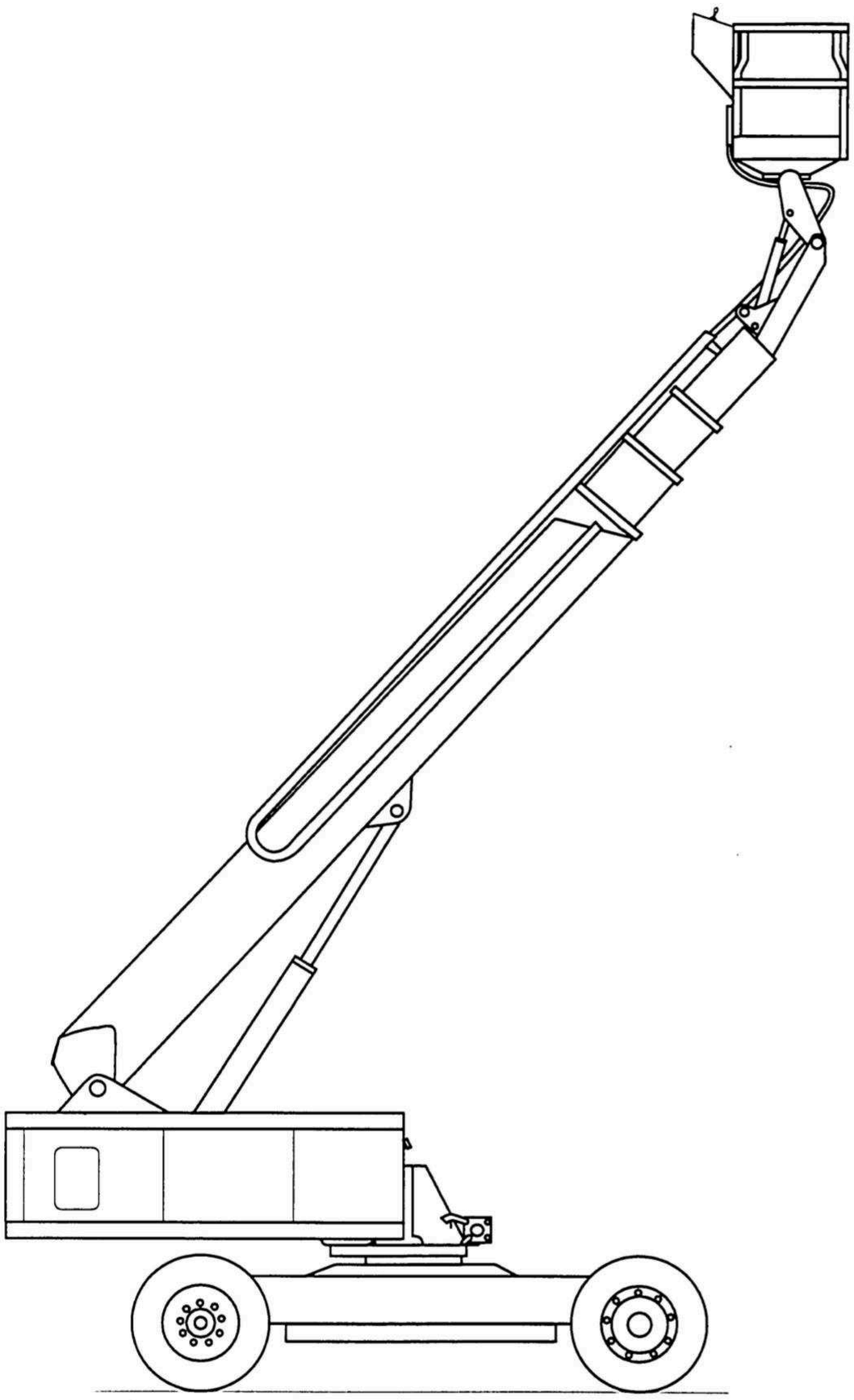
# TEREX AERIALS



Art # A00.00130E

# TB110E ELECTRIC BOOM (SPECIAL)

FOR PARTS OR SERVICE CONTACT:

# SERVICE MANUAL


**Terex Aerials**
**10600 W. Brown Deer Road**
**Milwaukee, WI 53224**
**U.S.A.**

**Telephone: (414) 362-9300**
**Facsimile: (414) 355-0832**

**Terex Aerials**
**106 12th Street S. E.**
**Waverly, IA 50677**
**U.S.A.**

**Telephone: (319) 352-3920**
**Facsimile: (319) 352-5727**

**Terex Aerials**
**Courtstown Industrial Park**
**Little Island, Co.**
**Cork, Ireland**

**Telephone: (353) 21-353011**
**Facsimile: (353) 21-353368**



Revision: April '98
P/N 17153



MidWestTech | Terex TB110E Electric Special Boom Lift Service Manual | Publication 17153

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

# Table of Contents

Introduction ..... vii
Machine Specifications ..... ix
Machine Component Locator ..... xi
Undercarriage Component Locator ..... xii
Superstructure Component Locator ..... xiii
Boom Component Locator ..... xiv
Platform Component Locator ..... xvii
Lubrication Chart ..... xviii
Lubrication Diagram ..... xix

**Section 1: Transportation and Emergency Procedures**

Transporting the Machine ..... 1-3
Towing Procedures ..... 1-3
Truck or Trailer Transport ..... 1-3
Unloading Procedures ..... 1-5
Emergency System and Procedures ..... 1-7
Emergency Pump ..... 1-7
Unpowered Emergency Movement ..... 1-7
Emergency Lowering ..... 1-8

**Section 2: Hydraulic System**

Hydraulic Fluid .....
Handling Precautions ..... 2-5
Fluid Recommendations ..... 2-5
Fluid Contamination Checks ..... 2-5
System Flushing Procedure ..... 2-6
Hydraulic System Components
Electro-Proportional Circuit ..... 2-7
Hydraulic Pump
Hydraulic System Pressure Adjustment ..... 2-7
Emergency Pump
Emergency Pump Adjustment ..... 2-7
Ground Valve Bank Assembly
Inlet Section ..... 2-8
End Cover (Adapter Manifold) ..... 2-8
Main Valve Segment ..... 2-8
Operation ..... 2-9
Maintenance
Hydraulic Circuit Line Check ..... 2-9
Main Valve Segment ..... 2-9
Drive Valve Manifold - Two Wheel Drive
Hi Speed Drive Enable Valve ..... 2-10
Flow Divider/ Combiner Valve ..... 2-10
Counterbalance Valve ..... 2-10
Brake Valve Circuit ..... 2-11
Axle Extend Valve Assembly
Axle/ Jack Manifold ..... 2-11
Axle/ Jack Enable Valve ..... 2-11
Axle Jack and Extend Valves ..... 2-11
Relief Valves ..... 2-12
Check Valves ..... 2-12



MidWestTech | Terex TB110E Electric Special Boom Lift Service Manual | Publication 17153 Order the manual at mid-west-tech.com >

# Table of Contents (Continued)

## Section 2: Hydraulic System (Continued)


Hydraulic Fluid Reservoir
- Hydraulic Reservoir Maintenance ..... 2-12

Hydraulic Filters
- Return Filter ..... 2-12
- High Pressure Filter ..... 2-12

Boom Lift System
- Boom Lift Valve Segment ..... 2-13
- Flow Control Valve
- Flow Control Valve Adjustment ..... 2-13
- Lift Cylinder ..... 2-13

Boom Telescope (Extend) System
- Boom Extend valve segment ..... 2-14
- Pressure Relief Valve ..... 2-14
- Telescope (Extend) Cylinder ..... 2-14

Superstructure Swing System
- Swing Valve Segment ..... 2-15
- Swing Drive/ Reducer Assembly
- Swing Drive/ Reducer Assembly Adjustment ..... 2-15
- Integral Brake Assembly ..... 2-15
- Swing System Maintenance ..... 2-16

Platform Rotate System
- Rotate Control Valve ..... 2-16
- Rotate Control Valve ..... 2-16
- Rotary Actuator
- Rotary Actuator Maintenance ..... 2-16
- Platform Rotator Manifold ..... 2-16

Platform Levelling System
- Level Control Valve ..... 2-17
- Level Control Valve ..... 2-17
- Double Pilot Operated Check Valve ..... 2-17
- Master Levelling Cylinder ..... 2-17
- Slave Levelling Cylinder ..... 2-18
- Relief Valves ..... 2-18

Steer System
- Steer Valve Segment ..... 2-18
- Axle/ Jack Enable Valve ..... 2-18
- Steer System Maintenance ..... 2-18
- Steer Cylinder ..... 2-18

Axle Extend System ..... 2-19
- Axle Extend Cylinders ..... 2-19

Hydraulic Swivel ..... 2-20






April 1998

MidWestTech | Terex TB110E Electric Special Boom Lift Service Manual | Publication 17153 Order the manual at mid-west-tech.com >

# Table of Contents (Continued)

## Section 3: Electrical System


Electrical System ..... 3-3
- Battery Packs ..... 3-3
- Batteries ..... 3-3
  - Battery Maintenance (In Storage) ..... 3-3
  - Battery Maintenance (In Use) ..... 3-3
  - Battery Preventive Maintenance ..... 3-4
  - Battery Replacement ..... 3-4
  - Battery Pack Replacement ..... 3-4
- Motor ..... 3-4
- Movement Alarm ..... 3-5
- Tilt Alarm ..... 3-5
  - Tilt Alarm Test ..... 3-5
  - Tilt Alarm Adjustment ..... 3-5
- Relays ..... 3-5
- Circuit Breakers ..... 3-5
- Limit Switches ..... 3-6
- Emergency Pump ..... 3-6
- Emergency Stop Button ..... 3-6
- Pendant Switch Removal ..... 3-6
- Ground Control Cabinet Switch Removal ..... 3-6
- Platform Console Switch Removal ..... 3-6
- Drive/ Steer Controller ..... 3-6
- Boom Telescope Controller ..... 3-7
- Boom/ Swing Controller ..... 3-8
- Creep Speed Adjustments ..... 3-9
- Battery Chargers ..... 3-9


## Section 4: Mechanical Components


Mechanical Components ..... 4-3
Tires ..... 4-3
- Changing Tires ..... 4-3

Wheels and Lug Nuts ..... 4-3
Drive Hub Assembly ..... 4-4
Steer Cylinder Pins ..... 4-5
Steer Cylinder ..... 4-5
Steer Arm Pin ..... 4-6
Tie Rod Assembly ..... 4-6
Superstructure ..... 4-7
Hoses and Cables ..... 4-7
Miscellaneous Equipment ..... 4-7
Boom ..... 4-7
- Boom Pivot Pin and Bushing Replacement ..... 4-7

Boom Lift Cylinder ..... 4-8
- Lift Cylinder Pivot Pin Replacement ..... 4-8
- Lift Cylinder Seal Replacement (On Machine) ..... 4-8
- Check Holding Valves ..... 4-8

Boom Disassembly ..... 4-9
Boom Assembly ..... 4-13






MidWestTech | Terex TB110E Electric Special Boom Lift Service Manual | Publication 17153 Order the manual at mid-west-tech.com >