GHSP Supplier Manual

Revision Control Date: May 04, 2022

Revision History

Revision Date	Section	Description	Revised By
/25/14	*ALL*	*Initial Release of rewrite*	*S. Carpenter*
5/22/14	*Quality 8.4*	*Modification to Annual Revalidation communication of conformance*	*C. Price*
3/4/15	M&L C4 - 8.4 M&L C4 – 8.11 M&L C4 – 8.13 M&L C4 – 9.3	Added reference to UPS Added control statement for sharing of information, technical, data, to foreign nationals Updated C-TPAT expectations Added packaging weight requirements for China	*T. Hoch* *C. Collier*
3/30/15	Delivery – 2.1 Quality – 7.2 Quality – 7.4 Quality – 7.4.1,2 Quality – 7.4.3 Quality – 7.4.4 Quality – 8.3 Quality – 8.4 Quality – 10.4 Quality – 12.1	Removed reference to sending ASNs without manual intervention. Updated SPC requirements for Special Characteristics Added Control Point characteristic definition Updated ongoing control requirements for SC / CC items Removed duplicate reference of Supplier Liability Added ongoing control requirement for Control Points Added reference to PPAP checklist Updated dimensional requirements to minimum of 5 pieces Updated ongoing capability index to ≥1.33 Updated 3-D requirements to include method of containment.	*C. Collier*
3/31/15	M&L – 9.1 M&L – 9.3	Added 4-way entry pallet to requirement Added requirement for usage of standard size totes and cartons Added note that sample packs may be requested Added requirement to ship PPAP parts in production intent packaging	*M. Weisenreder*
4/7/16	Packaging and Labeling – 9.0 General – 1.3 General – 2.1 Quality – 12.1 M&L – 8.11 M&L – 3.2 M&L – 3.3 M&L – 8.11 Logistics – C4 8.1	Removed all content and referred suppliers to the GHSP Supplier Packaging Guidelines and Requirements document Added requirement of capacity planning for annual submission Modified T&C location Updated containment expectations Additional requirements for transmitted data Updated raw / fab quantities Updated freight responsibility Updated International Trade Compliance expectations	M. Weisenreder C. Collier E. Dunster E. Dunster S. Wilson L. Wellborn T. Hoch

	Logistics – C4 8.3	Removed supplier's ability to choose carrier	T. Hoch
	Logistics – C4 8.10	Added reference to AETC requirement for 3rd party and drop	
	Logistics – C4 8.4	shipments.	T. Hoch
	Quality – 7.4.1	Added reference to AETC #	T. Hoch
		Added "Priority Shipment section"	C. Collier
	Quality – 16	Added requirement for data submission for CC related items	C. Collier
	Terms & Conditions 20	Added Supplier Critical Part Data	
	Terms & Conditions 2.1	Submission section	K. Kuiper
		Insurance coverage updated	K. Kuiper
		Products and Services -Quantity.	
10/12/17	General – 1.1.1	Delete Note 2	P. Watson
	General – 1.1.3	Remove Nafta, CTPAT, Mfg. Affidavits requirements	K. Kuiper
	General – 2.2.1	Remove T&C from this manual	K. Kuiper
	Tooling – 2.2.5	Added tooling identification requirements	K. Hayen
	Tooling – 3.3.2	Added Note to PPAP if moved	E. Porter
	Tooling - 2.3.4	Added IATF	E. Porter
	Tooling - 2.3.5	Added GHSP Part #	K. Hayen
	Tooling - 2.3.6	Changed Customer to GHSP	K. Hayen
	Tooling – 2.4.3	Added additional Tool Marking Specification	K. Hayen
	Tooling – 2.4.4	Added Tool Gage Form with date	K. Hayen
	Quality – 3.3.1	stamp	E. Porter
	Quality – 3.3.2	Reworded – On-site assessments required for all new suppliers & locations	E. Porter
		Added more likely for suppliers with quality issues, high risk or new process instead of preferred supplier	
	Quality – 3.3.3		E. Porter
	Quality – 3.3.4	Added Supplier Self-Assessment	E. Porter
	Quality – 3.5.1	Added Supplier Development Plan	E. Porter
		Removed APQP Report from website & program kick-off meetings. Must comply to SSOW. At minimum, must submit detailed project timeline & open issues.	
	Quality – 3.5.2	Changed 6 piece to 5-piece dimensional layout.	E. Porter
	Quality - 3.6.1	APQP Expectations were changed from paragraph format to a chart format. Eliminating section 5-8.	E. Porter
	Quality – 3.6.2	Clarified record retention requirements	E. Porter
	Quality – 3.8.7	Traceability shall apply to supplier's sub-suppliers.	E. Porter
	Quality – 3.14	Removed Customer Specific Requirements	E. Porter
		Added the note, "of this manual" referring to supplier manual	
	M&L – 4.1.2	Added compliance to IATF16949 before October 1, 2018	P. Edwards

	M&L – 4.8.2 M&L – 4.8.7 M&L – 4.8.11.1 M&L – 4.13 M&L – 4.15 M&L – 4.8.16 M&L – 4.8.18	Removed UPS and added DHL. Changed 151 lbs. to 120. Updated the web address Removed reference to another website for freight instructions Reworded Nafta & COO Removed reference to PO for Incoterms Added Proforma Invoice, INCO Terms, Additional Freight & Packaging cost Change 150 to 120, added DHL Express Worldwide	L. Wellborn L. Wellborn L. Wellborn L. Wellborn L. Wellborn L. Wellborn L. Wellborn
12/6/17	Quality – 3.2.1	Added CQI requirements	E. Porter
2/20/18	General 4.1 General 4.2 General 4.3 Quality – 5.2 Quality - 4 Quality 5.1 Quality - 13.2 Logistics C4 8.19	Changed 95 to 80 and 6-rolling to 12. Changed to all GHSP facilities Rewrote to new requirements Added in the Prelaunch Control Plan / Containment Plan that the supplier must submit a "safe launch" containment Plan Added drawing and supplemental drawing/spec Added drawing and supplemental drawing/spec Added supplier must submit a detailed launch plan for requested change Added 8.19 Record Retention	K. Kuiper K. Kuiper K. Kuiper E. Porter K. Kuiper K. Kuiper E. Porter V. Satterlee
4/17/18	General 4.3.7.2	Added "via SCTO"	Nick Munch
7/23/18	Quality 5.2	Change the number of samples for the initial capability study from 50 to 125. Also, change the long-term production capability from Cpk 1.33 to Ppk 1.33.	E. Porter
4/10/19	Logistics 8.2, 8.4, 8.6, 8.8, 8.9, 8.10 Logistics 8.3 General Req. 3.1.3 General Req. 4.2 General Req. 3.2 All	Added clarification and more detail all the sections identified under Logistics. Added requirements for with & without barcodes on packing slip. Added Region specifications to include REACH, RoHS, Proposition 65. Change 12 months to YTD Cumulative Reworded for surveillance audits Removed Reference to TS 16949	V. Satterlee P. Edwards E. Porter
11/15/19	Management Standards 1.1.1.6 1.1.2.1 Logistics 8.9 Logistics 8.4.2	Added Communication of statutory & regulatory requirements Added Registration through 3rd party audits Added their suppliers Added Organization shall pass down statutory & regulatory requirements	E. Porter E. Porter V. Satterlee V. Satterlee

11/15/19	Performance Monitoring 4.3.5.1 Quality 5.2, 8.1, 11.2, 13.2 Logistics 8.2.4	Add SREA not followed Changed Deviations to SREA Removed Fed-Ex	E. Porter E. Porter V. Satterlee
3/11/20	Annual Submission 1.3 Introduction 3.1.1 Critical Part Submission 3.14 Tooling Payment 3.6 Advanced Shipping Notice 4.2.2 Visibility Replenishment 4.5.3	Remove requirements for Annual Submission MMOG Assessment, AIAG Sustainability Assessment, Tooling & Capital Asset Tracking & Capacity workbook Removed because Sustainability was removed from annual submission Updated: Measurements will be available immediately upon GHSP request Changed from 45 days to GHSP standard payment terms. Added: ASN's are required for both production & service. Added the newest website link	E. Porter K. Kuiper E. Porter K. Kuiper P. Edwards E. Porter
8/4/20	Introduction 3.1.1	Removed because Sustainability was removed from annual submission	E. Porter / K. Kuiper
8/25/20	Quality 13.2	Reloaded a section that was modified in 11/15/19 updated.	E. Porter
9/4/20	Management Standards 1.1 7.2.1 Balance Out & Claims Process	Changed ISO16949 to IATF 16949 and added 2015 to ISO9001 Changed "Purchase" to "Build Out"	E. Porter P. Edwards
3/1/21	Electronic Commerce 2. ASN 2.2 Shipping & Replenishment 3.1 Forecast 3.2 Shipping & Delivery 3.3 CUM 4.2 Balance Out 7.1 Removed Section 8	Added the addition on EDI and removed or referenced the removal of SV within 2021. BOL # must match packing slip. GHSP Materials Planner or Materials Managers must be notified. Suppliers are responsible for lead times of raw materials. Must notify before material is late. And/or service part shipments. Suppliers will receive notification. Created a separate Trade, Customs and Logistics Manual	P. Edwards B. Kline B. Kline B. Kline B. Kline B. Kline B. Kline V. Satterlee
4/27/2022	Management Standards 1.1 Electronic Commerce 2.	Added 1.1.3 Service Providers 2.1 Added FTP interface and removed 2021 reference 2.2 Added FTP for ASN and "number" to packing slip	D. Knebl P. Edwards P. Edwards

Purpose

The purpose of the GHSP Global Supplier Standards manual is to communicate requirements and expectations of current and potential suppliers to GHSP. It is the expectation of GHSP that all suppliers of direct material and, as applicable, indirect material and services, comply with the expectations and requirements documented in this manual. GHSP expects that, through clear communication and definition of expectations, both parties can more effectively achieve success. The manual has 4 chapters.

Scope

This manual applies globally, to all GHSP suppliers of direct material, as well as GHSP suppliers of indirect material and services as defined herein.

Chapters

1. General
2. Tooling
3. Quality
4. Material and Logistics

Chapter 1: General Requirements

Chapter 1 Table of Contents

1. *General Expectations:*

1.1 Management Standards

GHSP holds an expectation of our suppliers to demonstrate their commitment to quality and the environment. Evidence of this commitment is the implementation of appropriate quality and environmental management standards. The following are minimum expectations for our suppliers:

- 1.1.1 Direct Material Suppliers
  - 1.1.1.1 Quality System Registration (IATF16949:2016, ISO9001:2015) for distributors of commodity materials
  - 1.1.1.2 Environmental Management Registration (ISO 14001)
  - 1.1.1.3 Materials Certification (MMOG/LE)
  - 1.1.1.4 Requirements for Soldered Electrical and Electronic Assemblies (J-STD-001) compliant to standard as applicable
  - 1.1.1.5 Safety Related Software Development (ISO 26262) compliant to standard as applicable
  - 1.1.1.6 Communication of applicable statutory and regulatory requirements as well as special products and process characteristics to the supply chain to the point of manufacture.
- 1.1.2 Indirect Material Suppliers
  - 1.1.2.1 Quality System Registration (ISO 9001) through third-party audits.
  - 1.1.2.2 Environmental Management Registration (ISO 14001).
- 1.1.3 Service Providers (Engineering Services, Purchasing Services, etc.)
  - 1.1.3.1 Follow GHSP policies and procedures with GHSP oversight.

Note 1: Failure to comply with these minimum requirements will impact the supplier's ability to continue business with GHSP.

1.2 Supplier Development

GHSP is committed to working in partnership with our suppliers to establish development plans which ensure compliance to, and continuous improvement toward, the requirements set forth in this manual. GHSP will establish the development priorities as it sees fit, based on resource availability and impact to the business, but will always make its best effort to assist wherever practical.

1.3 Annual Information Submission

As noted in specific sections of this manual, there will be a requirement that each supplier submits, inclusive of all their plants shipping product into any GHSP plant worldwide, the following information annually no later than January 1st:

- Updated Contact List (corporate and plant specific)
- Quality Certification (each plant)

2. Global Terms and Conditions

2.1 Terms and Conditions Access

GHSP Global Terms and Conditions may be accessed on our website at www.ghsp.com. If a supplier is unable to access the document, please contact your buyer for assistance. The Terms and Conditions are the governing document for any quote, will be referenced in any purchase order, and are the basis of the agreement between the supplier and GHSP unless otherwise declared in another agreement signed by both parties.

3. Social and Environmental Responsibility

3.1 Introduction

Since our founding in 1924, the people of GHSP have been known for our enduring values. One of these values is referred to as 'Steward our Legacy" and is defined as preserving the legacy of our founders while reinventing the business for the next generation. Two ways we live and demonstrate this value are by investing in businesses, people, and communities for the long term, and by taking personal responsibility for health, safety, and our environment. From this it becomes clear that Social and Environmental Responsibility are foundational elements of who we are. Furthermore, since our supply base is an integral part of our business and team; and reflects GHSP and the values we uphold, it is our expectation that our suppliers conduct their operations in a socially and environmentally responsible manner that complies with all applicable laws and regulations.

3.1.1 Suppliers shall ensure their personnel with responsibility for social and environmental oversight have completed the Supply Chain Corporate Responsibility Training available on the Automotive Industry Action Group (AIAG) website.

3.1.2 Regional specific requirements may include REACH, RoHS, or California's Proposition 65 compliance. Please check with your buyer or SDE for specific information.

3.2 Requirements

3.2.1 Labor and Human Rights

3.2.1.1 Suppliers shall prohibit the use of child labor and ensure the age of employment is in accordance with local labor law.

3.2.1.2 Suppliers shall prohibit the use of forced, bonded, indentured, or involuntary prison labor. All work must be voluntary; workers shall not

be forced to hand over government issued identification, passports, or work permits as a condition of employment unless required by local law.

3.2.1.3 Suppliers shall ensure working hours comply with applicable local law regulating hours of work.

3.2.1.4 Suppliers shall provide compensation and benefits that are competitive and in compliance with applicable wage laws including those related to minimum wages, overtime hours, and legally mandated benefits.

3.2.1.5 Suppliers shall maintain workplaces that are free from harassment or discrimination against employees in any form. This includes but is not limited to gender, race, color, caste, disability, veteran status, union membership, political affiliation, national origin, religion, age, marital status, pregnancy, or sexual orientation.

3.2.1.6 Suppliers shall maintain workplaces that are free of physical or mental harassment, abuse, or any other behavior that diminishes a person's integrity or self-esteem. This includes but is not limited to harsh and inhumane treatment in the form of sexual harassment, sexual abuse, corporal punishment, mental or physical coercion, or verbal abuse of workers.

3.2.1.7 Suppliers shall maintain workplaces where workers can communicate openly with management regarding working conditions without fear of reprisal, intimidation, or harassment.

3.2.1.8 Suppliers shall respect voluntary freedom of association including the right to organize and bargain collectively in a manner that is legally compliant. Where worker representation and collective bargaining are restricted by law, efforts should be made to facilitate open communication and direct engagement between workers and management as an alternative way of ensuring worker rights, views, and needs are considered and acted upon appropriately and in good faith.

3.2.1.9 Suppliers shall maintain a workplace where workers have a safe and healthy working environment that meets or exceeds applicable standards for occupational safety and health.

3.2.1.10 Suppliers shall undertake reasonable due diligence to assure that any of the specified 'conflict minerals' as listed in the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 are sourced from smelters or mines outside of the 'conflict region' or from mines and smelters independently certified as 'Conflict Free'.

3.2.1.11 Suppliers shall not retaliate or discriminate against workers for exercising their rights in compliance with local laws and regulations.

3.2.2 Health and Safety

3.2.2.1 Suppliers shall eliminate safety hazards and take precautionary measures that guard against accidents and occupational diseases. These hazards should be controlled through proper design, engineering/administrative controls, preventative maintenance, safe work procedures, and ongoing safety training. Where hazards cannot properly be controlled by these means, workers shall be provided appropriate and well maintained personal protective equipment.

3.2.2.2 Worker exposure to chemical, biological, or physical agents is to be identified, evaluated, and controlled. Engineering or administrative controls must be used to control overexposures. When hazards cannot be adequately controlled by such means, suppliers shall provide appropriate personal protective equipment programs.

3.2.2.3 Emergency situations and events are to be identified and assessed, and their impact minimized by implementing emergency plans and response procedures.

3.2.2.4 Procedures and systems are to be in place to prevent, manage, track, and report occupational injury and illness, including provisions to: a) encourage worker reporting; b) classify and record injury and illness cases; c) provide necessary medical treatment; d) investigate cases and implement corrective actions to eliminate root causes; and e) facilitate the return of workers to work.

3.2.2.5 Workers shall be provided with ready access to clean toilet facilities and potable water. If the company provides food and housing to workers the company shall provide sanitary food preparation, storage, and eating facilities. Worker dormitories provided by suppliers, or a third-party agent shall be maintained in a clean and safe manner and shall have appropriate emergency egress, adequate heat and ventilation, reasonable personal space, and entry and exit privileges.

3.2.2.6 Exposure of workers to the hazards of physically demanding tasks shall be identified, evaluated, and controlled.

3.2.2.7 Production and other machinery shall be evaluated for safety hazards. Physical guards, interlocks, and barriers are to be provided and properly maintained where machinery presents an injury hazard to workers.

3.2.3 Ethics

3.2.3.1 Suppliers shall prohibit all forms of corruption, extortion, embezzlement, bribery, excessive gift giving, or other means of obtaining undue or improper advantage. Monitoring and enforcement procedures shall be implemented to ensure compliance.

3.2.3.2 Suppliers shall properly disclose, transfer, and protect business information, customer information, and intellectual property rights in accordance with applicable requirements and contractual obligations.

3.2.4 Environmental

3.2.4.1 Suppliers should adopt an environmental management system compliant with and registered to ISO 14001.

3.2.4.2 Suppliers shall conduct business in a sustainable manner that places the least practical burden possible on the environment while protecting the health and safety of the public.

3.2.4.3 Suppliers shall obtain, keep current, and adhere to all laws and regulations requiring environmental permits, approvals, and registrations.

3.2.4.4 Suppliers shall identify and manage materials that pose a hazard if released to the environment and are to ensure safe handling, movement, storage, recycling or reuse, and disposal of such materials in accordance with local law and regulations.

3.2.4.5 Suppliers shall identify, monitor, treat, and control air emissions, wastewater, and solid waste prior to discharge or disposal as required by local law and regulations.

3.2.4.6 Suppliers shall prohibit the use of restricted or prohibited substances, materials, or waste pursuant with applicable laws, regulations, and contracts.

3.2.4.7 Waste of all types, including water and energy, are to be reduced or eliminated at the source by practices such as modifying production, maintenance and facilities processes, materials substitution, conservation, and recycling and re-use of materials.

3.2.4.8 Suppliers shall agree to and comply with GHSP's Environmental Policy for Visitors when visiting any GHSP facility.

4. Performance Monitoring & Supplier Awards

4.1 Purpose

The GHSP supplier report card is a tool for both suppliers and internal GHSP supply chain team members to measure and monitor the performance metrics necessary to support our organization. The report card also provides some of the metrics to help GHSP monitor trends that are inputs to future GHSP sourcing decisions. In addition, it provides the baseline for detailing issues leading up to a Supplier Management Review event (SMR). The expectation is that suppliers maintain a scorecard rating of 80 points or greater. In the event, that the 12-month supplier scorecard is below 80 points, a Supplier Management Review (See Quality Chapter 3) may be initiated.

4.2 Applicability:

Suppliers who ship into GHSP Facilities will receive a monthly scorecard based on YTD Cumulative performance.

4.3 Scoring Calculation:

The supplier ratings will start with 100 points and deductions are determined based on the severity of the effect on GHSP operations.

4.3.1 **Scoring for Customer Service (10):**

4.3.1.1 **Annual Submission (5):** This includes but is not limited to contact lists, MMOG, Asset tracking, AIAG Sustainability, Quality certification, NAFTA COO. The Supplier will receive 5 points if on time and in full and 0 points if late or not all the information is provided.

4.3.1.2 **RFQ Responsiveness (5):** The supplier will receive 5 points if quotes are 100% on time. The supplier will receive 4 points if quotes are mostly on time. The supplier will receive 0 points if quotes are rarely on time or always late.

4.3.2 **Scoring for Social & Environmental (5):**

4.3.2.1 **AIAG Sustainability Assessment (5):** The supplier will receive 5 points if completed and 0 points if it is not completed or is late.

4.3.3 **Scoring for Deliver (20):**

4.3.3.1 **Delivery to schedule (5):** If a supplier meets all deliveries on time, they will receive 5 points. If the supplier is late on any shipment in the month, they will receive 0 points.

4.3.3.2 **EDI Compliance (5):** If the supplier is EDI compliant, they will receive 5 points, if they are not, they will receive 0 points.

4.3.3.3 **Delivery PTR's (10):** Total score for delivery PTR's is out of 10 points. 0 PTR's will result in a full 10 points. 1-2 PTRs of any rank will result in 5 points. 3+ PTRs of any rank will result in a 0 for the month.

4.3.4 **Scoring for Commercial (20):**

4.3.4.1 **Cost Savings vs. Target (10):** Target will be set annually by the Commodity Buyer and presented to the supplier. If the target is met 10 points will be awarded. If 85% is achieved 5 points will be awarded. Anything below 85% will result in a score of 0.

4.3.4.2 **VA/VE via SCTO idea submission (10):** Target to be set by the Commodity Buyer/ CI Manager and presented to the supplier. If the target is met 10 points will be awarded. If the target is not met 0 points will be awarded.

4.3.5 **Scoring for Quality (45):**

4.3.5.1 **Quality PTR's (10):** Any A or B rank PTR will result in 0 points for quality in the month that the PTR is issued. Any C or D rank will result in a full 10 points for quality in the month that the PTRs are issued.

- **"A" Rank:** This is a severe level indicating a quality /delivery/service issue that affects GHSP's performance with its customers. Examples include (but are not limited to):
  - Customer reject
  - Missed delivery to customer
  - Missed Customer PPAP date
  - Supplier shipped to GHSP non-PPAP approved parts that were used in product shipped to customer. (Example: SREA process not followed)

  "A" Rank PTR's require urgent response and frequent communication with GHSP operations to ensure the highest priority of problem-solving efforts are being executed expeditiously.

- **"B" Rank:** This covers one or more of the following conditions:
  - Repeat Failure mode in last 6 months
  - Created GHSP downtime
  - Significant disruption to operations

  "B" Rank PTRs require 24-hour containment confirmation (at GHSP) and effective problem solving. GHSP does not have a required format but generally subscribes to the 8-D methodology.

- "**C" Rank:** This is a condition that does not fit an "A" or "B" rank and requires corrective action. On site containment, may be required.

- "**D" Rank:** This is a condition that generally is not a literal non-conformance or falls under a limited line accumulation agreement. The objective of a "D" rank is to communicate the "Voice of the Customer" and drive continuous improvement initiatives.

4.3.6.1 **PPAP's on time (5):** If a PPAP is due in the month there will be a full 5 points if on time, 0 points if it is late. If there is not PPAP due in the month the score will remain at a 5.

4.3.6.2 **Corrective Action (5):** If a PTR is issued, there must be containment within 24 hours to get a full 5 points, if not 0 points will be given.

4.3.6.3 **SPPM (25):**

0-20 = 25 points
20-50 = 20 points
50-100 = 15 points
100+ = 0 points

4.4 Disputes

The supplier must address any dispute of a PTR within 5 business days of receipt. The dispute must be in written format with supporting documentation. The dispute should be submitted to the appropriate GHSP personnel depending on the nature of the issue. Delivery dispute issues shall go to the Plant Materials Manager; Quality dispute issues shall go to the Supplier Development Manager and Customer Service/Commercial issues shall go to the Buyer. GHSP will provide a final response to suppliers (yes or no) within 10 business days of a completed dispute response. In the unlikely event of lack of resolution, escalation may be made through the Buyer.

4.5 Annual Supplier Awards

GHSP values our supply chain partnerships. One way we can recognize supplier performance is through preferred sourcing status and growing our supplier's business with GHSP. Another form of recognition is an annual supplier award. GHSP has 3 types of Supplier Awards:

Master of Quality: This award recognizes exceptional performance in terms of our overall experience. This includes quality response time, continuous improvement capability, design support and timely shipments.

Worry Free Launch: This award recognizes those suppliers whose exemplary work contributes significantly to a flawless launch of a new product/service for GHSP.

Pinnacle: This award recognizes those suppliers who made significant investments on behalf of GHSP; examples include but are not limited to expansion of manufacturing locations closer to GHSP, aggressive cost reduction initiatives and/or product/process innovation advancements.

The supplier award criteria contain a combination of measurable performance in terms of number and severity of issues (Problem Tracking Reports) along with feedback on how we experience the supplier. GHSP forms an internal team from leaders in Materials, Logistics, Purchasing, Supplier Quality/Development and Engineering who nominates suppliers who over the last year, met or exceeded our expectations in terms of Cost, Quality, Delivery and Customer Service.

5. Engineering Requirements

5.1 Introduction

5.1.1 Engineering support from our suppliers for product feasibility, product design, and tooling design / approval may be required for a program and/or product. Suppliers shall support design reviews and other collaborative efforts to support lowest total cost solutions for tools, products, and services.

5.2 Requirements

5.2.1 International Material Data System (IMDS)

5.2.1.1 Government and industry regulations on subjects including the environment, safety, corporate governance, and product performance are being enforced around the world. The IMDS (International Material Data System) is an internet-based database that has been endorsed by the automotive industry original equipment manufacturers (OEMs) for free-of-charge use by suppliers. IMDS tracks chemical ingredients of parts and assemblies across the entire automotive OEM supply chain. The solution aids OEM's seeking compliance with national and EU regulations related to material handling and disposal. Suppliers shall submit IMDS information to GHSP prior to receiving PPAP approval.

5.2.2 Engineering Data Exchange

5.2.2.1 GHSP's standard format for CAD data exchange is via an STP file extension (Standard for the exchange of Product model data).

6. *Program Management Expectations*

6.1 General

6.1.1 GHSP expects that our suppliers will appropriately staff their team to manage the program requirements of the business they have, as well as the business they seek, with GHSP.

6.2 Specific

6.2.1 Suppliers must comply with all programs specific requirements as outlined in the specific Supplier Statement of Work (SSOW), purchase order, award letter, or other documents defining the scope of work.

6.2.2 Launch support must be made available by the supplier to support activities including, but not limited to, the following:

- Supplier Kick-off Meetings
- Design Reviews
- Launch Team Meetings
- Advanced Product Quality Planning activities
- Build events at supplier and GHSP

6.2.3 Launch Support is required by the supplier to participate in activities at the supplier facilities such as, but not limited to:

- Supplier Build Events
- Supplier Readiness Reviews
- Supplier Process Sign-off Reviews

7. Procurement/Commercial Requirements & General Service Expectations

7.1 Procurement General Requirements

7.1.1 GHSP purchasing expectations are as follows:

- Suppliers shall provide a cost breakdown form, with complete information, with every quote to the appropriate GHSP Purchasing representative which may be a different person than the requestor.
- Suppliers must send all responses for quotations* to their appropriate buyer and may copy the requestor in the event the request originated from GHSP engineering or program management. * Capital Equipment suppliers are exempted from this requirement.
- Suppliers must clearly note the cost change, and reason for said change, on their cost breakdown for quotes related to revisions in the product being quoted.
- Suppliers will be required to participate in Business Reviews as scheduled
- In addition to following the quality processes set forth in this manual, the supplier is required, as soon as the change is determined to be probable, to **immediately inform** the buyer prior to any product or process changes, including changes in manufacturing location.

Chapter 2: Tooling

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1. Introduction

1.1 Tooling and Equipment is a critical element of product design, product safety, and process safety. As such, all suppliers to GHSP shall provide tooling and/or equipment that meets defined GHSP requirements. This chapter of our Global Supplier Standards Manual is divided into three separate sections; the first which addresses tooling, gauges, and/or equipment purchased by GHSP for use at a GHSP manufacturing facility (GHSP Tooling and Equipment), the second which addresses tooling and/or gauges purchased by GHSP for use at a GHSP supplier for goods or services ultimately sold to GHSP (Supplier Tooling); and the third which addresses commercial requirements applicable to both GHSP Tooling and Equipment, and Supplier Tooling.

2. GHSP Tooling (including gauges) and Equipment

2.1 Product Requirements - Suppliers shall develop and manufacture Tooling and Equipment in accordance with the GHSP standard in effect at the time of contract

award and any GHSP statement of work specific to the Tooling and Equipment. The current version of these standards may be accessed at http://www.ghsp.com/en/suppliers/tooling-standards

2.2 Credit/Payment Terms - Suppliers shall invoice GHSP for payment of monies owed after tooling or gauge has been validated through pre-production builds and formal approval of the tool or gauge has been provided by the responsible GHSP Process or Quality engineer. GHSP terms of payment will be 45 days after receipt of invoice.

2.3 Builder of Record - Suppliers shall be the tool 'Builder of Record' for all tools and/or equipment produced in their facilities as well as all tools produced in any subcontracted facilities. This means that the supplier is solely responsible for the performance of its subcontractors which will include, but not be limited to timing commitments, tool quality, data integrity, tool functional try-outs, quoted cycle times, shipment, delivery, adherence to applicable tool standards, and tool warranty. If tooling issues with subcontractors are not resolved by the supplier, GHSP reserves the right to redirect the subcontractor and any subsequent costs incurred will be the responsibility of the supplier.

2.4 Damage or Loss - Suppliers shall insure and protect GHSP Tooling and Equipment against loss or damage at all times prior to physical receipt of GHSP Tooling and Equipment at specified GHSP manufacturing facility.

3. Supplier Tooling

3.1 Definition

Supplier Tooling is defined as tooling specifically designed to produce a GHSP part where such tooling is unique to, and only used for said GHSP part. Its intended life (absent substantial modification or alteration) is limited to the production of the part for which it was designed. Capital equipment (i.e., stamping presses, molding machines, automated material handling equipment, etc.) and generic tooling (i.e., perishable tools, drill motors, impact guns, wrenches, etc.) shall not be considered as Supplier Tooling unless provided by GHSP.

3.2 Relocation

Supplier Tooling may be relocated to another supplier for use on that supplier's equipment. Supplier Tooling that is designed specific to a supplier's equipment should be modifiable to suit another supplier with similar equipment.

Note: Any tool moves to another supplier or location must be approved thru the GHSP SREA process and follow the AIAG PPAP resubmission process.

3.3 Ownership

Supplier Tooling is considered property of GHSP or GHSP's customer at all-times. The supplier shall only use GHSP or GHSP customer owned tooling to manufacture product for use in support of GHSP unless otherwise approved by the GHSP Global Purchasing Director.

3.4 Maintenance and Storage

Supplier Tooling shall be maintained, per the latest IATF16949 requirements, by the supplier at the supplier's expense and shall not be altered in any way or disposed of without the written authorization of GHSP Global Purchasing Manager.

3.5 Tooling Inventory

During the first month of each calendar year suppliers shall furnish to the responsible GHSP buyer a list of all Supplier Tooling in the supplier's possession. The list shall include but not be limited to:

- GHSP tool identification number (asset tag number)
- Tool description
- GHSP Part Number(s),
- GHSP purchase order number authorizing the acquisition/construction of the tool.
- The city and state where the tool is located.

GHSP shall be afforded the right to verify / audit at the supplier's facility the status and condition of Supplier Tooling.

3.6 Credit/Payment Terms

Suppliers shall invoice GHSP for payment of monies owed for Supplier Tooling (regardless of if the payment is for the original tool or tool changes) upon formal PPAP approval of the component(s) the tool produces and/or the gauge measures. Suppliers must provide evidence of the full PPAP approval by submitting an electronic copy of the GHSP approved Part Submission Warrant (PSW) that is directly related to the invoice. GHSP standard payment terms apply after receipt of invoice.

3.7 Damage or Loss

Suppliers shall insure and protect Supplier Tooling against loss or damage.

3.8 Documentation

Suppliers shall complete and submit the GHSP Tool and Gauge Data Form as part of the PPAP submission to GHSP for Supplier Tooling.

3.9 Tooling Identification - Tool Pictures, with date stamps, must be supplied to GHSP as well as retain a copy at the supplier location.

- Complete date stamped tool photo with visible asset marking.
- Photo with the marking close-up with a correlating feature, marking must be legible.
- Open view – provide pictures showing all views of the tool.
- Family picture of like tools – Multiple identical tools are covered under a single ID#, the Supplier must provide one photo showing all tools together.

4. Other Requirements

4.1 Supplier Quotes

Supplier quotes must include a detailed description for each line-item entry such that each element of GHSP Tooling and Equipment or Supplier Tooling is clearly identifiable on all documentation and during any physical review.

4.2 Prints and Specifications

The supplier shall provide all prints and specifications associated with GHSP Tooling and Equipment and/or Supplier Tooling to GHSP upon request.

4.3 Marking Requirements

During the operational life of the tool, which includes the production of past-model service parts, the physical tag/marking must:

- Remain permanently affixed to the tool.
- Remain legible.
- Be durable in its manufacturing environment.
- Not impair the operation of the tool
- Tool markings must clearly depict GHSP or GHSP customer ownership as detailed in GHSP requirements.
- Tools with shared funding might be marked with two tool numbers.
- Tools used on multiple projects might be marked with more than 1 asset number.

4.4 GHSP Tooling Gage Form

- GHSP Tool and Gage Form should be submitted in Excel format (not pdf)

- Additional "loose" pictures should be submitted in jpg format (including the date stamp on the picture)

4.5 Manufacturing Assist Declarations

Suppliers outside of the USA who manufacture and provide products to GHSP plants located in the USA may be required to declare Manufacturing Assists when shipping parts to GHSP USA plants. This requirement will be determined and defined on the tooling purchase order. A Manufacturing Assist is defined as "anything provided to the foreign supplier by the U.S. Buyer, which is made available for free, or at a reduced rate, and used in the direct production, inspection, or testing, of the goods produced and imported by the U.S. Buyer". Examples include but are not limited to tooling, fixtures, gauges, testers, assembly aids, and raw materials shipped to the supplier by the U.S. Buyer.

Chapter 3 Quality

Chapter 3 Table of Contents

1. Quality Expectations Scope

All suppliers shipping to GHSP plants, including technical campuses, are expected to meet the quality expectations set forth in this section. Please contact your GHSP contact for questions on any topics covered in this section.

2. General Quality Expectations

A solid systems approach to quality management is essential to achieve the level of quality required by today's demanding customers. Such an approach yields many benefits, including but not limited to:

- A common platform for Quality Management
- Improved communication due to common systems
- Common format for training
- Systemic Change Control and Improvement
- Sustainable Improvement

2.1. Maintaining and Communicating Certifications

The supplier is responsible to submit copies of the valid certifications, for each applicable facility, to GHSP Purchasing, including all renewals prior to the expiration of the current certificate on file. Failure to submit and maintain certification level established at time of approval by GHSP to our approved supplier list (ASL) may jeopardize future business. GHSP

may verify compliance to the standard through process audits including verification of systemic corrective actions for problems.

- Maintain certification with ISO/IATF 16949 (applies to suppliers of direct materials used in automotive products at GHSP).
- Maintain certification with ISO 9001 (applies to suppliers of direct materials used in non-automotive products at GHSP).
- Maintain compliance via annual self-assessment with Materials Management Operations Guidelines / Logistics Evaluation (MMOG/LE) as published by the Automotive Industry Action Group (AIAG) (applies to all GHSP suppliers of direct materials).
- Maintain yearly applicable Continuous Quality Improvement (CQI) assessment records for the dedicated commodity process.

3. Supplier Assessment and Development Plan SAS/SDP

For a new supplier or a new manufacturing location for an existing supplier to be added to the GHSP approved supplier list, a Supplier Analysis and Assessment audit (SAS) must be completed. GHSP may also perform similar audits on an as needed basis or instruct the supplier to complete a self-assessment.

3.1 New Supplier SAS and SDP

An on-site assessment is required for all new GHSP suppliers and for new supplier locations.

3.2 Existing Suppliers

Existing suppliers will be subject to surveillance audits on a frequency that will be determined by the supply chain management team depending on performance criteria as defined in Chapter 1 Section 4 of this GHSP Supplier Standards Manual. GHSP reserves the right to conduct a surveillance audit at our discretion.

3.3 Self-Assessment

A self-assessment may be requested prior to the audit to gather pertinent data for supplier qualification and to identify evidence requirements for the on-site event. On-site assessments include a review of the quality system documentation, records, and plant floor verification for both new and existing suppliers. There will be an evaluation of data from parts that exhibit special characteristics on the drawing for capability.

3.4 Supplier Development Plan

Suppliers will be required to develop a Supplier Development Plan (SDP) if core competencies do not meet rating expectations incorporated into the assessment document.

Supplier Development group will monitor progress to SDP and conduct a verification audit to evaluate evidence of implemented actions.

4. *Team Feasibility / Technical Review*

Supplier Engineering support for product feasibility, product design and tooling design/approval may be required for a program. Reviews will include all drawings and supplemental drawings and specifications. Suppliers will be expected to support design reviews and other collaborative efforts to facilitate low-cost solutions for tools and products.

5. Advanced Product Quality Planning (APQP)

5.1 Supplier APQP Planning and Reporting

APQP is an automotive industry standard, used when new products are introduced into the market to monitor launch activities for all suppliers regardless of the GHSP end-product. This standard has been demonstrated, when followed, to result in a worry-free product to which the GHSP brand is attached. The supplier will be notified which parts require report out of APQP tracking. The Supplier Development Engineer(s) and Program Buyer(s) are the primary contacts throughout the launch.

Suppliers must comply with all programs specific requirements as outlined in the Supplier Statement of Work (SSOW).

The suppliers are expected to manage their own APQP activities in accordance with their program timeline, which is constructed in a manner that is designed to deliver a fully vetted out production ready product/service. GHSP may provide feedback from time to time; however, the APQP process is to be managed by the supplier. At a minimum, suppliers must maintain a detailed project timeline and an open issues list that are both current and accurate. Documentation and APQP process evidence may be required to be submitted throughout the launch process for review.

All pre-production part container/packages must be identified with, at a minimum, the GHSP part number, quantity, revision level and purchase order number. Any pre-production parts that are shipped without proper identification as stated above may be returned at the supplier's expense.

Prototype and non PPAP approved pre-production parts must have a full 5-piece dimensional layout sent for each lot of a singular *production* event. This ensures that both the supplier and GHSP understand the maturation level of the product, and supplemental drawing and specification requirements.

5.2 APQP Expectations

APQP Element	Description / Expectations / Targets

Team Feasibility Commitment	Supplier understands design completely and potential control characteristics are identified. Potential improvements and cost reduction opportunities are identified. Agreement of all special characteristics including CC, SC, CP & PTC: - Critical Characteristics (CC) ☆ : any design characteristic for which reasonably anticipated variation could impact, contribute, or cause non-compliance to any regulatory requirement or potential degradation of occupant safety. - Significant Characteristics (SC) ★ : any design characteristic for which reasonably anticipated variation is likely to significantly impact customer satisfaction with a product such as its fit, function, mounting or appearance, or the ability to process or build the product. - Control Point(CP) CP: design characteristics for which there is a high likelihood of affecting form, fit or function of the final product and requires documented sample size, frequency & control method in the Supplier Control Plan - Pass Thru Characteristic (PTC) PTC: design characteristic for which GHSP would not detect in process that could pass thru to the end customer and impact customer satisfaction – there are no specific SPC requirements but must be documented on the Supplier Control Plan. - Customer / Supplier drawings are distributed to supplier as controlled document from GHSP Engineering. - Supplier is responsible to maintain drawing revisions in their facility. - Supplier agrees requirements can be manufactured to required quality standards in serial conditions to the planned volume. All special characteristics to be measured and monitored appropriately. Signed feasibility confirmation is required.
Design Verification Plan & Report (DVP & R) and PV Plan	-The supplier is responsible for all lab testing as determined by the Supplier & GHSP to meet drawing requirements -The DV/PV Test Plan must be provided upfront to GHSP Engineering and Quality for approval. All testing results must be submitted according to GHSP requirements, including test reports, and "Approved" lab accreditation documentation.

• Design & Process FMEA (Failure Mode & Effects Analysis)	• Suppliers shall use the current revision of the AIAG FMEA Manual. -If the supplier is design responsible, they shall provide DFMEA, which is an input for PFMEA. -DFMEA and/or PFMEA to be submitted to GHSP in PPAP package and/or on request. -DFMEA and/or PFMEA content to be presented on-site at supplier when requested. -Important Drawing Characteristics (PTC/CP/SC/CC's) shall be identified in DFMEA and PFMEA. -PFMEA must be linked with Control Plan and Process Flow Chart. • -Special characteristics must have suitable detection ranking to ensure appropriate level of process control in PFMEA. • -A Critical Characteristic (CC) is a feature if non-conforming has a high likelihood of causing a safety critical failure on the GHSP end item or a severity of >=9 on our DFMEA.
Gauge Design & Feasibility	-Gauge concept to be agreed with GHSP Engineering and/or Quality. -Receipt of GHSP purchase order authorizes gauge construction to begin. -All customer and GHSP owned gauges must be identified with asset # and ownership -Gauges and fixtures used to determine quality should be available for 1st off tool parts. -SC and CC should be measurable from the gauges and used in the capability studies -GHSP Tool & Gauge Form shall be submitted with PPAP
Process Flow Chart	Supplier shall use AIAG PPAP manual. -Must have a process flow chart. -Process Flow Chart must be linked with PFMEA & Control Plan
Packaging Specifications & Shipping Plan	Packaging must ensure that the product performance, appearance, and characteristics are not affected by handling and/or shipping. -Packaging method/material must be agreed with GHSP Packaging Engineer via a signed packaging sketch form. Packaging standards can be found on the GHSP website, www.ghsp.com

Prototype Control Plan / Containment Plan	Supplier shall use AIAG APQP manual. -Pre-production containment applies to any parts produced for prototype, pilot or saleable vehicle builds at GHSP prior to full production. -Pre-production containment activities are a requirement of the supplier's APQP process and must be documented on a Prototype Control Plan. -PTC/CP/SC/CCs shall be identified in Prototype Control Plan. -Containment results must be submitted to GHSP upon request.
Prototype Tool Build & 1st Off Tool Parts for DV	-Tool concept to be agreed with GHSP Engineering/Program Management -Receipt of GHSP purchase order authorizes construction to begin -Measurement plan according to agreed Prototype Control Plan
Pre-Launch Control Plan / Containment Plan	Supplier shall use AIAG APQP manual -Pre-Launch Control Plan should be designed to prevent any potential non-conformities from shipping during Launch Phase. -During pre-production, the sample size and/or frequency of product inspection is typically 100%, unless otherwise agreed to by GHSP in writing. -PTC/CP/SC/CCs shall be identified in Pre-Launch Control Plan -Supplier must submit a “safe launch” containment plan that is agreed upon by the GHSP program management team -Containment results must be submitted to GHSP upon request -Criteria for exiting early production containment shall be based on reaching a pre-determined quality level agreed with GHSP quality contact
Production Tool Build & 1st Off Tool Parts for PV	-Tool concept to be agreed with GHSP engineering/Program Management/Tooling -Supplier must provide timing for the 1st Off Tool parts -Measurement plan according to agreed Pre-launch Control Plan
IMDS Database Acceptance	-IMDS Submissions must include all materials present in the finished product. -All basic substances must be reported. -Process chemicals, byproducts of reaction and contaminants listed in the GADSL as D or D/P must be reported as soon as the concentration in the end-product exceeds the defined threshold. -GHSP's IMDS ID # is 7030 -Asia & Pacific region, specific requirements may include CAMDS submission -Europe region specific requirements may include REACH submission

Production Control Plan (Control Plan Special Characteristics)	Supplier shall use AIAG APQP manual. -PTC/CP/SC/CCs shall be identified in Production Control Plan -If SC's are not identified on GHSP drawing, supplier shall identify at least one internal characteristic(s) to demonstrate process capability at time of PPAP and annual revalidation. -Control Plan must be linked with Process Flow Chart & PFMEA -Control Plan shall contain annual revalidation <u>Re-validation on Mass Production Shall Contain Minimum:</u> -Flammability test results -Material test results -Complete 2D/3D dimensional measurement according to the latest drawing & CAD -SPC for all SC/CCs -Lab reports with detailed values Revalidation data must be less than one year old. In case of SREA supplier shall inform customer immediately and improvement plan to be submitted.
Subcontractor APQP / PPAP Status	Supplier must track APQP status of their sub-suppliers (in similar way as GHSP) -Supplier must track PPAP documentation for each purchased component -Sub-supplier PPAP must not be older than 1 year (annual revalidation according to the GHSP requirements) -Sub-supplier PPAP submission must be followed in program timing and must be aligned with PPAP submission to GHSP.
Dimensional Report	Supplier shall provide evidence that dimensional verifications required by the design record and the control plan have been completed and results indicate compliance with specified requirements. -Minimum 5 parts across all cavities -Dimensional results for all 5 parts must be recorded separately -Dimensional report must contain: -Date of measurement -Part number -Part level -Drawing level -Nominal dimensions -Tolerances -SREA -Measurement results (data) -Judgement (ex. OK/NOK, G/NG)

<table>
<tr><td>Material Certification / Testing</td><td>-In addition to drawings and performance specifications, material specifications should be reviewed relating to physical properties, performance, environmental, cleanliness, handling, and storage requirements.
-These characteristics should also be included in the control plan.
-All certificates for raw materials (Material Data Sheet) upon request
-Certificate of Analysis for the raw material which was used during the significant production run.</td></tr>
<tr><td>Process Capability Study & Status</td><td>Supplier shall use AIAG PPAP and SPC manuals.
-Validation that each SC and CC applied to dimensions, can achieve its intended tolerance for product life
-Initial process study is focused on variable and not attribute data.
-Normality test to be performed prior to capability evaluation, methodology to be selected based on its result (normal, Weibull, etc.)

<table><tr><th>Initial Study/SPC</th><th>Sample Size</th><th>Target</th></tr><tr><td>Initial Process Capability Study (short term)</td><td>Min 125 (subgroups of 5)</td><td>Ppk ≥ 1.67</td></tr><tr><td>SPC during lifetime (long term)</td><td>Min 125 (subgroups of 5)</td><td>Ppk ≥ 1.33</td></tr></table>-Sample size and target value can differ based on customer specific requirements
-Sampling plan (frequency, quantity, etc.) must be approved by GHSP quality contact and be reflected in the control plan & DFS
-Critical Characteristics may have Poke Yoke or verification method (such as SPC) and traceability (minimum requirement: date, shift, operator, machinery, etc.) that demonstrates process capability is sustainable.
-If the capability target values are not met, 100% non-visual inspection must be implemented immediately
-Any component supplied to GHSP that includes a CC designation shall conform to section 14 of the Global Supplier Standards Manual, Supplier Critical Part Data Submission.</td></tr>
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<tr>
<td>Gauge Functionality, Certification & R&R</td>
<td>
Supplier shall use AIAG MSA manual.
-Where special gauges, fixtures or test equipment are required per the control plan, verify gauge repeatability and reproducibility (GR&R) and proper usage.
-All gauges or measuring instruments used for controlling GHSP product must be calibrated annually unless frequency is higher based on manufacturer's recommendation.
-Alternative calibration periods must be approved by GHSP and will be based on detailed metrological evidence
-All specific gauges or checking fixtures used for GHSP product quality shall be dimensionally verified as part of initial PPAP, and evidence of compliance to drawing included within the PPAP package, gauges / checking fixtures shall have initial GRR completed
-GRR for ALL gauges (variable & attribute) should be requalified in case of changes compared to the initial conditions.
- Variable Gauge R&R as a percent of study variation*.
-The study variation should be representative of the production runs with all known sources of variation.
-In the special case where the manufacturing process is very capable, stable and in statistical control; generally, a Ppk>2.5, the GR&R % study variation may be in-excess of 10%. In this case, the percent tolerance method may be used; and the number of distinct categories requirement is not required, the values on the range chart are not always within control limits and more than 50% of the values on the Xbar chart may be inside the control limits.
<table>
<tr><td>GRR≤10%</td><td>The GRR meets the acceptance criteria</td></tr>
<tr><td>GRR>10%≤30%</td><td>The GRR does not currently meet the acceptance criteria and risk of shipping non-conforming product requires guard banding until improvements can be made to meet acceptance criteria.</td></tr>
<tr><td>GRR>30%</td><td>The GRR does not currently meet the acceptance criteria and requires improvements to be made to meet acceptance criteria. Further, gage</td></tr>
</table>
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		cannot be used for production control methods.

-The identification number of the assigned gauge must be clearly listed in the control plan.

Attribute Gauge R&R

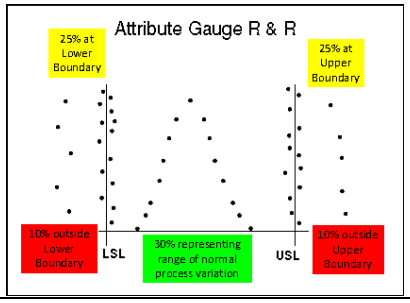
-The attribute gauge must reject all parts outside the specification limits.

-Rejecting good parts may be acceptable if the throughput/capacity losses are acceptable to the team.

-All Kappa values should be greater than 0.75. Kappa values less than 0.75 may be acceptable if the reason is limited to operators rejecting good parts.

-The parts used for the attribute study should follow a normal distribution to adequately determine the gauge's ability to properly determine if the gauge is capable to separate acceptable from non-conforming throughout the full range of variation and product tolerance.

-As a general guideline 50% of the parts should be evenly split between the upper and lower tolerance. 30% should represent the expected process variation (selected from initial process capability) and 20% of the parts should be split evenly outside the specification, even if the parts are "specially" manufactured to represent these conditions.



Product Validation Testing	Inspection and testing for PPAP shall be performed by a qualified laboratory as defined by customer requirements (e.g. an accredited laboratory). -The qualified laboratory (internal or external to the organization) shall have a laboratory scope and documentation showing that the laboratory is qualified for the type of measurements or tests conducted. -Assures compliance to all GHSP and/or customer requirements and is required for all new or modified parts -PV test samples must be taken from a production simulated run incorporating production tools and processes. Quantity to be agreed with GHSP contact. -Asia & Pacific region, specific requirements may require a laboratory approval performed by supplier development and supplier quality engineer (on-site assessment).
Color & Appearance Master Plaques, AAR (Appearance Approval Report)	-Appearance Approval Report (AAR) shall be completed for each part or series of parts if the product/part has appearance requirements -Each part and color should be measured and the values on AAR must be within specifications or master plaque based on agreement -Evaluation process and the report can differ based on customer specific requirements -Supplier is responsible to have all master plaques available to check the appearance (grain, gloss, color) -Supplier is responsible to gain OEM Customer / GHSP approval for pre-grain approval, grain approval, color, gloss, knit lines and general part appearance -Supplier shall maintain approvals, master samples, boundary samples and master plaques -Supplier personnel evaluating color must be certified annually using Farnsworth-Munsell hue test (or similar) with records available

Supplier Process Sign-Off (PSO) – Run at Rate	PSO is a cross-functional verification that supplier's advanced quality planning processes have been successfully executed (documentation review) and that the manufacturing processes are capable of producing parts that consistently meet all requirements during actual production at the quoted rate (process sign-off). -All documents, forms and supporting records must be evaluated for completeness, forms and supporting records must be evaluated for completeness, content and overall quality prior to supplier part submission to GHSP. -Pre-checks (audit) may be done during the project prior to final PSO -Internal documentation review shall be conducted prior to any customer monitored event(s). -Parts that have been identified as high risk will have a PSO led by a GHSP SDE or designate. -Parts that have an acceptable risk assessment will perform a self-assessment PSO. -During Run at Rate all production tooling must be in place and running at full capacity using regular personnel and support systems. -The minimum duration of the Run at Rate demonstration shall be 300 parts.
Final PPAP submission Approval & Master Samples	Supplier shall use AIAG PPAP manual. -Forms may differ based on customer specific requirements -If submission level is not specified, then Level 3 shall be submitted -Supplier shall initiate a Deviation Authorization (DA) if it is necessary to utilize the parts prior to full part submission approval. In such cases, the supplier is required to develop a corrective action plan to address any non-conformances and resubmit the package for approval prior to the DA expiration date. -An organization supplying standard catalogue production or service parts shall comply with PPAP unless formally waived by the authorized GHSP / customer representative. -PSW and PPAP documentation must reference GHSP released part number, drawing number and revision level. -Supplier shall submit PPAP Level 3 for carry-over parts with revised capacity confirmation, material, and performance tests not older than 1 year, unless otherwise specified by the GHSP quality contact. -Supplier shall submit master samples and duplicate boundary sample proposals to GHSPs manufacturing plant. One of the samples will remain at GHSP, the other is sent back to the supplier with evaluation & signature.

6. Document Retention & Traceability

6.1 Quality Document Retention

GHSP suppliers shall maintain quality records such that they remain retrievable and legible upon request by GHSP and subsidiaries. GHSP requires record retention duration for minimum "life of the program" plus additional period in line with statutory, regulatory and customer requirements. Records related to nonconforming product for trend analysis and problem identification shall also be maintained. This requirement also applies to any supplier's sub-supplier. Additional record retention requirements can be referenced per AIAG or ISO 9001 and/or IATF 16949 (latest editions).

6.2 Traceability

The supplier will be responsible for controlling/tracking the actual configuration of material of parts to the approved engineering documents in addition to any changes to ensure that the end-product meets specified functional and physical requirements as contracted. Additionally, the supplier will have a robust system in place to provide (upon request) lot or part traceability back to the raw material stock for all material shipped to GHSP. This requirement shall also apply to any supplier's sub-supplier.

7. Quality Performance Reporting

7.1 Key Process Indicators

Key Process Indicators (KPI's) are used by GHSP to measure the effectiveness of internal business processes. Suppliers are required to define KPI's that are relative to their operation, set targets for these metrics, measure them relative to the established targets, report their findings, and develop improvement plans based on the results. KPI's are to be regularly reviewed by management and must be available upon request during an SMR event. Examples of KPI's that are relevant to a manufacturing facility may include (but not limited to):

Quality Measures	**Manufacturing**
Customer PPM	Schedule Attainment
Internal PPM	Scrap %
# Repeat Problems post Corrective Action	Inventory Costs
Supplier PPM	First Time Capability (FTC)
Shipping	**Safety**
On time delivery	Lost-time Accidents
Premium Freight Costs	Recordable Accidents

8. Quality Deliverables

8.1 PPM Expectations

The expectation for supplier performance is 0 PPM (0 defects)
Product that is received into GHSP facilities that does not conform to the drawing specification(s) and /or agreed upon standards will be counted against a supplier's PPM record. Quantities will be reported in the units of measure in which they are purchased. This applies to production parts**. The following conditions are considered Quality PPM designated by A, B or C rank PTRs:**

- Production Parts that do not meet drawing specifications, dimensional, functional and/or appearance standards as called out in the specification or from an approved boundary sample by a GHSP representative.
- Production parts damaged because of inadequate packaging, regardless of GHSP approval of the packaging form. Production parts damaged from transportation for which the supplier is responsible.
- Shipments that are received with mixed parts or parts that are the wrong revision level after the clean point has been established. Reject/Defect quantity is for the quantity of incorrect parts only.
- Any defects outside the boundaries of an approved SREA for cases where supplier may be shipping prior to PPAP approval.
- Out of specification parts shipped prior to PPAP approval without an approved SREA. This includes production samples used during product development cycle (launch) that have a design record at REL level or beyond.

The following are examples of situation where Quality PPM is not applicable:

- Parts that meet drawing specifications and/or boundary sample requirements but are not useable.
- Parts that meet drawing specification and/or boundary sample requirements that are rejected by a GHSP facility.
- Parts that have not been released for production (i.e., not at revision REL or beyond on a design record). This excludes prototype parts off prototype tooling.
- Parts that have an approved SREA for a non-conforming condition(s); these parts cannot be assigned PPM if the problems are only associated with the deviated characteristic.

8.2 Correcting PPM

When a quality issue requires containment, the suspect material must be sorted 100% for all material including parts at all GHSP locations, in inventory at supplier, and material in transit. If suspect parts are removed from the GHSP location (and moved to non-nettable inventory) and sorted off site (at supplier or 3rd party) the supplier must complete the sort and return certified material to GHSP in a timely manner including reporting any defects found. The plant will update the PTR defect quantity in accordance with the finding. A

timely manner is defined such that the GHSP production facility is uninterrupted by the sorting activity. Suppliers are encouraged to work with GHSP materials planners to understand when they need certified material to maintain uninterrupted production schedules. If a supplier identifies, communicates, and takes appropriate action to correct a potential problem before the problem is identified or before parts are used in a GHSP facility, then the parts will not be counted against PPM and no points will be deducted from the supplier's scorecard. Suppliers may authorize scrapping material if it does not interrupt GHSP production.

Parts which are out of specification may be used "as-is" with an approved SREA signed by GHSP Engineering and Quality representatives if the purpose is to maintain production to prevent potential interruption at GHSP's end customer. In these cases, PPM may be assigned based on risk, non-conformance history, and severity as determined by the DFMEA from GHSP Engineering.

8.3 Degradation of Quality Control of Critical Characteristic.

A Critical Characteristic is considered the highest-level issue within GHSP because of the safety and liability implications that could occur, because of the non-conformance(s). In the event, that a Critical Characteristic(s) is found to be non-conforming after the production controls, per the control plan, were executed, this is an indication that the control system has degraded (worsened). Supplier containment and immediate notification to request approval for a change in production control plan will be required until such time the root cause(s) can be identified, verified, and corrected. Containment can take the form of a downstream error proofing activity on the GHSP assembly line provided that the supplier agrees to fund the costs and GHSP is able to maintain cycle times. The goal is the most effective detection method of the defect. **One CC defect is one defect too many.**

8.4 Degradation of process capability of Significant Characteristic

A Significant Characteristic is considered the second most issue of priority within GHSP because of the functional impact as well as the impact to our First-Time Capability measure reported to OEM customers. In the event, the ongoing SPC controls indicate that the overall process capability has degraded below 1.33, the supplier is expected to notify customers, identify 100% effective containment measures and request approval to implement the change in the production control plan until such time the root cause(s) can be identified, verified, and corrected. The objective is to implement the most effective detection method; thus, suppliers may consider alternatives at the first assembly station error detection at GHSP provided that the supplier funds the investment in the equipment and the change does not have *a significant impact on GHSP's schedule attainment.*

8.5 Outgoing Inspection and Reaction to GHSP Incoming Inspection Concern for material shipping to GHSP China

GHSP China manufacturing facilities have unique requirements regarding receiving outgoing inspection reports from suppliers to be used to compare to GHSP incoming inspection data. The purpose of this is to verify that each shipment we receive when inspected, matches the outgoing data from the supplier on critical, significant and in some cases, pass thru characteristics. Detection of outgoing quality issues is the supplier's responsibility and any incoming inspection done at GHSP, will be driven by risk and/or past problem history with the specific supplier. Outgoing Final Quality Checks (FQC) will be documented on the supplier's production control plan.

9. Supplier Chargeback

9.1 Supplier Chargeback Communication & Expectations

Suppliers are notified of nonconforming material through the Problem Tracking Report (PTR) Notice. Nonconforming material is defined as suspect or rejected product that is deemed defective according to the design record(s), product specifications or established appearance boundary samples. PTRs are subject to a $250 USD administrative fee for quality, delivery, and service issues. If the problem results in a line down situation, a minimum of a $750 USD administrative fee will apply. No RMAs are required for administrative fees. Suppliers are expected to issue a return material authorization (RMA) within 24 hours of PTR notice to the GHSP designate (shown below) to authorize actions including, but not limited to, scrap, re-work, sorting on site, or returning material to vendor. Supplier chargebacks should be targeted for closure within 30 days and can only be extended with the written acknowledgement of the commodity buyer.

Issue Type	Representative
Quality issues at GHSP NA factory:	Plant Supplier Quality Engineer
Quality issues at GHSP Asia factory:	Commodity Supplier Dev. Engineer
Delivery Issues at any GHSP factory:	Material Planner
Customer Service:	Buyer

10. Problem Solving Documentations

10.1 Supplier Problem Solving Expectations

The 8D Problem Analysis Report is the GHSP preferred problem-solving format for use by all GHSP facilities. The 8-D Problem Analysis Report provides a means for the definition and resolution of issues through problem solving.

Each supplier is responsible for appropriate and timely application of the 8D and for ensuring their organization possesses the knowledge and skill level to solve problems. It is expected that a completed 3-D is submitted within 24 hours (1business day) of receipt of PTR notice to

contain issues where the manufacturing location and GHSP factory giving notice are in the same relative time zone. In the event the supplier is providing product from a foreign location greater than 8 hours' time difference, the containment period will be less than 3 days' time. A completed 3-D shall include a containment plan consisting of method of containment, verification of containment effectiveness and timing of containment actions. If the supplier has determined there is risk that suspect material has been shipped to GHSP, the supplier must immediately notify each affected fulfillment location and make containment arrangements to protect GHSP. All product created by the same or similar processes must be contained until verified to be acceptable to the design record. In-transit material to any GHSP ship to locations must be identified and the method of certification shall be communicated.

Each supplier is expected to submit evidence to prove potential root cause(s) are real and in some cases, prove them not to be real. The permanent corrective actions will be directed at a method to detect the cause of failure mode, not an action that is intended to detect the failure. Failure detection costs may be an interim control to protect GHSP but cannot be the basis to close out a problem as this, drives non-value add waste in our supply chain that has the potential to become new business practices creating uncompetitive supply lines. Suppliers can dispute a PTR and request it to be deleted if adequate evidence is provided, that root cause could not have occurred at the supplier. Suppliers are expected to follow the PPAP requirements (Section 8) for permanent corrective actions that fall under the scope of PPAP. GHSP has contractual OEM obligations to request Tier 1 to N changes thus it is critical to follow the change notification and request sequence with absolute discipline. It is an expectation that suppliers manage their corrective actions and avoid letting them age beyond 90 days. If the supplier has submitted permanent corrective actions (PCA) and GHSP is restricting supplier's ability to implement PCA, please notify the GHSP Buyer to escalate the concern. Suppliers are expected to verify PTR closures via monthly reviews of supplier scorecards. The suppliers are encouraged to raise concerns to the buyer if they believe that PTR's closures have not been correctly reflected in their scorecard.

11. Supplier Management Reviews (SMR)

11.1 SMR Introduction

A Supplier Management Review is an escalation process used to ensure that the supplier is placing the proper focus on a systemic issue(s) and establishing corrective actions that result in a substantial change in performance over time, as reflected in supplier scorecards.

11.2 The SMR Review and New Business Hold Criteria

SMR/ New Business Hold Criteria	SMR #1	SMR #2	Hold New Business
Chronic documented unresolved problems in Quality, Service, Logistics and/or Delivery.	X		
Special Characteristics (CC, SC, PTC) that have been received as non-conforming in any GHSP facility. Discovery that a supplier has not submitted PPAP packages for changes as required by 4th Edition PPAP requirements.	X		
Discovery that a supplier has shipped production product to GHSP without PPAP approval or a valid GHSP SREA.	X		
Production suspended at GHSP resulting in a customer disruption, or significant cost to GHSP due to a suppliers' product quality, part shortage or logistical issues unrelated to a force majeure event.	X		
Chronic, documented, unresolved SMR problems spanning more than 2 quarters or deemed high risk requiring immediate action.		X	X
Unreasonable response from the supplier or indications that no progress has been made to resolve SMR1 issues.		X	X
Suppliers' inability or unwillingness to work with GHSP to make fundamental quality system improvements.		X	X
Unresolved special product characteristics, as defined on the print, do not meet Ppk or Cpk requirements as expressed in the AIAG PPAP requirements and/or engineering documents.		X	X
Continued customer dissatisfaction of a supplier's product quality, delivery, or logistical issues, including resourcing sub-contractor(s) to known capable supply chain.		X	X
Significant single event issue (Quality, Delivery, Cost, Other)	X	X	X

11.3 SMR Notice and Expectations of Conducting SMR Review

The Supplier Management Review is the opportunity to discuss the important concern(s) of GHSP and review the corrective action plans. The SMR 1 level is intended to be conducted by the supplier's management staff. The SMR 1 notice is initiated by sending a Meeting Notice form to the supplier. Focus must be placed on effective critical thinking, systemic root cause analysis, and identification of meaningful countermeasures. All quality and delivery problems are to be supported with appropriate data. The supplier is expected to bring a permanent corrective action plan for all the items referenced in the agenda. The buyer is responsible to collect detailed meeting minutes, including any additional agreed upon action items to be taken, and subsequently distributing the minutes to all attending parties. The buyer determines if the action plan is acceptable with or without minor changes. If the corrective action plan is not acceptable then an SMR 2 may be called. The SMR 2 is intended to be conducted with the supplier's executive (C level) staff.

11.4 SMR Exit Criteria

The supplier will implement the GHSP approved systemic corrective action plan and will provide evidence of corrective actions along with data demonstrating a measurable impact. The data required is commensurate with the issues experienced. For example, if the issues are regarding chronic delivery, the data may be several weeks to months of on time delivery reports or production schedule attainment charts. If the issue is chronic quality issues, the evidence may be a combination of demonstration of mastery problem solving and incorporation of the learning into design, equipment, or manufacturing standards. On site verification of improved process may be required. If the corrective action is not satisfactory, or insufficient evidence is presented, a determination is made whether to escalate the SMR to the next level.

11.5 SMR Escalation and Expectations of Final Resolution

The SMR 2 notice is initiated by a member of GHSP Supply Chain Management staff and is sent to the appropriate supplier senior management. An SMR 2 indicates that a substantial degradation has occurred with ineffective corrective action or corrective action at a pace that indicates a likelihood of continued impact in our operations and/or launch team. The SMR 2 is an executive discussion. In rare, extenuating circumstances and at GHSP discretion, a contractually allocated resource may be assigned to the supplier to lead initiatives to ensure sustainable improvements are made. The outcome of the review will determine whether the supplier is placed on new business hold or whether the supplier may still be considered for quoting new business during the recovery timeframe.

12. Containment

12.1 Purpose of Containment for Production

Containment is accomplished through deployment of additional controls in the supplier's process to identify known or potential non-conformances and to prevent such non-conformances from shipping to GHSP.

Additional controls can include but are not limited to statistically based inspection audits, dimensional measurements, SPC checks, appearance checks, part functionality checks (EOL tester), label verification systems, check fixtures/gage and poke-yokes.

The goal of containment is to protect GHSP and its customers from defective material escapes during the initial product and process startup (pre-production), throughout production and in reaction to a quality issue identified at any location in the supply chain. The following section details our expectations for each of these phases:

12.2 Pre- Production/Launch Containment Expectations

Pre-production containment applies to any parts produced for prototype, pilot or saleable vehicle builds at GHSP prior to full production. Pre-Production containment activities are a requirement of the suppliers APQP process and must be documented on the prototype or pre-launch control plan whichever applies. The Pre-launch control plan includes increased frequencies and additional tests over and above the Production Control Plan to ensure heightened product and process quality until the supplier's production process is validated. The exit criteria to validate the production process will be documented on the pre-launch control plan. During pre-production, the sample size and/or frequency of product inspection is typically 100% and does not replace the final part audit. The GHSP SDE reviews the pre-launch control plan which is typically done during the Process Sign Off event. Open issues from the PSO will drive deployment of additional controls and documentation in the pre-launch control plan.

Issues that remain 90 days' post GHSP SOP may be subject to 3rd party containment if the SDE deems it to be appropriate as supplier has had reasonable time between the supplier's PPAP due date and the program SOP date to resolve issues.

12.3 Containment Exit Expectations

Criteria for exiting containment will be approved by the GHSP quality contact. Exit criteria will be based on reaching a predetermined quality level and not the number of parts or days sorted. To exit containment, the supplier must achieve a predetermined quality level (generally 0 defects) and maintain this level for a minimum of 30 days or 3 production lots.

13. Supplier Request for Change

GHSP acknowledges that suppliers may have a need to request a permanent change to their product and/or manufacturing process. Changes include, but not limited to, VA/VE improvement initiatives, increased capacity requirements, manufacturing footprint optimization, sub-tier supply resourcing or other changes. We further recognize, that an SREA to requirements may be requested and expect suppliers to manage the risk of approved SREA Submission accordingly. A SREA is defined as a short-term change from an approved, usual, expected, or planned process. Examples of a SREA would include, but not be limited to, requesting approval to ship production parts without full PPAP approval, requesting approval to implement re-work as a containment activity or utilizing non-returnable packaging as a substitution for approved returnable packs.

13.1 Supplier Change Request and Approval Process

The process below defines the steps for supplier product or process changes to ensure that they meet GHSP requirements and the OEM's Customer Specific Requirements. All suppliers are expected to follow the process as outlined.

GHSP requires advance notification and written approval prior to all changes and /or transfers, failure to do so may result in the supplier being placed on New Business Hold Status, a formal notification to the IATF or ISO9001 supplier registrar and/or financial consequences.
Product and/or Process Changes that require GHSP approval to implement:

- Any change that could affect form, fit, or function.
- Any change to site location (also affects sub-supplier site location site changes)
- Any product change that would be reflected on the design record(s)
- Any changes to process parameters (outside of parameters documented in the PPAP submission)
- Any change to location of manufacturing cell, manufacturing equipment, or process equipment within the supplier location
- Any change of shipping location
- Any change in sub-supplier
- Any modifications equipment or tooling (outside of standard preventive maintenance procedures)
- New or refurbished tooling or equipment (excludes perishable tooling)
- Any changes in test/inspection methods
- Any changes to the line layout or workstation layout
- Any changes to the process flow outside what was provided in the PPAP submission.

Steps for obtaining approval to MAKE the requested change:

1. Prepare and submit a completed GHSP Process/Product Change Request form with supporting detail. The form is located on the GHSP website http://www.ghsp.com/en/suppliers/supply-chain-forms
2. Incomplete forms will be rejected.
3. GHSP Supplier Quality or Supplier Development will evaluate the request and if acceptable, will seek internal approvals as needed.
4. Supplier receives approval to move forward with change request or rejection.
5. Supplier submits PPAP and PPAP samples (if needed) to GHSP quality contact for disposition.
6. If PPAP is rejected, supplier is required to make the changes needed to overcome the objections.
7. If Supplier PPAP is approved (Full or Interim), supplier may begin shipping product with a label on the outside of the container to indicate the first shipment of the change. The GHSP quality contact will provide the tracking number that will be included on the label for internal traceability.

13.2 Supplier SREA Request and Approval Process

The process below defines the steps for suppliers to request approval to implement a deviation.
Steps for obtaining approval to MAKE the requested change:

1. Prepare and submit a completed GHSP Supplier SREA Request form with supporting detail. The form is located on the GHSP website http://www.ghsp.com/en/suppliers/supply-chain-forms. Incomplete forms will be rejected.
2. Supplier must submit a detailed safe launch plan for the requested change.
3. GHSP Supplier Quality or Supplier Development will evaluate the request for completeness and if complete, will seek internal approvals as needed.
4. Supplier receives approved or rejected SREA request.
5. If approved, Supplier implements the SREA including any edits documented on the form. If the SREA affects product, we may require that the product or outside package be identified, to alert GHSP that we are receiving material under SREA.

13.3 APQP Linkage to Process Change Request, PPAP and Value Add/Value Engineering (VA/VE)

GHSP expects suppliers to continuously improve by applying the APQP methodology, as well as other methods (kaizen, quality circles, value stream mapping, etc.). When quality issues occur and effective problem solving is executed, the corrective actions most often can fall under one or more conditions requiring a revised PPAP submission. PPAP is a process, not an event. The PPAP submission is a key milestone event that is the sum of the APQP activities and as such, we expect that suppliers maintain internal PPAP records for each element for every change point. The evidence we ask a supplier to submit is not equivalent to the obligation of work. ALL elements of PPAP must be considered and updated to reflect the lessons learned as applicable. Suppliers may be tasked with VA/VE goals and GHSP expects that the supplier consider the APQP process when planning/implementing the initiatives.

14. Supplier Critical Part Data Submission

Due to the safety critical nature of GHSP's products, there is an ongoing need to understand the performance of those related critical components. GHSP has identified safety critical features with open stars on the drawing, as noted in section 5.2 of this Global Supplier Standards Manual. The expectation of a supplier providing ~~a~~ safety critical component(s) is that the measurement submission of the component performance summary of production shipments be available immediately upon request by GHSP. Using form SC-FORM-SCH-X37 Safety Critical Characteristic Monitoring, the supplier shall provide Ppk levels, FTT results, and the confirmation of controls as defined in the PPAP remain in place and effective. Data submission shall be maintained throughout the life of the project for all safety critical components supplied to GHSP.

Chapter 4 Material & Logistics

Chapter 4 Material & Logistics Table of Contents

1. Materials Management and Logistics

1.1 Introduction

The materials management and logistics organizations at GHSP contribute to manufacturing excellence in quality, cost, and delivery to the customer. Specifically, these teams ensure the on-time delivery of component materials and subsequent shipments of finished goods at the lowest cost and best value to customers. Continuous improvement in our supply base relative to materials management and global logistics is required and, if managed correctly, sustained improvement will provide a competitive advantage for GHSP and our supply chain. To fully leverage the potential of these innovative systems and processes, the knowledge, and

capabilities of GHSP's extended enterprise must be flexible and capable of meeting our replenishment requirements.

1.2 Global Standards

World-class materials management and logistics is achieved via execution of comprehensive, standard business processes. As such, suppliers of direct materials to GHSP will:

- Maintain certification with IATF/ISO 16949 (applies to suppliers of direct materials used in automotive products at GHSP).
- Maintain certification with ISO 9001 (applies to suppliers of direct materials used in non-automotive products at GHSP).
- Maintain compliance via annual self-assessment with Materials Management Operations Guidelines / Logistics Evaluation (MMOG/LE) as published by the Automotive Industry Action Group (AIAG) (applies to all GHSP suppliers of direct materials).
- Achieve compliance with IATF/ ISO:16949 no later than September 14, 2018.

1.3 Fundamental Systems

Suppliers of direct materials to GHSP will ensure the following expectations are in-place and are included in their business processes:

- Communications take place electronically between trading partners.
- Lean Manufacturing principles and practices are employed in the organization.
- Customer demand is analyzed, schedule variation is reacted to, CUM quantities (CUMs) are reconciled weekly, for suppliers shipping to schedule release; and demand is compared to available capacity.
- Communications are proactive relative to potential issues in meeting demand requirements.
- Shipments are made accordance to routing instructions.
- 100% on-time delivery is required and measured from sub-suppliers.
- Materials Management and Logistics team members have development plans which focus on increasing their abilities and experience in the areas of materials management and logistics processes, technical capabilities, problem solving, and leadership.
- Materials Management and Logistics systems are audited to ensure compliance.
- Key measures are identified, monitored, and reviewed for continuous improvement of performance.

2. Electronic Commerce

2.1 Introduction

GHSP and our automotive customers require that Electronic Data Interchange (EDI), or an alternate web-based solution, is utilized throughout the Supply Chain. All our initiatives, policies, and transaction sets comply with the guidelines for Materials Management

Operations Guideline / Logistics Evaluation (MMOG/LE) as set forth by the Automotive Industry Action Group (AIAG). Effective January 2022, our suppliers must have the capability to interface with us using FTP EDI. It is the supplier's responsibility to have the ability to communicate with GHSP via FTP EDI as SV will no longer be used for supplier releases and ASN's.

2.2 Advanced Shipping Notice (ASN)

An ASN is the electronic transfer of shipment data from a supplier to a customer. The customer plant utilizes the information contained within the ASN in four ways:

- Determine and confirm goods are in transit.
- Verification against the shipment as product is received.
- If the supplier is ERS (Evaluated Receipt Settlement) approved, the ASN serves as an electronic invoice that will generate payment to the supplier.
- ASN's are required for both production and service shipments.

Accuracy of ASN's is imperative to maintain the integrity of information related to inventory records, supplier schedules (MRP), and invoice payments. ASN timeliness is critical to information accuracy and the functionality of GHSP systems. Failure to send ASN's may result in non-compliance on your Supplier Scorecard through the issuance of a PTR (Problem Tracking Report), and the potential for a charge-back.

The ASN must be created upon finalization of the shipment and be received by GHSP within one hour from departure of the suppliers shipping location, or prior to its arrival at the GHSP facility, whichever is earliest.

, GHSP will converting over from SV to FTP EDI. The supplier will be required to send ASN's to the production plant via the FTP process as SV will no longer be available.

For the ASN to be identified as complete, all the specified information listed below must be contained within the ASN. A PTR may be issued for failure to send an accurate ASN.

- A unique Shipper / Packing slip / BOL number for each shipment - (Must match packing slip number)
- Shipment Date / Time
- Carrier name
- Carrier reference / tracking number
- Part Number(s)
- Quantity Shipped per part
- Purchase Order Number
- UOM
- Manufacturer Part Number (for electronic components only)

3. Shipping and Replenishment Performance

3.1 Introduction

The standard for GHSP suppliers is 100% on time arrival of all parts required by the GHSP manufacturing site. This means shipping the correct quantity of the correct product to the correct location in the correct method at the correct time.

It is mandatory that the supplier contact the GHSP Materials direct contact (not the GHSP buyer) or GHSP Materials Manager, immediately upon recognition of an issue, if the release schedule cannot be met. This includes the review of all weekly forecast releases to the APW/MPW and/or the EAU as quoted to GHSP.

GHSP expectations are that suppliers procure materials to the authorized raw/fab as reflected on the releases. Notify your GHSP Materials contact and/or GHSP Materials Manager if you receive 2 or more subsequent releases which show a decreasing authorization without receipt of a balance out notification.

Suppliers are expected to import forecasts and releases electronically into their systems without manual entry as stated by AIAG in the MMOG/LE.

3.2 Forecast Expectations

The forecast will grant raw & fab authorizations per the commercial terms between GHSP and the supplier. GHSP raw & fab authorizations will be provided in accordance with the authorization being provided by our customers. An example is that GHSP may provide 5 weeks raw and 3 weeks fab, for a total of 5 weeks (i.e., you are authorized to convert 3 weeks of the raw to fab, not carry an additional 5 weeks raw). This information will be provided to the suppliers via the releases. Certain commodities may be granted different standards, but all commercial terms will be reflected on the releases. The GHSP standard is 5 weeks raw and 3 weeks fab. Deviations from the standard must be authorized by GHSP and will be communicated in the Purchase Order as well as on the release.
The authorization on a release is the GHSP financial commitment for released material. Authorization for a CUM amount and the lead-time required for a shipment are not synonymous. Lead-time is defined as the amount of time between recognition of an order and receipt of an order (and may include manufacturing time as well as transportation time). This does not translate directly into the number of weeks GHSP will provide firm releases or financial commitment authorization. Suppliers are responsible to manage their lead time of raw material to meet GHSP releases (per T's & C's) and will not be provided "lead time" for blanket purchase order agreements, after first shipment. Any questions or concerns on Raw/Fab authorizations reflected on releases should be directed to the appropriate GHSP Buyer.

3.3 Shipping and Delivery

Authorization to ship product to GHSP will be communicated through the supplier release. If replenishment methods should change, GHSP material planners will communicate th

change to the supplier. During launch or pre-production GHSP will use MRP supplier releases or discrete/spot buy PO's. Replenishment methods will vary from site to site. The requirements on the releases will show as either a ship date or a delivery date.

- A Delivery date defines when the goods are to be ultimately received by the GHSP facility. A delivery date is NOT the date that material should be delivered to the carrier. Transit time must be determined; and the product shipped to account for receipt at GHSP facility on the date reflected on the release.
- A Ship date defines when the supplier is expected to ship the goods. This is the date GHSP expects the freight to be delivered to the carrier.

Contact the GHSP facility if you have any questions as to which date is being transmitted.

The supplier is required to:

- Control its processes to assure that the physical shipments correspond with the GHSP demand.
- Have the ability to meet either a 20% week to week net schedule increase or a 20% CUM increase over the period authorized within the raw/fab authorization. This does NOT apply to balance out material.
- Contact the GHSP facility Materials Representative(s) if the supplier is unable to meet the replenishment schedule (before material is past due) and supply the following information:
  - The quantity of parts showing required (based on CUMs) by date.
  - The plan to get back on schedule by assigning the necessary resources to resolve any delivery issues.
- Contact the GHSP facilities materials representative for an agreement on transportation method if the release schedule cannot be met.
  - Obtain approvals from the GHSP facility on the mode and carrier chosen for all expedited materials.
  - Make every effort to reach an agreement on the expedited freight responsibility at the time of shipping.
- Take Responsibility for downtime and other associated costs (i.e., premium freight or charter costs) due to their inability to meet delivery requirements that are in accordance with the purchasing terms and conditions.

4. CUM Order Quantity Maintenance

4.1 Introduction

The generation, verification, tracking, and reconciliation of CUM order quantities (CUM's) is the standard for Automotive Tier 1 suppliers, including GHSP. CUMs are a way to identify the amount of product required to ship to your customer. GHSP expects the supplier to reconcile CUMs upon receipt of each release. Identifying and initiating the resolution process of CUM order quantity discrepancies is the responsibility of the supplier. The definition of the process is defined below.

4.2 CUM Order Quantity Maintenance Communication

GHSP will provide the supplier with the following:

- Starting 'CUM Received Qty' of 0 upon issuance of a new purchase order.
- 'CUM received' quantity will be noted on each new release and includes the last receipted ASN number, quantity, and date the part was received into the GHSP ERP system.
- 'CUM received' may be changed if one of the following conditions exists:
  - Issuance of a Problem Tracking Report (PTR) due to a receiving variance (qty is over/under the packing slip quantity issued by supplier)
  - A Supplier Material Return has been processed by the quality department.
  - CUM resets (may be done annually and suppliers will be notified of the reset prior to the action being taken)
  - Prior receiving error corrections
- A revised electronic or manual release if errors are found in the electronic release. The release will show the required quantity due at the GHSP facility based on MRP (Req Qty), Total CUM required to be shipped to ('CUM Req Qty'), and the quantity remaining open after receipts have been processed ('Net Req Qty'). These will be shown by line, with the corresponding due date reflected.
  - Dates on Releases will be represented as either Delivery Date (supplier accounts for transit time from supplier to GHSP facility) or Ship Date (GHSP accounts for transit time from supplier to GHSP facility).
- 'Prior CUM Required Qty' field on the release represents the CUM total quantity due, prior to the first date shown on the new release. Any past due requirements will be reflected in the prior 'CUM Required Qty' and 'Net Req Qty' fields.
- Physical copy of PTR's or Return to vendor transactions to support CUM resolution.

GHSP expects the Supplier to:

- Track and accumulate all production part and/or after market-service parts shipments. This will become the suppliers CUM (CUM) shipped quantity.
- Update suppliers CUM shipped quantity when the supplier is issued a return to vendor or a PTR (i.e., incorrect packing slip/ASN to parts physically received).
- Identify past due quantities using the most recent release. The formula is, prior CUM required minus the CUM received minus in-transit quantity.
- Identify the GHSP CUM required by date using the most current release. The formula is CUM received plus prior net CUM required plus req qty by the due date.
- Net quantity required is calculated using the most current releases' CUM required minus the GHSP CUM received quantity by date shown. If material is in-transit, the CUM received will not match the suppliers CUM shipped in the supplier's ERP system and this should be subtracted from the suppliers Net Req qty to ship to GHSP. The supplier is responsible to determine the CUM shipped compared to the CUM required to determine accurate shipping quantities.
- Resolve any CUM discrepancies with the appropriate GHSP materials personnel at the plant immediately.

Please direct any questions regarding CUM maintenance to the GHSP plant materials contacts and escalate to the Supply Chain Team, as necessary.

5. *Replenishment Methodology Requirements*

5.1 Introduction

To standardize supply chains, optimize inventory levels, and minimize freight expense, GHSP has defined three replenishment methods to order material from our supply chain partners.

The three methods for production replenishment are:

- Supplier Release determined through MRP – using the standard release method to communicate the required shipment quantities. The requirements may be reflected in many different "buckets", such as daily, weekly, bi-weekly, monthly, quarterly, annually, etc.
- Kanban – Kanban can be communicated either via email, internet, or through the GHSP visibility tool Supply Chain Portal (SCP) / Supplier Visualization (SV) until SV is decommissioned. This method may require the supplier to monitor inventory

levels and calculate the required shipment quantity or it may require GHSP employees to monitor, calculate, and communicate the required quantities.

- Min/Max – Through the use of the SCP visibility tool, while available, the Min/Max provides a range of acceptable inventory levels that the supplier must maintain. Suppliers must ship at the frequency designated by the GHSP receiving facility to keep inventory levels within this range.

  Exceptional Conditions only:

  A manual replenishment release would be acceptable in conditions where it is not possible to use one of the three designated GHSP replenishment methods.

  - System failure, power outages, scheduling failures (MRP failed to process)
  - Critical requirements: GHSP recognizes that there may be times where demand may have to be prioritized for a supplier in critical inventory situations.

Our goal is three-fold:

- Optimize turnover, truck utilization, and prevent premium freight by using one of the 3 standard methods.
- Maximize internal & external visibility of component parts.
- Appropriate use of technology & electronic commerce to communicate replenishment signals.

This means that a supplier could receive different replenishment signals from different GHSP receiving plants, and a single GHSP plant could use multiple signals with different suppliers. A supplier should not experience multiple signal strategies unless the parts shipped to GHSP are in different product life cycles (i.e., launch, balance out, etc.).

The determination of which method is used is based on many factors and is dependent upon:

- Lean manufacturing strategy and where the GHSP facility is in their progression of lean.
- Stability or predictability of customer demand
- Supply Chain footprint: i.e., how close the shipping point is from supplier to the end GHSP facility.

To determine the optimal replenishment method used for each component, GHSP will review operational and supply chain conditions (life cycle, supplier location of production facilities, etc.). GHSP will communicate any changes to the supplier as soon as possible to ensure proper training on tools is identified and completed.

5.2 Important Documents and Supplementation to section:

See link to references below.
https://www.ghsp.com/supplier-resources

6. Materials Management Operations Guidelines / Logistics Evaluation

6.1 Introduction

The Materials Management Operations Guidelines / Logistics Evaluation (MMOG/LE) is a global document jointly created by the Automotive Industry Action Group (AIAG), Odette's representatives, OEM representatives, and automotive suppliers.
It is a document with recommended business practices for the supply chain management processes of automotive industry suppliers and is intended to establish a common definition of materials "best" practices to facilitate effective communication between supply chain partners. The MMOG/LE has the same technical process approach as ISO/TS, but focuses on the supply chain processes, whereas TS focuses on quality management.

Beginning in January 2015, GHSP suppliers will be required to submit the MMOG/LE to GHSP on an annual basis. The self-assessment should be emailed in a zip file to your GHSP buyer no later than the 31st of January each calendar year. At this time, GHSP is not requiring suppliers to be certified at a level A. GHSP reserves the right to audit MMOG/LE scores by requesting supporting documentation or by conducting an onsite review of the supplier facilities.

Suppliers are expected to purchase a download of the MMOG/LE publication and if needed, attend training on how to use the assessment by contacting AIAG on the internet at www.aiag.org .

6.2 Supplier Assessments

An MMOG/LE will be completed for each supplier shipping location supplying product to a GHSP facility, i.e., if the supplier has a China manufacturing location that ships to GHSP Shanghai and a N. American facility that ships to GHSP-Hart, then two separate MMOG/LE's (one for each supplier facility) will be supplied to GHSP.

7. Balance Out and Claims Process

7.1 Introduction

GHSP believes that obsolete material claims can be avoided by minimizing lead times, strictly adhering to production schedules, and properly managing inventory at all tiers in the supply

chain. Most obsolete material claims occur at the balance out of a product. Balance out is defined as the end of a model as well as current model engineering changes. Suppliers will receive a similar notice when material transitions from production to past model – service status. Our goal at balance out is to have zero obsolescence, and this requires our suppliers to closely manage their inventory on an on-going basis, and especially during the balance out event.

7.2 Balance Out and Claims Process

7.2.1 Our balance out process requires the GHSP materials plant representative to provide a balance out letter that states all parts and approximate date of last mass production build out to the source supplying the components. GHSP notification of balance out, as well as defined balance out filing parameters, will take place outside of the established authorization window. Claims received after the established deadline will not be honored.

7.2.2 After receiving balance out notification, any supplier planning to produce a contractual minimum run order which exceeds raw/fab authorization must first receive written approval from the GHSP Materials Planner or GHSP Purchasing Buyer.

7.2.3 In the event that obsolescence occurs due to the discontinuation of a part, the following procedure must be followed to file a claim:

7.2.4 Determine the highest RAW and FAB (fabricated) material authorizations issued by GHSP. To determine the highest RAW/FAB authorizations, a CUM release history must be reviewed. The high point is the highest CUM release for the period prior to B/O notification. Suppliers should refer to the "High Release" and/or their Purchase Order for RAW/FAB authorizations.

7.2.5 Fill out the "Obsolescence Claim Form" and attach the supplier schedule/release documents (including release ID), purchase order, and any minimum run authorizations to support the claim. All claims must be received within 15 days of balance out date to be eligible for reimbursement. All late claims will be denied.

7.2.6 All obsolete material must be segregated and stored, pending audit and final disposition by GHSP and/or the OEM.

7.2.7 Suppliers are encouraged to submit all claims to GHSP, regardless of value. However, external supplier claims less than $250.00 dollars may not be paid, as it is dependent upon the total claim submitted to the OEM. GHSP claims to the OEM totaling less than $500.00 aggregate will not be submitted to the OEM, nor paid to the supplier.

7.2.8 Supplier must obtain GHSP plant authorization to sell claimable material because it is no longer auditable by an OEM.

8. Logistics Requirements

All GHSP Logistic requirements can be found in the current GHSP Trade Customs and Logistics Manual. This manual can be found on the GHSP website under Supplier Resources.

https://www.ghsp.com/supplier-resources/

9. Packaging and Labeling Requirements

All GHSP packaging and labeling requirements shall be per the current GHSP Supplier Packaging Requirements and Guidelines. The Guidelines can be found on the GHSP website under Supplier Resources:

http://www.ghsp.com/en/suppliers/packaging