What field and risk does each technique create?

Magnetic Particle Testing (MT)

Technique	Magnetization	Dominant field	Advantage	Limitation / risk
AC Yoke	Indirect	Longitudinal between poles	Good surface sensitivity and portable	Limited depth; lift and pole spacing require control.
DC Yoke	Indirect	Longitudinal with more penetration	Better response to slightly subsurface flaws	Residual field and possible demagnetization
Prods	Direct	Circular around current path	Local examination of large components	Arc-burn risk; contact and current must be controlled.
Coil / Cable Wrap	Indirect	Longitudinal along part axis	Useful for shafts and elongated parts	L/D ratio and turns affect field strength.
Head Shot	Direct	Circular	Fast coverage in a bench unit	Electrical contacts, current and geometry require control.
Central Conductor	Indirect	Circular in ring/bore	Examines hollow parts without current through the part	Conductor position and multiple shots may be needed.

Source / basis: https://niktrd.com/magnetic-particle-testing