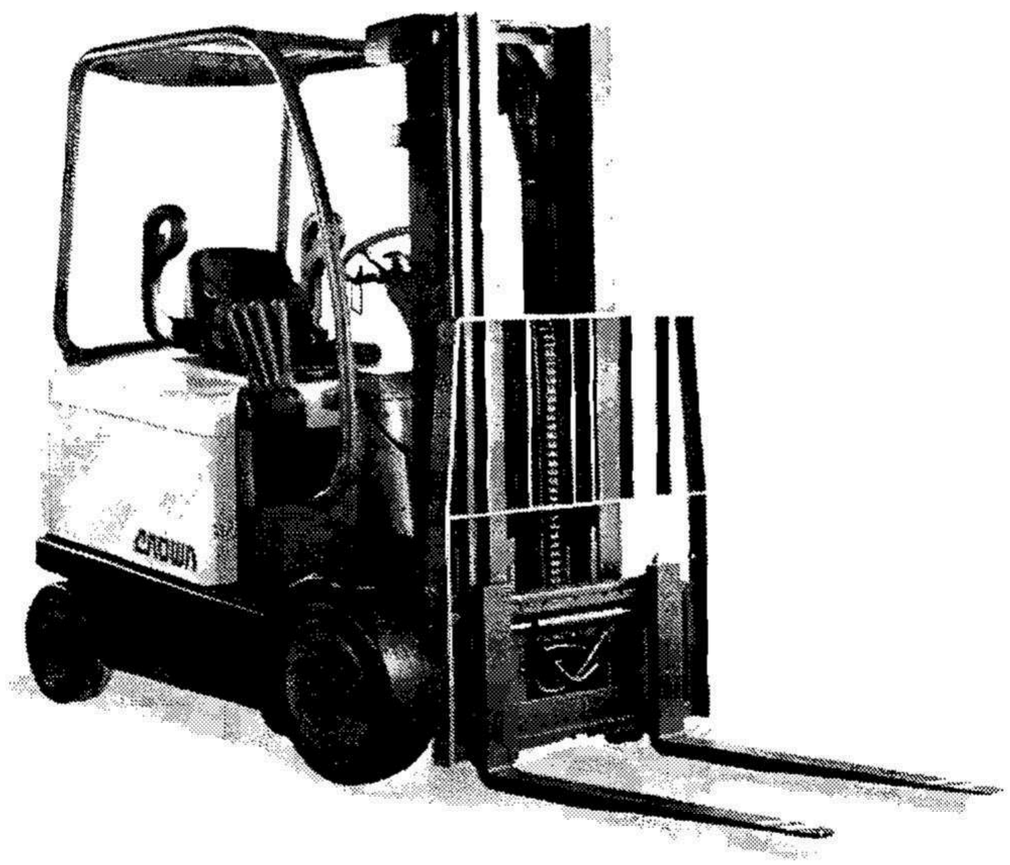
Model No. _____

Serial No. _____

FC4000 Series
Service & Parts Manual



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EV100 TROUBLESHOOTING
FC4000 with ZE Traction Card and ZF Pump Card

GENERAL

This section provides troubleshooting aids to facilitate analysis of truck events. Power components are easily accessible and can be checked with a volt-ohmmeter (i.e. Simpson 260, or equivalent). If the InfoPoint information indicates power components to be faulty, or in need of replacement, refer to Power Component Test and Replacement Section.

By using the appropriate troubleshooting aids (based on event codes displayed through the use of the handset or display module), truck wiring diagram, and information provided in this manual, most problems should be easily detected and corrected.

CAUTION

Care must be taken when replacing the EV100 control card. Installation of the wrong control card may cause misoperation. Refer to subtitle and parts breakdown for card type and part number.

EVENT CODES 1 through 76 are for the traction SCR control, **EVENT CODES 90 through 99** are for the truck management module (TMM) and **EVENT CODES 117 through 157** are for the pump SCR control.

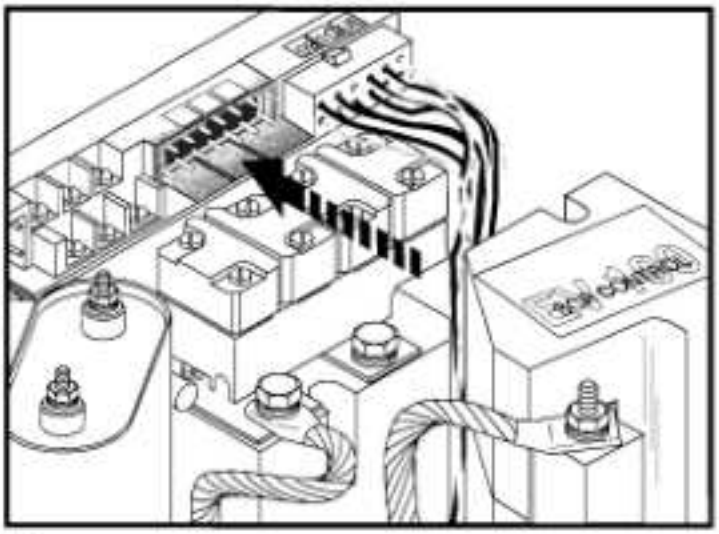
The EV100 ZE/ZF SCR control utilizes an on board microprocessor to monitor the SCR control system. By monitoring circuit voltages and system timing, the microprocessor can isolate malfunctions in specific circuits. The malfunctions are categorized by event codes. Faults which interrupt truck operation (PMT conditions which can be reset by cycling the keyswitch) are stored in the traction SCR control card microprocessor and are accessed by use of a "plug in" handset (112209). The last event to occur is the event code in storage. Listed in this section are the event codes which will be displayed and the possible causes of the malfunction.

Trucks not equipped with an enhanced display can use the GE handset as described in the following information. Use of the truck display is described following handset operation.

HANDSET OPERATION

WARNING

Before connecting or disconnecting the handset, lift the drive wheels clear of floor and place hardwood blocks under truck frame. Turn keyswitch "OFF", disconnect battery and discharge capacitor 1C of the traction control.



1049

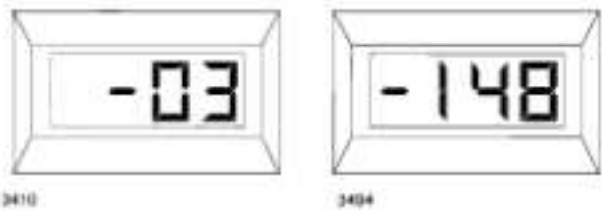
When the term "press key" or "depress key" is used, press the appropriate key on the handset keypad for approximately 1 second.

The control card memory is accessed by disconnecting plug in "Y" receptacle of the traction control card and connecting the handset. When the handset is plugged in, turn the truck keyswitch to the "on" position. *Do not depress any of the handset buttons before, during or after power up.*

When the handset is being used during troubleshooting, there are three different types of information accessible; Event Codes, Battery State of Charge, and Hour Meters.

EVENT CODE ACCESS

Operate the truck until an event occurs. When an event occurs, the handset will display the appropriate event code. Event codes are always preceded by a minus symbol (-). Refer to the event code InfoPoint information in this section for additional information and corrective procedures.



3410 3494

EVENT CODE EXAMPLES

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Lift chains are highly important components on fork lift trucks. The chain system on your mast was designed for efficient, reliable transmission of lifting force from hydraulic cylinder to the forks. Safe, uninterrupted use of your lift truck depends on the proper care and maintenance of the lift chains.

Most complaints of unsatisfactory chain performance can be traced directly to inadequate maintenance. Highly stressed precision chains require periodic maintenance to deliver maximum service life.

INSPECTION

After every 100 hours of truck operation, lift chains should be inspected and lubricated. When used in an extremely corrosive environment, inspect chains every 50 working hours. During inspection, check for the following:

Wear

As the chain flexes on and off the pulleys, the joints gradually wear.

The "stretch" a chain develops in service is due to material being worn off of pin outside diameter and pin hole inside diameter on the inside plates.



8771 ILLUSTRATION 1

Chain wear can be measured by using a 106440 wear scale or a steel tape (Refer to Illustration 1). When chains have elongated 3%, as represented on scale "A" (0.75 in. [19 mm] or 1 in. [25 mm] pitch chain) or scale "B" (0.625 in. [16 mm] pitch chain) of the wear scale, they should be discarded. On chain with 0.75 in. (19 mm) between pins, for example, 12 in. (305 mm) of chain contains 16 pitches or links. When 16 pitches measure 12.375 in. (314 mm) the chain should be replaced. On chain with 0.625 in. (16 mm) between pins, 20 pitches or links equal 12.5 in. (318 mm). When 20 pitches measure 12.875 in. (327 mm) the chain should be replaced. Crown currently uses 0.625 in. (16 mm) pitch (20 links in 12.5 in. [318 mm]), 0.75 in. (19 mm) pitch (16 links in 12 in. [305 mm]) and 1 in. pitch (12 links in 12 in. [305 mm]) chain. When checking chain wear, be sure to measure a segment of chain that operates over a pulley. Do not repair chain(s) by cutting out the worn section and splicing in a new piece. If part of a chain is worn, replace lift chain(s). If truck has a matched set of lift chains replace both chains at same time.



7771 ILLUSTRATION 2

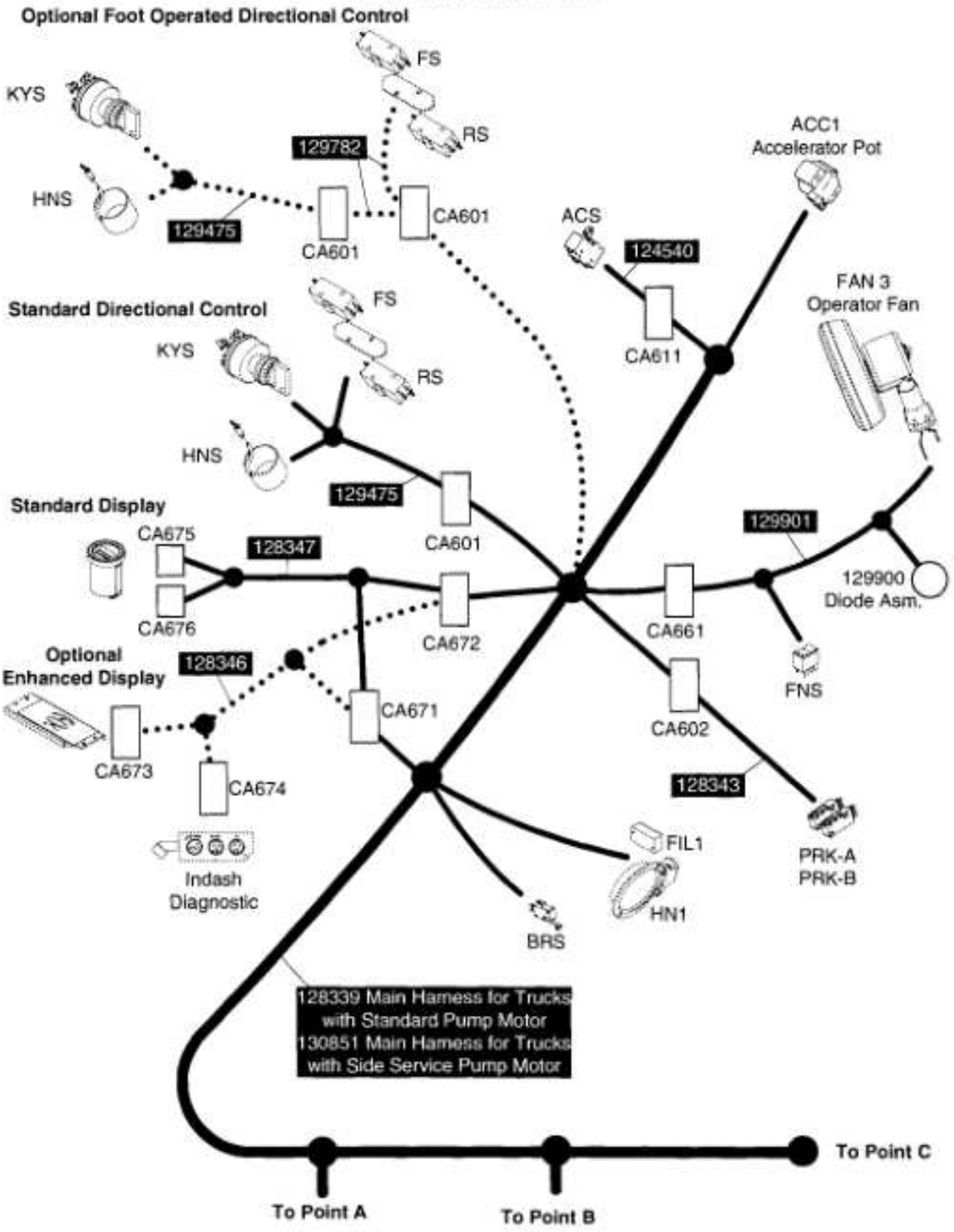
Rust and Corrosion

Chains used on lift trucks are highly stressed precision components. It is very important that "as-manufactured" ultimate strength and fatigue strength be maintained throughout the chain service life.

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MAIN WIRE HARNESS



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