

- Plenums
- Input
- Orifices
- Connectivity
- LAP Aft Cavity Output (P1)
- LAP Innertank Cavity Output (P2)
- LAP Interstage Cavity Output (P3)
- OV Aft Flare Output (P4)
- OV Innertank Output (P5)
- OV Fwd Skirt Output (P6)
- OV Payload Bay Output (P7)
- LAP Aft Purge Ring Output (P8)
- LAP Intertank Purge Ring Output (P9)
- LAP Interstage Purge Ring Output (P10)
- OV Aft Purge Ring Output (P11)
- OV Intertank Purge Ring Output (P12)
- OV Fwd Body Purge Ring Output (P13)
- OV Payload Purge Ring Output (P14)
- LAP Left System Tunnel Output (P15)
- LAP Right System Tunnel Output (P16)
- OV Left System Tunnel Output (P17)
- OV Right System Tunnel Output (P18)

Connectivity Plenum 1
Connectivity Plenum 2
Connectivity Plenum 3
Connectivity Plenum 4
Connectivity Plenum 5
Connectivity Plenum 6
Connectivity Plenum 7
Connectivity Plenum 8
Connectivity Plenum 9
Connectivity Plenum 10

Connectivity Plenum 11
Connectivity Plenum 12
Connectivity Plenum 13
Connectivity Plenum 14
Connectivity Plenum 15
Connectivity Plenum 16
Connectivity Plenum 17
Connectivity Plenum 18



C:\0_afc_work\Two_Stage_Launch_Vehicle_Multi_Cavit

- Plenums
- Input
- Orifices
- Connectivity
- LAP Aft Cavity Output (P1)
- LAP Innertank Cavity Output (P2)
- LAP Interstage Cavity Output (P3)
- OV Aft Flare Output (P4)
- OV Innertank Output (P5)
- OV Fwd Skirt Output (P6)
- OV Payload Bay Output (P7)
- LAP Aft Purge Ring Output (P8)
- LAP Intertank Purge Ring Output (P9)
- LAP Interstage Purge Ring Output (P10)
- OV Aft Purge Ring Output (P11)
- OV Intertank Purge Ring Output (P12)
- OV Fwd Body Purge Ring Output (P13)
- OV Payload Purge Ring Output (P14)
- LAP Left System Tunnel Output (P15)
- LAP Right System Tunnel Output (P16)
- OV Left System Tunnel Output (P17)
- OV Right System Tunnel Output (P18)

Plenum 1 Conversion

Check Mdot

LAP Aft Cavity Trapped Air Mass (lbm)	235.706
LAP Aft Cavity Air Pressure (psia)	13.1986
LAP Aft Cavity Air Temperature (R)	722.566

LAP Aft Vent 1 Mach #	0
LAP Aft Vent 2 Mach #	0
LAP Aft Vent 3 Mach #	0
LAP Aft Vent 4 Mach #	0
LAP Aft Vent 5 Mach #	0
LAP Aft Vent 6 Mach #	0
LAP Aft Vent 7 Mach #	0
LAP Aft Vent 8 Mach #	0
LAP Aft Vent 9 Mach #	0
LAP Aft Vent 10 Mach #	0
LAP Aft Cavity Leak To External Amb Mach #	0
LAP Aft Cavity To Purge Ring Mach #	1
LAP Aft Cavity To Innertank Mach #	-254729
LAP Aft Cavity To Left System Tunnel Mach #	-146829
LAP Aft Cavity To Right System Tunnel Mach #	-146824
LAP Aft Cavity To Engine Boots Mach #	-430463

LAP Aft Vent 1 Mdot (lbm/s)	0
LAP Aft Vent 2 Mdot (lbm/s)	0
LAP Aft Vent 3 Mdot (lbm/s)	0
LAP Aft Vent 4 Mdot (lbm/s)	0
LAP Aft Vent 5 Mdot (lbm/s)	0
LAP Aft Vent 6 Mdot (lbm/s)	0
LAP Aft Vent 7 Mdot (lbm/s)	0
LAP Aft Vent 8 Mdot (lbm/s)	0
LAP Aft Vent 9 Mdot (lbm/s)	0
LAP Aft Vent 10 Mdot (lbm/s)	0
LAP Aft Cavity Leak To External Amb Mdot (lbm/s)	0
LAP Aft Cavity To Purge Ring Mdot (lbm/s)	.186766
LAP Aft Cavity To Innertank Mdot (lbm/s)	-18.053
LAP Aft Cavity To Left System Tunnel Mdot (lbm/s)	-3.35279
LAP Aft Cavity To Right System Tunnel Mdot (lbm/s)	-3.35269
LAP Aft Cavity To Engine Boots Mdot (lbm/s)	-3.42793

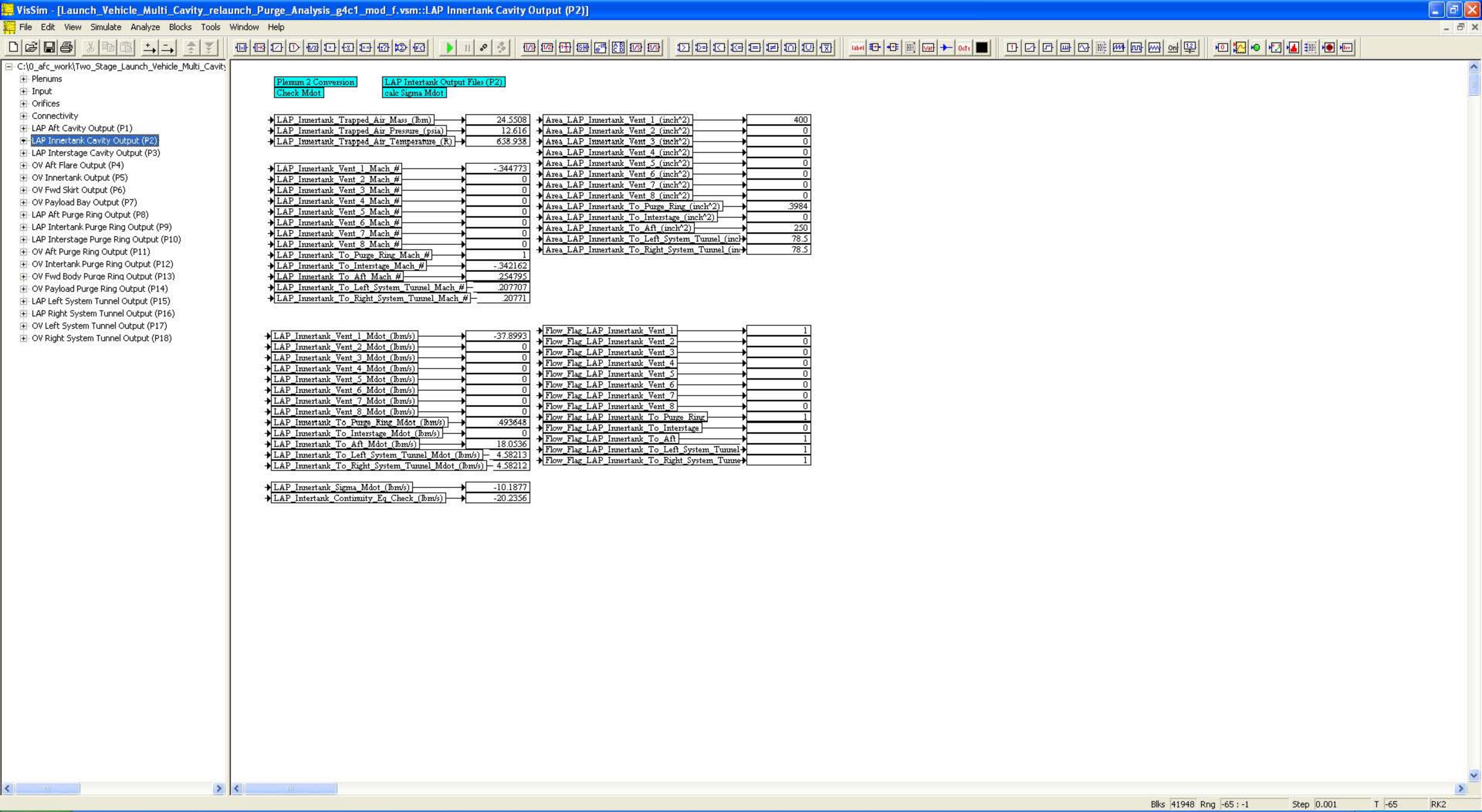
LAP Aft Sigma Mdot (lbm/s)	-27.9997
LAP Aft Continuity Eq Check (lbm/s)	-48.0542

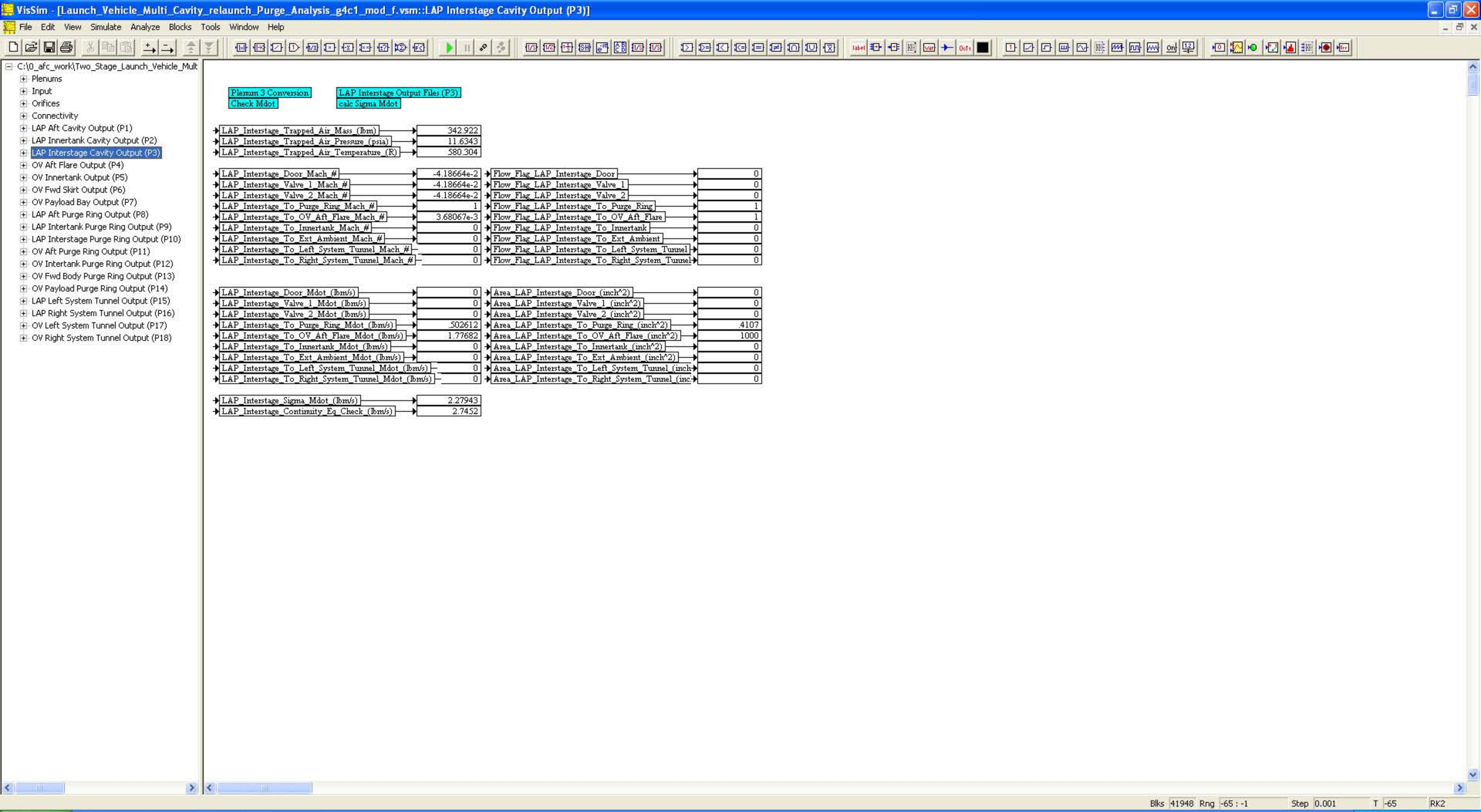
LAP Aft Cavity Output Files (P1)

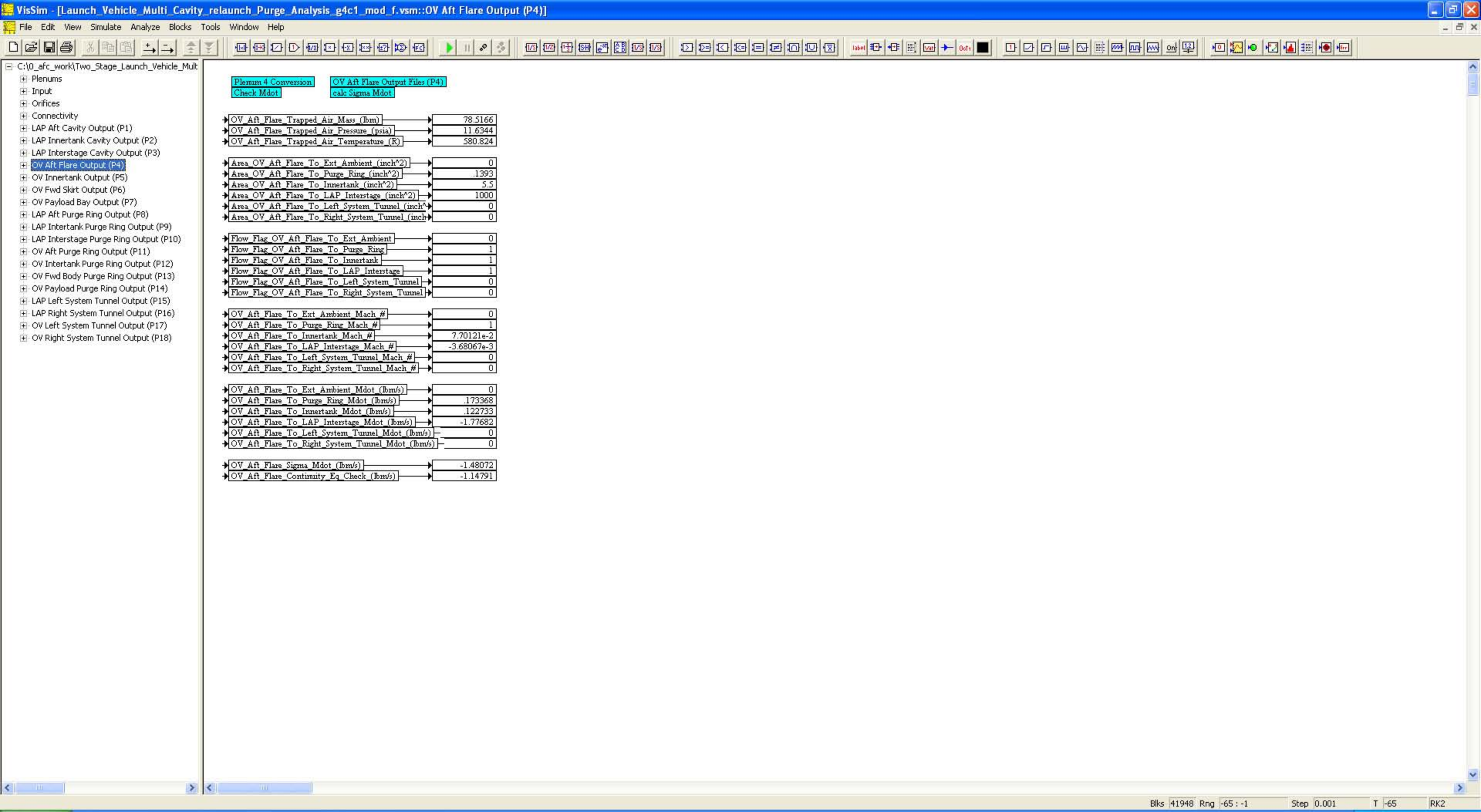
calc Sigma Mdot

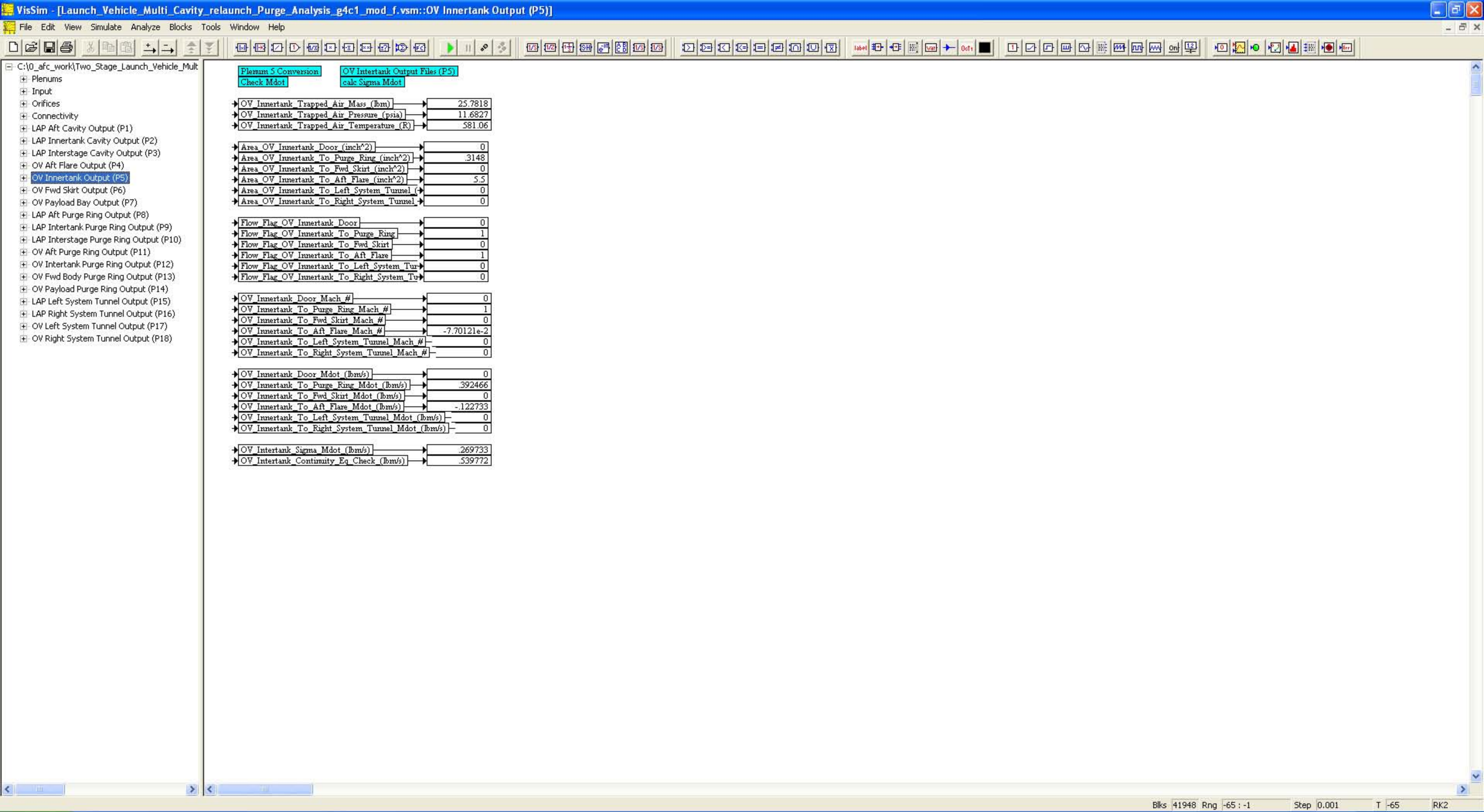
Area LAP Aft Vent 1 (inch^2)	0
Area LAP Aft Vent 2 (inch^2)	0
Area LAP Aft Vent 3 (inch^2)	0
Area LAP Aft Vent 4 (inch^2)	0
Area LAP Aft Vent 5 (inch^2)	0
Area LAP Aft Vent 6 (inch^2)	0
Area LAP Aft Vent 7 (inch^2)	0
Area LAP Aft Vent 8 (inch^2)	0
Area LAP Aft Vent 9 (inch^2)	0
Area LAP Aft Vent 10 (inch^2)	0
Area LAP Aft Cavity Leak To Ext Amb (inch^2)	0
Area LAP Aft Cavity To Purge Ring (inch^2)	.1486
Area LAP Aft Cavity To Innertank (inch^2)	250
Area LAP Aft Cavity To Left System Tunnel (inch^2)	78.5
Area LAP Aft Cavity To Right System Tunnel (inch^2)	78.5
Area LAP Aft Cavity To Engine Boots (inch^2)	18.0854

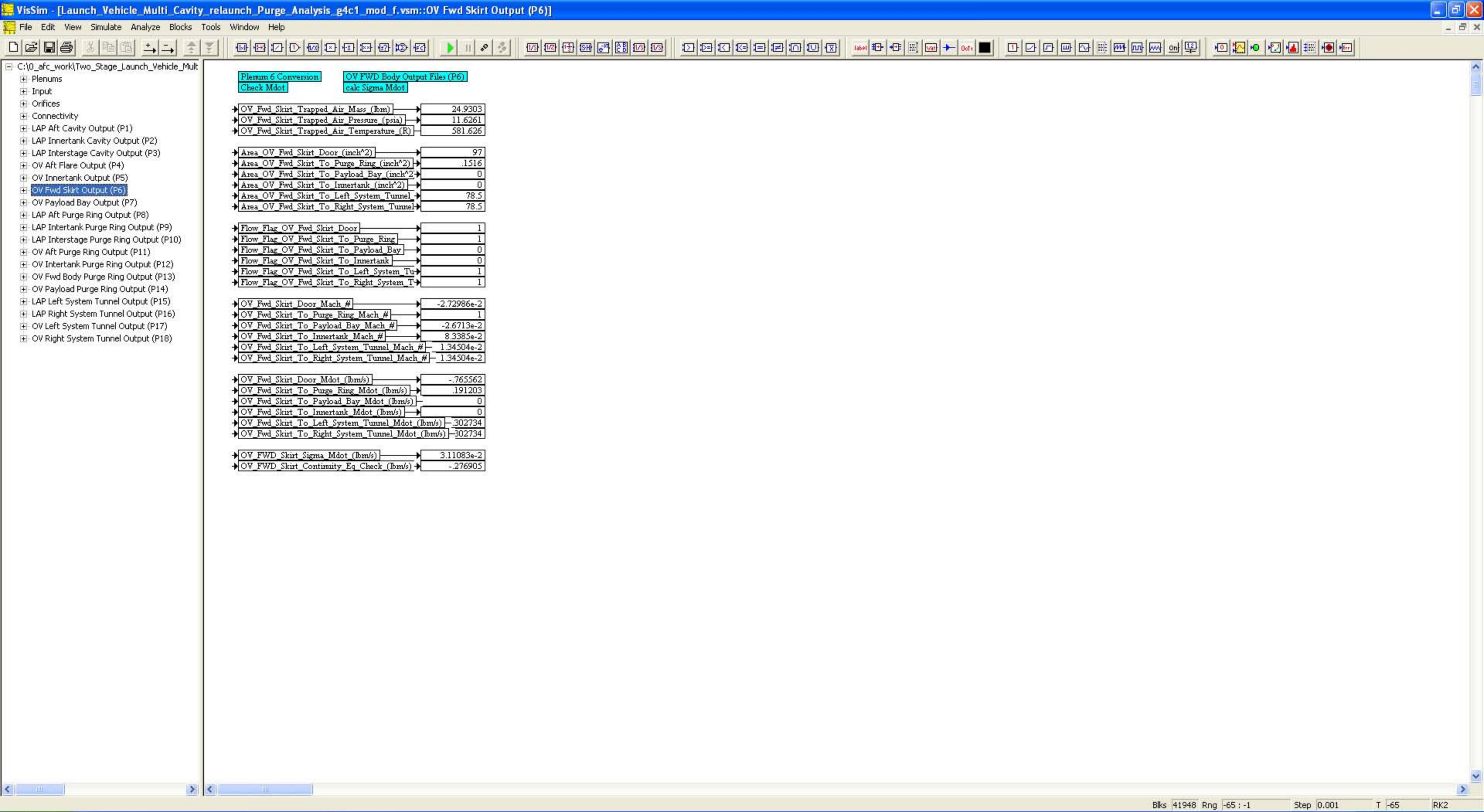
Flow Flag LAP Aft Vent 1	0
Flow Flag LAP Aft Vent 2	0
Flow Flag LAP Aft Vent 3	0
Flow Flag LAP Aft Vent 4	0
Flow Flag LAP Aft Vent 5	0
Flow Flag LAP Aft Vent 6	0
Flow Flag LAP Aft Vent 7	0
Flow Flag LAP Aft Vent 8	0
Flow Flag LAP Aft Vent 9	0
Flow Flag LAP Aft Vent 10	0
Flow Flag LAP Aft Cavity Leak To Ext Amb	0
Flow Flag LAP Aft Cavity To Purge Ring	1
Flow Flag LAP Aft Cavity To Innertank	1
Flow Flag LAP Aft Cavity To Left System Tunnel	1
Flow Flag LAP Aft Cavity To Right System Tunnel	1
Flow Flag LAP Aft Cavity To Engine Boots	1

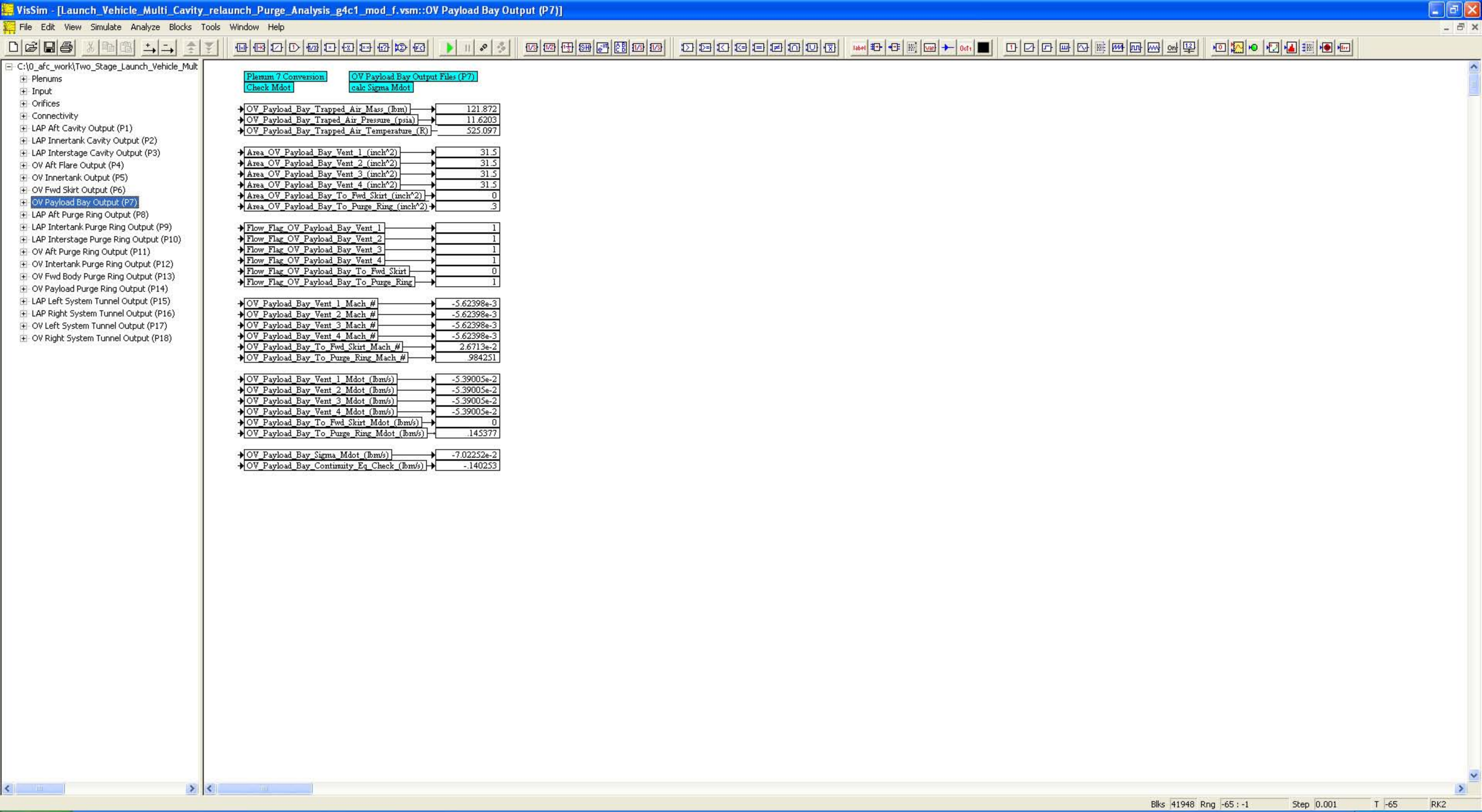


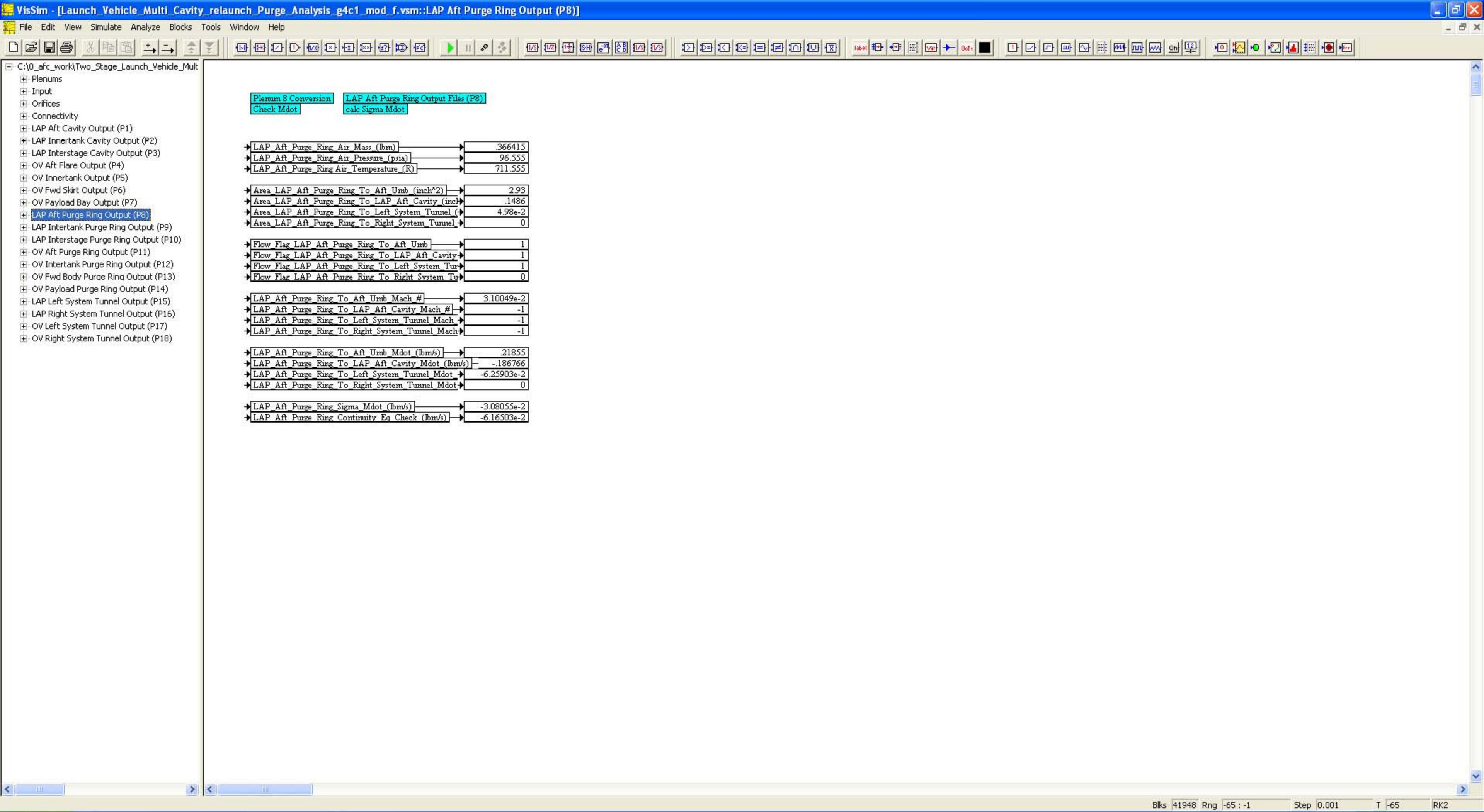












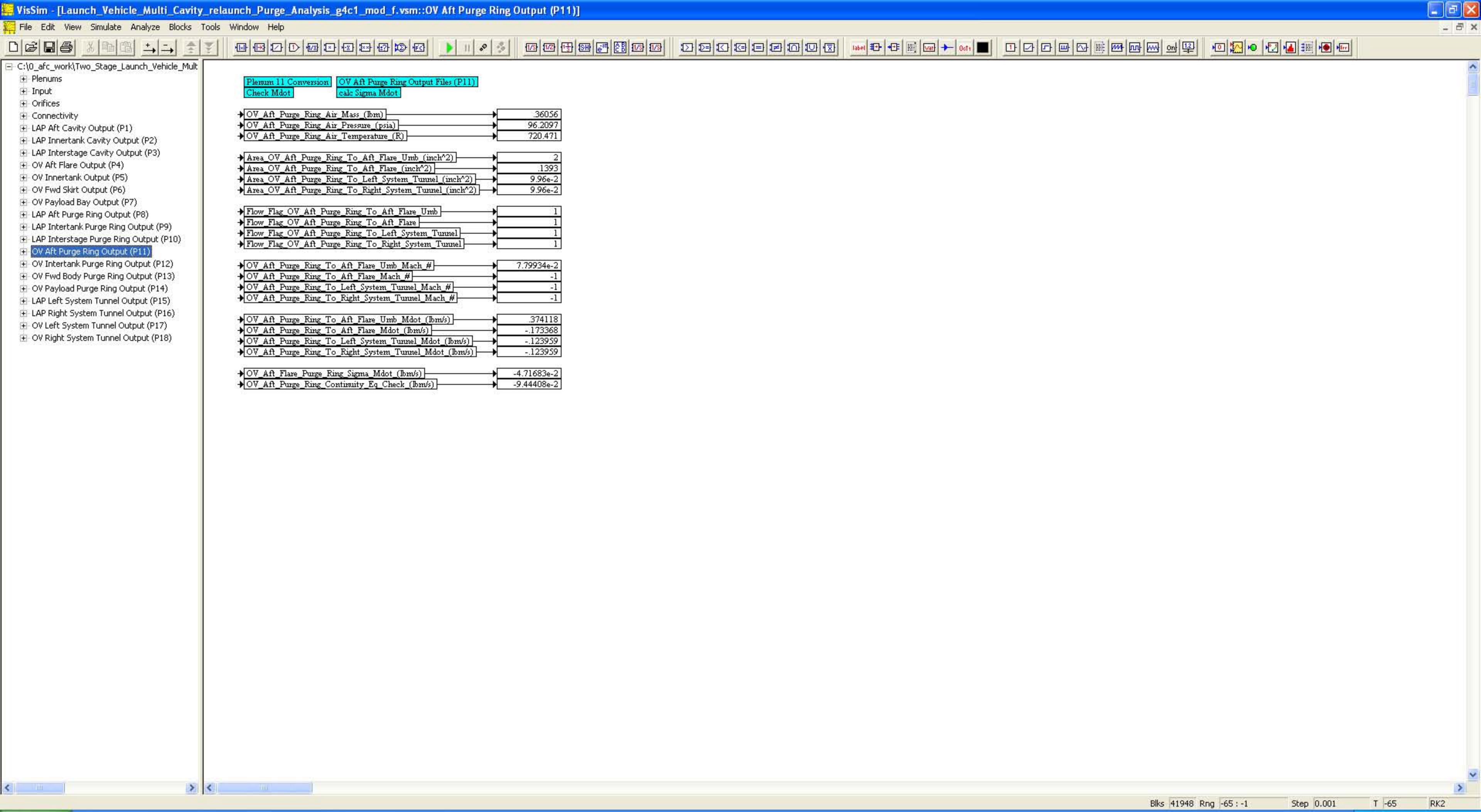


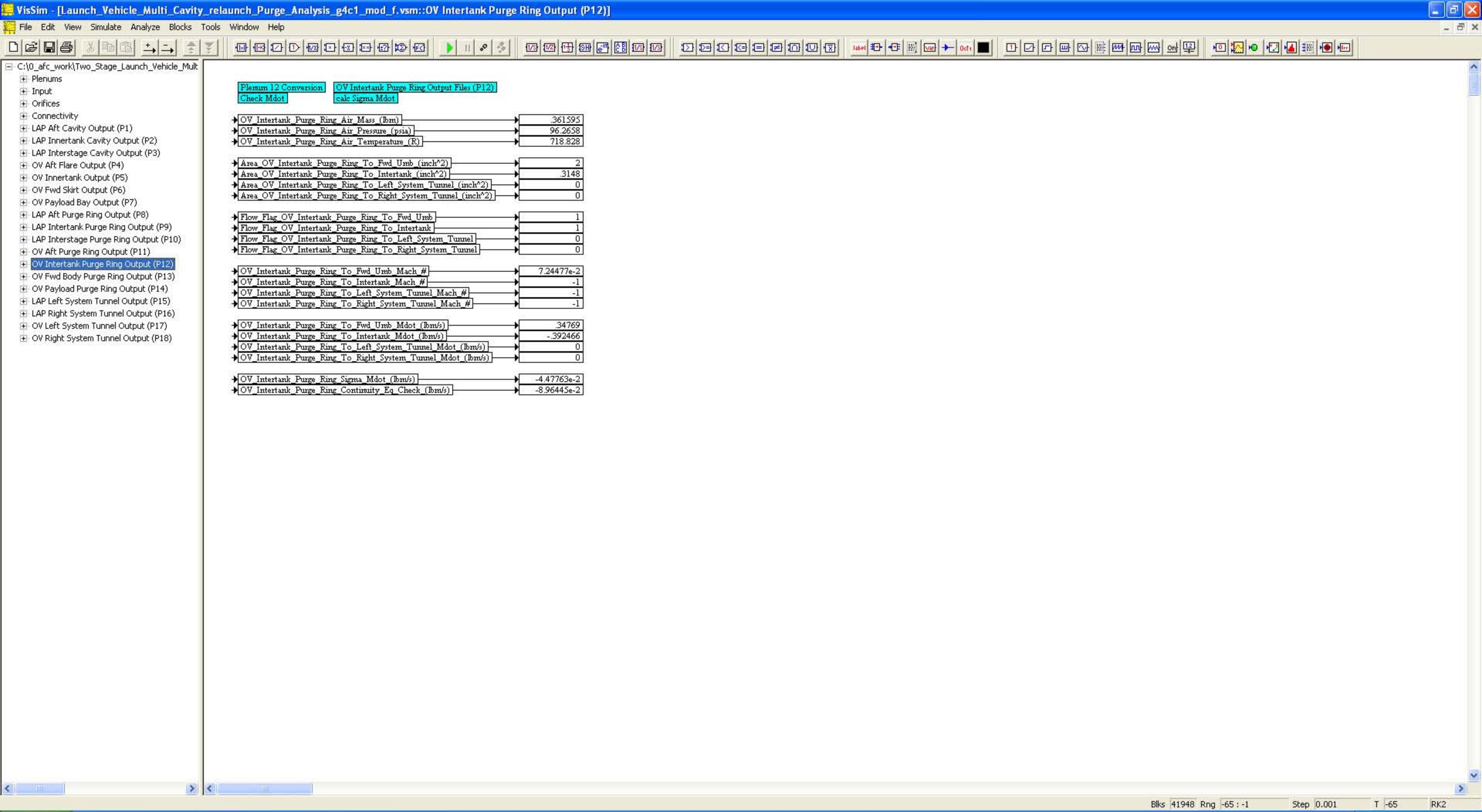
C:\0_afc_work\Two_Stage_Launch_Vehicle_Mult

- Plenums
- Input
- Orifices
- Connectivity
- LAP Aft Cavity Output (P1)
- LAP Innertank Cavity Output (P2)
- LAP Interstage Cavity Output (P3)
- OV Aft Flare Output (P4)
- OV Innertank Output (P5)
- OV Fwd Skirt Output (P6)
- OV Payload Bay Output (P7)
- LAP Aft Purge Ring Output (P8)
- LAP Intertank Purge Ring Output (P9)**
- LAP Interstage Purge Ring Output (P10)
- OV Aft Purge Ring Output (P11)
- OV Intertank Purge Ring Output (P12)
- OV Fwd Body Purge Ring Output (P13)
- OV Payload Purge Ring Output (P14)
- LAP Left System Tunnel Output (P15)
- LAP Right System Tunnel Output (P16)
- OV Left System Tunnel Output (P17)
- OV Right System Tunnel Output (P18)

Plenum 9 Conversion		LAP Intertank Purge Ring Output Files (P9)	
Check Mdot		calc Sigma Mdot	
LAP Intertank Purge Ring Air Mass (lbm)			.357983
LAP Intertank Purge Ring Air Pressure (psia)			96.049
LAP Intertank Purge Ring Air Temperature (R)			724.444
Area LAP Intertank Purge Ring To Aft Umb (inch^2)			2
Area LAP Intertank Purge Ring To LAP Intertank (inch^2)			.3984
Area LAP Intertank Purge Ring To Left System Tunnel (inch^2)			0
Area LAP Intertank Purge Ring To Right System Tunnel (inch^2)			0
Flow Flag LAP Intertank Purge Ring To Aft Umb			1
Flow Flag LAP Intertank Purge Ring To LAP Intertank			1
Flow Flag LAP Intertank Purge Ring To Left System Tunnel			0
Flow Flag LAP Intertank Purge Ring To Right System Tunnel			0
LAP Intertank Purge Ring To Aft Umb Mach #			9.20566e-2
LAP Intertank Purge Ring To LAP Intertank Mach #			-1
LAP Intertank Purge Ring To Left System Tunnel Mach #			-1
LAP Intertank Purge Ring To Right System Tunnel Mach #			-1
LAP Intertank Purge Ring To Aft Umb Mdot (lbm/s)			.440943
LAP Intertank Purge Ring To LAP Intertank Mdot (lbm/s)			-.493648
LAP Intertank Purge Ring To Left System Tunnel Mdot (lbm/s)			0
LAP Intertank Purge Ring To Right System Tunnel Mdot (lbm/s)			0
LAP Intertank Purge Ring Sigma Mdot (lbm/s)			-5.27049e-2
LAP Intertank Purge Ring Continuity Eq Check (lbm/s)			-.105548









C:\0_afc_work\Two_Stage_Launch_Vehicle_Mult

- Plenums
- Input
- Orifices
- Connectivity
- LAP Aft Cavity Output (P1)
- LAP Innertank Cavity Output (P2)
- LAP Interstage Cavity Output (P3)
- OV Aft Flare Output (P4)
- OV Innertank Output (P5)
- OV Fwd Skirt Output (P6)
- OV Payload Bay Output (P7)
- LAP Aft Purge Ring Output (P8)
- LAP Intertank Purge Ring Output (P9)
- LAP Interstage Purge Ring Output (P10)
- OV Aft Purge Ring Output (P11)
- OV Intertank Purge Ring Output (P12)
- OV Fwd Body Purge Ring Output (P13)**
- OV Payload Purge Ring Output (P14)
- LAP Left System Tunnel Output (P15)
- LAP Right System Tunnel Output (P16)
- OV Left System Tunnel Output (P17)
- OV Right System Tunnel Output (P18)

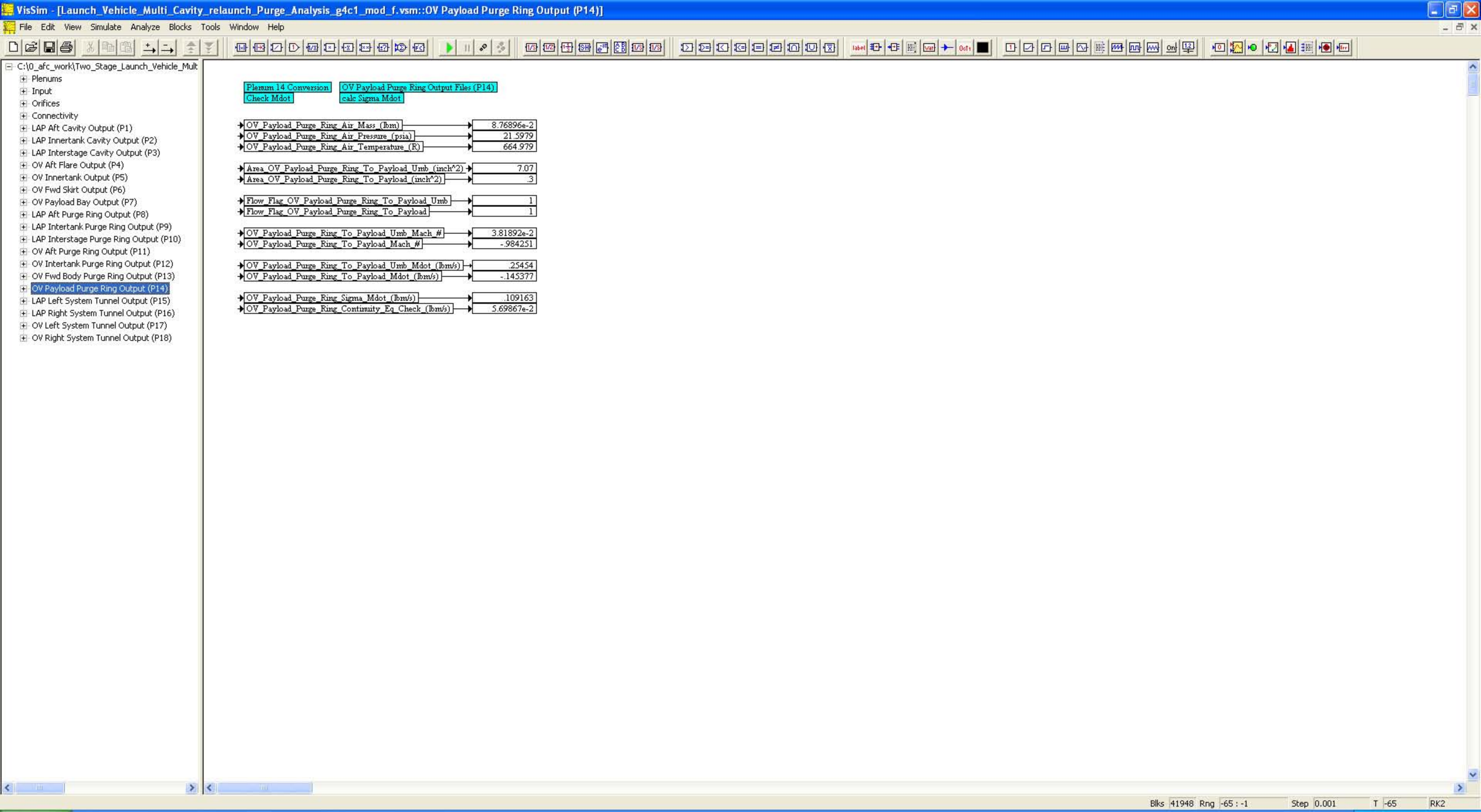
Plenum 13 Conversion

OV FWD Body Purge Ring Output Files (P13)

Check Mdot

calc Sigma Mdot

OV Fwd Body Purge Ring Air Mass (lbm)	369018
OV Fwd Body Purge Ring Air Pressure (psia)	96.5392
OV Fwd Body Purge Ring Air Temperature (R)	706.371
Area OV Fwd Body Purge Ring To Fwd Umb (inch^2)	2
Area OV Fwd Body Purge Ring To Fwd Body (inch^2)	.1516
Area OV Fwd Body Purge Ring To Left System Tunnel (inch^2)	0
Area OV Fwd Body Purge Ring To Right System Tunnel (inch^2)	0
Flow Flag OV Fwd Body Purge Ring To Fwd Umb	1
Flow Flag OV Fwd Body Purge Ring To Fwd Body	1
Flow Flag OV Fwd Body Purge Ring To Left System Tunnel	0
Flow Flag OV Fwd Body Purge Ring To Right System Tunnel	0
OV Fwd Body Purge Ring To Fwd Umb Mach #	3.45804e-2
OV Fwd Body Purge Ring To Fwd Body Mach #	-1
OV Fwd Body Purge Ring To Left System Tunnel Mach #	-1
OV Fwd Body Purge Ring To Right System Tunnel Mach #	-1
OV Fwd Body Purge Ring To Fwd Umb Mdot (lbm/s)	.166361
OV Fwd Body Purge Ring To Fwd Body Mdot (lbm/s)	-.191203
OV Fwd Body Purge Ring To Left System Tunnel Mdot (lbm/s)	0
OV Fwd Body Purge Ring To Right System Tunnel Mdot (lbm/s)	0
OV FWD Body Purge Ring Sigma Mdot (lbm/s)	-2.48413e-2
OV FWD Body Purge Ring Continuity Eq Check (lbm/s)	-4.97066e-2





C:\0_afc_work\Two_Stage_Launch_Vehicle_Mult

- Plenums
- Input
- Orifices
- Connectivity
- LAP Aft Cavity Output (P1)
- LAP Innertank Cavity Output (P2)
- LAP Interstage Cavity Output (P3)
- OV Aft Flare Output (P4)
- OV Innertank Output (P5)
- OV Fwd Skirt Output (P6)
- OV Payload Bay Output (P7)
- LAP Aft Purge Ring Output (P8)
- LAP Intertank Purge Ring Output (P9)
- LAP Interstage Purge Ring Output (P10)
- OV Aft Purge Ring Output (P11)
- OV Intertank Purge Ring Output (P12)
- OV Fwd Body Purge Ring Output (P13)
- OV Payload Purge Ring Output (P14)
- LAP Left System Tunnel Output (P15)**
- LAP Right System Tunnel Output (P16)
- OV Left System Tunnel Output (P17)
- OV Right System Tunnel Output (P18)

Plenum 15 Conversion LAP Left System Tunnel Output Files (P15)
Check Mdot calc Sigma Mdot

LAP Left System Tunnel Air Mass (lbm)	1.43885
LAP Left System Tunnel Air Pressure (psia)	13.0011
LAP Left System Tunnel Air Temperature (R)	731.778

Area LAP Left System Tunnel To LAP Aft (inch^2)	78.5
Area LAP Left System Tunnel To LAP Intertank (inch^2)	78.5
Area LAP Left System Tunnel To LAP Interstage (inch^2)	0
Area LAP Left System Tunnel To Aft Purge Ring (inch^2)	4.98e-2
Area LAP Left System Tunnel To Ext Ambient (inch^2)	0
Area LAP Left System Tunnel To Intertank Purge Ring (inch^2)	0
Area LAP Left System Tunnel To Interstage Purge Ring (inch^2)	4.98e-2

Flow Flag LAP Left System Tunnel To LAP Aft	1
Flow Flag LAP Left System Tunnel To LAP Intertank	1
Flow Flag LAP Left System Tunnel To LAP Interstage	0
Flow Flag LAP Left System Tunnel To Aft Purge Ring	1
Flow Flag LAP Left System Tunnel To Ext Ambient	0
Flow Flag LAP Left System Tunnel To Intertank Purge Ring	0
Flow Flag LAP Left System Tunnel To Interstage Purge Ring	1

LAP Left System Tunnel To LAP Aft Mach #	.146942
LAP Left System Tunnel To LAP Intertank Mach #	-.207707
LAP Left System Tunnel To LAP Interstage Mach #	-.401531
LAP Left System Tunnel To Aft Purge Ring Mach #	1
LAP Left System Tunnel To Ext Ambient Mach #	0
LAP Left System Tunnel To Intertank Purge Ring Mach #	1
LAP Left System Tunnel To Interstage Purge Ring Mach #	1

LAP Left System Tunnel To LAP Aft Mdot (lbm/s)	3.35462
LAP Left System Tunnel To LAP Intertank Mdot (lbm/s)	-4.58213
LAP Left System Tunnel To LAP Interstage Mdot (lbm/s)	0
LAP Left System Tunnel To Aft Purge Ring Mdot (lbm/s)	6.25903e-2
LAP Left System Tunnel To Ext Ambient Mdot (lbm/s)	0
LAP Left System Tunnel To Intertank Purge Ring Mdot (lbm/s)	0
LAP Left System Tunnel To Interstage Purge Ring Mdot (lbm/s)	6.09449e-2

LAP Left System Tunnel Sigma Mdot (lbm/s)	-1.10398
LAP Left System Tunnel Continuity Eq Check (lbm/s)	-2.19893

