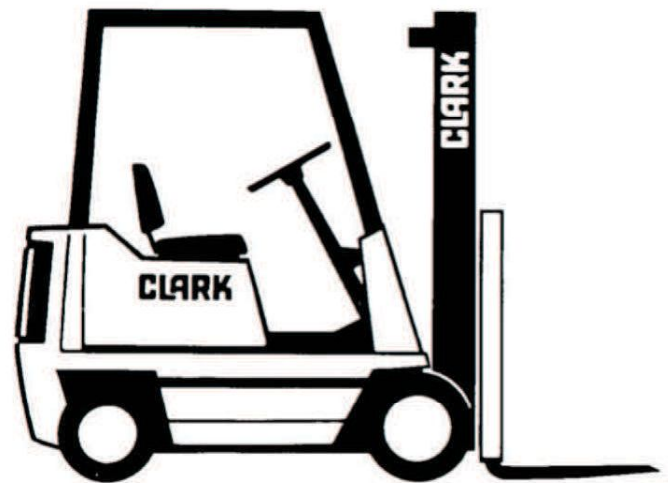

Planned Maintenance & Adjustment Procedures



PMA 436
E235 EV 1

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40	18	MEASURING RESISTANCE WITH VOLT-OHM METER

Connect the NEGATIVE (-) BLACK LEAD of the meter to the NEGATIVE POWER CABLE on the SCR control.

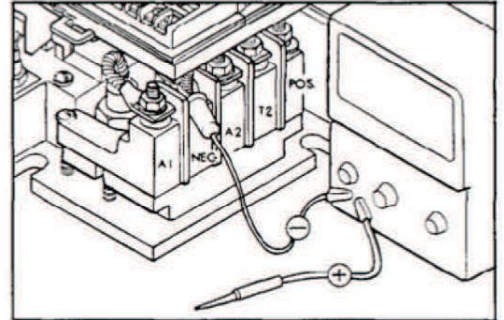


Fig. 19116

Touch the POSITIVE(+) RED LEAD of the meter to the T2 TERMINAL on the SCR control.

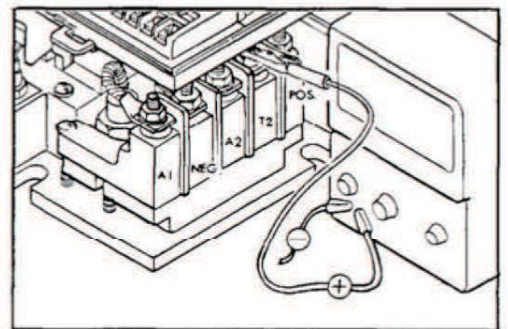


Fig. 19117

Turn meter dials to 50V and +DC positions.

Turn key switch on. Place F&R Lever into the forward position.

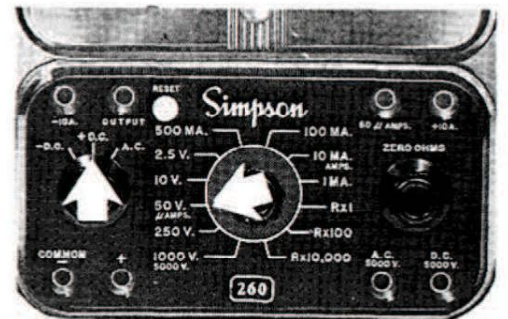


Fig. 17229

I M P O R T A N T

THE 10 Volt (+DC) SCALE MAY BE USED TO OBTAIN A MORE ACCURATE READING. HOWEVER, USE WITH CAUTION ... AS THIS SCALE MUST BE USED DURING THE CREEP SPEED MODE ONLY.

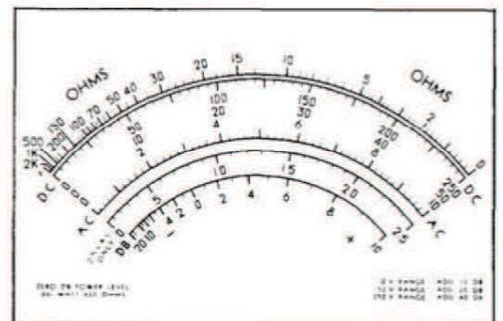


Fig. 17772

Fully depress brake pedal. Depress ACCELERATOR PEDAL until the IMS (switch) just closes and creep speed is obtained.

Drive Wheels must not rotate.



Fig. 14175

The meter should register:

- 2.2 Volts - 36 Volt Battery
- 2.9 Volts - 48 Volt Battery

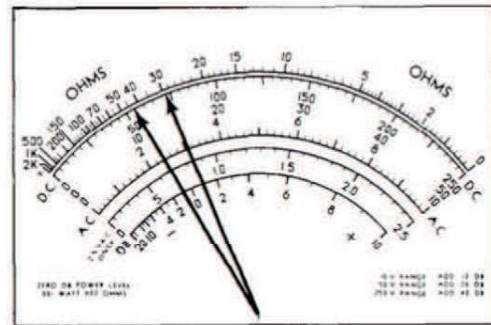


Fig. 17773

If readings are incorrect, ADJUST CREEP SPEED TRIMPOT on Card #1.

CLOCKWISE ROTATION WILL ... Increase Speed.
COUNTERCLOCKWISE ROTATION ... Decreases Speed.

N O T E

When the SCR is shut off or when the SCR is operated at speeds greater than creep, the meter will register approximately battery volts.

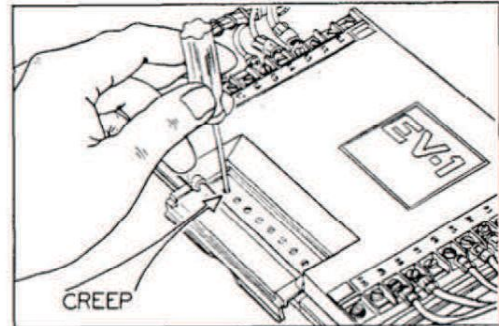


Fig. 18639

DISCONNECT VOLTMETER.

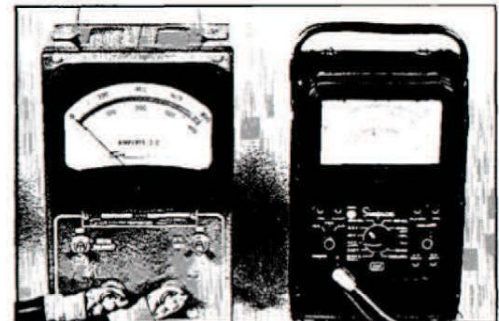


Fig. 12703

CHECK CURRENT LIMIT:

FULLY APPLY THE BRAKES and depress the accelerator fully, to the floor.



Fig. 15289

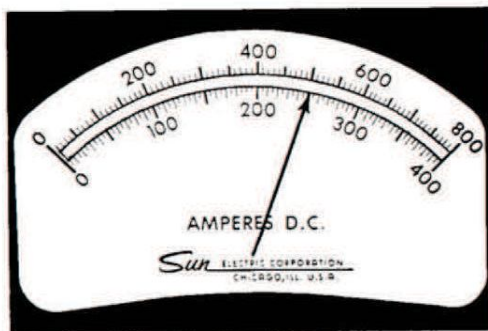


Fig. 17230

AMMETER should register:

36-V Battery: 250 AMPS

48-V Battery: 235 AMPS

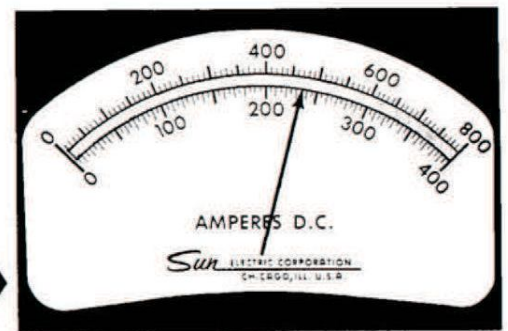


Fig. 17230

If readings are incorrect, adjust the CURRENT Limit (C/L) TRIMPOT on Card #1.

CLOCKWISE ROTATION WILL ... Increase Current.
COUNTERCLOCKWISE ROTATION ... Decreases Current.

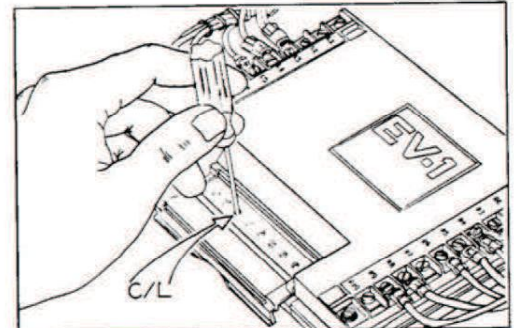


Fig. 18641

CHECK CONTROL ACCELERATION:

Quickly depress accelerator to the floor. The ammeter should register a gradual rise from 0-Amps to current limit setting. This should take place in approximately .4 to .5 seconds.

CLOCKWISE ROTATION WILL ... Increase Acceleration time.

COUNTERCLOCKWISE ROTATION WILL ... Decrease Acceleration Time.

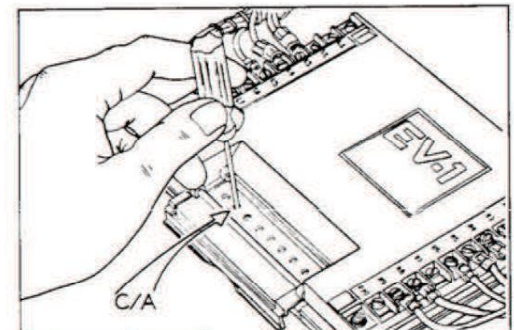


Fig. 18640

BEFORE FURTHER TESTING ... make truck ready by following these steps:

1. TURN OFF KEY SWITCH.



Fig. 17655

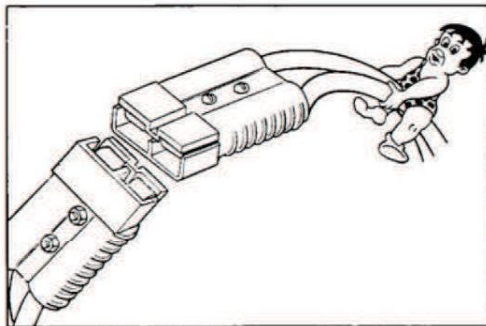


Fig. 17590

2. DISCONNECT BATTERY.

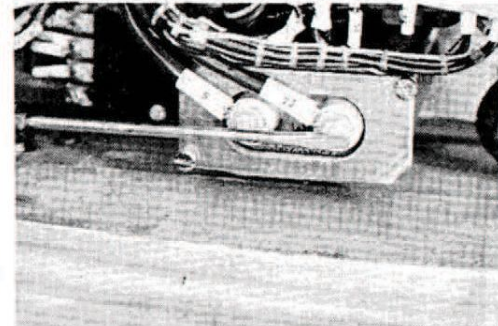


Fig. 20135

3. DISCHARGE CAPACITOR.

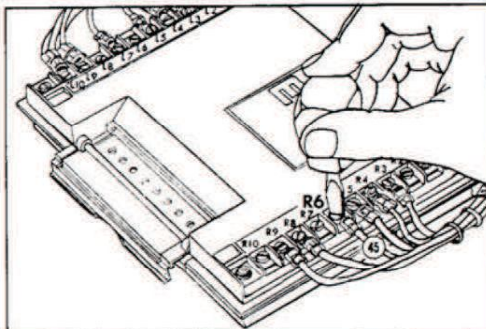


Fig. 18666

4. RECONNECT WIRE #45 to CARD #1.

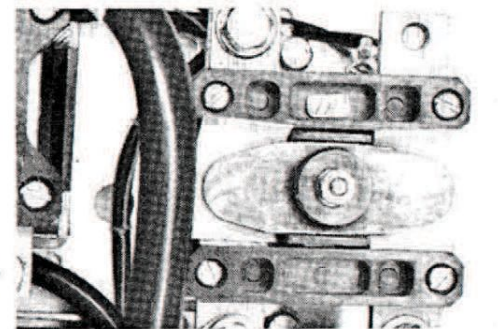


Fig. 19110

5. REMOVE INSULATOR FROM 1A CONTACTOR TIPS.

CHECKING 1A CONTACTOR DROP OUT:

Sit in seat and turn key switch to the on position.

Fully depress the accelerator pedal. After 1A contactor closes, slowly depress the brake pedal ... to put a load on the drive motor.

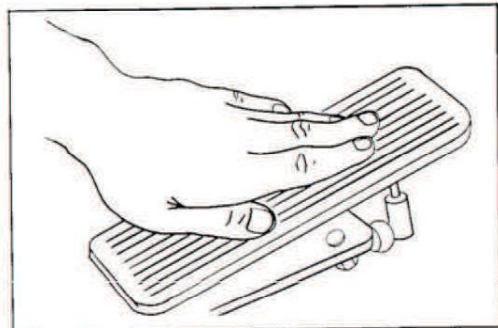


Fig. 15289

The 1A CONTACTOR should drop out when the meter registers 700 to 750 Amps.

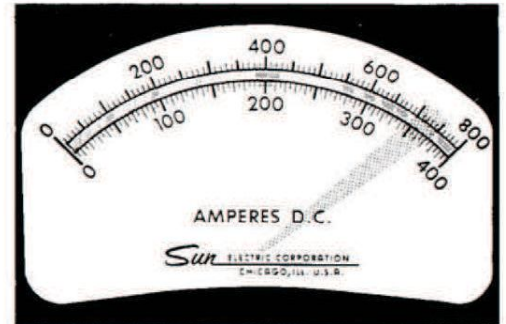


Fig. 17230

If it does not, adjust the 1A D/O TRIMPOT on Card #1.

CLOCKWISE DIRECTION ... increases current drop out value.

COUNTERCLOCKWISE DIRECTION ... decreases current drop out value.

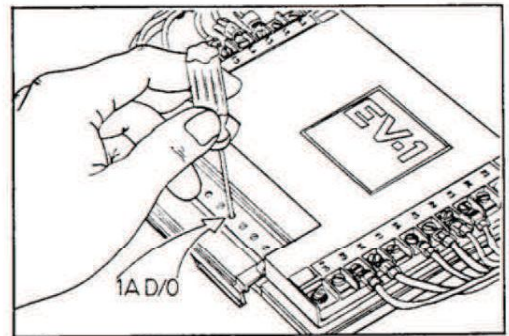


Fig. 18653

With AMMETER STILL CONNECTED check HYDRAULIC PUMP MOTOR CURRENT DRAW.

Turn key switch on.



Fig. 17655

Pull hydraulic tilt control lever and hold it in the FORWARD position until the hydraulic system operates over relief.



Fig. 19235

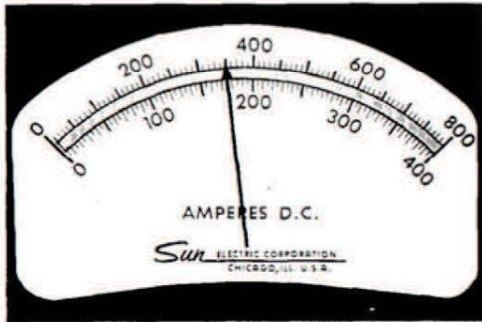


Fig. 17779

Read AMMETER, it must register:

36-Volt Battery: 340 to 360 Amps.

48-Volt Battery: 350 to 370 Amps.

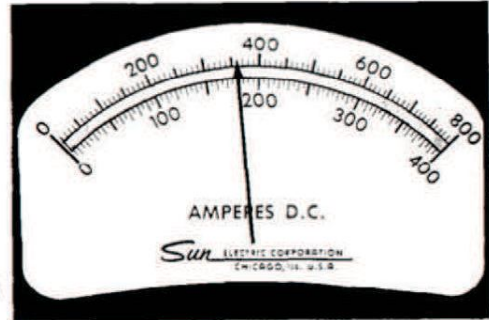


Fig. 17780

CHECK DRIVE MOTOR CURRENT DRAW:

Move Forward and Reverse to FORWARD position. Fully depress accelerator pedal. Record the minimum 1A speed amperage on the P.M. check sheet.

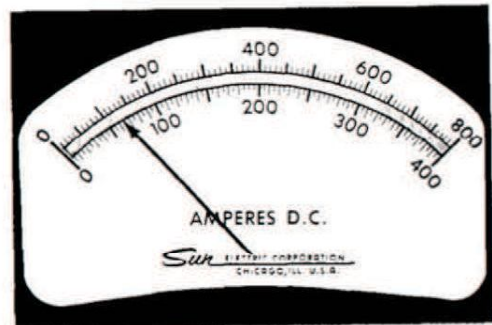


Fig. 17781

STOP WHEELS WITH BRAKES. Now, check current draw with Forward and Reverse Lever in REVERSE position. Record minimum 1A speed amperage reading.

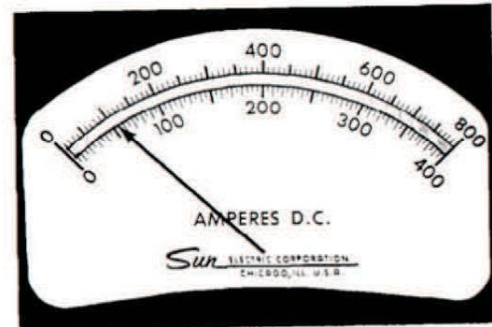


Fig. 17782

Now, turn key switch to off position. DISCONNECT THE BATTERY.

C A U T I O N

BEFORE REVERSING THE DRIVE MOTOR ... STOP THE DRIVE WHEELS WITH THE SERVICE BRAKES. PLUGGING THE DRIVE MOTOR WITH THE WHEELS OFF THE GROUND MAY DAMAGE THE SCR CONTROL COMPONENTS.

FORWARD AND REVERSE (TOP FREEWHEELING SPEED) DRIVE MOTOR CURRENT DRAW

48-Volt Battery Truck:
60 to 70 AMPS

36-Volt Battery Truck:
50 to 60 AMPS

Check 1A TIME DELAY, Card #1:

1. Depress accelerator pedal to close the IMS switch.
2. Gradually depress brake pedal until the ammeter registers approximately 150 Amps.
3. Fully depress accelerator pedal to close the 2MS switch.
4. There must be approximately 2 to 3 seconds before the 1A contactor picks up (closes).

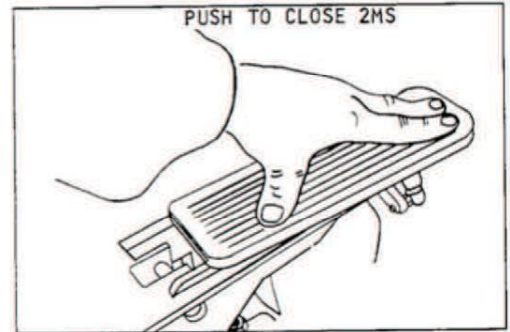


Fig. 17596

If adjustment is necessary, turn the 1A TRIMPOT on Card #1.

CLOCKWISE ROTATION will ... lengthen pick-up time. COUNTERCLOCKWISE ROTATION ... shortens pick-up time.

N O T E

The time delay has been preset by the factory and should not require adjustment.

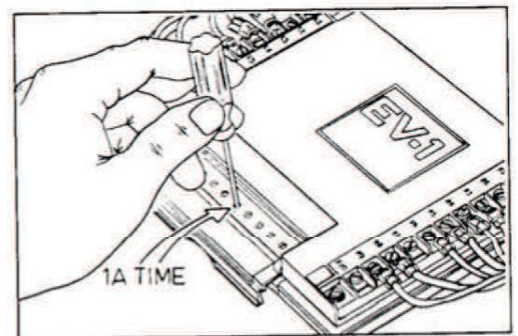


Fig. 18652

Turn the key off.

Reconnect service brake switch into the circuit.

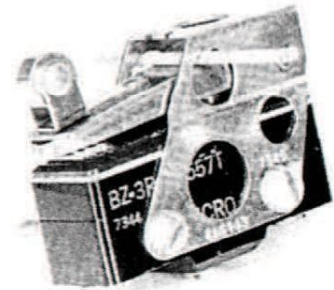


Fig. 15172

Reconnect seat brake switch into the circuit.

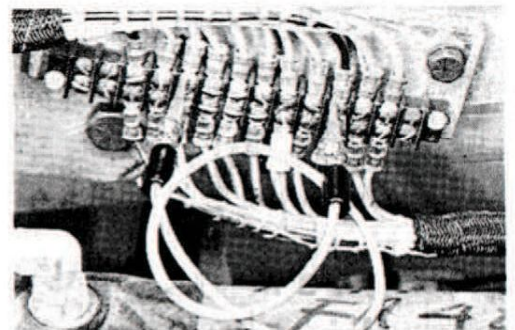


Fig. 20402

Check the (PMT) PULSE MONITORING TRIP FUNCTION, with drive wheels off floor and truck operating in SCR MODE. Manually close 1A Contactor Power Tips. The PMT CARD should operate and F or R contactor should drop out and SCR Control should shut off.

N O T E

The PMT Card can be reset by turning key switch to off and back to on position.

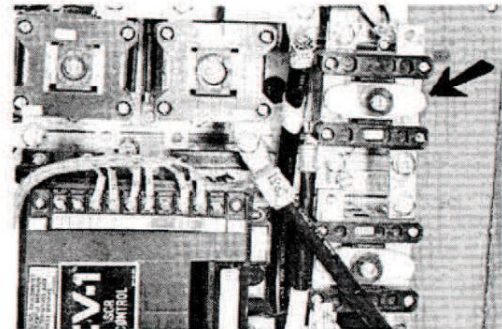


Fig. 20401

STANDARD OPTIONS:

Check the (SRO) STATIC RETURN to the off function.

STEP #1. Drivers seat should be down and Forward & Reverse Lever in neutral ... turn key switch on.

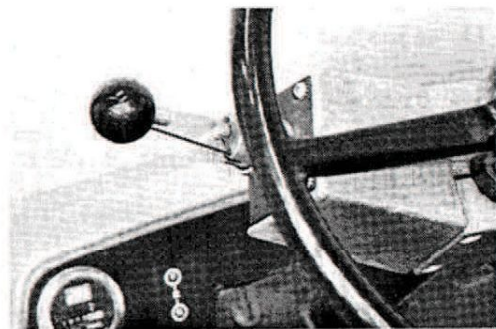


Fig. 17788

STEP #2. Move FORWARD & REVERSE Lever to the forward or reverse position.

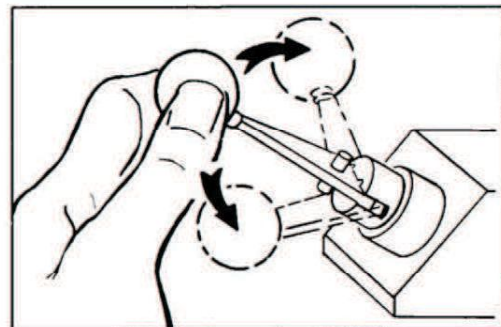


Fig. 17649

STEP #3. Depress ACCELERATOR by hand until the IMS closes.

Either FORWARD or REVERSE Contactor should pick-up ... close.

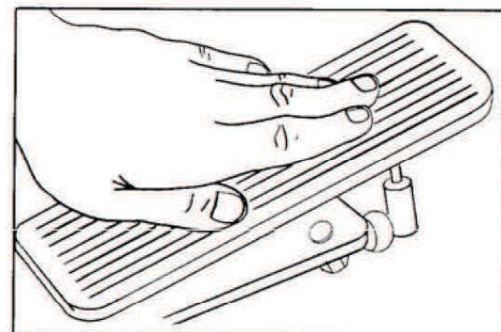


Fig. 15289

STEP #4. While HOLDING ACCELERATOR IN THIS POSITION ...

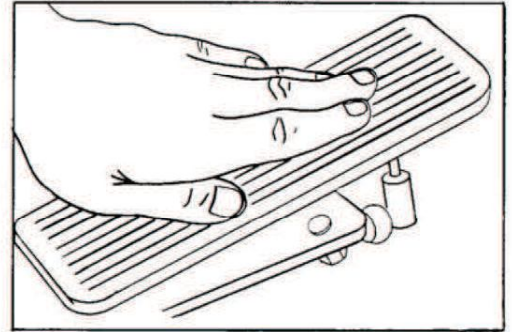


Fig. 15289

STEP #5. ... RELEASE DRIVERS SEAT ... opening the SEAT SWITCH. Again depress the seat. The Forward or Reverse Contactor should open and stay open ... it should not close again.



Fig. A1347

STEP #6. Move F&R Lever to neutral and again move lever to either forward or reverse position. The forward or reverse contactor should close ... with accelerator (IMS) switch closed and, with the seat switch closed.

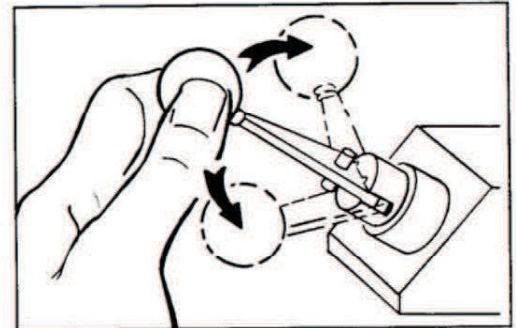


Fig. 17649

N O T E

If the SRO/PMT Card does not operate properly, refer to GROUP 19, Section 38 for trouble shooting procedures.

Now, move FORWARD & REVERSE Lever to neutral.

Make Truck ready for the following testing procedures.

I M P O R T A N T

1. LOWER TRUCK TO GROUND. REMOVE BLOCKS FROM BENEATH UPRIGHT RAILS.
2. TURN KEY SWITCH OFF.