

ENERGY INDUSTRIES OF OHIO

Purchase Order Number:

S005242-F

Part Number:

SE141-103-1

Part Name:

MCWF C-1

MTM Work Order Number:

65707/1.0



Major

Tool & Machine, Inc.

Workorder 65707/1.0	Part ID SE141-103-1-MOD COIL WINDING FORM ASSEMBLY TYPE-C	Qty 1	Drawing ID / Rev SE141-103 / 1	Engineer WHITE/KEVIN BOWLING
	MCWF C-1 SE141-103-1 MODULAR COIL WINDING FORM ASSEMBLY TYPE-C			

Sub ID 0	Part ID SE141-103-1-MOD COIL WINDING FORM ASSEMBLY TYPE-C	Qty 1	Drawing ID / Rev SE141-103 / 1
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Operation Sub: 0 / Seq: 10 Rev: 2 [10/25/04] (Firmed)	Resource 730-WHITE TEAM, ENGINEERING Manufacturing Planning, QA planning, Production Support	QtyPer 1.00	StartQty 1.00	EndQty 1.00	Drawing ID / Rev
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Operation Sub: 0 / Seq: 20 Rev: 5 [10/25/04] (Firmed)	Resource 825-FINAL INSPECTION - PLANTS 1 & Final Inspection Prepare part for source inspection. Review and complete QA data package per QAP and the requirements of the product specification NCSX-CSPEC-141-03-05 September 23, 2004. Contact CFT to review data package prior to notifying source inspection.	QtyPer 1.00	StartQty 1.00	EndQty 1.00	Drawing ID / Rev SE141-103 / 1
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Operation Sub: 0 / Seq: 30 Rev: 4 [10/25/04] (Firmed)	Resource 831-SOURCE INSPECTION - FINAL Source Inspection	QtyPer 1.00	StartQty 1.00	EndQty 1.00	Drawing ID / Rev SE141-103 / 1
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Operation Sub: 0 / Seq: 40 Rev: 7 [10/25/04] (Firmed)	Resource 425-SHIPPING - PLANTS 1 & 2 Package and Ship Weigh the finished part and metal stamp the value in pounds on the casting in the area marked on the customer drawing. Part must be protected and wrapped in plastic prior to inserting into the crate. Part is to be shipped to PPPL in Princeton, NJ per QAP shipping address. Crate must be marked/stenciled per the MTM drawing.	QtyPer 1.00	StartQty 1.00	EndQty 1.00	Drawing ID / Rev SE141-103 / 1
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Sub ID 1	Part ID SE141-116-MODULAR COIL WINDING FORM TYPE-C	Qty 1	Drawing ID / Rev / Parent Sub:0 Op:20
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Workorder 65707/1.0	Part ID SE141-103-1-MOD COIL WINDING FORM ASSEMBLY TYPE-C	Qty 1	Drawing ID / Rev SE141-103 / 1	Engineer WHITE/KEVIN BOWLING
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Operation Sub: 1 / Seq: 10 Rev: 6 [10/25/04] (Firmed)	Resource 820-RECEIVING INSPECTION	QtyPer 1.00	StartQty 1.00	EndQty 1.00	Drawing ID / Rev SE141-116 / 2
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Receive customer supplied material.
Verify the receipt of quality documentation for the casting.
Check off IDC noting receipt of material and receipt of quality documentation.

Certification: METALTEK QA DATA PACKAGE
Part Number: SE141-116
Part Description: PRODUCTION WINDING FORM TYPE-C

Piece #	Part ID	Qty	Drawing ID / Rev	Vendor	Dimensions
10 (F)	SE141-116 WINDING FORM TYPE-C C-1 CASTING	1.0			

CUSTOMER SUPPLIED MATERIAL FROM METALTEK.
DATA PACKAGE REQUIRED.

Operation Sub: 1 / Seq: 20 Rev: 14 [10/25/04] (Firmed)	Resource 161-40FT MITSU	QtyPer 1.00	StartQty 1.00	EndQty 1.00	Drawing ID / Rev SE141-116 / 2
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Setup the machining fixture on the rotary table. Load casting into the machining fixture with the initial pickup pads facing up. Indicate the pickup pads and orient the casting for machining.

Rough machine the top flange face and the outer periphery leaving .25" +.060/-.000". The outside surfaces of the flange will serve as qualifiers for the next operation. Record the qualifier dimensions on the IDC.

Install the lifting holes per the MTM drawing.

Remove the casting from the machining fixture and flip over with the bottom flange facing up. Re-load into the machining fixture. Pickup the qualifiers and orient the casting for machining.

Rough machine the bottom flange face leaving .25" +.060/-.000".

Rough machine the poloidal break leaving a minimum of .25" of stock per side.

Install temporary shim filling in the poloidal break and hold together with temporary c-clamps.

Operation Sub: 1 / Seq: 30 Rev: 4 [10/25/04] (Firmed)	Resource 126-U5 - SOUTH	QtyPer 1.00	StartQty 1.00	EndQty 1.00	Drawing ID / Rev SE141-116 / 2
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Setup the machining fixture with the casting installed bottom flange face up. Pickup qualifiers and orient the casting for machining.

Rough machine the "T" and wings to .25" minimum stock envelope. Run a probe pass to verify stock envelope.

Check off the IDC with stock range result from probe pass.

Workorder	Part ID	Qty	Drawing ID / Rev	Engineer	
65707/1.0	SE141-103-1-MOD COIL WINDING FORM ASSEMBLY TYPE-C	1	SE141-103 / 1	WHITE/KEVIN BOWLING	
Operation	Resource	QtyPer	StartQty	EndQty	Drawing ID / Rev
Sub: 1 / Seq: 40 Rev: 1 [10/25/04] (Firmed)	805-INPROCESS INSPECTION - PLANT	1.00	1.00	1.00	SE141-116 / 2
With casting still on the machine, perform an in-process inspection of the magnetic permeability of the material using the Severn Permeability Indicator Gage. Inspect a minimum of (8) points on the rough machined flange face and an additional (8) points on the rough machined "T" section. Record the upper and lower range values on the IDC's. Values that exceed 1.02 must be documented with a non-conformance record and dispositioned prior to continuing.					
Operation	Resource	QtyPer	StartQty	EndQty	Drawing ID / Rev
Sub: 1 / Seq: 50 Rev: 1 [10/25/04] (Firmed)	126-U5 - SOUTH	1.00	1.00	1.00	SE141-116 / 2
Remove the casting from the machining fixture and flip over with the top flange facing up. Re-load the casting into the machining fixture. Pickup the qualifiers and orient the casting for machining. Rough machine "T" and wings to .25" minimum stock envelope. Run a probe pass to verify stock envelope.					
Operation	Resource	QtyPer	StartQty	EndQty	Drawing ID / Rev
Sub: 1 / Seq: 60 Rev: 3 [10/25/04] (Firmed)	805-INPROCESS INSPECTION - PLANT	1.00	1.00	1.00	SE141-116 / 2
With casting still on the machine, perform an in-process inspection of the magnetic permeability of the material using the Severn Permeability Indicator Gage. Inspect a minimum of (8) points on the rough machined flange face and an additional (8) points on the rough machined "T" section. Record the upper and lower range values on the IDC's. Values that exceed 1.02 must be documented with a non-conformance record and dispositioned prior to continuing.					
Operation	Resource	QtyPer	StartQty	EndQty	Drawing ID / Rev
Sub: 1 / Seq: 70 Rev: 4 [10/25/04] (Firmed)	125-U5 - NORTH	1.00	1.00	1.00	SE141-116 / 2
Finish machine the "T" section and wings. Run a probe pass to inspect the surface for stock. Remove the casting from the machining fixture and flip over with the bottom flange facing up. Re-load the casting into the machining fixture. Pickup the qualifiers and orient the casting for machining. Finish machine the "T" section and wings. Run a probe pass to inspect the surface for stock.					
Operation	Resource	QtyPer	StartQty	EndQty	Drawing ID / Rev
Sub: 1 / Seq: 80 Rev: 5 [10/25/04] (Firmed)	161-40FT MITSU	1.00	1.00	1.00	SE141-116 / 2
Setup the machining fixture with the casting installed. Pickup the qualifiers and orient the part for machining. Finish machine both flange faces and the periphery. Install all of the holes in the part including the poloidal break. Back spot face all of the holes per the customer drawing. Machine the inspection fiducials per the MTM drawing. Finish machine the poloidal break to drawing requirements. Remove the casting from the machining fixture.					
Operation	Resource	QtyPer	StartQty	EndQty	Drawing ID / Rev
Sub: 1 / Seq: 90 Rev: 1 [10/25/04] (Firmed)	805-INPROCESS INSPECTION - PLANT	1.00	1.00	1.00	SE141-116 / 2
Inspect the magnetic permeability of the entire casting using the Severn Permeability Indicator Gage. All as cast surfaces must be inspected on a 6" x 6" grid. Record range of actual values on IDC. All machined surfaces must be inspected on a 2" x 2" grid. Record range of actual values on IDC. Permeability measurements shall be per supplementary requirements S24 of ASTM A703/A703M and S1 of ASTM A800/800M except the results will be expressed as relative permeability (μ) rather than ferrite content (FN). Values that exceed 1.02 must be documented with a non-conformance record					

Workorder 65707/1.0	Part ID SE141-103-1-MOD COIL WINDING FORM ASSEMBLY TYPE-C	Qty 1	Drawing ID / Rev SE141-103 / 1	Engineer WHITE/KEVIN BOWLING
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and dispositioned prior to continuing.

Operation	Resource	QtyPer	StartQty	EndQty	Drawing ID / Rev
Sub: 1 / Seq: 100 Rev: 5 [10/25/04] (Firmed)	810-LIQUID PENETRANT INSPECTION	1.00	1.00	1.00	SE141-116 / 2
	PT 100% of the part as-cast surfaces as well as finished machine surfaces.				
	Specification: ASTM A903/A903M				
	Method: ASTM E165				
	Acceptance Criteria: ASTM A903/A903M Level II for as cast surfaces				
	Acceptance Criteria: ASTM A903/A903M Level I for machined surfaces including the entire "T" section (high stress areas)				
	Certification: MTM certification to include the information per Supplementary Requirements S1 of ASTM A903/A903M MTM NDT Cert: LPI CERTIFICATION				

Operation	Resource	QtyPer	StartQty	EndQty	Drawing ID / Rev
Sub: 1 / Seq: 110 Rev: 4 [10/25/04] (Firmed)	818-MQS CONTRACTOR X-RAY	1.00	1.00	1.00	SE141-116 / 2
	RT all of the "T" sections of the part that are elevated beyond the outermost portions of the top and bottom flange faces. These "T" sections are considered to be the "high stress areas" defined by the customer. Inspect other "T" sections as necessary to satisfy approx. 10% of the entire "T" section region.				
	Hand sketch a layout of all film locations on sheet (1) of the customer drawing SE141-116 rev. 2 to maintain shot and film traceability.				
	Specifications: ASTM A703/A703M Supplementary Requirement S5				
	Procedure/Method: ASTM E94 and ASTM E142 (use of a wire penetrameter may be necessary instead of the hole type to ensure objective 1% of thickness resolution/sensitivity)				
	Acceptance Criteria: Thickness < 2" ASTM E446 comparative plates				
	Acceptance Criteria: Thickness > 2" but < 4.5" ASTM E186 comparative plates				
	Scan RT certification, and hand sketched map and link in QAP to this operation.				
	Certification: RADIOGRAPHIC INSPECTION Map(s): CUSTOMER DRAWING Rev: Part Number: SE141-116 Part Description: WINDING FORM TYPE-C Material Type: 316 SST Material Thickness: VARIES Serial Number: C-1				

Operation	Resource	QtyPer	StartQty	EndQty	Drawing ID / Rev
Sub: 1 / Seq: 120 Rev: 2 [10/25/04] (Firmed)	815-CMM - GANTRY - PLANT 2	1.00	1.00	1.00	SE141-116 / 2
	Setup and inspect the part 100% per the drawing requirements.				

Workorder 65707/1.0	Part ID SE141-103-1-MOD COIL WINDING FORM ASSEMBLY TYPE-C	Qty 1	Drawing ID / Rev SE141-103 / 1	Engineer WHITE/KEVIN BOWLING
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Record dimensions as required per the IDC's.

Operation	Resource	QtyPer	StartQty	EndQty	Drawing ID / Rev
Sub: 1 / Seq: 130 Rev: 2 [10/25/04] (Firmed)	105-DEBURR PLT 1 LOW BAY	1.00	1.00	1.00	SE141-103 / 1
Clean the casting thoroughly to remove all coolant, oil, tapping fluid etc... Rinse the part thoroughly and wipe down with isopropyl alcohol to remove any residue or film.					
Install the poloidal break shim assembly and accompanying hardware and insulation per the assembly drawing.					

Operation	Resource	QtyPer	StartQty	EndQty	Drawing ID / Rev
Sub: 1 / Seq: 140 Rev: 8 [10/25/04] (Firmed)	805-INPROCESS INSPECTION - PLANT	1.00	1.00	1.00	SE141-103 / 1
Perform electrical resistance test.					
Wire all of the bolts together. Set one jumper directly on casting flange and one on the bolts. Record resistance between the bolt combination and the casting in kohms on IDC.					
Set one jumper on the poloidal joint midplane and one on each of the bolts. Record range of resistance in kohms on IDC.					

Sub ID 2	Part ID SE141-078-POLOIDAL BREAK SHIM ASSEMBLY	Qty 1	Drawing ID / Rev / Parent Sub:1 Op:130
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Operation	Resource	QtyPer	StartQty	EndQty	Drawing ID / Rev	Vendor	Dimensions
Sub: 2 / Seq: 10 Rev: 2 [10/25/04] (Unreleased)	800-RECEIVING	1.00	1.00	1.00	SE141-078 / 1		
Piece # 10 (U)	RECEIVE CUSTOMER SUPPLIED CASTING						
	Part ID SE141-078-2						
CASTING TO BE OF SAME MATERIAL AS WINDING FORM CASTING.							
MATERIAL TEST REPORTS REQUIRED WITH SHIPMENT.							
Material Certification: TEST REPORTS							

Operation	Resource	QtyPer	StartQty	EndQty	Drawing ID / Rev
Sub: 2 / Seq: 20 Rev: 1 [10/25/04] (Unreleased)	141-10 HC-100 IN.	1.00	1.00	1.00	SE141-078 / 1
MACHINE THE SHIM COMPLETE PER THE DRAWING AND CNC PROGRAM.S					

Operation	Resource	QtyPer	StartQty	EndQty	Drawing ID / Rev
Sub: 2 / Seq: 30 Rev: 2 [10/25/04] (Unreleased)	110-ASSEMBLY - RIGGING	1.00	1.00	1.00	SE141-078 / 1
ASSEMBLE ALL OF THE INSULATING SLEEVES INTO THE SHIM AND BOND USING LOCTITE 411.					

Workorder 65707/1.0	Part ID SE141-103-1-MOD COIL WINDING FORM ASSEMBLY TYPE-C	Qty 1	Drawing ID / Rev SE141-103 / 1	Engineer WHITE/KEVIN BOWLING
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Sub ID 3	Part ID SE141-048-03-INSULATING SLEEVE	Qty 7	Drawing ID / Rev / Parent Sub:2 Op:30
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Operation Sub: 3 / Seq: 10 Rev: 2 [10/25/04] (Unreleased)	Resource 800-RECEIVING	QtyPer 7.00	StartQty 7.00	EndQty 7.00	Drawing ID / Rev SE141-078 / 1
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Piece # 10 (U)	Part ID RECEIVE MATERIAL INSULATING SLEEVES 1.75" DIA. X 2.25" LONG G11CR PER NEMA LI I - 1998	Qty 7.0	Drawing ID / Rev	Vendor	Dimensions
C OF C REQUIRED WITH SHIPMENT Certificate of Conformance:					

Operation Sub: 3 / Seq: 20 Rev: 3 [10/25/04] (Unreleased)	Resource 108-TOOL ROOM - PLANT 1	QtyPer 7.00	StartQty 7.00	EndQty 7.00	Drawing ID / Rev SE141-078 / 1
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MACHINE PER THE DRAWING FOR A SLIP FIT WITH MATING DETAIL.

Sub ID 4	Part ID MISC. HARDWARE AND INSULATION	Qty 1	Drawing ID / Rev / Parent Sub:1 Op:130
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Operation Sub: 4 / Seq: 10 Rev: 2 [10/25/04] (Unreleased)	Resource 800-RECEIVING	QtyPer 1.00	StartQty 1.00	EndQty 1.00	Drawing ID / Rev SE141-103 / 1
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Piece # 10 (U)	Part ID RECEIVE MATERIAL NOTIFY CFT AND FORWARD MATERIAL TO CFT. SE141-103-4 INSULATING SHEET TYPE-C G11CR PER NEMA LI I - 1998	Qty 2.0	Drawing ID / Rev	Vendor	Dimensions
C OF C REQUIRED WITH SHIPMENT Certificate of Conformance: Part Number: SE141-103-4 Part Description: INSULATING SHEET					

Piece # 20 (U)	Part ID SE141-103-5 INSULATING SLEEVE G11CR PER NEMA LI I - 1998	Qty 14.0	Drawing ID / Rev	Vendor	Dimensions
C OF C REQUIRED WITH SHIPMENT Certificate of Conformance:					

Workorder 65707/1.0	Part ID SE141-103-1-MOD COIL WINDING FORM ASSEMBLY TYPE-C	Qty 1	Drawing ID / Rev SE141-103 / 1	Engineer WHITE/KEVIN BOWLING
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Part Number: SE141-103-5
Part Description: INSULATING SLEEVE

Piece #	Part ID	Qty	Drawing ID / Rev	Vendor	Dimensions
30 (U)	DS141-036 STUD 1.375-6 UNC-2A X 9 LG MANUFACTURED COMPLETE PER DRAWING. MATERIAL CERTIFICATION REQUIRED WITH SHIPMENT	7.0	DS141-036 / 0		

Material Certification: TEST REPORTS
Part Number: DS141-036
Part Description: STUD

40 (U)	DS141-038 INSULATING WASHER MANUFACTURE PART COMPLETE PER DRAWING C OF C FOR MATERIAL REQUIRED WITH SHIPMENT DIMENSIONAL REPORT REQUIRED WITH SHIPMENT.	14.0	DS141-038 / 0		
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Certificate of Conformance:
Dimensional Report:
Part Number: DS141-038
Part Description: INSULATING WASHER

50 (U)	DS141-060 NUT 12 PT HEX 1.375-6 UNC - 2B MANUFACTURE COMPLETE PER DRAWING MATERIAL CERTIFICATION REQUIRED WITH SHIPMENT.	14.0	DS141-060 / 0		
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Material Certification:
Part Number: DS141-060
Part Description: NUT

60 (U)	DS141-079 FLAT WASHER MANUFACTURE COMPLETE PER DRAWING. MATERIAL CERTIFICATION REQUIRED WITH SHIPMENT	14.0	DS141-079 / 0		
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Material Certification:
Part Number: DS141-079
Part Description: FLAT WASHER

Customer: 8909 - ENERGY INDUSTRIES OF OHIO
Customer P.O.: S005242-F
Customer Part ID: SE141-116 - MCWF C-1

Item#				Document Description / Material Description / File Name / Heat Lot
1				CERTIFICATE OF CONFORMANCE

DS141-036 - STUD Qty: 7

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
2	4	10	30	Material Certification: TEST REPORTS -

DS141-038 - INSULATING WASHER Qty: 14

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
3	4	10	40	Dimensional Report: -
4	4	10	40	Certificate of Conformance: -

DS141-060 - NUT Qty: 14

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
5	4	10	50	Material Certification: -

DS141-079 - FLAT WASHER Qty: 14

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
6	4	10	60	Material Certification: -

SE141-048-03 - INSULATING SLEEVE Qty: 7

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
7	3	10	10	Certificate of Conformance: -

SE141-078 - POLOIDAL BREAK SHIM ASSEMBLY Qty: 1

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
8	2	10	10	Material Certification: TEST REPORTS -

SE141-103-4 - INSULATING SHEET Qty: 2

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
9	4	10	10	Certificate of Conformance: -

SE141-103-5 - INSULATING SLEEVE Qty: 14

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
10	4	10	20	Certificate of Conformance: -

SE141-116 - PRODUCTION WINDING FORM TYPE-C Qty: 1

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
11	1	10		Certification: METALTEK QA DATA PACKAGE -
12	1	10		Inspection Data Checklist: 1 steps
13	1	20		Inspection Data Checklist: 1 steps
14	1	30		Inspection Data Checklist: 2 steps
15	1	40		Inspection Data Checklist: 1 steps

Customer: 8909 - ENERGY INDUSTRIES OF OHIO
Customer P.O.: S005242-F
Customer Part ID: SE141-116 - MCWF C-1

16	1	50	Inspection Data Checklist: 1 steps
17	1	60	Inspection Data Checklist: 1 steps
18	1	90	Inspection Data Checklist: 2 steps
19	1	100	MTM NDT Cert: LPI CERTIFICATION -
20	1	110	Certification: RADIOGRAPHIC INSPECTION -
21	1	110	Map(s): CUSTOMER DRAWING -
22	1	120	Inspection Data Checklist: 97 steps
23	1	140	Inspection Data Checklist: 2 steps

Quality Assurance Documentation for Part ID: SE141-116 - Item: 12

Workorder: 65707/1-0 Sub:1 Op:10

Part: SE141-116 - MODULAR COIL WINDING FORM TYPE-C - PRODUCTION MODULAR COIL WINDING FORM TYPE-C

Drawing ID: SE141-116 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		VERIFY RECEIPT OF METALTEK COMPLETE DATA PACKAGE (RECORD ACCEPT OR REJECT ONLY)		QA						
(10)										

Quality Assurance Documentation for Part ID: SE141-116 - Item: 13

Workorder: 65707/1-0 Sub:1 Op:20

Part: SE141-116 - MODULAR COIL WINDING FORM TYPE-C - PRODUCTION MODULAR COIL WINDING FORM TYPE-C

Drawing ID: SE141-116 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		RECORD QUALIFIER DIMENSIONS FORMAT (left side, xx.xxx"), (right side, xx.xxx")...	01	MFG						
(10)										

Quality Assurance Documentation for Part ID: SE141-116 - Item: 14

Workorder: 65707/1-0 Sub:1 Op:30

Part: SE141-116 - MODULAR COIL WINDING FORM TYPE-C - PRODUCTION MODULAR COIL WINDING FORM TYPE-C

Drawing ID: SE141-116 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		RECORD RANGE OF STOCK ENV. FROM PROBE PASS ON FLANGE FACE	70	MFG						
(10)										
*		RECORD RANGE OF STOCK ENV. FROM PROBE PASS ON "T" SECTION	50	QA						
(20)										

Quality Assurance Documentation for Part ID: SE141-116 - Item: 15

Workorder: 65707/1-0 Sub:1 Op:40

Part: SE141-116 - MODULAR COIL WINDING FORM TYPE-C - PRODUCTION MODULAR COIL WINDING FORM TYPE-C

Drawing ID: SE141-116 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		RECORD MAG PERMEABILITY RANGE (IN-PROCESS INSPECTION)	50	QA						
(10)										

Quality Assurance Documentation for Part ID: SE141-116 - Item: 16

Workorder: 65707/1-0 Sub:1 Op:50

Part: SE141-116 - MODULAR COIL WINDING FORM TYPE-C - PRODUCTION MODULAR COIL WINDING FORM TYPE-C

Drawing ID: SE141-116 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		RECORD RANGE OF STOCK ENV. FROM PROBE PASS ON FLANGE FACE	70	MFG						
(10)										

Quality Assurance Documentation for Part ID: SE141-116 - Item: 17

Workorder: 65707/1-0 Sub:1 Op:60

Part: SE141-116 - MODULAR COIL WINDING FORM TYPE-C - PRODUCTION MODULAR COIL WINDING FORM TYPE-C

Drawing ID: SE141-116 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		RECORD MAG PERMEABILITY RANGE (IN-PROCESS INSPECTION)	50	QA						
(10)										

Quality Assurance Documentation for Part ID: SE141-116 - Item: 18

Workorder: 65707/1-0 Sub:1 Op:90

Part: SE141-116 - MODULAR COIL WINDING FORM TYPE-C - PRODUCTION MODULAR COIL WINDING FORM TYPE-C

Drawing ID: SE141-116 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		RECORD RANGE UPPER AND LOWER LIMITS OF MAG PERMEABILITY READI (Mu) FOR THE AS CAST SURFACES	50	QA						
(10)										
*		RECORD RANGE UPPER AND LOWER LIMITS OF MAG PERMEABILITY READI (Mu) FOR THE MACHINED SURFACES	50	QA						
(20)										

Quality Assurance Documentation for Part ID: SE141-116 - Item: 22

Workorder: 65707/1-0 Sub:1 Op:120

Part: SE141-116 - MODULAR COIL WINDING FORM TYPE-C - PRODUCTION MODULAR COIL WINDING FORM TYPE-C

Drawing ID: SE141-116 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (20)	B8	47.19 ± .03	05	QA						
1* (30)	D6	47.19 ± .03		QA						
1* (40)	C6	47.19 ± .03	05	QA						
1* (50)			05	QA						
1* (60)	B6			QA						
1* (70)	F3		05	QA						
2* (80)	H6	2X R.187 +.025 -.005	05	QA						
2* (90)	G8	2X .03 X 45°	05	QA						
2* (100)	G8	.40 ± .010	05	QA						
2* (110)	G8	2X .030 X 45°	05	QA						
2* (120)	F7	2X .32	05	QA						
2* (130)	F7	2X R.11	05	QA						
2* (140)	G6	 P TO M	05	QA						
2* (150)	G6	4.790 ± .005	05	QA						
2* (160)	G3	 Q TO N	05	QA						
2*	G3	4.790 ± .005	05	QA						



Major

Tool & Machine, Inc.

INSPECTION DATA CHECKLIST

(170)		RECORD NUMBER USED TO IDENTIFY POINT Q							
2* (180)	F5	.02 R T S M TO N	05	QA					
2* (190)	C5	.01 R T S 82X Ø.375-16 UNC .125 DEEP C'BORE Ø.625 AS SHOWN	05	QA					
2* (200)	B4	2X .03 X 45°	05	QA					
3* (210)	G7	.01 A B C 8X Ø1-8 UNC THRU	05	QA					
3* (220)	H4	.25 ± .01	05	QA					
3* (230)	H3	.01	05	QA					
3* (240)	F3	.25 ± .01	05	QA					
3* (250)	F3	.01	05	QA					
3* (260)	F5	R76.00	05	QA					
3* (270)	E5	R73.70	05	QA					
3* (280)	E4	.01 A B C 8X Ø1.13 THRU BACK SPOT FACE Ø3.00 MIN DEPTH FOR C'UP	05	QA					
4* (290)	H8	.010 D A N 3X Ø1.88 THRU Ø3.00 BACK SPOTFACE MIN TO CLEANUP	05	QA					
4* (300)	H7	Ø.01 D A N 3X SPH R.75 TO .75 DEEP	05	QA					
4*	H6	Ø.01 D A N 17X Ø1.88 THRU Ø3.25 BACK SPOTFACE	05	QA					



(310)		MIN TO CLEANUP							
4*	H5	⊕ ∅.01 D A N 3X ∅1.13 ∅3.38 BACK SPOTFACE	05	QA					
(320)		MIN TO CLEANUP							
4*	H3	.75 ± .010	05	QA					
(330)									
4*	E6	⊕ ∅.01 D A N 3X ∅1.375-6 UNC THRU	05	QA					
(340)									
4*	E6	⊕ ∅.01 D A N 5X ∅1.375-6 UNC THRU	05	QA					
(350)									
4*	D4	⊕ ∅.01 D A N ∅1.88 THRU ∅3.00 BACK SPOTFACE	05	QA					
(360)		MIN TO CLEANUP							
4*	B5	⊕ ∅.01 D A N 3X ∅1.13 ∅3.38 BACK SPOTFACE	05	QA					
(370)		MIN TO CLEANUP							
5*	E8	⊕ ∅.01 E A J ∅1.88 THRU ∅3.00 BACK SPOTFACE	05	QA					
(380)		MIN TO CLEANUP							
5*	F6	3X ∅1.375-6 UNC THRU	05	QA					
(400)									
5*	F6	⊕ ∅.01 E A J 3X SPH R.75 TO .75 DEEP	05	QA					
(410)									
5*	F7	7X .25-20 UNC -2B	05	QA					
(420)									
5*	E7	⊕ ∅.01 E A J 24X ∅1.88 THRU ∅3.25 BACK SPOTFACE	05	QA					
(430)		MIN TO CLEANUP							
5*	E7	⊕ ∅.01 E A J 3X ∅.75 TO 2.00 DEEP ∅3.00 TO 1.00 DEEP	05	QA					
(440)									
5*	D7	3X ∅1.88 THRU ∅3.00 BACK SPOTFACE	05	QA					



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INSPECTION DATA CHECKLIST

(450)		MIN TO CLEANUP							
5* (460)	G2	SPH R.75 TO .75 DEEP	05	QA					
5* (470)	C2	Ø3.00	05	QA					
5* (480)	C1	Ø1.5	05	QA					
5* (490)	D1	2.00	05	QA					
5* (500)	D1	1.00	05	QA					
6* (510)	F2	 .02	05	QA					
6* (520)	F2	1.125 ± .010	05	QA					
6* (530)	F2	2.250 ± .010	05	QA					
6* (540)	E2	 Ø.01 F P V 7X Ø1.625 THRU BOTH SIDES 14X Ø3.00 TO .500 BOTH SIDES	05	QA					
7* (550)	G2	R7.00	05	QA					
7* (560)	F2	2X R1.50	05	QA					
7* (570)	E2	2.52 ± .010	05	QA					
7* (580)	E2	90°	05	QA					
7* (590)	E1	2.0°	05	QA					
7* (600)	E2	2.64 ± .010	05	QA					
7* (610)	E2	6.50 ± .010	05	QA					



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INSPECTION DATA CHECKLIST

7* (620)	E2	3.06 ± .010	05	QA					
7* (630)	D2	R4.00 ± .010	05	QA					
7* (640)	D3	2.10 ± .010	05	QA					
8* (650)	G7	4.00 ± .010	05	QA					
8* (660)	G7	.25 ± .010	05	QA					
8* (670)	G7	R4.00 ± .010	05	QA					
8* (680)	F7	2.00 ± .010	05	QA					
8* (690)	E3	9.38 ± .010	05	QA					
8* (700)	E2	6.0°	05	QA					
8* (710)	C2	Ø8.00 ± .010	05	QA					
8* (720)	B3	5.9°	05	QA					
8* (730)	B3	7.81 ± .010	05	QA					
8* (740)	C6	.41 + .20 - 0	05	QA					
8* (760)	D7	13.6 °	05	MFG					
8* (780)	D7	1.50 ± .010	05	QA					
8* (790)	D7	3.00 ± .010	05	QA					
8* (800)	B7	4X R.50	05	QA					
8* (810)	B7	3.50 ± .010	05	QA					
8*	B7	1.75 ± .010	05	QA					


(820)									
8* (830)	C8	2X 1.50 ± .010 THRU	05	QA					
8* (840)	C8	3.19 ± .010	05	QA					
8* (850)	C8	2X 6.38 ± .010 THRU	05	QA					
8* (860)	C8	8X R.25	05	QA					
8* (870)	C8	2X 2.58 ± .010	05	QA					
8* (880)	E2	Ø8.00 ± .010	05	QA					
9* (890)	F7	4X Ø.63 ± .010 THRU	05	QA					
9* (900)	E7	2.54 ± .010	05	QA					
9* (910)	E7	5.08 ± .010	05	QA					
9* (920)	F3	4X Ø.63 ± .010 THRU	05	QA					
9* (950)	E3	1.22 ± .010	05	QA					
9* (960)	C7	4X Ø.63 ± .010 THRU	05	QA					
9* (970)	C6	2X Ø.25 T.C. HOLE TO 2.5 DEEP	05	QA					
10* (980)	C8		05	QA					
10* (990)	C8		05	QA					
10* (1000)	C5		05	QA					
10* (1010)	C4		05	QA					
10* (1020)	G1		05	QA					



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10* (1030)	C4		05	QA						
* (1040)		UOS ALL MACHINED SURFACES TO BE 125 RMS SURFACE FINISH RECORD RANGE	25	QA						

Quality Assurance Documentation for Part ID: SE141-116 - Item: 23

Workorder: 65707/1-0 Sub:1 Op:140

Part: SE141-116 - MODULAR COIL WINDING FORM TYPE-C - PRODUCTION MODULAR COIL WINDING FORM TYPE-C

Drawing ID: SE141-103 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		INSPECT AND RECORD RESISTANCE ACROSS BOLT INSUL. VALUE TO BE >500 KOHM'S		QA						
(10)										
*		INSPECT AND RECORD RANGE OF RESISTANCE ACROSS POLOIDAL BREAK MIDPLANE AND BOLTS VALUE TO BE >500 KOHM'S		QA						
(20)										