



Achieving Supplier Quality Excellence

Approval(s): Supplier Quality Jeremy Billerbeck	Standard. No.: NA-ST-050
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INTRODUCTION / PURPOSE

Tower Automotive produces the largest array of structural products in the industry. We are the world's leading supplier of full frames and the leading supplier in North America of engine cradles and control arms. We are also committed to product leadership in modular vehicle structures, including body, chassis and suspension modules.

You can view our worldwide locations by referencing the Tower Automotive web page at http://www.towerautomotive.com/04_01.htm. Future growth leading to additional locations is projected through both acquisition and internal sales expansion.

It is the intention of Tower Automotive to define quality expectations that will apply to all Tower Automotive suppliers. Future changes to this manual will be communicated to the supplier with ample time allowed for implementation where necessary.

Clarifications:

- Tower Automotive has chosen not to use job titles but to define a colleague's relative position within the company by their functional responsibilities.
- ISO/TS 16949:2009 edition defines a supplier as one who supplies goods or services directly to an organization that supplies directly to DaimlerChrysler, Ford, General Motors, or other customers subscribing to these requirements. In this manual we will refer to these suppliers as suppliers to Tower Automotive.

The Tower Automotive Technical Center is responsible for initial supplier contacts, component quoting, prototypes and purchase orders. A Tower Automotive Business Unit is defined as a specific manufacturing location and is responsible for supplier releases and ongoing supplier quality.

SCOPE

The requirements contained within this manual supplement the requirements found in ISO/TS 16949:2009 and apply to all suppliers of raw materials, component parts, assemblies, outside processing and services provided to any facility belonging to Tower Automotive. All material shall be processed, controlled, inspected, and tested in accordance with ISO/TS 16949:2009 and the Tower Automotive specific requirements

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REVISION / CHANGE(S)

Updated Scoring information to include current practice of including responsiveness as part of scoring.

Created Incoming Quality Program Section 15.4 To Reflect TS-Requirements explained in 7.4.3.1 of the Technical Specification.

Eliminated References to ROR as it is no longer relevant.

Updated current TS version.

Added information on scoring for responsiveness (section 11 note F)

REFERENCED DOCUMENTS

- NA-ST-050A Supplier Initiated Engineering Change Approval Request (SIECAR)
- NA-ST-050B Supplier Profile
- NA-ST-050C Supplier Quality Assessment

SUPPLIER EXPECTATIONS

Clear communication of expectations and requirements is a critical element in any supplier – customer relationship. The Tower Automotive supplement to the ISO/TS 16949:2009 Quality Management System Requirements, titled "Achieving Supplier Quality Excellence", conveys Tower Automotive's quality expectations and provides a foundation upon which we (the supplier and Tower Automotive) can build the trust and teamwork necessary to ensure our long term mutual survival. Our performance expectations are:

- All suppliers are required to meet ISO/TS 16949:2009 Quality Management System requirements. At a minimum, suppliers must be certified to ISO 9001:2000 by an accredited third-party certification body.
 - 1) Suppliers who provide goods and services to OEM automotive customers as well as to Tower Automotive must conform to the requirement with regards to third party registration and meet all registration timing as defined by the OEM's.
 - 2) Those suppliers who do not supply the OEM's directly must demonstrate conformance to ISO/TS 16949:2009 by passing an audit conducted by a second or third party as determined by Tower Automotive. Assessment by an OEM or OEM approved second party is recognized as meeting the supplier

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compliance requirements. Registration is not required, but provisions must be made for routine follow up audits to insure continual compliance.

- 3) The supplier must assume full responsibility for the quality of their products and services; Tower Automotive can only assist the supplier in meeting this responsibility.
- Suppliers who perform heat-treat or supply product to Tower Automotive that is heat-treated, and is critical to the quality of the product Tower provides to its customers, must meet all requirements in the CQI-9 AIAG Standard. This provision is to satisfy Tower's customer requirements and may be waved at the OEM's discretion but not Tower Automotive's without the express permission from the customer through omission in the customer specific requirements or by written approval. Suppliers are responsible for providing the information required by CQI-9 for review by Tower Automotive.
 - Suppliers who perform plating or supply product to Tower Automotive that is plated, and is critical to the quality of the product Tower provides to its customers, must meet all requirements in the CQI-11 AIAG Standard. This provision is to satisfy Tower's customer requirements and may be waved at the OEM's discretion but not Tower Automotive's without the express permission from the customer through omission in the customer specific requirements or by written approval. Suppliers are responsible for providing the information required by CQI-11 for review by Tower Automotive.
 - Suppliers who perform coating or supply product to Tower Automotive that is coated, and is critical to the quality of the product Tower provides to its customers, must meet all requirements in the CQI-12 AIAG Standard. This provision is to satisfy Tower's customer requirements and may be waved at the OEM's discretion but not Tower Automotive's without the express permission from the customer through omission in the customer specific requirements or by written approval. Suppliers are responsible for providing the information required by CQI-12 for review by Tower Automotive.
 - All suppliers must meet 100% on time delivery on all supplied products and services.
 - Supplier errors in quality or delivery resulting in line disruptions to either Tower Automotive or any of our customers will result in cost recovery by Tower Automotive.
 - All suppliers must conform to the Tower Automotive specific requirements found in this manual.

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- Suppliers whose performance rating falls below 85% for an individual Business Unit may be removed from the Approved Supplier List and placed on probation (see 11.0). The rating system, as well as the effects of probation, will be covered in detail elsewhere in this manual.

Example:

90 - 100%	Green
71-89%	Yellow
< 70%	Red

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STANDARD

Supplier Quality Requirements

1.0 Advanced Product Quality Planning

- 1.1 The supplier is required to conduct documented Advanced Product Quality Planning (APQP) activities on all new products and major re-designs of existing products. The guide to be used in this process is the "Supplier APQP process" (NA-ST-054), standard published by Tower Automotive and any and all associated customer specific requirements.
- 1.2 Tower Automotive personnel to insure that the appropriate planning activities are taking place will evaluate the supplier's APQP activities at each gate during the process.

NOTE: All of the Tower Automotive facilities and all suppliers shall be required to maintain a controlled library of up-to-date revision levels of the AIAG manuals that will be reviewed on an annual basis.

2.0 Use of Statistical Process Controls

- 2.1 Tower Automotive expects all suppliers to be operating beyond the basic training and data gathering stages, and to be actively involved in statistically controlling processes. Alternate methods of control may be implemented once process capability and stability is proven. Tower Automotive expects aggressive corrective action on processes shown to be incapable, unstable, or off target.
- 2.2 The standard reference manual for the use of statistical methods is the joint AIAG/ASQ manual "Statistical Process Control". The application of any statistical tool must comply with the requirements set forth in that manual.
- 2.3 Statistical process controls are mandatory for those process parameters and product characteristics that are designated as significant characteristics on either Tower Automotive or customer supplied drawings and/or other media. Once the significant characteristics are determined, the supplier shall develop and retain appropriate statistical evidence to show control and continual improvement over time. The individual Tower Automotive Business Unit Quality Leader/Designee will determine the type of data required (Cp or Cpk) and the reporting frequency.

3.0 Drawing and Engineering Change Control

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3.1 It is the supplier's responsibility to produce materials that meet all engineering drawings and specifications supplied by either Tower Automotive or our customers. In order to maintain these quality expectations, the supplier shall establish and maintain a system to assure that only the latest applicable drawings and specifications are used. It is the supplier's responsibility to periodically review and verify that the latest copies of all applicable drawings and specifications are available and fully understood by those personnel responsible for assuring compliance with the requirements. At a minimum this review shall be conducted on a yearly basis.

3.2 Supplier requests for new drawings and proposed changes will be documented by completing NA-ST-050A, Supplier Initiated Engineering Change Approval Request (SIECAR) and be sent to affected Tower Automotive location. No change request is to be accepted or acted upon by the supplier unless the request is formally received in writing and is accompanied by the appropriate drawings and/or written specifications. If for any reason the availability of updated drawings is untimely, the supplier may proceed with the requested change if a marked, signed, and dated drawing is received. As the supplier is responsible for meeting all print requirements, any questions pertaining to the new requirements, such as unclear specifications, must be resolved prior accepting and implementing the change.

NOTE: Native CAD model is master.

4.0 Corrective Action Procedure

4.1 The supplier shall have a written corrective action procedure in place that responds to complaints received from any Tower Automotive location. To assure timely resolution of nonconformance issues, the supplier shall apply appropriate problem-solving techniques to identify root causes and implement permanent corrections. In addition, the supplier shall use statistical methods where applicable to verify that the corrective action implemented has corrected the problem and the process continues to produce material that is within specifications and the process is in control. Documentation required to record corrective action taken on customer complaints and internal failures are to be completed as follows.

4.2 When Tower Automotive has discovered nonconforming material and supplier responsibility has been verified through proper analysis, contact will be made with the supplier. A Supplier Quality Report (QR) will be issued to

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the supplier to document pertinent problem information. The QR form is designed to document initial supplier actions to identify, contain, and isolate the problem, disposition of nonconforming material on hand; probable cause, and dates corrected shipments can be expected.

4.3 The supplier will be required to submit a corrective action report if so directed by the receiving location Quality Leader/Designee. This report will be prepared utilizing the Supplier Response section of the QR form. The initial response must be returned within the time frame (within 24-48 hours) specified by the issuing location. In completing this report the following steps must be included and completely documented, with all appropriate records maintained.

- Hold and inspect all material
- Investigate the problem and the quality system to determine probable cause
- Conduct investigations and experiments until the root cause of the problem is identified
- Implement appropriate process or system corrective action to eliminate the root cause of the problem
- Develop a measurement system to verify the continued effectiveness of the corrective action implemented.

5.0 Request for Temporary Deviation

5.1 In certain instances, material that does not conform to all specifications may be fit for use if the nature of the nonconformance will not impact the fit, function, or appearance of the final product. Suppliers may submit a request for approval to use such material by requesting a Temporary Deviation Authorization using NA-ST-050A, Supplier Initiated Engineering Change Authorization Request form (SIECAR) from the affected Tower Automotive location. The supplier will complete the form and return it to the issuing location for approval. In all instances, a written corrective action plan must be prepared and attached to the request, describing steps taken to prevent a recurrence of the deviated condition.

5.2 Pending approval of the formal deviation request, the supplier is responsible for segregating the nonconforming material to prevent accidental shipment. If the deviation is granted, the supplier must abide by the conditions and limitations specifically stated in the deviation. When the affected material is

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shipped to Tower Automotive, it must be identified as changed or deviated material in a manner that is agreed upon by the Tower Automotive issuing location prior to shipment. Deviated material and accompanying shipping documents must be positively identified with the deviation number prior to shipment from the supplier's facility.

- 5.3 At the time the deviation is requested the supplier must be made aware that it will be expected to pay any costs incurred by Tower Automotive due to special processing, handling, or customer penalties caused by the use of material covered by any deviation.

IMPORTANT NOTE: All Sub-Suppliers are **REQUIRED** to collect data prior and after a change to assure change validation doesn't affect product. All Tower's Sub-Suppliers will resubmit a PSW after the implementation of the change. Tower's Plant Quality Manager and the Sub-Supplier will make the final determination on how many parts will be used for the collection of data.

6.0 Repair and Rework Procedures

- 6.1 Repair or rework to products within the supplier's plant have historically been shown to be a risk to quality; subsequently, any rework or repair operations being performed by the supplier requires the prior approval of Tower Automotive Business Unit(s).
- 6.2 Rework. Defined as action taken on nonconforming product so that it will meet the specified requirements. The supplier must develop written rework procedures to correct any product nonconformities that occur during production, and submit them to the using Business Unit for approval. Each rework procedure should include specific instructions on the rework method proposed and the method of identification of reworked parts. If the supplier is currently supplying identical part numbers to another customer, and has previously obtained approved written rework procedures from them, copies must be submitted for review and concurrence prior to the first shipment of reworked parts to all Tower Automotive using Business Units.

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6.3 Repair. Defined as action taken on nonconforming product so that the product will fulfill the intended usage although the product may not conform to the original requirements. The supplier must develop written repair procedures to correct any product nonconformities that occur during production and submit them through the receiving plant purchasing department for approval and conform to the requirements stated in Section 6.2 above. Before repaired parts can be shipped, the using Tower Automotive Business Unit must grant a Temporary Deviation Authorization.

6.4 Under no circumstances shall the supplier rework or repair parts or material and ship them to any Tower Automotive location without receiving prior written authorization from the receiving plant. Any parts shipped prior to obtaining the appropriate written approvals will be rejected and returned to the supplier at their expense. All costs incurred by Tower Automotive due to processing parts that have been repaired or reworked without obtaining the proper authorization will be the responsibility of the supplier.

7.0 Production Part Approval

7.1 Production Part Approval is a vital part of the customer-supplier relationship and, as such, should not be jeopardized through poor communication. Meeting sample dates is critical to the successful completion of all projects, therefore, due dates must be realistic, achievable, and jointly established. Any anticipated changes or delays in the agreed upon sample due date must be communicated to the Tower Automotive using location as soon as any potential problem is perceived by the supplier. No product is to be shipped unless PPAP approved by the Tower Automotive using location.

7.2 Tower Automotive will furnish the PPAP Requirements to each supplier upon award of contract on new parts. These requirements will either be a Customer format (ex: DCX PSO) or the Tower Automotive format as defined in "TAPAS" (NA-ST-052). The PPAP documentation should be indexed and tabbed in the same sequence as the requirements on the checklist and put into a manual. The PPAP Requirements Checklist should then be included in the submission package and will serve as the table of contents for the PPAP Manual. The agreed upon PPAP date along with the signatures of the APQ Team will be stated on this cover sheet.

7.3 The evaluation of production samples (PPAP) will be conducted in accordance with guidelines found in the joint AIAG/ASQ publication "Production Part Approval Process". Unless the supplier is specifically

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advised otherwise, the submission will conform to Level 3 requirements as defined on the Part Submission Warrant (CFG-1001). Evaluation of the samples will be at the supplier's location when required, with sample approval authority residing with Tower Automotive. If the same part is to be used at multiple Tower Automotive locations only one submission will be required. Sample submission must include completion of all required PPAP forms and requirements; a cross referenced marked drawing, and all properly identified layout samples. If conditions warrant, such as minor changes to existing parts, the decision may be made to have the supplier submit the samples and all appropriate documentation to the Tower Automotive receiving location in lieu of an on-site visit. The on-site evaluation or the request to send parts to Tower Automotive will be coordinated through the Tower Automotive receiving location.

- 7.4 When the supplier has successfully completed all required inspections and tests and the results indicate that the samples conform to all specifications, the supplier's Quality Manager must notify Tower Automotive of the supplier's readiness for sample submission and a firm date for evaluation established.
- 7.5 Sample approval is required whenever one or more of the following conditions occur:
- New tooling is made
 - Modifications are made to existing tooling
 - Existing tools are moved to a new manufacturing location
 - A significant change is made to the manufacturing process
 - A new sub-supplier or outside processor is introduced
 - A tool has been out of production for more than 12 months.
- 7.6 It will be the supplier's responsibility to notify the Tower Automotive using location well in advance if any such changes are anticipated. Full compliance to all of the production part approval requirements may not be necessary based on the significance of the proposed change.

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- 7.7 All samples are to be manufactured using production tooling and processes and taken from a significant production run with the specific quantity to be agreed upon by Tower Automotive Quality and Purchasing in advance. Typically the production run would be from one hour to one shift's production. When parts are produced from tooling containing duplicate fixtures or multiple cavity molds, dies, etc., dimensionally inspected parts from each must be submitted.
- 7.8 Missing submission dates, submitting samples that are found to be dimensionally incorrect, or having improper or incomplete documentation, are subject to rejection. The rejection of a sample, regardless of the reason, may result in the issuance of a QR against the supplier and may result in the supplier bearing the expense incurred to Tower Automotive to perform the PPAP. This rejection, if issued, will be included in the calculation of the Supplier Quality Rating.
- 7.9 Once Production Part Approval has been granted, the supplier is required to maintain one of the completely laid-out parts as a master for future reference when requested by the Tower Automotive receiving Business Unit. Tower Automotive will retain an additional part for comparison purposes and to verify part attributes at the time of sample approval when deemed necessary by the Quality Leader/Designee.
- 7.10 All production parts will be compared to the master sample in terms of visual acceptance. Any deviation from the original master sample is unacceptable.
- 7.11 The properly completed Production Part Approval must include all documentation referenced in the Retention/Submission Requirements Table of the AIAG Production Part Approval Process Manual.

8.0 Shipment of New or Changed Material

- 8.1 Shipments of new or changed material will not be accepted until the Tower Automotive receiving location has granted sample approval. Once approval is given, all initial shipments must be clearly identified in accordance with instructions obtained from the receiving plant Quality Leader/Designee. When the supplier's first regularly scheduled production lot has been produced, inspected, tested, and released for shipment, the supplier must notify the receiving plant Quality Leader/Designee that the first production parts or parts containing the change are ready for shipment.

9.0 Packaging and Labeling Instructions

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9.1 The supplier's system must provide controls that will assure satisfactory protection against damage, contamination, and corrosion during manufacturing, storage, and shipment. The methods of cleaning, preserving, and packaging require the prior approval of Tower Automotive, and written instructions to accomplish this must be provided by the supplier as part of the sample submission package. If material is to be kept in storage, provisions are to be made for periodic inspections to detect possible deterioration. It is the supplier's responsibility to notify Tower Automotive if any changes to the packaging system are anticipated, as Tower Automotive must approve all changes in advance.

9.2 Each container, coil, rack, box, or pallet of material shipped to Tower Automotive must carry full identification, including part number, quantity, shipment date, lot numbers, and deviation numbers if applicable. Material identification must remain intact from the time of initial application by the supplier through receipt and storage at the Tower Automotive receiving location.

10.0 Safe Packaging, Labeling and Shipping of Steel and Aluminum Coils

A Coils are wound, from inside wrap throughout, with a sufficient tightness to prevent moisture penetration, which could cause bleed-in or transit-type rust and will permit stacking without collapsing a coil.

Coils will be labeled with wire tags attached to the band or adhesive labels attached only to the band. No adhesive labels are to be attached to the surface of the material itself.

B Coil Conveyances (i.e., truck, railcar, etc.) meet normal shipping requirements:

- Loading surfaces to be free of debris or any protuberance, which could damage the coil in loading or transit.
- Chaining and tie-down practices are to be of a nature to preclude damage to coil edges on inner wraps of the coils.
- Coil cradles and/or 4"x4" wedges shall be contoured to match the surface of the coil. Any indentations or damage resulting from coil cradles and/or 4"x4" wedges are unacceptable.

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- When shipping by truck, coil is to be completely covered with a waterproof paper shroud (not to be interpreted as a wrapped coil). After the coil has been secured to the trailer, a tarp cover is to be applied. The tarp must be large enough to completely cover the load. Tarp is to be in good condition, free of hole and tears, which could allow moisture to contact the steel. Tarp to be properly secured to the trailer
- C Edge Roughness – Coil edges shall be free from “metal tabs”, fins, coating build-up and / or edge slivers.
- D Wall Straightness – (1) Telescoping – A deviation from a straight vertical edge to the sidewall of a coil. Tower Automotives standard is any variance greater than 3/4” (19.05mm), where more than five (5) wraps are noted. (2) Weaving – The oscillation which occurs during coil winding. Sidewalls should not exceed plus or minus 1/4” (6.4mm) from a median line running from the outer wrap down to inner wrap.
- E Surface Oil Coating – The surface of the sheet shall be protected by a rust inhibitive oil coating that is readily removable in subsequent cleaning operations.
- F Coil Damage – Coils, as received in the Stamping Plant, shall be free from damage on surface, edge or wall resulting from supplier or carrier mishandling and / or chaining practice. NOTE: All incoming coil is to be 100% usable stock with no exception.
- G Pallet Usage – All pallets used to transport coil material will be 100% inspected prior to use so any/all defects are identified and damaged pallets are not used. NO DAMAGED PALLETS ARE TO BE USED TO TRANSPORT COILS.
- H Banding Requirements – Banding for ALL coils is to be a minimum width of 1.25” with no exception.

11.0 Supplier Performance Rating System

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11.1 The performance rating system described below is in use to monitor the performance of all suppliers that provide parts and/or assemblies, to Tower Automotive customers. Tooling and Gauges, while important, cannot be scored for ongoing performance over such a short period and so are not included in SRIS. Additionally, MRO products and services are not considered critical to quality, and therefore are not included in SRIS.

There are three scores applied to a supplier:

1. Quality Scorecards (Section 10.1) Scores calculated in the SRIS system based on Supplier Quality and Delivery Reports issued to the supplier.
2. Commercial Rating (Section 10.3) used evaluate supplier's commercial rating.

11.2 The purpose of the supplier performance rating system is to provide a means of evaluating the quality and delivery performance of each supplier during a running six-month period. The minimum acceptable Quality Scorecard performance rating is 85 out of a possible 100, which will be based on the calculations described in this section. Any supplier that falls below 85% may be subjected to "Probation" (see section 11.0).

The Supplier Performance Rating will be updated monthly from data contained within SRIS, and will be based on the following:

- A Part Receipts are pushed to the SRIS database from QAD daily. Only suppliers properly included in QAD can be brought into SRIS.
- B Quality performance - make up 50 points of the total rating. Factors considered in quality issues and the corresponding maximum point values are:
 - Parts Per Million (PPM) performance account for 20 points
 - Severity rating assigned to each complaint account for 10 points
 - Repeat issues account for 10 points
 - QR Count Score account for 10 points
- C Delivery Performance - counts for 40 points of the total rating. Factors to be considered in delivery issues and the maximum possible scoring available are:

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- Discrepancy issues account for 4 points
- Incorrect Labeling issues account for 8 points
- Late/Early Shipment issues account for 8 points
- Over/Under Shipment issues account for 8 points
- Packaging issues account for 8 points
- Use of Premium Freight issues account for 4 points

The following tables further define how Tower Automotive calculates scoring based on information provided in the Quality and Delivery Reports to determine the suppliers score:

D Severity Levels (SL):

Level	Severity Level	Points lost for Each Occurrence
4	Found at our Customer Location	10.00
3	Found in our Final Build	7.50
2	Found in our Process	5.00
1	Found at our Receiving	2.50
0	Concern Informational	0

SL Note: One issue found at Tower's customer will result in the loss of all points for this category.

E Repeat Issues (RI):

5 Point Loss

RI Note: More than two repeat issues during six months result in the loss of all points in this Quality subcategory.

F Responsiveness Performance Accounts for 10 Points-5 for Initial Response and 5 for Corrective Action. Points are deducted when a response becomes late

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- 11.3 **A Commercial Rating** is currently under development and will likely include: (This is not final and this will be updated upon completion this is included here for advanced informational purposes only)

Product Manufacturing Range within Market Segment

- B Quote Timeliness and including completeness (New quotes and Engineering Changes
- C Cost Performance to Target

12.0 **Supplier Probation**

12.1 Probation of a supplier is the mutual responsibility of the Tower Automotive using locations, Purchasing and Supplier Quality Assurance. Through input into the Supplier Rating Information System (SRIS), supplier performance (ex: Scorecard, PPMs, RoR...) will be monitored on a monthly basis by Supplier Quality Assurance and Purchasing, and will be used to identify "Focus" suppliers.

- The supplier may be required to send management representatives (both Quality and Operations) to the Tower Automotive Corporate Office to review open issues, as well as present an improvement action plan.
 - The plan must be auditable therefore; it must include specific tasks, due dates, and responsibilities.
- The supplier may be required to complete a NA-ST-050C, Supplier Quality Assessment.
- The supplier may be removed from the Approved Supplier List.
- The supplier may not be allowed to quote on any future business until removed from probation.
- An onsite visit may be performed to assess the quality concerns.
- Supplier Quality Assurance may conduct Focused Reviews of specific

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elements of the supplier's quality system.

12.2 To be removed from probation the supplier:

- Must demonstrate and provide prompt containment actions and provide certified material to Tower Business Units when any quality issue arises.
- Must promptly resolve any complaints that may arise with the Business Unit.
- Must achieve zero customer complaints relative to their parts for a minimum of ninety days.
- Must sustain an 85% or greater performance score on their Supplier Scorecard for at least three (3) consecutive months or as defined by Supplier Quality on a case-by-case basis.
- Supplier Quality Assurance will verify the completion and effective implementation of all corrective action plans.

Only when the supplier is able to demonstrate the ability to meet these requirements, will that supplier be placed back on the Approved Supplier List.

13.0 Tower Automotive Controlled Shipping (TACS)

13.1 Tower Automotive may place a supplier on Tower Automotive Controlled Shipping (TACS), at its discretion, when a supplier fails to meet expectations for delivery of quality products.

- A All suppliers, whether they are Tower Automotive sourced, directed sources, or Customers, are eligible for TACS.

Both internal and external suppliers to Tower Automotive are eligible for TACS.

If Tower Automotive is placed into a re-inspection program by one of its Customers, suppliers of the parts associated with the assembly will be placed into TACS at an appropriate level, at a minimum for the associated parts.

13.2 The decision to place a supplier on TACS should be made at the Tower Automotive Business Unit-level (Quality Leader, Business Unit Leader, etc.), with the concurrence of the Tower Automotive Supplier Quality Assurance Leader.

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In unusual circumstances, the Tower Automotive Supplier Quality Assurance Leader may place a supplier on TACS at their sole discretion.

13.3 TACS has two levels, Level 1 and Level 2. Entrance into Level 1 is part of entrance into Level 2.

13.4 **Tower Automotive Controlled Shipping, Level 1 (TACS1)**

A Entrance Conditions (Any):

Failure to provide an initial response within 24 hours of the issuance of a formal report of a quality issue, via a Quality Report, on a part.

Failure to provide a CAR/8D within 14 days of the issuance of a formal report of a quality issue, via a Quality Report, on a part.

Exit from TACS Level 2 on a part.

Requirements (All):

One hundred percent off-line re-inspection of all products.

Each feature re-inspected will be marked with a water-soluble marker.

Each container of re-inspected product will be explicitly placarded with signs denoting that the product has been certified as 100% re-inspected.

C Exit Conditions (All):

- Thirty-day (calendar) period without repeat Quality Report on the part & feature in question.

The 30-day clock will be reset each time a Quality Report (on the part & feature in question) is issued.

- Developing and having accepted a CAR/8D, including verification of the Permanent Corrective Actions.

Presentation of revised documentation, including PFMEA, Control Plan, Work Instructions.

- Documentary evidence that every effort was taken to implement error proofing.

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- Request to, and written approval from the Tower Automotive Supplier Quality Assurance Leader or their designee to exit TACS1.

13.5 Tower Automotive Controlled Shipping, Level 2 (TACS2)

- A Failure to avoid while in TACS1 a formal report of a quality issue, via a Quality Report, on a part (starts the TACS2 "clock").
- B Failure to avoid while in TACS1 a formal report of a quality issue, via a Quality Report, on a part (re-sets the TACS2 "clock").

13.6 Entrance Conditions (Any):

- A Tower Automotive being placed in 3rd-party inspection (by its Customer, internal or external) on an assembly that contains the part.
- B Repeat quality issue (as denoted by a QR), on a feature on a part.

Failure to provide a CAR/8D within 14 days of the issuance of a formal report of a quality issue, via a QR, on a part.

- D Special circumstances, as defined by the Tower Automotive Supplier Quality Assurance Leader.

13.7 Requirements (All):

One hundred percent off-line re-inspection of all products.

Each feature re-inspected will be marked with a water-soluble marker.

- B One hundred percent off-line re-inspection by a 3rd-party of all products.
Each feature re-inspected will be marked with a water-soluble marker.
- C Each container of re-inspected product will be explicitly placarded with signs denoting that the product has been certified as 100% and 3rd-party re-inspected.

13.8 Exit Conditions (All):

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A Thirty-day (calendar) period without repeat Quality Report on the part & feature in question.

The 30-day clock will be reset each time a Quality Report (on the part & feature in question) is issued.

Developing and having accepted a CAR/8D, including verification of the Permanent Corrective Actions.

C Presentation of revised documentation, including PFMEA, Control Plan, Work Instructions.

D Documentary evidence that every effort was taken to implement error proofing.

E Request to, and written approval from Tower Automotive Supplier Quality Assurance Leader or their designee to exit TACS2. Exit from TACS2 is entrance into TACS1.

14.0 Weld Quality Requirements

14.1 All suppliers who provide welded assemblies are required to perform weld quality evaluations as part of the Production Part Approval Process (PPAP). These evaluations must be conducted in accordance with the requirements contained in the Tower Automotive Gas Metal Arc Welding Standard. The results of the welding evaluation test must be reported on the Production Part Approval – Performance Test Results form (CFG-1005) and must be available for review at the time of the PPAP visit.

14.2 Prior to sample submission each supplier of welded assemblies must prepare a Welding Manual and submit it to Tower Automotive for approval. This manual must include the following:

- A Welding Procedure Specifications
- B Welder Qualification Testing Procedures
- C Base and Filler Metal Specifications and Certifications

Welding Process Quality Standards

Destructive and Non-Destructive Inspection Frequencies

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Welding Process Flow Diagram

- 14.3 Prior to PPAP, the supplier, in conjunction with Tower Automotive, may make provisions to have a certified Tower Automotive Welding Inspector observe the assembly line welding process, review and approve the Welding Manual, inspect the destructive testing inspection facility and inspect the welded assemblies according to the Tower Automotive Gas Metal Arc Welding Standard.
- 14.4 Tower Automotive must approve any corrosion inhibitor solution or any other coatings, applied to the surface of the parts for shipping purposes for environmental concerns and acceptability. All welding, washing, and coating processes must be taken into consideration during the preparation of the Process Failure Mode Effects Analysis, Process Control Plan, and Process Flow Diagram.
- 14.5 If the parts are not washed prior to welding, then the supplier must approve any corrosion inhibitor solution and the manner in which the solution is applied to the part for weld ability. The welding acceptability test is determined by the production welding process. A minimum of two (2) Process Standard Tests are to be conducted on a minimum of 15 production samples. Test samples are to be welded using the production Welding Procedure Specification and are to be inspected by Tower Automotive, who will maintain records of all approved coatings and processes.

These requirements meet and/or exceed the OEM requirements.
- 15.0 **Incoming Quality Program**
 - 15.1 The supplier is required to maintain statistical data showing evidence of control on all significant characteristics; however, the supplier must also ensure that all print dimensions conform to drawing specifications. Routine receiving inspection will not be performed on non-significant characteristics at the customer location and the supplier is expected to monitor and control these dimensions.
 - 15.2 In the event that nonconforming material is discovered at any stage of the process the supplier will assume responsibility for cost incurred by Tower Automotive or any customer as a result of this nonconformance.

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15.3 When such a nonconformance is discovered, the Tower Automotive receiving location will institute an inspection process to insure that the nonconformance does not enter into the production process. The supplier will be charged for this additional, non-standard operation until such time that the system has been purged of all nonconforming material and supplier corrective action plans have been proven effective.

15.4 When a supplier scorecard becomes red, the supplier shall be required to provide conformance data (i.e. inspection data, annual layout data, weld quality data, attribute data, quality alert data, or other data supporting conformance of the product). To escalate the process, if by the next scoring period the data is not received by the Tower Business unit, a SRIS report may be issued for customer dissatisfaction and all cost related to supporting proof of conformity (sorting, rework, 3rd party testing, and measurement), will be charged back to the supplier at standard rates. All parts that have concerns identified during the previous 6 months (current scorecard window) will be subject to conformance requirements.

16.0 **Charge-back Guidelines**

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All Tower Automotive suppliers have been informed of their responsibility to provide goods and services that meet all specifications and that they are to be delivered on time. They also understand that they will be held financially responsible if their failure to do so results in loss to Tower Automotive or any of its customers. Each Business Unit has a system in place that is able to recover such costs from our suppliers. It is expected that the system will include the following elements:

- The reason for the charge is clearly established.
- The supplier is promptly notified of the reason for the charge and made aware that charges are to be collected.
- The elements that make up the amount to be charged are clearly defined and documented.
- The amount of the charge-back is communicated to the supplier along with documentation as to how the charges were determined.
- The supplier must agree that the amount charged is justified.
- Accounts payable will be authorized to process the debit once all parties have reached agreement on the amount to be charged.
- In case that both parties cannot agree on either the justification for the charge or the amount of the charge, the issue will be referred to Supplier Development located in Novi for resolution.
- In all instances, the entire process must be accomplished quickly and, if possible, within the month in which the cost was incurred.

17.0 Nondisclosure Agreement

17.1 Purpose: To maintain confidentiality of proprietary information and trade secrets of Tower Automotive and its customers.

17.2 When to use: Tooling purchases; Productive part purchases; Capital Equipment Purchases; Consultant Agreements; any situation involving sensitive, confidential information.

17.3 Retention: Retain signed agreement with purchase order, RFQ and other documents relating to the transaction.



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Nondisclosure Statement: In the course of doing business and in the interest of both parties it may become necessary to mutually agree to nondisclosure of proprietary information. If such a situation arises, contact Tower Automotive Purchasing Colleague for guidance and assistance in executing the appropriate forms.

18.0 Supplier Profile

All suppliers must insure that Tower Automotive has the latest information pertaining to the supplier's organization, capabilities, and ownership status. This information will be recorded on the Tower Automotive Supplier Profile (NA-ST-050B) and returned to Tower Automotive Supplier Development.