



Rail Systems

CLAMPLOCK FAULT FINDING

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1. Introduction

This Part is a brief description of the procedure to be adopted when attending a Clamplock failure. It does not include drive circuits or line circuits, which are common to most power operated points.

It is presumed that the point drive circuits and the hydraulic power pack are functioning correctly.

To check the power pack, observe the hydraulic hoses for flexing and relaxing during attempted power operation.

A single ended set of points will be considered. (For double ended points, check both ends.)

The following is by no means a complete list of all failures. It is designed to aid true fault location in order to prevent other adjustments or actions being used to overcome the failure.

1.1 Testing

Always obtain the signallers permission before any tests are carried out .

Note:

The disconnection's shown in NR?SMS/PB11 are for single ended sets. If facing point lock or detection tests are to be carried out on multiple ends ALL ends shall be isolated at the applicable pump units before work commences. Correct correspondence of **ALL** ends **SHALL** be maintained throughout the tests. This allows all testing to be carried out with reference to the voltage of the circuit under test and prevents the unintentional movement of any other ends.

Manually prove any adjustments are correct by hand pump operation before restoring to power operation by turning the switch on the Hydraulic Power Unit to the 'POWER' position. Finally test by operation from the signal box and observe that the apparatus functions correctly.

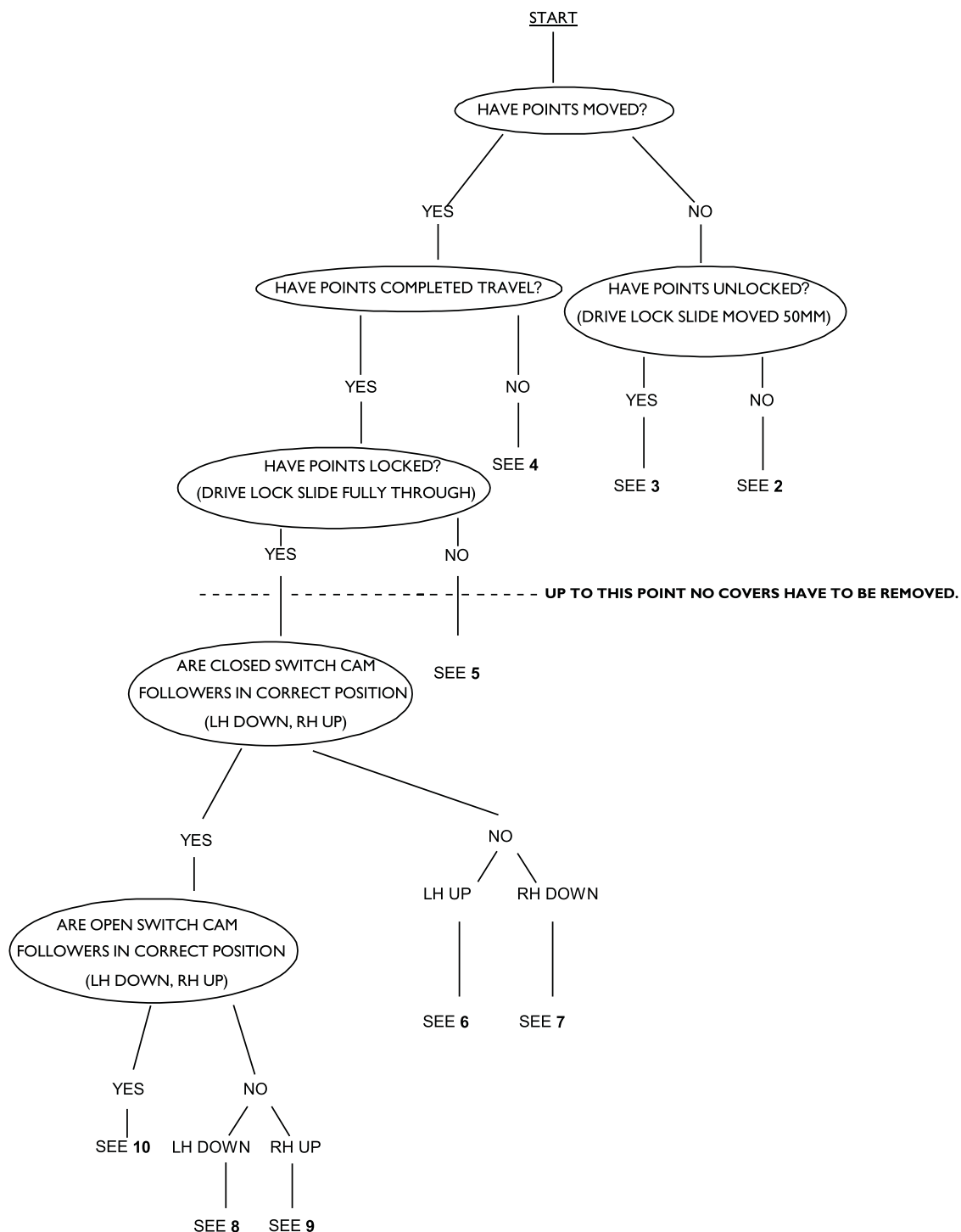


Figure H1 Flowchart

2. Fault diagnosis.

Fault 1. Points Fail to Unlock

Problem	Possible Cause	Action
Points fail to unlock.	<ul style="list-style-type: none">• Tight lock adjustment.	<ul style="list-style-type: none">• Carry out FPL Test.
	<ul style="list-style-type: none">• Excessive springing of the switch along its length.	<ul style="list-style-type: none">• Check for crippled switch, poor condition of the permanent way or the back stretcher bars being too short.
	<ul style="list-style-type: none">• Twisting of the switch (vertically).	<ul style="list-style-type: none">• Check by manually pumping the points until the top of the switch touches the stock rail. Then continue pumping and observe whether the bottom of the switch is pulled further towards the stock rail. Excessive twist shall be referred to the track organisation.
	<ul style="list-style-type: none">• Tie bar being too long.	<ul style="list-style-type: none">• Check to see if the tie bar is not allowing the lock arm to be fully clear before the switch starts to open.
	<ul style="list-style-type: none">• Lack of lubrication.	<ul style="list-style-type: none">• Clean surrounding area and lubricate.
	<ul style="list-style-type: none">• Lock arm seized on the pivot pin.	<ul style="list-style-type: none">• Replace Lock arm and pivot pin.
	<ul style="list-style-type: none">• Too much pressure on back-drive.	<ul style="list-style-type: none">• Adjust the pressure on back drive.
	<ul style="list-style-type: none">• Worn locking piece.	<ul style="list-style-type: none">• Replace the worn locking piece.

Fault 2. Points Unlock, But Fail to Move

Problem	Possible Cause	Action
Points unlock, but fail to move.	<ul style="list-style-type: none">• Physical obstruction to the switches.	<ul style="list-style-type: none">• Visually inspect for ballast, stock rail burred over the switch rail etc.
	<ul style="list-style-type: none">• Drive lock slide jammed.	<ul style="list-style-type: none">• Visually inspect the cam Allen screw or Spirol pin for tightness.

Fault 3. Points Move, But Fail to Complete Travel

Problem	Possible Cause	Action
Points move, but fail to complete travel.	<ul style="list-style-type: none">• Physical obstruction to the switches.	<ul style="list-style-type: none">• Visually inspect for ballast, stock rail burred over the switch rail etc.
	<ul style="list-style-type: none">• Drive lock slide jammed.	<ul style="list-style-type: none">• Visually inspect the cam Allen screw or Spirol pin for tightness.