



## **New Venture Holdings, LLC**

10230 North Holly Road  
Grand Blanc, Michigan 48439

# **Abatement System Study**



## **Comptech Corporation**

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Prepared by  
Comptech Corporation  
November 8, 2005

# **Abatement System Study**

Prepared for  
New Venture Holdings, LLC  
Grand Blanc, Michigan

## **Phase One Baseline Test Data**

Prepared by  
Comptech Corporation  
November 8, 2005

# Grand Blanc Abatement Test Data

## Section 2 - Fascia "A" Booth

- System Exhaust Summary
- Field Survey Documents for Exhaust Fans

## Section 3 - Fascia "B" Booth

- System Exhaust Summary
- Field Survey Documents for Exhaust Fans

## Section 4 - Manual "C" Booth

- System Exhaust Summary
- Field Survey Documents for Exhaust Fans

## Section 5 - Airbag "D" Booth

- System Exhaust Summary
- Field Survey Documents for Exhaust Fans

## Section 6 - Prime "A" Booth

- System Exhaust Summary
- Field Survey Documents for Exhaust Fans

## Section 7 - Prime "B" Booth

- System Exhaust Summary
- Field Survey Documents for Exhaust Fans

## Section 8 - Fascia "A" Oven

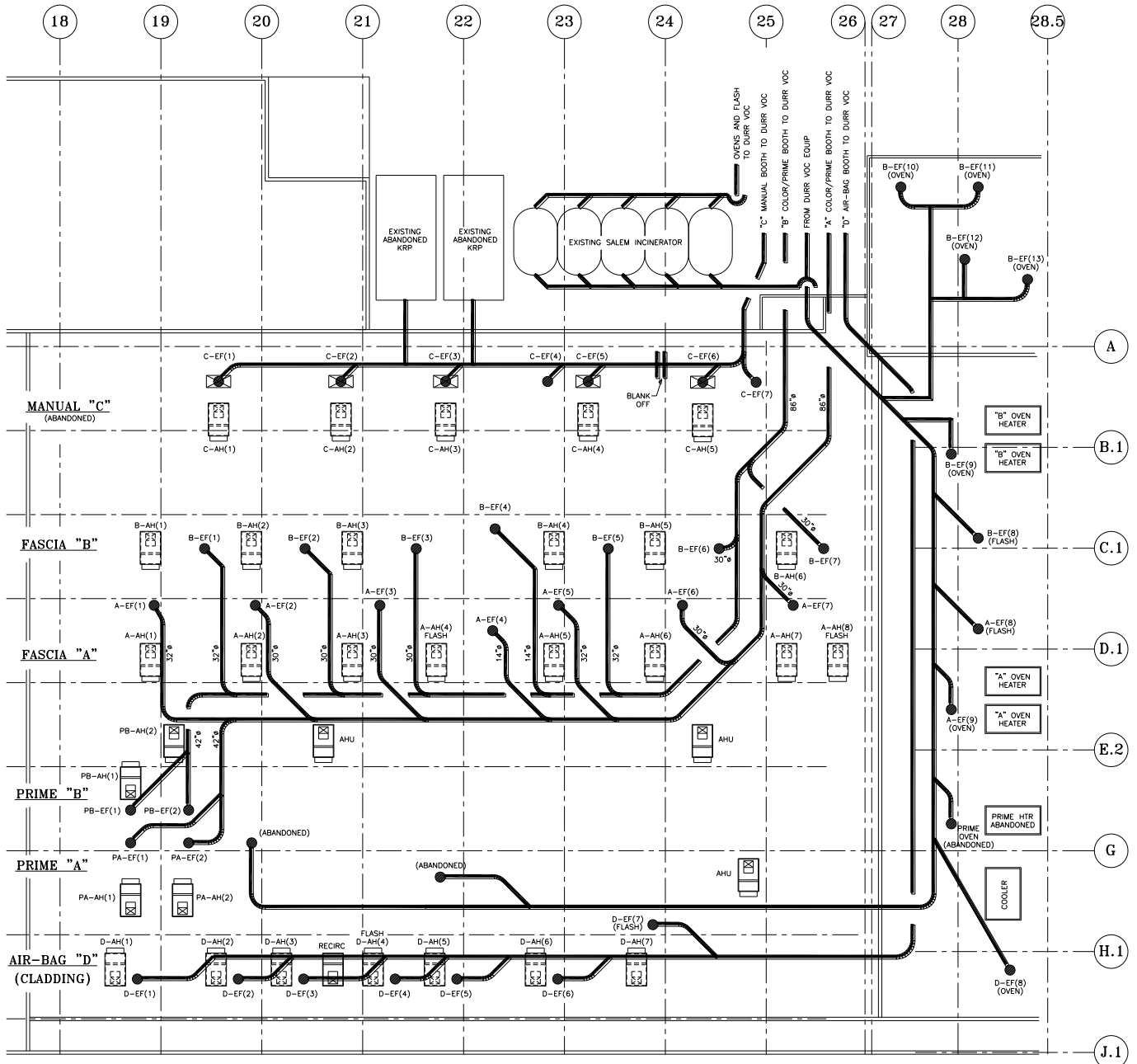
- System Exhaust Summary
- Field Survey Documents for Exhaust Fans

## Section 9 - Fascia "B" Oven

- System Exhaust Summary
- Field Survey Documents for Exhaust Fans

## Section 10 - Airbag "D" Oven

- System Exhaust Summary
- Field Survey Documents for Exhaust Fans



# System Fan Key Plan



New Venture Industries, LLC  
Grand Blanc, Michigan

New Venture Holdings, LLC  
Grand Blanc, Michigan

System Exhaust  
Evaluation

Fascia "A" Booth

Submitted by  
Comptech Corporation

November 1, 2005

## Fascia "A" Booth System Exhaust Summary

Fan Identification		Exhaust Volume (ACFM)	Exhaust Volume (SCFM)
A-EF (1)	Basecoat Booth	15,120	15,180
A-EF (2)	Basecoat Booth	12,890	13,010
A-EF (3)	Basecoat Booth	15,730	15,880
A-EF (4)	Flash Tunnel	Missing Belts	0
A-EF (5)	Clearcoat Booth	12,380	12,500
A-EF (6)	Clearcoat Booth	13,480	13,610
A-EF (7)	Clearcoat Booth	17,000	17,100
Total Fascia "A" Booth Exhaust		86,600	87,280

Fascia "A" Booth Exhaust: 86,600 ACFM

Identification A-EF (1)  
 Location Fascia "A" Booth

 Customer New Venture Holdings, LLC  
 Test Date November 1, 2005
**Fan Design Data**

 Manufacturer Northern Blower  
 Type/Size Vaneaxial Fan / 3300  
 Model Number 8096  
 Serial Number A47535-6  
 Capacity (CFM) 18,000  
 Speed (RPM) 1,647  
 SP (in H<sub>2</sub>O) 7  
 BHP 30
**Motor Design Data**

 Manufacturer \_\_\_\_\_  
 Model Number \_\_\_\_\_  
 Serial Number \_\_\_\_\_  
 Frame Size 324T  
 SF - PF - EFF - -  
 Size (HP) 40.0  
 Amps \_\_\_\_\_  
 Speed (RPM) 1,800
**Fan Test Data**

 SP<sub>in</sub> / A<sub>in</sub> -4.90 / 10.56  
 SP<sub>out</sub> / A<sub>out</sub> -0.52 / 10.56  
 T<sub>vp</sub> / A<sub>vp</sub> 68 / 5.60  
 RPM / P<sub>barametric</sub> / 29.91  
 Velocity<sub>avg-read</sub> 2,700  
 ACFM / SP<sub>FANacfm</sub> 15,120 / 4.25 in WC  
 SCFM / SP<sub>FANscfm</sub> 15,180 / 4.24 in WC
**Motor Test Data**

 Amps 34 34 35  
 Volts 267 268 267  
 Speed (RPM) \_\_\_\_\_  
 Power (kW) 9.178  
 HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.253	0.306	0.420	0.390	0.482	0.578	0.536	0.533	0.533	0.505	0.330	0.415	0.501	0.558	0.481	0.484	0.491	0.545	0.467	0.392
VP <sup>1/2</sup>	0.503	0.553	0.648	0.625	0.694	0.760	0.732	0.730	0.730	0.711	0.575	0.644	0.708	0.747	0.694	0.696	0.701	0.739	0.684	0.626

$$V_{avg} = 952.8 ((460 + T_{vp}) / P_{barametric})^{1/2} (\Sigma(VP)^{1/2} / N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM} / 1097A_i)^2$$

$$SP_{Fan\ @70} = ((460 + T) / 530)(SP_o - SP_i) - 0.075(Q_{ACFM} / 1097A_i)^2$$

**Notes**

Identification A-EF (2)  
 Location Fascia "A" Booth

 Customer New Venture Holdings, LLC  
 Test Date November 1, 2005
**Fan Design Data**

 Manufacturer Northern Blower  
 Type/Size Vaneaxial Fan / 3300  
 Model Number 8096  
 Serial Number A47535-12  
 Capacity (CFM) 16,400 (Durr)  
 Speed (RPM) \_\_\_\_\_  
 SP (in H<sub>2</sub>O) 7  
 BHP 30
**Motor Design Data**

 Manufacturer \_\_\_\_\_  
 Model Number \_\_\_\_\_  
 Serial Number \_\_\_\_\_  
 Frame Size 324T  
 SF - PF - EFF - -  
 Size (HP) 40.0  
 Amps \_\_\_\_\_  
 Speed (RPM) 1,800
**Fan Test Data**

 SP<sub>in</sub> / A<sub>in</sub> -5.60 / 10.56  
 SP<sub>out</sub> / A<sub>out</sub> -0.66 / 10.56  
 T<sub>vp</sub> / A<sub>vp</sub> 65 / 4.90  
 RPM / P<sub>barametric</sub> \_\_\_\_\_ / 29.91  
 Velocity<sub>avg-read</sub> 2,630  
 ACFM / SP<sub>FANacfm</sub> 12,890 / 4.85 in WC  
 SCFM / SP<sub>FANscfm</sub> 13,010 / 4.80 in WC
**Motor Test Data**

 Amps 36 35 38  
 Volts 268 266 267  
 Speed (RPM) \_\_\_\_\_  
 Power (kW) 9.701  
 HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.419	0.456	0.508	0.505	0.494	0.507	0.469	0.455	0.443	0.319	0.342	0.386	0.484	0.450	0.503	0.480	0.457	0.381	0.433	0.263
VP <sup>1/2</sup>	0.647	0.675	0.713	0.710	0.703	0.712	0.685	0.674	0.666	0.565	0.585	0.621	0.696	0.671	0.709	0.693	0.676	0.617	0.658	0.513

$$V_{avg} = 952.8 ((460 + T_{vp}) / P_{barametric})^{1/2} (\Sigma(VP)^{1/2} / N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM} / 1097A_i)^2$$

$$SP_{Fan\ @70} = ((460 + T) / 530)(SP_o - SP_i) - 0.075(Q_{ACFM} / 1097A_i)^2$$

**Notes**

Identification A-EF (3)  
 Location Fascia "A" Booth

 Customer New Venture Holdings, LLC  
 Test Date November 1, 2005
**Fan Design Data**

 Manufacturer Northern Blower  
 Type/Size Vaneaxial Fan / 3300  
 Model Number 8096  
 Serial Number A47535-10  
 Capacity (CFM) 16,400 (Durr)  
 Speed (RPM) \_\_\_\_\_  
 SP (in H<sub>2</sub>O) 7  
 BHP 30
**Motor Design Data**

 Manufacturer \_\_\_\_\_  
 Model Number \_\_\_\_\_  
 Serial Number \_\_\_\_\_  
 Frame Size 324T  
 SF - PF - EFF - -  
 Size (HP) 40.0  
 Amps \_\_\_\_\_  
 Speed (RPM) 1,800
**Fan Test Data**

 SP<sub>in</sub> / A<sub>in</sub> -5.50 / 10.56  
 SP<sub>out</sub> / A<sub>out</sub> -0.79 / 10.56  
 T<sub>vp</sub> / A<sub>vp</sub> 65 / 4.90  
 RPM / P<sub>barametric</sub> \_\_\_\_\_ / 29.91  
 Velocity<sub>avg-read</sub> 3,210  
 ACFM / SP<sub>FANacfm</sub> 15,730 / 4.57 in WC  
 SCFM / SP<sub>FANscfm</sub> 15,880 / 4.53 in WC
**Motor Test Data**

 Amps 31 31 30  
 Volts 267 267 267  
 Speed (RPM) \_\_\_\_\_  
 Power (kW) 8.188  
 HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.506	0.667	0.627	0.705	0.747	0.814	0.933	0.923	0.805	0.540	0.709	0.759	0.929	0.996	0.952	0.486	0.428	0.304	0.304	0.244
VP <sup>1/2</sup>	0.711	0.817	0.792	0.839	0.864	0.902	0.966	0.961	0.897	0.735	0.842	0.871	0.964	0.998	0.976	0.697	0.654	0.552	0.552	0.494

$$V_{avg} = 952.8 ((460 + T_{vp}) / P_{barametric})^{1/2} (\sum(VP)^{1/2} / N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM} / 1097A_i)^2$$

$$SP_{Fan\ @70} = ((460 + T) / 530)(SP_o - SP_i) - 0.075(Q_{ACFM} / 1097A_i)^2$$

**Notes**

Identification A-EF (4)  
Location Fascia "A" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

**Fan Design Data**

Manufacturer \_\_\_\_\_  
Type/Size Vaneaxial Fan  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Capacity (CFM) 3,000 (Durr)  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) \_\_\_\_\_  
BHP \_\_\_\_\_

**Motor Design Data**

Manufacturer Dayton  
Model Number 3N733  
Serial Number E3666U07U135RO09M  
Frame Size 184T  
SF - PF - EFF 1.15 - .85 - .855  
Size (HP) 5.0  
Amps \_\_\_\_\_  
Speed (RPM) 1,740

**Fan Test Data**

SP<sub>in</sub> / A<sub>in</sub> \_\_\_\_\_ / \_\_\_\_\_  
SP<sub>out</sub> / A<sub>out</sub> \_\_\_\_\_ / \_\_\_\_\_  
T<sub>vp</sub> / A<sub>vp</sub> \_\_\_\_\_ / \_\_\_\_\_  
RPM / P<sub>barametric</sub> \_\_\_\_\_ / \_\_\_\_\_  
Velocity<sub>avg-read</sub> \_\_\_\_\_  
ACFM / SP<sub>FANacfm</sub> \_\_\_\_\_ / \_\_\_\_\_  
SCFM / SP<sub>FANscfm</sub> \_\_\_\_\_ / \_\_\_\_\_

**Motor Test Data**

Amps \_\_\_\_\_  
Volts \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_  
Power (kW) \_\_\_\_\_  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP																				
VP <sup>1/2</sup>																				

$$V_{avg} = 952.8 ((460+T_{vp})/P_{barametric})^{1/2} (\Sigma(VP)^{1/2}/N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM}/1097A_i)^2$$

$$SP_{Fan\ @70} = ((460+T)/530)(SP_o - SP_i) - 0.075(Q_{ACFM}/1097A_i)^2$$

**Notes**

Fan is off and abandoned, the fan belts have been removed.  
Fan tag was painted over and could not be read.

Identification A-EF (5)  
Location Fascia "A" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer Northern Blower  
Type/Size Vaneaxial Fan / 3300  
Model Number 8096  
Serial Number A47535-3  
Capacity (CFM) 18,000  
Speed (RPM) 1,647  
SP (in H<sub>2</sub>O) 7  
BHP 30

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size 324T  
SF - PF - EFF - -  
Size (HP) 40.0  
Amps \_\_\_\_\_  
Speed (RPM) 1,800

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -6.00 / 10.56  
SP<sub>out</sub> / A<sub>out</sub> -1.80 / 10.56  
T<sub>vp</sub> / A<sub>vp</sub> 65 / 5.60  
RPM / P<sub>barametric</sub> / 29.91  
Velocity<sub>avg-read</sub> 2,210  
ACFM / SP<sub>FANacfm</sub> 12,380 / 4.11 in WC  
SCFM / SP<sub>FANscfm</sub> 12,500 / 4.07 in WC

### Motor Test Data

Amps 27 30 29  
Volts 266 267 267  
Speed (RPM) \_\_\_\_\_  
Power (kW) 7.644  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.400	0.714	0.641	0.637	0.543	0.000	0.000	0.020	0.289	0.021	0.403	0.507	0.307	0.168	0.013	0.436	0.673	0.799	0.794	0.541
VP <sup>1/2</sup>	0.632	0.845	0.800	0.798	0.737	0.000	0.000	0.141	0.538	0.144	0.635	0.712	0.554	0.410	0.115	0.660	0.820	0.894	0.891	0.736

$$V_{avg} = 952.8 ((460+T_{vp})/P_{barametric})^{1/2} (\Sigma(VP)^{1/2}/N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM}/1097A_i)^2$$

$$SP_{Fan\ @70} = ((460+T)/530)(SP_o - SP_i) - 0.075(Q_{ACFM}/1097A_i)^2$$

### Notes

Identification A-EF (6)  
Location Fascia "A" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer Northern Blower  
Type/Size Vaneaxial Fan / 3300  
Model Number 8096  
Serial Number A47535-1  
Capacity (CFM) 16,400 (Durr)  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) 7  
BHP 30

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size 324T  
SF - PF - EFF - -  
Size (HP) 40.0  
Amps \_\_\_\_\_  
Speed (RPM) 1,800

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -6.50 / 10.56  
SP<sub>out</sub> / A<sub>out</sub> -1.10 / 10.56  
T<sub>vp</sub> / A<sub>vp</sub> 65 / 4.90  
RPM / P<sub>barametric</sub> \_\_\_\_\_ / 29.91  
Velocity<sub>avg-read</sub> 2,750  
ACFM / SP<sub>FANacfm</sub> 13,480 / 5.30 in WC  
SCFM / SP<sub>FANscfm</sub> 13,610 / 5.25 in WC

### Motor Test Data

Amps 35 36 34  
Volts 266 267 266  
Speed (RPM) \_\_\_\_\_  
Power (kW) 9.322  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.343	0.442	0.423	0.416	0.508	0.580	0.540	0.526	0.470	0.500	0.251	0.372	0.318	0.348	0.461	0.528	0.588	0.675	0.721	0.610
VP <sup>1/2</sup>	0.586	0.665	0.651	0.645	0.713	0.761	0.735	0.725	0.686	0.707	0.501	0.610	0.564	0.590	0.679	0.727	0.767	0.822	0.849	0.781

$$V_{avg} = 952.8 ((460+T_{vp})/P_{barametric})^{1/2} (\Sigma(VP)^{1/2}/N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM}/1097A_i)^2$$

$$SP_{Fan\ @70} = ((460+T)/530)(SP_o - SP_i) - 0.075(Q_{ACFM}/1097A_i)^2$$

### Notes

Identification A-EF (7)  
Location Fascia "A" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer Northern Blower  
Type/Size Vaneaxial Fan / 3300  
Model Number 8096  
Serial Number A47535-14  
Capacity (CFM) 16,400 (Durr)  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) 7  
BHP 30

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size 324T  
SF - PF - EFF - -  
Size (HP) 40.0  
Amps \_\_\_\_\_  
Speed (RPM) 1,800

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -3.50 / 10.56  
SP<sub>out</sub> / A<sub>out</sub> -1.20 / 10.56  
T<sub>vp</sub> / A<sub>vp</sub> 67 / 4.90  
RPM / P<sub>barametric</sub> \_\_\_\_\_ / 29.91  
Velocity<sub>avg-read</sub> 3,470  
ACFM / SP<sub>FANacfm</sub> 17,000 / 2.14 in WC  
SCFM / SP<sub>FANscfm</sub> 17,100 / 2.13 in WC

### Motor Test Data

Amps 30 33 31  
Volts 265 267 266  
Speed (RPM) \_\_\_\_\_  
Power (kW) 8.335  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	1.374	1.266	1.066	0.850	0.663	0.626	0.700	0.790	0.932	0.934	0.665	0.907	0.931	0.837	0.600	0.500	0.503	0.534	0.485	0.314
VP <sup>1/2</sup>	1.172	1.125	1.032	0.922	0.814	0.791	0.837	0.889	0.966	0.967	0.815	0.953	0.965	0.915	0.775	0.707	0.709	0.731	0.696	0.560

$$V_{avg} = 952.8 ((460+T_{vp})/P_{barametric})^{1/2} (\Sigma(VP)^{1/2}/N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM}/1097A_i)^2$$

$$SP_{Fan\ @70} = ((460+T)/530)(SP_o - SP_i) - 0.075(Q_{ACFM}/1097A_i)^2$$

### Notes

New Venture Holdings, LLC  
Grand Blanc, Michigan

System Exhaust  
Evaluation

Fascia "B" Booth

Submitted by  
Comptech Corporation

November 1, 2005

## Fascia "B" Booth System Exhaust Summary

Fan Identification	Exhaust Volume (ACFM)	Exhaust Volume (SCFM)
B-EF (1) Basecoat Booth	14,220	14,250
B-EF (2) Basecoat Booth	14,110	14,240
B-EF (3) Basecoat Booth	14,900	15,070
B-EF (4) Flash Tunnel	1,160	1,160
B-EF (5) Clearcoat Booth	12,540	12,590
B-EF (6) Clearcoat Booth	10,730	10,710
B-EF (7) Clearcoat Booth	13,080	13,200
<b>Total Fascia "B" Booth Exhaust</b>	<b>80,740</b>	<b>81,220</b>

Fascia "B" Booth Exhaust: 80,740 ACFM

Identification           B-EF (1)            
 Location               Fascia "B" Booth          

 Customer               New Venture Holdings, LLC            
 Test Date               November 1, 2005          
**Fan Design Data**

 Manufacturer           Northern Blower            
 Type/Size               Vaneaxial Fan / 3300            
 Model Number           8096            
 Serial Number           A47535-8            
 Capacity (CFM)           18,000            
 Speed (RPM)            1,647            
 SP (in H<sub>2</sub>O)             7            
 BHP                    30          
**Motor Design Data**

 Manufacturer     
 Model Number     
 Serial Number     
 Frame Size               324T            
 SF - PF - EFF               -          -  
 Size (HP)                40.0            
 Amps     
 Speed (RPM)               1,800          
**Fan Test Data**

 SP<sub>in</sub> / A<sub>in</sub>           -5.70 / 10.56            
 SP<sub>out</sub> / A<sub>out</sub>           -0.40 / 10.56            
 T<sub>vp</sub> / A<sub>vp</sub>             69 / 5.60            
 RPM / P<sub>barametric</sub>                                   / 30.46            
 Velocity<sub>avg-read</sub>           2,540            
 ACFM / SP<sub>FANacfm</sub>           14,220 / 5.19 in WC            
 SCFM / SP<sub>FANscfm</sub>           14,250 / 5.18 in WC          
**Motor Test Data**

 Amps                   30          32          30            
 Volts                   267          268          267            
 Speed (RPM)     
 Power (kW)                   8.198            
 HP   

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.549	0.635	0.657	0.663	0.570	0.000	0.000	0.247	0.384	0.273	0.601	0.725	0.661	0.675	0.516	0.258	0.477	0.477	0.518	0.393
VP <sup>1/2</sup>	0.741	0.797	0.811	0.814	0.755	0.000	0.000	0.497	0.620	0.522	0.775	0.852	0.813	0.822	0.718	0.508	0.691	0.691	0.720	0.627

$$V_{avg} = 952.8 ((460+T_{vp})/P_{barametric})^{1/2} (\Sigma(VP)^{1/2}/N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM}/1097A_i)^2$$

$$SP_{Fan\ @70} = ((460+T)/530)(SP_o - SP_i) - 0.075(Q_{ACFM}/1097A_i)^2$$

**Notes**

Identification B-EF (2)  
Location Fascia "B" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer Northern Blower  
Type/Size Vaneaxial Fan / 3300  
Model Number 8096  
Serial Number A47535-4  
Capacity (CFM) 16,400 (Durr)  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) 7  
BHP 30

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size 324T  
SF - PF - EFF - -  
Size (HP) 40.0  
Amps \_\_\_\_\_  
Speed (RPM) 1,800

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -5.70 / 10.56  
SP<sub>out</sub> / A<sub>out</sub> -1.40 / 10.56  
T<sub>vp</sub> / A<sub>vp</sub> 65 / 4.90  
RPM / P<sub>barametric</sub> \_\_\_\_\_ / 30.46  
Velocity<sub>avg-read</sub> 2,880  
ACFM / SP<sub>FANacfm</sub> 14,110 / 4.19 in WC  
SCFM / SP<sub>FANscfm</sub> 14,240 / 4.15 in WC

### Motor Test Data

Amps 32 28 28  
Volts 267 266 268  
Speed (RPM) \_\_\_\_\_  
Power (kW) 7.832  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.661	0.780	0.754	0.623	0.366	0.194	0.625	0.668	0.695	0.463	0.445	0.758	0.733	0.534	0.440	0.000	0.608	0.686	0.704	0.650
VP <sup>1/2</sup>	0.813	0.883	0.868	0.790	0.605	0.440	0.791	0.817	0.833	0.680	0.667	0.871	0.856	0.731	0.664	0.000	0.780	0.828	0.839	0.806

$$V_{avg} = 952.8 ((460 + T_{vp}) / P_{barametric})^{1/2} (\Sigma(VP)^{1/2} / N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM} / 1097A_i)^2$$

$$SP_{Fan\ @70} = ((460 + T) / 530)(SP_o - SP_i) - 0.075(Q_{ACFM} / 1097A_i)^2$$

### Notes

Identification B-EF (3)  
Location Fascia "B" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer Northern Blower  
Type/Size Vaneaxial Fan / 3300  
Model Number 8096  
Serial Number A47535-7  
Capacity (CFM) 16,400 (Durr)  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) 7  
BHP 30

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size 324T  
SF - PF - EFF - -  
Size (HP) 40.0  
Amps \_\_\_\_\_  
Speed (RPM) 1,800

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -5.50 / 10.56  
SP<sub>out</sub> / A<sub>out</sub> -0.70 / 10.56  
T<sub>vp</sub> / A<sub>vp</sub> 64 / 4.90  
RPM / P<sub>barametric</sub> \_\_\_\_\_ / 30.46  
Velocity<sub>avg-read</sub> 3,040  
ACFM / SP<sub>FANacfm</sub> 14,900 / 4.68 in WC  
SCFM / SP<sub>FANscfm</sub> 15,070 / 4.62 in WC

### Motor Test Data

Amps 31 29 32  
Volts 267 267 267  
Speed (RPM) \_\_\_\_\_  
Power (kW) 8.188  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.292	0.397	0.548	0.659	0.588	0.811	0.716	0.804	0.718	0.544	0.749	0.599	0.708	0.725	0.730	0.617	0.519	0.499	0.426	0.410
VP <sup>1/2</sup>	0.540	0.630	0.741	0.812	0.767	0.901	0.846	0.897	0.847	0.737	0.866	0.774	0.842	0.852	0.855	0.785	0.721	0.707	0.653	0.640

$$V_{avg} = 952.8 ((460 + T_{vp}) / P_{barametric})^{1/2} (\sum(VP)^{1/2} / N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM} / 1097A_i)^2$$

$$SP_{Fan\ @70} = ((460 + T) / 530)(SP_o - SP_i) - 0.075(Q_{ACFM} / 1097A_i)^2$$

### Notes

Fan inlet fitting is very rusty and crushed in on one side. Stiffeners were added for support and are rusting as well.

Identification B-EF (4)  
Location Fascia "B" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer \_\_\_\_\_  
Type/Size Vaneaxial Fan  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Capacity (CFM) 3,000 (Durr)  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) \_\_\_\_\_  
BHP \_\_\_\_\_

### Motor Design Data

Manufacturer Weg  
Model Number 1PE5-184T  
Serial Number AM81574  
Frame Size 184T  
SF - PF - EFF 1.15 - .82 - .875  
Size (HP) 5.0  
Amps 12.9 / 6.44  
Speed (RPM) 1,745

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -1.85 / 1.77  
SP<sub>out</sub> / A<sub>out</sub> -1.00 / 1.77  
T<sub>vp</sub> / A<sub>vp</sub> 70 / 1.07  
RPM / P<sub>barametric</sub> \_\_\_\_\_ / 30.46  
Velocity<sub>avg-read</sub> 1,080  
ACFM / SP<sub>FANacfm</sub> 1,160 / 0.82 in WC  
SCFM / SP<sub>FANscfm</sub> 1,160 / 0.82 in WC

### Motor Test Data

Amps 4      4      4  
Volts 267    266    268  
Speed (RPM) \_\_\_\_\_  
Power (kW) 0.952  
HP 1.586

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.149	0.150	0.145	0.079	0.000	0.006	0.130	0.145	0.123	0.082	0.054	0.047	0.058	0.000	0.000	0.180	0.152	0.144	0.129	0.098
VP <sup>1/2</sup>	0.386	0.387	0.381	0.281	0.000	0.077	0.361	0.381	0.351	0.286	0.231	0.218	0.240	0.000	0.000	0.424	0.390	0.380	0.359	0.313

$$V_{avg} = 952.8 ((460+T_{vp})/P_{barametric})^{1/2} (\Sigma(VP)^{1/2}/N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM}/1097A_i)^2$$

$$SP_{Fan\ @70} = ((460+T)/530)(SP_o - SP_i) - 0.075(Q_{ACFM}/1097A_i)^2$$

### Notes

Fan tag was painted over and could not be read.  
Turbulent air flow.

Identification B-EF (5)  
Location Fascia "B" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer Northern Blower  
Type/Size Vaneaxial Fan / 3300  
Model Number 8096  
Serial Number A47535-16  
Capacity (CFM) 18,000  
Speed (RPM) 1,647  
SP (in H<sub>2</sub>O) 7  
BHP 30

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size 324T  
SF - PF - EFF - -  
Size (HP) 40.0  
Amps \_\_\_\_\_  
Speed (RPM) 1,800

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -5.80 / 10.56  
SP<sub>out</sub> / A<sub>out</sub> -0.90 / 10.56  
T<sub>vp</sub> / A<sub>vp</sub> 68 / 5.60  
RPM / P<sub>barametric</sub> / 30.46  
Velocity<sub>avg-read</sub> 2,240  
ACFM / SP<sub>FANacfm</sub> 12,540 / 4.81 in WC  
SCFM / SP<sub>FANscfm</sub> 12,590 / 4.79 in WC

### Motor Test Data

Amps 30 29 30  
Volts 266 267 267  
Speed (RPM) \_\_\_\_\_  
Power (kW) 7.911  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.388	0.458	0.404	0.292	0.319	0.362	0.291	0.286	0.163	0.075	0.527	0.608	0.526	0.459	0.403	0.260	0.207	0.203	0.227	0.202
VP <sup>1/2</sup>	0.623	0.677	0.636	0.540	0.565	0.602	0.539	0.535	0.404	0.274	0.726	0.780	0.725	0.677	0.635	0.510	0.455	0.450	0.477	0.450

$$V_{avg} = 952.8 ((460+T_{vp})/P_{barametric})^{1/2} (\Sigma(VP)^{1/2}/N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM}/1097A_i)^2$$

$$SP_{Fan\ @70} = ((460+T)/530)(SP_o - SP_i) - 0.075(Q_{ACFM}/1097A_i)^2$$

### Notes

Identification B-EF (6)  
 Location Fascia "B" Booth

 Customer New Venture Holdings, LLC  
 Test Date November 1, 2005
**Fan Design Data**

 Manufacturer Northern Blower  
 Type/Size Vaneaxial Fan / 3300  
 Model Number 8096  
 Serial Number A47535-9  
 Capacity (CFM) 16,400 (Durr)  
 Speed (RPM) \_\_\_\_\_  
 SP (in H<sub>2</sub>O) 7  
 BHP 30
**Motor Design Data**

 Manufacturer \_\_\_\_\_  
 Model Number \_\_\_\_\_  
 Serial Number \_\_\_\_\_  
 Frame Size 324T  
 SF - PF - EFF - -  
 Size (HP) 40.0  
 Amps \_\_\_\_\_  
 Speed (RPM) 1,800
**Fan Test Data**

 SP<sub>in</sub> / A<sub>in</sub> -6.20 / 10.56  
 SP<sub>out</sub> / A<sub>out</sub> -1.90 / 10.56  
 T<sub>vp</sub> / A<sub>vp</sub> 71 / 4.90  
 RPM / P<sub>barametric</sub> \_\_\_\_\_ / 29.91  
 Velocity<sub>avg-read</sub> 2,190  
 ACFM / SP<sub>FANacfm</sub> 10,730 / 4.24 in WC  
 SCFM / SP<sub>FANscfm</sub> 10,710 / 4.24 in WC
**Motor Test Data**

 Amps 33 36 35  
 Volts 266 267 266  
 Speed (RPM) \_\_\_\_\_  
 Power (kW) 9.233  
 HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.506	0.457	0.348	0.000	0.000	0.091	0.487	0.652	0.648	0.436	0.802	1.092	1.153	1.074	0.708	0.000	0.000	0.071	0.201	0.003
VP <sup>1/2</sup>	0.711	0.676	0.590	0.000	0.000	0.301	0.698	0.807	0.805	0.660	0.896	1.045	1.074	1.036	0.842	0.000	0.000	0.266	0.449	0.058

$$V_{avg} = 952.8 ((460 + T_{vp}) / P_{barametric})^{1/2} (\sum(VP)^{1/2} / N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM} / 1097A_i)^2$$

$$SP_{Fan\ @70} = ((460 + T) / 530)(SP_o - SP_i) - 0.075(Q_{ACFM} / 1097A_i)^2$$

**Notes**

Turbulent air flow.

Identification B-EF (7)  
Location Fascia "B" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer Northern Blower  
Type/Size Vaneaxial Fan / 3300  
Model Number 8096  
Serial Number A47535-2  
Capacity (CFM) 16,400 (Durr)  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) 7  
BHP 30

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size 324T  
SF - PF - EFF - -  
Size (HP) 40.0  
Amps \_\_\_\_\_  
Speed (RPM) 1,800

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -5.50 / 10.56  
SP<sub>out</sub> / A<sub>out</sub> -1.00 / 10.56  
T<sub>vp</sub> / A<sub>vp</sub> 65 / 4.90  
RPM / P<sub>barametric</sub> \_\_\_\_\_ / 30.46  
Velocity<sub>avg-read</sub> 2,670  
ACFM / SP<sub>FANacfm</sub> 13,080 / 4.40 in WC  
SCFM / SP<sub>FANscfm</sub> 13,200 / 4.36 in WC

### Motor Test Data

Amps 27 29 28  
Volts 265 267 266  
Speed (RPM) \_\_\_\_\_  
Power (kW) 7.448  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.629	0.763	0.845	0.561	0.676	0.000	0.000	0.287	0.453	0.083	0.665	0.907	0.931	0.837	0.600	0.500	0.503	0.534	0.485	0.314
VP <sup>1/2</sup>	0.793	0.873	0.919	0.749	0.822	0.000	0.000	0.536	0.673	0.288	0.815	0.953	0.965	0.915	0.775	0.707	0.709	0.731	0.696	0.560

$$V_{avg} = 952.8 ((460 + T_{vp}) / P_{barametric})^{1/2} (\sum(VP)^{1/2} / N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM} / 1097A_i)^2$$

$$SP_{Fan\ @70} = ((460 + T) / 530)(SP_o - SP_i) - 0.075(Q_{ACFM} / 1097A_i)^2$$

### Notes

New Venture Holdings, LLC  
Grand Blanc, Michigan

System Exhaust  
Evaluation

Manual "C" Booth

Submitted by  
Comptech Corporation

November 1, 2005

## Manual "C" Booth System Exhaust Summary

Fan Identification			Exhaust Volume (ACFM)	Exhaust Volume (SCFM)
C-EF (1)	Basecoat Booth	Not in use	0	0
C-EF (2)	Basecoat Booth	Not in use	0	0
C-EF (3)	Basecoat Booth	Not in use	0	0
C-EF (4)	Flash Tunnel	Not in use	0	0
C-EF (5)	Clearcoat Booth	Not in use	0	0
C-EF (6)	Clearcoat Booth	Not in use	0	0
C-EF (7)	Clearcoat Booth	Not in use	0	0
Total Manual "C" Booth Exhaust			0	0

Manual "C" Booth Exhaust: 0 ACFM



Identification C-EF (2)  
Location Manual "C" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

**Fan Design Data**

Manufacturer Barry Blower  
Type/Size 300 TUB-AF  
Model Number \_\_\_\_\_  
Serial Number 4YM-00248  
Capacity (CFM) \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) \_\_\_\_\_  
BHP \_\_\_\_\_

**Motor Design Data**

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size \_\_\_\_\_  
SF - PF - EFF     -    -  
Size (HP) \_\_\_\_\_  
Amps \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_

**Fan Test Data**

SP<sub>in</sub> / A<sub>in</sub> \_\_\_\_\_ / \_\_\_\_\_  
SP<sub>out</sub> / A<sub>out</sub> \_\_\_\_\_ / \_\_\_\_\_  
T<sub>vp</sub> / A<sub>vp</sub> \_\_\_\_\_ / \_\_\_\_\_  
RPM / P<sub>barametric</sub> \_\_\_\_\_ / \_\_\_\_\_  
Velocity<sub>avg-read</sub> \_\_\_\_\_  
ACFM / SP<sub>FANacfm</sub> \_\_\_\_\_ / \_\_\_\_\_  
SCFM / SP<sub>FANscfm</sub> \_\_\_\_\_ / \_\_\_\_\_

**Motor Test Data**

Amps \_\_\_\_\_  
Volts \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_  
Power (kW) \_\_\_\_\_  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP																				
VP <sup>1/2</sup>																				

$$V_{avg} = 952.8 ((460+T_{vp})/P_{barametric})^{1/2} (\sum(VP)^{1/2}/N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM}/1097A_i)^2$$

$$SP_{Fan\ @70} = ((460+T)/530)(SP_o - SP_i) - 0.075(Q_{ACFM}/1097A_i)^2$$

Notes

Identification C-EF (3)  
Location Manual "C" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer Barry Blower  
Type/Size 300 TUB-AF  
Model Number \_\_\_\_\_  
Serial Number 4YM-00246  
Capacity (CFM) \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) \_\_\_\_\_  
BHP \_\_\_\_\_

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size \_\_\_\_\_  
SF - PF - EFF - -  
Size (HP) \_\_\_\_\_  
Amps \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> \_\_\_\_\_ / \_\_\_\_\_  
SP<sub>out</sub> / A<sub>out</sub> \_\_\_\_\_ / \_\_\_\_\_  
T<sub>vp</sub> / A<sub>vp</sub> \_\_\_\_\_ / \_\_\_\_\_  
RPM / P<sub>barametric</sub> \_\_\_\_\_ / \_\_\_\_\_  
Velocity<sub>avg-read</sub> \_\_\_\_\_  
ACFM / SP<sub>FANacfm</sub> \_\_\_\_\_ / \_\_\_\_\_  
SCFM / SP<sub>FANscfm</sub> \_\_\_\_\_ / \_\_\_\_\_

### Motor Test Data

Amps \_\_\_\_\_  
Volts \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_  
Power (kW) \_\_\_\_\_  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP																				
VP <sup>1/2</sup>																				

$$V_{avg} = 952.8 ((460+T_{vp})/P_{barametric})^{1/2} (\sum(VP)^{1/2}/N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM}/1097A_i)^2$$

$$SP_{Fan\ @70} = ((460+T)/530)(SP_o - SP_i) - 0.075(Q_{ACFM}/1097A_i)^2$$

Notes

Identification C-EF (4)  
Location Manual "C" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer \_\_\_\_\_  
Type/Size \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Capacity (CFM) \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) \_\_\_\_\_  
BHP \_\_\_\_\_

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size \_\_\_\_\_  
SF - PF - EFF \_\_\_\_\_ - \_\_\_\_\_  
Size (HP) \_\_\_\_\_  
Amps \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> \_\_\_\_\_ / \_\_\_\_\_  
SP<sub>out</sub> / A<sub>out</sub> \_\_\_\_\_ / \_\_\_\_\_  
T<sub>vp</sub> / A<sub>vp</sub> \_\_\_\_\_ / \_\_\_\_\_  
RPM / P<sub>barametric</sub> \_\_\_\_\_ / \_\_\_\_\_  
Velocity<sub>avg-read</sub> \_\_\_\_\_  
ACFM / SP<sub>FANacfm</sub> \_\_\_\_\_ / \_\_\_\_\_  
SCFM / SP<sub>FANscfm</sub> \_\_\_\_\_ / \_\_\_\_\_

### Motor Test Data

Amps \_\_\_\_\_  
Volts \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_  
Power (kW) \_\_\_\_\_  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP																				
VP <sup>1/2</sup>																				

$$V_{avg} = 952.8 ((460+T_{vp})/P_{barametric})^{1/2} (\sum(VP)^{1/2}/N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM}/1097A_i)^2$$

$$SP_{Fan\ @70} = ((460+T)/530)(SP_o - SP_i) - 0.075(Q_{ACFM}/1097A_i)^2$$

### Notes

Fan tag was painted over and could not be read.



Identification C-EF (6)  
Location Manual "C" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer Barry Blower  
Type/Size 300 TUB-AF  
Model Number \_\_\_\_\_  
Serial Number 4YM-00247  
Capacity (CFM) \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) \_\_\_\_\_  
BHP \_\_\_\_\_

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size \_\_\_\_\_  
SF - PF - EFF - -  
Size (HP) \_\_\_\_\_  
Amps \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> \_\_\_\_\_ / \_\_\_\_\_  
SP<sub>out</sub> / A<sub>out</sub> \_\_\_\_\_ / \_\_\_\_\_  
T<sub>vp</sub> / A<sub>vp</sub> \_\_\_\_\_ / \_\_\_\_\_  
RPM / P<sub>barametric</sub> \_\_\_\_\_ / \_\_\_\_\_  
Velocity<sub>avg-read</sub> \_\_\_\_\_  
ACFM / SP<sub>FANacfm</sub> \_\_\_\_\_ / \_\_\_\_\_  
SCFM / SP<sub>FANscfm</sub> \_\_\_\_\_ / \_\_\_\_\_

### Motor Test Data

Amps \_\_\_\_\_  
Volts \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_  
Power (kW) \_\_\_\_\_  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP																				
VP <sup>1/2</sup>																				

$$V_{avg} = 952.8 ((460+T_{vp})/P_{barametric})^{1/2} (\sum(VP)^{1/2}/N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM}/1097A_i)^2$$

$$SP_{Fan\ @70} = ((460+T)/530)(SP_o - SP_i) - 0.075(Q_{ACFM}/1097A_i)^2$$

### Notes

Fan is abandond, but air is being pulled by the abatement system.

Identification C-EF (7)  
Location Manual "C" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer \_\_\_\_\_  
Type/Size \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Capacity (CFM) \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) \_\_\_\_\_  
BHP \_\_\_\_\_

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size \_\_\_\_\_  
SF - PF - EFF \_\_\_\_\_ - \_\_\_\_\_  
Size (HP) \_\_\_\_\_  
Amps \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> \_\_\_\_\_ / \_\_\_\_\_  
SP<sub>out</sub> / A<sub>out</sub> \_\_\_\_\_ / \_\_\_\_\_  
T<sub>vp</sub> / A<sub>vp</sub> \_\_\_\_\_ / \_\_\_\_\_  
RPM / P<sub>barametric</sub> \_\_\_\_\_ / \_\_\_\_\_  
Velocity<sub>avg-read</sub> \_\_\_\_\_  
ACFM / SP<sub>FANacfm</sub> \_\_\_\_\_ / \_\_\_\_\_  
SCFM / SP<sub>FANscfm</sub> \_\_\_\_\_ / \_\_\_\_\_

### Motor Test Data

Amps \_\_\_\_\_  
Volts \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_  
Power (kW) \_\_\_\_\_  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP																				
VP <sup>1/2</sup>																				

$$V_{avg} = 952.8 ((460+T_{vp})/P_{barametric})^{1/2} (\Sigma(VP)^{1/2}/N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM}/1097A_i)^2$$

$$SP_{Fan\ @70} = ((460+T)/530)(SP_o - SP_i) - 0.075(Q_{ACFM}/1097A_i)^2$$

### Notes

Could not read fan tag, it was painted over. Fan is abandoned, but air is being pulled by the abatement system.

New Venture Holdings, LLC  
Grand Blanc, Michigan

System Exhaust  
Evaluation

Air Bag "D" Booth

Submitted by  
Comptech Corporation

November 1, 2005

## Air Bag "D" Booth System Exhaust Summary

Fan Identification	Exhaust Volume (ACFM)	Exhaust Volume (SCFM)
D-EF (1) Basecoat Booth	9,410	9,540
D-EF (2) Basecoat Booth	11,700	11,770
D-EF (3) Basecoat Booth	8,740	8,740
D-EF (4) Clearcoat Booth	10,470	10,590
D-EF (5) Clearcoat Booth	13,780	13,910
D-EF (6) Clearcoat Booth	9,460	9,550
D-EF (7) Flash Tunnel	2,460	2,360
<b>Total Air Bag "D" Booth Exhaust</b>	<b>66,020</b>	<b>66,460</b>

Air Bag "D" Booth Exhaust: 66,020 ACFM



Identification D-EF (2)  
Location Air Bag "D" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer Northern Blower  
Type/Size Vaneaxial Fan / 3000  
Model Number 8096  
Serial Number A44563-6  
Capacity (CFM) 14,400  
Speed (RPM) 1,783  
SP (in H<sub>2</sub>O) 7  
BHP 25

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size \_\_\_\_\_  
SF - PF - EFF - -  
Size (HP) \_\_\_\_\_  
Amps \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -5.30 / 8.70  
SP<sub>out</sub> / A<sub>out</sub> 0.83 / 8.70  
T<sub>vp</sub> / A<sub>vp</sub> 67 / 5.60  
RPM / P<sub>barametric</sub> / 30.46  
Velocity<sub>avg-read</sub> 2,090  
ACFM / SP<sub>FANacfm</sub> 11,700 / 6.02 in WC  
SCFM / SP<sub>FANscfm</sub> 11,770 / 5.98 in WC

### Motor Test Data

Amps 34 35 37  
Volts 265 264 266  
Speed (RPM) \_\_\_\_\_  
Power (kW) 9.355  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.446	0.435	0.304	0.407	0.000	0.000	0.330	0.477	0.729	0.425	0.739	0.778	0.577	0.172	0.000	0.000	0.089	0.441	0.527	0.438
VP <sup>1/2</sup>	0.668	0.659	0.551	0.638	0.000	0.000	0.574	0.691	0.854	0.652	0.859	0.882	0.760	0.414	0.000	0.000	0.298	0.664	0.726	0.662

$$V_{avg} = 952.8 ((460 + T_{vp}) / P_{barametric})^{1/2} (\sum(VP)^{1/2} / N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM} / 1097A_i)^2$$

$$SP_{Fan\ @70} = ((460 + T) / 530)(SP_o - SP_i) - 0.075(Q_{ACFM} / 1097A_i)^2$$

### Notes

Identification D-EF (3)  
Location Air Bag "D" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer Northern Blower  
Type/Size Vaneaxial Fan / 3000  
Model Number 8096  
Serial Number A44563-5  
Capacity (CFM) 14,400  
Speed (RPM) 1,783  
SP (in H<sub>2</sub>O) 7  
BHP 25

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size \_\_\_\_\_  
SF - PF - EFF - -  
Size (HP) \_\_\_\_\_  
Amps \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -5.70 / 8.70  
SP<sub>out</sub> / A<sub>out</sub> 0.17 / 8.70  
T<sub>vp</sub> / A<sub>vp</sub> 70 / 5.60  
RPM / P<sub>barametric</sub> / 30.46  
Velocity<sub>avg-read</sub> 1,560  
ACFM / SP<sub>FANacfm</sub> 8,740 / 5.81 in WC  
SCFM / SP<sub>FANscfm</sub> 8,740 / 5.81 in WC

### Motor Test Data

Amps 30 31 30  
Volts 266 266 264  
Speed (RPM) \_\_\_\_\_  
Power (kW) 7.995  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.373	0.117	0.124	0.225	0.392	0.339	0.128	0.093	0.142	0.090	0.131	0.242	0.433	0.373	0.578	0.236	0.003	0.007	0.000	0.000
VP <sup>1/2</sup>	0.611	0.341	0.352	0.474	0.626	0.583	0.358	0.305	0.377	0.300	0.363	0.492	0.658	0.611	0.760	0.486	0.058	0.081	0.000	0.000

$$V_{avg} = 952.8 ((460+T_{vp})/P_{barametric})^{1/2} (\sum(VP)^{1/2}/N_{read})$$

$$SP_{Fan actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM}/1097A_i)^2$$

$$SP_{Fan @70} = ((460+T)/530)(SP_o - SP_i) - 0.075(Q_{ACFM}/1097A_i)^2$$

### Notes

All ductwork, including bypass stack, is severely rusted and has many holes in it.



Identification D-EF (5)  
Location Air Bag "D" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer Northern Blower  
Type/Size Vaneaxial Fan / 3000  
Model Number 8096  
Serial Number A44563-4  
Capacity (CFM) 14,400  
Speed (RPM) 1,783  
SP (in H<sub>2</sub>O) 7  
BHP 25

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size \_\_\_\_\_  
SF - PF - EFF - -  
Size (HP) \_\_\_\_\_  
Amps \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -4.40 / 8.70  
SP<sub>out</sub> / A<sub>out</sub> -0.42 / 8.70  
T<sub>vp</sub> / A<sub>vp</sub> 65 / 5.60  
RPM / P<sub>barametric</sub> / 30.46  
Velocity<sub>avg-read</sub> 2,460  
ACFM / SP<sub>FANacfm</sub> 13,780 / 3.82 in WC  
SCFM / SP<sub>FANscfm</sub> 13,910 / 3.79 in WC

### Motor Test Data

Amps 28 29 29  
Volts 265 265 264  
Speed (RPM) \_\_\_\_\_  
Power (kW) 7.614  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.202	0.360	0.308	0.365	0.421	0.778	0.714	0.612	0.620	0.411	0.136	0.173	0.136	0.110	0.129	0.610	0.642	0.642	0.657	0.345
VP <sup>1/2</sup>	0.450	0.600	0.555	0.604	0.649	0.882	0.845	0.782	0.788	0.641	0.369	0.416	0.369	0.332	0.359	0.781	0.801	0.801	0.811	0.587

$$V_{avg} = 952.8 ((460 + T_{vp}) / P_{barametric})^{1/2} (\sum(VP)^{1/2} / N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM} / 1097A_i)^2$$

$$SP_{Fan\ @70} = ((460 + T) / 530)(SP_o - SP_i) - 0.075(Q_{ACFM} / 1097A_i)^2$$

### Notes

All ductwork, including bypass stack, is severely rusted and has many holes in it.

Identification D-EF (6)  
Location Air Bag "D" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer Northern Blower  
Type/Size Vaneaxial Fan / 3000  
Model Number 8096  
Serial Number A44563-1  
Capacity (CFM) 14,400  
Speed (RPM) 1,783  
SP (in H<sub>2</sub>O) 7  
BHP 25

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size \_\_\_\_\_  
SF - PF - EFF - -  
Size (HP) \_\_\_\_\_  
Amps \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -5.80 / 8.70  
SP<sub>out</sub> / A<sub>out</sub> -0.55 / 8.70  
T<sub>vp</sub> / A<sub>vp</sub> 65 / 5.60  
RPM / P<sub>barametric</sub> / 30.46  
Velocity<sub>avg-read</sub> 1,690  
ACFM / SP<sub>FANacfm</sub> 9,460 / 5.18 in WC  
SCFM / SP<sub>FANscfm</sub> 9,550 / 5.13 in WC

### Motor Test Data

Amps 33 33 33  
Volts 264 263 265  
Speed (RPM) \_\_\_\_\_  
Power (kW) 8.747  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.250	0.327	0.244	0.202	0.200	0.343	0.312	0.254	0.225	0.162	0.041	0.064	0.062	0.105	0.332	0.241	0.164	0.158	0.127	0.103
VP <sup>1/2</sup>	0.500	0.572	0.494	0.449	0.448	0.586	0.559	0.504	0.474	0.403	0.203	0.253	0.249	0.324	0.576	0.491	0.405	0.398	0.356	0.321

$$V_{avg} = 952.8 ((460 + T_{vp}) / P_{barametric})^{1/2} (\sum(VP)^{1/2} / N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM} / 1097A_i)^2$$

$$SP_{Fan\ @70} = ((460 + T) / 530)(SP_o - SP_i) - 0.075(Q_{ACFM} / 1097A_i)^2$$

### Notes

All ductwork, including bypass stack, is severely rusted and has many holes in it.

Identification D-EF (7)  
Location Air Bag "D" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer Cincinnati  
Type/Size Tubeaxial Fan  
Model Number TAF-24  
Serial Number 877796  
Capacity (CFM) \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) \_\_\_\_\_  
BHP \_\_\_\_\_

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size \_\_\_\_\_  
SF - PF - EFF \_\_\_\_\_ - \_\_\_\_\_  
Size (HP) \_\_\_\_\_  
Amps \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -1.25 / 3.14  
SP<sub>out</sub> / A<sub>out</sub> -0.09 / 3.14  
T<sub>vp</sub> / A<sub>vp</sub> 93 / 1.77  
RPM / P<sub>barametric</sub> \_\_\_\_\_ / 30.05  
Velocity<sub>avg-read</sub> 1,390  
ACFM / SP<sub>FANacfm</sub> 2,460 / 1.12 in WC  
SCFM / SP<sub>FANscfm</sub> 2,360 / 1.17 in WC

### Motor Test Data

Amps 3 3 3  
Volts 367 366 367  
Speed (RPM) \_\_\_\_\_  
Power (kW) 1.100  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.082	0.136	0.155	0.118	0.114	0.182	0.157	0.147	0.140	0.072	0.072	0.094	0.087	0.099	0.121	0.154	0.150	0.136	0.115	0.051
VP <sup>1/2</sup>	0.287	0.369	0.394	0.343	0.337	0.426	0.396	0.383	0.374	0.269	0.268	0.307	0.296	0.315	0.348	0.393	0.387	0.369	0.340	0.225

$$V_{avg} = 952.8 ((460 + T_{vp}) / P_{barametric})^{1/2} (\sum(VP)^{1/2} / N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM} / 1097A_i)^2$$

$$SP_{Fan\ @70} = ((460 + T) / 530)(SP_o - SP_i) - 0.075(Q_{ACFM} / 1097A_i)^2$$

### Notes

New Venture Holdings, LLC  
Grand Blanc, Michigan

System Exhaust  
Evaluation

Prime "A" Booth

Submitted by  
Comptech Corporation

November 1, 2005

## Prime "A" Booth System Exhaust Summary

Fan Identification	Exhaust Volume (ACFM)	Exhaust Volume (SCFM)
PA-EF (1) Prime Booth	17,080	17,340
PA-EF (2) Prime Booth	13,400	13,430
Total Prime "A" Booth Exhaust	30,480	30,770

Prime "A" Booth Exhaust: 30,480 ACFM

Identification PA-EF (1)  
 Location Prime "A" Booth

 Customer New Venture Holdings, LLC  
 Test Date November 1, 2005
**Fan Design Data**

 Manufacturer Northern Blower  
 Type/Size Vaneaxial Fan / 3300  
 Model Number 8096  
 Serial Number A47535-13  
 Capacity (CFM) 18,000  
 Speed (RPM) 1,647  
 SP (in H<sub>2</sub>O) 7  
 BHP 30
**Motor Design Data**

 Manufacturer \_\_\_\_\_  
 Model Number \_\_\_\_\_  
 Serial Number \_\_\_\_\_  
 Frame Size 324T  
 SF - PF - EFF - -  
 Size (HP) 40.0  
 Amps \_\_\_\_\_  
 Speed (RPM) 1,800
**Fan Test Data**

 SP<sub>in</sub> / A<sub>in</sub> -4.30 / 10.56  
 SP<sub>out</sub> / A<sub>out</sub> -0.60 / 10.56  
 T<sub>vp</sub> / A<sub>vp</sub> 62 / 5.60  
 RPM / P<sub>barametric</sub> / 30.46  
 Velocity<sub>avg-read</sub> 3,050  
 ACFM / SP<sub>FANacfm</sub> 17,080 / 3.54 in WC  
 SCFM / SP<sub>FANscfm</sub> 17,340 / 3.48 in WC
**Motor Test Data**

 Amps 31 30 29  
 Volts 267 267 265  
 Speed (RPM) \_\_\_\_\_  
 Power (kW) 8.017  
 HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.133	0.077	0.079	0.182	0.160	0.898	1.029	0.959	1.076	0.787	0.723	0.605	0.659	0.553	0.748	0.948	0.964	0.910	0.931	0.826
VP <sup>1/2</sup>	0.365	0.278	0.281	0.427	0.400	0.948	1.014	0.980	1.037	0.887	0.850	0.778	0.812	0.744	0.865	0.974	0.982	0.954	0.965	0.909

$$V_{avg} = 952.8 ((460 + T_{vp}) / P_{barametric})^{1/2} (\Sigma(VP)^{1/2} / N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM} / 1097A_i)^2$$

$$SP_{Fan\ @70} = ((460 + T) / 530)(SP_o - SP_i) - 0.075(Q_{ACFM} / 1097A_i)^2$$

**Notes**

Identification PA-EF (2)  
Location Prime "A" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer Northern Blower  
Type/Size Vaneaxial Fan / 3300  
Model Number 8096  
Serial Number A47535-15  
Capacity (CFM) 14,400 (Durr)  
Speed (RPM) 1,647  
SP (in H<sub>2</sub>O) 7  
BHP 30

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size 324T  
SF - PF - EFF - -  
Size (HP) 40.0  
Amps \_\_\_\_\_  
Speed (RPM) 1,800

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -4.50 / 10.56  
SP<sub>out</sub> / A<sub>out</sub> -0.52 / 10.56  
T<sub>vp</sub> / A<sub>vp</sub> 69 / 4.28  
RPM / P<sub>barametric</sub> / 29.91  
Velocity<sub>avg-read</sub> 3,130  
ACFM / SP<sub>FANacfm</sub> 13,400 / 3.88 in WC  
SCFM / SP<sub>FANscfm</sub> 13,430 / 3.87 in WC

### Motor Test Data

Amps 30 29 28  
Volts 267 266 267  
Speed (RPM) \_\_\_\_\_  
Power (kW) 7.733  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.443	0.510	0.647	0.524	0.496	0.839	0.992	1.156	1.081	0.606	0.772	0.867	0.717	0.720	0.594	0.516	0.334	0.307	0.311	0.262
VP <sup>1/2</sup>	0.666	0.714	0.804	0.724	0.704	0.916	0.996	1.075	1.040	0.779	0.879	0.931	0.847	0.849	0.771	0.718	0.578	0.554	0.558	0.512

$$V_{avg} = 952.8 ((460 + T_{vp}) / P_{barametric})^{1/2} (\Sigma(VP)^{1/2} / N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM} / 1097A_i)^2$$

$$SP_{Fan\ @70} = ((460 + T) / 530)(SP_o - SP_i) - 0.075(Q_{ACFM} / 1097A_i)^2$$

### Notes

New Venture Holdings, LLC  
Grand Blanc, Michigan

System Exhaust  
Evaluation

Prime "B" Booth

Submitted by  
Comptech Corporation

November 1, 2005

## Prime "B" Booth System Exhaust Summary

Fan Identification	Exhaust Volume (ACFM)	Exhaust Volume (SCFM)
PB-EF (1) Prime Booth	14,210	14,290
PB-EF (2) Prime Booth	15,140	15,230
Total Prime "B" Booth Exhaust	29,350	29,520

Prime "B" Booth Exhaust: 29,350 ACFM

Identification PB-EF (1)  
Location Prime "B" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer Northern Blower  
Type/Size Vaneaxial Fan / 3300  
Model Number 8096  
Serial Number A47535-11  
Capacity (CFM) 18,000  
Speed (RPM) 1,647  
SP (in H<sub>2</sub>O) 7  
BHP 30

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size 324T  
SF - PF - EFF - -  
Size (HP) 40.0  
Amps \_\_\_\_\_  
Speed (RPM) 1,800

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -3.90 / 10.56  
SP<sub>out</sub> / A<sub>out</sub> -0.20 / 10.56  
T<sub>vp</sub> / A<sub>vp</sub> 67 / 4.90  
RPM / P<sub>barametric</sub> / 30.46  
Velocity<sub>avg-read</sub> 2,900  
ACFM / SP<sub>FANacfm</sub> 14,210 / 3.59 in WC  
SCFM / SP<sub>FANscfm</sub> 14,290 / 3.57 in WC

### Motor Test Data

Amps 31 30 30  
Volts 265 267 267  
Speed (RPM) \_\_\_\_\_  
Power (kW) 8.079  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.703	0.672	0.555	0.780	0.676	0.596	0.447	0.424	0.343	0.435	0.354	0.536	0.419	0.594	0.576	0.636	0.521	0.557	0.433	0.580
VP <sup>1/2</sup>	0.839	0.820	0.745	0.883	0.822	0.772	0.669	0.651	0.586	0.659	0.595	0.732	0.647	0.771	0.759	0.798	0.722	0.747	0.658	0.762

$$V_{avg} = 952.8 ((460 + T_{vp}) / P_{barametric})^{1/2} (\sum(VP)^{1/2} / N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM} / 1097A_i)^2$$

$$SP_{Fan\ @70} = ((460 + T) / 530)(SP_o - SP_i) - 0.075(Q_{ACFM} / 1097A_i)^2$$

### Notes

Identification PB-EF (2)  
Location Prime "B" Booth

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer Northern Blower  
Type/Size Vaneaxial Fan / 3300  
Model Number 8096  
Serial Number A47535-5  
Capacity (CFM) 14,400 (Durr)  
Speed (RPM) 1,647  
SP (in H<sub>2</sub>O) 7  
BHP 30

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size 324T  
SF - PF - EFF - -  
Size (HP) 40.0  
Amps \_\_\_\_\_  
Speed (RPM) 1,800

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -5.10 / 10.56  
SP<sub>out</sub> / A<sub>out</sub> -1.90 / 10.56  
T<sub>vp</sub> / A<sub>vp</sub> 67 / 4.30  
RPM / P<sub>barametric</sub> / 30.46  
Velocity<sub>avg-read</sub> 3,520  
ACFM / SP<sub>FANacfm</sub> 15,140 / 3.07 in WC  
SCFM / SP<sub>FANscfm</sub> 15,230 / 3.05 in WC

### Motor Test Data

Amps 28 31 27  
Volts 266 265 266  
Speed (RPM) \_\_\_\_\_  
Power (kW) 7.616  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.847	0.541	0.257	0.323	0.319	1.445	1.230	1.161	0.882	0.496	0.904	1.062	0.738	0.729	0.449	0.639	1.084	1.046	1.222	1.198
VP <sup>1/2</sup>	0.920	0.736	0.507	0.568	0.565	1.202	1.109	1.078	0.939	0.704	0.951	1.030	0.859	0.854	0.670	0.799	1.041	1.023	1.106	1.095

$$V_{avg} = 952.8 ((460 + T_{vp}) / P_{barametric})^{1/2} (\sum(VP)^{1/2} / N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM} / 1097A_i)^2$$

$$SP_{Fan\ @70} = ((460 + T) / 530)(SP_o - SP_i) - 0.075(Q_{ACFM} / 1097A_i)^2$$

### Notes

New Venture Holdings, LLC  
Grand Blanc, Michigan

System Exhaust  
Evaluation

Fascia "A" Oven

Submitted by  
Comptech Corporation

November 1, 2005

## Fascia "A" Oven System Exhaust Summary

Fan Identification	Exhaust Volume (ACFM)	Exhaust Volume (SCFM)
A-EF (8) Flash Tunnel (fan is off)	0	0
A-EF (9) Oven Exhaust	3,750	3,680
Total Fascia "A" Oven Exhaust	3,750	3,680

Fascia "A" Oven Exhaust: 3,680 SCFM

Identification A-EF (8)  
Location Fascia "A" Oven

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer Cincinnati  
Type/Size Tubeaxial Fan  
Model Number TAF24  
Serial Number 877796  
Capacity (CFM) 5,000 ACFM @ 90° (Durr)  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) \_\_\_\_\_  
BHP \_\_\_\_\_

### Motor Design Data

Manufacturer Baldor  
Model Number M3615T  
Serial Number 36G784Y696H1  
Frame Size 184T  
SF - PF - EFF 1.15 - .79 - .875  
Size (HP) 5.0  
Amps 13.4 / 6.7  
Speed (RPM) 1,750

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> \_\_\_\_\_ /  
SP<sub>out</sub> / A<sub>out</sub> \_\_\_\_\_ /  
T<sub>vp</sub> / A<sub>vp</sub> \_\_\_\_\_ /  
RPM / P<sub>barametric</sub> \_\_\_\_\_ /  
Velocity<sub>avg-read</sub> \_\_\_\_\_  
ACFM / SP<sub>FANacfm</sub> \_\_\_\_\_ /  
SCFM / SP<sub>FANscfm</sub> \_\_\_\_\_ /

### Motor Test Data

Amps \_\_\_\_\_  
Volts \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_  
Power (kW) \_\_\_\_\_  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP																				
VP <sup>1/2</sup>																				

$$V_{avg} = 952.8 ((460+T_{vp})/P_{barametric})^{1/2} (\Sigma(VP)^{1/2}/N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM}/1097A_i)^2$$

$$SP_{Fan\ @70} = ((460+T)/530)(SP_o - SP_i) - 0.075(Q_{ACFM}/1097A_i)^2$$

### Notes

No readings were taken, the fan is shut off.



New Venture Holdings, LLC  
Grand Blanc, Michigan

System Exhaust  
Evaluation

Fascia "B" Oven

Submitted by  
Comptech Corporation

November 1, 2005

## Fascia "B" Oven System Exhaust Summary

Fan Identification	Exhaust Volume (ACFM)	Exhaust Volume (SCFM)
B-EF (8) Flash Tunnel (fan is off)	0	0
B-EF (9) Oven Exhaust (broken damper)	0	0
B-EF (10) Oven Exhaust	2,070	1,500
B-EF (11) Oven Exhaust	1,490	1,080
B-EF (12) Oven Exhaust	1,580	1,150
B-EF (13) Oven Exhaust	1,530	1,110
<b>Total Fascia "B" Oven Exhaust</b>	<b>6,670</b>	<b>4,840</b>

Fascia "B" Oven Exhaust: 4,840 SCFM

Identification B-EF (8)  
Location Fascia "B" Oven

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer Cincinnati  
Type/Size Tubeaxial Fan  
Model Number TAF-24  
Serial Number 877796  
Capacity (CFM) 5,000 ACFM @ 90° (Durr)  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) \_\_\_\_\_  
BHP \_\_\_\_\_

### Motor Design Data

Manufacturer General Electric  
Model Number 5K184BC220A  
Serial Number 3470130294  
Frame Size 184T  
SF - PF - EFF 1.15 - .93 - .855  
Size (HP) 5.0  
Amps 13 / 6.5  
Speed (RPM) 1,750

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> \_\_\_\_\_ / \_\_\_\_\_  
SP<sub>out</sub> / A<sub>out</sub> \_\_\_\_\_ / \_\_\_\_\_  
T<sub>vp</sub> / A<sub>vp</sub> \_\_\_\_\_ / \_\_\_\_\_  
RPM / P<sub>barametric</sub> \_\_\_\_\_ / \_\_\_\_\_  
Velocity<sub>avg-read</sub> \_\_\_\_\_  
ACFM / SP<sub>FANacfm</sub> \_\_\_\_\_ / \_\_\_\_\_  
SCFM / SP<sub>FANscfm</sub> \_\_\_\_\_ / \_\_\_\_\_

### Motor Test Data

Amps \_\_\_\_\_  
Volts \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_  
Power (kW) \_\_\_\_\_  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP																				
VP <sup>1/2</sup>																				

$$V_{avg} = 952.8 ((460 + T_{vp}) / P_{barametric})^{1/2} (\sum(VP)^{1/2} / N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM} / 1097A_i)^2$$

$$SP_{Fan\ @70} = ((460 + T) / 530)(SP_o - SP_i) - 0.075(Q_{ACFM} / 1097A_i)^2$$

### Notes

No readings were taken, the fan was off.

Identification B-EF (9)  
Location Fascia "B" Oven

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

**Fan Design Data**

Manufacturer \_\_\_\_\_  
Type/Size Tubeaxial Fan  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Capacity (CFM) 5,000 ACFM @ 270° (Durr)  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) \_\_\_\_\_  
BHP \_\_\_\_\_

**Motor Design Data**

Manufacturer Baldor  
Model Number M3616T  
Serial Number 36A001X 875H1  
Frame Size 184T  
SF - PF - EFF 1.15 - .93 - .885  
Size (HP) 7.5  
Amps 18.5-17 4/8  
Speed (RPM) 3,450

**Fan Test Data**

SP<sub>in</sub> / A<sub>in</sub> \_\_\_\_\_ / \_\_\_\_\_  
SP<sub>out</sub> / A<sub>out</sub> \_\_\_\_\_ / \_\_\_\_\_  
T<sub>vp</sub> / A<sub>vp</sub> \_\_\_\_\_ / \_\_\_\_\_  
RPM / P<sub>barametric</sub> \_\_\_\_\_ / \_\_\_\_\_  
Velocity<sub>avg-read</sub> \_\_\_\_\_  
ACFM / SP<sub>FANacfm</sub> \_\_\_\_\_ / \_\_\_\_\_  
SCFM / SP<sub>FANscfm</sub> \_\_\_\_\_ / \_\_\_\_\_

**Motor Test Data**

Amps 6            7            7  
Volts 266        266        267  
Speed (RPM) \_\_\_\_\_  
Power (kW) 1.776  
HP 3.393

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP																				
VP <sup>1/2</sup>																				

$$V_{avg} = 952.8 ((460+T_{vp})/P_{barametric})^{1/2} (\Sigma(VP)^{1/2}/N_{read})$$

$$SP_{Fan actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM}/1097A_i)^2$$

$$SP_{Fan @70} = ((460+T)/530)(SP_o - SP_i) - 0.075(Q_{ACFM}/1097A_i)^2$$

**Notes**

No readings could be taken due to a broken actuator shaft on the damper; the damper was closed.

Identification B-EF (10)  
Location Fascia "B" Oven

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer New York Blower  
Type/Size Series 20 GI Fan  
Model Number 144 LS  
Serial Number \_\_\_\_\_  
Capacity (CFM) 2,500 ACFM @ 270° (Durr)  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) 2  
BHP 1

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size \_\_\_\_\_  
SF - PF - EFF - -  
Size (HP) 3.0  
Amps \_\_\_\_\_  
Speed (RPM) 1,750

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -1.08 / 0.44  
SP<sub>out</sub> / A<sub>out</sub> 0.73 / 0.43  
T<sub>vp</sub> / A<sub>vp</sub> 270 / 0.92  
RPM / P<sub>barametric</sub> \_\_\_\_\_ / 29.91  
Velocity<sub>avg-read</sub> 2,250  
ACFM / SP<sub>FANacfm</sub> 2,070 / 0.43 in WC  
SCFM / SP<sub>FANscfm</sub> 1,500 / 1.11 in WC

### Motor Test Data

Amps \_\_\_\_\_  
Volts \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_  
Power (kW) \_\_\_\_\_  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.128	0.176	0.198	0.232	0.228	0.258	0.269	0.255	0.301	0.268	0.128	0.176	0.198	0.232	0.228	0.258	0.269	0.255	0.301	0.268
VP <sup>1/2</sup>	0.358	0.420	0.445	0.482	0.477	0.508	0.519	0.505	0.548	0.518	0.358	0.420	0.445	0.482	0.477	0.508	0.519	0.505	0.548	0.518

$$V_{avg} = 952.8 ((460 + T_{vp}) / P_{barametric})^{1/2} (\Sigma(VP)^{1/2} / N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM} / 1097A_i)^2$$

$$SP_{Fan\ @70} = ((460 + T) / 530)(SP_o - SP_i) - 0.075(Q_{ACFM} / 1097A_i)^2$$

### Notes

Identification B-EF (11)  
Location Fascia "B" Oven

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer New York Blower  
Type/Size Series 20 GI Fan  
Model Number 144 LS  
Serial Number \_\_\_\_\_  
Capacity (CFM) 2,500 ACFM @ 270° (Durr)  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) 2  
BHP 1

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size \_\_\_\_\_  
SF - PF - EFF - -  
Size (HP) 3.0  
Amps \_\_\_\_\_  
Speed (RPM) 1,750

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -0.80 / 0.44  
SP<sub>out</sub> / A<sub>out</sub> 0.66 / 0.43  
T<sub>vp</sub> / A<sub>vp</sub> 270 / 0.92  
RPM / P<sub>barametric</sub> \_\_\_\_\_ / 29.91  
Velocity<sub>avg-read</sub> 1,620  
ACFM / SP<sub>FANacfm</sub> 1,490 / 0.75 in WC  
SCFM / SP<sub>FANscfm</sub> 1,080 / 1.30 in WC

### Motor Test Data

Amps \_\_\_\_\_  
Volts \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_  
Power (kW) \_\_\_\_\_  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.095	0.106	0.120	0.148	0.134	0.106	0.123	0.124	0.116	0.118	0.095	0.106	0.120	0.148	0.134	0.106	0.123	0.124	0.116	0.118
VP <sup>1/2</sup>	0.308	0.326	0.347	0.385	0.367	0.326	0.351	0.352	0.341	0.344	0.308	0.326	0.347	0.385	0.367	0.326	0.351	0.352	0.341	0.344

$$V_{avg} = 952.8 ((460 + T_{vp}) / P_{barametric})^{1/2} (\sum(VP)^{1/2} / N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM} / 1097A_i)^2$$

$$SP_{Fan\ @70} = ((460 + T) / 530)(SP_o - SP_i) - 0.075(Q_{ACFM} / 1097A_i)^2$$

### Notes

Identification B-EF (12)  
Location Fascia "B" Oven

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer New York Blower  
Type/Size Series 20 GI Fan  
Model Number 144 LS  
Serial Number \_\_\_\_\_  
Capacity (CFM) 2,500 ACFM @ 270° (Durr)  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) 2  
BHP 1

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size \_\_\_\_\_  
SF - PF - EFF - -  
Size (HP) 3.0  
Amps \_\_\_\_\_  
Speed (RPM) 1,750

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -1.04 / 0.44  
SP<sub>out</sub> / A<sub>out</sub> 0.47 / 0.43  
T<sub>vp</sub> / A<sub>vp</sub> 270 / 0.92  
RPM / P<sub>barametric</sub> \_\_\_\_\_ / 29.91  
Velocity<sub>avg-read</sub> 1,720  
ACFM / SP<sub>FANacfm</sub> 1,580 / 0.71 in WC  
SCFM / SP<sub>FANscfm</sub> 1,150 / 1.28 in WC

### Motor Test Data

Amps \_\_\_\_\_  
Volts \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_  
Power (kW) \_\_\_\_\_  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.057	0.146	0.187	0.178	0.160	0.140	0.136	0.136	0.130	0.098	0.057	0.146	0.187	0.178	0.160	0.140	0.136	0.136	0.130	0.098
VP <sup>1/2</sup>	0.239	0.383	0.432	0.421	0.400	0.374	0.369	0.369	0.361	0.314	0.239	0.383	0.432	0.421	0.400	0.374	0.369	0.369	0.361	0.314

$$V_{avg} = 952.8 ((460 + T_{vp}) / P_{barametric})^{1/2} (\sum(VP)^{1/2} / N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM} / 1097A_i)^2$$

$$SP_{Fan\ @70} = ((460 + T) / 530)(SP_o - SP_i) - 0.075(Q_{ACFM} / 1097A_i)^2$$

### Notes

Identification B-EF (13)  
Location Fascia "B" Oven

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer New York Blower  
Type/Size Series 20 GI Fan  
Model Number 144 LS  
Serial Number \_\_\_\_\_  
Capacity (CFM) 2,500 ACFM @ 270° (Durr)  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) 2  
BHP 1

### Motor Design Data

Manufacturer \_\_\_\_\_  
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Frame Size \_\_\_\_\_  
SF - PF - EFF - -  
Size (HP) 3.0  
Amps \_\_\_\_\_  
Speed (RPM) 1,750

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -0.83 / 0.44  
SP<sub>out</sub> / A<sub>out</sub> 0.65 / 0.43  
T<sub>vp</sub> / A<sub>vp</sub> 270 / 0.92  
RPM / P<sub>barametric</sub> \_\_\_\_\_ / 29.91  
Velocity<sub>avg-read</sub> 1,660  
ACFM / SP<sub>FANacfm</sub> 1,530 / 0.73 in WC  
SCFM / SP<sub>FANscfm</sub> 1,110 / 1.28 in WC

### Motor Test Data

Amps \_\_\_\_\_  
Volts \_\_\_\_\_  
Speed (RPM) \_\_\_\_\_  
Power (kW) \_\_\_\_\_  
HP \_\_\_\_\_

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.068	0.105	0.163	0.174	0.136	0.149	0.145	0.129	0.116	0.086	0.068	0.105	0.163	0.174	0.136	0.149	0.145	0.129	0.116	0.086
VP <sup>1/2</sup>	0.260	0.324	0.404	0.417	0.369	0.385	0.380	0.359	0.340	0.294	0.260	0.324	0.404	0.417	0.369	0.385	0.380	0.359	0.340	0.294

$$V_{avg} = 952.8 ((460 + T_{vp}) / P_{barametric})^{1/2} (\sum(VP)^{1/2} / N_{read})$$

$$SP_{Fan\ actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM} / 1097A_i)^2$$

$$SP_{Fan\ @70} = ((460 + T) / 530)(SP_o - SP_i) - 0.075(Q_{ACFM} / 1097A_i)^2$$

### Notes

New Venture Holdings, LLC  
Grand Blanc, Michigan

System Exhaust  
Evaluation

Air Bag "D" Oven

Submitted by  
Comptech Corporation

November 1, 2005

## Air Bag "D" Oven System Exhaust Summary

Fan Identification	Exhaust Volume (ACFM)	Exhaust Volume (SCFM)
D-EF (8) Flash Tunnel	4,550	3,840
Total Air Bag "D" Oven Exhaust	4,550	3,840

Air Bag "D" Oven Exhaust: 3,840 SCFM

Identification D-EF (8)  
Location Air Bag "D" Oven

Customer New Venture Holdings, LLC  
Test Date November 1, 2005

### Fan Design Data

Manufacturer Cincinnati  
Type/Size Tubeaxial Fan  
Model Number HTF-15  
Serial Number 878670  
Capacity (CFM) 5,000 ACFM @ 190° (Durr)  
Speed (RPM) \_\_\_\_\_  
SP (in H<sub>2</sub>O) \_\_\_\_\_  
BHP \_\_\_\_\_

### Motor Design Data

Manufacturer Baldor  
Model Number M355OT  
Serial Number 35A0015253H1  
Frame Size 143T  
SF - PF - EFF 1.15 - .85 - .825  
Size (HP) 1.5  
Amps 4.3-4.2 / 2.1  
Speed (RPM) 3,450

### Fan Test Data

SP<sub>in</sub> / A<sub>in</sub> -0.88 / 1.23  
SP<sub>out</sub> / A<sub>out</sub> -0.32 / 1.23  
T<sub>vp</sub> / A<sub>vp</sub> 168 / 1.23  
RPM / P<sub>barametric</sub> \_\_\_\_\_ / 30.05  
Velocity<sub>avg-read</sub> 3,700  
ACFM / SP<sub>FANacfm</sub> 4,550 / -0.29 in WC  
SCFM / SP<sub>FANscfm</sub> 3,840 / -0.19 in WC

### Motor Test Data

Amps 2      2      2  
Volts 267    267    267  
Speed (RPM) \_\_\_\_\_  
Power (kW) 0.534  
HP 0.869

Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VP	0.535	0.733	0.862	0.845	0.919	0.877	0.875	0.776	0.625	0.399	0.497	0.629	0.719	0.856	0.797	0.847	0.882	0.783	0.727	0.439
VP <sup>1/2</sup>	0.732	0.856	0.929	0.919	0.959	0.936	0.935	0.881	0.791	0.631	0.705	0.793	0.848	0.925	0.893	0.920	0.939	0.885	0.853	0.663

$$V_{avg} = 952.8 ((460+T_{vp})/P_{barametric})^{1/2} (\Sigma(VP)^{1/2}/N_{read})$$

$$SP_{Fan actual} = SP_o - SP_i - VP_i = SP_o - SP_i - 0.075(Q_{ACFM}/1097A_i)^2$$

$$SP_{Fan @70} = ((460+T)/530)(SP_o - SP_i) - 0.075(Q_{ACFM}/1097A_i)^2$$

### Notes

All ductwork, including bypass stack, is severely rusted and has many holes in it.