Maintenance Manual



LP3010/3020 Series

MS-LP31010/3020-GB 09/02 • Rev. B • Printed in Germany

MidWestTech | Crown LP3010, 3020 Series Electric Pallet Jack Service Manual | Publication 812521-006-0M

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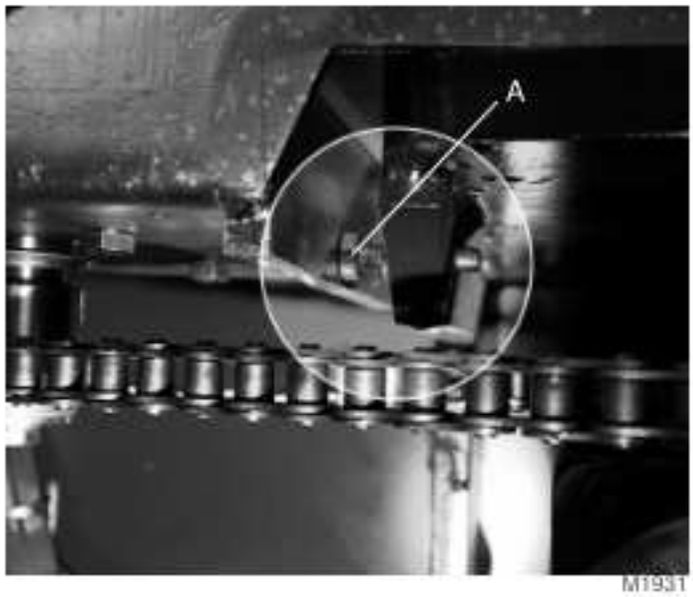
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- Mount motor pinion (36) on the motor axis and **tighten bolts (38) to a torque of 50 Nm.**
- Place new O-ring (37) on the front flange of the motor.
- Insert drive motor into the housing (23). Rotate so that the terminal board points upward to the attachment flange of the transmission unit. Fix with the bolts (21). **Torque setting: 25 Nm**
- Through the bearing hole of the pinion shaft (10) in the housing (4), apply approx. 0.4 kg of grease evenly to the teeth of the crown gear (25) (see Lubrication Table).
- Carefully guide pinion shaft (10) complete with bearing and pinion (8) into the housing, ensuring correct meshing of the gear teeth with the crown gear (25).
- Insert shaft (12) into the housing (4). Fit the axial bearing (16), axial roller and cage unit (17) and cage roller bearing (18) and lightly grease.
- Install the pinion (19), axial roller and cage unit (17) and cage roller bearing (16).
- Position new O-ring (13) on the shaft (12) and fit a new housing gasket (20).
- Place compensation ring (5) on the bearing surface (7) in the housing (4).
- Apply grease (approx. 0.6 kg) evenly in the area of the crown rear inside the housing (4) according to the Lubrication Table.
- Position housing (4) on the shaft (12) and tap evenly with a rubber hammer against the gasket.
- Insert new alignment pins 5 x 20 into the recesses and secure the housing (4) with the bolts (14). **Torque setting: 10 Nm**
- Put the locking plate (3) in position and secure with the bolts (1). **Torque setting: 6 Nm**
- Place new O-ring (26) on the crown gear (25).. Put the drive wheel (34) in position and secure with the bolts (35). **Torque setting: 15 Nm**
- Place the flange (47, Fig. M1753) onto the housing. Align the groove for the cable with the groove on the housing and secure the flange with the bolts (45, Fig. M1753). **Torque setting: 134 Nm**
- Press bearing (39, Fig. M1753) into the flange (41, Fig. M1753).
- Press the axial bearing ring with the ground internal surface and the ballrace facing upwards (43, Fig. M1753) into the flange (47, Fig. M1753). Grease the ballrace, insert the ring with the ball bearings and grease. Insert the second ball cup and place shim (42, Fig. M1753) on top.
- Insert flange (41, Fig. M1753) completely into the flange (47, Fig. M1753) using a rubber hammer and secure with a **new** self-locking ring nut (39, Fig. M1753). Only tighten the nut until the flange (41, Fig. M1753) has no more axial play and can still be turned freely.

Installing the Drive Unit

- Place the drive unit on the chassis and secure with the bolts (40, Fig. M1753). **Torque setting: 50 Nm**
- Align the drive unit so that the drive motor is at an angle of 90 degrees to the longitudinal axis of the vehicle. Refit all other parts that were previously removed.
- Fit the steering chain again and adjust chain tension with the screw (A, Fig. 1931).



M1931

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Graphic Display

DANGER

The truck must be jacked up before repairing or troubleshooting the electrical system.

General

The graphic display does not only display the service hours. Additional settings which are passed to the traction and lift controllers during operation are programmed and stored here.

Precautionary Measures

- Do not connect the display to any battery whose rated voltage differs from the controller's specified voltage.
  A higher battery voltage can damage the MOSFETs, while a lower power supply will leave the system inoperable.
- Only operate the display with special traction batteries. Do not connect it to a rectifier or to the mains!
- Jack up the truck when commissioning the truck or when carrying out maintenance work on the controller and electrical system, in order to prevent the truck from suddenly starting in the event of faults.

Maintenance

Servicing the display is limited to a dry- clean of the outer parts.

WARNING

Short circuit danger with electrical equipment. Special safety precautions therefore apply when working with electrical systems.

- *Only use specially trained personnel.*
- *Use non-wearying eye protection.*
- *Do not wear loose clothing.*
- *Do not wear jewelry.*
- *Only use insulated tools.*

- Disconnect the battery.
- Remove the console in order to access the electrical contacts of the graphic display (Fig. MS-3010-066).



MS-3010-066

- Remove the plug connector, remove the console and display and place them on a clean working surface.



MS-3010-068

- Remove any dirt and corroded material from the contact surfaces.
- Wipe the display with a clean, dry cloth and blast off any dust on the boards with low pressure dry compressed air.
- Refit the plug connector.

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Removing Platform with Aux. Lift (1800 mm lift height)

WARNING

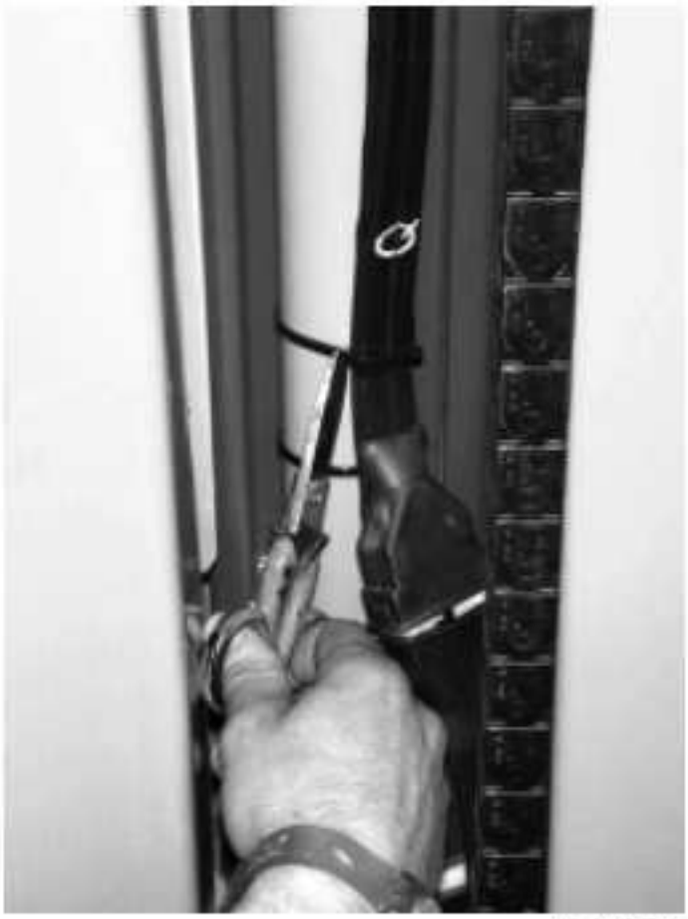
Carrying out assembly work on the mast can be dangerous

Unsecured, non-blocked mast stages and components can sever limbs or cause fatal injuries. Always block and secure the respective components with suitable means prior to assembly.

- Prevent the truck from rolling away.
- Disconnect the battery (remove the plug).
- Remove "Q" and "P" wire harnesses from the lift cylinder (Fig. MS-3010-038) and disconnect the plug connector (Fig. MS-3010-039).
- Remove the energy chain attachment from the chassis (Fig. MS-3010-039) and attach it to the platform (Fig. MS-3010-025).



MS-3010-039



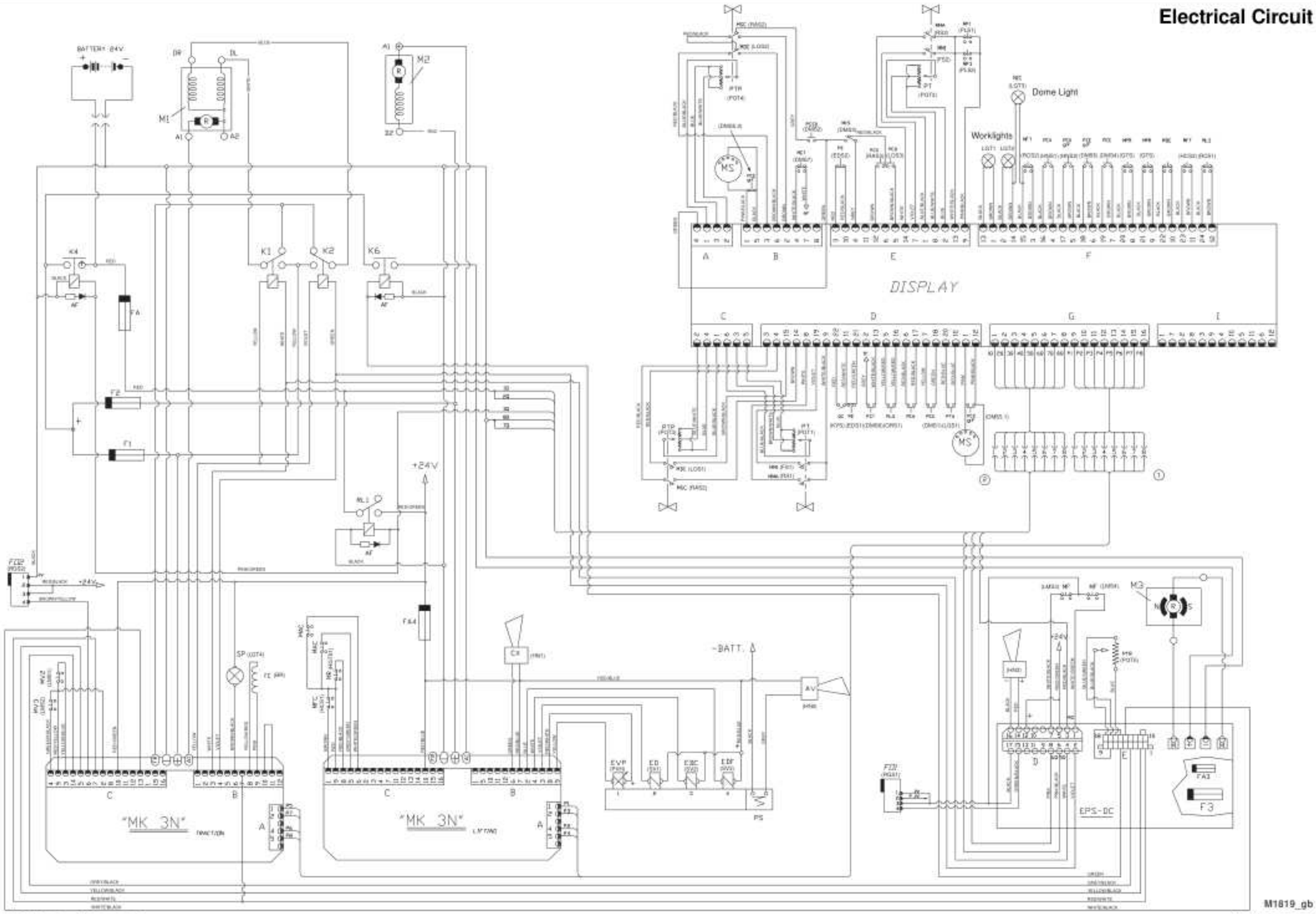
MS-3010-038



MS-3010-040

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Electrical Circuit



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