

## USER'S MANUAL

### LL-2 MEDIUM CAPACITY MANUAL LOAD LOCKER



## RECEIVING INSTRUCTIONS

Visually inspect all components for shipping damage. Shipping damage is NOT covered by warranty. If shipping damage is found, notify carrier at once. The carrier is responsible for all repair and replacement cost resulting from damage during shipment.

## PRODUCT SPECIFICATIONS

Pulling Force:	8,000 lbs.	(35.6 kN)
Jack Stroke:	5 inch	(127 mm)
Stroke with Stem Extended:	9 inch	(229 mm)
Height:	30 inch	(762 mm)
Width:	11 inch	(279 mm)
Length:	28 inch	(711 mm)
Weight LL-2:	65 lbs.	(29.5 kg)
Ship Weight:	73 lbs.	(33 kg)

## SAFETY

Read all instructions, warnings, and cautions carefully. Follow all safety precautions to avoid personal injury or property damage during system operation. Foresight Products is not responsible for damage or injury resulting from unsafe product use, lack of maintenance or incorrect product and/or system operation.

CAUTIONS indicate correct operating and maintenance procedures and practices.

WARNINGS indicate potential dangers that can be avoided when correct procedures and practices are followed:

- Wear proper personal protective gear when operating equipment
- Do not exceed equipment ratings
- Never attempt to load more than the capacity of the system
- Overloading can cause equipment failure and possible personal injury
- Immediately replace worn or damaged parts
- Do not modify this product or attach parts not approved by manufacture

DANGERS indicate an action or lack of action that may cause serious injury.

- Keep hands and feet clear of base plate and moving parts during operation

## DESCRIPTION

The LL-2 Medium Capacity Manual Load Locker kit consists of the following components:

- LL-2 Load Locker
- Termination Accessories
- Extraction Accessories

The LL-2 Load Locker is designed especially for use with:

MANTA RAY  
MR-3, MR-4, MR-88, and MR-68

DUCKBILL  
DB-88 and DB-138

Convenient Use For:

- Load Locking and Proof Testing of Anchors
- Extract anchors that have not been load locked for reuse
- Easily hand carried and operated by one person

## OPERATION

The LL-2 load locker is designed to be placed on the ground. Using the load locker in other orientations will cause hydraulic fluid to be displaced from the pump and the jack will not advance.

Do not operate the Load Locker until you have:

- Read the operating instructions.
- Follow all safety instructions.

All underground work requires proper location procedures of insitu hazards by qualified personnel. Never use anchors and anchor locking equipment prior to proper location of underground hazards.

To operate the LL-2 follow in sequence the instructions listed below. Refer to the PARTS DIAGRAM and PARTS LIST to identify each part.

ANCHOR LOAD LOCKING PROCEDURE – Refer to Fig. 2 and parts list.

1. A. Anchor rods with threaded end:

After anchor has been driven to the desired depth, attach appropriate eyenut to the anchor rod. See item 11 on Fig. 2.

Proceed to step #2.

B. Anchor rod integral eye:

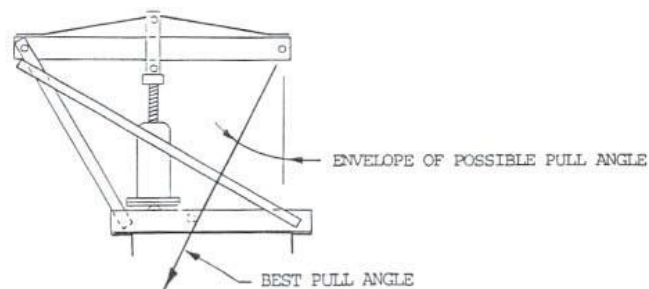
After anchor has been installed to the desired depth, thread cable sling through integral eye. Proceed to step #2.

C. Anchors with cable loop:

After anchor has been installed to the desired depth proceed to Step #2.

2. Lift model LL-2 over the anchor rod (cable end) and place in the optimum pull position. This position will depend upon anchor rod angle, ground slope, and accessibility. The best position is usually with the pull direction toward the jack. See figure 1 below.

Figure 1



Envelope of Pull Angle 55° to 90 °

Dimensions: 25 [635.0], 12 [304.8], 14 [354.4], 18 [457.2], 27 [685.8], 21 [533.4]

P/N: 50172

Dimensions: 20.006 [508.0472]

REV.	BY	DATE	DESCRIPTION
V	BF	07/09/13	CHANGED BOLT DESCRIPTION
U	BF	04/08/13	CHANGED FOR NEW JACK
T	JD	03/04/13	CHANGED ITEM 20
S	JD	02/05/13	ADDED ITEM 7
R	JD	06/11/12	CHANGED ITEM 9 PART NUMBER
Q	JD	04/24/12	ITEMS 11 THRU 19
P	JD	03/17/10	BILL OF MATERIAL
O	JD	02/04/10	ADDED ITEM 26
N	JD	04/02/09	CHANGED ITEM 9 AND SPELLING

TOLERANCES:  
X.XX .001  
X.XXX .0005  
ANGLE 2-DIGITS

DIMENSIONS:  
INCHES (MM)

**MACLEAN POWER SYSTEMS**  
7001 Park Place Rd., York, SC 29745 USA

TITLE: LL-2 ANCHOR LOCKING KIT

PART NUMBER: 50172

SCALE: B SHEET NUMBER: 1 OF 2

P/N: 50172

ITEM NO.	PART NO.	QTY.	CODE	DESCRIPTION
1	50182	1	LL-2B	LL-2B BASE ASSEMBLY
2	50173	1	LL-2A	LL-2A ARM ASSEMBLY
3	50192	1	LL-2J	LL-2J JACK ASSEMBLY
4	00048	1		BOLT 5/8 x 8 GRADE 8 WITH HEX NUT
5	00047	1		BOLT 5/8 x 3.5 GRADE 8 WITH HEX NUT
6	00046	1		BOLT 5/8 x 3.0 GRADE 8 WITH HEX NUT
7	51414	1	LL-2C	LL-2C CLIP ASSEMBLY
8	20013	1		5/8" GRAB HOOK 3/8"
9	10693-C	1		CHAIN LL-2 13' CHN-10-QH
10	20012	1		CLEVIS SLP HOOK 5/16"
11	80227	1	RC-8B	RC-8B ROG CLAMP FOR SAR-8B (IN 50172-4 KIT)
12	20085	1		Ø1020000 5/16" x 20' SLP3 (IN 50172-4 KIT)
13	20432	1	EN-20G	EN-20G (EN-20 11/16-11 EYE) (IN 50172-4 KIT)
14	20015	1	EN-20	EN-20 5/8-11 EYE (IN 50172-4 KIT)
15	20014	1	EN-16	EN-16 1/2-13 EYE (IN 50172-4 KIT)
16	20054	1	EN-12	EN-12 EYE (IN 50172-4 KIT)
17	10095	2		WR-10 WIRE ROPE CLIP 1/4" (IN 50172-4 KIT)
18	10097	2		WR-10 WIRE ROPE CLIP 5/16" (IN 50172-4 KIT)
19	20618	1	CTB-8N	CTB-8N EYE (IN 50172-4 KIT)
20	00020	2		BOLT 5/16-18 x 1.25 FULL THREAD
21	51094	1		IDENTIFICATION TAG FOR LL-2 LOAD LOCKER

\*\*\*THIS PARTS LIST IS FOR INFORMATION PURPOSES ONLY AND IS NOT INTENDED AS A SUBSTITUTE FOR THE PROPER PRODUCT STRUCTURE (BILL OF MATERIALS)\*\*\*

TOLERANCES:  
X.XX .001  
X.XXX .0005  
ANGLE 2-DIGITS

DIMENSIONS:  
INCHES (MM)

**MACLEAN POWER SYSTEMS**  
7001 Park Place Rd., York, SC 29745 USA

TITLE: LL-2 ANCHOR LOCKING KIT

PART NUMBER: 50172

SCALE: I SHEET NUMBER: 2 OF 2

3. Put the slip hook through the eye on the anchor and attach the chain to the grab hook on the end of the LL-2 arm.

4. Close hydraulic valve and begin raising jack.

Keep Hands and Feet Clear of Base During All Operations.

To assist in speed of operation, the hydraulic jack has an ACME threaded stem for raising item 2 (arm assembly) so that the LL-2 is approximately taut, and a small amount of jacking is required.

5. With all components completely, taut observe the stability of the entire system. If the system is tilted in an unstable direction, release hydraulic pressure and reposition the LL-2 so as to create a stable stance when load is applied. Repeat step #4.

Note: For extremely soft soil use wood 2"x 4"'s placed beneath the heel and toe of the base to increase the base footprint.

6. With continued pumping the gauge will begin to register for the locking operation. Pump jack to the required load. Note that the pressure gauge will decrease until the anchor is completely turned. When the pressure gauge is constant with continued pumping, the maximum proof load for the turned anchor has been obtained. This maximum proof load is dependent on soil conditions.

Do not exceed the rated capacity of the anchor installed.

Overloading may cause serious injury.

7. The gauge on the LL-2 is direct reading in lbs.

## ANCHOR EXTRACTION

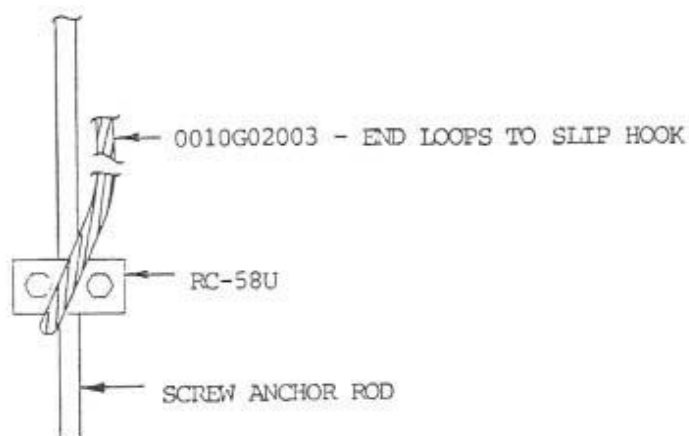
1. For anchors with solid rods: Before the anchor is turned with the drive rod still in place, install The RC-58U rod clamp on the anchor rod and tighten. Wrap the cable sling below the rod clamp and between bolts and connect end loops to the slip hook (See figure 3 below). Pump the jack to remove the anchor, repositioning the rod clamp on the anchor rod as required to extract the anchor.

2. For anchors with cable: Before the anchor is turned, and with drive rod still in place, connect the end loop of cable through the slip hook. Pump the jack to remove anchor. If anchor is too deep for LL-2 to extract when fully extended; collapse the jack and jack stem, and thread the cable through item grab hook. Install (2) wire rope clips to the cable and tighten as required. Pump the jack to remove anchor, repositioning as needed until the anchor is removed.

Do not exceed the rated capacity of the anchor during extraction operations. Overloading may cause serious injury.

Consult your distributor or Foresight Products LLC for anchor capacity.

FIGURE 3



## **WARRANTY**

Foresight Products, LLC (hereinafter called “Foresight”), subject to the exceptions contained below, warrants new tools for a period of 30 days from the date of sale to be free of defects in material and/or workmanship at the time of delivery, and will, at its option, repair or replace any tool or part of a tool, or new part, which is found defective upon examination by Foresight in Commerce City, Colorado.

**FREIGHT COSTS:** Freight cost to return parts to Foresight, if requested by Foresight for the purpose of evaluating a warranty claim for warranty credit, are covered under this policy if the claimed part or parts are approved for warranty. Freight cost for any part or parts which are not approved for warranty the responsibility of the individual.

## **EXCEPTIONS FROM WARRANTY**

**ITEMS PRODUCED BY OTHER MANUFACTURES:** Components which are not manufactured. Products are warranted by their respective manufactures.

**NORMAL WEAR:** Any failure or performance deficiency attributable to normal wear and tear.

**FREIGHT DAMAGE:** Damage caused by improper storage or freight handling.

**LOSS TIME:** Loss of operating time to the user while the tool(s) is out of service.

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**MPROPER OPERATION:** Any failure or performance deficiency attributable to a failure to follow the guidelines and/or procedures as outlined in the tool(s) operation and maintenance manual.

**MAINTENANCE:** Any failure or performance deficiency attributable by failure to maintain the tool(s) in good operating condition as outlined in the Operation and Maintenance Manual.

**MIS-APPLICATION:** Any failure or performance deficiency attributable to misapplication. “Mis-application” is defined as usage of products for which they were not originally intended or usage of products in such a matter which exposes them to abuse or accident, without first obtaining the written consent of Foresight.

## **NO ADDITIONAL WARRANTIES OR REPRESENTATIONS**

This limited warranty and the obligation of Foresight thereunder is in lieu of all other warranties, expressed or implied including merchantability or fitness for a particular





purpose except for that provided herein. There is no other warranty. This warranty gives the purchaser specific legal rights and other rights may be available which might vary depending upon applicable law.