OWNER'S MANUAL

EXPRESS - NYC

INSTALLATION, OPERATION, MAINTENANCE & PARTS

NOTE: MANUAL including SPECIFICATIONS, subject to change without notice
All ratings specified are based on structural factors only,
not vehicle capacities or capabilities.

8503 Hilltop Drive
Ooltewah, Tennessee 37363

Phone (423) 238-4171 • FAX (423) 238-5371

FORM NO. 12835001
7 / 99
PRICE $25.00

LIMITED WARRANTY

MILLER INDUSTRIES TOWING EQUIPMENT INC. (hereinafter referred to as MILLER INDUSTRIES) warrants to the original purchaser that each new MILLER INDUSTRIES wrecker or other MILLER INDUSTRIES products will be free from defects in material and workmanship for a period of twelve (12) months from date placed in service, but in no event shall such warranty period exceed twenty-four (24) months from date of manufacture by MILLER INDUSTRIES. The purchaser must promptly notify MILLER INDUSTRIES in writing of any failure in material or workmanship. In no event shall MILLER INDUSTRIES accept such notification later than twenty-four (24) months from date of delivery or twelve (12) months from date placed in service, whichever is earlier.

MILLER INDUSTRIES' obligation under this warranty, statutory or otherwise, is limited to the repair or replacement at the MILLER INDUSTRIES factory, or at a point designated by MILLER INDUSTRIES, of such part or parts as shall appear upon inspection by MILLER INDUSTRIES to be defective in material or workmanship. New or remanufactured parts will be used for any replacement at MILLER INDUSTRIES' option.This warranty is not transferable.This warranty does not obligate MILLER INDUSTRIES to bear the cost of labor or transportation charges in connection with the repair or replacement of any parts found to be defective, nor shall it apply to a product upon which repairs or alterations have been made unless authorized by MILLER INDUSTRIES.

EXCEPT AS EXPRESSLY SET FORTH IN THIS WARRANTY, MILLER INDUSTRIES MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND HEREBY DISCLAIMS ALL OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. MILLER INDUSTRIES shall in no event be liable for claimed downtime, claimed loss of profits or goodwill, or any other special, incidental, indirect, or consequential damages concerning or relating to any product or parts, whether based on negligence, strict liability, breach of contract, breach of warranty, misrepresentation or any other legal theory, regardless of whether the loss resulted from any general or particular requirement which MILLER INDUSTRIES knew or had reason to know about at the time of sale.

MILLER INDUSTRIES MAKES NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE FINISHED PRODUCTS MANUFACTURED OR SUPPLIED BY ANOTHER MANUFACTURER AND SUPPLIED BY MILLER INDUSTRIES TO PURCHASER, including, but not limited to, any vehicle to which a MILLER INDUSTRIES product may be affixed or any accessories or wire rope, and MILLER INDUSTRIES EXPRESSLY DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AS TO SUCH EQUIPMENT OR PRODUCTS. This language shall in no way affect or diminish the rights of the purchaser to rely on such warranties as are extended by such manufacturers or suppliers. MILLER INDUSTRIES shall, to the extent permitted under applicable law, pass on to the purchaser such manufacturer's or seller's warranty.

MILLER INDUSTRIES, whose policy is one of continuous improvement, reserves the right to improve its products through changes in design or materials as it may deem desirable without being obligated to incorporate such changes in products previously sold. This warranty is not intended to cover or include the following items, which are set forth by way of example and not limitation:

A. Normal deterioration of trim, paint, lettering, and appearance items due to wear or exposure to weather, road conditions, road treatments, etc.
B. Any damage or defect due to accident, misuse, abuse, improper or unauthorized repairs, failure to provide reasonable and necessary maintenance, or uses for which the equipment was not designed or intended.
C. Alterations or modifications that affect performance, operation or reliability.
D. Normal maintenance parts including, but not limited to, wear pads, bushings, wire rope, mud flaps, fenderettes, light bulbs, hydraulic oil, filters, and tow sling belts.

IT IS EXPRESSLY UNDERSTOOD THAT MILLER INDUSTRIES MAKES NO IMPLIED WARRANTY THAT MILLER INDUSTRIES PRODUCTS SHALL BE FIT FOR THE PURPOSE OF LIFTING OR MOVING PEOPLE OR FOR ANOTHER IMPROPER USE.

SERIAL NUMBER

8503 Hilltop Drive
Ooltewah, Tennessee 37363
Telephone (423) 238-4171

REVISED 12/1/93

OWNER, USER AND OPERATOR:

Miller Industries appreciates your choice of our wrecker for your application. Our number one priority is user safety which is best achieved by our joint efforts. We feel that you can make a major contribution to safety if you, as the equipment owner and operator:

1. **Comply with Federal, State, and Local Regulations.**

2. **Read, Understand, and Follow the Instructions in this Manual.**

3. **Use Good, Safe Work Practices in a Common Sense Way.**

4. **Only have Authorized and Trained Operators running the Wrecker.**

Also contained in this manual is a Parts Section for your Wrecker. Use of other than Factory or Factory Authorized Parts will render the Warranty void.

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WARNING

The operator must read and understand all instructions in this manual before operating the wrecker.

It is assumed by MILLER INDUSTRIES that the Owner/Operator has thorough knowledge of the accepted and lawful retrieval and towing methods as dictated by his city, county or state. MILLER INDUSTRIES rejects any liability claim that may result from the incorrect or unlawful application of its equipment.

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Section VI - PARTS (cont'd)

Section VII - SCHEMATICS

NOTES

Section I - SAFETY PRECAUTIONS

Presented in the interest of safety for all wrecker operators.

NOTICE

You are obligated to operate your wrecker safely. You can be held legally responsible for injuries or damages 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.

Miller Industries is not responsible for the results of any unsafe practice of wrecker operators. Furthermore, the division is not responsible for the failure of the wrecker or its accessories resulting from improper maintenance.

The danger from an automobile does not cease when it is disabled or wrecked. Recovering and towing automobiles can be dangerous, too! The danger threatens wrecker operators and everyone close at hand. 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 (especially snatch blocks) 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 we know about. Learn them well.

Section I - SAFETY PRECAUTIONS (cont'd)

1.1 Improper use of this equipment can be dangerous! Incorrect operation can result in bodily injury to the operator and bystanders. Therefore, a thorough understanding of the "operating principles" and "operating instructions" as found in this manual is essential.

1.2 Study each job to be done. Apply common sense judgment to assure safety to yourself and bystanders.

1.3 Plan ahead. Work safely. Avoid accidental damage and injury. If an accident or fire does occur, react quickly with the tools and skills at hand. Know how to use a first aid kit and a fire extinguisher - and where to get assistance.

1.4 Read and understand the following instructions.

1. READ THE MOUNTING/OPERATING/MAINTENANCE MANUAL FOR WARNINGS AND PRECAUTIONS.

2. NEVER TAKE ANYTHING FOR GRANTED. DON'T ASSUME THAT EVERYTHING IS ALL RIGHT AT THE START OF WORK TODAY JUST BECAUSE EVERYTHING SEEMED ALL RIGHT AT THE END OF WORK YESTERDAY. BEFORE BEGINNING OPERATION, THOROUGHLY INSPECT THE ENTIRE WRECKER TO BE SURE IT IS IN GOOD OPERATING CONDITION.

3. VISUALLY INSPECT THE WRECKER FOR EVIDENCE OF PHYSICAL DAMAGE, SUCH AS CRACKING, BENDING, OR DEFORMATION OF PLATES OR WELDS. INSPECT CAREFULLY FOR CRACKING OR FLAKING OF PAINT, WHICH MAY INDICATE A DANGEROUS CRACK IN THE STRUCTURE BENEATH. DO NOT OPERATE UNTIL REPAIRS ARE MADE.

4. LOOSE OR MISSING HARDWARE, BOLTS, NUTS, AND PINS SHOULD BE PROPERLY TIGHTENED OR REPLACED WITH MANUFACTURER'S SPECIFIED HARDWARE.

5. CHECK FOR FLUID LEAKS. HYDRAULIC SYSTEM LEAKS MUST BE CORRECTED BEFORE THE WRECKER IS OPERATED. INSPECT ALL HYDRAULIC HOSES, ESPECIALLY THOSE WHICH FLEX

OR MOVE IN SERVICE, AND REPLACE IF NECESSARY. SECURE ALL CAPS AND FILLER PLUGS FOR ALL SYSTEMS.

6. YOUR CLOTHING SHOULD BE RELATIVELY CLOSEFITTING.

7. ALWAYS WEAR PROTECTIVE ITEMS SUCH AS SAFETY GLASSES, GLOVES, REFLECTIVE CLOTHING AND SAFETY SHOES.

8. BEFORE OPERATING THE BOOM, REFER TO THE BOOM CAPACITY LABELS ON THE BOOM AND INSIDE OF THE DOOR OF THE CAB AND IN THE SPECIFICATION SECTION OF YOUR OPERATING MANUAL. FOR CHASSIS CAPACITY CONSULT YOUR TRUCK DEALER. NEVER EXCEED MANUFACTURER'S LOAD RATING. THE STIPULATIONS PERTINENT TO THESE RATINGS SHALL ALWAYS BE CAREFULLY OBSERVED.

RATINGS SHOWN ARE BASED ON THE HYDRAULIC, MECHANICAL, OR STRUCTURAL DESIGN OF THE WRECKER RATHER THAN STABILITY. IT IS ALWAYS UNSAFE TO APPLY ANY LOAD WHICH IS GREATER THAN RATED LOAD SHOWN ON THE DATA PLATE.

9. DO NOT USE THIS EQUIPMENT EXCEPT ON SOLID, LEVEL SURFACE WITH STABILIZERS PROPERLY EXTENDED AND TRUCK BRAKES LOCKED.

10. OPERATE ALL CONTROLS SLOWLY AND SMOOTHLY TO AVOID DAMAGE TO WRECKER OR INJURY TO PERSONNEL.

11. DO NOT OPERATE, WALK OR STAND BENEATH BOOM OR A SUSPENDED LOAD.

12. NEVER LIFT LOAD OVER ANYONE.

13. DO NOT USE BOOM TO LIFT PEOPLE.

14. KEEP LOAD WITHIN ONE FOOT OF THE GROUND WHENEVER POSSIBLE.

15. FOR TRAVEL, BOOM MUST BE IN STOWED POSITION AND P.T.O. DISENGAGED.

ONLY AUTHORIZED AND TRAINED PERSONNEL SHOULD BE PERMITTED TO OPERATE THIS WRECKER UNSUPERVISED.

TRAINED PERSONNEL ARE THOSE WHO HAVE WORKED UNDER EXPERIENCED SUPERVISION AND HAVE PERFORMED ALL WRECKER MANEUVERS, HAVE READ THE MOUNTING, OPERATING AND MAINTENANCE MANUAL, WARNINGS AND PRECAUTIONS, AND UNDERSTAND AND HAVE HAD EXPLAINED TO THEM BY THEIR EMPLOYER THE HAZARDS OF OPERATING THE WRECKER. THEY MUST BE FAMILIAR WITH THE HAZARDS OF OPERATING AT A SITE WHERE ELECTRIC POWER LINES, IRREGULAR GROUND CONTOUR, WATER, ICE, MUD, OR OTHER CONDITIONS CAN INTERFERE WITH ORDINARY CAREFUL OPERATION OF THIS WRECKER.

AN UNTRAINED OPERATOR SUBJECTS HIMSELF AND OTHERS TO DEATH OR SERIOUS INJURY.

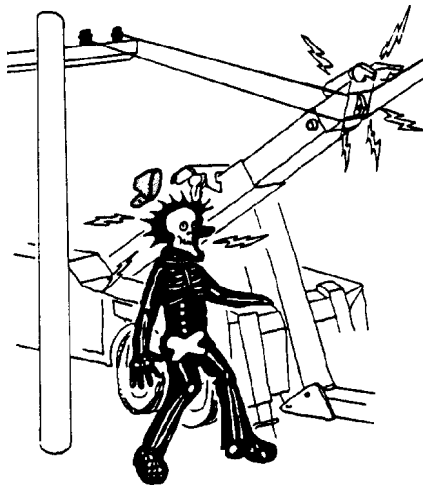
USE SAFETY CHAINS ON ALL TOWING AND LIFTING APPLICATIONS

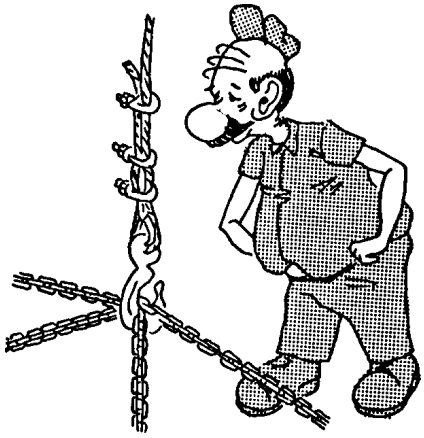
Section I - SAFETY PRECAUTIONS (cont'd)
SAFETY TIPS

DANGER

Death or serious injury can occur when working near power lines.

Learn - beforehand - as much about your working area as possible. Be sure that exact locations of overhead power lines, and other obstructions or hazards are known.





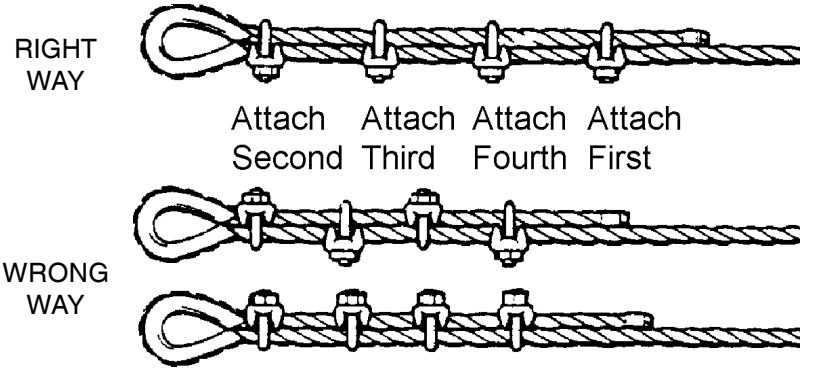
Don't use winch cables with hooks attached by means of cable clips. Use only cables with hooks attached by means of thimbles and machine swaged terminals.

USE CABLE CLIPS ONLY IN THE EVENT OF AN EMERGENCY FIELD TEMPORARY REPAIR.

Use at least three clips spaced 3-4 inches apart and reduce the cable working limit by 20%. U-bolt of the clip should never be around the live or long end of the cable. Replace clips as soon as possible with swaged cable termination.

Section I - SAFETY PRECAUTIONS (cont'd)
SAFETY TIPS

Proper technique for using wire rope clips.
USE CABLE CLIPS ONLY IN THE EVENT OF AN EMERGENCY FIELD TEMPORARY REPAIR.



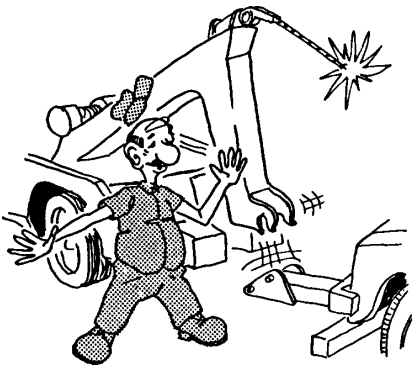
1. Turn back rope length specified in the chart. Apply first clip so U-bolt is no less than the saddle width from the dead end. Tighten nuts evenly and torque as specified.
2. Apply next clip as near loop as thimble will permit. Turn nuts on firm, but do not tighten.
3. Space additional clips as indicated so distance between clips is equal. Tighten all nuts evenly and torque as specified.
4. Apply the initial load and retighten all nuts to recommended torque. Inspect periodically and retighten as needed to the recommended torque.

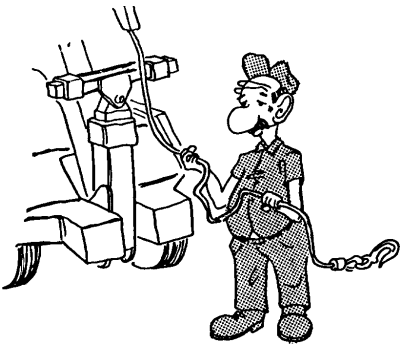
CLIP SIZE (INCHES)	MINIMUM NUMBER OF CLIPS	AMOUNT OF ROPE TO TURN BACK IN INCHES	TORQUE IN FT.LBS.
3/8	2	6 1/2	45
7/16	2	7	65
1/2	3	11 1/2	65
9/16	3	12	95
5/8	3	12	95
3/4	4	18	130

This table is based on Crosby-Laughlin.

Section I - SAFETY PRECAUTIONS (cont'd)
SAFETY TIPS

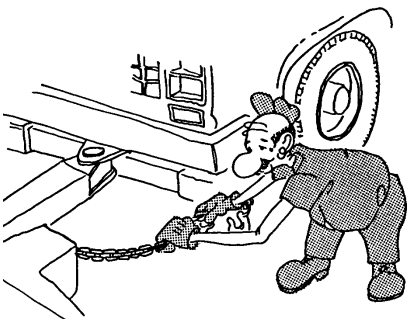
Don't use a wrecker that has not been properly maintained. Pay special attention to wrecker mounting bolts, cable condition, and lubrication of moving parts.

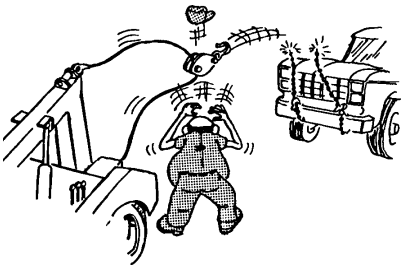




Don't use damaged cables on your wrecker. Become familiar with the various types of cable damage and carefully inspect all cables being used in a recovery operation before starting to pull.

Always use two safety chains when towing all vehicles, regardless of distance.

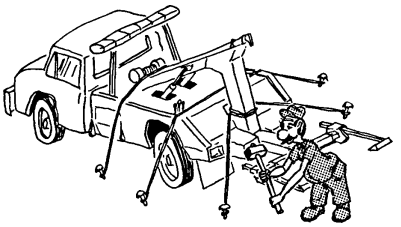


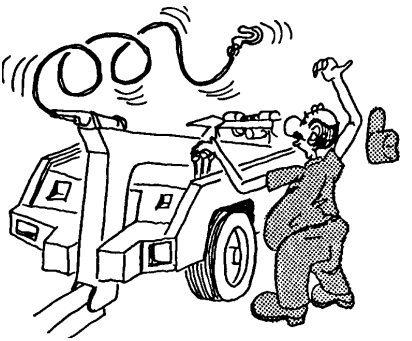


After rigging cables, don't begin pulling without rechecking connections. Make sure that all cables and snatch blocks are securely attached and cannot accidentally pull loose.

Section I - SAFETY PRECAUTIONS (cont'd)
SAFETY TIPS

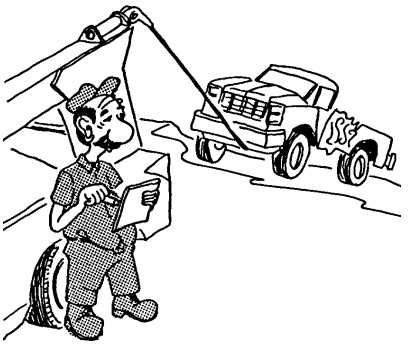
Don't expect your wrecker to tow loads equal to the wrecker rating. Wrecker ratings apply to loads imposed during recovery, with the wrecker properly stabilized.

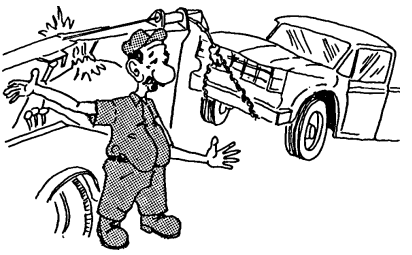




Don't pull a load with your wrecker without making absolutely sure that the winch drum clutch is FULLY engaged.

Don't attempt to recover heavy loads without first estimating the amount of pull that will be required. Rig to keep the estimated amount of pull well within equipment ratings.

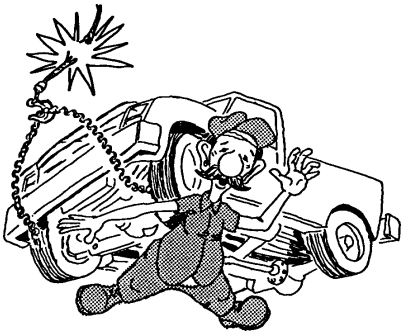


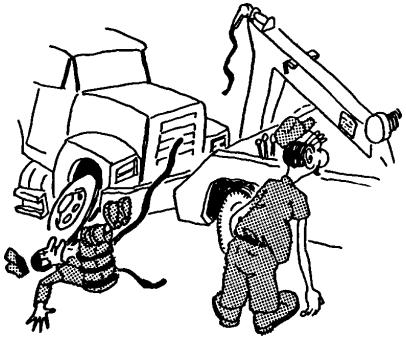


Don't exceed ratings of booms, cables, snatch blocks, or winches. Stay within nameplate ratings. Note that boom ratings decrease significantly as a boom is extended.

Section I - SAFETY PRECAUTIONS (cont'd)
SAFETY TIPS

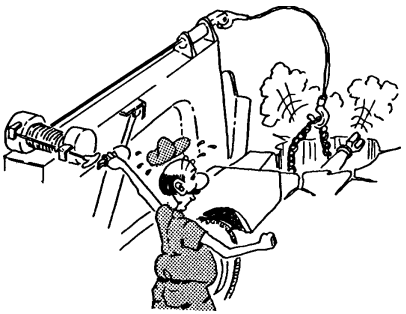
Don't get under a raised vehicle or load unless it has adequate safety blocks in place.





Don't exceed WORKING LIMIT ratings of cable. Use breaking strength ratings only for selecting replacement cable.

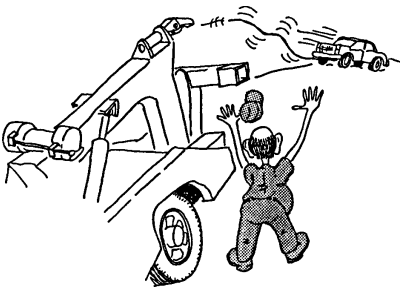
Don't tie down the front end of your wrecker for recovery work or heavy lifts. You are apt to damage the truck frame if you do.



Don't disengage the winch drum clutch while the winch cable is loaded.

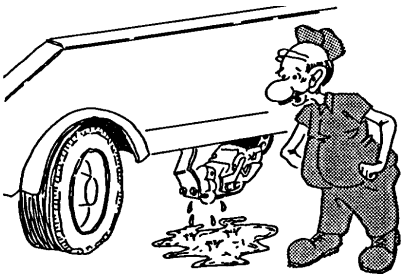
Section I - SAFETY PRECAUTIONS (cont'd)
SAFETY TIPS

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



Don't completely unwind all cable from a winch while loaded. Keep AT LEAST five wraps on the drum.

Don't operate your wrecker's engine faster than recommended. excessive speeds can damage PTO shafts, hydraulic pumps, and winches.



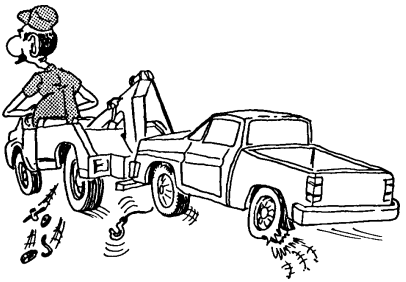
Don't rely on anti-theft steering locks to secure the steering wheel. Use a special steering wheel clamping device. Rope is commonly used to secure steering wheels, but that is not as reliable as devices designed for this purpose.

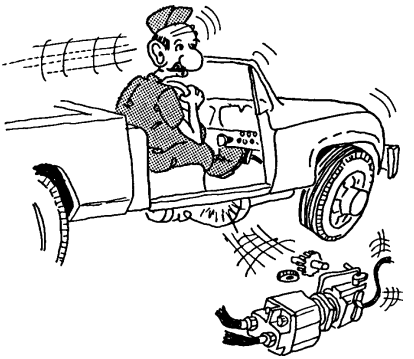
Section I - SAFETY PRECAUTIONS (cont'd)
SAFETY TIPS

Don't tow a vehicle that reduces the weight on the front wheels of your wrecker more than 40 percent.

When using a towing dolly, don't exceed the speed recommended for the dolly.

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.

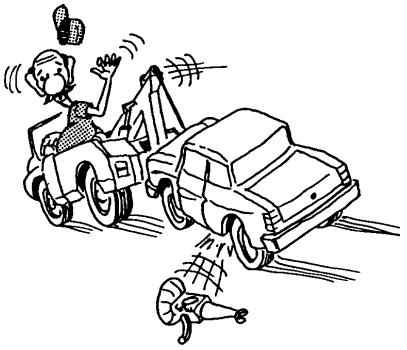


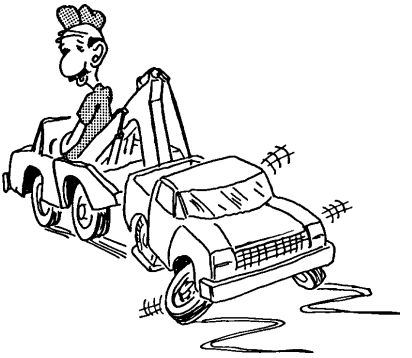


Don't travel with the wrecker PTO engaged. Engage it only while operating the wrecker controls.

SAFETY TIPS

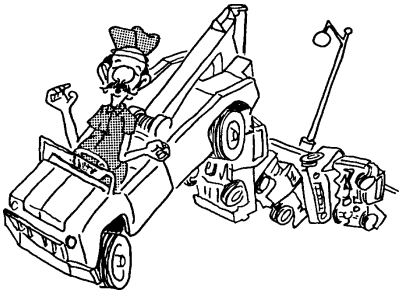
Don't tow a vehicle on its drive wheels unless steps have been taken to protect its transmission and differential. Follow the recommendations of the vehicle manufacturer. As an alternative, use a towing dolly.





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

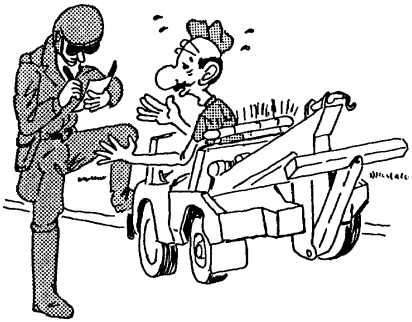
Don't tow a vehicle on its front wheels unless the steering wheel is secured with the front wheels straight ahead.

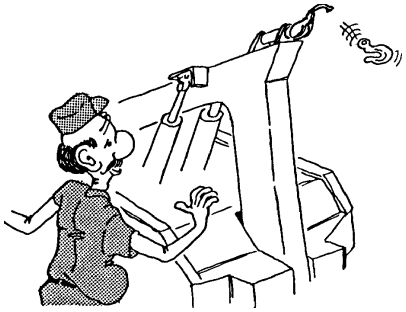


Don't tow a vehicle at night without proper signal lights on the towed vehicle and the wrecker.

SAFETY TIPS

Don't use wrecker flashing lights except under conditions permitted by law.





Don't continue to wind in winch cable after the hook is against the boom end.

STRAPS PLUS SAFETY CHAINS

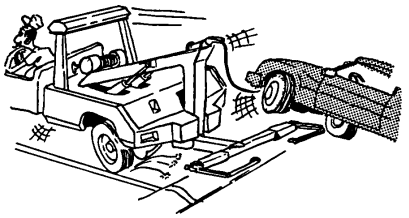
Wheel lifts require both systems for safety.

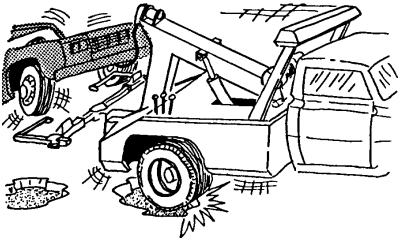
You should use wheel straps plus safety chains with all wheel lifts.

The following illustrations show why.

SAFETY TIPS

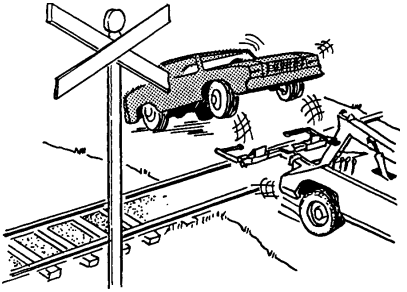
Without straps, the towed vehicle may bounce free when crossing a speed bump or dip.

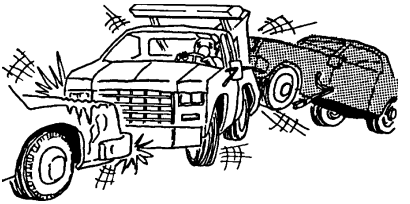




Without straps, a pot hole may cause the vehicle to come free.

Without straps, crossing a railroad track may free the vehicle.

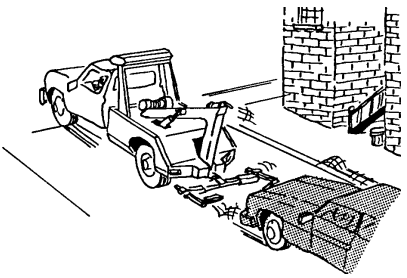


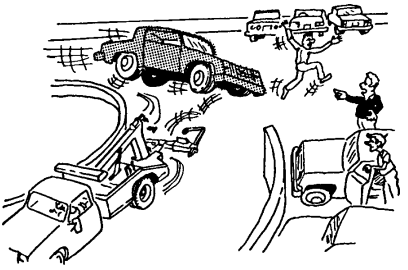


Without straps, a panic stop or minor collision may cause the vehicle to come loose.

SAFETY TIPS

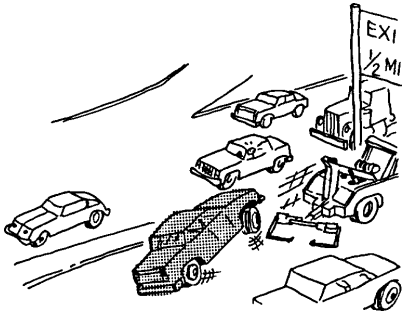
Without straps, fast starts may cause the vehicle to jump free, especially when going uphill.

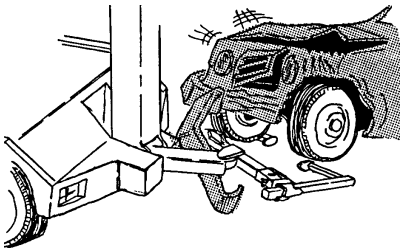




Without straps, maneuvering in parking areas may twist the vehicle free of the wheel lift.

Without straps, the vehicle may contact the ground an pull free if wheel lift hydraulics fail.





Without straps, the vehicle might be forced out of the wheel lift if the cross bar is obstructed.

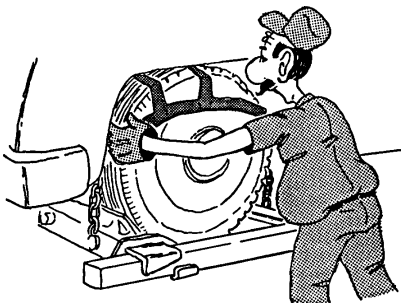
SAFETY TIPS

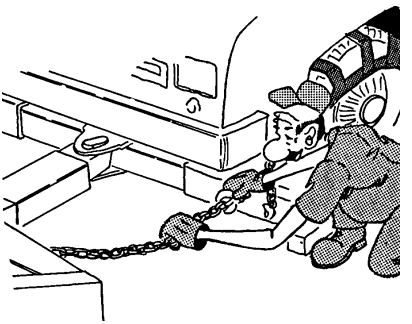
To avoid such accidents, use wheel straps plus safety chains.

You need both systems for safety.

Installing them takes very little time and effort. They may save a life or avoid serious injury.

A. Always use two wheel straps when towing all vehicles, regardless of distance.





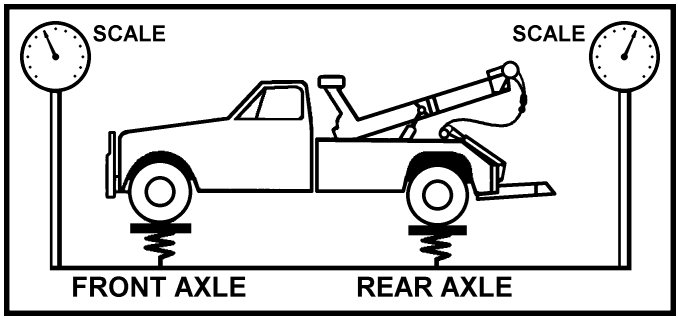
B. Always use two safety chains when towing all vehicles, regardless of distance.

Section I - SAFETY PRECAUTIONS (cont'd)
SAFE TOWING

There are two key factors in safe towing:

1. Have enough front axle weight for safe steering.
2. Avoid excess rear axle weight.

The issue here is safety. Unsafe steering may cause a serious accident. It is recommended that a safe steering formula that maintains at least 50 percent of the UNLADEN (unloaded) front axle weight, for towing, be used.



Unladen weights at front and rear axles.

The formula is expressed as follows: ML = .5FAW x WB/OH

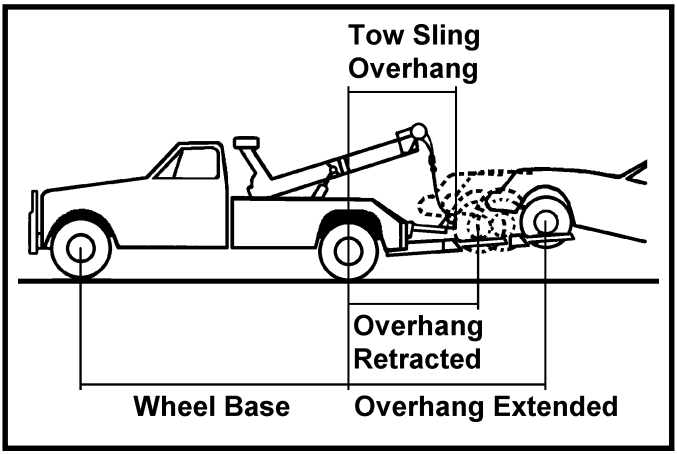
where:

ML = maximum lifted load for safe steering.
FAW = unladen (unloaded) weight at front axle.
WB = wheel base or distance between the center of the front axle to the center of the rear axle(s).
OH = overhang or distance from the center of the rear axle(s) to the lift point of the towing device.

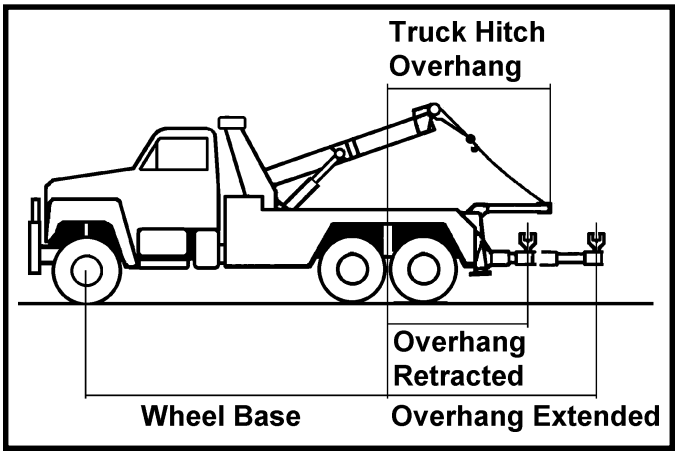
To use the formula, multiply the unladen weight at the front axle by .5. Multiply the result by the wheel bases. Then, divide that result by the overhang. So, you should calculate the maximum lifted load for each tow truck, using this formula, post those limits in the truck and instruct each driver to strictly observe those limits.

You should also observe gross vehicle weight ratings (GVWR), gross axle weight ratings (GAWR), and the towing equipment ratings.

Section I - SAFETY PRECAUTIONS (cont'd)
SAFE TOWING



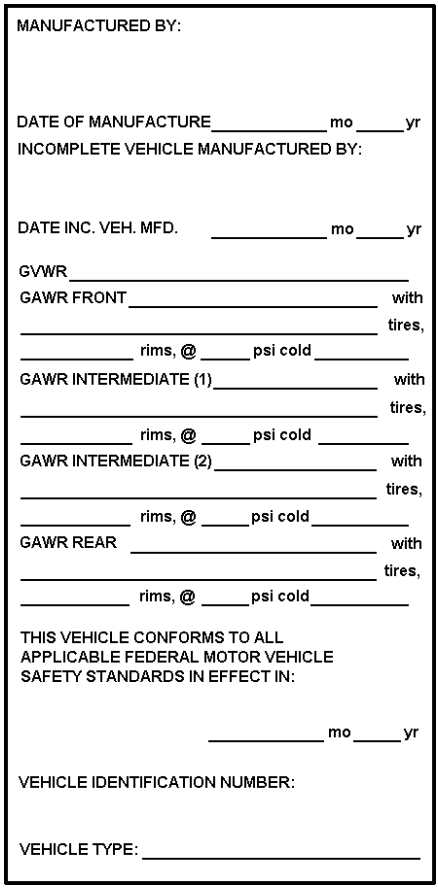
Wheel base and overhang distances for tow slings and wheel lifts.



Wheel base and overhang distances for truck hitches and underlifts.

Section II - SPECIFICATIONS

2.1 Federal law requires that the final stage manufacturer, i.e., that person or company installing new equipment on a new chassis, must certify the completed vehicle by obtaining, completing and affixing to the door post on the drivers side of the vehicle, a Certification Label similar to the one shown. See Figure 2.1.


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_____

THIS VEHICLE CONFORMS TO ALL
APPLICABLE FEDERAL MOTOR VEHICLE
SAFETY STANDARDS IN EFFECT IN:

_____ mo _____yr

VEHICLE IDENTIFICATION NUMBER:

VEHICLE TYPE: _____

FIGURE 2.1

Section II - SPECIFICATIONS (cont'd)

2.2 SERIAL NUMBER / SPECIFICATION LABEL

Each MILLER Express will have a Serial Number / Specification Label mounted on the outer boom. The label will exhibit the Model Number, Serial Number and Ratings. See Figure 2.2.

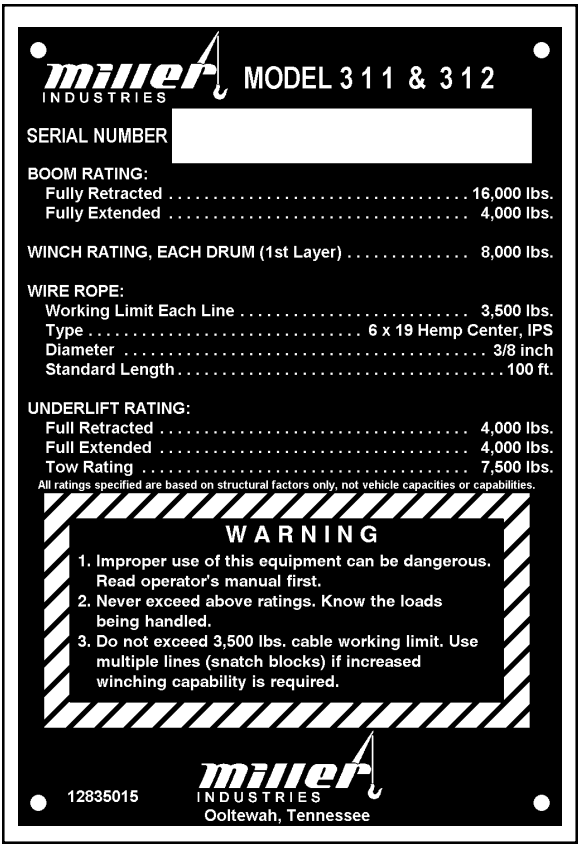


FIGURE 2.2

Section II - SPECIFICATIONS (cont'd)

2.3 SPECIFICATIONS - Express NYC

Model 312

8-ton extendable recovery boom (rated at boom swivel) with dual 8000 lb. hydraulic winches, 86" wide heavy duty body 60" C.A.

(a) Winches

Rating (1st layer each drum) . . . . . .8,000 lbs.

(b) Cable

Diameter and length (each drum) . . . . . 3/8" Dia. x 100'
Type . . . . . 6 x 19 hemp center, IPS
Working line limit . . . . . 3,500 lb.

(c) Boom Specifications

Express 312

	RETRACTED	EXTENDED
Lift Height from Ground to Hook at Maximum Boom Elevation	83 3/4"	116 3/4"
Reach Past Tailgate at Minimum Boom Elevation	--	48"
Reach Past Tailgate at Maximum Boom Elevation	--	15 7/8"
Boom Rating at Boom Swivel	16,000 lbs.	4,000 lbs.

Section II - SPECIFICATIONS (Cont'd)

2.4 SPECIFICATIONS - Wheel Lift

DESCRIPTION	INCHES
Retracted Distance from Tailgate at Normal Tow Position	41"
Retracted Distance from Tailgate at Normal Tow Position	74 3/4"
Maximum Hydraulic Extension	33 3/4"

Lifting Rating . . . . . 4,000 lbs.
Tow Rating . . . . . 7,500 lbs.

2.5 CHASSIS RECOMMENDATIONS

The Miller Express should be installed on a chassis with minimum GVW of 10,000 lbs., dual rear wheels and a minimum C.A. of 60". A heavy-duty spring package is recommended.

2.6 STANDARD EQUIPMENT

- Dual 8,000 lb. Variable Speed Hydraulic Winches
- Two 3/8" x 75' Cable Assemblies
- Hydraulic Extendable Recovery Boom
- 360° Directional Boom End Swivels
- Integrated Boom & Wheel Lift System
- Express Hydraulic Hook-Up
- Clutch Pump
- In-Cab Remote Control Pendant on cord with 4 Functions
- 1 Pair Safety Straps
- Safety Chains in Rear Pockets
- Tool Compartment, Left Hand Side
- 86" Wide Heavy Duty Body
- Power Boom Elevation with Holding Valve
- Federal Standard 108 Light Group
- Wiring Harness with Junction Box

Section II - SPECIFICATIONS (Cont'd)

2.6 STANDARD EQUIPMENT (cont'd)

- Dual Rear Controls
- Mud Flaps
- Back Up Alarm
- Power Fold for Stinger Storage
- Self Centering Crossbar with 3" Pivot Pin
- Roller Guided Hose Tracking System
- Preassembled and Tested

2.7 OPTIONAL FEATURES

- Tool Compartment, Right Side
- Switch Panel
- Convenience Group
- Trailer Ball Adapter
- Motorcycle Attachments
- 3,500 lb. Tow Bar
- Light Pylon
- Wrecker Special Light Bar
- Work Lights
- Front Push Bumper
- 24" Tunnel Tool Box for 84" C.A.
- Cable Anti-Spooling Tensioner
- Many Other Popular Options

Note: Specifications Subject to Change without Notification.

NOTES

Section III - OPERATIONAL FUNCTIONS WRECKER

3.1 Your new MILLER Express Wrecker is fully hydraulic. It receives its power by means of a belt driven electric clutch operated hydraulic pump mounted to the truck engine.

3.2 The hydraulic pump is electrically engaged and is switched on by the PTO switch on the switch panel, mounted in the truck cab. See Figure 3.1.

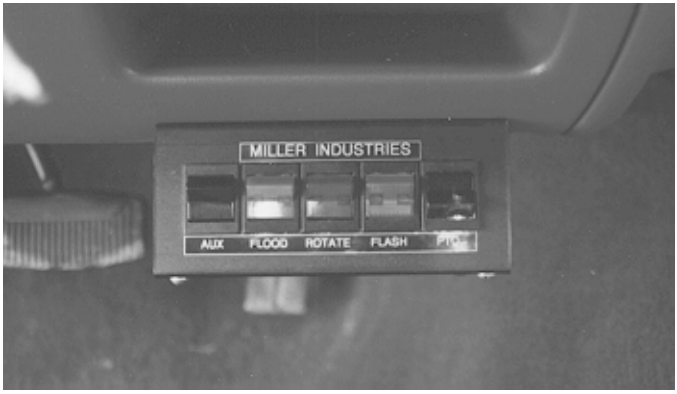


FIGURE 3.1

CAUTION

THE PUMP IS DESIGNED TO RUN ANY FUNCTION AT NORMAL IDLE SPEED. DO NOT OVER-REV ENGINE.

3.3 The switch panel also controls the light bar, flood lights and lower work lights. Refer to Figure 3.1.

3.4 Each function of your Express Wrecker can be controlled from Hand Held Control Unit located in the passenger side tool compartment.

Section III - OPERATIONAL FUNCTIONS
WRECKER (cont'd)

FIGURE 3.2

3.5 The Hand Held Control Unit is clearly marked as to functions and directions.

3.6 The Wrecker Boom can also be elevated by use of the Hand Held Control Unit located in the truck cab. See Figure 3.2.

FIGURE 3.2

CAUTION

DO NOT OPERATE REMOTE CONTROL AT SPEEDS OVER 25 M.P.H.

3.7 The Wrecker Boom is elevated and extended by means of double-acting cylinders. The boom can be elevated or extended under "LOAD" or "NO-LOAD" conditions.

Section III - OPERATIONAL FUNCTIONS WRECKER (cont'd)

3.8 The self-locking, worm-driven winch is powered by its own hydraulic motor attached directly to the winch input shaft. See Figure 3.4.

FIGURE 3.4

3.8 Before operating your Wrecker, remove the rubber shipping plug from the winch vent cap.

NOTE
CHECK OIL LEVEL IN WINCH BEFORE ANY OPERATION. FILL TO PROPER LEVEL WITH REQUIRED GEAR LUBRICANT AS NEEDED. REFER TO SECTION V - MAINTENANCE FOR PROPER PROCEDURES.

NOTES

Section IIIA - OPERATIONAL FUNCTIONS
WHEEL LIFT

3A.1 Your new MILLER Express Wheel Lift is totally hydraulic. It receives its power from the truck engine by means of a belt driven electric clutch operated hydraulic pump mounted to the truck engine.

3A.2 The hydraulic pump is electrically engaged and is switched on by the PTO switch on the switch panel, mounted in the truck cab. Refer to Figure 3.1.

CAUTION

THE PUMP IS DESIGNED TO RUN ANY FUNCTION AT NORMAL IDLE SPEED. DO NOT OVER-REV ENGINE.

3A.3 The switch panel also controls the light bar, flood lights and lower work lights. Refer to Figure 3.1.

3A.4 Each function of your Express Wheel Lift can be controlled with the Hand Held Control Unit located in the truck cab (Figure 3A.1), or with the Hand Held Control Unit located in the driver side tool compartment.

FIGURE 3A.1

Section IIIA - OPERATIONAL FUNCTIONS
WHEEL LIFT (cont'd)

CAUTION

DO NOT OPERATE HAND HELD CONTROL UNIT AT SPEEDS OVER 25 MPH.

3A.5 The Hand Held Control Units are clearly marked as to functions and directions.

3A.6 The Wheel Lift is elevated, extended, tilted and folded, and the Claws are opened and closed, by means of double-acting hydraulic cylinders and can be operated under either "LOAD" or "NO LOAD" conditions.

WARNING

USE SAFETY CHAINS ON ALL TOWING AND LIFTING APPLICATIONS.

Section IV - OPERATING INSTRUCTIONS WRECKER

4.1 For reasons of safety, it is important that the Owner(s) / Operator(s) of the MILLER Express Wrecker should become thoroughly familiar with the controls and functions of the wrecker before attempting any operation of the wrecker.

4.2 HYDRAULIC WINCH

The hydraulic winch is to be used in retrieving and lifting a vehicle for transport.

(a) **DO NOT** fasten the winch hook directly to any vehicle to be towed.
(b) **DO NOT** wrap the winch cable around any object.
(c) **DO NOT** exceed the working limit of the cable (3,500 lbs.).
(d) **DO NOT** use the winch or cable for the lifting of people.

4.3 PREPARING TO RECOVER VEHICLE

(a) Position wrecker as near as possible to disabled vehicle to be recovered.

(b) Reduce truck's engine to an idle and apply parking brake. Depress clutch, place transmission in neutral and engage PTO by activating PTO switch on the switch panel located in cab. Refer to Figure 3.1.

CAUTION

NEVER DRIVE TRUCK ON STREET WITH PTO ENGAGED, THIS CAN CAUSE PUMP FAILURE DUE TO OVER-SPEED AND OVERHEATING.

(c) Adjust engine speed to desired RPM (recommended 1400 to 1500) using the Vernier Throttle Control located on the left rear slope of the wrecker body, or the electronic throttle control in cab of truck.

DO NOT EXCEED 1500 RPM

Section IV - OPERATING INSTRUCTIONS WRECKER (cont'd)

4.4 BOOM ELEVATION

Elevate Boom to desired height by use of the BOOM "UP/DOWN" Control. Refer to Figure 3.2.

NOTE
IN THE EVENT OF HYDRAULIC PRESSURE LOSS, THE BOOM WILL REMAIN ELEVATED DUE TO THE HOLDING VALVE LOCATED BETWEEN THE VALVE AND LIFT CYLINDERS.

4.5 BOOM EXTENSION

(a) The Inner Boom (when so equipped) may be extended to desired position by use of the BOOM "IN/OUT" Control. Refer to Figure 3.2.

(b) Before operating any control handles, observe the winch cables to make sure they are free and have sufficient slack to allow boom to extend. If not, pay out sufficient cable by either (1) or (2):

(1) Operate CABLE "IN/OUT" Control. Refer to Figure 3.2.

(2) Disengage winch drum by pushing in the Winch Clutch Control Handle and rotating it 90°. See Figure 4.1. This will allow the winch drum to free wheel and cable may be pulled out by hand. After sufficient cable has been pulled out rotate the Winch Clutch Control Handle 90° to allow winch to re-engage.

Section IV - OPERATING INSTRUCTIONS WRECKER (cont'd)

4.5 BOOM EXTENSION (cont'd)

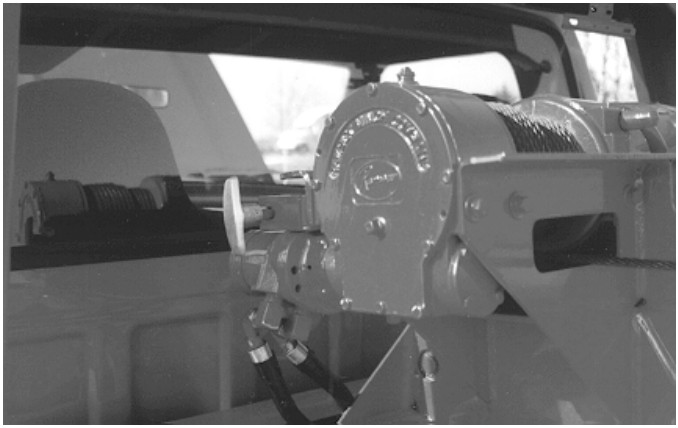


FIGURE 4.1

4.6 CABLE

(a) The Boom End Yoke swivels to allow pulls from either side. See Figure 4.2.

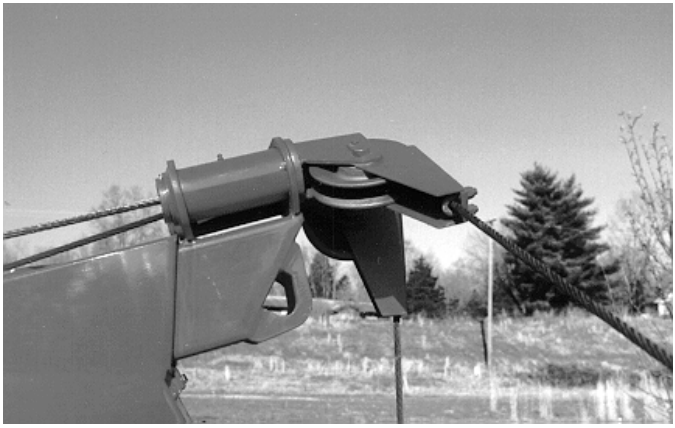


FIGURE 4.2

Section IV - OPERATING INSTRUCTIONS
WRECKER (cont'd)

4.6 CABLE (cont'd)

(b) A snatch block may be used, during recovery operation, to reduce line load and increase pulling capacity. The winch cable is then anchored, in the ring, at the end of the boom. Refer to Figure 4.2.

(c) The Standard Snatch Block may be used when a lower winching angle is required for recovery operations. See Figure 4.3.

FIGURE 4.3

(d) After recovery operation is complete, rewind winch cable on drum by operation of the CABLE "IN/OUT" Control.

SECTION IVA - OPERATING INSTRUCTIONS
WHEEL LIFT

4A.1 For reasons of safety, it is important that the Owner(s) and Operator(s) of the MILLER Express Wheel Lift System become thoroughly familiar with its controls, components and load requirements before attempting any operation.

4A.2 PREPARING TO LOAD VEHICLE

(a) Align the Express Wheel Lift with the disabled vehicle to be towed. See Figure 4A.1.

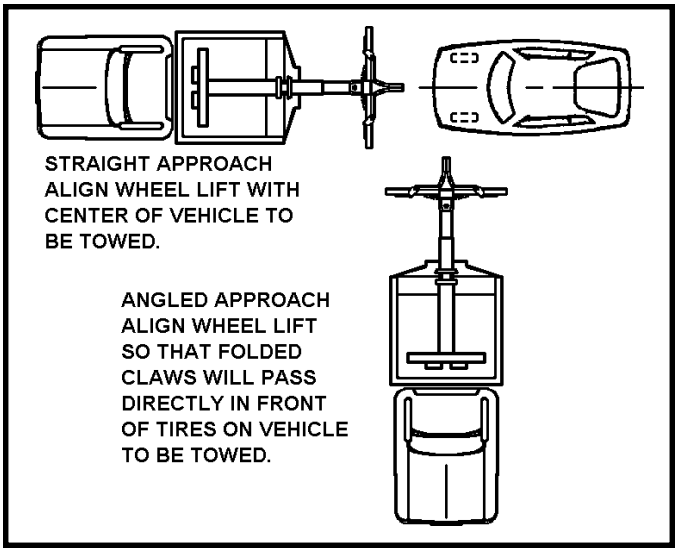


FIGURE 4A.1

NOTE
LEAVE SUFFICIENT SPACE BETWEEN REAR OF WRECKER AND VEHICLE TO BE TOWED SO THAT WHEEL LIFT MAY BE LOWERED TO TOWING POSITION WITHOUT STRIKING VEHICLE.

Section IVA- OPERATING INSTRUCTIONS
WHEEL LIFT (cont'd)

4A.2 PREPARING TO LOAD VEHICLE (cont'd)

(b) Reduce truck's engine to an idle and apply parking brake. Depress clutch, place transmission in neutral and engage PTO by activating PTO switch on switch panel located in truck cab. Refer to Figure 3.1.

CAUTION

NEVER DRIVE TRUCK ON STREET WITH PTO ENGAGED, THIS CAN CAUSE PUMP FAILURE DUE TO OVER-SPEED AND OVERHEATING.

(c) Adjust engine speed to desired RPM (recommended 1400 to 1500) using the Vernier Throttle Control located on the left rear slope of the wrecker body, or the electronic throttle control in cab of truck.

DO NOT EXCEED 1500 RPM

4A.3 VEHICLE HOOK UP

(a) Lower Wheel Lift Boom to the horizontal position using the WHEEL LIFT FOLD "UP-DOWN" Control, and then lower Wheel Lift to ground and raise until Wheel Lift just clears ground level by use of the BOOM "UP-DOWN" Control. See Figure 4A.2.

Section IVA- OPERATING INSTRUCTIONS
WHEEL LIFT (cont'd)

4A.3 VEHICLE HOOK UP (cont'd)

FIGURE 4A.2

CAUTION

BE SURE YOU ARE CLEAR OF THE WHEEL LIFT BOOM, CROSSBAR AND CLAWS WHEN THE WHEEL LIFT IS LOWERED.

(b) Extend Wheel Lift Boom to maximum stroke, then retract boom approximately 3" by use of the WHEEL LIFT EXTEND "IN-OUT" Control. See Figure 4A.3.

Section IVA- OPERATING INSTRUCTIONS
WHEEL LIFT (cont'd)

4A.3 VEHICLE HOOK UP (cont'd)

FIGURE 4A.3

(c) If disabled vehicle is equipped with small tires, it may be necessary to attach the small tire adapters to claws.

(d) After all preparations have been made, position crossbar by either (1) or (2):

(1) Straight Approach: Back the Express Wheel Lift until the crosstube is firmly against the tires of the vehicle to be towed. See Figure 4A.4.

Section IVA- OPERATING INSTRUCTIONS
WHEEL LIFT (cont'd)

4A.3 VEHICLE HOOK UP (cont'd)

FIGURE 4A.4

(2) Angled Approach: Back the Express Wheel Lift until the crossbar is rotated by contact with the tire and is centered between tires on vehicle to be towed. See Figures 4A.5 and 4A.6.

FIGURE 4A.5

Section IVA- OPERATING INSTRUCTIONS
WHEEL LIFT (cont'd)

4A.3 VEHICLE HOOK-UP (cont'd)

FIGURE 4A.6

(e) Engage claws to capture tires of vehicle to be towed using the CLAW "OPEN/CLOSE" Control. See Figure 4A.7. Ensure that both claws have fully captured both tires before proceeding.

FIGURE 4A.7

Section IVA- OPERATING INSTRUCTIONS
WHEEL LIFT (cont'd)

4A.3 VEHICLE HOOK UP (cont'd)

CAUTION

DO NOT ATTEMPT TO LIFT OR MOVE VEHICLE IF CLAWS ARE NOT IN POSITION SHOWN IN FIGURE 4A.7 WITH TIRES CAGED.

(f) Check position of tires from left to right. Tires should be centered on the wheel lift as much as possible. On wide track vehicles such as vans, this is critical. On these vehicles, the tires may hang over the claws one or two inches on each side. This is permissible provided tire tie-down straps are properly installed.

NOTE
TOWING REAR WHEEL DRIVE VEHICLES

WHEN LIFTING AND TOWING FROM REAR DRIVE AXLE, PLACE VEHICLE IN GEAR WITH PARKING BRAKE ENGAGED. STRAIGHTEN FRONT WHEELS AND ATTACH STEERING WHEEL LOCK.

WHEN LIFTING AND TOWING FROM FRONT TIRES, DISENGAGE PARKING BRAKE AND PLACE IN NEUTRAL GEAR.

VEHICLE MUST BE PLACED IN GEAR WITH PARKING BRAKE ENGAGED BEFORE DISCONNECTING FROM THE WHEEL LIFT.

Section IVA- OPERATING INSTRUCTIONS
WHEEL LIFT (cont'd)

4A.3 VEHICLE HOOK-UP (cont'd)

NOTE
TOWING FRONT WHEEL DRIVE VEHICLES

WHEN LIFTING AND TOWING FROM FRONT DRIVE WHEELS, DISENGAGE PARKING BRAKE AND PLACE IN NEUTRAL GEAR.

WHEN TOWING FROM REAR WHEELS, ENGAGE PARKING BRAKE AND PLACE IN NEUTRAL GEAR.

WARNING

USE TIE-DOWN STRAPS AND SAFETY CHAINS ON ALL TOWING AND LIFTING APPLICATIONS.

4A.4 TIE-DOWN STRAP PROCEDURES

(a) Using the Boom "UP/DOWN" Control, raise the vehicle to the desired towing height, leaving suitable rear clearance. Fasten Tie Down Strap Assembly to each tire as described below.

CAUTION

MAKE NO ATTEMPT TO USE THE FOLD FEATURE OF THE UNDERLIFT BOOM TO RAISE OR PICK UP A LOAD. THE UNDERLIFT BOOM WILL NOT HOLD, BUT WILL LEAK DOWN.

(b) Refer to Figure 4A.8. Step (1). Attach the Tie Down Strap to eye in tow hook on crossbar.

Step (2). Hook delta ring to outer hook on crossbar.

4A.4 TIE-DOWN STRAP PROCEDURES (cont'd)

Step (3). Bring strap up and over the tire.

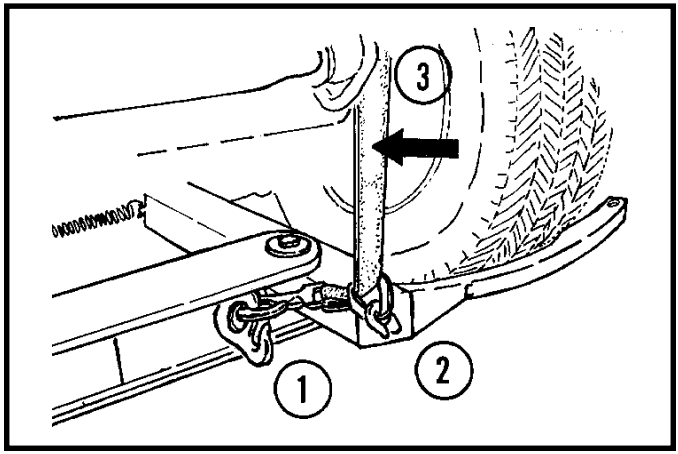


FIGURE 4A.8

(c) Refer to Figure 4A.9. Step (4). Hook ratchet to hole in claw tip.

Step (5). Pull out slack and ratchet strap tight.

Step (6). Tie back excess strap.

Section IVA- OPERATING INSTRUCTIONS
WHEEL LIFT (cont'd)

4A.4 TIE-DOWN STRAP PROCEDURES (cont'd)

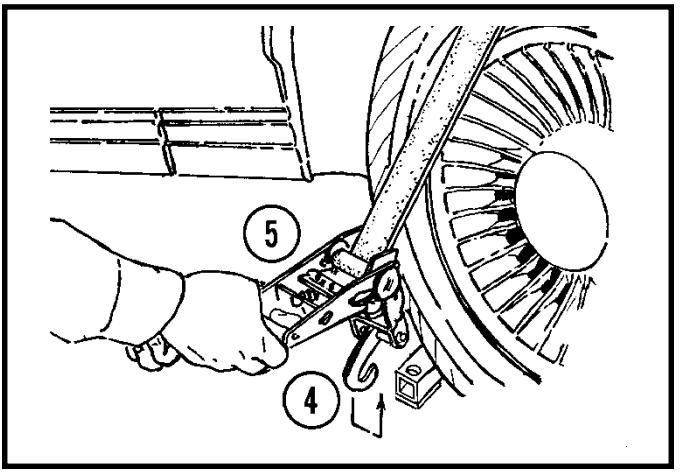


FIGURE 4A.9

NOTE
DO NOT START WITH STRAP WOUND AROUND THE RATCHET DRUM. ALWAYS PULL OUT SLACK BEFORE RATCHETING.

(d) To ensure proper tightness, grasp tie down strap and shake. Re-tighten ratchet as required. See Figure 4A.10.

Section IVA - OPERATING INSTRUCTIONS
WHEEL LIFT (cont'd)

4A.4 TIE-DOWN STRAP PROCEDURES (cont'd)

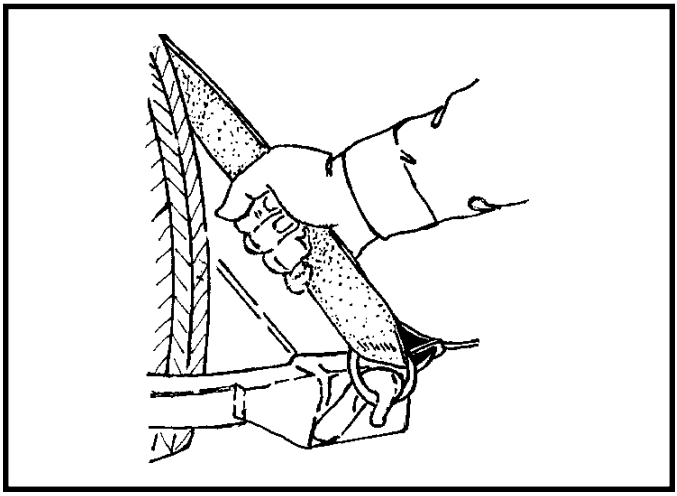


FIGURE 4A.10

(e) With vehicle raised to proper height for towing, retract wheel lift stinger, bringing vehicle in as close as possible to rear of wrecker body while still maintaining a safe turning radius.

(f) Attach safety chains. ICC regulations require that safety chains be used at all times during towing operations.

WARNING

USE SAFETY CHAINS ON ALL TOWING AND LIFTING APPLICATIONS

Section IVA - OPERATING INSTRUCTIONS
WHEEL LIFT (cont'd)

4A.5 SAFETY CHAIN HOOK-UP PROCEDURES

(a) Extend free end of chain from storage caddy. See Figure 4A.11.

FIGURE 4A.11

(b) Loop free end of chain around crossbar and attach to vehicle to be towed. See Figures 4A.12.

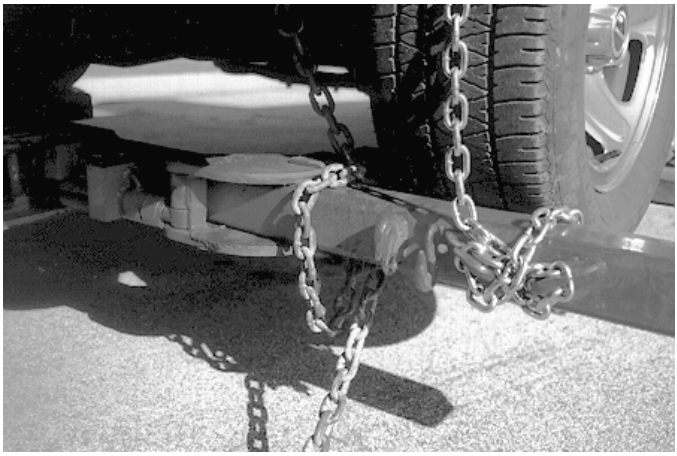


FIGURE 4A.12

Section IVA - OPERATING INSTRUCTIONS
WHEEL LIFT (cont'd)

4A.5 SAFETY CHAIN HOOK-UP PROCEDURES (cont'd)

(c) The following are some suggested vehicle hook-ups for safety chains. See Figures 4A.13 thru 4A.16 or consult "AAA" towing manual.

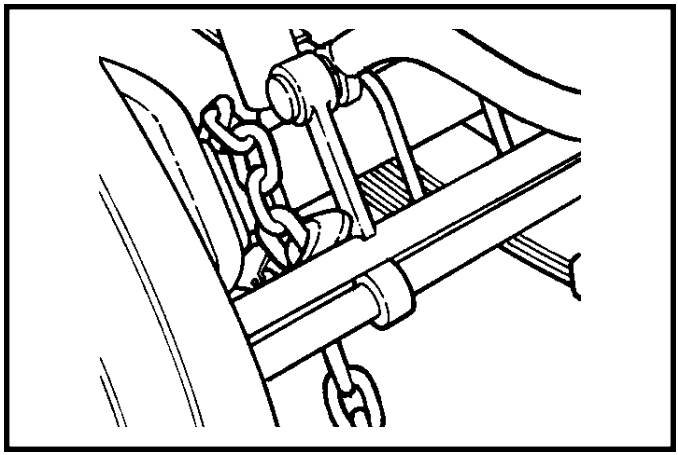


FIGURE 4A.13

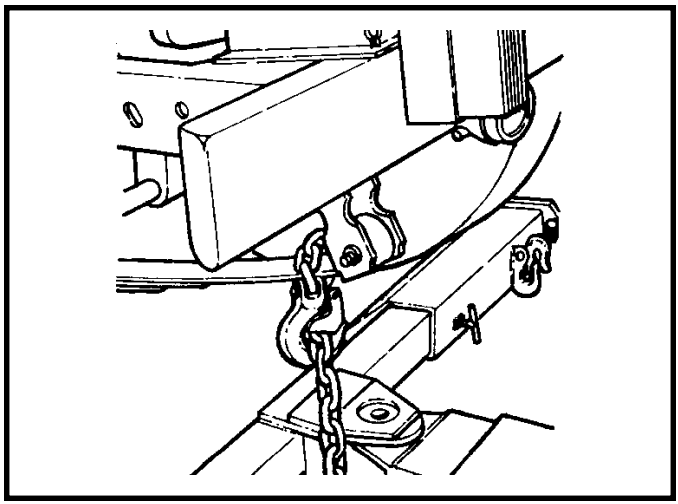


FIGURE 4A.14

Section IVA - OPERATING INSTRUCTIONS
WHEEL LIFT (cont'd)

4A.5 SAFETY CHAIN HOOK-UP PROCEDURES (cont'd)

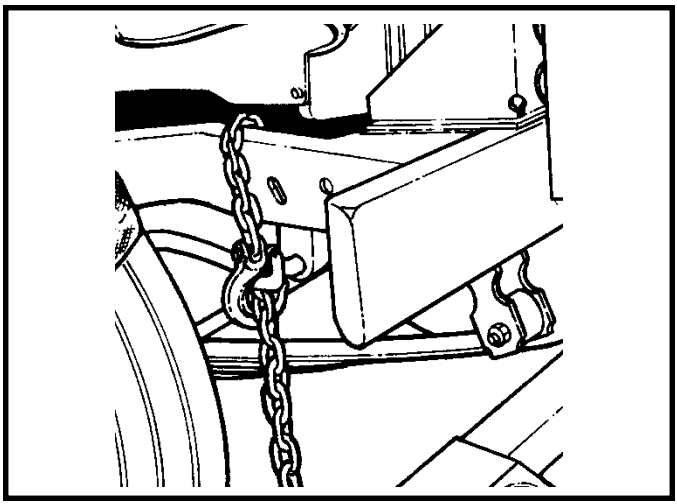


FIGURE 4A.15

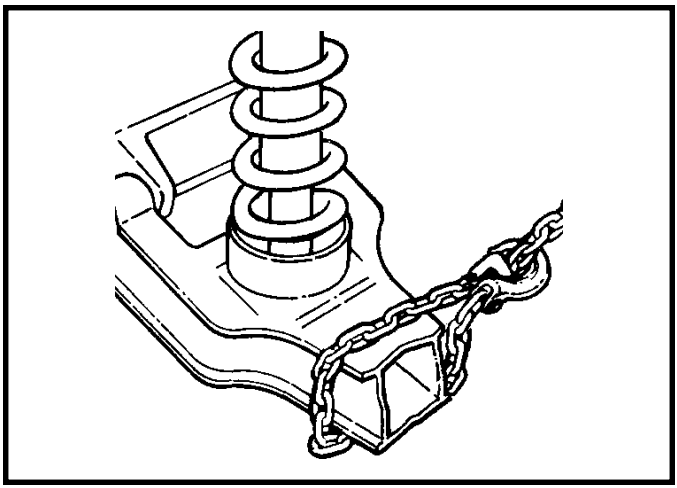


FIGURE 4A.16

4A.5 SAFETY CHAIN HOOK-UP PROCEDURES (cont'd)

(d) After attaching the safety chains to the vehicle, pull the chain tight under the crossbar and seat chain firmly in the innermost hook welded to the front of the crossbar. See Figure 4A.17.

FIGURE 4A.17

(e) Pull chain tight around the crossbar and seat chain firmly in the second hook. See Figure 4A.18.

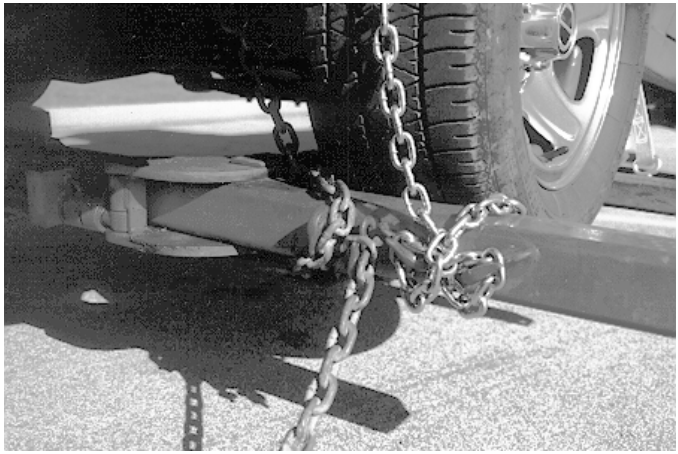


FIGURE 4A.18

Section IVA - OPERATING INSTRUCTIONS
WHEEL LIFT (cont'd)

4A.5 SAFETY CHAIN HOOK-UP PROCEDURES (cont'd)

(f) Pull excess chain back to the storage caddy. While holding chain securely, feed any excess chain back into the storage caddy until the chain is even with the bottom of the tailgate. See Figure 4A.19.

FIGURE 4A.19

CAUTION

MAKE SURE THAT CHAIN LINKS ARE FIXED SECURELY IN CHAIN CADDY "KEYHOLE" SLOTS.

(g) Raise vehicle to desired height for towing. Retract boom pulling disabled vehicle as close as possible to the wrecker body while maintaining enough clearance for turns. See Figure 4A.20.

Section IVA - OPERATING INSTRUCTIONS
WHEEL LIFT (cont'd)

4A.5 SAFETY CHAIN HOOK-UP PROCEDURES (cont'd)

FIGURE 4A.20

(h) Give hook-up a final check and disengage hydraulic pump by switching PTO switch to OFF position before commencing towing operations.

NOTE
WHEN GOING OVER CURBS AND INTO TIGHT AREAS, BOOM CAN BE RAISED BY REMOTE CONTROL TO CLEAR.

STINGER CAN BE EXTENDED (LIMITED BY SAFETY CHAINS) TO GIVE ADDITIONAL TURNING ABILITY.

CURBS SHOULD BE CROSSED AT A 45 DEGREE ANGLE.

WARNING

WHEN TOWING FROM REAR AXLES, SECURE STEERING WHEEL OF VEHICLE. DO NOT RELY ON THE STEERING WHEEL LOCKING DEVICE.

Section IVA - OPERATING INSTRUCTIONS
WHEEL LIFT (cont'd)

4A.5 SAFETY CHAIN HOOK-UP PROCEDURES (cont'd)

DO NOT TOW ON DRIVE WHEELS FOR MORE THAN 40 MILES. USE DOLLIES OR TOW FROM DRIVE WHEELS.

DO NOT EXCEED 50 M.P.H. WHEN TOWING ON DRIVE WHEELS. FAILURE TO DO SO MAY RESULT IN TRANSMISSION AND/OR DRIVE LINE DAMAGE TO TOWED VEHICLE. CONSULT VEHICLE MANUFACTURER.

DO NOT DISENGAGE PARKING BRAKE OR TAKE VEHICLE OUT OF GEAR UNLESS VEHICLE IS SECURED TO TOW TRUCK.

DO NOT LEAVE VEHICLE UNATTENDED OR UNATTACHED UNLESS IT IS IN GEAR WITH PARKING BRAKE ENGAGED.

Section IVA - OPERATING INSTRUCTIONS WHEEL LIFT (cont'd)

4A.6 SAFETY CHECK PROCEDURES

(a) In the event of a sudden stop, follow the procedures below, for reasons of safety in towing.

1. Pull off the roadway and check safety straps to make certain they are tightened securely.

2. If safety straps are loose, lower the wheel lift to the ground, letting the tires realign in the crossbar. Raise the Wheel Lift and tighten the safety straps securely.

4A.7 RELEASING TOWED VEHICLE

(a) Apply towed vehicle parking brake, remove safety straps and safety chains from vehicle.

(b) Lower wheel lift until vehicle wheels are on the ground.

(b) Disengage claws by using the CLAW "OPEN/CLOSE" Control. Ensure that both claws have fully released both tires before proceeding.

(c) Drive wrecker forward until wheel lift crossbar and claws are clear of vehicle. Raise boom slightly if crossbar is dragging ground.

(d) Using appropriate controls, retract wheel lift boom and raise wheel lift to the fold position.

(e) Raise wrecker boom to obtain sufficient clearance between wheel lift and ground when driving. Disengage hydraulic pump by switching PTO switch to OFF position.

NOTES

Section V - MAINTENANCE

5.1 The continued operation of your MILLER Express Wrecker is largely dependent upon strict adherence to a properly scheduled preventive maintenance program. To help you in this program, MILLER has provided the following information regarding lubrication, preventive maintenance, hydraulic system and safety devices care.

5.2 HYDRAULIC SYSTEM

The importance of absolute cleanliness of the hydraulic system cannot be over stressed. The smallest amount of grit, metal flake or other foreign material in the system can cause extensive damage to pumps, motors and valves. MILLER has taken every measure to assure that each component and fitting was thoroughly cleaned before your unit was shipped to you. Therefore, servicing of the system should be done with extreme care.

(a) Before checking oil level in reservoir, wipe away all dirt, grease and grime around filter cap before removing it. Make certain that all containers, funnels and pouring spouts are absolutely clean before filling reservoir.

(b) When replacing hoses, fittings or other components, clean thoroughly, dismantle and reassemble carefully.

(c) Failure to observe these precautions, and failure to change the filter element at regular intervals could result in loss of your warranty in the event of failure to certain components.

5.3 LUBRICATION & PREVENTIVE MAINTENANCE

The following general lubrication and preventive maintenance should be performed at least once per month for moderate usage, or more often as required, for heavy usage.

(a) Inspect, repair or replace any worn, cracked, leaking, otherwise damaged components including, but not limited to, the following:

1. **Hydraulic hoses and fittings.**
2. **Cable and fittings.**
3. **Cylinders.**
4. **Boom-end fitting.**

Section V - MAINTENANCE (cont'd)

5.3 LUBRICATION & PREVENTIVE MAINTENANCE (cont'd)

5. **Controls.**
6. **Hydraulic oil filter.**
7. **Oil reservior.**
8. **Lights and wiring.**
9. **Winch.**
10. **Pivot bearing surfaces and pins.**

(See Lubrication Charts, page V-4 & V-5.)

(b) Check hydraulic oil level in reservoir and fill to 1/2" (inch) above bottom of screen in filler neck. Refer to 5.4, part (a), SUMMARY OF REQUIRED LUBRICANTS for recommended oils to use.

(c) Replace hydraulic oil filters after first week of operation, then every three (3) months thereafter.

(d) Inspect all bolts for tightness and re-tighten as necessary. Vibration and stress may loosen even properly torqued bolts.

(e) Lubricate all grease fittings on the Wrecker and Wheel Lift including:

1. **Winch**
2. **Cylinder Pivot Bearings**
3. **Cross Bar Pivot**
4. **Boom Slide Pads**
5. **Boom End Swivel**

(f) All bearing surfaces not equipped with grease fittings should be oiled using SAE 30 oil in a pump can.

(g) Check oil level of winches and fill to proper level, level plug on end plates, with SAE 140 general purpose gear oil.

(h) Lubricate grease fitting on winch freespool clutch control.

(i) Lubricate winch cables using an oily rag while respooling onto drum. Other special cable lubricants are available which have better penetrating qualities. Consult your local oil company for a list of these.

Section V - MAINTENANCE (cont'd)

5.4 SUMMARY OF REQUIRED LUBRICANTS

(a) **Hydraulic Oil** - DEXRON III w/MERCON

(b) **Winch Worm Gear Oil** - SAE 140 general purpose gear oil.

Examples:

1. **Humble - Pen-O-Led EP #5**
2. **Phillips - Phillips Worm Gear Oil 140**
3. **Shell - Macona #978**
4. **Sinclair - Pennant EP #6**
5. **Standard - Stanogear #5**
6. **Texaco - Maropa #5**

(c) **Grease** - Synthetic Fortified such as Drydene SFG.

(d) **Oil for miscellaneous bearing surfaces** - SAE 30.

(e) **Cable Oil** - SAE 30 or special cable lubricant.

NOTE

THERE IS NO PRACTICAL WAY TO DETERMINE THE LIFE EXPECTANCY OF HYDRAULIC HOSES AND OTHER RUBBER COMPONENTS.

WHILE APPEARING TO BE IN EXCELLENT CONDITION, THESE COMPONENTS MAY BE ADVERSELY AFFECTED BY USAGE, WEATHER OR THE PASSING OF TIME.

THEREFORE, IT IS RECOMMENDED THAT ALL RUBBER COMPONENTS, ESPECIALLY HOSES, BE REPLACED EVERY FIVE (5) YEARS REGARDLESS OF APPEARANCE.

Section V - MAINTENANCE (cont'd)

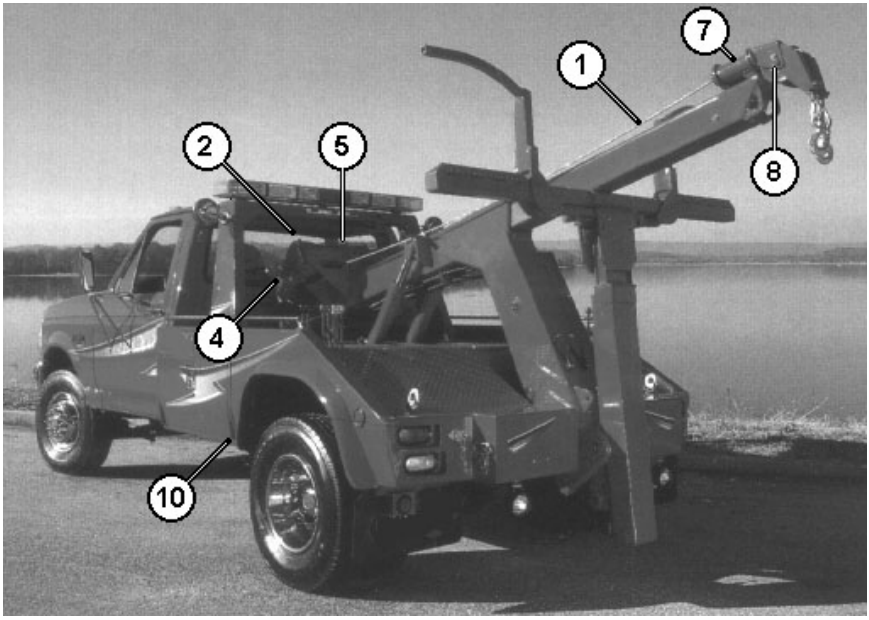
5.5 LUBRICATION

1. Cable -Use oil or approved cable lubricant.
2. Winch Oil Level - Fill to oil plug level inside of housing with SAE 140 general purpose gear oil.
3. Cylinder Pivot Bearings - GP Grease.
4. Winch Coupling Control - GP Grease.
5. Hydraulic Reservoir - Fill to 1/2" (inch) above bottom of screen in filler neck.
6. Hydraulic Filter - Replace after first week of operation then every three (3) months.
7. Boom End Swivel - GP Grease.
8. Sheave - GP Grease.
9. Boom Shaft Pivot - GP Grease.
10. Compartment Door Pivots - Use SAE 30 Oil.
11. Underlift Pivots and Slide Pads - Drydene SFG or equivalent.

NOTE
THE ABOVE SERVICE REQUIREMENTS SHOULD BE SERVICED MONTHLY. SERVICE MORE OFTEN IF THE EQUIPMENT IS USED FREQUENTLY.

Section V - MAINTENANCE (cont'd)

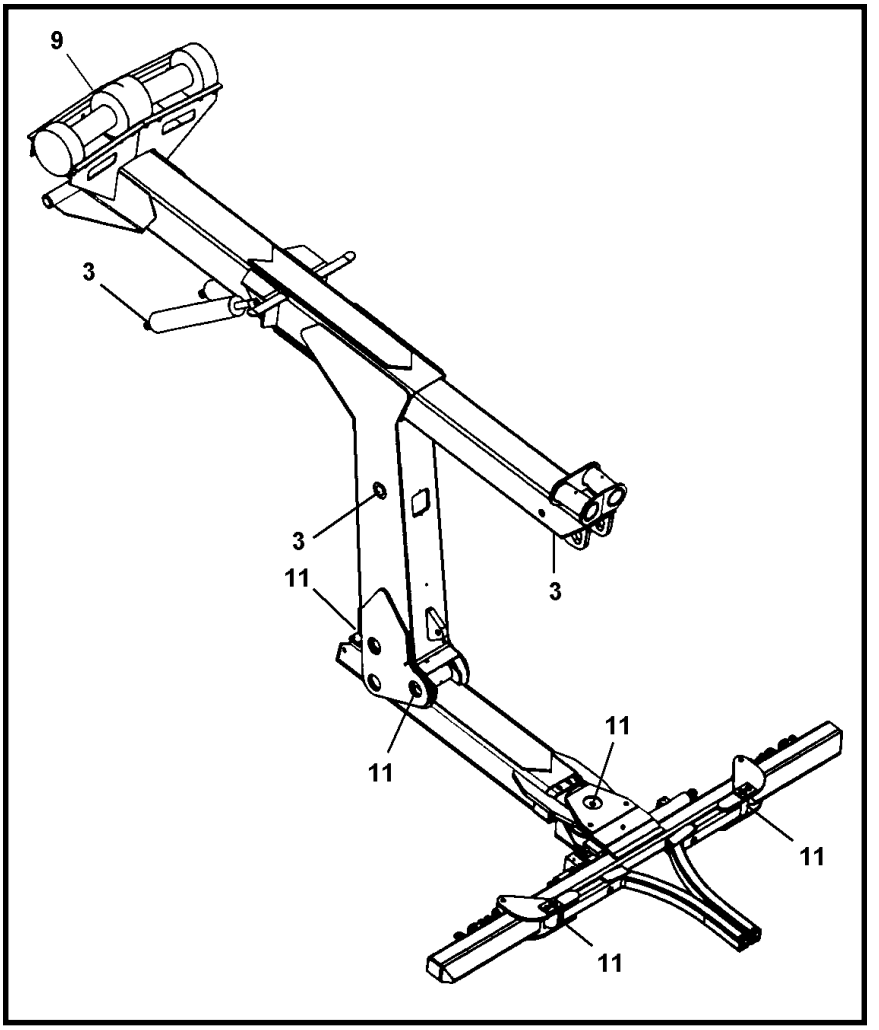
5.6 LUBRICATION (cont'd)



LUBRICATION CHART - WRECKER
SEE PAGE V-4 FOR LUBRICATION INFORMATION.

Section V - MAINTENANCE (cont'd)

5.6 LUBRICATION (cont'd)



LUBRICATION CHART - WHEEL LIFT
SEE PAGE V-4 FOR LUBRICATION INFORMATION.

Section V - MAINTENANCE (cont'd)
MAINTENANCE RECORD

DATE	MECHANIC	WEEKLY*	MONTHLY	QUARTERLY	SERVICE PERFORMED

*IMPORTANT: HYDRAULIC HOSES AND CABLES SHOULD BE INSPECTED WEEKLY FOR SIGNS OF ABRASION.

Section V - MAINTENANCE (cont'd)
MAINTENANCE RECORD

DATE	MECHANIC	WEEKLY*	MONTHLY	QUARTERLY	SERVICE PERFORMED

*IMPORTANT: HYDRAULIC HOSES AND CABLES SHOULD BE INSPECTED WEEKLY FOR SIGNS OF ABRASION.

Section V - MAINTENANCE (cont'd)
MAINTENANCE RECORD

DATE	MECHANIC	WEEKLY*	MONTHLY	QUARTERLY	SERVICE PERFORMED

*IMPORTANT: HYDRAULIC HOSES AND CABLES SHOULD BE INSPECTED WEEKLY FOR SIGNS OF ABRASION.

NOTES

Section VI - PARTS

This Section is provided by the manufacturer for the purpose of ordering any component part of the **MILLER Express Wrecker** that may be required when part replacement is necessary. Be certain to use only original equipment replacement parts for warranty purposes as well as for keeping your **MILLER Express Wrecker** in its original state and optimum operating capacities.

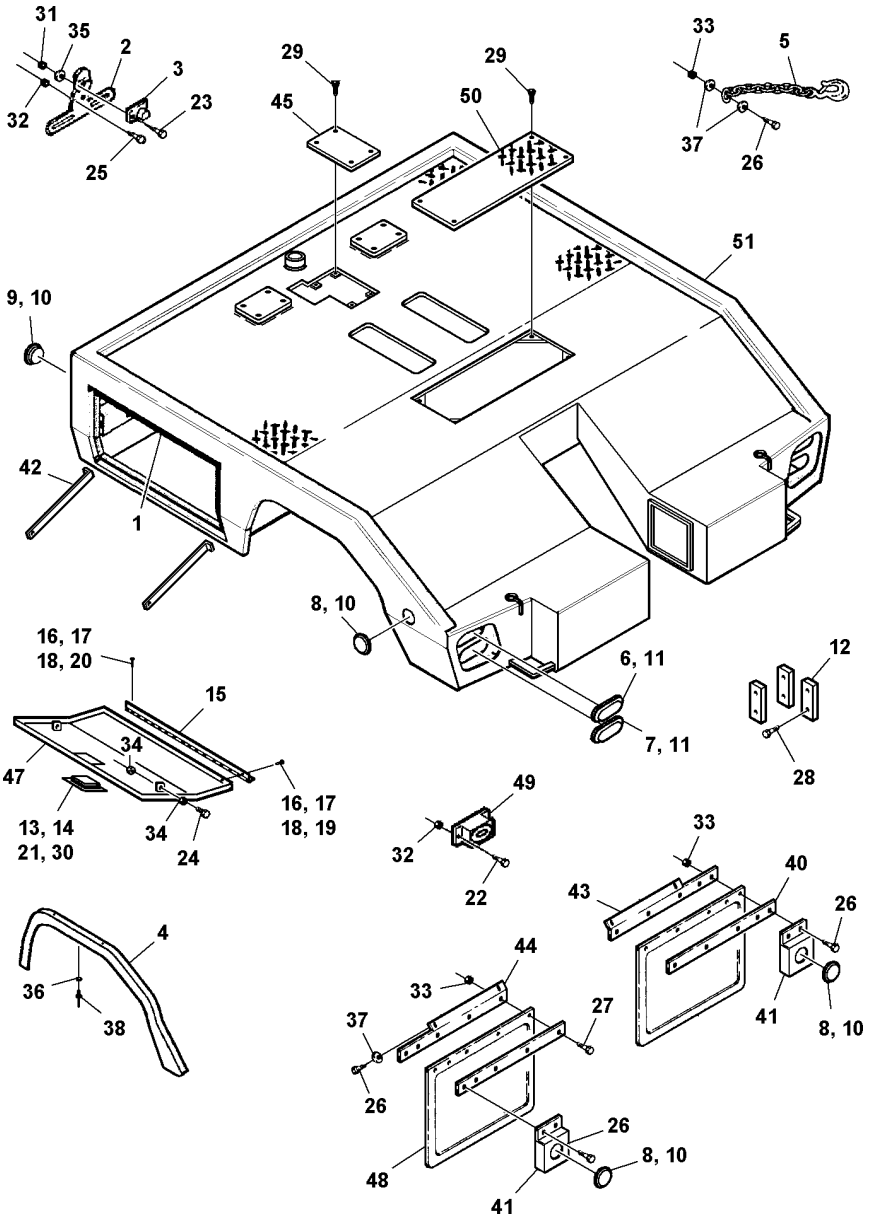
When ordering replacement or spare parts be sure to provide the following information to the manufacturer's **Parts Department**.

1. **Manual Number & Date of Publication**
2. **Manual Page Number**
3. **Page Title**
4. **Reference Number of Part Desired**
5. **Part Number**
6. **Part Description**
7. **Quantity of Part Desired**

Providing this information will help ensure that the correct parts will be delivered to you in an expedient manner without delay. Should additional information be required for repair or replacement of certain components, contact your Wrecker Manufacturer Authorized Representative.

The Manufacturer reserves the right, without notice or obligation, to improve or modify their products, which may change the specifications, models and feature availability.

Section VI - PARTS (cont'd)
BODY ASSEMBLY

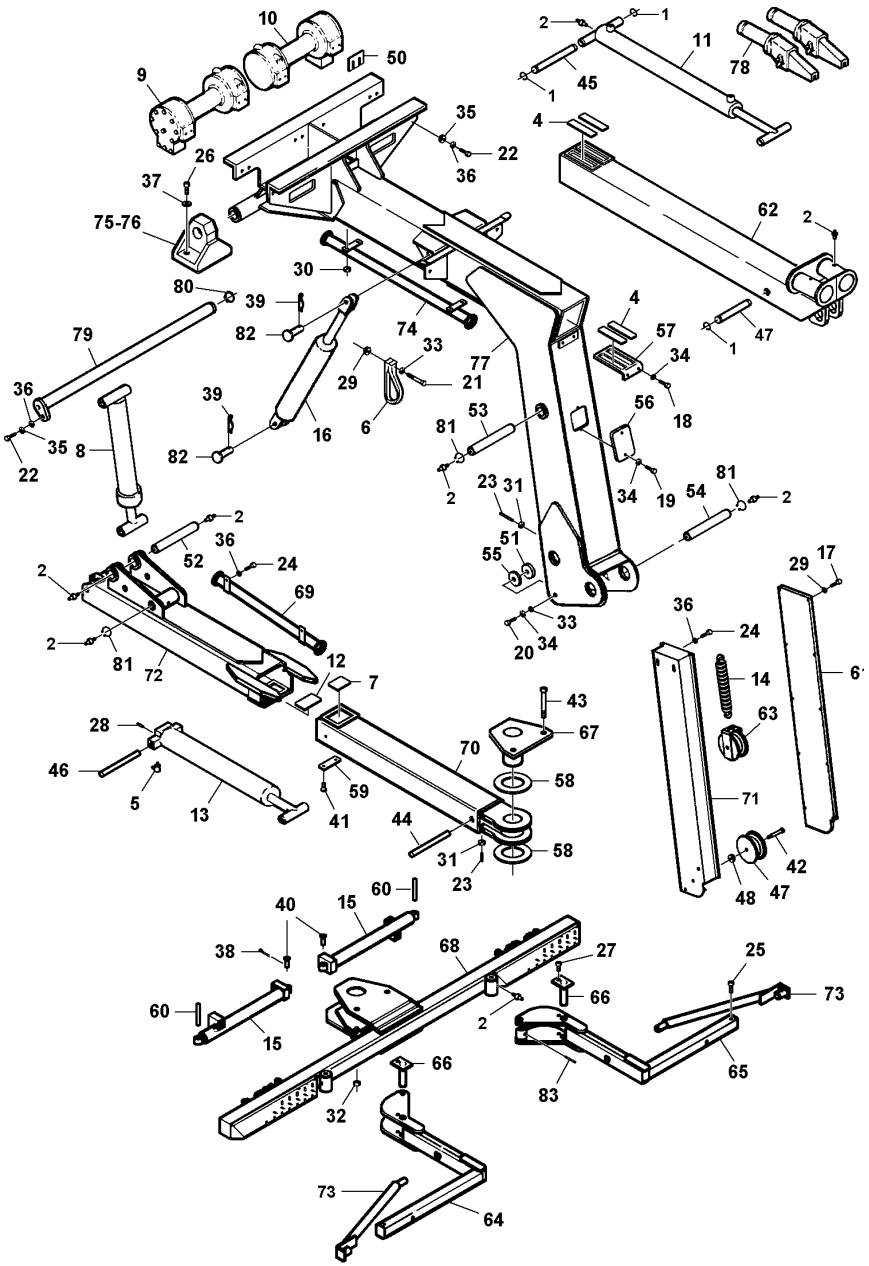


Section VI - PARTS (cont'd)
BODY ASSEMBLY

REF. NO.	NO. REQ'D	PART NUMBER	DESCRIPTION
1	1	0300028	STRIKER, TOOL COMPARTMENT
2	1	0300076	LICENSE PLATE BRACKET
3	1	0300273	LICENSE PLATE ILLUMINATOR
4	12 FT	0300345	RUBBER FENDER
5	2	0301932	SAFETY CHAIN, 5/16" HT x 12'
6	2	0303123	LIGHT, RED STOP & TURN
7	2	0303124	LIGHT, CLEAR BACKUP
8	4	0303125	MARKER, SEALED RED
9	2	0303126	MARKER, SEALED AMBER
10	6	0303127	GROMMET, MARKER LIGHT
11	4	0303128	GROMMET, TAIL LIGHT
12	3	0303481	SLIDE PAD, BUMPER
13	1	0303597	ROTARY PADDLE LATCH
14	1	0303598	GASKET, ROTARY PADDLE LATCH
15	2	0303690	PIANO HINGE
16	32	0400011	WASHER, #8 FLAT SS
17	32	0400012	LOCKWASHER, #8 HELICAL SS
18	32	0400013	NUT, #8-32 HEX SS
19	16	0400015	SCREW, #8-32 X 1/2" FL HD PH SS
20	16	0400016	SCREW, #8-32 X 1" FL HD PH SS
21	4	0400021	SCREW, #8-32 X 1/2" RD HD
22	2	0400057	SCREW, 1/4"-20 X 1-1/4" HEX HD CAP
23	2	0400061	SCREW, 1/4"-20 X 3/4" PAN HD
24	8	0400066	SCREW, 1/4"-20 X 3/4" HEX HD CAP
25	2	0400070	SCREW, 1/4"-20 X 1" HEX HD CAP
26	10	0400122	SCREW, 3/8"-16 X 1-1/4" HEX HD CAP GR5 ZP

REF. NO.	NO. REQ'D	PART NUMBER	DESCRIPTION
27	6	0400126	SCREW, 3/8"-16 X 1" HEX HD CAP GR5 ZP
28	6	0400223	SCREW, 3/8"-16 X 7/8" FL SKT HD
29	8	0400233	SCREW, 5/16"-18 X 1/2" HEX HD CAP GR5 ZP
30	4	0400351	NUT, #8-32 KEPS
31	2	0400366	NUT, 1/4"-20 HEX
32	4	0400367	NUT, 1/4"-20 HEX NYLOK
33	17	0400392	NUT, 3/8"-16 HEX NYLOK
34	4	0400451	WASHER, 1/4" FLAT
35	4	0400452	LOCKWASHER, 1/4" HELICAL
36	40	0400453	WASHER, 1/4" FLAT
37	12	0400480	WASHER, 3/8" FLAT
38	36	0400566	RIVET, 1/4"
39	1	0703792	MIRACLE SEAL, 3/4" x 1/8" x 100" (NOT SHOWN)
40	2	0705092	BAR, MUD FLAP
41	2	0710198	BRACKET, MARKER LIGHT
42	4	0713003	RETAINING BAR
43	1	0708809	MUD FLAP MOUNTING ANGLE, RIGHT
44	1	0708810	MUD FLAP MOUNTING ANGLE, LEFT
45	1	0708931	ACCESS COVER
46	1	0710127	JUNCTION BOX COVER (NOT SHOWN)
47	2	0803687	DOOR, TOOL BOX
48	2	12833014	MUD FLAP
49	1	12833020	BACK UP ALARM
50	1	12837008	VALVE COVER
51	1	12838003	BODY WELDMENT
52	1	124002344	LIGHT PYLON (NOT SHOWN)
53	2	AWS-1000-A	TIE DOWN STRAP ASSEMBLY (NOT SHOWN)

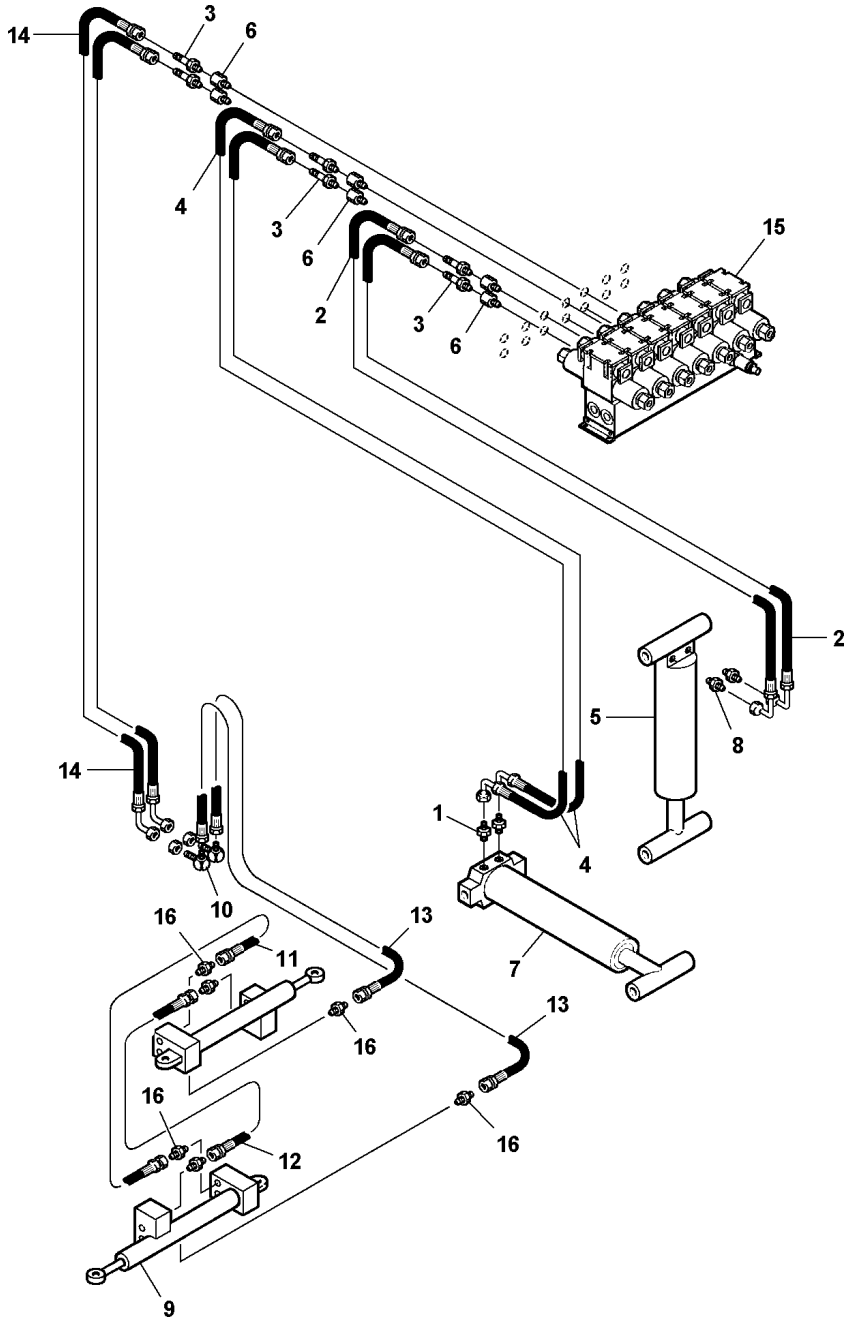
Section VI - PARTS (cont'd)
BOOM ASSEMBLY



BOOM ASSEMBLY

REF. NO.	NO. REQ'D	PART NUMBER	DESCRIPTION
1	4	0300110	SNAP RING, 1"
2	14	0300113	GREASE FITTING
3	2	0300219	WIRE ROPE (NOT SHOWN)
4	4	0300679	BEARING PAD, NYLATRON
5	2	0301397	GREASE FITTING, 90°
6	2	0301533	STRAP, 15" TIE DOWN
7	1	0301850	SLIDE PAD, NYLATRON
8	REF.	0302919	CYLINDER, UNDERLIFT FOLD
9	1	0302936	WINCH ASS'Y, RAMSEY HY246 RIGHT
10	1	0302937	WINCH ASS'Y, RAMSEY HY246 LEFT
11	REF.	0302948	CYLINDER, BOOM EXTEND
12	1	0303018	SLIDE PAD, NYLATRON
13	REF.	0303020	CYLINDER, EXTEND
14	1	0303521	SPRING, HOSE TENSION
15	REF.	0303844	CYLINDER, SWING L-ARM
16	REF.	0303992	CYLINDER, BOOM ELEVATION
17	10	0400059	SCREW, 1/4"-20 X 5/8" HEX HD CAP GR5 ZP
18	2	0400060	SCREW, 1/4"-20 X 1/2" HEX HD CAP GR5 ZP
19	2	0400066	SCREW, 1/4"-20 X 3/4" HEX HD CAP GR5 ZP
20	2	0400070	SCREW, 1/4"-20 X 1" HEX HD CAP GR5 ZP
21	2	0400078	SCREW, 1/4"-20 X 2" HEX HD CAP GR5 ZP
22	15	0400122	SCREW, 3/8"-16 X 1-1/2" HEX HD CAP GR5 ZP
23	2	0400139	SCREW, 3/8"-16 X 1-1/2" HEX SKT SET
24	6	0400154	SCREW, 3/8"-16 X 1/2" HEX HD CAP GR5 ZP
25	2	0400181	SCREW, 1/2"-13 X 1-1/2" HEX HD CAP GR5 ZP
26	8	0400249	SCREW, 5/8"-11 X 1-1/4" SKT HD CAP
27	2	0400349	SCREW, 3/8"-16 X 3/4" FL SKT HD
28	1	0400353	SCREW, 3/8" X 1/2" ALLEN HD SET
29	12	0400367	NUT, 1/4"-20 HEX NYLOK
30	5	0400392	NUT, 3/8"-16 HEX NYLOK ZP
31	2	0400398	NUT, 3/8"-16 HEX NYLOK HALF ZP
32	2	0400426	NUT, 5/8"-11 HEX NYLOK GR8
33	4	0400451	WASHER, 1/4" FLAT
34	8	0400452	LOCKWASHER, 1/4" HELICAL ZP
35	15	0400480	WASHER, 3/8" FLAT
36	19	0400482	LOCKWASHER, 3/8" HELICAL ZP
37	8	0400508	LOCKWASHER, 5/8" HELICAL ZP
38	2	0400546	COTTER PIN, 1/8" X 1-1/4"
39	4	0400586	HITCH PIN, #2
40	2	0400590	CLEVIS PIN, 5/8" X 1-1/4"
41	2	0400593	SCREW, 1/4"-20 X 1/2" FL SKT HD
42	1	0400635	SCREW, 1/2" X 2-1/2" SHOULDER X 3/8"-16
43	2	0400637	SCREW, 5/8"-11 X 5-1/2" HEX HD CAP GR8 ZP
44	1	0702131	SHAFT, INNER TUBE CYLINDER
45	1	0703082	PIN, EXTEND CYLINDER PIVOT
46	1	0703345	SHAFT, EXTEND CYLINDER
47	1	0703484	PULLY, HOSE TENSION
48	1	0703488	WASHER, HOSE TENSION PULLEY
49	1	0705499	SHAFT, BOOM CYLINDER
50	4	0706668	SHIM, WINCH MOUNTING
51	2	0708406	GUIDE PAD
52	1	0708407	SHAFT, LOWER-TILT CYLINDER
53	1	0708408	SHAFT, UPPER-TILT CYLINDER
54	1	0708409	SHAFT, BOOM PIVOT
55	6	0708410	SHIM, GUIDE PAD
56	1	0708519	PLATE, COVER-BOOM UPPER
57	1	0708570	PAD RETAINER, BOLT-ON
58	2	0710092	WASHER, THRUST
59	1	0711334	STOP PAD
60	2	0713885	CYLINDER PIN, L-ARM END
61	1	0713937	COVER, HOSE TENSION TRACK
62	1	0802553	WRECKER INNER BOOM WELDMENT
63	1	0803135	BRACKET WELDMENT, HOSE TENSION PULLEY
64	1	0803911	L-ARM WELDMENT, LEFT
65	1	0803912	L-ARM WELDMENT, RIGHT
66	2	0803915	PIN WELDMENT, SWING L-ARM
67	1	0803916	PIVOT PIN WELDMENT
68	1	0803917	CROSSBAR WELDMENT
69	1	0803919	HOSE TUBE WELDMENT
70	1	0803928	INNER BOOM WELDMENT
71	1	0803936	HOSE TENSION TRACK WELDMENT
72	1	0803942	OUTER BOOM WELDMENT-UNDERLIFT
73	2	0803949	TIRE ADAPTER WELDMENT
74	1	0803957	BOOM HOSE TUBE WELDMENT
75	1	0804168	TRUNION PIVOT WELDMENT, LEFT
76	1	0804169	TRUNION PIVOT WELDMENT, RIGHT
77	1	0804265	MAIN BOOM WELDMENT
78	2	0900007	BOOM END SWIVEL ASSEMBLY
79	1	805350500	SHAFT WELDMENT
80	1	9056150	RETAINING RING, 1-1/2"
81	4	AWS-3022-A	SNAP RING
82	4	BK-518	CLEVIS PIN, BOOM CYLINDER
83	2	HD0106	SPRING PIN, 1/4" X 1-3/4" ZP

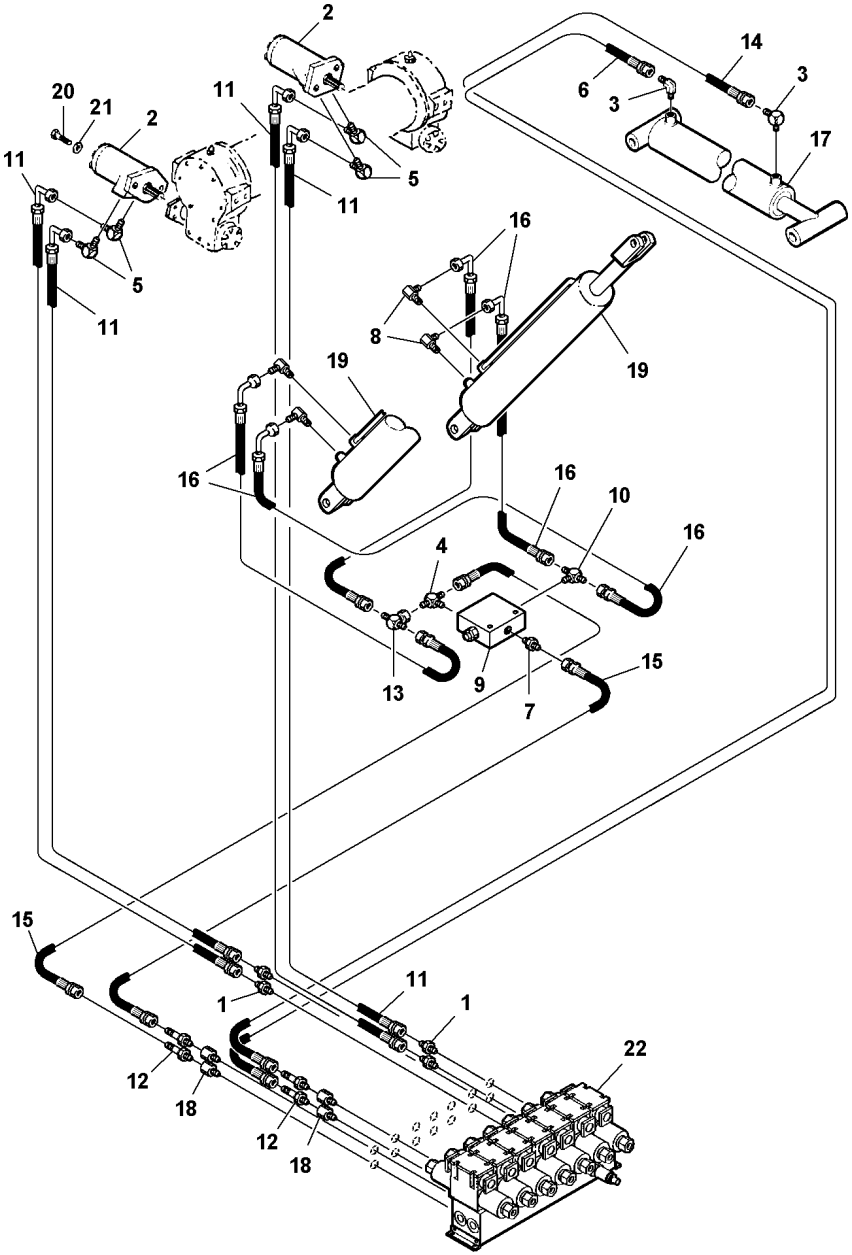
Section VI - PARTS (cont'd)
WHEEL LIFT HYDRAULICS



Section VI - PARTS (cont'd)
WHEEL LIFT HYDRAULICS

REF. NO.	NO. REQ'D	PART NUMBER	DESCRIPTION
1	2	0301522	CONNECTOR, 6MJ-6MB
2	2	0301737	HOSE ASSEMBLY, 128"
3	6	0302510	CONNECTOR, 6MJ-6MBL
4	2	0302532	HOSE ASSEMBLY, 170"
5	1	0302919	FOLD CYLINDER
6	6	0303017	CONNECTOR, 8MB-6FB
7	1	0303020	EXTEND CYLINDER
8	2	0300044	CONNECTOR, 6MJ-8MB
9	2	0303844	SWING ARM CYLINDER
10	2	0303858	ELBOW, 4MJ-BULKHEAD 90 W/ NUT
11	1	0303860	HOSE ASSEMBLY, 10"
12	1	0303861	HOSE ASSEMBLY, 17"
13	2	0303862	HOSE ASSEMBLY, 112"
14	2	0303863	HOSE ASSEMBLY, 170"
15	REF.	12833011	SOLENOID, 7 SPOOL
16	6	HC-1291	CONNECTOR, 4MJ-4MB

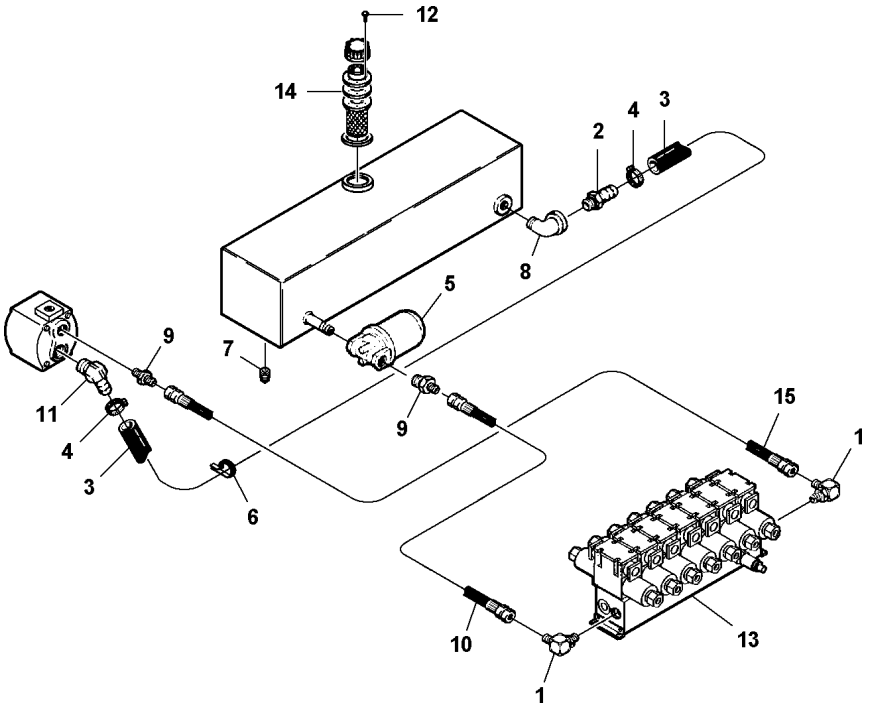
Section VI - PARTS (cont'd)
WRECKER HYDRAULICS



WRECKER HYDRAULICS

REF. NO.	NO. REQ'D	PART NUMBER	DESCRIPTION
1	4	0300041	CONNECTOR, 8MJ-8MB
2	2	0300090	HYDRAULIC MOTOR
3	2	0300142	ELBOW, 6MJ-4MP90
4	1	0300206	BRANCH TEE, 6MJ-6MJ-4MP
5	4	0300229	ELBOW, 8MJ-8MP90
6	1	0301403	HOSE ASSEMBLY, 80-1/2"
7	1	0301425	MALE CONNECTOR, 6MJ-6MP
8	4	0301620	ELBOW, 6MJ-6MB90
9	1	0301731	HOLDING VALVE
10	1	0301855	MALE TEE, 6MJ-6MJ-6MP
11	4	0301893	HOSE ASSEMBLY, 84"
12	4	0302510	CONNECTOR, 6MJ-6MBL
13	1	0302573	TEE, 6MJ-6MJ-6FJX
14	1	0302732	HOSE ASSEMBLY, 140"
15	2	0302814	HOSE ASSEMBLY, 32"
16	4	0302926	HOSE ASSEMBLY, 29"
17	1	0302948	BOOM EXTEND CYLINDER
18	4	0303017	CONNECTOR, 8MJ-6FB
19	2	0303992	BOOM ELEVATION CYLINDER
20	4	0400177	SCREW, 1/2"-13 X 1-1/4" HEX HD CAP
21	4	0400491	LOCKWASHER, 1/2" HELICAL
22	1	12833011	SOLENOID VAVLE, 7 SPOOL

Section VI - PARTS (cont'd)
PUMP, VALVE & RESERVOIR HYDRAULICS

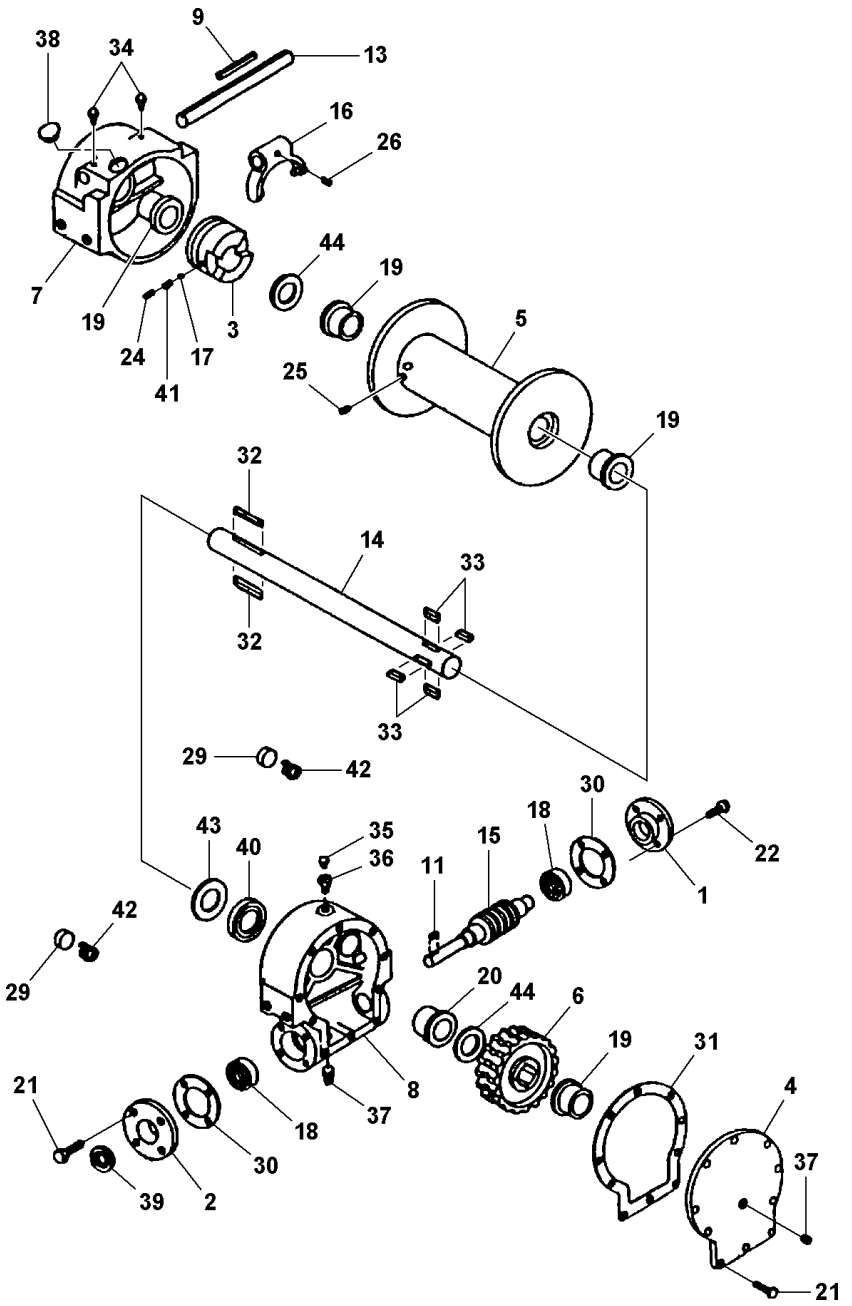


Section VI - PARTS (cont'd)
PUMP, VALVE & RESERVOIR HYDRAULICS

REF. NO.	NO. REQ'D	PART NUMBER	DESCRIPTION
1	2	0300052	ELBOW, 8MJ-10MB90
2	1	0300056	BARB, 16C4-16MP
3	11.5 FT	0300058	HOSE, 1" SUCTION
4	2	0300071	HOSE CLAMP, 1"
5	1	0300136	RETURN LINE FILTER ASSEMBLY
6	1	0300188	HOSE CLAMP, 1-1/2" INSULATED
7	1	0300446	PIPE PLUG, 3/4" MALE
8	1	0300692	STREET ELBOW, 1" 90°
9	2	0301391	CONNECTOR, 8MJ-12MP
10	1	0302304	HOSE ASSEMBLY, 42"
11	1	0306541	BARB, 16C4-20MP45
12	6	0400045	SCREW, #10-32 X 1/2" RD HD PHILLIPS
13	REF.	12833011	SOLENOID VALVE, 7 SPOOL
14	1	12833012	FILLER CAP ASSEMBLY
15	1	12833018	HOSE ASSEMBLY, 185"

Section VI - PARTS (cont'd)

WINCH ASSEMBLY - HY-246

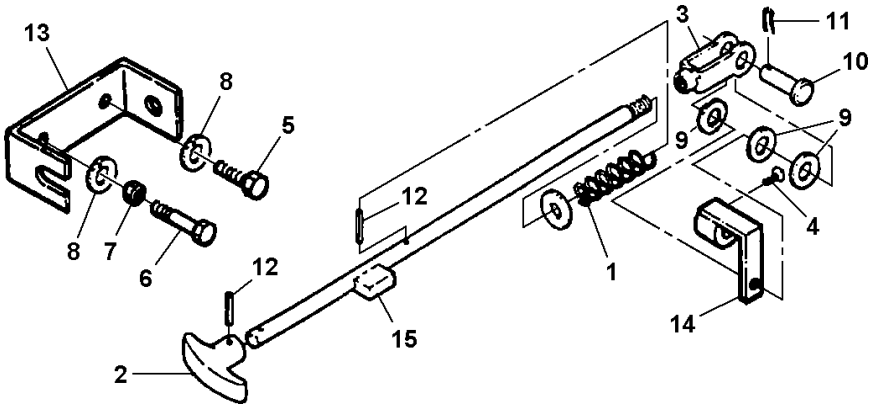


Section VI - PARTS (cont'd)
WINCH ASSEMBLY - HY-246

REF. NO.	NO. REQ'D	PART NUMBER	DESCRIPTION
1	1	316083	BEARING CAP
2	1	316084	BEARING CAP
3	1	324161	JAW CLUTCH
4	1	328134	COVER
5	1	332007	DRUM "Y"
6	1	334163	GEAR R.H. 46:1
	1	334164	GEAR L.H. 46:1
7	1	338003	HOUSING - CLUTCH
8	1	338273	HOUSING - GEAR
9	1	342018	KEY
10	1	342024	KEY
11	1	342027	KEY
12	1	344008	LEVER - SHIFTER
13	1	356902	SHAFT - SHIFTER
14	1	357480	SHAFT - DRUM "Y"
15	1	368002	WORM R.H. 46:1
	1	368009	WORM L.H. 46:1
16	1	370001	YOKE
17	1	400001	BALL - POPPET
18	2	402002	BEARING - BALL
19	4	412003	BUSHING
20	1	412045	BUSHING
21	10	414038	CAPSCREW 1/4-20 NC X 3/4 LG hX HD GR5
22	8	414045	CAPSCREW 1/4-20 NC X 7/8 LG HX HD GR5
23	4	414282	CAPSCREW 3/8-16NC X 3/4 LG HX HD GR5
24	1	416040	SET SCREW 1/4-20NC X 1-1/4 SOC HD LESS
25	1	416059	SET SCREW 3/8-16NC X 3/8 SOC HD LESS
26	1	416084	SET SCREW 1/4-20NC X 1/2 LG SQ HD
27	1	416109	SET SCREW 5/16-18NC X 1/2 LG SQ HD
28	4	418177	LOCK WASHER 3/8" MED SECT CP
29	2	438014	DRAG BRAKE
30	2	442184	GASKET
31	1	442205	GASKET
32	2	450006	KEY - BARTH
33	4	450016	KEY - BARTH
34	2	456006	FITTING - LUBE
35	1	456008	FITTING - RELIEF
36	1	468002	REDUCER
37	2	468011	PIPE PLUG
38	1	472013	PLASTIC PLUG
39	1	486009	OIL SEAL
40	1	486017	OIL SEAL
41	1	494001	SPRING - POPPET
42	2	494002	SPRING
43	1	518014	THRUST WASHER
44	2	518015	THRUST WASHER

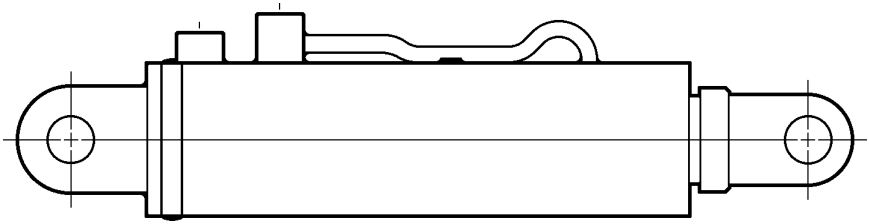
Section VI - PARTS (cont'd)
WINCH CLUTCH CONTROL

2 ASSEMBLIES REQ'D FOR DUAL WINCH WRECKER

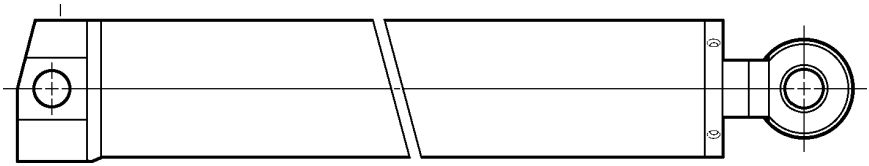


REF. NO.	NO. REQ'D	PART NUMBER	DESCRIPTION
1	1	0300845	SPRING, COMPRESSION
2	1	0301532	"T" HANDLE
3	1	0301588	ADJUSTING YOKE
4	1	0400116	SCREW, 5/16"-18 X 1/2" SQ HD SET
5	1	0400126	SCREW, 3/8"-16 X 1" HEX HD CAP
6	1	0400150	SCREW, 3/8"-16 X 2-1/2" HEX HD CAP
7	12	0400393	NUT, 3/8" - 16 HEX JAM
8	4	0400482	LOCKWASHER, 3/8" HELICAL
9	1	0400492	WASHER, 1/2" FLAT
10	1	0400537	CLEVIS PIN, 1/2" X 1-1/2"
11	2	0400546	COTTER PIN, 1/8" X 1-1/4"
12	1	0400560	ROLL PIN, 5/32" X 1"
13	1	0702408	MOUNTING CHANNEL
14	1	0800779	BELL CRANK WELDMENT
15	1	0802613	CONTROL ROD, SINGLE WINCH
	1	0802614	CONTROL ROD, DUAL WINCH

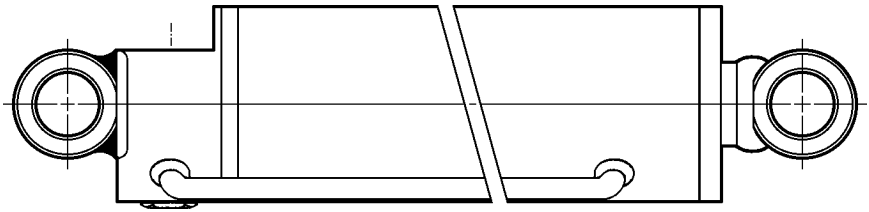
HYDRAULIC CYLINDERS



REF. NO.	NO. REQ'D	PART NUMBER	DESCRIPTION
1	2	0303992	BOOM ELEVATION CYLINDER (COMPLETE)
2	1	IT-97	SEAL KIT, BOOM ELEVATION CYLINDER

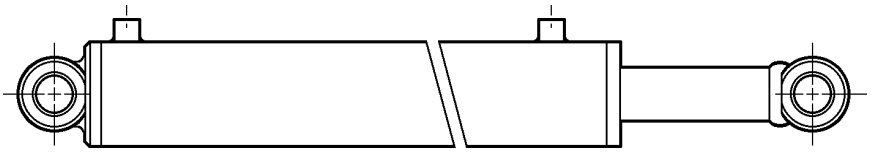


REF. NO.	NO. REQ'D	PART NUMBER	DESCRIPTION
1	1	0303020	UNDERLIFT EXTEND CYLINDER (COMPLETE)
2	1	0304086	SEAL KIT, UNDERLIFT EXTEND CYLINDER

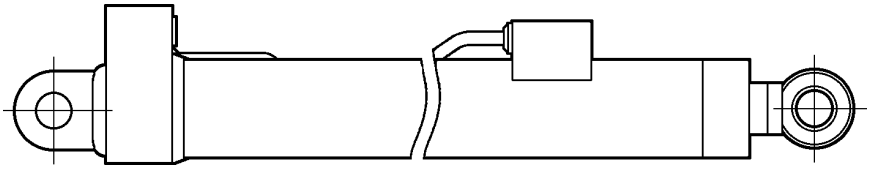


REF. NO.	NO. REQ'D	PART NUMBER	DESCRIPTION
1	1	0302919	UNDERLIFT FOLD CYLINDER (COMPLETE)
2	1	0300830	SEAL KIT, UNDERLIFT FOLD CYLINDER

HYDRAULIC CYLINDERS

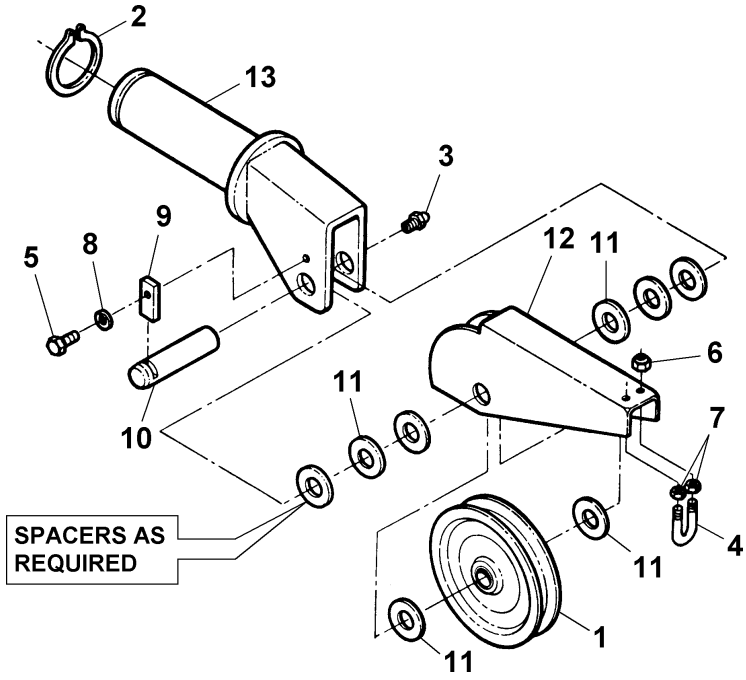


REF. NO.	NO. REQ'D	PART NUMBER	DESCRIPTION
1	1	0302948	BOOM EXTEND CYLINDER (COMPLETE)
2	1	0304491	SEAL KIT, BOOM EXTEND CYLINDER



REF. NO.	NO. REQ'D	PART NUMBER	DESCRIPTION
1	2	0303844	SWING L ARM CYLINDER (COMPLETE)
2	1	SK16371	SEAL KIT, SWING L ARM CYLINDER

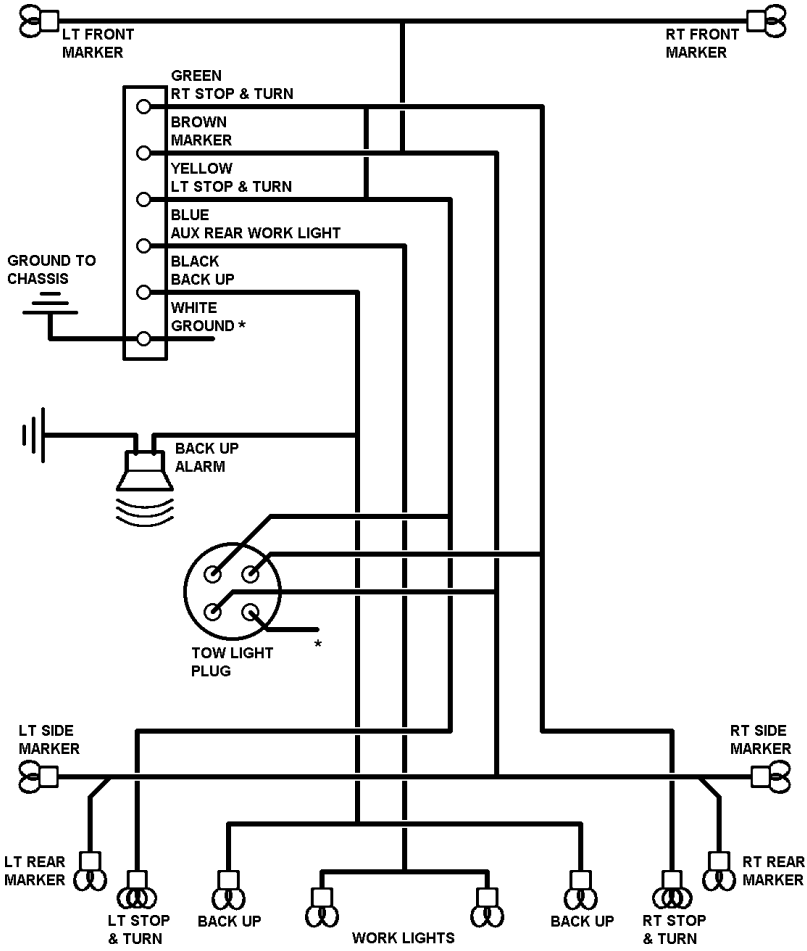
Section VI - PARTS (cont'd)
BOOM END SWIVEL ASSEMBLY



REF. NO.	NO. REQ'D	PART NUMBER	DESCRIPTION
1	1	0300022	6" SHEAVE
2	1	0300108	SNAP RING, 2-1/2" DIA EXT
3	1	0300113	GREASE FITTING
4	1	0301531	"U" BOLT, 3/8"
5	1	0400060	SCREW, 1/4"-20 X 1/2" HEX HD CAP
6	1	0400392	NUT, 3/8"-16 HEX NYLOK
7	2	0400393	NUT, 3/8"-16 HEX JAM
8	2	0400452	LOCKWASHER, 1/4" HELICAL
9	1	0700032	SHAFT RETAINER
10	1	0700056	SHAFT
11	--	0700166	WASHER-SPACER
12	1	0702285	CABLE GUIDE
13	1	0800003	BOOM END SWIVEL

NOTES

Section VII - SCHEMATICS
ELECTRICAL



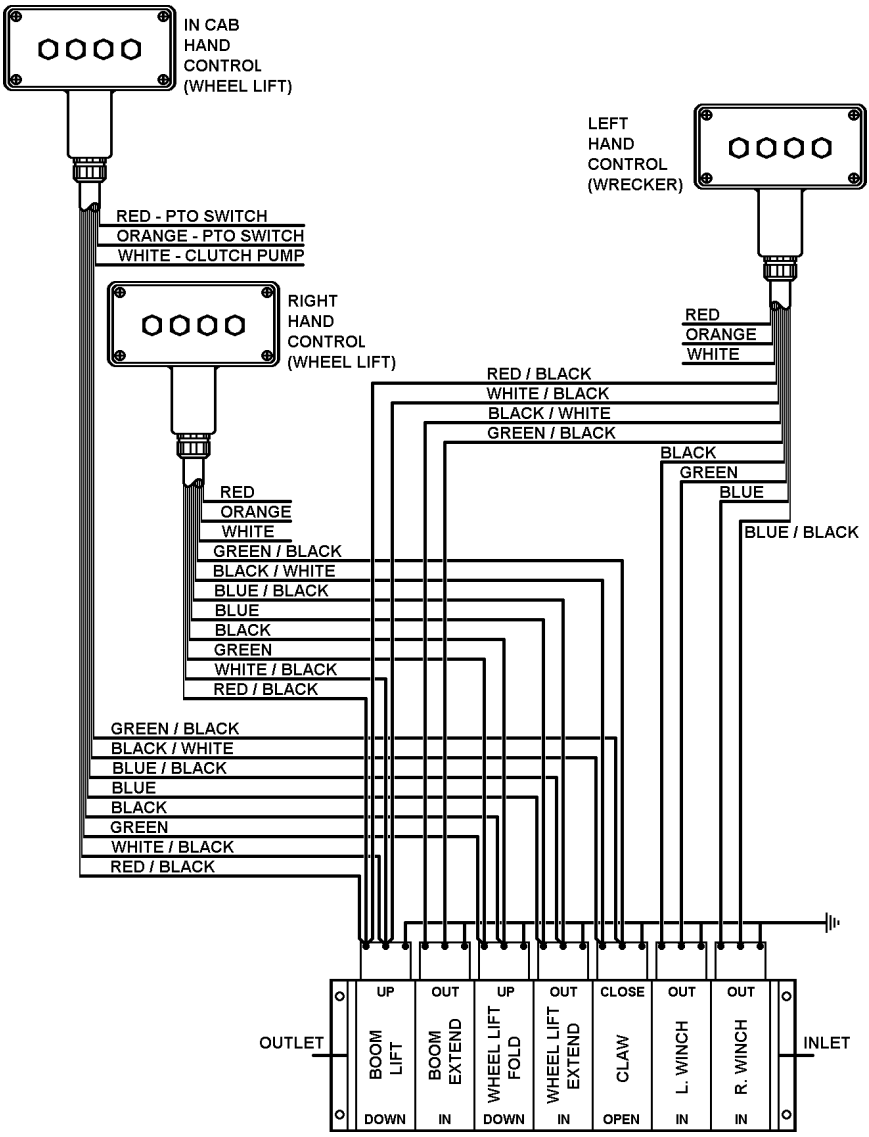
NOTE:
HARNESS PROVIDED IS A COMPLETELY SEALED SYSTEM.

ANY OTHER FUNCTIONS MUST ORIGINATE FROM JUNCTION BOX.

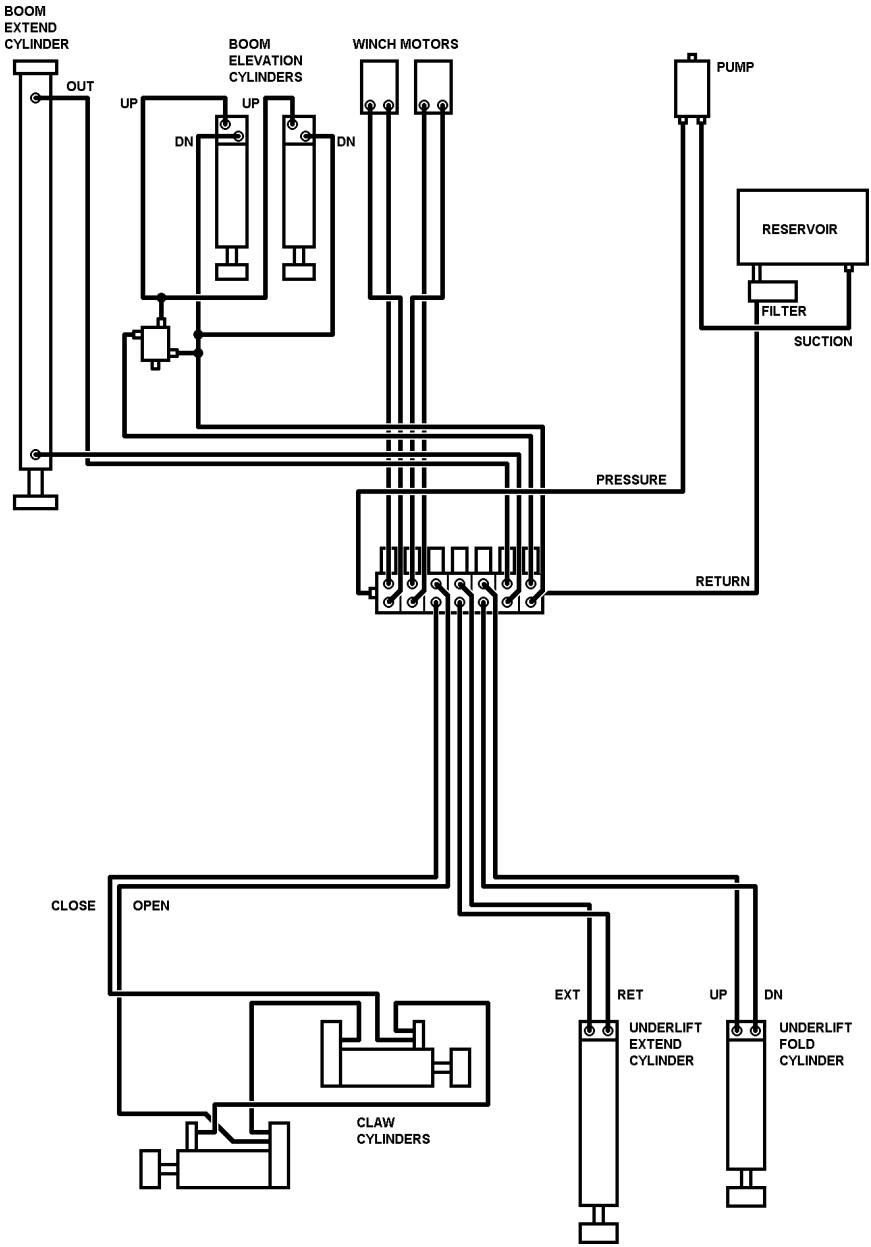
BREAKING OR CUTTING INTO PROVIDED HARNESS COMPLETELY VOIDS WARRANTY!

* ALL GROUNDS ON HARNESS ARE INTERNAL.

Section VII - SCHEMATICS
HAND HELD ELECTRICAL



Section VII - SCHEMATICS
HYDRAULICS



NOTES

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