Section C: Product Support Data Requirements
Revised: October 31, 2019

This section in its entirety is only applicable to parts and subsystems procured under a control drawing (vendor item control drawing or source control drawing). For any parts and subsystems procured under a fabrication drawing (detail drawing, assembly drawing, altered item drawing, etc.) the supplier is not expected to provide this information, but Oshkosh may submit a request for part or subsystem information to support our analyses.

Suppliers are very important members of the product support team. Timely supplier participation is essential to the success of any product support program.

Simply stated, the customer will not accept vehicles unless key elements of product support, based on vehicle producer and supplier data, are in place to support the vehicles. Some key examples are:

- Maintenance requirements and plans
- Product training information, services, and equipment
- Support equipment (including test equipment) and related information
- Service task and part information
- Manpower and skills requirements for operation and support
- Packaging, Handling, Storage and Transportation (PHS&T) instructions

The inputs from suppliers to determine field support for vehicle systems continue to increase as the methods for determining support become more data-driven. Today's requirements are determined through Logistics Support Analysis (LSA), the analytical process by which vehicle field support is determined.

The time-consuming demands of LSA dictate an early start of the LSA process to ensure the elements of product support are in place prior to fielding of the first vehicle. Time constraints sometimes force the start of LSA development prior to contract award.

Thus it is important to receive your input, illustrated by the following example of the product support requirements from a current program, within the shortest possible timeframe. Within three weeks after you receive a purchase order from Oshkosh Corporation is the most desirable time for this input. Your purchase order will include linked product support data requirements for the specific contract related to that procurement.

Oshkosh Corporation Product Support will at any time meet with suppliers at Oshkosh Corporation to review requirements, to explain any item in question, to prioritize delivery if necessary, and to review possible alternatives.

Welcome to the Oshkosh product support team. You have joined an experienced, mission oriented team whose goal is to support our vehicle, its components and the associated equipment with the correct item, in the right place, at the right time, in the proper quantity, at a fair price, and to guarantee minimum downtime at the lowest possible life cycle cost.

REPAIRABLE PARTS
SUPPLIER PRODUCT SUPPORT DATA REQUIREMENTS
CONTRACT #_____
(NEED WITHIN 21 DAYS; if more time is needed please request an extension but provide Item 1 and Item 10a immediately such that the Logistics Support Analysis can begin)

ITEM	REQD	QTY	DESCRIPTION
1)	_____	1 Electronic	Engineering drawings and Bills of Material (BOM) at least equal to MIL-T-31000 and MIL-STD-100, Level 2. Delivery of electronic media is required to be in one of the following formats: PSD, AI, EPS, JPEG, TIF, DXF, IGES, or STP. Delivery of text (e.g. BOM, parts lists, etc.) should be in Windows format, developed in MS Word, Excel or Access. A read/write PDF is acceptable. In the event you are unable to provide electronic media for Level 2 drawings please provide hard copy.

Complete sets of assembly and individual piece part drawings with their accompanying BOM containing service part numbers and quantities per assembly, for the exact configuration purchased. Each component drawing must contain:

- Name of manufacturer
- Manufacturer's Code Identification {Commercial and Government Entity Codes (CAGE/FSCM)}
- Manufacturer's part number
- Description of part
- Material Content
- Finish where applicable
- Illustration of part
- Reference to Next Higher Assembly, where applicable
- Known cross references to National or NATO Stock Numbers (NSN) and Military Standard (MS)
- Statement as to whether you claim rights in data for items developed prior to Contract Award date of _____
- In the English language
  Weights and dimensions

NOTE: Items 4 through 9 below are required either as part of each respective piece part drawing, or as separate tabulations.

NOTE: Subvendor part numbers and CAGE/FSCM are to be provided for all items where you do not have rights in data.

NOTE: Each drawing will be stamped with a "cataloging only" restriction stamp prior to submittal to the Government.

NOTE: If an "A" size (8½" x 11") or "B" size (11" x 17") drawing is provided, it is only necessary to provide one copy and the drawing must be legible.

2)	Reserved.		
3)	Reserved.		
4)	_____	3	Complete size, type, grade, and finish descriptions for all common hardware (fasteners so that these items can be cross-referenced to Military Standard (MS) part numbers.
5a)	_____	3	Outside dimensions (i.e., overall length, height, width, or thickness to the nearest 1/10 of an inch).

ITEM	REQD	QTY	DESCRIPTION
5b)	_____	3	Bare weight each in pounds, and tenths of a pound.
5c)	_____	3	Quantity per unit pack, where applicable. Provide any special packaging requirements.
6a)	_____	3	Material content description (i.e., steel, copper, brass, aluminum, rubber, neoprene, cork, or other, please specify) where not included under Item 1.
6b)	_____	3	Also advise the number of grams precious metals content, if any, for silver, gold, platinum, palladium, iridium, rhodium, osmium, ruthenium, or any combination of these metals.
6c)	_____	3	Identify all items that contain radioactive material. Provide a listing of the radioactive materials and their quantities, the purpose of the radioactive material and the Nuclear Regulatory Commission license number for each of the radioactive materials used.
6d)	_____	3	Provide Material Safety Data Sheets (MSDS) for all items containing hazardous materials, to meet the requirements of OSHA Standard 29CFP1910.1200.
7)	_____	3	Shelf life limitations and static sensitivity, if any, based on standard service part packaging.
8)	_____	3	Listing of all repair kits offered including piece part drawings, maximum quantity prices, and deliveries. As an alternate, furnish 3 sets of a parts catalog containing required kit information. NOTE: Item 8 required only when not included with Item 1.
9)	_____	3	Complete listing of any special tools required for operation, maintenance, and overhaul. Only those tools required for the purchased configuration are to be listed. Refer to Item 22 for hardware requirements. Provide the following special tool information: · description · purpose · tool manufacturer's part number · tool manufacturer's code identification (CAGE) or name and address · drawing or illustration of tool · price each · delivery NOTE: Total elimination of special tools is preferred wherever possible.
10a)	_____	2	Provide the net cost each to Oshkosh for each service part. If quantity pricing is applicable, provide the most economical price along with its associated quantity requirement.
10b)	_____	2	Identify service part numbers with delivery exceeding 6 months. Specify delivery time.
11)	_____	3	Spares replacement database on actual spares consumption. As an alternate, furnish as per Item 12.
12)	_____	3	Recommended Spare Parts List for one year's operation of 100 units based on the following mission scenario: End Item ……_____miles/year Component……_____cycles/year

Contract #
Required when "X" on this line

ITEM	REQD	QTY	DESCRIPTION
13)	_____	3	Complete warranty statement containing the following: · Complete assembly warranty · Repair parts warranty, when different from assembly warranty · Storage action, if any, to retain warranty in effect.
14)	_____	3	Available flat rate manuals or labor time guides covering all warranted repair tasks.
15)	_____	3	Scheduled maintenance required, at specific intervals.
16)	_____	3	Any lubrication required at specific intervals. Provide lubricant specifications, capacities and temperature ranges.
17)	_____	3	Troubleshooting procedures, if applicable, including symptom index, with test or inspection and corrective action for each malfunction (symptom).
18a)	_____	3	Existing commercial operator's, service, overhaul, and parts manuals or brochures for contract, or similar, configuration. If a military publication exists for your product(s), please provide a copy or the publication number.
18b)	_____	1	Provide all hazard/safety requirements for this item as applicable as affects operation and maintenance.
18c)	_____	1	Provide available reproducible parts catalog exploded view art.
18d)	_____	3	Furnish a copyright giving the government permission to reproduce and use copyright information contained in commercial data furnished, to fulfill the terms of this contract.
19)	_____	3	Data required as criteria for repair or remanufacture of all repair parts with wearing surfaces or subject to fatigue. Include as a minimum: · All dimensional data, wear limits and tolerances, rather than new part dimensions or tolerances, required to completely repair and overhaul assemblies and components. · Fatigue characteristics and other performance data required to completely repair and overhaul assemblies and components. · Complete set of all necessary torque values.
20)	_____	1 Assy	Complete dressed assembly for Oshkosh product support data development and training. This assembly is to be included in the first shipment of hardware to Oshkosh. After product support use, this assembly will be refurbished and used in vehicle production.
21)	_____	3 Sets	All repair kits, o-rings, gaskets, shims, bushings, bearings, seals, one-time use fasteners etc., that could be destroyed during total disassembly and reassembly of Item 20.
22)	_____	1 Set	Special tools and test equipment required for operation maintenance or overhaul of the purchased configuration item. Oshkosh will keep the tools and test equipment.

ITEM	REQD	QTY	DESCRIPTION
23)	_____	1	Manufacturer's maintenance service engineer to work at Oshkosh for up to _ days to assist in the development, validation, and verification of data required for operation, maintenance, preventive maintenance checks and service and troubleshooting. The ____ days would consist of____separate trips to Oshkosh or OSK's customer's facility.
24)	_____	1 Set	Available existing training programs for operation, maintenance, and overhaul, including films, videos, and slides if these materials provide data in addition to what is contained in the manuals produced under Item 18.
25)	_____		Automatic updates and revisions to all applicable items until the last unit purchased for this contract is received. This clause is subject to configuration control Item 26.
26)	_____		DELIVERY OF ALL THESE ITEMS IS REQUIRED WITHIN 21 DAYS AFTER OSHKOSH ORDER PLACEMENT FOR YOUR HARDWARE. THESE MATERIALS ARE TO BE FURNISHED AT NO ADDITIONAL CHARGE TO OSHKOSH. ALL COSTS ARE TO BE INCLUDED IN YOUR UNIT HARDWARE COST. Your acceptance of our hardware purchase order is acknowledgment that you will furnish these materials, within the days stipulated above at no additional cost to Oshkosh.

NONREPAIRABLE PARTS
SUPPLIER PRODUCT SUPPORT DATA REQUIREMENTS
CONTRACT # _____
(NEED WITHIN 21 DAYS)

ITEM	QTY REQD	DESCRIPTION
1)	1 Electronic	Delivery of non-repairable part drawings should be done via secure FTP in one of the following formats: BMP, Photoshop 5.5, EPS, JPEG, TIFF, DXF, IGES, or HPGL. Delivery of text (e.g. B/M, parts lists, etc.) should be in either ASCII text, MS Word, Excel or Access.
	3 Hard copy	Part drawings must contain the following: · Description of part (English language) · Name of manufacturer · Name of entity retaining rights in data if different from manufacturer · Illustration of part · Service part number · National or NATO Stock Number (NSN) or Military Standard Number (MS) if known · Complete description, including: ·· size, type, grade, and finish descriptions for all common hardware so it can be cross referenced to military standard (MS) part numbers ·· length, height, and width or thickness to nearest 1/10 of an inch ·· bare weight each to nearest 1/10 of a pound ·· basic material content (i.e., steel, copper, brass, aluminum, rubber, neoprene, cork or other, please specify). Also advise the number of grams precious metals content, if any, for silver, gold, platinum, palladium, iridium, rhodium, osmium, ruthenium, or any combination of these metals.
2)	3 Sets	Other documentation (catalog pages, brochures, letterhead, etc.) for any of foregoing elements not listed on piece part drawing, Item 1, or in lieu of piece part drawing when same not available.
3)	3 Sets	Shelf life limitations and static sensitivity, if any.
4)	3 Sets	Quantity per unit pack where applicable.
5)	2 Sets	Net price each. If quantity pricing is applicable, provide the most economical price along with its associated quantity requirement.
6)	2 Sets	Normal service part production lead time.
7)	3 Sets	Lubrication, lubricants and other maintenance requirements, if applicable.
8)	3 Sets	Listing of “wear limits” for bearing surfaces and fatigue characteristics, if applicable, to be used as criteria for repair or remanufacture.

Contract #
Required when “X” on this line

ALL PARTS (REPAIRABLE AND NON-REPAIRABLE)
RELIABILITY/MAINTAINABILITY DATA REQUIREMENTS

Operating Scenario/Mission Profile

Summary. The primary mission for the Palletized Load System (PLS) is ammunition distribution and resupply. The trucks will have a diesel engine, fully automatic shifting transmission, full time all wheel drive, and transport at least 16.5 tons (15 metric tons) of cargo while on a demountable cargo body (flatrack). The PLS will also include a trailer which will be capable of carrying a minimum of 16.5 tons (15 metric tons) of cargo on a flatrack. The truck will have integral load and unload capabilities allowing the truck to self load and unload fully loaded flatracks from both the truck and the trailer. Specified trucks will come furnished with a material handling crane. The PLS will operate worldwide on primary and secondary roads, trails, and rough trails, in environmental conditions varying from -50°F (-46_C) to +120°F (49_C). The PLS will operate at tactical standard mobility, shall be capable of being transported on C-141 aircraft.

*** Add “A” Sheet Data Here***

Reliability/Maintainability Test Scenario

Terrain of Condition	Percentage Operation
Primary	25
Secondary	50
Trails	20
Rough Trails	5

The system/part/component ("item") to be procured will be exposed to the operating scenario and mission profile described above. The information requested below should reflect that environment.

Information to be provided for the purchased part or subsystem:

1. **MMBHMF: (Mean Miles Between Hardware Mission Failure)** This is the average number of miles between hardware mission failures. A hardware mission failure is defined as an incident that causes the inability to perform one or more of the mission essential functions or an incident that caused or could have caused a critical or catastrophic hazard to personnel or equipment. Hardware mission failures include only those failures that are chargeable to the hardware. They do not include failures that are chargeable to embedded computer software, crew, manuals, support equipment, or accidents.

2. **MMBUMA __ (Mean Miles Between Unscheduled Maintenance Action)** The average number of miles that an item is expected to be operable without requiring unscheduled maintenance action. An unscheduled maintenance action is a maintenance action that is not part of the scheduled maintenance program and is not correctable by the crew. Note that a failure is an unscheduled maintenance event, but an unscheduled maintenance event is not necessarily a failure.

3. **MTTR (Mean Time to Repair)** This is the average time (clock hours) consumed during an unscheduled maintenance activity to restore the item to its operable state using the recommended number of mechanics. Since unscheduled maintenance can arise for many reasons (i.e., an inoperable state can be caused by various malfunctions), the MTTR estimate should reflect the variety and distribution of malfunctions that are expected to occur.

4. **MMHRTR (Mean Man-Hours to Repair)** This is the average man-hours consumed during an unscheduled maintenance activity to restore the item to its operable state using the recommended number of mechanics.

5. **MMBPMA (Mean Miles Between Preventive Maintenance Actions)** This is the recommended mileage interval between scheduled services, other than those services that would be performed by the vehicle operator. Such services require a skilled government mechanic and include grease gun lubrications, oil changes, etc., plus Preventive Maintenance Checks and Services (PMCS) requiring knowledge/tools that a mechanic would be expected to have. It is important to note that a vehicle operator would not be authorized to perform any of the tasks which the MMBPMA would cover. If more than one mileage interval is prescribed; (e.g., some services may be prescribed at 6-month intervals while others may be prescribed at 1-year intervals), please state each of the differing intervals.

6. **MTFPMA (Mean Time for Preventive Maintenance Actions)** For each of the mileage intervals specified in 5. above, provide the mean time to perform all Preventive Maintenance Actions (as defined in 5.) prescribed for that interval using the recommended number of mechanics.

7. **MMHFPMA (Mean Man-hours for Preventive Maintenance Actions)** For each of the mileage intervals specified in 5. above, provide the mean man-hours to perform all Preventive Maintenance Actions (as defined in 5.) prescribed for that interval using the recommended number of mechanics.

8. **MR (Maintenance Ratio)** The sum of the manhours expended to perform the preventive maintenance actions and unscheduled maintenance actions (as defined above) divided by the operating miles and is given in terms of maintenance manhours per operating mile. The maintenance ratio does not include the manhours to perform the maintenance actions done by the vehicle operator.

9. **Failure Modes**. Provide a list of all possible failures which will cause the item/assembly being procured to be incapable of performing its intended function. (For example, the failure of a connecting rod will cause the engine to be incapable of performing its intended function.)