

# Calculating Engine Airflow

The calculations on the right are provided as a reference and may be helpful as you validate and specify housings and components.

For the most accurate engine airflow specifications, Donaldson recommends using the CFM intake airflow rate specified by the engine manufacturer.

Looking for Engine Airflow Guide?



See Reference Section of this catalog.



Airflow guide should only be used as a reference document, for proper air cleaner application, look to your engine supplier for the most accurate and current information.

## Engine Airflow Calculations

CFM intake rate is available from the engine manufacturer. If CFM specifications are not available, use the volumetric efficiency calculation. A simple calculation for cfm is to multiple the horsepower of your engine by 2.5.

### 4-Cycle Engine Airflow Calculation

$$\left( \frac{\text{Engine Size (CID)} \times \text{RPM}}{3456} \right) \times \text{Volumetric Efficiency} = \text{Intake Airflow (CFM)}$$

### 2-Cycle Engine Airflow Calculation

$$\left( \frac{\text{Engine Size (CID)} \times \text{RPM}}{1728} \right) \times \text{Volumetric Efficiency} = \text{Intake Airflow (CFM)}$$

### Volumetric Efficiency

Engine volumetric efficiency ratings are best obtained from your engine manufacturer. Engines operating with electronic controls could have volumetric efficiency ratings of more than 2.0. Airflow on these engines should be verified by the engine manufacturer.

|                             |                     |   |              |
|-----------------------------|---------------------|---|--------------|
| 4 Cycle GAS Engine          | Naturally Aspirated | = | .70 - .80    |
| 2 and 4 Cycle DIESEL Engine | Naturally Aspirated | = | .90          |
|                             | Turbo*              | = | 1.50 - 3.00* |

\* If VE rating is not available, Donaldson recommends using the highest value to insure proper airflow.

## High Pulsation, Naturally Aspirated Engine\* Applications

The intake airflow to the air cleaner can negatively affect the cubic displacement of the air into the engine.

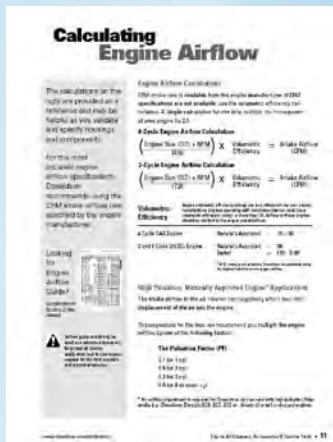
To compensate for the loss, we recommend you multiply the engine airflow by one of the following factors:

### The Pulsation Factor (PF)

- 2.1 for 1 cyl.
- 1.5 for 2 cyl.
- 1.2 for 3 cyl.
- 1.0 for 4 or more cyl.

\* No airflow adjustment is required for Donaldson air cleaners with high pulsation filter media (i.e., Donaldson DuraLite ECB, ECC, ECD air cleaners) or turbo-charged engines.

If the airflow information is not available from the engine manufacturer, the calculations on page 11 may be helpful as you validate and specify housings and components.



For assistance in calculating engine airflow, please contact Donaldson customer service.

## Engine Air Consumption Guide



The data on engines in this section is to be used as a reference only. If specing a new air cleaner for an engine, Donaldson recommends that you acquire this information from the engine manufacturer. If you can not acquire the information from the engine manufacturer, we recommend that you calculate the airflow based on instructions shown on page 11.

For the most accurate engine airflow specifications, Donaldson recommends using the CFM intake airflow rate specified by the engine manufacturer.

|                    |                      |
|--------------------|----------------------|
| Allis Chalmers     | Mack                 |
| Case               | Mercedes-Benz        |
| Caterpillar        | Mitsubishi           |
| Continental Motors | MTU of North America |
| Cummins            | Navistar             |
|                    | Nissan               |
| Detroit Diesel     |                      |
| Deutz              | Perkins              |
| Ford               | Renault              |
| Hatz Diesel        | Same                 |
| Hino               | Teledyne             |
| Isuzu              |                      |
| Iveco              | Volkswagon           |
|                    | Volvo                |
| John Deere         |                      |
| Kohler             | Waukesha             |
| Kubota             | White Eng            |
|                    | Yanmar               |
| Lister             |                      |
| Lombardini         |                      |

| Engine Model          | RPM  | HP  | -- Exhaust --     |            |
|-----------------------|------|-----|-------------------|------------|
|                       |      |     | Intake Temp. (°F) | Flow (CFM) |
| <b>ALLIS CHALMERS</b> |      |     |                   |            |
| 10000.....            | 2200 | 145 | 265               |            |
| 11000.....            | 2200 | 220 | 560               |            |
| 16000.....            | 2100 | 250 | 420               |            |
| 17000 MKII ...        | 2100 | 300 | 780               |            |
| 2000.....             | 2100 | 59  | 97                |            |
| 21000 MKII ...        | 2100 | 375 | 875               |            |
| 213.....              | 3600 | 32  | 75                |            |
| 2200.....             | 2100 | 55  | 97                |            |
| 25000 MKII ...        | 2100 | 450 | 1050              |            |
| 2800.....             | 2600 | 85  | 200               |            |
| 2900.....             | 2600 | 135 | 340               |            |
| 320.....              | 3600 | 53  | 114               |            |
| 3400.....             | 2400 | 125 | 240               |            |
| 3500.....             | 2400 | 175 | 380               |            |
| 3700.....             | 2400 | 200 | 400               |            |
| 426.....              | 3600 | 72  | 150               |            |
| 433I.....             | 2400 | 100 | 247               |            |
| 433T.....             | 2400 | 90  | 242               |            |
| 6000.....             | 2200 | 104 | 218               |            |
| 61000.....            | 2100 | 800 | 2300              |            |
| 6138I.....            | 2100 | 450 | 1060              |            |
| 6138LT.....           | 2100 | 325 | 790               |            |
| 6138T.....            | 2100 | 375 | 875               |            |
| 649I.....             | 2600 | 155 | 430               |            |
| 649T.....             | 2600 | 135 | 390               |            |
| 65000.....            | 2100 | 900 | 2400              |            |
| 670I.....             | 2400 | 200 | 490               |            |
| 670T.....             | 2400 | 175 | 460               |            |
| 685I.....             | 2200 | 266 | 680               |            |
| 685T.....             | 2200 | 220 | 555               |            |
| 7000.....             | 2200 | 160 | 300               |            |
| D175.....             | 2200 | 52  | 85                |            |
| D262.....             | 2200 | 78  | 128               |            |
| D344.....             | 1800 | 88  | 143               |            |

| <b>CASE</b>  |      |     |     |               |
|--------------|------|-----|-----|---------------|
| 301BD.....   | 2200 | 94  | 153 | 1000..... 414 |
| 336BD.....   | 2200 | 104 | 171 | 1000..... 462 |
| 336BDT.....  | 2200 | 126 | 267 | 850..... 648  |
| 451BD.....   | 2200 | 142 | 360 | 1000..... 973 |
| 451BDT.....  | 2200 | 181 | 380 | 900..... 957  |
| 504BD.....   | 2200 | 155 | 275 | 950..... 718  |
| 504BDT.....  | 2200 | 221 | 440 | 900..... 1108 |
| 504BDTI..... | 2200 | 256 | 600 | 950..... 1567 |
| A267D.....   | 2000 | 73  | 123 | 1000..... 333 |
| A284.....    | 2000 |     | 136 | 1000..... 368 |
| A377.....    | 1800 |     | 139 | 1000..... 376 |
| A451D.....   | 2000 | 145 | 200 | 1000..... 541 |
| G188.....    | 2000 | 49  | 82  | 1000..... 222 |
| G188D.....   | 2250 | 62  | 138 | 1000..... 373 |

| <b>CATERPILLAR</b> |      |     |      |                |
|--------------------|------|-----|------|----------------|
| 1160.....          | 2800 | 225 | 410  | 1050..... 1146 |
| 1673T.....         | 2200 | 250 | 600  | 950..... 1567  |
| 1674TA.....        | 2200 | 270 | 690  | 900..... 1738  |
| 1693TA.....        | 2100 |     | 1080 | 900..... 2720  |
| 3116.....          | 2600 | 200 | 618  | 856..... 1511  |
|                    | 2600 | 250 | 713  | 867..... 1755  |
|                    | 2450 | 275 | 685  | 929..... 1773  |
|                    | 2600 | 300 | 745  | 984..... 2006  |

| Engine Model   | RPM       | HP   | CFM   | -- Exhaust --     |            |
|----------------|-----------|------|-------|-------------------|------------|
|                |           |      |       | Intake Temp. (°F) | Flow (CFM) |
| 3126B.....     | 2200      | 175  | 1239  | 660               | 2640       |
|                | 2300      | 190  | 1355  | 716               | 3017       |
|                | 2200      | 210  | 1327  | 741               | 3031       |
|                | 2200      | 230  | 593   | 808               | 1471       |
|                | 2200      | 250  | 635   | 821               | 1595       |
|                | 2200      | 275  | 649   | 867               | 1683       |
|                | 2200      | 300  | 660   | 916               | 1778       |
|                | 2400      | 330  | 709   | 931               | 1937       |
| 3140.....      | 2800      |      | 410   | 1000              | 1109       |
| 3145.....      | 2800      |      | 410   | 1050              | 1146       |
| 3150.....      | 2800      |      | 410   | 1000              | 1109       |
| 3160.....      | 2800      |      | 410   | 1080              | 1169       |
| 3176.....      | 1800      | 275  | 692   | 676               | 1458       |
|                | 1800      | 300  | 738   | 693               | 1579       |
|                | 1800      | 350  | 802   | 760               | 1819       |
|                | 1800      | 365  | 805   | 808               | 1900       |
| 3204NA.....    | 2400      | 66   | 193   | 980               | 515        |
| 3208ATAC.....  | up to 300 |      | 950   |                   |            |
| 3208N.....     | 2200      | 165  | 325   | 1076              | 930        |
| 3208NA.....    | 2800      | 210  | 410   | 1000              | 1109       |
| 3208T.....     | 2800      | 250  | 646   | 900               | 1627       |
|                | 2200      | 215  | 591   | 855               | 1443       |
| 3208T-DIATAAC  |           |      |       |                   |            |
|                | 2600      | 275  | 752   | 854               | 1837       |
|                | 2800      | 300  | 871   | 874               | 2162       |
| 3208T-DIT..... | 2600      | 250  | 649   | 976               | 1740       |
| 3304B.....     | up to 165 |      | 950   |                   |            |
| 3304NA.....    | 2200      | 102  | 206   | 1050              | 576        |
| 3304T.....     | 2200      | 165  | 264   | 900               | 665        |
| 3306.....      | 1900      | 300  | 745   | 1019              | 2059       |
| 3306B.....     | 1800      | 285  | 745   | 825               | 1781       |
|                | 1800      | 300  | 777   | 843               | 1887       |
| 3306NA.....    | 2200      | 150  | 325   | 950               | 849        |
| 3306T.....     | 2200      | 250  | 600   | 900               | 1511       |
|                | up to 300 |      | 850   |                   |            |
| 3306TA.....    | 2200      | 270  | 624   | 950               | 1629       |
| 3406.....      | 1900      | 425  | 1109  | 880               | 2758       |
| 3406B.....     | 1800      | 300  | 930   | 655               | 1917       |
|                | 1800      | 330  | 986   | 705               | 2125       |
|                | 1800      | 350  | 1016  | 739               | 2255       |
|                | 1800      | 400  | 1052  | 753               | 2364       |
|                | 1800      | 425  | 1077  | 806               | 2532       |
|                | 1900      | 460  | 1108  | 847               | 2694       |
| 3406E.....     | 1800      | 355  | 967   | 762               | 2301       |
|                | 1800      | 375  | 1023  | 899               | 2717       |
|                | 1800      | 435  | 1066  | 901               | 2872       |
|                | 1800      | 455  | 1083  | 919               | 2925       |
|                | 1800      | 475  | 1105  | 937               | 3017       |
|                | 1800      | 500  | 1119  | 954               | 3098       |
|                | 1800      | 575  | 1164  | 959               | 3236       |
|                | 1800      | 600  | 1164  | 959               | 3236       |
| 3406T.....     | 2100      | 339  | 910   | 900               | 2292       |
| 3406TA.....    | 2100      | 375  | 1000  | 900               | 2519       |
| 3408T.....     | 2100      | 425  | 980   | 900               | 2468       |
| 3408TA.....    | 2100      | 475  | 1220  | 900               | 3073       |
| 3412T.....     | 2100      | 650  | 1719  | 870               | 4234       |
| 3412TA.....    | 2100      | 750  | 2426  | 900               | 6420       |
| 3508.....      | 1800      | 1000 | 2490  | 900               | 6271       |
| 3512.....      | 1800      | 1500 | 3695  | 900               | 9306       |
| 3516.....      | 1800      | 2000 | 4830  | 900               | 12164      |
| 3606.....      | 1000      | 2475 | 5850  | 850               | 14192      |
| 3608.....      | 1000      | 3330 | 7235  | 800               | 16882      |
| 3612.....      | 1000      | 4950 | 11700 | 800               | 27300      |
| 3616.....      | 1000      | 6655 | 14470 | 800               | 33763      |
| 5.4-6.....     | 2000      | 437  | 1041  | 950               | 2718       |
| 5.4-8.....     | 1900      | 614  | 1477  | 950               | 3857       |

| Engine Model | RPM  | HP   | CFM  | -- Exhaust --     |            |
|--------------|------|------|------|-------------------|------------|
|              |      |      |      | Intake Temp. (°F) | Flow (CFM) |
| 5.4V12.....  | 1900 | 896  | 1936 | 900               | 4876       |
| 5.75-6.....  | 1330 | 317  | 780  | 950               | 2037       |
| 6.25-6.....  | 1375 | 440  | 1111 | 950               | 2901       |
| C-10.....    | 1800 | 305  | 755  | 821               | 1888       |
|              | 1800 | 335  | 766  | 918               | 2078       |
|              | 1800 | 350  | 752  | 892               | 1997       |
|              | 1800 | 370  | 766  | 918               | 2078       |
| C-12.....    | 1800 | 335  | 805  | 876               | 2110       |
|              | 1800 | 355  | 815  | 859               | 2121       |
|              | 1800 | 380  | 826  | 898               | 2202       |
|              | 1800 | 395  | 833  | 924               | 2265       |
|              | 1800 | 410  | 836  | 937               | 2287       |
|              | 1800 | 425  | 815  | 922               | 2220       |
|              | 1800 | 430  | 826  | 948               | 2276       |
|              | 1800 | 455  | 819  | 953               | 2269       |
| C-15.....    | 1800 | 355  | 963  | 762               | 2294       |
|              | 1800 | 375  | 1023 | 899               | 2714       |
|              | 1800 | 435  | 1066 | 902               | 2830       |
|              | 1800 | 455  | 1083 | 919               | 2925       |
|              | 1800 | 475  | 1105 | 937               | 3017       |
|              | 1800 | 500  | 1119 | 954               | 3098       |
| C-16.....    | 1800 | 575  | 1154 | 941               | 3165       |
|              | 1800 | 600  | 1164 | 959               | 3236       |
| D330NA.....  | 2200 | 100  | 227  | 1050              | 635        |
| D330T.....   | 2200 | 165  | 418  | 950               | 1091       |
| D333NA.....  | 2200 | 150  | 349  | 1000              | 944        |
| D333T.....   | 2200 | 250  | 613  | 900               | 1544       |
| D334TA.....  | 2200 | 280  | 689  | 950               | 1799       |
| D336TA.....  | 2200 | 350  | 895  | 950               | 2337       |
| D342NA.....  | 1300 | 200  | 418  | 1050              | 1169       |
| D342T.....   | 1300 | 300  | 887  | 950               | 2316       |
| D343T.....   | 2000 | 315  | 786  | 950               | 2052       |
| D343TA.....  | 2000 | 425  | 996  | 900               | 2508       |
| D346TA.....  | 2000 | 565  | 1350 | 900               | 3400       |
| D348TA.....  | 2000 | 850  | 2048 | 900               | 5158       |
| D349TA.....  | 2000 | 1130 | 2827 | 900               | 7120       |
| D353TA.....  | 1300 | 490  | 1091 | 900               | 2748       |
| D379TA.....  | 1300 | 650  | 1501 | 900               | 3780       |
| D398TA.....  | 1300 | 975  | 2323 | 900               | 5851       |
| D399T.....   | 1300 | 1300 | 3009 | 900               | 7578       |

| <b>CONTINENTAL MOTORS</b> |      |     |     |               |
|---------------------------|------|-----|-----|---------------|
| E201.....                 | 2400 |     | 104 | 1100..... 300 |
| F124.....                 | 2400 |     | 65  | 1100..... 188 |
| F135.....                 | 2000 | 40  | 58  | 1100..... 168 |
| F140.....                 | 2400 |     | 84  | 1100..... 243 |
| F162.....                 | 2400 | 60  | 84  | 1100..... 243 |
| F186.....                 | 2400 |     | 101 | 1100..... 292 |
| F209.....                 | 2400 |     | 109 | 1100..... 315 |
| F226.....                 | 2400 |     | 115 | 1100..... 332 |
| F227.....                 | 2400 | 78  | 116 | 1100..... 335 |
| F244.....                 | 2400 |     | 126 | 1100..... 364 |
| F245.....                 | 2400 | 88  | 127 | 1100..... 367 |
| G134.....                 | 2000 |     | 58  | 1100..... 168 |
| G157.....                 | 2000 |     | 68  | 1100..... 196 |
| H227.....                 | 2000 |     | 96  | 1100..... 277 |
| H243.....                 | 2000 |     | 104 | 1100..... 300 |
| H260.....                 | 2000 |     | 112 | 1100..... 324 |
| J382.....                 | 2000 |     | 160 | 1100..... 462 |
| L478.....                 | 2400 | 162 | 265 | 1100..... 766 |
| M271.....                 | 2400 |     | 141 | 1100..... 407 |
| M290.....                 | 2400 |     | 151 | 1100..... 436 |
| M330.....                 | 2400 |     | 172 | 1100..... 497 |
| M363.....                 | 2400 | 122 | 201 | 1100..... 581 |
| N56.....                  | 2200 |     | 27  | 1100..... 70  |
| N62.....                  | 2400 |     | 31  | 1100..... 90  |

| Engine Model                        | RPM  | HP  | Intake CFM | -- Exhaust -- |            |
|-------------------------------------|------|-----|------------|---------------|------------|
|                                     |      |     |            | Temp. (°F)    | Flow (CFM) |
| <b>CONTINENTAL MOTORS CONTINUED</b> |      |     |            |               |            |
| R513                                | 2400 |     | 267        | 1100          | 771        |
| R572                                | 2400 |     | 298        | 1100          | 861        |
| R602                                | 2400 | 191 | 313        | 1100          | 904        |
| S749                                | 2200 |     | 358        | 1100          | 1034       |
| S802                                | 2200 |     | 392        | 1100          | 1132       |
| S820                                | 2400 | 250 | 455        | 1100          | 1314       |
| T&B371                              | 2400 |     | 193        | 1100          | 558        |
| T&B427                              | 2400 | 133 | 241        | 1100          | 696        |
| U501                                | 2400 |     | 260        | 1100          | 751        |
| V603                                | 2800 |     | 313        | 1100          | 904        |
| Y112                                | 2400 | 37  | 58         | 1100          | 168        |
| Y69                                 | 2400 |     | 37         | 1100          | 107        |
| Y91                                 | 2400 | 27  | 91         | 1100          | 263        |

| <b>CUMMINS</b>  |      |     |            |               |            |
|-----------------|------|-----|------------|---------------|------------|
| Engine Model    | RPM  | HP  | Intake CFM | -- Exhaust -- |            |
|                 |      |     |            | Temp. (°F)    | Flow (CFM) |
| 3B2.9           | 2500 | 56  | 115        | 1000          | 311        |
| 4B3.9           | 2500 | 76  | 150        | 1050          | 419        |
| 4BT             | 2500 | 105 | 289        | 890           | 750        |
| 4BT             | 2500 | 120 | 336        | 970           | 922        |
| 4BT3.9          | 2500 | 100 | 253        | 1000          | 684        |
| 4BT3.9-G1       | 1800 | 86  | 147        | 850           | 357        |
| 4BT3.9-G2       | 1800 | 102 | 157        | 850           | 381        |
| 4BTA3.9         | 2500 | 120 | 298        | 900           | 751        |
| 6B5.9           | 2500 | 116 | 226        | 1000          | 611        |
| 6BT             | 2500 | 190 | 590        | 780           | 1290       |
|                 | 2500 | 230 | 535        | 1031          | 1531       |
|                 | 2300 | 230 | 520        | 910           | 1380       |
| 6BT5.9          | 2500 | 152 | 381        | 900           | 960        |
| 6BT5.9-G1       | 1800 | 135 | 224        | 900           | 564        |
| 6BT5.9-G2       | 1800 | 166 | 285        | 900           | 718        |
| 6BTA5.9         | 2500 | 180 | 449        | 900           | 1131       |
| 6C8.3           | 2500 |     | 316        | 1000          | 854        |
| 6CT             | 2300 | 250 | 570        | 930           | 1740       |
|                 | 2200 | 300 | 742        | 1000          | 2140       |
|                 | 2000 | 275 | 590        | 985           | 1665       |
| 6CT8.3          | 2500 |     | 555        | 900           | 1398       |
| 6CTA8.3         | 2500 | 250 | 632        | 900           | 1592       |
| C-160           | 2500 | 153 | 300        | 900           | 756        |
| C-180           | 2500 | 173 | 350        | 900           | 881        |
| C-190           | 2500 | 190 | 495        | 900           | 1247       |
| FLEET 270       | 1600 | 270 | 710        | 900           | 1788       |
| FLEET 300       | 1600 | 300 | 765        | 900           | 1927       |
|                 | 1600 | 300 | 710        | 900           | 1788       |
| Formula 240     | 1800 | 240 | 630        | 900           | 1587       |
|                 | 1800 | 240 | 618        | 900           | 1556       |
| Formula 270     | 1800 | 270 | 720        | 900           | 1813       |
| Formula 300     | 1800 | 300 | 761        | 900           | 1917       |
|                 | 1800 | 300 | 745        | 900           | 1876       |
|                 | 1800 | 300 | 744        | 900           | 1874       |
| Formula 315     | 1800 | 315 | 735        | 900           | 1851       |
| Formula 350     | 1800 | 350 | 821        | 900           | 2068       |
|                 | 1800 | 350 | 800        | 900           | 2015       |
|                 | 1800 | 350 | 857        | 900           | 2158       |
| Formula 400     | 1900 | 400 | 1060       | 900           | 2670       |
|                 | 1900 | 400 | 930        | 950           | 2428       |
|                 | 1900 | 400 | 986        | 900           | 2483       |
| Formula 450     | 1900 | 450 | 1110       | 950           | 2898       |
| Formula L10-240 |      |     |            |               |            |
|                 | 1900 | 240 | 522        | 900           | 1315       |
|                 | 1900 | 240 | 580        | 900           | 1461       |
|                 | 1900 | 240 | 585        | 900           | 1473       |

| Engine Model    | RPM  | HP   | Intake CFM | -- Exhaust -- |            |
|-----------------|------|------|------------|---------------|------------|
|                 |      |      |            | Temp. (°F)    | Flow (CFM) |
| Formula L10-270 |      |      |            |               |            |
|                 | 1900 | 270  | 556        | 900           | 1400       |
|                 | 1900 | 270  | 618        | 900           | 1556       |
|                 | 1900 | 270  | 606        | 900           | 1526       |
| Formula L10-300 |      |      |            |               |            |
|                 | 1900 | 300  | 609        | 900           | 1534       |
| GNH-220-IP      | 1800 | 177  | 250        | 900           | 630        |
| GNH-250-IP      | 1800 | 204  | 265        | 900           | 667        |
| GV-12-525-IP    | 1800 | 408  | 580        | 900           | 1461       |
| ISB             | 2500 | 185  | 578        | 698           | 1257       |
|                 | 2600 | 190  | 526        | 801           | 1250       |
|                 | 2500 | 205  | 508        | 831           | 1246       |
|                 | 2600 | 210  | 526        | 857           | 1313       |
|                 | 2500 | 225  | 510        | 892           | 1311       |
|                 | 2500 | 240  | 610        | 812           | 1456       |
|                 | 2500 | 245  | 610        | 812           | 1456       |
|                 | 2600 | 260  | 622        | 886           | 1592       |
|                 | 2500 | 275  | 620        | 956           | 1673       |
| ISC             | 2400 | 225  | 708        | 706           | 1417       |
|                 | 2400 | 240  | 721        | 746           | 1485       |
|                 | 2400 | 260  | 743        | 765           | 1578       |
|                 | 2200 | 285  | 682        | 833           | 1531       |
|                 | 2200 | 300  | 688        | 860           | 1578       |
|                 | 2200 | 315  | 682        | 919           | 1686       |
|                 | 2200 | 330  | 693        | 927           | 1758       |
|                 | 2200 | 350  | 706        | 966           | 1841       |
| ISL             | 2100 | 310  | 689        | 891           | 1682       |
|                 | 2100 | 330  | 708        | 933           | 1740       |
| ISM             | 2100 | 280  | 777        | 670           | 1523       |
|                 | 1800 | 310  | 734        | 721           | 1528       |
|                 | 1800 | 330  | 773        | 742           | 1610       |
|                 | 2100 | 350  | 888        | 720           | 1778       |
|                 | 2100 | 370  | 918        | 737           | 1853       |
|                 | 2100 | 400  | 918        | 737           | 1853       |
|                 | 2100 | 425  | 855        | 969           | 2171       |
|                 | 2100 | 450  | 974        | 789           | 2030       |
|                 | 2100 | 500  | 940        | 965           | 2341       |
| ISX             | 1800 | 400  | 1063       | 655           | 2036       |
|                 | 1800 | 450  | 1129       | 696           | 2218       |
|                 | 2000 | 475  | 1126       | 842           | 2504       |
|                 | 2000 | 500  | 1125       | 905           | 2633       |
|                 | 2000 | 600  | 1227       | 975           | 3202       |
| KT-1150-C       | 2100 | 450  | 1130       | 900           | 2846       |
| KT-2300-C       | 2100 | 900  | 2400       | 880           | 5956       |
| KT-450          | 2100 | 450  | 1130       | 850           | 2741       |
| KTA-1150-C      | 2100 | 600  | 1400       | 900           | 3526       |
|                 | 2100 | 525  | 1410       | 880           | 3499       |
| KTA-2300-C      | 2100 | 1200 | 2900       | 900           | 7304       |
|                 | 2100 | 1050 | 2700       | 900           | 6800       |
| KTA-3067-C      | 2100 | 1600 | 3760       | 900           | 9470       |
|                 | 2100 | 1350 | 3455       | 900           | 8701       |
| KTA-525         | 2100 | 525  | 1425       | 850           | 3457       |
| KTA-525-FORM    |      |      |            |               |            |
|                 | 1900 | 525  | 1200       | 850           | 2911       |
| KTA-600         | 2100 | 600  | 1400       | 850           | 3396       |
| KTTA-19-C       |      | 650  |            | 900           |            |
| KTTA-38-C       |      | 1350 |            | 900           |            |
| KTTA-50-C       |      | 2000 |            | 900           |            |
| L10             | 1700 | 260  | 615        | 745           | 1300       |
|                 | 1700 | 280  | 640        | 760           | 1407       |
|                 | 1600 | 310  | 638        | 825           | 1470       |
|                 | 2100 | 270  | 670        | 900           | 1687       |
|                 | 2100 | 300  | 659        | 900           | 1660       |

| Engine Model | RPM  | HP  | Intake CFM | -- Exhaust -- |            |
|--------------|------|-----|------------|---------------|------------|
|              |      |     |            | Temp. (°F)    | Flow (CFM) |
| M11          | 1600 | 280 | 615        | 817           | 1476       |
|              | 1600 | 310 | 670        | 813           | 1390       |
|              | 1600 | 350 | 760        | 822           | 1554       |
|              | 1600 | 370 | 770        | 828           | 1641       |
|              | 1600 | 400 | 840        | 832           | 1801       |
| N-855-C      | 2100 | 220 | 460        | 850           | 1116       |
|              | 2100 | 235 | 460        | 850           | 1116       |
| N-927        | 1950 | 240 | 465        | 880           | 1154       |
|              | 2100 | 260 | 495        | 880           | 1228       |
|              | 2100 | 240 | 495        | 880           | 1228       |
| N14          | 1800 | 330 | 1014       | 657           | 1997       |
|              | 1800 | 400 | 1126       | 723           | 2354       |
|              | 2100 | 350 | 1212       | 606           | 2254       |
|              | 2100 | 370 | 1283       | 651           | 2474       |
|              | 2100 | 460 | 1329       | 737           | 2737       |
|              | 2100 | 500 | 1380       | 802           | 2984       |
|              | 2100 | 525 | 1380       | 802           | 2984       |
|              | 2100 | 410 | 1164       | 670           | 2614       |
|              | 2100 | 435 | 1302       | 714           | 2639       |
|              | 2100 | 550 | 1380       | 802           | 2984       |
|              | 2100 | 525 | 1380       | 802           | 2984       |
| NH-220       | 2100 | 212 | 470        | 900           | 1184       |
| NH-230       | 2100 | 220 | 460        | 900           | 1159       |
| NH-230S      | 1800 | 186 | 460        | 900           | 1159       |
| NH-250-M     | 2100 | 240 | 460        | 950           | 1201       |
|              | 1800 | 190 | 395        | 1050          | 1105       |
|              | 1800 | 200 | 395        | 900           | 995        |
|              | 2100 | 210 | 460        | 900           | 1159       |
| NHC-250      | 2100 | 240 | 460        | 900           | 1159       |
|              | 2300 | 240 | 710        | 900           | 1788       |
| NHC-250-D    | 2100 | 240 | 460        | 900           | 1159       |
| NHD-230      | 2100 | 220 | 495        | 900           | 1247       |
| NHF-240      | 2300 | 230 | 505        | 900           | 1272       |
| NHF-265      | 2300 | 255 | 505        | 900           | 1272       |
| NHH-250      | 2100 | 240 | 460        | 900           | 1159       |
| NHHTC-335    | 2100 | 335 | 850        | 850           | 2062       |
| NHTF-295     | 2300 | 295 | 710        | 900           | 1788       |
| NT-335-M     | 1800 | 235 | 625        | 950           | 1632       |
|              | 1800 | 265 | 650        | 900           | 1637       |
|              | 2100 | 285 | 775        | 950           | 2024       |
|              | 2100 | 335 | 800        | 950           | 2089       |
| NT-380-M     | 2300 | 380 | 950        | 950           | 2481       |
|              | 2000 | 253 | 700        | 1000          | 1893       |
|              | 2000 | 300 | 750        | 900           | 1889       |
|              | 2300 | 320 | 900        | 980           | 2400       |
| NT-855-C     | 2100 | 310 | 895        | 880           | 2221       |
|              | 2100 | 280 | 860        | 850           | 2086       |
|              | 2100 | 250 | 825        | 850           | 2001       |
|              | 2100 | 335 | 920        | 900           | 2317       |
|              | 2100 | 335 | 900        | 900           | 2267       |
|              | 2100 | 280 | 820        | 900           | 2065       |
|              | 2100 | 250 | 680        | 880           | 1687       |
|              | 2100 | 310 | 835        | 900           | 2103       |
| NTA-370      | 1950 | 335 | 810        | 850           | 1965       |
|              | 2100 | 370 | 950        | 850           | 2305       |
| NTA-400      | 2100 | 400 | 1000       | 850           | 2426       |
| NTA-420      | 2300 | 420 | 1080       | 900           | 2720       |
| NTA-855-C    | 2100 | 400 | 1000       | 880           | 2481       |
|              | 2100 | 360 | 960        | 880           | 2382       |
|              | 2100 | 360 | 980        | 900           | 2468       |
|              | 2100 | 400 | 1050       | 900           | 2644       |
| NTC-270-CT   | 2100 | 240 | 740        | 850           | 1795       |
|              | 2100 | 225 | 760        | 900           | 1914       |
|              | 2100 | 270 | 825        | 900           | 2078       |

| Engine Model             | RPM  | HP  | -- Exhaust --     |            |      |
|--------------------------|------|-----|-------------------|------------|------|
|                          |      |     | Intake Temp. (°F) | Flow (CFM) |      |
| <b>CUMMINS CONTINUED</b> |      |     |                   |            |      |
| NTC-290                  | 2100 | 270 | 665               | 950        | 1736 |
|                          | 2100 | 290 | 685               | 900        | 1725 |
|                          | 1950 | 255 | 580               | 920        | 1482 |
| NTC-300                  | 2100 | 300 | 936               | 900        | 2357 |
| NTC-335                  | 2100 | 280 | 780               | 880        | 1936 |
|                          | 2100 | 300 | 805               | 880        | 1998 |
|                          | 2100 | 335 | 850               | 900        | 2141 |
| NTC-350                  | 2100 | 320 | 830               | 900        | 2090 |
|                          | 2100 | 350 | 885               | 900        | 2229 |
|                          | 2100 | 335 | 865               | 880        | 2146 |
| NTC-400                  | 2100 | 320 | 845               | 880        | 2097 |
|                          | 1950 | 310 | 760               | 850        | 1844 |
|                          | 2100 | 350 | 986               | 900        | 2483 |
| NTCC-300                 | 2100 | 350 | 930               | 900        | 2342 |
|                          | 2100 | 400 | 1165              | 950        | 3042 |
|                          | 2100 | 400 | 1030              | 900        | 2594 |
| NTCC-350                 | 2100 | 300 | 868               | 900        | 2186 |
| NTCC-400                 | 2100 | 350 | 1000              | 900        | 2519 |
| NTF-295                  | 2100 | 400 | 1090              | 900        | 2745 |
| NTF-365                  | 2300 | 295 | 710               | 850        | 1722 |
| P.TORQ 240               | 2300 | 365 | 960               | 920        | 2453 |
| P.TORQ 270               | 2100 | 240 | 618               | 900        | 1556 |
| P.TORQ 315               | 2100 | 240 | 735               | 900        | 1851 |
|                          | 2100 | 270 | 840               | 900        | 2116 |
|                          | 2100 | 315 | 890               | 950        | 2324 |
| P.TORQ L10-240           | 2100 | 240 | 645               | 900        | 1624 |
|                          | 2100 | 240 | 577               | 900        | 1453 |
|                          | 2100 | 240 | 647               | 900        | 1629 |
| P.TORQ L10-270           | 2100 | 270 | 630               | 900        | 1587 |
|                          | 2000 | 500 | 1072              | 959        | 2638 |
|                          | 2000 | 565 | 1117              | 986        | 2777 |
| SUPER 250                | 2000 | 600 | 1164              | 1013       | 2936 |
|                          | 2100 | 240 | 495               | 900        | 1247 |
|                          | 1800 | 370 | 720               | 950        | 1880 |
| V-12-500-M               | 1800 | 400 | 720               | 900        | 1813 |
|                          | 2100 | 425 | 840               | 950        | 2193 |
|                          | 3000 | 145 | 277               | 900        | 698  |
| V-378-C                  | 3000 | 195 | 357               | 900        | 899  |
| V-504-M                  | 3300 | 202 | 425               | 950        | 1110 |
|                          | 2500 | 158 | 322               | 900        | 811  |
|                          | 3300 | 197 | 386               | 900        | 972  |
| V-555                    | 3300 | 216 | 470               | 880        | 1166 |
| V-555-C                  | 3000 | 215 | 430               | 850        | 1043 |
| V-555-E                  | 3300 | 202 | 470               | 900        | 1184 |
| V-903                    | 2600 | 307 | 610               | 900        | 1536 |
|                          | 2600 | 255 | 610               | 900        | 1536 |
|                          | 2600 | 269 | 610               | 900        | 1536 |
| V-903-C                  | 2600 | 288 | 610               | 880        | 1514 |
|                          | 2600 | 295 | 610               | 880        | 1514 |
|                          | 2600 | 265 | 610               | 850        | 1480 |
| V-903-M                  | 2600 | 307 | 610               | 950        | 1593 |
|                          | 2300 | 250 | 545               | 900        | 1373 |
|                          | 2500 | 302 | 585               | 900        | 1473 |
| V-9035                   | 2200 | 250 | 520               | 880        | 1290 |
| V5-120-635-M             | 1800 | 435 | 1060              | 900        | 2670 |
|                          | 2100 | 540 | 1380              | 900        | 3476 |
| V6-155                   | 3300 | 149 | 318               | 950        | 830  |
| V8-185-E                 | 3300 | 178 | 425               | 950        | 1110 |
| V8-210                   | 3300 | 202 | 425               | 950        | 1110 |

| Engine Model          | RPM  | HP   | -- Exhaust --     |            |       |
|-----------------------|------|------|-------------------|------------|-------|
|                       |      |      | Intake Temp. (°F) | Flow (CFM) |       |
| V8-300                | 3000 | 288  | 580               | 970        | 1536  |
| V8-300-M              | 3000 | 288  | 585               | 950        | 1528  |
|                       | 2600 | 220  | 505               | 900        | 1272  |
|                       | 2800 | 260  | 545               | 950        | 1423  |
| VT-12-635-M           | 2100 | 635  | 1460              | 950        | 3812  |
|                       | 1800 | 490  | 1100              | 900        | 2770  |
| VT-12-700-M           | 2100 | 700  | 1600              | 980        | 4267  |
|                       | 1800 | 480  | 1130              | 900        | 2846  |
|                       | 1800 | 545  | 1190              | 900        | 2997  |
| VT-12-800-M           | 2100 | 595  | 1500              | 950        | 3917  |
|                       | 2100 | 800  | 1820              | 950        | 4752  |
|                       | 1800 | 550  | 1325              | 900        | 3337  |
| VT-1710-C             | 1800 | 620  | 1400              | 900        | 3526  |
|                       | 2100 | 680  | 1700              | 950        | 4439  |
|                       | 2100 | 635  | 1700              | 900        | 4281  |
| VT-555                | 3000 | 220  | 625               | 900        | 1574  |
| VT-555-C              | 3000 | 230  | 585               | 850        | 1419  |
| VT-903                | 2600 | 307  | 850               | 900        | 2141  |
|                       | 2600 | 350  | 1050              | 900        | 2644  |
|                       | 2600 | 320  | 930               | 900        | 2342  |
| VT-903-C              | 2600 | 350  | 920               | 900        | 2317  |
|                       | 2600 | 320  | 905               | 900        | 2279  |
|                       | 3000 | 370  | 930               | 950        | 2428  |
| VT8-370-M             | 2600 | 270  | 760               | 900        | 1914  |
|                       | 2800 | 320  | 865               | 950        | 2259  |
|                       | 2100 | 700  | 1880              | 950        | 4909  |
| VTA-1710-C            | 2100 | 800  | 2100              | 980        | 5600  |
| VTR-28-C              | 900  |      |                   | 900        |       |
| <b>DETROIT DIESEL</b> |      |      |                   |            |       |
| 12V-149               | 1900 | 800  | 2800              | 850        | 6793  |
| 12V-149T              | 1900 | 1000 | 3600              | 850        | 8733  |
| 12V-149TI             | 1900 | 1200 | 4300              | 850        | 10431 |
| 12V-71                | 1800 | 350  | 1128              | 850        | 2736  |
|                       | 2300 | 471  | 1430              | 850        | 3469  |
|                       | 2100 | 456  | 1309              | 850        | 3176  |
| 12V-71T               | 2100 | 525  | 1800              | 850        | 4367  |
|                       | 1800 |      | 1650              | 850        | 4003  |
| 16V-149               | 1900 | 1060 | 3600              | 850        | 8733  |
| 16V-149T              | 1900 | 1325 | 4800              | 850        | 11644 |
| 16V-149TI             | 1900 | 1600 | 5500              | 850        | 13343 |
| 16V-71                | 2100 | 608  | 1748              | 850        | 4241  |
|                       | 1800 | 466  | 1506              | 850        | 3653  |
| 16V-71T               | 1800 |      | 2240              | 850        | 5434  |
| 16V-92                | 2100 | 700  | 2300              | 850        | 5580  |
|                       | 1800 | 600  | 1960              | 850        | 4755  |
| 16V-92T               | 2100 | 720  | 2300              | 850        | 5580  |
|                       | 1800 | 860  | 3200              | 850        | 7763  |
|                       | 1800 |      | 2600              | 850        | 6307  |
| 2-53                  | 1800 |      | 130               | 850        | 315   |
|                       | 1200 |      | 91                | 850        | 221   |
|                       | 200  |      | 142               | 850        | 344   |
| 2-71                  | 200  | 65   | 223               | 850        | 541   |
|                       | 1800 | 48   | 200               | 850        | 485   |
| 3-53/2-VAL            | 1200 |      | 131               | 850        | 318   |
|                       | 2200 | 75   | 242               | 850        | 587   |
|                       | 1800 | 59   | 202               | 850        | 490   |
| 3-53T                 | 2200 |      | 253               | 850        | 614   |
|                       | 2800 | 98   | 319               | 850        | 774   |
|                       | 2500 | 125  | 500               | 850        | 1213  |
| 3-71                  | 2500 | 125  | 500               | 850        | 1213  |
|                       | 1800 | 82   | 319               | 850        | 774   |
|                       | 2100 | 109  | 375               | 850        | 910   |
| 1200                  |      | 207  | 850               | 502        |       |

| Engine Model                | RPM  | HP  | -- Exhaust --     |            |      |
|-----------------------------|------|-----|-------------------|------------|------|
|                             |      |     | Intake Temp. (°F) | Flow (CFM) |      |
| 4-35T                       | 2500 | 170 | 596               | 850        | 1446 |
| 4-53/2-VAL                  | 2200 | 103 | 340               | 850        | 825  |
|                             | 1000 |     | 282               | 850        | 684  |
|                             | 2200 |     | 356               | 850        | 864  |
|                             | 2800 | 136 | 450               | 850        | 1092 |
| 4-53T                       | 2500 | 170 | 596               | 850        | 1446 |
|                             | 1200 |     | 275               | 850        | 667  |
|                             | 2300 | 159 | 550               | 850        | 1334 |
| 6-71                        | 1800 | 117 | 425               | 850        | 1031 |
|                             | 2100 | 152 | 500               | 850        | 1213 |
|                             | 2300 | 236 | 825               | 850        | 2001 |
| 6-71T                       | 1800 | 175 | 637               | 850        | 1545 |
|                             | 2100 | 228 | 750               | 850        | 1819 |
|                             | 1200 |     | 413               | 850        | 1002 |
| 6-71T                       | 2100 | 275 | 1045              | 850        | 2535 |
| 6-71TT                      | 1950 | 230 | 930               | 850        | 2256 |
| 6-V-71                      | 2300 | 236 | 715               | 850        | 1735 |
|                             | 1800 | 175 | 564               | 850        | 1368 |
| 6V-53                       | 2100 | 228 | 655               | 850        | 1589 |
|                             | 2200 |     | 534               | 850        | 1295 |
|                             | 2800 | 210 | 675               | 850        | 1638 |
| 6V-53T                      | 2600 |     | 627               | 850        | 1521 |
|                             | 2500 | 230 | 855               | 850        | 2074 |
| 6V-92                       | 1800 | 225 | 730               | 850        | 1771 |
|                             | 2100 | 270 | 860               | 850        | 2086 |
| 6V-92T                      | 1800 |     | 1000              | 850        | 2426 |
|                             | 2100 | 322 | 1200              | 850        | 2911 |
| 6V-92TA                     | 2100 | 335 | 1225              | 850        | 2972 |
| 6V-92TT                     | 1950 |     | 1030              | 850        | 2499 |
| 6V-92TTA                    | 1950 | 270 | 1050              | 850        | 2547 |
| 8.2LN                       | 3000 | 165 | 376               | 850        | 912  |
| 8.2LT                       | 3000 | 205 | 553               | 850        | 1342 |
| 8V-53                       | 2200 |     | 693               | 850        | 1681 |
|                             | 2500 |     | 786               | 850        | 1907 |
| 8V-71                       | 1800 | 233 | 753               | 850        | 1827 |
|                             | 2300 | 314 | 954               | 850        | 2314 |
|                             | 2100 | 304 | 874               | 850        | 2120 |
| 8V-71T                      | 2100 | 350 | 1200              | 850        | 2911 |
|                             | 1800 |     | 1100              | 850        | 2669 |
| 8V-71TA                     | 2100 | 370 | 1240              | 850        | 3008 |
| 8V-71TT                     | 1950 |     | 1240              | 850        | 3008 |
| 8V-71TTA                    | 1950 | 305 | 1055              | 850        | 2559 |
| 8V-92                       | 1800 | 300 | 980               | 850        | 2377 |
|                             | 2100 | 360 | 1150              | 850        | 2790 |
| 8V-92T                      | 2100 | 430 | 1600              | 850        | 3881 |
|                             | 1800 |     | 1300              | 850        | 3154 |
| 8V-92TA                     | 2100 | 435 | 1434              | 850        | 3479 |
| 8V-92TT                     | 1950 |     | 1300              | 850        | 3154 |
| 8V-92TTA                    | 1950 | 365 | 1250              | 850        | 3032 |
| <b>Series 40E (7.6 LTA)</b> |      |     |                   |            |      |
| Series 40E (7.6 LTA)        | 2300 | 175 | 675               | 670        | 1450 |
|                             | 2600 | 190 | 705               | 710        | 1575 |
|                             | 2600 | 210 | 740               | 765        | 1730 |
|                             | 2600 | 230 | 700               | 885        | 1810 |
|                             | 2400 | 195 | 715               | 720        | 1610 |
| 2400                        | 250  | 700 | 885               | 1810       |      |
| <b>Series 40E (8.7 LTA)</b> |      |     |                   |            |      |
| Series 40E (8.7 LTA)        | 2200 | 250 | 685               | 850        | 1725 |
|                             | 2200 | 275 | 705               | 955        | 1890 |
|                             | 2200 | 300 | 710               | 965        | 1930 |
|                             | 2200 | 320 | 715               | 985        | 1995 |

| Engine Model                    | RPM | HP   | Intake CFM | -- Exhaust -- |            |
|---------------------------------|-----|------|------------|---------------|------------|
|                                 |     |      |            | Temp. (°F)    | Flow (CFM) |
| <b>DETROIT DIESEL CONTINUED</b> |     |      |            |               |            |
| Series 50 (8.5 Ltr)             |     |      |            |               |            |
| 2100                            | 250 | 760  | 625        | 1575          |            |
| 2100                            | 275 | 790  | 680        | 1720          |            |
| 2100                            | 300 | 820  | 715        | 1845          |            |
| 2100                            | 320 | 815  | 730        | 1861          |            |
| 2100                            | 350 | 815  | 850        | 2055          |            |
| Series 60 (12.7 Ltr)            |     |      |            |               |            |
| 2100                            | 330 | 1050 | 610        | 2157          |            |
| 2100                            | 350 | 1090 | 645        | 2310          |            |
| 2100                            | 370 | 1010 | 725        | 2300          |            |
| 2100                            | 400 | 1050 | 780        | 2500          |            |
| 2100                            | 430 | 1080 | 820        | 2652          |            |
| 2100                            | 470 | 1170 | 825        | 2877          |            |
| 2100                            | 500 | 1170 | 825        | 2877          |            |
| Series 60 (14 Ltr)              |     |      |            |               |            |
| 2100                            | 550 | 1231 | 986        | 3402          |            |
| 2100                            | 575 | 1271 | 867        | 3221          |            |

| <b>DEUTZ</b> |      |     |     |     |      |
|--------------|------|-----|-----|-----|------|
| BF12L 714    | 2300 | 390 | 695 | 850 | 1686 |
| BF6L 913     | 2800 | 175 | 396 | 850 | 961  |
| F10L 413     | 2650 | 310 | 595 | 850 | 1443 |
| F10L 714     | 2300 | 275 | 577 | 850 | 1400 |
| F12L 413     | 2650 | 370 | 714 | 850 | 1732 |
| F12L 714     | 2300 | 330 | 695 | 850 | 1686 |
| F1L 208      | 3600 | 9   | 70  | 850 | 170  |
| F1L 210      | 3000 | 16  | 96  | 850 | 233  |
| F1L 411D     | 3000 | 16  | 98  | 850 | 238  |
| F2L 411D     | 3000 | 32  | 133 | 850 | 323  |
| F2L 411W     | 3000 | 30  | 133 | 850 | 323  |
| F2L 912      | 2500 | 36  | 150 | 850 | 364  |
| F2L 912W     | 2500 | 34  | 150 | 850 | 364  |
| F3L 912      | 2800 | 60  | 176 | 850 | 427  |
| F3L 912W     | 2500 | 50  | 158 | 850 | 383  |
| F4L 912      | 2800 | 80  | 202 | 850 | 490  |
| F4L 912W     | 2500 | 67  | 180 | 850 | 437  |
| F5L 912      | 2800 | 100 | 210 | 850 | 509  |
| F5L 912W     | 2500 | 84  | 187 | 850 | 454  |
| F6L 413      | 2650 | 185 | 357 | 850 | 866  |
| F6L 714      | 2300 | 165 | 347 | 850 | 842  |
| F6L 912      | 2800 | 120 | 252 | 850 | 611  |
| F6L 912W     | 2500 | 101 | 224 | 850 | 543  |
| F8L 413      | 2650 | 250 | 476 | 850 | 1155 |
| F8L 714      | 2300 | 220 | 463 | 850 | 1123 |

| <b>FORD</b> |      |     |     |     |     |
|-------------|------|-----|-----|-----|-----|
| 00          | 2400 | 59  | 101 | 900 | 254 |
| 172DF       | 2400 | 59  | 101 | 900 | 254 |
| 175DF       | 2500 | 52  | 108 | 900 | 272 |
| 183D        | 2200 | 52  | 99  | 900 | 249 |
| 192DF       | 2400 | 65  | 113 | 900 | 285 |
| 201DF       | 2250 | 66  | 111 | 900 | 280 |
| 220         | 2400 | 69  | 130 | 900 | 327 |
| 233D        | 2100 | 68  | 120 | 900 | 302 |
| 242D        | 2230 | 76  | 133 | 900 | 335 |
| 242DF       | 2500 | 79  | 149 | 900 | 375 |
| 254DF       | 2500 | 80  | 157 | 900 | 395 |
| 256DF       | 2500 | 89  | 157 | 900 | 395 |
| 3320DF      | 2500 | 111 | 203 | 900 | 511 |
| 362DF       | 2500 | 121 | 223 | 900 | 562 |
| 363DFT      | 2400 | 150 | 214 | 900 | 539 |
| 380DF       | 2500 | 120 | 233 | 900 | 587 |
| 401DF       | 2500 | 132 | 246 | 900 | 620 |
| 401DFT      | 2500 | 167 | 246 | 900 | 620 |

| Engine Model | RPM  | HP | Intake CFM | -- Exhaust -- |            |
|--------------|------|----|------------|---------------|------------|
|              |      |    |            | Temp. (°F)    | Flow (CFM) |
| 67GF         | 3600 | 32 | 60         | 900           | 151        |
| 98GF         | 3600 | 45 | 87         | 900           | 219        |
| X            | 2250 | 60 | 122        | 900           | 307        |
| Y            | 2250 | 96 | 183        | 900           | 461        |

| <b>HATZ DIESEL</b> |      |    |     |      |     |
|--------------------|------|----|-----|------|-----|
| 2L30               | 3000 | 30 | 68  | 1100 | 196 |
| 2L40               | 3000 | 37 | 82  | 1100 | 237 |
| 2M40               | 3000 | 40 | 85  | 1100 | 246 |
| 3L30               | 3000 | 45 | 101 | 1100 | 292 |
| 3L40               | 3000 | 55 | 123 | 1100 | 355 |
| 3M40               | 3000 | 60 | 130 | 1100 | 376 |
| 4L30               | 3000 | 60 | 135 | 1100 | 390 |
| 4L40               | 3000 | 74 | 164 | 1100 | 474 |
| 4M40               | 3000 | 80 | 170 | 1100 | 491 |
| E573               | 3000 | 3  | 14  | 1100 | 40  |
| E673               | 3000 | 5  | 16  | 1100 | 46  |
| E75                | 3000 | 7  | 18  | 1100 | 52  |
| E780               | 3000 | 10 | 25  | 1100 | 72  |
| E786               | 3000 | 14 | 30  | 1100 | 87  |
| E79                | 3000 | 8  | 20  | 1100 | 58  |
| E88                | 2600 | 10 | 28  | 1100 | 81  |
| E89                | 2600 | 12 | 30  | 1100 | 87  |
| E950               | 3000 | 17 | 36  | 1100 | 104 |
| Z788               | 3000 | 23 | 55  | 1100 | 159 |

| <b>HINO</b> |      |     |     |      |      |
|-------------|------|-----|-----|------|------|
| Z790        | 3000 | 30  | 61  | 1100 | 176  |
| DK10        | 2000 | 132 | 325 | 900  | 819  |
| DK10T       | 1800 | 160 | 425 | 900  | 1070 |
| DM100       | 2400 | 62  | 165 | 900  | 416  |
| EB300       | 2000 | 132 | 315 | 900  | 793  |
| EC100       | 2600 | 76  | 208 | 900  | 524  |
| EF550       | 2200 | 230 | 572 | 900  | 1441 |
| EF750       | 2200 | 245 | 589 | 900  | 1483 |
| EF750T      | 2200 | 272 | 850 | 900  | 2141 |
| EH100       | 2600 | 93  | 244 | 900  | 615  |
| EH500       | 2800 | 114 | 277 | 900  | 698  |
| EH700       | 2800 | 118 | 290 | 900  | 730  |
| EK100       | 2200 | 196 | 467 | 900  | 1176 |
| EL100       | 2600 | 132 | 327 | 900  | 824  |
| EL100T      | 2400 | 145 | 440 | 900  | 1108 |
| EM100       | 2400 | 148 | 362 | 900  | 912  |
| ER100       | 2200 | 160 | 407 | 900  | 1025 |
| EV700       | 2200 | 298 | 700 | 900  | 1763 |

| <b>ISUZU</b> |      |     |     |     |      |
|--------------|------|-----|-----|-----|------|
| QD100        | 3200 | 87  | 185 | 900 | 466  |
| QD130        | 2800 | 115 | 230 | 900 | 579  |
| QD145        | 3200 | 129 | 280 | 900 | 705  |
| QD145T       | 2500 | 139 | 305 | 900 | 768  |
| QD200        | 2200 | 194 | 410 | 900 | 1033 |
| QD200T       | 2000 | 218 | 515 | 900 | 1297 |
| QD27         | 2800 | 26  | 50  | 900 | 126  |
| QD40         | 2800 | 40  | 80  | 900 | 201  |
| QD60         | 3800 | 55  | 140 | 900 | 353  |
| QD85         | 3000 | 68  | 162 | 900 | 408  |
| QD90         | 2800 | 75  | 150 | 900 | 378  |
| QT15         | 3600 | 14  | 55  | 900 | 139  |
| QT23         | 3600 | 22  | 75  | 900 | 189  |
| QT35         | 3000 | 32  | 96  | 900 | 242  |

| Engine Model    | RPM  | HP  | Intake CFM | -- Exhaust -- |            |
|-----------------|------|-----|------------|---------------|------------|
|                 |      |     |            | Temp. (°F)    | Flow (CFM) |
| <b>IVECO</b>    |      |     |            |               |            |
| 803 i 3L-NA     | 2500 | 51  | 120        | 1100          | 347        |
| 804 i 4L-NA     | 2500 | 68  | 155        | 1100          | 448        |
| 805 i 5L-NA     | 2500 | 84  | 174        | 1100          | 214        |
| 806 i 6L-NA     | 2500 | 102 | 235        | 1100          | 679        |
| 806 i tc 6L-TC  | 2500 | 131 | 340        | 900           | 856        |
| 8210 i 6L-NA    | 2000 | 205 | 440        | 1100          | 1271       |
| 8280 i V8-NA    | 2200 | 287 | 600        | 1100          | 1733       |
| 8281 SRi V8-TCA | 2200 | 424 | 900        | 900           | 2267       |
| 8281 Si V8-TC   | 2000 | 331 | 790        | 900           | 1990       |
| 8361 Si 7L-TC   | 2400 | 157 | 450        | 900           | 1133       |
| 8361 i 6L-NA    | 2500 | 139 | 322        | 1100          | 930        |

| <b>JOHN DEERE</b> |      |     |      |     |      |
|-------------------|------|-----|------|-----|------|
| 3164D             | 2500 | 52  | 100  | 900 | 252  |
| 3179D             | 2500 | 58  | 100  | 900 | 252  |
| 3179T             | 2500 | 79  | 178  | 900 | 448  |
| 4219D             | 2500 | 70  | 135  | 900 | 340  |
| 4239A             | 2500 | 117 | 277  | 900 | 698  |
| 4239D             | 2500 | 80  | 148  | 900 | 373  |
| 4239T             | 2500 | 109 | 258  | 900 | 650  |
| 4276D             | 2500 | 82  | 160  | 900 | 403  |
| 4276T             | 2200 | 98  | 266  | 900 | 670  |
| 6076A             | 2200 | 240 | 568  | 900 | 1431 |
| 6076H             | 2200 | 250 | 647  | 900 | 1629 |
| 6076T             | 2200 | 190 | 505  | 900 | 1272 |
| 6329D             | 2500 | 104 | 200  | 900 | 504  |
| 6359A             | 2500 | 176 | 470  | 900 | 1184 |
| 6359D             | 2500 | 121 | 228  | 900 | 574  |
| 6359T             | 2500 | 163 | 370  | 900 | 932  |
| 6414D             | 2200 | 118 | 228  | 900 | 574  |
| 6414T             | 2200 | 146 | 360  | 900 | 907  |
| 6466A             | 2100 | 233 | 579  | 900 | 1458 |
| 6466D             | 2200 | 138 | 258  | 900 | 650  |
| 6466T             | 2200 | 185 | 484  | 900 | 1219 |
| 6619A             | 2100 | 301 | 680  | 900 | 1713 |
| 8955A             | 2100 | 456 | 1130 | 900 | 2846 |
| 8955T             | 2100 | 356 | 978  | 900 | 2463 |

| <b>KOHLER</b> |      |    |    |      |     |
|---------------|------|----|----|------|-----|
| K161          | 3600 | 7  | 14 | 1150 | 42  |
| K181          | 3600 | 8  | 16 | 1150 | 48  |
| K241          | 3600 | 10 | 20 | 1150 | 60  |
| K301          | 3600 | 12 | 24 | 1150 | 72  |
| K321          | 3600 | 14 | 26 | 1150 | 78  |
| K341          | 3600 | 16 | 30 | 1150 | 89  |
| K582          | 3600 | 23 | 48 | 1150 | 143 |
| K91           | 3600 | 4  | 7  | 1150 | 21  |
| KT17          | 3600 | 17 | 35 | 1150 | 104 |
| KT19          | 3600 | 19 | 39 | 1150 | 116 |

| Engine Model  | RPM  | HP | Intake CFM | -- Exhaust -- |            |
|---------------|------|----|------------|---------------|------------|
|               |      |    |            | Temp. (°F)    | Flow (CFM) |
| <b>KUBOTA</b> |      |    |            |               |            |
| D1402-B       | 2800 | 31 | 62         | 900           | 156        |
| D3200-B       | 2400 | 66 | 123        | 900           | 310        |
| D600-B        | 3600 | 16 | 35         | 900           | 88         |
| D850-BW       | 3000 | 20 | 41         | 900           | 103        |
| DH850-B       | 3600 | 23 | 49         | 900           | 123        |
| S2800-B       | 2600 | 58 | 116        | 900           | 292        |
| V1100-B       | 3000 | 26 | 55         | 900           | 139        |
| V1702-B       | 2800 | 40 | 77         | 900           | 194        |
| V1902-B       | 2800 | 42 | 83         | 900           | 209        |
| V4300-B       | 2400 | 88 | 164        | 900           | 413        |
| VH1100-B      | 3600 | 31 | 66         | 900           | 166        |
| Z400-B        | 3600 | 11 | 23         | 900           | 58         |
| Z600-BW       | 3200 | 14 | 29         | 900           | 73         |
| ZB400-B       | 3200 | 10 | 21         | 900           | 53         |
| ZB600C-1-B    | 3200 | 14 | 29         | 900           | 73         |
| ZH600-B       | 3600 | 16 | 33         | 900           | 83         |

| <b>LISTER</b> |      |     |     |     |     |
|---------------|------|-----|-----|-----|-----|
| HL3           | 2500 |     | 125 | 900 | 315 |
| HL4           | 2500 |     | 167 | 900 | 421 |
| HL6           | 2500 |     | 250 | 900 | 630 |
| HLT6          | 2100 |     | 300 | 900 | 756 |
| HR2           | 2200 |     | 73  | 900 | 184 |
| HR3           | 2200 |     | 110 | 900 | 277 |
| HRW2          | 2200 | 31  | 74  | 900 | 186 |
| HRW3          | 2200 | 47  | 110 | 900 | 277 |
| HRW4          | 2200 | 62  | 146 | 900 | 368 |
| HRW6          | 2200 | 93  | 220 | 900 | 554 |
| HRWS6         | 2000 | 102 | 200 | 900 | 504 |
| LT1           | 3600 | 8   | 24  | 900 | 60  |
| LV1           | 3600 | 9   | 28  | 900 | 71  |
| LV2           | 3600 | 18  | 55  | 900 | 139 |
| ST1           | 3000 | 10  | 31  | 900 | 78  |
| TL2           | 3000 | 27  | 74  | 900 | 186 |
| TL3           | 3000 | 40  | 111 | 900 | 280 |
| TS2           | 3000 | 22  | 61  | 900 | 154 |
| TS3           | 3000 | 33  | 91  | 900 | 229 |

| <b>LOMBARDINI</b> |      |    |     |      |     |
|-------------------|------|----|-----|------|-----|
| 10LD 400-2        | 3000 | 16 | 34  | 1000 | 92  |
| 10LD 400-2/B1     |      |    |     |      |     |
|                   | 3600 | 18 | 41  | 1000 | 111 |
| 11LD 535-3        | 3000 | 33 | 74  | 1000 | 200 |
| 11LD 625-3        | 3000 | 38 | 84  | 1000 | 227 |
| 3LD 450           | 3000 | 10 | 20  | 1000 | 54  |
| 3LD 510           | 3000 | 11 | 22  | 1000 | 59  |
| 3LD 510/L         | 2200 | 8  | 17  | 1000 | 46  |
| 4LD 640           | 3000 | 14 | 28  | 1000 | 76  |
| 4LD 640/L         | 2200 | 10 | 22  | 1000 | 59  |
| 4LD 705           | 2600 | 15 | 27  | 1000 | 73  |
| 4LD 820           | 2600 | 18 | 32  | 1000 | 87  |
| 4LD 820/L         | 2200 | 14 | 27  | 1000 | 73  |
| 5LD 675-2         | 3000 | 29 | 58  | 1000 | 157 |
| 5LD 675-3         | 3000 | 44 | 87  | 1000 | 235 |
| 5LD 825-2         | 2600 | 34 | 63  | 1000 | 170 |
| 5LD 825-2/L       | 2200 | 27 | 53  | 1000 | 143 |
| 5LD 825-3         | 2600 | 52 | 94  | 1000 | 254 |
| 5LD 825-3/L       | 2200 | 40 | 80  | 1000 | 216 |
| 5LD 825-4         | 2600 | 67 | 125 | 1000 | 338 |
| 5LD 825-4/L       | 2200 | 54 | 106 | 1000 | 287 |
| 5LD 930-3         | 2600 | 54 | 105 | 1000 | 284 |
| 5LD 930-4         | 2600 | 72 | 140 | 1000 | 379 |
| 6LD 260           | 3600 | 5  | 15  | 1000 | 41  |

| Engine Model | RPM  | HP | Intake CFM | -- Exhaust -- |            |
|--------------|------|----|------------|---------------|------------|
|              |      |    |            | Temp. (°F)    | Flow (CFM) |
| 6LD 260/C    | 1800 | 5  | 14         | 1000          | 38         |
| 6LD 325      | 3600 | 7  | 17         | 1000          | 46         |
| 6LD 325/C    | 1800 | 7  | 17         | 1000          | 46         |
| 6LD 360      | 3600 | 8  | 19         | 1000          | 51         |
| 6LD 360 V    | 3600 | 8  | 19         | 1000          | 51         |
| 6LD 400      | 3600 | 8  | 21         | 1000          | 57         |
| 7LD 665      | 3000 | 15 | 29         | 1000          | 78         |
| 7LD 665/F    | 3000 | 15 | 29         | 1000          | 78         |
| 7LD 740/L    | 3000 | 16 | 32         | 1000          | 87         |
| 8LD 600-2    | 3000 | 26 | 52         | 1000          | 141        |
| 8LD 665-2    | 3000 | 29 | 58         | 1000          | 157        |
| 8LD 665-2/L  | 2200 | 22 | 44         | 1000          | 119        |
| 8LD 740-2    | 2600 | 29 | 52         | 1000          | 141        |
| 9LD 561-2    | 3000 | 26 | 48         | 1000          | 130        |
| 9LD 561-2/L  | 2200 | 18 | 37         | 1000          | 100        |

| <b>MACK</b> |      |         |      |     |      |
|-------------|------|---------|------|-----|------|
| E6          | NA   | 350     | NA   | 750 | 1950 |
| E7          | NA   | 300     | NA   | 728 | 1561 |
|             | NA   | 350     | NA   | 742 | 1679 |
|             | NA   | 400     | NA   | 791 | 1934 |
|             | NA   | 427     | NA   | 795 | 2136 |
|             | NA   | 460     | NA   | 814 | 2315 |
|             | NA   | 310/330 | NA   | 728 | 1550 |
|             | NA   | 330/355 | NA   | 735 | 1653 |
|             | NA   | 355/380 | NA   | 736 | 1767 |
| E9          | NA   | 500     | NA   | 740 | 3050 |
| EN291       | 2800 |         | 178  | 900 | 448  |
| EN331       | 2800 |         | 206  | 900 | 519  |
| EN402       | 2800 |         | 246  | 900 | 620  |
| EN438       | 2600 |         | 247  | 900 | 622  |
| EN540       | 2400 |         | 280  | 900 | 705  |
| EN707C      | 2100 |         | 306  | 900 | 771  |
| END465      | 2600 |         | 325  | 900 | 819  |
| END475      | 2400 |         | 280  | 900 | 705  |
| END5673C    | 2100 | 250     | 600  | 900 | 1511 |
| END5864     | 2300 | 270     | 850  | 900 | 2141 |
| END673E     | 2100 | 180     | 400  | 900 | 1007 |
| END707      | 2100 | 200     | 410  | 900 | 1033 |
| END864BC    | 2450 |         | 540  | 900 | 1360 |
| ENDT475     | 2400 |         | 460  | 900 | 1159 |
| ENDT673     | 2100 | 225     | 600  | 900 | 1511 |
| ENDT675     | 2100 | 237     | 625  | 900 | 1574 |
| ENDT676     |      |         | 800  | 900 | 2015 |
| ENDT864A    | 2300 |         | 860  | 900 | 2166 |
| ENDT865     | 2600 | 325     | 960  | 900 | 2418 |
| ENDT866     | 2400 | 275     | 1050 | 900 | 2644 |
| ENDTF673    | 2300 |         | 665  | 900 | 1675 |
| ENDTF673C   | 2200 |         | 625  | 900 | 1574 |

| <b>MERCEDES-BENZ</b> |      |     |     |     |      |
|----------------------|------|-----|-----|-----|------|
| OM314                | 2800 | 85  | 170 | 900 | 428  |
| OM346                | 2800 |     | 427 | 900 | 1075 |
| OM352                | 2800 | 130 | 260 | 900 | 655  |
| OM352A               | 2800 | 168 | 336 | 900 | 846  |
| OM355                | 2000 | 200 | 327 | 900 | 824  |
| OM360                | 2500 | 190 | 308 | 900 | 776  |
| OM401                | 2500 | 195 | 340 | 900 | 856  |
| OM402                | 2500 | 260 | 340 | 900 | 856  |
| OM403                | 2500 | 325 | 463 | 900 | 1166 |
| OM404                | 2500 | 430 | 738 | 900 | 1859 |
| OM407                | 2200 | 240 | 480 | 900 | 1209 |
| OM407A               | 2200 | 280 | 560 | 900 | 1410 |
| OM407h               | 2200 | 240 | 480 | 900 | 1209 |
| OM407hA              | 2200 | 280 | 560 | 900 | 1410 |

| Engine Model | RPM  | HP  | Intake CFM | -- Exhaust -- |            |
|--------------|------|-----|------------|---------------|------------|
|              |      |     |            | Temp. (°F)    | Flow (CFM) |
| OM421        | 2300 | 216 | 432        | 900           | 1088       |
| OM422        | 2300 | 280 | 560        | 900           | 1410       |
| OM422A       | 2300 | 330 | 660        | 900           | 1662       |
| OM422LA      | 2300 | 375 | 750        | 900           | 1889       |
| OM423        | 2300 | 355 | 710        | 900           | 1788       |
| OM423LA      | 2100 | 470 | 940        | 900           | 2367       |
| OM424        | 2300 | 420 | 840        | 900           | 2116       |
| OM424A       | 2300 | 530 | 1060       | 900           | 2670       |
| OM424LA      | 2300 | 615 | 1230       | 900           | 3098       |
| OM616        | 3600 | 67  | 134        | 900           | 337        |
| OM617        | 3600 | 82  | 164        | 900           | 413        |
| OM636        | 3500 | 40  | 95         | 900           | 239        |

| <b>MITSUBISHI</b> |      |      |      |     |       |
|-------------------|------|------|------|-----|-------|
| S12A-PT           | 1800 | 660  | 1620 | 900 | 4080  |
| S12A-PTA          | 1800 | 850  | 2080 | 900 | 5239  |
| S12A-PTK          | 1800 | 900  | 2190 | 900 | 5516  |
| S12N-PT           | 1800 | 1000 | 2440 | 900 | 6145  |
| S12N-PTA          | 1800 | 1130 | 2750 | 900 | 6926  |
| S12N-PTK          | 1800 | 1230 | 3000 | 900 | 7556  |
| S12U-PTA          | 1200 | 3100 | 7910 | 900 | 19921 |
| S12U-PTK          | 1200 | 3300 | 8400 | 900 | 21156 |
| S16N-PT           | 1800 | 1320 | 3210 | 900 | 8084  |
| S16N-PTA          | 1800 | 1500 | 3670 | 900 | 9243  |
| S16N-PTK          | 1800 | 1620 | 3960 | 900 | 9973  |
| S6A-PT            | 1800 | 330  | 810  | 900 | 2040  |
| S6A-PTA           | 1800 | 425  | 1020 | 900 | 2569  |
| S6A-PTK           | 1800 | 450  | 1100 | 900 | 2770  |
| S6B-PT            | 1800 | 260  | 640  | 900 | 1612  |
| S6B-PTA           | 1800 | 320  | 780  | 900 | 1964  |
| S6B-PTK           | 1800 | 360  | 880  | 900 | 2216  |
| S6N-PT            | 1800 | 500  | 1240 | 900 | 3123  |
| S6N-PTA           | 1800 | 565  | 1380 | 900 | 3476  |
| S6N-PTK           | 1800 | 615  | 1480 | 900 | 3727  |
| S6U-PTA           | 1200 | 1550 | 3960 | 900 | 9973  |
| S6U-PTK           | 1200 | 1650 | 4200 | 900 | 10578 |
| S8N-PT            | 1800 | 660  | 1620 | 900 | 4080  |
| S8N-PTA           | 1800 | 750  | 1840 | 900 | 4634  |
| S8N-PTK           | 1800 | 810  | 1980 | 900 | 4987  |

| <b>MTU OF NORTH AMERICA</b> |      |      |      |  |      |
|-----------------------------|------|------|------|--|------|
| 12V-396-TB-83               |      |      |      |  |      |
|                             | 1845 | 1560 | 3919 |  | 3338 |
| 12V-396-TB-93               |      |      |      |  |      |
|                             | 1845 | 1200 | 4534 |  | 3862 |
| 12V-396-TC-82               |      |      |      |  |      |
|                             | 1745 | 1300 | 2902 |  | 2472 |
| 8V-396-TB-83                |      |      |      |  |      |
|                             | 1845 | 1050 | 2436 |  | 2075 |
| 8V-396-TB-93                |      |      |      |  |      |
|                             | 1845 | 1800 | 2944 |  | 2508 |
| 8V-396-TC-82                |      |      |      |  |      |
|                             | 1745 | 870  | 1864 |  | 1588 |

| <b>NAVISTAR</b> |      |     |     |      |      |
|-----------------|------|-----|-----|------|------|
| 4-196           | 3800 | 86  | 162 | 1150 | 483  |
| 6.9 L           | 3000 | 170 | 330 | 1000 | 892  |
| 7.3 LT (T444)   | 2600 | 190 | 605 | 753  | 1359 |
| 7.3 L           | 3000 | 175 | 349 | 1000 | 944  |
| 9.0 L (DV550)   | 2800 | 185 | 410 | 1050 | 1146 |
| C-200           | 2500 | 74  | 109 | 1150 | 325  |
| C-221           | 2600 | 90  | 124 | 1150 | 370  |
| C-263           | 2800 | 109 | 160 | 1150 | 477  |
| C-301           | 2800 | 118 | 183 | 1150 | 546  |
| C-345           | 3000 | 160 | 224 | 1150 | 668  |

| Engine Model              | RPM  | HP  | Intake CFM | -- Exhaust -- |            |
|---------------------------|------|-----|------------|---------------|------------|
|                           |      |     |            | Temp. (°F)    | Flow (CFM) |
| <b>NAVISTAR CONTINUED</b> |      |     |            |               |            |
| C-392                     | 3000 | 180 | 255        | 1150          | 760        |
| C-549                     | 3200 | 232 | 381        | 1150          | 1136       |
| C135B                     | 2400 | 46  | 70         | 1150          | 209        |
| C153                      | 2400 | 53  | 80         | 1150          | 239        |
| C175                      | 2500 | 63  | 95         | 1150          | 283        |
| D155                      | 2500 | 48  | 95         | 900           | 239        |
| D179                      | 2400 | 59  | 99         | 900           | 249        |
| D188                      | 2400 | 62  | 104        | 900           | 262        |
| D206                      | 2500 | 56  | 119        | 900           | 300        |
| D236                      | 2400 | 65  | 131        | 900           | 330        |
| D239                      | 2500 | 80  | 138        | 900           | 348        |
| D268                      | 2500 | 85  | 165        | 900           | 416        |
| D282                      | 2400 | 95  | 156        | 900           | 393        |
| D310                      | 2300 | 101 | 165        | 900           | 416        |
| D312                      | 3000 | 117 | 216        | 900           | 544        |
| D360                      | 3000 | 136 | 250        | 900           | 630        |
| D370                      | 2200 | 105 | 188        | 900           | 473        |
| D407                      | 2600 | 127 | 245        | 900           | 617        |
| D414                      | 3000 | 157 | 287        | 900           | 723        |
| D466                      | 3000 | 165 | 323        | 900           | 813        |
| D550B                     | 3000 | 200 | 382        | 900           | 962        |
| D554                      | 2300 | 150 | 294        | 900           | 740        |
| D691                      | 1600 | 150 | 256        | 900           | 645        |
| DT239                     | 2500 | 110 | 225        | 900           | 567        |
| DT358                     | 2400 | 130 | 340        | 900           | 856        |
| DT360                     | 2700 | 190 | 588        | 850           | 1426       |
| DT361                     | 2600 | 146 | 341        | 900           | 859        |
| DT402                     | 2400 | 165 | 380        | 900           | 957        |
| DT407                     | 2500 | 160 | 368        | 900           | 927        |
| DT414                     | 3000 | 220 | 449        | 900           | 1131       |
| DT420                     | 2600 | 225 | 403        | 900           | 1015       |
| DT466                     | 2400 | 195 | 664        | 737           | 1520       |
| DT466                     | 2400 | 210 | 650        | 765           | 1530       |
| DT466                     | 2400 | 230 | 677        | 855           | 1710       |
| DT466                     | 2400 | 250 | 650        | 845           | 1640       |
| DT466                     | 2400 | 275 | 650        | 984           | 1820       |
| DT573                     | 2600 | 300 | 539        | 900           | 1357       |
| DT573B                    | 2600 | 260 | 525        | 900           | 1322       |
| DT817                     | 2100 | 385 | 975        | 900           | 2456       |
| DT817B                    | 2100 | 320 | 975        | 900           | 2456       |
| DT817C                    | 2200 | 420 | 975        | 900           | 2456       |
| DVT800                    | 2600 | 310 | 752        | 900           | 1894       |
| MV-404                    | 3600 | 188 | 315        | 1150          | 939        |
| MV-446                    | 3600 | 235 | 348        | 1150          | 1038       |
| UC60                      | 2500 | 17  | 33         | 1150          | 98         |
| UR-450                    | 2400 | 158 | 234        | 1150          | 698        |
| UV-401                    | 2800 | 165 | 243        | 1150          | 725        |
| V-304                     | 4400 | 180 | 298        | 1150          | 888        |
| V-345                     | 3800 | 172 | 284        | 1150          | 847        |
| V-345                     | 3800 | 168 | 284        | 1150          | 847        |
| V-392                     | 3600 | 236 | 306        | 1150          | 912        |
| V-537                     | 3200 | 208 | 372        | 1150          | 1109       |
| VS-478                    | 3400 | 224 | 352        | 1150          | 1049       |
| VS-549                    | 3200 | 243 | 381        | 1150          | 1136       |

### NISSAN

|        |      |     |     |     |     |
|--------|------|-----|-----|-----|-----|
| A-12   | 4800 | 58  | 74  | 900 | 186 |
| A-15   | 4800 | 78  | 95  | 900 | 239 |
| ED-33  | 3200 | 83  | 168 | 900 | 423 |
| FD-33T | 3200 | 105 | 235 | 900 | 592 |
| FD-6   | 2700 | 131 | 243 | 900 | 612 |
| FD-6T  | 2700 | 148 | 340 | 900 | 856 |
| H-20   | 3100 | 55  | 82  | 900 | 207 |
| H-30   | 2600 | 66  | 102 | 900 | 257 |

| Engine Model | RPM  | HP  | Intake CFM | -- Exhaust -- |            |
|--------------|------|-----|------------|---------------|------------|
|              |      |     |            | Temp. (°F)    | Flow (CFM) |
| J-15         | 2800 | 32  | 55         | 900           | 139        |
| LD-20        | 2600 | 38  | 80         | 900           | 201        |
| LD-28        | 2600 | 53  | 115        | 900           | 290        |
| ND-6         | 2400 | 130 | 260        | 900           | 655        |
| P-40         | 2300 | 80  | 120        | 900           | 302        |
| PD-6         | 2200 | 173 | 360        | 900           | 907        |
| PD-6T        | 2200 | 227 | 505        | 900           | 1272       |
| PE-6         | 2200 | 200 | 408        | 900           | 1028       |
| PE-6T        | 2200 | 250 | 570        | 900           | 1436       |
| RD10         | 2400 | 330 | 682        | 900           | 1718       |
| RD10T        | 2400 | 415 | 1000       | 900           | 2519       |
| RD10TA       | 2300 | 485 | 1200       | 900           | 3022       |
| RD8          | 2400 | 265 | 545        | 900           | 1373       |
| RD8T         | 2400 | 320 | 763        | 900           | 1922       |
| SD-16        | 3200 | 36  | 85         | 900           | 214        |
| SD-22        | 3200 | 51  | 110        | 900           | 277        |
| SD-25        | 3200 | 60  | 126        | 900           | 317        |
| SD-33        | 3200 | 79  | 165        | 900           | 416        |
| SD-33T       | 3200 | 92  | 230        | 900           | 579        |

### PERKINS

|          |      |     |      |     |      |
|----------|------|-----|------|-----|------|
| 3.1522   | 2500 | 44  | 95   | 900 | 239  |
| 4-107    | 4000 | 57  | 99   | 900 | 249  |
| 4-108    | 4000 | 60  | 100  | 900 | 252  |
| 4-154    | 3600 | 80  | 128  | 900 | 322  |
| 4-203    | 2600 | 63  | 122  | 900 | 307  |
| 4-236    | 2800 | 80  | 153  | 900 | 385  |
| 4-248    | 2500 | 85  | 144  | 900 | 363  |
| 4-270    | 2000 | 62  | 125  | 900 | 315  |
| 4-300    | 2200 | 90  | 152  | 900 | 383  |
| 4-302    | 2300 | 76  | 161  | 900 | 405  |
| 4-318    | 2000 | 75  | 147  | 900 | 370  |
| 4-99     | 4000 | 55  | 92   | 900 | 232  |
| 4.108    | 4000 | 49  | 102  | 900 | 257  |
| 4.165    | 3600 | 70  | 135  | 900 | 340  |
| 4.2032   | 2250 | 58  | 117  | 900 | 295  |
| 4.236    | 2800 | 82  | 157  | 900 | 395  |
| 4.248    | 2500 | 84  | 152  | 900 | 383  |
| 4.318    | 2000 | 75  | 140  | 900 | 353  |
| 6-305    | 2600 | 89  | 184  | 900 | 463  |
| 6-354    | 2800 | 120 | 230  | 900 | 579  |
| 6-372    | 2500 | 121 | 215  | 900 | 541  |
| 6.247    | 3600 | 101 | 205  | 900 | 516  |
| 6.3544   | 2800 | 238 | 370  | 900 | 599  |
| 6.3724   | 2500 | 227 | 340  | 900 | 572  |
| D3-152   | 2500 | 52  | 88   | 900 | 222  |
| D3.152   | 2500 | 49  | 3    | 900 | 8    |
| D4.203   | 2500 | 3   | 3    | 900 | 8    |
| T6-354   | 2400 | 150 | 307  | 900 | 773  |
| T6-354-3 | 2500 | 140 | 320  | 900 | 806  |
| T6.3544  | 2600 | 370 | 570  | 900 | 932  |
| TV8.640  | 2600 | 685 | 1040 | 900 | 1725 |
| V8-510   | 2800 | 185 | 331  | 900 | 834  |
| V8-540   | 2500 | 166 | 312  | 900 | 786  |
| V8-605   | 2500 | 200 | 350  | 900 | 881  |
| V8.540   | 2600 | 370 | 570  | 900 | 932  |
| V8.640   | 2600 | 411 | 610  | 900 | 1035 |

### RENAULT

|           |      |     |     |      |     |
|-----------|------|-----|-----|------|-----|
| 18TS/GTS  | 5750 | 92  | 230 | 1150 | 686 |
| 20 TL/GTL | 5500 | 98  | 200 | 1150 | 596 |
| 20 TX     | 5500 | 112 | 230 | 1150 | 686 |
| 20 TX     | 5000 | 112 | 230 | 1150 | 686 |
| 4 GTL     | 4000 | 33  | 70  | 1150 | 209 |
| 4L/TL     | 4250 | 20  | 40  | 1150 | 119 |

| Engine Model  | RPM  | HP | Intake CFM | -- Exhaust -- |            |
|---------------|------|----|------------|---------------|------------|
|               |      |    |            | Temp. (°F)    | Flow (CFM) |
| 9 TD/GTD      | 4800 |    |            | 900           |            |
| FUEGO TURBO D |      |    |            |               |            |
|               | 4250 | 85 | 211        | 900           | 531        |
| TRAFIC        | 4750 | 46 | 90         | 1150          | 268        |
| TRAFIC        | 5000 | 46 | 90         | 1150          | 268        |
| TRAFIC PROP   |      |    |            |               |            |
|               | 4000 | 56 | 140        | 900           | 353        |

### SAME

|         |      |     |     |  |     |
|---------|------|-----|-----|--|-----|
| 1052 LP | 2500 | 39  | 83  |  | 71  |
| 1053 P  | 2500 | 64  | 124 |  | 106 |
| 1054 P  | 2500 | 85  | 165 |  | 141 |
| 1054 PT | 2300 | 90  | 152 |  | 129 |
| 1055 P  | 2500 | 105 | 206 |  | 175 |
| 1056 P  | 2500 | 126 | 248 |  | 211 |
| 1056 PS | 2300 | 148 | 228 |  | 194 |
| 1056 PT | 2300 | 160 | 228 |  | 194 |
| 916.3A  | 3000 | 61  | 131 |  | 112 |
| 916.4A  | 3000 | 81  | 175 |  | 149 |

### TELEDYNE

|         |      |     |     |  |     |
|---------|------|-----|-----|--|-----|
| ACN     | 3600 | 6   | 13  |  | 11  |
| AENL    | 3600 | 9   | 20  |  | 17  |
| AGND    | 3200 | 12  | 26  |  | 22  |
| BKN     | 3600 | 7   | 16  |  | 14  |
| EY18-3W | 3600 | 5   | 10  |  | 9   |
| EY21W   | 3800 | 17  | 33  |  | 28  |
| EY25W   | 3600 | 6   | 15  |  | 13  |
| EY27W   | 3600 | 8   | 16  |  | 14  |
| EY44W   | 3600 | 10  | 22  |  | 19  |
| NH4D    | 2800 | 30  | 75  |  | 64  |
| R08     | 5000 | 27  | 60  |  | 51  |
| R11     | 4200 | 34  | 73  |  | 62  |
| R14     | 4200 | 48  | 105 |  | 89  |
| R17     | 5000 | 83  | 180 |  | 153 |
| R22     | 5500 | 101 | 220 |  | 187 |
| RD16    | 4800 | 54  | 135 |  | 115 |
| RD21    | 4200 | 62  | 155 |  | 132 |
| S-12D   | 3600 | 12  | 31  |  | 26  |
| S-14D   | 3600 | 14  | 30  |  | 26  |
| S-8D    | 3600 | 8   | 18  |  | 15  |
| TJD     | 3600 | 18  | 48  |  | 41  |
| TM13    | 3000 | 33  | 70  |  | 60  |
| TM13    | 3000 | 22  | 45  |  | 38  |
| TM20    | 3000 | 52  | 100 |  | 85  |
| TM20    | 3000 | 44  | 90  |  | 77  |
| TM27    | 3000 | 69  | 125 |  | 106 |
| TM27    | 3000 | 59  | 120 |  | 102 |
| TMD13   | 3000 | 29  | 72  |  | 61  |
| TMD20   | 3000 | 44  | 110 |  | 94  |
| TMD27   | 3000 | 121 | 300 |  | 256 |
| TRA-12D | 3600 | 12  | 25  |  | 21  |
| V-465D  | 3000 | 66  | 133 |  | 113 |
| V460D   | 3000 |     | 65  |  | 55  |
| VE4     | 2400 |     | 48  |  | 41  |
| VF4     | 2400 |     | 56  |  | 48  |
| VG4D    | 2400 | 37  | 75  |  | 64  |
| VH4     | 2800 |     | 61  |  | 52  |
| VH4D    | 2800 | 30  | 65  |  | 55  |
| VR4D    | 2200 | 37  | 122 |  | 104 |
| W2-1230 | 3600 | 25  | 55  |  | 47  |
| W2-1235 | 3600 | 30  | 68  |  | 58  |
| W2-880  | 3600 | 20  | 44  |  | 37  |
| W4-1770 | 3000 | 35  | 72  |  | 61  |
| WD1-340 | 3000 | 7   | 18  |  | 15  |

| Engine Model | RPM | HP | -- Exhaust --     |            |
|--------------|-----|----|-------------------|------------|
|              |     |    | Intake Temp. (°F) | Flow (CFM) |

**TELEDYNE CONTINUED**

|               |      |    |    |    |
|---------------|------|----|----|----|
| WD1-350.....  | 3000 | 8  | 20 | 17 |
| WD1-430.....  | 3000 | 10 | 24 | 20 |
| WD1-450.....  | 3400 | 10 | 26 | 22 |
| WD1-660.....  | 3000 | 15 | 38 | 32 |
| WD1-670.....  | 3000 | 16 | 40 | 34 |
| WD1-750.....  | 3000 | 17 | 43 | 37 |
| WD2-1000..... | 3000 | 21 | 52 | 44 |
| WD2-860.....  | 3000 | 19 | 48 | 41 |
| WI-145.....   | 4000 | 4  | 8  | 7  |
| WI-145V.....  | 3600 | 4  | 8  | 7  |
| WI-185.....   | 3600 | 5  | 10 | 9  |
| WI-185V.....  | 3600 | 5  | 10 | 9  |
| WI-340.....   | 3600 | 9  | 20 | 17 |
| WI-390.....   | 3600 | 11 | 22 | 19 |
| WI-588.....   | 3600 | 16 | 34 | 29 |

**VOLKSWAGON**

|            |      |    |     |      |     |
|------------|------|----|-----|------|-----|
| 026.2..... | 2200 | 70 | 140 | 1150 | 417 |
| 068.5..... | 4000 | 48 | 90  | 900  | 227 |
| 068.A..... | 4000 | 60 | 120 | 900  | 302 |
| 075.1..... | 4000 | 75 | 145 | 900  | 365 |
| 126A.....  | 2000 | 45 | 90  | 1150 | 268 |

**VOLVO**

|                |      |     |     |     |      |
|----------------|------|-----|-----|-----|------|
| D45BPP.....    | 2300 | 75  | 195 | 900 | 491  |
| TD100G.....    | 2000 | 223 | 460 | 900 | 1159 |
| TD100GPP.....  | 2000 | 223 | 460 | 900 | 1159 |
| TD120HP.....   | 2000 | 286 | 575 | 900 | 1448 |
| TD121G.....    | 2000 | 284 | 575 | 900 | 1448 |
| TD45B.....     | 2200 | 90  | 235 | 900 | 592  |
| TD61A.....     | 2500 | 154 | 330 | 900 | 831  |
| TD61AP.....    | 2500 | 165 | 350 | 900 | 881  |
| TD61AW.....    | 2500 | 162 | 350 | 900 | 881  |
| TD71A.....     | 2200 | 189 | 360 | 900 | 907  |
| TD71AP.....    | 2200 | 192 | 360 | 900 | 907  |
| TD71AW.....    | 2400 | 190 | 360 | 900 | 907  |
| TID100KPP..... | 2000 | 249 | 515 | 900 | 1297 |
| TID121KP.....  | 2000 | 343 | 695 | 900 | 1750 |
| TID121LP.....  | 1800 | 401 | 800 | 900 | 2015 |
| TID71A.....    | 2200 | 216 | 380 | 900 | 957  |
| TID71AP.....   | 2200 | 209 | 400 | 900 | 1007 |

| Engine Model | RPM | HP | -- Exhaust --     |            |
|--------------|-----|----|-------------------|------------|
|              |     |    | Intake Temp. (°F) | Flow (CFM) |

**WAUKESHA**

|               |      |      |      |      |
|---------------|------|------|------|------|
| 190DLC.....   | 2800 | 84   | 128  | 109  |
| 197DLC.....   | 2800 | 91   | 208  | 177  |
| 197DLCS.....  | 2800 | 131  | 320  | 273  |
| D317D.....    | 2400 | 118  | 285  | 243  |
| D317DS.....   | 2400 | 142  | 340  | 290  |
| F1197D.....   | 1800 | 258  | 620  | 528  |
| F1197DS.....  | 1800 | 400  | 960  | 818  |
| F1197DSI..... | 2400 | 462  | 1100 | 937  |
| F1905DS.....  | 1200 | 397  | 860  | 733  |
| F1905DSI..... | 2200 | 514  | 1015 | 865  |
| F2896D.....   | 1200 | 415  | 804  | 685  |
| F2896DS.....  | 1200 | 695  | 1032 | 879  |
| F2896DSI..... | 1200 | 877  | 1305 | 1112 |
| F475D.....    | 2400 | 182  | 440  | 375  |
| F475DS.....   | 2400 | 216  | 520  | 443  |
| F674D.....    | 2200 | 226  | 540  | 460  |
| F674DS.....   | 2200 | 229  | 550  | 469  |
| H1077D.....   | 2400 | 346  | 630  | 537  |
| H1077DS.....  | 2400 | 522  | 1080 | 920  |
| H1077DSI..... | 2400 | 557  | 1190 | 1014 |
| H866DS.....   | 2300 | 384  | 920  | 784  |
| L1616D.....   | 2400 | 520  | 940  | 801  |
| L1616DS.....  | 2400 | 785  | 1680 | 1431 |
| L1616DSI..... | 2400 | 836  | 1850 | 1576 |
| L5100D.....   | 1200 | 830  | 1420 | 1210 |
| L5100DS.....  | 1200 | 1232 | 2170 | 1849 |
| L5100DSI..... | 1200 | 1375 | 2560 | 2181 |
| L5790D.....   | 1200 | 905  | 1710 | 1457 |
| L5790DS.....  | 1200 | 1235 | 2600 | 2215 |
| L5790DSI..... | 1200 | 1754 | 3080 | 2624 |
| LRDCS.....    | 1200 | 695  | 1032 | 879  |
| NKDC.....     | 1200 | 297  | 566  | 482  |
| NKDCS.....    | 1200 | 390  | 860  | 733  |
| P2154D.....   | 2200 | 592  | 1420 | 1210 |
| P2154DS.....  | 2200 | 1017 | 2450 | 2087 |
| P2154DSI..... | 2200 | 1077 | 2600 | 2215 |
| VLRD.....     | 1200 | 905  | 1710 | 1457 |
| VLRDS.....    | 1200 | 1235 | 2600 | 2215 |
| VRD232.....   | 2200 | 68   | 160  | 136  |
| VRD283.....   | 2200 | 76   | 180  | 153  |
| VRD310.....   | 2400 | 106  | 255  | 217  |
| WAKD.....     | 1800 | 258  | 530  | 451  |
| WAKDS.....    | 1800 | 400  | 810  | 690  |

| Engine Model | RPM | HP | -- Exhaust --     |            |
|--------------|-----|----|-------------------|------------|
|              |     |    | Intake Temp. (°F) | Flow (CFM) |

**WHITE ENG**

|                |      |     |     |     |
|----------------|------|-----|-----|-----|
| D-2000.....    | 2600 | 70  | 120 | 102 |
| D-2300.....    | 2400 | 137 | 117 | 117 |
| D-2300T.....   | 2400 | 211 | 180 | 180 |
| D-3000.....    | 2800 | 110 | 193 | 164 |
| D-3000T.....   | 2600 | 130 | 280 | 239 |
| D-3300T.....   | 1800 | 175 | 149 | 149 |
| D-3400.....    | 2400 | 210 | 179 | 179 |
| D-3400T.....   | 2400 | 333 | 284 | 284 |
| D-4800.....    | 2400 | 260 | 221 | 221 |
| D-4800T.....   | 2400 | 400 | 341 | 341 |
| D-4800TA.....  | 2400 | 400 | 341 | 341 |
| D-4800TAH..... | 1800 | 431 | 367 | 367 |
| G-1600.....    | 2400 | 102 | 87  | 87  |
| G-2000.....    | 2800 | 84  | 102 | 102 |
| G-2300.....    | 2400 | 130 | 111 | 111 |
| G-3000.....    | 2800 | 130 | 181 | 154 |
| G-3400.....    | 2400 | 210 | 179 | 179 |

**YANMAR**

|                |      |      |      |     |      |
|----------------|------|------|------|-----|------|
| 12LAAL-DT..... | 1800 | 1060 | 2772 | 900 | 6981 |
| 3T95LE.....    | 2800 | 51   | 114  | 900 | 287  |
| 4HAL.....      | 1800 | 110  | 260  | 900 | 655  |
| 4T95LE.....    | 2800 | 68   | 150  | 900 | 378  |
| 4T95LTE.....   | 2800 | 85   | 208  | 900 | 524  |
| 6HAL.....      | 1800 | 165  | 390  | 900 | 982  |
| 6HAL-DT.....   | 1800 | 330  | 837  | 900 | 2108 |
| 6HAL-HT.....   | 1800 | 264  | 692  | 900 | 1743 |
| 6HAL-T.....    | 1800 | 209  | 512  | 900 | 1289 |
| 6LAAL-DT.....  | 1800 | 530  | 1370 | 900 | 3450 |
| 6T95LE.....    | 2800 | 102  | 233  | 900 | 587  |
| 6T95LTE.....   | 2800 | 128  | 314  | 900 | 791  |
| 8LAAL-DT.....  | 1800 | 705  | 1800 | 900 | 4533 |