

MAINTENANCE RECORD
Douglas County/UDFCD
Water & Earth Technology, Inc.

Service Log			
Site Name:	Castle Rock	Date:	06-Jun-08
Service Type:	Service Call	Technician:	RJN
		Time:	11:39
		Status:	OK

Configuration Changes	
Part #	Location

Transducer Calibration			
Sensor ID	Slope	Calib Offset	Std Error

Tx Maintenance				
Part #	Ref V	Freq Err	Deviation	ROM Batt

Settings and Performance
Switches:
Jumpers:
Eprom:
Tx Freq:
Rx Freq:
Fwd Power:
Rev Power:
SWR

Test Transmission				
Port	Time	Count	Measure	Predicted

Battery Tests		
Battery #	V Quiescent	V Load

Problem Mast broke off

Action Taken: Temporarily fixed the mast by attaching it to the side of the standpipe. Will have to order new mast and permanently fix later.

Site Notes:

Follow-Up

MAINTENANCE RECORD
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Service Log			
Site Name:	Castle Rock	Date:	06-Jun-08
Service Type:	Maintenance	Technician:	RJN
		Time:	11:40
		Status:	OK

Configuration Changes	
Part #	Location
WET-0801	2750
BY-81105	9000

Transducer Calibration			
Sensor ID	Slope	Calib Offset	Std Error

Tx Maintenance				
Part #	Ref V	Freq Err	Deviation	ROM Batt

Settings and Performance	
Switches:	
Jumpers:	
Eprom:	
Tx Freq:	169.525
Rx Freq:	
Fwd Power:	5.5
Rev Power:	3.00
SWR	6.65

Test Transmission				
Port	Time	Count	Measure	Predicted

Battery Tests		
Battery #	V Quiescent	V Load
BY-81105	12.60	12.39

Problem

- Action Taken:**
- calibrated rain gage w/ 948ml - 13 tips + 36 ml = +3.8%
 - replaced battery w/ WET-0801
 - replaced dessicant
 - cleaned bucket/funnel
 - cleaned solar panel
 - radio fw 5.5W - R 3.0W - suspect bad cable
 - battery w/o 12.6V / w/l 12.39V
 - 12:19 pm psychrometer - db 51, wb 75 - RH 12.56%, DP 20.09

Site Notes:

- Follow-Up**
- fix mast
 - change out windspeed sensor

MAINTENANCE RECORD
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Service Log			
Site Name:	Highlands Ranch WT	Date:	11-Jun-08
Service Type:	Maintenance	Technician:	RJN/EC
		Time:	8:31
		Status:	OK

Configuration Changes	
Part #	Location
WET-0802	2710
BY-WET01	9000

Transducer Calibration			
Sensor ID	Slope	Calib Offset	Std Error

Tx Maintenance				
Part #	Ref V	Freq Err	Deviation	ROM Batt

Settings and Performance	
Switches:	
Jumpers:	
Eprom:	
Tx Freq:	
Rx Freq:	
Fwd Power:	4.5
Rev Power:	0.00
SWR	1

Test Transmission				
Port	Time	Count	Measure	Predicted

Battery Tests		
Battery #	V Quiescent	V Load
BY-WET01	12.88	12.66

Problem

- Action Taken:** - sunny
 - cleaned funnel/tipping bucket
 - cleaned solarpanel
 - calibrated bucket w/ 948ml - 12 tips + 5ml - -0.5%
 - changed battery - lifetester score 300 - good
 - psychrometer Db 59/Wb 47 - 37.96%/Dp 33.44 (9:00am)

Site Notes:

Follow-Up

MAINTENANCE RECORD
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Service Log			
Site Name:	Salisbury Park	Date:	11-Jun-08
Service Type:	Maintenance	Technician:	RJN/EC
		Time:	10:07
		Status:	OK

Configuration Changes	
Part #	Location
WET-0803	2730
BY-WET02	9000

Transducer Calibration			
Sensor ID	Slope	Calib Offset	Std Error

Tx Maintenance				
Part #	Ref V	Freq Err	Deviation	ROM Batt

Settings and Performance	
Switches:	
Jumpers:	
Eprom:	
Tx Freq:	169.525
Rx Freq:	
Fwd Power:	5.0
Rev Power:	0.00
SWR	1

Test Transmission				
Port	Time	Count	Measure	Predicted

Battery Tests		
Battery #	V Quiescent	V Load
WET-0803	12.50	12.25
BY-WET02	12.50	12.25

Problem

- Action Taken:**
- cloudy
 - cleaned solar panel
 - cleaned funnel/bucket
 - calibrated bucket w/ 948ml - 12 tips + 50ml = -5.3%
 - adjust and recalibrate w/948ml - 12 tips + 20ml = -2.1%
 - replaced battery, lifetester score 240 - good
 - psychrometer Wb 61/Db 46 - 27%/26.48Dp
 - anemometer cup broken

Site Notes:

- Follow-Up**
- needs new anemometer cups

MAINTENANCE RECORD
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Service Log			
Site Name:	Sulphur Gulch	Date:	11-Jun-08
Service Type:	Maintenance	Technician:	RJN/EC
		Time:	12:04
		Status:	OK

Configuration Changes	
Part #	Location

Transducer Calibration			
Sensor ID	Slope	Calib Offset	Std Error
2843	0.01	-0.0332	0.032

Tx Maintenance				
Part #	Ref V	Freq Err	Deviation	ROM Batt

Settings and Performance	
Switches:	
Jumpers:	
Eprom:	
Tx Freq:	169.525
Rx Freq:	
Fwd Power:	5.1
Rev Power:	0.10
SWR	1.33

Test Transmission					
Port	Time	Count	Measure	Predicted	
2843	12:32	2	0.00 psi	5	
2843	12:37	1259	12.55 psi	2815	
2843	12:37	903	8.98 psi	2016	
2843	12:38	500	4.99 psi	1122	
2843	12:39	275	2.76 psi	623	
2843	12:40	1595	15.90 ftH2	1548	
2843	12:41	1208	12.05 ftH2	1175	
2843	12:41	832	8.33 ftH2	813	
2843	12:41	477	4.76 ftH2	467	
2843	12:42	263	2.63 ftH2	260	
2843	12:42	107	1.08 ftH2	110	
2843	12:43	13	0.00 ftH2	5	

Battery Tests		
Battery #	V Quiescent	V Load
BY-WET03	12.17	12.03

Problem

Action Taken: - cloudy, light rain
 - cleaned funnel/bucket
 - calibrated bucket w/ 948 ml - 13 tips + 7ml = +0.07%

{Auto Entry: Calibrated sensor 2843 by linear regression. Modified calibration data. New calibration [Slope(0.0100), Calibration Offset(-0.0332), Std Error(0.0320), Calibration Date(6/11/2008 12:43:19 PM)]}.

Site Notes:

Follow-Up

MAINTENANCE RECORD
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Service Log			
Site Name:	Pine Cliff Road	Date:	11-Jun-08
Service Type:	Maintenance	Technician:	RJN/EC
		Time:	13:50
		Status:	OK

Configuration Changes	
Part #	Location

Transducer Calibration			
Sensor ID	Slope	Calib Offset	Std Error
2813	0.009	-0.1453	0.0596

Tx Maintenance				
Part #	Ref V	Freq Err	Deviation	ROM Batt

Settings and Performance	
Switches:	
Jumpers:	
Eprom:	
Tx Freq:	169.525
Rx Freq:	
Fwd Power:	25.0
Rev Power:	0.10
SWR	1.14

Test Transmission				
Port	Time	Count	Measure	Predicted
2813	14:08	1831	16.26 ftH2	1839
2813	14:09	1401	12.42 ftH2	1407
2813	14:10	919	8.09 ftH2	921
2813	14:11	561	4.87 ftH2	559
2813	14:12	332	2.82 ftH2	329
2813	14:13	152	1.20 ftH2	147
2813	14:14	13	0.00 ftH2	12

Battery Tests		
Battery #	V Quiescent	V Load

Problem

- Action Taken:** - partly sunny
 - cleaned bucket/funnel
 - calibrated bucket w/ 948ml - 13 tips + 6ml = +0.6%

{Auto Entry: Calibrated sensor 2813 by linear regression. Modified calibration data. New calibration [Slope(0.0090), Calibration Offset(-0.1453), Std Error(0.0596), Calibration Date(6/11/2008 2:14:46 PM)]}.

Site Notes:

Follow-Up

MAINTENANCE RECORD
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Service Log			
Site Name:	Castle Rock	Date:	03-Jul-08
Service Type:	Repair	Technician:	RJN/EC
		Time:	14:07
		Status:	OK

Configuration Changes	
Part #	Location

Transducer Calibration			
Sensor ID	Slope	Calib Offset	Std Error

Tx Maintenance				
Part #	Ref V	Freq Err	Deviation	ROM Batt

Settings and Performance	
Switches:	
Jumpers:	
Eprom:	
Tx Freq:	169.525
Rx Freq:	
Fwd Power:	9.1
Rev Power:	0.10
SWR	1.23

Test Transmission				
Port	Time	Count	Measure	Predicted

Battery Tests		
Battery #	V Quiescent	V Load

Problem

- Action Taken:**
- new mast attached installed
 - new antenna cable installed
 - new wind speed sensor installed

 - reinforced concrete base with rebar and enlarged base
 - checked radio and antenna system - good

Site Notes:

Follow-Up

MAINTENANCE RECORD
Douglas County/UDFCD
Water & Earth Technology, Inc.

Service Log			
Site Name:	Castle Rock	Date:	07-Jul-08
Service Type:	Service Call	Technician:	RJN/MLR
		Time:	10:57
		Status:	OK

Configuration Changes	
Part #	Location

Transducer Calibration			
Sensor ID	Slope	Calib Offset	Std Error

Tx Maintenance				
Part #	Ref V	Freq Err	Deviation	ROM Batt

Settings and Performance
Switches:
Jumpers:
Eprom:
Tx Freq:
Rx Freq:
Fwd Power:
Rev Power:
SWR

Test Transmission				
Port	Time	Count	Measure	Predicted

Battery Tests		
Battery #	V Quiescent	V Load

Problem - station not reporting

Action Taken: - reset the transmitter
 - seemed the transmitter locked up during an electrical storm on the previous day

Site Notes:

Follow-Up

MAINTENANCE RECORD
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Service Log			
Site Name:	Castle Rock	Date:	09-Jul-08
Service Type:	Administration	Technician:	RJN/MLR
		Time:	11:55
		Status:	OK

Configuration Changes	
Part #	Location

Transducer Calibration			
Sensor ID	Slope	Calib Offset	Std Error

Tx Maintenance				
Part #	Ref V	Freq Err	Deviation	ROM Batt

Settings and Performance
Switches:
Jumpers:
Eprom:
Tx Freq:
Rx Freq:
Fwd Power:
Rev Power:
SWR

Test Transmission				
Port	Time	Count	Measure	Predicted

Battery Tests		
Battery #	V Quiescent	V Load

Problem

Action Taken:

Site Notes: 5096 Programming:
 set-batt 43200,900,25,50,2758
 set-pk 1,10,900,0,70,360,2094,0,2744
 set-wi 1,2094,0,1,10,1,1,0,2747
 set-ev 2,1,2,43200,1,10,1,1,0,2750
 set-an 1,0,900,13,55,1,4,0,2751
 set-an 2,0,900,3,12,1,4,0,2752
 align

Follow-Up

MAINTENANCE RECORD
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Service Log			
Site Name:	Castle Rock	Date:	09-Jul-08
Service Type:	Service Call	Technician:	RJN/MLR
		Time:	11:59
		Status:	OK

Configuration Changes	
Part #	Location

Transducer Calibration			
Sensor ID	Slope	Calib Offset	Std Error

Tx Maintenance				
Part #	Ref V	Freq Err	Deviation	ROM Batt

Settings and Performance
Switches:
Jumpers:
Eprom:
Tx Freq:
Rx Freq:
Fwd Power:
Rev Power:
SWR

Test Transmission				
Port	Time	Count	Measure	Predicted

Battery Tests		
Battery #	V Quiescent	V Load

Problem stopped transmitting again
 think its a grounding problem combined with the old style bucket

- Action Taken:**
- added ground rod, lug and ground wire
 - assured that connections between antenna and standpipe are bare.
 - filed paint of mast and standpipe where touching
 - did INIT on transmitter and reprogrammed
 - installed new rain bucket with new PMS type (momentary switch closure)

Site Notes:

Follow-Up

MAINTENANCE RECORD
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Service Log			
Site Name:	West Creek Repeater	Date:	28-Jul-08
Service Type:	Maintenance	Technician:	RJN/KBB
		Time:	10:39
		Status:	OK

Configuration Changes	
Part #	Location
BY-001	9000

Transducer Calibration			
Sensor ID	Slope	Calib Offset	Std Error

Tx Maintenance				
Part #	Ref V	Freq Err	Deviation	ROM Batt

Settings and Performance	
Switches:	
Jumpers:	
Eprom:	
Tx Freq:	
Rx Freq:	
Fwd Power:	4.0
Rev Power:	0.10
SWR	1.38

Test Transmission				
Port	Time	Count	Measure	Predicted

Battery Tests		
Battery #	V Quiescent	V Load
BY-001	12.67	12.55

Problem

Action Taken: - replaced battery
 - checked radio
 - checked modem board - latest version with loop on corner

Site Notes:

Follow-Up

MAINTENANCE RECORD
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Service Log			
Site Name:	West Cherry Head	Date:	28-Jul-08
Service Type:	Low Impact Check	Technician:	RJN/KBB
		Time:	13:43
		Status:	OK

Configuration Changes	
Part #	Location

Transducer Calibration			
Sensor ID	Slope	Calib Offset	Std Error

Tx Maintenance				
Part #	Ref V	Freq Err	Deviation	ROM Batt

Settings and Performance	
Switches:	Low
Jumpers:	
Eprom:	
Tx Freq:	171.100
Rx Freq:	
Fwd Power:	
Rev Power:	
SWR	

Test Transmission				
Port	Time	Count	Measure	Predicted

Battery Tests		
Battery #	V Quiescent	V Load

Problem

Action Taken: - low impact check
 - 2 tips with water
 - confirmed at base

Site Notes:

Follow-Up

MAINTENANCE RECORD
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Service Log			
Site Name:	Spring Valley Road	Date:	28-Jul-08
Service Type:	Low Impact Check	Technician:	RJN/KBB
		Time:	14:05
		Status:	OK

Configuration Changes	
Part #	Location

Transducer Calibration			
Sensor ID	Slope	Calib Offset	Std Error

Tx Maintenance				
Part #	Ref V	Freq Err	Deviation	ROM Batt

Settings and Performance
Switches:
Jumpers:
Eprom:
Tx Freq:
Rx Freq:
Fwd Power:
Rev Power:
SWR

Test Transmission				
Port	Time	Count	Measure	Predicted

Battery Tests		
Battery #	V Quiescent	V Load

Problem

Action Taken: - low impact check
 - 2 tips with water
 - confirmed at base

Site Notes:

Follow-Up

MAINTENANCE RECORD
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Service Log			
Site Name:	Willow Creek	Date:	28-Jul-08
Service Type:	Low Impact Check	Technician:	RJN/KBB
		Time:	14:43
		Status:	OK

Configuration Changes	
Part #	Location

Transducer Calibration			
Sensor ID	Slope	Calib Offset	Std Error

Tx Maintenance				
Part #	Ref V	Freq Err	Deviation	ROM Batt

Settings and Performance
Switches:
Jumpers:
Eprom:
Tx Freq:
Rx Freq:
Fwd Power:
Rev Power:
SWR

Test Transmission				
Port	Time	Count	Measure	Predicted

Battery Tests		
Battery #	V Quiescent	V Load

Problem

Action Taken: - low impact check
 - 2 tips with water
 - confirmed at base

Site Notes:

Follow-Up

MAINTENANCE RECORD
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Service Log			
Site Name:	Tomah Road	Date:	28-Jul-08
Service Type:	Low Impact Check	Technician:	RJN/KBB
		Time:	15:10
		Status:	OK

Configuration Changes	
Part #	Location

Transducer Calibration			
Sensor ID	Slope	Calib Offset	Std Error

Tx Maintenance				
Part #	Ref V	Freq Err	Deviation	ROM Batt

Settings and Performance
Switches:
Jumpers:
Eprom:
Tx Freq:
Rx Freq:
Fwd Power:
Rev Power:
SWR

Test Transmission				
Port	Time	Count	Measure	Predicted

Battery Tests		
Battery #	V Quiescent	V Load

Problem

- Action Taken:**
- low impact check
 - 2 tips with water
 - funnel plugged, drains slowly
 - funnel cleaned
 - 5 tips confirmed at base

Site Notes:

Follow-Up