



CONTROL NO. 29003147 00

WORK INSTRUCTIONS: POINT ENTERING SUB-COVER.

A QUICK BURST OF SERVICE AIR WILL ACTUATE THE AIR START VALVE AND AN AUDIBLE METALIC "CLICK" SHOULD BE HEARD. THE QUICK RELEASE OF THIS AIR WILL ALLOW THE AIR START VALVE SPRING TO CLOSE THE VALVE; AND AGAIN AN AUDIBLE "CLICK" SHOULD BE DETECTED. THE EVIDENCE OF THESE "CLICKS" WILL ASSURE THE VALVE IS OPERATING PROPERLY.

- UPON COMPLETION OF TEST - DISCONNECT SERVICE AIR AND RECONNECT PERMANENT AIR LINE.
- IF VALVE REQUIRES REWORKING - SEE FOLLOWING WORK INSTRUCTIONS  
~~RETURN MATO TO WRS FOR REVISION~~ 7/26/90  
CIP 7/17/90

- WORK INSTRUCTIONS TO BE PERFORMED IF AIR START VALVES FAIL TEST.

- PER CONVERSATIONS WITH "COOPER" THE CAPS ON AIR START VALVES CAN BE MACHINED OR LAPPED UP TO .010" FROM BOTTOM OF CAP TO OBTAIN A .001" OR LESS FLATNESS (REF. MWO 19003340 REV. 2)
- REMOVE CAPS FROM ALL AIR START VALVES
- LAP OR MACHINE THE CAPS REMOVED TO OBTAIN THE RECOMMENDED FLATNESS. OR REPLACE WITH CAPS BEING REWORKED UNDER MWO 19001255.
- ALSO, HONE OR MACHINE THE PISTON TO OBTAIN A .003" DIAMETRICAL CLEARANCE BETWEEN THE CAP AND PISTON. RECORD ON 27548-C DATASHEET.
- REASSEMBLE VALVE PER 27548-C.

*Craig J. Conder*

7-20-90

Nuclear Plant Maintenance Work Order Continuation Sheet

MPL No. 2240344-002

MWO No. 29003147

Work Description REMOVED BONNETS FROM SUBCOOLERS

AND DISASSEMBLED AIR START CAPS AND PISTONS

FROM THE AIR START VALVES. BARGE AND TARGE 7/23/90

EACH AIR START CAP/PISTON TO ENSURE INDIVIDUALITY

MARKED SIX PISTONS UNDER W/O 29003147 <sup>29003147 PAS 7-24-90</sup>

AT 2.247" EACH. THE RESULTS OF EACH PISTON IS

REPORTED ON DATA SHEET 1 PROCEDURE 27598-C

PAGE NO. 22 OF 31, VALUE \* GR, GL, TR, TL, BR AND

BL.

FURTHERMORE, 16 CAPS AND 10 PISTONS WERE

REFURBISHED UNDER W/O 29001255 <sup>W/O 29001255 7/23/90</sup> THE O.D.

OF THE PISTONS AND I.D. OF THE CAPS WERE

VERIFIED BY QUALITY CONTROL @.005"

INSTALLED CAPS AND PISTONS AT 1L, 2L, 3L AND

1R, 2R AND 3R BANKS, AND TIGHTENED CROPSCREWS

TO 150 FT LBS. USING TORQUE WRENCH VP-3-2273

C/O 10/5/90. Joe Connor 7/21/90

Block 22 Cont.

Lubricated with motor oil Received on MER 88-16052

Air starter caps and pistons and installed on air starter

valves 4 thru 8 L & R and torqued bolts to 150 FT/LBS

using torque wrenches VP3-2273 CAL Due 10-5-90 and

torque wrench VP3-2002 CAL Due 10-7-90 connected

all air lines to air start valves Pop tested all air

start valves using service air all valves operated

satisfactorily Reconnected permanent air lines

installed all valve covers maintained zone of housekeeping

A Loch 7-21-90

Nuclear Plant Maintenance Work Order Continuation Sheet

MPL No. 2-2403G4002

MWO No. 29003147

Work Description Block 27 Cont

Bob tested all air start valves All Right Bank valves operated satisfactory Left Bank valves 3, 4 and 8 were a little slow to return to the closed position Foreman D. Seckman believed the problem was due to excessive lubrication built up that was applied during installation After several long shots of air the valves started to open and close properly maintained zone if there's anything in Cook 2-21-90

MWO No: 29003147

PROCEDURE & REV No: N/A

NOTIFY QUALITY CONTROL PRIOR TO PERFORMING THE WORK ACTIVITY OR STEP ASSOCIATED WITH THE HOLD (H) OR WITNESS (W) POINT

DO NOT BYPASS QC HOLD OR WITNESS POINTS

STEP No.	H/W	HOLD POINT / WITNESS POINT DESCRIPTION	ASSIGNED BY		NOTIFIED		QC ACTION	
			INIT	DATE	INIT	DATE	INIT	I-W-N/A
1	H	RETURN MWO TO RE-UP IF REVISED FOR ASSIGNMENT OF ADDITIONAL Hold Points	Jed	7/10/90	Jed	7/10/90	Jed	N/A
2	H	NOTIFY Q.C. PRIOR TO INSTALLING CAP(S) FOR Q.C. TO VERIFY ACCEPTABLE FLATNESS	Jed	7/10/90	Jed	7/10/90	Jed	I/A(1)
3	H	NOTIFY Q.C. PRIOR TO INSTALLING CAP FOR Q.C. TO VERIFY THE FOLLOWING						
		a) PISTON AND CAP ARE USUALLY ACCEPTABLE (STEP 4.6.2e)	Jed	7/10/90	Jed	7-21-90	Jed	I
		b) PISTON AND CAP CLEARANCE IS SAT. (STEP 4.6.2d)	Jed	7/10/90	Jed	7-21-90	Jed	I
		c) ACCEPTABLE CAPSCREW LENGTH (STEP 4.7.4)	Jed	7/10/90	Jed	7-21-90	Jed	I
		d) CAPSCREW TORQUE (STEP 4.7.6)	Jed	7/10/90	Jed	7-21-90	Jed	I
		e) CAPSCREW TONGUE (STEP 4.7.7)	Jed	7/10/90	Jed	7-21-90	Jed	I/A

COMMENTS & IR NUMBERS: (Initial and date entries)

Jed 35308, IR 34469  
(1) SEE IR 35318

Quality Control Inspection Report

VOGTLE GENERATING PLANT—UNITS 1 & 2

34669

MWO/ODR/DR No. <i>29003147</i>	Building <i>Diode Converter Unit</i>	Procedure/Spec. No./Rev. <i>29502C 1/0</i>
Room No./Level No. <i>27A B-2A</i>	Sys./Start-Up Designator <i>2403</i>	Tag No. <i>2. 2403-64-002</i>
Drawing No./Rev. <i>N/A</i>	Vendor Manual Log No. <i>N/A</i>	Other <i>85022-C 2/1</i>

- Inspector will use separate form for each completed inspection function(s) and insert original with work package, use continuation sheet when needed.
- Use simple narrative type report procedure. Reference all applicable drawing numbers, specifications, special instructions, etc., connected with your inspection. Use sketches, when applicable, showing dimensions checked, alignment, physical location of defects found, etc. N/A all blocks not used.
- Upon completion of the inspection activity, enter results below and sign and date.

Remarks

*Method of inspection Visual*

*Inspected of the following points:*

*4.7.4. Check air start valve cap-screws - 2 3/4"*

*4.7.6 Torque the cap screws to 150 ft. lbs*

*4.7.7 See separate air start valve.*

*All work OK*

*NITE. VP3-2273 CDH 10-5-90*

*VP3-2002 CDH 11-7-90*

*MSR 88-14052 CDH 11-4-92*

Sketch


Inspection Results

SAT.       UNSAT—ODR/DR NO.(s):

Inspector: *[Signature]*      Date: *11/10*

705516A MCS191

Quality Control Inspection Report

Georgia Power 

VOGTLER GENERATING PLANT—UNITS 1 & 2

35348

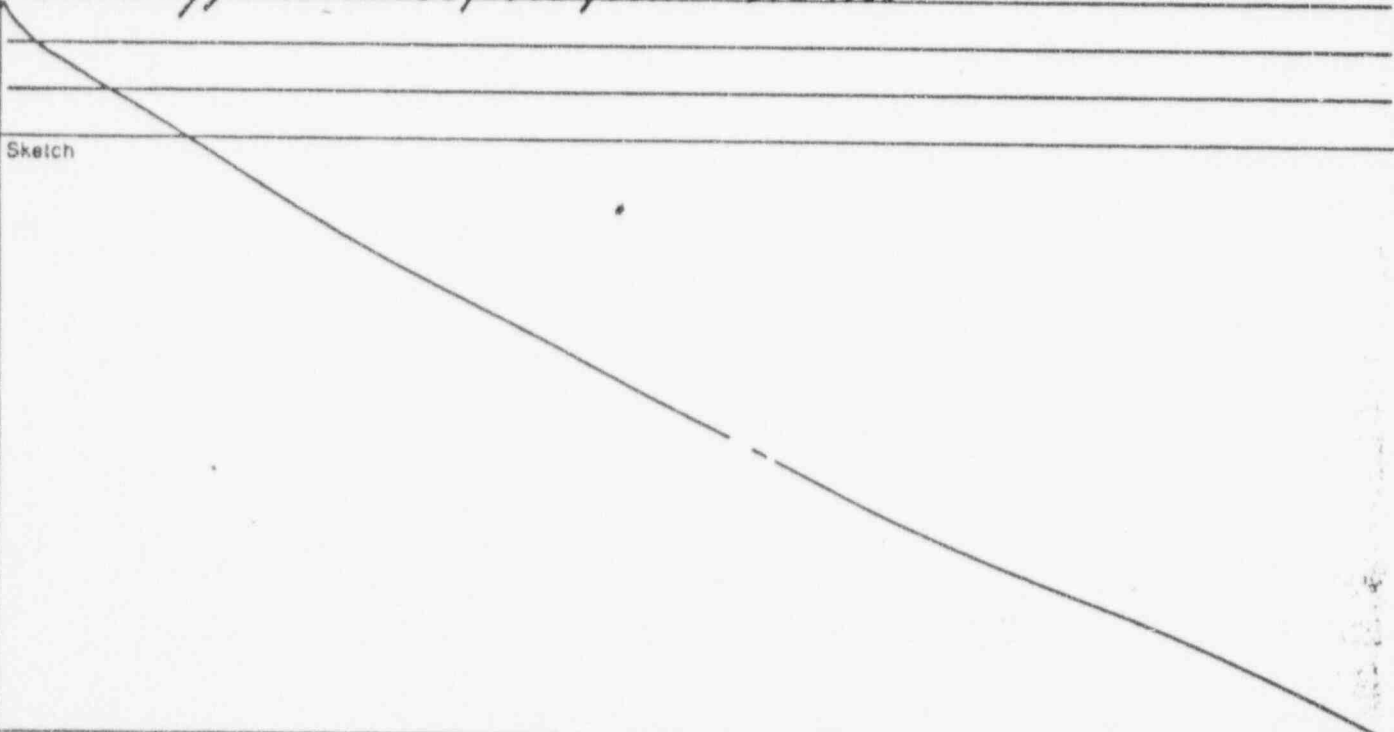
Page 1 of 2

MWO/ODR/DR No. 29003147	Building Maint. Shop	Procedure/Spec. No./Rev. 85022-CX1 27598-C A/D
Room No./Level No. NA	Sys./Start-Up Designator 2403	Tag No. 2-2403-64-002
Drawing No./Rev. NA	Vendor Manual Log No. NA	Other Work Order Inst.

1. Inspector will use separate form for each completed inspection function(s) and insert original with work package, use continuation sheets when needed.
2. Use simple narrative type report procedure. Reference all applicable drawing numbers, specifications, special instructions, etc., connected with your inspection. Use sketches, when applicable, showing dimensions checked, alignment, physical location of defects found, etc. N/A all blocks not used.
3. Upon completion of the inspection activity, enter results below and sign and date.

Remarks Method of Inspection—Visual  
 Witnessed and verified readings taken on Air Start Valve Caps  
 and pistons to be replaced on 2 B Diesel. Readings are as  
 listed below. Used MATE # VP-3-2155, Cal. due 1P-290, VTR51-  
 1184 (Telescopic Gages); VP-3-2879, Cal. due 2-17-91 (for info only)  
 All work SAT. NOTE: ~~184~~ New or Refurbished caps & pistons  
 were checked for flatness previously on W.O. #A9001255 and  
 copy of IR #35156 is included in this package for that purpose.)  
 All readings between Cap and pistons are .003"

Sketch



Inspection Results  
 SAT.  UNSAT—ODR/DR NO.(s):

Inspector Leonard S. Collyer Date 7-21-90

705516A MCS191

EQ EVALUATION CHECKLIST

FOR USE ON PROJECT CLASSES Q111, Q212,  
Q313, Q013, Q015, Q11E, Q11J, Q12E, 61J

MWO NO. 2900314-7

SECTION I

PART A ORIGINAL PART

- 1. DESCRIPTION D.C.
- 2. TAG NO. 2240364002
- 3. PROJECT CLASS C15
- 4. SPECIFICATION (EQDP) NO. XGAK01
- 5. MANUFACTURER \_\_\_\_\_
- 6. MODEL NO. \_\_\_\_\_
- 7. PART NO. \_\_\_\_\_

PART B REPLACEMENT PART

- 1. DESCRIPTION \_\_\_\_\_
- 2. MEE NO. \_\_\_\_\_
- 3. STOCK NO. \_\_\_\_\_
- 4. SPECIFICATION (EQDP) NO. \_\_\_\_\_
- 5. MANUFACTURER \_\_\_\_\_
- 6. MODEL NO. 707
- 7. PART NO. \_\_\_\_\_
- 8. PO NO. \_\_\_\_\_

COMMENTS No PARTS USED REWORK ONLY

SECTION II WORK PLANNING

1. ARE PROCEDURES, VENDOR MANUALS, DRAWINGS OR INSTRUCTIONS AVAILABLE TO DISASSEMBLE/REWORK COMPONENT?

YES \_\_\_\_\_ NO \_\_\_\_\_  
CJP 7/17/90  
(Init. Date)

2. ARE SPECIFICATION NUMBERS FOR ORIGINAL AND REPLACEMENT ITEMS THE SAME?

YES \_\_\_\_\_ NO \_\_\_\_\_  
CJP 7/17/90

3. ARE MANUFACTURER MODEL/PART NUMBERS OF THE ORIGINAL AND REPLACEMENT PARTS THE SAME?

YES \_\_\_\_\_ NO \_\_\_\_\_

4. IS BULK MATERIAL LISTED ON ATTACHMENT ACCEPTABLE? LIST ITEM NO. FROM ATTACHMENT IF "NO" IS CHECKED.

YES \_\_\_\_\_ NO \_\_\_\_\_  
1  
(Init. Date)

(Item No.)

NOTE

If items 2, 3, or 4 are checked No, the Checklist must be reviewed by the EQ Group.

- PART(S) ARE ACCEPTABLE FOR USE
- SEND TO EQ GROUP

WPC 7-21-90  
WPC DATE

SECTION III EQ GROUP EVALUATION

PART IS ACCEPTABLE FOR USE  PART IS UNACCEPTABLE FOR USE  
JUSTIFICATION FOR ACCEPTANCE:

\_\_\_\_\_  
EQ ENGINEER DATE

FIGURE 3

CJP 7/17/90





VECP FIRE PROTECTION CHECKLIST

1. MWO NO. 29003147 2. MPL/TAG NO. 2292564.027  
3. LOCATION DG. BLDG. "A" - TRAIN

4. WILL THE WORK INSTALL, IMPAIR, MODIFY, ISOLATE, DEFEAT, OR REMOVE ANY OF THE FOLLOWING? IF THE ANSWER IS "YES" CHECK THE BOX, AND INDICATE APPROPRIATE DETAILS.

- SPRINKLER SYSTEM \_\_\_\_\_
- INTERIOR HOSE STATION \_\_\_\_\_
- HALON SYSTEM \_\_\_\_\_
- DETECTION SYSTEM \_\_\_\_\_
- EMERGENCY LIGHTING SYSTEM \_\_\_\_\_
- PERMANENT COMBUSTIBLES (CABLE, WOOD, PLASTIC, ETC.) \_\_\_\_\_
- STRUCTURAL STEEL, OR RACEWAY FIREPROOFING \_\_\_\_\_
- FIRE SUPPRESSION SUPPLY SYSTEM (PUMPS, TANKS, ETC.) \_\_\_\_\_
- CONDUIT SEALS OR EQUIPMENT ENCLOSURE (CABINET HOUSING) \_\_\_\_\_
- FIRE EXTINGUISHER \_\_\_\_\_
- COMMUNICATIONS SYSTEM \_\_\_\_\_
- RCP OIL COLLECTION SYSTEM \_\_\_\_\_
- SEISMIC STANDPIPE SYSTEM \_\_\_\_\_

5. WILL THE WORK DEFEAT, MODIFY OR IMPAIR ANY OF THE FOLLOWING FIRE SEPARATION FEATURES? IF THE ANSWER IS "YES" CHECK THE BOX, AND INDICATE APPROPRIATE DETAILS.

- A. FIRE AREA BOUNDARY (WALL, ETC.) \_\_\_\_\_
- B. PASSIVE AREA BOUNDARY PENETRATION SEAL ASSEMBLY.
  - PENETRATION SEAL \_\_\_\_\_
  - WALL BLOCKOUT \_\_\_\_\_
  - FLOOR PLUG OR HATCH \_\_\_\_\_
  - CABLE TRAY OR CONDUIT WRAP \_\_\_\_\_
  - RADIANT ENERGY SHIELD \_\_\_\_\_
- C. ACTIVE FIRE AREA BOUNDARY PENETRATION SEAL.
  - FIRE DOOR \_\_\_\_\_
  - FIRE DAMPER \_\_\_\_\_

6. IF ALL THE ANSWERS IN BLOCKS 4 and 5 ARE "NO", STOP THE EVALUATION HERE, AND ENTER "NO" IN BLOCK 11 OF THE MWO FORM. IF ANY QUESTIONS WERE ANSWERED "YES", ENTER "YES" IN BLOCK 11 OF THE MWO FORM.

EVALUATOR [Signature] DATE 7/17/90

POST WORK REVIEW (COMPLETE "A, B, OR C" BELOW)

- (A) THE CONDITION IMPACTING THE FIRE PROTECTION COMPONENTS LISTED ABOVE HAS BEEN REMOVED. FPE \_\_\_\_\_ DATE \_\_\_\_\_
- (B) THE FIRE PROTECTION COMPONENT IS STILL IMPAIRED. FPE \_\_\_\_\_ DATE \_\_\_\_\_
- (C) RESTORATION OF THE IMPAIRMENT HAS BEEN TRANSFERRED (Ref: \_\_\_\_\_) AND THE FIRE PROTECTION LCO LOG HAS BEEN CHANGED TO REFERENCE THE NEW MWO FOR THIS IMPAIRMENT. FPE \_\_\_\_\_ DATE \_\_\_\_\_

FIGURE 1



ENERGY SERVICES GROUP  
ENTERPRISE ENGINE SERVICES

14401 Carolina Street  
PO Box 1817  
San Leandro, CA 94577  
415-614-7600

# MEMO

Date: July 13, 1990

To: Ken Stokes

From: Robert Tabaston

Subject: Vogtle Electric Generating Plant

Reference: Diesel Generator Air Start Valve Capscrew Retorque

The requirement to retorque air start valve capscrews after the initial operation following a valve's installation is necessitated by the compression characteristics of the soft copper gasket used to seal between the head and valve assembly. We know from experience that bolting preload alone will not fully compress the copper gasket, cylinder pressure fluctuations acting upon the air start valve causes motion of the valve which further compresses the gasket and correspondingly reduces the preload imparted by the capscrews. This additional compression must be compensated for by retorquing the capscrews until no further gasket compression is observed. The work currently in progress at Vogtle entails removal of the capscrews and air start valve cap but does not disturb the relationship between the valve body, gasket and cylinder head, it is therefore not necessary to require a periodic hot retorque of the air start valve capscrews upon reassembly.

*[Handwritten Signature]*

Project Engineer

Distribution: Lance Block  
Ray Howard

File: Engine S.N. 76081/24  
Project Admin:  
Sales:  
Other:

PROCEDURE NO. VEGP 27598-C

REVISION 0

PAGE NO. 21 of 31

Sheet 1 of 4

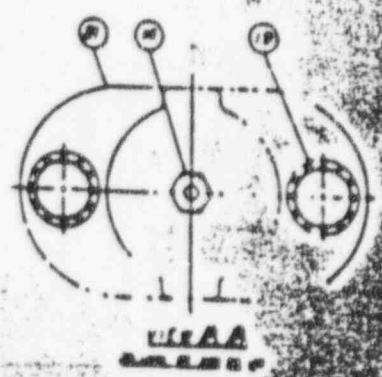
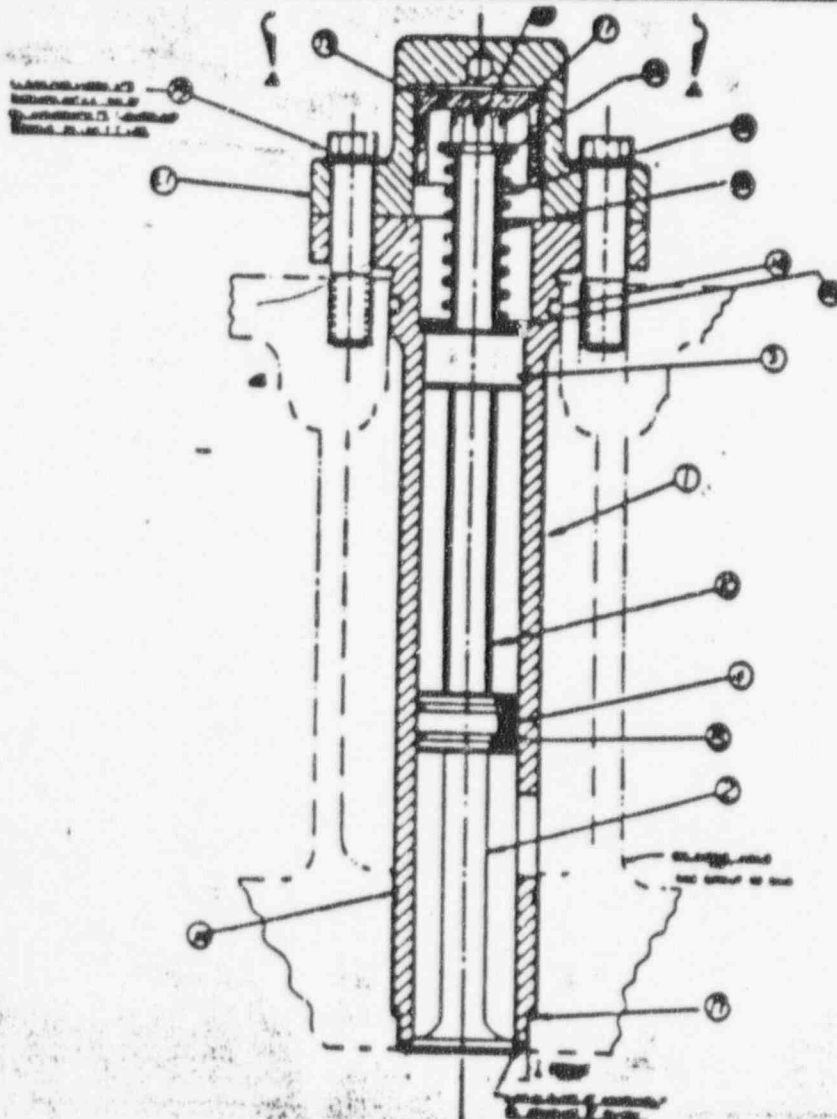
DATA SHEET 1

FOR USE WITH CONTROL NO.

29003147

AIR START VALVE INSPECTION

COMPONENT GROUP TITLE: AIR START VALVE	PARTS GROUP NO. 02-359
LOCATION: VOGTLE ELECTRIC GENERATING PLANT	UNIT NO. 2
TAG NUMBER: 2-2403-E4-002	ENGINE SERIAL NO. 76024
TOTAL ENGINE HOURS: 398.3	HOURS SINCE LAST INSPECTION: NA
DATE THIS INSPECTION: 7-21-90	REFERENCE STEPS: 4.6, 4.7



USAAS

DATA SHEET 1

AIR START VALVE INSPECTION

ENGINE TAG NO.: 2240364002 DATE: 7/21/90

O.C.  
HOLD POINT

Step 4.6.2b,c and d: Cap To Piston Clearance

Valve	CAP		PISTON		Clearance	Sat	Unsat	Performed By
	x-x	y-y	x-x	y-y				
1R	2.240	2.250	2.249	2.247	.003"	✓		W.C.
1L	2.250	2.248	2.247	2.247	.004"	✓		W.C.
2R	2.250	2.250	2.247	2.247	.004"	✓		W.C.
2L	2.250	2.250	2.247	2.247	.003"	✓		W.C.
3R	2.250	2.250	2.247	2.247	.003"	✓		W.C.
3L	2.250	2.250	2.247	2.247	.003"	✓		W.C.
4R	2.249"	2.249"	2.247"	2.247"	.002"	✓		W.C.
4L	2.250"	2.250"	2.247"	2.247"	.003"	✓		W.C.
5R	2.250"	2.250"	2.247"	2.247"	.003"	✓		W.C.
5L	2.250"	2.250"	2.247"	2.247"	.003"	✓		W.C.
6R	2.249"	2.249"	2.247"	2.247"	.003"	✓		W.C.
6L	2.249"	2.249"	2.247"	2.247"	.003"	✓		W.C.
7R	2.251"	2.251"	2.247"	2.247"	.003"	✓		W.C.
7L	2.251"	2.251"	2.247"	2.247"	.003"	✓		W.C.
8R	2.251"	2.251"	2.247"	2.247"	.003"	✓		W.C.
8L	2.251"	2.251"	2.247"	2.247"	.003"	✓		W.C.

M&TE Serial No. V7-3-2155 V7-3-2155 V7-3-2155  
 Cal. Due Date 10-2-90 10-2-90 10-2-90

Clearance When New: 0.001/0.003" Replace When Over 0.009"

2) Step 4.6.2e: Valve Internals Inspection

Valve	Comments	Sat	Unsat	Performed By/Date
1R				
1L				
2R				
2L				
3R				
3L				
4R				
4L				
5R				
5L				
6R				
6L				
7R				
7L				
8R				
8L				

2867-21-90  
TR 55745

DATA SHEET 1

AIR START VALVE INSPECTIONS

ENGINE TAG NO. 2340364002 DATE: 7/31/80

3) Step 4.6.2f and h: Valve Seat Inspection

Valve	Valve/Seat Inspection	Bluing	Sat	Unsat	Performed By/Date
1R					
1L					
2R					
2L					
3R					
3L					
4R					
4L					
5R					
5L					
6R					
6L					
7R					
7L					
8R					
8L					

QC HOLD POINT 4) Step 4.7.4 and 4.7.6: Air start valve capscrews. ENGINE HOURS 398.3

*Handwritten notes:*  
 23-3464  
 Will  
 7/31/80

Cylinder	Capscrew = 2-3/4"		Torque		Performed	Witnessed
	1	2	1	2		
1R	50F	50F	150#	150#	Will	Will
2R	50F	50F	150#	150#	Will	Will
3R	50F	50F	150#	150#	Will	Will
4R	50F	50F	150#	150#	Will	Will
5R	50F	50F	150#	150#	Will	Will
6R	50F	50F	150#	150#	Will	Will
7R	50F	50F	150#	150#	Will	Will
8R	50F	50F	150#	150#	Will	Will
1L	50F	50F	150#	150#	Will	Will
2L	50F	50F	150#	150#	Will	Will
3L	50F	50F	150#	150#	Will	Will
4L	50F	50F	150#	150#	Will	Will
5L	50F	50F	150#	150#	Will	Will
6L	50F	50F	150#	150#	Will	Will
7L	50F	50F	150#	150#	Will	Will
8L	50F	50F	150#	150#	Will	Will

M&T Serial No. V23 2007 V23 2007 V23 2007  
 Cal. Due Date 8-6-80 8-7-80 8-9-80

PROCEDURE NO.

VEGP

27598-C

REVISION

0

PAGE NO.

24 of 31

Sheet 4 of 4

DATA SHEET 1

ENGINE TAG No.

NA

DATE:

1/17

5) Step 4.7.9h: Rocker Arm Capscrew Torque

Cylinder	Rocker Arm		Capscrew	
	1		2	
			Performed	Witnessed
1R				
2R				
3R				
4R				
5R				
6R				
7R				
8R				
1L				
2L				
3L				
4L				
5L				
6L				
7L				
8L				

M&TE Serial No.

Cal. Due Date

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

DATA SHEET 2

AIR START VALVE CAPSCREW TORQUING

ENGINE TAG No.: N/A

DATE: 10/17

Step 4.7.7

ENGINE HOURS 10/17

O.C. HOLD POINT

Cylinder	Capscrew		Did Screw Move?	Performed	Witnessed
	1	2			
1R					
2R					
3R					
4R					
5R					
6R					
7R					
8R					
1L					
2L					
3L					
4L					
5L					
6L					
7L					
8L					

M&TE Serial No. \_\_\_\_\_

Cal. Due Date \_\_\_\_\_

\*\* WORK TO BE PERFORMED  
N/A UNDER NEW MWO REF WRT 11158  
ENGINE HOURS \_\_\_\_\_

Step 4.7.7:

O.C. HOLD POINT

Cylinder	Capscrew		Did screw Move?	Performed	Witnessed
	1	2			
1R					
2R					
3R					
4R					
5R					
6R					
7R					
8R					
1L					
2L					
3L					
4L					
5L					
6L					
7L					
8L					

M&TE Serial No. \_\_\_\_\_

Cal. Due Date \_\_\_\_\_



DATA SHEET 2

AIR START VALVE CAPSCREW TORQUING

ENGINE TAG No.: N/A

DATE: N/A

Step 4.7.7

ENGINE HOURS N/A

Q.C. HOLD POINT

Cylinder	Capscrew		Did Capscrew Move?	Performed	Witnessed
	1	2			
1R					
2R					
3R					
4R					
5R					
6R					
7R					
8R					
1L					
2L					
3L					
4L					
5L					
6L					
7L					
8L					

M&TE Serial No. \_\_\_\_\_  
 Cal. Due Date \_\_\_\_\_

\*\* WORK TO BE PERFORMED UNDER  
 NEW M&TE REF WPT 11158  
 ENGINE HOURS N/A

Q.C. HOLD POINT

Step 4.7.7:

Cylinder	Capscrew		Did screw Move?	Performed	Witnessed
	1	2			
1R					
2R					
3R					
4R					
5R					
6R					
7R					
8R					
1L					
2L					
3L					
4L					
5L					
6L					
7L					
8L					

M&TE Serial No. \_\_\_\_\_  
 Cal. Due Date \_\_\_\_\_



COMPLETION SHEET

PROCEDURE NO. 27598-C	REVISION 0	SHEET 1 of 4
TAG NO. 2-2403-G9-002	DESCRIPTION Standby Diesel Generator	
SERIAL NO. 76024	MANUFACTURER Transamerica Delaval	MODEL DSRV-16-4
TEST EQUIPMENT USED See applicable "Data" Sheet	<input checked="" type="checkbox"/> Safety Related/QC HoldPoints apply <input type="checkbox"/> Non-Safety Related	

PROCEDURE STEP	DESCRIPTION	MAINT. INIT/DATE	HOLD POINT (Yes/No)	QC INIT/DATE
4.1	Verify Prerequisites met	<u>W.C. 7/21/90</u>	<u>NO</u>	<u>PC 7/21/90</u>
4.2	Shift Supervisor Notified	<u>W.C. 7/21/90</u>	<u>NO</u>	<u>PC 7/21/90</u>
4.3	Diesel Generator Isolated and Tagged	<u>W.C. 7/21/90</u>	<u>NO</u>	<u>PC 7/21/90</u>
4.6.2b through d	Measure Air Start Valve Cap to Piston Clearance "Data" Sheet 1, Sheet 2	<u>PC *17-21-90</u>	<u>O.C. HOLD POINT</u>	<u>W.C. *17-21-90</u>
4.6.2e	Inspect Air Start Valve Internals "Data" Sheet 1, Sheet 2	<u>PC *17-21-90</u>	<u>O.C. HOLD POINT</u>	<u>W.C. *17-21-90</u>
4.6.2f	Inspect Air Start Valve Seat For Pitting "Data" Sheet 1, Sheet 3	<u>N/A *1</u>	<u>NO</u>	<u>PC 7/21/90 *1</u>
4.6.2h	Blue Air Start Valve "Data" Sheet 1, Sheet 3	<u>N/A *1</u>	<u>NO</u>	<u>PC 7/21/90 *1</u>

\* Document on Referenced "Data" Sheet

PROCEDURE STEP	DESCRIPTION	MAINT. INIT/DATE	HOLD POINT (Yes/No)	QC INIT/DATE
----------------	-------------	------------------	---------------------	--------------

4.6.3 Air Start Valves Reassembled

1R		<i>7/21/90</i>	<i>YES</i>	<i>17/21/90</i>
2R		<i>7/21/90</i>	<i>YES</i>	<i>17/21/90</i>
3R		<i>7/21/90</i>	<i>YES</i>	<i>17/21/90</i>
4R		<i>7/21/90</i>	<i>YES</i>	<i>17/21/90</i>
5R		<i>7/21/90</i>	<i>YES</i>	<i>17/21/90</i>
6R		<i>7/21/90</i>	<i>YES</i>	<i>17/21/90</i>
7R		<i>7/21/90</i>	<i>YES</i>	<i>17/21/90</i>
8R		<i>7/21/90</i>	<i>YES</i>	<i>17/21/90</i>
1L		<i>7/21/90</i>	<i>YES</i>	<i>17/21/90</i>
2L		<i>7/21/90</i>	<i>YES</i>	<i>17/21/90</i>
3L		<i>7/21/90</i>	<i>YES</i>	<i>17/21/90</i>
4L		<i>7/21/90</i>	<i>YES</i>	<i>17/21/90</i>
5L		<i>7/21/90</i>	<i>YES</i>	<i>17/21/90</i>
6L		<i>7/21/90</i>	<i>YES</i>	<i>17/21/90</i>
7L		<i>7/21/90</i>	<i>YES</i>	<i>17/21/90</i>
8L		<i>7/21/90</i>	<i>YES</i>	<i>17/21/90</i>

4.7.2 Valve To Head Gasket Installed

1R	/		
2R	/		
3R	/		
4R	/		
5R	/		
6R	/		
7R	/		
8R	/		
1L	/		
2L	/		
3L	/		
4L	/		
5L	/		
6L	/		
7L	/		
8L	/		

*QC 7/20/90*

4.7.4 Air Start Valve Capscrews Inspected "Data" Sheet 1, Sheet 3

<i>7/21/90</i>	<i>YES</i>	<i>17/21/90</i>
----------------	------------	-----------------

4.7.6 Air Start Valve Capscrews Torqued - "Data" Sheet 1, Sheet 3

<i>7/21/90</i>	<i>YES</i>	<i>17/21/90</i>
----------------	------------	-----------------

\* Document on Referenced "Data" Sheet

PROCEDURE STEP	DESCRIPTION	MAINT. INIT/DATE	HOLD POINT (Yes/No)	QC INIT/DATE
4.7.7	Air Start Valve Capscrews Retorqued every 8 hours of engine operation "Data" Sheet 2	SEE ** COMMENTS N/A	dc HOLD <del>NO</del> 7-21-90	1
4.7.9h	Torque Rocker Arm Capscrews "Data" Sheet 1, Sheet 4	N/A *1	NO	dc 7/21/90 *1
4.7.10	Adjust Intake And Exhaust valves			
	1R	N/A		
	2R			
	3R			
	4R			
	5R			
	6R			
	7R			
	8R			
	1L			
	2L			
	3L			
	4L			
	5L			
	6L			
	7L			
	8L			
4.7.11	Tools removed from engine	1		1
4.7.12	Cylinder head covers installed	1		1
4.7.13	Main Bearing Oil Lines installed	N/A		1
4.9	Notify Shift Supervisor required maintenance is complete	JDS 7-21-90	NO	dc 7/21/90

\* Document on Referenced "Data" Sheet

COMMENTS/ADDITIONAL HOLD POINTS: \_\_\_\_\_

\*\* STEP 4.7.2 TO BE PERFORMED UNDER NEW MWD  
REF WPT 1158

QC has reviewed this procedure for hold points Philip D. Cook  
Signature 7/27/90

APPROVED (✓) DISAPPROVED ( )
FOREMAN DATE
David Seely

COMPLETED BY	DATE
A. Cook	7-21-90