



Inspection and Maintenance of Switches and Derails

Inspection & Maintenance of Pneumatic Switches and Derails



 SIGNALS TRAINING CONSORTIUM

Inspection and Maintenance of Switches and Derails

Riders Depend on Us



What do you recall about electro-pneumatic switches?


 SIGNALS TRAINING CONSORTIUM

2

Inspection and Maintenance of Switches and Derails

Outline

- Inspect and maintain electro-pneumatic switches and derails
- Inspect and maintain air source/valves
- Inspect and maintain pneumatic switch (and valve magnets)
- Demonstrate Ability to perform a test on the switch restoring circuit, on an electro-pneumatic switch
- Demonstrate Ability to perform minute man test

 SIGNALS TRAINING CONSORTIUM

3

Course 202: Inspection and Maintenance of Switches and Derails
Module 6: Inspection and Maintenance of Electro-Pneumatic Switches and Derails

Inspection and Maintenance of Switches and Derails

Overview




Basic Components of an A-5 Electro-Pneumatic Switch

SIGNALS TRAINING CONSORTIUM

7

Inspection and Maintenance of Switches and Derails

Overview




Always take appropriate actions to secure the work area before performing any inspections/maintenance. Always request time on the line. When performing inspection and maintenance that does not require throwing the switch, secure points, disconnect electricity and shut off appropriate valves. More information on this in Course 202 Module 1: Overview and Safety.

SIGNALS TRAINING CONSORTIUM


8

Inspection and Maintenance of Switches and Derails

Overview



Electro-Pneumatic Safety Warning: Avoid tripping, slipping or falling over compressor lines. NEVER put foot on baseplate as the slide bar can come out quite a distance very quickly, causing injury.







SIGNALS TRAINING CONSORTIUM

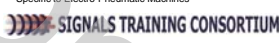
9

Inspection and Maintenance of Switches and Derails

General Inspection & Maintenance

Sense	Example Problems
	Debris, dirt, clutter, untamped ballast, rotting, instabilities, rust, worn insulation, lubricant outside the gearbox, proper drainage, hairline damage or distortion to case, cover and/or other structural components, breaks/weak points or any other signs of physical damage, switch moving at the wrong speed CP Valve Specific Visual Inspection* : cracked terminal insulation, cracked fiber gaskets, worn ribbon.
	Burning (including motor)
	Loose points, hardware*, etc,
	Grinding, Switch bogged down, sound of leaking air* , irregular/no air exhaust sound after switch is thrown*

*Specific to Electro-Pneumatic Machines

 SIGNALS TRAINING CONSORTIUM


10

Inspection and Maintenance of Switches and Derails


General Inspection & Maintenance

CP Valve Specific Hardware

- Armature nut – must be tight
- Pin valve lug & cylinder plug – must be air tight
- Magnet stem cap – secure
- Magnet stem cover plate – correct position & secure
- Walking beam cover – secure
- All electrical connections - secure



Spanner Wrench Ensuring a Tight Cylinder Plug

 SIGNALS TRAINING CONSORTIUM

11

Inspection and Maintenance of Switches and Derails

General Inspection & Maintenance

Air Hoses/Lines

- Look for deterioration or damage
- Ensure clamps are in place & secure
- Listen for leaking



Deteriorated Air Hose/Line

 SIGNALS TRAINING CONSORTIUM

12
