

JERR-DAN[®]

Operation And Safety Manual

Original Instructions

Keep this manual with machine at all times.

10Ton XLP CARRIER

5376000228

*Released
February 1, 2019*

JERR-DAN[®]

An Oshkosh Corporation Company



WARNING

Operating, servicing and maintaining this vehicle or equipment can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle or equipment in a well-ventilated area and wear gloves or wash your hands frequently when servicing. For more information go to www.P65Warnings.ca.gov.

REVISION LOG

February 1, 2019 - A - Original Issue of Manual.

Eastern Wrecker Sales Inc

Read This First

This manual provides Operational and Safety information for the JD10XLP Industrial Carrier. Read this manual and the Operation and Safety Manual provided with other equipment thoroughly prior to starting operation.

This manual is a very important tool! Keep it with the machine at all times.

The purpose of this manual is to provide owners, users, and operators with the precautions and operating procedures essential for the safe and proper machine operation for its intended purpose.

Due to continuous product improvements, Jerr-Dan Corporation reserves the right to make specification changes without prior notification. Contact Jerr-Dan Corporation for updated information.

OPERATOR QUALIFICATIONS

The operator of the machine must not operate the machine until this manual has been read, training is accomplished and operation of the machine has been completed under the supervision of an experienced and qualified operator.

Operators of this equipment must possess a valid, applicable driver's license, be in good physical and mental condition, have normal reflexes and reaction time, good vision and depth perception and normal hearing. Operator must not be using medication which could impair abilities nor be under the influence of alcohol or any other intoxicant during the work shift.

In addition, the operator must read, understand and comply with instructions contained in the following material furnished with the equipment:

- This Operation & Safety Manual
- All instructional decals and plates
- Any optional equipment instructions furnished
- Commercial vehicle's Operation & Maintenance Manuals

The operator must also read, understand and comply with all applicable Employer, Industry and Governmental rules, standards and regulations.

MODIFICATIONS

Any modification to this machine must be approved by Jerr-Dan.

HAZARD CLASSIFICATION SYSTEM

SAFETY ALERT SYSTEM AND SAFETY SIGNAL WORDS



This is the Safety Alert Symbol. It is used to alert to the potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

Indicates an imminently hazardous situation. If not avoided, will result in serious injury or death. This decal will have a red background.

WARNING

Indicates a potentially hazardous situation. If not avoided, could result in serious injury or death. This decal will have an orange background.

CAUTION

Indicates a potentially hazardous situation. If not avoided, *may* result in minor or moderate injury. It may also alert against unsafe practices. This decal will have a yellow background.

NOTICE

Indicates information or a comply policy that relates directly or indirectly to the safety of the personnel or protection of property.

⚠ WARNING

This product must comply with all safety related bulletins. Contact Jerr-Dan Corporation, Inc. or the local authorized Jerr-Dan representative for information regarding safety bulletins which may have been issued for this product.

NOTICE

Jerr-Dan Corporation, Inc. sends safety related bulletins to the owner of record of this machine. Contact Jerr-Dan Corporation, Inc. to ensure that the current owner of records are updated and accurate.

NOTICE

Jerr-Dan Corporation, Inc. must be notified immediately in all instances where Jerr-Dan products have been involved in an accident involving bodily injury or death of personnel or when substantial damage has occurred to personal property on the Jerr-Dan product.

FOR:

- Accident Reporting and Product Safety Publications
- Current Owner Updates
- Questions Regarding Product Applications and Safety
- Standards and Regulations Compliance Information
- Questions Regarding Product Modifications

CONTACT:

Product Safety and Reliability Department
Jerr-Dan Corporation
13224 Fountainhead Plaza
Hagerstown, MD 21742
USA

or Your Local Jerr-Dan Office

In USA

Toll Free: 1-877-554-7233

Outside USA

Phone: 240-420-2661

Fax: 301-745-3713

E-mail

ProductSafety@Jerr-Dan.com

REPORTING SAFETY DEFECTS

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Jerr-Dan Corporation.

If NHTSA receives similar complaints, it opens an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or Jerr-Dan Corporation.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to <http://www.safercar.gov>; or write to:

Administrator
NHTSA
400 Seventh Street S.W.
Washington, DC 20590

You can also obtain other information about motor vehicle safety from <http://www.safercar.gov>.

THIS PAGE IS INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

Revision Log

Read This First

| | |
|---|---|
| Operator Qualifications | b |
| Modifications | b |
| Hazard Classification System | c |
| Safety Alert System And Safety Signal Words | c |
| Reporting Safety Defects | e |

Table of Contents

Section 1 - General Safety Practices

| | | |
|-----|--|------|
| 1.1 | General | 1-1 |
| 1.2 | Pre-operation | 1-2 |
| | Operator Training And Knowledge | 1-2 |
| | Electrical Hazards | 1-3 |
| | Crush And Collision Hazards | 1-4 |
| | Winch Cable / Falling Load Hazards | 1-5 |
| | Uncontrolled Towed Load Hazards | 1-6 |
| | Fall Hazards | 1-7 |
| | Tip-Over Hazards | 1-7 |
| | Chemical Hazards | 1-8 |
| | Battery Hazards | 1-9 |
| | Personal Protective Equipment | 1-9 |
| | Weather Conditions | 1-10 |
| | Vehicle Equipment Damage | 1-10 |

Section 2 - Pre-operation And Inspection

| | | |
|-----|--|-----|
| 2.1 | Pre-operation Check And Inspection | 2-1 |
| 2.2 | Decals | 2-2 |
| 2.3 | Walk-around Inspection | 2-3 |
| 2.4 | Operational Checks | 2-8 |

Section 3 - Controls & Indicators

| | | |
|-----|---|-----|
| 3.1 | General | 3-1 |
| 3.2 | Controls | 3-2 |
| | Left Hand - Side Control Station | 3-2 |
| | Right Hand - Side Control Station | 3-2 |
| 3.3 | 10 Function Hand Controller | 3-4 |

Table of Contents

Section 4 - Operation

| | | |
|-----|--|------|
| 4.1 | Tilting the Deck/Loading | 4-2 |
| 4.2 | Tilting the Deck/Unloading | 4-9 |
| 4.3 | Winch Operation..... | 4-15 |
| 4.4 | Rear Stabilizer - Dock Loading..... | 4-17 |
| 4.5 | Rear Stabilizer - Dock Unloading | 4-22 |
| 4.6 | Rear Stabilizer - Pintle Hook Tow Option | 4-26 |

Section 5 - Emergency Procedures

| | | |
|-----|---|-----|
| 5.1 | Electric/Hydraulic Failure Raising/Lowering/Extending/Retracting | 5-1 |
| 5.2 | Engine Failure Raising/Lowering/Extending/Retracting | 5-2 |

Section 6 - Maintenance

| | | |
|-----|---|------|
| 6.1 | Maintenance And Lubrication | 6-2 |
| 6.2 | Oils And Greases | 6-3 |
| 6.3 | Wire Rope Handling And Inspection | 6-5 |
| 6.4 | Wire Rope Installation | 6-7 |
| 6.5 | Lubrication | 6-10 |
| | Lubrication Chart | 6-10 |
| | Lubrication Points | 6-11 |
| 6.6 | Trouble Shooting | 6-13 |
| | Hydraulic System | 6-13 |
| | P.T.O. Functioning Improperly | 6-14 |
| | Hydraulic Pump | 6-14 |
| | Hydraulic Pump | 6-15 |
| | Winch Functioning Improperly | 6-15 |
| | Remote Hand Controller | 6-16 |

Section 7 - Specifications

| | | |
|-----|------------------------------|-----|
| 7.1 | Product Specifications | 7-1 |
| | 10 Ton XLP Carrier | 7-1 |
| | Truck Chassis | 7-3 |
| 7.2 | Capacities | 7-4 |

Transfer of Ownership

SECTION 1 - GENERAL SAFETY PRACTICES

1.1 GENERAL

This section outlines the necessary precautions for proper and safe vehicle operation and maintenance. For proper vehicle, it is mandatory that a daily routine is established based on the content of this manual. A maintenance program, using the information provided in this manual must also be established by a qualified person and followed to ensure the vehicle is safe to operate.

The owner/user/operator of the vehicle must not operate the vehicle until this manual has been read, training is accomplished, and operation of the vehicle has been completed under the supervision of an experienced and qualified operator.

There may be times the vehicle may be exposed to direct contact with the public such as parades, charitable fundraisers, etc. Before allowing anyone other than a trained and experienced company employee near your vehicle, consult with the company safety officer and plan for safety.

If there are any question with regard to safety, training, inspection, maintenance, application, and operation, please contact Jerr-Dan Corporation.

⚠ WARNING

Failure to comply with the safety precautions listed in this manual could result in vehicle damage, property damage, personal injury or death.

Section 1 - General Safety Practices

1.2 PRE-OPERATION

OPERATOR TRAINING AND KNOWLEDGE

- Read and understand this manual before operating the vehicle.



- Do not operate this vehicle until complete training is performed by authorized persons.
- Only authorized and qualified personnel can operate the vehicle.
- Read, understand, and obey all DANGERS, WARNINGS, CAUTIONS, and operating instructions on the vehicle and in the manual.
- Use the vehicle in a manner which is within the scope of its intended application set by Jerr-Dan.
- All operating personnel must be familiar with the emergency operation of the vehicle as specified in this manual.
- Read, understand, and obey all applicable employer, local, and government regulations as they pertain to the operation of the vehicle.
- Become familiar with the loads that your unit can safely transport without exceeding the structural rating of the Jerr-Dan unit or the gross axle weight ratings, gross vehicle weight rating, and the gross combined vehicle weight rating of your chassis.

ELECTRICAL HAZARDS



- This vehicle is not insulated and does not provide protection from contact or being near electrical current. This includes lightning and lightning strikes.
- NEVER operate the vehicle in an area where overhead power lines, overhead or underground cables, or other power sources may exist without ensuring the appropriate power utility company de-energizes the lines.
- Always check for power lines before raising the deck.
- Look up and use light to search for power lines in the dark.
- Allow for vehicle movement and electrical line swaying.
- Do not step off or touch a charged vehicle.
- Maintain a clearance of at least 10 ft (3m) between any part of the vehicle from any electrical line or apparatus carrying up to 50,000 volts. Refer to the Minimum Approach Distance (MAD) chart. One foot additional clearance is required for every additional 30,000 volts or less.

Minimum Approach Distance (M.A.D.)

| Voltage Range (Phases to Phase) | MINIMUM APPROACH DISTANCE in Feet (Meters) |
|--|---|
| 0 to 50KV | 10 (3) |
| Over 50KV to 200KV | 15 (5) |
| Over 200KV to 350KV | 20 (6) |
| Over 350KV to 500KV | 25 (8) |
| Over 500KV to 750KV | 35 (11) |
| Over 750KV to 1000KV | 45 (14) |
| <i>NOTE: This requirement shall apply except where employer, local or government regulations are more stringent.</i> | |

- The minimum approach distance may be reduced if insulating barriers are installed to prevent contact, and the barriers are rated for the voltage of the line being guarded. These barriers shall not be part of (or attached to) the truck. The minimum approach distance shall be reduced to a distance within the designed working dimensions of the insulating barrier. This determination shall be made by a qualified person in accordance with the employer, local, or governmental requirements for work practices near energized equipment.

Section 1 - General Safety Practices

DANGER

Do not maneuver vehicle or personnel inside prohibited zone (MAD). Assume all electrical parts and wiring are energized unless known otherwise

CRUSH AND COLLISION HAZARDS

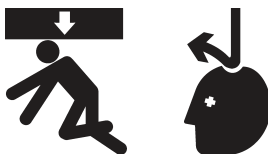


- Ensure to stay clear of oncoming traffic. Driver side and passenger side controls along with a wireless remote control are standard on your Jerr-Dan carrier.
- Keep clear of rear stabilizer
- Stay clear of equipment to avoid crushing injury.
- Always use jack stands to support the deck and/or towbar/wheel-lift before working underneath a lifted load.
- Warn personnel not to work, stand, or walk under a raised deck. Position barricades if necessary.
- Set parking brake and chock wheels of the recovery vehicle when connecting equipment.
- KEEP ALERT! Avoid distractions during any operating sequences.
- Be aware of height clearances when travelling.



- Look out for and avoid other personnel, machinery, vehicles and obstructions in the area when driving the truck. Use a spotter if you Do not have a clear view.

Section 1 - General Safety Practices



When opening tool compartments:

- Loose items may shift during transport. Properly secure items when not in use
- Ensure all tool compartment doors are properly closed prior to transport.

WINCH CABLE / FALLING LOAD HAZARDS

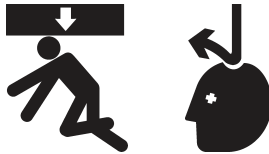


- Keep people away during operation.
- Never exceed capacity of rigging or cable.
- Never stand on or straddle cable.
- Always keep a minimum of five (5) wraps of cable on winch drum.
- Keep tension on cable when unwinding.
- NEVER work behind the truck with equipment on the deck unless the equipment is secured at the front of the deck. (Do not rely on the winch to hold the load).
- Stay to the side of the deck when winching.
- Keep cables from contacting sharp objects.
- Never wrap cables around objects. Use appropriate chains/straps to wrap around the equipment to be transported, and attach the cable hook to the chain/straps.
- Never allow the cable to cross over itself when wrapping on the drum.
- NEVER winch from the side of the bed. Winch only from the rear with load centered and in line with the winch. Failure to do so can result in winch or wire rope damage and/or bodily injury. Never use the deck winch for side pulling.
- Never use damaged cable. Never use cable menders. Replace damaged cable with cable and hooks of equal or greater rating.

Section 1 - General Safety Practices



- Keep hands away from cable and drum during operation.



- Block up the deck before performing any service or maintenance work under the deck. Jog winch clutch before pulling. Keep winch clutch engaged while the cable is loaded.
- Approved head gear must be worn during recovery operations.

UNCONTROLLED TOWED LOAD HAZARDS

- Always know the weight distribution of your load and ensure you are within your truck's Gross Axle Weight Rating (GAWR), Gross Vehicle Weight Rating (GVWR) and Gross Combination Weight Rating (GCWR) as well as any federal or state roading regulation. In addition, be aware of your vehicle's overall loaded height to be sure that you are under the federal bridge law height of 13 feet 6 inches.
- DO NOT exceed GAWR's or GCWR of the chassis.



- Use two (2) safety chains and four (4) tie down chains.
- Check chain tension periodically while in transit.
- Always retract towbar as close as possible.
- Ensure safety chains are properly attached from tow vehicle to towed equipment.
- After you have placed equipment on the carrier for towing, do not start the tow until tie-down straps and chains have been installed per the equipments recommended tie-down points.

Section 1 - General Safety Practices

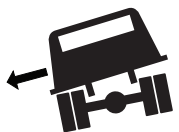
- Place the load evenly on the deck. Do not concentrate the load on one section of the deck, to the rear of the truck axles, or use towbar without a load on the deck.
- NEVER exceed towbar ratings. Overloading can cause unsafe steering and braking conditions.
- Secure equipment to the deck at both the front and rear before the vehicle is driven. NEVER rely on the winch as the only means of holding the load.

FALL HAZARDS



- NEVER walk or climb on the deck surface when the deck is tilted.
- NEVER drive equipment onto the deck. Always use the winch to pull the equipment onto the deck.
- DO NOT carry riders outside the cab. Riders could fall off the vehicle.
- NEVER allow riders in the towed equipment during lifting or transport.
- Only use approved ladders and grab handles and steps provided on the left side of the vehicle when accessing the deck. Always maintain 3-point contact, using two hands and one foot or two feet and one hand, when mounting or dismounting. These surfaces can become slippery, ensure to keep them and footwear clean and free of debris.

TIP-OVER HAZARDS



- Set up on firm surface only.
- Deploy rear bumper onto proper firm surface.
- Ensure truck is level prior to any operations.
- Make sure that equipment load is centered side to side.

Section 1 - General Safety Practices

CHEMICAL HAZARDS

Exhaust Fumes

- DO NOT operate vehicle in an enclosed area without proper ventilation.
- DO NOT operate the vehicle in hazardous environments unless approved for that purpose by Jerr-Dan and site owner. Sparks from the electrical system and the engine exhaust can cause an explosion.

Flammable Fuel



- DO NOT fill the fuel tank or service the fuel system near an open flame, sparks or smoking materials. Engine fuel is flammable and can cause a fire and/or explosion.

Hydraulic Fluid



- DO NOT attempt to repair or tighten any hydraulic hoses or fittings while the engine is running or when the hydraulic system is under pressure.
- Stop engine and relieve trapped pressure. Fluid in the hydraulic system is under pressure and can penetrate the skin.
- DO NOT use your hand to check for leaks. Use a piece of cardboard or paper to search for leaks. Wear gloves to protect hands from spraying fluid.

BATTERY HAZARDS



- Battery fluid is highly corrosive. Avoid contact with skin and clothing at all times.
- Keep sparks, flames, and lighted materials away from batteries.
- Charge batteries only in a well ventilated area.
- Wear proper eye protection when servicing battery.

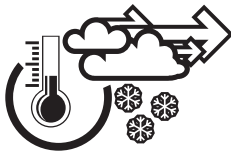
PERSONAL PROTECTIVE EQUIPMENT



- Use personal protective equipment when working on or around this vehicle.
- Remove rings, watches, jewellery, neckwear or other items that can catch in equipment.
- Wear :
 - o Snug fitting and sturdy long-sleeve shirt and long pants. Avoid loose fitting clothes.
 - o Sturdy gloves.
 - o Approved eye protection.
 - o Steel toed boots.
 - o Approved head gear.
 - o Approved hearing protection.

Section 1 - General Safety Practices

WEATHER CONDITIONS



- Be aware of the wind conditions. Wind may cause load to swing or shifting of load.
- If using in freezing conditions, you must be alert to possibility of ice forming on the device. Use Caution when extending and retracting winch cables, towbar, and stabilizer. In addition use caution when opening/closing body panels
- Hydraulic cylinders are subject to thermal expansion and contraction. This may result in changes to the deck, stabilizer and/or towbar position while the vehicle is stationary. Factors affecting thermal movement can include the length of time the vehicle is stationary, hydraulic oil temperature, and ambient air temperature.

VEHICLE EQUIPMENT DAMAGE

- Ensure vehicle is positioned in an area free from overhead obstructions. Keep a safe working distance from overhead power lines, bridges, road signs and other objects.
- Do not use a vehicle that has not been properly maintained. Make sure mounting bolts are tight and moving parts are lubricated.
- Do not tow a vehicle on its drive wheels unless steps have been taken to protect its transmission and differential. Follow the recommendations of the vehicle manufacturer.
- Never attach the chain hooks in such a way as to damage brake lines or other functional parts.
- Make sure all brakes and locks are properly set on the recovery vehicle.
- Do not operate the engine faster than recommended. Excessive speeds can damage PTO, hydraulic pumps, and winches.
- Deck approach tip and subframe bumper may damage paved surfaces.
- NEVER drive a vehicle onto the deck. Always use the winch to pull the vehicle onto the deck.
- Do not travel with the PTO engaged. Damage to the vehicle transmission and hydraulic components will occur. Engage the PTO only when operating the hydraulic controls.

Section 1 - General Safety Practices

- Always put the rear bumper on the ground to support the body and truck frame.
- Make sure deck is in the locked position before travelling.
- Do not use vehicle as a ground when performing any welding operations.

Eastern Wrecker Sales Inc

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 2 - PRE OPERATION AND INSPECTION

2.1 PRE-OPERATION CHECK AND INSPECTION

Note: Complete all required maintenance before operating unit.

WARNING

FALL HAZARD. Use extreme caution when checking items beyond your normal reach. Use an approved ladder.

The pre-operation check and inspection, performed at beginning of each work shift or at each change of operator, should include the following:

1. **Cleanliness** - Check all surfaces for leakage (oil, fuel or battery fluid) or foreign objects. Report any leakage to the proper maintenance personnel.
2. **Structure** - Inspect the vehicle structure for dents, damage, weld or parent metal cracks or other discrepancies.
3. **Safety Decals Placards** - Ensure all safety decals are legible and in place. Clean or replace as required. See page 2-2 for details.
4. **Operation and Safety Manual(s)** - Operation & Safety Manual(s) are in cab.
5. **Walk-Around Inspection** - See page 2-4 for details.
6. **Fluid Levels** - Check all fluids, including hydraulic oil, and winch gear case oil. When adding fluids, refer to Section 6 - Maintenance and Lubrication and Section 7 - Specifications to determine proper type and intervals. Before removing filler caps or fill plugs, wipe all dirt and grease away from the ports. If dirt enters these ports, it can severely reduce component life.
7. **Attachments/Accessories** - Inspect all attachments for dents, damage, weld or parent metal cracks or other discrepancies. Inspect tie-down straps for cuts, frays or tears. Inspect chains for weld or parent metal cracks or other discrepancies.
8. **Operational Check** - Once the walk-around inspection is complete, perform a warm-up and operational check (see page 2-8) of all systems in an area free of overhead and ground level obstructions. See Section 3 - Controls and Indicators for more specific operating instructions.

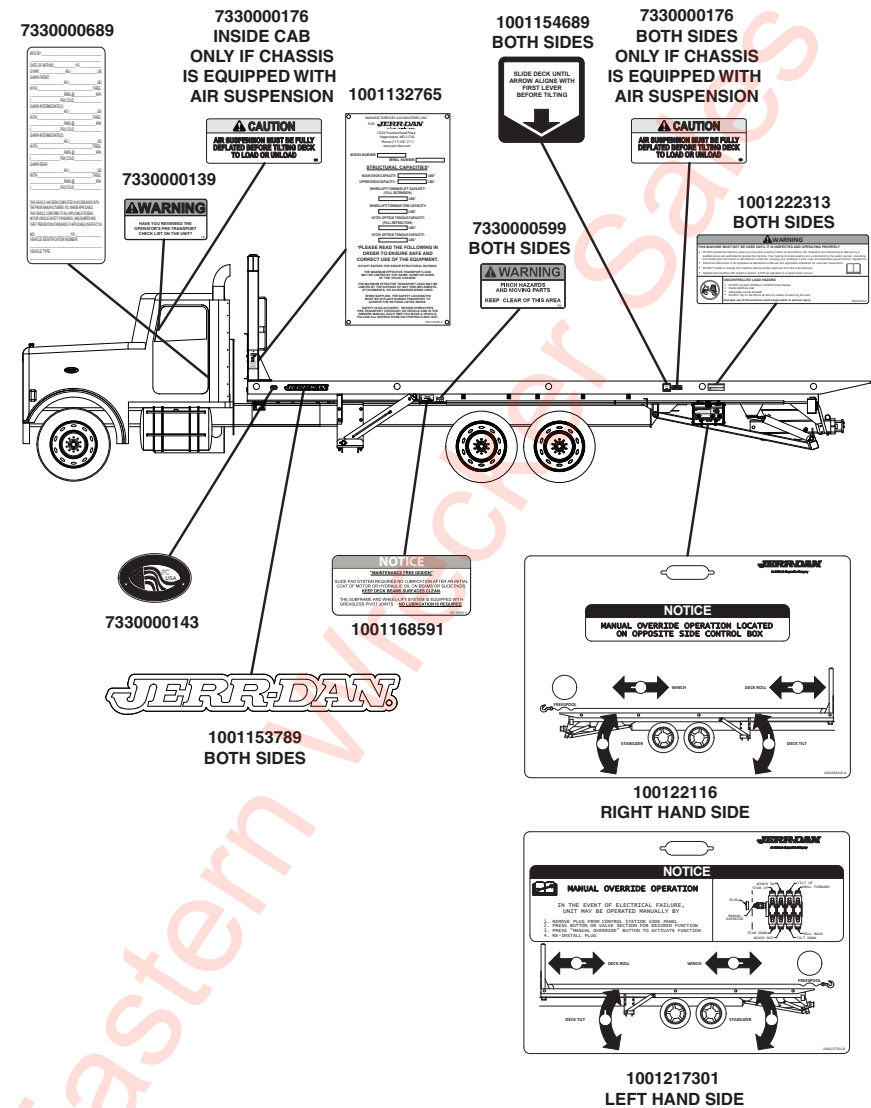
WARNING

If the vehicle does not operate properly, immediately bring the vehicle to a stop, and stop the engine. Determine cause and correct before continued use.

Section 2 : Pre-operation and Inspection

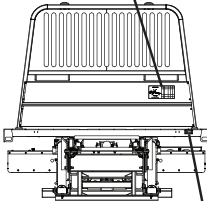
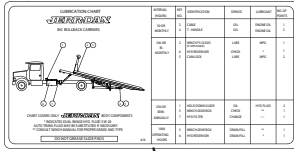
2.2 DECALS

Ensure all **DANGER, WARNING, CAUTION** and instructional decals and proper capacity charts are legible and in place. Clean and replace as required.



Section 2 : Pre-operation and Inspection

7330000478

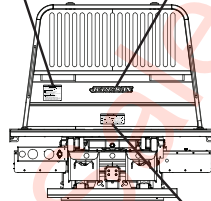


FRONT VIEW



1001127221

1001190625



REAR VIEW

1001153789

JERRDAN

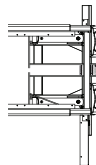


1001190626

7330000272



HYDRAULIC TANK



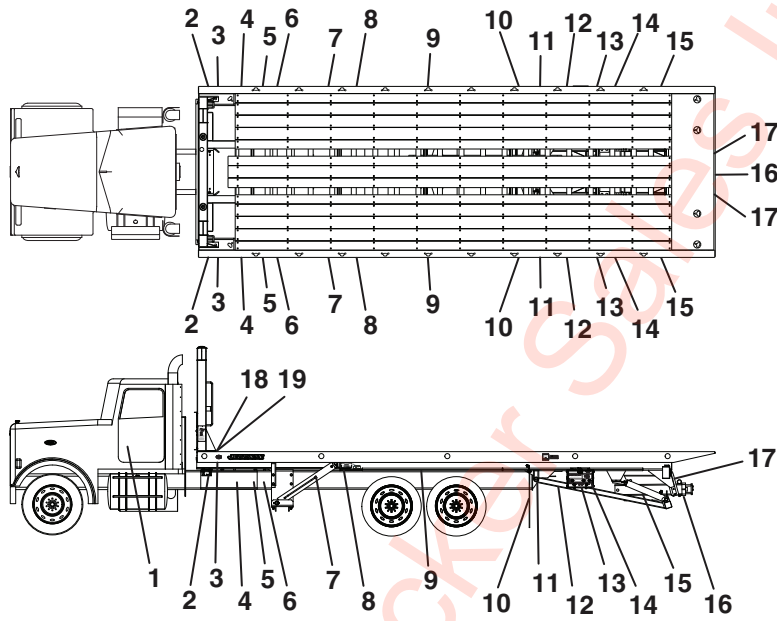
7330000684

OPTIONAL TOWBAR
(IF EQUIPPED)



7330000391

2.3 WALK-AROUND INSPECTION



Begin your walk-around inspection at item 1, as noted below checking each item in sequence.

INSPECTION NOTE: On all components, make sure there are no loose or missing parts, that they are securely fastened and no visible leaks or excessive wear exists in addition to any other criteria mentioned. Inspect all structural members for cracks, excessive corrosion and other damage.

⚠ WARNING

FALL HAZARD. Use extreme caution when checking items beyond your normal reach. Use an approved ladder.

⚠ CAUTION

All products are subject to age, wear and deterioration, all of which cause a reduction in the products breaking strength capacity. It is recommended that all products be regularly inspected to follow component manufacturer's recommendations. Any worn, deformed, misused or overloaded products must be replaced immediately.

Section 2 : Pre-operation and Inspection

1. Wireless Remote Hand Controller
 - a. Undamaged and operational
 - b. Wireless Remote Control Transmitter Holder secure
2. Deck Holddown System
 - a. Components undamaged
 - b. Holddowns secure
3. Folding Step(s) (If Equipped)
 - a. Components undamaged and operational
 - b. Secure
4. Hydraulic Tank
 - a. Hydraulic fluid level full
 - b. Hydraulic hoses undamaged, not leaking
5. Toolbox/Storage Compartment(s)
 - a. Components undamaged
 - b. Toolbox/Storage Compartment(s) secure
6. Traffic Cone Holder
 - a. Components undamaged
 - b. Holder secure
7. Tilt Cylinders
 - a. Hydraulic hoses undamaged, not leaking
 - b. Cylinder, not leaking
 - c. Pins, secure
 - d. Check for presence of grease
8. Subframe
 - a. Components undamaged

Section 2 : Pre-operation and Inspection

9. Rollback Cylinder

- a. Hydraulic hoses undamaged, not leaking
- b. Cylinder, not leaking
- c. Pins, secure

10. Mud Flaps

- a. Components undamaged
- b. Mud Flaps secure
- c. Mud Flaps are present

11. Deck Pivot

- a. Components undamaged
- b. Pins, secure
- c. Check for presence of grease

12. Stabilizer Arms

- a. Components undamaged
- b. Pins, secure
- c. Check for presence of grease

13. Controls

- a. Components and switches undamaged
- b. Hydraulic hoses and electric harnesses undamaged
- c. Valve and hydraulic hoses not leaking

14. Winch Air Controls

- a. Components undamaged
- b. Air lines undamaged, not leaking
- c. Valves, not leaking

15. Stabilizer Cylinder

- a. Hydraulic hoses undamaged, not leaking
- b. Cylinder, not leaking
- c. Pins, secure

16. Towbar

- a. Components undamaged
- b. Pins, secure

17. Chain Storage Boxes and Safety Chains

- a. Chain Storage Boxes undamaged
- b. Safety Chains are present
- c. Safety Chains are undamaged

18. Winch

- a. Hydraulic hoses undamaged, not leaking
- b. Gear oil level full

19. Wire Rope and Hook

- a. Wire Rope, undamaged
- b. Wire Rope, presence of grease
- c. Wire Rope Hooks, undamaged
- d. Wire Rope Hook Latches, undamaged and functional

Section 2 : Pre-operation and Inspection

2.4 OPERATIONAL CHECKS

OPERATIONAL CHECK

When engine warms, perform an operational check:

1. Service brake and parking brake operation.
2. Horn and back-up alarm. Must be audible from inside vehicle cab with engine running.
3. Hydraulic filter condition indicator.
4. Power-Take-Off operation.
5. Driver side and passenger side controlled functions - all functions operate smoothly and the controls return to the "Neutral Off" position.
6. Wireless remote control functions - all functions operate smoothly and the controls return to the "Neutral Off" position.
7. Wireless remote control transmitter holder "buzz box" in cab is operational. Audible alarm will sound when transmitter is removed with ignition switch "ON".
8. All lighting systems, operational.
9. Emergency lighting operation.

SECTION 3 - CONTROLS & INDICATORS

3.1 GENERAL

This section provides the necessary information needed to understand the control functions.

The controls inside the vehicle cab control the emergency lights, auxiliary lights and the Power Take Off. The Power Take Off provides a transfer of power from the transmission to a hydraulic pump to provide hydraulic power to the carrier hydraulics

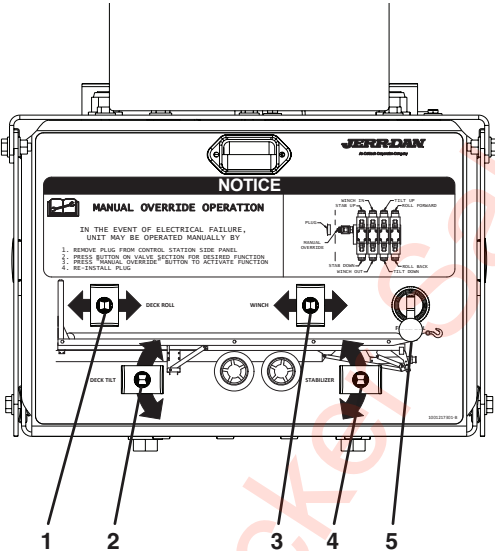
The controls at the rear of the body on both the left hand side and right hand side control all of the carrier functions.

The carrier is also be supplied standard with a wireless remote controller. The wireless remote controllers can be found inside the cab of the vehicle in the designated holder. The standard 10 function controller operates all of the carrier functions.

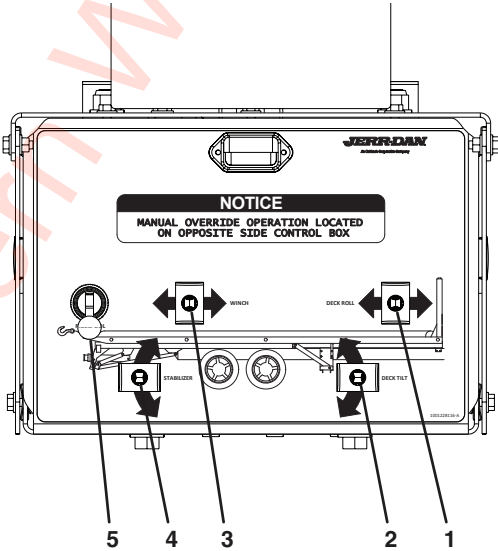
Note: *The manufacturer has no direct control over machine application and operation. The user and operator are responsible for conforming with good safety practices.*

3.2 CONTROLS

LEFT HAND - SIDE CONTROL STATION



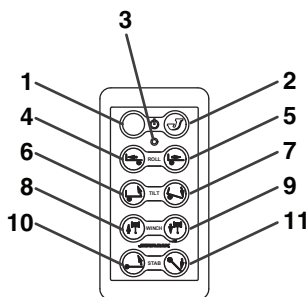
RIGHT HAND - SIDE CONTROL STATION



Section 3 - Controls & Indicators

1. Deck Roll Control : Controls the deck roll - Forward/Back
2. Deck Tilt Controls : Controls the deck tilt - Up/Down
3. Winch Controls : Controls the wire rope winding/unwinding functions of the winch.
4. Stabilizer Controls : Controls the Rear Stabilizer - Up/Down.
5. Winch Free-Spool Control : Controls the Winch Free-Spool

3.3 10 FUNCTION WIRELESS HAND CONTROLLER



- | | |
|--------------------------|--|
| 1. Power "OFF" Button | : Turns "OFF" the Hand Controller Power. |
| 2. Power "ON" Button | : Turns "ON" the Hand Controller Power. |
| 3. Power Indicator Light | : Indicates that the Hand Controller is powered "ON" when Illuminated. |
| 4. Deck Roll – Forward | : Controls the roll forward function of the deck. |
| 5. Deck Roll – Back | : Controls the roll back function of the deck. |
| 6. Deck Tilt – Up | : Controls the tilt up function of the deck. |
| 7. Deck Tilt – Down | : Controls the tilt down function of the deck. |
| 8. Winch – In | : Controls the wire rope winding function of the winch. |
| 9. Winch – Out | : Controls the wire rope unwinding function of the winch. |
| 10. Stabilizer – Up | : Controls the up function of the rear stabilizer. |
| 11. Stabilizer – Down | : Controls the down function of the rear stabilizer. |

NOTE: Audible alarm will sound when transmitter is removed from the transmitter holder with the ignition switch turned "ON".

SECTION 4 - OPERATION

Operating controls for your carrier are conveniently located on the left hand side. Another set of controls are located on the right hand side. There is also a wireless handheld remote controller that controls all the carrier functions. Do not use the wireless remote controller from inside the vehicle

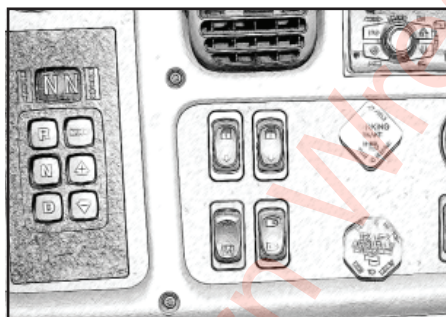
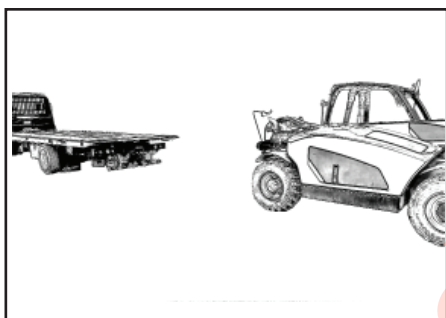
⚠ WARNING

CRUSH HAZARD. Always operate the controls from the side away from traffic.

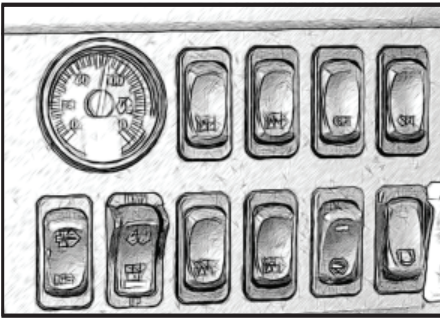
4.1 TILTING THE DECK/LOADING

Follow these simple steps:

1. Turn on the body lights and any work lights, as necessary. (Switches are located on the switch panel in the dash).
2. Position the rear of the carrier deck about 12 feet from the equipment you intend to load. Make sure the vehicle is in line with the equipment.
3. Place the vehicle transmission gear selector into Neutral or Park and set the parking brakes.



Section 4: Operation



- Engage the power take-off (PTO). Refer to PTO operator's manual.

NOTICE

NEVER TRAVEL WITH THE POWER TAKE OFF CONTROL ENGAGED. This could result in damage to the PTO unit and the recovery vehicle's transmission.

- Adjust the electronic or manual throttle control to set the engine speed to approximately 1000-1200 R.P.M. Refer to chassis operator's manual for proper operation of the auxiliary throttle. If your chassis is equipped with the remote throttle up option from the chassis manufacturer there is no need to set the throttle up control in the cab because the throttle will automatically increase when any of the carrier hydraulic functions are operated.

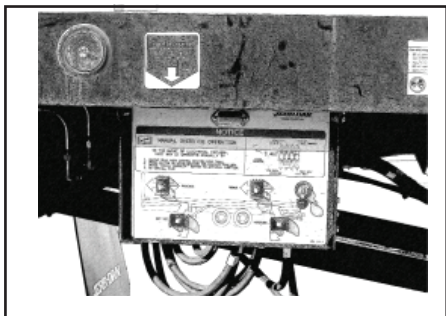
NOTICE

Never exceed 1200 R.P.M. When your ready to travel, reset the engine idle to normal.



- Block the carrier's rear tires with wheel chocks to prevent accidental carrier movement. Check the area around the carrier and the equipment to be loaded for obstructions or hazards.

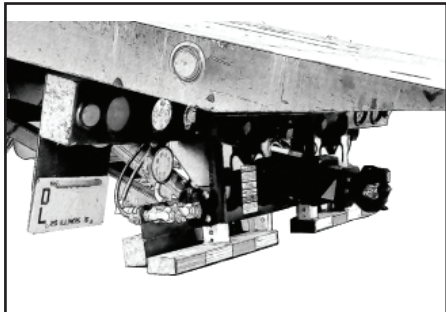
Section 4 : Operation



- Slide the deck back. Align the arrow decal pointer on the side of the deck with the deck control switch in the control panel.

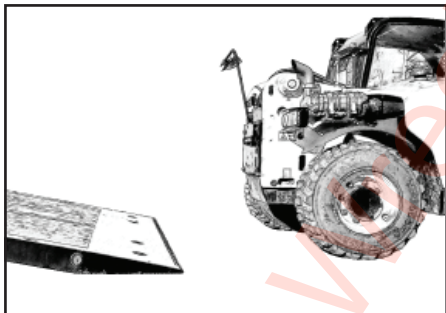
NOTICE

Tilting the deck too soon may cause damage to the mechanical hold down.



- Raise the front of the deck until the rear bumper rests firmly on the ground.

- Slide the deck back again. Continue sliding the deck back until the approach plate makes firm contact with the ground. Make sure that the rear bumper and the approach plate are both in firm contact with the ground before loading so there is equal weight distribution between the rear bumper and the end of the deck.

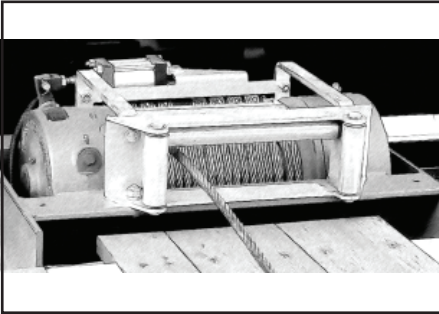


- Next, unreel enough of the wire rope/cable from the winch to make your hookup. If you are a two man operation, operate the winch control and unreel the wire rope/cable from the winch while the second man keeps the wire rope/cable taut. If you are a one man operation, you can use the remote winch free spool device. (See winch operation, page 4-15)



⚠ WARNING

Maintain a minimum of five (5) wraps of wire rope/cable on the winch drum at all times. Also maintain a uniform wrap of wire rope/cable on the drum to avoid crushing of the wire rope/cable.



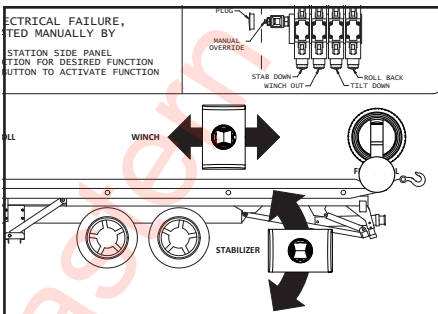
11. Attach the wire rope/cable to the equipment to be loaded. Always use V-straps or hook-up chains to attach the wire rope/cable to the equipment. **Refer to the equipment manufacturer's manual for correct tie-down attachment points.** For the best weight distribution of your load, make sure the equipment is loaded onto the deck with the heavy end forward.

⚠ CAUTION

Always use V-straps or hook-up chains. Never connect the wire rope/cable hook directly to equipment. Never hook the wire rope/cable back onto itself because damage to the wire rope/cable will occur.

⚠ CAUTION

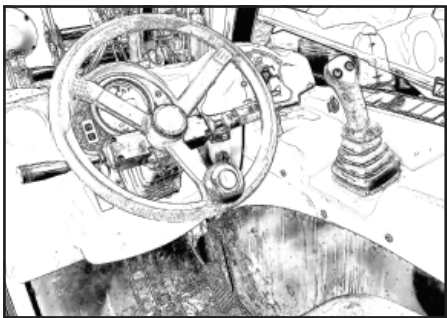
Always attach the wire rope/cable with the hook pointing up.



12. Re-engage the winch clutch. (See winch operation, page 4-15)

13. Slowly operate the Winch Control to remove any slack in the wire rope/cable.

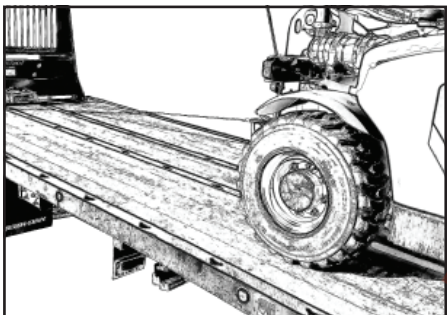
Section 4 : Operation



14. Make sure the equipment's parking brake is released and the transmission is in Neutral.

NOTICE

Properly chock the equipment's wheels to prevent it from rolling until the wire rope/cable is under tension



15. Operate the Winch Control handle and begin winching the equipment onto the deck and into the transport position.

NOTICE

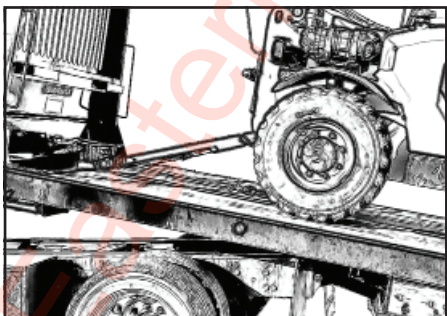
Make sure that the equipment is centered side to side

⚠ CAUTION

Always winch the equipment onto the deck. Never drive equipment onto the deck.

⚠ CAUTION

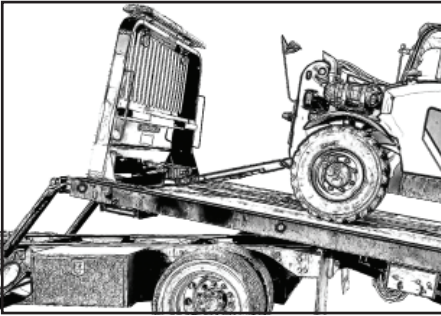
Remain clear of the load while winching. Never walk between the winch and its load when the winch and wire rope/cable is under tension.



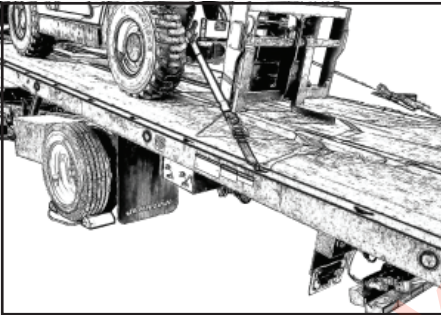
16. Secure the equipment to the front of the deck. NEVER rely on the winch to hold the load.

⚠ CAUTION

There is no need to access the equipment once it is loaded on the deck. NEVER walk or climb on the deck surface.



17. Operate the Winch to spool out some wire rope/cable to preload the tie-downs.



18. Slide the deck forward. Align the arrow decal pointer on the side of the deck with the deck control switch in the control panel.

NOTICE

Lowering the deck too late may cause damage to the mechanical hold down.

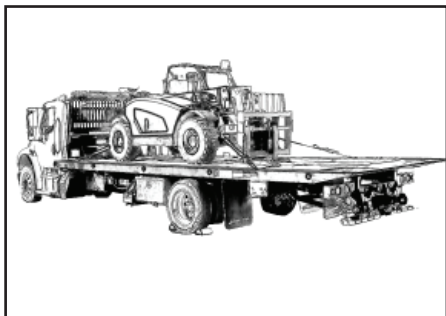


19. Secure the equipment to the rear of the deck.



20. Once the equipment is secured from movement in all directions, lower the front of the deck to the subframe.

Section 4 : Operation



21. Slide the deck completely forward until it engages the hold downs and into the transport position.

⚠ WARNING

Always use approved tie downs per the equipment manufacturers instructions. Although the winch wire rope/cable should remain attached to the equipment and taut during transport, never rely on the winch and wire rope/cable to secure the equipment to the carrier deck.

⚠ WARNING

Always refer to the Operator's Pre-Transport Checklist located on the headboard of the deck before transporting. Make sure you have followed all of the items on the list.



22. Remove the wheel chocks from the carrier's rear tires.

23. Disconnect the power take-off (PTO). Refer to PTO operator's manual.

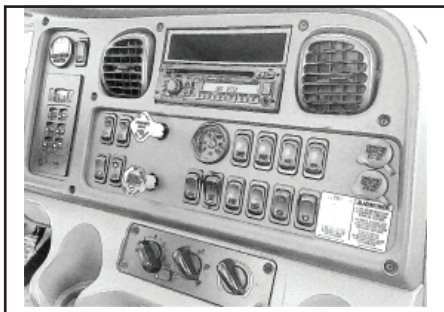


NOTICE

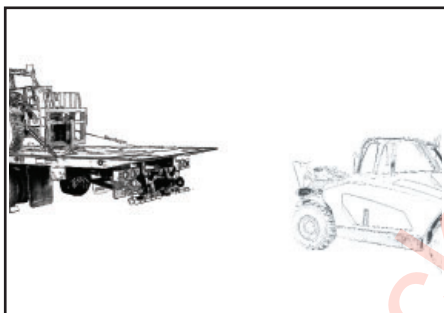
NEVER TRAVEL WITH THE POWER TAKE OFF CONTROL ENGAGED. This could result in damage to the PTO unit and the recovery vehicle's transmission.

4.2 TILTING THE DECK/UNLOADING

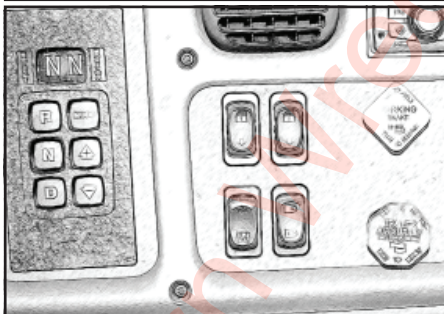
Follow these simple steps:



1. Turn on the body lights and any work lights, as necessary. (Switches are located on the switch panel in the dash).



2. Position the rear of the carrier allowing significant area to unload the equipment.



3. Place the carrier's transmission gear selector into Neutral or Park and set the parking brakes.



4. Engage the power take-off (PTO). Refer to PTO operator's manual.

NOTICE

NEVER TRAVEL WITH THE POWER TAKE OFF CONTROL ENGAGED. This could result in damage to the PTO unit and the recovery vehicle's transmission.

Section 4 : Operation

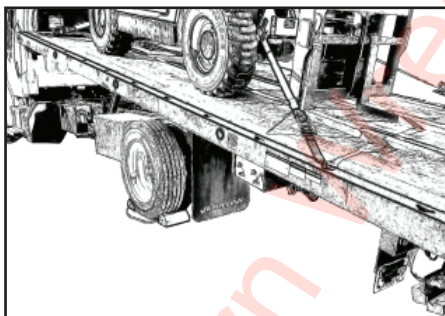
5. Adjust the electronic or manual throttle control to set the engine speed to approximately 1000-1200 R.P.M. Refer to chassis operator's manual for proper operation of the auxiliary throttle. If your chassis is equipped with the remote throttle up option from the chassis manufacturer there is no need to set the throttle up control in the cab because the throttle will automatically increase when any of the carrier hydraulic functions are operated.

CAUTION

Never exceed 1200 R.P.M. When your hook up is complete, reset the engine idle to normal.



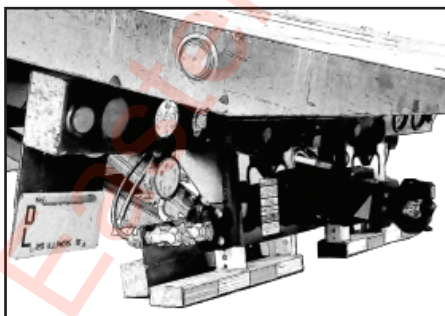
6. Block the vehicle's rear tires with wheel chocks to prevent accidental vehicle movement. Check the area around the carrier and the equipment to be loaded for obstructions or hazards.



7. Slide the deck back. Align the arrow decal pointer on the side of the deck with the deck control switch in the control panel.

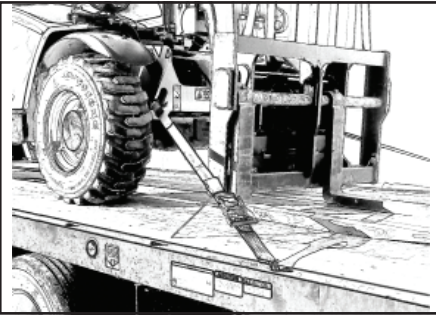
NOTICE

Tilting the deck too soon may cause damage to the mechanical hold down..



8. Raise the front of the deck until the rear bumper rests firmly on the ground.

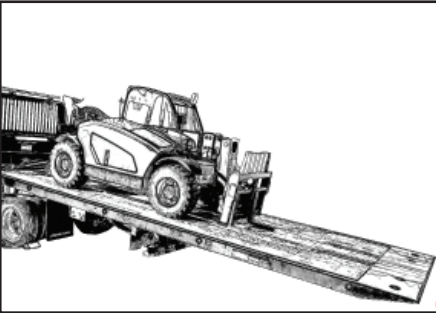
Section 4: Operation



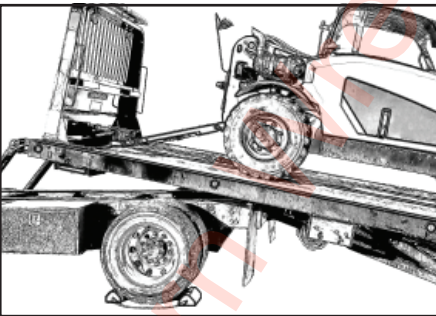
9. Remove the tie-downs from the equipment at the rear of the deck.

! CAUTION

NEVER walk or climb on the deck surface.

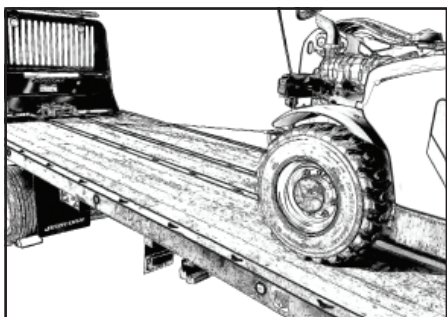


10. Slide the deck back. Slide the deck back until the approach plate makes firm contact with the ground. Make sure that the rear bumper and the approach plate are both in firm contact with the ground before loading so there is equal weight distribution between the rear bumper and the end of the deck.



11. Slowly operate the Winch Control handle to take-up any slack in the wire rope/cable to allow the front tie-downs to become slack and loose.
12. Remove the tie-downs from the equipment at the front of the deck.

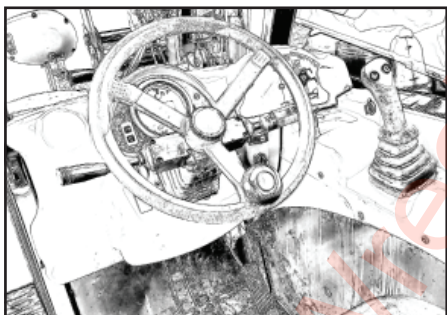
Section 4 : Operation



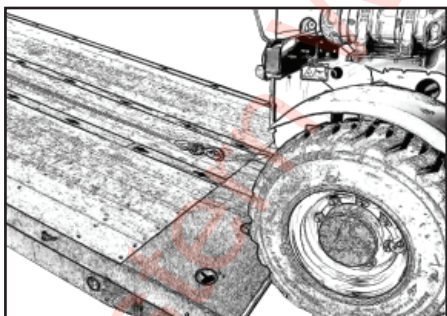
13. Operate the Winch Control handle and start unreeling the wire rope/cable from the winch. Unreel enough of the wire rope/cable from the winch to allow the equipment to roll/slide off of the carrier deck.

WARNING

Maintain a minimum of five (5) wraps of wire rope/cable on the winch drum at all times. Also maintain a uniform wrap of wire rope/cable on the drum to avoid crushing of the wire rope/cable.

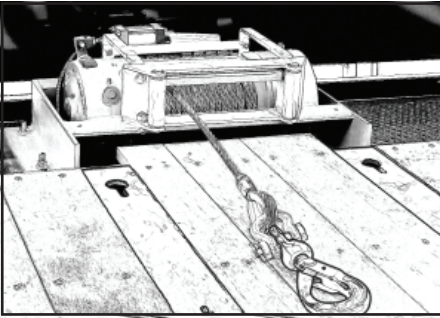


14. Set the equipment's parking brake and put the transmission into Park (if equipped).

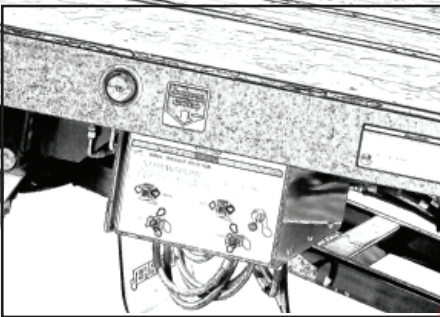


15. Remove the hook-up chains and wire rope/cable.

Section 4: Operation



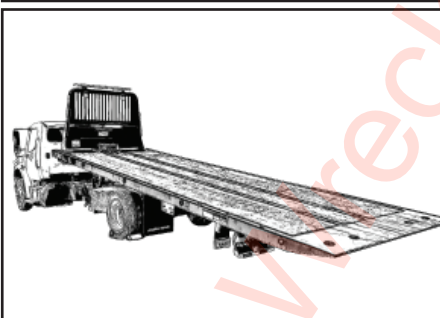
16. Spool the wire rope/cable back onto the winch drum. Keep tension on the wire rope/cable so that the wire wraps properly on the winch spool to avoid birdnesting.



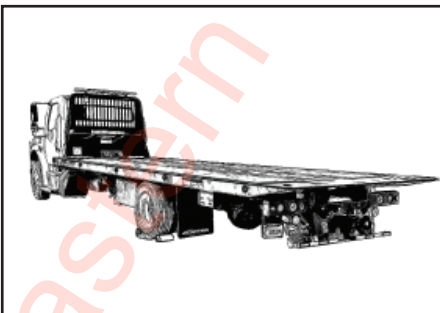
17. Slide the deck forward. Align the arrow decal pointer on the side of the deck with the deck control switch in the control station.

NOTICE

Lowering the deck too late may cause damage to the mechanical hold down.



18. Lower the front of the deck to the subframe.

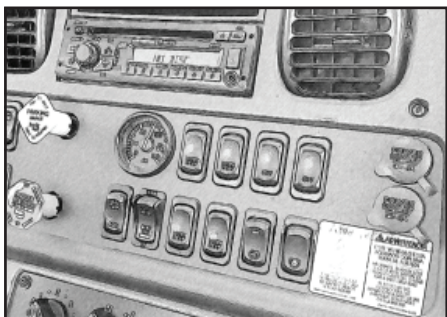


19. Slide the deck completely forward until it engages the hold downs and into the transport position.

Section 4 : Operation



20.Remove the wheel chocks from the carrier's rear tires.



21.Disconnect the power take-off (PTO). Refer to PTO operator's manual. .

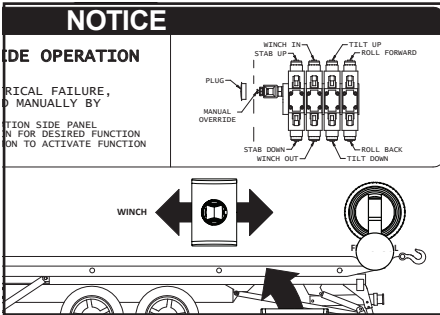
NOTICE

NEVER TRAVEL WITH THE POWER TAKE OFF CONTROL ENGAGED. This could result in damage to the PTO unit and the recovery vehicle's transmission.

4.3 WINCH OPERATION

Follow these simple steps to disengage the winch:

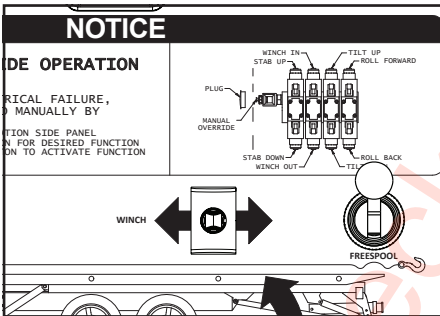
1. To disengage the winch clutch, run the winch in the reverse (reel out) direction until the load is off the wire rope/cable.



! WARNING

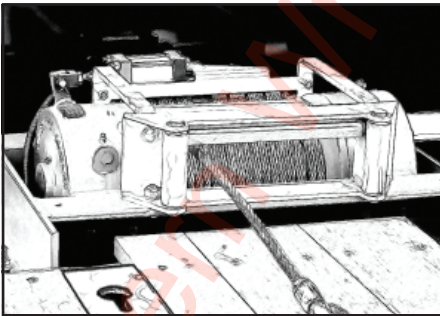
Never move the free spool lever while the wire rope/cable is under load.

2. Move the free spool lever in the control station up into the free spool position.
3. Run the winch in the forward (reel in) direction to disengage the clutch. The winch clutch is now disengaged and the wire rope/cable may be pulled out by hand.



! WARNING

Maintain a minimum of five (5) wraps of wire rope/cable on the winch drum at all times. Also maintain a uniform wrap of wire rope/cable on the drum to avoid crushing of the wire rope/cable.

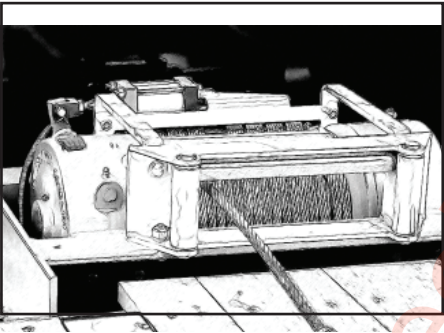
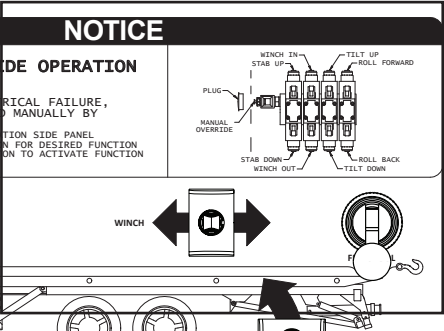


! WARNING

Always wear gloves when handling wire rope/cable.

Section 4 : Operation

Follow these simple steps to reengage the winch:



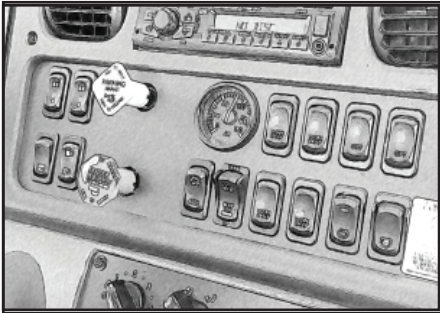
1. To re-engage the winch clutch simply move the free spool lever in the control station down into the engage position
2. Run the winch in reverse (reel out) direction until the winch drum starts turning. After the winch clutch is fully engaged, the winch is ready for winching.

CAUTION

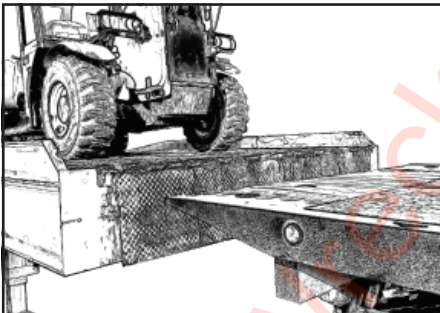
Do not attempt to pull a load unless the winch free spool is completely engaged.

4.4 REAR STABILIZER - DOCK LOADING

The rear dock stabilizer allows the operator to raise the rear tip of the deck to a dock level loading position.



1. Turn on the body lights and any work lights, as necessary. (Switches are located on the switch panel in the dash.).

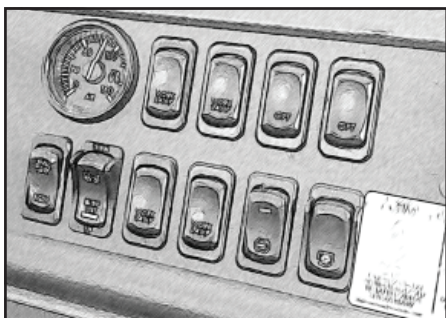


2. Position vehicle so that the rear tip of the deck about 1 foot from the loading dock/platform that you intend to load from.



3. Place the vehicle's transmission gear selector into Neutral or Park and set the parking brakes.

Section 4 : Operation



- Engage the power take-off (PTO). Refer to PTO operator's manual.

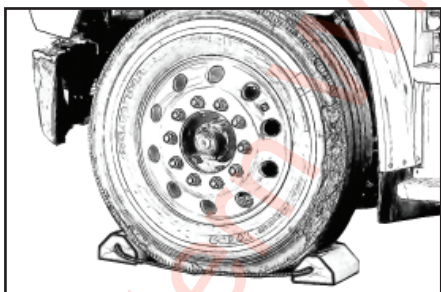
NOTICE

NEVER TRAVEL WITH THE POWER TAKE OFF CONTROL ENGAGED. This could result in damage to the PTO unit and the recovery vehicle's transmission.

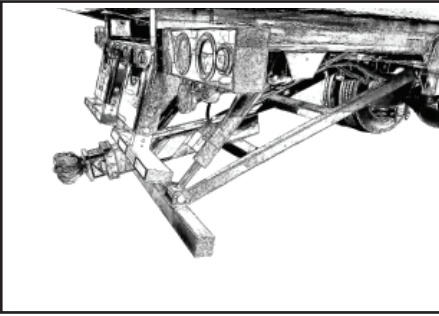
- Adjust the electronic or manual throttle control to set the engine speed to approximately 1000-1200 R.P.M. Refer to chassis operator's manual for proper operation of the auxiliary throttle. If your chassis is equipped with the remote throttle up option from the chassis manufacturer there is no need to set the throttle up control in the cab because the throttle will automatically increase when any of the carrier hydraulic functions are operated.

! CAUTION

Never exceed 1200 R.P.M. When your hook up is complete, reset the engine idle to normal.



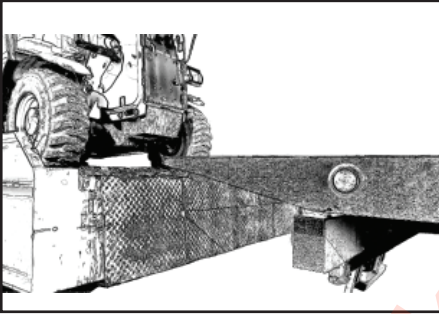
- Block the vehicle's front tires with wheel chocks to prevent accidental vehicle movement. Check the area around the vehicle and the equipment to be loaded for obstructions or hazards.



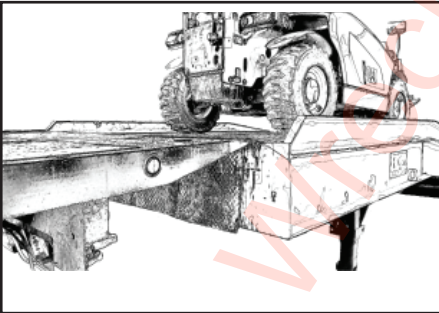
7. Lower the rear dock stabilizer to the ground.

NOTICE

Stabilizer must be in firm contact with the ground during any dock/platform loading. Clear any obstacles from the ground where the stabilizers will rest.



8. Continue to lower the rear dock stabilizer until the rear tip of the deck is level with the loading dock/platform.



9. Slide the deck back to meet the loading dock/platform.

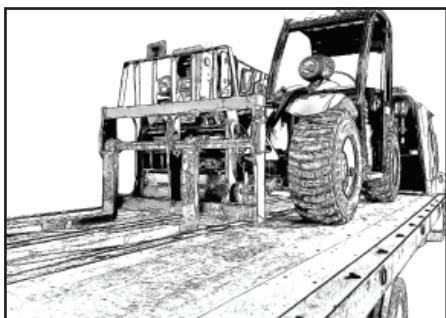


10. Load equipment onto the deck and into the transport position.

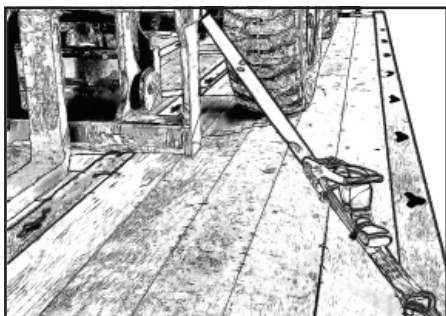
NOTICE

Make sure that the equipment is centered side to side.

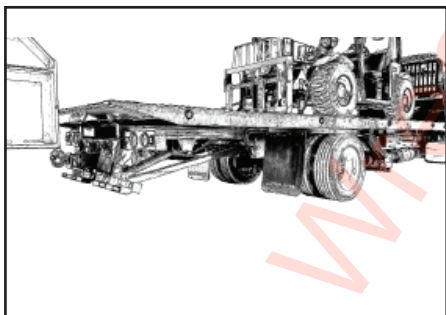
Section 4 : Operation



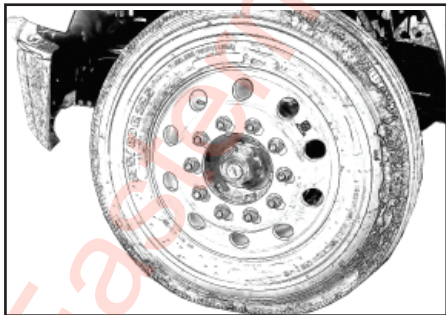
11. Secure the load to the deck.



12. Once the equipment is secured from movement in all directions, slide the deck completely forward into the transport position.



13. Raise the rear dock stabilizer off of the ground and the transport position.



14. Remove the wheel chocks from the vehicles front tires



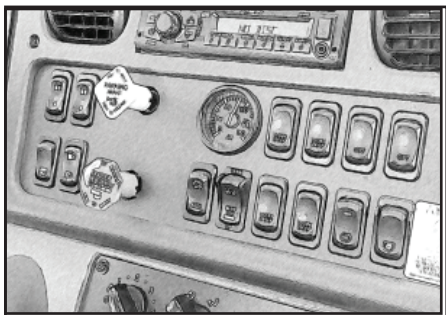
15. Disconnect the power take-off (PTO). Refer to PTO operator's manual.

NOTICE

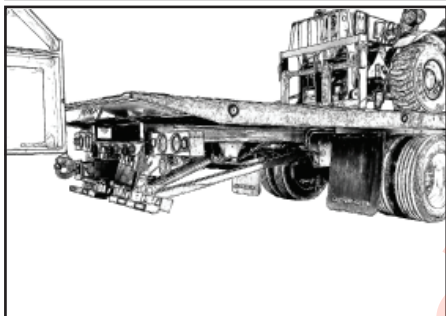
NEVER TRAVEL WITH THE POWER TAKE OFF CONTROL ENGAGED. This could result in damage to the PTO unit and the recovery vehicle's transmission.

Section 4 : Operation

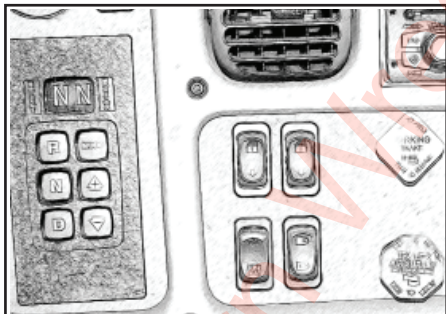
4.5 REAR STABILIZER - DOCK UNLOADING



1. Turn on the body lights and any work lights, as necessary. (Switches are located on the switch panel in the dash.).



2. Position vehicle so that the rear tip of the deck about 1 foot from the loading dock/platform that you intend to unload onto.



3. Place the vehicle's transmission gear selector into Neutral or Park and set the parking brakes.

Section 4: Operation



4. Engage the power take-off (PTO). Refer to PTO operator's manual.

NOTICE

NEVER TRAVEL WITH THE POWER TAKE OFF CONTROL ENGAGED. This could result in damage to the PTO unit and the recovery vehicle's transmission.

5. Adjust the electronic or manual throttle control to set the engine speed to approximately 1000-1200 R.P.M. Refer to chassis operator's manual for proper operation of the auxiliary throttle. If your chassis is equipped with the remote throttle up option from the chassis manufacturer there is no need to set the throttle up control in the cab because the throttle will automatically increase when any of the carrier hydraulic functions are operated.

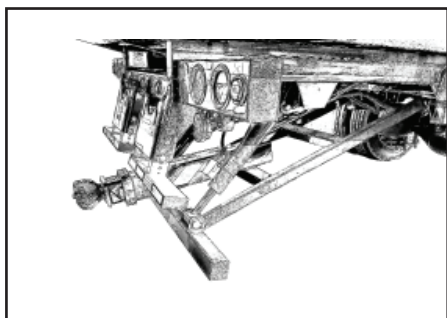
! CAUTION

Never exceed 1200 R.P.M. When your hook up is complete, reset the engine idle to normal.

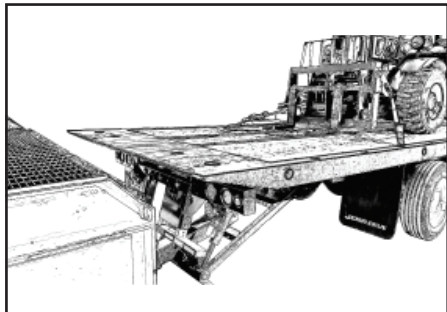


6. Block the vehicle's front tires with wheel chocks to prevent accidental carrier movement. Check the area around the vehicle and the equipment to be loaded for obstructions or hazards.

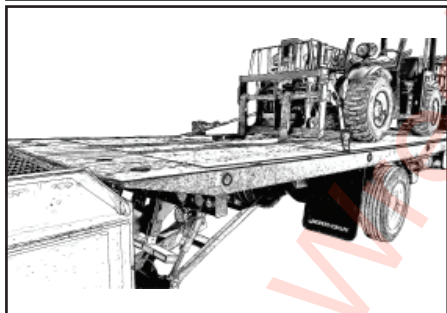
Section 4 : Operation



7. Lower the rear dock stabilizer to the ground.



8. Continue lower the rear dock stabilizer until the rear tip of the deck is level with the loading dock/platform.

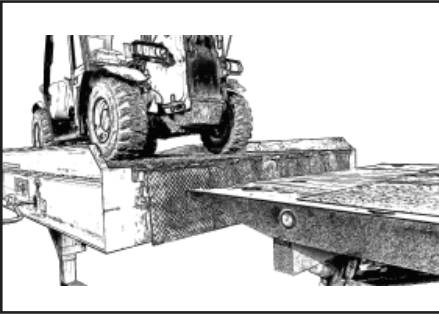


9. Slide the deck back to meet the loading dock/platform.

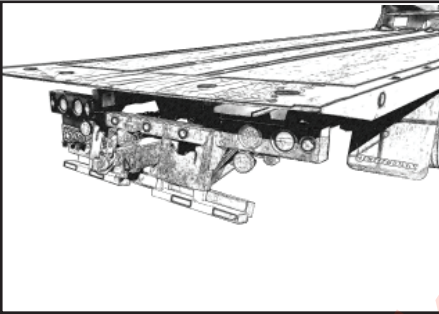


10. Unload equipment off the deck and onto the loading dock/platform.

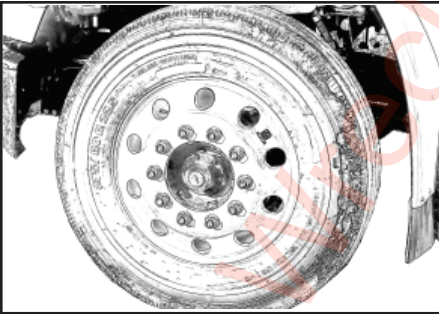
Section 4: Operation



11. Slide the deck completely forward into the transport position.



12. Raise the rear dock stabilizer off of the ground and to the transport position.



13. Remove the wheel chocks for the vehicle's front tires



14. Disconnect the power take-off (PTO). Refer to PTO operator's manual.

NOTICE

NEVER TRAVEL WITH THE POWER TAKE OFF CONTROL ENGAGED. This could result in damage to the PTO unit and the recovery vehicle's transmission.

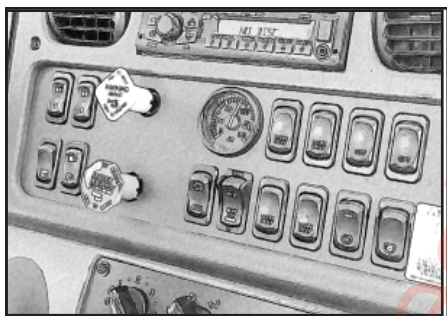
Section 4 : Operation

4.6 REAR STABILIZER - PINTLE HOOK TOW OPTION

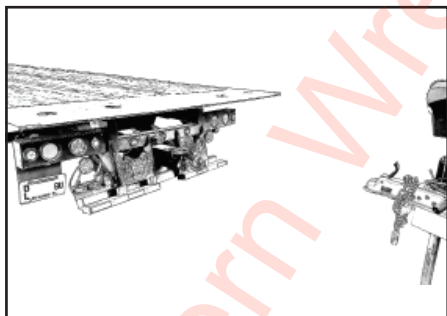
The rear stabilizer with the optional pintle hook tow bar allows for a trailer or equipment with a loop/hook hitch to be towed.

WARNING

Because of the additional boom extension and load point of the towed trailer or equipment, the tow bar places more load on the rear axle and unloads the front axle more than a conventional tow bar. Overloading the tow bar may result in unsafe steering and braking conditions and may damage truck frame. Never use the tow bar without equipment on the deck. Single equipment transport must utilize the deck only..

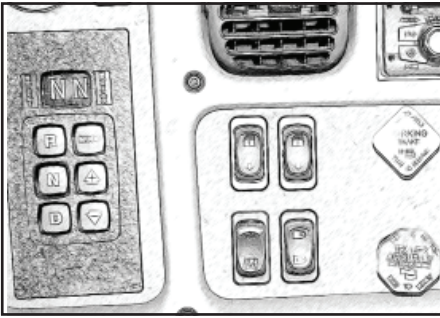


1. Turn on the safety and work lights. (Switches are located on the switch panel in the dash.).

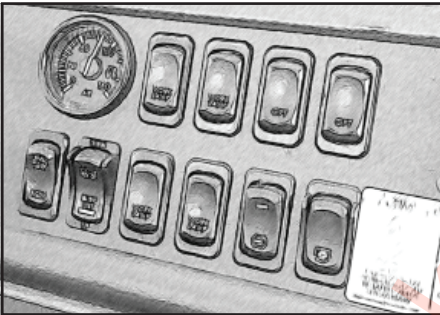


2. Position carrier so that the rear tip of the deck about 4 feet from and in-line with the trailer/equipment you intend to load.

Section 4: Operation



3. Place the vehicle's transmission gear selector into Neutral or Park and set the parking brakes.



4. Engage the power take-off (PTO). Refer to PTO operator's manual.

NOTICE

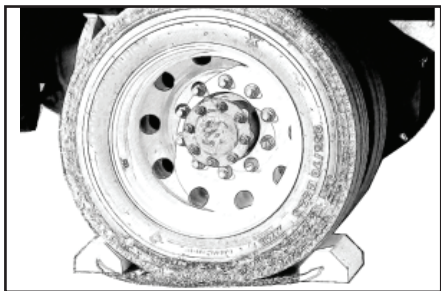
NEVER TRAVEL WITH THE POWER TAKE OFF CONTROL ENGAGED. This could result in damage to the PTO unit and the recovery vehicle's transmission.

5. Adjust the electronic or manual throttle control to set the engine speed to approximately 1000-1200 R.P.M. Refer to chassis operator's manual for proper operation of the auxiliary throttle. If your chassis is equipped with the remote throttle up option from the chassis manufacturer there is no need to set the throttle up control in the cab because the throttle will automatically increase when any of the carrier hydraulic functions are operated.

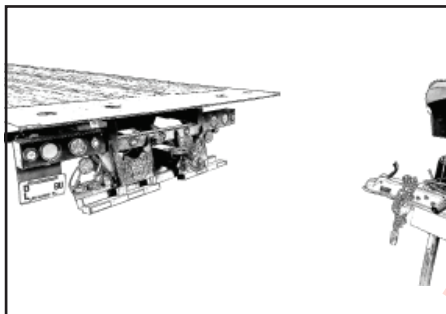
⚠ CAUTION

Never exceed 1200 R.P.M. When your hook up is complete, reset the engine idle to normal.

Section 4 : Operation



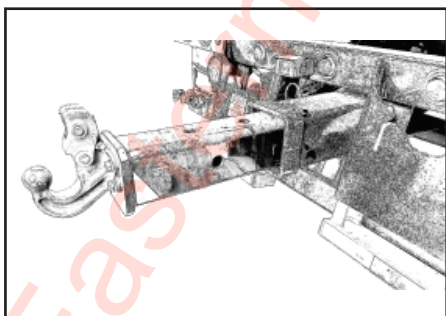
6. Block the vehicle's tires with wheel chocks to prevent accidental vehicle movement. Check the area around the carrier and the equipment to be loaded for obstructions or hazards.



7. Lower the stabilizer tow option to the correct height to allow hookup of trailer/equipment.

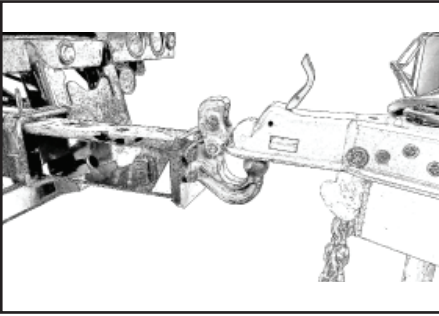


8. Remove the safety pin from tow bar by removing the hairpin and pulling the safety pin from the tow bar.

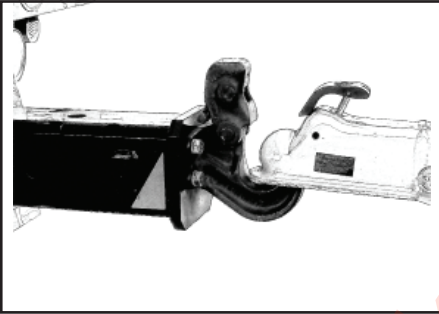


9. Manually extend the tow bar and pintle hook to trailer/equipment to be towed.

Section 4: Operation



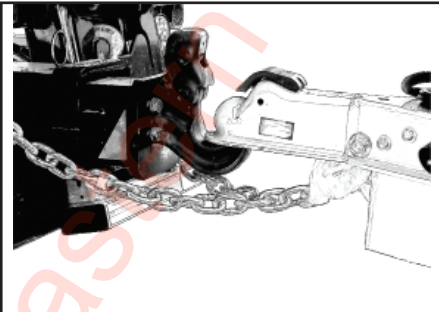
10. Position the loop/hook hitch over the pintle hook and lock into place.



11. Adjust the stabilizers and trailer/equipment into the final travel position.



12. Align the hole in the top outer tow bar tube with a hole in the top of the inner tow bar tube and secure with the safety pins.



13. Connect the trailer/equipment lights and attach safety chains.

Section 4 : Operation



14. Disconnect the power take-off (PTO). Refer to PTO operator's manual.

NOTICE

NEVER TRAVEL WITH THE POWER TAKE OFF CONTROL ENGAGED. This could result in damage to the PTO unit and the recovery vehicle's transmission.

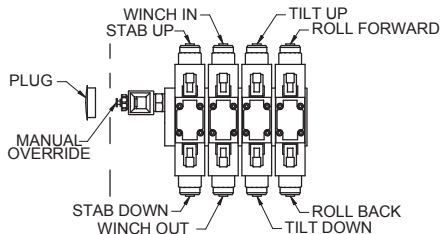
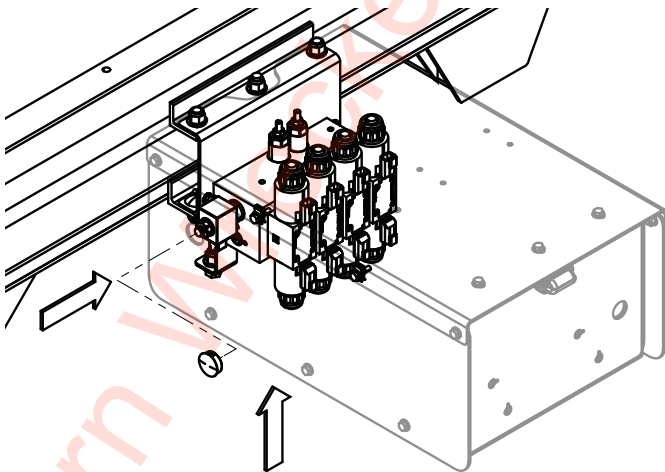
SECTION 5 - EMERGENCY PROCEDURES

5.1 ELECTRIC/HYDRAULIC FAILURE RAISING/LOWERING/EXTENDING/RETRACTING DECK

In the event of loss of electric power with an elevated or extended deck, the hydraulics can be operated manually. **Use manual hydraulic override operations.**

Secure the vehicle using the following procedures:

1. Remove plug from control station side panel.
2. Press button on valve section for desired function.
3. Press "Manual Override" button to activate function.
4. Re-install plug.



Section 5 : Emergency Procedures

5.2 ENGINE FAILURE

RAISING/LOWERING/EXTENDING/RETRACTING DECK

In the event of total loss of engine power or hydraulic pump failure with an elevated or extended deck, **Contact a local Authorized Distributor for specific instructions.**

Secure the vehicle using the following procedures:

1. Clear the area around the unit of all personnel.
2. Engage the parking brake. Place the transmission control lever in "PARK".
3. Chock the vehicle's front and rear wheels.
4. If equipment is unsecured on the deck, secure equipment.
5. Section off the area to restrict any personnel from entering the area.

SECTION 6 - MAINTENANCE

INTRODUCTION

Service the product in accordance with the maintenance schedule on the following pages.

Wear all the protective clothing and personal safety devices issued to you or called for by job conditions.

DO NOT wear loose clothing or jewelry that can get caught on controls or moving parts.

Clean lubrication fittings before lubricating.

Intervals shown are for normal usage and conditions. Adjust intervals for abnormal usage and conditions.

Check all lubricant levels when lubricant is cool. For ease of filling hydraulic reservoir, use a funnel with a hose or flexible tube for best results.

When performing maintenance that requires accessing the top of the truck, use only an approved ladder.



Use only safe practices when maintaining this equipment. Always shut off the engine before reaching into pinch areas.

Place Do Not Operate Tags on the ignition switch and the steering wheel before attempting to perform any service or maintenance. Remove the key and disconnect battery leads.

WARNING

CUT/CRUSH/BURN HAZARD. Do not perform service or maintenance on the machine with the engine running, with the exception of the hydraulic return filter indicator checks.

WARNING

The vehicle hydraulic system operates at extremely high and potentially dangerous pressures. The operator must relieve any system pressure before disconnecting or removing any portion of the system.

6.1 MAINTENANCE AND LUBRICATION

The truck chassis itself is on a maintenance schedule recommended by the manufacturer. Follow these guidelines and protect your vehicle warranty.

There are a number of different lubricants used on your vehicle. The following Lubricant Chart shows the proper lubricant and the most common brands and specification which meet the requirements. Refer to Section 6.2.

The hydraulic filter located on the return side of the hydraulic tank comes equipped with restriction indicator gauges. The gauge shows the condition of the filter element. When the needle reaches the red band (25 psi), the filter is starting to bypass and the element needs to be changed. Failure to change the filter element will result in premature wear and/or failure of any or all of the hydraulic components. Only check gauge when hydraulic fluid is at operating temperature. Cold oil is more dense and will give a false indicator gauge reading. Refer to Section 6.5.

For all sling, strap, chain and lifting components refer to the manufacturer inspection and maintenance schedules.

6.2 OILS AND GREASES

The following oils and greases are suitable for use with the Jerr-Dan Vehicle.

| Company | Product |
|-----------------------|---|
| HYDRAULIC OILS | |
| 1. Chevron | Clarity AW 46 |
| 2. Exxon | Univis N46 |
| 3. Mobil | Mobilfluid 424 |
| 4. Texaco | Rando HD 46 |
| 5. Kendall | AW 46 |
| 6. Citgo | Mystik AW 46 |
| 7. Amoco | AW 46 |
| 8. Conoco | Super |
| 9. Mobil | DTE10 Excel 32 (for cold weather use below 20°F) |
| 10. Conoco | AW Hydraulic Fluid MV 32 (for cold weather use below 20°F) |
| GREASES | |
| 1. Drydene | HD Lithium EP2 |
| 2. Gulf | Crown EP2 |
| 3. Amoco | Amolith EP2 |
| 4. Shell | Alvania EP2 |
| 5. Texaco | Marfax EP2 |
| 6. Mobil | Mobilux EP2 |
| 7. Sunoco | Prestige EP2 |
| WINCH | |
| Mobil | SAE 75W-90 Synthetic Gear Lube (or approved equivalent) |

Section 6 - Maintenance

| Company | Product |
|---------|---|
| Mobile | WIRE ROPE Motor Oil (or other approved deep penetrating equivalent) |

6.3 WIRE ROPE HANDLING AND INSPECTION

! WARNING

Wire Rope **WILL FAIL** if worn-out, overloaded, misused, damaged, improperly maintained or abused.

Wire rope failure may cause serious injury or death!

Protect yourself and others:

- NEVER USE wire rope that is WORN-OUT, DAMAGED or ABUSED.
- NEVER OVERLOAD a wire rope.
- REFER TO APPLICABLE CODES, STANDARDS and REGULATIONS for INSPECTION REQUIREMENTS and REMOVAL CRITERIA.

A new wire rope requires a break in period. Run the wire rope through several cycles at low speeds gradually increasing the load on the wire rope. Drag another truck, forklift or other heavy object to induce a load on the wire rope. Make sure that the wraps of the wire rope are tight and evenly wound on the winch drum. A loose wire rope on the winch drum will cause crushing of the wire rope when heavy loads are applied.

All wire rope in continuous service should be observed during normal operation and visually inspected on a weekly basis. A complete and thorough inspection of all ropes in use must be made at least once a month and all rope which has been idle for a period of a month or more should be given a thorough inspection before it is put back into service. All inspections should be the responsibility of and performed by an appointed competent person with the training and experience to look for deterioration of the wire rope.

It is good practice, where the equipment is consistently in use, to give the rope a certain length of service, several hundred hours, several weeks or months and then renew the rope regardless of its condition. This method reduces the risk of fatigue causing a rope failure.

Any deterioration, resulting in a suspected loss of original rope strength, the wire rope should be replaced.

There are certain points along any given rope which should be given more attention than others, since some areas will be subjected to greater stresses, forces, and hazards. Some of these areas include at the winch drum, at the boom sheaves and at the end attachments.

The most common sign of rope deterioration and approaching failure is broken wires. Inspection criteria are specific as to the number of broken wires allowable under various circumstances. It is important that a diligent search be made for broken wires, particularly in critical areas. Inspection of wire rope ends should include hooks and thimbles.

Section 6 - Maintenance

Replace any wire ropes that have been abraded, crushed, kinked or twisted.

Wire rope should be routinely cleaned monthly of any and all debris. Grit and gravel can quickly reduce a wire ropes life. A wire rope should be well lubricated so that it can act and perform as it was designed. Lubrication keeps a wire rope flexible and free from rust.

Refer to the placard on your unit or consult the manufacturer or your local distributor for the proper replacement wire rope.

6.4 WIRE ROPE INSTALLATION

Proper Unreeling Procedures

Wire rope can be permanently damaged by improper unreeling or uncoiling practices. The majority of wire rope performance problems start here. Improper unreeling practices lead to premature rope replacement, hoisting problems and rope failure.

Place the payout reel as far away from the boom tip as is practical, moving away from the chassis. Never place the payout reel closer to the chassis than the boom point sheave. Doing so may introduce a reverse bend into the rope and cause spooling problems. Take care to determine whether the wire rope will wind over or under the drum before proceeding.

Unreeling & Uncoiling and Kinks

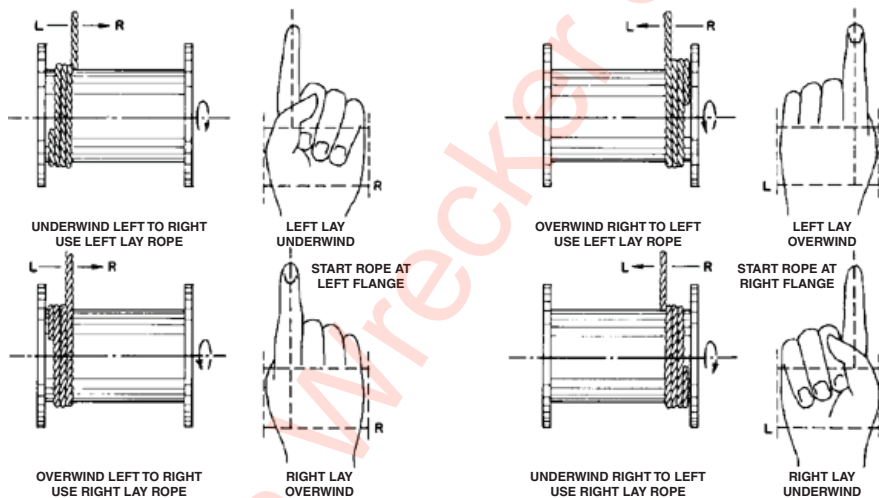
- **The Right Way To Unreel.** To unreel wire rope from a heavy reel, place a shaft through the center and jack up the reel far enough to clear the floor and revolve easily. One person holds the end of the rope and walks a straight line away from the reel, taking the wire rope off the top of the reel. A second person regulates the speed of the turning reel by holding a wood block against the flange as a brake, taking care to keep slack from developing on the reel, as this can easily cause a kink in the rope. Lightweight reels can be properly unreeled using a vertical shaft; the same care should be taken to keep the rope taut.
- **The Wrong Way To Unreel.** If a reel of wire rope is laid on its flange with its axis vertical to the floor and the rope unreeled by throwing off the turns, spirals will occur and kinks are likely to form in the rope. Wire rope always should be handled in a way that neither twists nor unlays it. If handled in a careless manner, reverse bends and kinks can easily occur.
- **The Right Way To Uncoil.** There is only one correct way to uncoil wire rope. One person must hold the end of the rope while a second person rolls the coil along the floor, backing away. The rope is allowed to uncoil naturally with the lay, without spiralling or twisting. Always uncoil wire rope as shown.
- **The Wrong Way To Uncoil.** If a coil of wire rope is laid flat on the floor and uncoiled by pulling it straight off, spirals will occur and kinking is likely. Torsions are put into the rope by every loop that is pulled off, and the rope becomes twisted and unmanageable. Also, wire rope cannot be uncoiled like hemp rope. Pulling one end through the middle of the coil will only result in kinking.
- **Kinks.** Great stress has been placed on the care that should be taken to avoid kinks in wire rope. Kinks are places where the rope has been unintentionally bent to a permanent set. This happens where loops are pulled through by tension on the rope until the diameter of the loop is only a few inches. They are also caused by bending a rope around a sheave having too severe a radius. Wires in the strands at the kink are permanently damaged and will not give normal service, even after apparent "restraightening."

Section 6 - Maintenance

Drum Winding

When wire rope is wound onto a sheave or drum, it should bend in the manner in which it was originally wound. This will avoid causing a reverse bend in the rope. Always wind wire rope from the top of the one reel onto the top of the other. Also acceptable, but less so, is re-reeling from the bottom of one reel to the bottom of another. Re-reeling may also be done with reels having their shafts vertical, but extreme care must be taken to ensure that the rope always remains taut. It should never be allowed to drop below the lower flange of the reel. A reel resting on the floor with its axis horizontal may also be rolled along the floor to unreel the rope.

Wire rope should be attached at the correct location on a flat or smooth-faced drum, so that the rope will spool evenly, with the turns lying snugly against each other in even layers. If wire rope is wound on a smooth-face drum in the wrong direction, the turns in the first layer of rope will tend to spread apart on the drum. This results in the second layer of rope wedging between the open coils, crushing and flattening the rope as successive layers are spooled.



A simple method of determining how a wire rope should be started on a drum is shown above. The observer stands behind the drum, with the rope coming towards him. Using the right hand for right-lay wire rope, and the left hand for left lay wire rope, the clenched fist denotes the drum, the extended index finger the oncoming rope.

Keep Wraps Tight

The end of the rope must be securely and evenly attached to the drum anchorage point by the method recommended by the equipment manufacturer. At least five wraps of wire rope must remain on the drum as dead wraps when the rope is unwound during normal operations. Locate the dead end rope anchorage point on the drum in relation to the direction of the lay of the rope. Do not use an anchorage point that does not correspond with the rope lay. Mismatching rope lay and anchorage point will cause the wraps to spread apart from each other and allow the rope to cross over on the drum. Very gappy winding will occur resulting in crushing damage in multilayer applications.

Back tension must be continually applied to the payout reel and the crewman installing the rope must proceed at a slow and steady pace whether the drum is smooth or grooved. Regardless of the benefits of a grooved drum, tension must be applied to ensure proper spooling. An improperly installed rope on a grooved drum will wear just as quickly as an improperly installed rope on a smooth drum. If a wire rope is poorly wound and as a result jumps the grooves, it will be crushed and cut under operating load conditions where it crosses the grooves.

Every wrap on the first or foundation layer must be installed very tightly and be without gaps. Careless winding results in poor spooling and will eventually lead to short service life. The following layers of rope must lay in the grooves formed between adjacent turns of the preceding layer of rope. If any type of overwind or crosswinding occurs at this stage of installation and is not corrected immediately, poor spooling and crushing damage will occur.

On a multilayer spooling drum be sure that the last layer remains at least two rope diameters below the drum flange top. Do not use a longer length than is required because the excess wire rope will cause unnecessary crushing and may jump the flange. Loose wraps that occur at any time must be corrected immediately to prevent catastrophic rope failure.

The use of a mallet is acceptable to ensure tight wraps, however a steel-faced mallet should be covered with plastic or rubber to prevent damage to the rope wires and strands.

6.5 LUBRICATION CHART

The following lubrication chart located on the headboard on the driver's side of the carrier deck.

| LUBRICATION CHART BIC ROLLBACK CARRIERS | | | | | NO. OF POINTS | |
|--|---------|---------------------------------|------------|------------|---------------|--|
| INTERVAL (HOURS) | REF NO. | IDENTIFICATION | SERVICE | LUBRICANT | | |
| 50 OR MONTHLY | 2 | CABLE | OIL | ENGINE OIL | 1 | |
| | 4 | T - HANDLE | OIL | ENGINE OIL | 2 | |
| 100 OR BI-MONTHLY | 2 | WINCH FS CLEVIS (IF APPLICABLE) | LUBE | MPG | 1 | |
| | 6 | HYD RESERVOIR | CHECK | * | 1 | |
| | 5 | CAM LOCK | LUBE | MPG | 2 | |
| 250 OR SEMI-ANNUALLY | 1 | HOLD DOWN GUIDE | OIL | HYD FLUID | 2 | |
| | 3 | WINCH GEAR BOX | CHECK | ** | 1 | |
| | 7 | HYD FILTER | CHANGE | ---- | 1 | |
| 1000 OPERATING HOURS | 3 | WINCH GEAR BOX | DRAIN/FILL | ** | 1 | |
| | 6 | HYD RESERVOIR | DRAIN/FILL | * | 1 | |

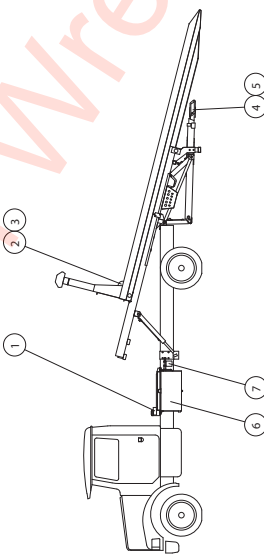


CHART COVERS ONLY **TEREX** BODY COMPONENTS
* INDICATES DUAL RANGE HYD. FLUID S.W. 20
AUTO TRANS FLUID MAY BE SUBSTITUTED IF NECESSARY
** CONSULT WINCH MANUAL FOR PROPER GRADE AND TYPE

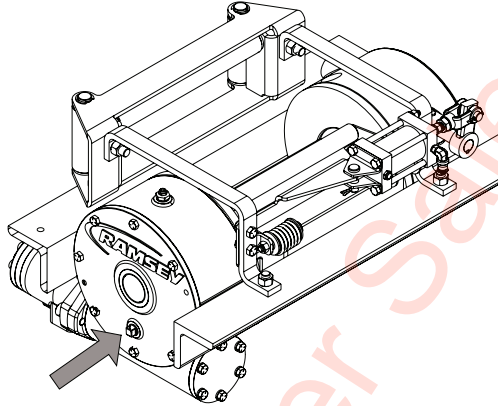
DO NOT GREASE SLIDE PADS

478

LUBRICATION POINTS

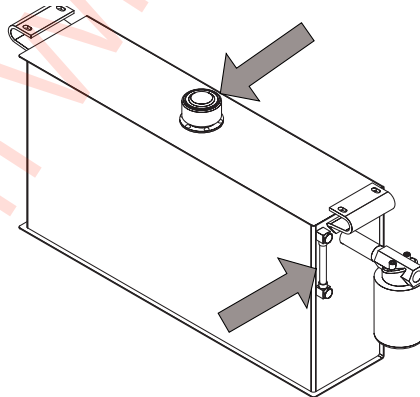
Note: The following numbers correspond to those shown on the lubrication chart on Page 6-10.

1. Winch Gear Case



- Lube Point(s) – Fill Plug
Lube – Reference winch manufacturers manual.
Interval – Check level every 250 hours or semi-annually
Change every 1000 hours

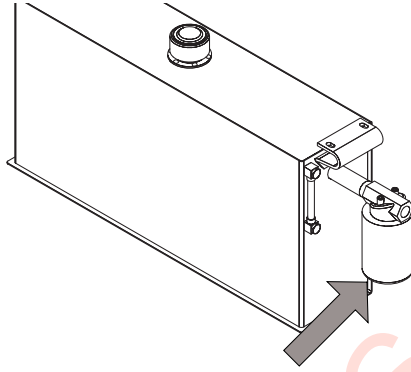
6. Hydraulic Reservoir Oil Level



- Lube Point(s) – Site Glass/Fill Cap
Interval – Check level every 100 hours or bi-monthly
Change every 1000 hours

Section 6 - Maintenance

7. Hydraulic Reservoir Return Filter



- Lube Point(s) – Replaceable Element
Interval – Check level every 250 hours or semi-annually

6.6 TROUBLE SHOOTING

You probably won't require anything but preventive maintenance to keep your Jerr-Dan running, however, the following chart should help you isolate and correct minor problems if they occur with use. Any service work on the hydraulic system should be performed by qualified mechanics.

HYDRAULIC SYSTEM

| Problem | Cause | Solution |
|---|---|---|
| Slow operation | <ul style="list-style-type: none"> a. Low engine RPM b. Low oil level c. Blocked or restricted hose d. Dirty hydraulic oil e. Hydraulic pump worn f. Frozen hydraulic lines | <ul style="list-style-type: none"> a. Speed up engine b. Check level and fill with the specified oil c. Inspect: remove blockage d. Drain, flush and refill with clean oil, replace filter e. Rebuild or replace f. Thaw and remove water |
| Valve leaks | <ul style="list-style-type: none"> a. Defective seals | <ul style="list-style-type: none"> a. Inspect and replace |
| Cylinder leaks | <ul style="list-style-type: none"> a. Defective seals or rods | <ul style="list-style-type: none"> a. Inspect and replace |
| Erratic cylinder function | <ul style="list-style-type: none"> a. Air in the system b. Defective pump (pulsating) | <ul style="list-style-type: none"> a. Cycle hydraulic system 10 to 15 times to remove air b. Replace if necessary |
| Remote hand controller fails to respond | <ul style="list-style-type: none"> a. Electric power turned off | <ul style="list-style-type: none"> a. Turn on CONTROL power switch in cab |
| Electric Control Switches fail to respond | <ul style="list-style-type: none"> a. Electric power turned off b. Electric circuit wiring | <ul style="list-style-type: none"> a. Turn on CONTROL power switch in cab a. Check/repair electrical wiring circuit problem. |

P.T.O. FUNCTIONING IMPROPERLY

| Problem | Cause | Solution |
|---------------------------------------|--|--|
| Intermittent operation | a. Poor Electrical connection | a. Check electrical connections |
| Rattling noise in P.T.O. | a. P.T.O. backlash too loose (Consult P.T.O. Manual) | a. Shims must be removed |
| Howling noise in P.T.O. | a. P.T.O. backlash too tight (Consult P.T.O. Manual) | a. Shims must be added |
| Gear oil leak between P.T.O. and pump | a. Defective shaft seal | a. Remove and replace |
| P.T.O. will not engage or disengage | a. Electrical circuit wiring | a. Check/repair electrical wiring problem circuit. |
| | b. Solenoid Valve malfunctioning | b. Repair or replace |
| | c. Blown fuse | c. Replace fuse |

HYDRAULIC PUMP

| Problem | Cause | Solution |
|-------------------------------|---|--|
| Pump noisy (Cavitation) | a. Low oil supply | a. Fill to proper level |
| | b. Thick oil | b. Fill with proper oil (See chart) |
| | c. Dirty oil filter | c. Replace filter |
| | d. Restriction in suction line | d. Clean out and remove |
| | e. Pump worn | e. Repair or replace |
| Pump slow or fails to respond | a. Low oil supply | a. Fill to proper level |
| | b. Cold Thick Oil | b. Drain and refill with a low temperature oil |
| Oil heating up | a. Foreign material lodged in relief valve filter | a. Inspect and remove/replace |
| | b. Using too light oil | b. Drain and refill with clean oil |
| | c. Dirty oil | c. Drain, flush and refill with clean oil/replace filter |
| | d. Oil level too low | d. Fill to proper level |
| | e. Pump worn (slippage) | e. Repair or replace |

HYDRAULIC PUMP

| Problem | Cause | Solution |
|--|--|--|
| Oil foaming | a. Air leaking into suction line b. Wrong kind of oil c. Oil level too low | a. Tighten all connections b. Drain and refill with non-foaming type of hydraulic oil (See lube chart) Replace filter c. Refill to proper level |
| Hydraulic oil leak between P.T.O. and pump | a. Defective shaft seal | a. Replace shaft seal |
| Pump leaks at front and rear covers | a. Defective seals | a. Replace seals |

WINCH FUNCTIONING IMPROPERLY

| Problem | Cause | Solution |
|---|---|---|
| Winch screeches during operation | a. Insufficient lubrication | a. Lubricate per lube chart |
| Winch will not pull load or take in wire rope | a. Free-spooling device not engaged b. Sheared keys or broken coupling c. Hydraulic pump worn | a. Engage b. Inspect or replace c. Inspect and replace |
| Free-spool device | a. No air pressure b. Insufficient air pressure c. Defective pressure switch d. Leaking air line | a. Turn truck on b. Allow truck to run c. Inspect and replace d. Inspect and replace |

REMOTE HAND CONTROLLER

| Problem | Cause | Solution |
|---|--|---|
| Transmitter not working. LED not on or blinking. | a. Electric power turned off b. Discharged Battery | a. Turn on CONTROL power switch in cab or control station b. Replace Battery |
| Transmitter not working. LED not on or blinking | a. Discharged Battery b. Receiver power turned off c. Out of range d. Communication error | a. Replace Battery b. Check receiver power input c. Make sure transmitter is in range of receiver d. Make sure transmitter and receiver are matched. |
| Poor Range | a. Discharged Battery b. Communication error c. Communication error | a. Replace Battery b. Obstructions, interference, and adverse weather can affect range c. Check receiver antenna and cable connections |
| Does not operate correctly | a. Communication error | a. Check/ Verify antenna Wiring |

SECTION 7 - SPECIFICATIONS

7.1 PRODUCT SPECIFICATIONS

10TON XLP INDUSTRIAL CARRIER SERIES

Including Models
 24JD10XLP
 24JD10XLPW
 26JD10XLP
 26JD10XLPW
 28JD10XLP
 28JD10XLPW

OPERATING SPECIFICATIONS AND PERFORMANCE DATA

DO NOT EXCEED THE FOLLOWING RATINGS:

DECK RATING:..... 20,000 lb

WINCH RATING: (Standard Ramsey Worm Gear) ¹
 Each Drum (Single Speed, Variable Control) 15,000 lb

WIRE ROPE: (12,000 lb Winch)
 Working Limit Each Line 7,600 lb
 Nominal Breaking Strength 26,600 lb
 Construction 6 x 25 EIPS RRL IWRC
 Diameter 1/2 in
 Standard Length 56 Ft

| | | |
|-------------------------|----------|------------------------|
| TOW OPTION RATINGS: | Lift | Tow |
| Stationary Pintle Hitch | 3,500 lb | 20,000 lb ² |

- ¹ SAE J706: Surface Vehicle Recommended Practices - Rating of Winches
- ² SAE J2512: Surface Vehicle Recommended Practices - Towing Equipment Ratings and Practices

MAXIMUM LIFTING CAPACITY - THE MAXIMUM LOAD THAT CAN BE LIFTED.

GROSS COMBINED WEIGHT RATING (GCWR) - THE VALUE SPECIFIED BY THE VEHICLE MANUFACTURER AS GCW.

GROSS COMBINED WEIGHT (GCW) - ACTUAL WEIGHT OF THE ENTIRE VEHICLE AT THE GROUND WITH TRAILER OR TRAILERS, INCLUDING VEHICLE EQUIPMENT, DRIVER, PASSENGER, FUEL AND PAYLOAD (EVERYTHING THAT MOVES WITH THE VEHICLE).

Section VII : Specifications

NOTE

These ratings apply to the structural design of the carrier only. They might be limited by the axle rating and gross vehicle weight rating of the truck chassis.

The payload and towing capacity of any towing vehicle must meet the following:

- The actual payload on the towing vehicle must not exceed the posted rating and the towed vehicle load must not exceed the posted lift / towing ratings.
- The total weight of the towing vehicle (cab chassis, body, payload, driver, passenger(s), tools, fuel, etc.) and the towed vehicle load must not exceed the GVWR (Gross Vehicle Weight Rating) of the towing vehicle.
- The total weight of the towing vehicle and a towed vehicle load must be distributed so that each axle's GAWR (Gross Axle Weight Rating) is not exceeded.
- The total weight of the towing vehicle and towed vehicle (everything that moves with the towing vehicle) must not exceed the GCWR (Gross Combination Weight Rating) of the towing vehicle.

Staying within these ratings is necessary to maintain the safety and performance of the towing vehicle.

CHECK TRUCK MANUAL FOR SPECIFIC GVW & AXLE RATINGS. ALSO LOOK AT THE CERTIFICATION DECAL AFFIXED TO DRIVER'S SIDE DOOR JAMB, HINGE PILLAR OR LATCH POST AND THE STRUCTURAL CAPACITIES PLACARD ON THE DRIVER'S SIDE OF THE HEADBOARD.

TRUCK CHASSIS**OPERATING SPECIFICATIONS AND PERFORMANCE DATA**

Refer to Final Stage Vehicle Manufacturer Label affixed to the Driver's Side Door Jam, Hinge Pillar or Latch Post of the cab chassis and the chassis manufacturer's manual.

MFG BY: _____

DATE OF MFR: MO _____ YR. _____

GVWR: _____ KG (_____ LB)

GAWR-FRONT: _____ KG (_____ LB)

WITH _____ TIRES,

_____ RIMS @ _____ KPA

(_____ PSI) COLD _____

GAWR-INTERMEDIATE(1): _____ KG (_____ LB)

WITH _____ TIRES,

_____ RIMS @ _____ KPA

(_____ PSI) COLD _____

GAWR-INTERMEDIATE(2): _____ KG (_____ LB)

WITH _____ TIRES,

_____ RIMS @ _____ KPA

(_____ PSI) COLD _____

GAWR-REAR: _____ KG (_____ LB)

WITH _____ TIRES,

_____ RIMS @ _____ KPA

(_____ PSI) COLD _____

THIS VEHICLE HAS BEEN COMPLETED IN ACCORDANCE WITH THE PRIOR MANUFACTURERS' IVD, WHERE APPLICABLE. THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY STANDARDS, [AND BUMPER AND THEFT PREVENTION STANDARDS, IF APPLICABLE] IN EFFECT IN:

MO. _____ YR. _____

VEHICLE IDENTIFICATION NUMBER: _____

VEHICLE TYPE: _____

Section VII : Specifications

7.2 CAPACITIES

Hydraulic System

| | |
|--------------------------|-------------------------|
| Operating Pressure | 3000 psi max. |
| System Flow | 18 gpm |
| System Capacity | 14 gal |
| Reservoir Capacity | 12 gal |
| Type of Oil | |
| 0° to 104° F | Mobilfluid® 424 |
| -40° to 0° F | Mobile DTE 10 Excel 32M |

Inspection, Maintenance and Repair Log

Serial Number _____

[illegible]

Inspection, Maintenance and Repair Log

[illegible]



An Oshkosh Corporation Company

TRANSFER OF OWNERSHIP

To Product Owner:

If you now own but ARE NOT the original purchaser of the product covered by this manual, we would like to know who you are. For the purpose of receiving safety-related bulletins, it is very important to keep Jerr-Dan Corporation updated with the current ownership of all Jerr-Dan products. Jerr-Dan maintains owner information for each Jerr-Dan product and uses this information in cases where owner notification is necessary.

Please use this form to provide Jerr-Dan with updated information with regard to the current ownership of Jerr-Dan products. Please return completed form to the Jerr-Dan Product Safety & Reliability Department via facsimile or mail to address as specified below.

Thank You,
Product Safety & Reliability Department
Jerr-Dan Corporation
13224 Fountainhead Plaza
Hagerstown, MD 21742
USA
Telephone: +1-717-485-6591
Fax: +1-301-745-3713

NOTE: Leased or rented units should not be included on this form.

Mfg. Model : _____

Serial Number : _____

Previous Owner : _____

Address : _____

Country : _____ Telephone : (_____) _____

Date of Transfer : _____

Current Owner : _____

Address : _____

Country : _____ Telephone : (_____) _____

Who in your organization should we notify?

Name : _____

Title : _____

THIS PAGE IS INTENTIONALLY LEFT BLANK



5376000228

JERR-DAN

An Oshkosh Corporation Company

13224 Fountainhead Plaza
Hagerstown, MD 21742
Phone (717) 597-7111

TOW 
SUPPORT
by **JERR-DAN**

Phone (800) 926-9666