DEC 07 1999

ENGINEERING DATA TRANSMITTAL

Page 1 of 4

1. EDT

140144

2. To: (Receiving Organization) DISTRIBUTION		3. From: (Originating Organization) COGEMA ENGINEERING		4. Related EDT No.: N/A							
5. Proj./Prog./Dept./Div.: SY FARM ANNULUS LEAK DETECTOR		6. Design Authority/Design Agent/Cog. Engr.: RW REED / SG SMITH / JH HUBER		7. Purchase Order No.: N/A							
8. Originator Remarks: EDT-140144 releases the In Shop Acceptance test report for the SY Farm Annulus leak detectors.				9. Equip./Component No.: N/A							
				10. System/Bldg./Facility: 241-SY							
				12. Major Assm. Dwg. No.: N/A							
				13. Permit/Permit Application No.: N/A							
11. Receiver Remarks:		11A. Design Baseline Document? ☐ Yes ☒ No		14. Required Response Date: N/A							
15. DATA TRANSMITTED											
(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	(F) Approval Designator	(G) Reason for Transmittal	(H) Originator Disposition	(I) Receiver Disposition			
1	HNF-5467	-	0	IN SHOP ACCEPTANCE TEST REPORT FOR THE SY FARM ANNULUS LEAK DETECTORS	Q	1	1				
16. KEY											
Approval Designator (F)		Reason for Transmittal (G)			Disposition (H) & (I)						
E, S, Q, D OR N/A (See WHC-CM-3-5, Sec. 12.7)		1. Approval 2. Release 3. Information 4. Review 5. Post-Review 6. Dist. (Receipt Acknow. Required)			1. Approved 2. Approved w/comment 3. Disapproved w/comment 4. Reviewed no/comment 5. Reviewed w/comment 6. Receipt acknowledged						
17. SIGNATURE/DISTRIBUTION (See Approval Designator for required signatures)											
(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN
		Design Authority				1	1	SG SMITH		12-02-99	LG-37
		Design Agent				1	1	WE WILLINGHAM, JR.		12-2-99	LG-37
1	1	Cog. Eng. JH HUBER		12-2-99	TH-07						
1	1	Cog. Mgr. RE LARSON		12-3-99	TH-07						
1	1	QA RR TRUE		12-2-99		1	1				
		Safety									
		Env.									
18. Signature of EDT Originator Date 12-02-99		19. RICH LARSON per TELECON Authorized Representative for Receiving Organization Date 12-03-99		20. Design Authority/ Cognizant Manager Date 12-2-99		21. DOE APPROVAL (if required) Ctrl No. _____ ☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments					

IN SHOP ACCEPTANCE TEST REPORT FOR THE SY FARM ANNULUS LEAK DETECTORS

Sean G. Smith
COGEMA Engineering Corporation
Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-96RL13200

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Key Words: ENRAF, ATG Series 854, SPU II Card, Annulus Leak Detector, ALD

Abstract: The following test report was written for the SY tank farm annulus leak detectors. The test plan used was HNF-4546, Revision 1. The purpose of the test plan was to test the ENRAF series 854 ATG with SPU II card prior to installation. The test plan set various parameters and verifies the gauge and alarms functionality.

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RECORD OF REVISION

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HNF-5467, REV. 0

Page 1

(2) Title

IN SHOP ACCEPTANCE TEST REPORT FOR TEH SY FARM ANNULUS LEAK DETECTORS

Change Control Record

[illegible]

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IN SHOP ACCEPTANCE TEST REPORT FOR THE SY FARM ANNULUS LEAK DETECTORS

1.0 INTRODUCTION

The following report describes the eight-annulus leak detectors acceptance tested per HNF-4546, Rev. 1. The tests were performed from November 10 – 17, 1999 at the Department of Energy's Hanford Site, 200 West Area, building 272WA.

2.0 DESCRIPTION OF TEST

The purpose of this acceptance test procedure (ATP) was to verify the functionality of the ENRAF series 854 advanced technology gauge (ATG) with an SPU II card installed. The ATP set some default values for the ENRAF gauge and verified the gauges force transducer was in calibration.

The addition of the SPU II card allows the ENRAF gauge to activate relays if the level of the gauge's displacer should rise or lower beyond preset points. Additional testing was done within this ATP to test the activation of the two alarm relays.

3.0 CRITERIA

In order to pass the acceptance test the ENRAF gauge must meet the criteria listed below.

3.1 GAUGE MUST ACCEPT ALL COMMANDS

The gauge must accept all standard ENRAF ATG command protocols. The ATP (HNF-4546, Rev. 1) uses standard commands, therefore all the commands in the ATP must be accepted by the gauge. In the event of an error code being returned after entering a command, the error must be clearable without physical reparation or modification to the gauge.

3.2 FORCE TRANSDUCER IS ABLE TO BE CALIBRATED

The force transducer within the gauge is the primary component of an operating gauge. If the force transducer is not calibrated any readings given will be erroneous. The ENRAF level gauges must report a known test weight to within +/- 3 grams.

3.3 ALL ERROR CODES MUST BE ABLE TO BE CLEARED

All operations or activities performed on the ENRAF gauge must be in accordance with procedures listed in HNF-4546, Rev. 1 or vendor documentation. In the event of an error, recovery must be possible within a reasonable amount of time and effort.

4.0 TEST CONDITIONS AND EQUIPMENT REQUIRED

The ENRAF gauge was connected to a Portable ENRAF Terminal (PET) with proprietary connections. The PET was connected to a computer workstation via RS232 cable provided by the vendor.

In order to test the functionality of the relays several steps were taken. First the displacer was raised or lowered until there was 6-inches of free-play above and below the gauge. Next the high alarm (HA) parameter of the gauge was set by adding 4.0 inches to the current displacer level. The low alarm (LA) parameter of the gauge was set by subtracting 4.0 inches from the current displacer level. The relays were then monitored as the displacer was raised and lowered past the two set alarm levels.

The equipment below was required to perform this procedure.

- Portable ENRAF Terminal (PET) Model No. 847
- ENRAF Test Weights (ENRAF PN 1854-061)
- Reamer (ENRAF PN 4563.030) or #31 drill
- ENRAF Extraction Tool (optional)
- Ohmmeter with two pair of test leads (calibration not required)
- Calculator

5.0 TEST RESULTS

The following test results cover the 8 ENRAF gauges that were tested using HNF-4546, Rev. 1. The following table lists the date tested, ENRAF gauge serial number and intended location for placement. All of the gauges will be described in the preceding sections.

A copy of the data sheets filled out during the test procedure can be found in Appendix A of this document.

**TABLE 5.0.1
ENRAF GAUGES INSTALLED IN SY FARM FOR ANNULUS LEAK
DETECTION**

DATE TESTED	ENRAF SERIAL NUMBER	INTENDED LOCATION
11/11/99	854-28-357	SY-101, Riser-033
11/15/99	854-28-431	SY-101, Riser-034
11/16/99	854-28-428	SY-101, Riser-039
11/16/99	854-28-425	SY-102, Riser-032
11/10/99	854-28-424	SY-102, Riser-038
11/11/99	854-28-426	SY-103, Riser-032
11/17/99	854-28-430	SY-103, Riser-033
11/15/99	854-28-427	SY-103, Riser-038

5.1 ENRAF GAUGE S/N: 854-28-357

The ENRAF gauge (S/N: 854-28-357) met all of the criteria listed in section 3.0. One exception was recorded and is described below.

5.1.1 EXCEPTION 1

During the test procedure (Paragraph 2.10.1.3) relay 2 (Low Alarm) was constantly reading an open circuit regardless of the level of the displacer. The ENRAF display showed the corresponding "L" at the appropriate level.

It was found that the SPU II card in the unit was defective. The SPU II card was replaced and sections 2.7, 2.8 and 2.10 were performed again.

5.2 ENRAF GAUGE S/N: 854-28-431

The ENRAF gauge (S/N: 854-28-431) met all of the criteria listed in section 3.0. One exception was recorded and is described below.

5.2.1 EXCEPTION 1

During the test procedure (Paragraph 2.3.3) it was found that the parameter entry of [TT = +00900.00] was not accepted.

It was found that the gauge's level dimensions were set in feet instead of inches. The resolution was to run a procedure that would change the dimensions from feet to inches. The procedure can be found in Appendix A of HNF-4546, Rev. 1.

5.3 ENRAF GAUGE S/N: 854-28-428

The ENRAF gauge (S/N: 854-28-428) met all of the criteria listed in section 3.0. One exception was recorded and is described below.

5.3.1 EXCEPTION 1

During the test procedure (Paragraph 2.3.3) it was found that the parameter entry of [TT = +00900.00] was not accepted.

It was found that the gauge's level dimensions were set in feet instead of inches. The resolution was to run a procedure that would change the dimensions from feet to inches. The procedure can be found in Appendix A of HNF-4546, Rev. 1.

5.4 ENRAF GAUGE S/N: 854-28-425

The ENRAF gauge (S/N: 854-28-425) met all of the criteria listed in section 3.0. One exception was recorded and is described below.

5.4.1 EXCEPTION 1

During the test procedure (Paragraph 2.3.3) it was found that the parameter entry of [TT = +00900.00] was not accepted.

It was found that the gauge's level dimensions were set in feet instead of inches. The resolution was to run a procedure that would change the dimensions from feet to inches. The procedure can be found in Appendix A of HNF-4546, Rev. 1.

5.5 ENRAF GAUGE S/N: 854-28-424

The ENRAF gauge (S/N: 854-28-424) met all of the criteria listed in section 3.0. Two exceptions were recorded and are described below.

5.5.1 EXCEPTION 1

During the test procedure (Paragraph 2.3.3) it was found that the parameter entry of [TT = +00900.00] was not accepted.

It was found that the gauge's level dimensions were set in feet instead of inches. The resolution was to run a procedure that

would change the dimensions from feet to inches. The procedure can be found in Appendix A of HNF-4546, Rev. 1.

5.5.2 EXCEPTION 2

During the test procedure (Step 2.5.19) error code ES0404 was received after entering command [EX].

Per page 64 in the ENRAF manual (Instruction Manual Series 854 ATG Level Gauge, ENRAF Inc, Part No. 4416.220, Version 2.2 (See CV-31560, vendor information file). The error code indicated that at least one of the values (F0 ... F3) was out of range and to check these items and the stress transducer. It was suspected that the F0 value was the one out of range.

The resolution was to enter the original F0 value in an attempt to clear the error code. The error code was cleared that confirmed F0 was the value out of range. The new F0 value is 0.11824307E+05. Steps 2.51 through 2.5.8 and 2.5.15, 2.5.16, 2.5.18 through 2.5.26 were repeated and the test continued.

5.6 ENRAF GAUGE S/N: 854-28-426

The ENRAF gauge (S/N: 854-28-426) met all of the criteria listed in section 3.0. One exception was recorded and is described below.

5.6.1 EXCEPTION 1

During the test procedure (Paragraph 2.3.3) it was found that the parameter entry of [TT = +00900.00] was not accepted.

It was found that the gauge's level dimensions were set in feet instead of inches. The resolution was to run a procedure that would change the dimensions from feet to inches. The procedure can be found in Appendix A of HNF-4546, Rev. 1.

5.7 ENRAF GAUGE S/N: 854-28-430

The ENRAF gauge (S/N: 854-28-430) met all of the criteria listed in section 3.0. One exception was recorded and is described below.

5.7.1 EXCEPTION 1

During the test procedure (Paragraph 2.3.3) it was found that the parameter entry of [TT = +00900.00] was not accepted.

It was found that the gauge's level dimensions were set in feet instead of inches. The resolution was to run a procedure that would change the dimensions from feet to inches. The procedure can be found in Appendix A of HNF-4546, Rev. 1.

5.8 ENRAF GAUGE S/N: 854-28-427

The ENRAF gauge (S/N: 854-28-427) met all of the criteria listed in section 3.0. One exception was recorded and is described below.

5.8.1 EXCEPTION 1

During the test procedure (Paragraph 2.3.3) it was found that the parameter entry of [TT = +00900.00] was not accepted.

It was found that the gauge's level dimensions were set in feet instead of inches. The resolution was to run a procedure that would change the dimensions from feet to inches. The procedure can be found in Appendix A of HNF-4546, Rev. 1.

6.0 CONCLUSION

The results of this acceptance test procedure show that the gauges function as designed and shipped by the manufacturer. The gauges listed in Table 5.0.1 are suitable for use as SY Farm Annulus Leak Detectors.

APPENDIX A
DATA SHEETS AND EXCEPTIONS FORMS FOR SY FARM ANNULUS
LEAK DETECTORS

TABLE
SY FARM
LEAK DETECTORS

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TEST EXECUTION DATA SHEET				Page 1 of 2	
Date: 11/11/99		Tank Number: SY-101, RISER-034 033			
Gauge Serial Number: 854-28-357		Test Performed by: J.D. WEINBENDER			
Reference Sequence	Attribute	Expected Value	Actual Value	AIR	Comment
2.2.1	EP	EP000		A	
2.2.2	ES	ES0000		A	
2.3.3	PARAMETERS	Entered Correctly		A	
2.3.6	CA	Displacer raises		A	
2.3.8	RL	850 +/- 0.10	850.00	A	
2.3.10	RL	850 +/- 0.10	890.00	A	
2.4.1	DC programmed	As read	+33807500E+00		
2.4.2	DC engraved	As read	338.075	A	
2.4.5	New DC	DC engraved		N/A	
2.5.8	F0	As read	+11751364E+05		
2.5.10	F1	As read	+12542906E+05		
2.5.12	F2	As read	+13279850E+05		
2.5.14	F3	As read	+13969311E+05		
2.5.24	WQ Test Weight	225 +/- 3 grams	+22456968E+03		
2.5.25	WQ - 225	+/- 3 grams	0.43032 GRAMS	A	
2.5.27	Displacer Weight Engraved/Marked	As read	222.6		
2.5.30	WQ Displacer	As read	+22540651E+03	A	
2.5.31	(2.5.30)-(2.5.27)	+/- 6 grams	2.8065/GRAMS	A	
2.6.2	RY=HATLAT	Entered Correctly		A	
2.6.4	RZ=EEEE	Entered Correctly		A	
2.7.8	SPU II BLK Wires "6" and "8"	Connected to "NO" terminals		A	
2.9.3	PARAMETERS	Entered Correctly	HA 864 LA 856	A	
2.10.1.3	[LA] Activation	Alarm Activated	Yes	R2A	SEE EXCEPTION
2.10.1.4	Low Alarm Level	LA +/- 0.10	855.95	A	
2.10.1.5	RX	(?.A)	DA	A	

CONTINUED ON NEXT PAGE

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TEST EXECUTION DATA SHEET				Page 2 of 2	
Date: 11/11/99		Tank Number: SY101 RISER 034 033			
Gauge Serial Number: 854-28-357		Test Performed by: JD WEINZENDER			
Reference Sequence	Attribute	Expected Value	Actual Value	Y/N	Comment
PAW 2.10.2.3	[HA] Activation	Alarm Activated	yes	A	
PAW 2.10.2.4	High Alarm Level	HA +/- 0.10	864.08	A	
PAW 2.10.2.5	RX	(A,?)	AD	A	
PAW 2.10.2.7	PARAMETERS	Entered Correctly	yes	A	
PAW 2.11.4	MOTOR LOCK	Locked	yes	A	

Test Witnesses:

Supervisor/Lead

P. Glumond

Quality Control

Instrument Tech.

11/16/99

Date

11-16-99

Date

11-16-99

Date

Witnessed Sections 2.7 through 2.11.
Paul A. Wern 11-15-99

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EXCEPTIONS DATA SHEET

Gauge Serial Number: 854-28-357Page 1 of 1

Paragraph No. <u>2.10.1.3</u>	Description/Disposition <u>RELAY 2 (LOW ALARM) CONSTANTLY READS OPEN CIRCUIT REGARDLESS OF LEVEL OF DISPLACER. NOTE: "L" APPEARS IN DISPLAY AT APPROPRIATE LEVEL.</u> <u>Disposition: install new SPU II card, and re-perform sections 2.7, 2.8 & 2.10.</u>
	<u>Witnessed performance of sections 2.7 through 2.11. All steps acceptable on retest. Paula Wernum QC 11-15-99 after card replacement</u>
<u>TEST APPROVED - NO EXCEPTIONS:</u> PIC _____ Date _____ Quality Assurance _____ Date _____ Maintenance _____ Date _____ Cog Engineer _____ Date _____	<u>TEST APPROVED - WITH EXCEPTIONS:</u> PIC _____ Date <u>11/16/99</u> Quality Assurance _____ Date <u>11-16-99</u> Maintenance _____ Date <u>11-16-99</u> Cog Engineer _____ Date _____

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TEST EXECUTION DATA SHEET					Page 1 of 2
Date: 11/15/99			Tank Number: SY-101, Riser - 033034 ^{NE} 11-19-99		
Gauge Serial Number: 854-28-431			Test Performed by: J. D. WEINBENDER		
Reference Sequence	Attribute	Expected Value	Actual Value	A/R	Comment
2.2.1	EP	EP000		A	
2.2.2	ES	ES0000		A	
2.3.3	PARAMETERS	Entered Correctly		R/A	SEE EXECUTION
2.3.6	CA	Displacer raises		A	
2.3.8	RL	850 +/- 0.10	850.00	A	
2.3.10	RL	850 +/- 0.10	850.00	A	
2.4.1	DC programmed	As read	+33799400E+00	A	
2.4.2	DC engraved	As read	337.994	A	
2.4.5	New DC	DC engraved		N/A	
2.5.8	F0	As read	+11968598E+05		
2.5.10	F1	As read	+12782172E+05		
2.5.12	F2	As read	+13538453E+05		
2.5.14	F3	As read	+14241161E+05		
2.5.24	WQ Test Weight	225 +/- 3 grams	+22528271E+03	A	
2.5.25	WQ - 225	+/- 3 grams	0.28271 grams	A	
2.5.27	Displacer Weight Engraved/Marked	As read	223.1		
2.5.30	WQ Displacer	As read	+22851400E+03	A	
2.5.31	(2.5.30)-(2.5.27)	+/- 6 grams	5.41400 grams	A	
2.6.2	RY=HATLAT	Entered Correctly		A	
2.6.4	RZ=EEEE	Entered Correctly		A	
2.7.8	SPU II BLK Wires "6" and "8"	Connected to "NO" terminals		A	
2.9.3	PARAMETERS	Entered Correctly		A	
2.10.1.3	[LA] Activation	Alarm Activated		A	
2.10.1.4	Low Alarm Level	LA +/- 0.10		A	
2.10.1.5	RX	(?,A)		A	

CONTINUED ON NEXT PAGE

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TEST EXECUTION DATA SHEET				Page 2 of 2	
Date: <u>11/15/99</u>			Tank Number: <u>SY 101, RISER 034</u>		
Gauge Serial Number: <u>854-28-431</u>			Test Performed by:		
Reference Sequence	Attribute	Expected Value	Actual Value	AIR	Comment
2.10.2.3	[HA] Activation	Alarm Activated		A	
2.10.2.4	High Alarm Level	HA +/- 0.10		A	
2.10.2.5	RX	(A,?)		A	
2.10.2.7	PARAMETERS	Entered Correctly		A	
2.11.4	MOTOR LOCK	Locked		A	

Test Witnesses:

[Signature]
Supervisor/Lead

11/15/99
Date

[Signature]
Quality Control

11-15-99
Date

[Signature]
Instrument Tech.

11-15-99
Date

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EXCEPTIONS DATA SHEET

Gauge Serial Number: 854-28-431

Page 1 of 2

Paragraph No. 2.3.3	Description/Disposition TT OF +00900.00 NOT ACCEPTED BY PROGRAM BECAUSE LEVEL DIMENSIONS IN EXISTING PROGRAM ARE IN FEET AND SHOULD BE IN INCHES. SEE ATTACHED P. 2 FOR RESOLUTION.																		
TEST APPROVED - NO EXCEPTIONS: <table> <tr> <td>PIC</td> <td>Date</td> </tr> <tr> <td>Quality Assurance</td> <td>Date</td> </tr> <tr> <td>Maintenance</td> <td>Date</td> </tr> <tr> <td>Cog Engineer</td> <td>Date</td> </tr> </table>		PIC	Date	Quality Assurance	Date	Maintenance	Date	Cog Engineer	Date	TEST APPROVED - WITH EXCEPTIONS: <table> <tr> <td>PIC</td> <td>Date</td> </tr> <tr> <td>Quality Assurance</td> <td>Date</td> </tr> <tr> <td>Maintenance</td> <td>Date</td> </tr> <tr> <td>Cog Engineer</td> <td>Date</td> </tr> </table>		PIC	Date	Quality Assurance	Date	Maintenance	Date	Cog Engineer	Date
PIC	Date																		
Quality Assurance	Date																		
Maintenance	Date																		
Cog Engineer	Date																		
PIC	Date																		
Quality Assurance	Date																		
Maintenance	Date																		
Cog Engineer	Date																		

Save existing items list by performing the following:

Go to main menu. Select "Special". Enter.

Select "Gauge Logging on Disc". Enter.

Type in transmission address. Enter. Wait for listing to be completed.

Print a copy of the existing items list by performing the following:

Click on Windows Explorer icon. Go to "Logger". Go to "Log".

Find file by gauge serial number. Print copy.

Determine which parameters are affected by changing from feet to inches and highlight them.

Go to main menu, "Send Items." Enter.

Enter W2=ENRAF2. Per page 78 of ENRAF manual, enter LD=I (I=inches. LD previously equaled F which was feet.)

Convert the highlighted parameters from feet to inches and enter the new values.

Exit to reinitialize.

Re-enter test procedure at 2.2.1.

If error codes are present, perform hard reset (cycle power to gauge) and re-enter test again at 2.2.1.

When error codes are clear, hit ESC and save new items list by using the same steps as specified for saving the original items list. When listing is complete, select "Overwrite".

Print a copy using the same steps as were used to print the original items list.

Highlight and confirm conversions.

Continue with test.

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TEST EXECUTION DATA SHEET				Page 1 of 2	
Date: 11/16/99			Tank Number: SY-101, Riser-039		
Gauge Serial Number: 854-ZB-428			Test Performed by: JD WEINRENDER		
Reference Sequence	Attribute	Expected Value	Actual Value	A/R	Comment
2.2.1	EP	EP000		A	
2.2.2	ES	ES0000		A	
2.3.3	PARAMETERS	Entered Correctly		R/A	SEE EXCEPTION
2.3.6	CA	Displacer raises		A	
2.3.8	RL	850 +/- 0.10	850.00	A	
2.3.10	RL	850 +/- 0.10	850.00	A	
2.4.1	DC programmed	As read	+1.33807400E+00	A	
2.4.2	DC engraved	As read	338.074	A	
2.4.5	New DC	DC engraved		N/A	
2.5.8	F0	As read	+1.1918269E+05		
2.5.10	F1	As read	+1.2723890E+05		
2.5.12	F2	As read	+1.3473759E+05		
2.5.14	F3	As read	+1.4174373E+05		
2.5.24	WQ Test Weight	225 +/- 3 grams	+1.22464291E+03	A	
2.5.25	WQ - 225	+/- 3 grams	-0.35709 grams	A	
2.5.27	Displacer Weight Engraved/Marked	As read	222.6		
2.5.30	WQ Displacer	As read	+1.22553303E+03	A	
2.5.31	(2.5.30)-(2.5.27)	+/- 6 grams	2.93303 grams	A	
2.6.2	RY=HATLAT	Entered Correctly		A	
2.6.4	RZ=EEEE	Entered Correctly		A	
2.7.8	SPU II BLK Wires "6" and "8"	Connected to "NO" terminals		A	
2.9.3	PARAMETERS	Entered Correctly		A	
2.10.1.3	[LA] Activation	Alarm Activated		A	
2.10.1.4	Low Alarm Level	LA +/- 0.10		A	
2.10.1.5	RX	(?,A)		A	

CONTINUED ON NEXT PAGE

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TEST EXECUTION DATA SHEET				Page 2 of 2	
Date: 11/16/99			Tank Number: SY101 RISER 039		
Gauge Serial Number: 854-23-428			Test Performed by: JD WEINBENDER		
Reference Sequence	Attribute	Expected Value	Actual Value	A/R	Comment
2.10.2.3	[HA] Activation	Alarm Activated		A	
2.10.2.4	High Alarm Level	HA +/- 0.10		A	
2.10.2.5	RX	(A,?)		A	
2.10.2.7	PARAMETERS	Entered Correctly		A	
2.11.4	MOTOR LOCK	Locked		A	

Test Witnesses:

[Signature]
Supervisor/Lead

[Signature]
Quality Control

[Signature]
Instrument Tech.

11/16/99
Date

11/16/99
Date

11-16-99
Date

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EXCEPTIONS DATA SHEET

Gauge Serial Number: 854-28-428Page 1 of 2

Paragraph No. 2.3.3	Description/Disposition TT OF +00900.00 NOT ACCEPTED BY PROGRAM BECAUSE LEVEL DIMENSIONS IN EXISTING PROGRAM ARE IN FEET AND SHOULD BE IN INCHES. SEE ATTACHED P. 2 FOR RESOLUTION.																	
TEST APPROVED - NO EXCEPTIONS: <table> <tr> <td>PIC</td> <td>Date</td> </tr> <tr> <td>Quality Assurance</td> <td>Date</td> </tr> <tr> <td>Maintenance</td> <td>Date</td> </tr> <tr> <td>Cog Engineer</td> <td>Date</td> </tr> </table>		PIC	Date	Quality Assurance	Date	Maintenance	Date	Cog Engineer	Date	TEST APPROVED - WITH EXCEPTIONS: <table> <tr> <td>PIC</td> <td>Date</td> </tr> <tr> <td>Quality Assurance</td> <td>Date</td> </tr> <tr> <td>Maintenance</td> <td>Date</td> </tr> <tr> <td>Cog Engineer</td> <td>Date</td> </tr> </table>	PIC	Date	Quality Assurance	Date	Maintenance	Date	Cog Engineer	Date
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Cog Engineer	Date																	
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Quality Assurance	Date																	
Maintenance	Date																	
Cog Engineer	Date																	

Save existing items list by performing the following:

Go to main menu. Select "Special". Enter.

Select "Gauge Logging on Disc". Enter.

Type in transmission address. Enter. Wait for listing to be completed.

Print a copy of the existing items list by performing the following:

Click on Windows Explorer icon. Go to "Logger". Go to "Log".

Find file by gauge serial number. Print copy.

Determine which parameters are affected by changing from feet to inches and highlight them.

Go to main menu, "Send Items." Enter.

Enter W2=ENRAF2. Per page 78 of ENRAF manual, enter LD=I (I=inches. LD previously equaled F which was feet.)

Convert the highlighted parameters from feet to inches and enter the new values.

Exit to reinitialize.

Re-enter test procedure at 2.2.1.

If error codes are present, perform hard reset (cycle power to gauge) and re-enter test again at 2.2.1.

When error codes are clear, hit ESC and save new items list by using the same steps as specified for saving the original items list. When listing is complete, select "Overwrite".

Print a copy using the same steps as were used to print the original items list.

Highlight and confirm conversions.

Continue with test.

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TEST EXECUTION DATA SHEET					
Date: 11.16.99		Tank Number: 54-102 Riser 092 54-103 Riser 038			
Gauge Serial Number: 854-28-425		Test Performed by: D WEINBENDER			
Reference Sequence	Attribute	Expected Value	Actual Value	A/R	Comment
2.2.1	EP	EP000		A	
2.2.2	ES	ES0000		A	
2.3.3	PARAMETERS	Entered Correctly		R/A	SEE EXCEPTION
2.3.6	CA	Displacer raises		A	
2.3.8	RL	850 +/- 0.10	850.00	A	
2.3.10	RL	850 +/- 0.10	850.01	A	
2.4.1	DC programmed	As read	+33807000E+00	A	
2.4.2	DC engraved	As read	338.070	A	
2.4.5	New DC	DC engraved		N/A	
2.5.8	F0	As read	+1.1729676E+05		
2.5.10	F1	As read	+1.2527294E+05		
2.5.12	F2	As read	+1.3269571E+05		
2.5.14	F3	As read	+1.3964460E+05		
2.5.24	WQ Test Weight	225 +/- 3 grams	+22579426E+03	A	
2.5.25	WQ - 225	+/- 3 grams	0.79426 grams	A	
2.5.27	Displacer Weight Engraved/Marked	As read	222.6		
2.5.30	WQ Displacer	As read	+2.22669382E+03	A	
2.5.31	(2.5.30)-(2.5.27)	+/- 6 grams	4.09382 grams	A	
2.6.2	RY=HATLAT	Entered Correctly		A	
2.6.4	RZ=EEEE	Entered Correctly		A	
2.7.8	SPU II BLK Wires "6" and "8"	Connected to "NO" terminals		A	
2.9.3	PARAMETERS	Entered Correctly		A	
2.10.1.3	[LA] Activation	Alarm Activated		A	
2.10.1.4	Low Alarm Level	LA +/- 0.10		A	
2.10.1.5	RX	(?,A)		A	

CONTINUED ON NEXT PAGE

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Rev. 1

TEST EXECUTION DATA SHEET				Page 2 of 2	
Date: 11.16.99			Tank Number: SY102 RISER DB2		
Gauge Serial Number: 894-20-425			Test Performed by: JD WEINBENDER		
Reference Sequence	Attribute	Expected Value	Actual Value	Pass	Comment
2.10.2.3	[HA] Activation	Alarm Activated		A	
2.10.2.4	High Alarm Level	HA +/- 0.10		A	
2.10.2.5	RX	(A,?)		A	
2.10.2.7	PARAMETERS	Entered Correctly		A	
2.11.4	MOTOR LOCK	Locked		A	

Test Witnesses:

Supervisor/Lead

Quality Control

Instrument Tech.

11/16/99

Date

11/14/99

Date

11-16-99

Date

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EXCEPTIONS DATA SHEET

Gauge Serial Number: 854-28-425

Rev 11-16-99
Page 1 of 2

Paragraph No. 2.3.3	Description/Disposition TT OF +00900.00 NOT ACCEPTED BY PROGRAM BECAUSE LEVEL DIMENSIONS IN EXISTING PROGRAM ARE IN FEET AND SHOULD BE IN INCHES. SEE ATTACHED P. 2 FOR RESOLUTION.																	
TEST APPROVED - NO EXCEPTIONS: <table> <tr> <td>PIC</td> <td>Date</td> </tr> <tr> <td>Quality Assurance</td> <td>Date</td> </tr> <tr> <td>Maintenance</td> <td>Date</td> </tr> <tr> <td>Cog Engineer</td> <td>Date</td> </tr> </table>		PIC	Date	Quality Assurance	Date	Maintenance	Date	Cog Engineer	Date	TEST APPROVED - WITH EXCEPTIONS: <table> <tr> <td>PIC</td> <td>Date</td> </tr> <tr> <td>Quality Assurance</td> <td>Date</td> </tr> <tr> <td>Maintenance</td> <td>Date</td> </tr> <tr> <td>Cog Engineer</td> <td>Date</td> </tr> </table>	PIC	Date	Quality Assurance	Date	Maintenance	Date	Cog Engineer	Date
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Save existing items list by performing the following:

Go to main menu. Select "Special". Enter.

Select "Gauge Logging on Disc". Enter.

Type in transmission address. Enter. Wait for listing to be completed.

Print a copy of the existing items list by performing the following:

Click on Windows Explorer icon. Go to "Logger". Go to "Log".

Find file by gauge serial number. Print copy.

Determine which parameters are affected by changing from feet to inches and highlight them.

Go to main menu, "Send Items." Enter.

Enter W2=ENRAF2. Per page 78 of ENRAF manual, enter LD=I (I=inches. LD previously equaled F which was feet.)

Convert the highlighted parameters from feet to inches and enter the new values.

Exit to reinitialize.

Re-enter test procedure at 2.2.1.

If error codes are present, perform hard reset (cycle power to gauge) and re-enter test again at 2.2.1.

When error codes are clear, hit ESC and save new items list by using the same steps as specified for saving the original items list. When listing is complete, select "Overwrite".

Print a copy using the same steps as were used to print the original items list.

Highlight and confirm conversions.

Continue with test.

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TEST EXECUTION DATA SHEET					Page 1 of 2
Date: 11/10/99			Tank Number: RIS SY-102, RISER-038		
Gauge Serial Number: 854-28-424			Test Performed by: Dave Winsten		
Reference Sequence	Attribute	Expected Value	Actual Value	Pass	Comment
2.2.1	EP	EP000		A	
2.2.2	ES	ES0000		A	ok 11/10/99 see exception
2.3.3	PARAMETERS	Entered Correctly		R A	SEE EXCEPTION 1
2.3.6	CA	Displacer raises		A	
2.3.8	RL	850 +/- 0.10	849.99	A	
2.3.10	RL	850 +/- 0.10	850.00	A	
2.4.1	DC programmed	As read	+ .33804800E+00	A	
2.4.2	DC engraved	As read	338.048	A	
2.4.5	New DC	DC engraved	N/A	N/A	
2.5.8	F0	As read	.11788347E+05	A	.11835431E+05 (Ex. 2)
2.5.10	F1	As read	.12646965E+05	A	.12635199E+05 (Ex. 2)
2.5.12	F2	As read	.13395691E+05	A	.13376714E+05 (Ex. 2)
2.5.14	F3	As read	.14090367E+05	A	.14075866E+05 (Ex. 2)
* 2.5.24	WQ Test Weight	225 +/- 3 grams	.22626570E+03	A	
2.5.25	WQ - 225	+/- 3 grams	12657 GRAMS	A	
2.5.27	Displacer Weight Engraved/Marked	As read	223.1	N/A	
2.5.30	WQ Displacer	As read	.22711747E+03		
2.5.31	(2.5.30)-(2.5.27)	+/- 6 grams	4.6774 GRAMS	A	
2.6.2	RY=HATLAT	Entered Correctly		A	
2.6.4	RZ=EEEE	Entered Correctly		A	
2.7.8	SPU II BLK Wires "6" and "8"	Connected to "NO" terminals		A	
2.9.3	PARAMETERS	Entered Correctly		A	
2.10.1.3	[LA] Activation	Alarm Activated		A	
2.10.1.4	Low Alarm Level	LA +/- 0.10	859.73 ^{FILE} 11.11.99	A	
2.10.1.5	RX	(?,A)		A	

CONTINUED ON NEXT PAGE

* STEP 2.5.19 - SEE EXCEPTION #2. 22

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TEST EXECUTION DATA SHEET				Page 2 of 2	
Date: <u>11/11/99</u>			Tank Number: <u>5402 RISER 03B</u>		
Gauge Serial Number: <u>854-28-424</u>			Test Performed by: <u>[Signature]</u>		
Reference Sequence	Attribute	Expected Value	Actual Value	Pass/Fail	Comment
2.10.2.3	[HA] Activation	Alarm Activated		A	
2.10.2.4	High Alarm Level	HA +/- 0.10		A	
2.10.2.5	RX	(A,?)		A	
2.10.2.7	PARAMETERS	Entered Correctly		A	
2.11.4	MOTOR LOCK	Locked		A	

Test Witnesses:

[Signature]
Supervisor/Lead

PJ Clumond
Quality Control

Winstead/GARZA
Instrument Tech.

11/11/99
Date

11-11-99
Date

11-11-99
Date

11-11-99
Date

11-11-99
Date

SEE EXCEPTIONS
1 & 2.

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EXCEPTIONS DATA SHEET

Gauge Serial Number: 854-28-424Page 1 of 2

Paragraph No. ① 2.3.3	Description/Disposition TT OF +00900.00 NOT ACCEPTED BY PROGRAM BECAUSE LEVEL DIMENSIONS IN EXISTING PROGRAM ARE IN FEET AND SHOULD BE IN INCHES. WENT TO APPENDIX A "CHANGING LEVEL DIMENSIONS" STEPS 1-5. WHEN "TO INCHES" WAS ENTERED, RECEIVED MESSAGE THAT FILE WAS NOT FOUND. AS AN ALTERNATIVE, THE EXISTING ITEMS LIST WAS SAVED AND WENT TO P. 78 OF ENRAF MANUAL (SEE ATTACHED) AND CHANGED LD TO "I" (I = INCHES). (SEE CONTINUATION SHEET)																
TEST APPROVED - NO EXCEPTIONS: <table> <tr> <td>PIC</td> <td>Date</td> </tr> <tr> <td>Quality Assurance</td> <td>Date</td> </tr> <tr> <td>Maintenance</td> <td>Date</td> </tr> <tr> <td>Cog Engineer</td> <td>Date</td> </tr> </table>	PIC	Date	Quality Assurance	Date	Maintenance	Date	Cog Engineer	Date	TEST APPROVED - WITH EXCEPTIONS: <table> <tr> <td>PIC</td> <td>Date</td> </tr> <tr> <td>Quality Assurance</td> <td>Date</td> </tr> <tr> <td>Maintenance</td> <td>Date</td> </tr> <tr> <td>Cog Engineer</td> <td>Date</td> </tr> </table>	PIC	Date	Quality Assurance	Date	Maintenance	Date	Cog Engineer	Date
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Quality Assurance	Date																
Maintenance	Date																
Cog Engineer	Date																

(EXCEPTION #1 CONT.)

PER "CAUTION" AT BOTTOM OF LEVEL DIMENSION PORTION OF P. 78, ALL LEVEL DEPENDENT NOVRAID DATA MUST BE CHANGED TO NEW FORMAT (FEET TO INCHES).

PRINTED OUT PARAMETERS AND DETERMINED WHICH ONES WERE AFFECTED BY CHANGING FROM FEET TO INCHES (SEE HIGHLIGHTED ITEMS ON ATTACHED PRINT-OUT).

ENTERED W2= ENRAF2 AND RE-ENTERED AFFECTED PARAMETERS AFTER CONVERTING THEM FROM FEET TO INCHES. EXITED TO REINITIALIZE.

RE-ENTER TEST PROCEDURE AT 2.2.1.

IF ERROR CODES ARE PRESENT, HARD RESET (CYCLE POWER TO GAUGE) AND RE-ENTER TEST PROCEDURE AT 2.2.1.

WHEN ERROR CODES ARE CLEAR, PRINT OUT COPY OF NEW PARAMETERS (SEE ATTACHED) AND CONTINUE WITH TEST.

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EXCEPTIONS DATA SHEET

Gauge Serial Number: B54-28-424Page 1 of 2

②

Paragraph No. <u>2.5.19</u>	Description/Disposition <u>AFTER ENTERING [EX], RECEIVED ERROR CODE ESO404.</u> <u>PER P. 64 IN ENRAF MANUAL, THIS ERROR CODE INDICATES THAT AT LEAST ONE OF THE VALUES (F0... F3) WAS OUT OF RANGE AND TO CHECK THESE ITEMS AND THE STRESS TRANSDUCER.</u> <u>IT WAS SUSPECTED THAT THE F0 VALUE WAS THE ONE OUT OF RANGE.</u> <u>ENTER ORIGINAL F0 VALUE TO CLEAR ERROR CODE AND CONFIRM IT WAS THE</u>																	
<u>TEST APPROVED - NO EXCEPTIONS:</u> <table> <tr> <td>PIC</td> <td>Date</td> </tr> <tr> <td>Quality Assurance</td> <td>Date</td> </tr> <tr> <td>Maintenance</td> <td>Date</td> </tr> <tr> <td>Cog Engineer</td> <td>Date</td> </tr> </table>		PIC	Date	Quality Assurance	Date	Maintenance	Date	Cog Engineer	Date	<u>TEST APPROVED - WITH EXCEPTIONS:</u> <table> <tr> <td>PIC</td> <td>Date</td> </tr> <tr> <td>Quality Assurance</td> <td>Date</td> </tr> <tr> <td>Maintenance</td> <td>Date</td> </tr> <tr> <td>Cog Engineer</td> <td>Date</td> </tr> </table>	PIC	Date	Quality Assurance	Date	Maintenance	Date	Cog Engineer	Date
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(EXCEPTION #2 CONT.)

VALUE OUT OF RANGE. REPEAT STEPS 2.5.1
THROUGH 2.5.8 AND 2.5.15, 2.5.16, 2.5.18
THROUGH 2.5.26. - NEW FO = .11824307E+05.

REPERFORM SECTION 2.5 AND CONTINUE WITH TEST.

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TEST EXECUTION DATA SHEET			Page 1 of 2		
Date: 11/11/99		Tank Number: SY-103, RISER-032			
Gauge Serial Number: 854-28-426		Test Performed by: ABE GARZA			
Reference Sequence	Attribute	Expected Value	Actual Value	A/R	Comment
2.2.1	EP	EP000		A	
2.2.2	ES	ES0000		A	
2.3.3	PARAMETERS	Entered Correctly		R/A	SEE EXCEPTION #1
2.3.6	CA	Displacer raises		A	
2.3.8	RL	850 +/- 0.10	+00850.00	A	
2.3.10	RL	850 +/- 0.10	+00850.00	A	
2.4.1	DC programmed	As read	+33804700E+00	A	
2.4.2	DC engraved	As read	338.047	A	
2.4.5	New DC	DC engraved		N/A	
2.5.8	F0	As read	+11608042E+05		
2.5.10	F1	As read	+12424372E+05		
2.5.12	F2	As read	+13181236E+05		
2.5.14	F3	As read	+13890119E+05		
2.5.24	WQ Test Weight	225 +/- 3 grams	+22520014E+03	A	
2.5.25	WQ - 225	+/- 3 grams	0.20014 GRAMS	A	
2.5.27	Displacer Weight Engraved/Marked	As read	222.0		
2.5.30	WQ Displacer	As read	+22627541E+03		
2.5.31	(2.5.30)-(2.5.27)	+/- 6 grams	4.27541 GRAMS	A	
2.6.2	RY=HATLAT	Entered Correctly		A	
2.6.4	RZ= EEEE	Entered Correctly		A	
2.7.8	SPU II BLK Wires "6" and "8"	Connected to "NO" terminals		A	
2.9.3	PARAMETERS	Entered Correctly		A	
2.10.1.3	[LA] Activation	Alarm Activated		A	
2.10.1.4	Low Alarm Level	LA +/- 0.10		A	
2.10.1.5	RX	(?,A)		A	

CONTINUED ON NEXT PAGE

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TEST EXECUTION DATA SHEET				Page 2 of 2	
Date: <u>11/11/99</u>			Tank Number: <u>SY103 RISER 032</u>		
Gauge Serial Number: <u>854-2B-426</u>			Test Performed by: <u>AZE GARZA</u>		
Reference Sequence	Attribute	Expected Value	Actual Value	A/R	Comment
2.10.2.3	[HA] Activation	Alarm Activated		A	
2.10.2.4	High Alarm Level	HA +/- 0.10		A	
2.10.2.5	RX	(A,?)		A	
2.10.2.7	PARAMETERS	Entered Correctly		A	
2.11.4	MOTOR LOCK	Locked		A	

Test Witnesses:

[Signature]
Supervisor/Lead

11/11/99

Date

[Signature]
Quality Control

11/11/99

Date

[Signature]
Instrument Tech.

11-11-99

Date

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EXCEPTIONS DATA SHEET

Gauge Serial Number: 854-28-426Page 1 of 2

Paragraph No. #1 2.3.3	Description/Disposition TT OF +00900.00 NOT ACCEPTED BY PROGRAM BECAUSE LEVEL DIMENSIONS IN EXISTING PROGRAM ARE IN FEET AND SHOULD BE IN INCHES. SAVE EXISTING ITEMS LIST. PER P. 78 OF ENRAF MANUAL, CHANGE LD FROM F TO I (I=INCHES). PRINT OUT PARAMETERS, DETERMINE WHICH ONES ARE AFFECTED BY CHANGING FROM FEET TO INCHES AND HIGHLIGHT THEM. ENTER WZ=ENRAF2 AND RE-ENTER THE AFFECTED PARAMETERS AFTER CONVERTING THEM FROM FEET TO INCHES.																								
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EXIT TO REINITIALIZE.

RE-ENTER TEST PROCEDURE AT 2.2.1.

IF ERROR CODES ARE PRESENT, PERFORM HARD RESET
(CYCLE POWER TO GAUGE) AND RE-ENTER TEST AT 2.2.1.

WHEN ERROR CODES ARE CLEAR, PRINT OUT COPY OF NEW
PARAMETERS, CONFIRM CONVERSIONS, AND CONTINUE
WITH TEST.

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Rev. 1

TEST EXECUTION DATA SHEET				Page 1 of 2	
Date: 11/17/99			Tank Number: SY-103, RISER-033		
Gauge Serial Number: 854-28-430			Test Performed by: SD WEINBERGER		
Reference Sequence	Attribute	Expected Value	Actual Value	AIR	Comment
2.2.1	EP	EP000		A	
2.2.2	ES	ES0000		A	
2.3.3	PARAMETERS	Entered Correctly		R/A	SEE EXCEPTION
2.3.6	CA	Displacer raises		A	
2.3.8	RL	850 +/- 0.10	850.00	A	
2.3.10	RL	850 +/- 0.10	849.99	A	
2.4.1	DC programmed	As read	+.33801300E+03	A	
2.4.2	DC engraved	As read	338.013	A	
2.4.5	New DC	DC engraved		N/A	
2.5.8	F0	As read	+.11839426E+05		
2.5.10	F1	As read	+.12642007E+05		
2.5.12	F2	As read	+.13398287E+05		
2.5.14	F3	As read	+.14104738E+05		
2.5.24	WQ Test Weight	225 +/- 3 grams	+.22500883E+03	A	
2.5.25	WQ - 225	+/- 3 grams	.00883 grams	A	
2.5.27	Displacer Weight Engraved/Marked	As read	222.7		
2.5.30	WQ Displacer	As read	+.22556989E+03	A	
2.5.31	(2.5.30)-(2.5.27)	+/- 6 grams	2.86989 grams	A	
2.6.2	RY=HATLAT	Entered Correctly		A	
2.6.4	RZ=EEEE	Entered Correctly		A	
2.7.8	SPU II BLK Wires "6" and "8"	Connected to "NO" terminals		A	
2.9.3	PARAMETERS	Entered Correctly		A	
2.10.1.3	[LA] Activation	Alarm Activated		A	
2.10.1.4	Low Alarm Level	LA +/- 0.10		A	
2.10.1.5	RX	(?,A)		A	

CONTINUED ON NEXT PAGE

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Rev. 1

TEST EXECUTION DATA SHEET				Page 2 of 2	
Date: 11/17/99			Tank Number: SY-103, RISER-033		
Gauge Serial Number: 854-28-430			Test Performed by: JD WEINBERGER		
Reference Sequence	Attribute	Expected Value	Actual Value	Y/N	Comment
2.10.2.3	[HA] Activation	Alarm Activated		A	
2.10.2.4	High Alarm Level	HA +/- 0.10		A	
2.10.2.5	RX	(A, ?)		A	
2.10.2.7	PARAMETERS	Entered Correctly		A	
2.11.4	MOTOR LOCK	Locked		A	

Test Witnesses:

Supervisor/Lead

Quality Control

Instrument Tech.

Date

Date

Date

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Rev. 1

EXCEPTIONS DATA SHEET

Gauge Serial Number: 854-28-430Page 1 of 2

Paragraph No. <u>2.3.3</u>	Description/Disposition TT OF +00900.00 NOT ACCEPTED BY PROGRAM BECAUSE LEVEL DIMENSIONS IN EXISTING PROGRAM ARE IN FEET AND SHOULD BE IN INCHES. SEE ATTACHED P. 2 FOR RESOLUTION.	
TEST APPROVED - NO EXCEPTIONS: PIC _____ Date _____ Quality Assurance _____ Date _____ Maintenance _____ Date _____ Cog Engineer _____ Date _____		TEST APPROVED - WITH EXCEPTIONS: PIC _____ Date <u>11/17/99</u> Quality Assurance _____ Date <u>11/12/99</u> Maintenance _____ Date <u>11-17-99</u> Cog Engineer _____ Date <u>11/17/99</u>

Save existing items list by performing the following:

Go to main menu. Select "Special". Enter.

Select "Gauge Logging on Disc". Enter.

Type in transmission address. Enter. Wait for listing to be completed.

Print a copy of the existing items list by performing the following:

Click on Windows Explorer icon. Go to "Logger". Go to "Log".

Find file by gauge serial number. Print copy.

Determine which parameters are affected by changing from feet to inches and highlight them.

Go to main menu, "Send Items." Enter.

Enter $W2=ENRAF2$. Per page 78 of ENRAF manual, enter $LD=I$ (I =inches. LD previously equaled F which was feet.)

Convert the highlighted parameters from feet to inches and enter the new values.

Exit to reinitialize.

Re-enter test procedure at 2.2.1.

If error codes are present, perform hard reset (cycle power to gauge) and re-enter test again at 2.2.1.

When error codes are clear, hit ESC and save new items list by using the same steps as specified for saving the original items list. When listing is complete, select "Overwrite".

Print a copy using the same steps as were used to print the original items list.

Highlight and confirm conversions.

Continue with test.

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TEST EXECUTION DATA SHEET					
Date: 11.15.99		Tank Number: 54-102, RISER-032 RIE			
Gauge Serial Number: 854-28-427		Test Performed by: JEDDIE 11.16.99			
Reference Sequence	Attribute	Expected Value	Actual Value	NR	Comment
2.2.1	EP	EP000		A	
2.2.2	ES	ES0000		A	
2.3.3	PARAMETERS	Entered Correctly		R/A	SEE EXCEPTION
2.3.6	CA	Displacer raises		A	
2.3.8	RL	850 +/- 0.10	+00 850.00	A	
2.3.10	RL	850 +/- 0.10	-100 850.00	A	
2.4.1	DC programmed	As read	DC+33809100E+00	A	
2.4.2	DC engraved	As read	338.091	A	
2.4.5	New DC	DC engraved			NA
2.5.8	F0	As read	F0=1.11691087E+05	A	
2.5.10	F1	As read	+1.12494599E+05	A	
2.5.12	F2	As read	+1.13233149E+05	A	
2.5.14	F3	As read	+1.13932841E+05	A	
2.5.24	WQ Test Weight	225 +/- 3 grams	+1.22577980E+03	A	
2.5.25	WQ - 225	+/- 3 grams	77980	A	
2.5.27	Displacer Weight Engraved/Marked	As read	223.0 g	A	
2.5.30	WQ Displacer	As read	1.22710903E+03	A	
2.5.31	(2.5.30)-(2.5.27)	+/- 6 grams	4.10903	A	
2.6.2	RY=HATLAT	Entered Correctly		A	
2.6.4	RZ= EEEE	Entered Correctly		A	
2.7.8	SPU II BLK Wires "6" and "8"	Connected to "NO" terminals		A	
2.9.3	PARAMETERS	Entered Correctly	HA 834 LA 866	A	
2.10.1.3	[LA] Activation	Alarm Activated		A	
2.10.1.4	Low Alarm Level	LA +/- 0.10	LA 865.96	A	
2.10.1.5	RX	(?A)	DA	A	

CONTINUED ON NEXT PAGE

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TEST EXECUTION DATA SHEET				Page 2 of 2	
Date: 11-15-99		Tank Number: 854-28-427 River-032			
Gauge Serial Number: 854-28-427		Test Performed by: D. Eddie			
Reference Sequence	Attribute	Expected Value	Actual Value	A/R	Comment
2.10.2.3	[HA] Activation	Alarm Activated	874.03	A	
2.10.2.4	High Alarm Level	HA +/- 0.10	874.03	A	
2.10.2.5	RX	(A,?)	AD	A	
2.10.2.7	PARAMETERS	Entered Correctly		A	
2.11.4	MOTOR LOCK	Locked		A	

Test Witnesses:

Supervisor/Lead

Quality Control

Instrument Tech.

11/16/99

Date

11-15-99

Date

11-15-99

Date

One test exception
PPW 11-15-99

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EXCEPTIONS DATA SHEET

Gauge Serial Number: 854-28-427

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<p>Paragraph No.</p> <p>2.3.3</p>	<p>Description/Disposition</p> <p>TT OF T00900.00 NOT ACCEPTED BY PROGRAM BECAUSE LEVEL DIMENSIONS IN EXISTING PROGRAM ARE IN FEET AND SHOULD BE IN INCHES.</p> <p>SEE ATTACHED P. 2 FOR RESOLUTION.</p>																
<p>TEST APPROVED - NO EXCEPTIONS:</p> <table> <tr> <td>PIC</td> <td>Date</td> </tr> <tr> <td>Quality Assurance</td> <td>Date</td> </tr> <tr> <td>Maintenance</td> <td>Date</td> </tr> <tr> <td>Cog Engineer</td> <td>Date</td> </tr> </table>	PIC	Date	Quality Assurance	Date	Maintenance	Date	Cog Engineer	Date	<p>TEST APPROVED - WITH EXCEPTIONS:</p> <table> <tr> <td>PIC</td> <td>Date</td> </tr> <tr> <td>Quality Assurance</td> <td>Date</td> </tr> <tr> <td>Maintenance</td> <td>Date</td> </tr> <tr> <td>Cog Engineer</td> <td>Date</td> </tr> </table>	PIC	Date	Quality Assurance	Date	Maintenance	Date	Cog Engineer	Date
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Quality Assurance	Date																
Maintenance	Date																
Cog Engineer	Date																
PIC	Date																
Quality Assurance	Date																
Maintenance	Date																
Cog Engineer	Date																

Save existing items list by performing the following:

Go to main menu. Select "Special". Enter.

Select "Gauge Logging on Disc". Enter.

Type in transmission address. Enter. Wait for listing to be completed.

Print a copy of the existing items list by performing the following:

Click on Windows Explorer icon. Go to "Logger". Go to "Log".

Find file by gauge serial number. Print copy.

Determine which parameters are affected by changing from feet to inches and highlight them.

Go to main menu, "Send Items." Enter.

Enter W2=ENRAF2. Per page 78 of ENRAF manual, enter LD=I (I=inches. LD previously equaled F which was feet.)

Convert the highlighted parameters from feet to inches and enter the new values.

Exit to reinitialize.

Re-enter test procedure at 2.2.1.

If error codes are present, perform hard reset (cycle power to gauge) and re-enter test again at 2.2.1.

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Continue with test.