

## TURBO-PROP ENGINE CHARACTERISTICS

| MODEL DESIGNATION<br>(USAF & MFR)<br>MFR     | AIRCRAFT<br>INSTALLED IN | DESCRIPTION   | ENGINE RATINGS   |                            |  |                |                          | FUEL<br>TYPE  | COMPRESSOR<br>TYPE<br>NO. STAGES<br>COMP. RATIO | * TURBINE<br>NO. STAGES | PROPELLER<br>SHAFT NO.<br>RED. GEAR<br>RATIO | SIZE<br>(INCHES)<br>LENGTH<br>DIAMETER | WEIGHT<br>(LB)<br>DHW |
|--|--------------------------|---|--|----------------------------|--|----------------|--------------------------|---------------|---|-------------------------|--|--|-----------------------|
|  |                          |   | ESHP RPM   | S.F.C.<br>(LB. 18-ESHP-HR) | SHP                                      | THRUST<br>(LB) | AT SEA<br>LEVEL STATIC   |               |   |                         |  |  |                       |
| XT31-GE-1<br>(7E-TG-100-A-1)<br>General Elec | XF-81                    | A high speed turbine type power plant designed to drive a propeller through means of a reduction gear. The remaining energy in the exhaust gases not used to drive the propeller, is utilized in a high velocity jet to produce additional propulsive thrust. Provisions for cabin supercharging.<br>Ref: Engine Spec. E-503, Revisions A, 10/1/45. | Max. 1860/13000 ... 0.87 ... 1700 ... 400 ... SLS<br>Mil. 1860/13000 ... 0.87 ... 1700 ... 400 ... SLS<br>Nor. 1590/13000 ... 0.96 ... 1440 ... 380 ... SLS                      | AN-F-32                    | Axial<br>14<br>6.1                       | Single         | 50<br>11.35:1            | 116.0<br>36.0 | 1905  |                         |  |  |                       |
| T31-GE-3<br>(7E-TG-100-B)<br>General Elec    |                          | Same as -1 except is production version to be built to production drawings.<br>Ref: Engine Spec. E-535C, dated 2/17/47.   | SAME AS ABOVE  |                            |  |                |                          | "             | "   | "                       | "  | "                                      | 2005                  |
| XT33-FF-1<br>Brigadier<br>Fred. Flader       |                          | Incorporates a two-stage turbine, one driving compressor and the second stage will be connected to a dual rotation propeller reduction gear. Project cancelled.<br>Ref: Engine Spec. 104-R57, dated 4/8/46.   | Max. 6830/6000 ... 0.59 ... 5900 ... 2260 ... SLS<br>Mil. 6830/6000 ... 0.59 ... 5900 ... 2260 ... SLS<br>Nor. 5050/5700 ... 0.62 ... 4350 ... 1750 ... SLS                      | "                          | Axial<br>11<br>4.7:1                     | 2              | 60-80<br>7:1             | 154.9<br>51.4 | 4805  |                         |  |  |                       |
| XT35-W-1<br>(847GTAA1)<br>Wright             |                          | A high speed turbine type power plant. Engine tests demonstrated ability to obtain Spec. SHP. Project cancelled prior to completion of development phases.<br>Ref: Engine Spec. 847A, revised 12/3/47   | Max. 6055/7080 ... 0.74 ... 5500 ... 1390 ... SLS<br>Mil. 6055/7080 ... 0.74 ... 5500 ... 1390 ... SLS<br>Nor. 6055/7080 ... 0.74 ... 5500 ... 1390 ... SLS<br>Ratings estimated | AN-F-48                    | Centrif<br>2<br>4.29:1-SL                | 2              | 70<br>8.85:1             | 152.0<br>59.0 | 4450  |                         |  |  |                       |
| XT35-W-3<br>(851GTAB-1)<br>Wright            |                          | Same as -1 except compressor, turbine and single rotation reduction gear. Primarily designed for heavy bomber and cargo aircraft. Project cancelled prior to manufacture of an engine.<br>Ref: Engine Spec. 851, dated 2/12/47.   | Max. 9540/7200 ... 0.59 ... 8900 ... 1590 ... SLS<br>Mil. 9540/7200 ... 0.59 ... 8900 ... 1590 ... SLS<br>Nor. 8076/7080 ... 0.55 ... 7500 ... 1440 ... SLS<br>Ratings estimated | "                          | Centrif<br>3<br>8:1                      | 3              | 70<br>11.92:1<br>10.90:1 | 168.0<br>59.0 | 5950  |                         |  |  |                       |
| XT35-W-5<br>(GT-11)<br>Wright                |                          | Same as -3 except is equipped with dual rotation reduction gear. No engines built, project cancelled.<br>Ref: Preliminary Spec. AC-135, dated 11/5/47.  | SAME AS ABOVE  |                            |  |                |                          | "             | "   | "                       | 70-90<br>10.9:1                              | "                                      | "                     |
| XT37-NA-1<br>(Turbodyne II)<br>Turbodyne     |                          | Turbine type power plant designed to deliver power at either end. Development only, project cancelled   | Designed for a nominal rating of 7500 ESHP   |                            |  |                |                          | AN-F-32       | Axial<br>14<br>6:1                              | "                       | 70LH-90<br>-RH<br>7.7:1                      | 167.0<br>44.2                          | 5050                  |
| XT-37-NA-3<br>(II)<br>Turbodyne              |                          | Same as -1 except incorporates a two-stage turbine provides higher ratings and is suitable for aircraft installation if qualification test proves successful.<br>Ref: Engine Spec. NHS-102, revised 12/4/48   | Max. 10880/7088 ... 0.67 ... 10000 ... 2200 ... SLS<br>Mil. None<br>Nor. 8880/7088 ... 0.65 ... 8100 ... 1950 ... SLS  | "                          | "  | 2              | "                        | 167.0<br>46.0 | 6000  |                         |  |  |                       |
| XT39-A-1<br>(504-A2)<br>Allison              |                          | Drives a dual counter-rotating propeller, Primarily designed for high speed, long range and high altitude aircraft. Project cancelled.  | Max. 9540/7000 ... 0.53 ... 9000 ... 1340 ... SLS<br>Mil. 9540/7000 ... 0.53 ... 9000 ... 1340 ... SLS<br>Nor. 7290/6850 ... 0.61 ... 6850 ... 1200 ... SLS                      | "                          | Axial<br>16<br>6.2:1                     | 4              | 80-100<br>13:1           | 176.0<br>39.0 | 3700  |                         |  |  |                       |
| XT41-GE-1<br>(7E-TG-110-A-1)<br>General Elec |                          | Similar to T31-GE-1 except for increased horsepower, design changes and difference in reduction gear. All procurement cancelled.<br>Ref: Preliminary data from Revision A of GETG-110.  | Max. 3010/12800 ... ----- ... 2700 ... 780 ... SLS<br>Mil. 3010/12800 ... ----- ... 2700 ... 780 ... SLS<br>Nor. 2550/12800 ... ----- ... ----- ... ----- SLS                    | "                          | Axial<br>14<br>-----                     | 2              | 60A<br>11.14:1           | 88.9<br>40.0  | 2400  |                         |  |  |                       |
| XT43-W-1<br>(GTC-1)<br>Wright                |                          | A high speed turbine type power plant. Project cancelled after design and drawing stages completed.<br>Ref: Preliminary Spec. AC-100-B, dated 3/6/46.   | Designed for a nominal rating of 10,000 ESHP   |                            |  |                |                          | AN-F-48       | Axial<br>14<br>5:1                              | 3                       | 70<br>12.46:1                                | 163.6<br>45.0                          | 6400                  |
| XT45-P-1<br>(PT-4)<br>Pratt-Whitney          |                          | A high speed turbine type power plant suitable for high speed, long range bomber aircraft. Multi-stage compressor. Compressor and turbine to be split into low and high pressure stages. Development terminated.<br>Ref: Engine Spec. A-5500-A, dated 5/10/48.  | Max. 11088/----- ... 0.596 ... 10000 ... 2720 ... SLS<br>Mil. 10507/----- ... 0.602 ... 9530 ... 2440 ... SLS<br>Nor. 9000/----- ... 0.629 ... 8080 ... 2300 ... SLS             | AN-F-32                    | Axial<br>7(Drum-1)<br>6(Drum-2)<br>----- | "              | "                        | 183.0<br>54.0 |   |                         |  |  |                       |

\*All turbines are of the axial flow, impulse reaction type.