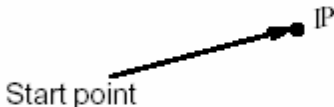
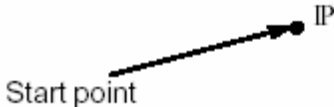
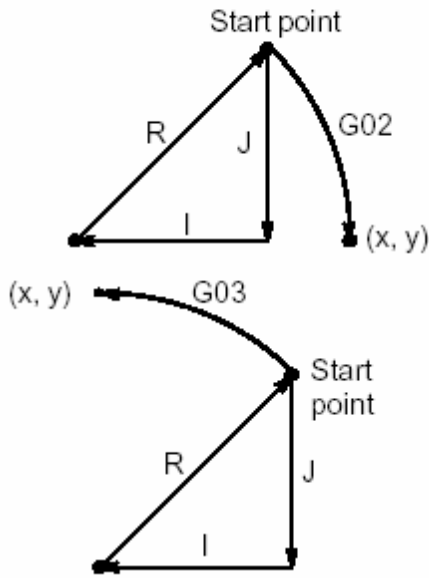
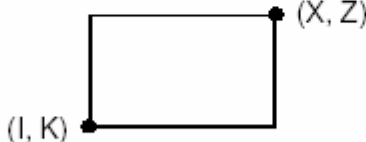
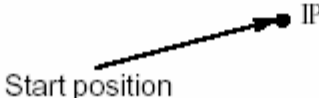
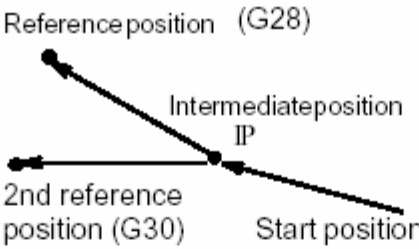
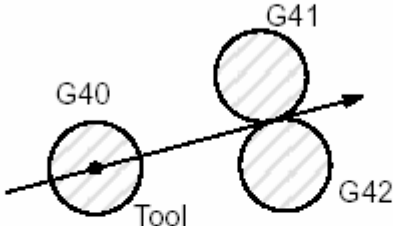
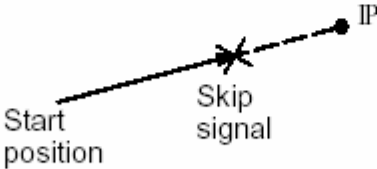
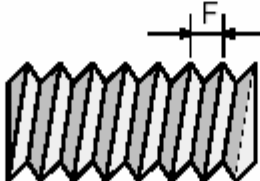
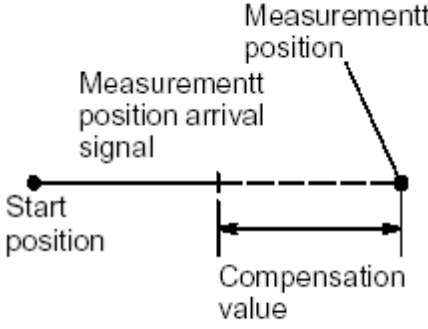
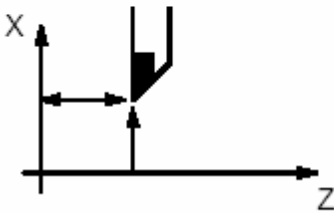
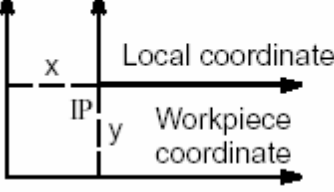
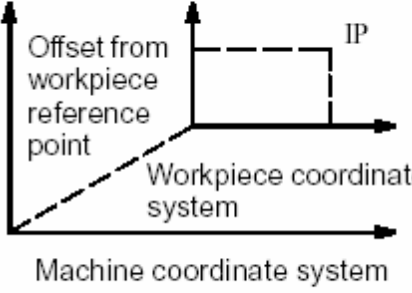
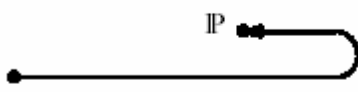
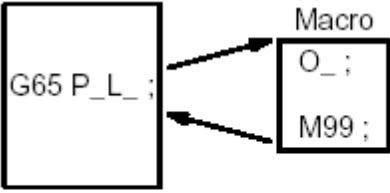
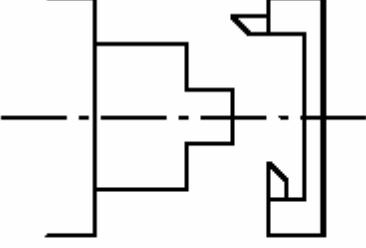
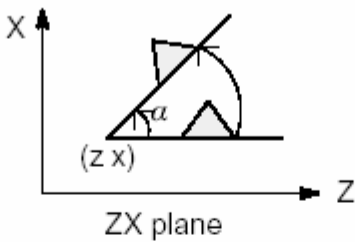
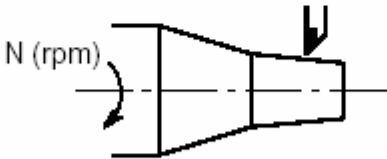
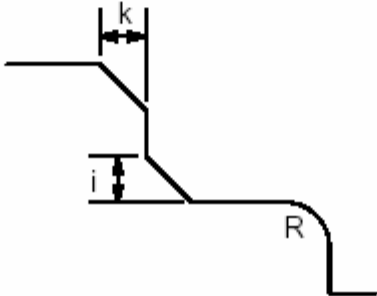


Functions	Illustration	Tape format
Positioning (G00)		G00 IP_ ;
Linear interpolation (G01)		G01 IP_ F_ ;
Circular interpolation (G02, G03)		$\left\{ \begin{matrix} G02 \\ G03 \end{matrix} \right\} X_ Z_ \left\{ \begin{matrix} R_ \\ L_ K_ \end{matrix} \right\} F_ ;$
Dwell (G04)		G04 $\left\{ \begin{matrix} X_ \\ P_ \end{matrix} \right\} ;$
Cylindrical interpolation (G07.1)		G07.1 IP_r_ ; Cylindrical interpolation mode G07.1 IP0 ; Cylindrical interpolation mode cancel r: Radius of cylinder
Look-ahead control (G08)		G08 P1 ; Look-ahead control mode on G08 P0 ; Look-ahead control mode off

Functions	Illustration	Tape format
Change of offsetvalue by program(G10)		Tool geometry offset value G10 P_ X_ Z_ R_ Q_ ; P=1000+Geometry offset number Tool wear offset value G10 P_ X_ Z_ R_ Q_ ; P=Wear offset number
Plane selection (G17, G18, G19)		G17 ; G18 ; G19 ;
Inch/metric conversion (G20, G21)		Inch input : G20 Metric input : G21
Stored stroke check 2, 3 (G22, G23)		G22X_ Z_ I_K_ ; G23 ;
Spindle speed fluctuation detection (G25, G26)		G25 ; G26 P_ Q_ R_ ;
Reference position return check (G27)		G27 IP_ ;
Reference position return (G28) 2nd, reference position re- turn (G30)		G28 IP_ ; G30 IP_ ;
Cutter compensation (G40, G41, G42)		$\left\{ \begin{array}{l} G41 \\ G42 \end{array} \right\} P_ ;$ P : Tool offset number G40 : Cancel
Skip fubction (G31)		G31 IP_ F_ ;
Thread cutting (G32)		Equal lead thread cutting G32 IP_ F_ ;

Functions	Illustration	Tape format
Automatic tool compensation (G36, G37)	 <p>The diagram shows a horizontal line representing a tool's path. A solid dot on the left is labeled 'Start position'. A vertical tick mark on the line is labeled 'Measurement position arrival signal'. A dashed line continues to the right to another vertical tick mark labeled 'Measurement position'. A double-headed arrow below the line between the arrival signal and the measurement position is labeled 'Compensation value'.</p>	G36 X $\underline{xa}$ ; G37 Z $\underline{za}$ ;
Coordinate system setting Spindle speed setting (G50)	 <p>The diagram shows a 2D coordinate system with a vertical 'X' axis and a horizontal 'Z' axis. A tool tip is shown in the first quadrant, with a shaded area representing the tool's profile. A horizontal arrow points from the Z-axis to the tool tip, and a vertical arrow points from the X-axis to the tool tip.</p>	G50 X $\underline{Z}$ ; Coordinate system setting G50 S $\underline{S}$ ; Spindle speed setting
Local coordinate system setting (G52)	 <p>The diagram shows two coordinate systems. The 'Workpiece coordinate' system has a vertical 'y' axis and a horizontal axis. The 'Local coordinate' system has a vertical 'x' axis and a horizontal axis. The origin of the local coordinate system is labeled 'IP' (Initial Point).</p>	G52 IP $\underline{\quad}$ ;
Machine coordinate system selection (G53)		G53 IP $\underline{\quad}$ ;
Workpiece coordinate system selection (G54 to G59)	 <p>The diagram shows two coordinate systems. The 'Machine coordinate system' has a vertical axis and a horizontal axis. The 'Workpiece coordinate system' is offset from the machine coordinate system. The origin of the workpiece coordinate system is labeled 'IP'. A dashed line indicates the 'Offset from workpiece reference point'.</p>	$\left\{ \begin{array}{c} G54 \\ : \\ G59 \end{array} \right\}$ IP $\underline{\quad}$ ;
Unidirectional positioning (G60)	 <p>The diagram shows a tool path starting from a point, moving in a straight line, then curving back to the starting point, which is labeled 'IP'.</p>	G60 IP $\underline{\quad}$ ;
Custom macro (G65, G66, G67)	 <p>The diagram shows a box containing 'G65 P<math>\underline{L}</math> ;' with two arrows pointing to another box containing 'Macro O<math>\underline{\quad}</math> ; M99 ;'.</p>	One-shot call G65 P $\underline{L}$ <argument> ; P : Program number L : Repetition count Modal call G66 P $\underline{L}$ <argument> ; G67 ; Cancel
Mirror image for double turret (G68, G69)	 <p>The diagram shows a tool path on the left and its mirror image on the right, separated by a vertical dashed line representing the mirror axis.</p>	G68 ; Mirror image for double turret on G69 ; Mirror image cancel

Functions	Illustration	Tape format
Coordinate system rotation (G68.1, G69.1)		$G68.1 \left\{ \begin{array}{l} G17 X\_Y\_ \\ G18 Z\_X\_ \\ G19 Y\_Z\_ \end{array} \right\} R_{\alpha};$ <p>G69.1 ; Cancel</p>
Feed per minute (G98) Feed per revolution (G99)	<p>mm/min inch/min mm/rev inch/rev</p>	<p>G98 ... F_ ; (Feed per minute) G99 ... F_ ; (Feed per revolution)</p>
Constant surface speed control (G96/G97)		<p>G96 S_ ; G97 ; Cancel</p>
Chamfering, Corner R		$X_ ; \left\{ \begin{array}{l} C_{\pm k} \\ R_ \end{array} \right\} P_ ;$ $Z_ ; \left\{ \begin{array}{l} C_{\pm i} \\ R_ \end{array} \right\} P_ ;$
Canned cycle (G71 to G76) (G90, G92, G94)	Refer to II.13. FUNCTIONS TO SIMPLIFY PROGRAMMING	<p>N_ G70 P_ Q_ ; G71 U_ R_ ; G71 P_ Q_ U_ W_ F_ S_ T_ ; G72 W_ R_ ; G72 P_ Q_ U_ W_ F_ S_ T_ ; G73 U_ W_ R_ ; G73 P_ Q_ U_ W_ F_ S_ T_ ; G74 R_ ; G74 X(u)_ Z(w)_ P_ Q_ R_ F_ ; G75 R_ ; G75 X(u)_ Z(w)_ P_ Q_ R_ F_ ; G76 P_ Q_ R_ ; G76 X(u)_ Z(w)_ P_ Q_ R_ F_ ; <math>\left\{ \begin{array}{l} G90 \\ G92 \end{array} \right\} X_ Z_ I_ F_ ;</math> G94 X_ Z_ K_ F_ ;</p>
Absolute/incremental programming		<p>X_ Z_ C_ ; Absolute programming U_ W_ H_ ; Incremental programming (Identified by an address word specified with a G function such as G00 or G01)</p>