

## RUSSIAN AIRCRAFT OPERATION TABLE (Battle of Stalingrad)

|                                      | (Unit)       | Lagg-3             | Yak-1              | Il-2                                  | Pe-2               | La-5                       |
|--------------------------------------|--------------|--------------------|--------------------|---------------------------------------|--------------------|----------------------------|
| <b>TEMPERATURES(max)</b>             |              |                    |                    |                                       |                    |                            |
| Water or cylinder                    | deg C        | 100°               | 100°               | 120°                                  | 100°               | 215°                       |
| Oil (INTAKE)                         | deg C        | -                  | -                  | 85°                                   | -                  | -                          |
| Oil (OUTPUT)                         | deg C        | 115°               | 115°               | 120°                                  | 115°               | 125°                       |
| <b>ENGINE SETTINGS</b>               | <b>model</b> | <b>M-105PF (s)</b> | <b>M-105PF (s)</b> | <b>AM-38 (s)</b>                      | <b>M-105RF (s)</b> | <b>M-82 (p)</b>            |
| <b>Normal Operation</b>              | RU: Hg       | 1050mm             | 1050mm             | 1180mm                                | 1050mm             | 950mm                      |
|                                      | RPM          |                    |                    |                                       |                    |                            |
| <b>Combat / Climb</b>                | GER: ATA     | ~                  | ~                  | ~                                     | ~                  | ~                          |
|                                      | RPM          |                    |                    |                                       |                    |                            |
| <b>Emergency Power/ Boost</b>        | RU: Hg       | -                  | -                  | 1280mm                                | -                  | 1140mm                     |
|                                      | RPM          |                    |                    |                                       |                    |                            |
| <b>Supercharger Stage 1</b>          | GER: ATA     | inf. 2500m         | inf. 2300m         | -                                     | inf. 2300m         | inf. 3500m                 |
|                                      | RPM          |                    |                    |                                       |                    |                            |
| <b>Supercharger Stage 2</b>          | meters       | sup. 2500m         | sup. 2300m         | -                                     | sup. 2300m         | sup. 3500m                 |
| <b>Notes</b>                         | -            |                    | -                  | Mixture lever fully forward for boost | -                  | Close cowl flaps in combat |
| <b>AIRSPEEDS</b>                     |              |                    |                    |                                       |                    |                            |
| <b>Takeoff – Rotation</b>            | km/h         | 165...200          | 160...190          | 150...190                             | 160...200          | 170...200                  |
| <b>Optimal Climb speed</b>           | km/h         | 270                | 260                | 250                                   | 240                | 250                        |
| <b>Landing – Final</b>               | km/h         | 200                | 200                | 190                                   | 230                | 205                        |
| <b>Landing – Touchdown</b>           | km/h         | 150                | 140                | 140                                   | 160                | 155                        |
| <b>Glideslope</b>                    | km/h         | 200...210          | 195-205            | 185...195                             | 220...240          | 200...210                  |
| <b>Stall speed (in flight conf.)</b> | km/h         | 163...189          | 158...175          | 138...158                             | 175...200          | 165...183                  |
| <b>Max dive speed</b>                | km/h         | 750                | 720                | 570                                   | 790                | 720                        |
| <b>Levers</b>                        |              | Throttle           | Throttle           | Throttle                              | Throttle           | Throttle                   |
|                                      |              | Water rad          | Water rad          | Water rad                             | Water rad          | Cowl shutter               |
|                                      |              | Oil rad            | Oil rad            | Oil rad                               |                    | Oil rad                    |
|                                      |              | Mixture            | Mixture            | Mix auto @ 50%                        | Mixture            | Mix auto @100%             |
|                                      |              | RPM                | RPM                | RPM                                   | RPM                | RPM                        |
| <b>TRIM</b>                          |              | ELV/AIL/RUD        | ELV                | ELV                                   |                    | ELV/AIL/RUD                |
| <b>TailWheel</b>                     |              |                    | Tailwheel lock     | Tailwheel lock                        |                    | Cowl shutters              |
| <b>Other</b>                         |              |                    | Flaps: In or out   | Close oil rads for ground             | Dive break         | always open except in dive |