Interlift Inc.
Phone: 888-774-5844
Fax: 562-924-8318
Email: technicalsupport@interlift.net

Minifix – Series (Mai 2004 - June 2008)

Troubleshooting: Minifix with rectangle circuit board on driver side

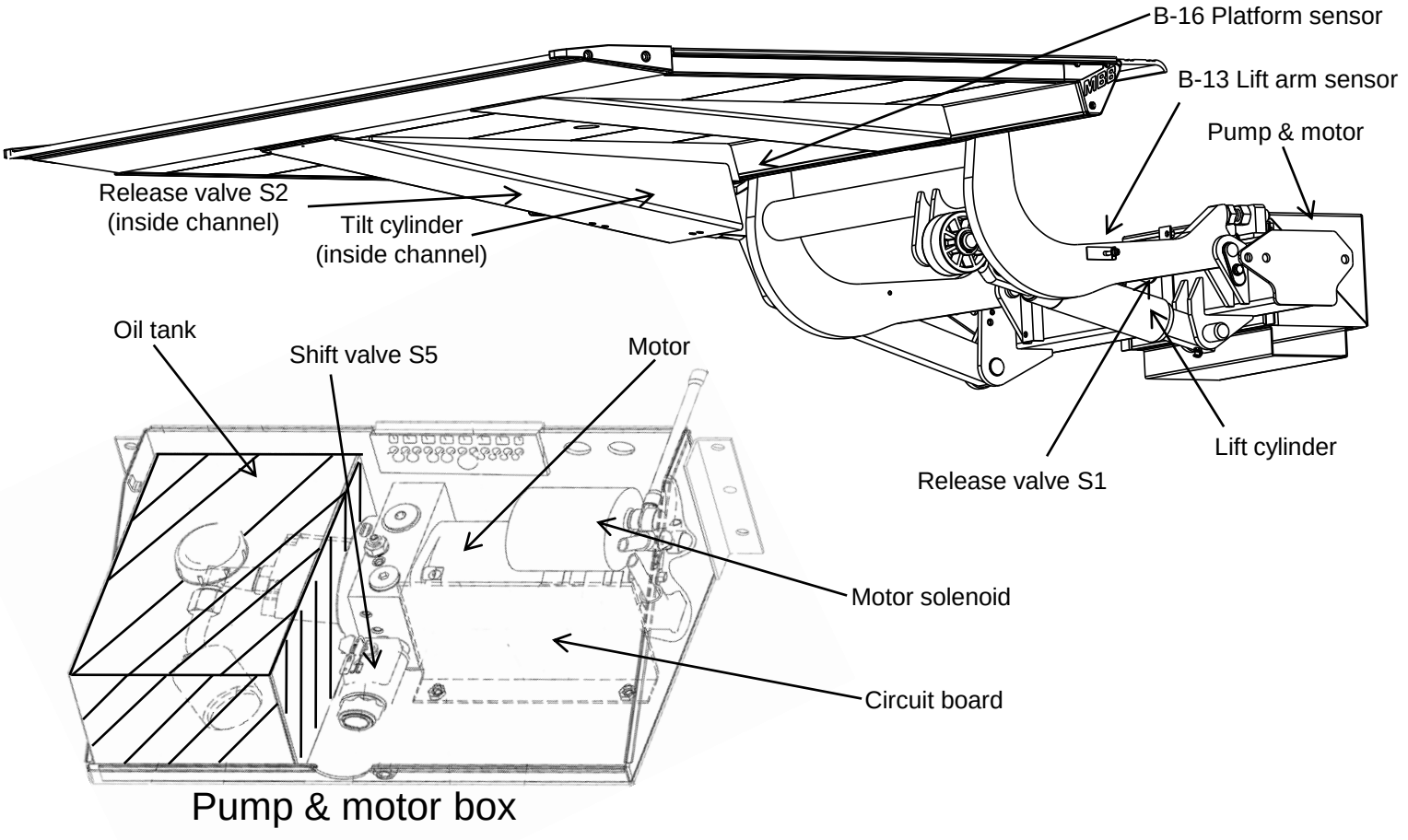
Table of content: Page

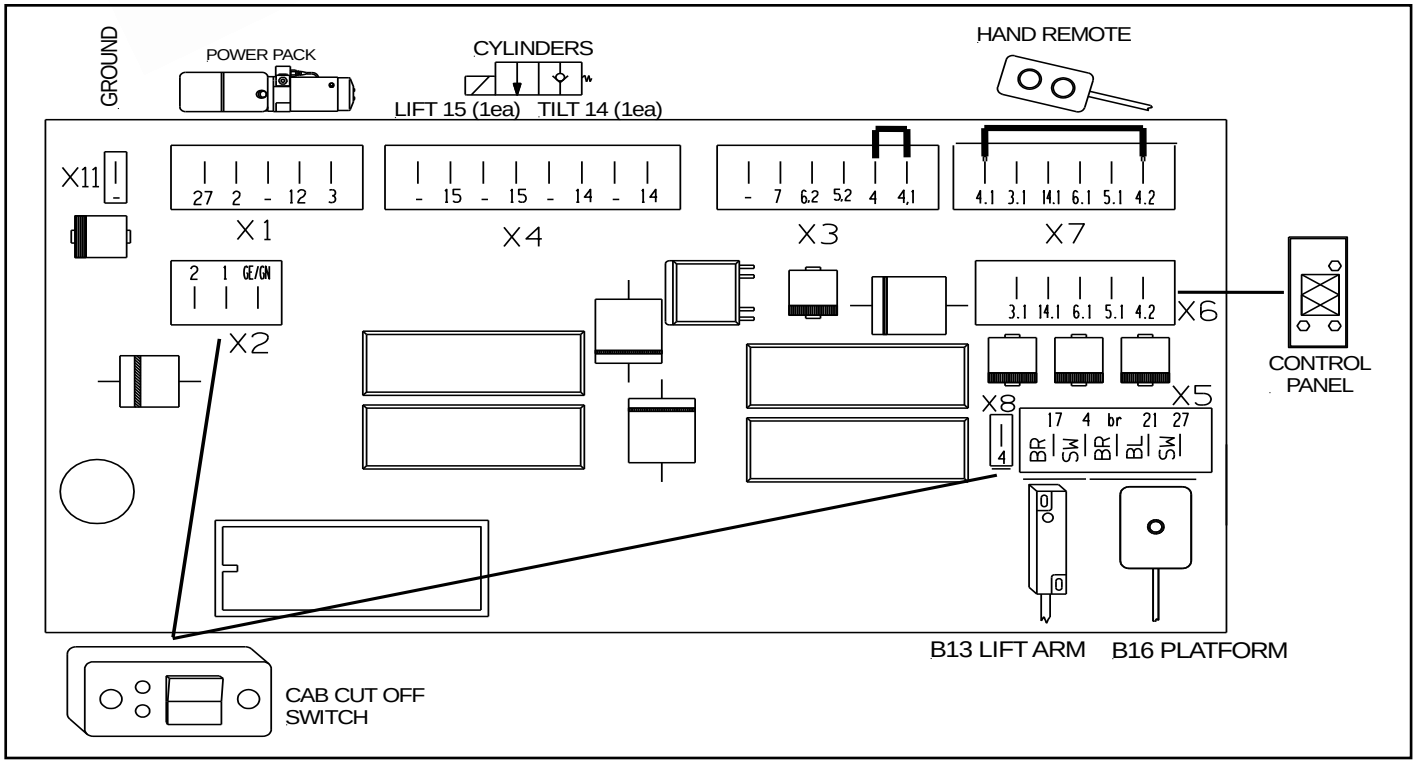
Tools needed:

1.) Voltmeter
2.) Test light
3.) 8” jumper cable (16ga. or smaller)
4.) Screw driver flat head or 13mm (1/2”) wrench

*****MAKE SURE YOUR BATTERIES ARE FULLY CHARGED AND IN GOOD CONDITION*****

Overview of liftgate and connector setup of circuit board





Interlift Inc.
Phone: 888-774-5844
Fax: 562-924-8318
Email: technicalsupport@interlift.net

1) GATE DOES NOT TILT OPEN UP

Minifix SERIES

1.1) Check Battery Power

a) Check resettable Circuit Breaker on top of battery → Push Reset Tab back in, if popped out

b) Check fuse on top of battery (qty 1) and
at circuit board (qty 2) inside pump and motor box at mount frame

c) Start van and run engine in fast idle for charging the battery
→ if liftgate starts working, recharge battery→ test battery and replace if necessary

d) Check power on board between X-8 #4 and X-11 with voltmeter by pushing the up-function knob and hold for 10 sec with gate in stored position (DEADHEAD GATE) (above 10 Volt is necessary for proper use of liftgate) → less than 10 V; Jump X2-#2 to X8 → voltage jumps more than 1volt, call Interlift for assistance
******DO NOT LEAVE JUMPER ON – GATE MUST BE SHUT OFF WHEN NOT IN USE******

1.2) Check for short in optional equipment

a) Unplug X-3(foot control)*****Set Jumper at X3 #4 to #4.1*** ,** X-5 (B-13 and B-16 Sensors) and X-7 (Hand control) *****Set Jumper at X-7 at #4.1 to #4.2*** (See schematic on page 2)**
Keep the 2 connectors unplugged (gate will operate without plugs connected, will loose auto tilt)

c) Plug each connector back, one at a time and check functions of gate after plugging in each

1.3) Check voltage supply to release valve on tilt cylinder

a) Check voltage at X4 #14 and Ground X-11 while pushing the opening button for open up the release valve S2 at the tilt cylinder. No Voltage → check for loose wire at X-6 or no signal at X-6 #14

b) Listen for clicking of the release valve at the tilt cylinder (connected to platform inside channel)
- If valve is not clicking → check wire for damaged spots, loose connections or a bad valve

1.4) Check motor solenoid power

a) Check voltage at X-1 #3 and Ground X-11 while pushing opening button to engage motor solenoid
No voltage → board might be damaged

b) Check voltage at small motor solenoid terminals and Ground X-11 while pushing button and listen for clicking of the motor solenoid – no voltage or clicking → check wire to motor solenoid

c) Check for voltage across the small motor solenoid terminals with test light while turning knob
See a light → power is reaching solenoid

d) Check for main power at the big solenoid studs, one has voltage; if not check connections to battery

e) Check big solenoid studs for voltage while pushing the opening button → if not → solenoid is bad

f) Jump large terminals at motor solenoid
- If motor runs → motor solenoid is bad
- If motor does not run → Bad motor or bad ground
- Tap on motor → motor starts running – bad brushes

Interlift Inc.
Phone: 888-774-5844
Fax: 562-924-8318
Email: technicalsupport@interlift.net

2) GATE IS NOT LOWERING DOWN

Minifix SERIES

2.1) Check Battery Power

a) Check resettable Circuit Breaker on top of battery → Push Reset Tab back in, if popped out

b) Check fuse on top of battery (qty 1) and
at circuit board (qty 2) inside pump and motor box at mount frame

c) Start van and run engine in fast idle for charging the battery
→ if liftgate starts working, recharge battery→ test battery and replace if necessary

d) Check power on board between X-8 #4 and X-11 with voltmeter by pushing the up-function knob and hold for 10 sec with gate in up position(DEADHEAD GATE) (above 10 Volt is necessary for proper use of liftgate) → less than 10 V; Jump X2-#2 to X8 → voltage jumps more than 1volt, call Interlift for assistance

******DO NOT LEAVE JUMPER ON – GATE MUST BE SHUT OFF WHEN NOT IN USE******

2.2) Check for short in optional equipment

a) Unplug X-3(foot control) ******Set Jumper at X3 #4 to #4.1****** X-5(B-13 and B-16 Sensors) and X-7 (Hand control) ******Set Jumper at X-7 from #4.1 to #4.2*** (see schematic on page 2)**
Keep the 2 connectors unplugged (gate also operates without plugs connected, will loose auto tilt)

c) Plug each connector back one at a time and check functions of gate after plugging in each

2.3) Check voltage supply to release valve on lift cylinder

a) Check voltage at X-4 #15 and Ground X-11 while pushing the lowering button for opening the release valve S1 at the lift cylinder. No voltage → check for bad button or loose wire

b) Listen for clicking of the release valve S1 at the lift cylinder (connected to lift arm)
→ If valve is not clicking → check wire for damaged spots or loose connection

2.4) Gate is lowering down very slowly → S5 at motor not engaged

a) Check Voltage at X-1 #12 and Ground X-11 while pushing button to engage the shift valve S5 at the pump and motor inside the pump & motor box connected to mount frame

b) Override the shift valve by pushing on the cab at the shift valve S5 while pushing the down button
→ Gate will lower down → check the valve and look for damaged wire or loose connection

Interlift Inc.
Phone: 888-774-5844
Fax: 562-924-8318
Email: technicalsupport@interlift.net

Minifix SERIES

3) GATE IS NOT AUTO TILTING AT GROUND LEVEL

3.1) Check Battery Power

a) Check resettable Circuit Breaker on top of battery → Push Reset Tab back in, if popped out

b) Check fuse on top of battery (qty 1) and
at circuit board (qty 2) inside pump and motor box at mount frame

c) Start van and run engine in fast idle for charging the battery
→ if liftgate starts working, recharge battery→ test battery and replace if necessary

d) Check power on board between X-8 #4 and X-11 with voltmeter by pushing the up-function knob and hold for 10 sec with gate in up position(DEADHEAD GATE) (above 10 Volt is necessary for proper use of liftgate) → less than 10 V; Jump X2-#2 to X8 → voltage jumps more than 1volt, call Interlift for assistance
******DO NOT LEAVE JUMPER ON – GATE MUST BE SHUT OFF WHEN NOT IN USE******

3.2) Check adjustment of auto-tilt sensor B-13

a) Check the position of the B-13 Sensor on the inside of the passenger side lift arm
→ Sensor has to be in a horizontal position when gate is 8”-10” above ground

b) Check if the inner X-5 Plug is loose (2 wire color sequence = brown, black)

3.3) Check function of control buttons or hand control

a) Check voltage at X-6 #4.2 to Ground X-11 for power supply of the control buttons
at X-7 #4.2 to Ground X-11 for power supply of the hand control

b) Check voltage at X-6 #6.1(lower) to Ground X-11 for lowering signal
→Signal on X-6 #6.1 → control buttons are ok; if no signal check for damaged wire or loose connectors at control buttons or damaged buttons

3.4) Check voltage supply to release valve on tilt cylinder

a) Check voltage at X-5 #(BLACK)(B-13) to Ground X-11 while platform is on ground → 12V

b) Check voltage at X5 #(BROWN)(B-13) to Ground X-11 while platform is on ground → 12V
→ No voltage on BROWN → Look for damaged spots, loose connection or bad B-13

c) Check voltage at X4 #14 to Ground X-11 while pushing the lowering button when gate is on ground for opening up the release valve S2 at the tilt cylinder (connected to platform inside channel)

d) Listen for clicking of the release valve at the tilt cylinder (connected to platform inside channel)
→ If valve is not clicking → check wire for damaged spots or loose connections

Interlift Inc.
Phone: 888-774-5844
Fax: 562-924-8318
Email: technicalsupport@interlift.net

4) GATE IS NOT TILTING UP AT GROUND

Minifix SERIES

4.1) Check Battery Power

a) Check resettable Circuit Breaker on top of battery → Push Reset Tab back in, if popped out

b) Check fuse on top of battery (qty 1) and
at circuit board (qty 2) inside pump and motor box at mount frame

c) Start van and run engine in fast idle for charging the battery
→ if liftgate starts working, recharge battery→ test battery and replace if necessary

d) Check power on board between X-8 #4 and X-11 with voltmeter by pushing the up-function knob and hold for 10 sec with gate in up position(DEADHEAD GATE) (above 10 Volt is necessary for proper use of liftgate) → less than 10 V; Jump X2-#2 to X8
→ voltage jumps more than 1volt, call Interlift for assistance
******DO NOT LEAVE JUMPER ON – GATE MUST BE SHUT OFF WHEN NOT IN USE******

4.2) Check function of control buttons or hand control

a) Check voltage at X-6 #4.2 to Ground X-11 for power supply of the control buttons
X-7 #4.2 to Ground X-11 for power supply of the hand control

b) Check voltage at X-6 #5.1(lift) to Ground X-11 for lifting signal
→Signal on X-6 #5.1 → control buttons are ok; if no signal check for damaged wire or loose connectors inside control box or damaged buttons

4.3) Check motor solenoid power to run the motor

a) Check voltage at X-1 #3 to Ground X-11 while pushing buttons to engage motor solenoid

b) Check for voltage at small motor solenoid terminals and Ground X-11 while pushing buttons and listen for clicking of the motor solenoid – no voltage or clicking → check wire to motor solenoid

c) Check for voltage across the small motor solenoid terminal with test light while pushing buttons
→See a light → power is reaching solenoid.

d) Check for main power at the big solenoid studs, one has voltage; if not check connections to battery

e) Check both big solenoid studs for voltage while pushing the lifting buttons → if not → solenoid is bad

f) Jump large terminals at motor solenoid
- If motor runs → motor solenoid is bad
- If motor does not run → Bad motor or bad ground
- Tap on motor → motor starts running – bad brushes

4.4) Check function of shift valve S5 at pump & motor

a) Check voltage at X1 #12 and Ground X-11 while pushing button to engage the shift valve S5 at the pump and motor inside pump & motor box at main tube underneath truck

b) While pushing the button to make the motor run, override shift valve by pushing in the cab at the shift valve S5 → Gate will lower down → check the valve and look for damaged wire or loose connections

Interlift Inc.
Phone: 888-774-5844
Fax: 562-924-8318
Email: technicalsupport@interlift.net

Minifix SERIES

5) GATE IS NOT LIFTING UP

5.1) Check Battery Power

a) Check resettable Circuit Breaker on top of battery → Push Reset Tab back in, if popped out

b) Check fuse on top of battery (qty 1) and
at circuit board (qty 2) inside pump and motor box at mount frame

c) Start van and run engine in fast idle for charging the battery
→ if liftgate starts working, recharge battery→ test battery and replace if necessary

d) Check power on board between X-8 #4 and X-11 with voltmeter by pushing the up-function knob and hold for 10 sec (above 10 Volt is necessary for proper use of liftgate)
→ less than 10 V; Jump X2-#2 to X8 → voltage jumps more than 1volt, call Interlift for assistance

******DO NOT LEAVE JUMPER ON – GATE MUST BE SHUT OFF WHEN NOT IN USE******

5.2) Check function of control buttons(J30) and hand control(J31)

a) Check voltage at X-6 #4.2 to Ground X-11 for power supply of the control buttons
X-7 #4.2 to Ground X-11 for power supply of the hand control

b) Check voltage at X-6 #5.1(lift) to Ground X-11 for lifting signal
→Signal on X-6 #5.1 → control buttons are ok; if no signal, check for damaged wire or loose connectors at control buttons or damaged buttons

5.3) Check for short in optional equipment

a) Unplug X-5 (B-13 and B-16 sensors) and X-7(Hand control) *****Set Jumper at X-7 at #4.1 to #4.2*****
Keep the 2 connectors unplugged (gate will operate without plugs connected, will loose auto tilt)

c) Plug each connector back, one at a time and check functions of gate after plugging in each.

5.4) Check motor solenoid power to run the motor

a) Check for voltage at X-1 #3 to Ground X-11 to engage motor solenoid while pushing lifting buttons
No voltage → board might be damaged

b) Check for voltage at small motor solenoid terminals to Ground X-11 while pushing buttons and listen for clicking of the motor solenoid – no voltage or clicking → check wire to motor solenoid

c) Check voltage across the small motor solenoid terminals with test light while pushing lifting buttons
See a light → power is reaching solenoid

d) Check for main power at the large solenoid studs one has voltage; if not check connection to battery

e) Check both big solenoid studs for voltage while pushing the lifting buttons → if not → solenoid is bad

f) Jump large terminals at motor solenoid
- If motor runs → motor solenoid is bad
- If motor does not run → Bad motor or bad ground
- Tap on motor → motor starts running – bad brushes

Interlift Inc.
Phone: 888-774-5844
Fax: 562-924-8318
Email: technicalsupport@interlift.net

Minifix SERIES

6) GATE IS NOT CLOSING

6.1) Check Battery Power

a) Check resettable Circuit Breaker on top of battery → Push Reset Tab back in, if popped out

b) Check fuse on top of battery (qty 1) and
at circuit board (qty 2) inside pump and motor box at mount frame

c) Start van and run engine in fast idle for charging the battery
→ if liftgate starts working, recharge battery→ test battery and replace if necessary

d) Check power on board between X-8 #4 and X-11 with voltmeter by pushing the up-function knob and hold for 10 sec with gate in up position(DEADHEAD GATE) (above 10 Volt is necessary for proper use of liftgate) → less than 10 V; Jump X2-#2 to X8 → voltage jumps more than 1volt, call Interlift for assistance

******DO NOT LEAVE JUMPER ON – GATE MUST BE SHUT OFF WHEN NOT IN USE******

6.2) Check function of control buttons(J30) and hand control(J31)

a) Check voltage at X-6 #4.2 to Ground X-11 for power supply of the control buttons
at X-7 #4.2 to Ground X-11 for power supply of the hand control

b) Check voltage at X-6 #3.1(close) to Ground X-11 for lifting signal
→Signal on X-6 #3.1 → control buttons are ok; if no signal, check for damaged wire or loose connectors at control buttons or damaged buttons

6.3) Check for S5 valve on pump & motor not engaged

a) Check Voltage at X-1 #12 and Ground X-11 while pushing buttons to engage the shift valve at the pump and motor inside the pump & motor box connected to mount frame

b) While pushing the button to make the motor run, override shift valve by pushing in the cab at the shift valve S5 → Gate will lower down → check the valve and look for damaged wire or loose connection

6.4) Check motor solenoid power to run the motor

a) Check voltage at X-1 #3 and Ground X-11 to engage motor solenoid while pushing closing buttons
No voltage → board might be damaged

b) Check voltage at small motor solenoid terminals and Ground X-11 while pushing buttons and listen for clicking of the motor solenoid – no voltage or clicking → check wire to motor solenoid

c) Check voltage across the small motor solenoid terminals with test light while pushing buttons
See a light → power is reaching solenoid

d) Check main power at the large solenoid studs, one has voltage; if not check connections to battery

e) Check both big solenoid studs for voltage while pushing the closing buttons → if not → solenoid is bad

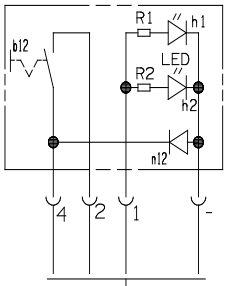
f) Jump large terminals at motor solenoid
- If motor runs → motor solenoid is bad
- If motor does not run → Bad motor or bad ground
- Tap on motor → motor starts running – bad brushes

CABLE IDENTIFICATION AND FUNCTION

1	WARN LIGHTS FOR OPEN P/F
2	PERM HOT LEAD FOR ON OFF SWITCH AN P/F
3	ENGAGES MOTOR SOLENOID FROM SWITCHES
4	CONTROL POWER FROM ON OFF SWITCH
5	UP FUNCTION TIED IN AUTO LEVEL
6	DOWN FUNCTION TIED IN AUTO LEVEL
12	ENGAGES SHIFT VALVE S5
14	TILT DOWN VALVES ON TILT-CYLINDER
15	DOWN VALVES ON LIFT-CYLINDER
7	HOT LEAD TO WARN LIGHTS

Function:
Up: M
Lower: S1+S5
Tilt up: M+S5
Tilt down: S3
Horiz. Open: M+S3

Cab cut off

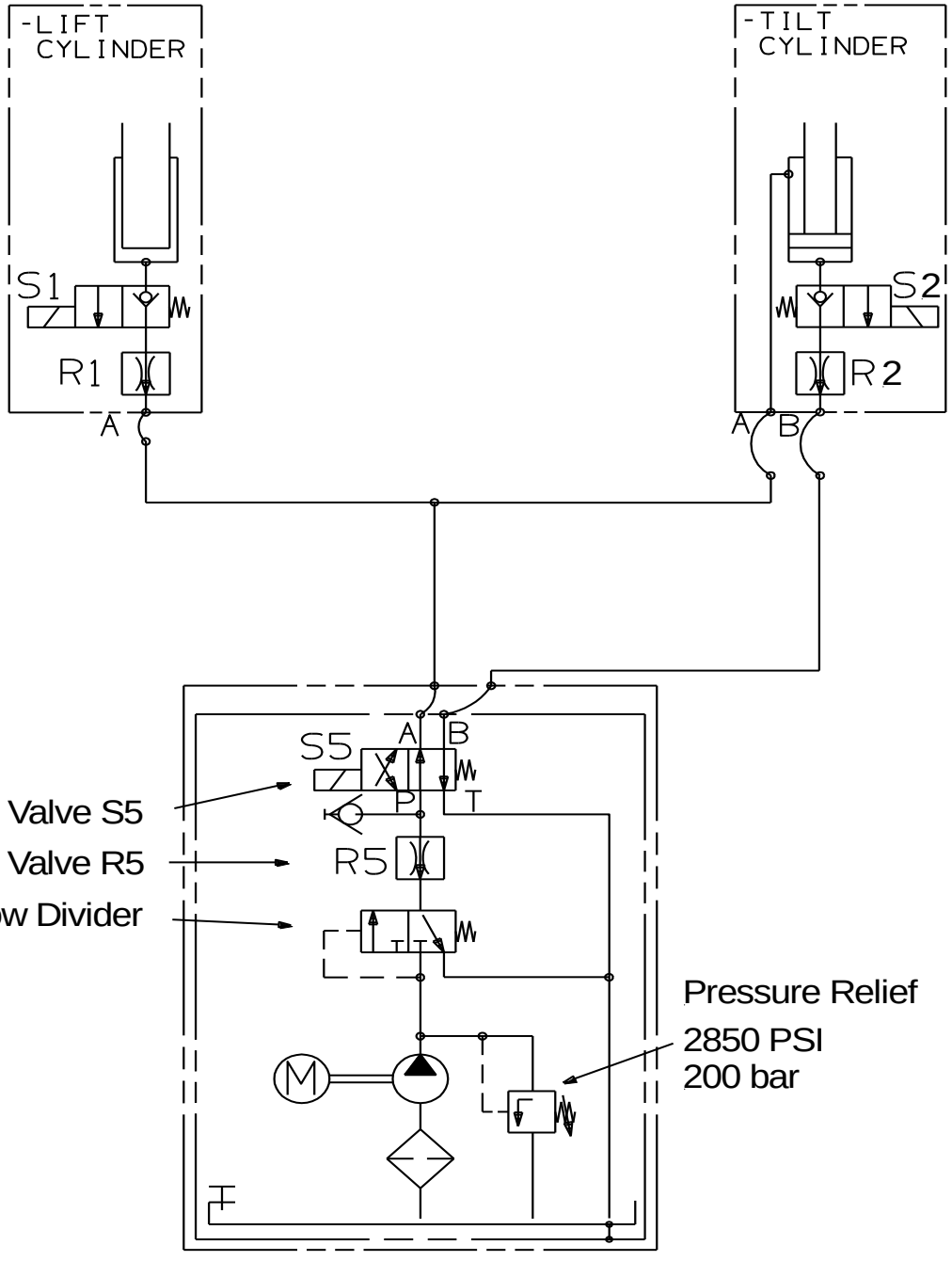


Circuit Board

Hydraulic schematic

Functions:

S1 = Release Valve for lowering function
S2 = Release Valve for tilt down function
R1 = Flow Restrictor located inside hose adaptor on lift cylinder
R2 = Flow Restrictor located inside hose adaptor on tilt cylinder
S5 = Shift Valve is activated on tilt up and lowering function
R5 = Restrictor Valve located in power pack
Flow Divider is activated, when fluid is going back into the power pack
If Flow Divider is loose or hanging up the fluid is circulated back in to tank



Functions:

Lift: M
Lower: S1+ S5
Tilt Up: M+S5
Tilt Down: S2
Horiz. Open: M+S2