# CENTURY®



## owner's manual EB-4 / EXPRESS

#### **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.

#### **CENTURY®**

Miller Industries Towing Equipment Inc. 8503 Hilltop Drive Ooltewah, Tennessee 37363 Phone (423) 238-4171 • FAX (423) 238-5371

FORM NO. 0501029 03 / 1999 PRICE \$25.00

#### LIMITED WARRANTY

MILLER INDUSTRIES TOWING EQUIPMENT INC., hereinafter referred to as MILLER, warrants to the original purchaser that each new MILLER wrecker or other MILLER 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. The purchaser must promptly notify MILLER in writing of any failure in material or workmanship. In no event shall MILLER 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's obligation under this warranty, statutory or otherwise, is limited to the repair or replacement at the MILLER factory, or at a point designated by MILLER, of such part or parts as shall appear upon inspection by MILLER to be defective in material or workmanship. New or remanufactured parts will be used for any replacement at MILLER's option. This warranty is not transferable. This warranty does not obligate MILLER 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.

EXCEPTAS EXPRESSLY SET FORTH IN THIS WARRANTY, MILLER 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 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 knew or had reason to know about at the time of sale.

MILLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE FINISHED PRODUCTS MANUFACTURED OR SUPPLIED BY ANOTHER MANUFACTURER AND SUPPLIED BY MILLER TO PURCHASER, including, but not limited to, any vehicle to which a MILLER product may be affixed or any accessories or wire rope, and MILLER EXPRESSLY DISCLAIMSANY 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 shall, to the extent permitted under applicable law, pass on to the purchaser such manufacturer's or seller's warranty.

MILLER, 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 MAKES NO IMPLIED WARRANTY THAT MILLER PRODUCTS SHALL BE FIT FOR THE PURPOSE OF LIFTING OR MOVING PEOPLE OR FOR ANY OTHER IMPROPER USE.



Miller Industries Towing Equipment Inc. 8503 Hilltop Drive Ooltewah, Tennessee 37363 SERIAL NUMBER

Telephone (423) 238-4171

## **OWNER, USER AND OPERATOR:**

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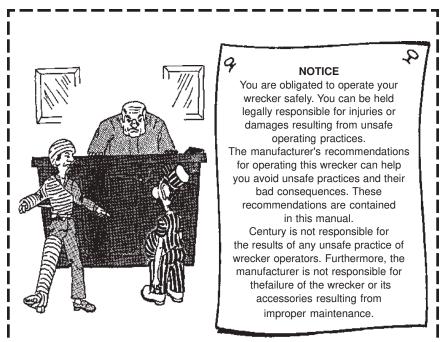
#### The operator must read and understand all instructions in this manual before operating the wrecker.

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

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## Section I - SAFETY PRECAUTIONS

Presented in the interest of safety for all wrecker operators.



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.

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## WARNING

- 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

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

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.

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



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

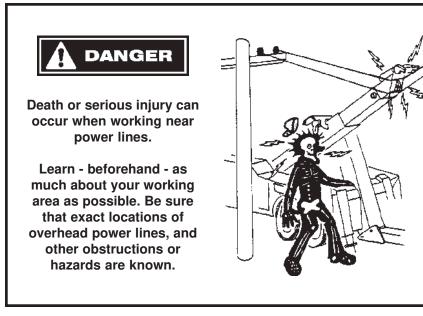
TRAINED PERSONNEL ARE THOSE WHO HAVE WORKED UNDER EXPERIENCED SUPERVISION AND HAVE PERFORMED ALL WRECKER MANEUVERS, HAVE READ THE MOUNTING, OPERATING AND MAINTENANCE MANUAL, WARNINGS AND PRECAUTIONS, AND UNDERSTAND AND HAVE HAD EXPLAINED TO THEM BY THEIR EMPLOYER THE HAZARDS OF OPERATING THE WRECKER. 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.

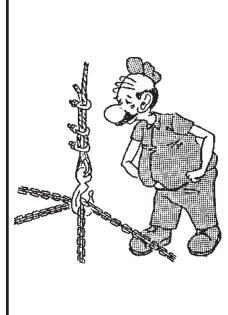
AN UNTRAINED OPERATOR SUBJECTS HIMSELF AND OTHERS TO DEATH OR SERIOUS INJURY.

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## WARNING

USE SAFETY CHAINS ON ALL TOWING AND LIFTING APPLICATIONS!





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.

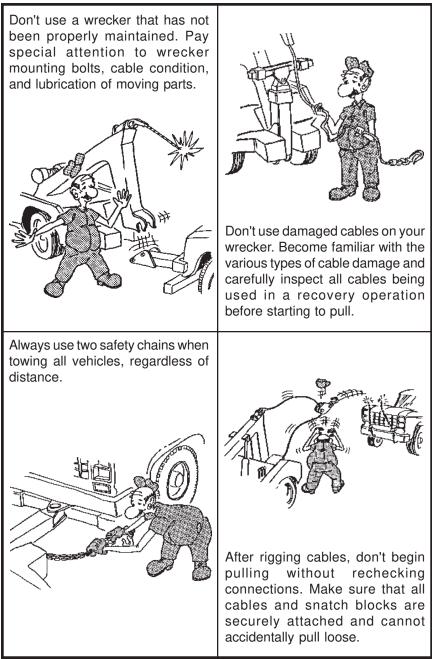
#### USE CABLE CLIPS ONLY IN THE EVENT OF AN EMERGENCY FIELD TEMPORARY REPAIR.

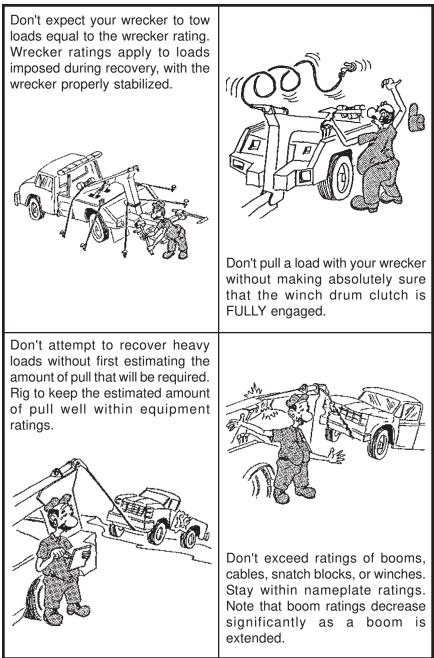
Use at least three clips spaced 3-4 inches apart and reduce the cable working limit by 20%.

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.

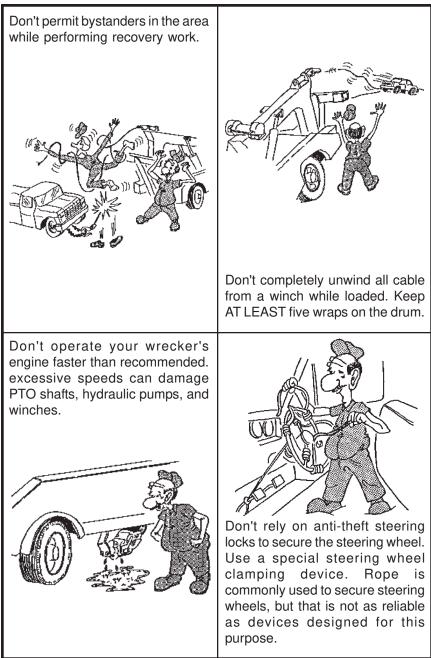
Proper technique for using wire rope clips. USE CABLE CLIPS ONLY IN THE EVENT OF AN EMERGENCY FIELD TEMPORARY REPAIR.			
RIGHT WAY Attach Attach Attach Second Third Fourth First			
WRONG WAY			
<ol> <li>Turn back rope length specified in the chart. Apply first clip so U-bolt is no less than the saddle width from the dead end. Tighten nuts evenly and torque as specified.</li> <li>Apply next clip as near loop as thimble will permit. Turn nuts on firm, but do not tighten.</li> <li>Space additional clips as indicated so distance between clips is equal. Tighten all nuts evenly and torque as specified.</li> <li>Apply the initial load and retighten all nuts to recommended torque. Inspect periodically and retighten as needed to the recommended torque.</li> </ol>			
CLIP SIZE (INCHES)	MINIMUM NUMBER OF CLIPS	AMOUNT OF ROPE TO TURN BACK IN INCHES	TORQUE IN FT.LBS.
3/8 7/16 1/2 9/16 5/8 3/4	2 2 3 3 3 4	6 1/2 7 11 1/2 12 12 18	45 65 65 95 95 130
5/8	3	12	95

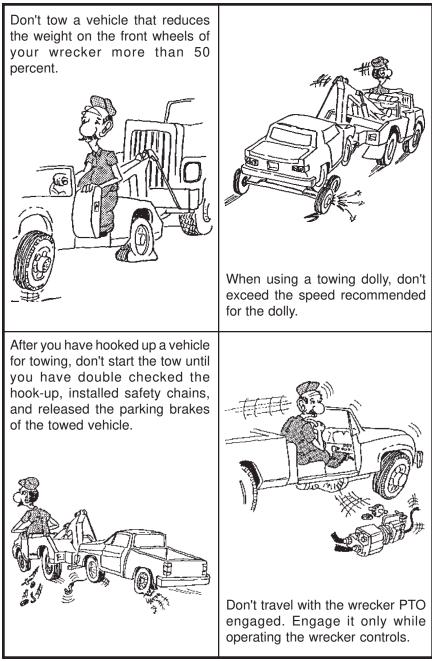
This table is based on Crosby-Laughlin.

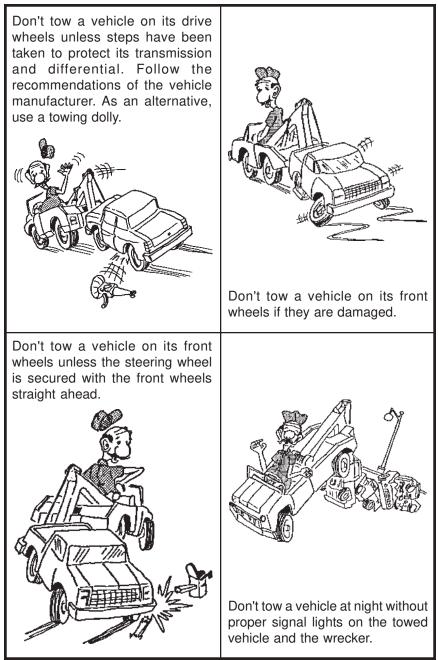


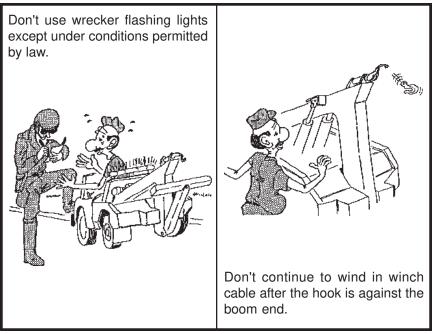










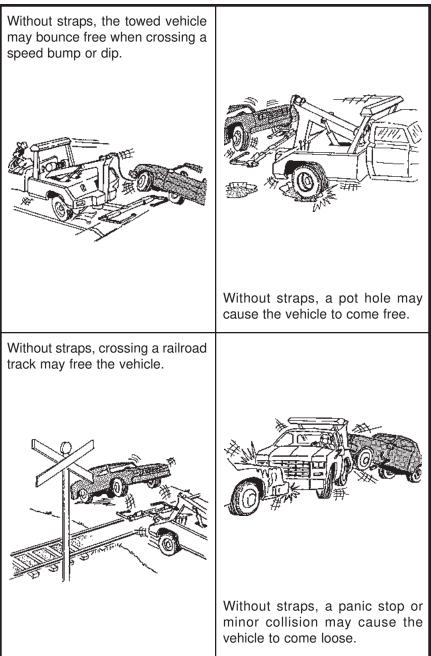


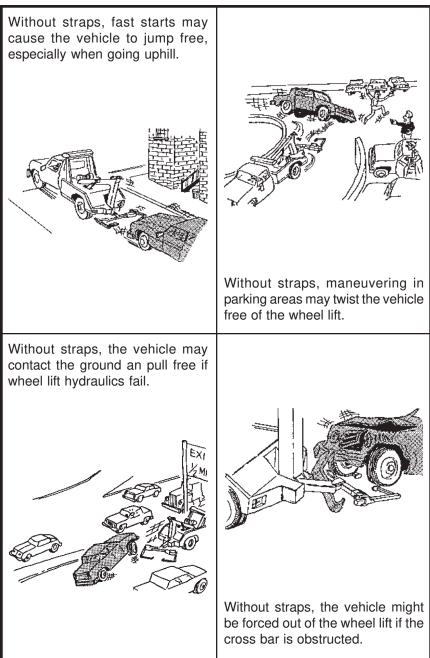
## STRAPS PLUS SAFETY CHAINS

Wheel lifts require both systems for safety.

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

## The following illustrations show why.

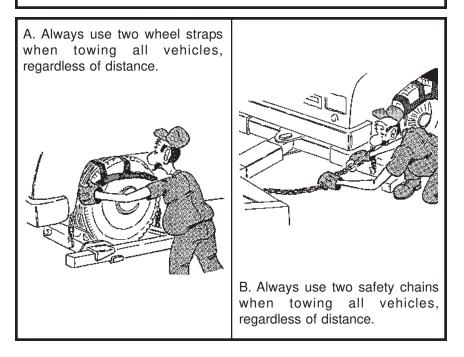




To avoid such accidents, use wheel straps plus safety chains.

You need both systems for safety.

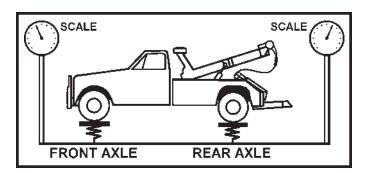
Installing them takes very little time and effort. They may save a life or avoid serious injury.



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:

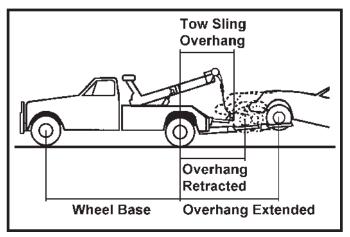
. ..

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.

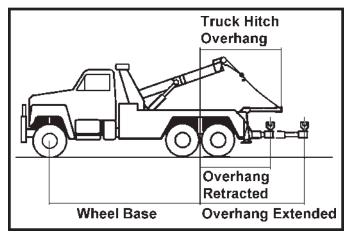
. . .

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.



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



Wheel base and overhang distances for truck hitches and underlifts.

## **Section II - SPECIFICATIONS**

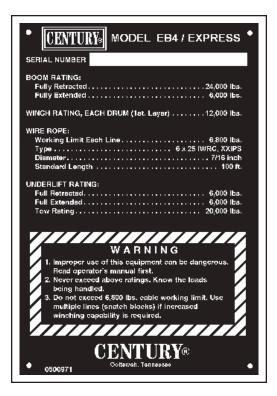
**2.1** Federal law requires that the final stage manufacturer, i.e., that person or company installing new equipment on a new chassis, must certify the completed vehicle by obtaining, completing and affixing to the door post on the drivers side of the vehicle, a Certification Label similar to the one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

MANUFACTURED BY:	
DATE OF MANUFACTURE mo	yr
INCOMPLETE VEHICLE MANUFACTURED BY:	
DATE INC. VEH. MFDmo	yr
GVWR	
GAWR FRONT	with
rims, @psi cold	
GAWR INTERMEDIATE (1)	with
	tires,
rims, @psi cold	
GAWR INTERMEDIATE (2)	with
	tires,
rims, @psi cold	
GAWR REAR	with
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

#### 2.2 SERIAL NUMBER / SPECIFICATION LABELS

Each Century EB4 / EXPRESS Wrecker will have a Serial Number / Specification Label mounted on the outer boom. These labels will display the Model Number, Serial Number, Lift/Tow and Cable Ratings. See Figure 2.2.



**FIGURE 2.2** 

#### 2.3 SPECIFICATIONS - EB4 Wrecker

12-ton hydraulic recovery boom (rated at boom swivel retracted) with dual 12,000 lb. hydraulic winches, full power two-stage boom, and 90" wide 84" C.A. heavy duty body.

#### (a) Winches

Rating (1st layer each drum) ..... 12,000 lbs.

#### 2.3 SPECIFICATIONS - EB4 Wrecker (cont'd)

#### (b) Cable

Diameter and Length (each drum) 7/16" Dia. x 1	00'
Type6 x 25 IWRC, XX	PS
Working Line Limit 6,800	bs.

#### (c) Boom Specifications

Description	Retracted	Extended
Lift Height from Ground to Hook at Max. Boom Elevation Reach past Tailgate at Min. Boom Elevation Reach past Tailgate at Max. Boom Elevation	94 7/16" 1 5/8" -	130 5/16" 61 5/8" 25 3/4"
Range of Elevation0 - 36.5°Boom Rating at Boom Swivel (Retracted)24,000 lbs.Boom Rating at Boom Swivel (Extended)6,000 lbs.		

#### 2.4 SPECIFICATIONS - EB-4 / EXPRESS WHEEL LIFT

#### (a) Wheel Lift Specifications

Description	Position	Inches
Retracted Distance from Tailgate to Rear Edge of Bar	At Full Down At Normal Tow Position	39 1/4" 45"
Extended Distance from Tailgate to Centerline of Lift Forks	At Full Down At Normal Tow Position	70 1/2" 76 1/4"
Maximum Hydraulic Extension		31 1/4"

#### 2.4 SPECIFICATIONS - EB-4 / EXPRESS WHEEL LIFT (cont'd)

#### (b) Wheel Lift Capacities

Retracted	6,000	lbs.
Т.Е.М.А	6,000	lbs.
Extended	6,000	lbs.
Tow Rating	20,000	lbs.

#### 2.5 CHASSIS RECOMMENDATIONS

Century EB-4 / EXPRESS should be installed on a chassis with a minimum GVW of 17,500 lbs., dual rear wheels, and a minimum C.A. of 84". A heavy duty spring package is recommended.

#### 2.6 STANDARD EQUIPMENT

- Integrated Boom & Wheel Lift System
- Variable Speed Hydraulic Winches
- 6 x 25 IWRC, XXIPS 7/16" x 100' Wire Rope Each Winch
- Express Hydraulic Autoload System
- In-Cab Lanyard Control for Wheel Lift
- Power Fold for Stinger Storage
- 360° Direcional Boom End Swivels
- Power Boom Elevation with Holding Valve
- Power Boom Extension
- Lubrication Fittings on all Shafts and Other Moving Parts
- 90" Wide Body with 2 Tool Compartments per side and 9" Sills
- Tunnel on Front Compartment
- Dual Control Stations
- Federal Standard 108 Lighting
- Wiring Harness with Junction Box
- Back Up Alarm
- Clutch Pump or PTO and Pump Combination
- · Safety Chains with Built-In Pockets
- EZ Service Hydraulic Filter
- Spring Loaded Winch Clutch Releases
- All Components for Complete Installation

#### 2.7 OPTIONAL EQUIPMENT

- Convenience Group
- Wrecker Special Light Bar
- Work Lights
- Light Pylon
- Fiberglass Fenderettes
- Cable Anti-Spooling Tensioners
- Switch Panel
- Mud Flaps

## NOTES


## Section III - OPERATIONAL FUNCTIONS WRECKER

- **3.1** Your new CENTURY EB-4 Wrecker is fully hydraulic. It receives its power by means of either a belt driven electric clutch operated hydraulic pump mounted to the truck engine or a PTO/Pump combination attached to the truck transmission. No drive line or universal joints are required with either pump.
- **3.2** The hydraulic pump may be mechanically or electrically engaged by the PTO knob or the PTO switch in the truck cab.



- **3.3** Each function of your CENTURY EB-4 Wrecker can be controlled from either of the dual control stations located at the rear of the wrecker body.
- **3.4** The control handles are clearly marked as to their functions and directions. Movement of the control handles meters the flow of oil through valves to control the speed of each function.
- **3.5** The wrecker boom is elevated and extended by means of doubleacting hydraulic cylinders. The boom can be elevated or extended under "LOAD" or "NO-LOAD" conditions.
- **3.6** The self-locking, worm-driven winch is powered by its own hydraulic motor attached directly to the winch input shaft. See Figure 3.1.

## Section III - OPERATIONAL FUNCTIONS WRECKER (cont'd)



FIGURE 3.1

**3.7** 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.

**3.8** The optional switch panel controls the light bar, flood lights and lower work lights. See Figure 3.2.

## Section III - OPERATIONAL FUNCTIONS WRECKER (cont'd)



FIGURE 3.2



## NOTES


## Section IIIA - OPERATIONAL FUNCTIONS WHEEL LIFT

- 3A.1 Your new CENTURY EB-4 / EXPRESS Wheel Lift is totally hydraulic. It receives its power by means of either a belt driven electric clutch operated hydraulic pump mounted to the truck engine or a PTO/ Pump combination attached to the truck transmission. No drive line or universal joints are required with either pump.
- **3A.2** The hydraulic pump may be mechanically or electrically engaged by the PTO knob or the PTO switch in the truck cab.



- **3A.3** Each function of your CENTURY EB-4 / EXPRESS Wheel Lift can be controlled from either of the dual control stations located at the rear of the wrecker body.
- **3A.4** The control handles are clearly identified as to functions and directons. Movement of the control handles meters the flow of oil through valves to control the speed of each function.
- **3A.5** The EB-4 / EXPRESS Wheel Lift is elevated and extended by means of double-acting hydraulic cylinders and can be operated under "LOAD" or "NO-LOAD" conditions.



## NOTES


## Section IV - OPERATING INSTRUCTIONS WRECKER

**4.1** For reasons of safety, it is important that the Owner/Operator(s) of the CENTURY EB-4 Wrecker should become thoroughly familiar with the controls and functions of the wrecker before attempting any operation.

#### 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 (6,800 lbs.).
- (d) **DO NOT** use the winch or cable for the lifting of people.

#### 4.3 PREPARING TO LOAD VEHICLE

- (a) Position EB-4 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 clutch pump or PTO.



- (c) Before operating any control handles, observe the winch cables to make sure they are free and have sufficient slack to let boom extend. If not, pay out sufficient cable by either (1) or (2):
  - (1) Operate CABLE "IN-OUT" Control. Keep hand tension on cables to avoid loose cable on drum.

## Section IV - OPERATING INSTRUCTIONS WRECKER (cont'd)

#### 4.3 PREPARING TO LOAD VEHICLE (cont'd)

(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 back 90° to allow winch to reengage.



#### FIGURE 4.1

#### 4.4 BOOM ELEVATION

Elevate boom to desired height by use of the BOOM "UP-DOWN" Control.

#### NOTE IN THE EVENT OF HYDRAULIC PRESSURE LOSS, THE BOOM WILL REMAIN AT THE DESIRED ELEVATION DUE TO THE LIFT CYLINDERS' HOLDING VALVE.

### Section IV - OPERATING INSTRUCTIONS WRECKER (cont'd)

### 4.5 BOOM EXTENSION

Extend boom to desired length by use of the BOOM "IN-OUT" Control.

#### 4.6 CABLE

(a) The boom end yoke swivels to allow pulls from either side. See Figure 4.2.



FIGURE 4.2

- (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.

### Section IV - OPERATING INSTRUCTIONS WRECKER (cont'd)

4.6 CABLE (cont'd)



### FIGURE 4.3

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

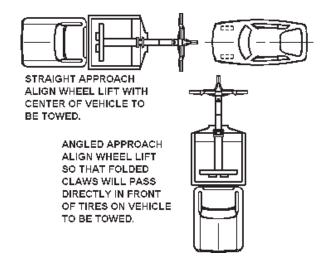
# WARNING

USE SAFETY CHAINS ON ALL TOWING AND LIFTING APPLICATIONS!

**4A.1** For reasons of safety, it is important that the Owner(s) and Operator(s) of the CENTURY EB-4 / 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 CENTURY EB-4 / EXPRESS Series 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.

(b) Reduce truck's engine to an idle and apply parking brake. Depress clutch, place transmission in neutral and engage clutch pump or PTO.

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

# 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.

# CAUTION

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

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



#### FIGURE 4A.2

(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.



FIGURE 4A.3

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

- (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 CENTURY EB-4 / EXPRESS Wheel Lift until the crosstube is firmly against the tires of the vehicle to be towed. See Figure 4A.4.



#### FIGURE 4A.4

(2) Angled Approach: Back the CENTURY EB-4 / 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.

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



FIGURE 4A.5



#### 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.

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



FIGURE 4A.7

# 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.

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

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.

### 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.



### 4A.4 TIE-DOWN STRAP PROCEDURES

(a) Using the BOOM "UP/DOWN" Control, raise the vehicle to the desired towing height.

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

(b) Attach tie down strap hook to crossbar as shown in Figure 4A.8.



FIGURE 4A.8

(c) Route tie down strap up the inside of the tire to a point beyond the top center of the tire, then across the top to the outside of the tire, inserting the ratchet hook into the ratchet attachment hole on the tire retainer. See Figure 4A.9.



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



FIGURE 4A.9

(d) When using small tire adapters, attach ratchet hook as shown in Figure 4A.10.



FIGURE 4A.10

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

- (e) Engage ratchet lock and tighten strap across tire securely.
- (f) Repeat tie down strap installation on opposite side of vehicle.
- (g) Figure 4A.11 illustrates correct tie down strap installation.



FIGURE 4A.11



### 4A.5 SAFETY CHAIN HOOK-UP PROCEDURES

(a) Extend free end of chain from storage caddy.

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

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



#### FIGURE 4A.12

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

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

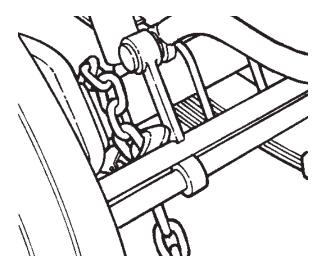


FIGURE 4A.13 (AXLE HOOK-UP)

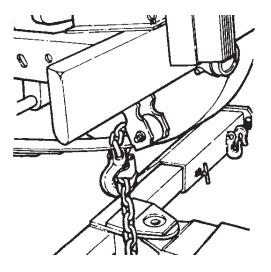


FIGURE 4A.14 (LEAF SPRING HOOK-UP)

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

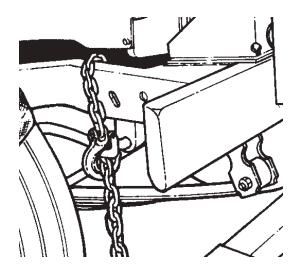


FIGURE 4A.15 (FRAME HOOK-UP)

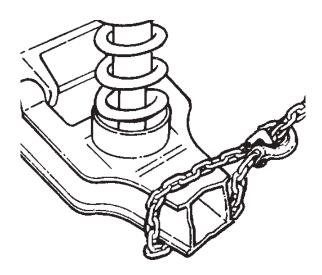


FIGURE 4A.16 (A-FRAME HOOK-UP)

### 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

### 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.



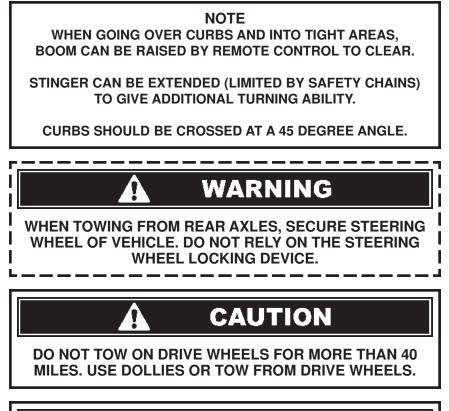
(g) Raise vehicle to desired height for towing. Retract boom, pulling disabled vehicle as close as possible to the wrecker body while maintaining enough clearance for turns. See Figure 4A.19.



FIGURE 4A.19

(h) Give hook-up a final check and disengage clutch pump or PTO before commencing towing operations.

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



# CAUTION

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.

#### 4A.5 SAFETY CHAIN HOOK-UP PROCEDURES (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.
- (c) Disengage claws by using the CLAW "OPEN/CLOSE" Control. Ensure that both claws have fully released both tires before proceeding.

#### 4A.7 RELEASING TOWED VEHICLE (cont'd)

- (d) Drive wrecker forward until wheel lift crossbar and claws are clear of vehicle. Raise boom slightly if crossbar is dragging ground.
- (e) Using appropriate controls, retract wheel lift boom and raise wheel lift to the fold position.
- (f) Raise wrecker boom to obtain sufficient clearance between wheel lift and ground when driving. Disengage clutch pump or PTO.

### Section V - MAINTENANCE

**5.1** The continued operation of your CENTURY Wrecker is largely dependent upon strict adherence to a properly scheduled preventive maintenance program. To help you in this program, CENTURY 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 overstressed. The smallest amount of grit, metal flake or other foreign material in the system can cause extensive damage to pumps, motors and valves. CENTURY 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 Oil Filter.
  - 2. Oil Reservoir.
  - 3. Controls.
  - 4. Cables and Fittings.

### Section V - MAINTENANCE (cont'd)

#### 5.3 LUBRICATION & PREVENTIVE MAINTENANCE (cont'd)

- 5. Hydraulic Hoses and Fittings.
- 6. Lights and Wiring.
- 7. Winch.
- 8. 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 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. Crossbar Pivot
  - 4. Boom Slide Pads
  - 5. Boom End Swivels
- (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 level of oil plug located on side plate of gear housing. Use SAE 140 general purpose gear oil.
- (h) Lubricate grease fitting on winch freespool clutch control.
- 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 multi-purpose automatic transmission fluid formally known as MERCON / DEXRON 111 or alternatively MERCON / DEXRON VI (synthetic)
- (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 Grease such as Drydene SFG or equivalent.
- (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 CARE OF HYDRAULICS IN COLD CLIMATES

Regions subject to continuous sub-zero or arctic climates require special hydraulic fluids. Contact CENTURY or your local supplier for information regarding specific temperature requirements.

#### 5.6 LUBRICATION

- 1. Cable Use oily rag 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 use GP Grease.
- 4. Winch Coupling Control use GP Grease.
- 5. Hydraulic Reservoir Fill to 1/2" above screen in filler neck with recommended hydraulic fluid.
- 6. Hydraulic Filter Replace after first week of operation, and then every three (3) months.
- 7. Boom End Swivel use GP Grease.
- 8. Sheave use GP Grease.
- 9. Boom Shaft Pivot use GP Grease.
- 10. Underlift Pivots and Slide Pads use Drydene SFG or equivalent.

DATE	MECHANIC	WEEKLY*	MONTHLY	QUARTERLY	SERVICE PERFORMED
*IMP		DRAULIC HOS	ES AND CABL	ES SHOULD BE I	NSPECTED WEEKLY FOR SIGNS

DATE	MECHANIC	WEEKLY*	MONTHLY	QUARTERLY	SERVICE PERFORMED
*IMP		DRAULIC HOS	ES AND CABL	ES SHOULD BE I	NSPECTED WEEKLY FOR SIGNS

DATE	MECHANIC	WEEKLY*	MONTHLY	QUARTERLY	SERVICE PERFORMED
*IMP		DRAULIC HOS	ES AND CABL	ES SHOULD BE I	NSPECTED WEEKLY FOR SIGNS

DATE	MECHANIC	WEEKLY*	MONTHLY	QUARTERLY	SERVICE PERFORMED
*IMP		DRAULIC HOS	ES AND CABL	ES SHOULD BE I	NSPECTED WEEKLY FOR SIGNS

DATE	MECHANIC	WEEKLY*	MONTHLY	QUARTERLY	SERVICE PERFORMED
*IMP		DRAULIC HOS ABRASION.	ES AND CABL	ES SHOULD BE I	NSPECTED WEEKLY FOR SIGNS

### NOTES


## Section VI - PARTS LIST

This Section is provided by the manufacturer for the purpose of ordering any component part of the **CENTURY EB-4** / **EXPRESS** 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 **CENTURY EB-4** / **EXPRESS** 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.

REF. NO.	PART NUMBER	DESCRIPTION	NO. REQ'D
 1 2 3 4 5 6 7       	120015412 0302080 0302122 0303226 0303880 0303883 0500971 0714948 0901496 0903069 0903275 0903284 0903295 0904103 0904782 0904799 AWS-1000-A	CENTURY EB4T W/EXPRESS CROSSBAR 84/90 HARNESS SWITCH PANEL SWITCH PANEL HOT WIRE 80 AMP CIRCUIT BREAKER REMOTE CONTROL HANDLE WINCH CABLE ASSEMBLY DATA PLATE - EB4/6500 CENTURY SUCTION HOSE, 1" 16C4 10 FT. KIT - CENTURY NAMEPLATE KIT - BACK UP ALARM KIT - SAFETY CHAIN F6500 KIT - DAYTONA BOX KIT - CONTROL KNOB KIT - ELECTRICAL TERMINAL KIT - STINGER POSITIONING BODY ASSEMBLY 84CA/90W DUAL TIE DOWN STRAP ASSEMBLY	1 1 2 2 1 1 1 1 1 1 1 1 1 2
 8 9	0901496 0400035 0500406	KIT - CENTURY NAMEPLATE #10-24 X 1/2" OVAL HD SS NAMEPLATE, CENTURY	6 2
 10 11 12 13 14 15 16	0903069 0300077 0300153 0301812 0303061 0400057 0400367 0500676	KIT - BACK UP ALARM WIRE, 16 GA, RED CONNECTOR, WIRE (BLUE) HEAT SHRINK TUBE-IN.MELT BACK UP ALARM ECCO #MS97 1/4"-20 X 1-1/4" HHCS 1/4"-20 NYLOK HEX NUT ZP INSTALLATION INSTRUCTIONS - BACKUP ALARM	2 FT. 6 1 2 2 1
 17 18 19 20	0903275 0303116 0400122 0400392 0400480	KIT - SAFETY CHAIN F6500 CHAIN ASSEMBLY, 3/8" HT X 10 FT 3/8"-16 X 1-1/4" HHCS GR5 ZP 3/8"-16 NYLOK HEX NUT ZP 3/8" FLATWASHER ZP	2 2 2 2
21 22 23 24 25	0903284 0300844 0302855 0303993 0400021 0400351	KIT - DAYTONA BOX 3/4" X 1/8" CLOSED CELL TOOL CMPT LATCH PLAIN STRIKER BOLT #8-32 X 1/2" RDHD PH MCH SC SS #8-32 HEX NUT & STAR WASHER ZP	25 FT. 4 16 16

REF. NO.	PART NUMBER	DESCRIPTION	NO. REQ'D
 26 27 28 29 30 31 32	0902798 0300834 0300835 0300837 0302856 0302917 0303283 0400393	KIT - CONTROL KNOB KNOB - CTRL (IN-OUT) KNOB - BOOM (UP-DOWN) KNOB - BOOM (IN-OUT) KNOB - TILT, 3/8"-16 THREAD KNOB - WHEEL LIFT EXTEND (IN-OUT) KNOB - CLAW (OPEN-CLOSE) 3/8"-16 HEX NUT JAM ZP	4 2 2 2 2 2 14
33 34 35	0904103 0301476 0301503 0302423	KIT - ELECTRICAL TERMINAL 1/4" BLADE CONN, PIGGYBACK #10 RING CONN. TERMINAL, 1/4" RING 14-16GA	24 10 4
36 37 38 39 40 41 42 43  44	0904782 0400238 0400378 0400408 0501002 0709110 0709111 0713131 0804106 0904783 HD1259	KIT - STINGER POSITIONING 1/2"-13 X 1-1/2" SKT HD CP SC 1/4"-20 X 1" FL PHIL HD 1/2"-13 NYLOK HEX NUT INSTALLATION INSTRUCTIONS CLAMP ADJUSTMENT BLOCK SPACERS - ADJUSTING SHEAR BLOCK STINGER POSITIONING BRACKET WELDMENT RETAINER PIN ASSEMBLY SNAPPER PIN	2 4 2 1 2 6 1 1 1 1
45 46	0904783 0400579 0714507	RETAINER PIN ASSEMBLY SPRING PIN, 3/8" X 4" RETAINER PIN	1 1
 47 48 49 50 51 52 53 54 55 56 57 58	0904799 0300032 0300071 0300113 0300329 0300787 0301334 0301471 0301473 0301533 0301659 0302171 0302552	BODY ASSEMBLY 84CA/90W DUAL PLUG, 1" DIA HOLE CLAMP, HOSE, 1" IDEAL GREASE FITTING, ALEMITE SNAP RING, EXTERNAL 2" HOSE ASSEMBLY, 53" CATERPILLER GROMMET, 1/2" HOSE ASSEMBLY, 30" HOSE ASSEMBLY, 18" TIE DOWN STRAP, 15" HOSE ASSEMBLY, 150" PLUG, 3/4"-16 PLASTIC C-WA-10 WELD ADAPTER	1 2 1 1 1 1 1 4

REF.	PART	DESCRIPTION	NO.
NO.	NUMBER		REQ'D
 59 60 61 62 63 64 65 66 70 71 73 74 75 77 78 80 81 82 83 84 85 86 70 91 92 94 56 7- 	0904799 0302610 0302855 0302926 0303014 0303193 0303481 0303863 0304264 0400002 0400021 0400022 0400070 0400070 0400078 0400118 0400122 0400154 0400122 0400154 0400223 0400239 0400249 0400249 0400264 0400351 0400351 0400382 0400398 0400421 0400452 0400452 0400452 0400452 0400452 0400452 0400452 0400452 0400452 0400452 0400452 0400452 0400452 040058 0400567 0400579 0701956 0703640 0708529 0708931 0713913 0803957 0901479 0902182	BODY ASSEMBLY 84CA/90W DUAL (cont'd) HOSE ASSEMBLY, 36" TOOL COMPT LATCH PLAIN HOSE ASSEMBLY, 29" HOSE ASSEMBLY, 1/2" DIA 80" BLACK SKUFF JACKET #SJ16 SLIDE PAD - BUMPER HOSE ASSEMBLY, 170" TOOL BOX HINGE #4 X 1/4" DRIVE SCREW RD HD #8-32 X 1/2" RD HD PH MCH SC SS 1/4"-20 X 3/4" THRD CUT HEX 1/4"-20 X 1" HHCS GR5 ZP 1/4"-20 X 2" HHCS GR5 ZP 3/8"-16 X 1/2 HHCS GR5 ZP 3/8"-16 X 1/4" HHCS GR5 ZP 5/8"-11 X 1-1/4" SOC HD CAP SCREW 5/8"-11 X 2-1/4" HHCS GR5 ZP 5/16"-18 NYLOK HEX NUT ZP 5/16"-18 NYLOK HEX NUT ZP 5/16"-18 NYLOK HEX NUT ZP 5/8"-16 NYLOK HALF-NUT ZP 5/8"-11 NYLOK HEX NUT ZP 1/4" FLATWASHER ZP 1/4" FLATWASHER ZP 5/8" HELICAL LOCKWASHER	1 1 5 4 20 FT. 3 2 4 4 2 4 2 4 2 4 2 4 2 4 2 4 2 2 4 4 2 2 4 4 2 2 4 4 2 2 4 4 2 2 4 4 2 2 4 4 2 2 4 4 2 2 4 4 2 2 4 4 2 2 4 4 2 2 4 4 2 2 4 4 2 2 4 4 2 2 4 4 2 2 4 4 2 2 4 4 2 2 4 4 2 2 4 4 2 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1

REF. NO.	PART NUMBER	DESCRIPTION	NO. REQ'D
     98 99	0904799 0902721 0902949 0904171 0904520 0904521 0904534 0904539 0904595 0904595 0904598 0904609 0904798 CZ15 DE1716	BODY ASSEMBLY 84CA/90W DUAL (cont'd) KIT - HYDRAULIC TANK IN-CAB CONTROL HYDRAULIC KIT SWIVEL ASSEMBLY, BOOM END KIT - VALVE KIT - SOLENOID TENSIONER, HOSE ASSEMBLY KIT - SPLASH GUARD FT CYLINDER - LIFT ASSEMBLY CROSSBAR ASSEMBLY, MED DUTY KIT - CONTROL DUAL WKR & W/L LESS CROSSBAR DUAL RUBBER GROMMET, 1/2" 5/32" X 1/4" DOME HEAD	1 1 1 1 1 1 1 3 4
 100 101 102 103 104 105 106	0901479 0300142 0301424 0301868 0302053 0302226 0400090 0400452	VALVE, SHUTTLE ASSEMBLY FITTING, ELB 6MJ-4MP90 FITTING, MALE CONNECTOR 6MJ-4MP FITTING, MALE RUN TEE 4FP-4FP-4MP FITTING, STRAIGHT 8MJ-4MP VALVE, SHUTTLE 1/4"-20 X 1-3/4" RD HD GR5 ZP 1/4" HELICAL LOCKWASHER ZP	1 2 2 1 2 2
 107 108 109 110 111 112 113	0902182 0301547 0301780 0301791 0302506 0400081 0400367 0400451	KIT - INLINE FILTER FITTING, ELB 8MJ-12MB90 FITTING, CONNECTOR 8MJ-12MB HOSE ASSEMBLY, 17" IN-LINE FILTER, PARKER 1/4"-20 X 3-1/2" HHCS GR5 ZP 1/4"-20 NYLOK HEX NUT ZP 1/4" FLATWASHER ZP	1 1 1 2 2 2
 114 115 116 117 118 119 120 121 122	0902721 0300055 0300056 0300071 0300136 0300446 0300692 0305006 0400045 0708529	KIT - HYDRAULIC TANK FITTING, HOSE BARB 12C4-12MP FITTING, BARB 16C4-16MP CLAMP, HOSE, 1" IDEAL RETURN LINE FILTERASSEMBLY 3/4" NPT PIPE PLUG, MALE FITTING, 1"90 DEG STREET FILLER CAP (GO205, FB194) #10-32 X 1/2" THRD CUT RD HOSE, RETURN 3/4" I.D. X 36"	1 2 1 1 1 6 1

REF. NO.	PART NUMBER	DESCRIPTION	NO. REQ'D
 123 124 125 126 127 128 129 130 131	0902949 0300041 0300044 0300286 0301377 0301471 0301883 0302808 0400122 0400392	IN-CAB CONTROL HYDRAULIC KIT FITTING, CONNECTOR 8MJ-8MB FITTING, CONNECTOR 6MJ-8MB FITTING, HP CARRY-OVER FITTING, TEE 6MJ-6MJ-6MJ HOSE ASSEMBLY, 30" SOLENOID VALVE HOSE ASSEMBLY, 18" 3/8"-16 X 1-1/4" HHCS GR5 ZP 3/8"-16 NYLOK HEX NUT ZP	2 6 1 6 3 1 12 4 4
 132 133 134 135 136 137 138 139 140 	0904171 0301814 0300022 0300113 0400060 0400452 0700032 0700166 0712974 0803650 0900668	SWIVEL ASSEMBLY BOOM END 3-1/2" EXT RETAINING RING SHEAVE, 6" COMPLETE GREASE FITTING, ALEMITE 1/4"-20 X 1/2" HHCS GR5 ZP 1/4" HELICAL LOCKWASHER ZP RETAINER, SHEAVE SHAFT WASHER, SPACER SHAFT SHEAVE SWIVEL, BOOM END GUIDE ASSEMBLY, CABLE U	1 1 1 1 4 1 1 1
 141 142 143 144	0900668 0301531 0400392 0400393 0702285	GUIDE ASSEMBLY, CABLE U U BOLT, 3/8" #G-426 3/8"-16 NYLOK HEX NUT ZP 3/8"-16 HEX NUT JAM ZP BODY CABLE GUIDED	1 2 2 1
145 146 147 148 149 150 151 152 153 154 155 156 157	0904520 0300011 0300041 0300052 0300055 0300286 0301375 0301388 0301547 0301780 0302798 0400140 0400392	KIT - VALVE VALVE, 4-SPOOL CONTROL FITTING, CONNECTOR 8MJ-8MB FITTING, CONNECTOR 6MJ-8MB FITTING, ELB 8MJ-10MB90 FITTING, HOSE BARB 12C4-12MP FITTING, HP CARRY-OVER FITTING, ELB STR 12MB-12FP90 FITTING, ELB STR 12MB-12FP90 FITTING, ELB 6MJ-12MB90 FITTING, ELB 6MJ-12MB90 FITTING, CONNECTOR 8MJ-12MB VALVE, 3-SPOOL CONTROL 3/8"-16 X 4" HHCS GR5 ZP 3/8"-16 NYLOK HEX NUT ZP	1 4 10 3 1 2 1 1 2 1 1 6 6

REF. NO.	PART NUMBER	DESCRIPTION	NO. REQ'D
 123 124 125 126 127 130 131	0904521 0300041 0300044 0302488 0303378 0303851 0400122 0400392	KIT - SOLENOID FITTING, CONNECTOR 8MJ-8MB FITTING, CONNECTOR 6MJ-8MB FITTING, ELB 8MJ-8FJX90 HARNESS GROUND SOLENOID VALVE, 4-SPOOL 3/8"-16 X 1-1/4" HHCS GR5 ZP 3/8"-16 NYLOK HEX NUT ZP	2 8 2 1 1 4 4
 123 124 125 126 127 130 131 123 124 125 126 127 130	0904534 0303521 0303858 0303862 0400059 0400154 0400367 0400482 0400635 0703484 0703488 0713937 0803135 0803936	TENSIONER, HOSE ASSEMBLY SPRING, EXT HOSE TENSION FITTING, BULKHEAD ELBOW 4MJ-BLKHD90 HOSE ASSEMBLY, 112" 1/4"-20 X 5/8" HHCS GR5 ZP 3/8"-16 X 1/2" HHCS GR5 ZP 1/4"-20 NYLOK HEX NUT ZP 3/8" HELICAL LOCKWASHER ZP 1/2" X 2-1/2" SHOULDER SCREW PULLEY, HOSE TENSIONER WASHER, HOSE TENSIONER PULLEY COVER, HOSE TENSION RACK BRACKET WELDMENT TRACK, HOSE TENSION WELDMENT	1 2 10 4 10 4 1 1 1 1 1
 131 132 133 134	0904539 0400066 0400370 0400452 0713997	KIT - SPLASH GUARD FT 1/4"-20 X 3/4" HHCS GR5 ZP 1/4" "U" TYPE TINNERMAN 1/4" HELICAL LOCKWASHER ZP MUD GUARD	4 4 4 2
 135 136 137 138 139 140 141 142 143 144 145 146	0904595 0300206 0301620 0301696 0301731 0301855 0302573 0302926 0303869 0400078 0400122 0400366	LIFT CYLINDER ASSEMBLY FITTING, BRANCHTEE 6MJ-6MJ-4MP FITTING, ELB 6MJ-6MP90 FITTING, ELB 6MJ-6MP90 FITTING, ELB 6MJ-6MP90 VALVE, HOLDING 4000 PSI FITTING, TEE 6MJ-6MJ-6MP FITTING, TEE 6MJ-6MJ-6FJX HOSE ASSEMBLY, 29" CYLINDER HYD BOOM LIFT - EB4 1/4"-20 X 2" HHCS GR5 ZP 3/8"-16 X 1-1/4" HHCS GR5 ZP 1/4"-20 HEX NUT ZP	1 2 4 1 1 1 4 2 2 1 2

REF. NO.	PART NUMBER	DESCRIPTION	NO. REQ'D
 147 148 149 150 151	0904595 0400451 0400452 0400482 0400586 BK518	LIFT CYLINDER ASSEMBLY (cont'd) 1/4" FLATWASHER ZP 1/4" HELICAL LOCKWASHER ZP 3/8" HELICAL LOCKWASHER ZP #2 HITCH PIN (HAIR PIN) PIN, CLEVIS - BOOM CYL	2 2 1 4 4
152 153 154 155 156 157 171 158 159 160 161 162 163 164 165 166 167 168 169 170	0904598 0303860 0303861 030381 0303917 0400349 0400427 0400428 0400546 0400590 0714030 0714521 0803949 0803956 0803958 0803959 0803959 0803963 0804069 HC1291 HD0106	CROSSBAR ASSEMBLY, MED DUTY HOSE ASSEMBLY, 10" HOSE ASSEMBLY, 17" PLUG 4MB CYLINDER, MED DUTY EXPRESS BEARING, MED DUTY EXPRESS 3/8"-16 X 3/4" FLT SKT HD 5/8"-11 FLEXLOC THIN HIGH 1/8" X 1-1/4" COTTER PIN 5/8" X 1-1/4" COTTER PIN 5/8" X 1-1/4" CLEVIS PIN PIN, CYLINDER, MED DUTY EXPRESS BOLT, PIVOT PIN (EXPRESS) ADAPTER, TIRE WELDMENT CROSSBAR WELDMENT, MED DUTY ARM, LEFT L WELDMENT, MED DUTY ARM, RIGHT L WELDMENT, MED DUTY PIN WELDMENT, LARM TO CROSSBAR PIVOT PIN WELDMENT, EB4 EXPRESS FITTING, 4MJ-4MB STR THR 1/4" X 1-3/4" SPRING PIN ZP	1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 1 1 1 2 1 6 2
160 161 162 163 164 165 166 167 168 169 170 171 172	0904609 0300122 0400066 0400370 0400390 0400392 0400393 0400452 0400527 0400542 0400543 0701099 0703501 0704517	KIT - CONTROL DUAL GROMMET, SPLIT PLASTIC 1/4"-20 X 3/4" HHCS GR5 ZP 1/4" "U" TYPE TINNERMAN 3/8"-16 HEX JAM NUT 3/8"-16 HEX NUT JAM ZP 3/8"-16 HEX NUT JAM ZP 1/4" HELICAL LOCKWASHER ZP 5/16" X 5/8" CLEVIS PIN 3/16" X 1-1/4"COTTER PIN SS 1/8" X 3/4" COTTER PIN ROD, CONTROL ANGLE, CROSS CONTROL CHANNEL, X-ROD BEARING	21 6 14 7 21 6 7 14 7 7 1 2

REF. NO.	PART NUMBER	DESCRIPTION	NO. REQ'D
 173 174 175 176 177 178 179	0904609 0705494 0713483 0713484 0800604 0801309 0801310 0801311	KIT - CONTROL DUAL (cont'd) LEVER, CONTROL CROSSROD, WRECKER FI CROSSROD, WHEEL LIFT FI ARM, CONTROL SHIFTER, VALVE, SHORT SHIFTER, VALVE, MEDIUM SHIFTER, VALVE, LONG	14 4 3 7 2 3 2
 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 211 219	0904798 0300044 0300110 0300113 0300679 0301376 0301921 0301964 0302469 0302919 0302922 0303067 0303068 0303550 0303853 0400060 0400060 0400066 0400070 0400129 0400139 0400234 0400353 0400353 0400367 0400376 0400376 0400393 0400398 0400451 0400487 0400487 0400593 0703082	WRECKER & W/L LESS XBAR DUAL FITTING, CONNECTOR 6MJ-8MB SNAP RING, 1" GREASE FITTING, ALEMITE BEARING PAD, NYLATRON FITTING, CONNECTOR 8MJ-10MB HOSE ASSEMBLY, 128" HOSE ASSEMBLY, 128" HOSE ASSEMBLY, 131" MOTOR, CHAR-LYNN CYLINDER HYD FOLD HOSE ASSEMBLY, 170" SLIDE PAD - INNER BOOM SLIDE PAD - OUTER BOOM CYLINDER HYD EXTEND - SWRK WINCH ASSEMBLY - NARROW DRUM VINCH ASSEMBLY - NARROW DRUM 1/4"-20 X 1/2" HHCS GR5 ZP 1/4"-20 X 3/4" HHCS GR5 ZP 1/4"-20 X 3/4" HHCS GR5 ZP 3/8" X 3/4" ALLEN HD SET 3/8"-16 X 1-1/2" HEX SKT SET 7/16"-14 X 1-1/4" HHCS GR5 ZP 3/8" X 1/2" SET SCR W/PATCH 1/4"-20 NYLOK HEX NUT ZP 7/16"-14 X 2" HHCS GR5 PL 3/8"-16 HEX NUT JAM ZP 3/8"-16 HEX NUT JAM ZP 3/8"-16 NYLOK HALF-NUT ZP 1/4" FLATWASHER ZP 1/4" HELICAL LOCKWASHER 1/4"-20 X 1/2" SKT FL HD PIN, EXT CYL PIVOT	2 4 8 4 4 2 1 1 2 1 2 1 1 1 1 1 3 2 2 1 1 8 1 6 8 2 2 6 4 12 16 6 1

REF. NO.	PART NUMBER	DESCRIPTION	NO. REQ'D
220 221 223 224 225 226 226 227 228 229 226 230 231 232 232	0904798 0703137 0708406 0708407 0708410 0708519 0711334 0713906 0713959 0713974 0714062 0714168 0803489 0803898 0804111 0902816 0904536 0904611	WRECKER & W/L LESS XBAR DUAL (cont'd) SHAFT, EXT CYL OUTERBOOM PAD, GUIDE SHAFT, LOWER-TILT CYL SHIM, GUIDE PAD PLATE, COVER - BOOM UPPER PAD, STOP RETAINER, BOLT ON PAD SPACER, WINCH MTG EB4 SHAFT, BOOM FOLD OF PAR SHAFT, BOOM FOLD - UPPER SHAFT, BOOM FOLD - UPPER SHAFT, W/L EXT CYL BASE BOOM, INNER - 612 (12K) BOOM, OUTER WELDMENT OUTER MAIN BOOM, DUAL WN CYLINDER ASSEMBLY, EXTEND KIT - CLUTCH CONTROL DUAL BOOM - INNER W/LASSEMBLY	1 2 1 6 1 1 1 1 1 1 1 1
233	AWS-3022-A	SNAP RING, LARGE BOOM PIN	4
180 181 182 183 184	0902816 0300113 0300142 0301964 0301965 0302948	CYLINDER ASSEMBLY, EXTEND GREASE FITTING FITTING, ELB 6MJ-4MP90 HOSE ASSEMBLY, 65" HOSE ASSEMBLY, 131" CYLINDER, BOOM EXTEND	2 2 1 1
234 235 236 237 238 239 240 241 242 243 244 245 246 247	0904536 0300845 0301532 0301588 0400116 0400126 0400150 0400393 0400492 0400537 0400546 0400560 0702408 0800779 0803945	KIT - CLUTCH CONTROL DUAL SPRING-CLUTCH T5-68-79-1 "T" HANDLE ADJUSTABLE YOKE 5/16"-18 X 1/2" SQ HD SET SCR 3/8"-16 X 1" HHCS GR5 ZP 3/8"-16 K 2-1/2" HHCS GR5 ZP 3/8"-16 HEX NUT JAM ZP 1/2" FLATWASHER ZP 1/2" X 1-1/2" CLEVIS PIN ZP 1/2" X 1-1/4" COTTER PIN 5/32" X 1" ROLL PIN ZP CHANNEL, MOUNTING CRANK-BELL ROD, CONTROL - CL SHIFTER	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

REF. NO.	PART NUMBER	DESCRIPTION	NO. REQ'D
 190 180 183 182 192 184 185 186 187	0904611 0300113 0301397 0301825 0301914 0303761 0400139 0400392 0714169 0803897	BOOM, INNER W/LASSEMBLY GREASE FITTING, ALEMITE GREASE FITTING, 90 DEG CYLINDER HYD EXT BEARING - INNER BOOM - DT FITTING, ELBOW 6MJ-6MB 3/8"-16 X 1-1/2" HEX SKT SET 3/8"-16 NYLOK HEX NUT ZP SHAFT, W/L EXTEND CYLINDER ROD BOOM, INNER WELDMENT	1 2 1 2 1 1 1 1
188 193 198 203	AWS-1000-A 0304215 AWS-1002-A AWS-1002-B AWS-1003-A	TIE-DOWN STRAP ASSEMBLY RATCHET, FORMULA II RATCHET SPACER - 7/8" LONG TIE-DOWN STRAP W/ SLEEVE	1 2 1

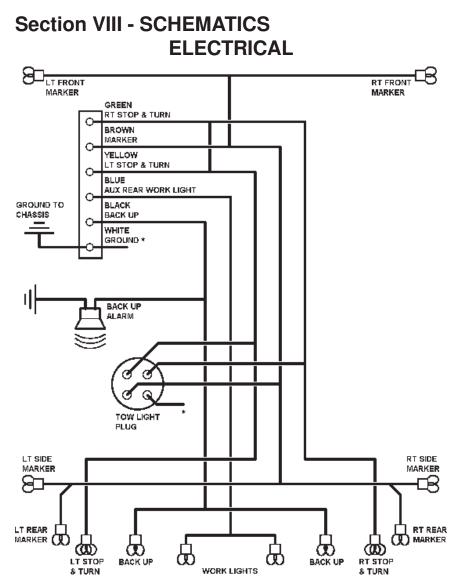
# NOTES \_ \_ \_

#### **Section VII - INSTALLATION**

CENTURY has made every effort to ensure that installation of its EB-4 / EXPRESS on the more popular makes of American and foreign made chassis is a simple and straightforward matter.

Mounting instructions covering all aspects of installation for the more popular makes of American and foreign made chassis are provided with each mounting kit.

#### NOTES

NOTE:

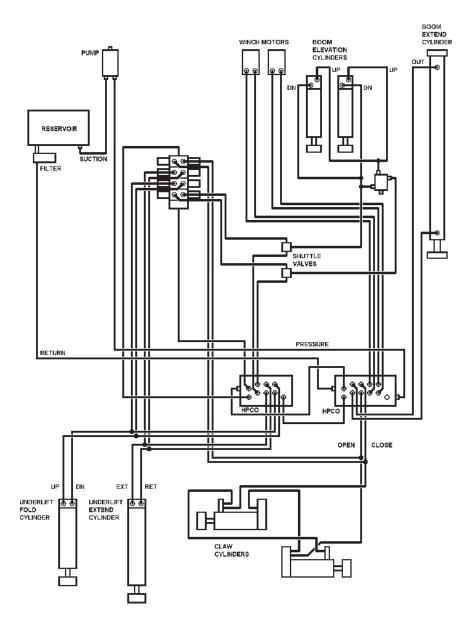
HARNESS PROVIDED IS A COMPLETELY SEALED SYSTEM.

ANY OTHER FUNCTIONS MUST ORIGINATE FROM JUNCTION BOX.

BREAKING OR CUTTING INTO PROVIDED HARNESS COMPLETELY VOIDS WARRANTY!

\* ALL GROUNDS ON HARNESS ARE INTERNAL.

#### Section VIII - SCHEMATICS (cont'd) HYDRAULIC



### NOTES


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