

\$35.00

MPL

**OPERATIONS, MAINTENANCE,
AND PARTS MANUAL**

JERR-DAN

An Oshkosh Truck Corporation Company

1080 Hykes Road
Greencastle, PA 17225
Phone (717) 597-7111
www.jerr-dan.com

5-376-000076
REV. 1 - 04/06

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FOREWORD

This manual is intended to serve as a guide to the owner and operator in the safe operation and optimum performance of this Jerr-Dan equipment.

Establishment of good operating habits and familiarity with the equipment and its capabilities combined with good judgement are essential.

Before attempting to operate the unit carefully read all sections of this manual.

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LIMITED WARRANTY

Manufacturer's Warranty. Manufacturer's sole warranty shall be the following, which Distributor shall make on behalf of Manufacturer by conspicuous notice in writing accompanying each contract or memorandum of sale:

1. Warranty. Jerr-Dan Corporation, ("Manufacturer") warrants each new product made by it to be free from defects in material or workmanship for one year from the date of initial sale, lease, rental, or other disposition of such product, and agrees only to repair or replace at its own expense, f.o.b. the place or places of manufacture, at manufacturer's option, any part or parts of the product found to be defective in material or workmanship, provided Manufacturer is notified of such defect or defects within the one year warranty period and given a reasonable time to correct the defect. In no case, shall the warranty extend to defects in materials, components, or services furnished by third parties. Defects caused by chemical action, or the presence of abrasive materials and defects arising following the operation beyond rated capacity or the improper use or application of any Products shall not be considered defects within the scope of the foregoing warranty. If any repairs or alterations are made or any parts are replaced during the period covered by any warranty above mentioned by other than an authorized Manufacturer's Distributor in accordance with authorized Manufacturer's service manuals or with other than parts, accessories, or attachments authorized by Manufacturer for use in its products, customer shall pay for all such repairs or parts without recourse against Manufacturer, and Manufacturer shall be relieved of responsibility for fulfillment of this warranty with respect to parts or components of all repairs, alterations or replacements so made. No claims for labor shall be considered unless authorized by Manufacturer.

2. Disclaimer as to Consequential or Special Damages. Under no circumstances shall Manufacturer be liable for any consequential or special damage which any person, firm, corporation, or other entity may suffer or claim to suffer or incur or claim to incur as a result of any defect in the product or in any correction or alteration thereof made or furnished by Manufacturer or others. "Consequential" or "special damages" as used herein includes but is not limited to costs of transportation, lost sales, lost orders, lost profits, lost income, increased overhead, labor and material costs and cost of manufacturing variances and operational inefficiencies.

3. Maximum Liability. The maximum liability of Manufacturer under the exclusive warranty set forth herein shall be the amount paid to Manufacturer by the vendor of the component with respect to the product to which such vendor warranty applies.

4. Limitation of Liability. The limitation of liability provisions herein shall apply to any and all claims or suits brought against Manufacturer, including any claim based upon negligence, breach of contract, breach of warranty, strict liability or any other theories upon which liability may be asserted against Manufacturer.

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5. Exclusive and Entire Warranty. The warranty constitutes Manufacturer's entire warranty as to the product and it is expressly agreed that the remedies of dealer and those claiming under dealer as stated in this warranty are exclusive. Manufacturer does not assume (and has not authorized any other person to assume on its behalf) any other warranty or liability in connection with any product covered by this warranty.

MANUFACTURER EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES OF ANY KIND WHATSOEVER AS TO THE PRODUCT FURNISHED HEREUNDER, INCLUDING BUT NOT LIMITED TO EXPRESS OR IMPLIED WARRANTIES AS TO MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSES SOLD, DESCRIPTION OR QUALITY OF THE PRODUCT FURNISHED HEREUNDER.

6. Notice of Occurrence. This warranty shall be void if, upon the occurrence of any incident involving any product made by Manufacturer, and resulting in any personal injury or property damage, customer shall fail to notify Manufacturer within 24 hours of such occurrence or permit Manufacturer audit representatives to have immediate access to such product and to all records of and within the control of the customer and/or distributor relating to the product and the occurrence.

7. Filing of Warranty Claim. Upon notifying the Manufacturer of a failure, the Manufacturer or its representative will verbally authorize and confirm by letter the repairs to be made. Verbal authorization will require the following information:

- A) Owner's name and telephone number.
- B) The dealer's name from whom it was purchased.
- C) The Manufacturer's unit serial number.
- D) Telephone number of the party making the repairs.
- E) The part numbers needed to make repairs.
- F) Owner to be informed of C.O.D. on parts (if deemed necessary) to assure return of defective parts for manufacturer's evaluation.

At this time, the Manufacturer will ship as soon as practical the parts needed to make the repair. Included with the parts will be the invoice for the parts and a Request for Warranty form, with the Warranty Return Tags.

The vehicle owner/dealer will complete the Request for Warranty form and the Warranty Return Tag marked "Return with Shipping Notice." Both documents should be attached to the shipping notice and returned to the Manufacturer by mail. The parts to be returned shall be tagged with the Warranty Return Tag (more than one part pertaining to the same warranty claim shall be identified with the same warranty claim number - see number on Warranty Return Tag). All parts under this claim shall be returned to the Manufacturer pre-paid for warranty evaluation.

Upon receiving the part or parts for warranty evaluation, the part will be inspected and tested. After being inspected and tested, the decision to honor or deny warranty claim shall be based on analysis of all available information.

When warranty is honored, the Manufacturer will reimburse the owner/dealer in the amount agreed to by both parties.

If warranty is denied, the owner and distributor will be notified in writing of the decision and a full explanation for the decision will be given.

8. Manufacturer may at any time amend the foregoing form of warranty without prior notice.

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LIMITED WARRANTY Coverage and Procedures

Like our wheel lift and car carrier products, Jerr-Dan warranty programs are designed for the long haul.

Whether you own a wheel lift or car carrier, you are assured that your equipment is of the highest quality, and is covered under this limited warranty.*

Our one-year unlimited mileage plan is offered for wheel lifts and car carriers. This warranty is designed for the most comprehensive protection of your specific equipment.

WHEEL LIFT:

The Jerr-Dan one-year warranty covers material and workmanship including the following:

- I. Body
- II. Substructure
- III. Wheel lift assembly
- IV. Wrecker boom assembly
- V. Winch and winch components (excluding cable)
- VI. Hydraulics
- VII. Electrical wiring assembly.

CAR CARRIERS:

The Jerr-Dan one-year warranty covers material and workmanship including the following:

- I. Deck
- II. Winch and winch components (excluding cable)
- III. Substructure
- IV. Hydraulics
- V. Electrical wiring assembly

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Procedures for warranty coverage:

1. Contact your selling distributor.
2. If necessary, contact Jerr-Dan for the distributor nearest you - Call 1-800-926-9666.
3. If necessary, Jerr-Dan may authorize repair by a qualified equipment service center. Under these arrangements, it will be necessary to obtain an estimate of repairs before any work is performed. Send estimate of repair cost to:

Jerr-Dan Corporation
Warranty Department
1080 Hykes Road
Greencastle, PA 17225

Be sure to include your daytime phone number.

4. Authorization for repairs under this limited warranty will be provided by telephone within 24 hours of receipt of valid warranty claims and confirmed by letter or fax.
- *5. This outlines the Jerr-Dan One-Year Warranty Plan. Coverage does not include damages caused by excessive abuse or consequential damages resulting from the lack of proper service, maintenance or need for repairs. All plans begin at original retail purchase date.

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QP40 SAFETY (GENERAL)

The safe operation of your QP40 is your responsibility. Read this manual and the truck manufacturer's manual and thoroughly understand them. You can be held legally responsible for injuries or damage resulting from unsafe operating practices.

The manufacturer's recommendations for operating this wrecker can help you avoid unsafe practices and their bad consequences. These recommendations are contained in this manual.

Jerr-Dan Corporation is not responsible for the results of any unsafe practice of wrecker operators or for the failure of the wrecker or its accessories resulting from improper maintenance.

The danger from a vehicle does not cease when it is disabled or wrecked. Recovering or towing vehicles can be dangerous too! The danger threatens wrecker operators and everyone else close by. As a wrecker operator you must develop an awareness of the hazards involved. You must use every safeguard within reason to prevent injuries.

For each step in operating your wrecker develop the habit of asking yourself if it is safe to proceed. Carefully check all rigging before starting a heavy lift or pull.

We cannot warn you of all the possible dangers you will encounter, but we will tell you of the most common hazards that we know about. We recommend that you receive specialized and advanced training from a professional Towing and Recovery instructor before operating any recovery equipment and that the Vehicle Manufacturers Towing Manual and/or American Automobile Association (AAA) Towing Manuals be used as a reference for operating safety methods.

AAA address and phone number:

THE AMERICAN AUTOMOBILE ASSOCIATION

8111 GATEHOUSE RD
FALLS CHURCH, VA 22047
(703) 222-6000

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DO NOT EXCEED THE FOLLOWING RATINGS:

All ratings comply with SAE J2512 Recommended Practice

QP40 Underlift Rating 4,000 lbs "L" Arm
Tow Rating 7,000 lbs.
Boom Rating 8,000 lbs.
Winch Rating (Optional) 8,000 lbs.

Wire Rope:

Working Limit 3,485 lbs.
Construction 6 x 37 ISP Fibercore
Diameter 3/8 inch
Standard Length 75 Feet

NOTE:

These ratings apply to the structural design of the QP40 only and may be limited by the axle rating and gross vehicle weight rating of the truck chassis. CHECK TRUCK MANUAL FOR SPECIFIC GVW & AXLE RATINGS. ALSO REFERENCE THE CERTIFICATION DECAL AFFIXED TO DRIVER'S SIDE DOOR JAMB AND THE S.T.A.R. PLACARD ON THE LOWER BOOM MECHANISM.

MANUFACTURED BY:

DATE OF MANUFACTURE _____ mo. _____ yr.

INCOMPLETE VEHICLE MANUFACTURED BY:

DATE INC. VEH. MFD _____ mo. _____ yr.

GVWR _____

GAWR FRONT _____ with
_____ tires,
_____ rims, @ _____ psi cold _____

GAWR INTERMEDIATE (1) _____ with
_____ tires,
_____ rims, @ _____ psi cold _____

GAWR INTERMEDIATE (2) _____ with
_____ tires,
_____ rims, @ _____ psi cold _____

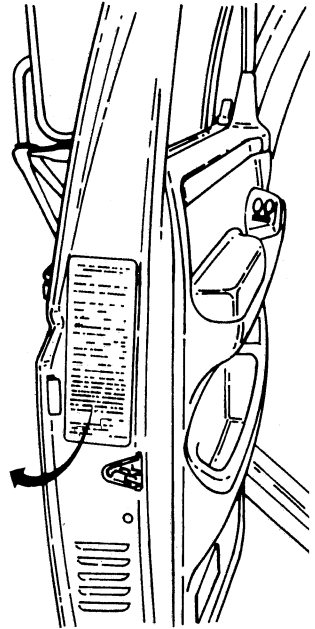
GAWR REAR _____ with
_____ tires,
_____ rims, @ _____ psi cold _____

Conformity of the chassis-cab to Federal Motor Vehicle Safety Standards, which have been previously fully certified by the incomplete vehicle manufacturer or intermediate vehicle manufacturer, has not been affected by final-stage manufacture. The vehicle has been completed in accordance with the prior manufacturer's instructions, where applicable. This vehicle conforms to all other applicable Federal Motor Vehicle Safety Standards in effect in:

_____ mo. _____ yr.

VEHICLE IDENTIFICATION NUMBER:

VEHICLE TYPE: _____



Certification Decal

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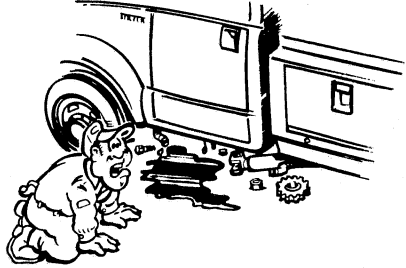
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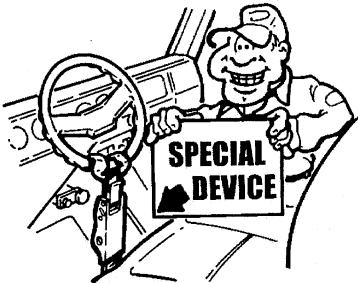
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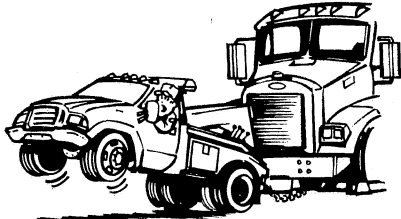
- Don't use a recovery vehicle that has not been properly maintained. Pay special attention to the mounting bolts, and lubrication of moving parts.



- Don't operate the wrecker's engine faster than recommended. Excessive speeds can damage PTO, **hydraulic pumps**, and winches.



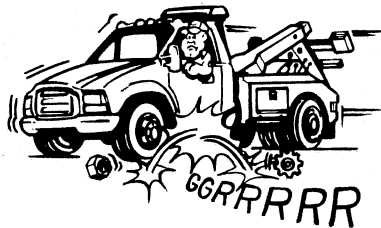
- Don't rely on anti-theft steering locks to secure the steering wheel. Use a special steering wheel clamping device designed for this purpose.



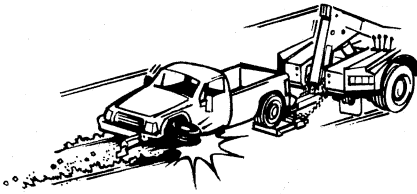
- Don't pick-up and tow a vehicle that reduces the weight on the front wheels of the wrecker more than 50 percent.



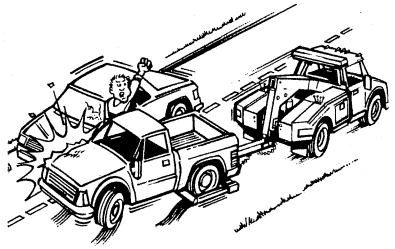
- After you have hooked up a vehicle for towing, don't start the tow until you have double checked the hook-up, installed safety chains, and released the parking brakes of the towed vehicle.



- Don't travel with the PTO or Clutch Pump engaged. Damage to the trucks transmission, engine or hydraulic components will occur. Engage it only while operating the controls.



- Don't tow a vehicle on its front wheels if they are damaged.



- Don't tow a vehicle on its front wheels unless the steering wheel is secured with the front wheels straight ahead.

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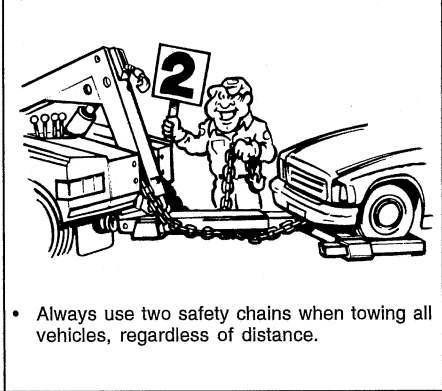
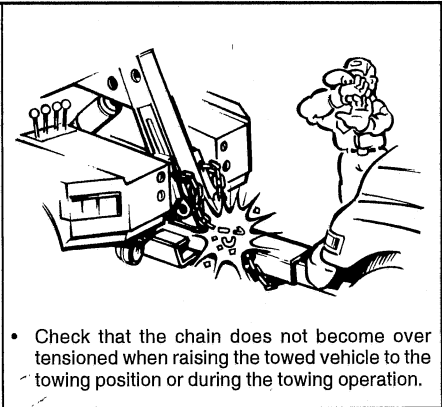
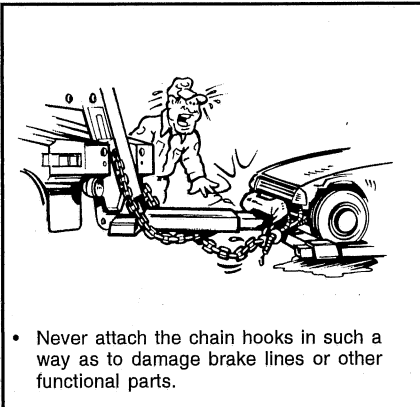
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SAFETY CHAINS MUST BE USED WHEN TOWING AND TRANSPORTING

Safety chains are provided for use with your new Jerr-Dan Recovery Vehicle. Periodically inspect all chains for any signs of fatigue or damage. Don't overlook the hooks; be sure they have not been bent or deformed. If chain or hook damage is noted, they must be replaced before being used. **Do not use safety chains for recovery operations.**

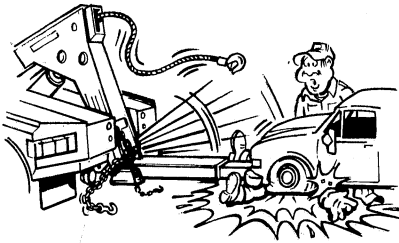
Many states require that the towed vehicle be secured to the wrecker body with safety chains. Check your local regulations and use your safety chains. Safety chains are provided for use with your new JERR-DAN.



LIFT SAFETY

Careful consideration of the immediate surrounding conditions such as the weather, terrain, type or condition of the vehicle to be recovered and the condition and experience of the operator is foremost to the safety and success of the operation. In addition, the intent of the design of this unit should be taken before the undertaking of its use.

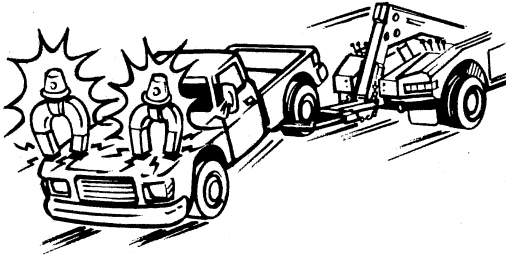
Your QP40 is unique. It not only can make lifts from level surfaces, our boom tilt feature allows pickup of vehicles that are parked on both inclines and declines.



- You should never make a lift or movement while close to or under the vehicle being lifted!



- Always use jack stands to support the vehicle if it is necessary to work under it.



- Towing lights are required in many areas and are always recommended for safe tows.

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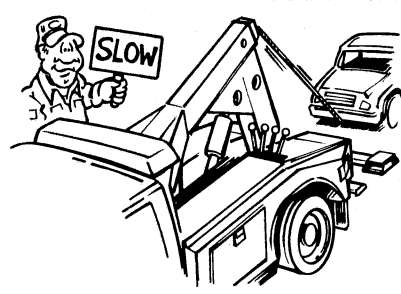
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BOOM SAFETY

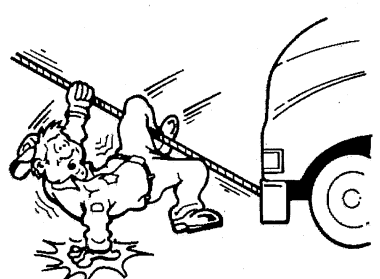
If your QP40 is equipped with an optional recovery winch the following safety procedures must be observed:




- Jog the winch control lever to be sure of complete engagement of the clutch gears before making a lift or pull.



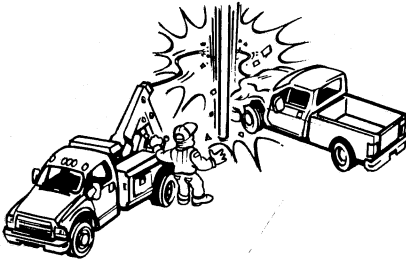
- Take up the wire rope slowly and be sure the hook is securely set.



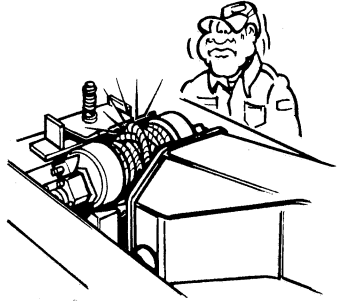
- Never stand on or straddle a working wire rope.



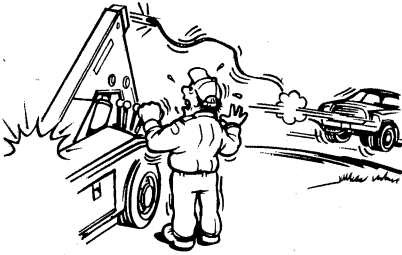
- Be sure of your lift or pull and do not exceed the working strength of the wire rope or hook. Rig to keep the estimated amount of pull well within equipment ratings. Use wire rope breaking strength ratings only for selecting replacement wire rope.



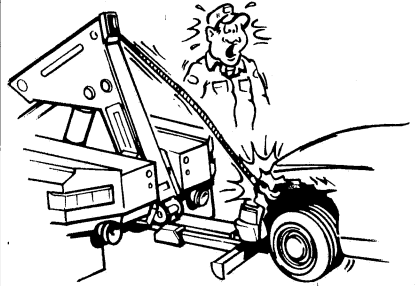
- Never lift or pull over or around a sharp obstacle.



- Never allow the wire rope to cross wrap (criss-cross) on the winch drum. Crushing of the wire rope can cause wire rope failure.



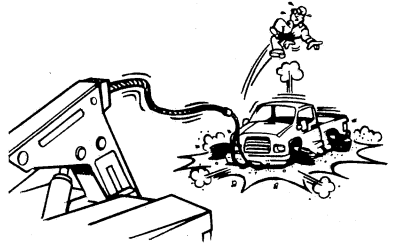
- Never completely unwind wire rope from a winch while loaded. Always be sure that a minimum of five (5) wraps of wire rope are on the drum at all times.



- Never make a lift or pull with the wire rope attached to light gauge or sheet metal parts; use the frame or major structural members.



- Never tie down the front end of your wrecker for recovery work of heavy lifts. You will likely damage the truck frame if you do.



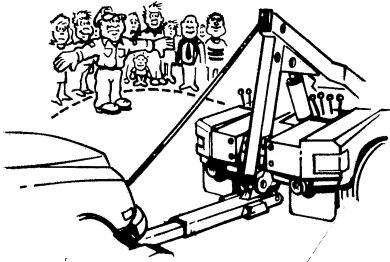
- Don't disengage the winch drum clutch while the wire rope is loaded.

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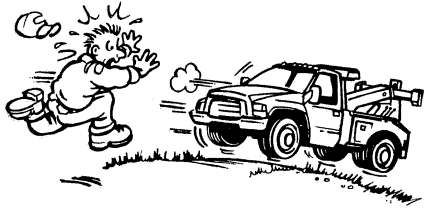
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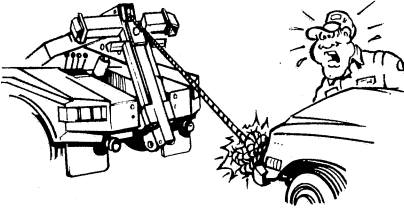
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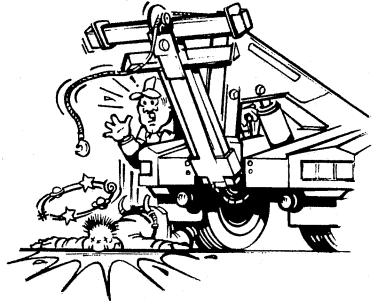
- Don't permit bystanders in the area while performing recovery work.



- Be sure all brakes and locks are properly set on the recovery vehicle.



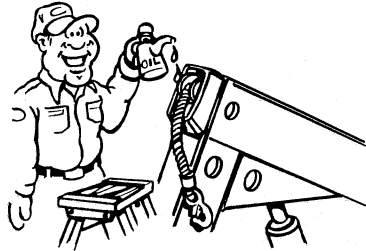
- Never wrap the wire rope around frames or cross members. Use chains and hook the wire rope to the chains.



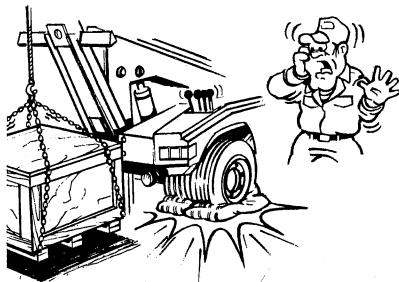
- Never under any circumstances use the winch or boom to lift people!



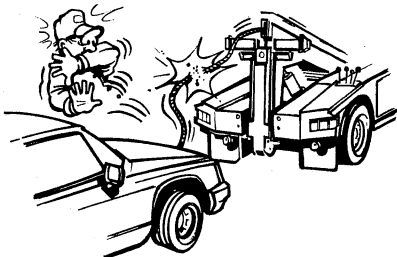
- Don't use damaged wire ropes on your wrecker. Become familiar with the various types of wire rope damage and periodically inspect the entire wire rope for wear and corrosion. **Never use wire rope menders.** Replace with similar rated wire rope and hooks.



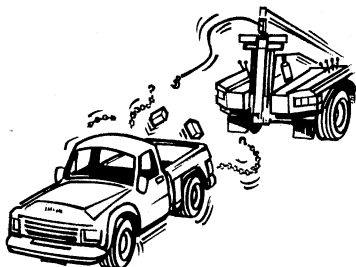
- Lubricate and maintain both the wire rope and winch on regular intervals. (See maintenance charts.)



- Avoid using the boom raise or boom up control to lift a load. This causes undue stress and weight loading on the rear axle. Use the winch to lift the load.



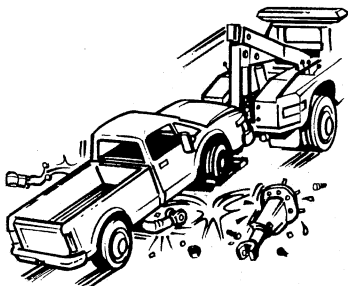
- All boom placement functions should be made with the winch wire ropes set in "free spool" to avoid over tensioning or breaking the winch wire ropes.



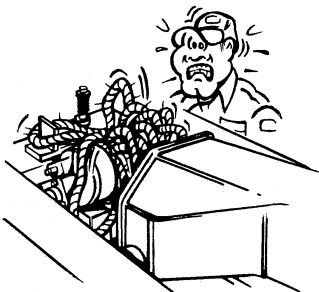
- After rigging wire ropes, don't begin pulling without rechecking connections. Make sure that all wire ropes and snatch blocks are securely attached and cannot accidentally pull loose.



- Don't exceed ratings of booms, wire ropes, snatch blocks, or winches. Stay within nameplate ratings.



- Don't 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. As an alternative, use a towing dolly.



- To avoid birdnesting and premature failure of the wire rope, always keep tension on the wire rope when unwinding.

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SAFETY WARNING DECALS

As an extra safety precaution, your QP40 has specific safety and warning decals affixed to prominent locations. These decals must not be obliterated, removed or painted over. They are there to remind and protect the operator.

SERIAL NO. _____
MODEL NO. _____

UNDER LIFT RATINGS (MAXIMUM)
EXTENDED _____ LBS. RETRACTED _____ LBS.

WINCH RATING: EACH DRUM _____ LBS.

WIRE ROPE: WORKING LIMIT _____ LBS.
TYPE _____ SIZE _____ FT.

WARNING
READ OPERATOR'S MANUAL AND FAMILIARIZE YOURSELF WITH THE OPERATION PRIOR TO USING THIS EQUIPMENT. KNOW THE LOADS BEING MOVED. DO NOT EXCEED RATED CAPACITIES.

WARNING
ALL RATINGS ARE BASED ON THE STRUCTURAL CAPACITY OF ABOVE MODEL. ACTUAL TOWING AND RECOVERY CAPACITY MAY BE LIMITED BY THE CAPACITY OF THE CHASSIS AND EQUIPMENT SELECTED.

MANUFACTURED BY:
JERR-DAN CORPORATION
1080 HYKES ROAD
GREENCASTLE, PA 17225
1-800-926-9666

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WARNING

TOWED VEHICLE MUST BE CONNECTED TO TOW TRUCK BODY WITH SAFETY CHAINS

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WARNING

CHECK HYDRAULIC FLUID LEVEL
FILL ONLY WITH APPROVED FLUID
(SEE OPERATOR'S MANUAL)

034

WARNING

MOVING PARTS
KEEP HANDS AND FEET CLEAR
OF THIS AREA

037

WARNING

VEHICLE MUST BE SECURED
TO WHEEL GRID USING BOTH TIE DOWN
STRAPS PRIOR TO LEAVING LOADING SITE.

036

WARNING

A MINIMUM OF 5 WRAPS OF CABLE MUST
BE LEFT ON THE DRUM TO ACHIEVE RATED
LOAD OF 8,000 LBS.
NOT TO BE USED IN THE MOVING OR
LIFTING OF PERSONS.

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BODY NO: **UNDER LIFT NO:**
SERIAL NO:
TOW RATING: **LBS. (MAXIMUM)**
UNDER LIFT CAPACITY: **LBS.***

* NOTE: LIFT CAPACITY INDICATES THE STRUCTURAL CAPACITY OF THE LIFT MECHANISM, NOT THE MAXIMUM EFFECTIVE TRANSPORT LOAD.

TRUCK CHASSIS INFORMATION

VIN **C.A.** **IN.**
REAR AXLE WEIGHT RATING (GAWR): **LBS.**

THE MAXIMUM EFFECTIVE TRANSPORT LOAD OF THIS UNIT BASED ON TRUCK CHASSIS G.A.W.R. AND G.V.W.R SPECIFICATIONS

DO NOT EXCEED THE FOLLOWING WEIGHTS

LBS. AT FULL EXTENSION
 LBS. AT 10" EXTENSION



LOSS OF VEHICLE CONTROL, WHICH COULD RESULT IN SERIOUS BODILY INJURY OR DEATH, CAN OCCUR IF THE EFFECTIVE TRANSPORT LOAD IS EXCEEDED.

MAXIMUM EFFECTIVE TRANSPORT LOAD IS AFFECTED BY THE CHASSIS ON WHICH THE TOWING EQUIPMENT IS INSTALLED. BEFORE ATTEMPTING TO USE THIS EQUIPMENT ON A CHASSIS OTHER THAN THAT SPECIFIED ABOVE, CONTACT JERR-DAN TO OBTAIN A REVISED RATING.

SAFETY IS NO ACCIDENT.
REVIEW OPERATOR'S PRE-TRANSPORT CHECKLIST IN THE OWNER'S MANUAL EACH TIME YOU MOVE A VEHICLE. FOLLOW ALL INSTRUCTIONS ON CONTROLS AND UNIT.

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CAUTION


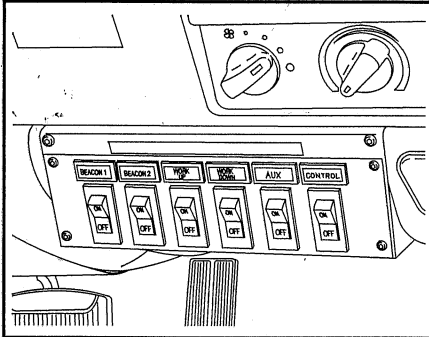
**TOW HITCH BRACKET
MUST BE REMOVED
BEFORE UNFOLDING
THE BOOM DOWN FOR
WHEEL GRID OPERATION**

424

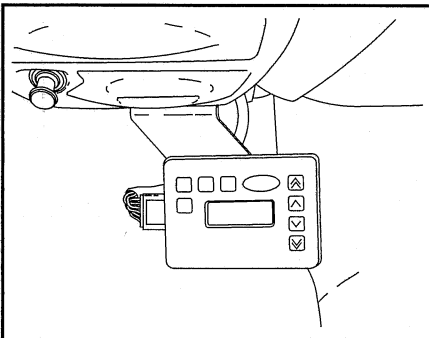
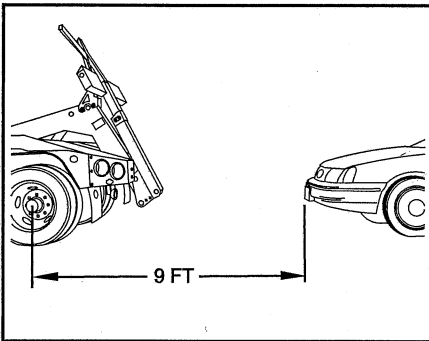
WHEEL-LIFT OPERATION

Your QP40 is one of the most useful and efficient towing and recovery vehicles available. It is hydraulically powered and careful consideration should be given to the selection of commands. You can afford to work smart, the vehicle will do most of the work for you.

Follow these simple steps:



1. Turn on the safety and work lights. (Switches located on the dash panel).
2. Position the truck within 9 ft. of the subject vehicle and as close to the direction of the pull as possible.
3. Set the truck's parking brakes.
4. Engage the Power-Take-Off (PTO) or Clutch Pump and the hand controller using the "Control" switch in the switch panel. **NEVER TRAVEL WITH THE POWER-TAKE-OFF or CLUTCH PUMP CONTROL ENGAGED.** This could result in damage to the PTO or Clutch Pump unit and the truck transmission.
5. Adjust the electronic or manual throttle control to elevate the engine speed to approximately 1200-1400 R.P.M. for optimum performance.



CAUTION:

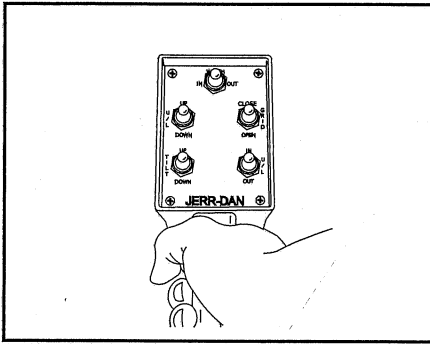
Never exceed 1,500 R.P.M. When your hook up is complete, reset the engine idle to normal.

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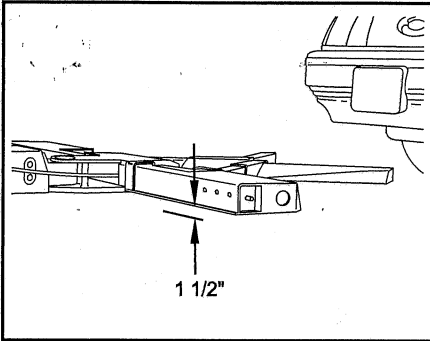
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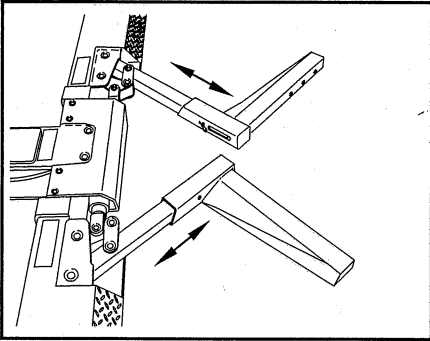
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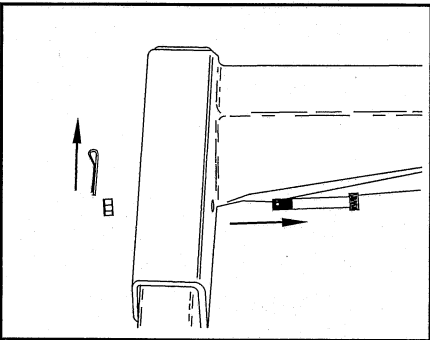
6. Confirm the truck's position in relation to the vehicle to be towed. Nine (9) feet is recommended. Reposition the QP40 if necessary. **Be sure the towed vehicle is not in gear or park. Keep the brake set.**



7. Unfold and lower the lift arm to about 1-1/2" from the ground .



8. Set the grid arm width as required for the vehicle to be towed.



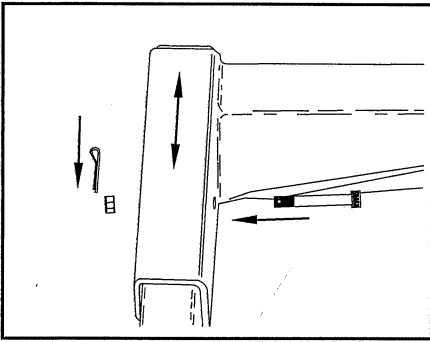
9. Set the grid arm width by removing the cotter pin, jam nut and socket head capscrew from the adjustment hole in the grid arm.

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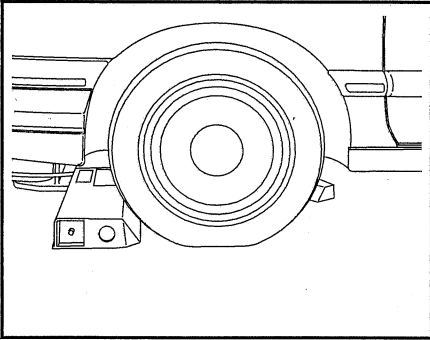
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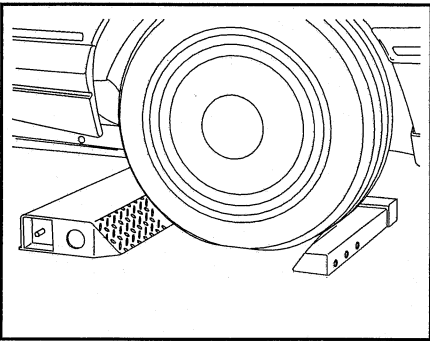
10. Select the desired position of the grid arm and reinstall the socket head capscrew, jam nut and cotter pin.



11. Extend the lift arm under the vehicle being sure that all under carriage parts are cleared and that the front portion of the grid is in contact with both tires. Lower the grid fully to the ground. **There is no reason for the operator to get under the vehicle.**

12. Visually inspect the tire to grid contact before proceeding.

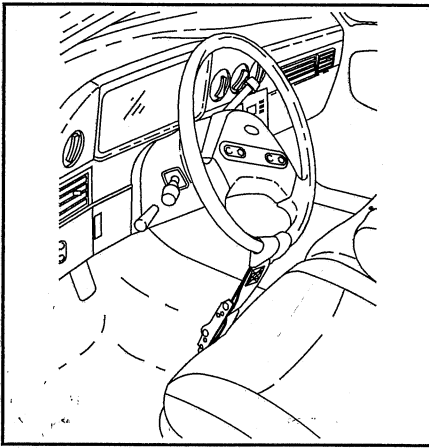
13. Close the grid arms around the tires to secure the towed vehicle. **Make sure that the arm is fully closed and in its over center locked position.**



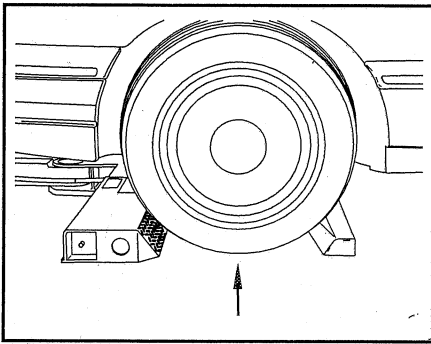
14. After securing the grid arms around the towed vehicles tires and before making the actual lift, check to be sure the towed vehicle's parking brake is released, the transmission is in neutral, and the wheels are straight.

NOTE:

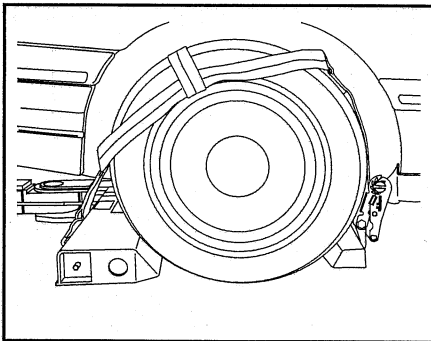
If vehicle to be towed is on a slope, do not release the brake until the tie-down straps are installed. Observe the wheels in the grid for any slippage.



15. It is recommended that the steering wheel be secured by a steering wheel strap for any tow.



16. Lift the vehicle high enough to allow the tires to clear the ground. Make sure that the grid is not in contact with any engine or body components.



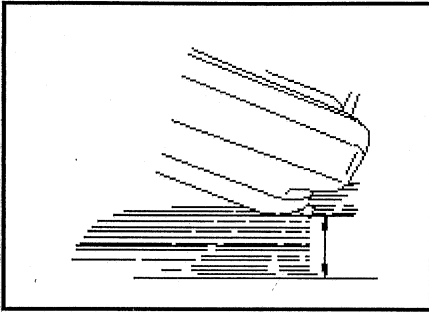
17. Remove the tie down straps from tool boxes and attach the tie down straps. **(See Tie-Down Strap instructions).**
18. With the straps in place, the vehicle in neutral and the parking brake released, you can move the vehicle safely up, down, in or out. All of these movements are hydraulically controlled by the hand controller.

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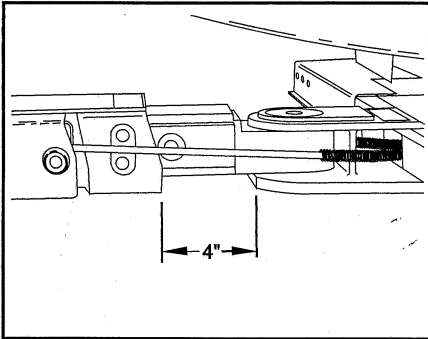
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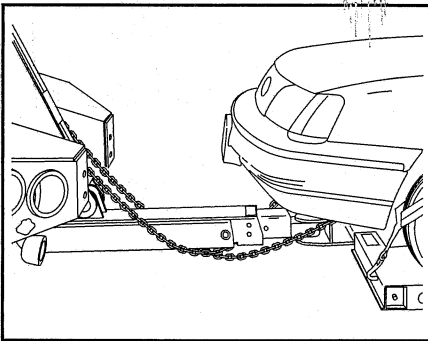
19. Raise the vehicle into the final towing position observing the far end for sufficient ground clearance. It is possible to set the rear of a front lifted vehicle completely onto the ground, causing damage. Take irregular roadsurfaces into consideration. Observe the lift function from the side and away from both vehicles if possible.

NOTE:

For the best towing and maneuverability the boom should be as close to horizontal as possible.



20. Power retract the grid boom until the towed vehicle is about 3 to 4 feet from the back of the truck. Leave enough room to maneuver around corners without corner binding or causing contact between the two (2) vehicles. **Be sure that the boom is extended at least 4" to ensure unobstructed cross-bar pivoting.**



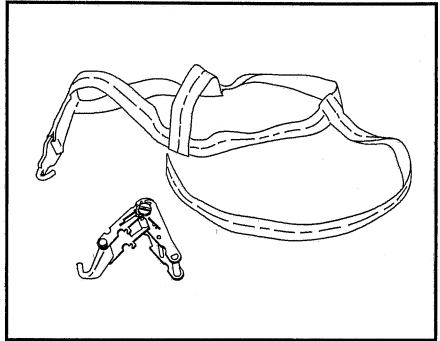
21. Be sure to maintain sufficient clearances with the bottom of the towed vehicle.
22. Attach the safety chains and towing lights. **Safety chains should be crossed from one side of the recovery vehicle to the opposite side of the towed vehicle.**

TIE DOWN STRAPS

The QP40 is supplied with a set of high strength polyester web tie down straps. They are to be used to secure wheels of the towed vehicle to the wheel lift grid. **NEVER TOW A VEHICLE WITHOUT THE TIE DOWN STRAPS INSTALLED.**

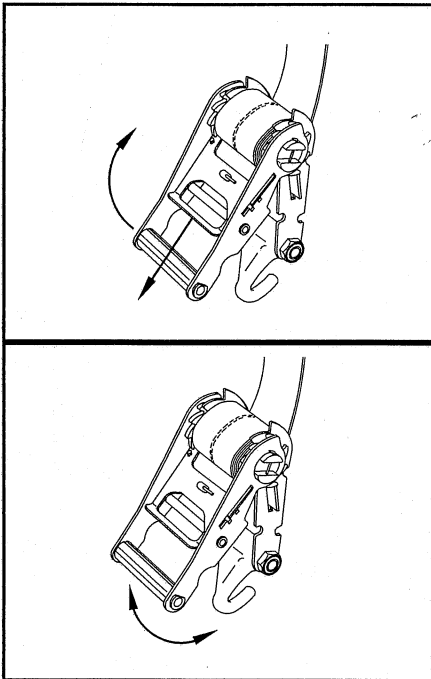
The tie down strap assembly is comprised of 2 basic components:

1. The Strap
2. The Ratchet Spool Mechanism



The following steps should be followed to properly install the tie down straps:

USING THE RATCHET SPOOL MECHANISM



1. First the spool must be set into "free spool". This is done by pulling the lock bar out and swinging the handle upward until it rests in the free spool notch and then simply pulling out the amount of strap required to fit over the tire.
2. Now pull on the lock bar and move it downward until it engages the ratchet teeth on the take up spool. By pushing and pulling the handle up and down, the strap will be wound onto the spool.
3. To release the ratchet, simply pull on the locking bar, disengaging the teeth and raise the handle to the "free spool" position.

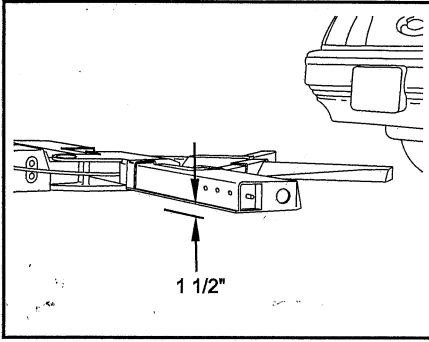
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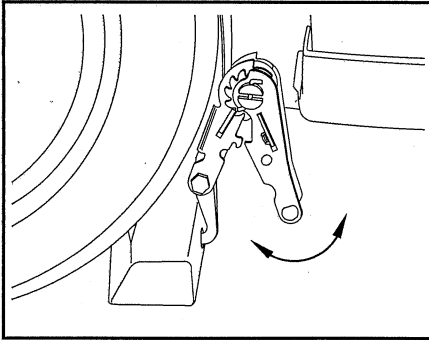
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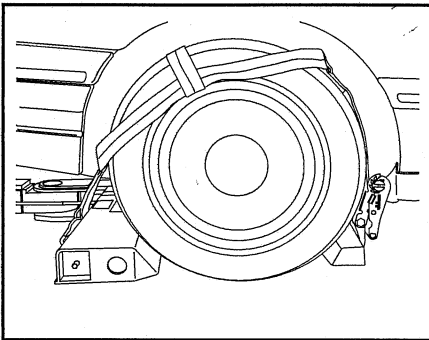
INSTALLING THE TIE DOWN STRAP



1. With the vehicle lifted just barely off the ground, attach the strap to the front side of the wheel grid.



2. Set the ratchet spool in "free spool" position and pull the webbed strap out and over the top of the tire. Attach the ratchet to the back side of the wheel grid.



3. Take up the slack in the strap by ratcheting the takeup spool arm. Continue until the tires show some compression.

4. Raise the wheel grid to the towing position. **RE-TIGHTEN THE RATCHET PERIODICALLY AS TIRE SETTLES IN GRID FROM TOWING.**

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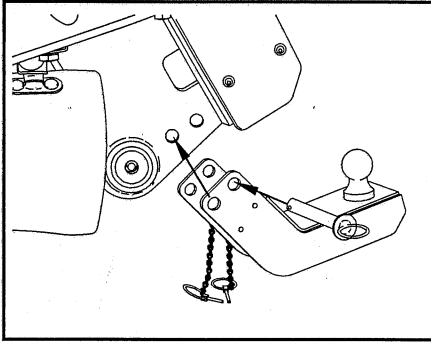
TOWBALL HITCH ATTACHMENT

The QP40 is supplied with a Towball Hitch attachment that will allow you to recover and tow trailers requiring a tow ball hookup.

DO NOT EXCEED THE FOLLOWING RATINGS:

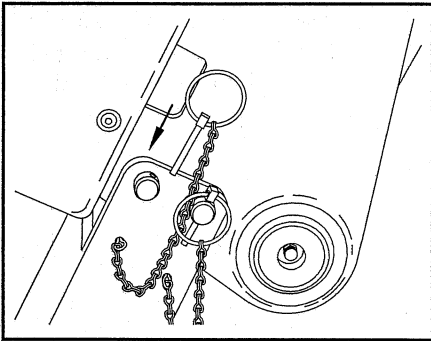
| | |
|------------------------|-------------------|
| 1-7/8 in. Ball: | 5,000 lbs. (GTW)* |
| 2 in. Ball: | 5,000 lbs. (GTW)* |
| 2-5/16 in. Ball: | 7,500 lbs. (GTW)* |
| 50 MM Ball: | 5,000 lbs. (GTW)* |

* Gross Tongue Weight



1. Remove the towball hitch attachment from the toolbox.

2. Install the towball hitch to the bottom on the underlift boom using the hitch pins.



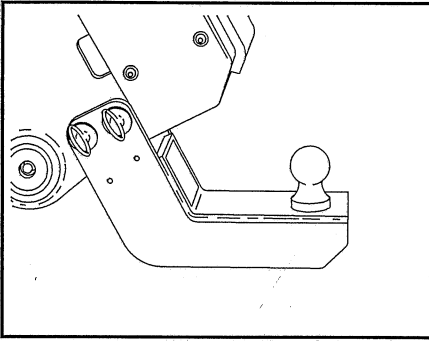
3. Secure the hitch pins with the linch pins.

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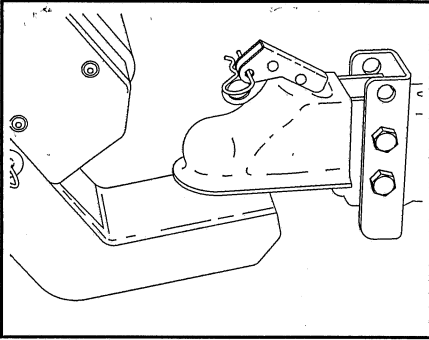
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4. Install the desired towball to the towball hitch.

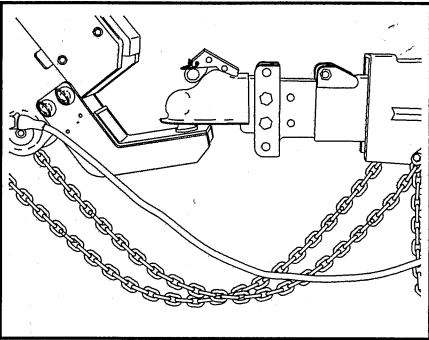


5. Position the ball coupler over the ball and lock into place.



CAUTION:

Make sure that the ball and coupler are of the same matched size.



6. Connect the trailer lights and attach safety chains.

RECOVERY WINCH OPERATION (OPTIONAL)

The QP40 recovery winch is an extremely effective tool in recovery or retrieval prior to lifting and towing. To operate the winch effectively, care and thought must be given.

Winch Rating: 8,000 lbs.

Wire Rope Specifications:375 x 75 ft.; 6x37 IPS fiber core

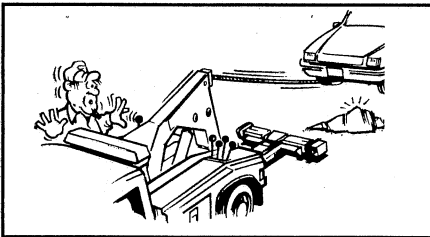
Working Limit (wire rope): 3485 lbs.

*All ratings comply with SAE J2512 Recommended Practice

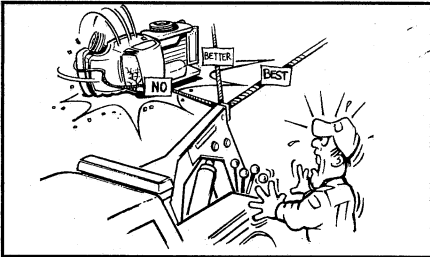


WARNING:

Do not exceed the working limit of the wire rope. Use snatch blocks and multiple lines to reduce the load on the wire rope.

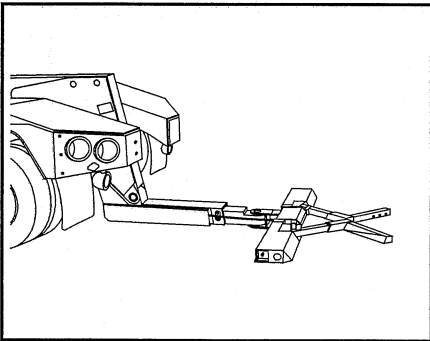


1. Check the direction you wish the work to travel, being sure there are no major obstacles in the way.



2. Position and align the truck to obtain as direct a pull as possible. Straight line pulls are the best and most efficient.

3. Set the brakes on your Jerr-Dan unit.



4. Unfold the under lift boom .

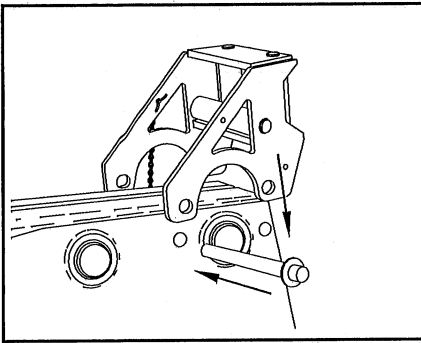
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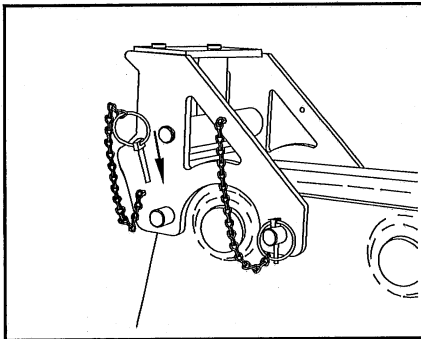
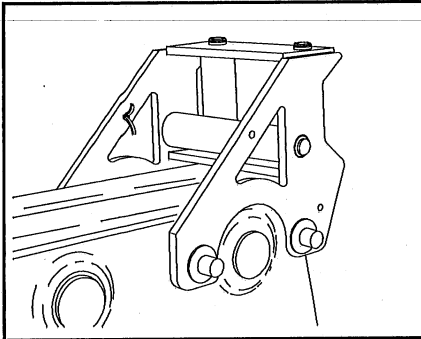
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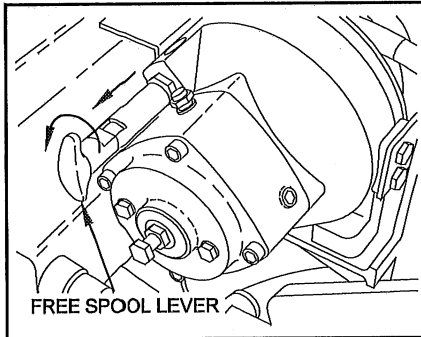
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5. Install the roller guide onto the end of the boom and pin in place. The roller guide can be removed to provide better visibility over the boom for towing and installed as needed for winching and recovery.



6. Secure the pins with the lynch pins.



7. Release the free spooling lever on the winch by pulling and turning the handle 90°. **Never pull this handle while the wire rope is under load!** This allows the wire rope to be pulled directly off the drum to the work. Return to the wire rope drum and be sure that at least five (5) wraps of wire rope remain on the drum.

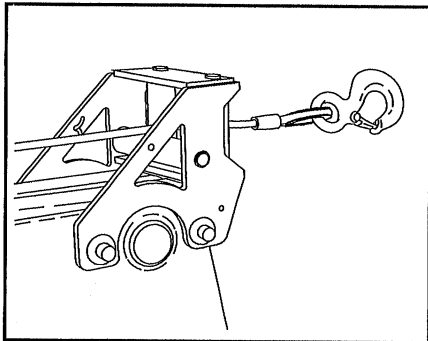
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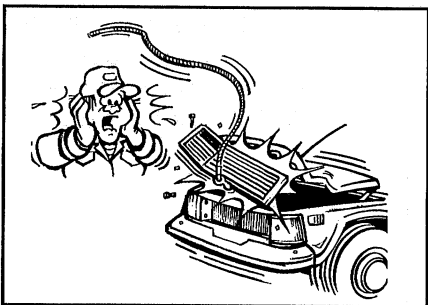
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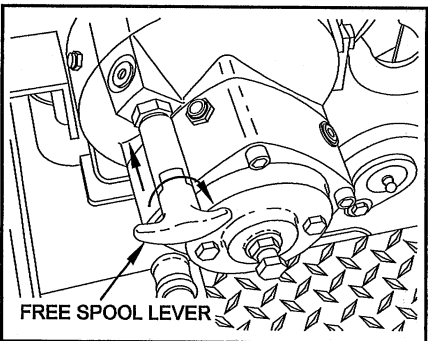
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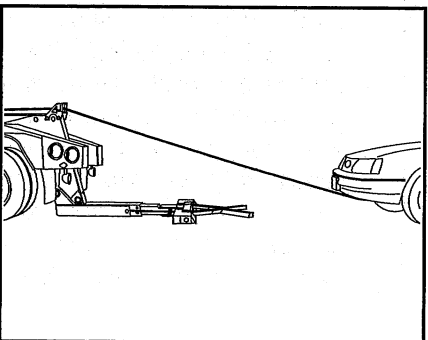
8. Pull the wire rope off of the winch spool and route it through the roller guide.

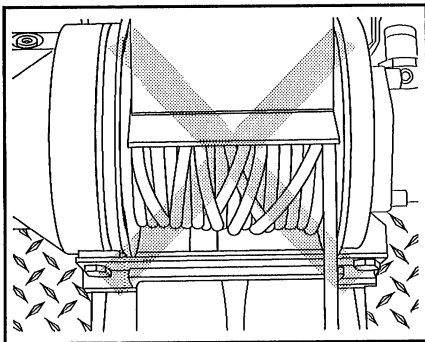


9. Attach the wire rope hook to a chain sling, or bridle and hook securely to the work. Be sure of this hook up; you don't want it breaking loose during the pull. (See the safety sections earlier in this manual). Do not connect to thin or loose body panels or components that could break loose during the winching operation. Slings and bridles are usually designed with hook clusters on them. Most chassis manufacturer's provide tie-down hooks and/or slots in chassis frames that may be able to be used as recovery attachment points. (Consult the Chassis Manufacturer's Towing Manual and/or the American Automobile Association (AAA) Towing Manuals.)

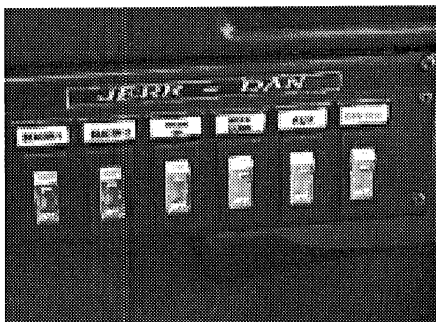


10. Re-engage the winch drive by turning the handle back 90°. It should retract cleanly. Confirm winch engagement by visually verifying that the handle has fully retracted, and by jogging the winch control. Now slowly take up the slack in the wire rope.

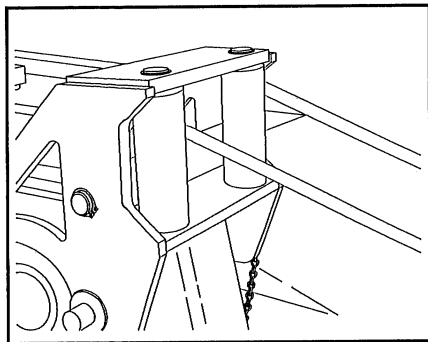




11. With the wire rope tight, slowly wind it in, observing both the work and the drum. Be sure the wire rope strands do not cross wrap or criss-cross on the drum. Observe the path the work must travel for snags or obstructions which could stall the work movement and overload the wire rope.



12. Once the work is in the desired position, apply the towed vehicles parking brake or use blocks or tie the work down if there is any question about stability. Slowly reduce the wire rope tension. After enough wire rope has been unwound, you may remove the hookup.



13. Now slowly retrieve the wire rope, carefully winding the wire rope onto the drum. Many operators take this opportunity to do a visual inspection. When you've finished rewinding the wire rope, be sure you don't over-wind it. Always wear safety glasses and gloves when doing recovery work or handling the wire rope.

Remember, most wire rope failures are caused by cable crushing or the operator underestimating the pull or over estimating the wire rope strength.

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MAINTENANCE AND LUBRICATION

Your QP40 has been designed to give you excellent service and long life but like all equipment, it requires proper and periodic maintenance. 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 QP40 and the following chart details the proper lubricant and the most common brands and specification which meet the requirements.

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

Inspect the vehicle and underlift system periodically for damage or evidence of pending failure. Damaged or broken parts should be replaced immediately. Never operate a machine which is known to be defective or operating improperly. The cause of any binding or leakage should be determined immediately and the problem promptly fixed.

Critical wear points on your QP40 must be lubricated at regular intervals. Sliding surfaces are to be cleaned and coated with a heavy grease periodically. Cleaning every month is recommended for normal highway operations, but this frequency will vary appreciably with the type of service. Sliding on dirty wear surfaces will cause rapid wear. Fittings on linkage pivots should be greased every two (2) months, again depending upon usage. The following chart and diagram shows the location of these points, and when and what type of lubricant to use.

Check the hydraulic oil level bi-monthly or after any leakage. A dipstick has been provided under the filler cap of the hydraulic tank. The proper oil level is best checked with all cylinders fully retracted. Use 5W20 Dual Range hydraulic oil. (Automatic transmission fluid may be used in the hydraulic system if necessary.)

The hydraulic filter located on the return side of the hydraulic tank comes equipped with a restriction indicator gauge. This gauge shows the operator 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 element will result in premature wear and/or failure of any or all of the hydraulic components. **Check gauges when the hydraulic fluid is at operating temperatures. Cold oil is more dense and will give a false indicator gauge reading.**

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


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If a cylinder seal leaks, disassemble the cylinder and ascertain the cause of the leak. Small scores caused by chips or contaminated fluid can usually be worked out with fine emery cloth to avoid repetition of the trouble. Whenever any seal replacement is necessary, it is always advisable to replace all seals in that component. These seals are available in kits. Also, thoroughly clean all components before reassembly.

The body of your Jerr-Dan has been built from high strength aluminum which has been carefully assembled and polished in our factory. To keep it clean and free of dirt use any non-abrasive soap or detergent recommended for automotive finishes. Use a soft cloth or sponge and finish with a thorough rinsing. Drying with a soft cloth or chamois will prevent spotting or streaking. A coat of automotive wax is recommended.

The QP40 is mounted to the truck chassis by bolts. These bolts are torqued at the factory to 70 ft. lbs. We recommend periodic inspection and retorquing of these bolts. If your truck is equipped with the optional recovery winch, the winch mounting bolts should be regularly inspected and tightened if necessary. Replace any broken or damaged bolts immediately.

TIGHTENING TORQUES (FOOT-POUNDS) FOR SCREWS AND NUTS

| SIZE INCHES (MM) |  GRADE 2 |  GRADE 5 |  GRADE 8 |
|---------------------|--|--|--|
| 1/4 (6.350) | 6 | 8 | 10 |
| 5/16 (7.938) | 10 | 14 | 19 |
| 3/8 (9.525) | 17 | 27 | 33 |
| 7/16 (11.112) | 28 | 45 | 60 |
| 1/2 (12.700) | 45 | 68 | 90 |
| 9/16 (14.288) | 63 | 100 | 120 |
| 5/8 (15.875) | 90 | 135 | 180 |
| 3/4 (19.050) | 145 | 230 | 310 |
| 7/8 (22.225) | 145 | 380 | 500 |
| 1 (25.400) | 220 | 570 | 760 |

- All torque values shown are for bolts (cap screws) and nuts that are either zinc-plated or lubricated.
- Torques shown above apply to screws and nuts used for assembly and installation of all wrecker components.
- Different torque values may be given in instructions for certain components due to short thread engagement or low-strength internal threads.
- When nuts are used, tighten nuts to torques shown (screws or bolts should be held but not turned).
- Retighten nuts of all mounting screws that secure the wrecker and wrecker-body within two weeks after they are first installed on the vehicle. Thereafter, inspect such screws and nuts visually once every month and after each job imposing extremely heavy loads on the equipment. Periodically recheck all accessible screws and nuts for proper tightness.
- Converting ft/lbs to Nm (Newton metres) can be accomplished by using the following:

Multiply: by: to get:
 ft/lbs x 1.3558 = Nm (Newton metres)

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OILS AND GREASES

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

Company

Product

HYDRAULIC OILS

- | | |
|-----------------------------|----------------------|
| 1. Drydene Dual Range | Hydraulic Fluid 5w20 |
| 2. Sun Refining & Marketing | 2105 Hydraulic |
| 3. D.A. Lubricants | 5w20 HiVI |
| 4. Texaco | Rando HD AZ |
| 5. Mobil Oil Corp. | DTE 15 |
| 6. Amoco Oil Co. | Rykon MV |
| 7. Citgo | A/W All Temp |

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 AND GEAR LUBE

- | | |
|-------------|--|
| 1. Phillips | 140 wt. EP Gear Lube 93301 (or approved equivalent) |
|-------------|--|

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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:

- **ALWAYS INSPECT** wire rope for **WEAR, DAMAGE or ABUSE BEFORE USE.**

- **NEVER USE** wire rope that is **WORN-OUT, DAMAGED or ABUSED.**

- **NEVER OVERLOAD** a wire rope.

- **INFORM YOURSELF:** Read and understand manufacturer's literature or "Wire Rope and Sling Safety Bulletin".

- **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. 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.

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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 it's condition. This method eliminates the risk of fatigue causing rope failure.

Any deterioration, resulting in a suspected loss of original rope strength, should be carefully examined and determination made as to whether further use of the wire rope would constitute a safety hazard.

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.

All products are subject to age, wear and deterioration, all of which cause a reduction in the products breaking strength capacity.

Probably 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.

Any wire ropes that have been abraded, crushed, kinked or twisted should be replaced.

Wire rope should be routinely cleaned 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.

Consult the manufactuerer or your local distributor for the proper replacement wire rope.

LUBRICATION POINTS

The following lubrication chart is located inside the tool box lid on the driver's side of the QP40 body.

| 410 | | | | | |
|-----------------------------|-------|----------------|--------------|------------|-------------|
| LUBRICATION CHART | | | | | |
| JERR-DAN[®] | | | | | |
| WHEEL LIFT SYSTEM | | | | | |
| INTERVAL (HOURS) | REF # | IDENTIFICATION | SERVICE | LUBRICANT | # OF POINTS |
| WEEKLY | B | GRID PIVOT PIN | LUBE | MPG | 1 |
| 50 OR MONTHLY | A | LINKAGE PINS | LUBE | MPG | 6 |
| | C | BOOM (FLY) | COAT | MPG | 1 |
| | I | WIRE ROPE | OIL | ENGINE OIL | 1 |
| 100 OR BI - MONTHLY | D | EXT. CYLINDER | LUBE | MPG | 1 |
| | E | TILT CYLINDER | LUBE | MPG | 2 |
| | F | LIFT CYLINDER | LUBE | MPG | 2 |
| | G | U/L PIVOT PIN | LUBE | MPG | 2 |
| | H | ROLLER PINS | LUBE | MPG | 4 |
| | J | BOOM PIVOT PIN | LUBE | MPG | 2 |
| | K | HYD. RESERVOIR | CHECK | ● | 1 |
| 1000 OR YEARLY | K | HYD. RESERVOIR | DRAIN - FILL | ● | 1 |
| | L | MAGNETIC PLUG | CLEAN | --- | 1 |

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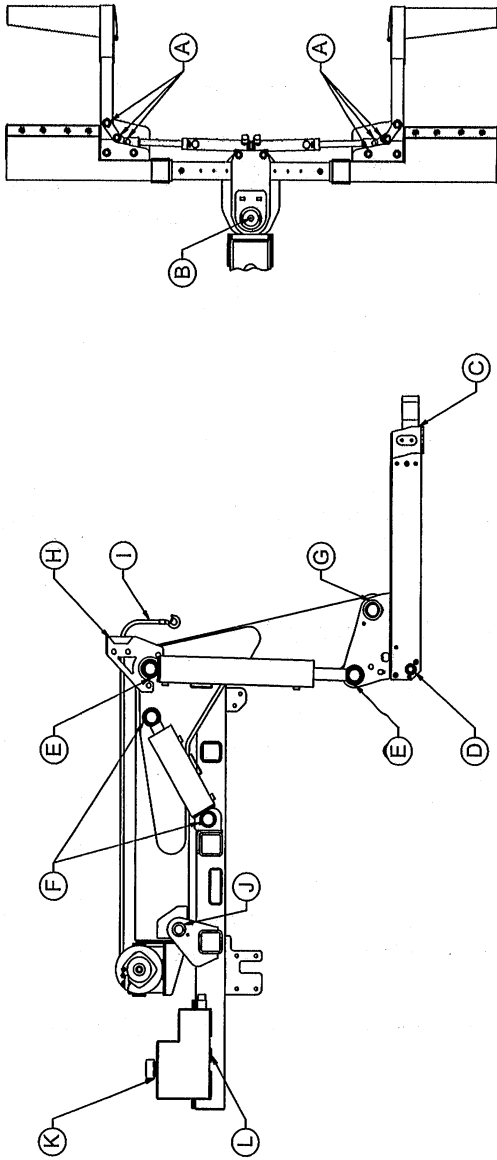
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LUBRICATION CHART
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 WHEEL LIFT SYSTEM

409



MPG INDICATES MULTI-PURPOSE GREASE

- INDICATES DUAL RANGE HYDRAULIC FLUID 5W 20
 (AUTOMATIC TRANSMISSION FLUID MAY BE
 SUBSTITUTED IF NECESSARY)

TROUBLE SHOOTING

You probably won't require anything but preventive maintenance to keep your QP40 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 hoses d. Dirty hydraulic oil e. Hydraulic pump worn f. Clutch Pump belt slipping | <ul style="list-style-type: none"> a. Speed up engine b. Check dipstick 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. Tighten or Replace belt |
| Valve Solenoid(s) sticking or frozen | <ul style="list-style-type: none"> a. Broken centering spring or clogged with foreign material b. Low Amperages/ Voltage at Solenoid | <ul style="list-style-type: none"> a. Inspect, clean or replace b. Check Amperage/Voltage |
| Valve leaks | <ul style="list-style-type: none"> a. Defective seals | <ul style="list-style-type: none"> a. Replace |
| Cylinder leaks | <ul style="list-style-type: none"> a. Defective seals or rods b. Dirty or Defective CounterBalance Valve | <ul style="list-style-type: none"> a. Inspect and replace b. Clean or Replace CounterBalance Valve |
| 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 b. Not plugged in c. Faulty Remote Hand Controller | <ul style="list-style-type: none"> a. Turn on CONTROL power switch in cab b. Check plug connection c. Use Manual By-Pass at Valve |

P.T.O. FUNCTIONING IMPROPERLY

| Problem | Cause | Solution |
|-----------------------|--|---|
| Cable tight or frozen | <ul style="list-style-type: none"> a. Cable kinked or bent b. Cable and P.T.O. connection not adjusted properly c. Mounting bracket nuts are over tightened at P.T.O. | <ul style="list-style-type: none"> a. Straighten or replace b. Inspect and adjust c. Loosen if necessary |

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P.T.O. FUNCTIONING IMPROPERLY

| Problem | Cause | Solution |
|---------------------------------------|--|---|
| 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. Cable and P.T.O. connection not adjusted properly b. Defective shifter cover plate | a. Inspect and adjust b. Inspect and replace |

HYDRAULIC PUMP

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

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HYDRAULIC PUMP

| Problem | Cause | Solution |
|-------------------------------------|--|---|
| Clutch Pump leaks at Pulley Shaft | a. Defective Shaft Seals b. Hydraulic Supply/Return lines connected incorrectly | a. Replace seals or Pump b. Check hydraulic line connections |
| 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 cable | a. Free spooling device not engaged b. Sheared keys or broken coupling c. Hydraulic pump worn d. Insufficient pump pressure e. Overload | a. Engage b. Inspect or replace c. Inspect and replace d. Check hydraulic pump and hydraulic fluid level e. Install snatch block in the rigging line |

PARTS

To order repair parts, call your nearest Jerr-Dan Distributor or call 800-926-9666 for further information.

Give Sales Order No., Serial No. and Model No. along with part number and description of part.

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SUBFRAME INSTALLATION - FORD

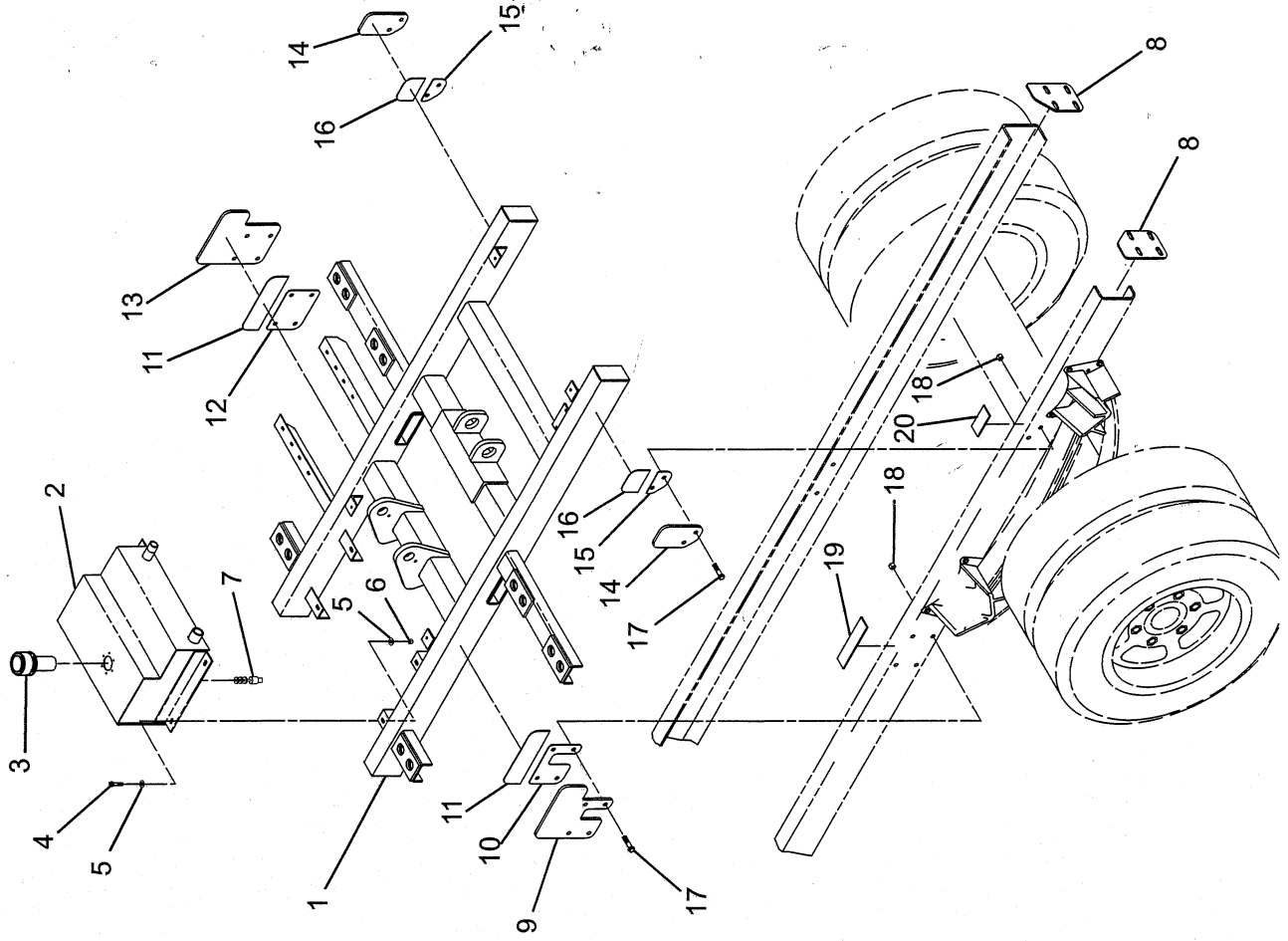
| Ref No. | Part No. | Description | Qty. |
|---------|------------|-------------------|----------|
| 1 | 3868000219 | Subframe | 1 |
| 2 | 3750000031 | Hydraulic Tank | 1 |
| 3 | 3470000001 | Breather Assembly | 1 |
| 4 | 7115160850 | Capscrew | 4 |
| 5 | 7950160161 | Flatwasher | 8 |
| 6 | 7660161600 | Locknut | 4 |
| 7 | 7701000026 | Plug | 1 |
| 8 | 4706003255 | Plate | 2 |
| 9 | 4706003511 | Plate | 1 |
| 10* | 4706003520 | Shim 14 Ga | As Req'd |
| | 4706003521 | Shim 11 Ga | |
| 11* | 4706003516 | Shim 14 Ga | As Req'd |
| | 4706003517 | Shim 11 Ga | |
| 12* | 4706003522 | Shim 14 Ga | As Req'd |
| | 4706003523 | Shim 11 Ga | |
| 13 | 4706003510 | Plate | 1 |
| 14 | 4706003509 | Plate | 2 |
| 15* | 4706003524 | Shim 14 Ga | As Req'd |
| | 4706003525 | Shim 11 Ga | |
| 16* | 4706003518 | Shim 14 Ga | As Req'd |
| | 4706003519 | Shim 11 Ga | |
| 17 | 7115181250 | Capscrew | 12 |
| 18 | 7660182301 | Locknut | 12 |
| 19 | 4706003526 | Plate | 2 |
| 20 | 4706003527 | Plate | 2 |

*Available in Shim Kit 3577000073

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Date _____

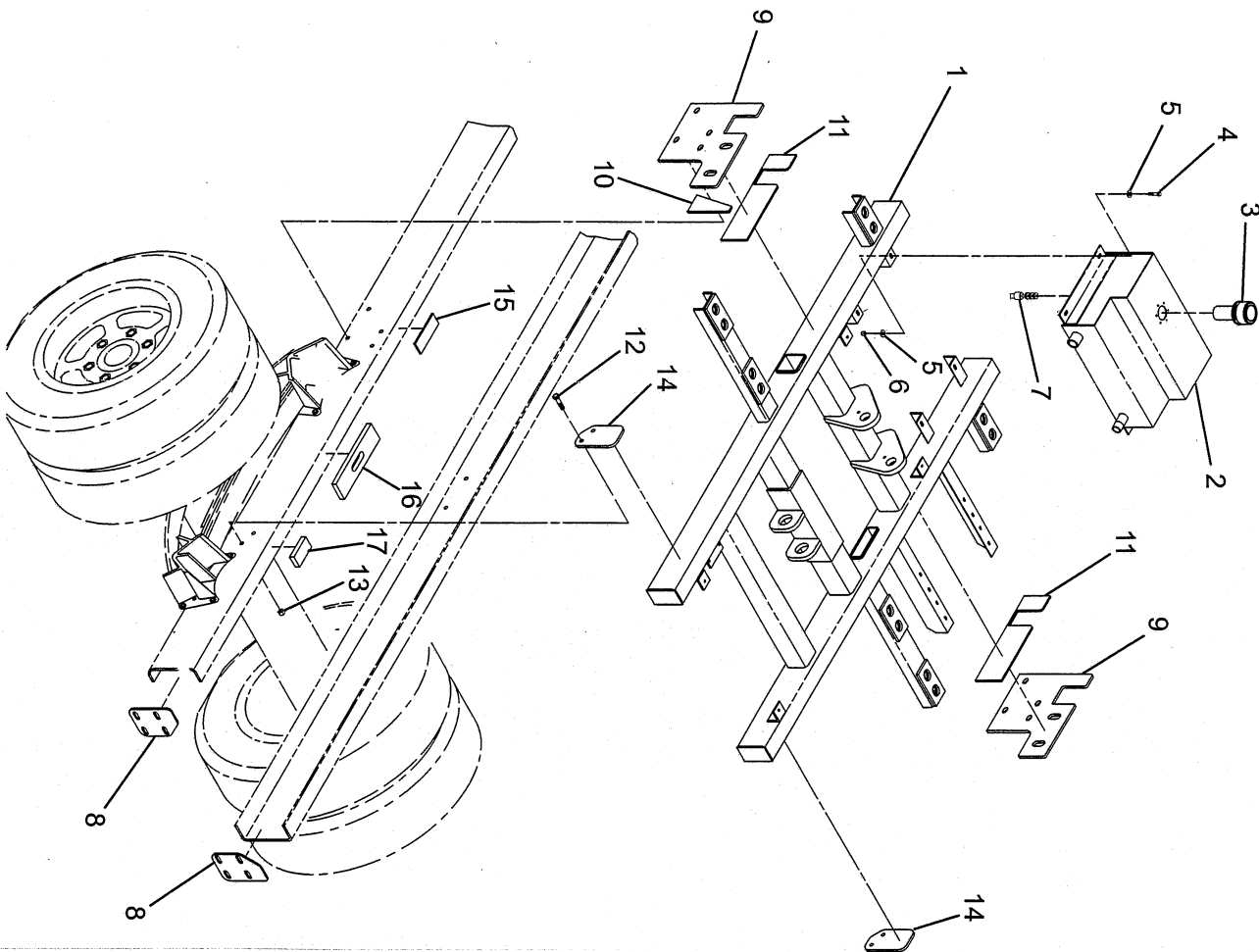
SUBFRAME INSTALLATION - FORD



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Date _____

SUBFRAME INSTALLATION - CHEVY



SUBFRAME INSTALLATION - CHEVY

| Ref No. | Part No. | Description | Qty. |
|---------|------------|-------------------|------|
| 1 | 3868000224 | Subframe | 1 |
| 2 | 3750000031 | Hydraulic Tank | 1 |
| 3 | 3470000001 | Breather Assembly | 1 |
| 4 | 7115160850 | Capscrew | 4 |
| 5 | 7950160161 | Flatwasher | 8 |
| 6 | 7660161600 | Locknut | 4 |
| 7 | 7701000026 | Plug | 1 |
| 8 | 4706003255 | Plate | 2 |
| 9 | 4706003642 | Plate | 2 |
| 10 | 4706003642 | Plate | 2 |
| 11 | 4706003644 | Plate | 2 |
| 12 | 7115181250 | Capscrew | 4 |
| 13 | 7660182301 | Locknut | 4 |
| 14 | 4706003643 | Plate | 2 |
| 15 | 4062000462 | Bar | 2 |
| 16 | 4706003646 | Plate | 2 |
| 17 | 4062000461 | Bar | 2 |

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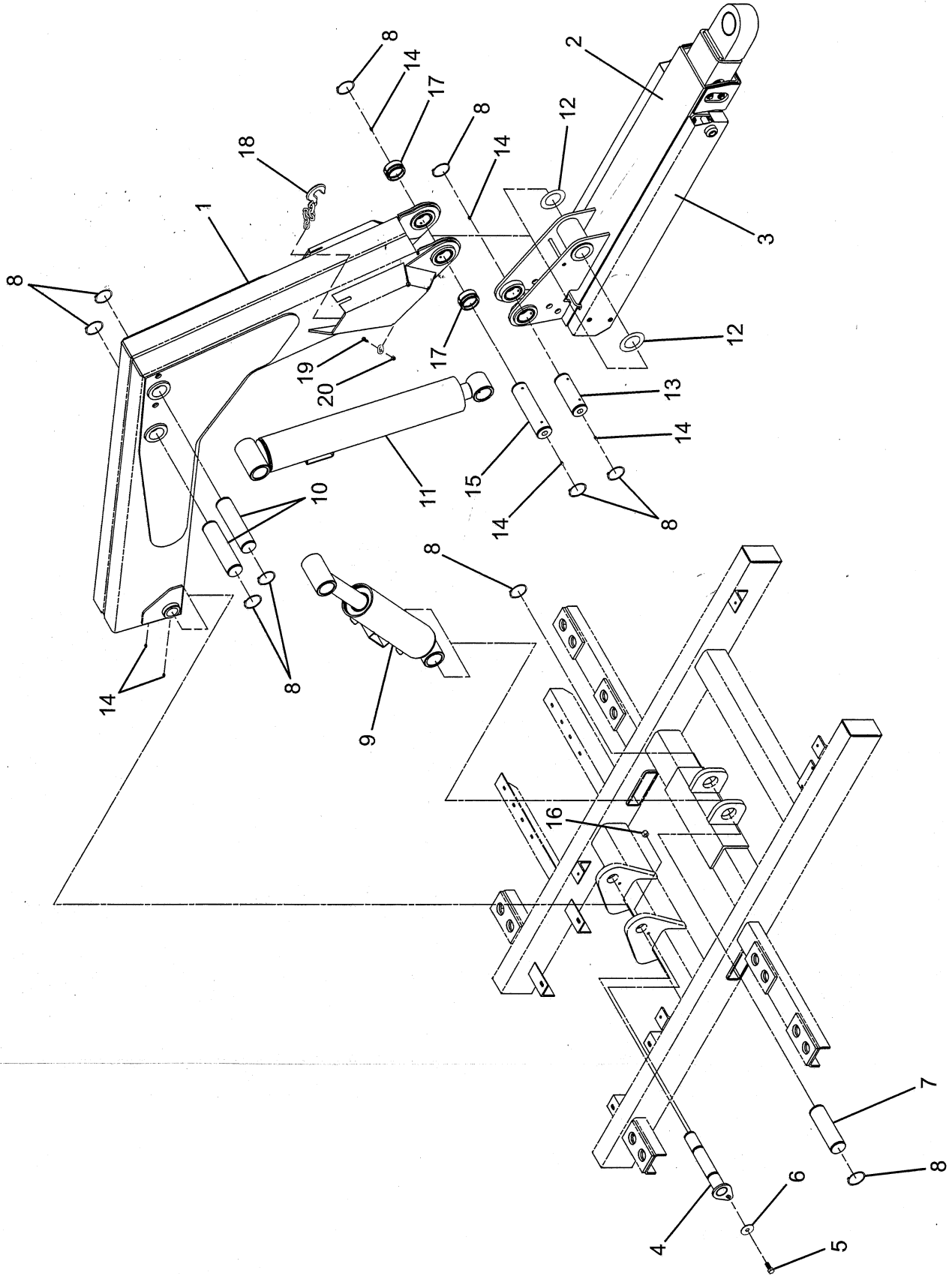
BOOM ASSEMBLY

| Ref No. | Part No. | Description | Qty. |
|---------|------------|-------------------------|------|
| 1 | 3509870021 | Boom Weldment | 1 |
| 2 | 3170000244 | Underlift Boom Assembly | 1 |
| 3 | 3509870012 | Hose Tracking Assembly | 1 |
| 4 | 3691000193 | Pin | 1 |
| 5 | 7115161250 | Capscrew | 1 |
| 6 | 7950160161 | Flatwasher | 1 |
| 7 | 4691000309 | Pin | 1 |
| 8 | 7754000048 | Retaining Ring | 10 |
| 9 | 3320000065 | Lift Cylinder | 1 |
| 10 | 4691000303 | Pin | 2 |
| 11 | 3320000105 | Tilt/Fold Cylinder | 1 |
| 12 | 4949000050 | Washer | 2 |
| 13 | 4691000389 | Pin | 1 |
| 14 | 7440030000 | Grease Fitting | 6 |
| 15 | 4691000390 | Pin | 1 |
| 16 | 7660161603 | Locknut | 1 |
| 17 | 7209000036 | Bushing | 2 |
| 18 | 7262000020 | Chain | 2 |
| 19 | 7115181050 | Capscrew | 2 |
| 20 | 7660182601 | Locknut | 2 |

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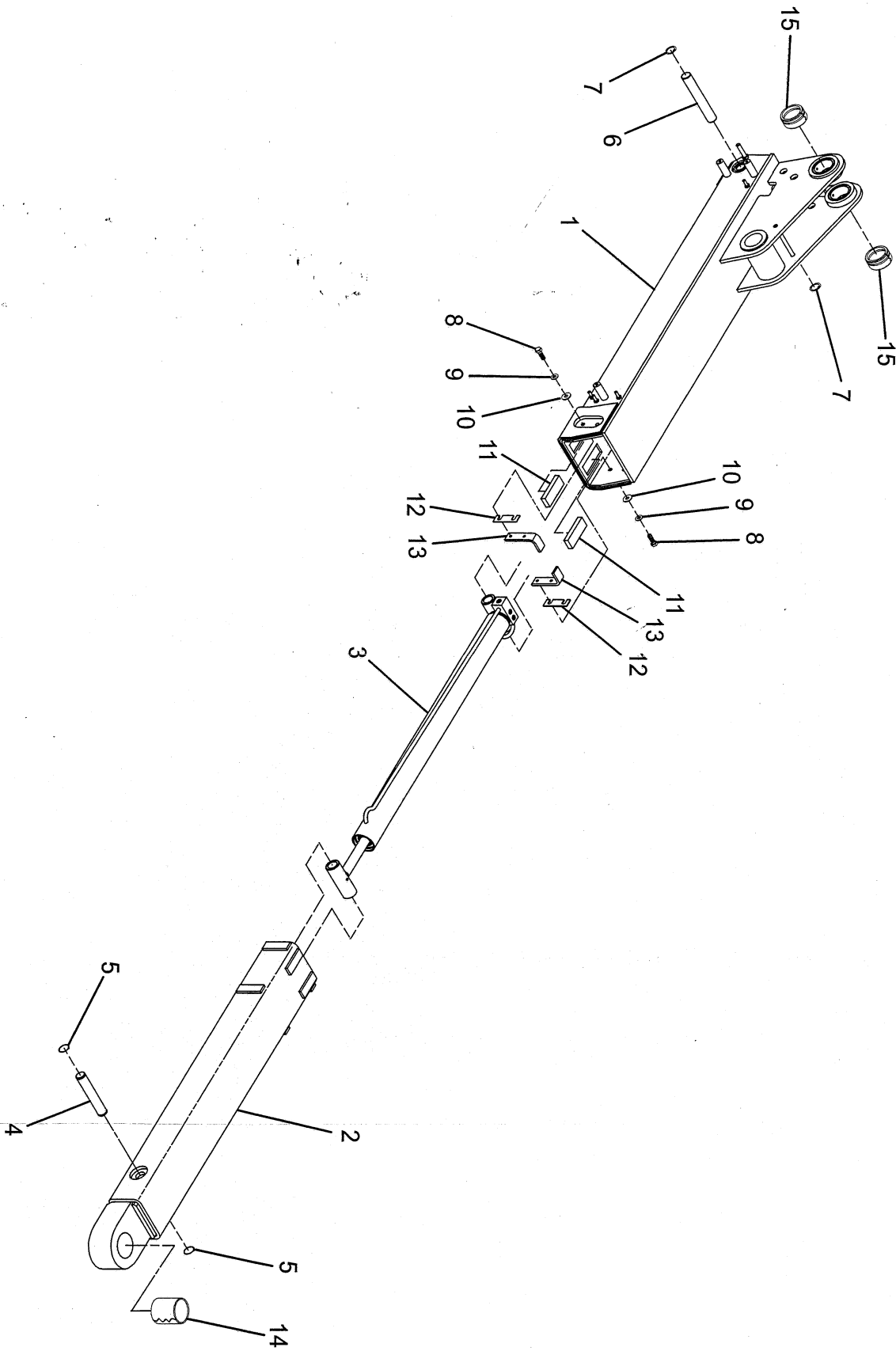
Date _____

BOOM ASSEMBLY



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Date _____

UNDERLIFT BOOM ASSEMBLY



UNDERLIFT BOOM ASSEMBLY

| Ref No. | Part No. | Description | Qty. |
|---------|------------|------------------------------|----------|
| 1 | 3170000245 | Base Boom Weldment | 1 |
| 2 | 3170000242 | Fly Boom Weldment | 1 |
| 3 | 3320000067 | Underlift Extension Cylinder | 1 |
| 4 | 4691000307 | Pin | 1 |
| 5 | 7754000019 | Retaining Ring | 2 |
| 6 | 4691000308 | Pin | 1 |
| 7 | 7754000056 | Retaining Ring | 2 |
| 8 | 7105150550 | Capscrew | 4 |
| 9 | 7950150000 | Lockwasher | 4 |
| 10 | 7950150161 | Flatwasher | 4 |
| 11 | 4679000213 | Pad | 2 |
| 12 | 4812000067 | Shim 14 Ga | As Req'd |
| | 4812000068 | Shim 16 Ga | |
| 13 | 4062000455 | Bar | 2 |
| 14 | 7209000030 | Bushing | 1 |
| 15 | 7209000036 | Bushing | 2 |

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UNDERLIFT BOOM HOSE TRACKING ASSEMBLY

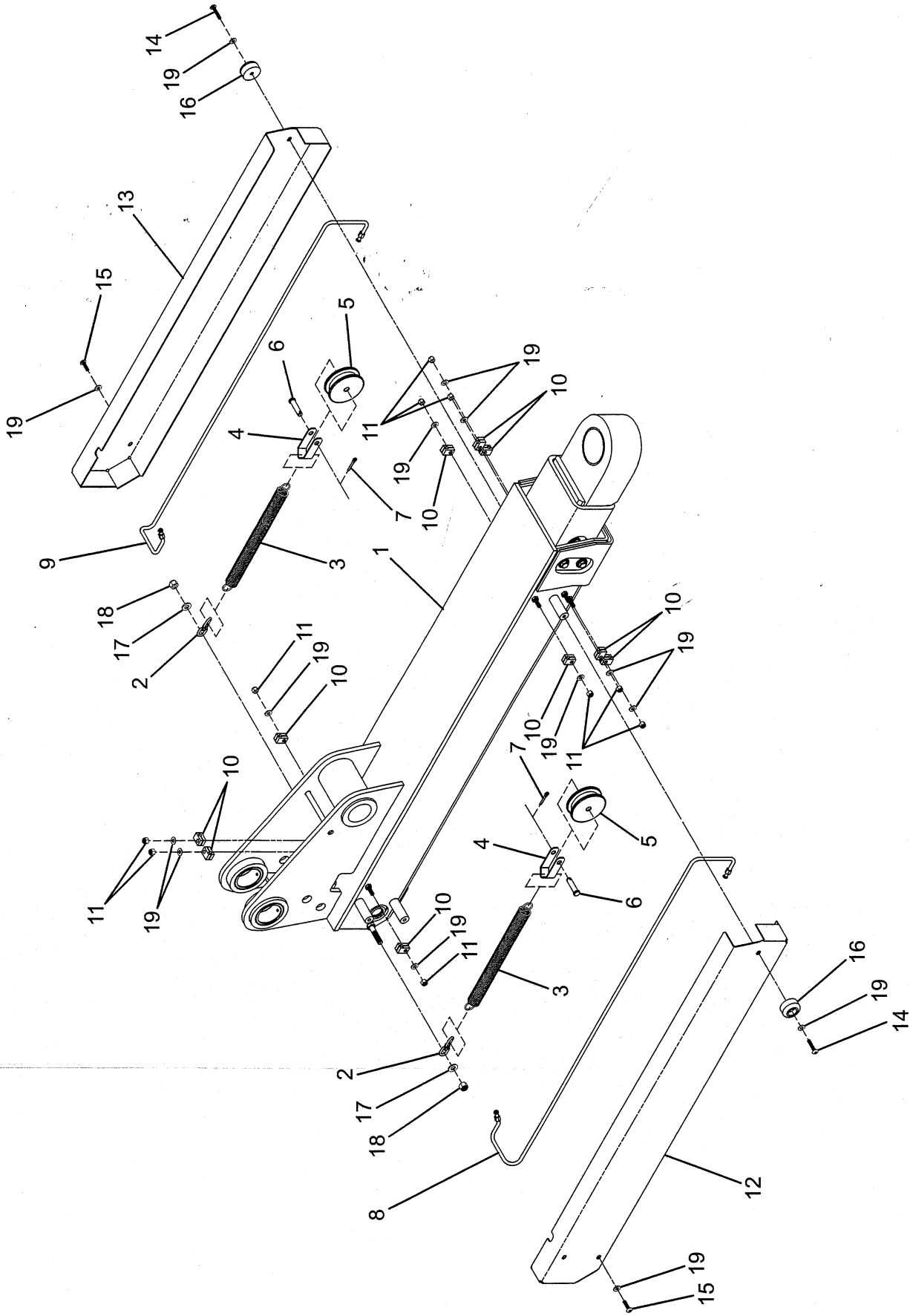
| Ref No. | Part No. | Description | Qty. |
|---------|------------|-------------------------|------|
| 1 | 3170000244 | Underlift Base Assembly | 1 |
| 2* | 7592000004 | Link Swivel | 2 |
| 3* | 7843000031 | Extension Spring | 2 |
| 4* | 4706003501 | Plate | 2 |
| 5* | 7719000004 | Roller | 2 |
| 6* | 4691000040 | Clevis Pin | 2 |
| 7* | 4691000042 | Cotter Pin | 2 |
| 8* | 7912000147 | L.H. Tube Assembly | 1 |
| 9* | 7912000148 | R.H. Tube Assembly | 1 |
| 10* | 7274000073 | Hose Clamp | 10 |
| 11* | 7660142604 | Locknut | 10 |
| 12* | 4706003491 | L.H. Cover Plate | 1 |
| 13* | 4706003492 | R.H. Cover Plate | 1 |
| 14* | 7114140618 | Capscrew | 2 |
| 15* | 7114140427 | Capscrew | 4 |
| 16* | 7189000019 | Rubber Bumper | 2 |
| 17* | 7950160153 | Flatwasher | 2 |
| 18* | 7660162604 | Locknut | 2 |
| 19* | 7950140143 | Flatwasher | 14 |

*Available as Assembly 3509870012

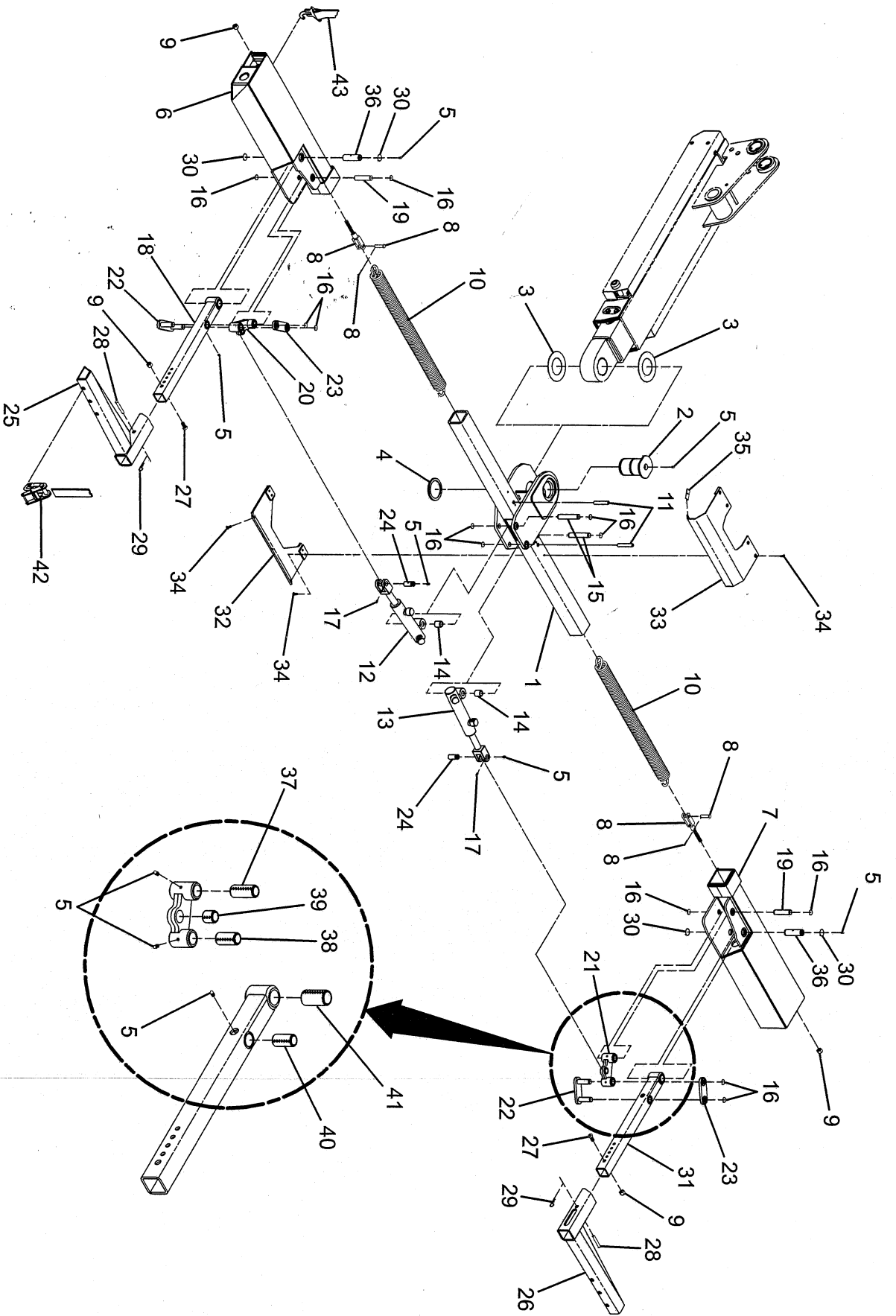
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UNDERLIFT BOOM HOSE TRACKING ASSEMBLY



WHEEL GRID ASSEMBLY



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WHEEL GRID ASSEMBLY

| Ref No. | Part No. | Description | Qty. |
|---------|------------|--------------------------------------|------|
| 1 | 3913000079 | Cross Tube Weldment | 1 |
| 2 | 4691000198 | Pin | 1 |
| 3 | 4949000047 | Washer | 2 |
| 4 | 7754000024 | Retaining Ring | 1 |
| 5 | 7440030000 | Grease Fitting | 11 |
| 6 | 3484000054 | L.H. Grid Weldment | 1 |
| 7 | 3484000055 | R.H. Grid Weldment | 1 |
| 8 | 3990000004 | Yoke Weldment With Pin and Cotter | 2 |
| 9 | 7660182301 | Locknut | 4 |
| 10 | 7843000033 | Extension Spring | 2 |
| 11 | 4691000385 | Pin | 2 |
| 12 | 7320000044 | L.H. Grid Cylinder | 1 |
| 13 | 7320000045 | R.H. Grid Cylinder | 1 |
| 14 | 4831000092 | Spacer | 2 |
| 15 | 4691000377 | Pin | 2 |
| 16 | 7754000022 | Retaining Ring | 14 |
| 17 | 7785100800 | Setscrew | 2 |
| 18 | 3020000092 | L.H. Pivot Arm | 1 |
| 19 | 4691000380 | Pin | 2 |
| 20 | 3592000031 | L.H. Link Weldment | 1 |
| 21 | 3592000032 | R.H. Link Weldment | 1 |
| 22 | 3592000033 | Link Weldment | 2 |
| 23 | 4706003497 | Plate | 2 |
| 24 | 4691000378 | Pin | 2 |
| 25 | 3020000089 | L.H. Arm Weldment | 1 |
| 26 | 3020000090 | R.H. Arm Weldment | 1 |
| 27 | 7120000038 | Capscrew | 2 |
| 28 | 4120000017 | Socket Head Capscrew | 2 |
| 29 | 7690051610 | Cotter Pin | 2 |
| 30 | 7754000019 | Retaining Ring | 4 |
| 31 | 3020000093 | R.H. Pivot Arm | 1 |
| 32 | 3706000207 | Cylinder Skid Plate | 1 |
| 33 | 3706000206 | Cylinder Cover Plate | 1 |
| 34 | 7114140623 | Capscrew | 11 |
| 35 | 7661000019 | U-Nut | 3 |
| 36 | 4691000386 | Pin | 2 |
| 37 | 7209000046 | Bushing | 2 |
| 38 | 7209000044 | Bushing | 2 |
| 39 | 7209000048 | Bushing | 2 |
| 40 | 7209000042 | Bushing | 2 |
| 41 | 7209000045 | Bushing | 2 |
| 42 | 7894000028 | Ratchet | 2 |
| 43 | 7894000044 | Tie Down Strap | 2 |
| 44 | 7660160200 | Jam Nut | 2 |

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LIFT CYLINDER
3320000065

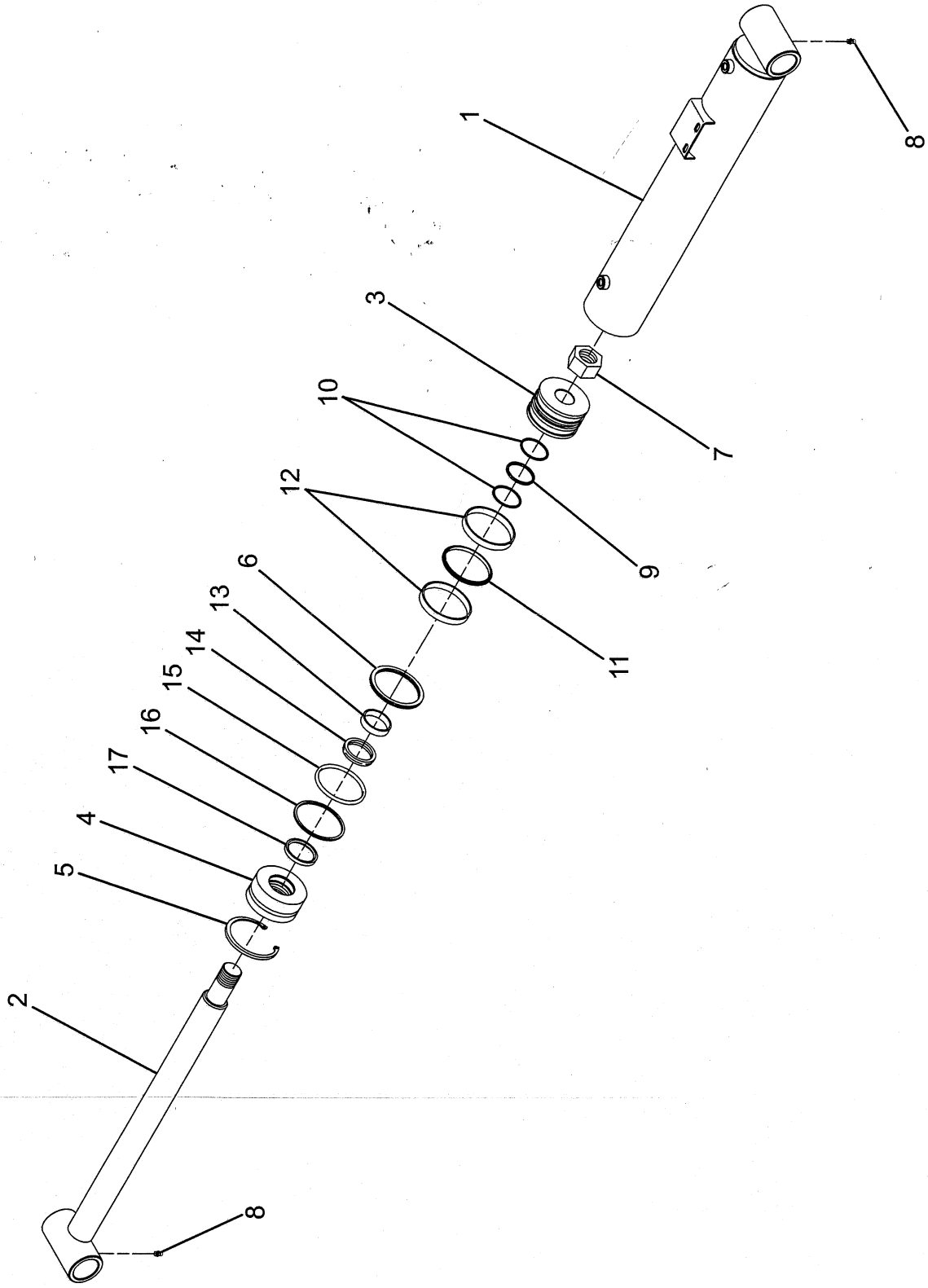
| Ref No. | Part No. | Description | Qty. |
|---------|------------|----------------|------|
| 1 | 3071000061 | Barrel | 1 |
| 2 | 3763000082 | Rod | 1 |
| 3 | 4698000008 | Piston | 1 |
| 4 | 4553000009 | Head | 1 |
| 5 | 7754000013 | Retaining Ring | 1 |
| 6 | 7754000028 | Retaining Ring | 1 |
| 7 | 7661000035 | Locknut | 1 |
| 8 | 7440030000 | Grease Fitting | 2 |
| 9* | 7755226000 | O-Ring | 1 |
| 10* | 7755226609 | Back-up Ring | 2 |
| 11* | 7796000065 | Piston Seal | 1 |
| 12* | 7754000011 | Wear Ring | 2 |
| 13* | 7754000012 | Wear Ring | 1 |
| 14* | 7796000025 | Seal | 1 |
| 15* | 7755342000 | O-Ring | 1 |
| 16* | 7755342609 | Back-up Ring | 1 |
| 17* | 7796000011 | Wiper Seal | 1 |

* Available only in Service Kit 7577250026

Rev. _____

Date _____

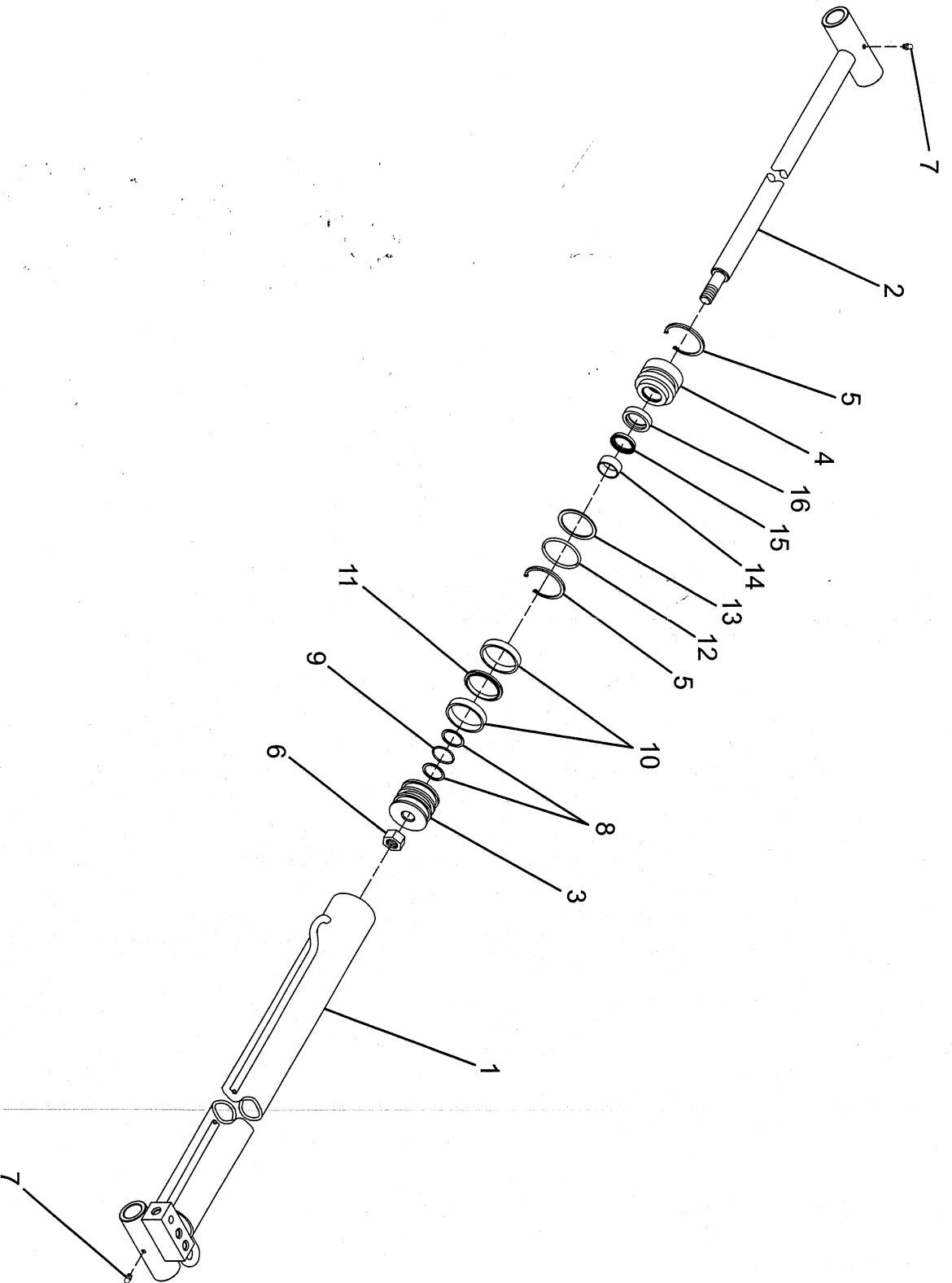
LIFT CYLINDER
3320000065



Rev. _____

Date _____

UNDERLIFT EXTENSION CYLINDER
3320000067



**UNDERLIFT EXTENSION CYLINDER
332000067**

| Ref No. | Part No. | Description | Qty. |
|----------------|-----------------|--------------------|-------------|
| 1 | 3071000063 | Barrel | 1 |
| 2 | 3763000084 | Rod | 1 |
| 3 | 4698000011 | Piston | 1 |
| 4 | 4553000015 | Head | 1 |
| 5 | 7754000001 | Retaining Ring | 2 |
| 6 | 7661000037 | Locknut | 1 |
| 7 | 7440030000 | Grease Fitting | 2 |
| 8* | 7755214609 | Back-up Ring | 2 |
| 9* | 7755214000 | O-Ring | 1 |
| 10* | 7754000030 | Wear Ring | 2 |
| 11* | 7796000062 | Piston Seal | 1 |
| 12* | 7755327000 | O-Ring | 1 |
| 13* | 7755327609 | Back-up Ring | 1 |
| 14* | 7754000036 | Wear Ring | 1 |
| 15* | 7796000023 | Rod Seal | 1 |
| 16* | 7796000005 | Wiper Seal | 1 |

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TILT/FOLD CYLINDER
3320000105

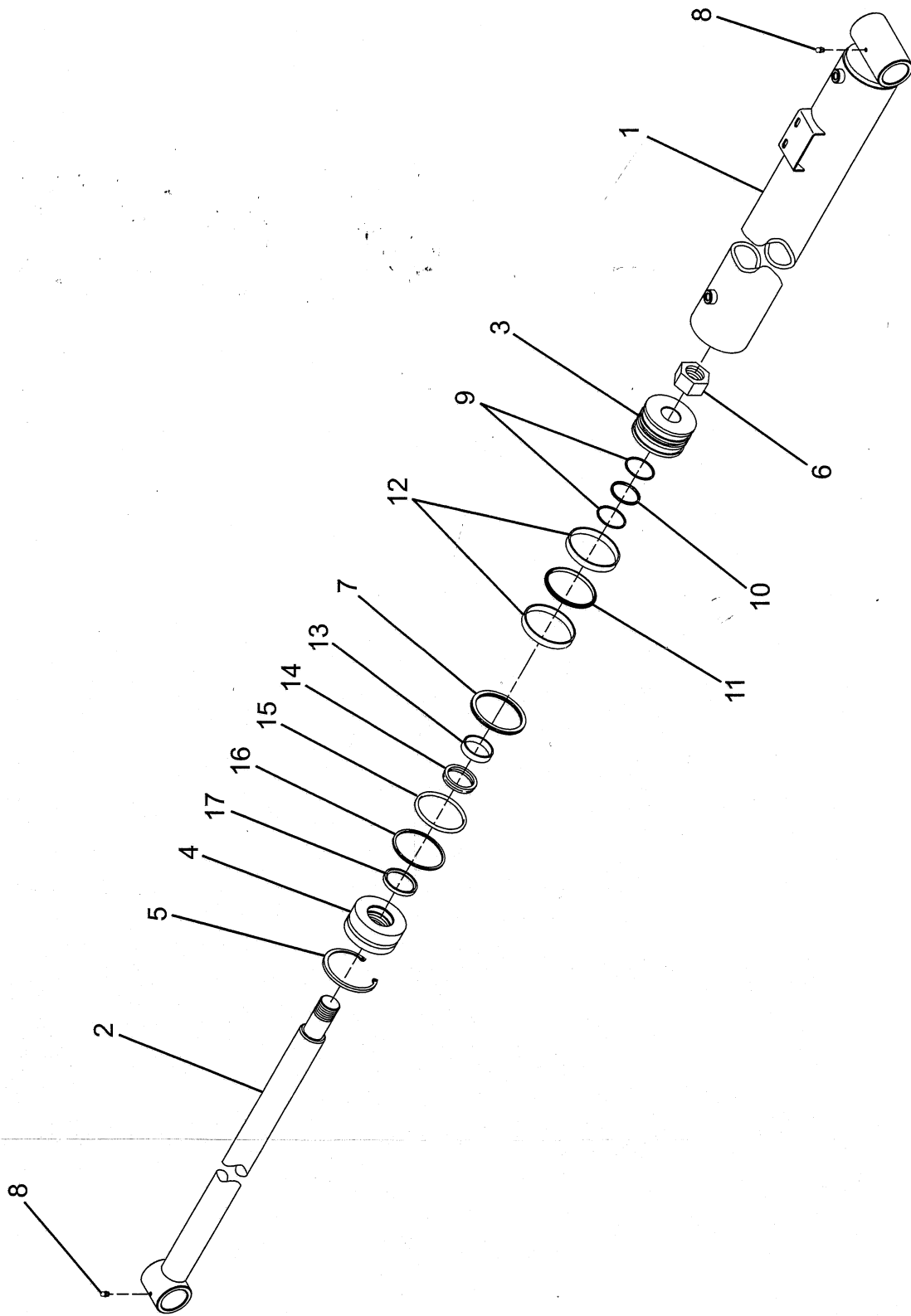
| Ref No. | Part No. | Description | Qty. |
|----------------|-----------------|--------------------|-------------|
| 1 | 3071000062 | Barrel | 1 |
| 2 | 3763000113 | Rod | 1 |
| 3 | 4698000008 | Piston | 1 |
| 4 | 4553000009 | Head | 1 |
| 5 | 7754000013 | Retaining Ring | 1 |
| 6 | 7754000028 | Retaining Ring | 1 |
| 7 | 7661000035 | Locknut | 1 |
| 8 | 7440030000 | Grease Fitting | 2 |
| 9* | 7755226609 | Back-up Ring | 2 |
| 10* | 7755226000 | O-Ring | 1 |
| 11* | 7796000065 | Piston Seal | 1 |
| 12* | 7754000011 | Wear Ring | 2 |
| 13* | 7754000012 | Wear Ring | 1 |
| 14* | 7796000025 | Seal | 1 |
| 15* | 7755342000 | O-Ring | 1 |
| 16* | 7755342609 | Back-up Ring | 1 |
| 17* | 7796000011 | Wiper Seal | 1 |

* Available only in Service Kit 7577250026

Rev. _____

Date _____

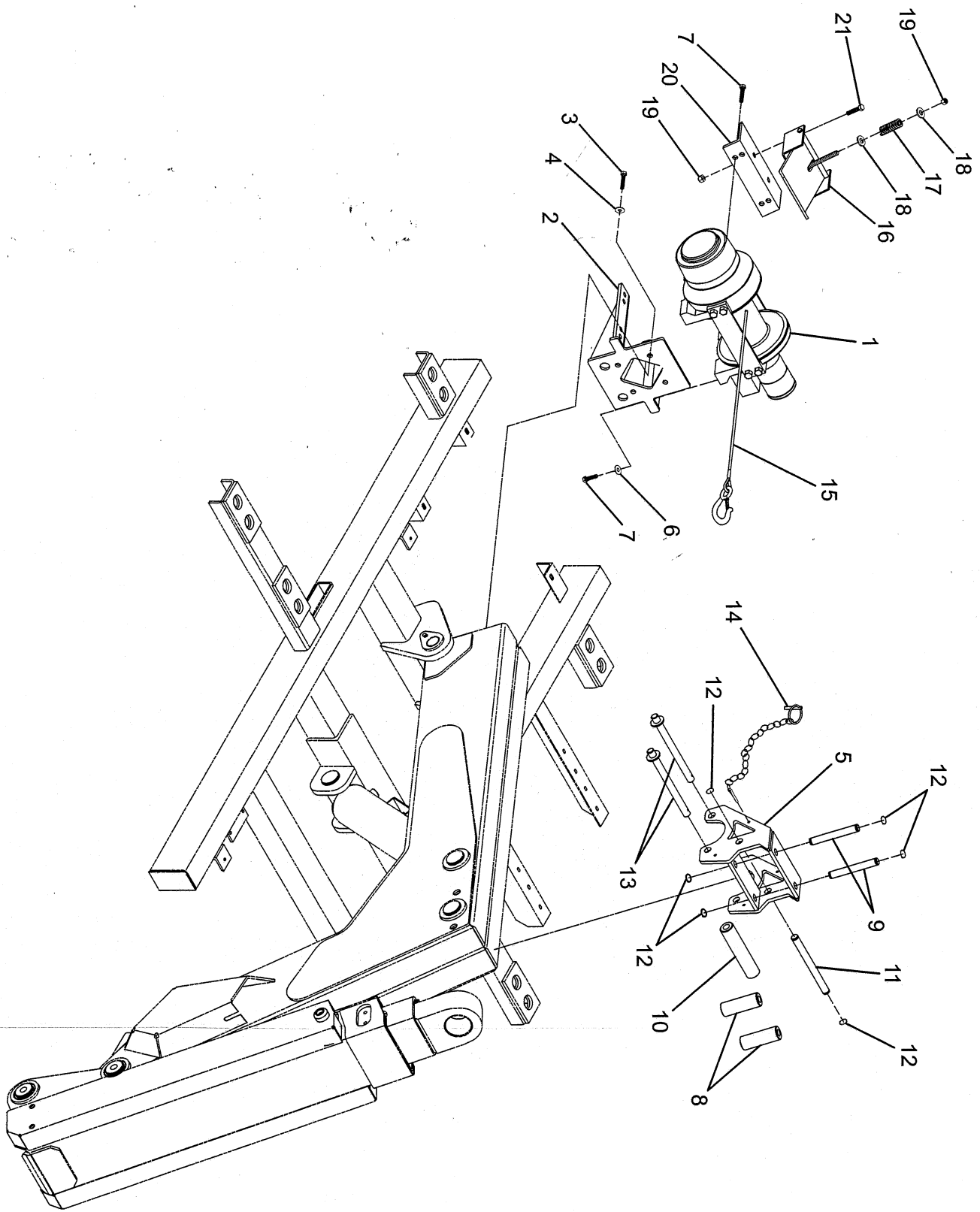
TILT/FOLD CYLINDER
3320000105



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Date _____

WINCH ASSEMBLY



WINCH ASSEMBLY

| Ref No. | Part No. | Description | Qty. |
|---------|------------|-------------------------------|------|
| 1 | 7970000063 | Winch | 1 |
| 2 | 3706000203 | Winch Mount | 1 |
| 3 | 7115181450 | Capscrew | 4 |
| 4 | 7950180141 | Flatwasher | 4 |
| 5 | 3768000004 | Roller Frame | 1 |
| 6 | 7950180000 | Lockwasher | 4 |
| 7 | 7118180850 | Capscrew | 6 |
| 8 | 4912000325 | Tube | 2 |
| 9 | 4691000387 | Pin | 2 |
| 10 | 4912000326 | Tube | 1 |
| 11 | 4691000388 | Pin | 1 |
| 12 | 7754000022 | Retaining Ring | 6 |
| 13 | 3691000194 | Pin | 2 |
| 14 | 7691000027 | Linch Pin w/ Chain and Cotter | 2 |
| 15 | 3533000027 | Cable | 1 |
| 16* | 3500900010 | Cable Tensioner Weldment | 1 |
| 17* | 7843000004 | Spring | 1 |
| 18* | 7590180161 | Flatwasher | 2 |
| 19* | 7660182600 | Locknut | 3 |
| 20 | 4017000171 | Angle | 1 |
| 21 | 7115181050 | Capscrew | 2 |

* Available as Assembly 3500900011

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TOW HITCH ASSEMBLY

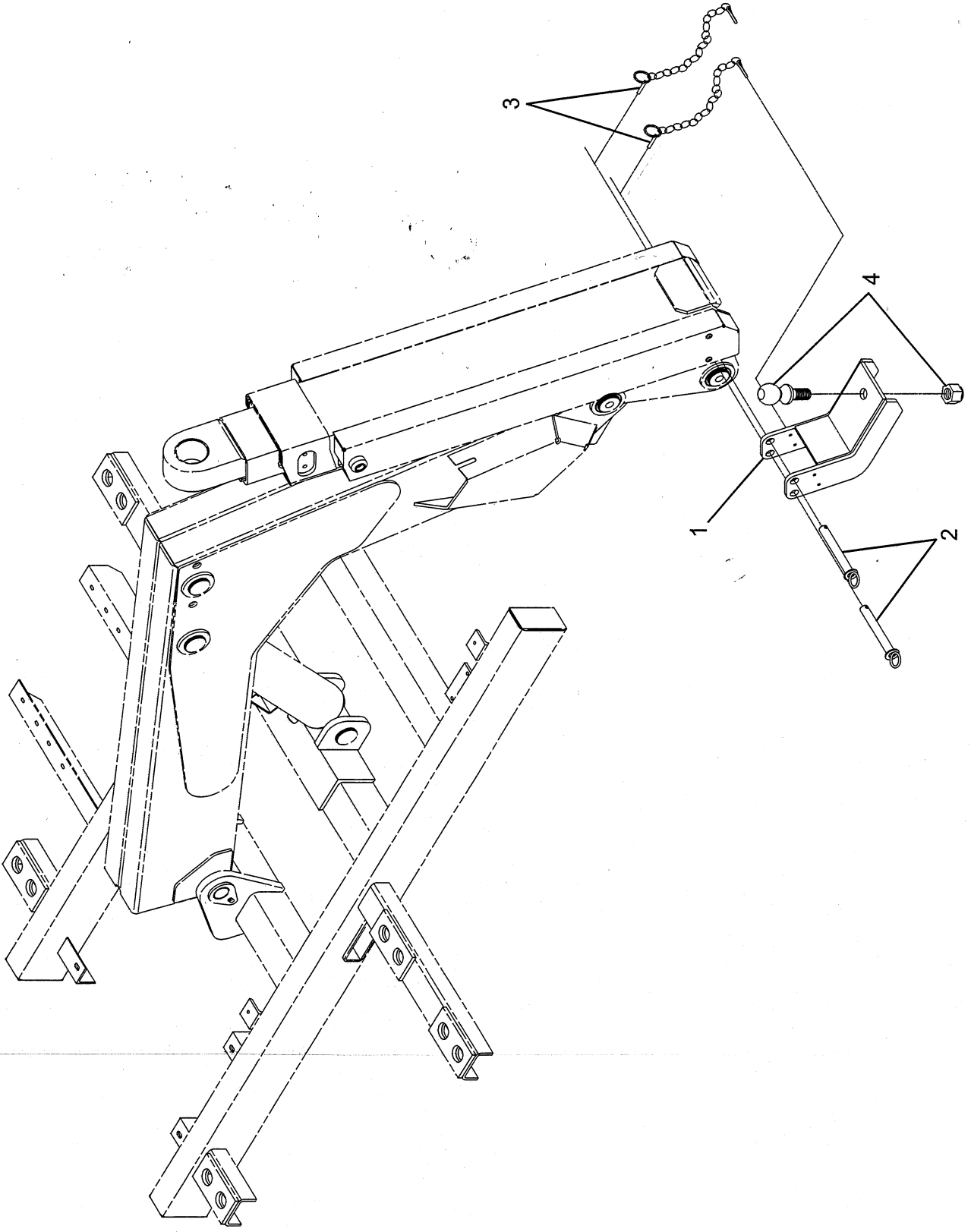
| Ref No. | Part No. | Description | Qty. |
|---------|------------|-------------------------------|------|
| 1 | 3178000325 | Tow Ball Hitch Bracket | 1 |
| 2 | 3691000195 | Pin | 2 |
| 3 | 7691000027 | Linch Pin w/ Chain and Cotter | 2 |
| 4 | 7056000007 | 1-7/8" Ball | 1 |
| | 7056000008 | 2" Ball | |

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TOW HITCH ASSEMBLY



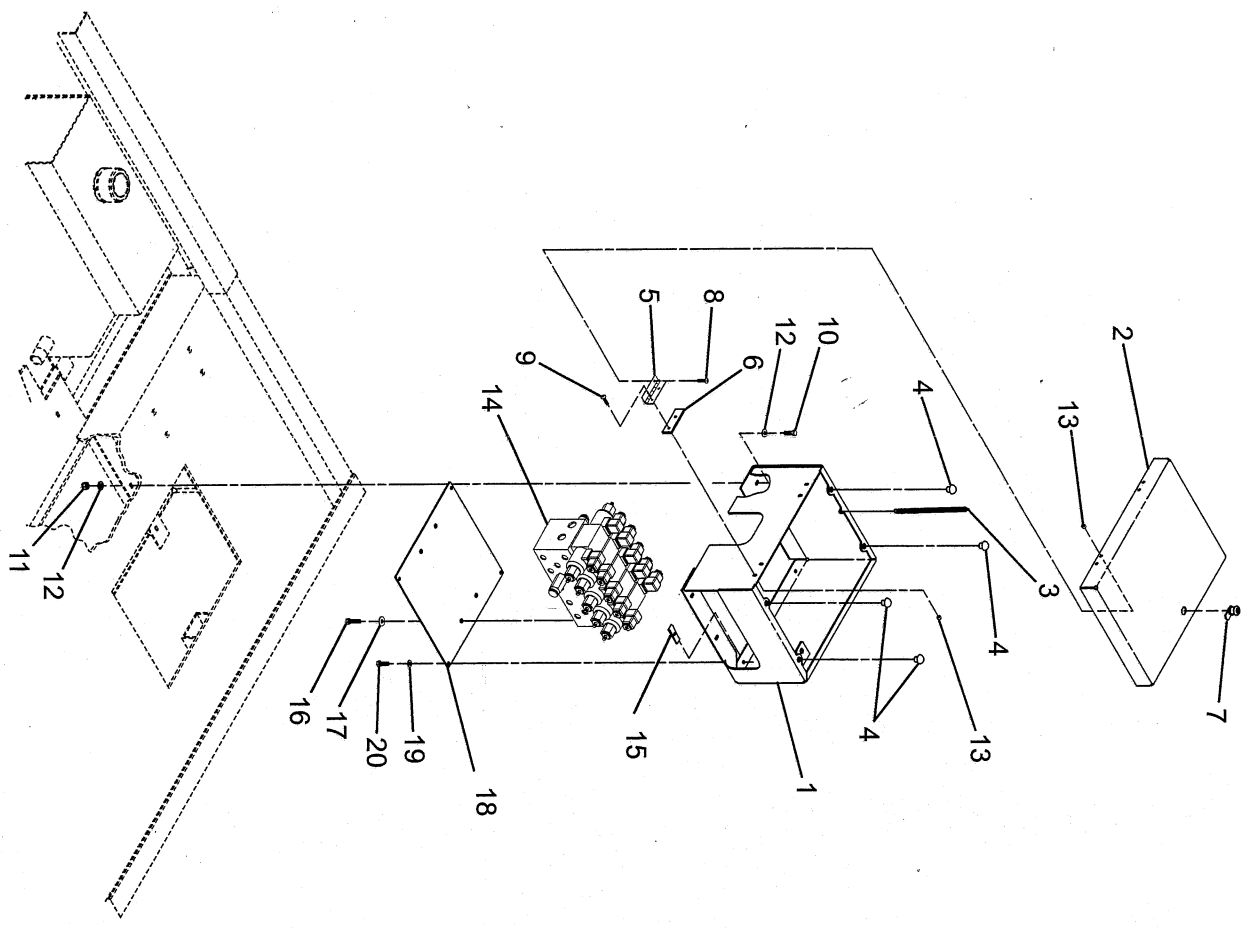
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Date _____

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An Oshkosh Truck Corporation Company

CONTROLS ENCLOSURE



CONTROLS ENCLOSURE

| Ref No. | Part No. | Description | Qty. |
|---------|------------|-----------------|------|
| 1 | 3811000020 | Valve Enclosure | 1 |
| 2 | 3811000022 | Lid | 1 |
| 3 | 7843000036 | Spring | 1 |
| 4 | 7189000007 | Bumper | 4 |
| 5 | 4555000008 | Hinge | 2 |
| 6 | 4706003608 | Plate | 2 |
| 7 | 7585000017 | Lock | 1 |
| 8 | 7114100318 | Capscrew | 4 |
| 9 | 7114100518 | Capscrew | 4 |
| 10 | 7115140850 | Capscrew | 4 |
| 11 | 7660142600 | Locknut | 4 |
| 12 | 7950140141 | Flatwasher | 8 |
| 13 | 7660102600 | Locknut | 8 |
| 14 | 7935000214 | 4 Section Valve | 1 |
| | 7935000215 | 5 Section Valve | |
| 15 | 7661000019 | U-Nut | 4 |
| 16 | 7115150650 | Capscrew | 4 |
| 17 | 7950150000 | Lockwasher | 4 |
| 18 | 4811000503 | Sheet | 1 |
| 19 | 7950140000 | Lockwasher | 4 |
| 20 | 7115140550 | Capscrew | 4 |

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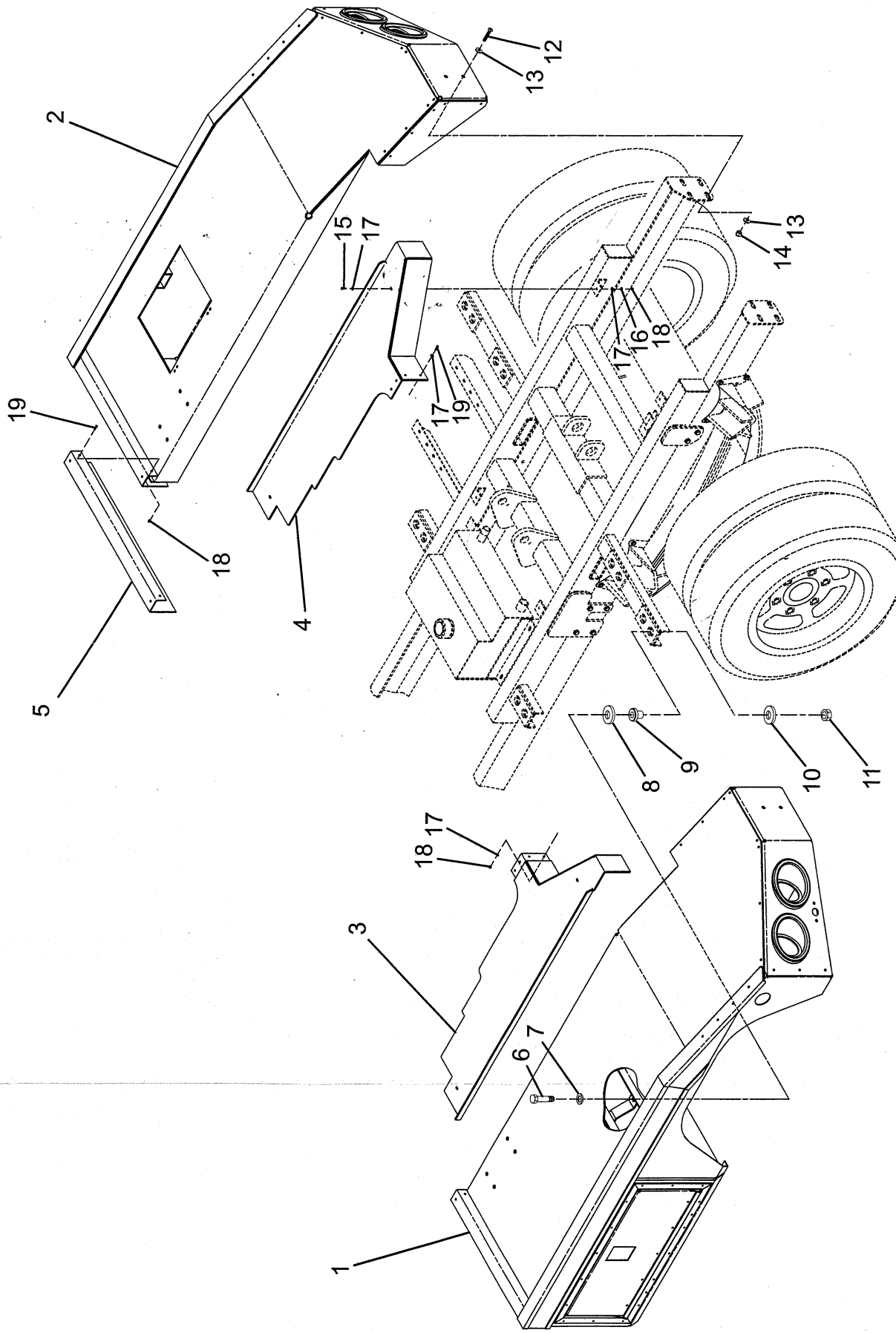
BODY INSTALLATION

| Ref No. | Part No. | Description | Qty. |
|---------|------------|---------------------|------|
| 1 | 3097000372 | Body Assembly L.H. | 1 |
| 2 | 3097000375 | Body Assembly R.H. | 1 |
| 3 | 3706000196 | Mid Deck Plate L.H. | 1 |
| 4 | 3706000208 | Mid Deck Plate R.H. | 1 |
| 5 | 4263000503 | Channel | 1 |
| 6 | 7115202850 | Capscrew | 6 |
| 7 | 7950200161 | Flatwasher | 6 |
| 8 | 7949000019 | Head Washer | 6 |
| 9 | 7636000008 | Rubber Mount | 6 |
| 10 | 7949000020 | Tail Washer | 6 |
| 11 | 7660200001 | Nut | 6 |
| 12 | 7114181218 | Capscrew | 4 |
| 13 | 7950180161 | Flatwasher | 8 |
| 14 | 7660182601 | Locknut | 4 |
| 15 | 7114141018 | Capscrew | 4 |
| 16 | 7950140003 | Lockwasher | 4 |
| 17 | 7950140143 | Flatwasher | 16 |
| 18 | 7660142604 | Locknut | 12 |
| 19 | 7114140818 | Capscrew | 8 |

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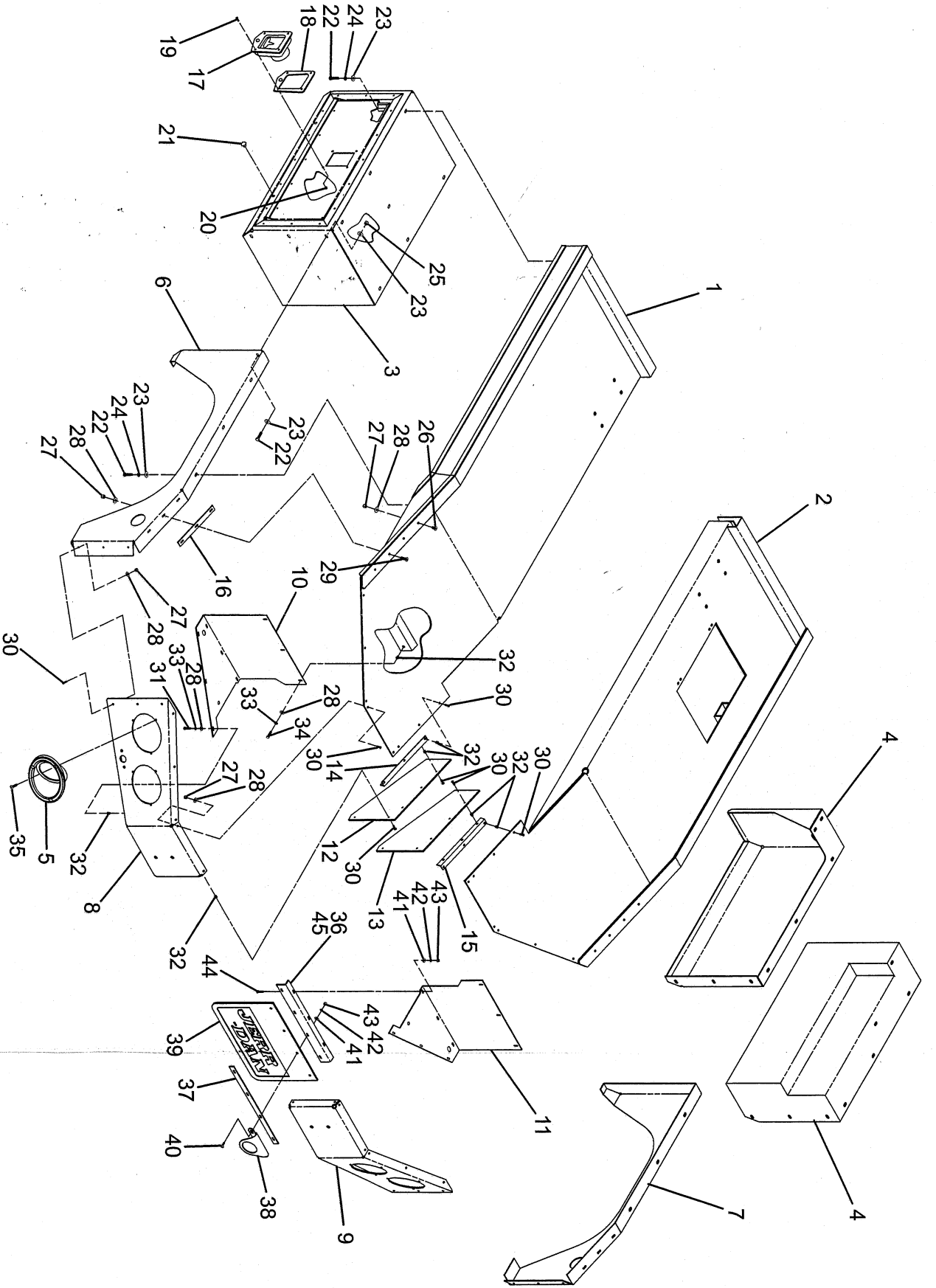
BODY INSTALLATION



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Date _____

BODY ASSEMBLY



BODY ASSEMBLY

| Ref No. | Part No. | Description | Qty. |
|---------|------------|-------------------------|--------|
| 1 | 3097000370 | Deck Weldment L.H. | 1 |
| 2 | 3097000371 | Deck Weldment R.H. | 1 |
| 3 | 3899000018 | Toolbox L.H. | 1 |
| 4 | 3686000004 | Body Panel R.H. | 1 |
| | 3899000092 | Toolbox R.H. (Optional) | |
| 5 | 7259000004 | Tail Light Casting | 4 |
| 6 | 4706003416 | Plate L.H. | 1 |
| 7 | 4706003422 | Plate R.H. | 1 |
| 8 | 3706000216 | Tailplate L.H. | 1 |
| 9 | 3706000217 | Tailplate R.H. | 1 |
| 10 | 4706003420 | Plate L.H. | 1 |
| 11 | 4706003423 | Plate R.H. | 1 |
| 12 | 4706003417 | Plate L.H. | 1 |
| 13 | 4706003424 | Plate R.H. | 1 |
| 14 | 4017001229 | Angle L.H. | 1 |
| 15 | 4017001257 | Angle R.H. | 1 |
| 16 | 4062000451 | Bar | 2 |
| 17 | 7585000012 | Latch | 1 or 2 |
| 18 | 7796000084 | Gasket | 1 or 2 |
| 19 | 7114080418 | Capscrew | 4 or 8 |
| 20 | 7660082500 | Locknut | 4 or 8 |
| 21 | 7189000007 | Rubber Bumper | 2 or 4 |
| 22 | 7115161050 | Capscrew | 22 |
| 23 | 7950160161 | Flatwasher | 19 |
| 24 | 7950160000 | Lockwasher | 16 |
| 25 | 7660162601 | Locknut | 6 |
| 26 | 7114140623 | Capscrew | 2 |
| 27 | 7660142600 | Locknut | 28 |
| 28 | 7950140161 | Flatwasher | 52 |
| 29 | 7114141023 | Capscrew | 6 |
| 30 | 7114140818 | Capscrew | 32 |
| 31 | 7111140650 | Capscrew | 6 |
| 32 | 7413000002 | Nutsert | 22 |
| 33 | 7950140000 | Lockwasher | 22 |
| 34 | 7115140850 | Capscrew | 6 |
| 35 | 7790101611 | Screw | 12 |
| 36 | 4017000482 | Angle R.H. | 1 |
| 37 | 4706001123 | Plate | 2 |
| 38 | 4178000073 | Bracket | 2 |
| 39 | 7638000003 | Mudflap | 2 |
| 40 | 7111151010 | Machine Screw | 8 |
| 41 | 7950150161 | Flatwasher | 14 |
| 42 | 7950150000 | Washer | 14 |
| 43 | 7660150000 | Nut | 14 |
| 44 | 7111150850 | Capscrew | 6 |
| 45 | 4017000478 | Angle L.H. | 1 |

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LIGHT PYLON ASSEMBLY AND INSTALLATION

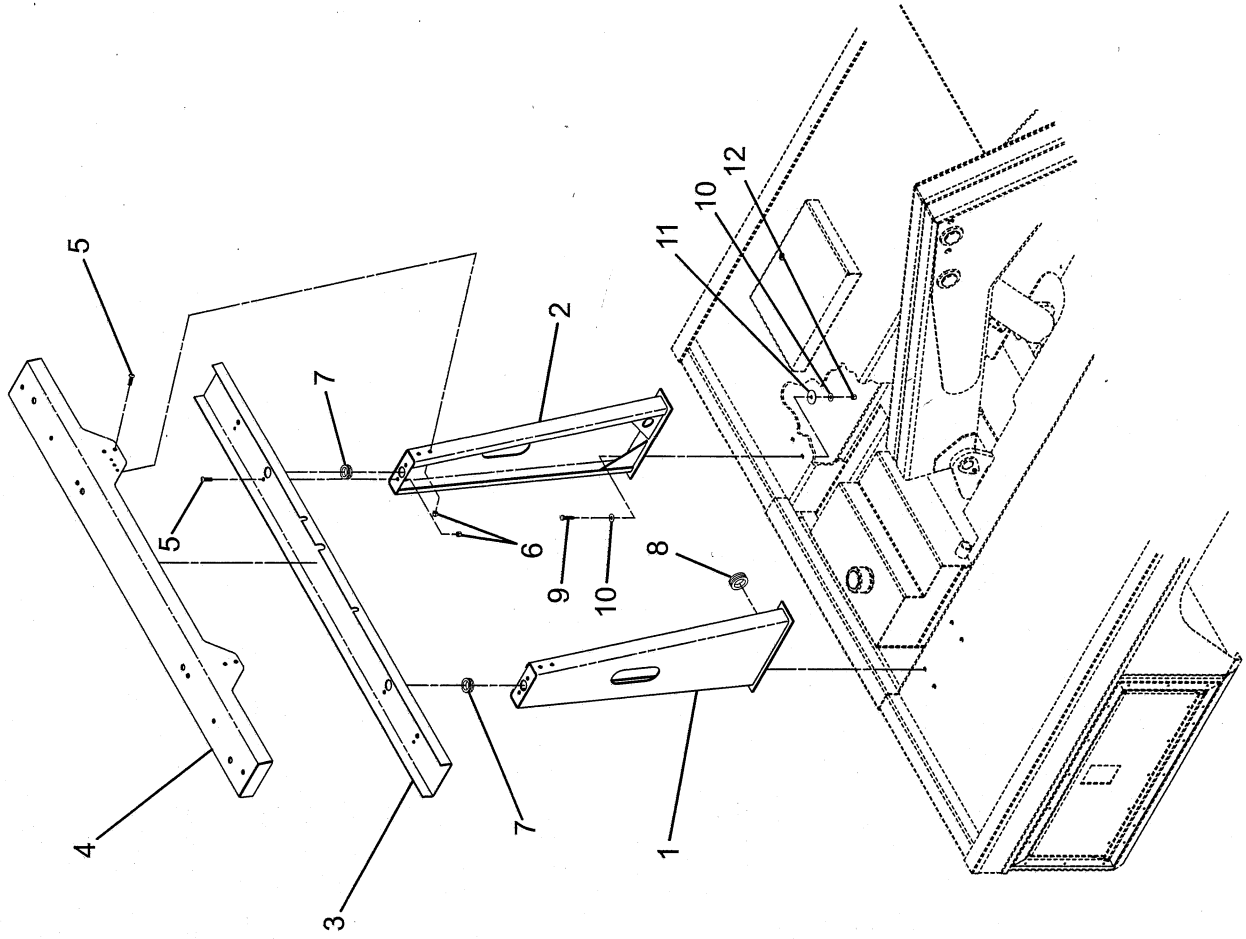
| Ref No. | Part No. | Description | Qty. |
|---------|------------|--------------|------|
| 1* | 3263000100 | Channel L.H. | 1 |
| 2* | 3263000101 | Channel R.H. | 1 |
| 3* | 4263000513 | Channel | 1 |
| 4* | 3263000102 | Channel | 1 |
| 5* | 7114160818 | Capscrew | 12 |
| 6* | 7660162601 | Locknut | 12 |
| 7* | 7493000003 | Grommet | 2 |
| 8* | 7493000011 | Grommet | 1 |
| 9 | 7115181450 | Capscrew | 4 |
| 10 | 7950180161 | Flatwasher | 8 |
| 11 | 7949000020 | Washer | 4 |
| 12 | 7660182601 | Locknut | 4 |

*Available as Assembly 3502570152

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LIGHT PYLON ASSEMBLY AND INSTALLATION



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**HYDRAULIC SCHEMATIC
WITHOUT WINCH OPTION
4 SECTION VALVE**

| Ref No. | Part No. | Description | Qty. |
|---------|------------|----------------------|------|
| 1 | 7430000003 | Oil Filter Assembly | 1 |
| 2 | 7445081619 | Adapter | 1 |
| 3 | 7443000158 | Elbow | 1 |
| 4 | 7470000002 | Gauge | 1 |
| 5 | 7445080843 | Adapter | 2 |
| 6 | 7935000214 | Valve - 4 Section | 1 |
| 7 | 4567132060 | Hose | 1 |
| 8 | 4569100142 | Hose | 1 |
| 9 | 4569100144 | Hose | 1 |
| 10 | 7445040643 | Adapter | 8 |
| 11 | 7443000026 | Fitting | 1 |
| 12 | 4570000187 | Hose | 1 |
| 13 | 4570000188 | Hose | 1 |
| 14 | 4567110143 | Hose | 2 |
| 15 | 7912000079 | Tube Assembly | 1 |
| 16 | 4570000186 | Hose | 1 |
| 17 | 7950150161 | Flatwasher | 4 |
| 18 | 7660152601 | Locknut | 4 |
| 19 | 4570000189 | Hose | 1 |
| 20 | 7443000114 | Plug | 1 |
| 21 | 7445040443 | Adapter | 7 |
| 22 | 7443000299 | Adapter | 3 |
| 23 | 7935000148 | Counterbalance Valve | 2 |
| 24 | 7114151650 | Capscrew | 4 |
| 25 | 4567110058 | Hose | 1 |
| 26 | 4567110061 | Hose | 1 |
| 27 | 7445060645 | Fitting | 6 |
| 28 | 7912000078 | Tube Assembly | 2 |
| 29 | 7445060643 | Adapter | 2 |
| 30 | 7445060647 | Adapter | 2 |
| 31 | 7443000105 | Adapter | 2 |
| 32 | 7443000106 | Fitting, Nut | 2 |
| 33 | 7912000080 | Tube Assembly | 1 |
| 34 | 4567110092 | Hose | 1 |
| 35 | 4567110095 | Hose | 1 |
| 36 | 7912000147 | L.H. Tube Assembly | 1 |
| 37 | 7912000148 | R.H. Tube Assembly | 1 |
| 38 | 7431000001 | Filter Element | 1 |

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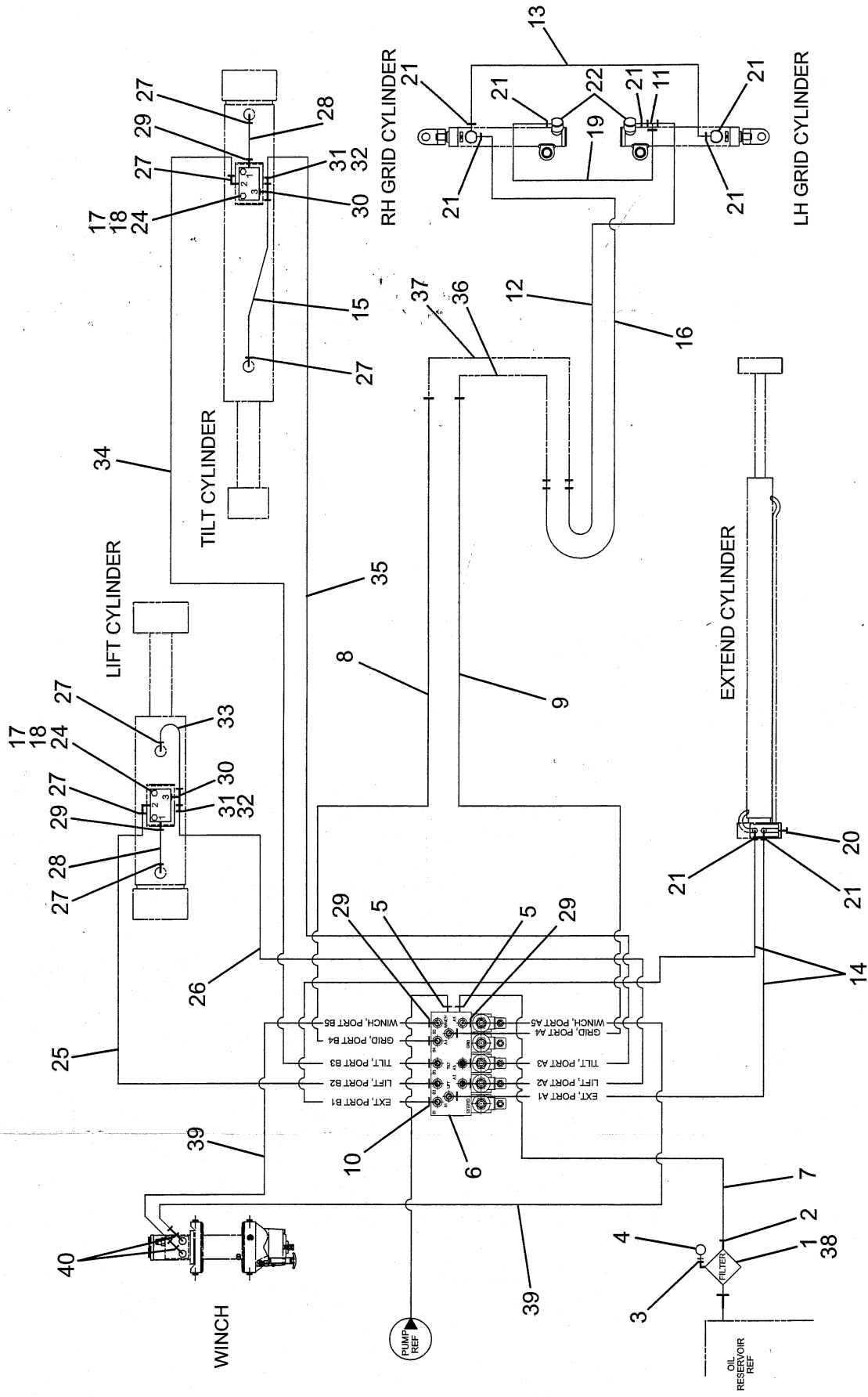
**HYDRAULIC SCHEMATIC
WITH WINCH OPTION
5 SECTION VALVE**

| Ref No. | Part No. | Description | Qty. |
|---------|------------|----------------------|------|
| 1 | 7430000003 | Oil Filter Assembly | 1 |
| 2 | 7445081619 | Adapter | 1 |
| 3 | 7443000158 | Elbow | 1 |
| 4 | 7470000002 | Gauge | 1 |
| 5 | 7445080843 | Adapter | 2 |
| 6 | 7935000215 | Valve - 5 Section | 1 |
| 7 | 4567132060 | Hose | 1 |
| 8 | 4569100142 | Hose | 1 |
| 9 | 4569100144 | Hose | 1 |
| 10 | 7445040643 | Adapter | 8 |
| 11 | 7443000026 | Fitting | 1 |
| 12 | 4570000187 | Hose | 1 |
| 13 | 4570000188 | Hose | 1 |
| 14 | 4567110143 | Hose | 2 |
| 15 | 7912000079 | Tube Assembly | 1 |
| 16 | 4570000186 | Hose | 1 |
| 17 | 7950150161 | Flatwasher | 4 |
| 18 | 7660152601 | Locknut | 4 |
| 19 | 4570000189 | Hose | 1 |
| 20 | 7443000114 | Plug | 1 |
| 21 | 7445040443 | Adapter | 7 |
| 22 | 7443000299 | Adapter | 3 |
| 23 | 7935000148 | Counterbalance Valve | 2 |
| 24 | 7114151650 | Capscrew | 4 |
| 25 | 4567110058 | Hose | 1 |
| 26 | 4567110061 | Hose | 1 |
| 27 | 7445060645 | Fitting | 6 |
| 28 | 7912000078 | Tube Assembly | 2 |
| 29 | 7445060643 | Adapter | 4 |
| 30 | 7445060647 | Adapter | 2 |
| 31 | 7443000105 | Adapter | 2 |
| 32 | 7443000106 | Fitting, Nut | 2 |
| 33 | 7912000080 | Tube Assembly | 1 |
| 34 | 4567110092 | Hose | 1 |
| 35 | 4567110095 | Hose | 1 |
| 36 | 7912000147 | L.H. Tube Assembly | 1 |
| 37 | 7912000148 | R.H. Tube Assembly | 1 |
| 38 | 7431000001 | Filter Element | 1 |
| 39 | 4570000191 | Hose | 2 |
| 40 | 7445081043 | Adapter | 2 |

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**HYDRAULIC SCHEMATIC
WITH WINCH OPTION
5 SECTION VALVE**

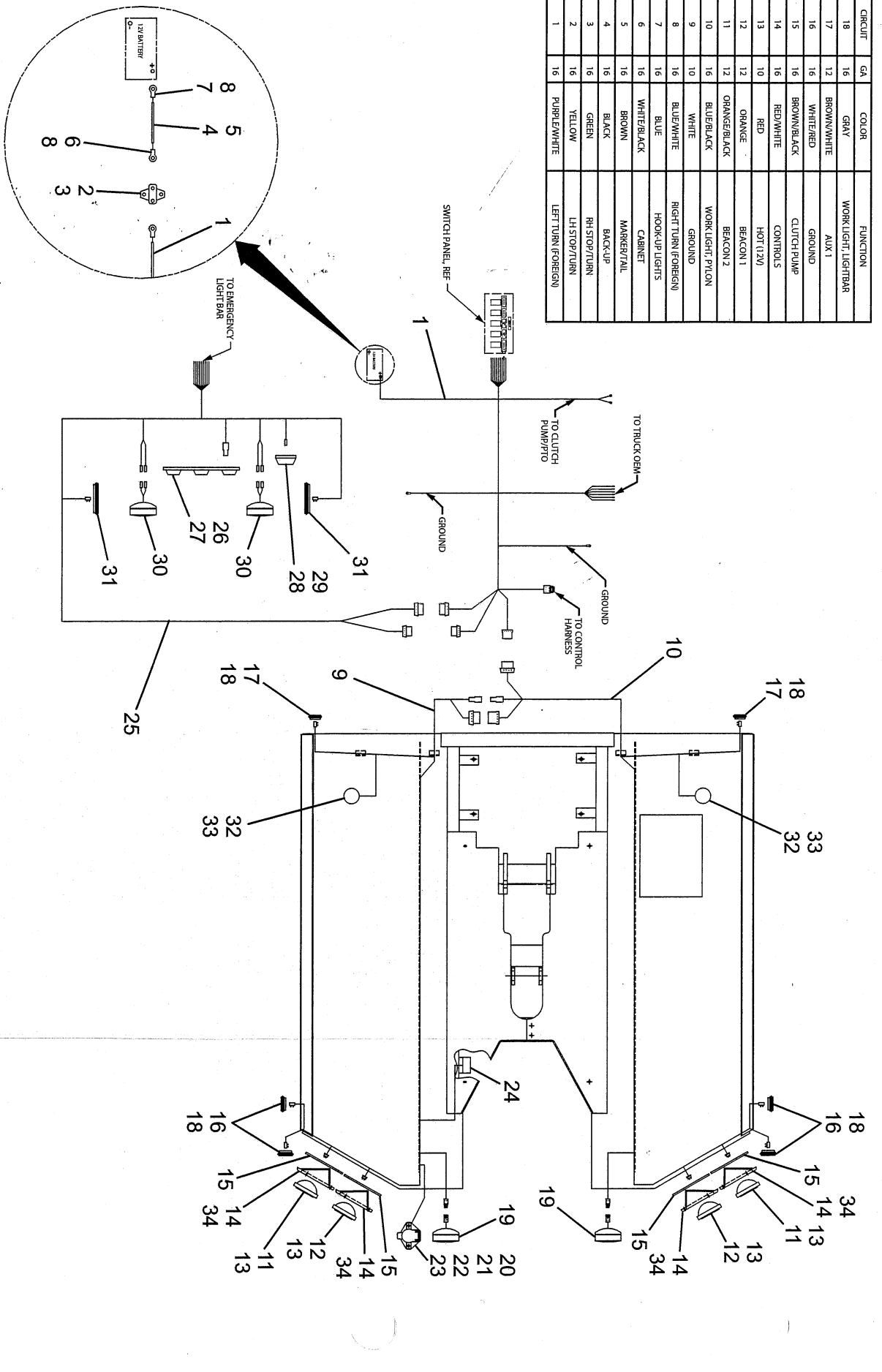


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ELECTRICAL SCHEMATIC - BODY

| CIRCUIT | GA. | COLOR | FUNCTION |
|---------|-----|--------------|----------------------|
| 18 | 16 | GRAY | WORK LIGHT, LIGHTBAR |
| 17 | 12 | BROWN/WHITE | AUX 1 |
| 16 | 16 | WHITE/RED | GROUND |
| 15 | 16 | BROWN/BLACK | CLUTCH PUMP |
| 14 | 16 | RED/WHITE | CONTROLS |
| 13 | 10 | RED | HOT (12V) |
| 12 | 12 | ORANGE | BEACON 1 |
| 11 | 12 | ORANGE/BLACK | BEACON 2 |
| 10 | 16 | BLUE/BLACK | WORK LIGHT, PYLON |
| 9 | 10 | WHITE | GROUND |
| 8 | 16 | BLUE/WHITE | RIGHT TURN (FOREIGN) |
| 7 | 16 | BLUE | HOOK-UP LIGHTS |
| 6 | 16 | WHITE/BLACK | CABINET |
| 5 | 16 | BROWN | MARBER/TAIL |
| 4 | 16 | BLACK | BACK-UP |
| 3 | 16 | GREEN | RH STOP/TURN |
| 2 | 16 | YELLOW | LH STOP/TURN |
| 1 | 16 | PURPLE/WHITE | LEFT TURN (FOREIGN) |



ELECTRICAL SCHEMATIC - BODY

| Ref No. | Part No. | Description | Qty. |
|---------|------------|--------------------------------|------|
| 1 | 7552000215 | Cab-To-Subframe Harness | 1 |
| 2 | 7457000004 | Circuit Breaker, 50 AMP | 1 |
| 3 | 7792000001 | Screw | 2 |
| 4 | 8977530200 | Wire | 3 ft |
| 5 | 8597650002 | Wire Loom | 3 ft |
| 6 | 7345211902 | Ring Terminal | 1 |
| 7 | 7345221902 | Ring Terminal | 1 |
| 8 | 7346000039 | Heat Shrink Tubing | 2 ft |
| 9 | 7552000216 | L.H. Body Harness | 1 |
| 10 | 7552000217 | R.H. Body Harness | 1 |
| 11 | 7590000002 | Stop, Tail, Turn Light | 2 |
| 12 | 7590000003 | Back-Up Light | 2 |
| 13 | 7493000002 | Grommet | 4 |
| 14 | 7259000004 | Tail Light Casting | 4 |
| 15 | 7796000076 | Gasket | 4 |
| 16 | 7590000047 | Red Marker Light | 4 |
| 17 | 7590000048 | Amber Marker Light | 2 |
| 18 | 7493000009 | Marker Light Grommet | 6 |
| 19 | 7590000185 | Work Light | 2 |
| 20 | 7291000003 | Receptacle | 1 |
| 21 | 7111140613 | Screw | 2 |
| 22 | 7950140000 | Lockwasher | 2 |
| 23 | 7413000002 | Nutsert | 2 |
| 24 | 7001000003 | Back-Up Alarm | 1 |
| 25 | 7552000219 | Light Pylon Harness | 1 |
| 26 | 7590000193 | 3 Light ID Lamp | 1 |
| 27 | 7790141656 | Screw | 2 |
| 28 | 7590000105 | License Plate Light | 1 |
| 29 | 7178000025 | License Plate Bracket | 1 |
| 30 | 7590000144 | Work Light (Optional) | 2 |
| 31 | 7590000095 | Marker Light w/ Grommet (Opt.) | 2 |
| 32 | 7590000001 | Interior Light (Optional) | 2 |
| 33 | 7790100856 | Screw | 6 |
| 34 | 7790101611 | Screw | 12 |

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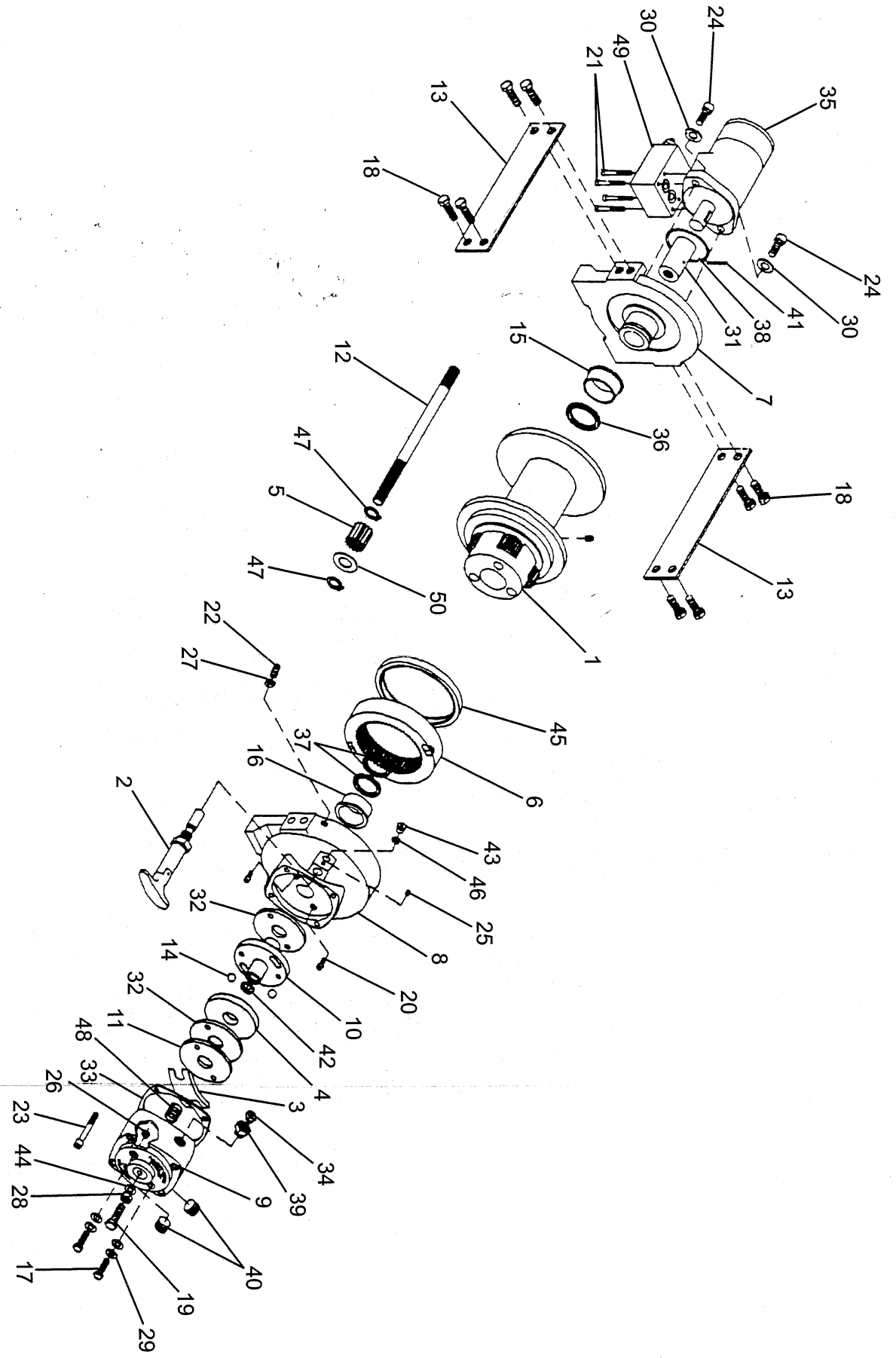
ELECTRICAL SCHEMATIC - CONTROLS

| Ref No. | Part No. | Description | Qty. |
|---------|------------|---|--------|
| 1 | 7552000218 | Remote Control Harness | 1 |
| 2 | 7295000061 | Hand Controller | 1 |
| 3 | 4706003402 | Plate | 1 or 2 |
| 4 | 7790100856 | Screw | 3 or 6 |
| 5 | 7740000003 | Relay | 1 |
| 6 | 7345001710 | Tab Terminal | 2 |
| 7 | 7345001714 | Connector | 1 |
| 8 | 7345221702 | Ring Terminal | 1 |
| 9 | 7346000039 | Heat Shrink Tubing | 1 |
| 10 | 8977500100 | Wire | 3 ft |
| 11 | 8597650002 | Wire Loom | 3 ft |
| 12 | 7870000092 | Toggle Switch | 1 |
| 13 | 7560000004 | Toggle Switch Boot | 1 |
| 14 | 7552000224 | Rear Remote Control Harness (Optional) | 1 |

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RPH8000 8000LB WINCH



RPH8000 8000LB WINCH

| Ref No. | Part No. | Description | Qty. |
|---------|------------|--------------------------|------|
| 1 | 9970280019 | "Y" Drum Assembly | 1 |
| | 9970280018 | "STD" Drum Assembly | 1 |
| 2 | 9551960018 | Shifter Assembly | 1 |
| 3 | 9843960027 | Brake Flat Spring | 1 |
| 4 | 9250960002 | Cam Brake Plate | 1 |
| 5 | 9472960042 | Sun Output Gear | 1 |
| 6 | 9472960043 | Ring Gear | 1 |
| 7 | 9082960016 | End Motor Bearing | 1 |
| 8 | 9560960013 | End Bearing Gear Housing | 1 |
| 9 | 9560960012 | Brake Housing | 1 |
| 10 | 9180960009 | Brake Hub | 1 |
| 11 | 9706960028 | Retainer Plate | 1 |
| 12 | 9806960017 | "Y" Input Shaft | 1 |
| | 9806960016 | "STD" Input Shaft | 1 |
| 13 | 9706960031 | "Y" Tie Plate | 2 |
| | 9706960030 | "STD" Tie Plate | 2 |
| 14 | 9970400007 | Ball | 2 |
| 15 | 9209960022 | Motor End Drum Bushing | 1 |
| 16 | 9209960023 | Gear Drum Bushing | 1 |
| 17 | 9120960021 | Bolt | 2 |
| 18 | 9120960025 | Capscrew | 8 |
| 19 | 9120960023 | Bolt | 1 |
| 20 | 9120960022 | Capscrew | 2 |
| 21 | 9120960018 | Screw | 4 |
| 22 | 9786960006 | Setscrew | 1 |
| 23 | 9120960026 | Capscrew | 4 |
| 24 | 9120960024 | Capscrew | 2 |
| 25 | 7785140404 | Setscrew | 1 |
| 26 | 7660160001 | Nut | 2 |
| 27 | 7660160201 | Nut | 1 |
| 28 | 7660180201 | Nut | 1 |
| 29 | 9970418184 | Washer | 4 |
| 30 | 9949960016 | Lockwasher | 2 |
| 31 | 9309960009 | Hydraulic Motor Coupling | 1 |
| 32 | 9706960029 | Brake Plate | 2 |
| 33 | 9796960047 | Brake Housing Gasket | 1 |
| 34 | 9970456008 | Relief Fitting | 1 |
| 35 | 9626960012 | Hydraulic Motor | 1 |
| 36 | 9796960050 | O-Ring | 1 |
| 37 | 9796960048 | Ring Quad | 2 |
| 38 | 9796960051 | O-Ring | 1 |
| 39 | 9970468002 | Reducer | 1 |
| 40 | 9701960015 | Pipe Plug | 2 |
| 41 | 9691960001 | Spiral Pin | 1 |
| 42 | 9701960014 | Plug | 1 |
| 43 | 9701960016 | Plug | 1 |
| 44 | 9796960097 | Seal | 1 |
| 45 | 9796960049 | Gear Housing Seal | 1 |
| 46 | 9812960005 | Shim | 1 |
| 47 | 9754960039 | Snap Ring | 2 |
| 48 | 9970494010 | Spring | 1 |
| 49 | 9935960023 | Counterbalance Valve | 1 |
| 50 | 9949960017 | Thrust Washer | 1 |

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