TURBO-JET ENGINE CHARACTERISTICS

MODEL DESIGNATION (USAF & MFR) MANUFACTURER	AIRCRAFT INSTALLED IN	DESCRIPTION	ENGINE RATINGS THRUST/RPM (LB) — S.F.C. (LB/LB-THR-HR) — VELOCITY (KNOTS) — ALTITUDE (FEET)	FUEL TYPE	COMPRESSOR TYPE NO. STAGES COMP. RATIO	* TURBINE NO. STAGES	SIZE (INCHES) LENGTH DIAMETER	WEIGHT (LB) DRY
XJ30-WE-1 (X19B) Westinghouse	XP-79B	Incorporates a six-stage axial-flow compressor, singular annular combustion chamber, single-stage turbine and adjustable exhaust nozzle. Ref: Service Manual for Model X19B, revised 12/1/45.	Max. 1365/18000 .... —— ..... 0 ..... SL Mil. 1365/18000 .... —— ..... 0 ..... SL Nor. ——/—— .... —— ..... 0 ..... SL	AN-F-48	Axial 6 3.1:1	Single	104.5 19.0	826
XJ30-WE-3 (X19XB2B) Westinghouse	XB-42A	Improved version of the -1. Incorporates a fixed area exhaust nozzle, increased stages of compressions and thrust bearing location change. Ref: Installation Manual for X19XB 2B, revised 6/1/47.	Max. 1600/17000 .... 1.15 ..... 0 ..... SL Mil. 1600/17000 .... 1.15 ..... 0 ..... SL Nor. 1330/15700 .... 1.13 ..... 0 ..... SL	"	Axial 10 3.5:1	"	94.0 19.0	675
XJ30-WE-5 (X19XB3) Westinghouse	XB-42A	Improved version of the -3. Compression ratio increased. Parts refined. Ref: Installation Manual for X19XB3, revised 6/1/47.	Max. 1700/17000 .... 1.11 ..... 0 ..... SL Mil. 1700/17000 .... 1.11 ..... 0 ..... SL Nor. 1330/15700 .... 1.08 ..... 0 ..... SL	"	Axial 10 4:1	"	"	659
XJ30-P-7 (19XB2B) Pratt-Whitney		Similar to XJ30-WE-3, but is a production J30-P-20 built for the Navy. Westinghouae design manufactured by P&W. Right-hand mounted gearbox. Ref: Specification WAGT-19XB2B-102-D, dated 12/13/46.	Max. 1560/17000 .... 1.17 ..... 0 ..... SL Mil. 1560/17000 .... 1.17 ..... 0 ..... SL Nor. 1285/15700 .... 1.14 ..... 0 ..... SL	"	Axial 10 3.5:1	"	"	687
XJ30-WE-7 (19XB2B) Westinghouse		Similar to XJ30-P-7. Manufactured by Westinghouse Ref: Specification WAGT-19XB2B-102-D, dated 12/13/46.	SAME AS ABOVE	"	"	"	"	"
XJ30-P-9 (19XB2B) Pratt-Whitney		Same as XJ30-P-7 except incorporates a left-hand gear box. Westinghouse design manufactured by P&W. Ref: Specification WAGT-19XB2B-102-D, dated 12/13/46.	SAME AS ABOVE	"	"	"	"	"
XJ30-WE-9 (19XB2B) Westinghouse		Similar to XJ30-WE-7 and the Navy model J30-P-20 except incorporates a left-hand gear box. Manufactured by Westinghouse. Out of production. Ref: Specification WAGT-19XB2B-102-D, dated 12/13/46	SAME AS ABOVE	"	"	"	"	"
J31-GE-1 (7E-1-16-A1) General Elec	YP-59A	Incorporates 10 reverse flow combustion chambers arranged in parallel between the compressor and the turbine. Formerly known as 1-16-1 or -1A. Ref, Engine Spec. E-1, dated 1/20/44.	Max. 1610/16500 .... 1.23 ..... 0 ..... SL Mil. 1610/16500 .... 1.23 ..... 0 ..... SL Nor. 1450/16000 .... —— ..... 0 ..... SL	AN-F-32	Centrif. Single 4:1	"	72.0 41.5	865
J31-GE-3 (7E-1-16-A3) General Elec	YP-59A	Same as -1 except mounting trunnions are reversed to provide right-hand mounting. The accessory section is also reversed. Formerly know as the 1-16-3 or -3A. Ref: Engine Spec. E-1, dated 1/20/44.	SAME AS ABOVE	"	"	"	"	"
J31-GE-5 (7E-1-16-B5) General Elec	XP-59A YP-59A P-59A P-59B	Same as -1 except improved design. Formerly known as 1-16-5. Ref: Engine Spec. E-1, Amendment No. 1, dated 5/1/45.	Max. 1550/16500 .... 1.25 ..... 0 ..... SL Mil. 1550/16500 .... 1.25 ..... 0 ..... SL Nor. 1380/16000 .... —— ..... 0 ..... SL	"	"	"	"	"
J31-GE-7 (7E-1-16-B7) General Elec	XP-59A YP-59A P-59A P-59B	Similar to -3 except for the design improvement on J31-GE-5. Right-hand installation in P-59 airplane. Formerly known as 1-16-7. Ref: Engine Spec. E-1, Amendment No. 1, dated 5/1/45.	SAME AS ABOVE	"	"	"	"	"

WAB - WITH AFTERBURNER
WABNO - WITH AFTERBURNER NOT OPERATING

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

TURBO-JET ENGINE CHARACTERISTICS

MODEL DESIGNATION (USAF & MFR) MANUFACTURER	AIRCRAFT INSTALLED IN	DESCRIPTION	ENGINE RATINGS THRUST/RPM (LB) — S.F.C. (LB/LB-THR-HR) — VELOCITY (KNOTS) — ALTITUDE (FEET)	FUEL TYPE	COMPRESSOR TYPE NO. STAGES COMP. RATIO	* TURBINE NO. STAGES	SIZE (INCHES) LENGTH DIAMETER	WEIGHT (LB) DRY
XJ33-GE-1 (7E-I-40-A1) General Elec	XP-81	Derives power from hot gases generated in 14 "through-flow" combustion chambers. Provisions for cabin super-charging. Vultee configuration manufactured by G.E. Formerly known as I-40-1.	Max. 3750/11500 .... 1.22 ..... 0 ..... SL Mil. 3750/11500 .... 1.22 ..... 0 ..... SL Nor. 3200/11000 .... —— ..... 0 ..... SL	AN-F-32	Centrif Single 4:1	Single	102.9 51.0	1775
XJ33-GE-3 (7E-I-40-A3) General Elec		Derives power from hot gases generated in 14 "through-flow" combustion chambers. Provisions for cabin super-charging. Lockheed configuration manufactured by G.E. Formerly known as I-40-3.	SAME AS ABOVE	"	"	"	"	"
XJ33-GE-5 (7E-I-40-5) General Elec	XP-83	Similar to the -1. Bell configuration manufactured by G.E. Provisions for cabin supercharging. Formerly known as the I-40-5.	SAME AS ABOVE	"	"	"	"	"
XJ33-GE-7 (7E-I-40-A7) General Elec	XF-80	Similar to -3 except for piping revision to incorporate flexible hose throughout. A Lockheed configuration of the XJ33-GE-11 except for exhaust cone connection. Formerly known as the I-40-7.	Max. 3825/11500 .... 1.22 ..... 0 ..... SL Mil. 3825/11500 .... 1.22 ..... 0 ..... SL Nor. 3275/11000 .... —— ..... 0 ..... SL	"	"	"	103.0 50.5	1875
J33-A-9 (7E-I-40-A9) Allison	F-80A XRF-80A RF-80A	Similar to XJ33-GE-7. A Lockheed configuration manufact-ured by Allison. Formerly known as I-40-9.	SAME AS ABOVE	AN-F-32 or AN-F-48	"	"	"	"
J33-A-9A (7E-I-40-A9) Allison	F-80A RF-80A	Same as -9 except modification changing starting pump drive to hydraulic pump drive.	SAME AS ABOVE	"	"	"	"	"
J33-A-9B Allison	F-80A F-80B	Same as -9 except for addition of water-alcohol manifold and incorporation of -17 type combustion chamber liners, nozzle diaphragm and other such improved parts.	Max.*4500/11500 .... —— ..... 0 ..... SL Mil. 3825/11500 .... 1.22 ..... 0 ..... SL Nor. 3275/11000 .... —— ..... 0 ..... SL *Wet	"	"	"	"	1880
XJ33-GE-11 (7E-I-40-A11) General Elec	F-80A XRF-80A RF-80A	Same as -3 except for piping revision to incorporate flexi-ble hose throughout. A Lockheed configuration manufact-ured by G.E. Formerly known as I-40-11. Ref: Engine Spec. E-25lb, dated 9/19/45.	Max. 3825/11500 .... 1.22 ..... 0 ..... SL Mil. 3825/11500 .... 1.22 ..... 0 ..... SL Nor. 3275/11000 .... —— ..... 0 ..... SL	AN-F-32	"	"	103.0 51.0	1775
J33-GE-11A (7E-I-40-A11) General Elec	F-80A RF-80A	Same as -11 except modification changing starting pump drive to hydraulic pump drive. Ref: Engine Spec. E-25lb, dated 9/19/45.	SAME AS ABOVE	AN-F-32 or AN-F-48	"	"	"	"
J33-GE-11B General Elec	F-80A F-80B	Same as -11A except for addition of water-alcohol manifold and incorporation of -17 type combustion chamber liners, nozzle diaphragm and other such improved parts. Ref: Engine Spec. E-25lb, dated 9/19/45	Max.*4500/11500 .... —— ..... 0 ..... SL Mil. 3825/11500 .... 1.22 ..... 0 ..... SL Nor. 3275/11000 .... —— ..... 0 ..... SL *Wet	"	"	"	103.0 50.5	1780
J33-A-13 (7E-I-40-A17) Allison		Similar to -9 except is suitable for burning gasoline and in-corporates a redesigned accessory drive assembly. None built.	Max. 3825/11500 .... 1.22 ..... 0 ..... SL Mil. 3825/11500 .... 1.22 ..... 0 ..... SL Nor. 3275/11000 .... —— ..... 0 ..... SL	"	"	"	"	1875

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TURBO-JET ENGINE CHARACTERISTICS

MODEL DESIGNATION (USAF & MFR) MANUFACTURER	AIRCRAFT INSTALLED IN	DESCRIPTION	ENGINE RATINGS THRUST/RPM (LB) ... S.F.C. (LB/LB-THR-HR) ... VELOCITY (KNOTS) ... ALTITUDE (FEET)	FUEL TYPE	COMPRESSOR TYPE NO. STAGES COMP. RATIO	* TURBINE NO. STAGES	SIZE (INCHES) LENGTH DIAMETER	WEIGHT (LB) DRY
J33-GE-15 (7E-I-40-A17) General Elec		Same as -11 except is suitable for burning gasoline and incorporates a redesigned accessory drive assembly. None built.	Max. 3825/11500 .... 1.22 ..... 0 ..... SL Mil. 3825/11500 .... 1.22 ..... 0 ..... SL Nor. 3275/11000 .... ——— ..... 0 ..... SL	AN-F-32 or AN-F-48	Centrif Single 4:1	Single	103.0 50.5	1775
J33-A-17 Allison	F-80A RF-80A	Similar to -9 except for modification permitting burning of gasoline and changing starting pump drive to hydraulic pump drive. Ref: Engine Spec. 248-B, dated 1/21/46 revised 2/22/46	SAME AS ABOVE	"	"	"	"	1875
J33-A-17A Allison	F-80A F-80B	Same as -17 except for addition of water-alcohol manifold. Ref: Engine Spec. 248-B, dated 1/21/46 revised 2/22/46.	Max.*4500/11500 .... ——— ..... 0 ..... SL Mil. 3825/11500 .... 1.22 ..... 0 ..... SL Nor. 3275/11000 .... ——— ..... 0 ..... SL *Wet	AN-F-32	"	"	"	"
J33-A-19 (J33-C1) Allison		Compressor and turbine design changed for increased air flow and performance. Ref: Engine Spec. 253-A, dated 2/14/46 revised 1/22/47.	Max.*5400/11750 .... ——— ..... 0 ..... SL Mil. 4600/11750 .... 1.15 ..... 0 ..... SL Nor. 3600/11000 .... 1.12 ..... 0 ..... SL *Wet	"	Centrif Single 4.5:1	"	"	1785
J33-A-21 (400-C4) Allison	F-80A F-80B	Similar to -17 except incorporates water-alcohol injection equipment and improvements to major engine components. Production terminated. Ref: Spec. 257-A, 11/21/46 rev. 1/8/47 & Am. 1, 7/11/47	Max.*4500/11500 .... ——— ..... 0 ..... SL Mil. 3825/11500 .... 1.22 ..... 0 ..... SL Nor. 3275/11000 .... ——— ..... 0 ..... SL *Wet	"	Centrif Single 4:1	"	"	1850
J33-A-23 (400-C5) Allison	F-80C T-33A	Major redesign of compressor and turbine for increased capacities and efficiencies. Ref: Spec. 258-D, 2/25/47 rev. 3/8/48 & Am. 2, 3/25/49.	Max.*5400/11750 .... ——— ..... 0 ..... SL Mil. 4600/11750 .... 1.14 ..... 0 ..... SL Nor. 3900/11250 .... 1.12 ..... 0 ..... SL *Wet	"	Centrif Single 4.5:1	"	107.0 50.5	1795
XJ33-A-25 (400-C6) Allison		Basically the same as the -23 but has redesigned compressor diffuser, combustion chambers, turbine wheel and tailcone to provide for greater mass flow and higher ratings. Incorporates water-alcohol injection. Ref, Engine Spec. 262, dated 7/7/47	Max. *6200/11500 .... ——— ..... 0 ..... SL Mil. 5250/11500 .... ——— ..... 0 ..... SL Nor. 4100/11000 .... ——— ..... 0 ..... SL *Wet	AN-F-32 or AN-F-48 or AN-F-58	"	"	103.0 51.0	1800
J33-A-27 (400-D4) Allison		Further improvements in compressor burner and turbine components for increased ratings. New accessory case. Ref: Engine Spec. 275-A, 1/26/48 revised 2/18/48	Max.*6500/11800 .... ——— ..... 0 ..... SL Mil. 5850/11800 .... 1.06 ..... 0 ..... SL Nor. 4800/11200 .... ——— ..... 0 ..... SL *Wet	"	"	"	88.0 50.5	1785
J33-A-29 (400-D2) Allison		Basically identical to the -27 except for addition of an afterburner to provide greater thrust augmentation. Afterburner and tailpipe assembly 116 inches long. Ref: Engine Spec. 271-A, dated 12/19/47 revised 8/19/49	Max.*7500/11800 .... 2.50 ..... 0 ..... SL Mil.**5600/11800 .... 1.15 ..... 0 ..... SL Nor.**4600/11200 .... 1.14 ..... 0 ..... SL *WAB ** WABNO	"	"	"	204.0 50.5	2200
J33-A-31 (400-C5) Allison		This engine is for installation in guided missiles. Same as -13 except that it does not incorporate water-injection or emergency fuel control. Ref: Spec. 258-D, 2/25/47 rev. 3/8/48, App. B, 4/27/48.	Max. 4600/11750 .... 1.13 ..... 0 ..... SL Mil. 4600/11750 .... 1.13 ..... 0 ..... SL Nor. 3900/11250 .... 1.12 ..... 0 ..... SL	AN-F-32 or AN-F-48	"	"	88.0 50.5	1757
J33-A-33 (400-D9) Allison	F-94A	Same as -23 except incorporates the Navy model J33-A-8 gear case with a 10 inch power take-off pad. In addition to the above change, the -33 incorporates an afterburner. Ref: Engine Spec. 281, dated 11/4/48.	Max.*6000/11750 .... 2.50 ..... 0 ..... SL Mil.**4600/11750 .... 1.15 ..... 0 ..... SL Nor.**3900/11250 .... 1.14 ..... 0 ..... SL *WAB **WABNO	AN-F-58	Centrif Single 4:1	"	215.0 49.3	2390

WAB - WITH AFTERBURNER
WABNO - WITH AFTERBURNER NOT OPERATING

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TURBO-JET ENGINE CHARACTERISTICS

MODEL DESIGNATION (USAF & MFR) MANUFACTURER	AIRCRAFT INSTALLED IN	DESCRIPTION	ENGINE RATINGS THRUST/RPM (LB) ..... S.F.C. (LB/LB-THR-HR) ..... VELOCITY (KNOTS) ..... ALTITUDE (FEET)	FUEL TYPE	COMPRESSOR TYPE NO. STAGES COMP. RATIO	* TURBINE NO. STAGES	SIZE (INCHES) LENGTH DIAMETER	WEIGHT (LB) DRY
J33-A-35 (400-C13) Allison	F-80C T-33A	Identical to -23 except that it incorporates a lower fuel pressure system. Ref: Engine Spec. 291, dated 8/15/49.	Max.*5400/11750 .... ——— ..... 0 ..... SL Mil. 4600/11750 .... 1.14 ..... 0 ..... SL Nor. 3900/11250 .... 1.12 ..... 0 ..... SL *Wet	AN-F-48 or AN-F-58	Centrif Single 4:1	Single	107.0 50.5	1795
XJ34-WE-1 (X24C-4A) Westinghouse	XF-87	Equipped with a 11-stage axial flow compressor. Incorporates oil-air mist lubrication. No emergency fuel pump is provided. Ref: Installation Manual for XJ34-WE-1, dated 6/1/47.	Max. 3000/12000 .... 1.05 ..... 0 ..... SL Mil. 3000/12000 .... 1.05 ..... 0 ..... SL Nor. 2430/11000 .... 1.02 ..... 0 ..... SL	AN-F-48	Axial 11 3.76:1	2	119.2 25.6	1164
XJ34-WE-3 (X24C-4B) Westinghouse	XF-85	Similar to -1 except rear section permits inspection and removal of combustion chamber liner without complete disassembly. Incorporates solid oil recirculating oil system. Ref: Installation Manual for XJ34-WE-16, dated 6/1/47	SAME AS ABOVE	"	"	"	119.5 25.6	1151
XJ34-WE-4 (X24C-2) Westinghouse		No further data available than what is shown.	Max. 2400/----- .... 1.28 ..... 0 ..... SL	"	Axial 10 3.5:1	"		1092
XJ34-WE-5 (X24C-4B) Westinghouse	XF-87	Similar to -3 except for left-hand mounted gear box and repiping to gear box components. Ref: Installation Manual for XJ34-WE-16, dated 6/1/47	Max. 3000/12000 .... 1.05 ..... 0 ..... SL Mil. 3000/12000 .... 1.05 ..... 0 ..... SL Nor. 2430/11000 .... 1.02 ..... 0 ..... SL	"	Axial 11 3.76:1	"	119.5 25.6	1173
XJ34-WE-7 (24C-4B) Westinghouse	XF-87	Similar to -5 except production version. Has right-hand mounted gear case and repiping to gear box components. Incorporates emergency fuel pump. Ref: Engine Spec. WAGT-24C4B-102D, dated 1/29/48	Max. 3000/12500 .... 1.08 ..... 0 ..... SL Mil. 3000/12500 .... 1.08 ..... 0 ..... SL Nor. 2290/11500 .... 1.07 ..... 0 ..... SL	"	"	"	120.0 27.0	1184
XJ34-WE-9 (24C-4B) Westinghouse	XF-87	Similar to -7 except left-hand mounted gear box and repiping to gear box components. Ref: Engine Spec. WAGT-24C4B-102D, dated 1/29/48	SAME AS ABOVE	"	"	"	"	"
XJ34-WE-11 (X24-C5) Westinghouse	F-80A	Similar to J34-WE-22 but modified so as to permit J34-WE-30 performance. Incorporates afterburning. Ref: Engine Spec. WAGT-X24C5-2A, dated 8/26/49.	Max.*4100/12500 .... 2.65 ..... 0 ..... SL Mil. *4100/12500 .... 2.65 ..... 0 ..... SL **2920/12500 .... 1.16 ..... 0 ..... SL Nor.**2420/11800 .... 1.15 ..... 0 ..... SL *WAB **WABNO	"	"	"	241.0 27.0	1559
XJ34-WE-13 Westinghouse		Same as XJ34-WE-22 except turbine nozzles and blades changed to permit higher ratings. Ref: WAGT-24C4C-2C, 6/24/48 & WAGT-24C4B-102D, 1/29/48.	Max. 3150/12500 .... 1.08 ..... 0 ..... SL Mil. 3150/12500 .... 1.08 ..... 0 ..... SL Nor. 2620/11800 .... 1.07 ..... 0 ..... SL	"	"	"	120.0 27.0	1216
XJ34-WE-15 Westinghouse		Same as -13 except equipped with Holley R-46 flyball control and has flexible fuel and oil piping. Ref: From -30 Spec WAGT-24C4C-2C, dated 6/24/48.	SAME AS ABOVE	"	"	"	"	"
XJ34-WE-17 (Modified 24C8) Westinghouse		Same as -32 except relocated engine mounting points, different afterburner mounting and engine extension to afterburner. Ref: From -32 Spec. WAGT-X24C8-2D.	Max.*4900/12500 .... 2.60 ..... 0 ..... SL Mil. *4900/12500 .... 2.60 ..... 0 ..... SL **3370/12500 .... 1.08 ..... 0 ..... SL Nor.**3020/12500 .... 1.03 ..... 0 ..... SL *WAB **WABNO	"	Axial 11 4.12:1	"	177.0 27.0	1698

WAB - WITH AFTERBURNER
WABNO - WITH AFTERBURNER NOT OPERATING

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

TURBO-JET ENGINE CHARACTERISTICS

MODEL DESIGNATION (USAF & MFR) MANUFACTURER	AIRCRAFT INSTALLED IN	DESCRIPTION	ENGINE RATINGS THRUST/RPM (LB) ..... S.F.C. (LB/LB-THR-HR) ..... VELOCITY (KNOTS) ..... ALTITUDE (FEET)	FUEL TYPE	COMPRESSOR TYPE NO. STAGES COMP. RATIO	* TURBINE NO. STAGES	SIZE (INCHES) LENGTH DIAMETER	WEIGHT (LB) DRY
J34-WE-22 (24C-4B) Westinghouse	XF-85	Same as -7 except has bottom mounted gear box components. Navy production model. Ref: Engine Spec. WAGT-24C4B-102-D, dated 1/29/48	Max. 3000/12500 .... 1.08 ..... 0 ..... SL Mil. 3000/12500 .... 1.08 ..... 0 ..... SL Nor. 2290/11500 .... 1.07 ..... 0 ..... SL	AN-F-48	Axial 11 3.76:1	2	120.0 27.0	1184
XJ34-WE-32 (X24C-8) Westinghouse		Similar to -22 and -30 with improved performance and additional features including afterburning, emergency fuel system and provisions for anti-icing and cabin pressurization. Ref: Engine Spec WAGT-24C8-2D, dated 4/5/49.	Max.*4900/12500 .... 2.60 ..... 0 ..... SL Mil. *4900/12500 .... 2.60 ..... 0 ..... SL **3370/12500 .... 1.08 ..... 0 ..... SL Nor**3020/----- .... 1.03 ..... 0 ..... SL *WAB **WABNO	"	Axial 11 4.12:1	"	184.0 27.0	1698
XJ35-GE-1 (7E-TG-180-A1) General Elec	XB-43 XF-84 XF-84A YF-84 XB-43	Designed as a "package" unit with the objective of permitting the simplest possible power plant installation. Provisions for cabin supercharging. Ref: Engine Spec. E-501, dated 12/5/44.	Max. 3750/7700 ..... —— ..... 0 ..... SL Mil. 3750/7700 ..... —— ..... 0 ..... SL Nor. 3270/7400 ..... 1.08 ..... 0 ..... SL	AN-F-32	Axial 11 4:1	Single	177.0 40.0	2400
J35-C-3 (7E-TG-180-A5) Chevrolet	XB-43 XB-46 XF-84 XF-84A YF-84	Similar to XJ35-GE-1 except is a production version built by Chevrolet to production drawings. Ref: Engine Spec. E-530D, dated 5/23/46.	Max. 3750/7700 ..... 1.12 ..... 0 ..... SL Mil. 3750/7700 ..... 1.12 ..... 0 ..... SL Nor. 3270/7400 ..... 1.08 ..... 0 ..... SL	"	"	"	168.0 40.0	"
J35-A-5 (TG-180-A7) Allison	XB-43 XB-46 YB-49 XF-86	Same as J35-C-3 except aft-frame thickness has been increased resulting in shortening of the aft-frame casing. This change affects interchangeability of engine parts. Ref: Engine Spec. E-557, dated 11/14/46.	SAME AS ABOVE	"	"	"	"	"
J35-GE-7 (TG-180-B1) General Elec	XB-45	Similar to -1 except for modification which causes engine to be non-interchangeable with other J35 models. To replace XJ35-GE-1 engine. Ref: Engine Spec. E-551, 11/14/46 & Amd. 1, 1/28/47	SAME AS ABOVE	"	"	"	"	"
J35-A-9 (TG-180-D1) (450-D1) Allison		Same as -GE-9 except manufactured by Allison. Production terminated. Ref: Engine Spec. E-571, dated 7/1/47 revised 11/19/47	SAME AS ABOVE	"	"	"	145.0 40.0	2455
J35-GE-9 (TG-180-C1) General Elec	XB-45 XB-47	Similar to -7 except new midframe with cast firewall. Equipped with a short (30") exhaust cone, insulation and island piping center power take-off support. Production terminated. Ref: Engine Spec. E-571, dated 7/1/47 revised 11/19/47.	SAME AS ABOVE	"	"	"	"	"
J35-A-11 Allison		Same as the -7 except for new midframe with cast firewall and equipped with a short exhaust cone, insulation and island piping. Ref: Engine Spec. E-571, dated 7/1/47 revised 11/19/47	SAME AS ABOVE	"	"	"	"	"
J35-A-13 (TG-180-D) Allison	F-84C F-84D	Same as J35-GE-7 except for new midframe with cast firewall and equipped with a short exhaust cone. G.E. design manufactured by Allison. Ref: Engine Spec. E-571, dated 7/1/47 revised 11/19/47.	SAME AS ABOVE	AN-F-32 or AN-F-48	"	"	"	"
XJ35-A-13A (TG-180-D1) Allison	F-84C F-84D	Same as -13 except incorporation of an emergency fuel system. Ref: Engine Spec. E-571, Amd. 2, dated 9/16/47.	SAME AS ABOVE	AN-F-32	"	"	145.0 37.5	"

WAB - WITH AFTERBURNER
WABNO - WITH AFTERBURNER NOT OPERATING

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

TURBO-JET ENGINE CHARACTERISTICS

MODEL DESIGNATION (USAF & MFR) MANUFACTURER	AIRCRAFT INSTALLED IN	DESCRIPTION	ENGINE RATINGS THRUST/RPM (LB) ... S.F.C. (LB/LB-THR-HR) ... VELOCITY (KNOTS) ... ALTITUDE (FEET)	FUEL TYPE	COMPRESSOR TYPE NO. STAGES COMP. RATIO	* TURBINE NO. STAGES	SIZE (INCHES) LENGTH DIAMETER	WEIGHT (LB) DRY
J35-A-15 (TG-180-A9) Allison	YB-49 F-84B F-84C	Same as the -5 except it has no island piping making it non-interchangeable with other J35 models. G.E. design manufactured by Allison. Production terminated. Ref: Engine Spec. E-571, dated 7/1/47 revised 11/19/47.	Max. 3750/7700 ... 1.12 ..... 0 .... SL Mil. 3750/7700 ... 1.12 ..... 0 .... SL Nor. 3270/7400 ... 1.08 ..... 0 .... SL	AN-F-32	Axial 11 4:1	Single	168.0 40.0	2400
J35-A-17 (450-D4) Allison	F-84E	Similar to -13 except has redesigned compressor for higher air-flow giving higher ratings. Ref: Engine Spec. 267-B, dated 10/27/47 revised 8/19/48	Max. 4900/7800 .... 1.08 ..... 0 .... SL Mil. 4900/7800 .... 1.08 ..... 0 .... SL Nor. 4240/7400 ..... ----- ..... 0 .... SL	AN-F-32 or AN-F-48	Axial 11 4.7:1	"	147.0 40.0	2260
J35-A-19 (450-D) Allison	YB-35B RB-35B	Same as -17 except has no emergency fuel system or flow meter. Ref: Engine Spec. 280-A, dated 10/25/48 revised 6/10/49.	SAME AS ABOVE	"	"	"	"	2210
J35-A-21 (450-D10) Allison		Similar to -19 except incorporates afterburning. Ref: Engine Spec. 284, dated 11/4/48.	Max. *6800/7900 ... 2.50 ..... 0 .... SL Mil. **5150/7900 ... 1.11 ..... 0 .... SL Nor. **4400/7500 ... 1.085 ..... 0 .... SL *WAB **WABNO	AN-F-48 or AN-F-58	"	"	248.0 40.0	2635
XJ35-A-23 (450-E1) Allison		Redesigned engine with increased ratings and airflow. Incorporates new compressor, combustion section, turbine accessory drives and variable jet nozzle. Ref: Engine Spec. 286-B, dated 4/29/49 revised 9/13/49.	Max. 9700/6100 ... 0.96 ..... 0 .... SL Mil. 9700/6100 ... 0.96 ..... 0 .... SL Nor. 8200/6100 ... 0.92 ..... 0 .... SL	AN-F-58	Axial 16 8.75:1	2	156.0 37.5	3490
J35-A-25 (450-D12) Allison	F-84E	Similar to -17 except for modified compressor design which increases airflow and ratings. Ref: Data from Letter of Proposal.	Max. 5300/7900 ... 1.105 ..... 0 .... SL Mil. 5300/7900 ... 1.105 ..... 0 .... SL Nor. 4540/7500 .... 1.065 ..... 0 .... SL	"	Axial 11 4.7:1	Single	146.0 37.5	2260
XJ37-LA-1 (L-1000) Wright		Incorporates an intercooling reheat cycle, annular combustion chamber, afterburner and fuel-cooled oil cooler. Lockheed original contractor. Menasco contracted for 4 sets of parts and testing; contract terminated. Wright contracted to continue study, project cancelled. Ref: Engine Spec. MM25001-A, dated 6/30/47.	Max. *5000/15600 ... 1.71 ..... 0 .... SL Mil. **3150/15600 ... 0.87 ..... 0 .... SL Nor. **----/----- ... ----- ..... 0 .... SL *WAB **WABNO	AN-F-32 or AN-F-48	(2) Axial 32 25:1	4	132.5 25.0	1543
J39-GE-1 (7E-1-20-B1) General Elec		Similar to the J31 except for an increase in the compressor and turbine capacity and other design improvements. This engine is assembled for left-handed mounting. Project cancelled. Ref: GE Bul. 82067, 4/-/45 & GE Data Folder 47466, 4/6/44.	Max. 2000/16500 .. 1.24 ..... 0 .... SL Mil. 2000/16500 .. 1.24 ..... 0 .... SL Nor. 1775/16000 .. 1.22 ..... 0 .... SL	"	Centrif Single 4:1	Single	72.3 44.0	950
J39-GE-3 (7E-1-20-B3) General Elec		Similar to -1 except for right-hand mounting provisions common to this engine. Project cancelled. Ref: GE Bul. 82067, 4/-/45 & GE Data Folder 47466, 4/6/44.	SAME AS ABOVE	"	"	"	"	"
XJ40-WE-6 (X40E2) Westinghouse		ALL DATA CONFIDENTIAL						

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TURBO-JET ENGINE CHARACTERISTICS

MODEL DESIGNATION (USAF & MFR) MANUFACTURER	AIRCRAFT INSTALLED IN	DESCRIPTION	ENGINE RATINGS THRUST/RPM (LB) ... S.F.C. (LB/LB-THR-HR) ... VELOCITY (KNOTS) ... ALTITUDE (FEET)	FUEL TYPE	COMPRESSOR TYPE NO. STAGES COMP. RATIO	* TURBINE NO. STAGES	SIZE (INCHES) LENGTH DIAMETER	WEIGHT (LB) DRY
XJ41-V-1 (PT-4000-3) Packard		Same as the XJ41-V-3. Ref: Engine Spec. 202-A, dated 5/25/45.	Max. 4000/11500 ... 1.15 ..... 0 ..... SL Mil. ----/----- ... ---- ..... 0 ..... SL Nor. ----/----- ... ---- ..... 0 .....SL	AN-F-32	Centrif Single 4:1	Single	86.0 48.0	1200
XJ41-V-3 (PT-104) Packard		A simple turbo-jet engine consisting of a mixed-flow compressor driven by a single-stage turbine. Incorporates an annular type combustion chamber. Designed as an expendable engine. Project cancelled during the development stage. Ref: Engine Spec. 204-A, dated 9/26/46 revised 11/1/46.	SAME AS ABOVE	"	"	"	"	"
XJ43-WE-1 Westinghouse		Redesignated XJ30-WE-8.						
XJ45-WE-1 Westinghouse		Redesignated XJ34-WE-4.						
XJ46-WE-1 (Mod. X24C10) Westinghouse		Basic engine similar to Navy XJ46-WE-2. Incorporates special low-mounts, afterburner with controls, automatically controlled variable area exhaust nozzle, intregal oil reservoir, liquid to liquid oil cooler and accessory gear case on bottom of engine. Ref: Spec. WAGT-X24C10-2D, 10/31/49 as revised by App. D.	Max. *6100/10100 ... 2.50 ..... 0..... SL Mil. **4080/10100 ... 1.01 ..... 0..... SL Nor. **3670/10100 ... 0.96 ..... 0..... SL *WAB **WABNO	AN-F-32	Axial 12 5.2:1	2	198.1 29.0	2039
XJ46-WE-2 (X24C10) Westinghouse		Incorporates a single annular combustion chamber, afterburner with controls, automatically controlled variable area exhaust nozzle, integral oil reservoir, liquid to liquid oil cooler and accessory gear case on bottom of engine. Provisions for anti-icing. Ref: Spec. WAGT-X24C10-2D, dated 10/31/49.	SAME AS ABOVE	AN-F-58	"	"	191.7 29.0	1863
XJ47-GE-1 (7E-TG-190-A1) General Elec	B-45A F-86A	Incorporates eight through-flow combustion chambers direct coupled to turbine. Power take-off support for mounting two hydraulic pumps. Has a fuel cooled oil cooler, emergency fuel pump and control. Provisions for water-alcohol injection. Ref: Engine Spec. E-550F, dated 10/1/47.	Max. *5820/7910 ..... 1.15 ..... 0 ..... SL Mil. 4850/7910 ..... 1.10 ..... 0 ..... SL Nor. 4120/7330 ..... 1.05 ..... 0 ..... SL *Wet	AN-F-32 or AN-F-48	Axial 12 4.3:1	Single	144.0 39.0	2475
J47-GE-3 (7E-TG-190-A3) General Elec	B-45A	Similar to -1 except this engine has a power take-off support for mounting one alternator. Ref: Engine Spec. E-550F, dated 10/1/47	SAME AS ABOVE	"	"	"	"	2470
XJ47-GE-5 (TG-190-G) General Elec		Same as the -1 except improved version utilizing an exhaust reheater and a variable jet nozzle. Does not use water-injection. Ref: Engine Spec. E-550F, 10/1/47 altered 3/5/48	Max. *6600/7700 ..... 2.50 ..... 0 ..... SL Mil. **5000/7700 ..... 1.20 ..... 0 ..... SL Nor. **4250/7330 ..... 1.15 ..... 0 ..... SL *WAB **WABNO	"	"	"	244.0 41.0	3050
J47-GE-7 (7E-TG-190-B1) General Elec	B-45A F-86A	Same as -3 except for increased ratings, new fuel system and increased RPM. Ref: Engine Spec. E-581, dated 7/27/48.	Max. *5820/7950 ..... ---- ..... 0 ..... SL Mil. 5000/7950 ..... 1.13 ..... 0 ..... SL Nor. 4250/7370 ..... 1.06 ..... 0 ..... SL *Wet	"	"	"	144.0 37.0	2525
J47-GE-9 General Elec	B-45A	Similar to -7 except for accessory pads. Ref: Engine Spec. E-581, dated 7/27/48.	SAME AS ABOVE	"	"	"	"	"

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TURBO-JET ENGINE CHARACTERISTICS

MODEL DESIGNATION (USAF & MFR) MANUFACTURER	AIRCRAFT INSTALLED IN	DESCRIPTION	ENGINE RATINGS (THRUST/RPM (LB) ..... S.F.C. (LB/LB-THR-HR) ..... VELOCITY (KNOTS) ... ALTITUDE (FEET))	FUEL TYPE	COMPRESSOR TYPE NO. STAGES COMP. RATIO	*TURBINE NO. STAGES	SIZE (INCHES) LENGTH DIAMETER	WEIGHT (LB) DRY
J47-GE-11 (7E-TG-190-C11) General Elec		Similar to -1 except for removal of emergency fuel system, water injection, power take-off, fire protection equipment, hydraulic pump lines and other minor changes. Ref: Engine Spec. E-583, dated 6/15/49.	Max. 5200/7950.. 1.13..... 0 .... SL Mil. 5200/7950.. 1.13..... 0 .... SL Nor. 4730/7630.. 1.07..... 0 .... SL	AN-F-48 or AN-F-58	Axial 12 4.5:1	Single	144.0 39.0	2475
J47-GE-13 (7E-TG-190-C13) General Elec	B-45A F-86A	Similar to the -1 except for internal improvements which allow higher ratings. Ref: Engine Spec. E-582, dated 4/20/49.	Max. *6000/7950.. 1.15..... 0 .... SL Mil. 5200/7950.. 1.12..... 0 .... SL Nor. 4320/7370.. 1.04..... 0 .... SL *Wet	"	"	"	"	2525
J47-GE-15 (7E-TG-190-C15) General Elec	B-45A	Similar to the -3 except for internal improvements which allow higher ratings. Ref: Engine Spec. E-582, dated 4/20/49.	SAME AS ABOVE	"	"	"	"	2515
XJ48-P-1 (JT-7A) Pratt-Whitney		Rolls Royce design manufactured by P&W. Utilized Afterburner and coolant injection. No ratings with the afterburner are guaranteed. Ref: Engine Spec. A-1608-B, dated 8/1/49.	Max. *8000/11000 2.50..... 0 .... SL Mil. **6250/11000 1.16..... 0 .... SL Nor. **5000/10450 —— ..... 0..... SL *WAB **WABNO	AN-F-48	Centrif (Dble Entry) Single 4.4:1 at SLS	"	202.0 50.0	2055
J48-P-3 (JT-7B) Pratt-Whitney		Same as -1 except production version. Production cancelled, none being procured.	SAME AS ABOVE	AN-F-48 or AN-F-58	"	"	"	2070
XJ49-V-1 (PT-205) Packard		A ducted fan engine with a supersonic axial-flow and a mixed-flow compressor driven by a 2-stage aircooled turbine. A separate aircooled 2-stage turbine drives the fan. Only one experimental engine was built. Project cancelled at beginning of experimental engine testing. Ref: Engine Spec. 203-A, dated 3/17/48 revised 6/18/48.	Max. 10000/11780 0.63..... 0 .... SL Mil. 10000/11780 0.63..... 0 .... SL Nor. 9600/11500 0.63..... 0 .... SL All ratings estimated	AN-F-32	(1) Supersonic Axial (1) Mixed Flow 6:1	4 (1st & 2nd stage free of 3rd & 4th)	174.0 53.0	3000
XJ51-W-1 (TJA-1) Wright-Aero		Primarily designed to meet USAF requirements for fighter and high speed bombardment aircraft. Incorporates variable area jet nozzle. Project cancelled in design stage. None built. Ref: Engine Prelim. Spec. AC-109-B, 12/29/45 rev. 11/19/46	Max. 6000/8100.. 0.95..... 0 .... SL Mil. 6000/8100.. 0.95..... 0 .... SL Nor. ——/—— .. —— ..... 0 .... SL All ratings estimated	AN-F-48	Axial 14 8:1	2	165.5 36.0	2800
XJ53-GE-1 (7E-XJ53-GE-1A) General Elec		ALL DATA CONFIDENTIAL						
XJ53-GE-3 (7E-XJ53-GE-3A) General Elec		ALL DATA CONFIDENTIAL						
XJ55-FF-1 (124) Frederic-Flader	Q-2	To be an expendable engine of simple design. Uses a single supersonic axial flow compressor coupled direct to a single stage reaction turbine. Provided with 2-stage control governor. Ref: Engine Spec. 124, dated 12/9/47.	Max. 770/28200.. 1.64..... 0 .... SL Mil. 700/26800.. 1.65..... 0 .... SL Nor. 700/26800.. 1.65..... 0 .... SL All ratings estimated	AN-F-32 or AN-F-34 or AN-F-48	Axial Single 2.67:1	Single	82.9 17.0	300
XJ57-P-1 (JT-3A) Pratt-Whitney		Development engine only. Utilizes a 2-unit co-axial compressor, each unit being driven by separate co-axial turbines. Incorporates a fixed area jet nozzle. A variable area jet nozzle is also being considered. Ref: Engine Spec. A-1620B, dated 8/18/49.	Max. 9000/——...0.78 ..... 0 .... SL Mil. 9000/—— .. 0.78..... 0 .... SL Nor. 7800/——...0.78..... 0 .... SL	AN-F-58	Axial 2 Main, 7&9 each 10:1	2	183.5 41.0	4390

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TURBO-JET ENGINE CHARACTERISTICS

MODEL DESIGNATION (USAF & MFR) MANUFACTURER	AIRCRAFT INSTALLED IN	DESCRIPTION	ENGINE RATINGS (THRUST/RPM (LB) ..... S.F.C. (LB/LB-THR-HR) ..... VELOCITY (KNOTS) ... ALTITUDE (FEET))	FUEL * TYPE	COMPRESSOR TYPE NO. STAGES COMP. RATIO	* TURBINE NO. STAGES	SIZE (INCHES) LENGTH DIAMETER	WEIGHT (LB) DRY
YJ57-P-3 Pratt-Whitney		Same as -1 except lower ratings which are necessary so that the engine may meet the Project MX-839 schedule.	Max. 8700/9690.. 0.840 .....0 .... SL Mil. 8700/9690.. 0.840 .....0..... SL Nor. 7500/9440.. 0.835 .....0..... SL	AN-F-58	Axial 15 11.6:1-S.L.	3	183.5 41.0	4390
XJ59-W-1 (TJ-7) Wright		Incorporates a compound compressor, annular combustion chambers and 3-stages of reaction turbine, one turbine driving free. Proposal only, project cancelled. Ref: Wright Spec. AC 142 and Report No. 1301.	Max. 12000/6600...0.85..... 0..... SL Mil. 12000/6600...0.85..... 0..... SL Nor. 10000/6600...0.79..... 0..... SL	AN-F-48	Dble-Free Axial 23 16:1	3 Co-axial (1st stage free of 2nd & 3nd)	180.0 39.0	3300
XJ61-W-1 (TJ-6) Wright		A simple turbo-jet engine incorporating an axial-flow compressor, annular combustion chamber and 2-stage turbine. Only an engine proposal submitted by Wright Aero. Project cancelled. Ref: Wright Spec. 141A.	Max. 11000/6600.....---- ..... 0 .... SL Mil. 10000/6600.....---- ..... 0 .....SL Nor. 8000/6600.....---- ..... 0..... SL	"	Axial 14 6:1	2	153.0 42.0	3000
XJ63-R-1 Ranger		ALL DATA CONFIDENTIAL						

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