



Performance Based Objectives – Basic Mechanical Power Transmissions

Sub-Topic	PBO No.	Performance Based Objective
Preparatory Work	PT-2	Perform lockout/tagout, blockout, and release of stored energy requirements using proper procedures.
	PT-3	Explain common hazards and identify associated personal protective equipment (PPE).
	PT-4	Match components utilizing information on a blueprint.
	PT-5	Select the correct tool for a job or activity.
Shafts & Couplings	PT-6	Identify the different functions of shafts.
	PT-7	Identify the types of couplings used in mechanical systems and describe the functions of each.
	PT-8	Maintain and troubleshoot various types of coupling systems.
	PT-9	Demonstrate the installation of various types of coupling systems.
	PT-10	Align various types of couplings <ul style="list-style-type: none"> - Using a straight edge and a feeler gage to align shafts. - Align shafts using dial indicators. - Align shafts using precision alignment tools.
Bearings and Seals	PT-11	Identify and describe: <ul style="list-style-type: none"> - Plain bearings - Ball bearings - Roller bearings - Angular contact bearings - Associated seals
	PT-12	Identify and describe various types of seals.
	PT-13	Troubleshoot and install: <ul style="list-style-type: none"> - Plain bearings - Ball bearings - Roller bearings - Angular contact bearings - Associated seals
Mechanical Drives	PT-14	Identify and describe common types of belts used for flexible belt drives.
	PT-15	Perform V-belt sheave alignment and belt tensioning.
	PT-16	Properly install and tension timing belts.
	PT-17	Install variable-speed belt drives.
	PT-18	Perform belt drive system identification and visual inspection
	PT-19	Perform run-out and balance of a pulley
	PT-20	Perform pulley fit to shaft
	PT-21	Install set screws and keys
	PT-22	Troubleshoot pulley wear
	PT-23	Perform belt or drive unit replacement
	PT-24	Identify and describe common types of chains used for flexible chain drives.
	PT-25	Install roller chain drives and sprockets.
PT-26	Perform chain and sprocket alignment and tension.	





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	PT-27	Identify and describe silent chain drives.
	PT-28	Identify the various engineering chain types and drive chain sprockets
	PT-29	Identify and describe the three types of chain lubrication and the correct application of each.
	PT-30	Install chain guards.
	PT-31	Perform chain drive system identification and visual inspection.
	PT-32	Check for excessive wear and run-out of the sprockets.
	PT-33	Perform sprocket fit to shaft.
	PT-34	Install set screws and keys.
	PT-35	Inspect for sprocket wear.
	PT-36	Perform chain or drive unit replacement.
Clutches and Brakes	PT-37	Properly perform alignment and chain tension.
	PT-38	Identify clutch and brake functions and uses.
	PT-39	Identify friction and electromagnetic types of clutches.
	PT-40	Identify mechanical-lockup interfaces and actuation methods.
	PT-41	Perform clutch and brake identification and visual inspection.
	PT-42	Install a clutch/brake assembly.
Gear Drives	PT-43	Disassemble a clutch and/or brake.
	PT-44	Identify and describe gear drive functions and uses.
	PT-45	Identify and describe open gears and enclosed gears.
	PT-46	Identify and describe associated seals, breathers, and lubrication.
	PT-47	Explain gear ratings and application.
	PT-48	Recognize and explain gear identification.
	PT-49	Assemble: <ul style="list-style-type: none"> - A parallel shaft gear drive. - Assemble a worm and wheel gearbox drive unit. - Assemble an angle shaft gear drive.
Industrial Cams	PT-52	Identify industrial cam followers and functions.
	PT-53	Identify industrial cam follower bushing types and operating clearances.
	PT-54	Identify the common types of cam followers and rod ends.
	PT-55	Replace, install, and adjust cam followers and rod ends.

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