

AIRCRAFT ENGINE VARIABLES

The table below indicates the properties for the [Simulation Variables](#) that can be used to get and set properties related to the engines of an aircraft. For information on the units listed for each variable, please see here: [Simulation Variable Units](#)

NOTE: When Microsoft Flight Simulator is running in multiplayer mode, only a small number of variables are communicated between aircraft. Those variables that are available will say so in the description as being either for "All Aircraft" or for "Shared Cockpit". Also note that in the multiplayer "Shared Cockpit" mode the only supported index is 1, which means that the data is assumed to be identical for all engines.

You can find a complete index of all available SimVars here: [SimVar Index](#)

Simulation Variable	Description	Units	Set
<code>BLEED AIR ENGINE:index</code>	Returns whether or not the indexed engine (see note) attempts to provide bleed air.	Bool	
<code>BLEED AIR SOURCE CONTROL:index</code>	<p>The bleed air system source controller for an indexed engine (see note). This will work as follows:</p> <ul style="list-style-type: none"> When engines and APU are activated, it will return 0 because it is in Auto. If the APU is removed, it will return 3 for engines only. If instead the engines are removed, it would return 2 for the APU only. If the APU and engines are removed, it would return 1 (so, off). 	<p>Enum:</p> <p>0 = auto 1 = off 2 = apu 3 = engines</p>	

COWL FLAPS <i>Deprecated</i>	Deprecated, do not use!	<i>Percent Over 100</i>	
ENGINE CONTROL SELECT	Selected engines (combination of bit flags)	Flags: 1 = Engine 1 2 = Engine 2 4 = Engine 3 8 = Engine 4	
ENGINE MIXTURE AVAILABLE <i>Deprecated</i>	True if engine mixture is available for prop engines. Deprecated, do not use (mixture is always available)!	Bool	
ENGINE PRIMER	The engine primer position.	Position	
ENGINE TYPE	Engine type.	Enum: 0 = Piston 1 = Jet 2 = None 3 = Helo(Bell) turbine 4 = Unsupported 5 = Turboprop	
ENG ANTI ICE:index	Anti-ice switch for the indexed engine (see note), true if enabled false otherwise.	Bool	
ENG COMBUSTION:index	True if the indexed engine (see note) is running, false otherwise.	Bool	
ENG CYLINDER HEAD TEMPERATURE:index	The indexed engine (see note) cylinder head temperature.	<i>Rankine</i>	
ENG EXHAUST GAS TEMPERATURE:index	Exhaust gas temperature for the indexed engine (see note).	<i>Rankine</i>	
ENG EXHAUST GAS TEMPERATURE GES:index	Governed engine setting exhaust gas temperature for the indexed engine (see note).	<i>Percent Over 100</i>	

<code>ENG FAILED:index</code>	Failure flag for the indexed engine (see note) that has failed.	Bool	
<code>ENG FUEL FLOW BUG POSITION:index</code>	Fuel flow reference in pounds per hour for the indexed engine (see note).	Pounds per hour	
<code>ENG FUEL FLOW GPH:index</code>	Engine fuel flow in gallons per hour for the indexed engine (see note).	<i>Gallons</i> per hour	
<code>ENG FUEL FLOW PPH:index</code>	The indexed engine (see note) fuel flow in pounds per hour.	Pounds per hour	
<code>ENG FUEL FLOW PPH SSL:index</code> Deprecated	Engine fuel flow in pounds per hour. Deprecated in favour of <code>ENG FUEL FLOW PPH</code>.	Pounds per hour	
<code>ENG HYDRAULIC PRESSURE:index</code>	The indexed engine (see note) hydraulic pressure.	Pounds per square foot (<i>psf</i>)	
<code>ENG HYDRAULIC QUANTITY:index</code>	The indexed engine (see note) hydraulic fluid quantity, as a percentage of total capacity	<i>Percent Over 100</i>	
<code>ENG MANIFOLD PRESSURE:index</code>	The indexed engine (see note) manifold pressure.	Inches of mercury (<i>inHg</i>)	
<code>ENG MAX RPM</code>	The indexed engine (see note) Maximum rpm.	<i>RPM</i>	
<code>ENG N1 RPM:index</code>	The indexed engine (see note) N1 rpm.	<i>RPM</i> (0 to 16384 = 0 to 100%)	
<code>ENG N2 RPM:index</code>	The indexed engine (see note) N2 rpm.	<i>RPM</i> (0 to 16384 = 0 to 100%)	
<code>ENG OIL PRESSURE:index</code>	The indexed engine (see note) oil pressure.	pounds per square foot (<i>psf</i>)	

<code>ENG OIL QUANTITY:index</code>	The indexed engine (see note) oil quantity as a percentage of full capacity.	<i>Percent Over 100</i>	
<code>ENG OIL TEMPERATURE:index</code>	The indexed engine (see note) oil temperature.	<i>Rankine</i>	
<code>ENG ON FIRE:index</code>	The indexed engine (see note) on fire state.	Bool	
<code>ENG PRESSURE RATIO:index</code>	The indexed engine (see note) pressure ratio.	Ratio (0-16384)	
<code>ENG PRESSURE RATIO GES:index</code> Deprecated	Engine pressure ratio. Deprecated, do not use!	Scalar	
<code>ENG RPM ANIMATION PERCENT:index</code>	<p>The indexed engine (see note) percentage maximum rated rpm - used for visual animation.</p> <div> <p>NOTE: This is available in multiplayer to all near aircraft. See here for more information: Note On SimVars In Multiplayer.</p> </div>	Percent	
<code>ENG RPM SCALER:index</code> Deprecated	RPM scalar value. Deprecated, do not use!	Scalar	
<code>ENG TORQUE:index</code>	The indexed engine (see note) torque.	Foot pounds	
<code>ENG VIBRATION:index</code>	The indexed engine (see note) vibration.	Number	
<code>ESTIMATED FUEL FLOW:index</code>	Estimated fuel flow to the indexed engine (see note) at cruise speed.	Pounds per hour	
<code>FULL THROTTLE THRUST TO WEIGHT RATIO</code>	Full throttle thrust to weight ratio	Number	
<code>GENERAL ENG ANTI ICE POSITION:index</code>	The indexed engine (see note) anti-ice switch state - 0 (FALSE) is off and 1 (TRUE) is on.	Bool	

GENERAL ENG COMBUSTION:index	<p>Set the indexed engine (see note) combustion flag to TRUE or FALSE. Note that this will not only stop all combustion, but it will also set the engine RPM to 0, regardless of the actual state of the simulation.</p> <div> NOTE: This is available in multiplayer to all far aircraft. See here for more information: Note On SimVars In Multiplayer. </div>	Bool	
GENERAL ENG COMBUSTION EX1:index	<p>This SimVar is similar to GENERAL ENG COMBUSTION, in that it can also be used to enable or disable engine combustion. However this SimVar will <i>not</i> interfere with the current state of this simulation. For example, if the aircraft has a turbine engine with auto_ignition enabled or it's a propeller engine with magnetos, then in the subsequent simulation frames this SimVar may be set to 1 (TRUE) again as the engine restarts automatically.</p>	Bool	
GENERAL ENG COMBUSTION SOUND PERCENT:index	<p>Percent of maximum sound being created by the indexed engine (see note).</p> <div> NOTE: This is available in multiplayer to all far aircraft. See here for more information: Note On SimVars In Multiplayer. </div>	Percent	
GENERAL ENG DAMAGE PERCENT:index	<p>Percent of total damage to the indexed engine (see note).</p>	Percent	
GENERAL ENG ELAPSED TIME:index	<p>Total elapsed time since the indexed engine (see note) was started.</p>	Hours	

GENERAL ENG EXHAUST GAS TEMPERATURE:index	The indexed engine (see note) exhaust gas temperature.	<i>Rankine</i>	
GENERAL ENG FAILED:index	The indexed engine (see note) fail flag.	Bool	
GENERAL ENG FIRE DETECTED:index	Detects if a fire has been detected in an indexed engine (see note) or not. If 0 (FALSE) no fire has been detected and if 1 (TRUE) then it has.	Bool	
GENERAL ENG FUEL PRESSURE:index	The indexed engine (see note) fuel pressure.	Pounds per square inch (<i>psi</i>)	
GENERAL ENG FUEL PUMP ON:index	Whether the indexed engine (see note) fuel pump on (1, TRUE) or off (0, FALSE).	Bool	
GENERAL ENG FUEL PUMP SWITCH:index	Fuel pump switch state the indexed engine (see note). If 0 (FALSE) the pump is off and if 1 (TRUE) then it is on.	Bool	
GENERAL ENG FUEL PUMP SWITCH EX1:index	Equivalent to GENERAL ENG FUEL PUMP SWITCH but differentiates between ON and AUTO	Bool	
GENERAL ENG FUEL USED SINCE START:index	Fuel used since the indexed engine (see note) was last started.	Pounds	
GENERAL ENG FUEL VALVE:index	Fuel valve state for the indexed engine (see note). If 0 (FALSE) then the valve is closed and if 1 (TRUE) then it is open.	Bool	
GENERAL ENG GENERATOR ACTIVE:index	Settable alternator (generator) on/off switch for the indexed engine (see note).	Bool	
GENERAL ENG GENERATOR SWITCH:index	Alternator (generator) on/off switch state for the indexed engine (see note).	Bool	

GENERAL ENG HOBBS ELAPSED TIME:index	This can be used to find the time since the indexed engine (see note) started running. Similar to <code>ElapsedTachometerTime</code> , this records the time the engine has been running, but instead of taking a % of the time based on the Pct/RPM this takes the full time, but only if a threshold RPM/speed is reached. You can set the thresholds using the <code>accumulated_time_hobbs_min_pct_rpm</code> and <code>accumulated_time_hobbs_min_knots</code> parameters in the <code>[GENERALENGINEDATA]</code> section of the <code>engines.cfg</code> file.	Seconds	
GENERAL ENG MASTER ALTERNATOR	The alternator switch for a specific engine. Requires an engine index (1 - 4) when used.	Bool	
GENERAL ENG MAX REACHED RPM:index	Maximum attained rpm for the indexed engine (see note).	<i>RPM</i>	
GENERAL ENG MIXTURE LEVER POSITION:index	Percent of max mixture lever position for the indexed engine (see note).	Percent	
GENERAL ENG OIL LEAKED PERCENT:index	Percent of max oil capacity leaked for the indexed engine (see note).	Percent	
GENERAL ENG OIL PRESSURE:index	The indexed engine (see note) oil pressure.	Psf	
GENERAL ENG OIL TEMPERATURE:index	The indexed engine (see note) oil temperature.	<i>Rankine</i>	
GENERAL ENG PCT MAX RPM:index	Percent of max rated rpm for the indexed engine (see note). NOTE: This is available in multiplayer to all far aircraft. See here for more	Percent	

	information: Note On SimVars In Multiplayer.		
GENERAL ENG PROPELLER LEVER POSITION:index	Percent of max prop lever position for the indexed engine (see note).	Percent	
GENERAL ENG REVERSE THRUST ENGAGED	This will return 1 (TRUE) if the reverse thruster is engaged, or 0 (FALSE) otherwise.	Bool	
GENERAL ENG RPM:index	<p>The RPM for an indexed engine (see note).</p> <p>NOTE: This is available in multiplayer to all far aircraft. See here for more information: Note On SimVars In Multiplayer.</p>	RPM	
GENERAL ENG STARTER:index	The indexed engine (see note) starter on/off state.	Bool	
GENERAL ENG STARTER ACTIVE:index	<p>True if the indexed engine (see note) starter is active.</p> <p>NOTE: This is available in multiplayer to all near aircraft. See here for more information: Note On SimVars In Multiplayer.</p>	Bool	
GENERAL ENG THROTTLE LEVER POSITION:index	Percent of max throttle position for the indexed engine (see note).	Percent	
GENERAL ENG THROTTLE MANAGED MODE:index	Current mode of the managed throttle for the indexed engine (see note).	Number	
MASTER IGNITION SWITCH	Aircraft master ignition switch (grounds all engines magnetos).	Bool	
MAX EGT	The maximum EGT , as set using the <code>egt_peak_temperature</code> parameter in the <code>engines.cfg</code> file.	Rankine	

<code>MAX OIL TEMPERATURE</code>	The maximum oil temperature, as set using the parameter <code>oil_temp_heating_constant</code> in the <code>engines.cfg</code> file.	<i>Rankine</i>	
<code>MAX RATED ENGINE RPM</code>	Maximum rated rpm for the indexed engine (see note).	<i>RPM</i>	
<code>NUMBER OF ENGINES</code>	Number of engines (minimum 0, maximum 4)	Number	
<code>OIL AMOUNT</code>	Deprecated, do not use!	FS7 Oil Quantity (Deprecated)	
<code>PANEL AUTO FEATHER SWITCH:index</code>	Auto-feather arming switch for the indexed engine (see note). Please see the Note On Autofeathering for more information.	Bool	
<code>PROP AUTO CRUISE ACTIVE</code>	True if prop auto cruise active	Bool	
<code>PROP AUTO FEATHER ARMED:index</code>	Auto-feather armed state for the indexed engine (see note).	Bool	
<code>PROP BETA:index</code>	The "prop beta" is the pitch of the blades of the propeller, and this can be used to retrieve the current pitch setting, per indexed engine (see note).	Radians	
<code>PROP BETA FORCED ACTIVE</code>	This can be used to enable the propeller forced beta mode (1, TRUE) or disable it (0, FALSE), when being written to. When being read from, it will return TRUE (1) if the forced beta mode is enabled or FALSE (0) if it isn't. When enabled, the <code>PROP BETA FORCED POSITION</code> value will be used to drive the prop beta, while the internal coded simulation logic is used when this is disabled.	Bool	
<code>PROP BETA FORCED POSITION</code>	Get or set the beta at which the prop is forced. Only valid when	Radians	

	PROP BETA FORCED ACTIVE is TRUE (1).		
PROP BETA MAX	The "prop beta" is the pitch of the blades of the propeller. This retrieves the maximum possible pitch value for <i>all</i> engines.	Radians	
PROP BETA MIN	The "prop beta" is the pitch of the blades of the propeller. This retrieves the minimum possible pitch value for <i>all</i> engines.	Radians	
PROP BETA MIN REVERSE	The "prop beta" is the pitch of the blades of the propeller. This retrieves the minimum possible pitch value when the propeller is in reverse for <i>all</i> engines.	Radians	
PROP DEICE SWITCH:index	True if prop deice switch on for the indexed engine (see note).	Bool	
PROP FEATHERED:index	This will return the feathered state of the propeller for an indexed engine (see note). The state is either feathered (true) or not (false).	Bool	
PROP FEATHERING INHIBIT:index	Feathering inhibit flag for the indexed engine (see note).	Bool	
PROP FEATHER SWITCH:index	Prop feather switch for the indexed engine (see note).	Bool	
PROP MAX RPM PERCENT:index	Percent of max rated rpm for the indexed engine (see note). NOTE: This is available in multiplayer to all near aircraft. See here for more information: Note On SimVars In Multiplayer .	Percent	
PROP ROTATION ANGLE	Prop rotation angle.	Radians	

	<p>NOTE: This is available in multiplayer to all near aircraft. See here for more information: Note On SimVars In Multiplayer.</p>		
PROP RPM:index	Propeller rpm for the indexed engine (see note).	RPM	
PROP SYNC ACTIVE:index	True if prop sync is active the indexed engine (see note).	Bool	
PROP SYNC DELTA LEVER:index	Corrected prop correction input on slaved engine for the indexed engine (see note).	Position	
PROP THRUST:index	<p>Propeller thrust for the indexed engine (see note).</p> <p>NOTE: This is available in multiplayer to all near aircraft. See here for more information: Note On SimVars In Multiplayer.</p>	Pounds	
PROPELLER ADVANCED SELECTION Deprecated	Deprecated, do not use!	Enum (Deprecated)	
SHUTOFF VALVE PULLED	This checks if the shutoff valve to the engine has been pulled (true) or not (false). When pulled piston engines will be blocked from getting any fuel.	Bool	
THROTTLE LOWER LIMIT	Percent throttle defining lower limit (negative for reverse thrust equipped airplanes).	Percent	
TURB ENG AFTERBURNER:index	<p>Afterburner state for the indexed engine (see note).</p> <p>NOTE: This is available in multiplayer to all near aircraft. See here</p>	Bool	

	for more information: Note On SimVars In Multiplayer.		
TURB ENG AFTERBURNER PCT ACTIVE:index	<p>The percentage that the afterburner is running at.</p> <p>NOTE: This is available in multiplayer to all near aircraft. See here for more information: Note On SimVars In Multiplayer.</p>	Percent Over 100	
TURB ENG AFTERBURNER STAGE ACTIVE:index	<p>The stage of the afterburner, or 0 if the afterburner is not active.</p> <p>NOTE: This is available in multiplayer to all near aircraft. See here for more information: Note On SimVars In Multiplayer.</p>	Number	
TURB ENG BLEED AIR:index	Bleed air pressure for the indexed engine (see note).	Pounds per square inch (<i>psi</i>)	
TURB ENG COMMANDED N1:index	Effective commanded N1 for the indexed turbine engine (see note).	Percent	
TURB ENG CONDITION LEVER POSITION:index	<p>When the throttle is on idle position, this sets the condition levers to one of 3 positions to define the idle N1 target for the indexed engine (see note):</p> <ul style="list-style-type: none"> Down position is the cut-off position that cuts the fuel to the engine, effectively shutting down the engine. Middle position requires N1 to reach the low idle value when throttle is in idle position (low idle value can be checked 	<p>Enum:</p> <ul style="list-style-type: none"> 0 = fuel cut-off 1 = low idle 2 = high idle 	

	<p>using the <code>TURB_ENG_LOW_IDLE</code> SimVar).</p> <ul style="list-style-type: none"> High position requires N1 to reach the high idle value when throttle is in idle position (high idle value can be checked using the <code>TURB_ENG_HIGH_IDLE</code> SimVar). <p>Note that this option requires several settings from the engines.cfg file to be set to specific values before working correctly:</p> <ul style="list-style-type: none"> <code>DisableMixtureControls</code> needs to be set to 1 (TRUE). <code>tp_idle_range</code> should be set to 0 (since there is no mixture setting). <code>idle_fuel_flow</code> and <code>idle_high_fuel_flow</code> must be set to the same value (since there is no mixture setting to induce a variation between the 2). <code>low_idle_n1</code> and <code>high_idle_n1</code> to be correctly set. 		
<code>TURB_ENG_CORRECTED</code> <code>FF:index</code>	Corrected fuel flow for the indexed engine (see note).	Pounds per hour	
<code>TURB_ENG_CORRECTED</code> <code>N1:index</code>	The indexed turbine engine (see note) corrected N1.	Percent	
<code>TURB_ENG_CORRECTED</code> <code>N2:index</code>	The indexed turbine engine (see note) corrected N2.	Percent	

TURB ENG FREE TURBINE TORQUE:index	The amount of free torque for the indexed turbine engine (see note).	Foot Pound	
TURB ENG FUEL AVAILABLE:index	True if fuel is available for the indexed engine (see note).	Bool	
TURB ENG FUEL EFFICIENCY LOSS:index	This is used to control the fuel efficiency loss of the indexed engine, from 0 - no fuel efficiency loss - to 100 - double the fuel consumption.	Percent	
TURB ENG FUEL FLOW PPH:index	The indexed engine (see note) fuel flow rate.	Pounds per hour	
TURB ENG HIGH IDLE:index	Retrieves the high idle N1 value to be reached by the the indexed turboprop engine (see note) with throttle in idle position and condition lever in high idle position (condition lever position can be checked or set using the TURB_ENG_CONDITION_LEVER_POSITION SimVar).	Percent	
TURB ENG IGNITION SWITCH:index	True if the the indexed turbine engine (see note) ignition switch is on.	Bool	
TURB ENG IGNITION SWITCH EX1:index	Position of the the indexed turbine engine (see note) Ignition Switch. Similar to TURB_ENG_IGNITION_SWITCH but differentiates between ON and AUTO.	Enum: 0 = OFF 1 = AUTO 2 = ON	
TURB ENG IS IGNITING:index	Whether or not the ignition system is currently running for the indexed engine (see note). Depends on TURB_ENG_IGNITION_SWITCH_EX1 Enum, the cfg var ignition_auto_type and current state of the plane.	Bool	
TURB ENG ITT:index	Retrieve or set the <i>ITT</i> for the indexed engine (see note).	<i>Rankine</i>	

TURB ENG ITT COOLING EFFICIENCY LOSS:index	This is used to control the ITT cooling efficiency loss of the indexed engine, from 0 - no cooling efficiency loss - to 100 -engine recieves no ITT cooling.	Percent	
TURB ENG JET THRUST:index	The indexed engine (see note) jet thrust.	Pounds	
TURB ENG LOW IDLE:index	Retrieves the low idle N1 value to be reached by the the indexed turboprop engine (see note) with throttle in idle position and condition lever in low idle position (condition lever position can be checked or set using the TURB_ENG_CONDITION_LEVER_POSITION SimVar).	Percent	
TURB ENG MASTER STARTER SWITCH	True if the turbine engine master starter switch is on, false otherwise.	Bool	
TURB ENG MAX TORQUE PERCENT:index	Percent of max rated torque for the indexed engine (see note).	Percent	
TURB ENG N1:index	<p>The indexed turbine engine (see note) N1 value.</p> <div> <p>NOTE: This is available in multiplayer to all far aircraft. See here for more information: Note On SimVars In Multiplayer.</p> </div>	Percent	
TURB ENG N1 LOSS:index	This is used to control the N1 loss of the indexed engine, from 0 - no N1 loss - to 100 - 100% N1 loss.	Percent	
TURB ENG N2:index	<p>The indexed turbine engine (see note) N2 value.</p> <div> <p>NOTE: This is available in multiplayer to all far aircraft. See here for more</p> </div>	Percent	

	<div> information: Note On SimVars In Multiplayer. </div>		
TURB ENG NUM TANKS USED:index	Number of tanks currently being used by the indexed engine (see note).	Number	
TURB ENG PRESSURE RATIO:index	The indexed engine (see note) pressure ratio.	Ratio	
TURB ENG PRIMARY NOZZLE PERCENT:index	Percent thrust of primary nozzle for the indexed engine (see note).	<i>Percent Over 100</i>	
TURB ENG REVERSE NOZZLE PERCENT:index	Percent thrust reverser nozzles deployed for the indexed engine (see note). <div> NOTE: This is available in multiplayer to all far aircraft. See here for more information: Note On SimVars In Multiplayer. </div>	Percent	
TURB ENG TANKS USED:index	Fuel tanks used by the indexed engine (see note), one or more of the following bit flags: Center 1 Bit 0 Center 2 Bit 1 Center 3 Bit 2 Left Main Bit 3 Left Aux Bit 4 Left Tip Bit 5 Right Main Bit 6 Right Aux Bit 7 Right Tip Bit 8 External 1 Bit 9 External 2 Bit 10	Mask	
TURB ENG TANK SELECTOR:index	Fuel tank selected for the indexed engine (see note). See Fuel Tank Selection for a list of values.	Enum	
TURB ENG THROTTLE COMMANDED N1:index	The indexed turbine engine (see note) commanded N1 for current throttle position.	Percent	

<code>TURB ENG THRUST EFFICIENCY LOSS:index</code>	This can be used to control the thrust efficiency loss of the indexed engine, where a value of 0 is 100% of available thrust, and 100 is 0% available thrust.	Percent	
<code>TURB ENG VIBRATION:index</code>	The indexed turbine engine (see note) vibration value.	Number	
<code>TURB MAX ITT</code>	Retrieve the itt_peak_temperature as set in the engines.cfg file.	<i>Rankine</i>	

NOTE: Many of the SimVars listed above require an **engine index**. This is a value between 1 and 16 that signals which of the engines on the aircraft is being targeted to get or set the value for the SimVar.

Reciprical (Piston) Engine Vars

The following SimVars are **only valid for piston engines**:

Simulation Variable	Description	Units	Settable
<code>RECIP CARBURETOR TEMPERATURE:index</code>	Carburetor temperature the indexed engine (see note).	Celsius	
<code>RECIP ENG ALTERNATE AIR POSITION:index</code>	Alternate air control the indexed engine (see note).	Position	
<code>RECIP ENG ANTIDETONATION TANK MAX QUANTITY:index</code>	The maximum quantity of water/methanol mixture in the <i>ADI</i> tank for the indexed engine (see note). This value is set as part of the <code>[ANTIDETONATION_SYSTEM.N]</code> section in the aircraft configuration files.	<i>Gallons</i>	

RECIP ENG ANTIDETONATION TANK QUANTITY:index	The quantity of water/methanol mixture currently in the <i>ADI</i> tank for the indexed engine (see note).	<i>Gallons</i>	
RECIP ENG ANTIDETONATION TANK VALVE:index	The status of the <i>ADI</i> tank valve for the indexed engine (see note).	Bool	
RECIP ENG ANTIDETONATION FLOW RATE:index	This gives the actual flow rate of the Anti Detonation system for the indexed engine (see note).	<i>Gallons</i> per hour	
RECIP ENG BRAKE POWER:index	Brake power produced by the indexed engine (see note).	Foot pounds (<i>ftlbs</i>) per second	
RECIP ENG COOLANT RESERVOIR PERCENT:index	Percent coolant available for the indexed engine (see note).	Percent	
RECIP ENG COWL FLAP POSITION:index	Percent cowl flap opened for the indexed engine (see note).	Percent	
RECIP ENG CYLINDER HEAD TEMPERATURE:index	Engine cylinder head temperature for the indexed engine (see note).	Celsius	
RECIP ENG CYLINDER HEALTH:index	Index high 16 bits is engine number, low16 cylinder number, both indexed from 1.	<i>Percent</i> <i>Over</i> <i>100</i>	
RECIP ENG DETONATING:index	Set to 1 (TRUE) if the indexed engine (see note) is detonating.	Bool	
RECIP ENG EMERGENCY BOOST ACTIVE:index	Whether emergency boost is active (1, TRUE) or not (0, FALSE) for the indexed engine (see note).	Bool	
RECIP ENG EMERGENCY BOOST	The elapsed time that emergency boost has been active on the	Hours	

ELAPSED TIME:index	indexed engine (see note). The timer will start when boost is first activated. IMPORTANT! This timer does not reset. So if you set your time limit in the engines.cfg file to 315s and you spend 2 minutes with boost active, then pull back on the throttle for 1 minute, then engage boost again for 2 minutes, the simulation will consider that you spent 4 minutes with boost active. The 1 minute pause is not taken into account.		
RECIP ENG ENGINE MASTER SWITCH:index	Whether or not the Engine Master switch is active on an indexed engine (see note).	Bool	
RECIP ENG FUEL AVAILABLE:index	True if fuel is available for the indexed engine (see note).	Bool	
RECIP ENG FUEL FLOW:index	The indexed engine (see note) fuel flow.	Pounds per hour	
RECIP ENG FUEL NUMBER TANKS USED:index	Number of tanks currently being used by the indexed engine (see note).	Number	
RECIP ENG FUEL TANKS USED:index	Fuel tanks used by the indexed engine (see note), one or more of the following bit flags: Center 1 Bit 0 Center 2 Bit 1 Center 3 Bit 2 Left Main Bit 3 Left Aux Bit 4 Left Tip Bit 5 Right Main Bit 6 Right Aux Bit 7 Right Tip Bit 8	Mask	

	External 1 Bit 9 External 2 Bit 10		
RECIP ENG FUEL TANK SELECTOR:index	Fuel tank selected for the indexed engine (see note). See Fuel Tank Selection for a list of values.	Enum	
RECIP ENG GLOW PLUG ACTIVE:index	Whether or not the Glow Plug is active on the indexed engine (see note)..	Bool	
RECIP ENG LEFT MAGNETO:index	Left magneto state for the indexed engine (see note).	Bool	
RECIP ENG MANIFOLD PRESSURE:index	The indexed engine (see note) manifold pressure.	Pounds per square inch (<i>psi</i>)	
RECIP ENG NITROUS TANK MAX QUANTITY:index	The maximum quantity of nitrous permitted per indexed engine (see note).	<i>Gallons</i>	
RECIP ENG NITROUS TANK QUANTITY:index	The quantity of nitrous per indexed engine (see note).	<i>Gallons</i>	
RECIP ENG NITROUS TANK VALVE	The state of the nitrous tank valve for the indexed engine (see note). Either 1 (TRUE) for open or 0 (FALSE) for closed.	Bool	
RECIP ENG NUM CYLINDERS:index	The number of cylinders for the indexed engine (see note).	Number	
RECIP ENG NUM CYLINDERS FAILED:index	The number of cylinders that have failed in the indexed engine (see note).	Number	
RECIP ENG PRIMER:index	The indexed engine (see note) primer state.	Bool	

<code>RECIP ENG RADIATOR TEMPERATURE:index</code>	The indexed engine (see note) radiator temperature.	Celsius	
<code>RECIP ENG RIGHT MAGNETO:index</code>	The indexed engine (see note) right magneto state.	Bool	
<code>RECIP ENG STARTER TORQUE:index</code>	Torque produced by the indexed engine (see note).	Foot pound	
<code>RECIP ENG SUPERCHARGER ACTIVE GEAR:index</code>	Returns which of the supercharger gears is engaged for the indexed engine (see note).	Number	
<code>RECIP ENG TURBINE INLET TEMPERATURE:index</code>	The indexed engine (see note) turbine inlet temperature.	Celsius	
<code>RECIP ENG TURBOCHARGER FAILED:index</code>	The indexed engine (see note) turbo failed state.	Bool	
<code>RECIP ENG WASTEGATE POSITION:index</code>	When the <code>engines.cfg</code> parameter <code>turbocharged</code> is TRUE, this SimVar will return the percentage that the turbo waste gate is closed for the indexed engine (see note). If the turbocharged variable is FALSE <i>and</i> the <code>manifold_pressure_regulator</code> parameter is TRUE, then this will return the percentage that the manifold pressure regulator is closed for the indexed engine.	Percent	
<code>RECIP MAX CHT</code>	This will return the cylinder head temperature value set by the <code>cht_heating_constant</code> parameter in the <code>engines.cfg</code> file.	<i>Rankine</i>	
<code>RECIP MIXTURE RATIO:index</code>	Fuel / Air mixture ratio for the indexed engine (see note).	Ratio	

Fuel Tank Selection

Number	Description
0	Off
1	All
2	Left
3	Right
4	Left auxiliary
5	Right auxiliary
6	Center