H0027 SMARTlift Version of PTO Return Line Pressure Protection
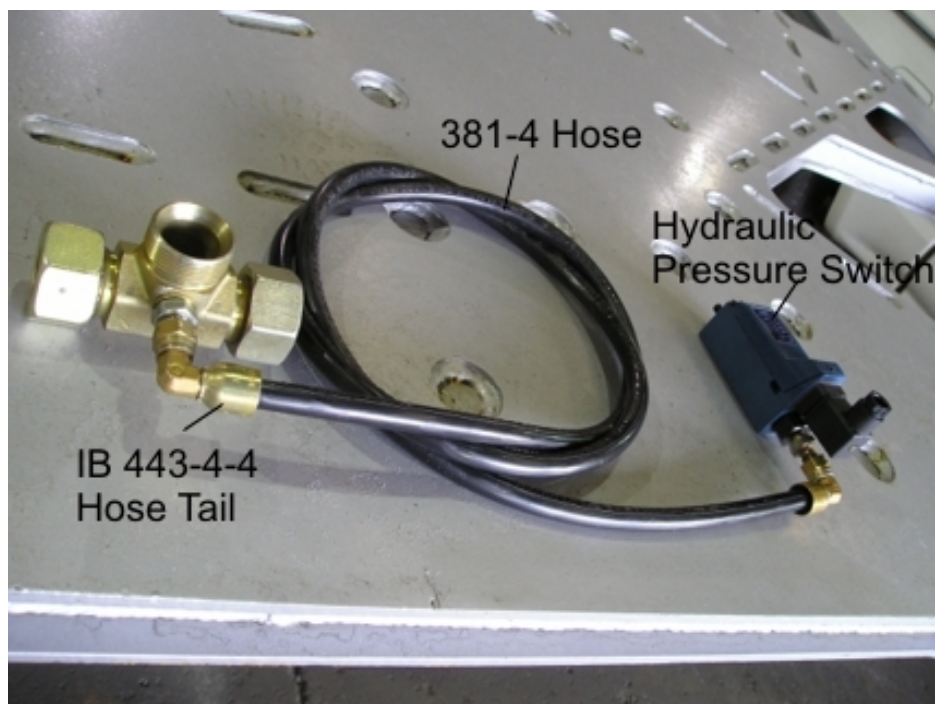
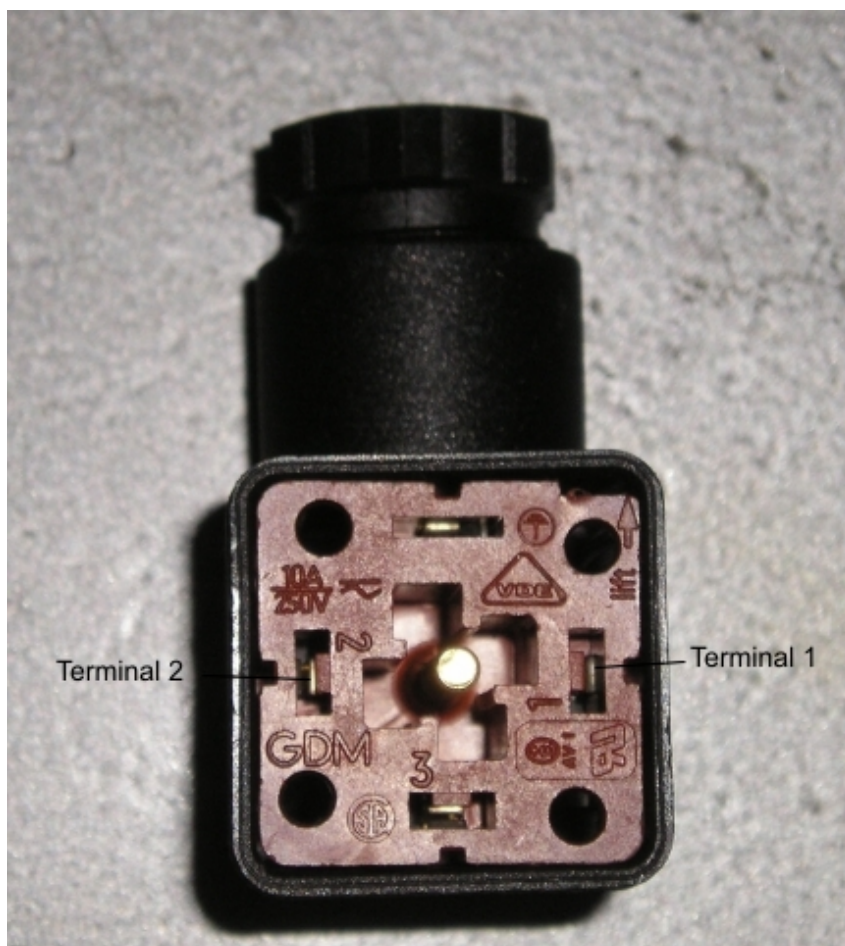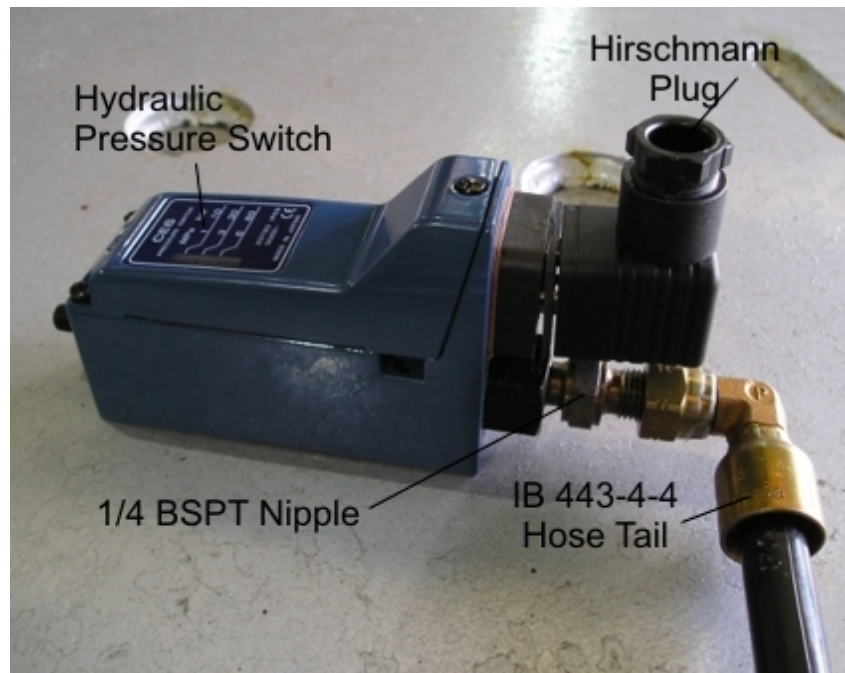| Date: 6 Dec 2007	Hydraulics	Version 1	H0027

1. Drill and tap a hole to suit a ¼ BSP nipple in the return line 25mm tube tee Part number JB7246

2. Fit ¼ BSP nipple into the 25mm tee using loctite hydraulic sealant. Part number 1/4FF33M

3. Fit ¼ BSP nipple into hydraulic pressure switch using loctite hydraulic sealant. Pressure switch Part number EL-33795

4. Fit hydraulic pressure switch to the Sidelifter chassis

5. Cut hydraulic pressure hose to length and swage. Hose type 381-4

6. Fit a dump cartridge to the P.T.O pump on the tractor unit

Note: The Sunfab PTO Pump is fitted with an electric over hydraulic dump valve (hydraulic Normally Open) which must be energised from the Smartlift system in order to allow hydraulic oil to flow to the Danfoss valves
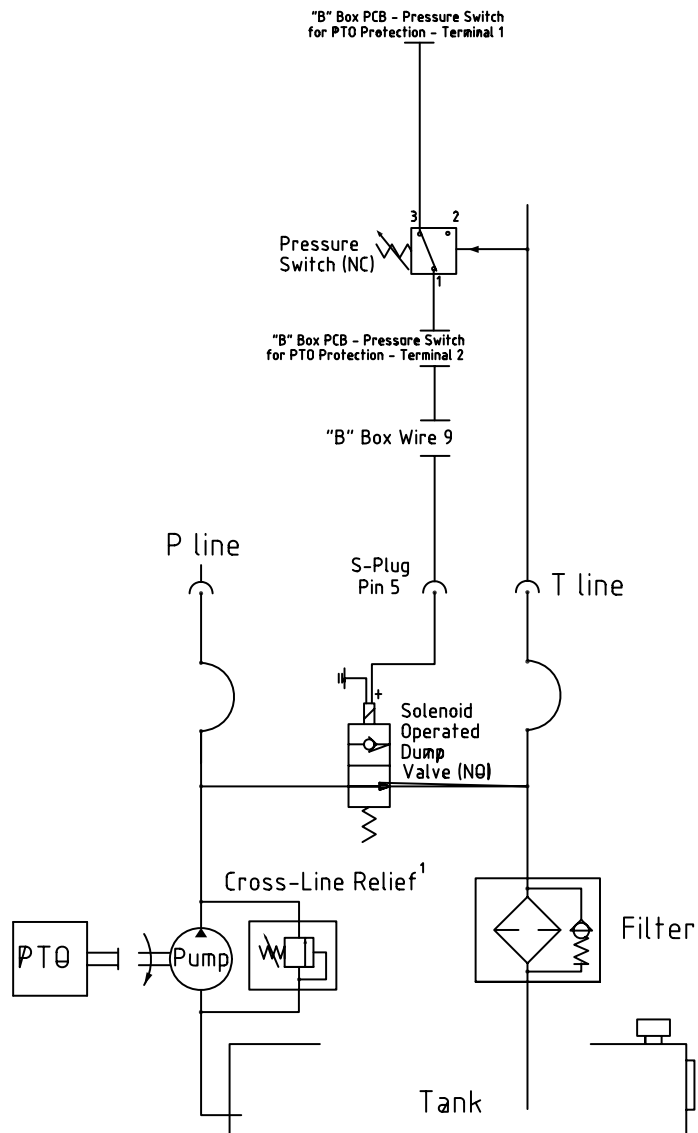
7. The pressure sensing switch in the trailer (electrically Normally Closed) is fed from "B" Box wire 4 (on "B" Box PCB this is Terminal 1). Connect this switch to terminal 3 on the hydraulic pressure switch (see schematic HC-37876 below). This circuit is only powered when the SMARTlift system is activated.

8. Terminal 1 in the pressure switch must be connected to "B" Box PCB Terminal 2 and travels via "B" Box wire 9. This power feed wire travels to the Tractor through S-Plug pin 5. If pressure in the Return (T line) rises above the set pressure then the pressure switch opens (electrically) and the voltage supply to the PTO dump valve is cut

9. Fit an on/off ball valve and pressure gauge into the return line between the hydraulic pressure switch and the quick release coupling

10. Set the relief pressure on the hydraulic pressure switch to around 8 bar.

11. With the P.T.O running slowly close the ball valve while watching the pressure gauge. The hydraulic pressure switch should cut the power to the dump valve when it reaches 8 bar.

12. If the system tests ok reset the hydraulic pressure switch to 20 bar and retest.

JB 7246
Tee 25mm tube on run
1 1/4 BSPP/m branch

1/4 FF33m
1/4 Nipple BSBT

IB443-4-4 Hose Tail

381-4 Hose

Hydraulic
Pressure Switch

IB 443-4-4
Hose Tail

Hydraulic Pressure Switch

Hirschmann Plug

1/4 BSPT Nipple

IB 443-4-4 Hose Tail

Terminal 2

Terminal 1

"B" Box PCB - Pressure Switch
for PTO Protection - Terminal 1

3   2

Pressure
Switch (NC)

1

"B" Box PCB - Pressure Switch
for PTO Protection - Terminal 2

"B" Box Wire 9

P line

S-Plug
Pin 5

T line

Solenoid
Operated
Dump
Valve (NO)

Cross-Line Relief[1]

Filter

Notes:
① 30 MPa (Required
   only if Hydraulic
   Couplings fitted)

PTO

Pump

Tank

General Arrangement - Tractor PTO

Title	Part	Rev
Tractor & Trailer PTO Return Line Pressure Protection	HC-37876	A

Notes	Filename
For Canbus PCB models only - SMARTlift LM & DC	HC-37876.dwg

	STEELBRO New Zealand Ltd 1-31 Treffers Rd Christchurch New Zealand (C) STEELBRO New Zealand 2000	Default Tolerances	Drawn	mareat	31/10/07
		Machining: Size ±0.1, Surface N8		Mass	kg
		Profiling: Size ±2, Position ±2			
		Welding: Position ±3, Quality C		A4	