ROCKET ENGINE CHARACTERISTICS (LIQUID PROPELLANT)

MODEL DESIGNATION (USAF & MFR) MANUFACTURER	AIRCRAFT INSTALLED IN	DESCRIPTION	ENGINE RATINGS		CHAMBER PRESSURE	PROPELLANT		COOLING	IGNITION	SIZE (INCHES)	WEIGHT (LB)
			THRUST (LB)	DURATION (SECONDS)	(PSI)	FUEL TYPE	OXIDIZER TYPE	TYPE	TYPE	LENGTH DIAMETER	DRY
XLR1-AJ-1 (25-AL-1000) Aerojet	A-20	Assisted take-off power plant. Single thrust chamber, pressure fed. Permanently installed in tail cone of engine nacelle.	1000	25	300	Aniline	Red Fuming Nitric Acid	None	Spontaneous	55.0 35.5	240
XLR3-AJ-1 (25-ALD-1000) Aerojet	F-38 B-24 B-25	Assisted take-off power plant. Single thrust chamber, pressure fed. Droppable, packaged compactly with parachute. Ref: Aerojet Handbook CO-AN-02-10-2, dated March 1944.	"	"	"	"	"	"	"	69.0 24.0 (approx)	274
XLR5-AJ-1 (X40-ALD-3000) Aerojet		Assisted take-off power plant, droppable. Single thrust chamber, pressure fed, containing 730 pounds of propellant. Ref: Aerojet Handbook No. 2, dated 5/1/1945	3000	40	"	"	"	Regen	"	130.0 32.0	1000
XLR7-AJ-1 (XCALT-6000) Aerojet		Four 1500 pound thrust, thrust chambers, operable in pairs. Turbine pump fed. Ref: Aerojet Handbook No. 22, dated 9/1/1945	3000 or 6000	300	250	80% Aniline and 20% Furfuryl-alcohol	"	"	"	84.0 36.0	426
XLR9-AJ-1 (X4-AL-1000) Aerojet	G-4A	Used to brake glider. Single thrust chamber, pressure fed, short duration unit. Twenty-nine pounds of propellant.	1000	4	275	Aniline	"	None	"	42.0 14.0	810
XLR11-RM-1 Reaction-Motors		Power plant for Research aircraft. Four cylinders which may be used together or independently. Nitrogen pressurized.	CONFIDENTIAL			75% Ethyl-alcohol and 25% Water	Liquid Oxygen	Regen with alcohol, Film cooled	Spark plug	60.0 21.0 (approx)	220
XLR11-RM-3 Reaction-Motors		Power plant for Research aircraft. Four cylinders which may be used together or independently. Helium pressurized. Ref: RMI Preliminary Spec. 297 and 297-3.	CONFIDENTIAL			"	"	"	"	"	"
XLR11-RM-5 Reaction-Motors		Power plant for Supersonic Research aircraft. Four cylinders which may be used together or independently. Hydrogen pressurized. Ref: RMI Preliminary Spec. 297-1 and 297-2.	CONFIDENTIAL			"	"	"	"	" (less pump)	220 (less pump) 330 (with pump)
XLR13-AJ-1 (X60-ALD-4000) Aerojet	XB-45 B-45A	Assisted take-off power plant. Single thrust chamber, propellant tanks in unit. Parachute for dropping. Unit under redesign to use gasoline and white fuming nitric acid. Ref: Aerojet Type Spec-Model X60-ALD-4000.	4000	60	310	80% Aniline and 20% Furfuryl-alcohol	Red Fuming Nitric Acid	Regen with Fuel	Spontaneous	135.0 32.0	800 (without parachute)
XLR13-AJ-3 Aerojet	B-29	Assisted take-off power plant. Droppable but not recoverable. Nitrogen pressure fed. Ref: Aerojet Type Spec. ATS 4.104a.	"	45	315	70% Xylidine and 30% AN-F-48	"	"	"	177.0 37.0 (approx)	890
XLR13-AJ-5 Aerojet	B-29	Assisted take-off power plant. Droppable but not recoverable. Nitrogen pressure fed. Ref: Aerojet Type Spec. ATS 4.103a.	"	"	"	"	"	Ceramic	"	"	"

ROCKET ENGINE CHARACTERISTICS (LIQUID PROPELLANT)

MODEL DESIGNATION (USAF & MFR) MANUFACTURER	AIRCRAFT INSTALLED IN	DESCRIPTION	ENGINE RATINGS		CHAMBER PRESSURE	PROPELLANT		COOLING	IGNITION	SIZE (INCHES)	WEIGHT (LB)
			THRUST (LB)	DURATION (SECONDS)	(PSI)	FUEL TYPE	OXIDIZER TYPE	TYPE	TYPE	LENGTH / DIAMETER	DRY
YLR13-AJ-7 (X60ALD-4000) Aerojet		Assisted take-off power plant. Modification of the -1. Ref: Aerojet Ltr dtd 6/6/49.	4000	60	310	80% Aniline and 20% Furfuryl-alcohol	Red Fuming Nitric Acid	Regen with Fuel	Spontaneous	135.0 / 32.0	800
XLR15-AJ-1 (XCNLT-1500) Aerojet		Turbine-pump fed, single thrust chamber power plant intended for missile application. Starting catalyst carried separately. Utilizes a monpropellant. Development unsuccessful, all work terminated. Ref: Contract W33-038 ac 11757 Statement of Work.	1500	60	900	Nitromethane	———	None	Squib or Oxygen spark	20.5 / 7.0	73
XLR17-CW-1 Curtiss-Wright	XB-45	Assisted take-off power plant. Single thrust chamber, turbine-pump fed. Dropped by parachute. Similar in performance to XLR13-AJ-1. Ref: Article 15 par b to Contract W33-038 ac 14171.	4000	"	300	Low Octane Gasoline and Coolant Water	Liquid Oxygen	Regen and Film (Using Water)	Spark Plug	132.0 / 32.0	590
XLR19-CW-1 Curtiss-Wright		Experimental unit for either missiles or piloted aircraft. Single thrust chamber. Turbine-pump set has sufficient capacity for 16,000 pounds thrust chamber. Ref: Exhibit "A" to Contract W33-038 ac 14827.	10000	120	375	"	"	Regen and Film (Using alcohol-Water)	"	"	"
XLR21-CW-1 Curtiss-Wright		Turbine pump fed, single thrust chamber unit intended for missile application. Engine designed to fit into the envelope dimensions of the German A-4(V-2). Project cancelled. Ref: Exhibit "A" to Contract W33-038 ac 14827.	60000	"	"	"	"	"	"	——— / ———	325
XLR23-AJ-1 (X90-ALT-60000) Aerojet		ALL DATA CONFIDENTIAL									
XLR25-CW-1 Curtiss-Wright		ALL DATA CONFIDENTIAL									
XLR27-CW-1 Curtiss-Wright		ALL DATA CONFIDENTIAL									
XLR29-CW-1 Curtiss-Wright		ALL DATA CONFIDENTIAL: Project cancelled.									
XLR31-K-1 M. W. Kellogg		ALL DATA CONFIDENTIAL: Project cancelled.									
XLR33-RM-1 Reaction-Motors		ALL DATA CONFIDENTIAL: Engine development halted, component work continued.									

ROCKET ENGINE CHARACTERISTICS (LIQUID PROPELLANT)

MODEL DESIGNATION (USAF & MFR) MANUFACTURER	AIRCRAFT INSTALLED IN	DESCRIPTION	ENGINE RATINGS		CHAMBER PRESSURE	PROPELLANT		COOLING	IGNITION	SIZE (INCHES)	WEIGHT (LB)
			THRUST (LB)	DURATION (SECONDS)	(PSI)	FUEL TYPE	OXIDIZER TYPE	TYPE	TYPE	LENGTH DIAMETER	DRY
XLR35-RM-1 Reaction-Motors		ALL DATA CONFIDENTIAL: Engine development halted, component work continued.									
XLR37-CW-1 Curtiss-Wright		Small experimental rocket engine for ram rocket tests. Single thrust chamber. Regeneratively cooled with gasoline. Test article only. Ref: Items 6, 7 and 8 of Contract W33-038 ac 14827.	50	3600	300	Gasoline	Liquid Oxygen	Regen and Film	Spark Plug	9.2 2.7	
XLR39-RM-1 Reaction-Motors		Unit consists of a 50 pound thrust, single thrust chamber, with ignition system and propellant control valves. Test article only. Ref: RMI spec. Model D-50C1, dated 5/21/1948	"	———	245	Alcohol-water Solution Sp. Gr. 0.86	"	Water	"	8.5 1.5	1.45
XLR41-NA-1 (NA-704-Mark II) North American		ALL DATA CONFIDENTIAL									
XLR43-NA-1 (NA-704-Mark III) North American		ALL DATA CONFIDENTIAL									
YLR45-AJ-1 (AJ24-1) Aerojet		ALL DATA CONFIDENTIAL									
YLR47-K-1 (SPD 649-1) M.W.Kellogg		ALL DATA CONFIDENTIAL									
XLR49-AJ-1 Aerojet		ALL DATA CONFIDENTIAL									
XLR51-AJ-1 Aerojet		ALL DATA CONFIDENTIAL									
XLR53-AJ-1 Aerojet		ALL DATA CONFIDENTIAL									
XLR55-?-1		ALL DATA CONFIDENTIAL									