

# MX1 - EJ25 ENGINE OPERATING LIMITS

## ENGINE OPERATING RANGE

Idle	1300-1600 RPM	
Continuous cruise	3200-4800 RPM	Peak torque @ 3600/100% throttle
Max continuous	5000 RPM	Peak in-flight HP/100% throttle
Max peak / Time	5600 RPM / 5 Minutes	Ignition rev limiter set @ 5900
Never exceed	6000 RPM	Engine/prop mechanical limit.

## OIL PRESSURE

*Note: At idle, do not let oil pressure drop below 20 PSI when oil is hot. Temporarily adjust idle speed to maintain minimum pressure until engine oil cools and pressure increases.*

Red	0-20 PSI	Shut down engine
Yellow	20-35 PSI	Low pressure
Green	35-100 PSI	Normal
Red	100+ PSI	Return to idle as soon as is safe and troubleshoot

## ENGINE COOLANT

Yellow	0-180°F	Do not apply take off power until 165 degree coolant temperature is established
Green	150-208 °F	Normal
Yellow	208-225 °F	Reduce power and/or increase airspeed
Red	225+ °F	Operation not recommended at this temperature

## ENGINE OIL TEMPERATURE

Yellow	0-120 °F	Idle engine at 2500 or less until 120 °F minimum oil temperature is established
Green	140-235 °F	Normal, takeoff at >140 F
Yellow	235-255 °F	Reduce power and/or increase airspeed
Red	255+ °F	Reduce power, avoid operation

## MX1-PSRU OIL TEMPERATURE

Green	100-195 °F	Normal.
Yellow	195-225 °F	Running hot, reduce RPM
Red	225+ °F	Reduce RPM, avoid operation

## A40-PSRU OIL TEMPERATURE

Green	100-200 °F	Normal.
Yellow	200-230 °F	Running hot, reduce power
Red	230+ °F	Never exceed

## EXHAUST GAS TEMPERATURE (EGT)

Green	800-1450 °F	Normal
Yellow	1451-1600 °F	Caution, high EGT, reduce power
Red	1600 °F	Never exceed

## ENGINE MANIFOLD VACUUM/PRESSURE (in. Hg)

Green	20-17" / 2-10"	Idle
Green	16-7" / 11-22"	Cruise power
Red	6-0" / 3-30"	High power

# MX1 - ENGINE TUNING AND ROUTINE MAINTAINANCE

## ENGINE VALVE LASH ADJUSTMENT

*Note: Set with engine cold. Inspect/Set at 10 hours; then every 100 hours or annually.*

Valve lash (intake/exhaust) .008/.010"

## STATIC COMPRESSION CHECK

*Note: Check cold, with wide open throttle. Minimum 6 compression strokes to establish peak.*

Static compression check 145-170 PSI

## ENGINE ELECTRONIC FUEL INJECTION BUSS PRESSURE

*Note: Measure between LH/RH fuel rails. 45 PSI*

## ENGINE OIL MAINTENANCE

Amount required 5 qts.

Recommended oil brand Castrol GTX 10-40 wt. or equivalent quality motor oil

Recommended oil change First change @ 10 hours; every 50 hours or annually.

## MX1 PSRU

*Note: When changing oil, remove fill plug from top of output module, and magnetic drain plug.*

Amount required 500 cc

Type Redline Lightweight Shockproof

Recommended oil change First change @ 10 hours; every 50 hours or annually.

## A30/A40 PSRU OIL

*Note: When changing oil, remove brass fill plug from top of output module, and both (2) magnetic drain plugs from bottom of output and gear modules.*

Amount required A-30 - 650 cc

A-40 - 850 cc

Type SAE 30, API Service SJ

Recommended oil brand Castrol Heavy Duty SAE 30

Recommended oil change First change @ 10 hours; every 50 hours or annually.

## ENGINE COOLANT

Amount Required (US quarts) 6

Antifreeze/Coolant to water ratio 50/50

Recommended antifreeze brand Prestone Antifreeze/Coolant

Type Ethylene Glycol/Diethylene Glycol

Recommended Additive: Prestone Super Anti Rust Protectant, 14.5 OZ,

## ENGINE IGNITION SPARK PLUGS

*Note: Do not change to a hotter plug.*

Check every 50 hours, gap at .035" for MX1/2 and .030" for MX3

Change every 500 hours, or when necessary.

Replacement brand/number NGK # BKR6E or BKR6E-11