PREPARATION ACTION
1. ADVISE NETWORK CONTROLLER BEFORE COMMENCING WORK
2. OBSERVE THE REQUIREMENTS OF THE SAFE WORK METHOD STATEMENT.
3. OBSERVE THE APPROPRIATE NETWORK RULES AND PROCEDURES
4. PERFORM PRE-WORK SAFETY BRIEF

MAINTENANCE ACTION [REFERENCE: CLAW LOCK MAINTENANCE MANUAL]

LUBRICATION (SWITCH PLATE & CLAW DRIVE)  
1. CHECK SWITCH SLIDE PLATES & CLAW DRIVE FOR OBSTRUCTIONS & CONTAMINATION, CLEAN & LUBRICATE SWITCH SLIDE PLATES (SWITCH PLATE LUBRICATION MAY NOT BE NECESSARY IF SWITCH ROLLERS ARE FITTED)
2. CLEAN (REMOVING ANY EXCESS OLD LUBRICANT & DEBRIS) & LUBRICATE THE ENGAGEMENT & DISENGAGEMENT FACES OF THE  
(i) CLAW TAIL  
(ii) OPERATING BAR NOTCHES 
(iii) LOCK FACES 
(iv) CLAW LOCK KEYWAY 
(iv) POINTS BACK DRIVE 
(iv) POINTS SPRING ASSISTOR 
3. CATCH POINT (WHERE APPLICABLE) - CLEAN & LUBRICATE THE ANTI-ROLL BRACKET SKID PLATE

ZONAL INSPECTION  
(Reference: SMS06 - SECTIONS 7, 8 & 10)
NOTE: A ZONAL INSPECTION IS ESSENTIALLY A VISUAL & AUDIBLE INSPECTION OF THE SWITCH, CLAW LOCK & MOTOR DRIVE OPERATION
4. CONDUCT A ZONAL EXAMINATION OF THE CLAW LOCK LOCKING & LOCK MECHANISM, BACK DRIVE & SWITCHES, TO ENSURE THAT THERE IS NO EVIDENCE OF OBSTRUCTION (FOREIGN MATERIAL), DAMAGE OR DEGRADATION THAT COULD PREVENT THE SWITCH RAIL FROM LOCKING & MAINTAINING ITS LOCKED POSITION OR FAILURE OF THE POINT DRIVE.
5. CHECK THAT THE MOTOR MECHANISM & CLAW LOCK BOX FASTENINGS ARE SECURE & THEY DO NOT MOVE DURING POINT OPERATION
6. CHECK THAT ALL CLAW LOCK PIN RETAINING DEVICES ARE IN PLACE & SECURE

NOTE: THE FOLLOWING TASKS ARE TO BE COMPLETED AT THE CONCLUSION OF ANY LUBRICATION & / OR ADJUSTMENT TASKS.
7. OBSERVE POINT OPERATON UNDER POWER FROM NORMAL TO REVERSE & REVERSE TO NORMAL (RECTIFY OR REPORT ANY ANOMALIES DETECTED):-  
(i) LISTEN FOR ANY UNUSUAL SOUNDS WHEN THE POINT SWITCHES ARE OPERATED.  
(ii) CHECK THAT THE SWITCH OPERATION IS THE NORMAL SPEED & IS SMOOTH  
(iii) CHECK THAT THE SWITCH (TIP TO HEEL) DRIVES UP AGAINST THE STOCK AT THE SAME TIME  
(iv) CHECK THAT THE CLAW IS LOCKING CORRECTLY  
(v) CHECK THAT THE COUPLING BAR & THROW BAR MOVE IN UNISON

REINSTATEMENT ACTION
1. RECORD MAINTENANCE ACTION BY CLOSING OFF THE MST/WORKORDER
2. ENSURE THAT THE POINT DRIVE SYSTEM OPERATES CORRECTLY
3. ADVISE THE NETWORK CONTROLLER THAT MAINTENANCE ACTION IS COMPLETE
4. REPAIRS OR ADJUSTMENTS ARE TO BE EFFECTED IMMEDIATELY OR RECORDED IN THE WMS AS A CORRECTIVE ACTION
5. DISPOSE OF ALL COMPONENTS, BATTERIES SOILED RAGS, PAPERS, ETC APPROPRIATELY
PREPARATION ACTION
1. ADVISE NETWORK CONTROLLER BEFORE COMMENCING WORK
2. OBSERVE THE REQUIREMENTS OF THE SAFE WORK METHOD STATEMENT.
3. OBSERVE THE APPROPRIATE NETWORK RULES AND PROCEDURES
4. PERFORM PRE-WORK SAFETY BRIEF

MAINTENANCE ACTION (REFERENCE: ESM-06-01 and SMS-06 CLAW LOCK MAINTENANCE MANUAL)
PERFORM SS0737010L IN CONJUNCTION WITH THIS SERVICE.

LUBRICATION OF OPERATING MECHANISM (Reference SMP 06 Sections 6 & 10)
1. LUBRICATE THE CLAW PIN BY APPLICATION OF GREASE TO THE GREASE NIPPLE
2. LUBRICATE THE SELECTOR LEVER BEARING
3. LUBRICATE THE HAND THROW LEVER BEARING
4. INSPECT THE SELECTOR LEVER CLUTCH ENGAGEMENT MECHANISM FOR RESIDUAL LUBRICANT, LUBRICATE THE MECHANISM IF REQUIRED TAKING CARE NOT TO CONTAMINATE THE CLUTCH DISCS WITH LUBRICANT
5. INSPECT THE POINT MACHINE GEARS FOR RESIDUAL LUBRICANT & LUBRICATE AS NECESSARY
6. LUBRICATE THE DETECTOR ROLLER ASSEMBLY PIVOT POINTS
7. LUBRICATE THE DETECTOR ROLLER AXLES
8. LUBRICATE THE THROW BAR & BUSHES & THE DETECTOR SLIDES & BEARINGS

POINTS ASSEMBLY & OPERATING MECHANISM (Reference SMP 06 Sections 2 & 7)
1. INSPECT THE TURNOUT FOR BUILD UP OF BALLAST & FOREIGN MATERIAL THAT MAY OBSTRUCT THE SWITCH RAIL, THROW BAR, DROP LUG, COUPLING BAR, COUPLING BAR BRACKET, OPERATING BAR, DETECTION RODS, BACK DRIVE CRANKS & OPERATING BAR (IF FITTED), REMOVE AS NECESSARY.
2. INSPECT CONDITION OF THE RAIL CHAIRS & TIES (FASTENERS) CHECKING FOR BROKEN OR LOOSE COMPONENTS
3. FOR CONVENTIONAL SWITCHES - EXAMINE FOR LOOSE OR BROKEN STOCK RAIL TO RAIL CHAIR FASTENERS (SWITCH STUDS)
4. INSPECT CONDITION OF THE POINT BEARERS (TIMBERS) & FASTENERS SECURED - REPORT DEFECTS TO TEAM MANAGER
5. INSPECT THE DETECTOR RODS COUPLING, INSULATED BUSH & COUPLING TO SWITCH RAIL FASTENER FOR EVIDENCE OF EXCESSIVE WEAR
6. INSPECT THE CLAW & OPERATING BAR FOR EVIDENCE OF MISALIGNMENT IN THE CLAW LOCK
7. INSPECT THE STOCK RAIL GAUGE FACE FOR RAIL HEAD OVERFLOW GREATER THAN 1.5mm ADJACENT TO THE SWITCH
8. INSPECT STOCK RAIL FOR LATERAL OR LONGITUDINAL (EXCEEDING 15MM) ROAD MOVEMENT - REPORT EXCEEDANCE TO TEAM MANAGER
9. CHECK FOR EVIDENCE OF EXCESSIVE PUMPING OF THE TURNOUT UNDER TRAIN LOAD
10. CHECK THE "TOP" ALIGNMENT OF THE TURNOUT TO ENSURE THERE IS NO EXCESSIVE DIP OR HOLLOW - REPORT EXCEEDANCE TO TEAM MGR
11. INSPECT SWITCH FOR DAMAGE ESPECIALLY THE TIP & OVERFLOW OF THE HEAD 400 TO 1000mm FROM THE TIP - REPORT DEFECT TO MGR
12. CHECK FIT OF SWITCH TO STOCKRAIL - RECTIFY OR REPORT DEFECT
13. CHECK SWITCH OPENING AT THE TIP AND FLANGEWAY CLEARANCE AT THE BACK OF THE SWITCH RAIL
14. INSPECT FOR EVIDENCE OF LOOSE FASTENERS & LOCK NUTS (DEVICES) ON THE POINT DRIVE LINKAGES & INCLUDING THROW BAR, DROP LUG, COUPLING BAR, COUPLING BAR BRACKET, OPERATING BAR AND WHERE FITTED THE BACK DRIVE CRANKS, BASEPLATES & OPERATING BAR
15. INSPECT THE CLAW LOCK & BRACKET FOR EVIDENCE OF FRACTURES PAYING PARTICULAR ATTENTION TO THE LOCK FACES
16. INSPECT THE CLAW LOCK & BRACKET FOR EVIDENCE OF LOOSE FASTENERS & LOCK NUTS (LOCKING DEVICES)
17. INSPECT FOR LOOSE OR BROKEN TIE PLATE TO RAIL BRACE FASTENERS, RETENTION OR RENEW AS NECESSARY
18. CHECK THE SWING RAIL TO RAIL CHAIR CLEARANCE. IF EXCESSIVE OR INSUFFICIENT THE SWITCH ROLLER TENTION MAY BE ADJUSTED TO ACHIEVE THE CORRECT CLEARANCE (APPLIES TO SWITCHES FITTED WITH SWITCH ROLLERS ONLY)
19. CHECK THE SWITCH IS BEARING & SLIDING EVENLY ON ALL RAIL SLIDE CHAIRS, REPORT TO CIVIL IF MORE THAN HALF ARE NOT BEARING CORRECTLY (APPLIES TO SWITCHES NOT FITTED WITH ROLLERS)
20. CHECK THE SECURITY OF THE SWITCH ROLLER (WHERE FITTED) MOUNTINGS, RETENTION OR RENEW FASTENINGS AS NECESSARY
21. CHECK N & R PLATES ARE AFFIXED TO THE "A" BEARER
22. CHECK POINT IDENTIFICATION NUMBERS ARE AFFIXED TO THE "A1" BEARER
23. EXAMINE BACKDRIVES, WHERE FITTED, FOR CORRECT ADJUSTMENT, WEAR IN CRANK BEARINGS, PINS AND JAWS, SECURITY OF BOLTS TO PLATES AND BEAMS (SLEEPERS), SECURITY OF PINS AND LOCKNUTS AT ADJUSTABLE CONNECTIONS
24. CHECK SPRING ASSIST (WHERE FITTED) FOR CORRECT OPERATION AND ADJUSTMENT AND LUBRICATE THE MECHANISM.

REINSTATEMENT ACTION
1. RECORD MAINTENANCE ACTION BY CLOSING OFF THE MST/WORKORDER
2. ENSURE THAT THE POINT DRIVE SYSTEM OPERATES CORRECTLY
3. ADVISE THE NETWORK CONTROLLER THAT MAINTENANCE ACTION IS COMPLETE
4. REPAIRS OR ADJUSTMENTS ARE TO BE EFFECTED IMMEDIATELY OR RECORDED IN THE WMS AS A CORRECTIVE ACTION
5. DISPOSE OF ALL COMPONENTS, BATTERIES, SOILED RAGS, PAPERS, ETC APPROPRIATELY

16/01/2013 CLAW LOCK DRIVE Version 1.4 Page 1 of 2
PREPARATION ACTION
1. ADVISE NETWORK CONTROLLER BEFORE COMMENCING WORK
2. OBSERVE THE REQUIREMENTS OF THE SAFE WORK METHOD STATEMENT.
3. OBSERVE THE APPROPRIATE NETWORK RULES AND PROCEDURES
4. PERFORM PRE-WORK SAFETY BRIEF

MAINTENANCE ACTION (REFERENCE: ESM-06-01 and SMS-06 CLAW LOCK MAINTENANCE MANUAL)

PERFORM SS0737010L IN CONJUNCTION WITH THIS SERVICE.

POINT MOTOR MACHINE
(Reference SMS 06 Sections 10)
1. INSPECT FOR EVIDENCE OF FLOGGING OR EXCESSIVE MOVEMENT AT THE POINT MACHINE MOUNTING, RETENTION MOUNTING BOLTS AS NECESSARY
2. CHECK OPERATION & INSPECT CONDITION OF THE EOL MECHANISM (WHERE FITTED) & KEY & MOTOR INDEX FOR CORRECT OPERATION OF THE INTERLOCKING MECHANISM, FIT & EXCESSIVE WEAR OF THE LOCKING COMPONENTS, WARDS & WARD PINS - REPLACE AS NECESSARY

FACING POINT LOCK (CLAW LOCK) ADJUSTMENT
(Reference ESM-06-01 and SMS 06 Section 2)
1. PERFORM FACING POINT LOCK TEST, ENSURE THE OPERATING BAR DOES NOT COMPLETE ITS STROKE & THE CLAW DOES NOT LOCK WITH THE 4.8 OBSTRUCTION GAUGE INSERTED BETWEEN THE SWITCH & STOCK RAIL. ADJUST OR REPAIR IF NECESSARY TO ENSURE THAT THE CLAW ENGAGES THE LOCK WITH THE OBSTRUCTION GAUGE SET AT BETWEEN 1.6mm & 3.2mm
2. CHECK SWITCH RAIL IN THE NORMAL AND REVERSE LOCKED POSITION TO ENSURE THAT IT CANNOT STAND OPEN MORE THAN 4.0MM. EXAMINE FOR THE CAUSE OF SETTING DRIFT AND REPAIR AS REQUIRED. RE-SET THE LOCKED POSITION OF THE SWITCH RAIL IF REQUIRED.

POINT DETECTION ADJUSTMENT
(Reference ESM-06-01 and SMS 06 Section 5)
1. CHECK THE DETECTION SETTINGS FOR THE CLOSED & OPEN SWITCH POSITIONS. CLOSED SWITCH SETTING MUST ENSURE THE DETECTOR CONTACTS ARE JUST OPEN WITH A SWITCH OPENING OF 4.0mm. OPEN SWITCH SETTING MUST ENSURE THE DETECTOR CONTACTS OPEN AT LEAST 25mm BEFORE THE LOCKED CLAW IS RELEASED BY THE COUPLING BAR. DETERMINE CAUSE FOR ANY LOSS OF CORRECT ADJUSTMENT. REPAIR AS NECESSARY, THEN READJUST DETECTION AS NECESSARY
2. REPEAT TASK 26 FOR BACK DRIVE WHERE FITTED

DERRAILER & CROWDER (Where Fitted)
1. Perform service for Derrailer & Crowder SS07340601

TRACK CIRCUIT PARALLEL BONDING
1. INSPECT THE CONDITION OF ANY PARALLEL BONDING ON THE TURNOUT

REINSTATEMENT ACTION
1. RECORD MAINTENANCE ACTION BY CLOSING OFF THE MST/WORKORDER
2. ENSURE THAT THE POINT DRIVE SYSTEM OPERATES CORRECTLY
3. ADVISE THE NETWORK CONTROLLER THAT MAINTENANCE ACTION IS COMPLETE
4. REPAIRS OR ADJUSTMENTS ARE TO BE EFFECTED IMMEDIATELY OR RECORDED IN THE WMS AS A CORRECTIVE ACTION
5. DISPOSE OF ALL COMPONENTS, BATTERIES, SOILED RAGS, PAPERS, ETC APPROPRIATELY

16/01/2013 CLAW LOCK DRIVE Version 1.4 Page 2 of 2
**PREPARATION ACTION**

1. Advise Network Controller before commencing work.
2. Observe the requirements of the Safe Work Method Statement.
3. Observe the appropriate Network Rules and Procedures.
4. Perform pre-work safety brief.

**MAINTENANCE ACTION**

**PERFORM SS0737010L & SS07370101 IN CONJUNCTION WITH THIS SERVICE.**

**MOTOR MECHANISM**

(Reference SMP 06 Sections 10)

1. Check bearings for unusual noise.
2. Check the friction snubber effectiveness by confirming that the intermediate gear for the point machine (motor driven gear) shows evidence of preload. Repair snubber as required.
3. Test the point machine cut-out timer function by performing the obstruction test. For non-CBI/PBI installations replace the defective timer if necessary or if CBI/PBI report the defective function to the maintenance engineer.
4. Test overload clutch mechanism. Repair, adjust replace as necessary.
5. Examine the point machine cover seal for evidence of degredation - replace as necessary.
6. Lubricate all moving parts within machine.
7. Inspect condition of gears and linkages.
8. Inspect condition of all electrical wiring.
9. Check tightness of all electrical connections.
10. Inspect the condition of the motor cut-out switch assembly for evidence of degredation of the contacts or housing & replace as necessary.
11. Inspect the condition of the detector contacts & housing for evidence of degredation & replace as necessary.
12. Inspect the condition of the motor control contact assembly & housing for evidence of degredation & replace as necessary.
13. Check the operation of the hand throw lever / selector interlockign. Repair or replace as necessary.
14. Clean interior of point machine.

**CLAW LOCK MECHANISM**

(Reference SMP 06 Section 8)

1. Inspect the operating bar / claw tail engagement & disengagement faces for excessive wear.
2. Inspect the electrical insulation for the operating bar for evidence of degredation & replace as necessary.
3. Inspect claw pin & retaining device for evidence of excessive wear & looseness of fit, replace as necessary.
4. Inspect the claw pin slot (or eccentric bush) in the claw bracket for excessive localised wear, replace as necessary.
5. Lubricate the claw pin & eccentric bush slot in the claw bracket (clean & remove excessive old lubricant first).
6. Inspect the anti roll bar (where fitted) for evidence of rubbing against the switch rail, replace or retension fasteners as necessary.
7. Inspect the anti roll bar (where fitted) slide arrangement for evidence of excess wear that could cause the anti-roll bar to sag.
8. Inspect the electrical insulations for the anti roll bar (where fitted) for evidence of degredation & replace as necessary.
9. Inspect the anti roll bar (where fitted) slide arrangement for evidence of loose fastenings, retension or replace as necessary.
10. Inspect the anti roll bracket (where fitted) slide arrangement for evidence of excessive wear, retension or replace as necessary.
11. Inspect the anti roll bracket (where fitted) slide arrangement for evidence of rubbing against the switch rail, replace or retension fasteners as necessary.
12. Check that the anti-roll bracket (where fitted) is not loose. If found to be loose then remove all loose fasteners & refit with new countersunk socket screws & 242 Loctite.
13. Conventional points - renew the claw pin retaining split pin.
14. Conventional points - examine the claw pin nyloc nut to ensure it is fitted & tensioned against the coupling bar & replace any loose nyloc nuts.

**EOL MECHANISM & ENCLOSURE**

1. Inspect condition of the eol mechanism & key & motor index for correct operation of the interlocking mechanism, fit & excessive wear of the locking components, wards & ward pins - replace as necessary.
2. Clean enclosure. Ensure seals and security devices are sericable.

**GENERAL**

(Reference SMP 06)

1. Check for correct track gauge at the tip of the switches. Report significant deviations to the team leader or manger.
2. Inspect the detector rod to switch rail electrical insulation for evidence of degredation.
3. Examine the electrical insulation between all tie plates for evidence of degredation & replace if necessary.

**REINSTATEMENT ACTION**

1. Record maintenance action by closing off the MST/workorder.
2. Test that the point drive system operates correctly.
3. Advise the network controller that maintenance action is complete.
4. Repairs or adjustments are to be effected immediately or recorded in the WMS as a corrective action.
5. Dispose of all components, batteries, soiled rags, papers, etc appropriately.