DATA ITEM DESCRIPTION

Form Approved
OMB No. 0704-0188

1. TITLE	2. IDENTIFICATION NUMBER
Mass Properties Control and Management Process (MPCMP) Report	DI-MGMT-81452

3. DESCRIPTION / PURPOSE

3.1 This report will provide visibility and control of the contractor's intent, approach, and methods employed to optimize the mass properties of the product. The report shall provide for maximum efficient communications between the contractor, vendor, user, and acquiring agency.

4. APPROVAL DATE (YYMMDD)	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR)	6a. DTIC APPLICABLE	6b. GIDEP APPLICABLE
950123	F/ASC-ENFS		

7. APPLICATION / INTERRELATIONSHIP

7.1 This Data Item Description (DID) contains the format and content preparation instructions for the data product generated by the specific and discrete task requirement as delineated in the contract.

7.2 This report is developed initially in the Validation or Engineering and Manufacturing Development Phase, and is updated in subsequent phases.

7.3 This DID interrelates with DI-S-3584 and supersedes DI-S-3572/S-149-1.

8. APPROVAL LIMITATION	9a. APPLICABLE FORMS	9b. AMSC NUMBER
		F7105

10. PREPARATION INSTRUCTIONS

10.1 *Format.* Contractor format is acceptable. A suggested format is provided as Figure 1.

10.2 *Content.* The report shall include the following:

10.2.1 The report shall depict the elements of a program for monitoring, controlling, and validating mass properties to insure the purchase of minimum weight air vehicles allowable.

10.2.2 Include scheduling information to show the integration of major mass properties tasks with the major program milestones.

10.2.3 Revisions to the original report shall reflect any program changes.

(Continued on Page 2)

11. DISTRIBUTION STATEMENT

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

Block 10, Preparation Instructions (Continued)

Forward
List of illustrations
Summary
1. Introduction
2. Mass properties definitions
2.1 Specification or guaranteed weight empty
2.2 Aircraft reference axis
2.3 Potential or possible weight change
2.4 Planned, probable, or projected weight changes
2.5 Target weight
2.6 Goal weight
2.7 Operating weight
2.8 Current weight
2.9 Actual weight
2.10 Calculated weight
2.11 Estimated weight
2.12 Status weight
2.13 Manufacturing variation
2.14 Contingency or margin
2.15 Management reserve
2.16 Growth weight or allowance
2.17 Weight empty
2.18 Zero fuel weight or zero wing fuel weight
2.19 Airframe unit weight
2.20 Commercial terms
3. Mass properties organization and how it relates to other organizations
4. Weight control process
4.1 Design target weight system
4.2 Aircraft target weight
4.3 Job package or drawing target weight
4.4 Guaranteed weight system
4.5 Establishment of the guarantee and contract incentives and penalties
4.6 Provisions for change
4.7 Target weight system
4.8 Identification of all weight changes
4.9 Basis for weight increments for changes

Figure 1. Sample mass properties control and management process report

Block 10, Preparation Instructions (Continued)

4.10	Weight reviews
4.10.1	In-house weight reviews
4.10.2	Subcontractor, vendor, and associate contractor weight reviews
4.10.3	Government weight reviews
4.11	Reconciliation of contractor and government estimates
4.12	Weight status reports
4.13	Review and decision making process and interim thresholds
4.14	Risk assessment and risk reduction
4.15	Weight reduction process
4.16	Value of a pound
4.16.1	Value of the pound to the contractor
4.16.2	Value of the pound to the government
4.16.2.1	Deleta range per pound
4.16.2.2	Drag counts per pound
4.16.2.3	Operating cost per pound
4.17	Drawing board surveillance
4.17.1	Significance of mass properties group signature
4.18	Remedial actions or recovery action
4.19	Subcontractor, vendor, and associate contractor weight control
4.19.1	Incentives
4.19.2	Penalties
5.	Balance and inertia control
5.1	Balance control
5.2	Inertia control
6.	Recording and reporting
6.1	Government data requirements
6.2	Internal contractor mass properties data
6.3	Subcontractor, vendor, and associate contractor data reporting requirement
7.	Manpower requirements and key personnel
8.	Interface control: airframe, engine, and avionics subcontractor, vendor, or associate agreements
9.	Aircraft mass properties validation
9.1	Part validation
9.2	Total aircraft validation

Figure 1. Sample mass properties control and management process report - Continued

Block 10, Preparation Instructions (Continued)

9.3	Fuel calibration
9.4	Scales
9.5	Center of gravity
9.6	Inertia
10.	Flight test support
11.	In-service requirements
11.1	Technical orders
11.2	Time weighing intervals or periodic weighing requirements
11.3	Weight and balance computer
11.4	Contractor services required
11.5	Equipment required
12.	Mass properties detailed schedule

Figure 1. Sample mass properties control and management process report - Continued