



Techno-Bale

----- Operators Manual -----



Wagon for handling and transportation of round bales

Model 960

One-Year Manufacturer's

Warranty

For Normal Use With The Exception Of Tires

If the equipment does not function properly, or if a piece is defective due to a manufacturer's defect during the first year following purchase, the defect will be repaired free of charge.

If this machine is used for commercial application or for lease/rent, this guarantee will be valid for 90 days, following date of purchase.

Your satisfaction is essential to us. The department of customer service at point of purchase should resolve any problem concerning this equipment. If you have a warranty related problem that has not been rectified to your satisfaction, we suggest that you take the following action.

- Speak to the manager at the point of purchase. Most problems can be rectified at this level.
- If you have already consulted the manager and there has not been an acceptable resolution, you may contact the manufacturer directly.

Tubeline Manufacturing Inc.
RR #3 Listowel, ON. N4W 3G8
Telephone (519)-291-4162 ■ 1-866-567-4162
Fax 519-291-5388
e-mail: sales@tubeline.ca
Web Site: www.tubeline.ca

To be better able to serve you, please include the following information:

- Your name, address and telephone number
- Model number, and serial number
- The date of purchase and the name of your supplier
- Nature of the problem

After studying your request, you will be advised of the steps to be taken. Note that your situation will be rectified through your supplier, with their equipment and personnel.

It is therefore very important that the first attempt to rectify the problem/question be with the supplier.

For future reference, take note immediately of the model number, serial number and date of purchase.

The serial number is located at the rear of the left tongue, close to the deck.

Model Number

Serial Number

Date of Purchase

Safety

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

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



This symbol means

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

Signal Words are used in this book.

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

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

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

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

RR # 3 Listowel

Ontario Canada

N4W 3G8

Tel: (519-291-4162 1-866-567-4162

Fax (519-291-5388

e-mail sales@horstwelding.com



Safety -- It's in your interest.



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.

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

Safety Decal Location

Both Sides

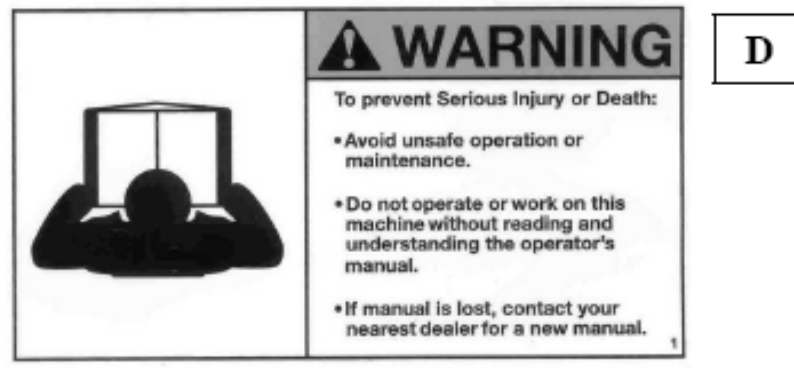
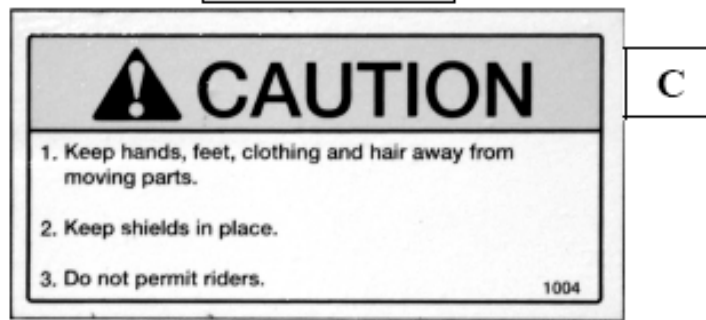


A

B



Both Sides



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



- Maintain proper tire pressure at all times



Remember

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 Techno-Bale please contact your dealer or an experienced operator.



Before Operation

- Carefully study and understand the manual or be trained by an experienced operator.
- Do not wear loose clothing which may get caught in moving parts.
- Visually inspect the machine to make sure no parts are loose or missing
- Be sure that no tools are left on the machine
- Do not hurry the learning process. Be familiar with one part before trying the next part.
- Practice by running the machine through its paces.

Safety And Security



The following precautions are suggested for the purpose of accident prevention. The best operator is a prudent operator. Most accidents can be avoided with certain care. Please read all information carefully before using your Techno-Bale. Only a trained and responsible operator should operate this equipment.

❖ Training

1. Read the manual
2. Learn the controls of the Techno-Bale
3. Identify the moving parts
4. Know how to stop the machine during any function

❖ Precautions

1. Know the range of all the moving parts
2. Never let anyone stand near or touch any moving part
3. Never work on or under the machine while the bed is raised. (unloading position)
4. The Techno-Bale must be used by experienced operators only
5. The loading arm is held in vertical position with a security valve when the Techno-Bale is not connected to the tractor. In addition to the security valve, you must, for empty "on-road" transportation attach the loading arm with a cable or chain to the opposite rail
6. the operator must wear properly fitting clothing and prohibit anyone wearing loose fitting clothing to be near any moving parts

❖ Maintenance

1. Follow the recommendation on page 12
2. During inspections, assure that the moving parts are stopped
3. Secure moving parts to ensure that the service person will not be trapped if a hydraulic line breaks or loses pressure

1 Connection

Minimum required HP for **Techno-Bale 960** – 60 HP / 4 WD tractor

1. Connect the Techno-Bale to the tractor
2. Remove the jack from the vertical position and store it in the horizontal position at the front (in the space provided between tongue)
3. Install the extensions, according to bale size (4' & 5' or 6' bales)
4. Connect the 4 Quick Couplers to the tractor hydraulic remotes, Connect the selector valve to a 12 volt source
5. Open the security valve of the loading arm. (ball valve)
6. Try the loading arm – lower and raise
Leave in the raised position for transportation

2 Setup

Numerous adjustments can be made to meet your specific needs.

Deck Extensions



Extensions in wide position 6' bale



Extensions in narrow position 4' & 5' bale

The **Extensions** are attached to the rear of the Techno-Bale. They permit the transportation of one or two extra round bales and are used for unloading in-line.



The Guide Rail

The guide rails are adjustable according to the bale diameter



Loading Arm

The distance between the forks of the loading arm is adjustable according to the diameter of the bales.

Suggested width between the forks

4 x 4 = 42" \diamond 4 x 5 = 45" \diamond 4 x 6 = 48" to 50" approx

3: Controls

Loading

Open the security valve (ball valve) allowing the loading arm to be raised and lowered with the tractor hydraulics

Push Bar

The other set of hydraulics are used to extend and retract the Bale Pusher

Unloading

Activate the electric selector valve to change the function of the Bale Pusher to raise the Deck. Make sure that the cylinder is fully retracted after the Deck has been lowered.

4: Loading

The Techno-Bale 960 picks up and moves 9 Bales depending on unloading and storage
Loading may be done on the go.

One bale may be transported on the loading arm, leaning against the last bale loaded.

It is possible to pick up a bale even if it is not parallel to the fork. You can rotate it in to position by using the interior of the outside fork. *(see illustration)*



1



2



3

This operation must be executed while moving. After a few tries, you will be able to pick them up from almost every direction.

5: Overall Process

- Steer towards the bale
- Lower the loading arm completely to the GROUND
- Line up the point of the exterior fork with the far side of the bale
- Drive into the bale without stopping, and pivot parallel to the loading arm.
- Raise the loading arm
- Load second bale, Activate the Bale Pusher (while driving)
- Load 8 bales on the Techno-Bale 960 and raise the 9th for transport on the loading arm.
- To unload remove the bale from the loading arm (by lowering the bale to the ground and backing up), switch the electric diverter valve and activate the same valve as the Bale Pusher control, this will now activate the Deck cylinder.
- Horizontal storage – raise the bed to 45° (halfway) and drive forward to unload

Loading 1-2-3



6: Unloading and Storing

Horizontal Unloading

Ideal for horizontal storage or bales to be wrapped

If you are transporting a bale on the fork, put down the bale and backup to disengage the bale from the loading arm before unloading the main Deck

To unload, activate the Deck cylinder and raise the bed until the bales slide freely. If the incline is too steep, the bales may tumble out. Then move forward until all the bales are disengaged from the Deck, before lowering the bed.



7: On-Road Transportation

If you must travel a certain distance with an empty Techno-Bale it is recommended to:

- Secure the loading arm in the raise position
- Remove the Extensions

8: Storing your Techno-Bale

1. Remove the hydraulic hoses from the tractor and hang them over the hook on the Bale Pusher Arm
2. Remove the Selector Valve control wire off the tractor and store it on the Techno-Bale
3. Close the security Valve (ball valve) to hold the Loading Arm in the vertical position
4. Reposition the jack, in front of the Techno-Bale to keep it level, and to facilitate the next hook-up.

9: Lubrication

Lubrication intervals will vary depending on grease points, as some joints will be doing more work.

You will find this symbol on the Techno-Bale,
Close to the grease points



A – Loading arm cylinder support



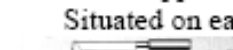
Daily

B – Loading arm Support “Pins” (2 sides)



Bi-annually

C – Deck support “Pins”



Situated on each side at the rear of the Techno-Bale (4)



Bi-annually

D – Bale Pusher Arm Cylinder Bracket



Monthly

E – Axle “walking beams” (2 sides)

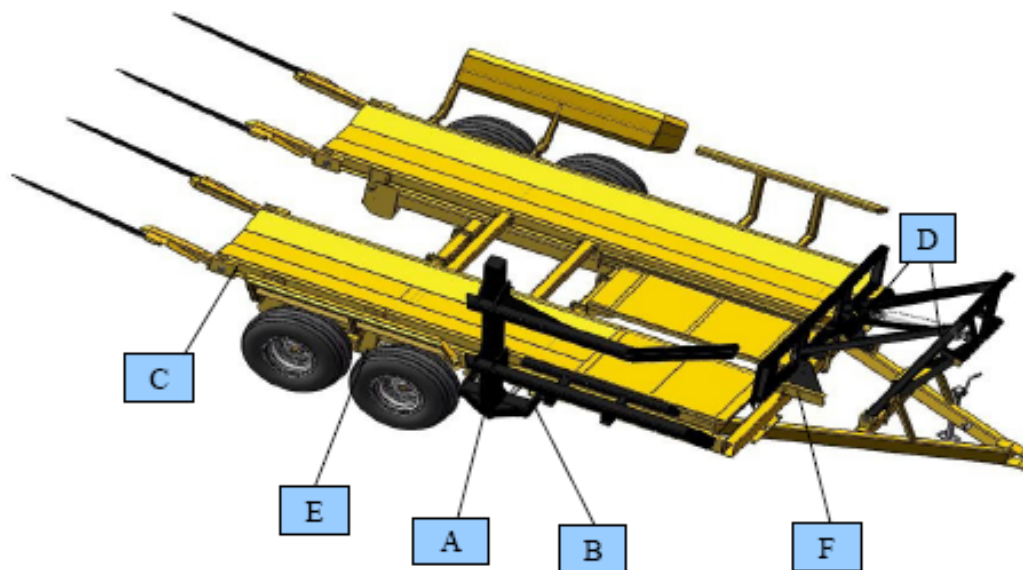


Bi-annually (generously)

F – Bale Pusher Wheel Axles (4 Wheels)



Monthly



10: Troubleshooting

If the machine is not functioning properly

Verify That

- The tractor hydraulic system is working
- The Hydraulic hoses are properly connected
- The loading security valve is not closed. (must be open)
- Hydraulic Connections are not reversed

“The bale cords are hooking on the rear railing”

The side arm railing may be adjusted to take bales from 48” to 60”

Verify that you have the proper setting

No Power on the Selector Valve

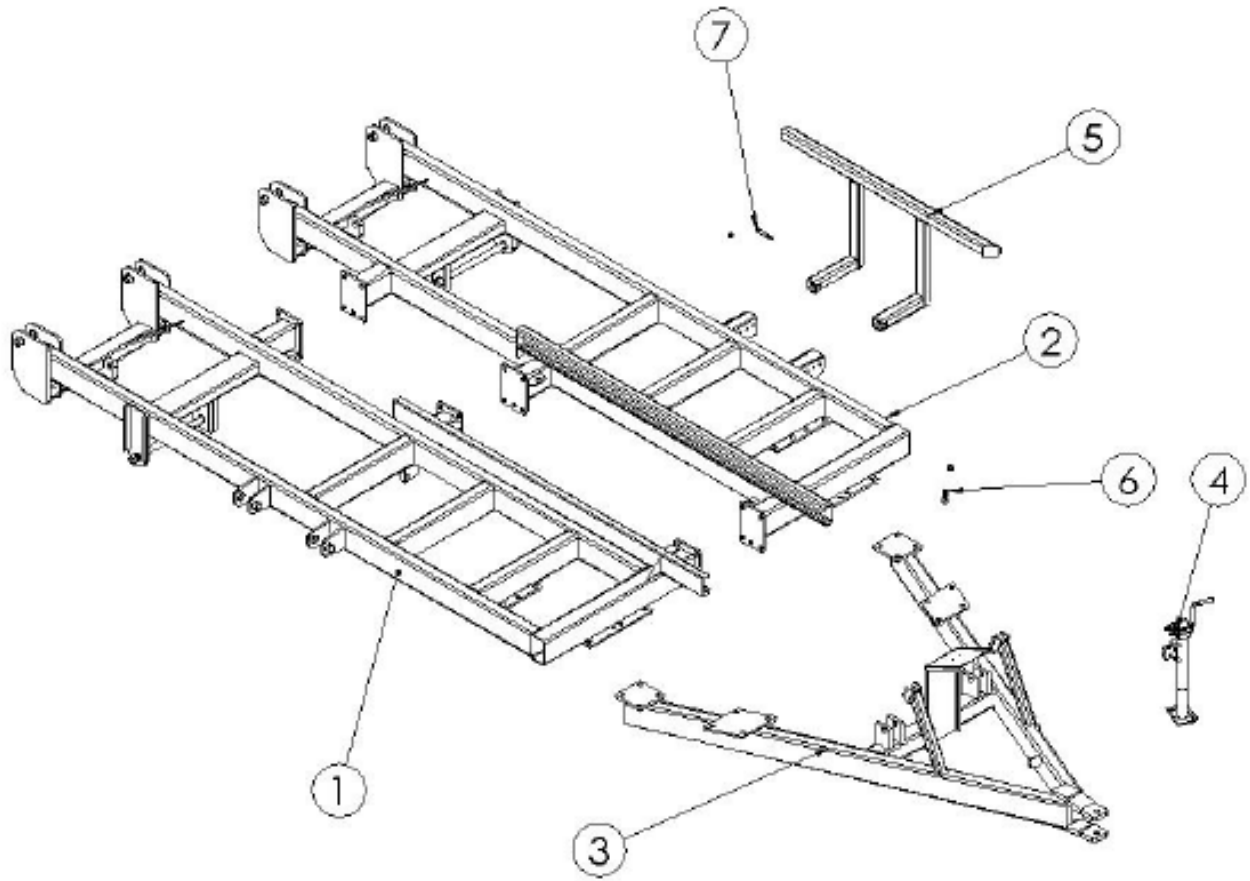
Check the fuse and/or the ground, also check for broken wire.

Specifications

960

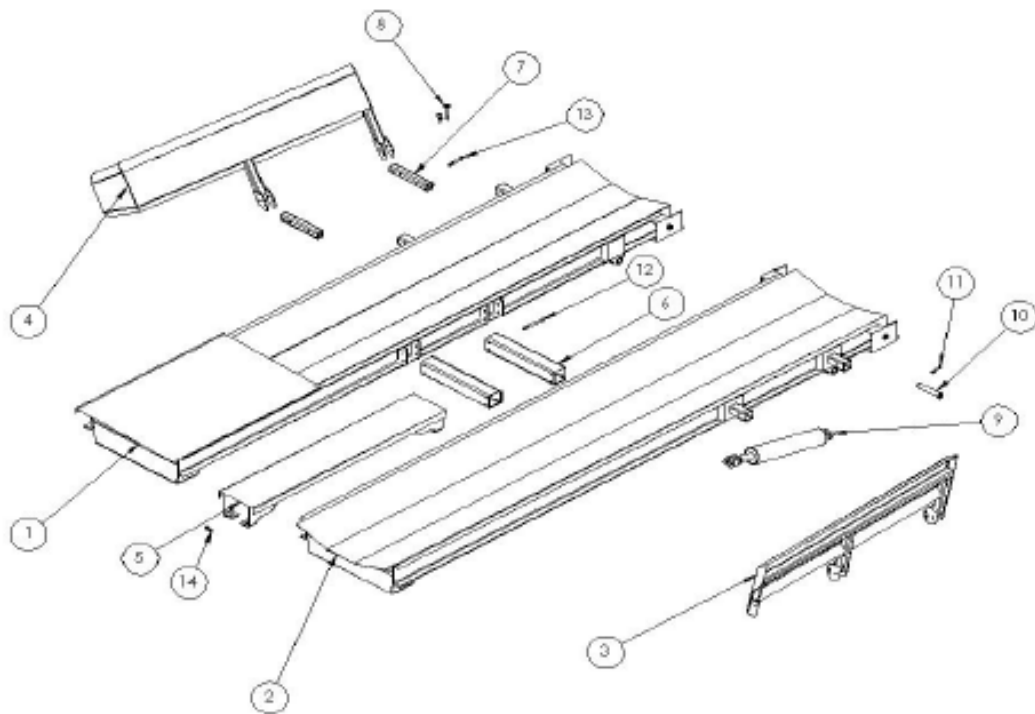
Length	25'
Width	12'
Weight	5200 pounds
Cylinders	3”x 16”
Cylinders	4” x 18”
Loading Arm	5” x 5” tube
Loading Fork	4” x 4”
Selector Valve (double)	12Volt
Tire	(4) Tires 12.5-L – 15 farm implement 8 Ply

Tubeline Techno-Bale 960
Main Frame



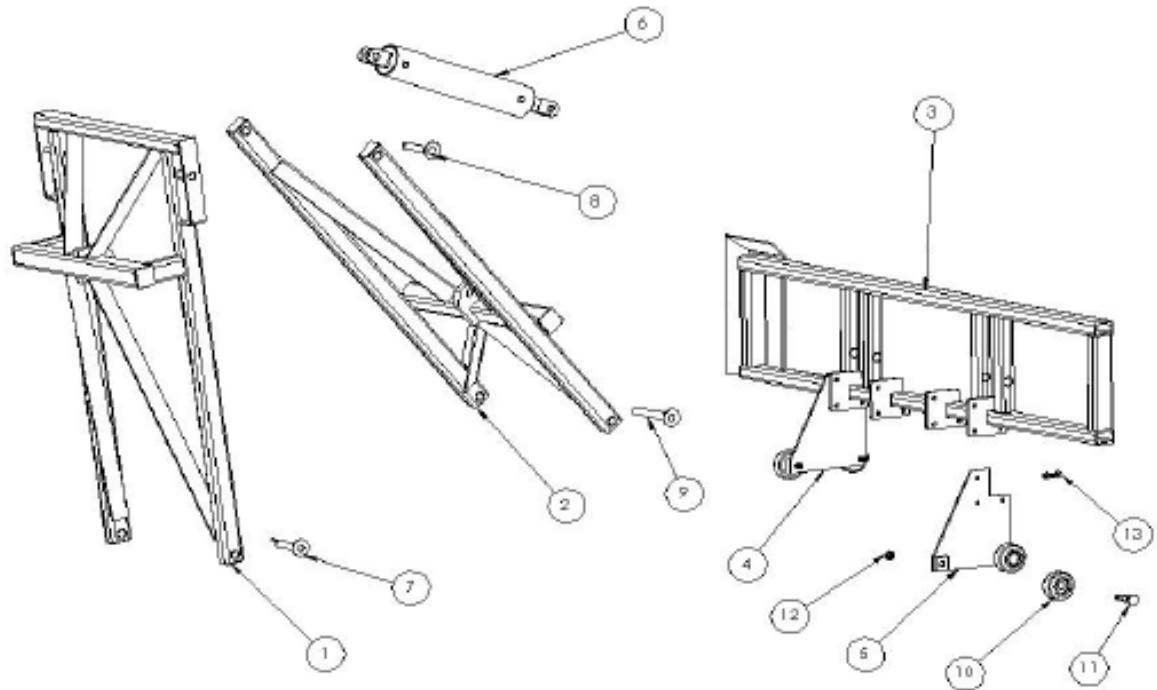
Item	Qty	Part Number	Description
1	1	960-100-101R	Right Main Frame
2	1	960-100-101L	Left Main Frame
3	1	960-100-102	Hitch
4	1	900-100-109	Jack
5	1	900-100-117	Bale Bumper
6	31		3/4-16 x 2 1/4 Bolt Gr.5 c/w Lock Nut
7	31		1/2-13 x 4 Bolt Gr.2 c/w Lock Nut

TubeLine Techno-Bale 960
Deck Assy



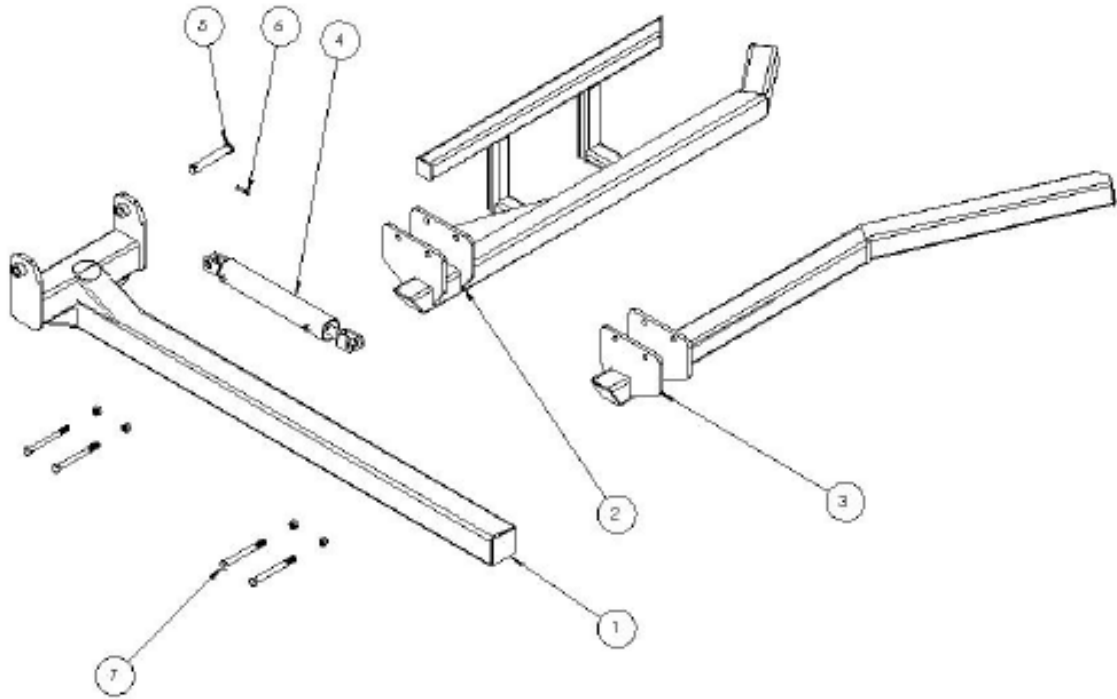
Item	Qty	Part Number	Description
1	1	960-100-110R	Right Deck
2	1	960-100-110L	Left Deck
3	1	960-100-111L	Left Bale Guide
4	1	960-100-111R	Right Bale Guide
5	1	960-100-112	Cross Over Deck
6	2	960-100-113	Center Deck Tie Tube
7	4	960-100-114	Bale Guide Mount
8	4	960-100-115	Bale Guide Adjuster Pin c/w Linch Pin
9	2	900-100-105	Deck Cylinder
10	4	900-100-121	Deck Pivot Pin (Short)
11	4		3/8-16 x 2 1/2 Bolt Gr. 2 c/w Lock Nut
12	8		1/2-13 x 5 1/2 Bolt Gr. 2 c/w Lock Nut
13	8		1/2-13 x 3 1/2 Bolt Gr. 2 c/w Lock Nut
14	4		1/2-13 x 1 1/2 Bolt Gr. 2 c/w Lock Nut

**TubeLine Techno-Bale 960
Ram Assy**



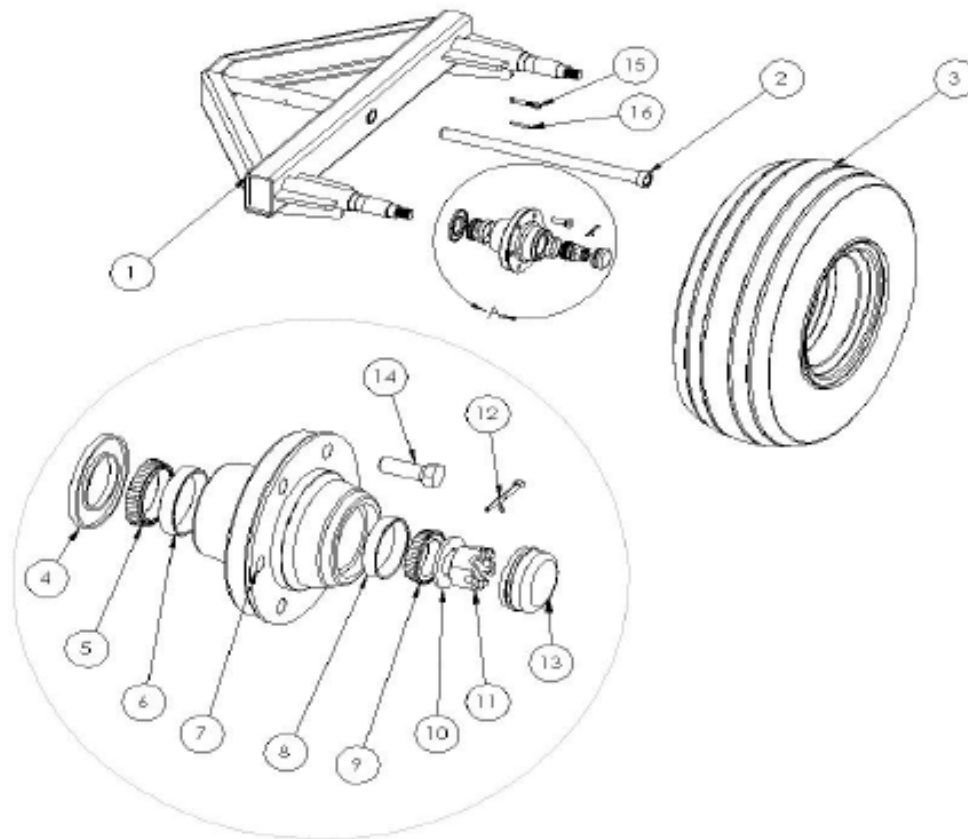
Item	Qty	Part Number	Description
1	1	960-100-120	Front Scissor Arm
2	1	960-100-121	Rear Scissor Arm
3	1	960-100-122	Ram
4	1	960-100-123R	Right Ram Wheel Mount
5	1	960-100-123L	Left Ram Wheel Mount
6	1	900-100-105	Ram Cylinder
7	2	960-100-124	Frame / Scissor Pin
8	2	900-100-113	Top Scissor Pin
9	2	960-100-125	Scissor / Ram Pin
10	4	960-100-126	Ram Wheel
11	4	960-100-127	Ram Wheel Axle
12	4	960-100-128	Ram Axle Nut
13	6		1/2-13 x 1 1/2 Bolt Gr.2 c/w Lock Nut

TubeLine Techno-Bale 960
Bale Arm Assy



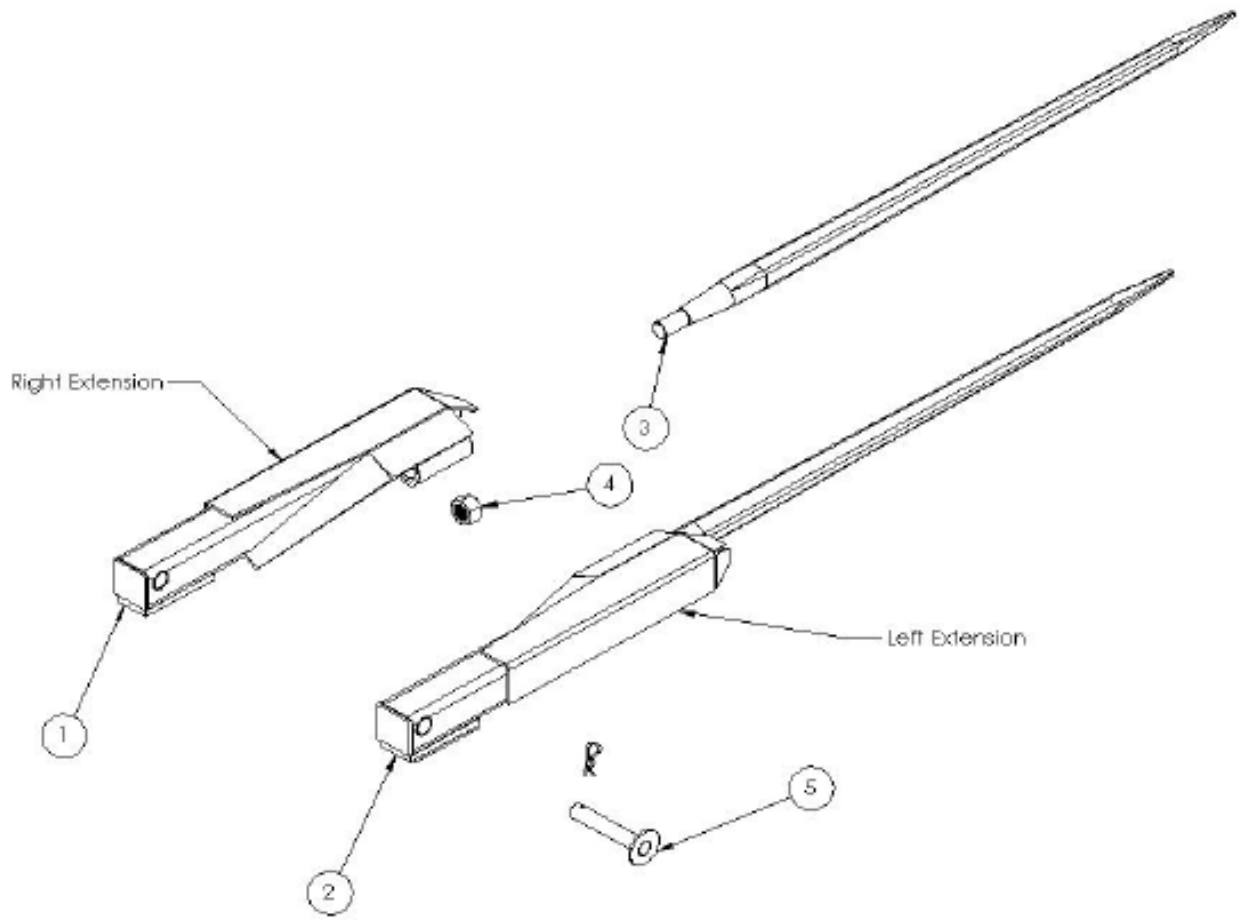
Item	Qty	Part Number	Description
1	1	900-100-123	Bale Arm
2	1	900-100-124	Inside Bale Finger
3	1	900-100-125	Outside Bale Finger
4	1	900-100-120	Arm Cylinder
5	2	900-100-122	Arm Pivot Pin (Long)
6	2		3/8-16 x 2 Bolt Gr.2 c/w Lock Nut
7	7		3/4-10 x 8 Bolt Gr.2 c/w Lock Nut

TubeLine Techno-Bale 960
Axle Assy



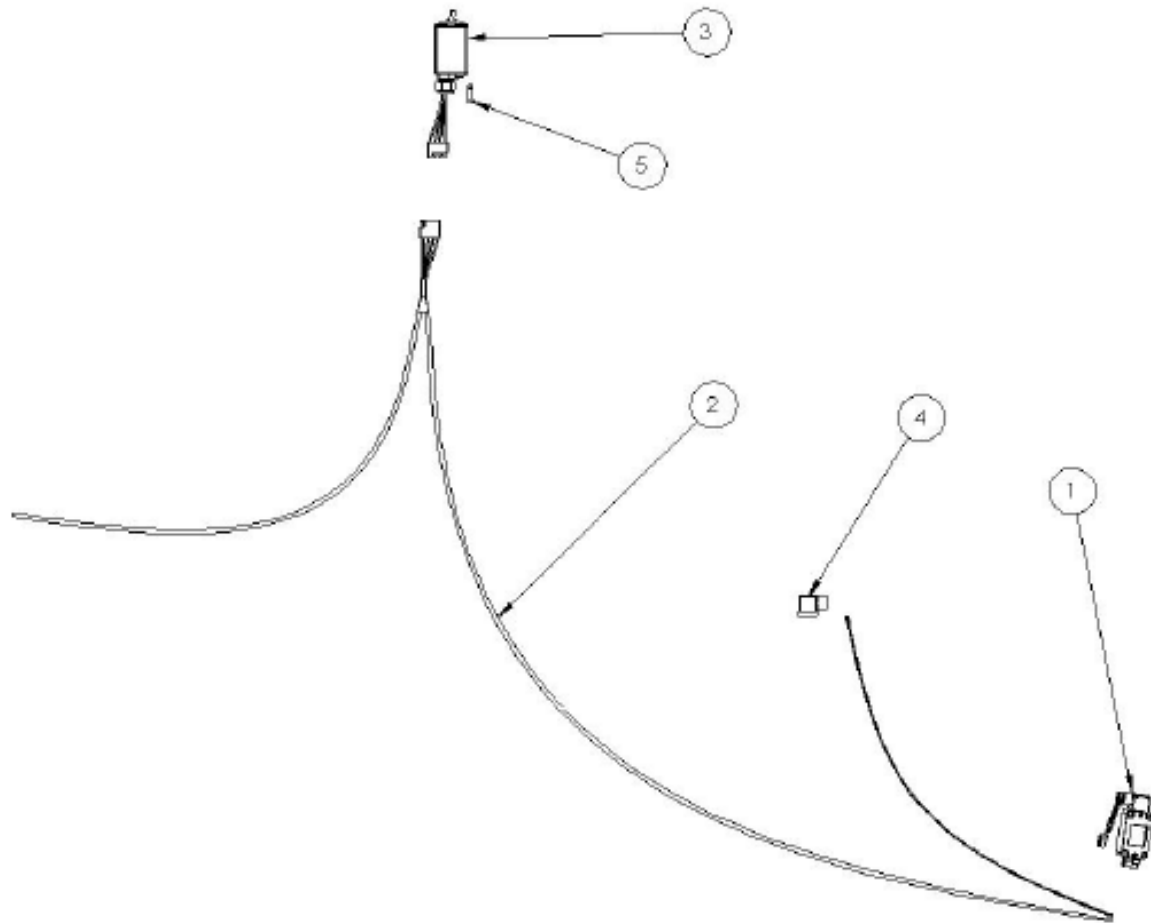
Item	Qty	Part Number	Description
1	2	960-100-130	Axle
2	2	900-100-116	Walking Beam Pin
3	4	960-100-131	12.5L - 15 Tire & Rim
4	4	960-100-132	Inner Seal
5	4	960-100-133	Inner Bearing
6	4	960-100-134	Inner Bearing Race
7	4	960-100-135	Hub
8	4	960-100-136	Outer Bearing Race
9	4	960-100-137	Outer Bearing
10	4	960-100-138	Washer
11	4	960-100-139	Wheel Nut
12	4	960-100-140	Cotter Pin
13	4	960-100-141	Dust Cap
14	24	960-100-142	Wheel Bolt
15	2		3/8-16 x 2 1/2 Bolt Gr.2 c/w Lock Nut
16	2		1/4 x 2 Spring Pin

TubeLine Techno-Bale 960
Rear Table Extension



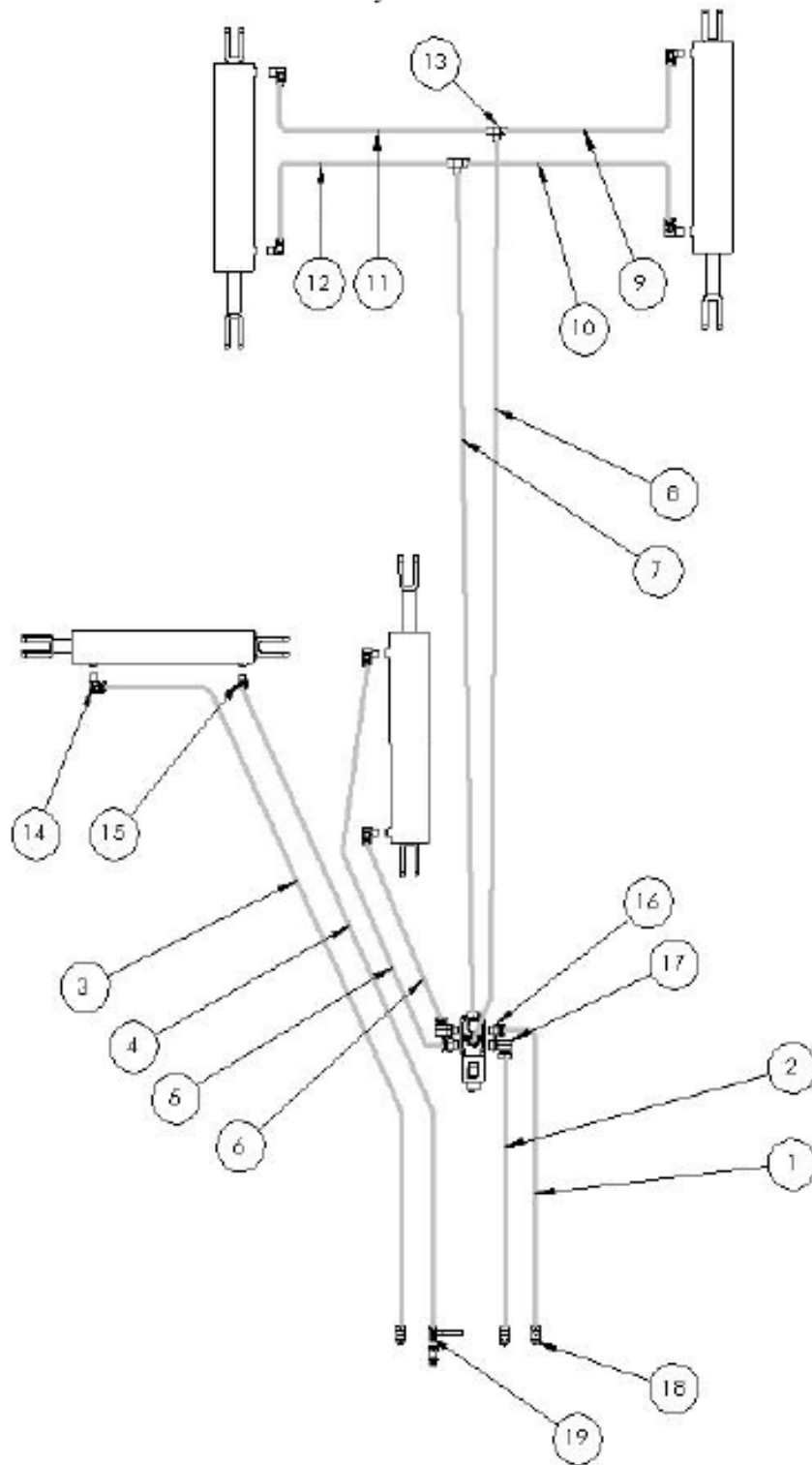
Item	Qty	Part Number	Description
	2	900-100-111	Right Extension c/w Spear
	2	900-100-110	Left Extension c/w Spear
1	2	900-100-140	Right Extension
2	2	900-100-141	Left Extension
3	4	900-100-133	Conus 2 Spear
4	4	900-100-134	Conus 2 Nut
5	4	900-100-113	Extension Pin

**TubeLine Techno-Bale 960
Wiring Harness**



Item	Qty	Part Number	Description
1	1	960-100-150	Limit Switch
2	1	960-100-151	Wire Harness
3	1	960-100-152	Switch Box
4	1	960-100-153	Hirschman Connection Box
5	1		15amp Fuse

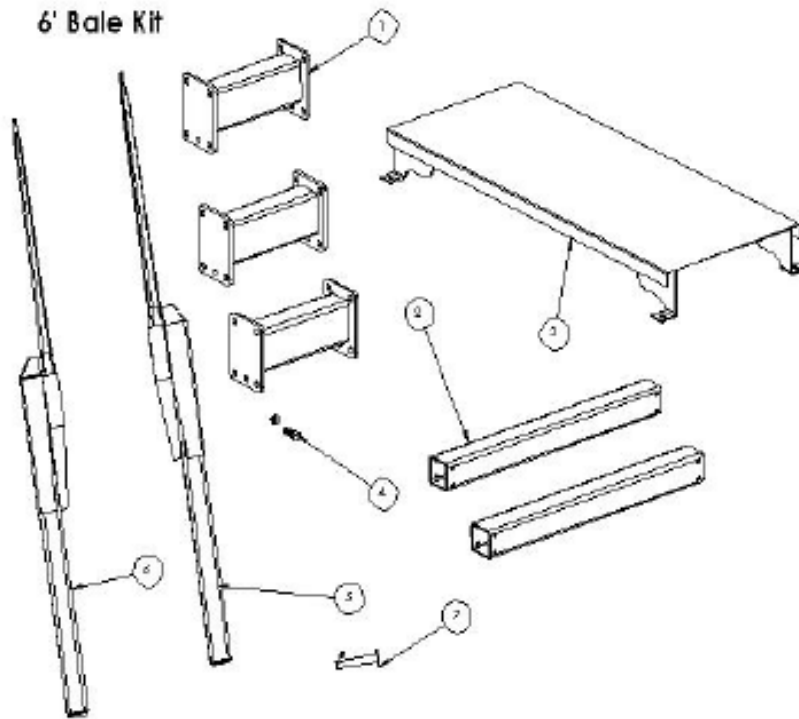
TubeLine Techno-Bale 960 Hydraulics



TubeLine Techno-Bale 960
Hydraulics

Item	Qty	Part Number	Description
1	1	960-100-160	3/8 Hydraulic Hose 100"
2	1	960-100-161	3/8 Hydraulic Hose 96"
3	1	960-100-162	3/8 Hydraulic Hose 225"
4	1	960-100-163	3/8 Hydraulic Hose 215"
5	1	960-100-164	3/8 Hydraulic Hose 88"
6	1	960-100-165	3/8 Hydraulic Hose 172"
7	1	960-100-166	3/8 Hydraulic Hose 165"
8	1	960-100-167	3/8 Hydraulic Hose 170"
9	1	960-100-168	3/8 Hydraulic Hose 86"
10	1	960-100-169	3/8 Hydraulic Hose 80"
11	1	960-100-170	3/8 Hydraulic Hose 56"
12	1	960-100-171	3/8 Hydraulic Hose 50"
13	2	960-100-172	3/8 Tee
14	7	960-100-173	3/8 90° Swivel
15	1	960-100-174	3/8 Straight Swivel
16	3	960-100-175	7/8ORB 3/8 Straight Swivel
17	3	960-100-176	7/8ORB 3/8 90° Swivel
18	4	960-100-177	Pioneer Quick Coupler
19	1	960-100-178	Ball Valve

**TubeLine Techno-Bale 960
Optional 6' Bale Kit**



Item	Qty	Part Number	Description
		960-100-190	6' Bale Kit
1	3	960-100-181	Frame Spacer
2	2	960-100-182	Deck Spacer
3	1	960-100-183	Wide Cross Over Deck
4	15		3/4-16 x 2 1/4 Bolt Gr.5 c/w Lock Nut
5	2	960-100-192	Long Bale Ext. Left
6	2	960-100-191	Long Bale Ext. Right
7	4	900-100-113	Extension Pin