



BI001575-01 (EN-US)
A6474X442
January 2015

Operation and Maintenance Manual

CM445 Continuous Miner

A6474X442 (Mechanical - Gathering Head/Conveyor)

Serial Number BE500774, GE500775, GE500813, GE500818

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Foot Shaft

Installation Procedure

To install the foot shaft (Fig. 2):

1. Position the CLAs as shown in Fig. 2.
2. Slide an adapter shaft onto each end of the foot shaft.
3. Slide the foot shaft into position between the two gathering head gear case bevel pinions. **Note: Position the foot shaft so that its sprocket will engage the conveyor chain links when the chain is reconnected.**
4. Align the foot shaft splines with the bevel pinion splines.
5. Slide the right adapter shaft over the foot shaft spline onto the bevel pinion splines until it touches the gear case seal carrier. Repeat for the left side.
6. Place a collar onto each end of the foot shaft so that the adapter shaft is secured against the bevel gear case seal carriers.
7. Insert and tighten the four (4) 1/2-13X1-3/4 socket head capscrews (two for each collar) through both halves of the collars to secure the collars to the foot shaft. Torque to 118 ft-lb dry.
8. Replace the foot shaft covers and secure with the four (4) 3/4-10X2-1/2 socket head capscrews. Torque to 261 ft-lb dry.
9. Reattach the two ends of the conveyor chain by replacing the connecting pin.
10. Close the needle valve to the conveyor take-up cylinders.
11. Reconnect the trailing cable to energize the miner.
12. Start the pump so that the conveyor chain take-up cylinders are pressurized.
13. Turn on the gathering head motors to run the conveyor chain.
14. Elevate the conveyor full up and down and swing the discharge conveyor full left and right. Check that the conveyor chain is running smoothly.
15. Shutdown the machine and check the conveyor chain tension. If adjustment is necessary, see the Conveyor chain adjustment procedure.

Gathering Head Assembly

Installation Procedure

To install the gathering head assembly (Fig. 5):

1. Reconnect the trailing cable to energize the miner.

IMPORTANT When the gathering head was removed, the lower length of the conveyor chain was pulled free of the gathering head. This end of the conveyor chain must be brought forward when the miner is trammed to the gathering head.

2. Tram the miner to the gathering head frame. Using a puller cable or wire, feed the lower end of the conveyor chain through the gathering head return deck and up to the foot shaft.
3. Position the miner to align the pivots in the main frame with those on the gathering head.

⚠ DANGER All personnel must stay clear of the miner while it is tramping and being aligned with the gathering head assembly. Standing under the cutter head or in the path of the miner while it is tramping may result in severe injury or death.

4. Once the miner is aligned with the gathering head assembly, raise and block the cutter head.
5. Disconnect and lock out the electrical power to the miner. Follow all applicable regulations regarding lockout/tagout procedures.
6. Coat the pivot pins and their bushings with grease to aid in installation.
7. Be sure that the pivot bores in the gathering head and the main frame are aligned and install both the right and left hand pivot pins. Position each pivot pin so that it is flush with the main frame bushing. Take care not to damage the end of the pivot bushing during installation.
8. Verify that the pan float valve is closed.
9. Align the gathering hand frame clevises with the gathering head cylinder rod end clevises. Install the upper cylinder pins through the clevises and secure.
10. Grease all cylinder and pivot pins.
11. Install the conveyor chain.
12. Connect all water lines to both motors.
13. Connect the electrical leads to both motors.
14. Secure the motor access cover to the gathering head frame.
15. Check the oil levels in the gathering head pot cases and the gathering head input gear cases.
16. Restore power to the machine and test machine functions.

Centrifugal Loading Arm

Introduction

The following procedure is for the removal and installation of a centrifugal loading arm (CLA). The gathering head gear case turns the CLAs and drives the foot shaft which powers the conveyor chain.

Tool Set

Basic Tool Set
Torque Wrench

Blocking

Safety

When removing or installing a CLA, observe the following safety precautions:

⚠ WARNING Never work under any assembly or component of this machine that is elevated. Always install enough blocking to support the machine or component or lower the component to ground level.

⚠ WARNING You could be seriously injured or killed by falling loads. Observe the safe working load limits of all lifting and blocking devices and keep a safe distance from suspended loads.

⚠ WARNING Failure to follow all applicable lockout/tagout procedures may result in machine damage or serious injury or death of personnel.

Discharge Conveyor

Introduction

The following procedure is for the removal and installation of the discharge conveyor.

Tool Set

Basic Tool Set
Blocking

Lifting Device
Grease Gun with Spec. 100-3 Grease

Safety

When removing or installing the discharge conveyor, observe the following safety precautions:

⚠ WARNING Never work under any assembly or component of this machine that is elevated. Always install enough blocking to support the machine or component or lower the component to ground level.

⚠ WARNING You could be seriously injured or killed by falling loads. Observe the safe working load limits of all lifting and blocking devices and keep a safe distance from suspended loads.

⚠ WARNING Failure to follow all applicable lockout/tagout procedures may result in machine damage or serious injury or death of personnel.

⚠ WARNING Never disconnect a hydraulic hose if the circuit is pressurized. If a hose is disconnected while the circuit is pressurized, machine damage or severe injury may result.

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