



**BRUNO GARCIA DE ALMEIDA**

**ALTA TECNOLOGIA PARA O MELHOR DESEMPENHO**



## SUMÁRIO

|                                      |   |
|--------------------------------------|---|
| 1. TABELA COM DADOS DE FLUXO .....   | 3 |
| 2. GRAFICOS DE FLUXO .....           | 4 |
| 3. TABELA COM DADOS DO COMANDO ..... | 5 |
| 4. GRAFICOS DO COMANDO .....         | 6 |
| 5. CHECK LIST DO PRODUTO .....       | 7 |
| 6. ORÇAMENTO.....                    | 8 |



## TABELA COM DADOS DE FLUXO A 28"

FLOW PRO Compare Data Report

Pg 1

| No. | Operator                                                                         | Customer   | Max CFM | Avg CFM |
|-----|----------------------------------------------------------------------------------|------------|---------|---------|
| 1   | STUMPF CABEÇOTE                                                                  | BRUNO GARC | 232,1   | 171,0   |
|     | GRAFICO DE FLUXO - CABEÇOTE GTI 16V TURBO - RACING -<br>TESTE DE ADMISSÃO A 28". |            |         |         |
| 2   | STUMPF CABEÇOTE                                                                  | BRUNO GARC | 205,9   | 153,2   |
|     | GRAFICO DE FLUXO - CABEÇOTE 16V GTI TURBO - RACING -<br>TESTE DE ESCAPE A 28".   |            |         |         |

| Lift     | CCFM<br>No. 1 | No. 2 |
|----------|---------------|-------|
| 2,00     | 57,0          | 55,6  |
| 4,00     | 112,4         | 107,6 |
| 6,00     | 156,9         | 143,5 |
| 8,00     | 187,2         | 165,9 |
| 10,00    | 221,4         | 192,7 |
| 12,00    | 230,1         | 201,5 |
| 14,00    | 232,1         | 205,9 |
| Average: | 171,0         | 153,2 |



## GRAFICOS DE FLUXO A 28"

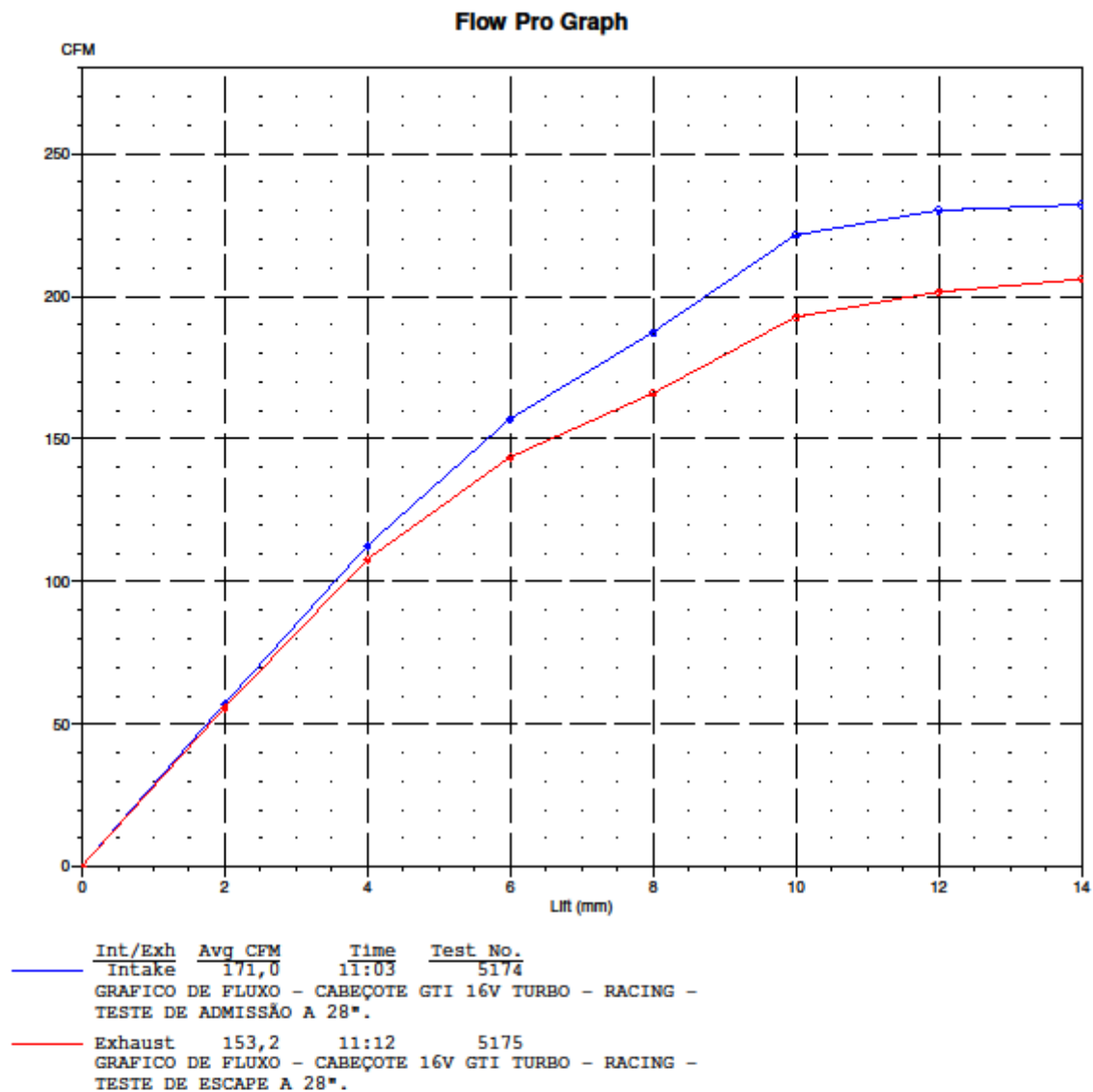


GRAFICO DE FLUXO - CABEÇOTE 16V GTI TURBO - RACING - BRUNO GARCIA.



# TABELA COM DADOS DO COMANDO

CAM PRO PLUS Valve Lift Report

Pg 1

| C:\Cam Pro Plus\CPP\COMANDO KUIR\COMANDO JSPT.CPP |             | LIFT    | DUR.   | OPEN            | CLOSE      | AREA  |
|---------------------------------------------------|-------------|---------|--------|-----------------|------------|-------|
| Lobe                                              | E2a         |         |        |                 |            |       |
| Centerline                                        | 112,00 BTDC | 0,10    | 272,37 | 67,67 BBDC      | 24,69 ATDC | 945,0 |
| .050 Lift C/L                                     | 111,92 BTDC | 0,15    | 270,43 | 66,79 BBDC      | 23,65 ATDC | 944,8 |
| Runout                                            | 0,0480      | 0,20    | 268,67 | 65,93 BBDC      | 22,74 ATDC | 944,6 |
| Peak Open Acc.                                    | 0,02337     | 0,25    | 267,08 | 65,23 BBDC      | 21,85 ATDC | 944,3 |
| Peak Nose Acc.                                    | -0,01050    | 0,30    | 265,61 | 64,53 BBDC      | 21,08 ATDC | 944,1 |
| Peak Close Acc.                                   | 0,02342     | 0,51    | 260,10 | 61,85 BBDC      | 18,25 ATDC | 942,9 |
| Lift @ TDC                                        | 2,603       | 1,27    | 245,30 | 54,61 BBDC      | 10,69 ATDC | 935,6 |
| Valve Lash                                        | 0,250       | 2,54    | 225,22 | 44,73 BBDC      | 0,49 ATDC  | 915,4 |
| Rocker Ratio                                      | 1,00        | 7,65    | 139,74 | 2,71 BBDC       | 42,98 BTDC | 686,2 |
| Lobe Separation                                   | -----       | 8,89    | 111,42 | 11,40 ABDC      | 57,19 BTDC | 567,6 |
|                                                   |             | 10,16   | 72,13  | 31,06 ABDC      | 76,82 BTDC | 378,3 |
|                                                   |             | 11,3210 | ---    | PEAK CAM LIFT   | ---        |       |
|                                                   |             | 11,0710 | ---    | PEAK VALVE LIFT | ---        |       |

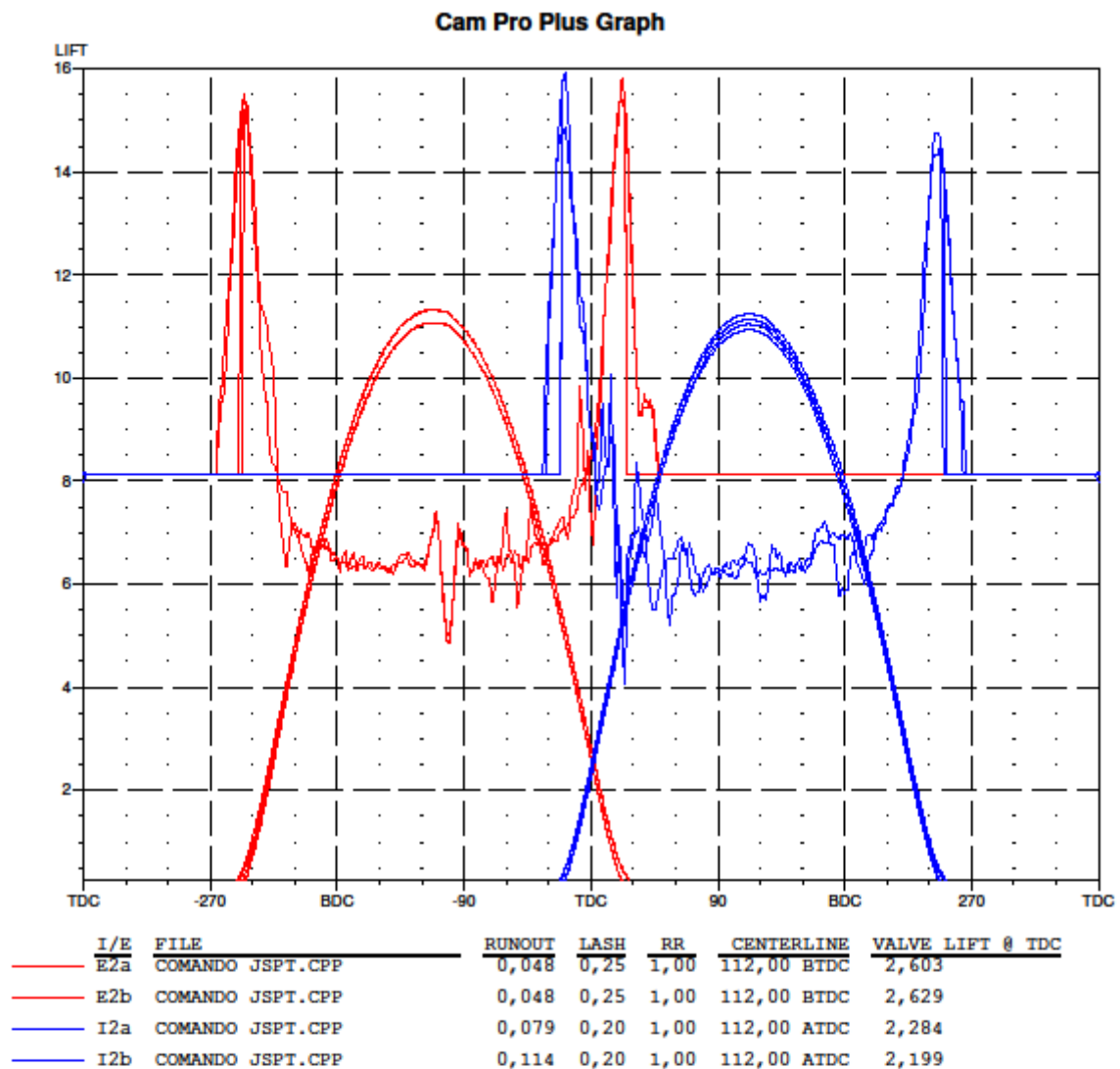
| C:\Cam Pro Plus\CPP\COMANDO KUIR\COMANDO JSPT.CPP |             | LIFT    | DUR.   | OPEN            | CLOSE      | AREA  |
|---------------------------------------------------|-------------|---------|--------|-----------------|------------|-------|
| Lobe                                              | E2b         |         |        |                 |            |       |
| Centerline                                        | 112,00 BTDC | 0,10    | 274,09 | 69,18 BBDC      | 24,91 ATDC | 948,7 |
| .050 Lift C/L                                     | 112,50 BTDC | 0,15    | 272,11 | 68,26 BBDC      | 23,85 ATDC | 948,5 |
| Runout                                            | 0,0480      | 0,20    | 270,48 | 67,47 BBDC      | 23,02 ATDC | 948,4 |
| Peak Open Acc.                                    | 0,02380     | 0,25    | 268,91 | 66,73 BBDC      | 22,18 ATDC | 948,2 |
| Peak Nose Acc.                                    | -0,01008    | 0,30    | 267,40 | 65,99 BBDC      | 21,41 ATDC | 947,9 |
| Peak Close Acc.                                   | 0,02476     | 0,51    | 261,93 | 63,36 BBDC      | 18,57 ATDC | 946,6 |
| Lift @ TDC                                        | 2,629       | 1,27    | 247,14 | 56,12 BBDC      | 11,02 ATDC | 939,3 |
| Valve Lash                                        | 0,250       | 2,54    | 226,73 | 46,03 BBDC      | 0,70 ATDC  | 918,8 |
| Rocker Ratio                                      | 1,00        | 7,65    | 139,66 | 3,09 BBDC       | 43,42 BTDC | 686,8 |
| Lobe Separation                                   | -----       | 8,89    | 111,68 | 10,88 ABDC      | 57,44 BTDC | 569,5 |
|                                                   |             | 10,16   | 72,83  | 30,52 ABDC      | 76,65 BTDC | 382,2 |
|                                                   |             | 11,3290 | ---    | PEAK CAM LIFT   | ---        |       |
|                                                   |             | 11,0790 | ---    | PEAK VALVE LIFT | ---        |       |

| C:\Cam Pro Plus\CPP\COMANDO KUIR\COMANDO JSPT.CPP |             | LIFT    | DUR.   | OPEN            | CLOSE      | AREA  |
|---------------------------------------------------|-------------|---------|--------|-----------------|------------|-------|
| Lobe                                              | I2a         |         |        |                 |            |       |
| Centerline                                        | 112,00 ATDC | 0,10    | 271,80 | 21,17 BTDC      | 70,62 ABDC | 932,9 |
| .050 Lift C/L                                     | 114,05 ATDC | 0,15    | 269,80 | 20,25 BTDC      | 69,55 ABDC | 932,8 |
| Runout                                            | 0,0790      | 0,20    | 268,05 | 19,45 BTDC      | 68,60 ABDC | 932,6 |
| Peak Open Acc.                                    | 0,02522     | 0,25    | 266,44 | 18,72 BTDC      | 67,72 ABDC | 932,4 |
| Peak Nose Acc.                                    | -0,00945    | 0,30    | 264,91 | 18,00 BTDC      | 66,91 ABDC | 932,2 |
| Peak Close Acc.                                   | 0,02142     | 0,51    | 259,41 | 15,43 BTDC      | 63,98 ABDC | 931,1 |
| Lift @ TDC                                        | 2,284       | 1,27    | 244,40 | 8,15 BTDC       | 56,25 ABDC | 924,6 |
| Valve Lash                                        | 0,200       | 2,54    | 223,78 | 1,93 ATDC       | 45,71 ABDC | 905,1 |
| Rocker Ratio                                      | 1,00        | 7,65    | 137,10 | 44,84 ATDC      | 1,94 ABDC  | 678,8 |
| Lobe Separation                                   | -----       | 8,89    | 108,65 | 58,31 ATDC      | 13,04 BBDC | 560,8 |
|                                                   |             | 10,16   | 69,48  | 77,48 ATDC      | 33,04 BBDC | 373,6 |
|                                                   |             | 11,2460 | ---    | PEAK CAM LIFT   | ---        |       |
|                                                   |             | 11,0460 | ---    | PEAK VALVE LIFT | ---        |       |

| C:\Cam Pro Plus\CPP\COMANDO KUIR\COMANDO JSPT.CPP |             | LIFT    | DUR.   | OPEN            | CLOSE      | AREA  |
|---------------------------------------------------|-------------|---------|--------|-----------------|------------|-------|
| Lobe                                              | I2b         |         |        |                 |            |       |
| Centerline                                        | 112,00 ATDC | 0,10    | 270,36 | 20,78 BTDC      | 69,58 ABDC | 921,1 |
| .050 Lift C/L                                     | 113,92 ATDC | 0,15    | 268,46 | 19,88 BTDC      | 68,59 ABDC | 921,0 |
| Runout                                            | 0,1140      | 0,20    | 266,77 | 19,11 BTDC      | 67,66 ABDC | 920,8 |
| Peak Open Acc.                                    | 0,02176     | 0,25    | 265,14 | 18,34 BTDC      | 66,80 ABDC | 920,6 |
| Peak Nose Acc.                                    | -0,01307    | 0,30    | 263,59 | 17,63 BTDC      | 65,97 ABDC | 920,4 |
| Peak Close Acc.                                   | 0,02065     | 0,51    | 258,21 | 15,06 BTDC      | 63,14 ABDC | 919,3 |
| Lift @ TDC                                        | 2,199       | 1,27    | 242,83 | 7,49 BTDC       | 55,34 ABDC | 912,6 |
| Valve Lash                                        | 0,200       | 2,54    | 222,38 | 2,55 ATDC       | 44,93 ABDC | 893,3 |
| Rocker Ratio                                      | 1,00        | 7,65    | 135,43 | 44,60 ATDC      | 0,03 ABDC  | 658,0 |
| Lobe Separation                                   | -----       | 8,89    | 106,00 | 58,97 ATDC      | 15,03 BBDC | 543,7 |
|                                                   |             | 10,16   | 65,61  | 78,89 ATDC      | 35,49 BBDC | 350,4 |
|                                                   |             | 11,1360 | ---    | PEAK CAM LIFT   | ---        |       |
|                                                   |             | 10,9360 | ---    | PEAK VALVE LIFT | ---        |       |



## GRAFICOS DO COMANDO



# CHECK LIST

**CLIENTE:** BRUNO GARCIA DE ALMEIDA O.S 16703

**VISTORIA:** RONALDO

| FOLGA<br>VÁLVS. | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    |
|-----------------|------|------|------|------|------|------|------|------|
| ADM             | 0,25 | 0,25 | 0,25 | 0,25 | 0,25 | 0,25 | 0,25 | 0,25 |
| ESC             | 0,30 | 0,30 | 0,30 | 0,30 | 0,30 | 0,30 | 0,30 | 0,30 |

| CARGA<br>MOLAS | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8       |
|----------------|---------|---------|---------|---------|---------|---------|---------|---------|
| ADM            | 130/240 | 130/240 | 130/240 | 130/240 | 130/240 | 130/240 | 130/240 | 130/240 |
| ESC            | 130/240 | 130/240 | 130/240 | 130/240 | 130/240 | 130/240 | 130/240 | 130/240 |

| VED.<br>SEDES | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------------|---|---|---|---|---|---|---|---|
| ADM           | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ESC           | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

**OBS:**      **VEDAÇÃO OK**

**VOLUME CAMARA: 50,2 CC**



## ORÇAMENTO

|                                                                                   |                                            |
|-----------------------------------------------------------------------------------|--------------------------------------------|
|  | STUMPF                                     |
|                                                                                   | Tel/Fax: (45)99948-0123                    |
|                                                                                   | RUA CARLOS CAVALCANTI, 474 - CASCAVEL / PR |
|                                                                                   | CEP: 85818670                              |
|                                                                                   | CNPJ: 33826228000194                       |
|                                                                                   | E-mail: cabecotesstumpf@gmail.com          |

Data: 26/03/2024

### ORÇAMENTO

Nº 16.703

O.S.: 44.465.156.492

Cliente: BRUNO GARCIA DE ALMEIDA

CPF/CNPJ: 37548509898

Fone: (015)99770-481 Fone 2:

Endereço:

Veículo:

Placa:

### DESCRIÇÃO DAS PEÇAS E/OU SERVIÇOS

| Cod.  | Descrição                         | Quant. | UN |
|-------|-----------------------------------|--------|----|
| 1.252 | BANHO QUIMICO                     | 1,0    | SE |
| 1.269 | MATERIAL DE LIMPEZA               | 1,0    | SE |
| 1.536 | JATO DE AREIA                     | 1,0    | SE |
| 1.165 | PLAINA FACE                       | 1,0    | SE |
| 1.185 | PLAINA LATERAL                    | 1,0    | SE |
| 1.186 | RETIFICA DE SEDE                  | 16,0   | SE |
| 1.090 | GUIA 7MM STD                      | 16,0   | UN |
| 1.149 | VEDADOR 7MM                       | 16,0   | UN |
| 1.636 | TRAVA DE VALVULA - 7MM            | 32,0   | UN |
| 2.211 | TUCHO 35MM                        | 16,0   | UN |
| 1.083 | COMANDO RETRABALHADO              | 2,0    | UN |
| 1.044 | CASCO GTI 16V                     | 1,0    | UN |
| 1.224 | MAO DE OBRA RETRABALHO 16V        | 1,0    | MO |
| 1.696 | RETENTOR DO COMANDO               | 2,0    | UN |
| 1.188 | RETIFICA DE VALVULA               | 16,0   | SE |
| 1.530 | SEDE DE ACO FORJADO               | 16,0   | UN |
| 1.283 | NITROGENIO PARA SEDES             | 16,0   | UN |
| 1.187 | SUBSTITUIR SEDE                   | 16,0   | SE |
| 1.932 | SOLDA GALERIA DE AGUA             | 1,0    | SE |
| 1.485 | ENGRENAGEM COM REGULAGEM 16V      | 1,0    | UN |
| 2.149 | CORRENTE COMANDO                  | 1,0    | UN |
| 1.111 | MOLA LONGA                        | 16,0   | UN |
| 1.637 | TRAVA DE VALVULA DE ACO HASTE 8MM | 32,0   | UN |
| 2.554 | KIT INSTALACAO- 16V               | 1,0    | 4  |
| 2.189 | PRISIONEIRO MANCAL                | 24,0   | UN |

