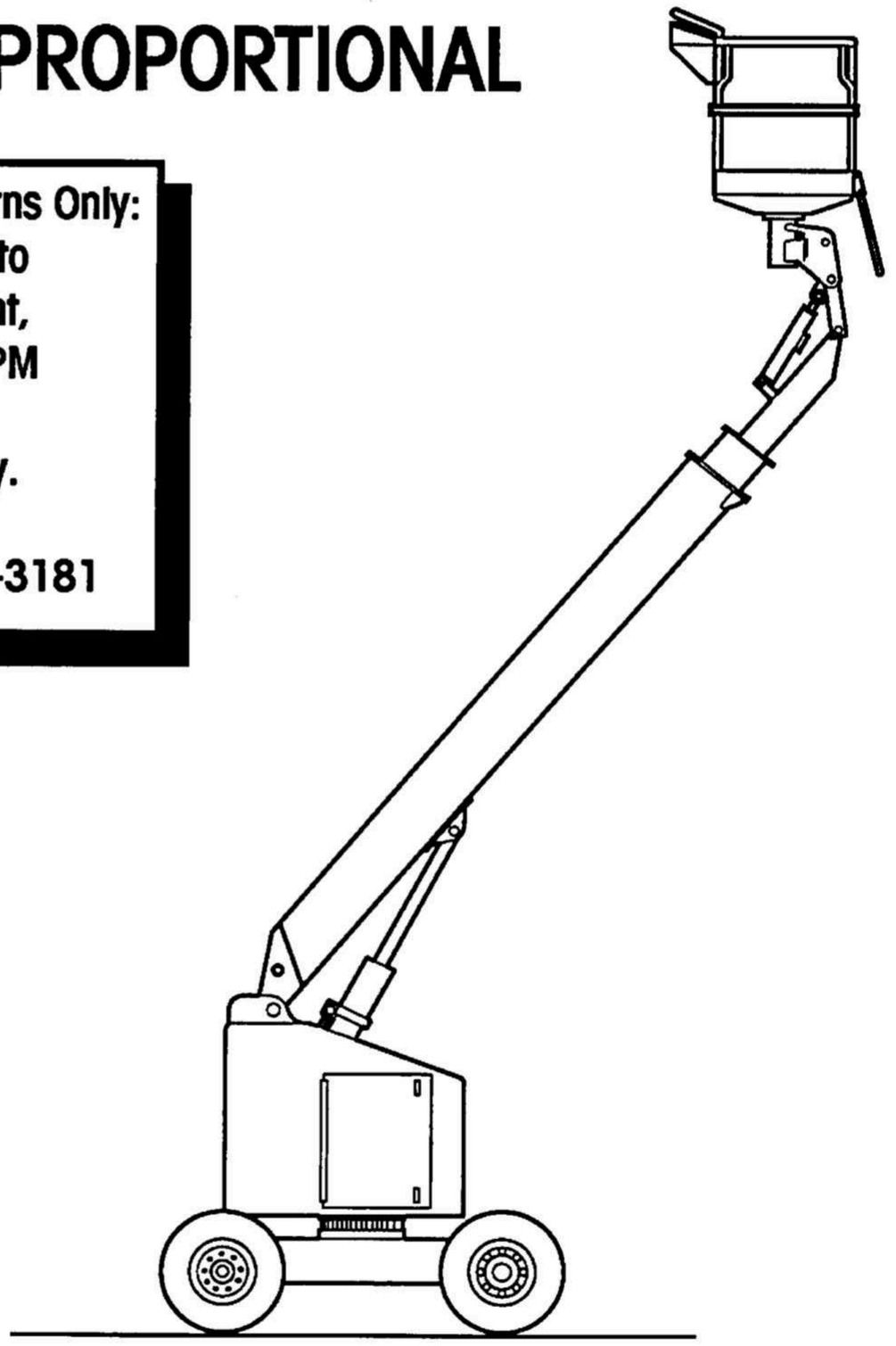
MODEL MPN SERIES

SERVICE MANUAL

ELECTRO-PROPORTIONAL

For Service Concerns Only:
Direct Phone Line to
Service Department,
8:00 AM to 5:00 PM
Central Time,
Monday thru Friday.

Phone (414) 355-3181



Part No. 89-101317 • Initial Issue dated July, 1993 •

MidWestTech | Terex Simon MP Electro Proportional Boom Lift Service Manual | Publication 89_101317

Order the manual at mid-west-tech.com >

Table of Contents

Introduction v
Machine Specifications MPN 40 vii
Machine Specifications MPN 55 viii
Machine Specifications MPN 60 ix
Machine Component Locator x
Undercarriage Component Locator xi
Superstructure Component Locator xii
Boom Component Locator xiii
Boom Component Locator xiv
Platform Component Locator xv
Lubrication Chart xvi

Transport the Unit 1-3
Towing Procedures 1-3
truck or trailer transport 1-3
Unloading Procedures 1-5
Emergency System and Procedures 1-6
Emergency Pumps 1-6
Emergency Drive Function 1-6
Emergency Lowering 1-7

Hydraulic Fluid 2-5
- Handling Precautions 2-5
- Fluid Recommendations 2-5
- Fluid Contamination Checks 2-5
- System Flushing Procedure 2-6

Hydraulic System Components 2-7
- Electro-Proportional Circuit 2-7
- Hydraulic Pump 2-7
  - Hydraulic Pump Adjustment 2-7
- Emergency Pump 2-7
  - Emergency Pump Adjustment 2-7
- Ground Valve Bank Assembly 2-8
  - Inlet Section 2-8
  - End Cover (Adapter Manifold) 2-8
  - Valve Assembly 2-8
    - Operation 2-9
    - Maintenance 2-9
- Hydraulic Circuit Line Check 2-9
- Valve Assembly 2-9
- Undercarriage Valves 2-10
  - Drive Relief Valve 2-10
  - Drive Valve Assembly 2-10
  - Hi/ Low Speed Drive Valve 2-10
  - Flow Divider Valve Assembly 2-10
  - Motion Control Valve Assembly 2-10
- Hydraulic Fluid Reservoir 2-11
  - Hydraulic Reservoir Maintenance 2-11
- High Pressure Filter 2-11

MidWestTech | Terex Simon MP Electro Proportional Boom Lift Service Manual | Publicatio... Order the manual at mid-west-tech.com >

Table of Contents (Continued)

Boom Lift System 2-11
Boom Lift Valve Segment 2-11
Flow Control Valve 2-12
Flow Control Valve Adjustment 2-12
Lift Cylinder 2-12
Boom Telescope (Extend) System 2-12
Boom Extend Valve Segment 2-13
Pressure Relief Valve 2-13
Telescope (Extend) Cylinder 2-13
Mechanical Extend Function 2-14
Superstructure Swing System 2-15
Swing Valve Segment 2-15
Swing Drive motor/ Reducer assembly 2-15
Worm Gear Swing Reducer 2-15
Swing Gear and Pinion Shaft Adjustment 2-16
Integral Brake Assembly (MPN 60) 2-16
Swing System Maintenance 2-16
Platform Rotate System 2-17
Rotate Control Valve 2-17
Rotary Actuator 2-17
Rotary Actuator Maintenance 2-17
Rotary Actuator (3 section boom) 2-17
Rotary Actuator Maintenance 2-17
Platform Rotator Manifold 2-17
Platform Level System 2-19
Level Control Valve 2-19
Master Level Cylinder 2-20
Slave Level Cylinder 2-20
Relief Valves 2-20
Steer System 2-21
Steer Valve Segment 2-21
Hydraulic Swivel 2-21
Steer Cylinder 2-22
Steer Disconnect Knob (Option) 2-22
Steer System Maintenance 2-22

Drive System Components 3-3
Drive Motor and Brake Assembly 3-3
Drive Valve Segment 3-4
Drive Valve Assembly 3-4
Selector Valve 3-4
Motion Control Valve Assembly 3-4
Motion Control Valve 3-4
Flow Control Valve 3-4
Flow Divider Valve Assembly 3-5
Flow Divider/ Combiner Valve 3-5
Gate (Globe) Valve 3-5
Drive Relief Valve 3-5
Brake Metering Valve 3-5
Brake Metering Valve Adjustment 3-5
Toggle Switch on the Pendant Control 3-5
Platform Control Handle (Joystick) 3-5

MidWestTech | Terex Simon MP Electro Proportional Boom Lift Service Manual | Publicatio... Order the manual at mid-west-tech.com >

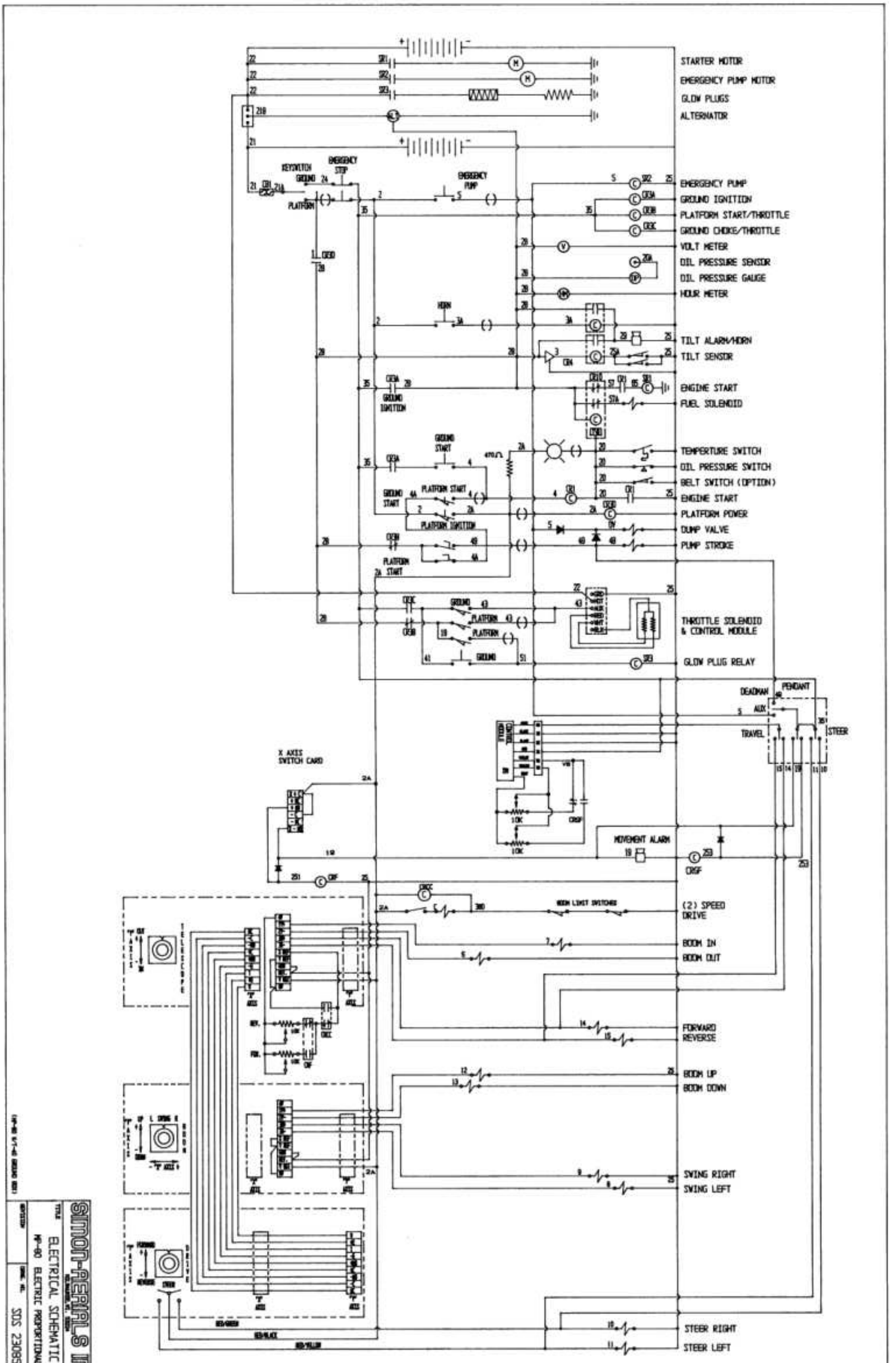
Table of Contents (Continued)

Electrical System 4-3
Battery 4-3
Battery Maintenance (In Storage) 4-3
Battery Maintenance (In Use) 4-3
Battery Preventive Maintenance 4-4
Battery Replacement 4-4
Movement Alarm 4-4
Tilt Alarm 4-4
Tilt Alarm Test 4-4
Tilt Alarm Adjustment 4-5
Relays 4-5
Circuit Breakers 4-5
Limit Switches 4-5
Emergency Pump 4-5
Emergency Stop Buttons 4-5
Pendant Switch Removal 4-6
Ground Control Cabinet Switch Removal 4-6
Platform Console Switch Removal 4-6
Drive/ Steer Controller 4-6
Boom Telescope Controller 4-8
Boom/ Swing Controller 4-9
Creep Speed Adjustments 4-10
Boom Adjustment (Ground Control) 4-10

Mechanical Components 5-3
Tires 5-3
Changing Tires 5-3
Wheels and Lug Nuts 5-3
Drive Hub Assembly 5-4
Drive Hub Assembly Removal 5-4
Drive Hub Assembly installation 5-4
Steer Cylinder Pins 5-5
Rod End Cylinder Pin Replacement 5-5
Base End Cylinder Pin Replacement 5-5
Steer Cylinder 5-5
Steer Cylinder Seal Replacement 5-5
Tie Rod Assembly 5-6
Tie Rod Assembly Replacement 5-6
Superstructure 5-7
Platform 5-8
Hoses and Cables 5-8
Miscellaneous Equipment 5-8

MidWestTech | Terex Simon MP Electro Proportional Boom Lift Service Manual | Publicatio... Order the manual at mid-west-tech.com >

MidWestTech | Terex Simon MP Electro Proportional Boom Lift Service Manual | Publication 89_101317



Order the manual at mid-west-tech.com >