MODEL LS-51
BOOK No. 102A
SERIAL No. _____

MACHINE SERIAL NUMBER

The machine serial number is on the serial number capacity plate, or on the Crane Rating Manual located inside the operator's cab. The serial number should always be furnished when ordering parts for the machine or when corresponding with the distributor or factory concerning the machine. Providing the serial number is the only way of ensuring the correct parts and/or information can be furnished.

In the event the serial number is not readable, a number is stamped on the upper revolving frame which can be used to identify the machine. On cable crane this number is located on the right hand boom foot mounting lug. On hydraulic cranes and excavators the number is stamped just below the boom hoist cylinder mounting lugs.

MODEL LS 58
BOOK No. 102A
SERIAL No. _____

MACHINE SERIAL NUMBER

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QUICK REFERENCE SYSTEM

TO LOCATE DESIRED INFORMATION, MATCH BLACK INDEX TAB WITH BLACK TABS ON APPROPRIATE PAGES.

Lower Frame and Crawlers

Revolving Frame

Vertical Shafts

Horizontal Shafts

Drum Clutches

Drum Brakes

Engine and Clutch

Manual Controls

Speed-O-Matic Control System

Shovel Attachment

Trench Hoe Attachment

Crane, Clamshell and Dragline Attachment

Bronze Bushing

Operating Instructions

Special Tools

Cable Requirements

Lubrication Chart

Form No. 9150-TW512

Printed in U.S.A.

PREFACE

The productive life of any machine depends largely on the care and consideration given it. This especially holds true of such equipment as cranes and excavators. Link-Belt Speeder machines embody the best of engineering knowledge, years of experience, and construction in accordance with the high standards of the Company. In spite of this background, failures can be expected if machinery is abused, overloaded, or maintenance neglected. The present machine age and universal use of the automobile has taught most people to appreciate that systematic, periodical inspection and maintenance will be repaid with a longer period of satisfactory service.

This instruction book was compiled to explain the adjustments necessary for proper operation of the machine. A study of this book will acquaint operator or serviceman with the construction of this equipment and enable him to readily diagnose and remedy most troubles which may arise. It is advisable to correct minor troubles before they develop into costly major shut-downs.

Right hand and left hand parts, as referred to in this book, are determined by facing boom from rear of machine. Operator's position is located on left hand side of machine.

We do not attempt to tell you what part or parts of the house that it might be necessary to remove to perform your particular job as this will vary depending upon what equipment or tools that are available.

Any questions pertaining to the care and upkeep of this equipment which have not been covered in this book should be directed to your nearest Link-Belt Speeder distributors, or Link-Belt Speeder Corporation.

Link-Belt Speeder Corporation reserves the right to make alterations or modifications in this equipment at any time, which in their opinion may improve the performance or efficiency of the machine. The manufacturer shall not be obliged to make such alterations or modifications to machines already in service.

SECTION 1 - LOWER FRAME UNIT

LOWER FRAME — Fig. 1

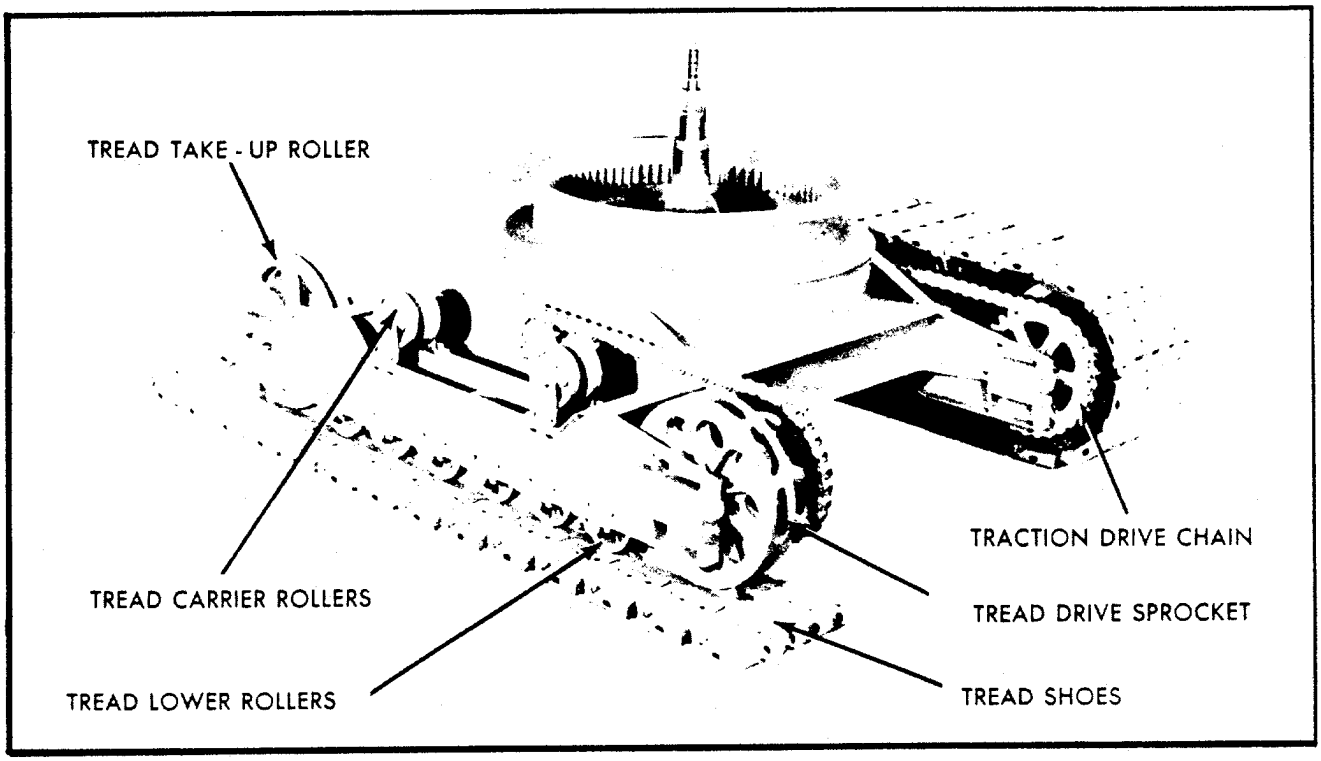

Fig. 1 - LOWER FRAME and CRAWLERS

GENERAL DESCRIPTION: The lower frame is of heavy box section, all welded construction, internally reinforced with heavy cross-section members giving great strength and rigidity. Within the lower frame are the Traction Shaft and Steering Mechanism.

The all welded Crawler Frames are welded integral with the main lower frame. Six double flange, bronze bushed, Tread Lower Rollers transmit the machinery weight to the Tread Belt and two double flange Tread Carrier Rollers on top of each frame carry the tread return. At one end of the crawler frame are the Tread Take-Up Rollers; on the other end the Tread Drive Sprockets. Power is transferred from the Traction Shaft to the Tread Drive Sprockets by the Traction Drive Chains. The center lugs on the Tread Shoes transfer this power to the Tread Belt.

TAKE-UP ROLLER — Fig. 2

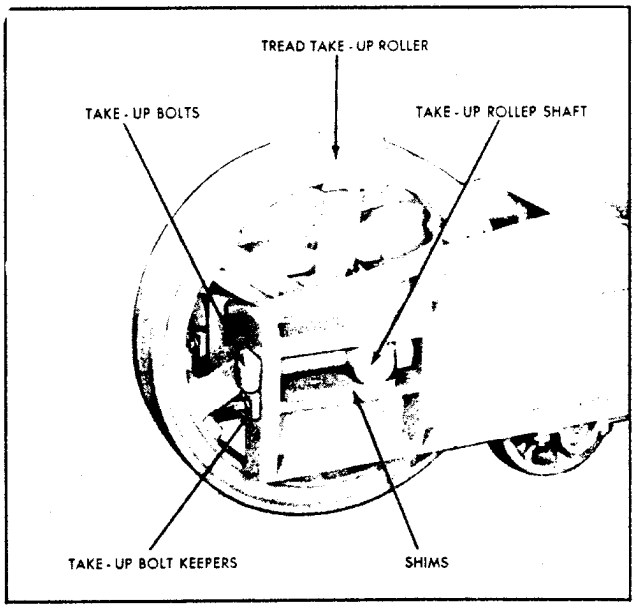

Fig. 2 - TAKE-UP ROLLER

TAKE-UP OF TREAD SHOES: As mentioned above, each side frame carries its own Tread Shoe Take-Up Roller. Take up of wear in tread shoes is accomplished through means of Take-Up Bolts. One take-up bolt is located on each side of Take-Up Roller Shaft.

Take-up on the tread shoe belts is accomplished in the following manner:

(1) Remove Take-Up Bolt Keepers.

(2) Tighten Take-Up Bolt until proper tension on tread shoe is obtained. Since there are two take-up bolts on each roller it is important that the bolts be tightened evenly to assure proper alignment.

When operating in loose material or hard packing clay,

SECTION 1 – LOWER FRAME UNIT – Continued

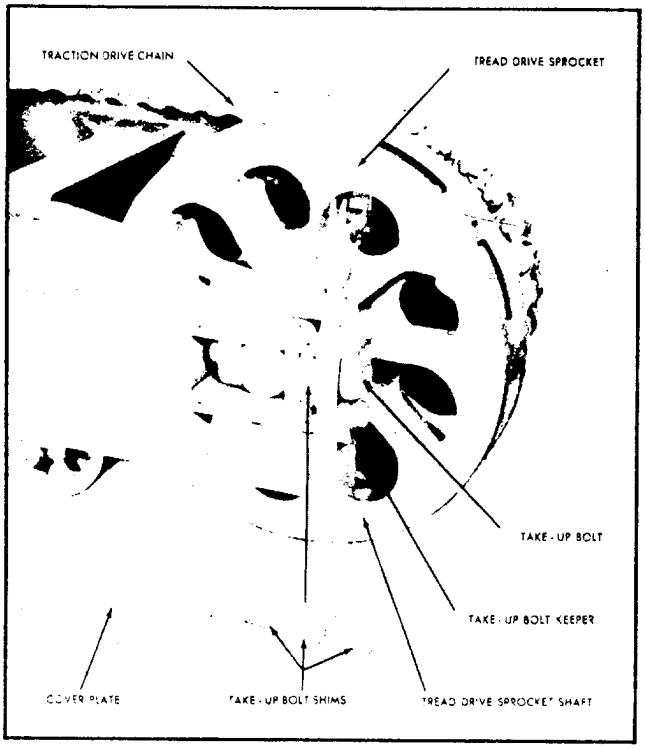

Fig. 3 - TREAD DRIVE SPROCKET

it is best to keep track shoe belts relatively slack. This will permit a slight amount of "packing" in drive sprockets which will eliminate possibilities of breaking tread shoes or pins. However, this must be watched closely as excessive packing will result in abnormally worn tread sprockets, tread shoe lugs and tread shoe pins. If at all possible when traveling long distances in this type material, the best results will be had if machine is traveled with Drive Sprockets ahead.

When traveling a considerable distance over hard ground or other such surfaces it is advisable to periodically reverse the direction of the lower crawler frame in relation to the upper machinery to prevent uneven wear on all moving parts.

REMOVAL AND REASSEMBLY OF TAKE-UP ROLLERS: To remove tread Take-Up Roller, proceed as follows:

(1) Split Tread Shoe Belt.
(2) Remove Take-Up Bolt Keepers and Take-Up Bolts.
(3) Remove Shims from bottom of take-up roller shaft which will allow the shaft to lower.
(4) Bump out Take-Up Roller Shaft in either direction.
(5) Move Take-Up Roller forward, out of side frame.
(6) For instructions on removal and replacement of Take-Up Roller Bushing refer to "Section 13—Bronze Bushings."
(7) Reassembly of this unit is in above reverse order.

TREAD DRIVE SPROCKET — Fig. 3

ADJUSTMENT OF TREAD DRIVE CHAIN: Take up on Drive Chains is accomplished through means of Take-Up Bolts, one located on each side of Tread Drive Sprocket. When excessive slack accumulates in Traction Drive Chain, take-up on them in the following manner:

(1) Remove Cover Plate.
(2) Remove Take-Up Bolt Keepers.
(3) Loosen Take-Up Bolts and remove Take-Up Bolt Shims.
(4) Tighten Take-Up Bolts until approximately 1" sag in center of drive chain is reached. Since there are two take-up bolts on each sprocket it is important that the bolts be tightened evenly to assure proper alignment.
(5) After proper adjustment is obtained fill up gap between Frame and Sprocket Axle with Shims and tighten securely, being sure to replace Bolt Keeper and Cover Plates.

When the above manner of chain take-up has reached its maximum (all shims have been removed between frame and sprocket axle) move Tread Drive Sprocket forward to attain full slack on Drive Chain and remove one link from chain.

REMOVAL AND REASSEMBLY OF TREAD DRIVE SPROCKETS: When replacement of Tread Drive Sprocket Bushings is necessary, drive sprocket may be removed in the following manner:

(1) Split Tread Shoe Belt.
(2) Split Drive Chain.
(3) Remove Axle Cover Plate.
(4) Remove Take-Up Bolt Keepers and Take-Up Bolts.
(5) Remove Shims from bottom of Drive Sprocket Shaft which will allow the shaft to lower.
(6) Bump out Drive Sprocket Shaft in either direction.
(7) Move Drive Sprocket forward, out of side frame.
(8) For instructions on removal and replacement of Tread Drive Sprocket Bushings refer to "Section 13 — Bronze Bushings."
(9) Re-assembly of this unit is in above reverse order.

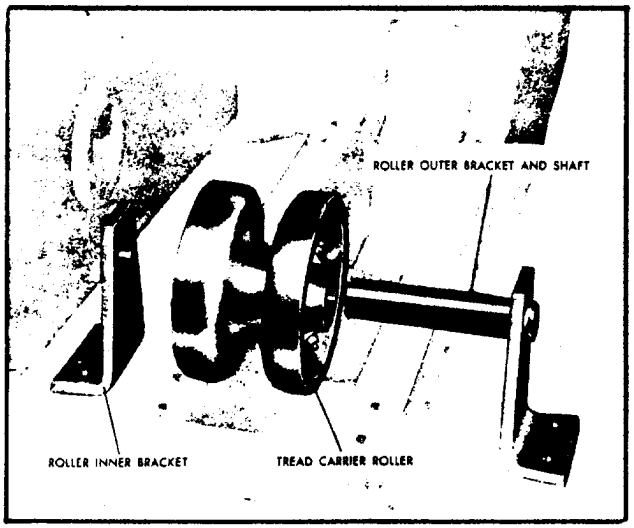

Fig. 4 TREAD CARRIER ROLLER