



3D PDF Technical Data Package Overview





Why PDF

- Neutral File Format
- In Accordance with ASME Y14.41
 - Need to Publish/Approve
- Readily Readable Format
- Compatible with JEDMICS
- Long Term Archiving and CAM compatibility
 - Embedded STEP



Other File Formats

- Native CAD
- STEP
- JT
- IGES

File Format	Neutral	ASME Y14.41 Including Approval	CAM Compatible	Readily Readable	JEDMICS	Output Design Capable
PDF (PRC)	Yes	Yes	No	Yes	Yes	Yes
JT	Yes	No	No	No	No	Yes
STEP	Yes	No	Yes	No	No	Yes
IGES	Yes	No	Yes	No	No	Yes



3D PDF



NAVAL AIR WARFARE CENTER, AIRCRAFT DIVISION LAKEHURST, NJ 08733-5000		NAVAL AIR WARFARE CENTER, AIRCRAFT DIVISION LAKEHURST, NJ 08733-5000	
Data Set Number 3449AS6999-1	Rev	Design Cage Code 30003	Notes: (6 items)
Title HYDRAULIC MANIFOLD		1. MAKE P/N 3449AS6999-1, HYDRAULIC MANIFOLD FROM P/N 3449AS6999-1, PRINTED HYDRAULIC MANIFOLD BY MACHINING LHM DRAWING 3449AS6999. 2. THREAD DIMENSIONS AND DESIGNATIONS SHALL BE INTERPRETED IAW FED-STD H29 AND ASME Y14.6, RESPECTIVELY. ACCEPTABILITY OF SCREW THREADS SHALL BE IAW SYSTEM 21 OF FED-STD H29/22. MINIMUM FULL THREAD IS .500. 3. PASSIVATE P/N 3449AS6999-1 AFTER MACHINE AND HEAT TREATMENT IAW ASTM A367, NITRIC 1. 4. PORT CONFORMS TO SAE J1926-1, CONNECTIONS FOR FLUID POWER AND GENERAL USE - PORTS AND STD ENDS WITH ASME B1.1 THREADS AND O-RING SEALING-PART 1: THREADED PORT WITH O-RING SEAL IN TRUNCATED HOUSING. 5. AS AN ALTERNATE METHOD OF MACHINING INTERNAL DIAMETERS, RADIIUSES, AND CHAMFERS, USE FORM BEAMER P/N 995-011 AND P/N 995-013 AVAILABLE FROM SUN HYDRAULICS (1600 WEST UNIVERSITY PARKWAY, SARASOTA, FLORIDA 34243, 941-362-1200, CAGE CODE: 94035). 6. ALL O-RING "LEAD IN'S" TO BE SMOOTH AND FREE OF NICKS AND SHARP EDGES. ----- END	
PIN: 3449AS6999-1 Weight: 0.00236283 Designed For: V-22 DRAG STRUT Next Assembly: 3449AS600-1 Distribution Code: A Approved for public release; Distribution is unlimited.		Revisions Code: (0 items) Revisions: ----- END OF LIST	
Unless Otherwise Specified: Dimensioning and tolerancing shall be interpreted IAW ASME Y14.5M - 2009. Product Definition Data Set (PDD) to be interpreted IAW ASME Y14.41. Remove burrs and break all sharp edges. Dimensions are in inches. Parts are modeled at the mean dimensional condition. The true geometry of the model defines the theoretically exact size Profile Orientation, or Location of a Feature or Datum. It is the basis from which permissible variations are established by applied tolerancing. The precision of the model in this PDD is accurate to 6 significant digits. CAD data is stored in a Windchill PDM. The web site is https://ke-eng6.naval.navy.mil/Windchill Classification of characteristics per DOD-STD-2101. For each finished part, critical and major characteristics require 100% inspection. Critical: To: Major: To:			
BILL OF MATERIALS			
QTY	CAGE	PART NUMBER	DESCRIPTION
X	30003	3449AS6999-1	HYDRAULIC MANIFOLD
		----- END OF LIST -----	----- END OF LIST -----

NAVAL AIR WARFARE CENTER, AIRCRAFT DIVISION
LAKEHURST, NJ 08733-5000

PART NUMBER	NOMENCLATURE	QTY
3449AS6999-1	HYDRAULIC MANIFOLD	X

QTY	CAGE	PART NUMBER	DESCRIPTION	MR
X	30003	3449AS6999-1	HYDRAULIC MANIFOLD	001 EXP STP
		----- END OF LIST -----	----- END OF LIST -----	----- END

Available Views:
 ('Single Click' to preview, 'Double Click' to select)

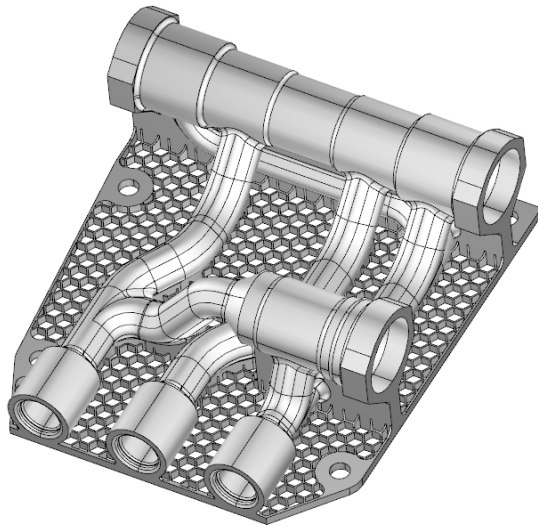
- MBD000_MBOURD_UNLYT
- MED000_PROPERTIES
- MED000_DIMTMS
- MED018_TOP
- MED02A_RBP
- MED03A_SECTION_A
- MED03B_SECTION_B

Print: All Selected

Selection Details

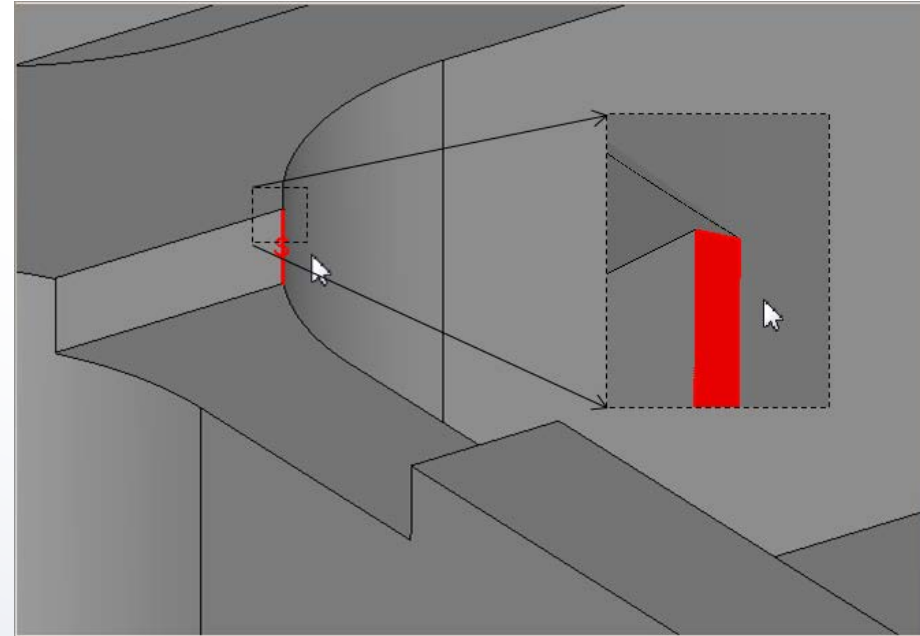
Select a feature or annotation to view details.

Decimal Tolerances: X.XXX ± 0.005
 (Unless Otherwise Specified) X.XXX ± 0.015
 < ± 0.5



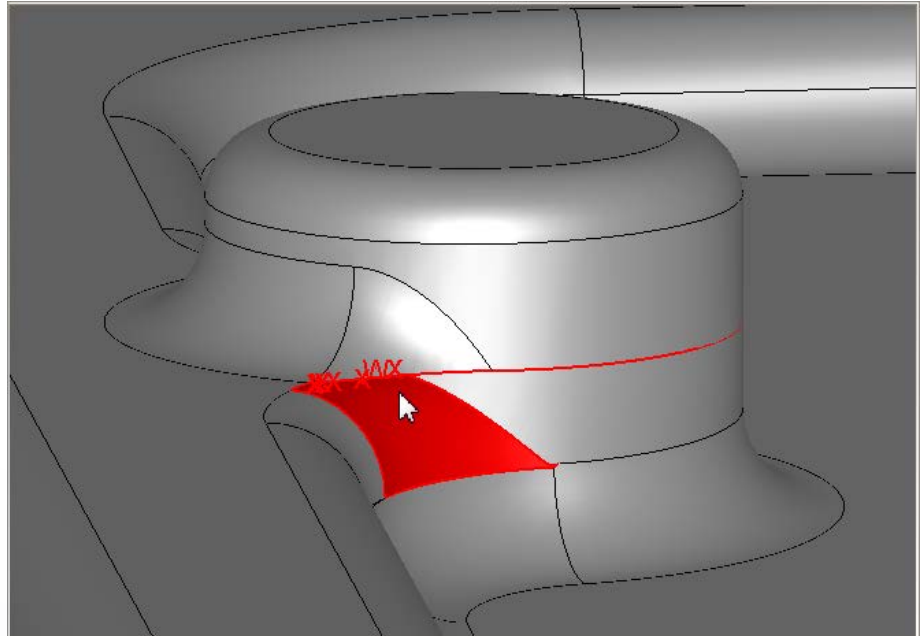


Producibility in MBD



Overhanging Fillet

The indicated fillet extends out to form a sharp edge (see inset image).



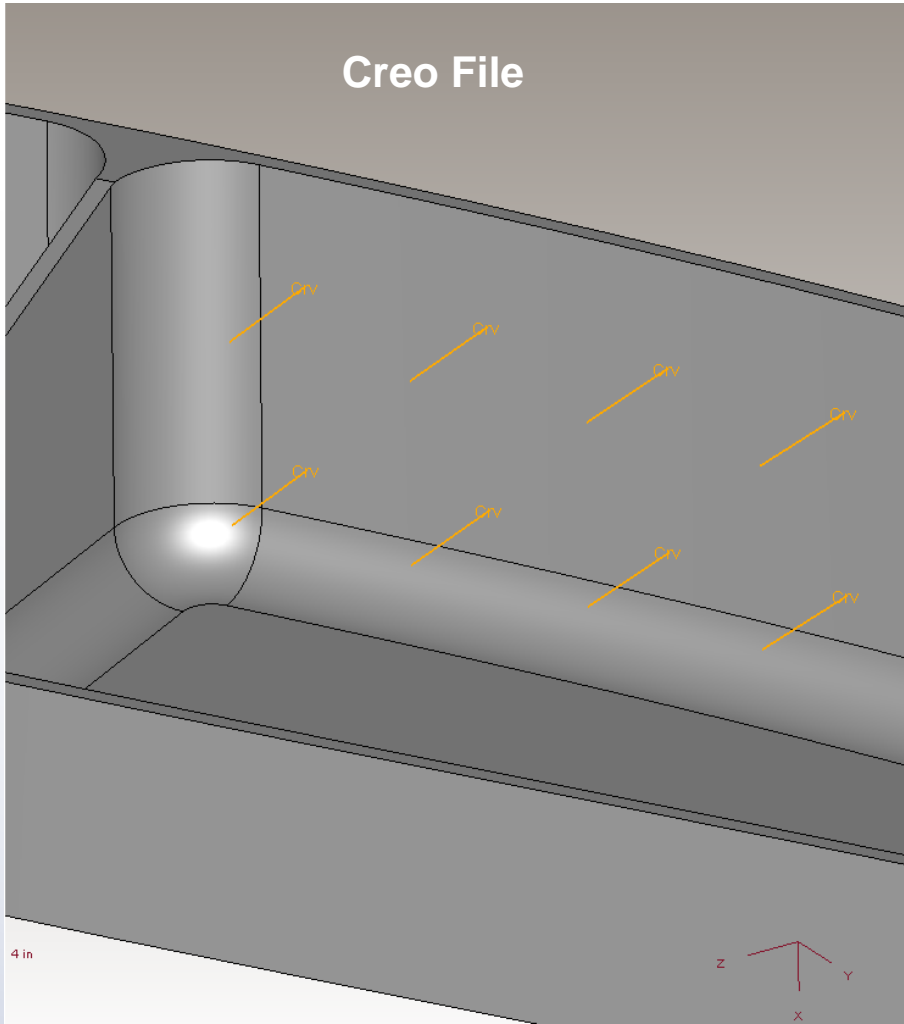
Undercut Feature

The highlighted fillet cuts under the upper part of this feature.

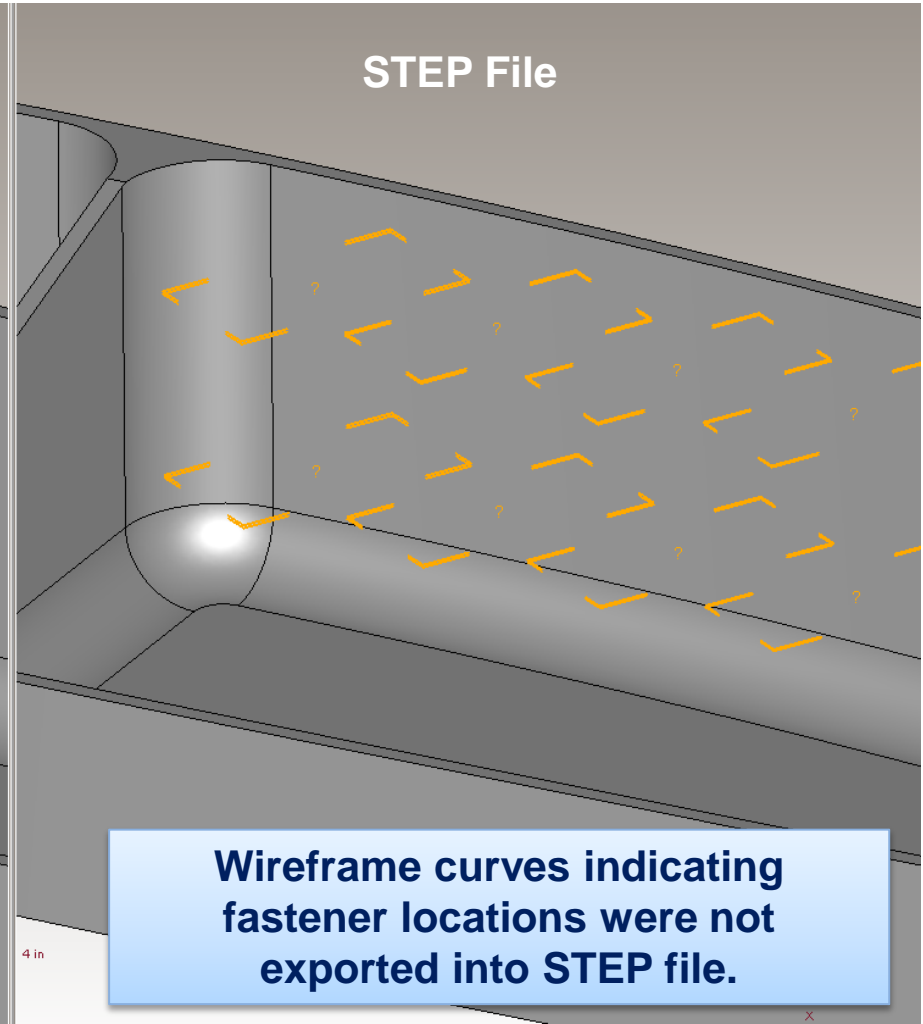


Verification in MBD

Creo File



STEP File



Wireframe curves indicating fastener locations were not exported into STEP file.



Additional Information

- **NAWCADLKE-DDR-486600-0010**
 - Summary and results of the CTMA, MBD for ALRE & SE Project
- **NAWCADLKE-DDR-486600-0008**
 - 3D PDF as the solution for MBD.
- **John Schmelzle**
john.schmelzle@navy.mil

Thank You!