

MODEL LS-128
BOOK NO. 630
SERIAL NO. _____

MACHINE SERIAL NUMBER

The machine serial number is stamped on the serial number plate which is located inside the machine cab, to the right of the operator. The serial number is the only means the distributor or factory has of ensuring that the correct parts will be furnished.

In the event that the serial number plate is lost, there is another number stamped on the right hand boom foot mounting lug on the upper revolving frame. On hydraulic cranes and excavators, the number is stamped between and below the boom hoist cylinder mounting lugs. This number, A, B, C, etc., _____ should then be furnished, as this will enable us to determine the machine serial number.

WARRANTY;

**Cable Cranes, Hydraulic Cranes, FB Feller Bunchers,
DL Delimbers, SS Scrap Shears, and any other special
applications approved by FMC**

FMC CORPORATION, CONSTRUCTION EQUIPMENT GROUP is hereinafter called the COMPANY.

The products manufactured by the COMPANY, exclusive of used or re-built machinery or equipment, are subject to the following warranty:

Warranty

All of COMPANY's products are of high quality and are manufactured in conformity with the best commercial practices in the various lines. The COMPANY warrants all products manufactured by it to be free from defects in material and manufacture at the time of shipment for six (6) months from date of shipment or 1000 hours of operation, whichever shall occur first. The COMPANY will furnish without charge, f.o.b. its factory, replacements for such parts as the COMPANY finds to have been defective at the time of shipment, or at the COMPANY's option, will make or authorize repairs to such parts, provided that, upon request, such parts are returned, transportation prepaid, to the factory from which they were shipped.

This warranty shall not apply to any product which has been subjected to misuse; misapplication; neglect (including but not limited to improper maintenance); accident; improper installation, modification (including but not limited to use of unauthorized parts or attachments), adjustment, or repair. Engines, motors, and any accessories furnished with the COMPANY's products, but which are not manufactured by the COMPANY, are not warranted by the COMPANY but are sold only with the express warranty, if any, of the manufacturers thereof. THE FOREGOING IS IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED (INCLUDING THOSE OF MERCHANTABILITY AND FITNESS OF ANY PRODUCT FOR A PARTICULAR PURPOSE), AND OF ANY OTHER OBLIGATION OR LIABILITY ON THE PART OF THE COMPANY.

Limitation of Liability

It is expressly understood that the COMPANY's liability for its products, whether due to breach of warranty, negligence, strict liability, or otherwise, is limited to the furnishing of such replacement parts, and the COMPANY will not be liable for any other injury, loss, damage, or expense, whether direct or consequential, including but not limited to loss of use, income, profit, or production, or increased cost of operation, or spoilage of or damage to material, arising in connection with the sale, installation, use of, inability to use, or the repair or replacement of, the COMPANY's products.

The COMPANY reserves the right to make alterations or modifications in their equipment at any time, which, in their opinion, may improve the performance and efficiency of the machine. They shall not be obliged to make such alterations or modifications to machines already in service.

Any operation beyond rated capacity expressly prohibited in the operating instructions or safety manual furnished with the machine, or any adjustment, or assembly procedures not recommended or authorized in the operating or service instructions shall void such warranty.

Parts or Repairs

If parts or repairs are furnished by the COMPANY to satisfy a claim under the warranty provision, the distributor shall not be entitled to any discount on such transactions.

Modifications

Machine modifications furnished at the request of or by the distributor or on applications which exceed the recommendations established by the COMPANY, will result in amendment to the standard warranty. The COMPANY does not assume the responsibility of policing machine modifications or excessive applications or for notifying the distributor of changes to the standard warranty under these conditions.

Service Manual

LS128 Service Manual Index

SM-INDEX

Area 2 - Crawler Lower

Lower Frame (DL,DLC).....	2-0-10.0
Outer Traction Shaft (DL).....	2-2-14.0
Inner Traction Shaft (DL).....	2-2-15.0
Outer Traction Shaft (DLC).....	2-2-16.0
Inner Traction Shaft (DLC).....	2-2-17.0
Track Drive Chain.....	2-2-18.0
Tread Sprocket.....	2-3-17.0
Tread Sprocket (Sealed).....	2-3-21.0
Idler Roller.....	2-4-9.0
Idler Roller (Sealed).....	2-4-11.0
Track Roller.....	2-5-11.0
Track Roller (Sealed).....	2-5-12.0
Steering Mechanism.....	2-6-4.0
Side Frame Cylinders (DLC).....	2-8-3.0
Two Way Rotating Joint (DL).....	2-10-12.0
Two Way Rotating Joint (DLC).....	2-10-13.0

Area 3 - Upper Revolving Frame

Undecking Machine.....	3-1-32.0
Turntable Bearing.....	3-1-33.0
Swing Lock.....	3-6-17.0
Gantry And Bail.....	3-7-5.0
Gantry Cylinder (Early Machines).....	3-7-6.0
Gantry Cylinder.....	3-7-7.0
Counterweight Cylinder.....	3-10-19.0

Area 4 - Vertical Shafts

Vertical Travel Shaft (DL).....	4-1-12.0
Vertical Travel Shaft (DLC).....	4-1-13.0
Vertical Swing Shaft.....	4-3-16.0
Swing Brake & Controls.....	4-5-13.0

Area 5 - Horizontal Shafts

Horizontal Shafts (General).....	5-0-13.0
Ind. Travel Reverse Shaft.....	5-1-17.0
Ind. Swing Reverse Shaft.....	5-1-18.0
Long Countershaft (Early Machines).....	5-2-25.0
Short Countershaft.....	5-2-26.0
Reduction Shaft.....	5-2-27.0
Long Countershaft.....	5-2-28.0
Front Drum Shaft.....	5-3-31.0
Rear Drum Shaft.....	5-4-4.0
Third Drum Shaft.....	5-5-12.0
Two Speed Planetary.....	5-7-1.0
Planetary Brake.....	5-7-2.0

Area 5 - Horizontal Shafts - Con't.

B.H. Drum Shaft.....	5-8-27.0
Boom Hoist Brake.....	5-8-28.0
Boom Hoist Pawl.....	5-8-29.0
Clutches (General).....	5-9-2.0
Clutches (F.D., R.D., B.H., Travel, 3rd Drum).....	5-9-4.0
Rotating Joints.....	5-9-9.0
Front & Rear Drum Brake.....	5-12-20.0
Front & Rear Drum Pawls.....	5-12-21.0
Third Drum Brake.....	5-12-25.0
Third Drum Pawl.....	5-12-26.0

Area 6 - Engine Wiring, Chain Case

Twin Disc Clutch.....	6-16-2.0
Clutch & Control Adjustment.....	6-17-1.0
Engine Wiring (GM).....	6-24-22.0
Engine Wiring (Cummins).....	6-24-21.0
Storage Battery.....	6-29-1.0
Chain Case.....	6-39-8.0
Electrical System Standardization.....	6-47-19.0

Area 7 - Hydraulic System

S-o-M System (Trouble Shooting).....	7-0-6.0
Oil Sample Procedure.....	7-0-41.0
S-o-M System (Gen).....	7-0-43.0
Hydraulic Schematics.....	7-0-47.0
Accumulator.....	7-1-16.0
Unloading Valve.....	7-2-22.0
External Check Valve.....	7-2-23.0
S-o-M Filter.....	7-2-24.0
Relief Valve.....	7-2-25.0
S-o-M Pump.....	7-5-31.0
Control Valves & Bank.....	7-10-2.0
Hydraulic Tube Fittings.....	7-18-1.0

Area 10 - Trolley Winder

Single, Double, Triple Barrel Tagline Winder.....	10-1-1.0
Single Barrel Combination Magnet Reel And Trolley Winder.....	10-1-2.0

2

3

4

5

6

7

10



Service Manual

NOTES

--



Service Manual

LS128 Service Manual Index

SM-INDEX

Area 18 - Special Attachments,
General Information

Capscrew Torques.....18-0-1.0

1
8

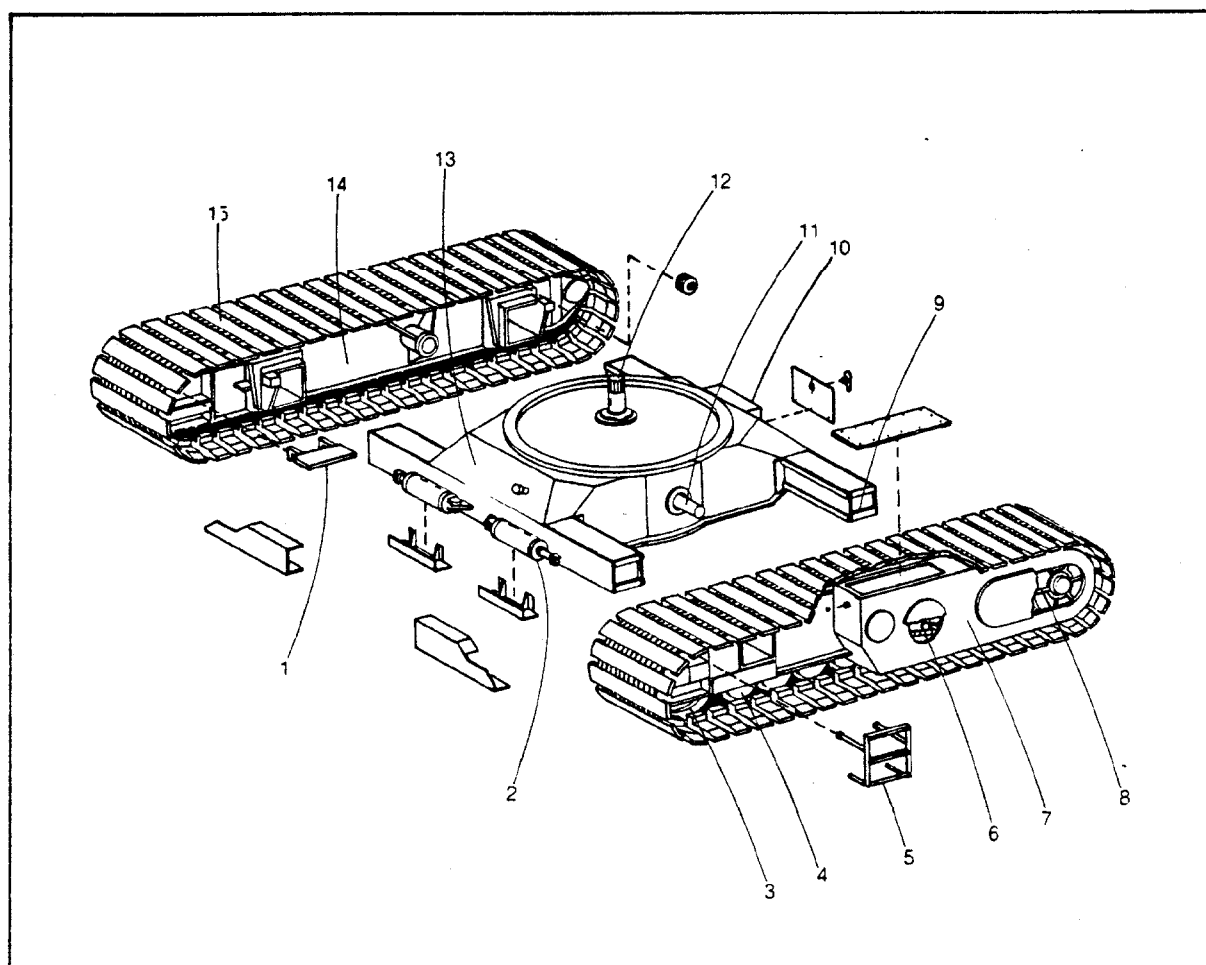


Fig. 1
Lower Frame (128DLC Shown)

DD108-B

- | | | |
|-------------------------|-------------------------------|----------------------------|
| (1) Step | (6) Track Drive Chain | (11) Traction Shaft |
| (2) Side Frame Cylinder | (7) Track Drive Chain Case | (12) Vertical Travel Shaft |
| (3) Idler Roller | (8) Track Drive Sprocket | (13) Carbody |
| (4) Track Roller | (9) Cross Axle | (14) Side Frame |
| (5) Steps | (10) Side Frame Cyl. Controls | (15) Track Belt |

Lower Frame (General)

The lower frame is a weldment, and contains the travel and steer mechanism completely enclosed. Track side frames containing the drive sprockets, track rollers, and idler rollers are attached to frame.

On some lowers the side frames are integrally welded to the lower. On others, the side frames are removable to reduce transportation weight, or re-

tractable to reduce overall width.

Power to travel the machine is transmitted to the lower by the vertical travel shaft. (See Area 4). The vertical travel shaft powers the horizontal traction shaft. The power is transferred from the traction shaft to the track drive sprocket assemblies by the track drive chains. Drive chains are completely enclosed and run in oil.

The steering mechanism consists of a pair of jaw clutches, and steer brakes, which work in conjunction with one another. When the jaw clutch is engaged, power is transferred out to the track. When the steer brake is engaged, the track will be locked. The brake is spring applied and hydraulically released, and is designed so the jaw clutch has to engage to disengage the steer brake. The machine is steered by locking one track belt, and pivoting the machine on the



Service Manual

Area 2 - Crawler Lower

SM2-0-10.0

blocked track.

The weight of the machine against the track belt is supported by track rollers. Skid plates carry the track belt down over top of the side frame.

The idler roller (at front of lower) guide the track over the end of the side frame. These rollers are also used to adjust track tension.

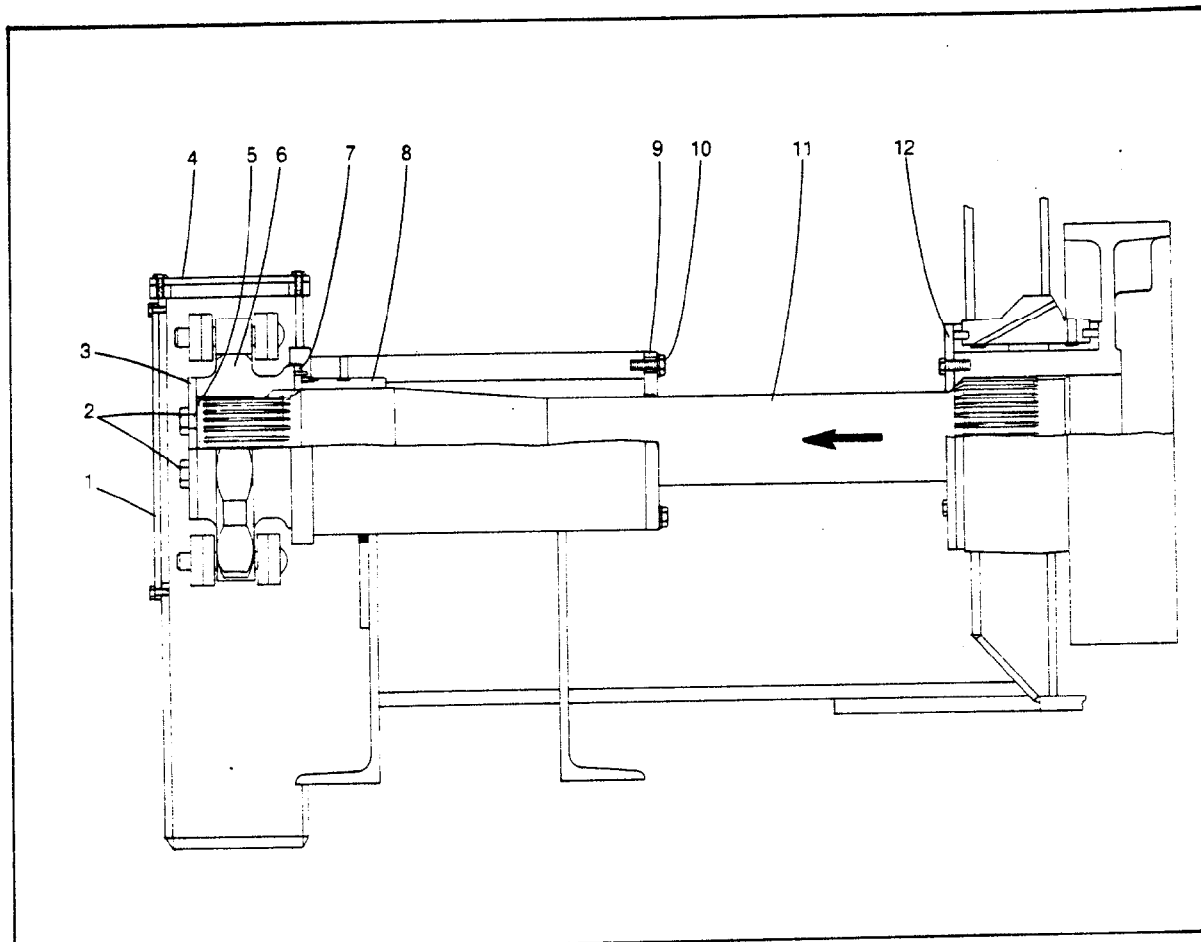


Fig. 1
Outer Traction Shaft

- (1) Cover
- (2) Capscrews
- (3) End Cap
- (4) Cover

- (5) Shims (AR)
- (6) Sprocket
- (7) Thrust Washer
- (8) Bushing

- (9) Split Retainer
- (10) Capscrew
- (11) Outer Traction Shaft
- (12) Split Retainer

DD5-C

Outer Traction Shaft Assembly

Chain Sprocket Removal:

- (a) Remove chain case cover plates (1) & (4).
- (b) Loosen track drive chain. Refer to Drive Chain Adjustment in SM2-2-18.0.
- (c) Break drive chain to allow more slack. Refer to Drive Chain Removal in SM2-2-18.0. With more slack in chain, pull chain from sprocket (6) to side of chain case. Pull chain off top of sprocket. Then pull chain through top of chain case and use a pry bar to keep chain off of

- sprocket.
- (d) Remove capscrews (2) and end cap (3) from sprocket. Remove shim(s) (5) and keep track of them for replacement later.
- (e) Remove sprocket (6) from shaft.

Outer Shaft Removal:

- (a) Remove chain drive sprocket as explained above.
- (b) Remove capscrews and split retainer (12). Remove capscrews (10) and split retainer (9).
- (c) Remove shaft (11) from machine.

Bushing And Thrust Washer Replacement:

- (a) All bushings are retained in the treadmember by 1X487 set screws. When bushings are replaced, drill two holes 1" deep, 180° apart in the crack between the outside of the bushing and its bore. Tap the holes 3/8" - 16NC X 7/8 deep and install the set screws.
- (b) The thrust washer is retained against rotation by two HCl235 dowels. With thrust washer (7) in place drill two holes 3/16" diameter by 9/16" deep



Service Manual

Area 2 - Crawler Lower

SM2-2-14.0

180° apart and 90° away from
set screws retaining bushing.
Install a dowel in each hole.

Reassembly:

- (a) Install thrust washer (7) in side frame.
- (b) Slide shaft through chain case into place in brake drum.
- (c) Install split retainer and capscrews (12). Then install split retainer (9) and capscrews (10).
- (d) Install sprocket (6) on shaft. Install shims (5), end cap (3) and capscrews (2). Shim between end cap and shaft until end play is removed with capscrews tightened.

The following shims are used at this point:

- (1) 51A111.....16 Ga.
- (2) 51A112.....22 Ga.
- (e) Place drive chain back on chain drive sprocket. Reconnect drive chain. Refer to Drive Chain Installation in SM2-2-18.0.
- (f) Adjust track drive chain. Refer to SM2-2-18.0. Install chain case cover plates (1) & (4).
- (g) Lubricate all bushings on traction shafts before operating machine.