      | 40       |   | 5<br>5 |
| 31038 | Bolt, Hex, 1 x 7-1/2                    | 18       |   | 7      |
| 31041 | Bolt, Hex, ¾ x 3                        | 24       |   | ,<br>5 |
| 31041 | Bolt, Hex, 3/8 x 1, UNC, Gr5, ZP        | 32       |   | 2      |
| 31043 | Bolt, Hex, 5/8 x 1-1/2                  | 32<br>24 |   |        |
| 31051 | Bolt, Hex, 5/8 x 2                      | 20       |   | 7<br>2 |
|       | Bolt, Hex, 5/8 x 1-3/4                  | 18       |   | 3      |
| 31053 |   |          |   | 8<br>1 |
| 31061 | Bolt, U, Square, ½ x 3 x 7              | 22       |   |        |
| 31061 | Bolt, U, Sq, 1/2-13, 3 X 7              | 40       |   | 6      |
| 31070 | Bolt, Hex, 1/2 x 2                      | 24       |   | 6      |
| 31159 | Nut, Acme, 1", 5tpi, RH                 | 26       |   | 0      |
| 31162 | Nut, Hex, 1                             | 18       |   | 9      |
| 31162 | Nut,Hex,1,UNC,GR5,ZP                    | 18       |   | 4      |
| 31173 | Nut, Nylock, 1/2                        | 16       |   | 6      |
| 31173 | Nut, Nylock, 1/2                        | 20       |   | 1      |
| 31173 | Nut, Nylock, 1/2                        | 22       |   | 0      |
| 31173 | Nut, Nylock, 1/2                        | 24       |   | 27     |
| 31173 | Nut, Nylock, 1/2                        | 28       |   | 9      |
| 31173 | Nut, Nylock, 1/2, UNC, ZP               | 40       |   | 7      |
| 31174 | Nut, Nylock, 1/4                        | 22       |   | 1      |
| 31174 | Nut, Nylock, 1/4                        | 28       |   | 20     |
| 31174 | Nut, Nylock, 1/4, UNC, ZP               | 40       |   | 8      |
|       |   |          |   |        |

| 31174          | 1/4 Nylock Locknut, UNC, Gr5                                     | 40   | 20      |
|----------------|--|------|---------|
| 31174          | Nut, Nylock, 3/4, UNC, ZP  | 44   | 4       |
|                | •  |      |         |
| 31175          | Nut, Nylock, 3/8 LINC 7D   | 24   | 18      |
| 31176          | Nut, Nylock, 3/8, UNC, ZP  | 32   | 23      |
| 31177          | Nut, Nylock, 5/16, UNC, ZP                                       | 32   | 24      |
| 31178          | Nut, Nylock, 5/8   | 18   | 10      |
| 31178          | Nut, Nylock, 5/8   | 20   | 14      |
| 31178          | Nut, Nylock, 5/8   | 24   | 19      |
| 31182          | Cotterpin, 1/4 x 2-1/2   | 18   | 11      |
| 31182          | Pin, Cotter, 1/4 x 2-1/2   | 24   | 20      |
| 31218          | Washer, Lock, 5/8, ZP  | 28   | 30      |
| 31235          | 1" Flat Washer   | 18   | 16      |
| 31236          | Washer, Flat, ½  | 22   | 12      |
| 31236          | Washer, Flat, 1/2, ZP  | 28   | 21      |
| 31237          | Washer, Flat, 1/4, ZP  | 28   | 23      |
| 31238          | Washer, Flat, 3/4, ZP  | 24   | 28      |
| 31238          | Washer, Flat, 3/4, ZP  | 44   | 2       |
| 31239          | Washer, Flat, 5/16, UNC, ZP                                      | 32   | 25      |
| 31240          | Washer, Flat, 5/8, ZP  | 28   | 22      |
| 31243          | Washer, Lock, 1", ZP   | 18   | 12      |
| 31243          | Washer, Lock, 1", ZP   | 18   | 13      |
| 31243          | Washer, Lock, 1", ZP   | 26   | 11      |
| 31271          | Valve, Check, Pilot  | 32   | 28      |
| 31336          | Bolt, Hex, 5/8 x 3, UNC, GR5, ZP                                 | 24   | 16      |
| 31340          | Bolt, Hex, 3/4x3-1/2, UNC, GR5, ZP                               | 44   | 3       |
| 31442          | Pin, Hitch, 3/8x3  | 22   | 17      |
|                |  | 18   |         |
| 31471<br>31535 | 1"x3" Hex Bolt, UNC, GR5<br>Bolt, Hex, 1/4 X 1-1/2, UNC, Gr5, ZP | 40   | 15<br>9 |
|                |  |      |         |
| 31545          | Bolt, Hex, 5/8 x 1, UNF, GR5, ZP                                 | 28   | 24      |
| 31580          | Bolt, Carr, 1/4 x 2-1/2, UNC, GR5, ZP                            | 28   | 18      |
| 31581          | 1/4x1-1/4 Hex Bolt, UNC, Gr5                                     | 40   | 19      |
| 31590          | Chain, Safety, ASAE, 10100LB, 5'4"                               | 18   | 17      |
| 31593          | Clip, Automotive, 1/4  | 28   | 29      |
| 31613          | Tie, Cable, Nylon, Black, 11-1/2, 40                             | 40   | 10      |
| 31648          | Grommet, Rubber, 1-3/8, 3/4, 1-1/16                              | 40   | 11      |
| 31649          | Clamp, Cable, 1/2  | 40   | 12      |
| 31650          | Clamp, Cable, 3/4  | 40   | 13      |
| 31663          | Bolt, U, Square, ¼ x 1-½ x 2-¼                                   | 22   | 8       |
| 31663          | Bolt, U, Sq, 1/4-20, 1/2 X 2-1/4                                 | 40   | 14      |
| 31664          | Light, Dual, Red   | 40   | 15      |
| 31795          | Wheel, Complete, Off-white                                       | 14   | 7       |
| 31797          | Bolt, Socket, 1/2 x 2-3/4, UNC, Gr5                              | 28   | 17      |
| 31892          | Decal, Warning, Tension, Chain                                   | 42   | 11      |
| 31933          | Jack, Sidewind, 7000lb x 15                                      | 18   | 6       |
| 32035          | Fitting, Tee, 8MPR-8MJ   | 32   | 27      |
| 32056          | Fitting, Elbow, 4MB-6MJ90  | 32   | 32      |
| 32071          | Washer, Motor, 1-1/4 x 1-7/8                                     | 28   | 13      |
| 32079          | Fitting, Elbow, 6MB-8MJ90  | 32   | 29      |
| 32250          | Hyd, Cyl, Pin, 1   | 34   | 6       |
| 32250          | Hyd, Cyl, Pin, 1   | 35   | 5       |
| 32639          | Bearing, Thrust, Front   | 30   | 13      |
| 32647          | Hyd, Motor, Seal Kit, Roller, Stator                             | 30   | 1       |
| =              | , , , , ,  | = =' | ·       |

| 32649             | Bearing, Housing, Rear, ½"                               | 30       | 4       |
|-------------------|--|----------|---------|
| 32651             | Bearing, Thrust, Rear                                    | 30       | 2       |
| 32720             | Bearing, Housing, Front                                  | 30       | 3       |
| 32721             | Kit, Rotor   | 30       | 5       |
| 32722             | Kit,Link,Drive   | 30       | 6       |
| 32723             | Kit, Housing   | 30       | 7       |
| 32724             | Kit, Shaft   | 30       | 8       |
| 32725             | Kit, Manifold  | 30       | 9       |
| 32726             | Plate, Balance   | 30       | 10      |
| 32727             | Cover,End  | 30       | 11      |
| 32728             | Kit, Bolt  | 30       | 12      |
| 33014             | Susp, Tube, 11L-15                                       | 15       | 4       |
| 40003             | Pin, Hitch   | 18       | 1       |
| 40006             | Subframe, Rear   | 20       | 1       |
| 40008             | Pin, Arm, Pivot  | 24       | 1       |
| 40010             | Pin, Arm, Side, Pivot                                    | 24       | 2       |
| 40019             | Pin, Transport   | 24       | 7       |
| 40062             | Hitch, A-Frame, Left                                     | 18       | 2       |
| 40063             | Hitch, A-Frame, Right                                    | 18       | 3       |
| 40088             | Bumper, Bale   | 24       | 21      |
| 40105             | Crossmember, Sign, Slow Moving                           | 16       | 3       |
| 40105             | Tightner, Motor, Left                                    | 26       | 1       |
| 40116             | Tightner, Motor, Right                                   | 26       | 2       |
| 40118             | Mount, Bumper, Bale                                      | 24       | 22      |
| 40121             | Pin, Sprocket, Rear                                      | 26       | 3       |
| 40140             | Bracket, Cylinder  | 20       | 12      |
| 40142             | Hitch, Tongue, Double                                    | 18       | 5       |
| 40143             | Subframe, Middle   | 20       | 3       |
| 40144             | Rail, Outside, Left                                      | 20       | 5       |
| 40145             | Rail, Inside, Left                                       | 20       | 6       |
| 40146             | Rail, Outside, Right                                     | 20       | 7       |
| 40147             | Rail, Inside, Right                                      | 20       | 8       |
| 40147             | Arm, Slide, Pivot, Left                                  | 24       | 5       |
| 40149             | Arm, Slide, Pivot, Right                                 | 24       | 6       |
| 40149             | _  | 24       | 8       |
| 40151             | Fork, Right Fork, Left, ¼ Turn                           |          | 9       |
| 40152             |  | 24<br>24 | 10      |
| 40153             | Fork, Right, ¼ Turn<br>Fork, Left                        | 24       | 11      |
| 40168             | Elec, Harness, Lights                                    | 40       | 18      |
| 40177             | Fork, Short  | 44       | 1       |
| 40486             | Tube, Deck, Cylinder                                     | 20       | 4       |
| 40487             | Hitch, Crossmember                                       | 18       | 4       |
| 45235             | Subframe, Front  | 20       | 2       |
| 45236             | Arm, Pivot, Right  | 24       | 4       |
| 45237             | Arm, Pivot, Night Arm, Pivot, Left                       | 24       | 3       |
| 45242             | Axle   | 14       | 3       |
| 45243             | Pocket, End, Axle  | 14       | 2       |
| 45245             | Subframe, Main, Right                                    | 16       | 2       |
| 45246             | Subframe, Main, Left                                     | 16       | 1       |
| 45278             | Mount, Light, BM, Left                                   | 22       | 1<br>15 |
| 45276<br>45279    | Mount, Light, BM, Right                                  | 22       | 20      |
| 45279             |  | 22       | 16      |
| 45281             | Mount, Brkt, Light, BM, LT<br>Mount, Brkt, Light, BM, RT | 22       | 21      |
| <del>1</del> 0201 | Modifi, Dikt, Light, Divi, IXI                           | <u></u>  | Z I     |

| 45282 | Assy,Mount, Light, BM, Left          | 22 | 13 |
|-------|--------------------------------------|----|----|
| 45282 | Assy,Mount, Light, BM, Left          | 40 | 17 |
| 45283 | Assy,Mount, Right, BM, Right         | 22 | 14 |
| 45283 | Assy,Mount, Right, BM, Right         | 40 | 16 |
| 90103 | Cylinder, 3.5 x 16, 1.5, 8FP         | 32 | 9  |
| 90120 | Cylinder, 3.5 x 13, 1.5, 8FP         | 32 | 10 |
| 90138 | Wiring,Box,Control,14BM              | 37 | 15 |
| 90138 | Wiring,Box,Control,14BM              | 38 | 30 |
| 90223 | Hose, 3/8 x 58, 8MJ-8MP, 1W          | 32 | 11 |
| 90243 | Hose, 3/8 x 44, 8FJX-8MJ, 1W         | 32 | 13 |
| 90245 | Hose, 3/8 x 28, 8FJX-8MJ, 1W         | 32 | 14 |
| 90271 | Hose, 3/8 x 42, 8FJX-8FJX, 1W        | 32 | 15 |
| 90313 | Hose, 3/8 x 18, 8FJX-8FJX, 1W        | 32 | 2  |
| 90421 | Line, Steel, ½ x 0.049, 8FJ          | 32 | 16 |
| 90422 | Line, Steel, ½ x 0.049, 8FJ          | 32 | 17 |
| 90423 | Line, Steel, ½ x 0.049, 8FJ          | 32 | 18 |
| 90424 | Line, Steel, ½ x 0.049, 8FJ          | 32 | 19 |
| 90425 | Line, Steel, ½ x 0.049, 8FJ          | 32 | 20 |
| 91048 | Susp, Stem, Valve, TR801HP           | 15 | 3  |
| 91061 | Bolt, Wheel, 9/16                    | 14 | 5  |
| 91111 | Drv,Brg,Tapered,Outer,1.375          | 15 | 8  |
| 91131 | Drv,Brg,Race,Outer,1.375             | 15 | 9  |
| 91133 | Drv,Brg,Tapered,Inner,1.781          | 15 | 10 |
| 91508 | Chain, C2062H x 304PI                | 26 | 6  |
| 91510 | Chain, Connector, C2062H             | 26 | 7  |
| 91511 | Link, Connecting, Half, C2062        | 26 | 13 |
| 91517 | Chain, Length, C2064H                | 26 | 12 |
| 91608 | Pin, Hair, 1/8 x 2-9/16              | 24 | 14 |
| 91704 | Zerk, ¼ - 28, 90°                    | 14 | 4  |
| 92024 | Bushing                              | 26 | 9  |
| 92028 | Sign, Slow Moving                    | 22 | 3  |
| 92061 | Bumper, Rubber                       | 22 | 4  |
| 92063 | Drv, Sprocket, 2062, 10 Tooth, 1-1/4 | 28 | 14 |
| 92070 | Valve, Solenoid                      | 28 | 16 |
| 92070 | Valve, Solenoid                      | 36 | 1  |
| 92077 | Harness, Extension                   | 36 | 2  |
| 92089 | Valve, Solenoid                      | 32 | 21 |
| 92089 | Valve, Solenoid                      | 36 | 3  |
| 92104 | Connector, 7-Pin, Male               | 37 | 1  |
| 92106 | Connector, 7-Pin, Female             | 37 | 2  |
| 92106 | Connector, 7-Pin, Female             | 38 | 2  |
| 92107 | Switch, Rocker, On/Off               | 37 | 3  |
| 92107 | Switch, Rocker                       | 38 | 3  |
| 92108 | Switch, Toggle                       | 37 | 4  |
| 92108 | Switch, Toggle                       | 38 | 4  |
| 92119 | Screw, Thumb                         | 38 | 5  |
| 92125 | Box, Control                         | 36 | 4  |
| 92130 | Relay, 12V, 30A                      | 38 | 6  |
| 92138 | Holder, Bus, Body                    | 37 | 5  |
| 92138 | Holder, Bus, Body                    | 38 | 7  |
| 92139 | Holder, Bus, Cap                     | 37 | 6  |
| 92139 | Holder, Bus, Cap                     | 38 | 8  |
|       | • •                                  |    |    |

| 92140 | Fuse, Bus, 12V20A, Fast              | 37 | 7  |
|-------|--------------------------------------|----|----|
| 92140 | Fuse, Bus, 12V20A, Fast              | 38 | 9  |
| 92141 | Bushing, Relief                      | 38 | 10 |
| 92143 | Wire, Corrugated, 1/2                | 38 | 11 |
| 92146 | Enclosure, Plastic                   | 37 | 8  |
| 92149 | Wire, 16, Black, Strand              | 38 | 13 |
| 92150 | Wire, 16, White, Strand              | 38 | 14 |
| 92151 | Wire, 16, Red Strand                 | 38 | 15 |
| 92152 | Wire, 16, Orange, Strand             | 38 | 16 |
| 92153 | Wire, 16, Green, Strand              | 38 | 17 |
| 92154 | Wire, 16, Yellow, Strand             | 38 | 18 |
| 92155 | Wire, 16, Brown, Strand              | 38 | 19 |
| 92156 | Cables, 2C – 16GA                    | 38 | 20 |
| 92157 | Pin, Male                            | 37 | 9  |
| 92158 | Pin, Female                          | 37 | 10 |
| 92158 | Connector, Socket, Female            | 38 | 21 |
| 92161 | Wedge, Male                          | 37 | 11 |
| 92162 | Wedge, Female                        | 37 | 12 |
| 92162 | Connector, Wedge, Female             | 38 | 22 |
| 92163 | Diode, 12V, 20A                      | 38 | 23 |
| 92164 | Screw, Tapping, #4 x 1/4             | 37 | 13 |
| 92165 | Connector, QD, Female, 3/16          | 38 | 24 |
| 92166 | Connector, Ring, 3/8, 16GA           | 38 | 25 |
| 92167 | Connector, QD, Female, 1/4           | 38 | 26 |
| 92168 | Connector, ADP, F/M/M, 1/4           | 38 | 27 |
| 92169 | Connector, QD, Female, 1/4           | 38 | 28 |
| 92170 | Tie, Cable, 4, Black                 | 38 | 29 |
| 92184 | Motor, Hydraulic, 45 cu.in., 2000psi | 28 | 15 |
| 92220 | Aluminum, Plate, Box, Control        | 37 | 14 |
| 92556 | Decal, Caution                       | 42 | 4  |
| 92559 | Decal, Caution                       | 42 | 5  |
| 92561 | Decal, Warning, Hitch, Jack          | 42 | 6  |
| 92563 | Decal, Caution                       | 42 | 7  |
| 92583 | Decal, Highline, 3-1/2               | 42 | 8  |
| 92584 | Decal, Highline, 1400                | 42 | 9  |
| 92586 | Decal, Pin striping                  | 42 | 10 |
| E3764 | Tether, Cable, Shield, Small         | 24 | 25 |
| E4740 | Bracket, Solenoid, Hyd               | 20 | 9  |
| E4740 | Bracket, Solenoid                    | 28 | 1  |
| E4751 | Bracket, Box, Control                | 38 | 1  |
| E4779 | Tube, Divider, Bale                  | 22 | 6  |
| E4802 | Housing, Guard, BM, Left             | 28 | 25 |
| E4803 | Plate, Face, Guard                   | 28 | 26 |
| E4810 | Housing, Guard, BM, Right            | 28 | 27 |
| E4814 | Bracket, Light, Middle               | 22 | 5  |
| E4814 | Bracket, Light, Middle               | 40 | 1  |
| E5351 | Tether, 16"                          | 22 | 18 |
| E5652 | Lug, Extension                       | 24 | 29 |
| E5653 | Chain, Link, 1/2, GR40, 5 Links      | 24 | 13 |
| E5805 | Decal, Box, Control                  | 38 | 12 |
| E5805 | Decal, Control box, Faceplate        | 42 | 1  |
|       | •                                    |    |    |

### **5.0 Specifications**

Weight Approximately 9,700 lbs (4,400 kg)

Hitch Weight (empty) 1740 lbs (789 kg)

Total Length 43'5"
Bed Length 37"
Total Width 16'9"'
Bed Width 11'2"
Total Height 9'2"
Bed Height 3'3"
Ground Clearance 13-1/2"

Maximum Capacity Fourteen - 2,200 lb Bales to

Max. 30,800 lb payload

Chain & Sprocket Heavy Duty ASA 2062, 1-1/2 Pitch

Tires Goodyear, 11L-15FI, F Ply

Farm Highway Service

Under carriage Two-4 wheel oscillating tandems

Horsepower Required 100 hp Hydraulic Outlets Two

Hydraulic Pressure 2,500 psi. (17,240 KPa)

| Dealer Information      |               |  |
|-------------------------|---------------|--|
| Dealer:                 |               |  |
| Address:                |               |  |
| City:                   |               |  |
| Province / State:       |               |  |
| Postal Code / Zip Code: |               |  |
| Phone:                  |               |  |
|                         |               |  |
|                         |               |  |
|                         |               |  |
| <u>Identific</u>        | ation Numbers |  |
| Model Number:           |               |  |
| Serial Number:          |               |  |
|                         |               |  |
|                         |               |  |
|                         |               |  |
|                         |               |  |
|                         |               |  |
|                         |               |  |
|                         |               |  |

# **Dealer Checklist**

#### Bale Mover Dealer Checklist

| Pre-Assembled Units | Packaged Units | Check List Item  |
|---------------------|----------------|--|
|                     |                | Install chains on machine, with hydraulic motors.                        |
|                     |                | Ensure roller chains are running straight down the center of the         |
|                     |                | channel to prevent jumping of the chains.                                |
|                     |                | Check for chain clearance between the rear sprocket and the slide plate. |
|                     |                | Install SMV sign.  |
|                     |                | Tail/warning lights installed.   |
|                     |                | install tethered loader fork transport lock pin shipped w/machine.       |
|                     |                | Ensure all grease points are lubricated.                                 |
|                     |                | Check tire pressure and adjust as required.(as specified on tire)        |
|                     |                | Install deck cylinder.   |
|                     |                | Install right and left hydraulic motor guards with plate guards.         |
|                     |                | Install right and left chain tightners.                                  |
|                     |                | Install hitches, Hitch crossmember, and Hitch tongue.                    |
|                     |                | Install rear sprockets, with rear pin assembly.                          |
|                     |                | Install rubber bumpers.  |
|                     |                | Check or Tighten roller chain to specified tension.                      |
|                     |                | Install castor wheel, pivot arm assmblies (5 and 7 BM)                   |
|                     |                | Install Jack.  |
|                     |                | Full library of manuals (operators, and parts) shipped w/machine.        |
|                     |                | Mini operators manual w/tether cable shipped w/machine.                  |
|                     |                | Verify serial plate is attached  |
|                     |                | Check tire hubs for proper bearing adjustment.                           |
|                     |                | Hook up to tractor and check all functions - cylinders, motors, lights.  |

Check the Shaded areas only.