



161 Thorn Hill Road
Warrendale, PA 15086-7527

AUDIT CRITERIA

AC7117/4 REV. A

Issued 2006-11

Revised 2014-09

Superseding AC7117/4

TO BE USED ON AUDITS STARTING ON OR AFTER JANUARY 18, 2015

Nadcap
AUDIT CRITERIA FOR
FLAPPER PEENING

1. SCOPE

This audit criterion is used to survey a facility seeking Nadcap accreditation for the flapper shot peening method. This process method checklist shall be used in conjunction with AC7117.

2. GENERAL INSTRUCTIONS

See AC7117 Section 2.

3. SUBSCRIBER SPECIFIC SUPPLEMENTS

SECTION NA

3.1 Instructions for the Auditors

3.1.1 In completing the prime specific assessment, Auditors are instructed to respond with a "YES" or "NO" to address compliance with each statement or requirement. For any negative responses, the Auditor must clearly indicate if the "NO" reflects noncompliance with respect to existence, adequacy, and/or compliance. Existence relates with documented procedure or policy, and compliance relates to evidence of effective implementation. The "NA" option is only used when the question is not applicable to the Supplier process. Choosing the "NA" option requires an explanation note.

3.1.2 The Auditor shall only apply the questions in the supplemental checklist only to the Suppliers who specify the Customer end-users in the AC7117 audit scope selection herein.

- U0 – User Unknown
- U10 – GE Aviation
- U00 – None

- U8 – Airbus
- U11 – The Boeing Company

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3.2	U8 – Airbus Supplement <i>Note: If no flapper shot peening is performed for Airbus check the box to collapse the U8 section.</i>	SECTION NA		
3.2.1	(U8) Where the arc height is outside the required range/tolerance, do procedures describe appropriate actions to identify the cause and take corrective action?	YES	NO	
3.2.2	(U8) Do procedures require re-verification of intensity after a significant change in the process?	YES	NO	
3.3	U10 – GE Aviation Supplement <i>Note: If no flapper shot peening is performed for GE Aviation check the box to collapse the U10 section.</i>	SECTION NA		
3.3.1	(U10) Has the Almen saturation curve(s) for GE Aviation parts being peened during the flapper peen job audit, been re-run within the previous twelve months?	YES	NO	NA
3.4	U11 – The Boeing Company Supplement <i>Note: If no flapper shot peening is performed for The Boeing Company check the box to collapse the U11 section.</i>	SECTION NA		
3.4.1	(U11) Is flapper peening the only method used to peen reworked production parts?	YES	NO	NA
3.4.2	(U11) Does the flapper peening equipment meet the requirements of BAC 5730-2?	YES	NO	NA
3.4.3	(U11) Is the power tool used to rotate the peening wheel capable of maintaining the desired speed within +/- 5 percent?	YES	NO	NA
3.4.4	(U11) Are flapper wheels replaced when the shot loss exceeds 20 percent?	YES	NO	NA
4.	EQUIPMENT			
4.1	General			
4.1.1	Is calibrated equipment available to validate flapper rotation speed?	YES	NO	
4.1.2	Is flapper peening equipment capable of maintaining required RPM to consistently conform to the required intensity values?	YES	NO	
5.	ALMEN			
5.1	Is the magnetic Almen strip holder used for flapper peening in accordance with MIL-R-81841?	YES	NO	
6.	MEDIA			

6.1	Does the Supplier have a procedure to ensure that rotary peening flaps are replaced in accordance with customer requirements? <i>NA only if there is no customer requirement for shot loss.</i>	YES	NO	NA
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7. PERSONNEL

7.1 Operator Qualification

7.1.1	Does the operator qualification program include method specific training, evaluation and the demonstration of proficiency for Rotary flap peening?	YES	NO
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7.1.2	Does the operator qualification program include training, evaluation and the demonstration of proficiency in setting and measuring flap rotation speed?	YES	NO
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7.1.3	Does the operator qualification program include training, evaluation and the demonstration of proficiency in Almen arc height conversion?	YES	NO
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7.1.4	Does the operator qualification program include training, evaluation and the demonstration of proficiency in manual manipulation of the rotary flap?	YES	NO
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7.1.5	Does the operator qualification program include training, evaluation and the demonstration of proficiency in determination of intensity?	YES	NO
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7.1.6	Does the operator qualification program include training, evaluation and the demonstration of proficiency in conditioning (coating removal) of rotary flaps?	YES	NO
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8. GENERAL PROCEDURES

8.1 Records

8.1.1	Does the Supplier have written procedures to ensure the identity of the specific operator; time, date of start and completion is recorded and retrievable?	YES	NO
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9. JOB AUDIT #1

9.1 Job Information

9.1.1 Jobs should be chosen according to the NMSE Job Audit Selection Guideline.

9.1.2 Complete the following and then check the Supplier's information (technique sheets, travelers) against the purchasing requirements.

9.1.2.1 Job Identity/Number: _____

9.1.2.2 Technique ID: _____

9.1.2.3 Generic Part Description: _____

9.1.2.4 Part Number and Revision level (if applicable): _____

9.1.2.5 Immediate Customer: _____

9.1.2.6 End User (Prime) (If known): _____

9.1.2.7 Purchase Order/Revision Level: _____

9.1.2.8 Part Quantity: _____

9.1.2.9 Serial/Lot Numbers (if provided): _____

9.1.2.10 Start Date of Job: _____

9.1.2.11 Processing Specification and Revision Level: _____

9.1.2.12 Special Purchase Order Requirements: _____

9.1.2.13 Is the job audit part live production, demonstration or previously processed? _____

9.1.2.14 What Export Control Status did the Supplier identify the part as being? _____

9.1.2.15 What status did the Auditor(s) identify themselves as being in the opening meeting? (Restricted or Unrestricted) _____

9.2 Customer Requirements

9.2.1 Are the engineering requirements provided from the purchase order, or in a variety of other forms, flowed down to the shop? YES NO

9.2.2 Has the use of Flapper peening been approved by the Customer for this part/job? YES NO NA

9.2.3 Are intensity and Strip Type flowed down to the shop floor? YES NO

9.2.4	Are peening required areas, optional areas, and/or prohibited areas flowed down to the shop floor?	YES	NO	
9.2.5	Is the amount of part coverage flowed down to the shop floor?	YES	NO	NA
9.3	Implementation of Supplier Procedures			
9.3.1	Is the peening operation at this facility performed in the correct sequence as allowed by the traveler?	YES	NO	
9.3.2	Have the required Customer approval(s) been obtained for the current technique sheet?	YES	NO	NA
9.3.3	Are all operations, inspections, and tests performed prior to peening recorded on the traveler or electronic form, stamped, signed, or initialed and including date?	YES	NO	
9.3.4	If there are changes in travelers and/or technique sheets, are they approved and dated by authorized personnel?	YES	NO	NA
9.3.5	Do the personnel who are performing flapper peening operations and final inspections have the required training and qualification?	YES	NO	
9.3.6	Do the gages used to measure flapper speed have current calibration identification?	YES	NO	
9.3.7	Are gages that are not calibrated labeled as "reference only" or similarly marked?	YES	NO	NA
9.3.8	Is the operator capable of identifying equipment malfunctions?	YES	NO	
9.3.9	Does the operator know how to proceed when there is an equipment malfunction or automatic shut down?	YES	NO	
9.4	Pre-Processing			
9.4.1	Does the Supplier visually inspect the area to be peened for the absence of sharp edges, corrosion, contamination or damage prior to peening and were appropriate actions taken?	YES	NO	
9.4.2	Do the pre-peening cleaning methods used conform to the Customer requirements?	YES	NO	NA
9.4.3	During the job audit, the Auditor shall witness the following pre-processing tasks.			
9.4.3.1	Did the operator and/or appropriate personnel demonstrate proficiency in applying the masking requirements to the parts?	YES	NO	NA
9.4.3.2	Did the operator and/or appropriate personnel demonstrate proficiency in equipment and fixture usage?	YES	NO	

9.4.3.3	Did the operator and/or appropriate personnel demonstrate proficiency in the use of Almen gage and Almen strip?	YES	NO	
9.4.3.4	Did the operator and/or appropriate personnel demonstrate proficiency in the use of Almen strip fixtures?	YES	NO	
9.4.3.5	Did the operator and/or appropriate personnel demonstrate proficiency in calculating the resultant arc height (if pre-bow compensation method is used)?	YES	NO	NA
9.4.3.6	Did the operator and/or appropriate personnel demonstrate proficiency in understanding saturation curves and/or two point intensity verifications?	YES	NO	
9.5	Processing			
9.5.1	Are parts processed in accordance with a technique sheet?	YES	NO	
9.5.2	Does the technique sheet or traveler document all relevant operations performed by the operator?	YES	NO	
9.5.3	Does the Almen fixture being used provide the same number, type, location, and orientation of the Almen strips as described in the technique sheet?	YES	NO	NA
9.6	Technique Sheet and Shop Floor Discipline			
9.6.1	Is the job audit part number specified on the technique sheet and correctly followed in production?	YES	NO	
9.6.2	Is the job audit technique sheet revision controlled and correctly followed in production?	YES	NO	
9.6.3	Is the rotary flap speed setting (RPM) identified on the technique sheet and being followed in production?	YES	NO	NA
9.6.4	Are approvals from both Supplier and Customer on the job audit technique sheet and does the technique sheet have required approvals?	YES	NO	NA
9.6.5	Are part specific tooling and fixtures identified on the technique sheet and correctly followed in production?	YES	NO	
9.6.6	Are Almen fixtures identified on the technique sheet and correctly followed in production?	YES	NO	
9.6.7	Is part masking identified on the technique sheet and correctly followed in production?	YES	NO	NA
9.6.8	Is the identification of peening equipment listed on the technique sheet and correctly followed in production?	YES	NO	

9.6.9	Is the part peening time listed on the technique sheet and correctly followed in production?	YES	NO	NA
9.6.10	Is the Almen strip peening time listed on the technique sheet and correctly followed in production?	YES	NO	NA
9.6.11	Is the required intensity and test strip type listed on the technique sheet and correctly followed in production?	YES	NO	NA
9.6.12	When specified, is the amount of coverage listed on the technique sheet and correctly followed in production?	YES	NO	NA
9.6.13	Are the rotary peening flaps listed on the technique sheet and correctly followed in production?	YES	NO	
9.6.14	Does the Supplier documentation include intensity substantiation data for this job?	YES	NO	
9.6.15	Are the intensity verification tests performed at required intervals?	YES	NO	
9.7	Process Validation			
9.7.1	Does the Supplier documentation include intensity substantiation data for this job?	YES	NO	
9.7.2	Are the intensity verification tests performed at required intervals?	YES	NO	
9.7.3	Does the Supplier process substantiation data include appropriate actions (e.g. accept/reject) based on the job audit Almen strip readings?	YES	NO	
9.7.4	Verify the following values for two Almen locations or if applicable a single location at two times for the job audit part.			
9.7.4.1	Are the observed Almen strip identification (location) used to verify the intensity correctly located?	YES	NO	
9.7.4.2	Is the observed Almen strip type (A, C, or N) used to verify the intensity correct?	YES	NO	
9.7.4.3	Is the observed intensity value compliant to the Customer intensity requirement?	YES	NO	
9.7.4.4	Is the observed intensity verification range compliant to requirements?	YES	NO	
9.7.4.5	Is the observed initial Almen reading compliant to requirements?	YES	NO	
9.7.4.6	Is the observed intermediate Almen reading compliant to requirements?	YES	NO	NA
9.7.4.7	Is the observed final Almen reading compliant to requirements?	YES	NO	NA

9.7.5	During the job audit, the Auditor shall witness the following processing tasks.			
9.7.5.1	Did the responsible personnel demonstrate proficiency in the equipment and fixture usage?	YES	NO	
9.7.5.2	Did the responsible personnel demonstrate proficiency in the use of an Almen gage and Almen strip?	YES	NO	
9.7.5.3	Did the responsible personnel demonstrate proficiency in the use of Almen strip fixtures?	YES	NO	
9.7.5.4	Did the responsible personnel demonstrate proficiency in determining intensity using arc height conversion?	YES	NO	
9.7.5.5	Did the responsible personnel demonstrate proficiency in understanding saturation curves?	YES	NO	
9.7.6	For one of the job audits, the Auditor shall witness the generation of saturation curve data and verify that the following are correct.			
9.7.6.1	Does the generation of the saturation curve correctly follow the Customer requirement?	YES	NO	
9.7.6.2	Have the intensity requirements been met?	YES	NO	
9.7.6.3	Are the Almen holder, masking fixture, and the rotary flap tool in useable condition as applicable?	YES	NO	
9.7.6.4	Is the operator capable of identifying equipment malfunctions?	YES	NO	
9.7.6.5	Does the operator know how to proceed when there is an equipment malfunction or automatic shut down?	YES	NO	
9.8	Post Peening Inspection			
9.8.1	During the job audit, the Auditor shall witness the following post peening tasks.			
9.8.1.1	Did the operator and/or appropriate personnel demonstrate the ability to inspect a part for coverage using magnification and other inspection aids?	YES	NO	
9.8.1.2	Is final inspection for coverage and effectiveness of applicable masking performed?	YES	NO	NA
9.8.1.3	Did the operator and/or appropriate personnel inspect for coverage visually on all parts?	YES	NO	
9.8.1.4	Do the post-peening cleaning methods used conform to the Customer requirements?	YES	NO	NA

9.8.1.5	Were parts handled, stored, and transported in a manner to prevent damage?	YES	NO	
9.8.1.6	Did final inspection result in the proper disposition of the part(s) audited?	YES	NO	
9.8.1.7	Did an inspection check that the part is free from media debris (internal and external), masking residue, edge rollover, and handling damage and were appropriate actions taken?	YES	NO	
9.8.1.8	Is the traveler properly completed prior to the part continuing to the next operation or shipment to the Customer?	YES	NO	
9.8.1.9	When required, does the certification that is returned to the Customer meet the Customer requirements?	YES	NO	NA
9.8.1.10	(INFO) If YES record the Certification number here:	_____		

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10. JOB AUDIT #1

10.1 Job Information

10.1.1 Jobs should be chosen according to the NMSE Job Audit Selection Guideline.

10.1.2 Complete the following and then check the Supplier's information (technique sheets, travelers) against the purchasing requirements.

10.1.2.1 Job Identity/Number: _____

10.1.2.2 Technique ID: _____

10.1.2.3 Generic Part Description: _____

10.1.2.4 Part Number and Revision level (if applicable): _____

10.1.2.5 Immediate Customer: _____

10.1.2.6 End User (Prime) (If known): _____

10.1.2.7 Purchase Order/Revision Level: _____

10.1.2.8 Part Quantity: _____

10.1.2.9 Serial/Lot Numbers (if provided): _____

10.1.2.10 Start Date of Job: _____

10.1.2.11 Processing Specification and Revision Level: _____

10.1.2.12 Special Purchase Order Requirements: _____

10.1.2.13 Is the job audit part live production, demonstration or previously processed? _____

10.1.2.14 What Export Control Status did the Supplier identify the part as being? _____

10.1.2.15 What status did the Auditor(s) identify themselves as being in the opening meeting? (Restricted or Unrestricted) _____

10.2 Customer Requirements

10.2.1 Are the engineering requirements provided from the purchase order, or in a variety of other forms, flowed down to the shop? YES NO

10.2.2 Has the use of Flapper peening been approved by the Customer for this part/job? YES NO NA

10.2.3 Are intensity and Strip Type flowed down to the shop floor? YES NO

10.2.4	Are peening required areas, optional areas, and/or prohibited areas flowed down to the shop floor?	YES	NO	
10.2.5	Is the amount of part coverage flowed down to the shop floor?	YES	NO	NA
10.3	Implementation of Supplier Procedures			
10.3.1	Is the peening operation at this facility performed in the correct sequence as allowed by the traveler?	YES	NO	
10.3.2	Have the required Customer approval(s) been obtained for the current technique sheet?	YES	NO	NA
10.3.3	Are all operations, inspections, and tests performed prior to peening recorded on the traveler or electronic form, stamped, signed, or initialed and including date?	YES	NO	
10.3.4	If there are changes in travelers and/or technique sheets, are they approved and dated by authorized personnel?	YES	NO	NA
10.3.5	Do the personnel who are performing flapper peening operations and final inspections have the required training and qualification?	YES	NO	
10.3.6	Do the gages used to measure flapper speed have current calibration identification?	YES	NO	
10.3.7	Are gages that are not calibrated labeled as "reference only" or similarly marked?	YES	NO	NA
10.3.8	Is the operator capable of identifying equipment malfunctions?	YES	NO	
10.3.9	Does the operator know how to proceed when there is an equipment malfunction or automatic shut down?	YES	NO	
10.4	Pre-Processing			
10.4.1	Does the Supplier visually inspect the area to be peened for the absence of sharp edges, corrosion, contamination or damage prior to peening and were appropriate actions taken?	YES	NO	
10.4.2	Do the pre-peening cleaning methods used conform to the Customer requirements?	YES	NO	NA
10.4.3	During the job audit, the Auditor shall witness the following pre-processing tasks.			
10.4.3.1	Did the operator and/or appropriate personnel demonstrate proficiency in applying the masking requirements to the parts?	YES	NO	NA
10.4.3.2	Did the operator and/or appropriate personnel demonstrate proficiency in equipment and fixture usage?	YES	NO	

10.4.3.3	Did the operator and/or appropriate personnel demonstrate proficiency in the use of Almen gage and Almen strip?	YES	NO	
10.4.3.4	Did the operator and/or appropriate personnel demonstrate proficiency in the use of Almen strip fixtures?	YES	NO	
10.4.3.5	Did the operator and/or appropriate personnel demonstrate proficiency in calculating the resultant arc height (if pre-bow compensation method is used)?	YES	NO	NA
10.4.3.6	Did the operator and/or appropriate personnel demonstrate proficiency in understanding saturation curves and/or two point intensity verifications?	YES	NO	
10.5	Processing			
10.5.1	Are parts processed in accordance with a technique sheet?	YES	NO	
10.5.2	Does the technique sheet or traveler document all relevant operations performed by the operator?	YES	NO	
10.5.3	Does the Almen fixture being used provide the same number, type, location, and orientation of the Almen strips as described in the technique sheet?	YES	NO	NA
10.6	Technique Sheet and Shop Floor Discipline			
10.6.1	Is the job audit part number specified on the technique sheet and correctly followed in production?	YES	NO	
10.6.2	Is the job audit technique sheet revision controlled and correctly followed in production?	YES	NO	
10.6.3	Is the rotary flap speed setting (RPM) identified on the technique sheet and being followed in production?	YES	NO	NA
10.6.4	Are approvals from both Supplier and Customer on the job audit technique sheet and does the technique sheet have required approvals?	YES	NO	NA
10.6.5	Are part specific tooling and fixtures identified on the technique sheet and correctly followed in production?	YES	NO	
10.6.6	Are Almen fixtures identified on the technique sheet and correctly followed in production?	YES	NO	
10.6.7	Is part masking identified on the technique sheet and correctly followed in production?	YES	NO	NA
10.6.8	Is the identification of peening equipment listed on the technique sheet and correctly followed in production?	YES	NO	

10.6.9	Is the part peening time listed on the technique sheet and correctly followed in production?	YES	NO	NA
10.6.10	Is the Almen strip peening time listed on the technique sheet and correctly followed in production?	YES	NO	NA
10.6.11	Is the required intensity and test strip type listed on the technique sheet and correctly followed in production?	YES	NO	NA
10.6.12	When specified, is the amount of coverage listed on the technique sheet and correctly followed in production?	YES	NO	NA
10.6.13	Are the rotary peening flaps listed on the technique sheet and correctly followed in production?	YES	NO	
10.6.14	Does the Supplier documentation include intensity substantiation data for this job?	YES	NO	
10.6.15	Are the intensity verification tests performed at required intervals?	YES	NO	
10.7	Process Validation			
10.7.1	Does the Supplier documentation include intensity substantiation data for this job?	YES	NO	
10.7.2	Are the intensity verification tests performed at required intervals?	YES	NO	
10.7.3	Does the Supplier process substantiation data include appropriate actions (e.g. accept/reject) based on the job audit Almen strip readings?	YES	NO	
10.7.4	Verify the following values for two Almen locations or if applicable a single location at two times for the job audit part.			
10.7.4.1	Are the observed Almen strip identification (location) used to verify the intensity correctly located?	YES	NO	
10.7.4.2	Is the observed Almen strip type (A, C, or N) used to verify the intensity correct?	YES	NO	
10.7.4.3	Is the observed intensity value compliant to the Customer intensity requirement?	YES	NO	
10.7.4.4	Is the observed intensity verification range compliant to requirements?	YES	NO	
10.7.4.5	Is the observed initial Almen reading compliant to requirements?	YES	NO	
10.7.4.6	Is the observed intermediate Almen reading compliant to requirements?	YES	NO	NA
10.7.4.7	Is the observed final Almen reading compliant to requirements?	YES	NO	NA

10.7.5	During the job audit, the Auditor shall witness the following processing tasks.			
10.7.5.1	Did the responsible personnel demonstrate proficiency in the equipment and fixture usage?	YES	NO	
10.7.5.2	Did the responsible personnel demonstrate proficiency in the use of an Almen gage and Almen strip?	YES	NO	
10.7.5.3	Did the responsible personnel demonstrate proficiency in the use of Almen strip fixtures?	YES	NO	
10.7.5.4	Did the responsible personnel demonstrate proficiency in determining intensity using arc height conversion?	YES	NO	
10.7.5.5	Did the responsible personnel demonstrate proficiency in understanding saturation curves?	YES	NO	
10.7.6	For one of the job audits, the Auditor shall witness the generation of saturation curve data and verify that the following are correct.			
10.7.6.1	Does the generation of the saturation curve correctly follow the Customer requirement?	YES	NO	
10.7.6.2	Have the intensity requirements been met?	YES	NO	
10.7.6.3	Are the Almen holder, masking fixture, and the rotary flap tool in useable condition as applicable?	YES	NO	
10.7.6.4	Is the operator capable of identifying equipment malfunctions?	YES	NO	
10.7.6.5	Does the operator know how to proceed when there is an equipment malfunction or automatic shut down?	YES	NO	
10.8	Post Peening Inspection			
10.8.1	During the job audit, the Auditor shall witness the following post peening tasks.			
10.8.1.1	Did the operator and/or appropriate personnel demonstrate the ability to inspect a part for coverage using magnification and other inspection aids?	YES	NO	
10.8.1.2	Is final inspection for coverage and effectiveness of applicable masking performed?	YES	NO	NA
10.8.1.3	Did the operator and/or appropriate personnel inspect for coverage visually on all parts?	YES	NO	
10.8.1.4	Do the post-peening cleaning methods used conform to the Customer requirements?	YES	NO	NA

10.8.1.5	Were parts handled, stored, and transported in a manner to prevent damage?	YES	NO	
10.8.1.6	Did final inspection result in the proper disposition of the part(s) audited?	YES	NO	
10.8.1.7	Did an inspection check that the part is free from media debris (internal and external), masking residue, edge rollover, and handling damage and were appropriate actions taken?	YES	NO	
10.8.1.8	Is the traveler properly completed prior to the part continuing to the next operation or shipment to the Customer?	YES	NO	
10.8.1.9	When required, does the certification that is returned to the Customer meet the Customer requirements?	YES	NO	NA
10.8.1.10	(INFO) If YES record the Certification number here:			_____

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11.	JOB AUDIT #1			
11.1	Job Information			
11.1.1	Jobs should be chosen according to the NMSE Job Audit Selection Guideline.			
11.1.2	Complete the following and then check the Supplier's information (technique sheets, travelers) against the purchasing requirements.			
11.1.2.1	Job Identity/Number:	_____		
11.1.2.2	Technique ID:	_____		
11.1.2.3	Generic Part Description:	_____		
11.1.2.4	Part Number and Revision level (if applicable):	_____		
11.1.2.5	Immediate Customer:	_____		
11.1.2.6	End User (Prime) (If known):	_____		
11.1.2.7	Purchase Order/Revision Level:	_____		
11.1.2.8	Part Quantity:	_____		
11.1.2.9	Serial/Lot Numbers (if provided):	_____		
11.1.2.10	Start Date of Job:	_____		
11.1.2.11	Processing Specification and Revision Level:	_____		
11.1.2.12	Special Purchase Order Requirements:	_____		
11.1.2.13	Is the job audit part live production, demonstration or previously processed?	_____		
11.1.2.14	What Export Control Status did the Supplier identify the part as being?	_____		
11.1.2.15	What status did the Auditor(s) identify themselves as being in the opening meeting? (Restricted or Unrestricted)	_____		
11.2	Customer Requirements			
11.2.1	Are the engineering requirements provided from the purchase order, or in a variety of other forms, flowed down to the shop?	YES	NO	
11.2.2	Has the use of Flapper peening been approved by the Customer for this part/job?	YES	NO	NA
11.2.3	Are intensity and Strip Type flowed down to the shop floor?	YES	NO	

11.2.4	Are peening required areas, optional areas, and/or prohibited areas flowed down to the shop floor?	YES	NO	
11.2.5	Is the amount of part coverage flowed down to the shop floor?	YES	NO	NA
11.3	Implementation of Supplier Procedures			
11.3.1	Is the peening operation at this facility performed in the correct sequence as allowed by the traveler?	YES	NO	
11.3.2	Have the required Customer approval(s) been obtained for the current technique sheet?	YES	NO	NA
11.3.3	Are all operations, inspections, and tests performed prior to peening recorded on the traveler or electronic form, stamped, signed, or initialed and including date?	YES	NO	
11.3.4	If there are changes in travelers and/or technique sheets, are they approved and dated by authorized personnel?	YES	NO	NA
11.3.5	Do the personnel who are performing flapper peening operations and final inspections have the required training and qualification?	YES	NO	
11.3.6	Do the gages used to measure flapper speed have current calibration identification?	YES	NO	
11.3.7	Are gages that are not calibrated labeled as "reference only" or similarly marked?	YES	NO	NA
11.3.8	Is the operator capable of identifying equipment malfunctions?	YES	NO	
11.3.9	Does the operator know how to proceed when there is an equipment malfunction or automatic shut down?	YES	NO	
11.4	Pre-Processing			
11.4.1	Does the Supplier visually inspect the area to be peened for the absence of sharp edges, corrosion, contamination or damage prior to peening and were appropriate actions taken?	YES	NO	
11.4.2	Do the pre-peening cleaning methods used conform to the Customer requirements?	YES	NO	NA
11.4.3	During the job audit, the Auditor shall witness the following pre-processing tasks.			
11.4.3.1	Did the operator and/or appropriate personnel demonstrate proficiency in applying the masking requirements to the parts?	YES	NO	NA
11.4.3.2	Did the operator and/or appropriate personnel demonstrate proficiency in equipment and fixture usage?	YES	NO	

11.4.3.3	Did the operator and/or appropriate personnel demonstrate proficiency in the use of Almen gage and Almen strip?	YES	NO	
11.4.3.4	Did the operator and/or appropriate personnel demonstrate proficiency in the use of Almen strip fixtures?	YES	NO	
11.4.3.5	Did the operator and/or appropriate personnel demonstrate proficiency in calculating the resultant arc height (if pre-bow compensation method is used)?	YES	NO	NA
11.4.3.6	Did the operator and/or appropriate personnel demonstrate proficiency in understanding saturation curves and/or two point intensity verifications?	YES	NO	
11.5	Processing			
11.5.1	Are parts processed in accordance with a technique sheet?	YES	NO	
11.5.2	Does the technique sheet or traveler document all relevant operations performed by the operator?	YES	NO	
11.5.3	Does the Almen fixture being used provide the same number, type, location, and orientation of the Almen strips as described in the technique sheet?	YES	NO	NA
11.6	Technique Sheet and Shop Floor Discipline			
11.6.1	Is the job audit part number specified on the technique sheet and correctly followed in production?	YES	NO	
11.6.2	Is the job audit technique sheet revision controlled and correctly followed in production?	YES	NO	
11.6.3	Is the rotary flap speed setting (RPM) identified on the technique sheet and being followed in production?	YES	NO	NA
11.6.4	Are approvals from both Supplier and Customer on the job audit technique sheet and does the technique sheet have required approvals?	YES	NO	NA
11.6.5	Are part specific tooling and fixtures identified on the technique sheet and correctly followed in production?	YES	NO	
11.6.6	Are Almen fixtures identified on the technique sheet and correctly followed in production?	YES	NO	
11.6.7	Is part masking identified on the technique sheet and correctly followed in production?	YES	NO	NA
11.6.8	Is the identification of peening equipment listed on the technique sheet and correctly followed in production?	YES	NO	

11.6.9	Is the part peening time listed on the technique sheet and correctly followed in production?	YES	NO	NA
11.6.10	Is the Almen strip peening time listed on the technique sheet and correctly followed in production?	YES	NO	NA
11.6.11	Is the required intensity and test strip type listed on the technique sheet and correctly followed in production?	YES	NO	NA
11.6.12	When specified, is the amount of coverage listed on the technique sheet and correctly followed in production?	YES	NO	NA
11.6.13	Are the rotary peening flaps listed on the technique sheet and correctly followed in production?	YES	NO	
11.6.14	Does the Supplier documentation include intensity substantiation data for this job?	YES	NO	
11.6.15	Are the intensity verification tests performed at required intervals?	YES	NO	
11.7	Process Validation			
11.7.1	Does the Supplier documentation include intensity substantiation data for this job?	YES	NO	
11.7.2	Are the intensity verification tests performed at required intervals?	YES	NO	
11.7.3	Does the Supplier process substantiation data include appropriate actions (e.g. accept/reject) based on the job audit Almen strip readings?	YES	NO	
11.7.4	Verify the following values for two Almen locations or if applicable a single location at two times for the job audit part.			
11.7.4.1	Are the observed Almen strip identification (location) used to verify the intensity correctly located?	YES	NO	
11.7.4.2	Is the observed Almen strip type (A, C, or N) used to verify the intensity correct?	YES	NO	
11.7.4.3	Is the observed intensity value compliant to the Customer intensity requirement?	YES	NO	
11.7.4.4	Is the observed intensity verification range compliant to requirements?	YES	NO	
11.7.4.5	Is the observed initial Almen reading compliant to requirements?	YES	NO	
11.7.4.6	Is the observed intermediate Almen reading compliant to requirements?	YES	NO	NA
11.7.4.7	Is the observed final Almen reading compliant to requirements?	YES	NO	NA

11.7.5	During the job audit, the Auditor shall witness the following processing tasks.			
11.7.5.1	Did the responsible personnel demonstrate proficiency in the equipment and fixture usage?	YES	NO	
11.7.5.2	Did the responsible personnel demonstrate proficiency in the use of an Almen gage and Almen strip?	YES	NO	
11.7.5.3	Did the responsible personnel demonstrate proficiency in the use of Almen strip fixtures?	YES	NO	
11.7.5.4	Did the responsible personnel demonstrate proficiency in determining intensity using arc height conversion?	YES	NO	
11.7.5.5	Did the responsible personnel demonstrate proficiency in understanding saturation curves?	YES	NO	
11.7.6	For one of the job audits, the Auditor shall witness the generation of saturation curve data and verify that the following are correct.			
11.7.6.1	Does the generation of the saturation curve correctly follow the Customer requirement?	YES	NO	
11.7.6.2	Have the intensity requirements been met?	YES	NO	
11.7.6.3	Are the Almen holder, masking fixture, and the rotary flap tool in useable condition as applicable?	YES	NO	
11.7.6.4	Is the operator capable of identifying equipment malfunctions?	YES	NO	
11.7.6.5	Does the operator know how to proceed when there is an equipment malfunction or automatic shut down?	YES	NO	
11.8	Post Peening Inspection			
11.8.1	During the job audit, the Auditor shall witness the following post peening tasks.			
11.8.1.1	Did the operator and/or appropriate personnel demonstrate the ability to inspect a part for coverage using magnification and other inspection aids?	YES	NO	
11.8.1.2	Is final inspection for coverage and effectiveness of applicable masking performed?	YES	NO	NA
11.8.1.3	Did the operator and/or appropriate personnel inspect for coverage visually on all parts?	YES	NO	
11.8.1.4	Do the post-peening cleaning methods used conform to the Customer requirements?	YES	NO	NA

11.8.1.5	Were parts handled, stored, and transported in a manner to prevent damage?	YES	NO	
11.8.1.6	Did final inspection result in the proper disposition of the part(s) audited?	YES	NO	
11.8.1.7	Did an inspection check that the part is free from media debris (internal and external), masking residue, edge rollover, and handling damage and were appropriate actions taken?	YES	NO	
11.8.1.8	Is the traveler properly completed prior to the part continuing to the next operation or shipment to the Customer?	YES	NO	
11.8.1.9	When required, does the certification that is returned to the Customer meet the Customer requirements?	YES	NO	NA
11.8.1.10	(INFO) If YES record the Certification number here:	_____		

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