ZF North America, Inc.

Supply Chain Manual

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1 List of Abbreviations

8D 8 Disciplines
AIAG Automotive Industry Action Group
ASN Advanced Shipping Note
DIN German Standard Document: Deutsches Institut für Normung
DIN 4991Deutsches Institut für Normung: Business Forms - Layout Key For Trade Documents - Inquiry, Offer, Order/order Change, Order Response, Delivery Note And Invoice
DIN 6120 Deutsches Institut für Normung: Marking of Packaging and Packing Material for the Purpose of Recovery – Plastics Packaging and Packing Material
EDI Electronic Data Interchange
IPC/JEDECProducer of Global Standards for Microelectronics Industry
IPC/JEDEC-Joint Ipc/Jedec Standard For Handling, Packing, J-STD-033, Shipping, and use of Moisture/Reflow Sensitive Surface-Mount Devices
JIT Just In Time
MSL Moisture Sensitivity Level
PE Polyethylene
PPZF Package Proposal
PPAPProduction Part Approval Process
PVC Polyvinyl chloride
VCI Volatile Corrosion Inhibitor

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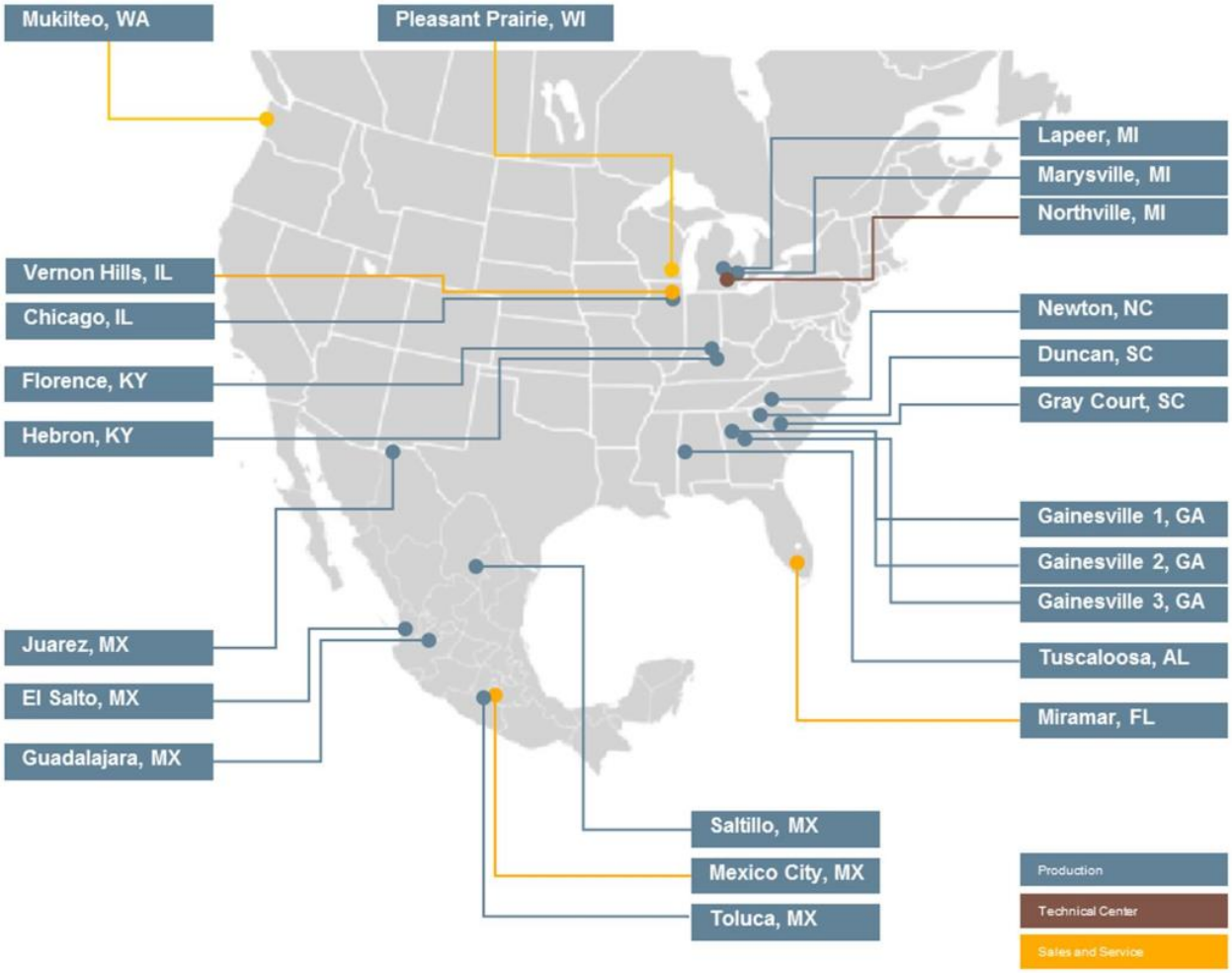
This directive is a supplement to the Logistics Directive LR10 for ZF Worldwide. It defines logistical requirements for suppliers in North America based on a collaborative supply chain management strategy.

It is specifically for the North American logistics markets to optimize logistics with its suppliers.



Logistics procedures are becoming increasingly important in the relationships between ZF North America and suppliers as part of ZF Global strategies.

ZF North America requires reliable and competitive business partners that work to the same customer-oriented goals.

This supplement of Logistics Directive LR10 is intended to enhance supply chain relationships with suppliers and ZF North America to maximize efficiencies and minimize costs resulting from non-conformance.

3 International Supply Chain Security

3.1 Customs Trade Partnership Against Terrorism (C-TPAT)

Please note that ZF North America is a participant in the C-TPAT program, which is a joint government-business initiative to build cooperative relationships that strengthen the overall supply chain and border security. As a partner in our supply chain, we request that you provide the Status Verification Interface (SVI) number or complete a security questionnaire on annual basis.

If your corporation is a participant in a foreign Customs security program, such as Authorized Economic Operator/AEO (Europe) or Partners in Protections/PIP (Canada), then we require a copy of the certification.

3.2 Security Recommendations

Develop and implement a sound plan to enhance security procedures throughout your supply chain by performing a risk assessment analysis. The following are general recommendations that should be followed on a case-by-case basis depending on the company's size and structure:

1.Procedural Security
2.Physical Security
3.Access Controls
4.Personnel Security
5.Education and Training Awareness
6.Conveyance Security
7.Manifest Procedures

For further C-TPAT information, please see the link below:
http://www.cbp.gov/xp/cgov/trade/cargo_security/ctpat/

3.3 Communication

As a C-TPAT participant, ZF North America must assess, improve, and communicate more comprehensive safety procedures for cargo security. As part of the process of evaluating our supply chain security, ZF North America is required to obtain information concerning the security procedures used by all parties within our supply chain. As our business partner, it is necessary for your company to develop, implement, and follow security processes and procedures consistent with the C-TPAT security criteria. Below is the link to ZF C-TPAT collaboration room for any business partners to add any documentation complying with C-TPAT requirements.

3.4 Free Trade Agreements

For information on if you product my qualify for a Free Trade Agreement (FTA), visit the following link:

http://www.cbp.gov/xp/cgov/trade/trade_programs/international_agreements/free_trade/

4 Information and Communication

4.1 Demand Communication (not just EDI)

4.1.1 Eight Mandatory Processes

In order to streamline processes within ZF, it is mandatory that all suppliers communicate with ZF electronically. As of February 2013, there are 8 mandatory processes that all strategic suppliers must use, either through EDI or ZF's strategic portal SupplyOn.

Electronic process	Communication Method
Delivery instructions	EDI or SupplyOn
ASNs	EDI or SupplyOn
Invoices or Credit notes	EDI or SupplyOn
Consignment stock movements	EDI or SupplyOn
Performance Monitor	SupplyOn
Problem Solver (e8D)	SupplyOn

Sourcing	SupplyOn
Document Manager	SupplyOn

4.1.2 Electronic Communication (eComm)

The use of electronic communication with suppliers is a global strategy for ZF. With the implementation of electronic processing, ZF achieves a higher process quality and reliability, as well as positive cost effects in the supply chain. Depending on the business process, the electronic processing is supported by direct and/or web based transmission systems.

4.1.3 Portals - SupplyOn

SupplyOn is ZF's strategic portal for supplier communication. The SupplyOn portal offers several different applications that can be used for Logistics, Finance, Purchasing, and Quality. SupplyOn is a separate service and the supplier will be responsible for maintaining a contract with SupplyOn. SupplyOn is ZF's only approved supplier portal. For more information on the applications and pricing, please visit www.SupplyOn.com.

4.2 Electronic Data Interchange (EDI)

Electronic Data Interchange (EDI) is a method of electronically sending information from ZF to supplier, and from the supplier to ZF. ZF expects at a minimum, that all suppliers to receive Delivery Instructions via EDI, as well as be able to send Automatic Ship Notifications (ASNs) to ZF via EDI. Further EDI messages may also be mandatory depending on the ZF plant's business model (i.e. consignment stock movements, invoices, and purchase orders).

4.2.1 Types of EDI

There are two forms of EDI that ZF uses for supplier communication, classical EDI and WebEDI. For Classical EDI the preferred format is EDIFACT through a secured protocol of OFTP, OFTP2, or a Value Added Network (VAN) such as GXS or Sterling Commerce.

Message type	Inbound/Outbound	EDIFACT Message
Delivery instructions	Outbound	DELFOR
ASN	Inbound	DESADV
Invoice	Inbound	INVOIC

Credit Note	Outbound	INVOIC
Consignment stock movement	Outbound	INVRPT
Purchas orders	Outbound	ORDERS

If a supplier does not have the ability to use the classical EDI method then there is a web based option through ZF's strategic portal SupplyOn. For an additional fee, a supplier can use SupplyOn's WebEDI portal where EDI can be sent and received. With the WebEDI portal a supplier has the ability to send and receive:

- Delivery Instructions
- ASNs
- Purchase orders
- Invoices
- Credit Notes
- Consignment stock movements

4.2.2 Electronic Communication of Supplier Performance

ZF is able to send monthly reports of supplier's delivery performance inbound (DPI) and parts per million (PPM) scores electronically to SupplyOn's Performance Monitor applications. For reference of how DPI and PPM are calculated, please reference ZF's LR10 and QR83 global directives.

Once a supplier is registered for SupplyOn's Performance Monitor, they will have access to their DPI and PPM scores for the activated ZF locations they supply to. For more information about SupplyOn's Performance Monitor application and pricing, please visit www.SupplyOn.com.

4.2.3 Communication of Call Off/Ordering Mechanism

It is a global ZF directive to send all order mechanisms to suppliers electronically. This section is just to explain how ZF will communicate the order mechanism, and not in detail what the order process entails. For information on the order mechanisms please refer to chapter 8 *Order Call off Mechanism*.

Standard ZF ordering mechanisms and method of communication are:

Ordering Mechanism	Method of Communication
Delivery Instructions	EDI or SupplyOn WebEDI
Delivery Instructions with Consignment	EDI or SupplyOn WebEDI
Vendor Managed Inventory	SupplyOn VMI Monitor
KANBAN	EDI or SupplyOn WebEDI
JIT	*EDI process not defined*
JIS	*EDI process not defined*

4.2.4 Automatic Shipment Notification (ASN)

To increase material visibility and communication, a supplier must send an ASN to ZF. A supplier will be expected to send ASN messages from their ERP system, EDI system, or SupplyOn to ZF. For EDI specifications and other message types, please visit www.ZF.com and search "EDI with suppliers".

4.2.5 ASN Requirements

The standard ASN message for ZF is a DESADV EDIFACT message. For European suppliers who cannot use EDIFACT, VDA4913 may be accepted. If a supplier is using SupplyOn WebEDI, they will be expected to send their ASN's out of the portal. For EDI specifications and other message types, please visit www.ZF.com and search "EDI with suppliers".

4.2.6 Billing Requirements

Depending on the business model and supplier contract, billing is expected to be handled electronically. Invoices are a mandatory electronic process that strategic ZF suppliers are expected to use. Invoices can be sent via classical EDI or WebEDI. For suppliers using consignment, the expectations are that suppliers will be able to receive credit notes through EDI or WebEDI.

4.2.7 Electronic Receipt Settlement (ERS)

If a supplier is selected, or has negotiated with ZF purchasing to do ERS payment; then once a shipment is receipted into ZF's system a payment will be automatically started. The supplier does not have to send an invoice to ZF, this process will be done systematically.

4.2.8 How does a supplier get on boarded for electronic processes

All electronic communication processes are requested to the ZF Onboarding team through the ZF locations. Once the request is received, the ZF Onboarding Team will contact the supplier to gather EDI information and/or begin the supplier's registration with SupplyOn. This method is used to maintain communication between the supplier, ZF IT, and the ZF locations. For more information about ZF Onboarding please contact ZF-Onboarding-Service@ZF.com.

5 Capacity Planning and Monitoring

5.1 Scope

As a ZF supplier, you will receive yearly volumes as non-binding forecasts. With these forecasts, you must make sure:

- production capacity corresponds to this volume and
- sub-suppliers are able to deliver material accordingly.

5.2 Capacity Agreements

As a ZF supplier, you are obliged to deliver ordered products and required associated materials to the receiving ZF plant.

Production releases are legally binding purchase orders of finished goods. Do note that when issued multiple delivery dates, the last updated delivery call-off/ scheduled release is decisive.

In the relevant supply contract, periods for production and material releases are defined in general. Supplier can apply for an extension for material release, or request additional forecast data from his ZF contact in individual cases, if the agreed releases are verifiably inadequate to maintain delivery capability. Requirements past those periods represent non-binding forecasts and a supplier must plan its production capacity and sample production.

If ZF cancels delivery of scheduled releases of finished goods within production release

period without having future orders placed, ZF will decide if receipt of the finished goods within a reasonable time is acceptable or if an agreed upon price is paid.

If ZF cancels delivery of scheduled releases of finished goods within material release period, ZF shall reimburse the cost supplier incurred for such material, provided the supplier demonstrates the material could not be otherwise used within reasonable time. ZF still reserves the right to request the shipment of the cancelled raw material.

5.3 New Program Launches and End of Life

During start-up and phase-out, ZF expects increased flexibility from its suppliers. This requires a more complex capacity planning process and increased communication to be able to supply even small volumes; supplier must still ensure such volumes are still received timely and in the requested quantities. Capacity planning must be coordinated between ZF and supplier.

Likewise, the supplier should be identifying any issues with excess or obsolete inventory, and working with ZF when such claims arise.

5.4 Flexibility

In case of changes, suppler must be able to cover a volume flexibility of ±15% with a response period of 5 days per item number, as well as for the entire program with a response time of 20 days.

Supplier's capacities and flexibility shall be shown using unambiguous criteria (layer models, capacity utilization levels, material inventory, etc.) in a transparent manner.
The manufacturing status must be available for review or inspection by ZF at any time. The criteria must be aligned and documented at meaningful intervals.

5.5 Ramp-up/ramp-down control

Ramp-up and ramp-down (replacements) as well as technical changes to parts (as of initial sample production start) will require a capacity planning process.
Continuous and increased manufacturing control from receipt of PO to shipping must be

implemented.

These transactions will require close(r) monitoring and increased coordination/communication with the material planners responsible.

5.6 VMI Process (Vendor Managed Inventory)

For Vendor Managed Inventory (VMI) the supplier will receive access to gross demand and the inventory levels from ZF for the supplied parts. Supplier is responsible to manage the shipments to ensure inventory level within the agreed MIN-/ MAX-stock levels (generally consignment stock). These levels are agreed upon between ZF and supplier.

6 Planning, Scheduling, and Controlling

6.1 Lead Times

Our customers expect a high level of flexibility from us; for this reason, the supplier is expected to be able to react with the same flexibility in the event of changes in demand. If no other agreement exists, a flexibility of +/- 20 % of the cumulated quantity within the lead-time is expected from the supplier.

In the event of fluctuations go beyond this, solutions need to be developed in cooperation between the supplier and the ZF plant logistics concerned. Suppliers are expected to develop, establish, and implement emergency plans to ensure no disruption in supply to ZF.

Suppliers are required to designate contact persons to the ZF plants who can be reached at any time in case of emergency. Any changes in contact persons must be communicated to ZF in advance by the supplier.

The automotive industry uses the "management by exception process" which means that suppliers do not provide delivery schedule acknowledgement to the customer, except if required by the customer. In cases where the supplier is not able to meet some delivery targets mentioned in the delivery schedule, the supplier is required to point out the exact deviations to his ZF counterpart per email and phone call. In any case, supplier is required to

provide increased effort to minimize short-term deviations, and mitigate long-term deviations.

For ZF, delivery schedules are accepted and approved by the supplier until a written objection is received by ZF. Supplier has 2 (two) working days after the receipt of the particular delivery schedule to send an objection. Likewise, a detailed recovery or action plan has to be provided to ZF within 2 (two) working days after the receipt of the particular delivery schedule.

6.2 Release Schedule

It is required that suppliers continuously track ongoing orders internally. A ZF supplier must be able to provide comprehensive information of the progress of production and transparent tracking of orders with subcontractors, at all times.

Supplier is required have in place an early warning system and crisis management system to detect and counteract any supply problems. As mentioned previously, emergency plans are required.

If any disturbances occur affecting the compliance of ZF requirements, necessary countermeasures must be initiated. If it becomes clear the agreed deliveries cannot be met, supplier must notify their ZF contact immediately via email, and phone, to advise a new delivery date and/or quantity. Requesting change of delivery date/quantity can only be done after all steps to ensure on-time/correct quantity delivery have been exhausted.

In this case, the supplier is required to provide the following points:

1. Cause of the supply problem
2. Production output capabilities for the part(s) in backlog and production planning (number of shifts/hours per working day and working days per week)
3. Alternative production options investigated (production lines and/or production schedule; always according to quality requirements)
4. Availability of alternative parts (always according to quality requirements)
5. Check the possibility of partial delivery
6. Premium freight capabilities and timing

7. Escalation of the problem inside its company

If no mutually agreed solution can be found, involvement from the highest levels within supplier's organization will be required/requested.

Liability of supplier due to late delivery is regulated by the relevant delivery contract.

7 Packaging and Marking of Commodities

Packaging Integrity

All packaging must be designed so that parts are free of damage, oil, rust, & particulates. The supplier is responsible for packaging their own parts. It must be ensured that the product cannot get damaged or soiled during transportation due to external influences. The supplier must initiate the coordination of the planned type of packaging with ZF before the parts are delivered to ZF either for prototypes, PPAP, or normal production.

Packaging Guidelines General Overview

The information in this section is to inform the supply base of ZF North America's packaging guidelines. The following requirements are made to achieve optimum part quality and, at the same time, ensure "just-in-time" efficiency throughout ZF North America's total logistics and manufacturing processes. Some of the major benefits that can be readily achieved are:

- Reduced investment by way of reduced inventories through "just-in-time" delivery
- Meeting modern ergonomic standards
- More efficient work cell design through standardization
- Reduction in overall packaging costs

Packaging Cost

The packaging cost must be included in all part quotations and be clearly defined in the piece price. Returnable containers must be cost justified, comparing expendable cost

versus cost of returnable (including all freight, handling and disposal costs).

Please be informed that all pricing must be approved by ZF Logistics in advance.

Packaging Data Form

Suppliers will be responsible for the design and development of their package and to the adherence of the guidelines put forth in this directive. A detailed packaging plan must be submitted on the to the ZF plant supplier management team (Production, Logistics, and SQA) and ZF purchasing for written approval at the time of quoting. This package proposal is to be submitted on the packaging data form. The package plan will be considered a required part of the official quote and no quote will be complete without this plan.

Test Package

After ZF purchasing has awarded a contract, and the supplier packaging plan has been approved, a test package will be sent to the appropriate ZF manufacturing facility. A test pack must be received well in advance of use of the supplier's product in normal ZF manufacturing processes. The test package must be completely accurate and exactly mimic the supplier's normal shipments to the ZF facility. After approval, all future shipments must conform to the approved test pack specifications. Any and all test packages sent to a ZF facility must have the test package document attached on four sides. This shipment is a requirement of the ZF package proposal (PP).

The test pack document must be at least 8.5" x 11" and be bright iridescent orange in color with contrasting print.

Corrective Action Report for Packaging

Please note that all suppliers for ZF are responsible for their parts arriving at ZF or a ZF distribution center in a satisfactory quality condition on the correct delivery date. Any damages due to packaging will be split evenly between ZF and the supplier regardless of responsibility, however, non-compliance or variation in packaging will result in a corrective action being issued by the ZF supplier management team (Production, Logistics, and SQA).

Continuous PPRs will be defined as a recurring problem and will be referred to ZF purchasing for further action. Charges incurred because of repackaging, disposal or production interruption will be billed back to the shipping location.

Types of Packaging

Packaging may be subdivided into the following types:

- Non-returnable / expendable packaging
    - Packaging that is used only once
- Returnable packaging
    - Packaging that may be used several times

Returnable Packaging Specifications

To ensure efficient, cost effective quality manufacturing processes requires all packs intended for on-line use to be in small lot sizes. Because of ergonomic constraints a weight limit of 35 lbs. (gross) for all manually handled containers is required by ZF manufacturing. The exceptions to this requirement are parts that, due to weight or size, prohibit the use of small tote containment. In these cases alternative packaging may be proposed, but must be approved by the ZF supplier management team (Production, Logistics, SQA) before acceptance by ZF purchasing.

All returnable containerization must be provided to ZF on standard pallet foot print size (45" x 48"). All pallets will be 4-way-entry. All hand held expendable containers must be designed in standard sizes based on the standard returnable containers documented in this manual. It is very important to the ZF manufacturing processes that strict adherence to the container sizes are maintained.

ZF is very interested in your success as our supplier and welcomes any questions that may arise concerning our packaging requirements. Please feel free to contact our logistics specialist for further information.

Returnable Packaging System Size

Depending on logistics, returnable packaging is the most desirable method of containerization. Returnables can be more economical for both the supplier and ZF. Also, returnable containers give better part protection than expendable packaging. In developing a package proposal, suppliers are encouraged to contemplate using the returnable method. When submitting their shipping plan to ZF, if a returnable container design is acceptable to both ZF and the supplier, an expendable backup package must always be developed and simultaneously submitted in the package proposal. This is a requirement for all supplier returnable package plans.

As stated earlier, the packaging plan is a required portion of all quotes and the ZF purchasing/supplier management team (Production, Logistics, and SQA) will make the final decision of acceptance or denial of all packaging proposals. When using returnable packaging it is very important to know how many containers are needed to carry out the suppliers' shipping responsibilities. To do this an adequate returnable system size must be developed.

Expendable Packaging Specifications

Although only returnable containers are listed in the returnable packaging specifications, the size constraints are to be used when designing expendable containerization as well. Standard size allows the complete interchangeability of all ZF packaging in the event that option is needed. When suppliers are asked to ship bulk packs of their products to a ZF distribution center for repackaging, the returnable size must still be copied even though that package could be expendable. When using expendable packaging, the supplier is required to complete a supplier cost-overview questionnaire.

Packaging Supplier Responsibility

Although it is the supplier's responsibility to develop packaging for its products, ZF plants are vitally interested in obtaining lowest packaging, transportation and handling costs while achieving protection that will ensure the quality of the product. We encourage our supplier to contact the ZF purchasing/supplier management team for discussion, evaluation or recommendations pertaining to the proposed packaging and labeling.

Included in the initial quote will be the supplier's responsibility to maintain the compliment of returnable containers and expendable containers purchased for the shipment of their product. To ensure compliance of this obligation, ZF will periodically audit the number of containers in the system based on original system size. If a discrepancy arises, the dunnage replenishment cost will be billed to the supplier. The supplier is required to create a tracking program of all packaging components to enable a quick and efficient audit.

The supplier shall be entitled to object to any box account statements within a period of four weeks of the receipt of the statement. If no objections are received by ZF within such period of four weeks, the supplier shall be deemed to have approved of the statement, which shall then form the basis for the calculation of any discrepancies.

Any objections by the supplier shall be submitted to the ZF North America plant concerned with copies of the relevant delivery notes. Boxes may only be credited to the supplier's account if they are clearly indicated and designated according to the receiving plant requirements.

Upon the receipt of empty boxes, the supplier shall be obligated to verify the types and quantities received by comparison with the bills of lading. In the event of any discrepancies, the supplier shall correct the bill of lading, obtain a receipt from the driver and submit the corrected bill of lading with the receipt to the ZF plant concerned for the correction of the supplier's boxes account.

Overseas Packaging Requirement

Standards for overseas packaging will be dictated by the ZF plant you're supplying to.

Plastic inserts

All plastic inserts require the approval of the packaging department responsible and shall be marked in accordance with DIN 6120.

Figure 1: PE-HD-Symbol according to DIN 6120 (examples)

Plastic inserts shall be reviewed for recycling potential. PVC inserts shall not be used unless a special and actual part and plant specific release exist. All returnable inserts shall be equipped with adequate numbers of drain holes for cleaning.

Internal Dunnage

In modern manufacturing techniques, part presentation to the end user / operator has become extremely important. Part presentation reflects good ergonomic design and efficient handling of parts during assembly. It is therefore important for potential ZF suppliers to be aware of and be innovative in the placement of product in the chosen container shipped for on-line use. Keeping in mind cost and part protection, ZF encourages its suppliers to include good internal dunnage design in their package proposals. Internal dunnage must be ergonomically correct (i.e. finger slots, rounded edges etc.). Please note that returnable internal dunnage should be used in returnable containerization.

Packaging Ergonomic Guidelines

There are many aspects of ergonomics and their relationship to packaging. The Ergonomic Weight Chart is meant to be a quick reference for ZF suppliers in their design and proposed containerization. During the initial test of packaging sent to ZF, ergonomics will be evaluated by the ZF supplier management team. It should be noted that ergonomic acceptance is always improved when proper handles or hand holes are added to containers sent to ZF manufacturing facilities.

Pallets

To minimize manual handling, all containers must be palletized unless part volumes are insufficient to complete one full palletized layer. Cartons are to be palletized in full layers only (no "pyramiding"), to allow tiering of unit loads. When carton quantities are inadequate to complete full layers, additional cartons should be shipped loose (not to exceed 30 lbs.).

All packs must have sufficient vertical strength and stability to withstand stacking three high in transit. All exceptions to this must be clearly noted on packaging, via routing and carriers specified by ZF. Cartons must not overhang their pallet base. Stacking strength is primarily located in the container corners. Thus, container overhang results in a loss of the container's strength. An interlocking stacking pattern of carton palletization will also result in a loss of stacking strength, and should be avoided.

Nailing (pallet boxes), shrink wrapping, stretch wrapping, or tensioned banding are all acceptable methods for securing containers to pallets. For part identification label legibility, shrink wrapped and stretch wrapped loads must use identification labels on both the container and on the exterior of the wrap.

Pallet Construction

Pallets must provide 4-way-fork-entry. A 3 ½" under clearance is also required. Pallets other than solid wood construction are to be reviewed and concurred by ZF. Pallets received from overseas shall be made from treated wood and free from pests.

Not accepted

Accepted

Figure 2: Unacceptable and acceptable 4-way-fork-entry block pallets

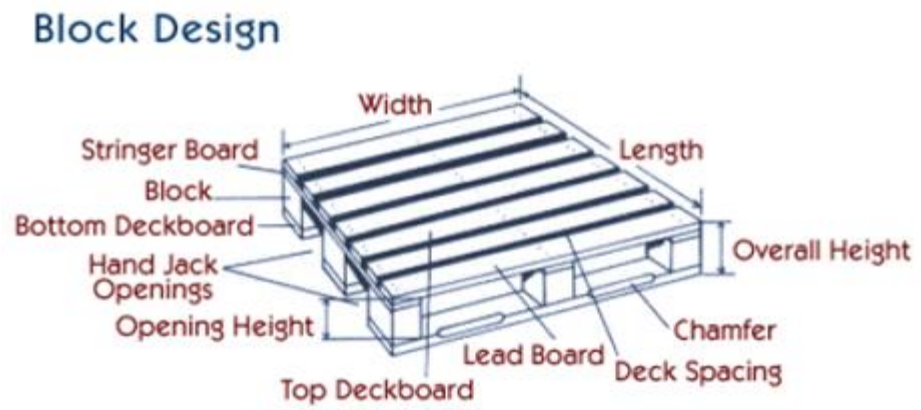


Figure 3: Definition of a 4-way-fork-entry block pallet

Carton Closure

Strippable reinforced tape or spot gluing are acceptable methods for carton closure. If gluing is selected, glue transfer to the part surface is unacceptable. Staples may not be used for top closure due to operator safety; however in some instances staples are acceptable for bottom construction.

Unique Packaging

Barrels, drums, kegs, cans or pails are only acceptable as shipping containers for granular or liquid materials.

Steel Shipping Racks

Because of the size and weight of some inbound items, it is not feasible to use standard types of containerization. For these items, shipping racks must be developed to ensure safe and efficient handling. When designing shipping racks it must be noted that all racks entering ZF facilities must be fork truck accessible on all four sides. Fork entries must be sleeve type and encapsulate at least 30" of the forks. This is to ensure that racks cannot tip while being transported by fork truck.

Racks should be designed to stack with the overall dimension reflecting lift clearance in

closed truck vans. Racks must have positive stacking attributes which allow ease of stacking with a fork lift and ensure dynamic stability in transit. All racks must be designed to ensure they are adequately safe. The strength of the racking materials must be factored for the weight of parts being shipped and the weight of the accumulated racks in a stack. Rack color will be determined by the ZF Logistics Specialist before the construction contract is approved. Color will be used in the ZF "JIT" manufacturing plan. A tracking plan for racks must be developed prior to final quoting proposal to ensure ZF audit capabilities.

Rack Identification

All racks must conspicuously display the following identification:

- Serial number to ensure proper tracking and repair
- Rack manufacturer's name and contact phone number
- The empty "return to" name, address and contact phone number
- Ownership information permanently displayed on the outside in plain view for use in international shipping
- ZF facility "ship to" name with the address and contact phone number

Injection Molded Containers

Injection molded components can include standard totes and fixtures attached to steel racks.

Totes

Most of the components used at ZF North America are totes purchased as off the shelf items. The ZF "JIT" program utilizes stack only totes that properly fit a standard ZF foot print 45" x 48" pallet. Totes can be acquired in various sizes as addressed in this directory. For utility-uses totes should be made from HDPE (High Density Polyethylene Plastic) Material. Totes made from materials other than HDPE will only be used in special manufacturing circumstances that could involve the presence of corrosive materials or heat. All totes must have solid bottoms that are conducive to the ZF plant's roller conveyor applications if applicable. All totes must have ergonomic handles molded on two sides. Totes must have large flat identification areas on all four sides. The color of these components needs to be approved by the ZF plant supplier management team.

The tote manufacturer is to be reviewed and approved by the ZF purchasing specialist and plant supplier management team in conjunction with the supplier quoting procedure.

All injection molded totes must have the following information molded into them or in some way permanently attached:

- Ownership label for international shipping
- Manufacturer of the containers' name, address and phone number
- The supplier's "return to" name, address and phone number
- The ZF facility's address and phone number
- The specific material grade and recycle symbol
- The tare weight of the container

Fixtures

Fixtures can be made from several kinds of materials including foam, HDPE, and wood. Fixtures must be designed to properly separate and contain products in transit to a ZF facility. All fixtures must be designed with good ergonomic characteristics whether the container is off-loaded manually or mechanically. Safety is also a major concern when designing containment fixtures. If the fixture is permanently fastened to a base container the only label necessary is the manufacturer's name, address and phone number. If the fixture is to be returned separately the following identification information should be attached:

- The ownership label for international shipping
- The manufacturer name, address and phone number
- The supplier's name, address and phone number
- The ZF facility's address and phone number
- The specific material grade and recycling logo

Minimum Requirements for Humidity Control and Corrosion Prevention

Components containing metal surfaces that may be susceptible to rust and are shipped in environments that expose the pack to damp or humid conditions require the use of rust protection methods.

Different kinds of corrosion prevention

- Desiccant bags
- VCI (volatile corrosion inhibitor)
- Corrosion Intercept-Method
- N2-Atmosphere in Aluminum laminated film

Transportation and Storage Conditions

Corrosion prevention methods should be used if any of the following transportation or storage conditions occur:

- Products originate in a region or have a final destination where normal conditions (during current seasons) include a relative humidity of 50% or higher for 14 consecutive days.
- Sea container transportation
- Products stored for more than 14 days in a warehouse with internal relative humidity of 50% or higher. This includes all storage periods until the product is received at the warehouse.

Figure 4: Methods of Application for Corrosion Prevention

Dry Pack Moisture Sensitive Devices

Packaging for moisture sensitive devices has to be designed based on industrial standard IPC/JEDEC J-STD-033 and has to be marked with an appropriate label. The packaging design must avoid the problem of moisture absorption inside the packaging and internal packaging stresses when the device is subjected to sudden, increased temperature, such as during board mounting. The table below presents the moisture sensitive level (MSL) definitions per IPC/JEDEC's J-STD-033:

Table 1: IPC/JEDEC's J-STD-033 MSL Classification

Level	Floor Life		Soak Requirements			
			Standard		Accelerated	
	Time	Cond. °C / %RH	Time (hrs)	Cond. °C / %RH	Time (hrs)	Cond. °C / %RH
1	unlimited	<=30/85%	168	85/85%	n/a	n/a
2	1 year	<=30/60%	168	85/60%	n/a	n/a
2a	4 weeks	<=30/60%	696	30/60%	120	60/60%
3	168 hours	<=30/60%	192	30/60%	40	60/60%
4	72 hours	<=30/60%	96	30/60%	20	60/60%
5	48 hours	<=30/60%	72	30/60%	15	60/60%
5a	24 hours	<=30/60%	48	30/60%	10	60/60%
6	TOL	<=30/60%	TOL	30/60%	n/a	60/60%

Possibilities for dry packs:

- Moisture barrier bags
- Desiccant bags
- Humidity indicator cards

Packaging for moisture-sensitive devices needs to be marked according to IPC/JEDEC J-STD-033. The following are examples for labels (excerpt from IPC/JEDEC J-STD-033) :

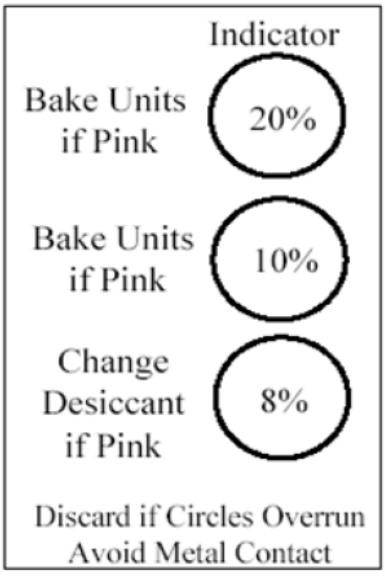


Figure 5: Indicator card (HIC), "Moisture-Sensitive Identification" (MSID) and Moisture-Sensitive Identification Label "Caution-Label"

7.1 Labeling and Package Identification

Supplier Responsibility for Labeling & Package Identification

Prudent attention to identification and labeling is an important responsibility for all ZF suppliers. A supplier may have the best product at lowest cost, but if the product does not reach the proper ZF facility on time or is unidentifiable then all of the good attributes of that supplier are lost. This situation will automatically bring forth a Corrective Action from ZF and will subsequently involve ZF purchasing. Because ZF wants to create good partnerships with our suppliers from the very beginning, labeling instructions are included in this Information Manual. ZF North America requires that all labels used for shipping of product utilize both written information and bar code information on those labels. AIAG Bar Code specifications are included in this directive.

Master Label

All shipments to ZF are required to have two (2) standard AIAG shipping labels and one (1) master label on adjacent sides of each load. The labels must be in plain view so that the fork lift operator can easily see and identify the load without dismounting the truck (A sample AIAG master label is included in this manual).

Mixed Load Labels

ZF does not accept mixed loads unless agreed upon locally between the supplier and their receiving ZF facility.

Individual Container Labels

All individual containers are required to have a container label securely attached to them. These labels will be necessary for our in-plant and on-line personnel to properly identify each container and the parts they contain. The container label is not only to ensure the correct placement of the container, but is also an important quality tool in ZF

manufacturing. The container label ensures the correct part is used in the assembly of the individual finished product. An example of the supplier label is included in this manual.

Placards

When a returnable container is used, it is required that the containers have a placard, containment bracket or some similar apparatus that provides a reliable location for container labeling and ensures that the label may be easily removed before the container is used again.

For this reason it is recommended that a 4.5" x 6.5" C001 "Placard" label surface from the Kennedy Group (Kennedy Group at 206-951-7660) be attached to each container at the appropriate location.

Label Removal

All old labels and old label residue must be removed from returnable containers, pallet and top caps before those containers are used for new product shipping. It is very important that old labels not remain on containers, both for quality reasons and aesthetic reasons. Labels must be removed to eliminate mistaken shipping and placement of containers or loads.

Master Label Example

The Master Label is used for:

- Unit Load Label (One part type)
- Master Label (For Goods Receipt)
- Tote Label (For Internal Movements)

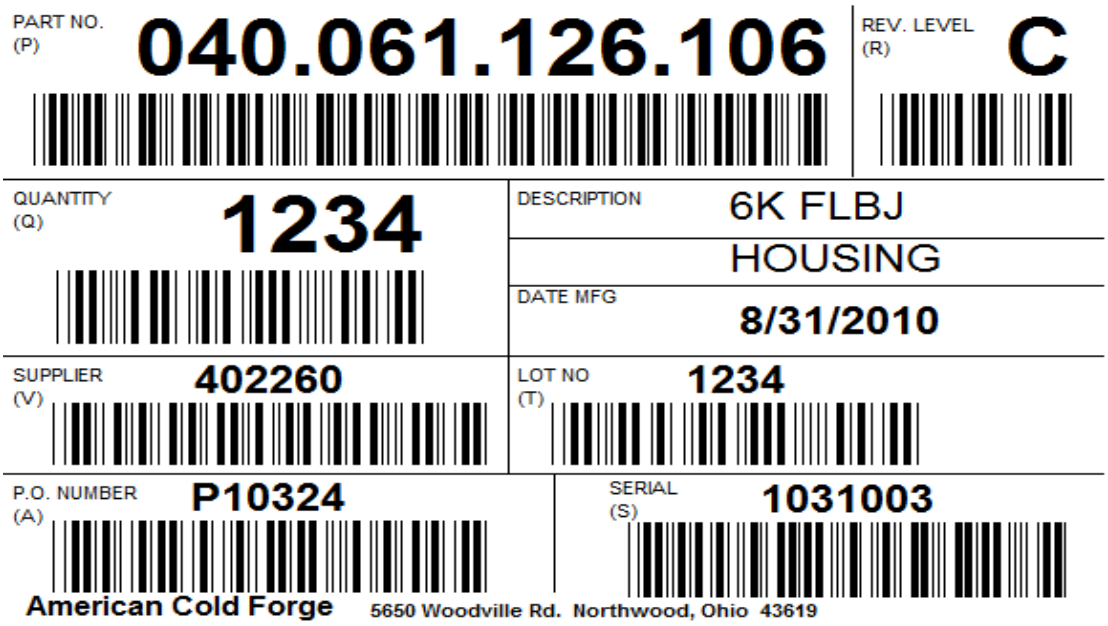


Figure 6: Master Label

Supplier Bar-Code Specification

(Reference the Sample Bar-Code Field Number in the Master Label Example)

Field 1

Part No. (ZF Part Number)

- Data Identifier = P
- Barcode must include the data identifier and the ZF Number (E.G. 060.561.001.001)
- A period must separate each set of three numbers

Field 2

Rev. Level (Revision Level)

- Data identifier = R.
- Format of characters must be a 1 or 2 digit alpha character (E.G. A-ZZ).*
- To accommodate the original drawing with no revisions, a dash will be used.
- Barcode must include data identifier and alpha character (E.G. RA).

*Note: (ZZ) It is possible to index past the letter Z. The first index after is AA.

Field 3

Quantity

- Data identifier = Q.
- The format of characters must be numeric.
- Quantity must accurately show what is in the tote.
- Barcode must include data identifier (E.G. Q100).

Fields 4 & 5

Description

- No data identifier
- There are 20 character spaces available per field
- The description must be as the Scheduling Agreement
- Barcode is not required

Field 6

Date of Mfg. (Date of Manufacturing)

- No data identifier
- Format must be month/day/year
- Barcode is not required

Field 7

Supplier Code

- Data identifier = V
- The supplier code number is 6 digits for international and 2 or 3 digits for domestic suppliers
- The supplier code number is on the Scheduling Agreement or Delivery Schedule
- The barcode must include the data identifier and number (E.G. V100005)

Field 8

Lot No. (Lot Number)

- Data Identifier = T
- Lot Number is synonymous to Batch Number and may be Alpha/Numeric
- The Supplier has 8 character spaces available.
- Barcode must include the Data Identifier and any Revision Level information (E.G. TA/12345678)

Field 9

P.O. Number (Scheduling Agreement Number)

- Data Identifier = A
- The P.O. Number/Scheduling Agreement number can be found on the Delivery Schedule.
- In the case of 2 Delivery Schedules use the number related to the ZF Part number (E.G.5500000022).
- The barcode must include the Data Identifier (E.G.A5500000022).

Field 10

Label Serial Number

- Data Identifier = S

- This field is intended as a label counter to prevent duplicate scanning for one shipment.
- There should be two labels per tote and must show the same serial number
- Barcode must include the Data Identifier (E.G. S123456)
- This field should have no more than 10 data points.

Field 11

Supplier's Name and shipping address

- Recommendations:
    - Barcode Media: Thermal Transfer type labeling is strongly recommended
    - Barcode Symbology: Code 39
    - Barcode Ratio: 3:1
    - Barcode X dimension: 10 mm
    - Barcode Position: Barcode must be seen on two adjacent sides of tote or pallet (See Figure)

Sample Barcode Label

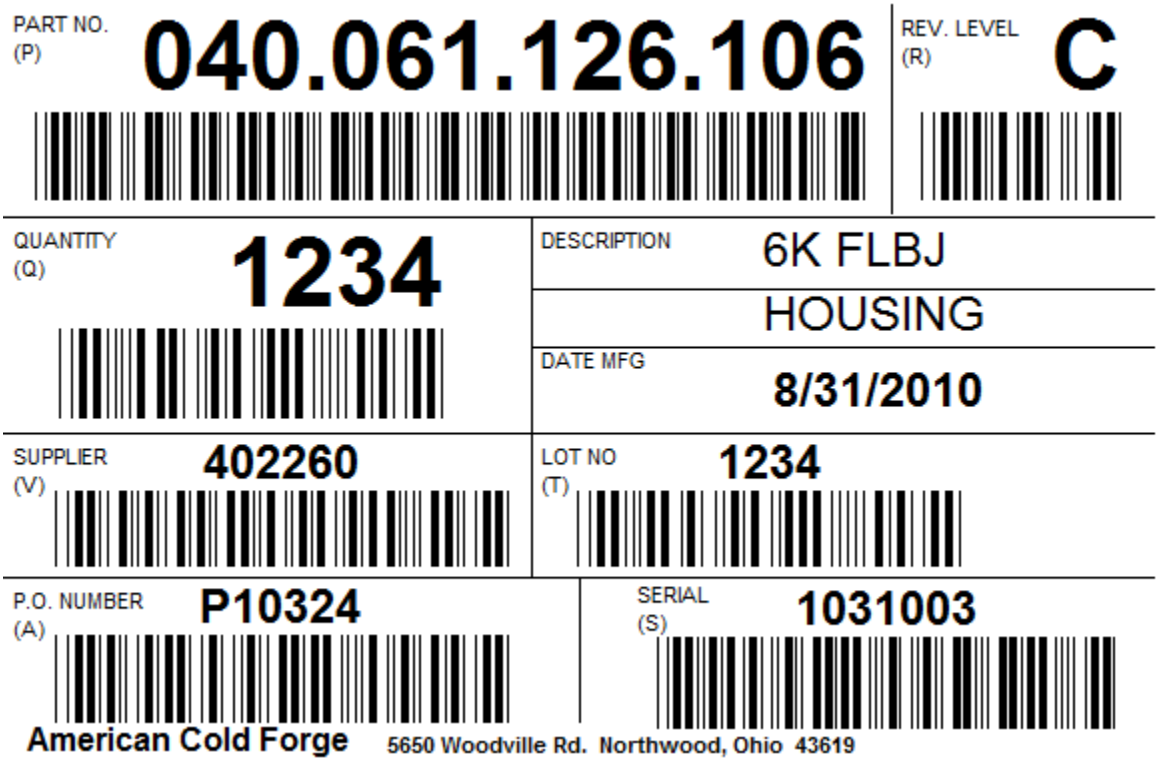


Figure 7: Sample Barcode Label

Raw Materials and Hazardous Materials

Policy

It is the policy of ZF North America to provide a safe and healthy work environment. The ZF work environment must be free from recognized hazards and fully comply with all Local, State, and Federal safety regulations and ordinances. Therefore, no chemical or hazardous substance shall be received or ordered by ZF until a material safety data sheet (MSDS) is received on the specific substance and a material substance code has been assigned by the ZF safety personnel. This procedure must be followed when:

- A new chemical / hazardous substance is to be ordered
- A vendor desires to give ZF a free sample of chemical materials for field test purposes
- A new supplier for a chemical / hazardous substance is utilized for the first time
- The above includes but is not limited to; raw materials, process chemicals, industrial housekeeping supplies, fuels, etc.

The supplier must forward the material safety data sheet (MSDS) and a certification of Toxic Substance Control Act (TSCA) approval to ZF purchasing or the ZF safety department. ZF requires a full disclosure of the composition of the chemical / hazardous substance to assure that ZF employees are adequately protected.

Safety Review and Evaluation

A review and evaluation by ZF's safety and environmental personnel shall be conducted as follows:

- Evaluations of the hazards associated with the handling, storage and utilization of the chemical / substance
- Review of the compatibility of the new chemical or substance with existing chemicals, environmental conditions, etc. in the user and the users storage areas
- Review of the compatibility of the new chemical / substance with any painting operations
- Determination of needed safe work practices, systems and personal protection equipment
- Evaluation of compliance with the EPA's Toxic Substance Control Act (TSCA)
- Assessment of financial burden of handling waste streams generated by the chemical or substance

ZF North America will rely upon the manufacturer's chemical hazard evaluation methodology as included within the content of the MSDS for determining the chemical's associated risks. After these requirements are met, ZF safety will assign a material safety code (MSC) number for the chemical or substance.

Labeling Hazardous Material

All incoming containers of hazardous or chemical substance shall be shipped with labels as required by federal regulations. Labels shall include at a minimum the following information:

- Manufacturer's name and address
- Product or trade name

- Hazardous warning label suppliers will be requested to use the HMIS rating system as part of the hazards warning label
- MSC number

The manufacturer's warning labels must not be defaced or covered up in any manner. If the original warning label is destroyed, illegible or removed accidentally, it must be replaced with another appropriate warning label as soon as discovered.

Containers or packaging having chemical or hazardous substances that do not have the material safety code or that do not bear the required hazardous warning label shall not be unloaded from their initial point of receipt until the product can be reviewed to determine that approval by ZF has been granted. If incorrectly labeled chemicals are discovered after unloading, they will be quarantined until the above requirements are met.

Any products shipped to ZF or affiliates that are hazardous by definition in DOT CFR-49 are required to have each piece marked and labeled per instruction of CFR-49 regulations. Hazardous materials packaging must be labeled per specification of DOT CFR-49 regulations. See the code of federal regulations site for further information.

(http://www.access.gpo.gov/nara/cfr/waisidx_08/49cfr178_08.html)

The supplier, as required by these agencies, shall provide special tariff identification and labeling of hazardous material to meet regulations promulgated by the DOT, OSHA, EPA, and by the states. It is also the supplier's responsibility to adhere to all hazardous material packaging and labeling regulations of the countries where their product will be sold. This includes but is not limited to federal, state, provincial, county, city, and all laws, regulations, and statutes.

Certificates of Analysis

Every supplier of bulk or raw materials must provide on each Certificate of Analysis the information shown on the Shipping & Receiving Certificate of Analysis Report.

A certificate of analysis must be supplied by each supplier for every batch or shipment of chemical or hazardous substances sent to ZF. This certificate must arrive prior to the material

arriving on ZF property. No chemical or hazardous substance will be accepted without this documentation. Certificates of analysis must include all characteristics during purchase or the PPAP process. Certificates of analysis must include the number of containers in the shipment as well as the material safety code number.

Material Test Certificate (Steel Suppliers Only)

A material test certificate is required for all suppliers who sell steel products to ZF. Material test certificates are to include chemistry tests and hardness tests. Suppliers are required to send an e-mail copy to ZF materials group. Additionally, a copy must be attached to all loads being shipped to the ZF location.

Engineering Changes

Preparation to Ship New or Revised Parts to ZF

Properly handling engineering change in shipments of products to ZF is a priority concern in our manufacturing relationship. It is for this reason that items in this section be understood and instructions followed to ensure efficient and successful implementation of a new or revised product shipped to ZF.

Note: See ZF QR-83 quality procedures for tagging certified material, initial samples, prototypes, & Deviated Parts

New Product Delivery Tag

A new product delivery tag **must** be placed on all four (4) adjacent corners of each modular or unit load to be shipped.

New Revision Level Tag

If shipment is a revised part, a new revision level tag must be attached to the front and rear of each modular or unit load to be shipped.

New Revision Bar Code Label Required

A proper bar coded label that reflects the PPAP revision level number must be created and attached to two (2) adjacent corners of each modular or unit load to be shipped.

ASN Requirement All Parts- Existing, New, and Revised

Within 15 minutes of the product leaving the supplier's facility an advanced shipping notice must be sent via EDI (Electronic Data Interchange) to the appropriate plant. All production suppliers are required to transmit ASNs and receive plant schedules via EDI. More information on EDI guidelines can be found at the following link:

(http://www.zf.com/corporate/en/company/purchasing_logistics/ebusiness/edi/guidelines_edi/guidelines_edi.html)

Loading and Shipping New or Revised Part to ZF

All new or revised parts shipped to ZF must be loaded in the nose of the freight handler's trailer.

Part Maintenance

Maintenance

Returnables will be delivered to the supplier (packager) in a functional state. Damaged load carriers / pool containers and load carriers / pool containers requiring repairs shall be promptly reported to ZF or the corresponding regional freight forwarder. Storage must be such that usability is ensured. When accepting returnables, the packager shall review them with regard to quantity and usability that may impact the quality of the product to be supplied. Complaints that were visible during reasonable controls must be reported to the returnables handling department within 24 hours of receipt of returnables. Repair costs for returnables will be 50/50 between ZF and the supplier regardless of responsible party.

Shelf Life

All material must be protected in such a manner as to ensure there will be no problem with rust, oxidation, or any other adverse condition for a minimum of 1 month after date of receipt. Additional shelf life time may be required, contact the purchasing ZF location to confirm the minimum shelf life required for each part you supply.

8 Dispatch and Transportation

8.1 Incoterms

The "Incoterms" rules or "International Commercial Terms" are a series of pre-defined commercial terms published by the International Chamber of Commerce (ICC) that are widely used in International commercial transactions or Procurement processes. A series of one-letter trade terms related to common contractual sales practices, the Incoterms rules are intended primarily to clearly communicate the tasks, costs, and risks associated with the transportation and delivery of goods.

8.1.1 Definitions

Freight collect – the carrier will bill the consignee
Freight prepaid – the freight has been paid or prepaid by the shipper

ZF North American has (2) preferred delivery terms for international shipments:

FCA (Free Carrier) (Point of Discharge), where the named place is; a shipping port, for
a full container shipment; an airport for an air shipment or a warehouse within the country of origin, if less than a container or part of a shipment consolidation process

This means the seller / supplier will be responsible for:

- Loading material onto transport vehicle
- Providing all necessary paperwork such as export licenses, documentation
- Securing required authorizations

- Checking that the quantity and quality of the goods are in conformance with the submitted documentation
- Provide appropriate packaging and markings
- Export customs clearance including, duties, taxes, and any other export related customs formalities
- Delivery of material to the carrier specified by ZF at the named place
- Loading material onto transport vehicle, when named place is Manufacturing Facility
- Provide all necessary paperwork such as export licenses, documentation, authorizations, appropriate commercial invoice and packing list
- Check the quality and quantity of the goods to be in conformity with submitted documentation
- Provide appropriate packing and marking, as required for the Intercontinental transport of the goods
- Appropriate documentation to secure documentation originating in the country of origin as required for import or transshipment through another country
- Any other transport and control documentation, as requested by ZF

DAP (Delivered at Place) – Destination ZF plant

Supplier shall select freight forwarder so that the ordered products arrive at ZF's receiving plant on time and in perfect condition. The freight forwarder selected must have an emergency plan in place and ZF reserves the right to provide unloading time slots for delivery.

8.2 Shipping Documentation

A commercial or pro forma invoice must accompany each shipment to a ZF plant and must contain the following general requirements:

1. Port of entry to which the merchandise is destined
2. Complete name and address of shipper, including tax ID#
3. Complete name and address of consignee
4. Complete name and address of the customs broker

5. Ship date
6. A detailed description (in English) of the merchandise, including the ZF part number. If the shipment involves equipment, the invoice must also include the serial # and make & model #
7. Quantities, weights and unit of measures of the merchandise shipped. (e.g. liters, gallons, kilograms, lbs.,)
8. The purchase price in the currency of purchase
9. Value of each item in the currency in which the transactions are usually made
10. Type of currency
11. All charges upon the merchandise itemized by name/category and amount
12. All rebates, drawbacks, bounties, separately itemized, allowed upon the exportation of the merchandise
13. Country of origin
14. Assists, dies, molds, tools, engineering work and cost associated
15. Tariff classification number
16. INCO terms see section on INCO terms
17. Invoice #
18. Signature

8.3 Document Requirements

Supplier shall furnish all documents (e.g., Bills of Lading, Packing Lists, Manifests, Invoices, Certificates of Origin, etc.) in English. Documents shall include [but not be limited to] the following [based upon customer requirements]:

Specific part number(s)
Specific quantity of each part(s)
Part descriptions
Freight classification
NMFC Number
Number of container(s) for each part number(s)

8.4 Customs Delays

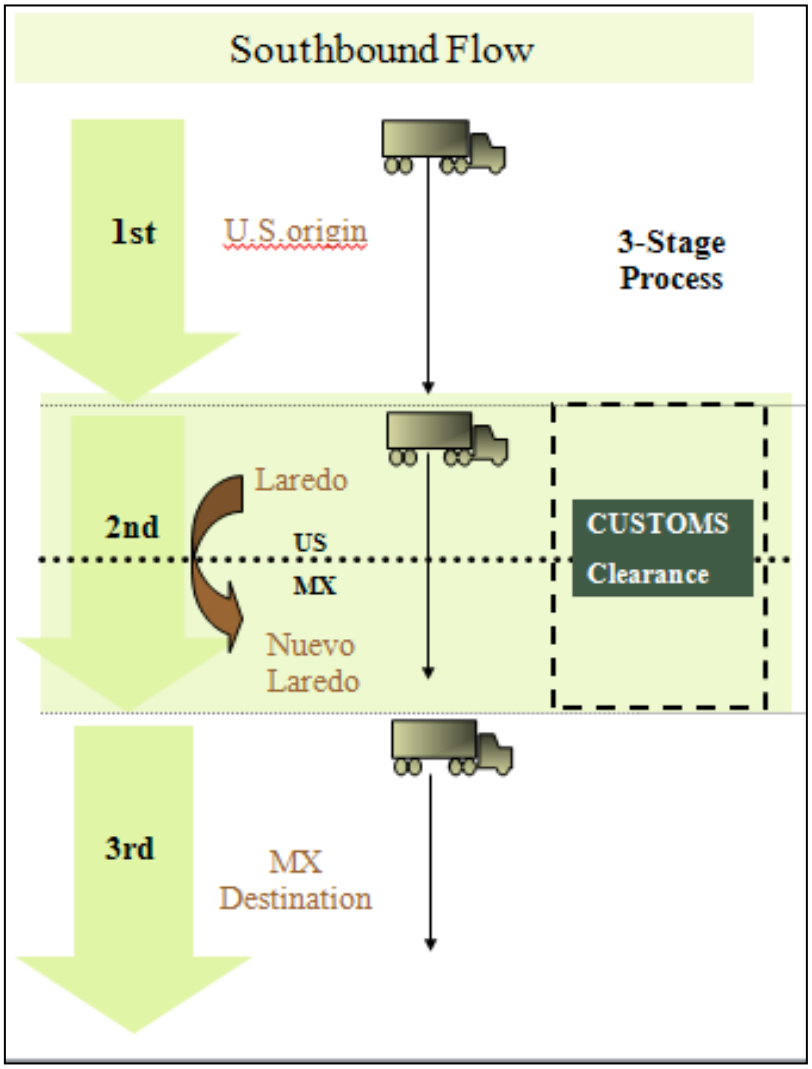
Suppliers are responsible for providing complete and accurate documentation for all international shipments. Documents must be sent with each cross border shipment and also

faxed to the broker that will be clearing the product through customs. Documents include, but are not limited to, the Bill of Lading, Packing List, Commercial or Pro-Forma Invoice, and a Certificate of Origin (NAFTA) where applicable. Often times a shipment is flagged for examination by customs due to the absence of values, description, and country of origin. Incomplete or inaccurate documents may delay the timely delivery of product to a ZF facility; therefore, failure to supply complete and accurate documentation will result in a supplier chargeback and a debit for the cost incurred in a delayed shipment.

8.5 Broker Drayage

Carriers that operate in the commercial border zone are referred to as “Border Drayage Carriers” and they shuttle the freight across the border through both US and MX customs and MX to US customs then will drop the trailer at a carrier yard for the next hand-off to the long-haul carrier

These carriers have created a 3-stage transportation process for long-haul trailer transfer movements for both southbound and northbound movements – US/MX line-haul to the border, cross-border drayage, US/MX line-haul from the border to the US/MX ultimate destination.



8.6 North American Transportation

Premium Freight

Responsibility for any premium shall be established at time of shipment. The responsible party for the premium shipment should initiate the shipment request with Panther Expedited Service or Active On Demand, (ZF's premium freight management companies) or other party as may be notified to Supplier by ZF. All shipments will move collect to ZF destinations unless otherwise specified by the ZF location. ZF will pay for all shipments and issue a debit for supplier responsible shipments.

Routing Instructions

Unless otherwise specified, ZF shall contract, manage, and pay transportation to/from suppliers to/from ZF locations. Suppliers are required to utilize the ZF specified carrier and/or third party transportation management provider (Penske Logistics). Suppliers are required to follow business rules outlined in training material from the ZF third-party transportation management provider. Premium charges result from insufficient supplier lead time may result in supplier chargebacks.

Suppliers shipping to locations that do not currently utilize a third party transportation management provider are required to submit shipment requests to the ZF specified carriers with at least 24 hour lead time. Premium charges result from insufficient supplier lead time may result in supplier chargebacks.

Full Truckload

Suppliers will load full truckload carriers within 60 minutes of arrival to a carriers specified window time. Detention charges as a result of supplier related delays loading a carrier may result in supplier chargebacks.

Less than Truckload

Unless specifically directed by ZF suppliers are to select standard LTL service. Guaranteed service levels should only be used with written authorization from ZF.

Small Parcel

Suppliers are to use the ZF preferred small parcel carrier FedEx. Suppliers are required to select a service level that will meet the required delivery date without incurring undue costs. Costs associated with incorrect service level may result in supplier chargebacks.

Escalation Process

In the event of a pickup delay the supplier will contact the responsible logistics management party (Penske Logistics or responsible carrier) within 60 minutes of the expiration of the window time.

Hazardous Materials

Any products shipped to ZF or affiliates that are hazardous by definition in DOT CFR-49 are required to have each piece marked and labeled per instruction of CFR-49 regulations.

Hazardous Materials Packaging must be labeled per specification of DOT CFR-49 (178.3) see the Code of Federal Regulations site for further information.
(http://www.access.gpo.gov/nara/cfr/waisidx_08/49cfr178_08.html)

The supplier as required by these agencies shall provide special tariff identification and labeling of hazardous material to meet regulations promulgated by the DOT, OSHA, EPA, and by the states. It is also the supplier's responsibility to adhere to all hazardous material packaging and labeling regulations of the countries where their product will be sold. This includes but is not limited to federal, state, provincial, county, city, etc. laws, regulations and statures.

Document Requirements

Supplier shall furnish all documents (e.g., etc.) in English. Documents shall include [but not be limited to] the following [based upon customer requirements]:

- Bill Of Lading
- Specific quantity of each part(s)
- Part descriptions

Bill Of Lading

Supplier is responsible for creating the bill of lading (BOL). The BOL should include the following:

- Names and addresses of consignor and consignee.
- Shipment Date
- Carrier Name
- Trailer Number
- Seal Number (if applicable)
- Number of packages. If packages are consolidated on a skid, provide both package count and skid count on the bill of lading.
- Description of freight – Enter the description of each line item. Please note the type of package (carton, tote, barrel, etc.) and the quantity per package.
- NMFC Number and Freight Classification

- Weight, volume, or measurement of freight – Enter the total gross weight, in pounds, for each line item. Include the weights of pallets, skids or any secondary container.
- Freight Terms – Indicate 'FOB Origin, Freight Collect' terms if ZF is responsible to pay for the shipment. All freight shipped to ZF Facilities must be shipped freight collect unless Purchase Order states otherwise or shipment is a Supplier paid expedite or routing deviation.
- Freight bill to – Suppliers must indicate the correct freight billing party name and address for collect shipments. Freight bill to is indicated by the responsible plant or is available from shipping instructions from third party transportation management provider (Penske Logistics)
- Load number – Suppliers that ship using ZF's third party transportation management provider (Penske Logistics) are required to indicate the Penske Load Number on the BOL as a reference number.

9 Global Material Management Operations Guideline (GMMOG)

The GMMOG is a logistics audit which will be used as a standard tool within ZF. Suppliers must complete a GMMOG/LE self-assessment and also receive an onsite audit by a ZF certified lead auditor.

9.1 MMOG/LE Self-Assessment:

All ZF suppliers must complete a MMOG/LE Self-Assessment.

- A copy of the MMOG/LE Assessment must be obtained from AIAG (www.aiag.org) or Odette (www.odette.org).
- It is important that the self-assessments are completed thoroughly. Please review your assessment for the following before submitting:
    - The English version of the MMOG/LE Assessment was completed.
    - The MMOG/LE Assessment Date on the Scoring Summary tab is updated to reflect that the assessment was reviewed and updated.
    - The address listed on the Scoring Summary tab is the address of the actual manufacturing facility.

- The Gap Analysis is completed for all non-compliant criteria, including champions and target dates.

9.2 GMMOG/LE onsite audits:

- On site audits will be conducted for all Strategic ZF Suppliers, for suppliers in review for new business, and any poor performing suppliers
- This is a two day on site audit where ZF will review the supplier's internal logistics processes.

9.3 GMMOG/LE Training Opportunities:

- Please visit AIAG.org to find training material and documents on GMMOG process.

10 Contingency Planning

In order to ensure smooth manufacturing and supply for ZF plants, it is mandatory for suppliers to have a risk management process and disaster recovery plans in place in order to ensure deliveries even in abnormal situations. Such risk management process and disaster recovery plans shall be provided to ZF upon request.

10.1 Updated Contacts

It is the responsibility of the supplier to maintain an up-to-date contacts list for those parties they will be in contact with. Supplier needs to have valid email addresses and phone numbers for those within ZF they will need to speak to for daily operations, special-case scenarios (supply chain delays), and those outside of ZF they might need to get into contact with (third-party logistics providers, carriers, etc.).

10.2 Escalation Process

It is the responsibility of the supplier to understand the escalation process established at the location(s) they're supplying. Any uncertainty in the process needs to be directed to the ZF location for clarity.

11 Non-Conformance and Consequences

11.1 Supplier Complaint / Debit Note Policy

Chargebacks shall occur when a supplier fails to:

- Use a designated carrier/forwarder/broker
- Send an ASN as soon as their shipment leaves their facility
- Ship complete quantities as per Scheduling Agreement Release
    - (i.e. incomplete/partial shipments)
- Ship to schedule, includes early and late shipments. In the case of "past due" shipments the supplier shall pay for premium freight related to the past due material.
- Comply with U.S. Customs for product entry to the USA
- Comply with packaging and labeling requirements
- Obtain authorization from ZF's Material Planner to deviate.

A chargeback may be avoided through proper communications with your responsible Materials Planner.

The penalty for each chargeback occurrence is an administrative fee of $100 or 100 Euros. The chargeback will be sent via email to the supplier logistics contact.

The supplier has 10 calendar days from the date the email was sent to challenge the chargeback. After these 10 calendar days, the chargeback will be sent to the accounts payable department that will issue a debit from the supplier account.

11.2 Good Supplier Behavior

- Proactively communicate with ZF. Know when to raise the red flag.
- Notify ZF contact of proposed material or process changes.
- Notify ZF contact of proposed manufacturing location changes.
- Watch for sub-supplier issues and notify ZF contact if any arise.
- Notify ZF contact of potential supply/capacity issues.

12 Supplier Quality Requirements

Additional information on supplier quality requirements can be found at the link below:

http://www.zf.com/corporate/en/company/purchasing_logistics/quality_guidelines/quality_guidelines.html

Important forms to note on the webpage are F08, F09, F10, and F11 under '5. QR83 Forms'.