CROWN

Model No. _____

Serial No. _____

WAVE®

Service & Parts Manual



W O R K A S S I S T V E H I C L E ™

Printed in U.S.A.

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Event Code 7

Display Code = □□□□□■■■
Handset Message = SRO
Audible Alarm = One quick beep
Wrench Light = Off

Indicates steering potentiometer (POT1), traction potentiometer (POT2) or operator presence switches / sensors did not sequence properly during operation.

NOTE

This event may be caused by the operator not being in the proper position when selecting either traction or steering.

Step 1: Enter the Monitor Menu with the handset, scroll through the following inputs. With operator on foot switches, gates closed and hands in operating position, the following conditions should be met.

Handset Input	Switch Condition
FOOT INPUT	On
LEFT HAND	On
RIGHT HAND	On
GATE OPEN	Off
GATE CLOSED	On

- If any of the inputs are incorrect
  - Then verify condition and operation of switches (DMSR, DMSL, GCSL, GCSR, GOSL and GOSR), sensors (RHS and LHS) and associated wiring.
- If all inputs are correct
  - Then proceed to Step 2.

Step 2: Enter the Monitor Menu with the handset, scroll to "F/R THROTTLE %", with the twist grip released (neutral).
- If less than -5% or greater than 5%
  - Then proceed to Step 3.
- If between -5 and 5%
  - Then proceed to Step 4.

Step 3: Connect DVOM to CA701-1 (+) and CA701-4 (-). Select full forward and full reverse travel.
- If less than 3.50 Vdc (full reverse) or greater than 9.0 Vdc (full forward)
  - Then replace POT2.
- If between 3.50 Vdc (full reverse) or greater than 9.0 Vdc (full forward)
  - Then replace display module (DCM).

Step 4: Enter the Monitor Menu with the handset, scroll to "R/L THROTTLE %", with steering rocker released (neutral).
- If less than -5% or greater than 5%
  - Then proceed to Step 5.
- If between -5 and 5%
  - Then replace display module (DCM).

Step 5: Connect DVOM to CA701-20 (+) and CA701-4 (-). Select full left and full right turn.
- If less than 3.50 Vdc (full right) or greater than 9.0 Vdc (full left)
  - Then replace POT1.
- If between 3.50 Vdc (full right) and greater than 9.0 Vdc (full left)
  - Then replace display module (DCM).

Event Code 8

Display Code = □□□□■□□□
Handset Message = FRAM Warning
Audible Alarm = Two quick beeps
Wrench Light = Off

Indicates controller did not start up properly.

Step 1: Re-key truck
- If event returns
  - Then replace controller.

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Charging Requirements

Charging requirements vary depending on vehicle use. The chart below lists estimated charging times needed to fully charge a battery after discharging the battery to 80% of full capacity, assuming a 6-hour discharge rate. The minimum battery voltage needed for the charger to turn on is 12 Vdc.

Battery	30 Amp Charger
195 Amp Hour, Maintenance Free	10 Hours

Charging

CAUTION

Do not bring any flames, sparks or other ignition sources near the battery. Gas formed while charging the battery is explosive. This gas remains in cells long after charging.

0To charge the batteries, plug the charger into a 250 V, 15 amp (minimum) AC outlet. To stop the charger during charging, unplug the charger.

To check charging, refer to the three LED's on the service panel.



Figure 25453

LED	State	Indication
Red	Flashing	Shorted Battery
Red	Flashing	Exceeded Charge Time
Red	On	Charger Temperature High
Yellow	Flashing	Charging (Maintenance Free)
Green	On	Charge Complete

All LED's off signals the charger is not connected to an AC power source. When first plugged into an AC source, all LED's flash 3 times.

Abnormal Charge Sequence

Red LED

- Exceeded Charge Time: 10 hours for maintenance free batteries. Discharging a battery too deeply may cause this. Clear the fault by unplugging the charger from the AC source. Wait one minute before plugging the charger back into the AC source.
- Charger detects a shorted battery. If the battery checks good, disconnect the charger from the batteries and plug it back in. The LED should stop flashing and resume charging.
- Charger temperature exceeded. Allow the charger to cool, then disconnect it from the AC source and plug it back in to resume the charge cycle.

Battery Testing

The following steps outline the procedure for verifying battery integrity.

1. Fully charge the batteries.
2. Disconnect the charger and measure the total battery voltage. The voltage should be 25.3 to 26.0 V.
3. Disconnect the power cables to isolate individual batteries. Measure and record the voltage across each battery. Each battery should be between 6.3 and 6.5 V.
4. Replace any battery that measures less than 6.0 V. Batteries which are 0.3 V less than the other batteries may be showing signs of undercharging.
5. Connect all batteries and return the vehicle to service.

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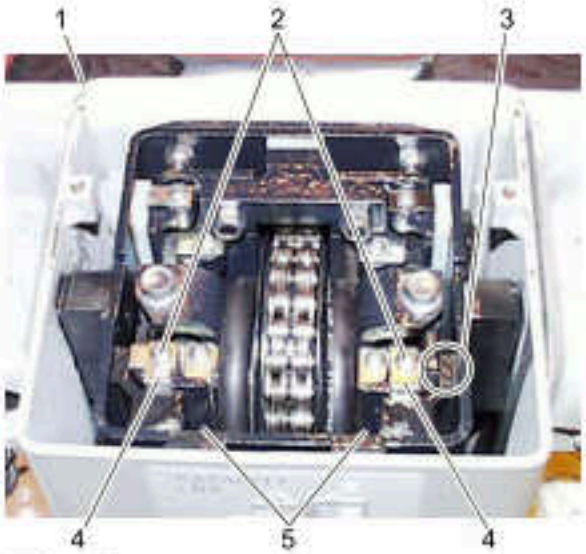
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10. Platform should raise and lower freely without binding.

NOTE

Should additional shimming be required it may be necessary to use this same procedure on the bottom shims and guides. Shims needed are:

Part No.	Description	Qty
120284-001	0.381 mm (0.015 in) Thick (Black)	6
120284-002	0.635 mm (0.025 in) Thick (Gold)	4
120284-003	0.889 mm (0.035 in) Thick (Silver)	2



1 Mast Top
2 Loosen shim mounting screws
3 Land Wear Indicator
4 Shim
5 Insert Prybar

Figure 21268

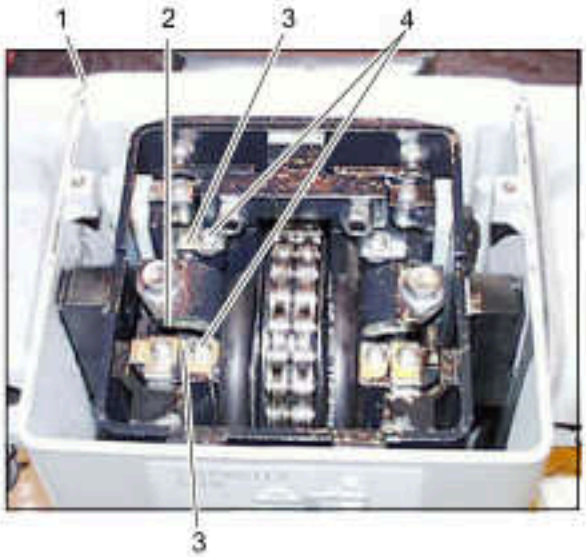
11. Lower platform and disconnect battery.

12. Verify that all shim mounting screws are secure.

13. Refer to Lubrication and Adjustment for lubricating top part of the mast.

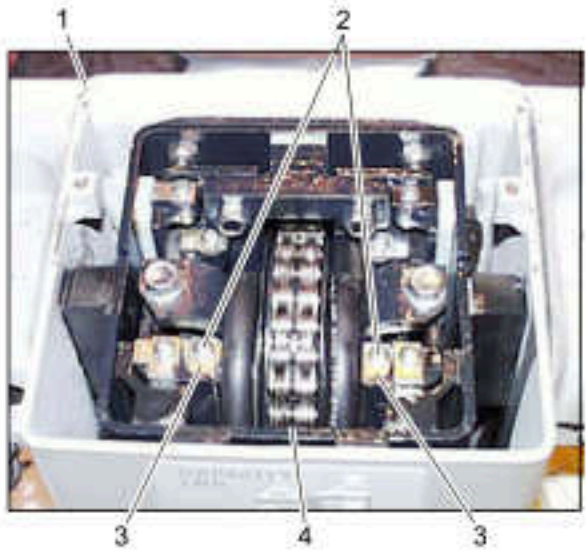
14. Install mast cap.

15. Connect battery, remove wheel chocks and return vehicle to operational status.



1 Mast Top
2 Insert Prybar
3 Shim
4 Loosen shim mounting screws

Figure 21269



1 Mast Top
2 Loosen shim mounting screws
3 Shim
4 Insert Prybar

Figure 21270

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