



**LT10A / LT12A / LT14A**  
**Tag Trailer**  
**Operator's Manual**



**LANDOLL COMPANY, LLC**

1900 North Street

Marysville, Kansas 66508

(785) 562-5381

800-428-5655 ~ [WWW.LANDOLL.COM](http://WWW.LANDOLL.COM)

# Instructions for Ordering Parts

**\*\* Repair parts must be ordered through an Authorized Dealer \*\***

## DEALER INSTRUCTIONS FOR ORDERING PARTS FROM LANDOLL PARTS DISTRIBUTION CENTER

Phone #: 800-423-4320 or 785-562-5381

Fax #: 888-527-3909

Order online: [dealer.landoll.com](http://dealer.landoll.com)

### IDENTIFICATION PLATE

The identification plate, which lists the model number and serial number, is located on the front of the frame.


#### SERIAL NUMBER

The serial number is located on the identification plate.  
The Following information will help decode the trailer serial number

#### AAABBBBCDEFGHJJJJ

<b>AAA</b>	= world manufacturer identifier
<b>BBB</b>	= model
<b>C</b>	= length
<b>D</b>	= axle type
<b>E</b>	= federal check digit

<b>F</b>	= model year
<b>G</b>	= plant of manufacture
<b>H</b>	= model version
<b>JJJJJ</b>	= serial number

<b>MANUFACTURED BY/ FABRIQUE PAR:</b>		<b><u>Landoll Company, LLC</u></b> 1900 North Street Marysville, KS 66508 1-800-428-5655 <a href="http://www.landoll.com">www.landoll.com</a>		
<b>DATE:</b> <input style="width: 150px;" type="text"/>	<b>TYPE/TYPE DE VEHICULE:    TRA/REM</b>			
<b>GVWR/PNBV:</b> <input style="width: 300px;" type="text"/>				
<b>AXLE</b>	<b>TIRE/PNEU</b>	<b>RIM/JANTE</b>	<b>COLD INFL PRESS/ PRESS DE GONG. À FROID TIRE/PNEU</b>	<b>GAWR/PNBE</b>
<b>FR/AV</b>	<input style="width: 100px; height: 40px;" type="text"/>	<input style="width: 100px; height: 40px;" type="text"/>	<input style="width: 100px; height: 40px;" type="text"/>	<input style="width: 100px; height: 40px;" type="text"/>
<b>INT</b>				
<b>RR/AR</b>	<input style="width: 100px; height: 40px;" type="text"/>	<input style="width: 100px; height: 40px;" type="text"/>	<input style="width: 100px; height: 40px;" type="text"/>	<input style="width: 100px; height: 40px;" type="text"/>
<b>SGL/DUAL:</b> <input style="width: 100px;" type="text"/>		<b>VIN/NIV:</b> <input style="width: 250px;" type="text"/>		
<p>THIS VEHICLE CONFORMS TO ALL APPLICABLE STANDARDS PRESCRIBED UNDER THE CANADIAN MOTOR VEHICLE SAFETY REGULATIONS IN EFFECT ON THE DATE OF MANUFACTURE.            CE VÉHICULE EST CONFORME À TOUTES LES NORMES QUI LUI SONT APPLICABLES EN VERTU DU RÈGLEMENT SUR LA SÉCURITÉ DES VÉHICULES AUTOMOBILES DU CANADA EN VIGUEUR À LA DATE DE SA FABRICATION.            THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR VEHICLE SAFETY STANDARDS (FMVSS) IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.</p>				

**Identification Plate and Location**

### Manuals for LT10A / LT12A / LT14A Tag Trailer

Manual Number	Manual Type
F-876	Operator's Manual
F-295	Parts Manual



## **DANGER**

**DO NOT operate or perform any maintenance tasks on this equipment until you have completed the following:**

- 1. Receive proper training to operate this equipment safely.**
- 2. Read and understand the operator's manual.**
- 3. Be thoroughly trained on inspection and repair procedures.**

**Failure to comply with this warning may result in serious injury or possibly death.**



# Table of Contents

---

<b>1</b>	<b>Introduction and Safety Information</b>	
	Introduction . . . . .	1-1
	Understanding Safety Statements . . . . .	1-2
<b>2</b>	<b>Standard Specifications</b>	
	Trailer Specifications . . . . .	2-1
	Capacity . . . . .	2-1
	Overall Width . . . . .	2-1
	Weight . . . . .	2-1
	Hitch . . . . .	2-1
	Deck Length . . . . .	2-1
	Load Angle . . . . .	2-1
	Brake and Wheel Nuts Torque Specifications . . . . .	2-2
	General Torque Specifications (rev. 4/97) . . . . .	2-3
	SAE Torque Specifications . . . . .	2-3
	Metric Torque Specifications . . . . .	2-3
	Hydraulic Fitting Torque Specifications . . . . .	2-4
	Parker Brand Fittings . . . . .	2-4
	Gates Brand Fittings . . . . .	2-4
	Aeroquip Brand Fittings . . . . .	2-4
<b>3</b>	<b>Operating Instructions</b>	
	General . . . . .	3-1
	Pre-Coupling of Trailer and Truck . . . . .	3-2
	Coupling of the Towing Vehicle to the Trailer . . . . .	3-2
	Towing Vehicle and Trailer Hook-up and Check-out . . . . .	3-3
	Towing the Trailer . . . . .	3-3
	Parking the Trailer . . . . .	3-4
	Uncoupling Towing Vehicle From Trailer . . . . .	3-4
	Loading the Trailer . . . . .	3-4
	Unloading the Trailer . . . . .	3-5
	Cold Weather Operation . . . . .	3-5
	Hot Weather Operation . . . . .	3-5
<b>4</b>	<b>Maintenance and Lubrication</b>	
	General . . . . .	4-1
	Maintenance Schedule . . . . .	4-1
	Inspection . . . . .	4-1
	Lubrication . . . . .	4-1
	Maintenance Procedures . . . . .	4-3
	Repair Parts . . . . .	4-3
	Tools and Equipment . . . . .	4-3
	Standard Torque Values . . . . .	4-3
	Cleaning . . . . .	4-4
	Frame and Decks . . . . .	4-4

Electrical System . . . . .	4-4
Brake System Maintenance . . . . .	4-4
Hub and Drum Maintenance . . . . .	4-4
Wheel Bearing . . . . .	4-4
Suspension Maintenance . . . . .	4-4
Tire Inflation . . . . .	4-5
Wheels . . . . .	4-5
Hydraulic Cushion Cylinder . . . . .	4-5
Hydraulic System W/ Flow Control Valve Filling Method . . . . .	4-6

**5 Troubleshooting Guide**

Bed Tilt . . . . .	5-1
Brakes, Electric. . . . .	5-3
Brakes, Surge Hydraulic. . . . .	5-5
Electrical. . . . .	5-7
Tires - Wheels - Suspension . . . . .	5-9



# Introduction and Safety Information

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## Introduction

This manual provides operating, servicing, and maintenance instructions for Model LT10A / LT12A / LT14A Tag Trailer, manufactured by Landoll Company, LLC., Marysville, Kansas 66508.

- CHAPTER 1** Gives basic instructions on the use of this manual and understanding the safety statements.
- CHAPTER 2** Gives product specifications for the trailer, including measurements and component specifications. A Standard Bolt Torque Table is provided to give guidelines for bolt torques to be used when servicing this product.
- CHAPTER 3** Gives instructions for the proper operation of the equipment.
- CHAPTER 4** Gives general maintenance procedures, a maintenance schedule, and a lubrication schedule. Improper maintenance will void your warranty.

**IF YOU HAVE ANY QUESTIONS CONTACT:**

**LANDOLL COMPANY, LLC.  
1900 NORTH STREET  
MARYSVILLE, KANSAS 66508**

**PHONE # (785) 562-5381 or (800) 428-5655**

- CHAPTER 5** Is a troubleshooting guide to aid in diagnosing and solving problems with the trailer.
- PARTS MANUAL** Is a separate manual showing the various assemblies, sub-assemblies, and systems. Refer to that manual when ordering Landoll replacement parts. Order parts from your Landoll dealer.
- WARRANTY** The Warranty Registration form is included with the product documents. Fill it out and mail it within 10 days of purchase.  
**NOTE: IMPROPER ASSEMBLY, MODIFICATION, OR MAINTENANCE OF YOUR LANDOLL MACHINE CAN VOID YOUR WARRANTY.**
- COMMENTS** Address comments or questions regarding this publication to:

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# Understanding Safety Statements

You will find various types of safety information on the following pages and on the machine signs (decals) attached to the vehicle. This section explains their meaning.

The Safety Alert Symbol means ATTENTION! YOUR SAFETY IS INVOLVED!



## **DANGER**

**Danger means a life-threatening situation exists. Death can occur if safety measures or instructions on this label are not properly followed.**



## **WARNING**

**Warning means serious injury or death can occur if safety measures or instructions on this label are not properly followed.**



## **CAUTION**

**Caution means serious equipment or other property damage can occur if instructions on this label are not properly followed.**

### **IMPORTANT**

*Means that failure to follow these instructions could cause damage to the equipment or cause it to operate improperly.*

### **NOTE**

*Make sure you read and understand the information contained in this manual and on the machine signs (decals) before you attempt to operate or maintain this vehicle.*

The safety statements contained in this manual relate to the operation of the Models LT10A, LT12A, and LT14A Tag Trailer.

# Standard Specifications

## Trailer Specifications

Capacity	
MODEL: LT1016A, LT1016+4A, LT1020A	10,000 LBS.
MODEL: LT1216+4A, LT1220A	12,000 LBS.
MODEL: LT1420A, LT1422A	14,000 LBS.

Overall Width	
ALL MODELS	8'-6"

Weight	
LT1016A	3,150 LBS.
LT1016+4A, LT1020A	3,500 LBS.
LT1216+4A, LT1220A	3,700 LBS.
LT1420A, LT1422A (W/ Pintle Hitch)	4,350 LBS.
LT1420A & LT1422A (W/ Gooseneck Hitch)	5,520 LBS.

Hitch	
STD - 2-5/16" Ball Hitch or 3" I.D. Pintle Eye	
Option - Gooseneck W/ 2-5/16" Ball Hitch	

Deck Length	
LT1016A	16' Flat Deck
LT1016+4A, LT1216+4A	16' Tilt Deck + 4' Stationary
LT1020A, LT1220A, LT1420A, LT1422A	20' Tilt Deck

Load Angle	
LT1016A	12.4°
LT1016+4A, LT1020A, LT1216+4A, LT1220A	11.4°
LT1420A, LT1422A	12.1°



# General Torque Specifications (rev. 4/97)

<b>SAE Torque Specifications</b>								
<b>TORQUE SPECIFIED IN FOOT POUNDS</b> -This chart provides tightening torques for general purpose applications when special torques are not specified on process or drawing. Assembly torques apply to plated nuts and cap screws assembled without supplemental lubrication (as received condition). They do not apply if special graphite moly-disulfide or other extreme pressure lubricants are used. When fasteners are dry (solvent cleaned) add 33% to as received condition torque. Bolt head identification marks indicate grade and may vary from manufacturer to manufacturer. Thick nuts must be used on grade 8 cap screws. Use value in [ ] if using prevailing torque nuts.								
<b>UNC SIZE</b>	<b>SAE Grade 2</b>	<b>SAE Grade 5</b>	<b>SAE Grade 8</b>	<b>UNF SIZE</b>	<b>SAE Grade 2</b>	<b>SAE Grade 5</b>	<b>SAE Grade 8</b>	
1/4-20	4 [5]	6 [7]	9 [11]	1/4-28	5 [6]	7 [9]	10 [12]	
5/16-18	8 [10]	13 [13]	18 [22]	5/16-24	9 [11]	14 [17]	20 [25]	
3/8-16	15 [19]	23 [29]	35 [42]	3/8-24	17 [21]	25 [31]	35 [44]	
7/16-14	24 [30]	35 [43]	55 [62]	7/16-20	27 [34]	40 [50]	60 [75]	
1/2-13	35 [43]	55 [62]	80 [100]	1/2-20	40 [50]	65 [81]	90 [112]	
9/16-12	55 [62]	80 [100]	110 [137]	9/16-18	60 [75]	90 [112]	130 [162]	
5/8-11	75 [94]	110 [137]	170 [212]	5/8-18	85 [106]	130 [162]	180 [225]	
3/4-10	130 [162]	200 [250]	280 [350]	3/4-16	150 [188]	220 [275]	320 [400]	
7/8-9	125 [156]	320 [400]	460 [575]	7/8-14	140 [175]	360 [450]	500 [625]	
1-8	190 [237]	408 [506]	680 [850]	1-14	210 [263]	540 [675]	760 [950]	
1-1/8-7	270 [337]	600 [750]	960 [1200]	1-1/8-12	300 [375]	660 [825]	1080 [1350]	
1-1/4-7	380 [475]	840 [1050]	1426 [1782]	1-1/4-12	420 [525]	920 [1150]	1500 [1875]	
1-3/8-6	490 [612]	1010 [1375]	1780 [2225]	1-3/8-12	560 [700]	1260 [1575]	2010 [2512]	
1-1/2-6	650 [812]	1460 [1825]	2360 [2950]	1-1/2-12	730 [912]	1640 [2050]	2660 [3325]	
1-3/4-5	736 [920]	1651 [2063]	2678 [3347]	1-3/4-12	920 [1150]	2063 [2579]	3347 [4183]	

**Figure 2-1: SAE Torque Specifications**

<b>Metric Torque Specifications</b>					
<b>TORQUE SPECIFIED IN Newton Meters</b> -Coarse thread metric class 10.9 fasteners and class 10.0 nuts and through hardened flat washers, phosphate coated, Rockwell "C" 38-45. Use value in [ ] if using prevailing torque nuts.					
<b>Nominal thread diameter (mm)</b>	<b>Newton Meters (Standard Torque)</b>	<b>Foot Pounds (Standard Torque)</b>	<b>Nominal Thread Diameter (mm)</b>	<b>Newton Meters (Standard Torque)</b>	<b>Foot Pounds (Standard Torque)</b>
6	10 [14]	7 [10]	20	385 [450]	290 [335]
7	16 [22]	12 [16]	24	670 [775]	500 [625]
8	23 [32]	17 [24]	27	980 [1105]	730 [825]
10	46 [60]	34 [47]	30	1330 [1470]	990 [1090]
12	80 [125]	60 [75]	33	1790 [1950]	1340 [1450]
14	125 [155]	90 [115]	36	2325 [2515]	1730 [1870]
16	200 [240]	150 [180]	39	3010 [3210]	2240 [2380]
18	275 [330]	205 [245]	----	----	----

**Figure 2-2: Metric Torque Specifications**

# Hydraulic Fitting Torque Specifications

**TORQUE IS SPECIFIED IN FOOT POUNDS- 37° JIC, ORS, & ORB (REV. 10/97)**

This chart provides tightening torques for general purpose applications when special torques are not specified on process or drawing. Assembly torques apply to plated nuts and capscrews assembled without supplemental lubrication (as received condition). They do not apply if special graphite moly-disulfide or other extreme pressure lubricants are used. When fasteners are dry (solvent cleaned) add 33% to as received condition torque. Bolt head identification marks indicate grade and may vary from manufacturer to manufacturer. Thick nuts must be used on grade 8 capscrews. Use value in [ ] if using prevailing torque nuts.

## Parker Brand Fittings

Dash Size	37 Degree JIC	O-Ring (ORS)	O-Ring Boss (ORB)
-4	11-13	15-17	13-15
-5	14-16	-----	21-23
-6	20-22	34-36	25-29
-8	43-47	58-62	40-44
-10	55-65	100-110	58-62
-12	80-90	134-146	75-85
-16	115-125	202-218	109-121
-20	160-180	248 -272	213-237
-24	185-215	303-327	238-262
-32	250-290	-----	310-340

## Gates Brand Fittings

Dash Size	37 Degree JIC	O-Ring (ORS)	O-Ring Boss (ORB)
-4	10-11	10-12	14-16
-5	13-15	-----	-----
-6	17-19	18-20	24-26
-8	34-38	32-40	37-44
-10	50-56	46-56	50-60
-12	70-78	65-80	75-83
-14	-----	65-80	-----
-16	94-104	92-105	111-125
-20	124-138	125-140	133-152
-24	156-173	150-180	156-184
-32	219-243	-----	-----

## Aeroquip Brand Fittings

Dash Size	37 Degree JIC	O-Ring (ORS)	O-Ring Boss (ORB)
-4	11-12	10-12	14-16
-5	15-16	-----	16-20
-6	18-20	18-20	24-26
-8	38-42	32-35	50-60
-10	57-62	46-50	75-80
-12	79-87	65-70	125-135
-14	-----	-----	160-180
-16	108-113	92-100	200-220
-20	127-133	125-140	210-280
-24	158-167	150-165	270-360
-32	245-258	-----	-----

**Figure 2-3: Hydraulic Fitting Torque Specification**

# Operating Instructions

## General

This section supplies information for operation of the trailer. It describes and locates controls, and gives general operation procedures. Read all instructions, warnings, cautions, and danger notes before attempting to operate the trailer. Operators must have proper training before operating the trailer.

### IMPORTANT

The trailer is wired according to [Figure 3-1](#). Be sure the truck electrical matches, to eliminate any potential electrical problems.



### WARNING

**DO NOT** operate the trailer with any known fault that might endanger the occupants, nearby workers, other traffic, the load, or the equipment.

VIEWED FROM OUTSIDE TRAILER PLUG

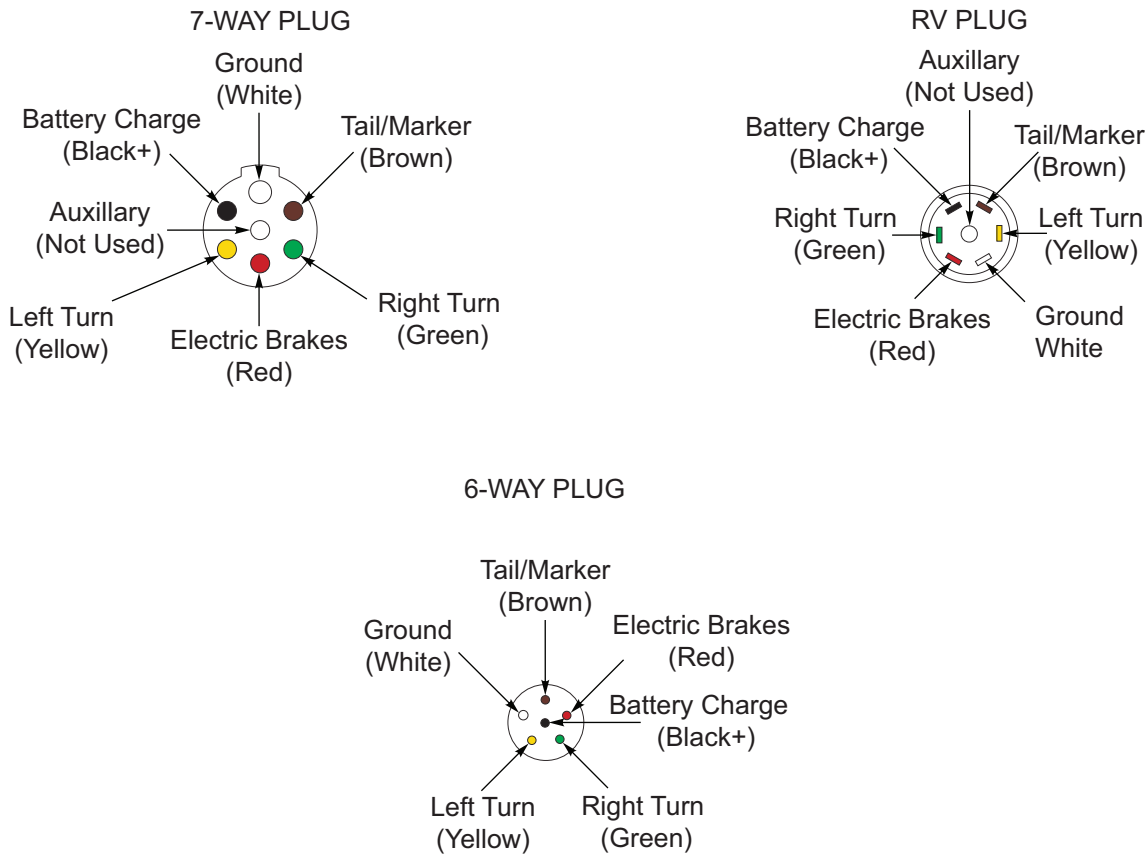
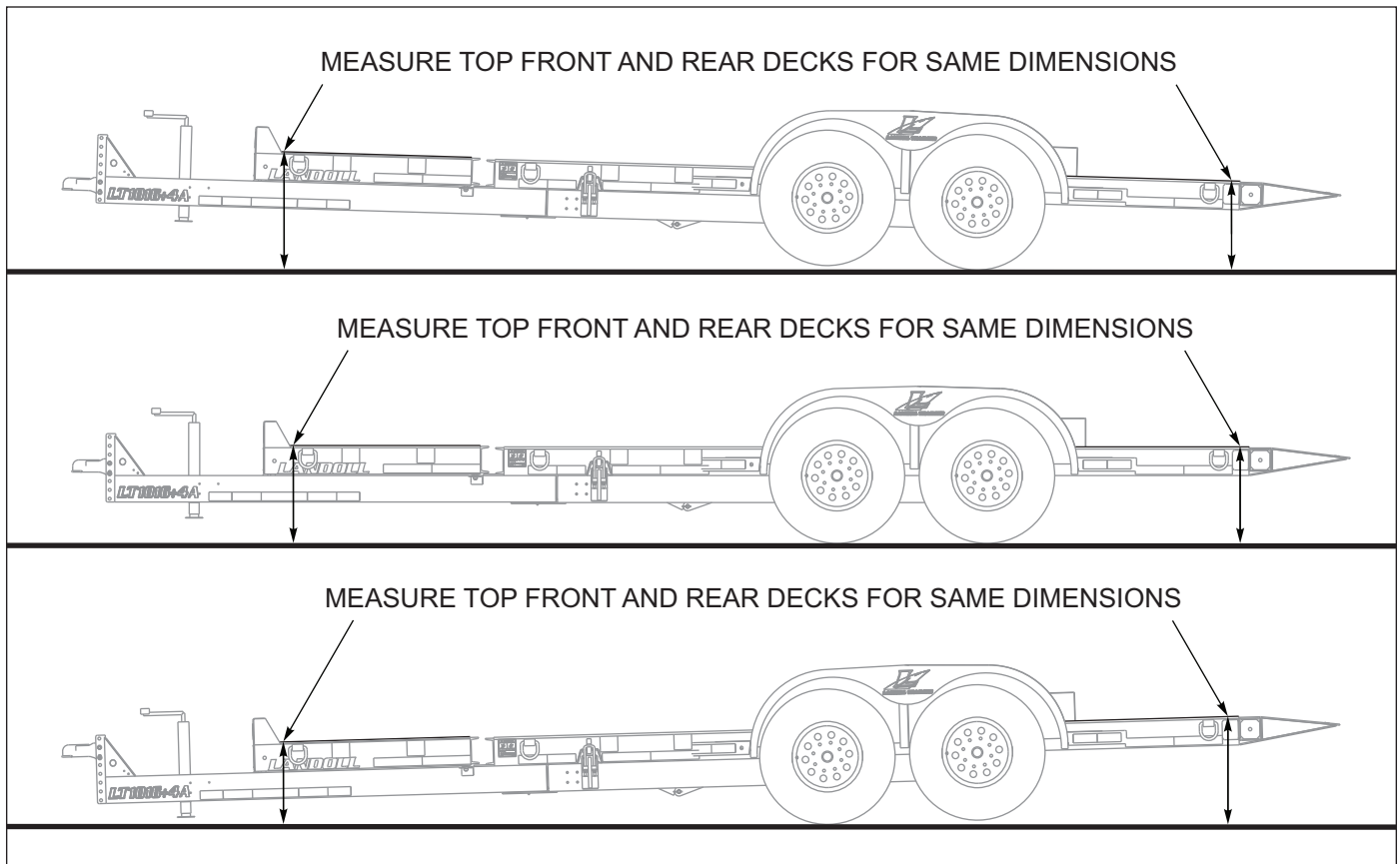


Figure 3-1: Electrical Plug Diagram



**Figure 3-2: Hitch Height Measurement**



**WARNING**

Catastrophic frame failure may occur if trailer is not level during towing, loading, and unloading operations. If the hitch is high, the rear axle becomes overloaded. If the hitch is low, the front axle becomes overloaded. Failure to comply may cause additional stress to the trailer frame supporting the overloaded axle.

**Pre-Coupling of Trailer and Truck**

1. Slowly back the truck (towing vehicle) up to the front end of the trailer so the hitch of the trailer is centered with the truck. Stop the towing vehicle just inches ahead of the trailer. Set truck parking brake.
2. The hitch on the trailer can be adjusted to different heights. Make sure the hitch height is at the correct height so the trailer deck is about parallel to the ground when loaded, [See Figure 3-2](#).
3. If the trailer hitch needs some adjustment to connect to the truck, manually raise or lower the front of trailer by cranking the landing gear (parking stands) up or down until the proper height has been obtained.

4. Connect electrical receptacle to the truck.
5. Apply brakes and inspect brake action on all wheels for prompt application.

**Coupling of the Towing Vehicle to the Trailer**



**DANGER**

Keep all personnel clear of front, rear, and sides of towing vehicle and trailer during coupling, component operations, and uncoupling. Failure to stay clear can result in serious personal injury or death.



**CAUTION**

Pushing the trailer backwards can damage landing gear.

1. Verify the trailer wheels are chocked and brakes function properly.
2. Make sure the towing vehicle's coupler is open.

3. Slowly back the towing vehicle so the hitch contacts the trailer hitch. Make sure the hitch is centered and will properly connect up. Set the vehicle brakes.
4. Raise the landing gear (parking stands) and lock the hitch in place.

### **IMPORTANT**

Keep brakes engaged for remainder of hookup, checkout procedures, and for parking.

## Towing Vehicle and Trailer Hook-up and Check-out

### **WARNING**

Catastrophic frame failure may occur if trailer is not level during towing, loading, and unloading operations. If the hitch is high, the rear axle becomes overloaded. If the hitch is low, the front axle becomes overloaded. Failure to comply may cause additional stress to the trailer frame supporting the overloaded axle, *See Figure 3-2*.

### **WARNING**

Failure to properly set and check parking brake, and chock wheels when parking and during storage, could allow movement of the truck/trailer resulting in serious personal injury, death, or damage to property in its path.

1. Connect the electrical receptacle on the front of the trailer to the towing vehicle.

### **IMPORTANT**

The key on the plug and the key way in the socket must be properly aligned before inserting the plug into the trailer socket.

2. Assure landing gear is raised up all the way.
3. Attach safety chains from the trailer to the towing vehicle.
4. For electric brake breakaway system, attach brake breakaway cable to towing vehicle. Allow slack in cable for turning. Make sure breakaway battery is charged and breakaway system is working properly.
5. For trailers with surge brakes, connect breakaway chain s-hook to towing vehicle. Allow slack for turning, but avoid letting chain drag on pavement. Provide as straight a connection as possible.

6. For trailers with surge brakes, sway control devices that restrict operation of the actuator cannot be used. The actuator must be free to telescope in response to braking requirements.
7. Check your maintenance schedule and be sure everything is up-to-date.
8. Set parking brake and carefully remove all wheel chocks. If brakes are not properly set, the truck/trailer may roll when removing wheel chocks.

## Towing the Trailer

### **DANGER**

Always check behind and under the truck and trailer for persons or objects before moving. Failure to check can lead to serious, or damage to property.

### **WARNING**

Catastrophic frame failure may occur if trailer is not level during towing, loading, and unloading operations. If the hitch is high, the rear axle becomes overloaded. If the hitch is low, the front axle becomes overloaded. Failure to comply may cause additional stress to the trailer frame supporting the overloaded axle, *See Figure 3-2*.

1. Driving the towing vehicle with the trailer coupled behind requires constant attention to the overall length of the combination. Turning, passing, acceleration, braking, stopping, and back-up require special attention to the "hinged-in-the-middle" configuration of the trailer. When executing steep grades or turning tight curves, the trailer must not be allowed to push the towing vehicle, or jackknifing the trailer with the towing vehicle may result. Application of the trailer brakes to keep the trailer in tow will help prevent this pushing. Braking should begin before descending a hill or attempting a curve, to assure control.
2. Make a moving test of the trailer brakes at low, and medium speeds before traveling at highway speed.
3. The trailer wheels track to the inside of the towing vehicle during turns. Thus, turning corners requires a wide swing to prevent "curb hopping", and to allow the trailer wheels to clear any obstacle on the inside of the corner.
4. To stop, use a gradual and smooth application of brakes. If grabbing occurs, apply less pressure. Grabbing brakes are not efficient.
5. During any extended stop period, use wheel chocks



to secure the vehicle from moving.

 **DANGER**

**Always check behind and under the truck and trailer for persons or objects before moving. Failure to check can lead to serious, or damage to property.**

6. Backing should be done with care. Tail overhang, trailer length, and allowable space must be taken into consideration. For trailers with surge brakes, backing up a steep incline or backing up fast can cause the actuator to apply the brakes. The brakes cannot be expected to hold the trailer without pressure on the hitch to activate the actuator.
7. The load on the trailer should be positioned so a minimum of 8% of the total weight is on all the LT series trailers. The maximum of the total weight on the hitch for the LT10A series shall be 30%. The maximum of the total weight on the hitch of the LT12A and LT14A series shall be 25%

## Parking the Trailer

1. Position truck/trailer on a level, solid surface.
2. Chock wheels of trailer.

**IMPORTANT**

**Electric brake and surge brake trailers do not have a parking brake.**

## Uncoupling Towing Vehicle From Trailer

1. Park the trailer according to instructions in "Parking the Trailer".
2. Lower the landing gear to the ground using the manual crank on the trailer.
3. With electric brake trailers, disconnect the brake breakaway cable. Disconnect the electrical cable and store so end is not on the ground.
4. With surge brake trailers, disconnect the breakaway chain. Disconnect the electrical cable and store so end is not on the ground.
5. Disconnect safety chains from the towing vehicle.
6. Verify that all service lines are disconnected, and trailer wheels are chocked.
7. Unlock hitch and raise trailer hitch by cranking landing gear down until the hitch can be disconnected.
8. Pull towing vehicle away from the trailer.

## Loading the Trailer

 **WARNING**

**Catastrophic frame failure may occur if trailer is not level during towing, loading, and unloading operations. If the hitch is high, the rear axle becomes overloaded. If the hitch is low, the front axle becomes overloaded. Failure to comply may cause additional stress to the trailer frame supporting the overloaded axle, See Figure 3-2.**

 **WARNING**

**Failure to properly set and check parking brake, and chock wheels when loading and unloading could allow movement of the truck/trailer resulting in serious personal injury, death, or damage to property in its path.**

 **WARNING**

**Do not attempt to load or unload trailer without checking to make sure nothing is in the way when the bed is tilted. Property damage, personal injury or death is possible if in the path of the tilting bed.**

1. Practice all standard industrial safety standards. Do not load any payload that will overload the trailer or cause an unsafe condition.
2. Ensure maintenance schedule is up-to-date and trailer is ready to be pulled.
3. Park towing vehicle and trailer on most level ground possible.
4. Unlock the over-center hold-down latch located at the front of the bed. Swing the latch U-bolt forward enough that it will clear the bed anchor.
5. Keeping feet from under trailer where they can become pinched, step on the back of the trailer until the back of trailer rests firmly on the ground.
6. Slowly drive the load onto the trailer until the center of gravity is just slightly in front of the pivot point of the bed and stop. The bed will slowly lower down into transport position. After the bed has completely lowered. Then drive the load forward, until the load center of gravity is centered from side to side. And 8% to 25% of the trailer and payload weight is on the hitch.
7. Some of the trailers have a load holding valve. When deck is tilted up, screw the valve knob shut to keep deck tilted up. This feature allows the trailer deck to remain tilted even during loading and tie down

operations. When the load is secured in front of the pivot point, Slowly open the valve knob to lower the deck bed into road position.

### **IMPORTANT**

**This valve does not keep bed from tilting up even when shut off.**

8. Secure the load using approved standard tie-down methods.
9. Lock the bed down with the over-center hold-down latch located at the front of the bed.

## Unloading the Trailer



### **WARNING**

**Catastrophic frame failure may occur if trailer is not level during towing, loading, and unloading operations. If the hitch is high, the rear axle becomes overloaded. If the hitch is low, the front axle becomes overloaded. Failure to comply may cause additional stress to the trailer frame supporting the overloaded axle, [See Figure 3-2](#).**



### **WARNING**

**Failure to properly set and check parking brake, and chock wheels when loading and unloading could allow movement of the truck/trailer resulting in serious personal injury, death, or damage to property in its path.**



### **WARNING**

**Do not attempt to load or unload trailer without checking to make sure nothing is in the way when the bed is tilted. Property damage, personal injury or death is possible if in the path of the tilting bed.**

1. Practice all standard industrial safety standards.
2. Park towing vehicle and trailer on relatively level ground.
3. Set towing vehicle's brakes.
4. Unlock the over-center hold-down latch located at the front of the bed. Swing the latch U-bolt forward far enough that it will clear the bed anchor.
5. Making sure the payload will not roll in any direction, remove the payload tie-downs. Make sure nothing is in the path of the tilting bed.
6. Slowly drive the load back until the center of gravity is

just slightly back of the pivot point of the bed and stop until the bed slowly lowers down to the ground. After the bed has completely tilted down to the ground, drive the load off the trailer far enough that the bed will not hit it when tilted back down.

7. Lower the bed back down to the transport position by walking up the bed far enough that the bed tilts back down.
8. Lock the bed down with the over-center hold-down latch located at the front of the bed.

## Cold Weather Operation

1. Cold weather causes lubricants to congeal, insulation and rubber parts to become hard, which may lead to problems found in bearings and electrical systems. Moisture attracted by warm parts can condense, collect and freeze to immobilize equipment. The truck/trailer operator must always be alert for indicators of cold weather malfunctions.
2. Check all structural fasteners, gaskets, seals and bearings for looseness that can develop due to contraction with cold. Do not over-tighten.
3. Check tire inflation. Tire inflation decreases when the temperature decreases.

## Hot Weather Operation

1. Hot weather operation can cause expansion of parts, resulting in tightening of bearings, fasteners, and moving parts. Failure of gaskets or seals can occur.
2. The trailer should be parked in the shade if possible. Long exposure to the sun will shorten service life of rubber components (i.e., tires, light and hose grommets, hoses, etc.) and paint life.
3. Check tire pressure early in the day before beginning operations while the tire is cool. Put all valve stem caps back on after checking.
4. If the area is extremely humid, protect electrical terminals with ignition insulation spray. Coat paint and bare metal surfaces with an appropriate protective sealer.



# Maintenance and Lubrication

## General

This section contains instructions necessary for proper maintenance of the trailer. The trailer is designed for years of service with minimal maintenance. However, proper maintenance is important for durability and safe operation and is an owner/user responsibility.

## Maintenance Schedule

Trailer maintenance includes periodic inspection and lubrication. *Figure 4-1* lists the recommended maintenance and lubrication tasks by time interval and by accumulated mileage (use whichever occurs first).

## Inspection



### DANGER

**Operating the truck or trailer with defective, broken or missing parts may result in serious injury or death, damage to the truck/trailer, its cargo, or property in its path.**

1. Inspect the towing vehicle, the trailer, and trailer parts periodically for damage or signs of pending failure. Damaged or broken parts must be repaired or replaced at once. Determine the cause of any binding, at once. Correct the problem before using the towing vehicle or trailer.

## Lubrication

*See Figure 4-2* for lubricant required for axles. During inspections of the trailer, if lubricants are found to be fouled with dirt or sand, those parts should be cleaned with solvent, dried, and lubricated immediately. Dirt in a lubricant forms an abrasive compound that will wear parts rapidly.



### WARNING

**DO NOT operate the trailer with any known fault that might endanger the occupants, nearby workers, other traffic, the load, or the equipment.**

## TABLE OF CONTENTS

<b>Maintenance Schedule</b>								
KEY	C-Clean, I-Inspect, L-Lubricate, R-Replace, T-Tighten/Adjust Torque							
ITEM	Before Every Use	1ST Hours or 50 Miles	Weekly or 500 Miles	Monthly or 2,000 Miles	6 Months or 12,000 Miles	Yearly or 25,000 Miles	LUBE#	NOTE
BRAKE FLUID RESERVOIR IN SURGE BRAKE	I							g
BATTERY & BREAKAWAY FOR ELECTRIC BRAKES			I					
WIRING & CONNECTIONS		I		I				
LIGHTS	I	I	I					
FASTENERS		I,T		I				b
ROLLERS IN SURGE BRAKE HITCH				L			3	c
TIRE INFLATION & WEAR	I		I					e
WHEEL LUG NUTS	I	I,T	I	I,T				f
WHEEL BEARINGS		I			I,T,L		6	b, c
BRAKE ADJ & WEAR				I,T				d
HYDRAULIC CUSHION CYLINDER OIL						R	1	c
<b>NOTES</b>								
<p>a. Perform at the time shown. Shorten service intervals when operating in severe or dirty conditions.</p> <p>b. Torque Specifications for Brake and Wheel Nuts (<b>SEE PAGE 2-2</b>), other torque specifications <a href="#">See Figure 2-1</a> through <a href="#">Figure 2-3</a>.</p> <p>c. Lubricant recommendations <a href="#">See Figure 4-2</a>.</p> <p>d. Call Landoll Customer Services or consult axle manual for procedures to replace.</p> <p>e. See Serial Number Plate on the front of trailer for proper inflation requirements.</p> <p>f. See axle manual for stud tightening sequence.</p> <p>g. Reservoir must be at least half full to within 3/8" below top of the reservoir with DOT 3 brake fluid.</p>								

**Figure 4-1: Maintenance Schedule**

<b>Lubricant Specifications</b>						
<b>LUBE SEASON</b>		<b>EXXON</b>	<b>MOBIL</b>	<b>PHILLIPS 66</b>	<b>TEXACO</b>	<b>SHELL</b>
1	ALL YEAR Hydraulic	NUTO H 32	DTE 24	Mega Flow HVI 32 SAE 5W-20	Rando HD 32	Tellus T 32
2	ALL YEAR	-----	-----	-----	-----	Aeroshell 64MS
3	ALL YEAR	-----	-----	76 Moly Low Temp Grease	-----	-----
4	SUMMER	-----	Mobilube HD SAE 85W-140	-----	-----	-----
	WINTER	-----	Mobilube 1 SHC SAE 75W-90	-----	-----	-----
5	SUMMER	-----	Mobilgear 600XP460	-----	-----	-----
	WINTER	-----	Mobilgear 600XP100	-----	-----	-----
6	ALL YEAR	Beacon EP	Mobilux EP	Multiplex Red	Multifak EP	Alvania EP
7	ALL YEAR	Teresstic 32	DTE Light	Condor 32 or Magnus 32	Regal Oil R&O 32	Turbo T 32
8	ALL YEAR	Gear Oil GX SAE 80W-90	Mobilube HD SAE 80W-90	Superior MP SAE 80W-90	Multi-gear EP SAE 80W-90	Spirax A SAE 80W-90
9	ABOVE 0°	Super Flow 10W-30	Drive Clean 5000 10W-30	Kendall Synthetic Blend 10W30	Havoline 10W-30	Formula Shell 10W-30
	BELOW 32°	Super Flow 5W-20, 5W-30	Drive Clean 5000 5W20 or 7500 5W30	Kendall Synthetic Blend 5W-20, 5W-30	Havoline 5W-20, 5W-30	Formula Shell 5W-20, 5W30

**Figure 4-2: Lubricant Specifications**

## Maintenance Procedures

### Repair Parts

Repair parts are illustrated and listed in the parts manual. Replacement of parts due to wear is determined by examination and measurement.

### Tools and Equipment

Tools, equipment, and personnel normally found in a facility capable of making truck repairs will be adequate for maintenance of the trailer. No other special tools or equipment should be necessary.

## Standard Torque Values

**SEE PAGE 2-1** for torque values on standard hard-ware and is intended as a guide for average applications involving typical stresses and mechanical surfaces. Values are based on the physical limitations of clean, plated, and lubricated hardware. In all cases, when an individual torque value is specified, it takes priority over values given in this table. Replace original fasteners with hardware of equal grade.

## Cleaning



### WARNING

**DO NOT operate the trailer with any known fault that might endanger the occupants, nearby workers, other traffic, the load, or the equipment.**

1. Wash trailer to remove all accumulated dirt and grime.
2. Use any mineral spirits paint thinner (or its equivalent) to remove grease and oil from all parts of the trailer. Rinse degreasing solution off with cold water.
3. Inspect semitrailer for cause of any reported troubles.
4. Scrape, sand, prime, and repaint areas where finish is missing or where there is evidence of corrosion.
5. Replace any missing or illegible decals. Replace any missing or damaged reflective tape.
6. Use “**Troubleshooting Guide**” on page 5-1 to check for “**SYMPTOMS**” AND “**PROBLEMS**” of any trailer system not functioning correctly, or where wear, distortion, or breakage can be found. Administer “**REMEDY**” according to right-hand column of Troubleshooting guide.
7. After disassembling any components, thoroughly clean dirt and old lubricant from all parts. Do not use a wire brush on any bearing parts or surfaces — use a stiff bristle brush. Do not use compressed air, or spin bearing parts when cleaning. These practices can throw solvents, dirt, or metal particles into your eyes. Dry clean parts with lint free, clean, soft, absorbent, cloth or paper. Wash and dry hands.
8. Inspect seals, seal wiping surfaces, bearing caps, and bearing cones for wear, pitting, chipping, or other damage.

## Frame and Decks

The trailer should be thoroughly checked daily for cracks or material fatigue. Cracks will normally show best under loaded conditions. If any cracks or breaks are found, immediately contact Landoll Company, LLC. for recommended repair. Any defective parts must be replaced immediately.

## Electrical System

1. Maintenance of the electrical system consists of inspection and minor servicing. Any wire, connection or electrical component showing signs of corrosion, wear, breakage or unraveling must be repaired or replaced.
2. Frayed or unraveling wire must have the defective section removed and replaced with wire of the same

color and gauge. Seal all connections and insulate.

3. Corroded terminals must have the corrosion removed, source of corrosion neutralized and the terminals resealed, protected and insulated.
4. Fuse or circuit breaker burn-out or “blow-out” usually indicates an electrical short-circuit, although a fuse can occasionally fail from vibration. Insert a second fuse or reset the breaker. If this fuse immediately burns out or the breaker trips, locate the cause of the electrical short and repair.
5. Lights with a repeated lamp burn-out usually indicates a loose connection, poor system ground, or a malfunctioning voltage regulator. Locate the source of the problem and repair. System grounds must be grounded to bare metal surfaces. Paint, grease, wax, and other coatings act as insulators. Replacement lamps must be equivalent to the factory installed lamp.

## Brake System Maintenance

Follow operation maintenance service manual from brake and axle manufacturer. If another manual is required, it may be obtained by requesting Landoll p/n 107482.

## Hub and Drum Maintenance

Follow operation, maintenance, service manual from hub and drum vendor that comes with each trailer. If another manual is required, it can be obtained by requesting Landoll p/n 107482.

## Wheel Bearing

Use vendor manual for electric or hydraulic brake parts and recommendations. If another manual is required, it can be obtained by requesting Landoll p/n 107482.

## Suspension Maintenance

Use vendor manual for suspension parts and recommendations. If another manual is required, it can be obtained by requesting Landoll p/n 107482.

## **Tire Inflation**

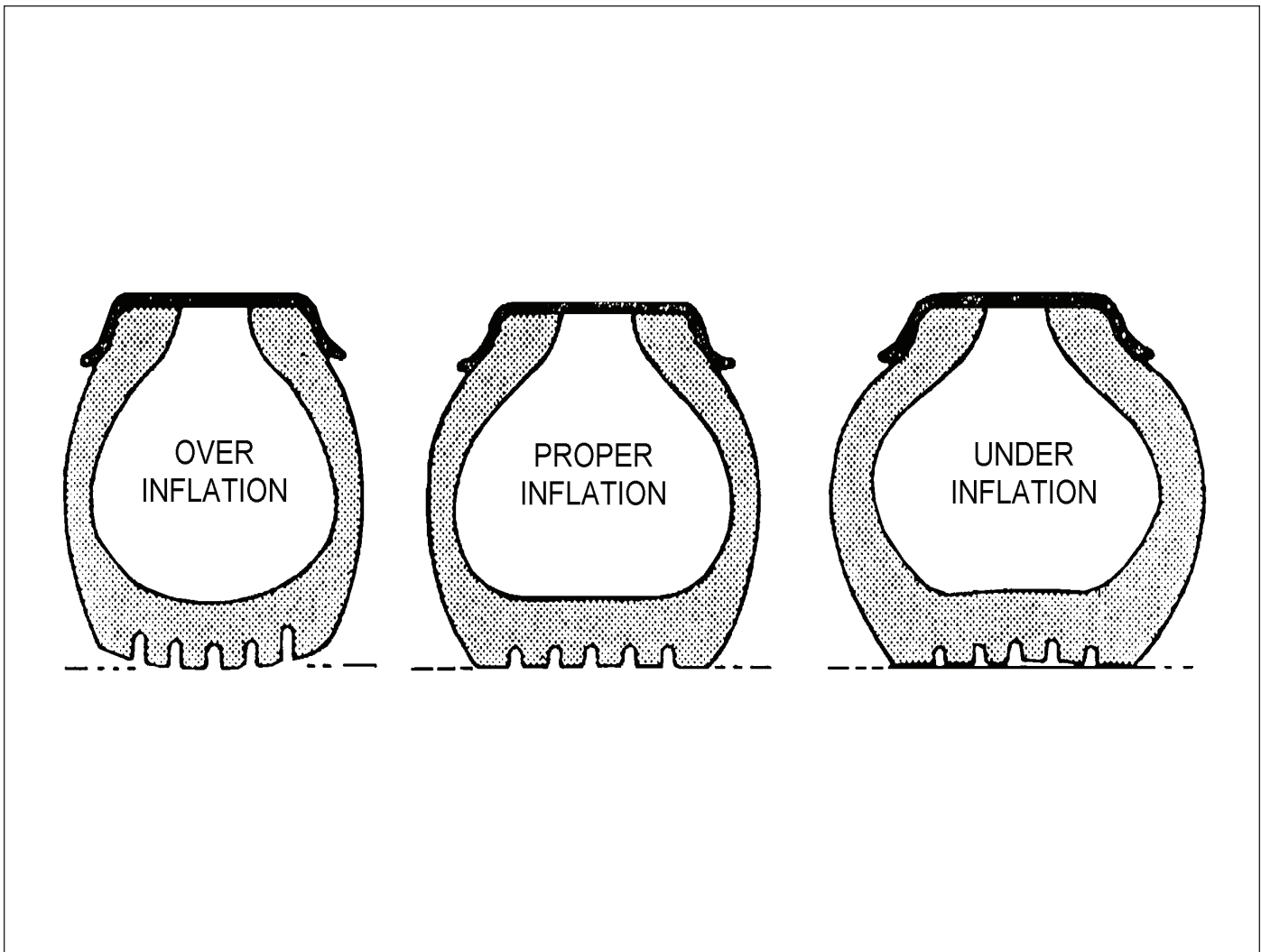
Tire inflation will cause tire to ground contact characteristics as shown in [Figure 4-3](#). Tire inflation should be checked daily while the tire is cold, and during road stops. Checking the tire pressures while tires are hot will give a faulty increased pressure reading. Adjusting tire air pressure to the specified amount while tires are hot will produce improper tire to road contact and thus abnormal wear. Do not exceed cold inflation pressure listed on the trailer VIN plate. Exceeding cold inflation pressure will result in damaged tire bodies, rims, and wheels. Replace all valve stem caps when pressure checking/adjusting has been completed.

## **Wheels**

Use vendor manual for wheels and recommendations. If another manual is required, it can be obtained by requesting Landoll p/n 107482.

## **Hydraulic Cushion Cylinder**

1. Maintenance of the hydraulic cushion cylinder consists of replacing hydraulic oil according to maintenance schedule.
2. Check troubleshooting section if hydraulic cushion cylinder is not operating.
3. The amount of hydraulic oil required is about one quart. With the hydraulic cylinder all the way retracted, the hydraulic cylinder, hydraulic hose, and hydraulic fittings should be completely full of oil before putting the plug into the tee.
4. If the unit has the flow control valve on it, the system will require about a gallon of oil. All the air has to be out of the system for the flow control valve to work correctly [See Figure 4-4](#).

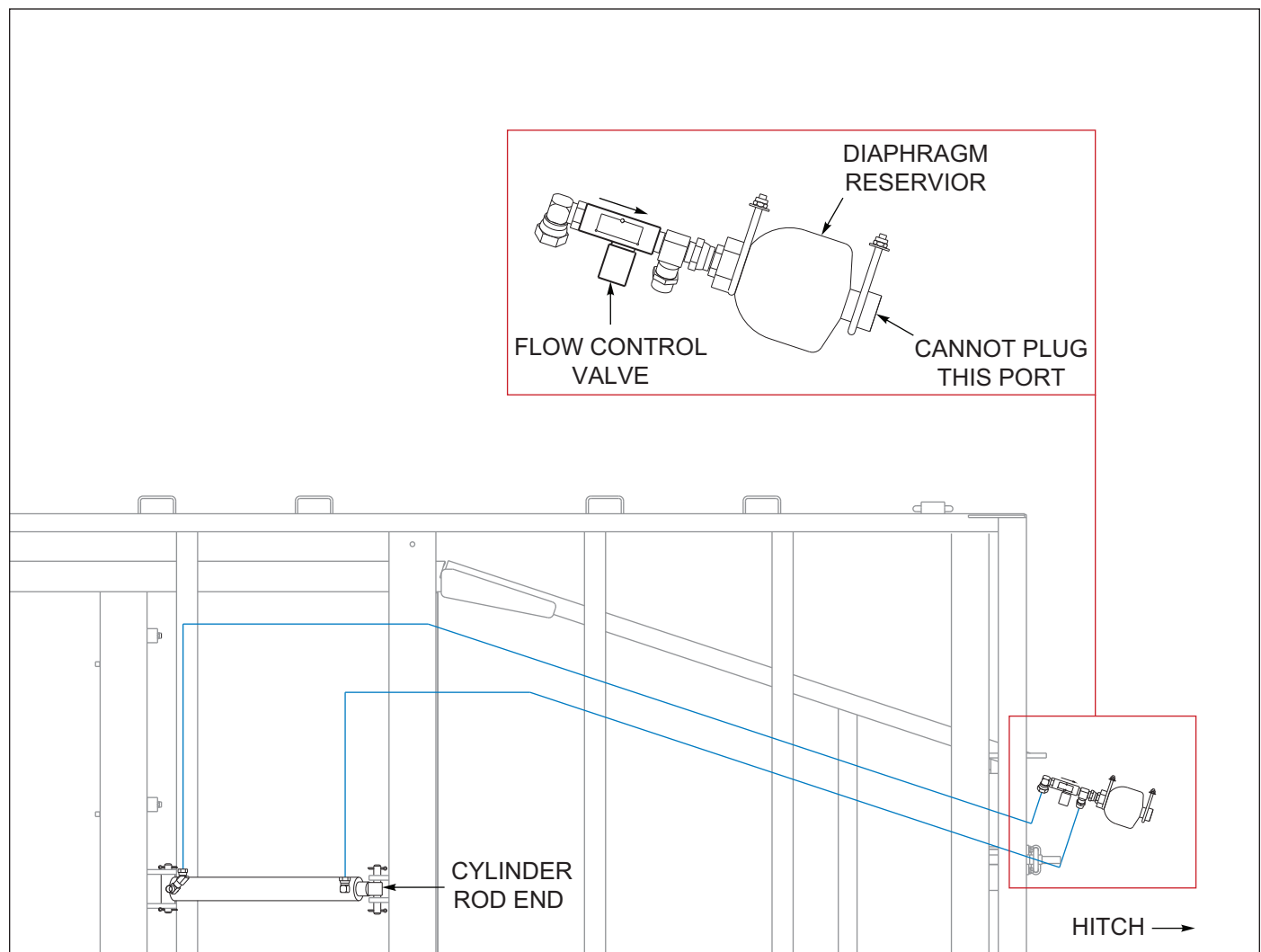


**Figure 4-3: Tire Inflation Examples**



## Hydraulic System W/ Flow Control Valve Filling Method

1. Make sure flow control valve and diaphragm reservoir are plumbed correctly [See Figure 4-4](#). Open flow control valve. With cylinder retracted, connect a hydraulic tank that can be pressurized to tee at butt end of cylinder. Crack open fitting at diaphragm reservoir to let air out. Apply air pressure to hydraulic tank to force hydraulic oil through the hoses. When oil starts coming out of fitting at diaphragm reservoir, crack open fitting at rod end of cylinder and slowly extend rod of cylinder. When oil starts coming out fitting at cylinder close fitting at diaphragm reservoir and crack open other fittings at flow control valve to get air out of them. Allow oil to come out of them for a half minute, then close all fittings.
2. Shut off air pressure to hydraulic tank and remove fill cap. Retract cylinder rod 6" (It should be extended 10"). Disconnect hydraulic tank at tee and plug tee. Connect cylinder to bed. Shut flow control valve. The bed should tilt up, but not come back down more than an inch. Open the flow control valve and the bed should come down slowly.
3. 4. If the system does not work properly, check the following:
  - a. Make sure flow control valve is installed as shown in Figure 4-4.
  - b. Make sure hoses go to correct locations as shown in Figure 4-4.
  - c. Make sure diaphragm reservoir does not have a plug in end that would not let air go freely in and out of bladder.
  - d. Repeat Steps 1-3 to remove air from hydraulic system.
  - e. Replace flow control valve.



**Figure 4-4: Flow Control Valve**

# Troubleshooting Guide

## Bed Tilt

Contact an authorized Landoll dealer or the Landoll Service department for service questions.

Locate the symptom in this section that best identifies your bed tilt problem. Check out each possible problem under that symptom.

**IMPORTANT**

Troubleshooting should be performed by a trained and competent technician. Landoll Company, LLC. is not responsible for equipment that is improperly maintained.

PROBLEM	PROBABLE CAUSE	SOLUTION
BED TILTS TOO SLOW	Dirty oil	Replace oil and check for particles in the restrictor fitting
	Heavy weight oil	Replace oil with lighter weight oil
	Damaged cylinder	Replace cylinder or the broken parts of cylinder
BED TILTS TOO FAST	Not enough oil in cylinder	Fill with oil according to maintenance procedure
	Light weight oil	Replace oil with heavier weight oil
	Bad cylinder seals	Replace cylinder seals
BED WILL NOT FULLY RETRACT	Too full of oil	Fill with oil according to maintenance procedure
	Something between bed and hitch	Remove obstruction
	Cylinder damaged	Replace cylinder
BED WILL NOT TOUCH GROUND	Hitch setting is incorrect	Readjust front hitch position so hitch beams are level or a slight incline up (This is done by unbolting front hitch and lowering to next lower hole position)
	Trailer positioned on unlevel surface	Load and unload on fairly level ground
	Cylinder damaged	Replace cylinder (The centerline pin to centerline pin dimension should be 40" when fully extended)
BED DOES NOT STAY TILTED WITH THE LOAD LOADING VALVE	Cylinder seal damaged	Replace seal in cylinder
	Holding valve damaged	Replace holding valve
	Air in the hydraulic system	See "Hydraulic System W/ Flow Control Valve Filling Method" on page 4-7 for removing air from the hydraulic system

Table provided for general use.

NOTES:



# Brakes, Electric

For maintenance procedures, see **Brake System Maintenance** on 4-4.

PROBLEM	PROBABLE CAUSE	SOLUTION
NO BRAKES	Open Circuits	Find and correct
	Severe Under Adjustment	Adjust brakes
	Faulty Controller	Test and correct
	Short Circuits	Find and correct
WEAK BRAKES	Grease or Oil on Magnets or Linings	Clean or replace
	Corroded Connections	Clean and correct cause of corrosion
	Worn Linings or Magnets	Replace
	Scored or Grooved Brake Drums	Machine or replace
	Improper Synchronization	Correct
	Underadjustment	Adjust brakes
	Glazed Linings	Reburnish or replace
	Overloaded Trailer	Reduce to within load restrictions
LOCKING BRAKES	Underadjustment	Adjust brakes
	Improper Synchronization	Correct
	Faulty Controller	Test and correct
	Loose, Bent, or Broken Brake Components	Replace components
	Out-of-Round Brake Drums	Machine or replace
	Insufficient Wheel Load	Adjust system resistor and synchronize
INTERMITTENT BRAKES	Faulty Controller	Test and correct
	Broken Wires	Repair or replace
	Loose Connections	Find and repair
	Faulty Ground	Find and repair
BRAKES PULL TO ONE SIDE	Wrong Magnet Lead Wire Color	Correct
	Incorrect Adjustment	Adjust
	Grease or Oil on Magnets or Linings	Clean or replace
	Broken Wires	Repair or replace
	Bad Connections	Find and repair
HARSH BRAKES	Over Adjustment	Adjust brakes
	Improper Synchronization	Correct
	Improper Controller	Change
	Faulty Controller	Test and correct
NOISY BRAKES	Underadjustment	Adjust brakes
	Broken Brake Components	Replace components
	Incorrect Brake Components	Correct
SURGING BRAKES	Grease or Oil on Magnets or Linings	Clean or replace
	Out-of-Round Brake Drum	Machine or replace
	Faulty Controller	Test and correct
DRAGGING BRAKES (continued on next page)	Over-adjustment	Readjust
	Out-of-Round Brake Drums	Machine or replace
	Incorrect Brake Components	Replace
	Loose, Bent, or Broken Brake Components	Replace components



# Brakes, Surge Hydraulic

For maintenance procedures, see **Brake System Maintenance** on 4-4.

<b>PROBLEM</b>	<b>PROBABLE CAUSE</b>	<b>SOLUTION</b>
NO BRAKES	Severe Under Adjustment	Adjust brakes
	Broken Surge Brake Components	Find and replace
	Broken Hydraulic Line	Find and replace
	No Brake Fluid	Fill per maintenance schedule
	Operation of Actuator Hampered	Remove devices or obstructions that prevent the actuator from being free to telescope in response to braking requirement
WEAK BRAKES	Worn Brake Linings	Replace
	Scored or Grooved Brake Drums	Machine or replace
	Underadjustment	Adjust brakes
	Glazed Linings	Reburnish or replace
	Overloaded Trailer	Reduce to within load restrictions
LOCKING BRAKES	Underadjustment	Adjust brakes
	Breakaway accidentally applied	Pry the breakaway locks apart to release lever
	Loose, Bent, or Broken Brake Components	Replace components
	Out-of-Round Brake Drums	Machine or replace
INTERMITTENT BRAKES	Operation of actuator hampered	Find obstructions or broken parts and repair
BRAKES PULL TO ONE SIDE	Incorrect Adjustment	Adjust
	Grease or Oil on Linings	Clean or replace
HARSH BRAKES	Over Adjustment	Adjust brakes
NOISY BRAKES	Under Adjustment	Adjust brakes
	Broken Brake Components	Replace components
	Incorrect Brake Components	Correct
SURGING BRAKES	Grease or Oil on Linings	Clean or replace
	Out-of-Round Brake Drum	Machine or replace
DRAGGING BRAKES	Over Adjustment	Adjust
	Out-of-Round Brake Drums	Machine or replace
	Incorrect Brake Components	Replace
	Loose, Bent, or Broken Brake Components	Replace components
	Loose Wheel Bearing Adjustment	Adjust
	Bent Spindle	Replace axle









## Tires - Wheels - Suspension

Most tire, wheel, and suspension related problems are due to excessive loads, extreme conditions, and improper maintenance. Tire, wheel, and suspension problems can be easily detected and solved by checking the following guide. For maintenance procedures, refer to the following sections:

- Hub and Drum Maintenance - **SEE PAGE 4-4**
- Wheel Bearing Maintenance- **SEE PAGE 4-4**
- Suspension Maintenance - **SEE PAGE 4-4**
- Tires Maintenance - **SEE PAGE 4-5**
- Wheels Maintenance - **SEE PAGE 4-5**

PROBLEM	PROBABLE CAUSE	SOLUTION
VIBRATIONS WHILE DRIVING	Improper tire inflation	Inflate to proper pressure <i>(See "Tire Inflation" on page 4-5.)</i>
	Tires cupped or have flat spots	Replace tires.
	Wheels bent or loose	Replace or tighten.
	Tires incorrectly mounted	Remount <i>(See "Wheels" on page 4-5.)</i>
	Mud in wheels	Clean wheels.
	Tire(s) out of balance	Balance tires.
	Brakes dragging	Locate cause and repair.
<b>RAPID TIRE WEAR/DETERIORATION</b>		
CENTER TREAD WEAR	Over inflation	Deflate to correct inflation <i>(See "Tire Inflation" on page 4-5.)</i>
SHOULDER TREAD WEAR - BOTH SHOULDERS	Under inflation	Increase inflation to correct PSI. Check axle alignment <i>(See "Tire Inflation" on page 4-5.)</i>
	Overload	Loads are above rated tire capacity. DO NOT load above rated tire capacity.
SHOULDER TREAD WEAR - ONE SHOULDER	Axle damage	Straighten or replace axle
	Axles not parallel	Check axle alignment.
OVERALL TREAD WEAR	Overloading	Check tire load rating.
	High speeds	Adjust speed according to road and load conditions.
TIRE FLAT SPOTS	Quick stops	Adjust braking practices.
	Grabbing brakes	Adjust brakes properly <i>(See "Brake System Maintenance" on page 4-4.)</i>
	Worn or loose wheel bearings	Adjust or replace as needed <i>(See "Wheel Bearing" on page 4-4.)</i>
	Out of balance wheels and tire	Balance wheels and tires.
UNEVEN WEAR	Suspension bushings worn	Replace bushings <i>(See "Hub and Drum Maintenance" on page 4-4.)</i>
	Worn or loose wheel bearings	Adjust or replace as needed. <i>(See "Wheel Bearing" on page 4-4.)</i>
	Out of balance wheels and tires	Balance wheels and tires.



## TABLE OF CONTENTS

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## Document Control Revision Log:

Date	Form #	Improvement(s): Description and Comments
05/2021	F-876-0521	Update to new format and added deck leveling by hitch height measurements.



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# Intertek

Equipment from Landoll Company, LLC is built to exacting standards ensured by ISO 9001 registration at all Landoll manufacturing facilities.

## LT10A / LT12A / LT14A Tag Trailer Operator's Manual Re-order Part Number F-876

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