

**Table 3.6 Pentium EFLAGS Register Bits**

Control Bits	Operating Mode Bits
<p><b>AC (Alignment check)</b> Set if a word or doubleword is addressed on a nonword or nondoubleword boundary.</p> <p><b>ID (Identification flag)</b> If this bit can be set and cleared, this processor supports the CPUID instruction. This instruction provides information about the vendor, family, and model.</p> <p><b>RF (Resume flag)</b> Allows the programmer to disable debug exceptions so that the instruction can be restarted after a debug exception without immediately causing another debug exception.</p> <p><b>IOPL (I/O privilege level)</b> When set, causes the processor to generate an exception on all accesses to I/O devices during protected mode operation.</p> <p><b>DF (Direction flag)</b> Determines whether string processing instructions increment or decrement the 16-bit half-registers SI and DI (for 16-bit operations) or the 32-bit registers ESI and EDI (for 32-bit operations).</p> <p><b>IF (Interrupt enable flag)</b> When set, the processor will recognize external interrupts.</p> <p><b>TF (Trap flag)</b> When set, causes an interrupt after the execution of each instruction. This is used for debugging.</p>	<p><b>NT (Nested task flag)</b> Indicates that the current task is nested within another task in protected mode operation.</p> <p><b>VM (Virtual 8086 mode)</b> Allows the programmer to enable or disable virtual 8086 mode, which determines whether the processor runs as an 8086 machine.</p> <p><b>VIP (Virtual interrupt pending)</b> Used in virtual 8086 mode to indicate that one or more interrupts are awaiting service.</p> <p><b>VIF (Virtual interrupt flag)</b> Used in virtual 8086 mode instead of IF.</p> <p style="text-align: center;"><b>Condition Codes</b></p> <p><b>AF (Auxiliary carry flag)</b> Represents carrying or borrowing between half-bytes of an 8-bit arithmetic or logic operation using the AL register.</p> <p><b>CF (Carry flag)</b> Indicates carrying over or borrowing into the leftmost bit position following an arithmetic operation. Also modified by some of the shift and rotate operations.</p> <p><b>OF (Overflow flag)</b> Indicates an arithmetic overflow after an addition or subtraction.</p> <p><b>PF (Parity flag)</b> Parity of the result of an arithmetic or logic operation. 1 indicates even parity; 0 indicates odd parity.</p> <p><b>SF (Sign flag)</b> Indicates the sign of the result of an arithmetic or logic operation.</p> <p><b>ZF (Zero flag)</b> Indicates that the result of an arithmetic or logic operation is 0.</p>