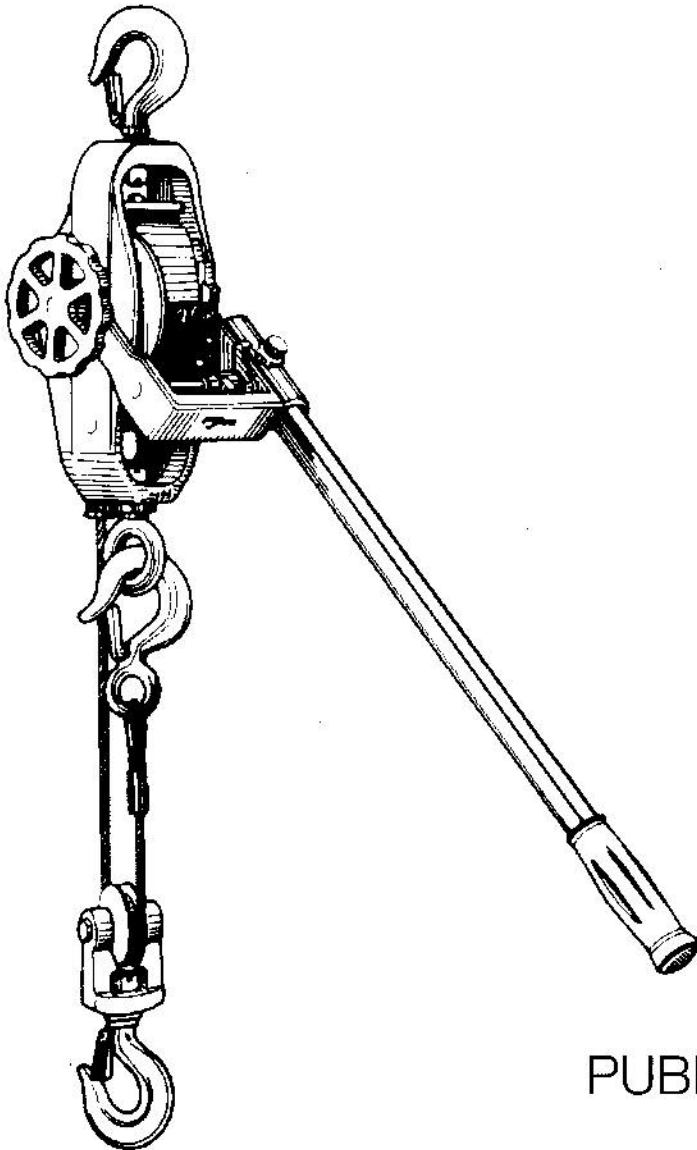


LITTLE MULE[®]



Cable Hoists



Models
100A
115SA
115DA
505NA
202WNA
434WNA
404WNA
430CDPA

Operation and Maintenance Manual

PUBLICATION PART NO. 900-1

IMPORTANT — CAUTION

This manual contains important information for the correct installation, operation and maintenance of the equipment described herein. All persons involved in such installation, operation, and maintenance should be thoroughly familiar with the contents. To safeguard against the possibility of personal injury or property damage, follow the recommendations and instructions of this manual and keep it for further reference.

Americrane & Hoist Corp. 1-800-652-1932 INTRODUCTION

This operation and maintenance manual covers Little Mule cable hoists manufactured by Duff-Norton Company. This manual has been prepared to assist

the user or repairman in operating, maintaining and repairing the cable hoists.

DESCRIPTION

Cable hoist models are designed for lifting and pulling loads up to the rated capacities listed on the hoist nameplate. Features include a winding wheel (most models) for taking up slack or free stripping of the cable and a handle designed to fail before any mechanical part of the hoist is subjected to a damaging overload. The handle may be inserted into the U-frame socket from either direction to facilitate use in confined areas or to allow the operator to pull against the load under unusual conditions. A double, interlocking pawl system provides positive load control at all times.

The basic movement is a pawl and ratchet mechanism consisting of an integrally cast cable drum/ratchet wheel and two interlocked pawls.

Warning

The light weight and flexibility of Little Mule Hoists sometimes encourages rigging

practices which can be dangerous to the operator and damaging to the hoist. Good and bad rigging practices are shown on the back of this Operation and Maintenance Manual. Safe rigging practices should always be rigidly observed.

Caution

Hoists should be checked prior to use. Inspect hooks, all mechanisms, frame and handle for wear, cracks or deformation. Inspect wire rope for worn, crushed, frayed or broken strands. If defective parts are found, discontinue use of hoist until parts are replaced or repaired. Use only genuine Little Mule Parts for replacement.

For safe operation the cable should never be fully extended under load. Always leave a minimum of 1½ wraps around the drum to prevent the cable from pulling free.

OPERATION

Warning

Always insure that structural members to which each hook is attached are strong enough to withstand loads.

Lifting or Pulling

Place upper control lever in position shown at right, engaging the loading pawl against the ratchet teeth. Work handle as required to get desired operation. Handle may be inserted into either end of the U-frame socket to enable user to work in restricted areas. Never use a "cheater" bar or handle other than the one supplied with the hoist.

Caution

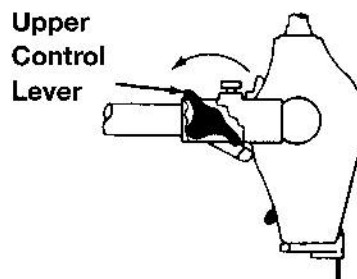
Rig hoist properly so that the hoist is free to align with the direction of pull. Avoid side loading.

Lowering

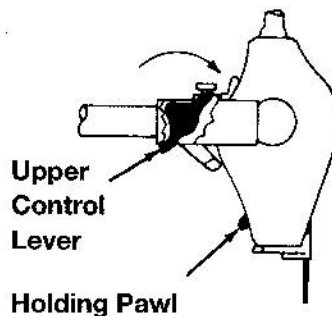
Place upper control lever in position shown at right and operate handle to its extreme down position until the load is removed from holding pawl. As the handle is slowly released, the load will be lowered one notch. To continue lowering repeat this operation. The lowering of heavy loads is easier if quick (sharp) downward handle motion is used.

Little Mule hoists should never be used for lifting or lowering people or loads over people.

LIFTING OR PULLING



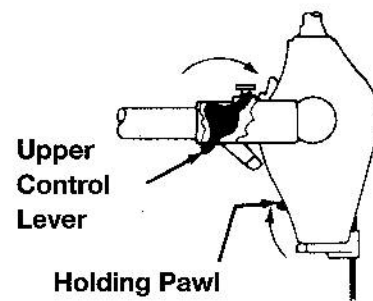
LOWERING



Free Wheeling Americrane & Hoist Corp. 1-800-652-1932

To release cable for free wheeling, place upper control lever as shown at right and hold spring loaded holding pawl as shown. The cable may now be stripped from the drum to facilitate more rapid positioning while attaching to the object to be pulled or lifted. Similarly, with the upper control lever as shown, excess slack may be quickly and easily rewound on the drum using the winding wheel.

FREE WHEELING



MAINTENANCE

General

Maintenance of the hoist is normally limited to cleaning and lubrication. The hoist should always be lubricated following each cleaning operation to replace any lubricants that were washed away.

Cleaning

Occasional cleaning of the cable hoist will increase operating efficiency and decrease wear on friction

parts. Clean with an approved solvent or kerosene, applying liberally with a brush or cloth. Lubricate the cable hoist after cleaning.

Lubrication

Lubricate pawls and ratchet wheel sparingly with a light grease. Apply a drop of clean motor oil to points where shafts rotate.

REMOVAL AND REPLACEMENT OF MAJOR PARTS

General

Replacement instructions are limited to replacing parts that are most likely to wear during normal use. To replace other parts, use common practice procedures while referring to Figure 1.

Cable Assembly (R) Replacement

1. To remove cable, remove all of cable from drum to expose setscrew (KK). Adjust setscrew to free cable end and pull cable free.
2. Insert new cable through cable guide (S), drum (JJ) and setscrew (KK). Adjust setscrew (KK) to secure cable. No cable should protrude through drum.

Reversing Spring (X) or Loading Pawl (W) Replacement

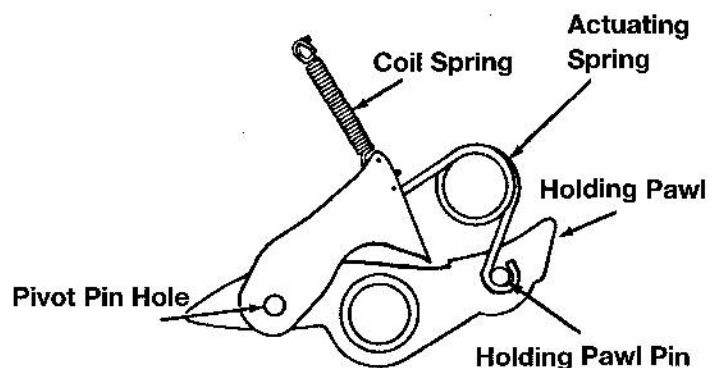
1. Dislodge two retaining rings (N) and while holding loading pawl and upper control lever (Y) in place, slide shaft (V) out of U-frame.
2. Replace reversing spring or loading pawl as required and reinstall shaft and retaining rings.

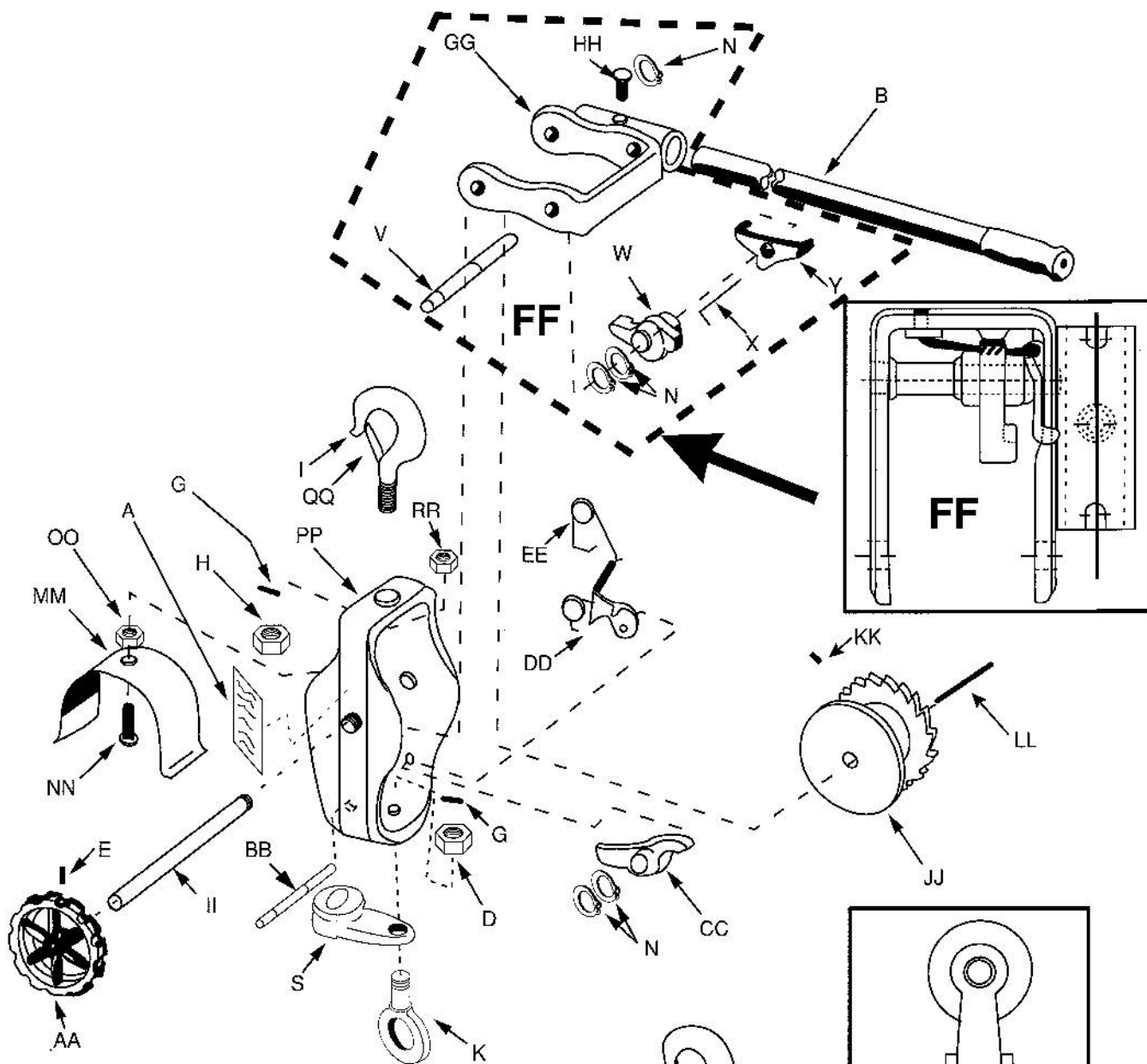
Holding Pawl (CC) or Pawl Control Assembly (DD) Replacement

1. Dislodge two retaining rings (N) and slide shaft (BB) out of main frame.
2. Remove holding pawl and pawl control assembly for replacement of parts as required.

3. Place control assembly spring onto holding pawl pin in correct position as shown below. Install free end of coil spring over hook end of shock spring (EE). Move pawl control assembly with holding pawl attached, into position, and place pivot hole in pawl control assembly over the pivot pin in the main frame. Make sure that pawl control assembly and holding pawl remain in relative position as shown. Re-install shaft (BB) and two retaining rings (N).

PAWL CONTROL ASSEMBLY





Americrane & Hoist Corp. 1-800-652-1932

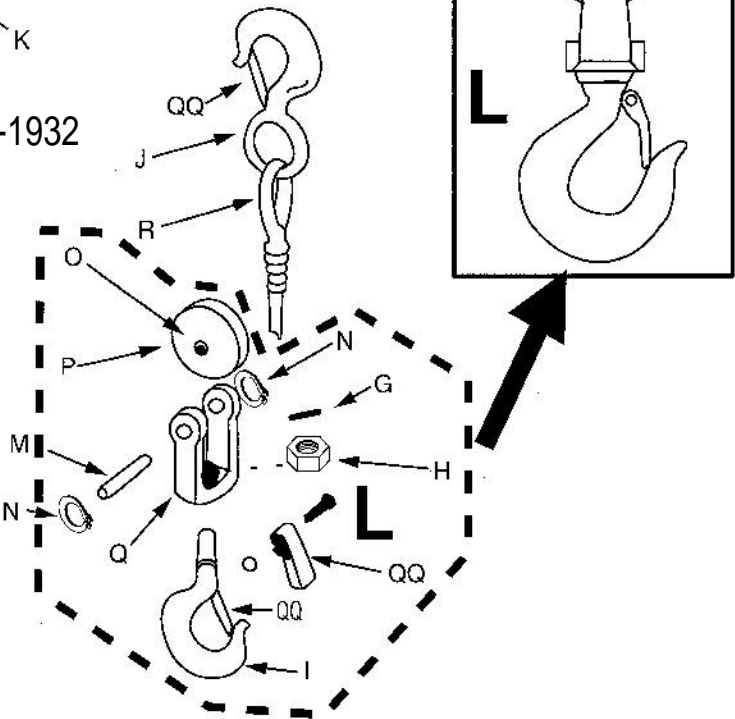
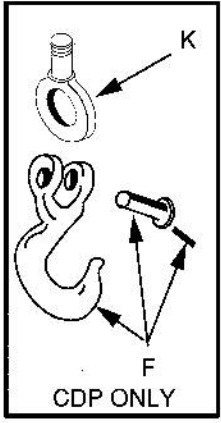


Figure 1

LITTLE MULE® PRODUCTS WARRANTY

LITTLE MULE products warrants to the original using purchaser thereof that hoisting equipment and parts thereof will, when properly assembled (if such is required), and installed by such purchaser, be and remain free under normal conditions of use and operation from all malfunctions arising out of defects in material or workmanship for a period of **one year** from the date of delivery to such original using purchaser (except for the LMES electric chain hoist, which is warranted for **90 days** from the date of delivery to the original purchaser). This warranty is further subject to the conditions noted herein.

Such warranty shall not apply to hoists, hoisting equipment or parts thereof subjected to operation in excesses of design limitations, negligent maintenance, or abuse, or damage by casualty, or unauthorized alteration.

All warranty claims shall be made to LITTLE MULE Products, P.O. Box 779, Wadesboro, NC 28170, and shall be supported by satisfactory evidence in respect of conditions herein noted. As a condition precedent to the allowance of such claim, the hoist, hoisting equipment or part involved shall, if requested by us be returned by freight prepaid for examination. We reserve the right in our sole discretion to repair or replace f.o.b. Wadesboro, any hoist, hoisting equipment, or parts found to be defective upon examination by its authorized personnel, and with respect to parts not of its own manufacture, such division limits its obligation hereunder to the adjustment, if any.

We undertake no responsibility for work done or expense incurred in connection with repair or replacement except on specific authority. We accept no liability hereunder, whatsoever, for consequential damages or for the negligence of others.

The foregoing warranties are exclusive and there are no

warranties which extend beyond the description on the face hereof. These express warranties are in lieu of all other warranties whether written, oral or implied and LITTLE MULE hereby expressly excludes the implied warranties of merchantability and fitness for a particular purpose.

Except as stated herein, subject to the conditions noted, we neither make nor authorize to be made any other warranty expressed or implied, oral or written.

Improvements:

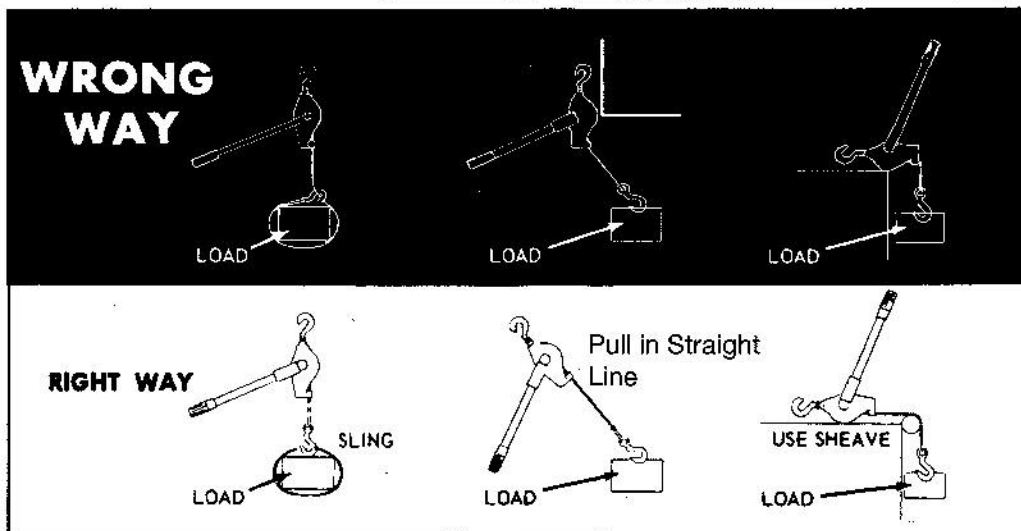
LITTLE MULE is constantly striving to improve its products. Changes in design and improvements will be made whenever the manufacturer believes the efficiency of the product will be improved without incurring any obligation to incorporate such improvements in any products which have been shipped or are in service.

Important Notice:

Use of chain, wire rope, or replacement parts other than as supplied as original equipment on LITTLE MULE hoists may lead to dangerous operation. Accordingly, we cannot be responsible in such cases and our warranty would be voided.

For more information write LITTLE MULE Products, P.O. Box 779 Wadesboro, NC 28170.

WARNING: The hoist equipment shown in this bulletin is intended for industrial use only and should not be used to lift, support or otherwise transport people.



Americrane & Hoist Corp. 1-800-652-1932

Duff-Norton

Little Mule Products
Country Club Road
P.O. Box 779
Wadesboro, NC 28170
Phone: (800) 274-6853
(704) 694-9029
FAX: (800) 374-6853