

# Schematic

## TH62, TH63, TH82 & TH83 Telehandler Hydraulic System for Type 1, Type 3 or Type A Control Arrangements

3LN641 - Up  
4TM892 - 4013  
3NN509 - Up  
5WM918 - 6020  
3KN434 - Up  
3JN502 - 1509  
3RN550 - 4014

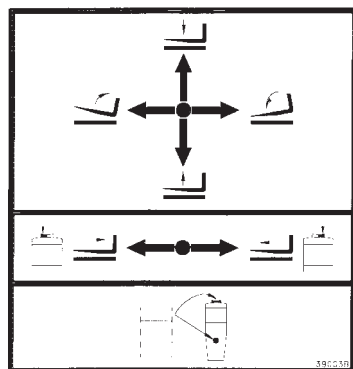
### Component Location Table

Separate schematics in this publication are identified as Schematic 1, Schematic 2 and Schematic 3. Components common to all schematics have the same item number. In Schematic 3, some item numbers are shown in boxes at the end of some of the hydraulic lines. This provides a reference to the component on Schematic 1 and Schematic 2 that connects to these lines. The schematics have borders and grids to locate the components. Identify both the cross reference and the number on the schematic from the following table.

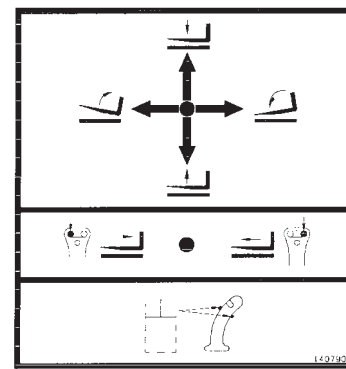
Component Item No.	Component Description	Schematic Location		
		No. 1	No. 2	No. 3
1	Front Steering Cylinder	A1	A1	-
2	Selector Valve (steering mode)	A2	A2	-
3	Rear Steering Cylinder	A2	A2	-
4	Compensating Cylinder	A3	A3	-
5	Work Tool Cylinder (if equipped)	A8	A10	-
6	Load Control Valve for Work Tool Cylinder (if equipped)	A8	A10	-
7	Boom Cylinder (boom raise/lower)	C3	C3	-
8	Load Control Valve for Boom Cylinder	C3	C3	-
9	Compensating Cylinder	B5	B5	-
10	Telescoping Cylinder	B5	B5	-
11	Load Control Valve for Telescoping Cylinder (TH63 & TH83)	B5	B5	-
11A	Load Control Valve for Telescoping Cylinder (TH62 & TH82)	A10	-	-
12	Valve (compensating cylinders)	B8	C6	-
13	Load Control Valve for Tilt Cylinder	B8	A8	-
14	Tilt Cylinder	B9	A9	-
15	Couplers (quick disconnect)	B10	B11	-
16	Oil Filter	C1	C1	-
17	Relief Valves (auxiliary services) (part of item 20)	C6	C6	A4
18	Load Control Valve for the Frame Leveling Cylinder (if equipped)	C10	C10	-
19	Frame Leveling Cylinder (if equipped)	C11	C11	-
20	Bank Valve	D2	D2	A2/F3/12
21	Inlet Section	E2	E2	C1
22	Implement Section (boom raise/lower) (closed center spool)	E4	E4	D1
22A	Implement Section (boom raise/lower) (open center spool)	C10	-	-
23	Implement Section (boom extend/retract) (closed center spool)	E5	E5	D2
23A	Implement Section (boom extend/retract) (closed center spool) TH62 & TH82	C9	-	-
23B	Implement Section (boom extend/retract) (open center spool) TH63 & TH83	C10	-	-
24	Implement Section (coupler tilt)	E5	E5	D3
25	Implement Section (auxiliary services)	E6	E6	D4
26	Signal Relief Valve	E6	E8	B6/C3/J2
27	Pressure Reducing Valve	E7	E8	C6/H3/K2
28	Differential Lock Cylinder	E8	E8	-
29	Control Valve for Frame Leveling (if equipped) (closed center spool)	E10	D11	-
29A	Control Valve for Frame Leveling (if equipped) (open center spool)	D11	-	-
30	Control Valve	E6	E6	-
31	Solenoid Valves (pilot control system)	E6	E6	-
32	Solenoid Valve (differential lock)	E7	E7	-
33	Brake Cylinder (boost) (second type system)	F11	F11	-
33A	Brake Cylinder (master) (first type system)	F3	F3	-
34	Metering Pump (steering)	F3	F3	-
35	Piston Pump	F11	F11	E1
36	Joystick Control	H2	H2	-
37	Hydraulic Tank	-	B8	-
38	Valve for quick coupler (disengage pins)	-	B9	-
39	Load Control Valve for Coupler Cylinder	-	C10	-
40	Coupler Cylinder	-	C10	-

### Introduction

This publication shows the hydraulic system schematics for machines equipped with either of the films illustrated below for the joystick control. For full details of the joystick control arrangements refer to Operation and Maintenance Manual SEBU6865 or SEBU7112.



139-0038 Film (Boom Control). Installed on machines equipped with an early type of joystick control.



140-7909 Film (Boom Control). Installed on machines equipped with a later type of joystick control.

Early type of joystick controls have a straight handle, with a pushbutton switch on the front and a rocker switch on the top. Later type of joystick controls have curved handles with pushbutton switches on the front and rear, and a rocker switch on top. The hydraulic valve section of the joystick control is the SAME on both types.

Compare the film for the joystick control located in the machine cab with the film illustrations above to determine if these schematics apply to your machine. If the film for the joystick control on the machine you are operating is not shown above, refer to Hydraulic Schematic Form No. REN3444.

#### TH62 and TH82 Machines

Telescoping cylinder (10) is equipped with a single element lock valve (11A) which blocks the piston side in the hold position.

#### TH63 and TH83 Machines

Telescoping cylinder (10) is equipped with a dual element lock valve (11) which blocks the rod and piston sides in the hold position.

#### TH62 and TH82 Machines (Early)

The spool in the implement section for boom extend/retract (23A) of bank valve (20) blocks the work port for rod side of the telescoping cylinder when it is in the center position.

#### TH63 and TH83 Machines (Early)

The spool in the implement section for boom extend/retract (23B) of bank valve (20) connects both work ports for the telescoping cylinder together and to tank when in the center position.

#### All Machines (Later)

The spools in the implement section for boom raise/lower (22) and the implement section for boom extend/retract (23) of the bank valve block the flow of oil to tank when in the center position.

#### All Machines (Early)

The spools in the implement section for the boom raise/lower (22A) of bank valve (20) connects both work ports for the boom cylinder together and to tank when in the center position.

#### All Machines (Later)

The spools in the implement section for boom raise/lower (22) and the implement section for boom extend/retract (23) of the bank valve block the flow of oil to tank when in the center position.

#### TH62 Machines

Frame leveling is not an option on these machines. TH62 machines can be equipped with an optional powered tow hitch attachment which is raised and lowered by a cylinder. This attachment uses control valve (54), and the same instrument panel switch and circuits as frame leveling.

#### TH62, TH63, TH82 and TH83 Machines

Valve (12) for the compensating cylinders is mounted on the rear axle on TH63 and TH83 machines. The valve is mounted on the right side front of the machine frame on TH62 and TH82 machines.

#### TH62, TH63, TH82 and TH83 Machines

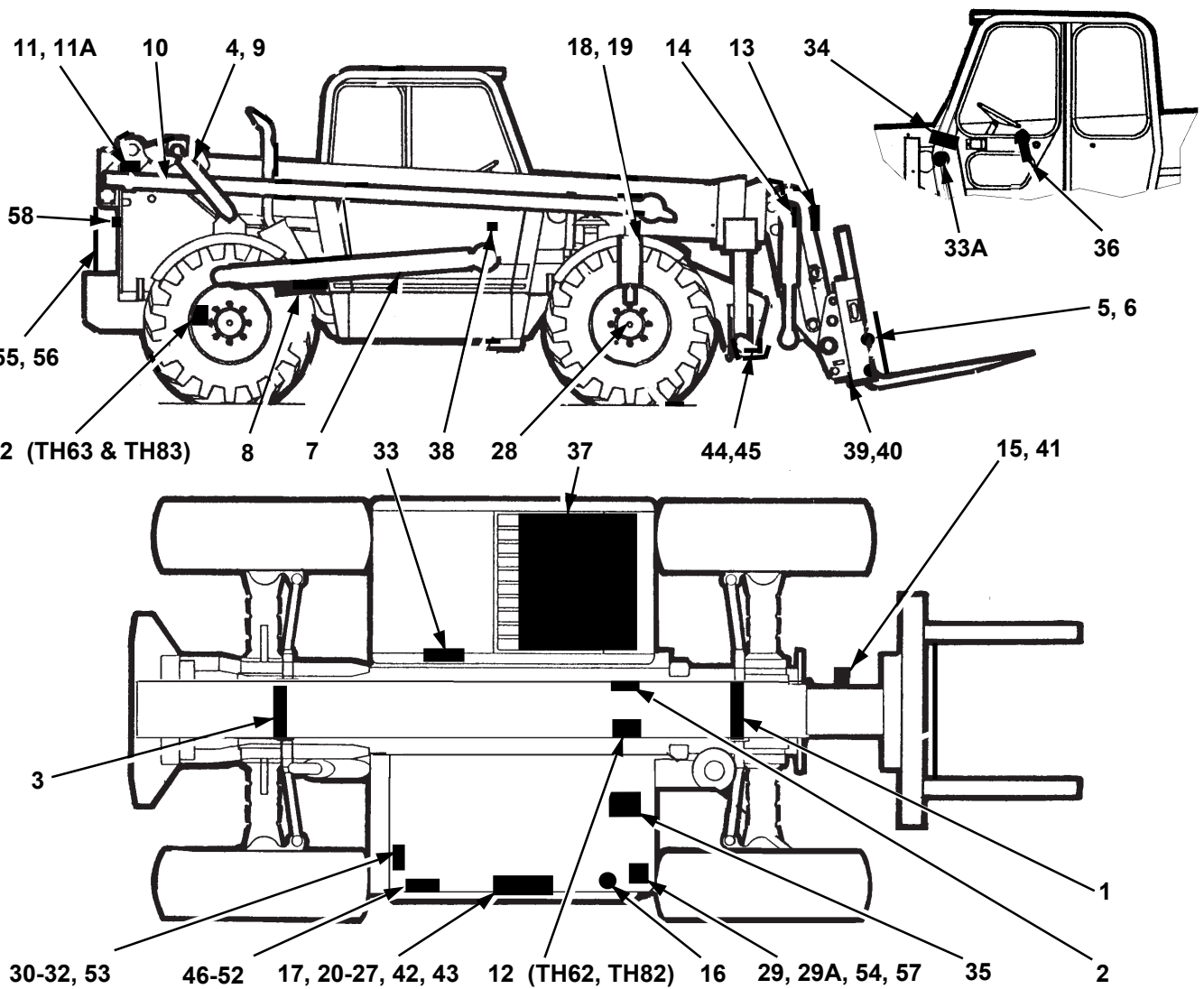
On machines equipped with a first type brake system, the brake cylinder (master) (33A), located in the front of the cab, is connected to the pilot hydraulic system. On machines equipped with a second type brake system, the brake cylinder (boost) (33), located in the machine frame is connected to the pilot hydraulic system.

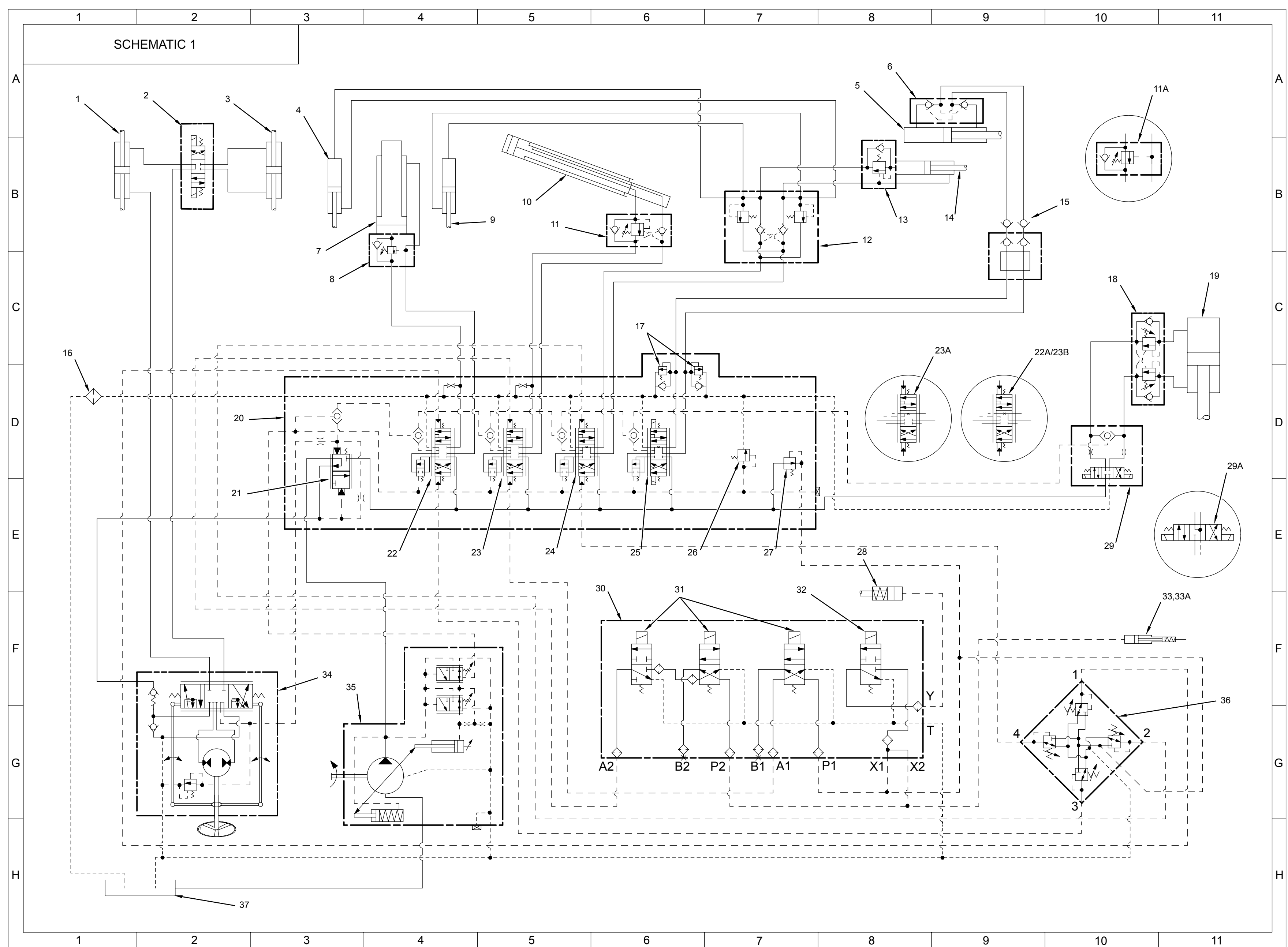
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### Component Location Table (Continued)

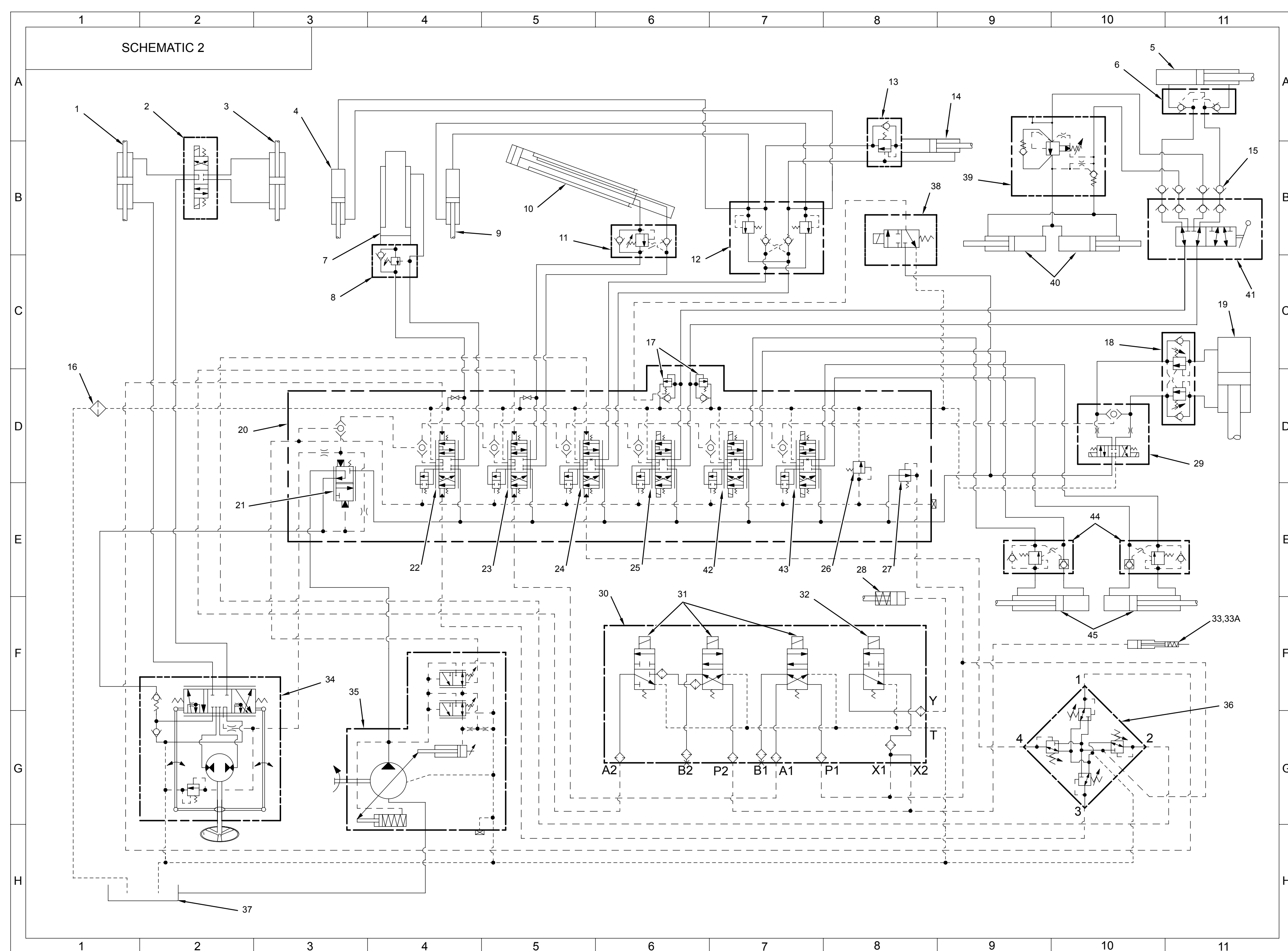
Component Item No.	Component Description	Schematic Location		
		No. 1	No. 2	No. 3
41	Diverter Valve	-	C11	-
42	Implement Section for Stabilizer (if equipped) (part of item 20)	-	E6	D4
43	Implement Section for Stabilizer (if equipped) (part of item 20)	-	E7	D5
44	Load Control Valves for Stabilizer Cylinders (if equipped)	-	E10	-
45	Stabilizer Cylinders (if equipped)	-	F10	-
46	Control Valve (access platform - if equipped)	-	-	A8
47	Solenoid Valve (boom lower)	-	-	A8
48	Solenoid Valve (boom raise)	-	-	A8
49	Solenoid Valve (boom retract)	-	-	B8
50	Solenoid Valve (boom extend)	-	-	B8
51	Solenoid Valve (boom Speed)	-	-	B8
52	Solenoid Valve (on/off)	-	-	C8
53	Control Valve (lockout - if equipped)	-	-	E2
54	Control Valve for Tow Hitch (if equipped) TH62 Only	-	-	F4
55	Diverter Valve for Tow Hitch (if equipped) TH62 Only	-	-	H6
56	Tow Hitch Cylinder (if equipped) TH62 Only	-	-	H8/K7
57	Valve for Tow Hitch/ Tip/Trailer Braking (if equipped) TH62 Only	-	-	J3
58	Couplers (quick disconnect - if equipped) TH62 Only	-	-	K3

### Component Location Illustration





BASIC MACHINES EQUIPPED WITH TYPE 1, TYPE 3 OR TYPE A CONTROL ARRANGEMENTS



MACHINES EQUIPPED WITH STABILIZERS, TWO AUXILIARY HYDRAULIC SERVICES AND TYPE 1, TYPE 3 OR TYPE A CONTROL ARRANGEMENTS