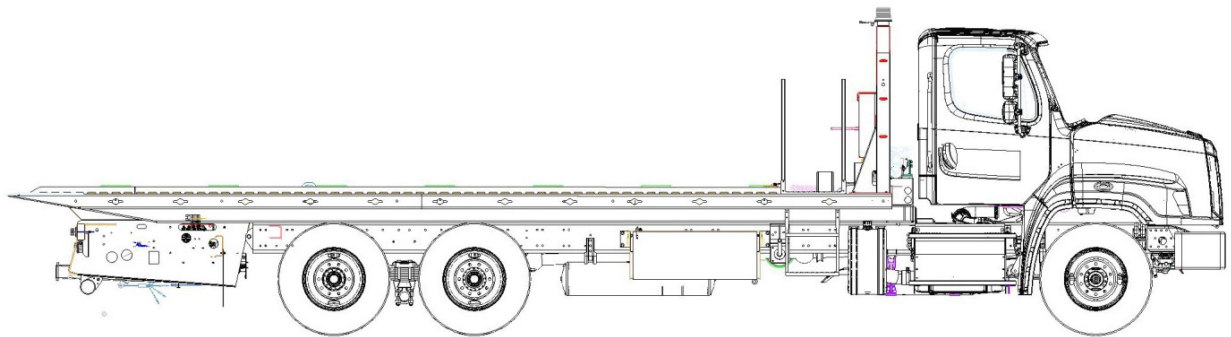




LOADOLL II

Operators Manual



LANDOLL COMPANY, LLC

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Marysville, Kansas 66508

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Manuals for Loadoll II

Manual Number	Manual Type
F-1036	Operator's Manual
F-1038	Parts Manual

Table of Contents

1	Introduction	
2	Standard Specifications	
3	Operating Instructions	
	Bed Tilt Control	3-2
	Winch or Gearbox Chain Drive Control	3-3
	Bed Slide Control	3-4
	Hitch Controls (Option)	3-4
	Hitch Title and Frame Stabilizer (Option)	3-4
	Power Take-Off (PTO)	3-4
	Bed Loading	3-5
	Bed Unloading	3-6
	Load Placement	3-6
	Securing Loads to Bed	3-6
	Hitch Operation (Option)	3-7
	Remote Control (Option)	3-8
	Cold Weather Operation	3-9
	Hot Weather Operation	3-9
4	Maintenance and Lubrication	
	Maintenance Schedule	4-2
	Maintenance Procedures	4-2
	Cleaning	4-5
	Frame and Deck	4-5
	Hydraulic System	4-5
	Gearbox Maintenance	4-5
	Maintenance Checks	4-5
	Drive Chain Adjustment	4-6
	Drive Chain Removal	4-7
	Drive Chain Installation	4-7
5	Troubleshooting Guide	
	Electrical	5-1
	Hydraulic System	5-2
	Hydraulic Pressure Testing	5-4
	Remote Control	5-5
	Miscellaneous Problems	5-6

Introduction

This manual provides operating, servicing, and maintenance instructions for Two Ton Loadoll with Steel Bed, 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:

**LANDOLL COMPANY, LLC.
1900 NORTH STREET
MARYSVILLE, KANSAS 66508
ATTENTION: PUBLICATIONS -DEPT. 55**

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 Loadoll II Steel Bed.

Standard Specifications

MODEL LOADOLL II	
BED LENGTH	24', 25-1/2' or 28'
DECK MATERIAL	STEEL
LOAD ANGLE	14° ± 2° DEPENDING ON TRUCK
BED WIDTH	102"
BED CAPACITY	20,000#
HITCH CAPACITY	(SEE FOLLOWING)
VERTICAL LOADING	
HITCH NOT EXTENDED BACK	4000#
HITCH EXTENDED BACK 1 FOOT	3000#
HITCH EXTENDED BACK 2 FEET	2000#
HITCH EXTENDED BACK 3 FEET (full extension)	1500#
HORIZONTAL LOADING UP TO TOWING (not extended back)	16,000 GVWR UNIT
HITCH EXTENDED BACK 1 FOOT	16,000 GVWR UNIT
HITCH EXTENDED BACK 2 FEET	13,000 GVWR UNIT
HITCH EXTENDED BACK 3 FEET	10,000 GVWR UNIT
CHAIN DRIVE CONTINUOUS POWER LOAD SYSTEM	12,000#
WINCH WARN	20,000#
HYDRAULIC RESERVOIR CAPACITY	2.5 GAL.
HYDRAULIC SYSTEM (reservoir, components, and plumbing)	33 GAL. for 22' Model 38 GAL. for 25-1/2' Model 42 GAL. for 28' Model

TABLE OF CONTENTS

LANDOLL COMPANY, LLC. GENERAL TORQUE SPECIFICATIONS (REV. 4/97)

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.

TORQUE IS SPECIFIED IN FOOT POUNDS

UNC Size	SAE Grade 2		SAE Grade 5		SAE Grade 8		UNF Size	SAE Grade 2		SAE Grade 5		SAE Grade 8	
1/4-20	4	[5]	6	[7]	9	[11]	1/4-28	5	[6]	7	[9]	10	[12]
5/16-18	8	[10]	13	[16]	18	[22]	5/16-24	9	[11]	14	[17]	20	[25]
3/8-16	15	[19]	23	[29]	35	[43]	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]	110	[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]

METRIC

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.

Nominal Thread Diameter mm	Standard Torque		Nominal Thread Diameter mm	Standard Torque					
	Newton-Meters	Foot-Pounds		Newton-Meters	Foot-Pounds				
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	[101]	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]					

Table 2-1: General Torque Specifications

TABLE OF CONTENTS

LANDOLL COMPANY, LLC. HYDRAULIC FITTING TORQUE SPECIFICATIONS 37° JIC, ORS, & ORB (REV. 10/97)

THIS CHART PROVIDES TIGHTENING TORQUES FOR HYDRAULIC FITTING APPLICATIONS WHEN SPECIAL TORQUES ARE NOT SPECIFIED ON PROCESS OR DRAWING.

ASSEMBLY TORQUES APPLY TO PLATED CARBON STEEL AND STAINLESS STEEL FITTINGS ASSEMBLED WITHOUT SUPPLEMENTAL LUBRICATION (AS RECEIVED CONDITION). THEY DO NOT APPLY IF SPECIAL GRAPHITE MOLY-DISULFIDE OR OTHER EXTREME PRESSURE LUBRICANTS ARE USED. BRASS FITTINGS AND ADAPTERS - 65% OF THE TORQUE VALUE FOR STEEL. STAINLESS STEEL, ALUMINUM AND MONEL - THREADS ARE TO BE LUBRICATED.

TORQUE IS SPECIFIED IN FOOT POUNDS

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	57.5-62.5
-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	—	18-20
-6	18-20	18-20	24-26
-8	38-42	32-35	50-60
-10	57-62	46-50	72-80
-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	—	—

Table 2-2: Hydraulic Fitting Torque Specifications

Operating Instructions

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

Do not operate your Loadoll until a complete inspection has been performed. A defect may cause personal injury, damage to your Loadoll, or time consuming down time. Operation of your Loadoll is easy, efficient, and dependable if installation was done properly. The engine must be running and the PTO engaged before any controls will become functional. Some units require turning on the clearance lights to get power to the remote hydraulic control.



WARNING

Do not operate the semitrailer with any known fault that might endanger the occupants, nearby workers, other traffic, the load, or the equipment.



WARNING

Do not operate the semitrailer until you have read the operator's manual and completely understand the proper use and function of all controls. Improper use can cause personal injury, damage to your semitrailer and cargo, and cause time-consuming breakdowns.



DANGER

Serious injury or death may result if a person is under, in front of, or behind: The bed, subframe, rear bumper, or chassis at any time during operation of the Loadoll. The subframe can swing up and the bed can travel back 108 inches for 22' beds and 117' inches for the 28' beds, any object in the same areas may be damaged, or cause damage to the Loadoll.

Bed Tilt Control

The Bed Tilt Control is the first control located closest to the front of the truck. It is designated on the decal as Truck **See Figure 3-1**.

Operating the control as shown on decal will prepare the Loadoll for loading position.

Operate the control shown on decal causes the Loadoll to move from loading position to transport position. Do not tilt the unit up until the bed is slid back far enough for the bed to clear the nylatron hold-down blocks located behind the truck cab. When tilting down, the subframe must be tilted all the way down before the bed is all the way forward. The bed must be back far enough to clear the nylatron blocks when tilting down so the bed does not rest on top of the nylatron blocks.

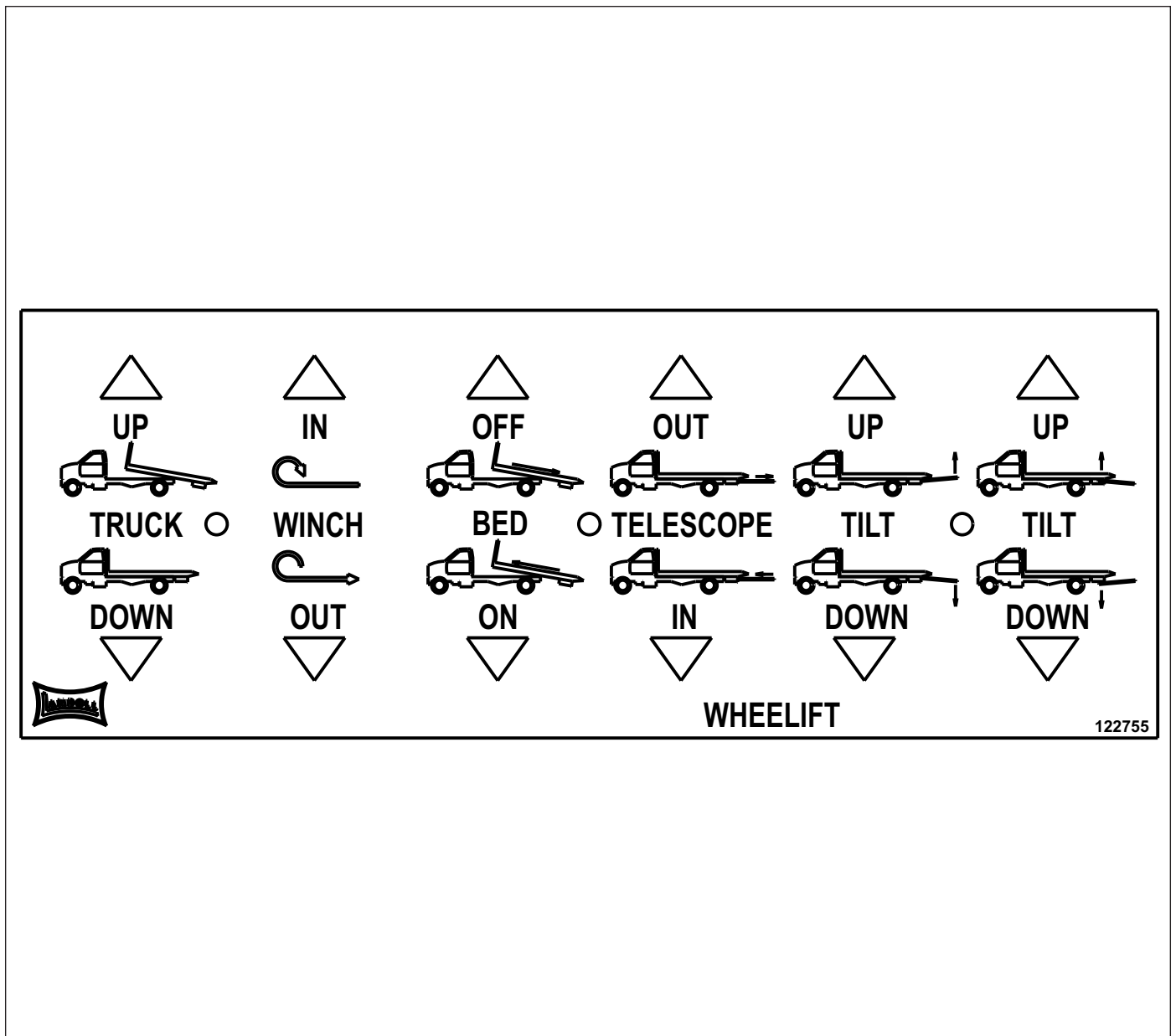


Figure 3-1: Decal for Control Operation

Winch or Gearbox Chain Drive Control



CAUTION

Do NOT handle the winch cable or chain when the winch gearbox is in the engaged position. Hands or clothing could get caught in cable and cause serious personal injury.

Free Spool Clutch Operation (Warn Winch)

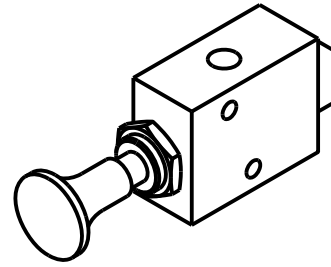
Warn Series XL winches are equipped with air operated free spool clutch.

1. The air free spool clutch is operated by application of air pressure to the fitting supplied on the winch gearbox housing. Follow decal instructions for winch engage and disengage. The fitting is designed to accept 1/4" rigid plastic tubing.
 - a. To release the clutch (free spool operation), apply 50-120 psi air pressure to the air fitting by pulling out on the air valve knob.
 - b. To engage the clutch (winch operation), remove all air pressure (0 psi) from the air fitting by pushing in on the air valve knob.



DANGER

1. The winch or chain drive is NOT designed or intended to be used for lifting or moving people. Using it this way can cause serious injury.
2. Make certain the winch cable spool clutch is set to engage and clutch is fully engaged before load tension is applied to winch cable. Never attempt to disengage the winch cable spool when the cable is under tension. Loss of load control, property damage, injury or death can result.
3. Failure to leave at least five winch cable wraps on the winch cable spool could allow the cable to come off the spool, resulting in serious personal injury or death.



Located behind truck rear axles by Hydraulic Control Panel.

WINCH FREE SPOOL

PUSH IN · WINCH ENGAGE

PULL OUT · WINCH DISENGAGE

135184

Figure 3-2: Free Spool

The 20,000# Warn Winch Free Spool Clutch is air operated.

DISENGAGE In this position, the winch is disengaged. This allows the spool to “free-wheel”. This is only used when there is no load on the winch cable. This feature allows the cable to be pulled out fairly fast and does not require operating the hydraulic system.

ENGAGE In this position, the winch is engaged. Cable may be “power” spooled on or off the winch spool. The winch is now controlled by the Winch Hydraulic Lever.

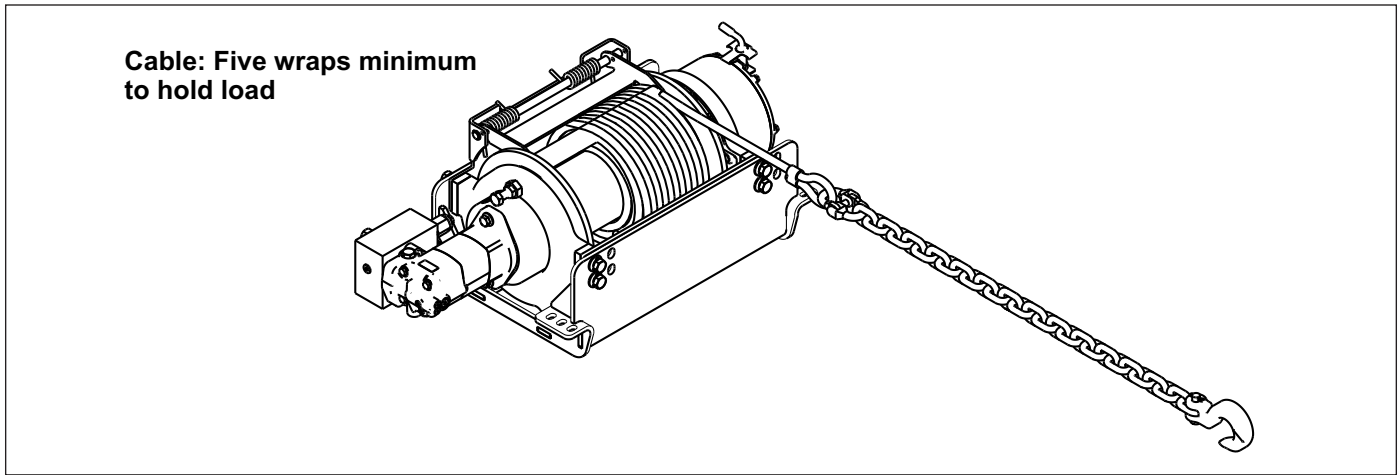


Figure 3-3: Warn Winch 20,000#



CAUTION

A minimum of 5 wraps of cable must be left on the Winch Drum. See Figure 3-3.

The **HYDRAULIC WINCH CONTROL LEVER** is the second lever from the front of the truck it is labeled **WINCH** on the decal. See Figure 3-1. This control reels the winch cable **IN** in the **IN** position and **OUT** in the **OUT** position.

- | | |
|----------------|--|
| IN | In this position, the winch reels the winch cable in. |
| NEUTRAL | This is the neutral position. This position has some holding power, but cannot be relied upon to hold a load during transport. |
| OUT | In this position, the winch reels the winch cable out. |

Bed Slide Control

The **BED SLIDE CONTROL** is the third control from the front of the truck. It is designated on the decal as **BED**. See Figure 3-1. Operating the control as shown on decal slides the bed **OFF** the subframe. Pulling the control **OUT** slides the bed back **ON** to the subframe.

Hitch Controls (Option)

The **Hitch Telescope Control Option** is the fourth lever from the front of the truck. It is labeled **TELESCOPE** on the decal. This control extends the hitch out to the rear or retracts hitch per the decal. See Figure 3-1.

Hitch Title and Frame Stabilizer (Option)

The **Hitch Tilt and Frame Stabilizer** is the fifth lever from the front of the truck if the unit has these options. This control tilts the Hitch/Stabilizer up or down per the decal. See Figure 3-1.

Power Take-Off (PTO)

The PTO control is located in the chassis cab. When the PTO is engaged, engine powers a high pressure hydraulic pump, thus providing power to the hydraulic controls.

IMPORTANT

Most truck transmissions must be in neutral and park brake applied when operating the PTO. Follow instructions provided by PTO Manufacturer.

IMPORTANT

Never transport with the PTO control engaged. Extensive damage may result to the chassis transmission, PTO unit, hydraulic pump, and other components.

Bed Loading

1. Back the Loadoll up to the item to be retrieved. Align the Loadoll so that the bed is inline with the item to be loaded. Back your unit about 10 feet (120 inches) from the item to be retrieved. This will allow room to Tilt and Slide the bed back.
2. Shift the transmission to neutral and set parking brake securely.
3. Shift the PTO in gear. Follow PTO manufacturer's instructions.
4. The throttle control is to be set at 1000 engine R.P.M when the PTO is engaged.

IMPORTANT

Do not exceed 1500 Engine R.P.M. with the PTO engaged. Pump and hydraulic system components will be adversely affected by higher R.P.M.'s.

5. Most units have the optional remote control that can be used to control the first three hydraulic controls. Some units require the clearance lights to be turned on to provide power to the remote. Other units provide power to the remote when the PTO is engaged. If the remote does not operate after PTO is engaged, turn the clearance lights on. Slide bed back enough so that bed comes out of bed hold downs using the bed slide (bed) controls.
6. Tilt the bed up using the **BED TILT (TRUCK)** controls to about 10 degree angle. **(See "Bed Tilt Control" on page 3-2 for proper operation of the control).**
7. Slide the bed back using the **BED SLIDE (BED)** control until the bed is slid all the way back. **(See "Winch or Gearbox Chain Drive Control" on page 3-3 for proper operation of the control).**
8. Tilt the bed until the bed touches the ground.
9. If the unit has the Hydraulic Stabilizer, tilt the stabilizer down until the stabilizer is firmly in contact with the ground. Units without the hydraulic stabilizer should have the stabilizer feet set at the correct height to hit the ground when the subframe is tilted to the load position.
10. Load the bed. Use the winch or chain drive to pull the load onto the bed. **(See "Bed Slide Control" on page 3-4 for the proper operation of the control.)**



DANGER

Serious injury or death may result if a person is under or in the path of item(s) being loaded, unloaded, or secured. Any object in the same areas may be damaged, or cause damage to the Loadoll.

11. Anchor the front, sides, and back of the load to the bed key hole slots per Cargo Securement Regulations

IMPORTANT

Never rely on the winch cable or chain drive to tie down a load.

12. Slide the bed forward only until the load is centered over the rear axle.
13. Tilt the bed down to the level, transport position. Slide the bed all the way forward now, disengage PTO.
14. Check all tie-downs securing the load before transporting.

Bed Unloading

1. Locate the Loadoll on a level, solid surface in an open area.
2. Shift the Loadoll transmission to neutral and set parking brake securely.
3. Shift the PTO into gear.
4. Throttle should adjust to 1000 RPM when PTO is engaged.

IMPORTANT

Do not exceed 1500 engine R.P.M. with the PTO engaged. Pump and hydraulic system components will be adversely affected by higher R.P.M.'s.

5. Slide bed back enough so the bed comes out of bed hold-downs using the bed slide (bed) controls. (**See "Bed Slide Control" on page 3-4 for proper operation of the control**). Continue sliding bed back until load is centered over the rear axles of truck.
6. If the unit has the Hydraulic Stabilizer, tilt the stabilizer down to same location as was used to load the bed.
7. Tilt the bed up until the Stabilizer feet or Hydraulic Stabilizer firmly contact the ground.
8. Slide the bed back until the bed or load touches the ground.
9. Secure the winch cable or chain drive to the load, and remove any cable or chain slack.
10. Remove all securing chains.
11. If the load is a vehicle, shift the loaded vehicles' transmission to neutral, and release parking brake.
12. Operate the winch or chain drive to allow the load to be removed from the bed of the Loadoll.
13. After load is off and clear of the bed, secure the unloaded item from moving by blocking it or setting the parking brake.
14. Remove winch line and secure in stowing position. This would entail anchoring to any bed load anchor location and removing any slack in the cable.

IMPORTANT

Do not anchor the winch cable to the rear bumper or the hitch.

15. Slide the bed to the halfway forward position.
16. Tilt the bed fully down to the transport (level) position.
17. Slide the bed to the full forward position.
18. If the load is a container, Steps 3-8.1 through 3-8.9 will be the same.

19. If the container is over hanging the bed the rear of the container will be touching the ground. If the container is not over hanging the bed, use the Chain Drive Pusher to push the container back to overhang bed by 16". Raise the stabilizer up enough to clear the ground. Pull the truck forward, until the container is slid off the bed far enough to clear the bed.
20. Repeat steps 15 thru 17.

Load Placement

In most situations, the load is to be placed as far forward on the bed as possible. If your load is confined to a small area (such as crated item at the weight limit), position so 10% of the load transfers to the front axle, and 90% of the load on the rear axle.

Containers usually overhang the rear of the bed 16" so they are easier to remove from bed unless it overloads the truck axles by doing so.

Securing Loads to Bed

- All vehicles, machinery, crated goods, or loose parts must be securely tied down to the bed of the Loadoll. Key holes are provided in front and rear of the bed to anchor chain.
- The front sides and rear of the load must be secured to the front and to the rear of the bed. Do not rely on the winch to secure the load to the bed per Cargo Securement Regulations
- Do not allow any slack in the hold down chains. Slack will allow load to shift. A shifting load will create sufficient momentum to break chains. Remove chain slack by using chain boomers, or other slack adjusters designed to be used for securing loads.

Hitch Operation (Option)

This section is intended to provide safe, efficient operating instructions for the Loadoll Hitch. Read all instructions carefully before operating the hitch. Safety precautions are included to alert you to possible hazardous conditions. Be sure to read and understand all instructions completely before operating the hitch.



DANGER

Never attempt to carry more than specified of load limits on the hitch. Always maintain at least fifty percent (or one half) of the truck's original front axle weight when the hitch is loaded. Failure to maintain the proper weight ratio or attempting to carry more than 3,000 pounds on the hitch may result in loss of control of the vehicle resulting in damage to the Loadoll, the hitch, and/or the towed vehicle. Serious personal injury or death may also result if loss of control over the Loadoll is experienced.



DANGER

Never crawl under the truck or towed vehicle during hitch operations. Never crawl under the hitch at any time. Failure to comply may result in serious personal injury or death.



WARNING

Never stand between the truck and the towed vehicle. Standing between the truck and the towed vehicle may result in serious personal injury.

Vehicle Towing

1. Back the Loadoll to directly in front of the vehicle to be towed, leaving a minimum of 6 feet between the two vehicles. Set the parking brake on the truck.
2. Set the Hitch to Towing Position

IMPORTANT

The truck bed should remain in the forward position for the entire hitch operation.

3. Adjust the Hitch Up or Down or Out to mate with the towed vehicle.
4. Make proper connections to the towed vehicle.
5. Do not exceed the towing limits listed on the standard specifications page at the front of this manual.
6. Connect breakaway cables and electrical connections as required.
7. Adjust Hitch Height so the towed vehicle is level.



CAUTION

Uneven roads, dips, bumps, and ramps should be avoided when ever possible. Never exceed ten miles per hour when one of these, or similar obstacles must be encountered. Proceed slowly while stopping occasionally to check the position of the towed vehicle. It may be necessary to raise or lower the hitch slightly to clear one of these type obstacles. Failure to exercise these cautions when encountering these types of obstacles may result in loss of the towed vehicle from the hitch resulting in damage to the hitch and/or the towed vehicle.

8. Check to make sure the towed vehicle is ready to be towed, such as lifting support jacks and removing wheel chocks.
9. Retract the hitch as much as possible leaving enough clearance between the truck and the towed vehicle that the towed vehicle will not interfere with the trucks cornering capabilities.
10. Attach safety chains from the towed vehicle to Loadoll.

Vehicle Disconnection

1. Locate the towed vehicle in an open, level area. Apply the Loadoll's parking brakes. Disconnect safety chains and place back in storage compartment. Remove breakaway and electrical connections.
2. Lower jack and/or other supports required when vehicle is to be disconnected.

IMPORTANT

The bed of the Loadoll should remain in the fully forward position for the entire hitch operation.

3. Chock the wheels of the towed vehicle so it will not roll.
4. Lower the hitch so the towed vehicle is supported by the support jacks.
5. Move the hitch in or out to relieve any pressure from the hitch.
6. Disconnect hitch.
7. Adjust hitch so it clears when Loadoll is pulled ahead.
8. Move the Loadoll forward if there is not enough room to lift the hitch.
9. Raise the hitch to a horizontal position, making sure that the rear lights of the Loadoll are not obstructed.
10. Retract the hitch all the way and make sure the Loadoll is ready to go down the road.
11. Some hitches need to have the end rotated forward before the Loadoll can be tilted to the ground so the hitch does not hit the ground.

Remote Control (Option)

A wireless six function radio remote control is available. **See Figure 3-4.** The wireless radio remote has six momentary push button switches that operate the functions as labeled on the hand held remote.

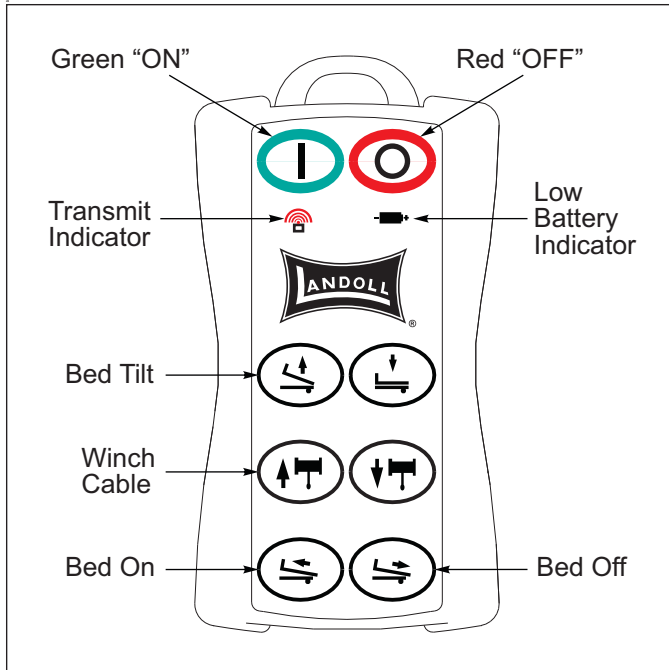


Figure 3-4: Remote Control Transmitter

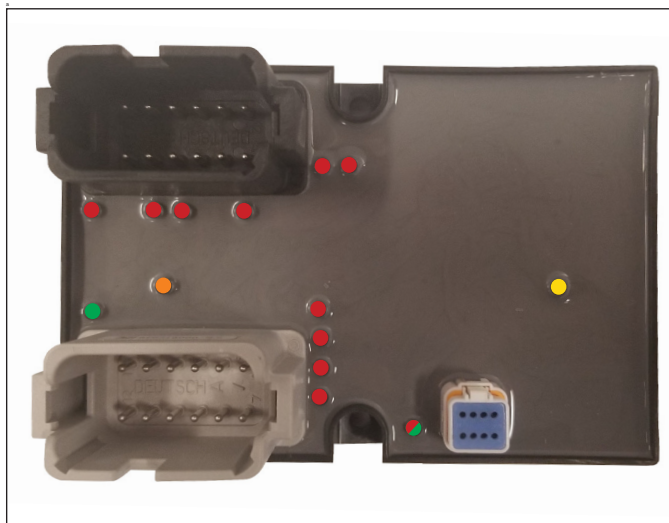


Figure 3-5: LED Indicator Lights

TO OPERATE THE REMOTE:

1. Press and hold the POWER button for at least 2 seconds and release.
2. There are multiple LEDs on the back of the sealed body on the transmitter. Each LED corresponds to a proper function or a fault. **See Page 5-5 for troubleshooting faults.**

SYNCHRONIZING TRANSMITTER TO RECEIVER

1. Power cycle the receiver OFF and then ON.
2. On the Transmitter press and hold the Red OFF button. At the same time, press and hold the Green ON button for approximately 10 seconds.
3. The synchronizing sequence must be done within 10 seconds or the process will need repeated.
4. The wireless activity LED indicator should flash Orange 3 (three) times for a successful pair.
5. A hard reset can be performed on the transmitter by holding the Red OFF button for 15 seconds. This will clear the connection between the receiver and transmitter.

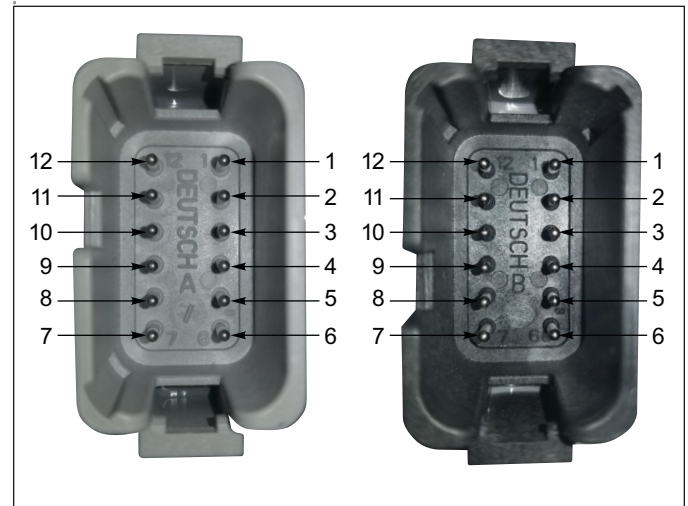


Figure 3-6: Deutsch A and B Pin Locations

For additional remote information, reference the **“Brand Hydraulics - Wireless Hydraulic Control System, Installation and Operation Manual”** shipped with the remote.

Cold Weather Operation

Cold weather causes lubricants to congeal, insulation and rubber parts to become hard, which may lead to problems found in bearings, electrical systems, and air systems. Moisture attracted by warm parts can condense, collect and freeze to immobilize equipment. The vehicle operator must always be alert for indicators of cold weather malfunctions.

During any extended stop period, neither the service nor parking brake should be used as they can freeze up. Use wheel chocks to secure the vehicle from moving.

Check all structural fasteners, air system fittings, gaskets, seals and bearings for looseness that can develop due to contraction with cold. Do not over-tighten.

Tire inflation de-creases when the temperature decreases.

Periodically check drain holes in the storage compartments. They must be open at all times to avoid moisture entrapment.

Hot Weather Operation

Hot weather operation can cause expansion of parts, resulting in tightening of bearings, fasteners, and moving parts. Failure of gaskets or seals can occur.


The vehicle 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.

Check tire pressure early in the day before beginning operations while the tire is cool. Put all valve stem caps back on after checking.


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

This section contains instructions necessary for proper maintenance of the Loadoll. The Loadoll 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.

 **DANGER**

Operating the vehicle with defective, broken or missing parts may result in serious injury or death; damage to the vehicle, its cargo, or property in its path.

 **DANGER**

Serious injury of death may result if a person is under, in front of, or behind: the bed, subframe, rear bumper, or chassis at any time during operation of the Loadoll. The subframe can swing up and the bed can travel back several feet. Any object in the same areas may be damaged or cause damage to the Loadoll.

If maintenance is required in any of these areas, block both ends of the subframe to prevent it from tilting. Secure the bed from moving.

LUBE	SEASON	BRAND & PRODUCT (WEIGHT AND/OR TYPE)				
		EXXON	MOBIL	PHILLIPS 66	TEXACO	SHELL
1	ALL YEAR	NUTO H 32	DTE 24	Mega Flow HVI 32 SAE 52-20	Rando HD 32	Tellus T 32
2	ALL YEAR	-----	-----	-----	-----	Aeroshell 64MS
3	ALL YEAR	-----	-----	76 Moly Low Tem Grease	-----	-----
4	SUMMER	-----	Mobilube HD SAE 85W-140	-----	-----	-----
	WINTER	-----	Mobilube 1 SHC SAE 75W-90	-----	-----	-----
5	ALL YEAR	Teresstic 32	DTE Light	Condor 32 or Magnus 32	Regal Oil R&O 32	Turbo T 32

Table 4-1: Lubrication Specifications

Maintenance Schedule

Loadroll maintenance includes periodic inspection and lubrication. **See Table 4-2 - Maintenance Schedule**, lists the recommended maintenance and lubrication tasks by time interval and by accumulated mileage (use whichever occurs first).

Inspection

1. Inspect the vehicle and deck system 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 or hydraulic leakage at once. Correct the problem before using the vehicle.
2. Use the Troubleshooting Guide to check for “**SYMPTOMS**” and “**PROBLEMS**” of any vehicle system not functioning correctly, or where wear, distortion, or breakage are found. Administer “**REMEDY**” according to the right-hand column of the Troubleshooting Guide.

Lubrication

Figure 4-1 details lubrication points and intervals, method of application, and lubricant required, and illustrates the location of each part to be lubricated. During inspections of the vehicle if lubricants are found to be fouled with dirt or sand, those parts should be cleaned with paint thinner, dried and relubricated immediately. Dirt in a lubricant forms an abrasive compound that will wear parts rapidly.

WARNING

Paint thinner and other solvents are flammable and toxic to eyes, skin, and respiratory tract. Avoid skin and eye contact. Good general ventilation is normally adequate. Keep away from open flames or other combustible items.

Maintenance Procedures

Tools and Equipment

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

Standard Torque Values.

See Tables 2-1 and 2-2 lists torque values for standard hardware 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.

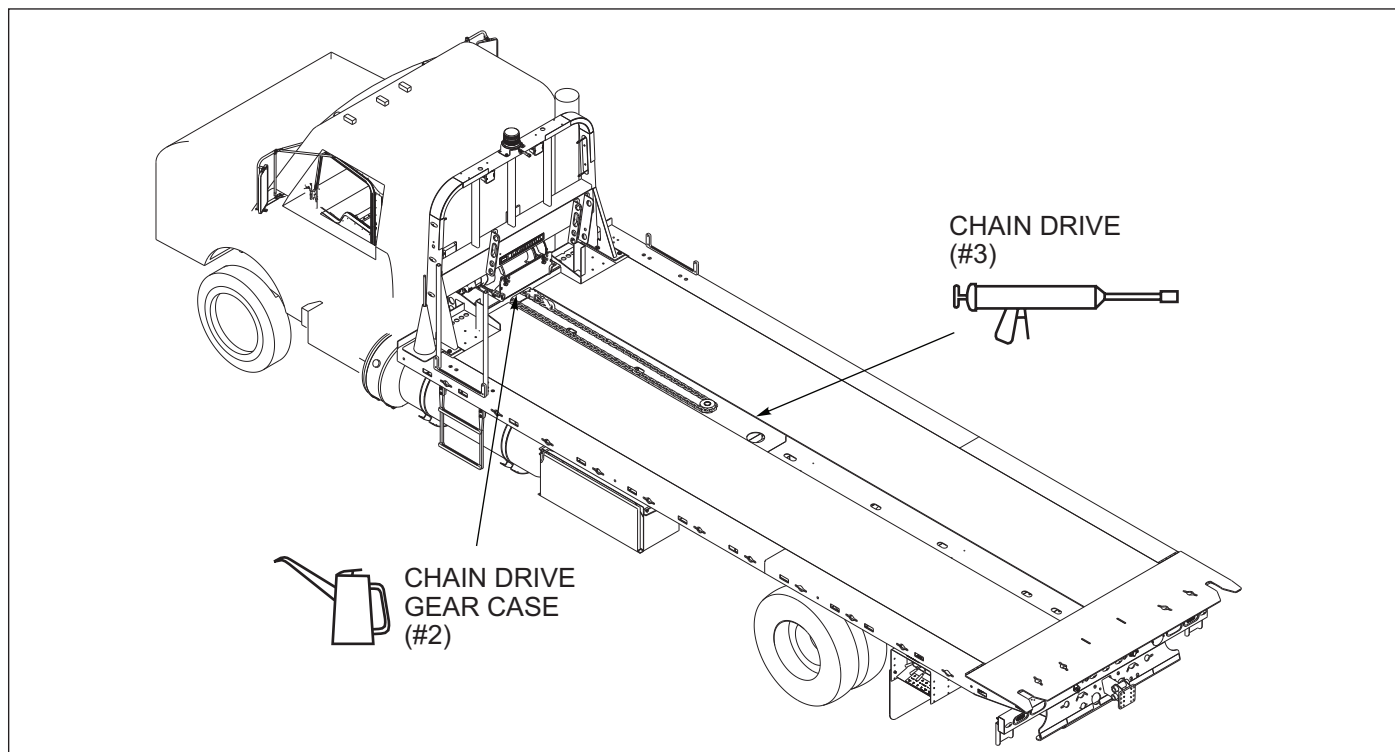


Figure 4-1: Lubrication Points

TABLE OF CONTENTS

LOADOLL II MAINTENANCE AND LUBRICATION SCHEDULE							
ITEM	1st 5 Hrs	Weekly	Monthly	6 Mo.	Yearly	Lube #	Chart Notes
	50 Miles	500 Miles	2,000 Miles	12,000 Miles	25,000 Miles		
LIGHTS	I	I					
WIRING & CONNECTIONS	I		I				
FASTENERS	I,T		I				b
PIVOT PIN, LIFT PINS, & LOCK PINS		I	I,L			3	
BED SLIDE PLASTIC STRIPS	I		I				
SUBFRAME PIVOTS	L		L			3	
SUBFRAME & HITCH CYLINDER PINS	L			L			
WINCH CABLE ASSEMBLIES	I		I,L			4	e
HYDRAULIC OIL	I	I			R	1	
HYDRAULIC FILTER	R			R			
HYRAULIC FITTING TORQUE							
HOSES (Inspect & Replace As Needed)	I		I		I,R		
GENERAL TORQUE SPECIFICATIONS							
TIRE INFLATION & WEAR	I	I					
WHEEL LUG NUTS	I,T						
CHAIN DRIVE LOAD SYSTEM							
GEAR BOX	I		L			2	c
CHAIN	I	I					
MECHANISM	I	I					
DRIVE AND IDLER PULLEY	I		L			3	c
CHAIN TENSION	I,T						
I - Inspect, R - Replace, T-Tighten/Adjust Torque, L-Lubricate, C - Clean							

Table 4-2: Maintenance Schedule

Chart Notes:

- a. Perform at the time shown. Shorten service intervals when operating in severe or dirty conditions
- b. **See Tables 2-1 and 2-2** (Torque Specification for correct torque)
- c. **See Table 4-1** (Lube Specification Chart) for recommended lubricant
- d. Inspect prior to and after each use

- e. Recommended lubrication for Warn 12K Winch Planetary gear case - Aeroshell 64MS
- f. Recommended lubrication for Warn 20 & 30K Winch Planetary Gear Case - 76 Moly Low Temp Grease

Lubrication # Specifications:

See Table 4-1 to obtain the lube number, type and brand reference to service Landoll carriers with.

TABLE OF CONTENTS

LOADOLL II MAINTENANCE AND LUBRICATION SCHEDULE (Continued)		
ITEM	Interval Notes	Ref Page In Operators Manual
LIGHTS	Inspect Weekly During Walk Around Inspections	
WIRING & CONNECTIONS	Inspect Monthly During Walk Around Inspections	
FASTENERS	Inspect Monthly And Tighten As Required	
PIVOT PIN, LIFT PINS, & LOCK PINS	Inspect Weekly, Lubricate Monthly	
BED SLIDE PLASTIC STRIPS	Inspect Weekly, Inspect Monthly, Making Sure In Place	
SUBFRAME PIVOTS	Inspect While Greasing Monthly	
SUBFRAME & HITCH CYLINDER PINS	Inspect While Greasing Every 6 Months	
WINCH CABLE ASSEMBLIES	Inspect Weekly, Lubricate Monthly	3-3
HYDRAULIC OIL		
HYDRAULIC FILTER		
HYRAULIC FITTING TORQUE		2-3
HOSES (Inspect & Replace As Needed)	Inspect And Replace As Needed	
GENERAL TORQUE SPECIFICATIONS		2-2
TIRE INFLATION & WEAR	Inspect Daily, Adjust As Required to Maintain Tire Recommend PSI	
WHEEL LUG NUTS	Inspect Daily, Inspect And Tighten Monthly	
CHAIN DRIVE LOAD SYSTEM		
GEAR BOX	Inspect Weekly For Safe And Efficient Operation, Lubricate Monthly	4-5
CHAIN	Inspect Daily	4-5
MECHANISM	Inspect Weekly For Safe and Efficient Operation	4-5
DRIVE AND IDLER PULLEY	Inspect Daily, Lubricate Monthly	4-5
CHAIN TENSION	Inspect Daily, Adjust Tension As Required	4-6

I - Inspect, R - Replace, T-Tighten/Adjust Torque, L-Lubricate, C - Clean

Table 4-3: Maintenance Schedule (Continued)

Cleaning

1. Wash carrier to remove all accumulated dirt and grime.
2. Clean the sliding surfaces with solvent or mineral spirits every six months or more frequently if exposed to extreme dirt or weather conditions. The slide wear strips are impregnated with a special lubricant, however, additional lubrication may be required to prevent chattering or squealing. **See Table 4-1 - Lubrication Specifications.** 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.
3. Inspect seals, seal wiping surfaces, bearing caps, and bearing cones for wear, pitting, chipping, or other damage.
4. Use Troubleshooting Guide to check for "SYMPTOMS" AND "PROBLEMS" of any carrier system not functioning correctly, or where wear distortion, or breakage can be found. Administer "REMEDY" according to right-hand column of Troubleshooting Guide (**See Section 5**).

Frame and Deck

Repairing Structural Defects

If any structural defect is found, the fault must be corrected before further use of the vehicle. To continue usage could endanger the vehicle, its load, personnel, traffic, and properties. Inspect the deck daily for broken or missing attachments. Replace any defective parts promptly.

Hydraulic System

1. Check the hydraulic oil level weekly, or after any leakage. **See Table 4-1** for proper hydraulic oil.
2. Check the hydraulic oil level by sliding the deck back enough to gain access to the reservoir cap. Have the bed level with the chassis frame, and the hitch fully retracted. Shut off the engine. Proper oil level is 2" below top of oil reservoir. Filling to the top will result in overflow when the bed is slid forward.
3. If a cylinder seal leaks, disassemble the cylinder and determine the cause of the leak. Small scores caused by chips or contaminated fluid can usually be worked out with fine emery cloth to avoid re-occurring of the trouble. Any time a component is opened up, or

whenever any seal replacement is necessary, it is advisable to thoroughly clean all components and replace all seals in that component. Seal kits are available from your Landoll dealer.

Gearbox Maintenance



DANGER

1. **ALWAYS check behind and under the truck and semitrailer for persons or objects before moving. Failure to check can lead to serious damage to property, personal injury or death.**
2. **When crawling under the semitrailer is necessary, chock all wheels of the trailer and tractor. When jacking is necessary, chock all wheels and support the semitrailer with jack stands sufficient to withstand the weight of the semitrailer and load. Failure to take adequate safety measures may result in serious personal injury or death.**
3. **To prevent serious injury or death from pinching: Keep all persons and objects clear while any part of the machine is in motion.**
4. **DO NOT handle the chain drive when the chain drive is in the engage position. Hands or clothing could get caught in the chain and be pulled into the spool causing serious personal injury.**

Maintenance Checks

1. **Daily:**
 - a. Inspect the Gearbox, Chain Trough and Support Idler Pulley for chain path obstructions or debris.
 - b. Inspect the Gearbox and Support Idler Pulley for loose, broken or missing nuts, bolts or pins.
 - c. Inspect the Gearbox for hydraulic leaks.
 - d. Inspect Drive Chain tension, adjust support idler pulley assembly if loose. **See Drive Chain Adjustment on Page 4-6.**
2. **Weekly:**
 - a. Inspect Drive Chain for bends, breaks, burrs, cracks, dents, kinks, stretch, wear, signs of brittle/fatigue and visual defects. Inspect all links move freely. Replace if defective.
 - b. Inspect Drive Chain for corrosion, dirt, grease, and rust. **See Table 4-2 - Maintenance Schedule.**
 - c. Inspect Chain Drive Sprocket for bends, breaks, burrs, cracks, dents, kinks, wear, signs of brittle/fatigue/warping and visual defects. Replace if defective.

- d. Inspect Chain Drive Sprocket surfaces for corrosion, dirt, grease. **See Table 4-2 - Maintenance Schedule.**
 - e. Inspect Support Idler Pulley for bends, breaks, burrs, cracks, dents, kinks, wear, signs of brittle / fatigue and visual defects. Inspect pulley spins freely. Replace if defective.
 - f. Inspect Support Idler Pulley surfaces for corrosion, dirt, grease. **See Table 4-2 - Maintenance Schedule.**
- 3. 6 Months:**
- a. Inspect Drive Chain for bends, breaks, burrs, cracks, dents, kinks, stretch, wear, signs of brittle/fatigue and visual defects. Inspect all links move freely. Replace if defective or links have 1/32" of wear.
 - b. Inspect Drive Chain for corrosion, dirt, grease, and rust. **See Table 4-2 - Maintenance Schedule.**
 - c. Inspect Drive Chain tension, adjust support idler pulley to tighten. **See Drive Chain Adjustment on Page 4-6.**
6. Slightly loosen the two adjusting nuts that holds the support idler pulley assembly to break loose assembly tension, **See Figure 4-3.**
 7. Inspect the chain is seated properly in the chain drive sprocket on the gearbox, with horizontal welded links facing out and the vertical welded links facing up. **See Figure 4-4.**
 8. Tighten and torque the two adjusting nuts evenly to 90 ft-lbs (122 Nm), **See Figure 4-3.** If unable to achieve 90 ft-lbs or the support idler pulley assembly is at max travel, contact the Landoll Trailer Service Department.
 9. Tighten and torque the two jam nuts while securing the adjusting nuts to 125 ft-lbs (169 Nm), **See Figure 4-3.**
 10. Operate the chain drive system.
 11. Shut down and zero out hydraulic pressure in the gearbox hoses by operating the control handle.
 12. Inspect the chain tension and seated properly in the chain drive sprocket on the gearbox. Repeat steps 5-10 until chain tightness is achieved, **See Figure 4-4.**
 13. Install the support idler pulley access cover with eight bolts and lock washers. Torque mount bolts to 55 ft-lbs (75 Nm), **See Figure 4-2.**

Drive Chain Adjustment



WARNING

1. The support idler pulley access cover weighs 18 lbs (9 Kg). Failure to comply can lead to serious damage to property, personal injury or death.
2. DO NOT over torque the adjusting nuts. This will cause excess strain and damage the gearbox assembly.

NOTE

See Parts Manual on Page 1-2 for mechanical, air, electrical and hydraulic components and diagrams.

1. Ensure the bed cargo has been unloaded and the bed is in the transport position.
2. Park on level surface, set parking brakes and chock the wheels.
3. Zero out hydraulic pressure in the gearbox hoses by operating the control handle.
4. Support the support idler pulley access cover and remove eight mount bolts and lock washers, lower the cover, **See Figure 4-2.**
5. Loosen two jam nuts securing the two adjusting nuts against the support idler pulley assembly, **See Figure 4-3.**

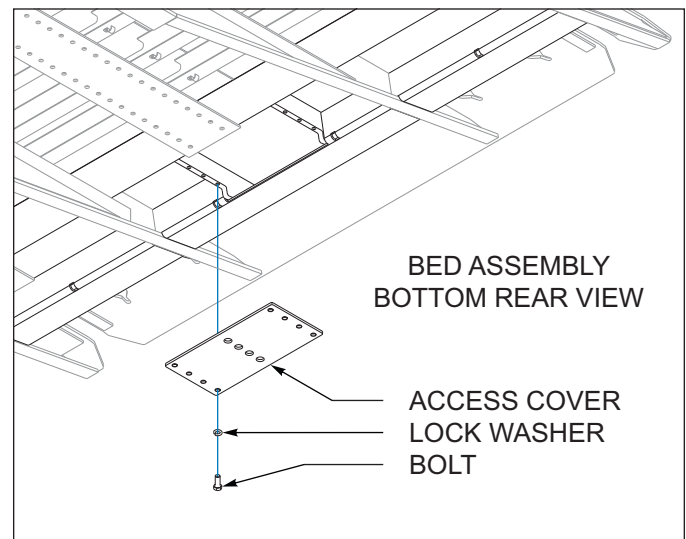


Figure 4-2: Support Idler Pulley Access Cover

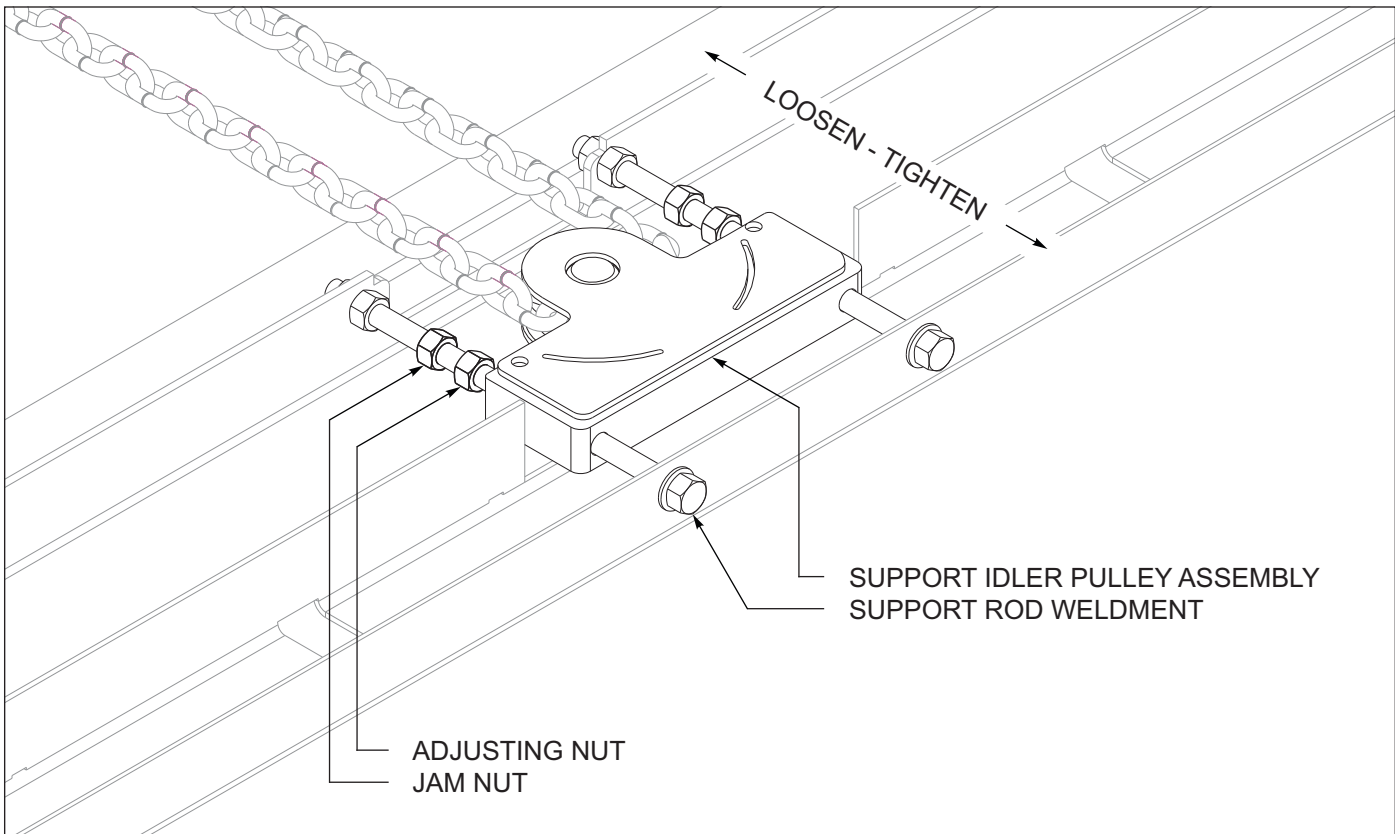


Figure 4-3: Support Idler Pulley Assembly

Drive Chain Removal

NOTE

See *Parts Manual on Page 1-2* for mechanical, air, electrical and hydraulic components and diagrams.

IMPORTANT

The support idler pulley assembly cannot be disassembled to remove the pulley for drive chain replacement.

1. Ensure the bed cargo has been unloaded and the bed is in the transport position.
2. Park on level surface, set parking brakes and chock the wheels.
3. Zero out hydraulic pressure in the gearbox hoses by operating the control handle.
4. Support the support idler pulley access cover and remove eight mount bolts and lock washers, lower the cover, *See Figure 4-2*.
5. Fully loosen two jam nuts securing the two adjusting nuts against the support idler pulley assembly, *See Figure 4-3*.
6. Fully loosen the two adjusting nuts that holds the support idler pulley assembly to release the chain tension, *See Figure 4-3*.

7. Slide the support idler pulley assembly fully forward to allow slack in the chain, *See Figure 4-3*.
8. Remove the drive chain from the gearbox chain sprocket, *See Figure 4-4*.
9. Cut a link from the drive chain near the support idler pulley assembly.
10. Route the drive chain out of the support idler pulley assembly, *See Figure 4-3*.

Drive Chain Installation



WARNING

1. **DO NOT** install the drive chain twisted. This will lead to serious damage to property, personal injury or death.

NOTE

See *Parts Manual on Page 1-2* for mechanical, air, electrical and hydraulic components and diagrams.

IMPORTANT

The support idler pulley assembly cannot be disassembled to remove the pulley for drive chain replacement.

1. Install the drive chain onto the gearbox chain sprocket, with horizontal welded links facing out and the vertical welded links facing up. Leave excess chain exposed to allow for chain assembly, *See Figure 4-4.*
2. Align the drive chain from the gearbox chain sprocket to the idler pulley assembly, with horizontal welded links facing out and the vertical welded links facing up, *See Figure 4-3.*
3. Route the drive chain through the support idler pulley assembly and back towards the gearbox chain sprocket. **VERIFY** that the horizontal welded links are facing out and the vertical welded links facing up, *See Figure 4-3.*
4. Align the drive chain from the idler pulley assembly back to the gearbox chain sprocket, with horizontal welded links facing out and the vertical welded links facing up, *See Figure 4-5.*
5. Cut a 1/2 inch opening through the welded link side of one of the ends to allow the non-cut end to fit into, *See Figure 4-5.*
6. Assemble the two ends together. **VERIFY** the horizontal welded links are facing out and the vertical welded links are facing up with no twisting before continuing, *See Figure 4-5.*
7. Insert the chain splice into the center of the cut link. Use 100K welding wire or 100K missile rod minimum. Weld the top and bottom of each side and fill in the opening. Use caution not to distort the original dimensions of the link, *See Figure 4-5.*
8. Clean up the welded surfaces, **VERIFY** the links move freely and the dimensions have not changed.
9. Slide the support idler pulley assembly back to decrease the slack in the chain, *See Figure 4-3.*
10. Slightly tighten the two adjusting nuts to hold the support idler pulley assembly, *See Figure 4-3.*
11. Perform *Drive Chain Adjustment.*

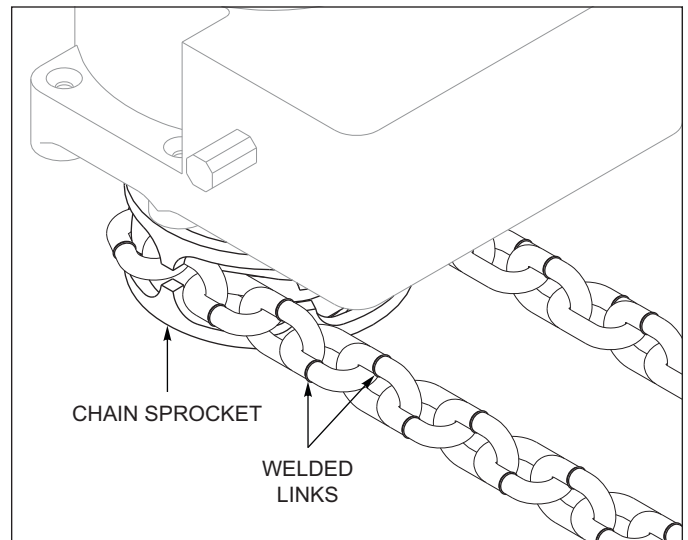


Figure 4-4: Gearbox Chain Sprocket

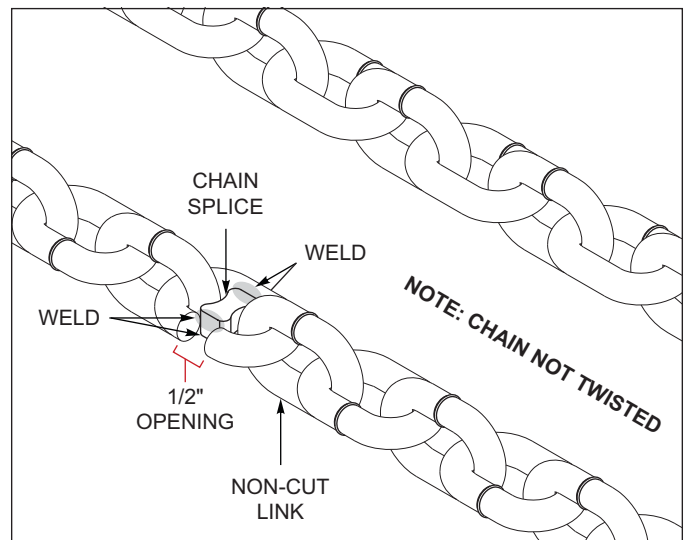


Figure 4-5: Chain Splicing

Troubleshooting Guide

Troubleshooting should be performed by a trained technician. Landoll Company, LLC. is not responsible for equipment that is improperly maintained. Contact an authorized Landoll Service center for servicing.

Electrical

Most electrical system problems show up as a burned out light or fuse, or inoperative electrical component. Wiring, grounds, or components may be at fault. Locate the symptom in this section that best identifies your electrical problem. Check out each possible problem under that symptom. If the problem cannot be located, see an automotive electrical specialist.

PROBLEM	PROBABLE CAUSE	SOLUTION
NO LIGHTS	Fuse blown	Replace fuse
	Connection at plug-in	Tighten connection.
	Broken or corroded wires	Replace wire.
	Ground wire loose	Clean and tighten ground.
	Light burned out	Replace light.
LIGHTS FLICKERING OR DIM	Vibration	Locate source of vibration and repair.
	Short circuit	Replace fuse and try all accessories. If fuse blows right away, locate short and repair.
	Loose connection	Check lamp sockets and ground connections.
	Intermittent short	Locate short and repair.
	Improper voltage	Check voltage regulator output.
FUSE BLOW-OUT OR CIRCUIT BREAKER TRIPPING	Vibration	Locate source of vibration and repair.
	Short circuit	Replace fuse and try all accessories. If fuse blows right away, locate short and repair.
REMOTE CONTROL WINCH:		
DOES NOT OPERATE	Fuse blown	Replace fuse.
	Defective switch	Repair and replace.
	Broken or corroded wires	Replace wire.
	Ground wire loose or bad	Clean and tighten ground or replace.
	No power to remote	Turn clearance lights on or turn PTO on.
OPERATES ONE WAY ONLY	Incorrect wiring	Confirm proper wiring.
	Defective switch	Repair and replace.
	Broken or corroded wires	Replace wire.
OPERATES WRONG DIRECTION	Wires reversed on solenoid	Reverse wires

Table 5-1: Electrical Diagnosis

Hydraulic System

Most hydraulic system failures follow the same pattern: a gradual or sudden loss of pressure or flow with a resulting loss of cylinder or motor power. Any one of the system's components may be at fault. By following step-by-step procedures, the trouble can be located in a short time.

PROBLEM	PROBABLE CAUSE	SOLUTION
SYSTEM INOPERATIVE	Not enough oil in system	Fill, check for leaks.
	Wrong oil in system	Change oil, see specifications.
	Filter dirty or clogged	Drain oil and replace filter.
	Hydraulic lines dirty or collapsed	Clean or replace as necessary.
	Air leaks in pump suction line	Repair or replace as necessary.
	Worn or dirty pump	Clean, repair or replace. Check for contaminated oil. Drain and flush.
	Badly worn components	Examine for internal leakage. Replace faulty components. Check for cause of wear.
	Leakage	Check all components, and relief valve for proper settings.
	Excessive load	Check unit specifications for load limits.
	Slipping or broken pump drive	Repair or replace couplings. Check for alignment.
SYSTEM OPERATES ERRATICALLY	Air in the system	Check suction side of system for leaks. Repair leaks.
	Cold oil	Allow ample warm-up time. Use proper weight oil for operating temperature.
	Dirty or damaged components	Clean or repair as needed.
	Restriction in filters or lines	Clean and/or replace filter or lines.
	Not enough oil in system	Fill and check for leaks.
SYSTEM OPERATES SLOWLY	Oil viscosity too high, or "cold oil"	Allow oil to warm up before operating.
	Low pump drive speed	Increase engine speed (check pump owners manual for specifications).
	Low oil level	Check reservoir and add oil as necessary.
	Air in system	Check suction side for leaks. Repair leaks.
	Badly worn pump, valves, cylinder	Repair or replace faulty component(s) as necessary.
	Restrictions in lines or filter	Clean and/or replace filter or lines.
	Improper adjustments	Check orifices, relief valves, etc. Adjust as necessary.
	Oil leaks	Tighten fittings. Replace seals, gaskets and damaged lines.
SYSTEM OPERATES TOO FAST	Wrong size or incorrectly adjusted restrictor	Replace or adjust as necessary.
	Engine running too fast	Reduce engine speed.

Table 5-2: Hydraulic Diagnosis (1 of 2)

TABLE OF CONTENTS

PROBLEM	PROBABLE CAUSE	SOLUTION
OVER HEATING OF OIL IN SYSTEM	Oil passing thru relief valve for excessive time	Return control valve to neutral when not in use.
	Incorrect, low, dirty oil	Use recommended oil. Fill reservoir with clean oil. Replace filter.
	Engine running too fast	Reduce engine speed.
	Excessive component internal leakage	Repair or replace component as necessary.
	Restriction in filters or lines	Clean and/or replace filter or lines.
	Insufficient heat radiation	Clean dirt and mud from reservoir and components.
	Malfunctioning component	Repair or replace.
FOAMING OF OIL	Incorrect, low, or dirty oil	Replace, clean or add oil as needed.
	Water in oil	Replace oil
	Air leaks	Check suction line and component seals for suction leaks. Replace defective parts.
NOISY PUMP	Low, incorrect, foamy oil	Replace, clean, or add oil as needed.
	Suction line plugged	Clean out obstruction or replace line. Flush system, replace filter.
	Pump damaged	Repair or place.
LEAKY PUMP	Damaged or worn shaft seal	Replace seal and/or shaft and check for misalignment.
	Loose or broken parts	Tighten or replace.
CYLINDERS MOVE WITH CONTROL VALVE IN NEUTRAL POSITION	Leaking cylinder seals or fittings	Replace worn seals or fittings.
	Control valve not centering when released	Check linkage for binding and repair.
	Valve damaged	Repair or replace.
	Counterbalance Valve Worn or Contaminated	Clean out obstruction or replace valve.
CONTROL VALVE LEAKS	Seals damaged or worn	Replace.
CYLINDER LEAKS	Seals worn or damaged	Replace.
	Rod damaged	Replace.
	Barrel damaged	Replace.
CYLINDERS DO NOT FUNCTION OR CREEP WITH PTO DISENGAGED	Leaking fittings or cylinder seals	Tighten loose fittings. Replace worn seals or fittings.
	Counterbalance valve or o-ring leak	Replace defective component.
SUBFRAME WILL NOT TILT	<p>Some units have a proximity switch so the subframe does not tilt until the bed is slide back far enough, so that metal plate is not directly above the proximity switch. Slide bed back far enough so plate is not above switch.</p> <p>The proximity switch should have indicator light on when PTO is engaged. The PTO wire engages a relay that powers the proximity switch. The proximity switch needs to have between 1/32" to 1/4" clearance with the metal plate at rear of bed to work properly. The magnet in the proximity switch allows the switch to send a signal to the hydraulic dump valve to dump oil to the hydraulic tank so no pressure builds up to tilt subframe.</p>	

Table 5-3: Hydraulic Diagnosis (2 of 2)

Hydraulic Pressure Testing

SET-UP:

With the Loadoll unloaded, install a 0 to 3000 psi pressure gauge between the pump pressure hose and the valve "IN" port, using a "T" fitting and close pipe nipple.

TEST 1:

Start the vehicle engine and operate the PTO. Do not run vehicle engine more than 1200 RPM. Check pressure without operating any function.

From 25 to 300 psi: NORMAL

Greater than 300 psi: Restriction in valve, filter, or plumbing.

Less than 25 psi: Weak pump or restriction in pressure line.

NOTE

If STEP 1 indicates normal pressures, proceed to STEP 2. STEP 1 pressures must be normal for the following tests!

TEST 2:

Run the bed forward to the transport position. Hold the valve in the "BED ON" position to cause hydraulic oil to go through the pressure relief valve. Read pressure, then return the control valve to neutral. Do the same test on the tilt cylinder, checking it while the bed is in the transport position.

From 1800 to 2500 psi: NORMAL

Greater than 2500 psi: Pressure relief valve is set too high.

Pressure relief valve is malfunctioning.

Less than 1800 psi: *Internal cylinder leak.

** Pressure relief valve set too low.

**Weak pump.

** This may be the problem if one cylinder is at the normal pressure and the other is at a lower pressure.*

*** This may be the problem if both cylinders show the same pressure.*

TEST 3:

Run the tilt cylinder until the bumper almost touches the ground. Return the cylinder to the transport position. Check pressures while the bed is tilting.

From 1000 to 2500 psi: NORMAL

Greater than 2500 psi: Restriction in return hoses or cylinder.

Binding cylinder.

Binding tilt mechanism.

Less than 1000 psi: Weak pump.

Pressure hose restriction

Internal cylinder leak.

TEST 4:

Slide the bed cylinder back and then forward. Check pressures while the bed is moving out. The following pressures are with the bed installed.

From 300 to 900 psi: NORMAL

Greater than 900 psi: Restriction in return hoses or cylinder.

Binding cylinder.

Binding slide mechanism.

Less than 300 psi: Weak pump.

Pressure hose restriction

Internal cylinder leak.

TEST 5:

Unhook the winch cable and lay it loosely on the bed. Operate the winch both directions.

Check pressures while the winch is operating.

From 800 to 1200 psi: NORMAL

Greater than 1200 psi: Restriction in return hoses or winch motor.

Binding winch motor.

Binding winch gears or drum.

Less than 800 psi: Weak pump.

Pressure hose restriction

Internal motor leak.

Remote Control

PROBLEM	PROBABLE CAUSE	SOLUTION
No response from receiver	Check that transmitter power is on.	Self-explanatory.
	Power is connected in reverse	If the amber reverse polarity LED is lit the power input and system ground connections have been reversed.
	Output in not properly connected	If a red output LED on the receiver turns on when a button is pressed on the transmitter the output may be improperly connected. Verify the correct output is properly connected to the load.
	Receiver is locked out due to overcurrent	The receiver will trip and lockout if 10A or more is through the board. The transmit LED will still flash each time a message is received but no output LED will turn on. Check for a heavy voltage load or short circuit, cycle power to receiver and try again.
	Receiver is locked out due to a message error	The transmit LED will be lit red and will not change. Cycle power to the receiver and try again.
No response from the transmitter when button is pressed.	Transmitter is on the Off state	Press the On button
	Transmitter has a low or dead battery	If the transmitter is placed in the On state and the Low Battery LED or no LEDs flash the battery may be low or dead. Replace with a CR2450 coin cell battery.
	Transmitter is not properly paired with the receiver	The Transmit LED on the receiver and on the transmitter should both periodically flash while a button is held and the transmitter is in the On state. If only the transmitter Transmit LED is flashing follow the pairing sequence on Page 3-8.
Outputs are not properly functioning	Receiver input voltage is too low	The receiver will connect the input voltage to the output after a button is pressed on the transmitter. If the voltage supplied is not high enough to run the connected function it will not turn on.
	Load is too far away	If a very heavy load is placed at the end of a very long cable the voltage can drop to a point that is too low to run the function. Shorten the cable distance or increase voltage.
Output intermittently turn off while button is held	System is out of range	Ensure that the system is within operating range and remove as many obstacles between receiver and transmitter as possible.
	Transmitter battery is low	Replace battery is transmitter.
	Intermittent connection on the receiver	Ensure that the power input, output and appropriate ground are properly connected.

Table 5-4: Remote Control Diagnosis

For additional remote information, reference the ***“Brand Hydraulics - Wireless Hydraulic Control System, Installation and Operation Manual”*** shipped with the remote.

Miscellaneous Problems

PROBLEM	PROBABLE CAUSE	SOLUTION
BED CHATTERS OR SQUEALS WHEN SLIDING	Rough slide tubes on subframe.	File or sand smooth and lubricate with dry silicone or other non dirt and grit collecting lubricant.
WORN NYLATRON SLIDES		When Nylatron wears enough that screws heads are rubbing on slide tubes, replace Nylatron slides.
PIVOT PINS:		
EXCESSIVE WEAR	Not lubricated:	Grease pins at grease zerk.
	Bent or broke subframe	Check for bows or cracks in subframe.
PREMATURE BREAKAGE	Overweight loads and/or rough road conditions	Check weight limitations and adjust driving style to road conditions.
BED SLIDE STRIPS EXCESSIVE WEAR	Lubricated with heavy grease	Remove grease and use dry silicone or other non dirt and grit collecting lubricant.
	Rough slide tubes on subframe	Smooth tubes.
REMOTE WILL NOT COME ON		Some units require the clearance lights to be on to power the remote.

Table 5-5: Miscellaneous Problems Diagnosis

Document Control Revision Log:

Date	Form #	Improvement(s): Description and Comments
05/2019	F-1036-0519	Initial Release
08/2020	F-1036-0820	Update Maintenance Schedule
08/2023	F-1036-0823	Gearbox Maintenance Update.



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LOADOLL II

Operators Manual

Re-Order Part Number F-1036

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