



**NET SHAPED  
SOLUTIONS**

COLD FORGED PERFORMANCE

# Supplier Manual

**Net Shaped Solutions**

**Supplier Manual**

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## ***Net Shaped Solutions***

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#### ***The Net Shaped Solutions - Supplier Relationship***

Net Shaped Solutions (NSS) is committed to maintaining its position as a Global Leader within the automotive and manufacturing sector. We will continue to be the supplier of choice to our customers, through continued leadership and excellence in innovation, technology, cost, quality and delivery. Recognizing the integral role that each supplier has in the value chain, it is our intent to establish strategic, long-term relationships to bring lasting value and benefit. Those suppliers demonstrating the desire and ability to support us through the appropriate engineering, quality and manufacturing disciplines focused on effective design validation, mistake-proofing, process controls, delivery, service and continual improvement will continue to share in this partnership.

The relationship between Net Shaped Solutions and its suppliers shall be managed to the highest degree of honesty, integrity and professionalism. Our standard of conduct will ensure that we consistently make our decisions based upon optimization of value and sound business principles. We will not allow any undue influence or inappropriate activity to compromise those decisions. We are committed to managing our supply base in a manner that continues to bring shared value, growth and reward.

In support of maintaining a professional business relationship with our suppliers, our Net Shaped Solutions Senior Management encourages an open door policy to facilitate discussion and resolution of issues through escalation, as appropriate.

#### ***Introduction***

Suppliers to Net Shaped Solutions are expected to understand and comply with conditions of business as described within this Supplier Quality Manual. These requirements are consistent throughout all our Divisions and Corporate entities of Precision Castparts Corp & Berkshire Hathaway and detail terms and conditions for doing business with Net Shaped Solutions, in addition to those other requirements as detailed in Purchase Orders, Terms & Conditions and similar documentation.

For purposes of clarification, or in cases of perceived contradiction, you are encouraged to contact the Supplier Quality or Purchasing Team within Net Shaped Solutions.

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#### **Net Shaped Solutions “Forever Requirements”**

The foundation of a good relationship with our supply base is premised on open, effective and proactive communication. The occurrence of non-conforming product, unauthorized changes or related supply or capability issues, present risk to both Net Shaped Solutions and to our Customer when not communicated and managed effectively. This risk also generates when these occurrences happen at your Tier 2, 3 or 4 suppliers or sub-contractors.

Our “Forever Requirements” are as follows:

1. Proactively communicate with NSS. Know when to raise the “red flag”.
2. Notify NSS of proposed material or process changes.
3. Notify NSS of proposed manufacturing location changes.
4. Notify NSS of potential supply and/or capability issues.

The intent of these requirements is to eliminate surprises and special cause events that can impact upon Net Shaped Solution’s Customer. The requirements include ALL suppliers and sub-contractors included as part of the process of manufacturing our components, and it is expected that you will manage your entire company and supply base with these principles. This will include but not be limited to Suppliers of raw material, component parts, machining functions and outside processing.

We consider these requirements as paramount in establishing a relationship of trust with our suppliers, and violation of any requirement will result in escalation to the NSS Purchasing Team and Senior Management within NSS. If deemed necessary, a Supplier’s ISO/IATF Registrar may be contacted or NSS may elect to send its own internal auditors to conduct a 2<sup>nd</sup> Party Audit of the supplier’s QMS at the Supplier’s expense. Continued non-compliance could lead to loss of business.

If you are uncertain as to whether or not Net Shaped Solutions should be notified, you are asked to contact Net Shaped Solutions for guidance.

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#### **1) Supplier Communication**

Net Shaped Solutions communicates to its suppliers in a variety of ways.

An essential ingredient to a successful partnership is clear, concise communication. At Net Shaped Solutions, our means of communicating direction, expectations and guidelines may include, but not be limited to:

- Purchase Orders
- General Terms and Conditions
- Supplier Performance Data
- Letter of Intent
- Sourcing Commitment Documentation
- Statement of Work
- Memos
- Scheduled Meetings
- Supplier Manual
- Drawings and Specifications
- Workmanship Standards / Samples provided at PPAP by suppliers

#### **2) Supplier Selection**

To become a supplier to Net Shaped Solutions, a Supplier Profile, the following is required.

All new suppliers are required to furnish the following or payment of product or services will not be rendered:

- 1) A Supplier profile consisting of general information and company contacts
- 2) A Confidentiality agreement (NDA)
- 3) A Completed supplier assessment
- 4) A Supplier acknowledgement form (on last page of this manual).
- 5) W-9

Once these documents have been completed, Net Shaped Solutions will complete the “*Supplier-Assessment*” as appropriate. Business cannot be awarded to a potential new supplier, unless Net Shaped Solutions has completed the Supplier Assessment and all documents are received from the supplier.

In those cases where sources are directed by Net Shaped Solutions Customer, for a specific part or commodity, any and all directed sources shall be obligated to meet all requirements as detailed within this Supplier Manual.

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#### **Current Suppliers**

Current Suppliers listed within Net Shaped Solutions Supplier Management, must continue to meet performance objectives of Net Shaped Solutions. Supplier performance will be monitored as specified in the “Supplier Performance Monitoring / Evaluation” section whereby these performance measures will serve as the basis for future sourcing decisions.

#### **ISO/IATF16949 Certification**

As specified by ISO/IATF “Latest Revision”, Net Shaped Solutions shall perform supplier quality management system development with a plan for each supplier to achieve conformity to ISO9001 or IATF 16949. At a minimum the ultimate goal for each supplier must be registration to ISO9001 or IATF 16949 by an accredited third-party certification body.

- In summary suppliers have three options for vendors supplying products or services to an ISO/TSIATF 16949 “Latest Revision” registered organization;
  1. The vendor must have a valid accredited ISO 9001 “Latest Revision” or
  2. The supplier organization must have a second party audit against the requirements of ISO 9001 “Latest Revision”, or
  3. The supplier organization must obtain a waiver authorizing them to provide products or services if they do not satisfy either condition outlined above.

Note: The prioritization of suppliers for development depends upon, for example the supplier’s quality performance and the importance of the product supplied and risk rating.

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#### ***3) Purchasing***

##### ***Purchase Order***

Net Shaped Solutions will issue purchase orders to suppliers for awarded programs from the Purchasing Department providing the following information pertaining to Supplier conditions, requirements, and responsibilities:

- Pricing
- Packaging (Expendable and Returnable)
- Timing
- Freight and Customs
- Pre-Production Activity
- Cost Reduction
- Currency

It is Net Shaped Solutions intent that the supplier be the product supplier for the life of the product provided the supplier meets commercial, design, program support, quality, and delivery requirements.

Where Net Shaped Solutions or NSS customer dictated product changes necessitate adjustments to the purchase order, the Supplier will be required to re-quote such adjustments.

Suppliers will be required to conform to Net Shaped Solutions and/or NSS customer documentation and audit requirements. Net Shaped Solutions reserves the right to audit costs incurred by the Supplier in support of awarded products. Such an audit may include, but not be limited to, a review of quotes, purchase orders, invoices, and other documentation.

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#### ***Product Changes***

Net Shaped Solutions will not accept cost increases due to process-oriented developmental changes that are necessary to meet the product requirements. Suppliers will be reimbursed only for approved costs associated with product changes mandated by Net Shaped Solutions or NSS customer.

If Net Shaped Solutions initiates product changes that result in reduced production tooling or manufacturing costs, Net Shaped Solutions would expect piece price and/or tooling costs to be reduced to reflect the entire amount of the reduction.

#### ***Quotation Response Requirements***

Net Shaped Solutions communicates product change request information to the supplier. Suppliers are expected to respond to Net Shaped Solutions by the due date in the change request.

#### ***Manufacturing Process***

If the supplier's manufacturing process assumptions are based on new technology, or processes new to the supplier, they must document how and when the processes will be proven out prior to production launch. The validation of the process must provide for the manufacture of a sufficient quantity of parts so that your production launch curve is based on the experience of the validation program rather than unproven assumptions.

If a validation program cannot be accomplished, the supplier must detail a back-up manufacturing plan based on proven processes. The back-up plan would be implemented if problems were encountered in the launch of the new technology or processes that may jeopardize supply of products to Net Shaped Solutions.



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#### **4) Supplier Performance Monitoring**

Supplier performance is monitored via Net Shaped Solutions *Supplier Performance Management Report*. Scorecards will be issued on a bi-annual basis. Performance ratings are based on the following:

| <b>QUALITY RATING CRITERIA</b>          |                             |                     |
|---|-----------------------------|---------------------|
| <b>Criteria</b>                         | <b>Deductions</b>           | <b>Max Demerits</b> |
| NSS Customer Issues                     | -5 each issue (-10 Repeat)  | 25                  |
| NSS Issues                              | -2 each issue (-5 Repeat)   | 25                  |
| Responsiveness (CAR etc)                | -5 ea late or rejected CAR  | 25                  |
| PPAP Performance                        | -1 ea late or not submitted | 7                   |
| PPM                                     | -1 each 25 over 50          | 12                  |
| 3 <sup>rd</sup> Party QMS certification | -1 ea Requirement lacking   | 6                   |

#### **(Contribution to Overall Rating = Score X 0.5)**

|   |   |
|---|---|
| NSS Customer Issues                     | Any Prototype, Pre-Launch, Launch, Production or Service Quality issues incurred by Net Shaped Solution's NSS Customer attributable to a supplier caused or related issue.  |
| NSS Issues (Internal)                   | Any Prototype, Pre-Launch, Launch, Production or Service Quality issues incurred by Net Shaped Solutions attributable to a supplier caused or related issue.  |
| CAR Responsiveness                      | Supplier responds to a Net Shaped Solutions request for corrective action report (CAR), for a quality discrepancy, within the specified timeframe. Initial response is to be received within 24 hours and a Permanent Corrective Action is to be received within 15 working days.                       |
| PPM                                     | The total parts per million based on rejects from Net Shaped Solutions. Calculation is based on actual number of parts or items rejected against the total number of receipts for that part.  |
| PPAP Performance                        | PPAP submissions that are submitted past the Program Date as reflected in the Net Shaped Solutions APQP process.<br><br>PPAP submissions that are rejected by Net Shaped Solutions for reasons including but not limited to incomplete, insufficient data, incapable processes, dimensional errors etc. |
| 3 <sup>rd</sup> Party QMS Certification | Supplier has a valid ISO 9001 or IATF16949 or VDA "Latest Revision" Certificate as issued by an accredited Registration Body. The Supplier has the responsibility to report to Net Shaped Solutions, any revocation or probation extended against the registration.                                     |

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**DELIVERY RATING CRITERIA**

| <b>Criteria</b>           | <b>Deductions</b>            | <b>Max Demerits</b> |
|---------------------------|------------------------------|---------------------|
| On Time/Premium Freight   | -5 per late shipment         | 50                  |
| Responsiveness (CARs etc) | -5 per late or no response   | 25                  |
| Compliance                | -5 truck – label - paperwork | 25                  |

**(Contribution to Overall Rating = Score X 0.3)**

On-Time Delivery/Premium Freight    Prototype, Pre-production and Production shipments are received at Net Shaped Solutions, utilizing normal production freight (no premiums).

CAR Responsiveness    Supplier responds to Net Shaped Solutions request for corrective action, for a shipping discrepancy, within the specified timeframe. Initial response is to be received within 24 hours and a Permanent Corrective Action (Plan) is to be received within 15 working days.

Label/Packaging Compliance    Packaging and labeling on all prototypes, production and service product must be labeled as per AIAG specifications and requirements as defined by Net Shaped Solutions.

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**SERVICE RATING CRITERIA**

| <b>Criteria</b>             | <b>Deductions</b>              | <b>Max Demerits</b> |
|-----------------------------|--------------------------------|---------------------|
| Communication/Documentation | -5 per issue                   | 20                  |
| Cost                        | 50 if constant -25 if increase | 75                  |
| Compliance                  | -5 if non-conforming to terms  | 10                  |

**(Contribution to Overall Rating = Score X 0.2)**

**Document Compliance**

Supplier has met requirements for completion of documentation required by NSS including Request for Quotes, Purchase Order acknowledgement, Shipping Orders etc. and communication is consistent to NSS.

**Cost**

Supplier keeps cost consistent = +50 pts  
Supplier increases cost = 25 points  
Supplier decreases cost = 25 points

**Compliance**

Supplier is compliant with terms and conditions and any other designated requirement from NSS.

Supplier performance data is monitored and will be integral to sourcing decisions. In the event a Supplier exhibits chronic performance issues, or systemic deterioration of key performance metrics, they may be requested to meet with Net Shaped Solutions' top management. It will be incumbent upon the Supplier Senior Management to present to its plan to address the deteriorating or unacceptable performance.

|              |         |                                       |
|--------------|---------|---------------------------------------|
| Premier      | 90+     | Will receive RFQ for all new business |
| Preferred    | 75 - 89 | May receive new business              |
| Probationary | 60 - 74 | Not eligible for new business         |
| Problem      | <60     | May lose existing business            |

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#### ***5) Supplier Continual Improvement***

Net Shaped Solutions promotes the effective use of statistical applications and we direct that our Suppliers monitor the performance of their processes, through appropriate techniques including Pp, Ppk, Cp and Cpk. Statistical tools, when combined with Process Audits, shall provide the data necessary to support continual improvement. Evidence of these activities shall be supported by maintaining records for a two-year period, at a minimum, or as otherwise dictated by Record Retention Policy. Records shall be available for review by Net Shaped Solutions, upon request.

#### ***6) Control of Inspection Fixtures, Measuring/Test Equipment***

##### ***Monitoring***

The supplier must have a documented system in place to control, calibrate, and maintain the proper function and an accepted level of gage repeatability and reproducibility of all inspection fixtures, measuring / testing instruments and equipment.

##### ***Updating Instructions***

Operator instructions must be displayed at every inspection station with a gage, describing the proper methodology for use in inspection. These instructions must include a reference to the gage identification number, and revision level, and be approved by appropriate plant management. Whenever there is any change to the inspection procedure that affects the use of the gage, or when any identification information is revised, the operator instructions must be updated to reflect the current status.

##### ***Calibration***

Measuring equipment shall be calibrated or verified at specified intervals. The calibration certificate must be on file at the supplier's facility, and be traceable to the actual gage identification information. Internal and external calibration services must have a defined Lab Scope and be accredited to ISO/IEC 17025 or national equivalent or be approved by Net Shaped Solutions.

##### ***Equipment Identification***

All gages and test equipment must have an identification tag affixed reflecting the gage identification number, the gage revision level, the last calibration date, the calibration expiration date and OEM owned checking fixture (clearly & permanently indicated).

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#### **Inspection, Measuring, and Test Equipment Records**

Records must include any revision information, traceable to the part revision level, demonstrating conformance to applicable standards, the OEM customer specific requirements, and corrective action taken where applicable.

#### **Measurement System Analysis**

Gage R&R acceptance criteria must conform to the requirements of the latest released edition of the AIAG Measurement System Analysis manual.

#### **Record Retention**

Suppliers are expected to maintain applicable retention periods as specified in applicable standards, unless superseded by legal, governmental, Net Shaped Solutions or Customer Specific Requirements.

#### **Geometric Dimensioning and Tolerance (GD&T)**

Suppliers are expected to build to meet the customer's engineering specifications, unless superseded by a NET SHAPED SOLUTIONS GD&T.

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#### ***7) Packaging & Labeling***

##### ***Returnable Containers***

Returnable containers are the primary packaging method considered on new programs.

Any inquiries regarding packaging may be submitted to the Packaging Engineer or buyer at Net Shaped Solutions. Any deviation from agreed upon packaging shall be signed off by NET SHAPED SOLUTIONS Materials Manager or Buyer.

##### ***Labeling***

All materials for prototype or production consumption, shipped to Net Shaped Solutions, must be identified with human-readable tags or labels.

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#### **8) APQP**

An APQP kick-off meeting (or call – when appropriate) will be scheduled upon business award to an NSS sub-supplier. Personnel representing the Supplier program management and quality assurance shall participate to discuss APQP requirements, timetables, and contacts for the project. All immediate technical concerns must be addressed at this time. For material and heat treat or plating processes this can be accomplished by a conference call between NSS & the supplier.

The PPAP submission is a validation of the production process. The expectation is that by the PPAP date all issues are resolved. PPAP dates are determined between the supplier and NET SHAPED SOLUTIONS. If the supplier is unable to meet the PPAP date determined, the supplier is required to notify NET SHAPED SOLUTIONS as soon as they are aware of timing issues – but at least one week prior to due date.

It is the responsibility of all suppliers to ensure that 'their' subcontractors are meeting similar expectations and requirements as well.

Production Suppliers (Machining etc) must submit Level 3 PPAP requirements, as defined in the APQP, unless specifically directed otherwise by Net Shaped Solutions. Material – Heat Treat & Plating are expected to submit PPAP for their process or material and Heat Treat is expected to submit hardness testing of 10 random pieces (report average) and documented microstructure of 3 pieces (with photos). Process suppliers are required to have the appropriate CQI assessments submitted annually to NSS.

All suppliers shall maintain annual validation PPAP, as determined by the date of the latest PPAP submission date.

For directed suppliers by NSS' customers, prior approvals by previous customers does not negate the need for initial submission or for annual validation, to Net Shaped Solutions.

For dimension or product requirements that do not meet specification, the Supplier shall obtain approval as documented on a *"Supplier Request for Deviation or Change"* (SDRC) prior to submitting PPAP. The signed authorization must be included in the submission. Failure to comply will result in rejection of the PPAP Submission.

A Corrective Action Report will be required for PPAP submissions that are:

- Rejected for non-compliance
- Rejected for non-conformance

Critical characteristics shall be identified either on the part drawing, or on separate documents – such as Quote & PO. Suppliers shall be required to establish, validate and maintain acceptable short and long-term capability on all critical characteristics. Net Shaped Solutions will communicate the appropriate method of critical characteristic designation (SC, CC, G etc.)

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- Run-at-Rate (R@R)

All production processes are required to have a completed Run-at-Rate package submitted with the PPAP. Depending upon the level of risk associated with the Supplier and Part Number, the R@R may be observed, on site, by Net Shaped Solutions.

If deemed to be low risk, by Net Shaped Solutions, the Supplier will complete the R@R without the presence of a Net Shaped Solutions representative.

Run-at-Rates must be conducted on the production process. The OEE results of the R@R must be "0" or "Positive". Submission of a "Negative" OEE result, without an approved Corrective Action Plan, will result in rejection of the PPAP.

- Lubricants

The presence of oxidation, resulting in rust on any raw material and/or component part is unacceptable.



**9) Early Production Containment**

The purpose of Early Production Containment is to document the supplier's efforts to gain control of its processes during start-up and acceleration, so that any issues that may arise are quickly identified and corrected. This can be waived by NSS if determined that the process is matured on prior product.

The supplier **MUST** develop a system to verify and certify every shipment during the launch period until 90 days of defect free product is obtained. This may include but not limited to:

- Visual (100%) –
- Dimensional – at a minimum 3 piece layout per shipment per part number is required. Supplier shall define characteristics & method in the control plan.
- Containment Records – must be maintained throughout the launch (available upon request).
- Product during the launch period will be classified as “Certified Material”, and shall be identified as such;

Issues during this period and regular production activities shall be controlled by a Quality Alert. If the supplier is issued a Quality Alert during the launch period – that information shall be added to the containment inspection criteria. The QA number and brief description shall be added to the certified material tag.

Failure to contain issues during the launch period will result in immediate 200% containment at the Suppliers expense. The supplier will be issued a Supplier Chargeback, in which the supplier is required to review, sign and send back to NET SHAPED SOLUTIONS. Failure to resolve nonconforming product issues which result in recurrences and/or process downtime could result in 3<sup>rd</sup> party containment in the Suppliers facility, at the Suppliers expense. The 3<sup>rd</sup> party would certify product before shipment to NET SHAPED SOLUTIONS, until permanent countermeasures are proven effective.

The period for Early Production Containment will be specified by quantity or a time period and shall be communicated from the Net Shaped Solutions Quality team.

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#### ***10) Materials Planning***

Suppliers will be issued production material requirements weekly at a minimum, or as need dictates. It is the responsibility of the Supplier to immediately contact Net Shaped Solutions in the event they are unable to meet any specified delivery date, time, quantity and quality.

#### ***Forecasting***

Material forecasting information will be communicated to the suppliers.

Suppliers need to maintain an effective contingency plan, in order to mitigate undue risk to Net Shaped Solutions, in the event of utility or labor disruption or equipment failure or natural disaster. The intent of the contingency plan is to reasonably protect NSS from disruption of supply in the event of an emergency.

#### ***Service Parts Requirements***

Suppliers with production contracts with Net Shaped Solutions, must maintain the ability to provide after-market and service components for a period of ten years, following the end of program or production for individual components or assemblies, or for such longer or shorter period of time as stipulated by Net Shaped Solutions respective customer for the part, if so communicated to the Supplier. The Supplier has the responsibility to maintain any tooling and/or assembly equipment in condition sufficient to support service requirements. Service schedules and pricing shall be determined in negotiation with Net Shaped Solutions.

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**11) Transportation**

It is important that our suppliers are aware of transportation and delivery requirements, as it is one of the key performance metrics upon which they will be assessed. Net Shaped Solutions supports the industry initiative of inventory reduction, recognizing however the importance this places on accurate and timely delivery of quality product. It is our expectation that suppliers will deliver 100% on time to our locations.

Schedules, Routings & Carriers

All trucking, routing & delivery schedules will be set up thru NET SHAPED SOLUTIONS Materials and/or Purchasing Department prior to the first shipment.

Late Deliveries

It is the supplier's responsibility to meet scheduled requirements per release. If Supplier fails to meet scheduled requirements, it will be the Supplier's responsibility to schedule logistics/expedite in order to prevent production line interruption. If supplier fails to meet the scheduled requirements by due date, then any and all costs incurred as a result of a line interruption will be clearly the responsibility of the supplier and shall be recovered from the supplier.

Packing Slips & Documentation

It is a requirement that all material shipped be identified on a Packing Slip or Bill of Lading and tag. While specifications may differ, the information typically required includes:

- Shipment date
- Invoice/Packing Slip number
- Address Sold to
- Address Shipped to
- Individual line item for each part number shipped
- Part Number and Part Description
- Purchase Order number, for each part number
- Order release number
- Quantity ordered & Quantity shipped
- Number of cartons/skids/containers shipped
- Total number of cartons/skids/weight

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#### **12) Corrective Action Reporting.**

This system is designed to prevent the use of suspect and/or nonconforming purchased material. Purchased components found to be nonconforming through either line rejections, testing failures, failed inspection results, customer concerns, warranty and customer returns or obsolete material are handled through the following procedure:

- Supplier will be notified of the concern via telephone and/or electronically. All relevant containment actions will be handled within twenty-four (24) hours at supplier cost
- Supplier will acknowledge receipt of the issue
- Quality CAR's will be reflected on the supplier ratings

**(Note:** Should a response not be received from a supplier, any stated charges associated with the notice will be considered accepted by the supplier.)

- A corrective action (CAR's) report is required to address the concern and must be received within the following time frames:
  - Initial response within 24 hours describing containment.
  - 15-working days (unless otherwise approved) for completed CAR's.

**(Note:** The CAR's must be received, citing as a minimum; containment actions, root cause(s) analysis and permanent/preventative actions planned as well as verification of the above.)

Terms (length of time charges can be applied and factors such as sort costs and methods of calculation) of any costs charged to the supplier as a result of a quality concern are determined by the Net Shaped Solutions Quality Team.

Charges that could be applied to a quality concern are as follows:

- NSS sort of supplier product at our plant until certified stock arrives
- Production line shutdown
- Finished product sort and/or scrap of material
- Any material transfer of nonconforming supplier product
- Quality Department time for problem investigation
- Testing if required
- Any sort/rework charges incurred by Net Shaped Solutions from external etc.
- Related transportation expenses
- Any costs incurred by the Net Shaped Solutions for disruption of customers

All charges incurred by the supplier will be discussed and approved through the Quality & Purchasing Personnel of Net Shaped Solutions and then presented to the supplier.

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The supplier will receive notification of the chargeback's through a Supplier Chargeback Form. Supplier must dispute charges in 10 working days or NSS will automatically consider charges accepted.

It is the responsibility of the supplier to notify Net Shaped Solutions in the event that there is reason to believe that a nonconforming condition exists in Quality, Delivery, Warranty or other.

Notification must be followed by:

- Immediate action within 24 hours (e.g., new materials, etc.)
- Interim corrective action, containment; response time of 24 hours

#### ***Controlled Shipping***

When directed by the Net Shaped Solutions, suppliers may need to certify product after a lot rejection has occurred, at the Supplier's Expense. Usually, two types of controlled shipping actions are employed when this situation occurs:

- Supplier conducted sort and certification of subsequent part shipments, and
- Third party sorting and certification

All controlled shipping actions are the responsibility of the supplier to coordinate and follow-up on. Parts supplied to Net Shaped Solutions must meet released quantities without supply interruption.

The supplier and Net Shaped Solutions will, mutually, define the certified material identification.

Corrective Action Reports will be issued for both non-complying material as well as non-compliance to requirements and standards. Repeat Non-Compliance Reports for the same failure modes may be charged double the normal Administration Fee.

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**13) Engineering Changes**

Suppliers are required to obtain approval prior to shipping any material for which a deviation from specification is required. The supplier shall submit a Deviation Request to Net Shaped Solutions, detailing the required deviation(s). Once approval is received the SDRC should be forwarded to the Net Shaped Solutions Quality group.

Material can be shipped only after an Accepted Deviation number has been issued. The AD number must be indicated clearly on all shipments of material.

FIRST SHIPMENTS OF ALL MODIFIED PRODUCT MUST BE CLEARLY IDENTIFIED AS DIRECTED BY NET SHAPED SOLUTIONS.

**14) Lot Traceability**

The supplier shall follow Net Shaped Solutions traceability method. Material must be traceable from receipt of raw material, to each processing stage and through final assembly and shipping to Net Shaped Solutions and our customer.

A container should contain a specific quantity of parts and lots/heats should be kept separate during processing.

Other documented methods of lot control may be submitted for Net Shaped Solutions approval.

The supplier shall ensure implementation and management of an effective FIFO method of stock rotation.

Failure to comply with traceability requirements may lead to rejection of material and issuance of non-conforming material reports. Traceability Records shall be maintained and accessible for the life of the product, including Service, plus one year. Certain traceability record retention deviations can be obtained only if received in writing from your Net Shaped Solutions.

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#### ***15) Confidentiality and Non-Disclosure***

Suppliers are reminded that all engineering and purchasing information generated as a result of business with Net Shaped Solutions, is strictly confidential. Suppliers are prohibited from sharing any Net Shaped Solutions technical or cost data without prior, written authorization from their Purchasing Buyer.

Suppliers are required to sign the Net Shaped Solutions Non-Disclosure Agreement (NDA) prior to business award.

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#### ***Associated Business Conditions***

Additional situations may arise, from time to time, that are not specifically addressed in other sections of this manual. They will be noted in this section.

- Net Shaped Solutions and its customers expect to have access to supplier facilities and records at reasonable times for the purposes of surveys, assessments, inspection of goods and associated control systems.
- Suppliers must be willing to extend the benefits of cost reduction efforts with Net Shaped Solutions.
- It is expected that a target for compliance of zero discrepancies be set for all goods and services to be supplied to Net Shaped Solutions.
- Warrants and certification requirements will be stated on Net Shaped Solutions purchase orders. Independent annual validations for raw material are to be carried out by an accredited testing facility and be Independent if required by Net Shaped Solutions.
- Suppliers will be held accountable for warranty costs due to negligence, and/or process issues.
- The ability or willingness of suppliers to provide additional documents upon request by Net Shaped Solutions Purchasing Department will be taken into account during the supplier selection process.
- Suppliers will be accountable for all costs associated with an interruption in material supply to Net Shaped Solutions resulting in a shutdown, due to labor, utility disruptions or equipment failures. All suppliers must have a contingency plan to mitigate risk.





**ACRONYMS**

|                 |   |
|-----------------|---|
| <b>AD</b>       | <b>ACCEPTED DEVIATION/CHANGE</b>                      |
| <b>AIAG</b>     | <b>AUTOMOTIVE INDUSTRY ACTION GROUP</b>               |
| <b>APQP</b>     | <b>ADVANCED PRODUCT QUALITY PLANNING</b>              |
| <b>ASME</b>     | <b>AMERICAN SOCIETY OF MECHANICAL ENGINEERS</b>       |
| <b>ASN</b>      | <b>ADVANCED SHIPPING NOTICE</b>                       |
| <b>CAR</b>      | <b>CORRECTIVE ACTION REQUEST</b>                      |
| <b>EDI</b>      | <b>ELECTRONIC DATA INTERCHANGE</b>                    |
| <b>FIFO</b>     | <b>FIRST IN, FIRST OUT</b>                            |
| <b>GD&amp;T</b> | <b>GEOMETRIC DIMENSION &amp; TOLERANCING</b>          |
| <b>IMDS</b>     | <b>INTERNATIONAL MATERIAL DATA SYSTEM</b>             |
| <b>JIT</b>      | <b>JUST IN TIME</b>                                   |
| <b>OEE</b>      | <b>OVERALL EQUIPMENT EFFECTIVENESS</b>                |
| <b>PPAP</b>     | <b>PRODUCTION PART APPROVAL PROCESS</b>               |
| <b>QA</b>       | <b>QUALITY ALERT</b>                                  |
| <b>R@R</b>      | <b>RUN-AT-RATE</b>                                    |
| <b>RFQ</b>      | <b>REQUEST FOR QUOTE</b>                              |
| <b>SDRC</b>     | <b>SUPPLIER REQUEST FOR DEVIATION OR CHANGE</b>       |
| <b>WHMIS</b>    | <b>WORPLACE HAZARDOUS MATERIAL INFORMATION SYSTEM</b> |

**CQI                    Continuous Quality Improvement**

- CQI-8 Process Layered Audit
- CQI-9 Heat Treat Assessment
- CQI-11 Plating System Assessment
- CQI-12 Coating System Assessment
- CQI-14 Consumer Centric Warranty Process
- CQI-15 Welding System Assessment
- CQI-17 Soldering System Assessment
- CQI-19 Sub-Tier Supplier Management Process Guideline
- CQI-20 Effective Problem Solving Practitioner Guide
- CQI-21 Effective Problem Solving Leader Guide
- CQI-22 Cost of Poor Quality Guide
- CQI-23 Molding System Assessment
- CQI-27 Casting System Assessment

***Net Shaped Solutions***

***Supplier Manual***

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**APPENDIX A – FORMS**

| <b>FORM TITLE</b>                       | <b>PAGE</b> |
|---|-------------|
| <b>1. SUPPLIER ACKNOWLEDGEMENT FORM</b> | <b>33</b>   |

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**SUPPLIER ACKNOWLEDGEMENT FORM**



Net Shaped Solutions, as a world-class production plant is dedicated to the manufacturing of a defect free part. As a supplier to Net Shaped Solutions, you are an intricate part of this process.

One of the key steps to the success of any process is a clear understanding by all players involved, as to what their part is in obtaining and maintaining this objective. Please review the Net Shaped Solutions Supplier Quality Assurance Requirements Manual to gain a complete understanding of Net Shaped Solutions' expectations and their supplier's requirements in this objective.

Net Shaped Solutions requires all new or potential suppliers to complete this acknowledgement form along with Supplier Profile and return to them to the Net Shaped Solutions Quality Liaison within 10 days of receipt.

By signing this document, the supplier acknowledges that they have read, fully understand their obligations and will comply with all of the requirements as stipulated in the Net Shaped Solutions Suppliers Quality Assurance Requirements Manual.

Manual Distributed By: \_\_\_\_\_ Dated: \_\_\_\_\_

Supplier: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

Phone number: \_\_\_\_\_

Fax Number: \_\_\_\_\_

Supplier Quality Manual Revision Level: 01

Acknowledgement Signatures:

Supplier Quality Manager: \_\_\_\_\_ Dated: \_\_\_\_\_

Supplier Engineering Manager: \_\_\_\_\_ Dated: \_\_\_\_\_