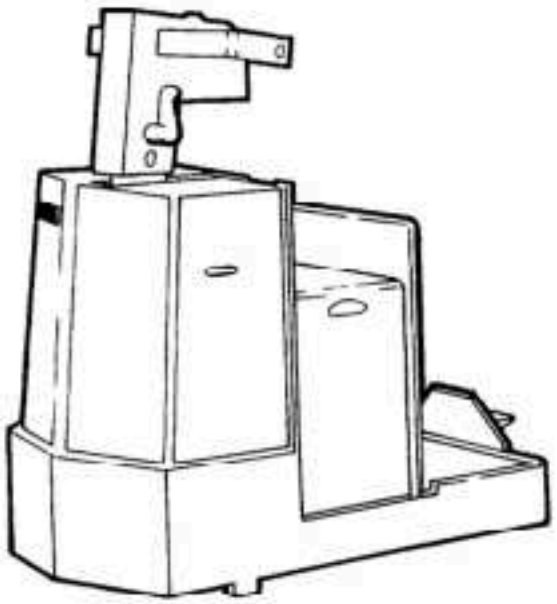
SM-614
PWC 30, PWT 7
Service Manual



CLARK Technical Publications Lexington, KY 40508

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TABLE OF CONTENTS

GENERAL INFORMATION (GI)

Section 1	Pages 1-3	Introduction & Specifications
Section 2	Page 1	Serial Number Location
Section 3	Pages 1-2	Record Keeping
Section 4	Pages 1-16	Tools Required, Torque Chart, Conversion Factors, Standard Speed & SCR Potentiometer Adjustments, General Service Guide, Maintenance Schedule and Lubrication Chart
Section 5	Pages 1-9	Battery Care and Service
Section 6	Pages 1-9	Battery Controller
Section 7	Pages 1-6	Paint & Decal

ELECTRIC CONTROL (EC)

Section 1	Pages 1-5	Basic Electrical Theory
Section 2	Pages 1-30	Troubleshooting, DC Measurement, Measuring Resistance & Meters, Troubleshooting Do's & Dont's
Section 3	Pages 1-10	Basic Operation & Troubleshooting for PWT with Resistor Control
Section 4	Pages 1-19	Service Guide for Curtis PMC Control
Section 5	Pages 1-8	Basic Operation & Troubleshooting for PWT with Curtis PMC Control
Section 6	Pages 1-8	Basic Operation & Troubleshooting for PWC with Curtis PMC Control
Section 7	Pages 1 9	Standard Speed Potentiometer Adjustments for Curtis PMC and EV-100 Contactor & Maintenance

HYDRAULIC SYSTEM (HD)

Section 1	Pages 1-8	Basics of Hydraulics
Section 2	Pages 1-8	Basic Hydraulic Operation, Hyd. Pump Operation, Diagnosis and Maintenance

DRIVE ASSEMBLY (DA)

Section 1	Pages 1-4	Transmission Drive Assembly (General Information)
Section 2	Pages 1-5	Transmission Drive Assembly (Repair and Service & Installation)
Section 3	Pages 1-3	Transmission Drive Assembly (Dismantling Lower Section)
Section 4	Pages 1-6	Transmission Drive Assembly (Assembling Lower Section)
Section 5	Pages 1-21	G.E. DC Drive Motors
Section 6	Pages 1-2	Drive Tire

BRAKE SYSTEM (BR)

Section 1	Pages 1-2	Operation & Service Procedure
Section 2	Pages 1-3	Tilt Steerhead Brake Adjustment
Section 3	Pages 1-5	Fixed Steerhead Brake Adjustment

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TABLE OF CONTENTS

Main Table of Contents

STEERING SYSTEM (ST)

Section 1	Pages 1-3	Operation and Planned Maintenance & Service

LOAD CARRIER (LC)

Section 1	Pages 1-4	General Introduction
Section 2	Pages 1-2	Planned Maintenance
Section 3	Pages 1-5	Load Wheels and Load Wheel Replacement
Section 4	Pages 1-3	Fork Height Setting

BODY AND FRAME (BF)

OPTIONAL EQUIPMENT (OE)

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Main Table of Contents

BATTERY CARE AND SERVICE

WARNING: Overcharging performed regularly can materially shorten battery life.

Remember - No amount of overcharging can increase battery capacity.

Types Of Battery Charges

Types of battery charges fall into several categories:

1. The Daily Charge - Is usually 8 hours long and will keep the battery fully charged if its discharge is no more than 80% of the capacity.

2. Equalizing or Weekend Charge - This is a low rate charge and is given only to ensure that all cells reach full charge, with little or no difference between cells. It is simply a continuation of the regular charge by increasing the daily charging time by another 3 hours.

After an equalizing or weekend charge, a hydrometer reading of the specific gravity of the electrolyte will become a true reading. Fig. 10 shows specific gravity characteristics during charging. Therefore, for a specific gravity reading to show that the battery life is fully charged, it should be taken only after an equalizing or weekend charge.

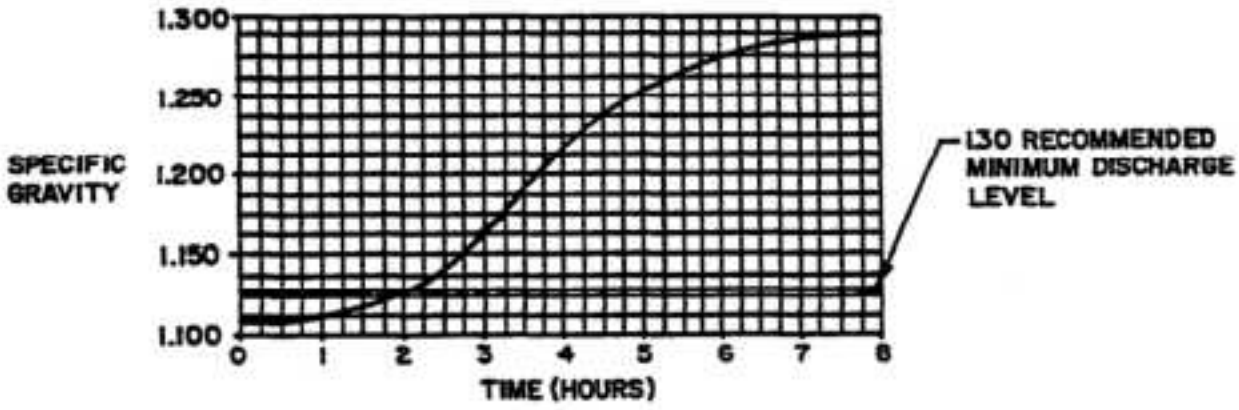


Figure 10

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Main Table of Contents

SERVICE GUIDE
FOR PMC CONTROL (1204/1205/1209B)

SECTION 4 TROUBLESHOOTING

4.1 Introduction

The following procedures are intended to help users of Curtis PMC 1204/1205/1209 controllers diagnose problems in the field. The controllers themselves are sealed and thus not field serviceable, so the intent is to enable the user to determine if the trouble is in the controller or some other part of the motor control circuitry. This guide is detailed enough to enable users to track down these other problems to their source and repair them.



CAUTION:
IT IS IMPORTANT THAT THE TEST BE DONE IN THE ORDER THAT THEY ARE WRITTEN; IF NOT, THE CONCLUSIONS REACHED MAY NOT BE VALID.

The controllers have features designed to protect against damage caused by low batteries. The power to the motor is cut back when the battery voltage goes below approximately 16 volts (for 24-36 volt controllers). The loss of power felt when the batteries become this far discharged is normal. Similarly, the controllers are protected against damage from overheating by reducing the power to the motor if the internal temperature exceeds 165°F. In typical applications of these units, overheating will very rarely be a problem. Operation with oversized motors and/or vehicle overloading may cause overheating, particularly if the controller is mounted so that heat cannot be conducted away from its case. Power output will be reduced for as long as the overhead condition remains; full power will return when the unit cools.

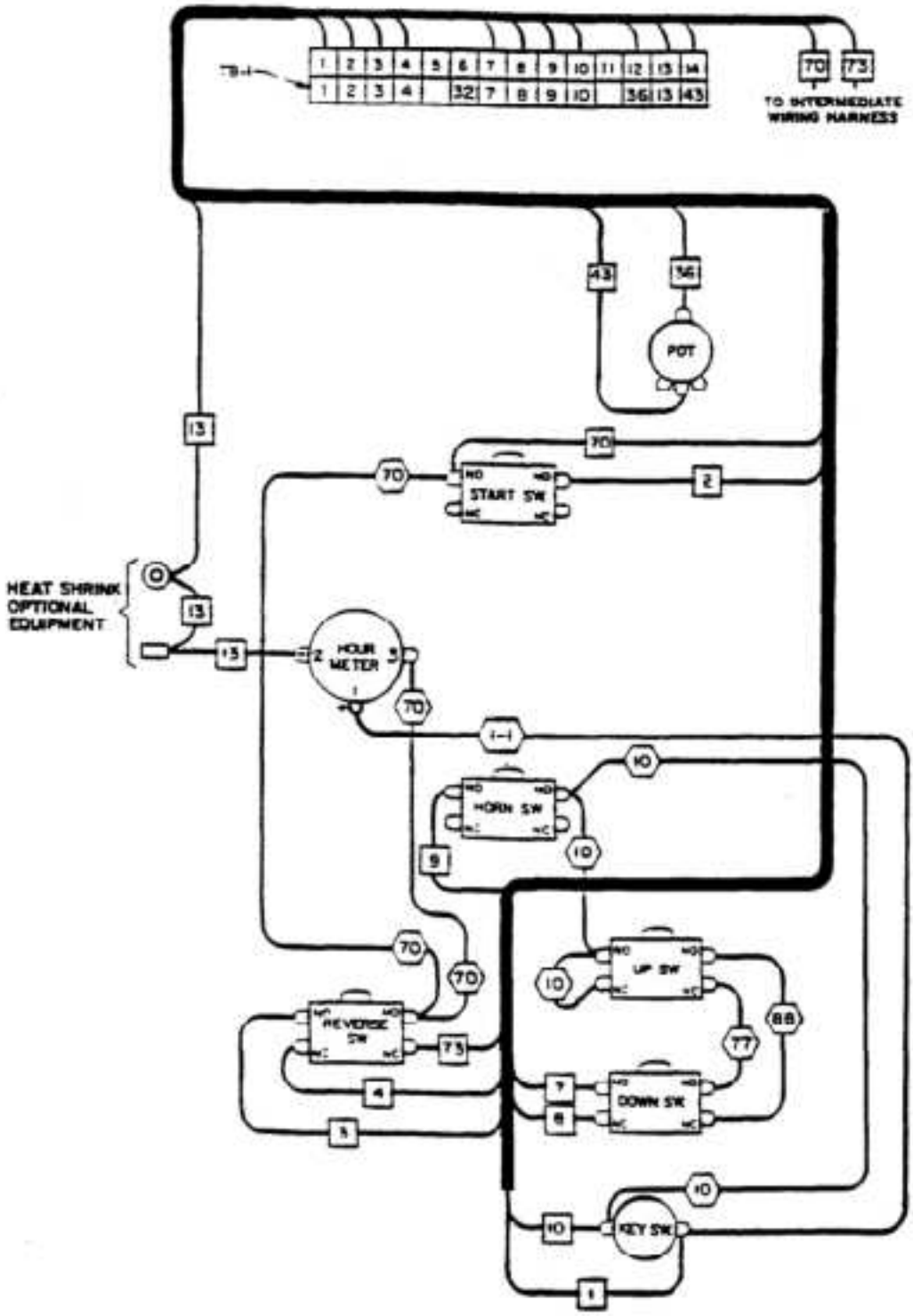
4.2 Symptoms and Cures

Some of these "symptoms" do not indicate a problem but rather are typical of normal operation. The 1 kHz tone heard during plug braking and the inability of the vehicle to plug brake to a stop on a steep ramp, for example, are not indicative of controller malfunctions.

Controller operation is normally silent. An exception is that a 1 kHz tone may be heard during plug braking. This noise is normal and indicates that plugging is taking place. The noise will stop when plug braking stops. A 1 kHz tone may also be heard if the controller overheats. The controller shifts frequency during over-temperature from its normal 15 kHz to 1 kHz, providing an audible tone to alert the operator to the over-temperature condition.

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STEERIIEAD WIRING DIAGRAM FOR PWC 30/40 24V CURTIS PMC CONTROLLER WITH TEE HANDLE INTERMEDIATE SECTION



NOTES:

1. For Parts Breakdown Refer to Parts Page 1269.
2. All Wires Shown With 10 Number Boxes are Add on Wires Not Included in Harness.

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