

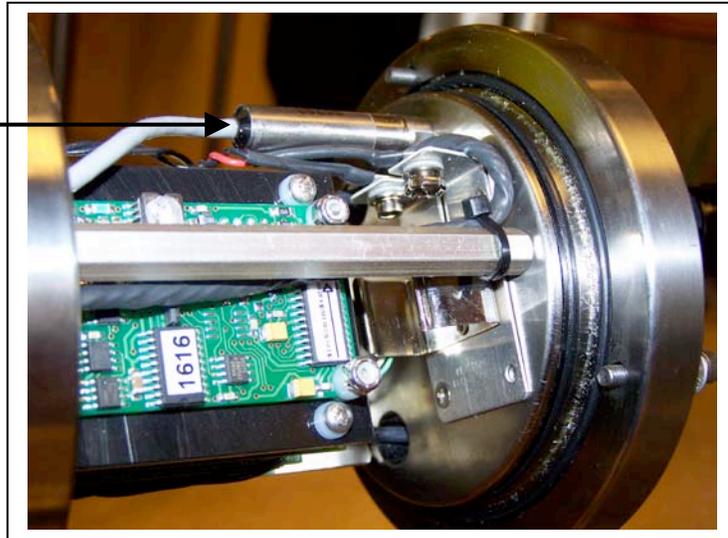
## Appendix G Optional Pressure Sensor

The Sediment Trap can include an optional pressure transducer. When Pressure is installed, the Trap firmware has additional data in diagnostics and data offload. This Appendix explains functions specific to the pressure transducer.

### IMPORTANT

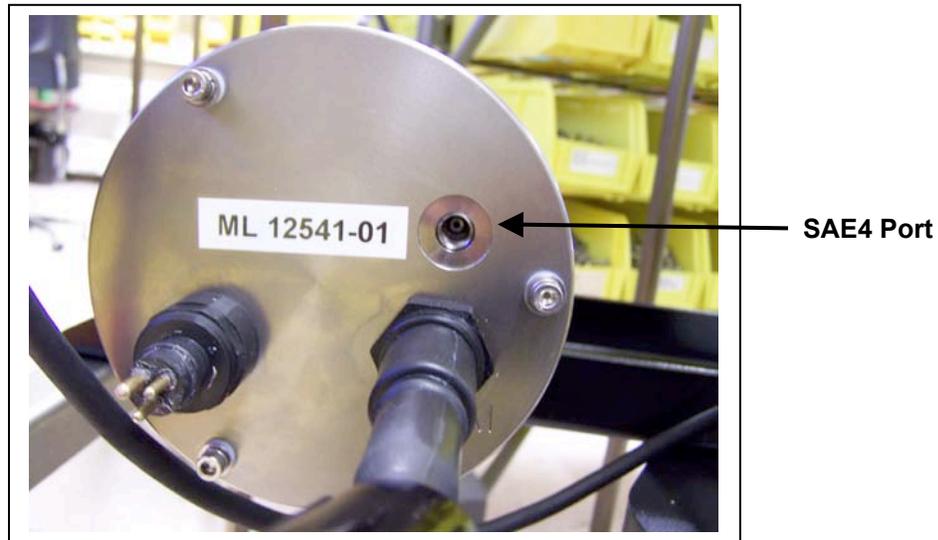
The Sediment Trap firmware supports 2,000, 5,000 or 10,000 psi transducers. Do not exceed the limit of the pressure transducer that is installed (the sensor pressure is available on the body of the transducer).

Pressure  
Transducer



*Figure G-1: Trap Electronics with Pressure Transducer*

If the pressure transducer is installed, the end cap is modified and contains an SAE4 port for connection to a calibration device.



*Figure G-2: End Cap with SAE4 Port*

McLane determines the calibration constants for the pressure transducer after performing a calibration.

**IMPORTANT**

Do not change the calibration constants provided by McLane. McLane can assist with calibration in the field if necessary.

## Pressure Sensor Options

If the Pressure transducer installed, the Trap firmware displays 'PR' in the Configuration display shown at the top of each menu (as shown is Figure G-3). The user interface contains these options, which are further explained below:

- The Diagnostics display shows pressure dbars.
- The data offload option displays pressure dbars.

### Diagnostics Display with Pressure Data

Selecting <2> Diagnostics displays a scrolling status that includes the pressure reading in dbars.

**Config is a 21 Cup  
Trap with Compass/  
Tilt, Pressure and External  
Temperature**

```

Configuration: PST-21_CT_PR_XT                               Version 2_02 of Jan 12 2010
      McLane Research Laboratories, USA
      ParFlux Sediment Trap
      S/N: ML00000-08
      -----
      Main Menu
      -----
      Mon Feb  8 13:43:09 2010

<1> Set Time          <5> Deploy System
<2> Diagnostics      <6> Offload Data
<3> Fill Containers  <7> Contacting McLane
<4> Sleep            <8> Create Schedule

selection ? 2

Press any key to pause/continue display, <X> or <^C> to exit

  Date   Time   Battery  Temp  Tilt  Head  Pressure  Rotator
02/02/10 08:13:13 18.2 Vb 19°C  1°T 215°H  -0 dbar  aligned
02/02/10 08:13:15 18.2 Vb 19°C  1°T 208°H  -0 dbar  aligned
02/02/10 08:13:17 18.2 Vb 19°C  0°T 198°H  -0 dbar  aligned
02/02/10 08:13:19 18.2 Vb 19°C  0°T 170°H  -0 dbar  aligned
02/02/10 08:13:21 18.2 Vb 19°C  0°T 185°H  -0 dbar  aligned
02/02/10 08:13:23 18.2 Vb 19°C  1°T 186°H  -0 dbar  aligned
02/02/10 08:13:25 18.2 Vb 19°C  2°T 147°H  -0 dbar  aligned
02/02/10 08:13:27 18.1 Vb 19°C 11°T 126°H  -0 dbar  aligned
02/02/10 08:13:29 18.1 Vb 19°C 12°T 125°H  -0 dbar  aligned
02/02/10 08:13:31 18.1 Vb 19°C 12°T 125°H  -0 dbar  aligned
  
```

Figure G-3: Diagnostics with Pressure Transducer Installed

## Offload/Display Data with Pressure

Selecting <6> Offload Data, displays deployment data. Pressure readings are recorded for each sample event.

```
Configuration: PST-21_CT_PR_XT      Version 2_02 of Dec  2 2009
      Offload/Display Data File
      Mon Feb  8 10:29:28 2010

<1> Display all data
<2> Display event summary
<3> Display tilt data
<4> Display backup EEPROM
<M> Main Menu

      Selection ? 2

To copy the instrument data file to a disk file, initiate
your communication program's file logging command now and
then press any key to start the transfer. The instrument
data file will remain resident and is not erased by this
offload procedure.

      Configuration: PST-21_CT_PR_XT
      Source file: PST-2_02
      Compiled: Dec  2 2009 11:59:27
      Electronics S/N: ML12555-01

Data recording start time = 02/04/10 15:36:18
Data recording stop time  = 02/06/10 20:15:31

HEADER
-----
12541-02
system test 2/4/10
SJR

SCHEDULE
-----
Event 01 of 22 @ 02/04/10 15:45:00
Event 02 of 22 @ 02/04/10 18:15:00
. . .
DEPLOYMENT DATA
-----
Event 01

Scheduled start time: 02/04/10 15:45:00
Event start time:    02/04/10 15:45:00
Event stop time:     02/04/10 15:45:28

      Aligned Battery Temperature Tilt Heading Pressure
Start:   Y      16.7      20°C      1°      204°      -1 dbar
Stop:   Y      16.3      20°C      1°      193°      -1 dbar
. . .
```

Figure G-4: Deployment Data Including Pressure

## Offload/Display Data with Pressure Sensor – EEPROM

Selecting <4> displays the backup EEPROM. Pressure data is also stored in EEPROM.

```
Configuration: PST-21_CT_PR_XT      Version 2_02 of Dec  2 2009

      Offload/Display Data File
      Mon Feb  8 10:29:28 2010

<1> Display all data
<2> Display event summary
<3> Display tilt data
<4> Display backup EEPROM
<M> Main Menu

      Selection ? 4

During deployments a backup copy of the instrument data file
is written to non-volatile EEPROM storage. This allows for
data recovery in the unlikely event the instrument data file
is no longer resident in active memory. The tilt time history
is limited to every 15th record from the instrument data file
because of the limited size of the EEPROM.

To copy the EEPROM cache file to a disk file, initiate your
communication program's file logging command now and then press
any key to start the transfer. The cache file remains resident
in the EEPROM until overwritten during the next deployment.

Event Summary:

Event 01

Scheduled start time: 02/04/10 15:45:00
Event start time:    02/04/10 15:45:00
Event stop time:     02/04/10 15:45:28

      Aligned Battery Temperature Tilt Heading Pressure
Start:   Y      16.7      20 ∞C      1∞      204∞      -1 dbar
Stop:   Y      16.3      20 ∞C      1∞      193∞      -1 dbar

Event 02

Scheduled start time: 02/04/10 18:15:00
Event start time:    02/04/10 18:15:00
Event stop time:     02/04/10 18:15:28

      Aligned Battery Temperature Tilt Heading Pressure
Start:   Y      17.1      19 ∞C      1∞      202∞      -0 dbar
Stop:   Y      16.6      19 ∞C      1∞      188∞      0 dbar
. . .
```

Figure G-5: EEPROM Data Including Pressure