

Telegram :RAILMANAK',  
Lucknow  
Fax : 0522 - 2452581  
Telephone : 0522 - 2450374



सत्यमेव जयते

भारत सरकार - रेल मंत्रालय  
अनुसंधान अभिकल्प और मानक संगठन  
लखनऊ - 226011

Government of India - Ministry of Railways  
Research Designs & Standards Organization,  
LUCKNOW - 226011

No. EL/2.2.1

Dated 08.06.07

Chief Electrical Engineer,

- Central Railway, Mumbai CST-400 001.
- Northern Railway, Baroda House, New Delhi-110001.
- North Central Railway, Hastings Road, Allahabad- 211001
- Eastern Railway, Fairlie Place, Kolkata -700 001.
- East Central Railway, Hazipur-844101.
- East Coast Railway, Chandrashekharapur, Bhubaneswar-751016.
- Southern Railway, Park Town, Chennai-600 003.
- South Central Railway, Secunderabad-500 371.
- South Eastern Railway, Garden Reach, Kolkata -700 043.
- South Western Railway, 4<sup>th</sup> Floor, Laxmi Balakrishna Square Complex, Railway Station Road, Hubli- 580 020 (Karnataka).
- South East Central Railway, Bilaspur-495004
- Western Railway, Churchgate, Mumbai-400 020.
- West Central Railway, Jabalpur-482001.
- Chittaranjan Locomotive Works, Chittaranjan-713331 (WB)

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**TECHNICAL CIRCULAR No. RDSO/2007/EL/TC/0094 (Rev.'0')**

**COMPONENTS TO BE CHANGED DURING AOH / IOH & POH OF  
SIMILAR DESIGN PANTOGRAPH TYPE AM12, IR 01 AND PAN 01**

### 1.0 BACKGROUND

Railways have sought clarifications regarding interchangeability of spares of similar type of pantograph namely AM12, IR01 & PAN01. Detailed study was undertaken by RDSO in respect of Pantographs of similar designs (AM12 of M/s Stone India Limited, IR 01 of M/s Contransys and PAN 01 of M/s General Store and Engineering Company) in consultation with representatives of manufacturers and Railways at Electric Loco Shed/Howrah and Electric Loco Shed, Kanpur. Various components of the pantographs were physically interchanged with other makes and observed that the components can be interchanged and used in either make of Pantograph, thus obviating need of procuring the components on PAC basis.

A detailed list of spares has prepared to be followed by Railways and Workshops to ensure the reliability of Pantograph. Railways are advised to follow the AOH/IOH/POH kits as detailed here under for maintenance of pantograph type AM12/IR01/PAN01 and can be procured from either source namely (M/s Stone India Limited, M/s Contransys or M/s General Store & Engineering Company)

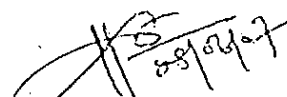
Encl: As above

  
(Kishore Kumar)  
for Director General/Elect.

Copy to : As per Standard Mailing List No. EL/M/0019, Ver. '2'

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Encl: As above

  
(Kishore Kumar)  
for Director General/Elect.

**AOH KIT FOR AM 12 / IR 01 & PAN 01 PANTOGRAPHS**  
(Kit to be purchased only from approved sources)

| Sl.No.    | Description                       | Qty. | M/s SIL<br>Part No. | M/s GSEC<br>Part No. | M/s<br>Contransys<br>Part No. | Remarks |
|-----------|-----------------------------------|------|---------------------|----------------------|-------------------------------|---------|
| <b>1.</b> | <b>SERVO MOTOR</b>                |      |                     |                      |                               |         |
| i)        | Piston Packing Ring               | 1    | S0221129100         | GSEC/PANTO/O<br>94   | C01870                        |         |
| ii)       | Tight Joint                       | 2    | S0221136302         | GSEC/PANTO/O<br>71   | C018140                       |         |
| iii)      | Joints<br>Rubber Seal             | 1    | S0221130300         | GSEC/PANTO/O<br>37   | C018240                       |         |
| iv)       | Split Pin<br>Size Ø5.5 x 50 L     | 1    | S0072010560         | GSEC/PANTO/S<br>P-06 | C00180001                     |         |
| v)        | Spring Washer<br>Size M 12        | 8    | S0071511201         | GSEC/PANTO/S<br>W-04 | C00180002                     |         |
| vi)       | Felt<br>Size 10x10x575 L          | 1    | S0082240907         | GSEC/PANTO/F-<br>05  | C00180003                     |         |
| <b>2.</b> | <b>THROTTLE VALVE</b>             |      |                     |                      |                               |         |
| i)        | Ring Gasket                       | 1    | S0080132201         | GSEC/PANTO/<br>042   | C019100                       |         |
| ii)       | Joint for Valve                   | 1    | S0220131901         | GSEC/PANTO/<br>100   | C01930                        |         |
| iii)      | Piston Ring                       | 1    | S0220132101         | GSEC/PANTO/<br>063   | C01950                        |         |
| iv)       | Joint                             | 1    | S0220132601         | GSEC/PANTO/<br>111   | C019130                       |         |
| v)        | Valve                             | 1    | S0220131701         | GSEC/PANTO/<br>092   | C01920                        |         |
| vi)       | Split Pin                         | 1    | S0072010240         | GSEC/PANTO/<br>037   | C00190001                     |         |
| vii)      | Spring                            | 1    | S0220132400         | GSEC/PANTO/<br>112   | C01980                        |         |
| <b>3.</b> | <b>BASE FRAME</b>                 |      |                     |                      |                               |         |
| i)        | Rubberised Thrust<br>Block<br>Nut | 2    | S0220110201         | GSEC/PANTO/<br>051   | C0130                         |         |
|           |                                   | 2    | S0071811400         | GSEC/PANTO/<br>N-04  | C0010002                      |         |
|           | Spring Washer                     | 2    | S0071511401         | GSEC/PANTO/<br>SW-05 | C0010001                      |         |
| <b>4.</b> | <b>PEDESTAL ASSEMBLY</b>          |      |                     |                      |                               |         |
| i)        | Joint Perfect                     | 2    | S0221136301         | GSEC/PANTO/<br>055   | C0240                         |         |
| <b>5.</b> | <b>LOWER ARM</b>                  |      |                     |                      |                               |         |
| i)        | Shunt                             | 4    | S0220133204         | GSEC/PANTO/<br>058   | C0320                         |         |
| ii)       | Spring Washers<br>Size M8         | 10   | S0071510801         | GSEC/PANTO/<br>SW-02 | C0030003                      |         |
| <b>6.</b> | <b>CENTER PEDESTAL ASSEMBLY</b>   |      |                     |                      |                               |         |
| i)        | Sealing Felt<br>Size 6x6x135L     | 2    | S0082240605         | GSEC/PANTO/<br>F-03  | C0040001                      |         |
| ii)       | Shunt                             | 1    | S0220133204         | GSEC/PANTO/<br>078   | C0450                         |         |
| iii)      | Spring Washer<br>Size M8          | 1    | S0071510801         | GSEC/PANTO/<br>SW-02 | C0030003                      |         |

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|            |                                      |   |             |                         |           |  |
|------------|--------------------------------------|---|-------------|-------------------------|-----------|--|
| <b>7.</b>  | <b>MIDDLE ARTICULATION ASSEMBLY</b>  |   |             |                         |           |  |
| i)         | Shunt                                | 1 | S0220133204 | GSEC/PANTO/<br>106      | C0450     |  |
| ii)        | Shunt                                | 2 | S0220133203 | GSEC/PANTO/<br>105      | C0302     |  |
| iii)       | Bimetal Washer                       | 1 | S0220131503 | GSEC/PANTO/<br>070      | C01240    |  |
| iv)        | Bimetal Plate                        | 1 | S0220025403 | GSEC/PANTO/<br>054      | C01250    |  |
| v)         | Split Pin<br>Size Ø3x 25 L           | 1 | S0072010336 | GSEC/PANTO/<br>SP-04    | C00120015 |  |
| vi)        | Spring Washer<br>Size M8             | 3 | S0071510801 | GSEC/PANTO/<br>SW-02    | C00120002 |  |
| <b>8.</b>  | <b>LONGITUDINAL TUBE</b>             |   |             |                         |           |  |
| i)         | Rubber Bush<br>SKEL 4434             | 2 | S0221138901 | GSEC/PANTO/<br>SKEL4434 | C01430    |  |
| <b>9.</b>  | <b>UPPER ARTICULATION ASSEMBLY</b>   |   |             |                         |           |  |
| i)         | Shunt                                | 2 | S0220133203 | GSEC/PANTO/<br>104      | C0320     |  |
| ii)        | Bi-Metal Washer                      | 4 | S0220131503 | GSEC/PANTO/<br>070      | C1240     |  |
| iii)       | Spring Washer<br>Size M8             | 1 | S0071510801 | GSEC/PANTO/<br>SW-02    | C00150003 |  |
| <b>10.</b> | <b>SUPPORT ROD CYLINDER ASSEMBLY</b> |   |             |                         |           |  |
| i)         | Spring as per<br>SKEL4682            | 2 | S221125801  | GSEC/PANTO/<br>061      | C015660   |  |
| ii)        | Sealing Felt                         | 2 | S0082240605 | GSEC/PANTO/<br>F-01/02  | C00150011 |  |
| iii)       | Split Pin                            | 2 | S0072010322 | GSEC/PANTO/<br>SP-05    | C00150012 |  |

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| IOH KIT FOR AM 12 / IR 01 & PAN 01 PANTOGRAPHS<br>(Kit to be purchased only from approved sources) |                               |      |                     |                      |                               |         |
|----------------------------------------------------------------------------------------------------|-------------------------------|------|---------------------|----------------------|-------------------------------|---------|
| Sl.No.                                                                                             | Description                   | Qty. | M/s SIL<br>Part No. | M/s GSEC<br>Part No. | M/s<br>Contransys<br>Part No. | Remarks |
| 1.                                                                                                 | <b>SERVO MOTOR</b>            |      |                     |                      |                               |         |
| i)                                                                                                 | Piston Packing Ring           | 1    | S0221129100         | GSEC/PANTO/<br>094   | C01870                        | AOH     |
| ii)                                                                                                | Tight Joint                   | 2    | S0221136302         | GSEC/PANTO/<br>071   | C018140                       |         |
| iii)                                                                                               | Joints<br>Rubber Seal         | 1    | S0221130300         | GSEC/PANTO/<br>037   | C018240                       |         |
| iv)                                                                                                | Split Pin<br>Size Ø5.5 x 50 L | 1    | S0072010560         | GSEC/PANTO/<br>SP-06 | C00180001                     |         |
| v)                                                                                                 | Spring Washer<br>Size M 12    | 8    | S0071511201         | GSEC/PANTO/<br>SW-04 | C00180002                     |         |
| vi)                                                                                                | Felt<br>Size 10x10x575L       | 1    | S0082240907         | GSEC/PANTO/<br>F-05  | C00180003                     |         |
| vii)                                                                                               | Pressure Disk                 | 1    | S0221129200         | GSEC/PANTO/<br>117   | C01880                        |         |
| viii)                                                                                              | Outer Spring                  | 1    | S0221129401         | GSEC/PANTO/<br>142   | C01890                        |         |
| ix)                                                                                                | Intermediate Spring           | 1    | S0221129500         | GSEC/PANTO/<br>143   | C018100                       |         |
| x)                                                                                                 | Inner Spring                  | 1    | S0221129600         | GSEC/PANTO/<br>144   | C018110                       |         |
| xi)                                                                                                | Guard                         | 1    | S0221130200         | GSEC/PANTO/<br>045   | C18230                        |         |
| xii)                                                                                               | Grease Nipple                 | 2    | S0082205956         | GSEC/PANTO/<br>103   | C0440                         |         |
| xiii)                                                                                              | Nut<br>Size M12               | 8    | S0070811205         | GSEC/PANTO/<br>N-03  | C00180004                     |         |
| xiv)                                                                                               | Bush                          | 2    | S0221124000         | GSEC/PANTO/<br>033   | C01830                        |         |
| xv)                                                                                                | Bush                          | 1    | S0221131600         | GSEC/PANTO/<br>034   | C01850                        |         |
| xvi)                                                                                               | Bush                          | 2    | S0221131900         | GSEC/PANTO/<br>035   | C018130                       |         |
| xvii)                                                                                              | Bush                          | 1    | S0221129801         | GSEC/PANTO/<br>073   | C018160                       |         |
| xviii)                                                                                             | Bush                          | 2    | S0221131300         | GSEC/PANTO/<br>115   | C018180                       |         |
| xix)                                                                                               | Plug                          | 1    | S0221137801         | GSEC/PANTO/<br>039   | C018250                       |         |
| 2.                                                                                                 | <b>THROTTLE VALVE</b>         |      |                     |                      |                               |         |
| i)                                                                                                 | Ring Gasket                   | 1    | S0080132201         | GSEC/PANTO/<br>042   | C019100                       | AOH     |
| ii)                                                                                                | Joint for Valve               | 1    | S0220131901         | GSEC/PANTO/<br>100   | C019130                       |         |
| iii)                                                                                               | Piston Ring                   | 1    | S0220132101         | GSEC/PANTO/<br>063   | C01950                        |         |
| iv)                                                                                                | Joint                         | 1    | S0220132601         | GSEC/PANTO/<br>111   | C01930                        |         |
| v)                                                                                                 | Valve                         | 1    | S0220131701         | GSEC/PANTO/<br>092   | C01920                        |         |
| vi)                                                                                                | Split Pin                     | 1    | S0072010240         | GSEC/PANTO/<br>037   | C00190001                     |         |
| vii)                                                                                               | Spring                        | 1    | S0220132400         | GSEC/PANTO/<br>112   | C01980                        |         |
| viii)                                                                                              | Valve Guide                   | 1    | S0220132001         | GSEC/PANTO/<br>102   | C01940                        |         |

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|      |                                                         |   |             |                      |          |     |
|------|---------------------------------------------------------|---|-------------|----------------------|----------|-----|
| ix)  | Spring Guide                                            | 1 | S0220132501 | GSEC/PANTO/<br>093   | C1990    |     |
| x)   | Hexagonal Nut                                           | 1 | S0220132301 | GSEC/PANTO/<br>101   | C01970   |     |
| xi)  | Pressure Joint Washer                                   | 1 | S0071790505 | GSEC/PANTO/<br>117   | C01960   |     |
| 3.   | <b>BASE FRAME</b>                                       |   |             |                      |          |     |
| i)   | Rubberised Thrust Block With Nut M14                    | 2 | S0220110201 | GSEC/PANTO/<br>051   | C0130    |     |
|      | Spring Washer                                           | 2 | S0071511401 | GSEC/PANTO/<br>SW-05 | C0010002 |     |
| 4.   | <b>PEDESTAL ASSEMBLY</b>                                |   |             |                      |          |     |
| i)   | Joint Perfect                                           | 2 | S0221136301 | GSEC/PANTO/<br>055   | C0240    | AOH |
| 5.   | <b>LOWER ARM ASSEMBLY</b>                               |   |             |                      |          |     |
| i)   | Shunt                                                   | 4 | S0220133204 | GSEC/PANTO/<br>058   | C0320    | AOH |
| ii)  | Hex. Head Screw Size M8 x 25 Plane Washer               | 6 | S0070830816 | GSEC/PANTO/<br>B-03  | C0030001 |     |
|      | Spring Washers                                          | 6 | S0071600901 | GSEC/PANTO/<br>PW-04 | C0030002 |     |
|      |                                                         | 6 | S0071510801 | GSEC/PANTO/<br>SW-02 | C0030003 |     |
| iii) | Hex Head Bolt, Size M8x25 Nut                           | 4 | S0072820825 | GSEC/PANTO/<br>B-03  | C0030004 |     |
|      | Spring Washer                                           | 4 | S0071810800 | GSEC/PANTO/<br>N-01  | C0030005 |     |
|      |                                                         | 4 | S0071510801 | GSEC/PANTO/<br>SW-02 | C0030006 |     |
| iv)  | Adjusting Screw Nut                                     | 4 | S0220131600 | GSEC/PANTO/<br>057   | C0330    |     |
|      |                                                         | 4 | S0220133801 | GSEC/PANTO/<br>154   | C0340    |     |
| 6.   | <b>MAIN SPRING ASSEMBLY</b>                             |   |             |                      |          |     |
| i)   | Pin                                                     | 6 | S0221121201 | GSEC/PANTO/<br>077   | C0360    |     |
|      | Spring Washer M12                                       | 6 | S0071511201 | GSEC/PANTO/<br>SW-04 | C0060001 |     |
|      | Nut M12                                                 | 6 | S0071811205 | GSEC/PANTO/<br>N-03  | C0060002 |     |
|      | Split Pin Size Ø 2.5x18L                                | 6 | S0072010225 | GSEC/PANTO/<br>SP-03 | C0060001 |     |
| ii)  | Screw Nut                                               | 2 | S0222137202 | GSEC/PANTO/<br>010   | C0830    |     |
|      |                                                         | 4 | S007811400  | GSEC/PANTO/<br>N-04  | C0060004 |     |
| 7.   | <b>CENTER PEDESTAL ASSEMBLY</b>                         |   |             |                      |          |     |
| i)   | Sealing Felt Size 6x6x135L                              | 2 | S0082240605 | GSEC/PANTO/<br>F-03  | C0040001 | AOH |
| ii)  | Shunt                                                   | 1 | S0220133204 | GSEC/PANTO/<br>078   | C0450    |     |
| iii) | Hex. Head Screw, Size M8x25 Spring Washer, Plane Washer | 1 | S0070830816 | GSEC/PANTO/<br>B-03  | C0040002 |     |
|      |                                                         | 1 | S0071510801 | GSEC/PANTO/<br>SW-02 | C0040003 |     |
|      |                                                         | 1 | S0071600901 | GSEC/PANTO/<br>PW-04 | C0040004 |     |

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|       |                                     |   |              |                      |           |  |
|-------|-------------------------------------|---|--------------|----------------------|-----------|--|
| iv)   | Pin                                 | 1 | S0221121001  | GSEC/PANTO/<br>085   | C0420     |  |
| v)    | Circlip                             | 1 | S0082040584  | GSEC/PANTO/<br>007   | C0430     |  |
| vi)   | Thrust Washer 'A'                   | 1 | S0221120801  | GSEC/PANTO/<br>008   | C0490     |  |
| vii)  | Thrust Washer 'B'                   | 1 | S0221120901  | GSEC/PANTO/<br>009   | C04100    |  |
| viii) | Grease Nipple                       | 1 | S0082205971  | GSEC/PANTO/<br>103   | C0440     |  |
| ix)   | Pin                                 | 4 | S00724400516 | GSEC/PANTO/<br>006   | C0040005  |  |
| x)    | Split Pin                           | 1 | S0072010336  | GSEC/PANTO/<br>SP-04 | C0040006  |  |
| xi)   | Roll Pin                            | 1 | S0072050430  | GSEC/PANTO/<br>RP-01 | C0470     |  |
| 8.    | <b>MIDDLE ARTICULATION ASSEMBLY</b> |   |              |                      |           |  |
| i)    | Shunt                               | 1 | S0220133204  | GSEC/PANTO/<br>106   | C0450     |  |
| ii)   | Shunt                               | 2 | S0220133203  | GSEC/PANTO/<br>105   | C0320     |  |
| iii)  | Bimetal Washer                      | 2 | S0220131503  | GSEC/PANTO/<br>070   | C01240    |  |
| iv)   | Bimetal Plate                       | 1 | S0220025403  | GSEC/PANTO/<br>054   | C01250    |  |
| v)    | Stud,                               | 1 | S0221125300  | GSEC/PANTO/<br>018   | C01280    |  |
|       | Spring Washer                       | 1 | S0071510801  | GSEC/PANTO/<br>SW-02 | C00120001 |  |
|       | Nut<br>Size M 8                     | 1 | S0071810800  | GSEC/PANTO/<br>N-01  | C00120002 |  |
| vi)   | Square Head Bolt                    | 2 | S0070870830  | GSEC/PANTO/<br>B-03  | C00120005 |  |
|       | Plane Washer                        | 2 | S0071600901  | GSEC/PANTO/<br>PW-04 | C00120006 |  |
|       | Spring Washer&                      | 2 | S0071510801  | GSEC/PANTO/<br>SW-02 | C00120007 |  |
|       | Hex. Nut                            | 2 | S0071810800  | GSEC/PANTO/<br>N-01  | C00120008 |  |
| vii)  | Hex. Head Bolt<br>Size M12x100L     | 4 | S0072821290  | GSEC/PANTO/<br>B-08  | C00120009 |  |
|       | Spring Washer                       | 4 | S0071511201  | GSEC/PANTO/<br>SW-04 | C00120010 |  |
|       | Hex. Nut                            | 4 | S0071811200  | GSEC/PANTO/<br>N-03  | C00120011 |  |
| viii) | Center Swing Ling                   | 1 | S0221124901  | GSEC/PANTO/<br>043   | C01210    |  |
| ix)   | Sheet Cover                         | 1 | S0221125000  | GSEC/PANTO/<br>146   | C01220    |  |
|       | Self Tapping Screw                  | 4 | S0070318108  | GSEC/PANTO/<br>R-01  | C00120004 |  |
| x)    | Cover                               | 2 | S0220130401  | GSEC/PANTO/<br>090   | C0250     |  |
|       | Cover Retaining<br>Ring             | 2 | S0220130800  | GSEC/PANTO/<br>053   | C0260     |  |
| xi)   | Pin,                                | 1 | S0221121001  | GSEC/PANTO/<br>068   | C0430     |  |
|       | Plane Washer,                       | 1 | S00716601601 | GSEC/PANTO/<br>PW-02 | C00120012 |  |
|       | Spring Washer                       | 1 | S0071511401  | GSEC/PANTO/<br>SW-05 | C00120013 |  |

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|            |                                        |   |             |                      |           |              |
|------------|----------------------------------------|---|-------------|----------------------|-----------|--------------|
|            | Hex Nut &                              | 1 | S0071511401 | GSEC/PANTO/<br>N-04  | C0120014  |              |
|            | Split Pin<br>Size Ø3x 25 L             | 1 | S0072010336 | GSEC/PANTO/<br>SP-04 | C00120015 |              |
| xii)       | Grease Nipple                          | 1 | S0082205971 | GSEC/PANTO/<br>103   | C0440     |              |
| xiii)      | Circlip                                | 1 | S0082040584 | GSEC/PANTO/<br>007   | C01270    |              |
| xiv)       | Circlip                                | 2 | S0082040590 | GSEC/PANTO/<br>038   | C0480     |              |
| <b>9.</b>  | <b>MIDDLE ARTICULATION ARM FITTING</b> |   |             |                      |           |              |
| i)         | Lock Plate                             | 1 | S021125200  | GSEC/PANTO/<br>082   | C01230    |              |
| ii)        | Lock Washer<br>SKF-HM5                 | 2 | S0077510305 | GSEC/PANTO/<br>020   | C01340    |              |
| iii)       | Lock Nut<br>SKF-MB5                    | 2 | S0077510405 | GSEC/PANTO/<br>021   | C01350    |              |
| <b>10.</b> | <b>LONGITUDINAL TUBE</b>               |   |             |                      |           |              |
| i)         | Rubber Bush                            | 2 | S0221138901 | GSEC/PANTO/<br>151   | C01430    | SKEL<br>4434 |
| ii)        | Plug                                   | 2 | S0221120201 | GSEC/PANTO/<br>015   | C01420    |              |
| <b>11.</b> | <b>UPPER ARTICULATION ASSEMBLY</b>     |   |             |                      |           |              |
| i)         | Shunt                                  | 2 | S0220133203 | GSEC/PANTO/<br>104   | C0320     |              |
| ii)        | Bi-Metal Washer                        | 4 | S0220131503 | GSEC/PANTO/<br>070   | C01240    |              |
| iii)       | Top mounting<br>Pt. 'A' Loco           | 1 | S0221115401 | GSEC/PANTO/<br>022   | C015210   |              |
| iv)        | Top mounting<br>Pt. 'C' EMU            | 1 | S0221115402 | GSEC/PANTO/<br>107   | C01522    |              |
| v)         | Top mounting<br>Pt. 'B' Loco           | 1 | S0221117601 | GSEC/PANTO/<br>022   | C015240   |              |
| vi)        | Top mounting<br>Pt. 'D' EMU            | 1 | S0221117602 | GSEC/PANTO/<br>107   | C01524    |              |
| vii)       | Cylinder Support<br>Loco               | 2 | S0221126201 | GSEC/PANTO/<br>025   | C01540    |              |
| viii)      | Cylinder Support<br>Pt. 'A' EMU        | 1 | S0221126401 | GSEC/PANTO/<br>108   | C01526    |              |
| ix)        | Cylinder Support Pt<br>'B' EMU         | 1 | S0221126401 | GSEC/PANTO/<br>108   | C01527    |              |
| x)         | Special Washer                         | 2 | S0072820845 | GSEC/PANTO/<br>005   | C01550    |              |
| xi)        | Hex. Head Bolt<br>Size M8x25L          | 2 | S0072820845 | GSEC/PANTO/<br>B-03  | C00150001 |              |
|            | Plain Washer                           | 2 | S0071600901 | GSEC/PANTO/<br>PW-04 | C00150002 |              |
|            | Spring washer                          | 2 | S0071510801 | GSEC/PANTO/<br>SW-02 | C00150003 |              |
|            | Hex. Nut M8                            | 2 | S0071810800 | GSEC/PANTO/<br>N-01  | C00150004 |              |
| xii)       | Hex. Head Bolt                         | 2 | S0072821270 | GSEC/PANTO/<br>B-04  | C00150005 |              |
|            | Spring washer                          | 2 | S0071511201 | GSEC/PANTO/<br>SW-02 | C00150006 |              |
|            | Hex. Nut                               | 2 | S0071811205 | GSEC/PANTO/<br>N-01  | C00150007 |              |
| xiii)      | Hex. Head Bolt                         | 2 | S0072821265 | GSEC/PANTO/<br>B-07  | C00150008 |              |
|            | Spring washer                          | 2 | S0071511201 | GSEC/PANTO/<br>SW-04 | C00150009 |              |

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|            |                                                                       |   |             |                            |           |                    |
|------------|-----------------------------------------------------------------------|---|-------------|----------------------------|-----------|--------------------|
|            | Hex. Nut                                                              | 2 | S0071811205 | GSEC/PANTO/<br>N-03        | C00150010 |                    |
| <b>12.</b> | <b>SUPPORT ROD CYLINDER ASSEMBLY</b>                                  |   |             |                            |           |                    |
| i)         | Spring<br>SKEL 4682                                                   | 2 | S221125801  | GSEC/PANTO/<br>061         | C15660    | AOH                |
| ii)        | Sealing Felt<br>Size 6mm                                              | 2 | S0082240605 | GSEC/PANTO/<br>F-01 & F-02 | C00150011 |                    |
| iii)       | Split Pin                                                             | 2 | S0072010322 | GSEC/PANTO/<br>SP-05-      | C00150012 |                    |
| iv)        | Bush Big                                                              | 2 | S0220133001 | GSEC/PANTO/<br>060         | C015630   |                    |
|            | Bush Small                                                            | 2 | S0220133101 | GSEC/PANTO/<br>116         | C015640   |                    |
|            | Bush End Cap                                                          | 2 | S0220131301 | GSEC/PANTO/<br>069         | C01620    |                    |
| v)         | Pin                                                                   | 2 | S0221125701 | GSEC/PANTO/<br>027         | C015620   |                    |
|            | Plane Washer                                                          | 2 | S0071601101 | GSEC/PANTO/<br>PW-05       | C00150013 |                    |
| vi)        | Split Pin                                                             | 2 | S0072010440 | GSEC/PANTO/<br>SP-04       | C00150014 |                    |
| <b>13.</b> | <b>BOW ASSEMBLY WITH METALISED CARBON STRIPS</b>                      |   |             |                            |           |                    |
| i)         | Horn with Bush                                                        | 2 | S0221119801 | GSEC/PANTO/<br>138A        | C01610    | 43833              |
|            | End Wearing Strips<br>(R.H.)                                          | 2 | S0221139601 | GSEC/PANTO/<br>139         | C01660    |                    |
|            | End Wearing Strips<br>(R.H.)                                          | 2 | S0221139901 | GSEC/PANTO/<br>140         | C01650    |                    |
| ii)        | Metalised Carbon<br>Strips complete with<br>screws, washers &<br>nuts | 2 | S0221138801 | GSEC/PANTO/<br>152         | C01670    | SKEL4303<br>Rev'4' |
| <b>14.</b> | <b>MECHANISM ASSEMBLY</b>                                             |   |             |                            |           |                    |
| i)         | Pin                                                                   | 2 | S0221128200 | GSEC/PANTO/<br>087         | C01760    |                    |
|            | Bush                                                                  | 2 | S0221128301 | GSEC/PANTO/<br>088         | C01770    |                    |
|            | Split Pin                                                             | 2 | S0072010440 | GSEC/PANTO/<br>SP-05       | C00170001 |                    |



| POH KIT for AM 12 / IR 01 & PAN 01 Pantographs<br>(Kit to be purchased only from approved sources) |                               |      |                     |                      |                               |         |
|----------------------------------------------------------------------------------------------------|-------------------------------|------|---------------------|----------------------|-------------------------------|---------|
| Sl.No.                                                                                             | Description                   | Qty. | M/s SIL<br>Part No. | M/s GSEC Part<br>No. | M/s<br>Contransys<br>Part No. | Remarks |
| 1.                                                                                                 | SERVO MOTOR                   |      |                     |                      |                               |         |
| i)                                                                                                 | Piston Packing Ring           | 1    | S0221129100         | GSEC/PANTO/<br>094   | C01870                        | AOH     |
| ii)                                                                                                | Tight Joint                   | 2    | S0221136302         | GSEC/PANTO/<br>071   | C018140                       |         |
| iii)                                                                                               | Joints<br>Rubber Seal         | 1    | S0221130300         | GSEC/PANTO/<br>037   | C018240                       |         |
| iv)                                                                                                | Split Pin<br>Size Ø5.5 x 50 L | 1    | S0072010560         | GSEC/PANTO/<br>SP-06 | C00180004                     |         |
| v)                                                                                                 | Spring Washer<br>(Size M 12)  | 8    | S0071511201         | GSEC/PANTO/<br>SW-04 | C00180002                     |         |
| vi)                                                                                                | Felt<br>Size 10x10x575        | 1    | S0082240907         | GSEC/PANTO/<br>F-05  | C00180003                     |         |
| vii)                                                                                               | Pressure Disk                 | 1    | S0221129200         | GSEC/PANTO/<br>117   | C01880                        | IOH     |
| viii)                                                                                              | Outer Spring                  | 1    | S0221129401         | GSEC/PANTO/<br>142   | C01890                        |         |
| ix)                                                                                                | Intermediate Spring           | 1    | S0221129500         | GSEC/PANTO/<br>143   | C018100                       |         |
| x)                                                                                                 | Inner Spring                  | 1    | S0221129600         | GSEC/PANTO/<br>144   | C018110                       |         |
| xi)                                                                                                | Guard                         | 1    | S0221130200         | GSEC/PANTO/<br>045   | C018230                       |         |
| xii)                                                                                               | Grease Nipple                 | 2    | S0082205956         | GSEC/PANTO/<br>103   | C0440                         |         |
| xiii)                                                                                              | Nut<br>Size M12               | 8    | S0070811205         | GSEC/PANTO/<br>N-03  | C00180004                     |         |
| xiv)                                                                                               | Bush                          | 2    | S0221124000         | GSEC/PANTO/<br>033   | C01830                        |         |
| xv)                                                                                                | Bush                          | 1    | S0221131600         | GSEC/PANTO/<br>034   | C01850                        |         |
| xvi)                                                                                               | Bush                          | 2    | S0221131900         | GSEC/PANTO/<br>035   | C018130                       |         |
| xvii)                                                                                              | Bush                          | 1    | S0221129801         | GSEC/PANTO/<br>073   | C018160                       |         |
| xiii)                                                                                              | Bush                          | 2    | S0221131300         | GSEC/PANTO/<br>115   | C018180                       |         |
| xix)                                                                                               | Plug                          | 1    | S0221137801         | GSEC/PANTO/<br>039   | C018250                       |         |
| 2.                                                                                                 | THROTTLE VALVE COMPLETE       |      |                     |                      |                               |         |
| i)                                                                                                 | Ring Gasket                   | 1    | S0080132201         | GSEC/PANTO/<br>042   | C019100                       | AOH     |
| ii)                                                                                                | Joint for Valve               | 1    | S0220131901         | GSEC/PANTO/<br>100   | C01930                        |         |
| iii)                                                                                               | Piston Ring                   | 1    | S0220132101         | GSEC/PANTO/<br>063   | C01950                        |         |
| iv)                                                                                                | Joint                         | 1    | S0220132601         | GSEC/PANTO/<br>111   | C019130                       |         |
| v)                                                                                                 | Valve                         | 1    | S0220131701         | GSEC/PANTO/<br>092   | C01920                        |         |
| vi)                                                                                                | Split Pin                     | 1    | S0072010240         | GSEC/PANTO/<br>037   | C00190001                     |         |
| vii)                                                                                               | Spring                        | 1    | S0220132400         | GSEC/PANTO/<br>112   | C01980                        |         |

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|       |                              |   |             |                      |           |           |
|-------|------------------------------|---|-------------|----------------------|-----------|-----------|
| viii) | Valve Guide                  | 1 | S0220132001 | GSEC/PANTO/<br>102   | C01940    | IOH       |
| ix)   | Spring Guide                 | 1 | S0220132501 | GSEC/PANTO/<br>093   | C01990    |           |
| x)    | Hexagonal Nut                | 1 | S0220132301 | GSEC/PANTO/<br>101   | C01970    |           |
| xi)   | Pressure Joint Washer        | 1 | S0071790505 | GSEC/PANTO/          | C01960    |           |
| xii)  | Valve Body                   | 1 | S0220131701 | GSEC/PANTO/<br>113   | C01910    |           |
| xiii) | Regulating Screw             | 1 | S0220132801 | GSEC/PANTO/<br>109   | C019120   |           |
| 3.    | BASE FRAME                   |   |             |                      |           |           |
| i)    | Rubberised Thrust Block      | 2 | S0220110201 | GSEC/PANTO/<br>051   | C0130     | AOH & IOH |
|       | Nut M14                      | 2 | S0071811400 | GSEC/PANTO/<br>N-04  | C00120002 |           |
|       | Spring Washer                | 2 | S0071511401 | GSEC/PANTO/<br>SW-05 | C00120001 |           |
| 4.    | PEDESTAL ASSEMBLY            |   |             |                      |           |           |
| i)    | Joint Perfect                | 2 | S0221136301 | GSEC/PANTO/<br>055   | C0240     | AOH & IOH |
| ii)   | Ball Bearing 1305            | 2 | S0077010160 | GSEC/PANTO/<br>BR-01 | C02030    | 43        |
| iii)  | Cover                        | 2 | S0220130401 | GSEC/PANTO/<br>001   | C0250     |           |
| iv)   | Cover Retaining Ring         | 2 | S0220130800 | GSEC/PANTO/<br>002   | C0260     |           |
| v)    | Circlips                     | 2 | S0082040594 | GSEC/PANTO/<br>003   | C0270     |           |
| vi)   | Pedestal Pt 'A'              | 1 | S0221120401 | GSEC/PANTO/<br>050   | C0210     |           |
| vii)  | Pedestal Pt 'B'              | 1 | S0221120402 | GSEC/PANTO/<br>050   | C0220     |           |
| 5.    | LOWER ARM ASSEMBLY           |   |             |                      |           |           |
| i)    | Shunt                        | 4 | S0220133204 | GSEC/PANTO/<br>058   | C0320     | AOH       |
| ii)   | Hex. Head Screw Size M8 x 25 | 6 | S0070830816 | GSEC/PANTO/<br>B-03  | C0030001  |           |
|       | Plane washer                 | 6 | S0071600901 | GSEC/PANTO/<br>PW-04 | C0030002  |           |
|       | Spring Washers               | 6 | S0071510801 | GSEC/PANTO/<br>SW-02 | C0030003  |           |
| iii)  | Hex Head Bolt, Size M8x25    | 4 | S0072820825 | GSEC/PANTO/<br>B-03  | C0030004  |           |
|       | Nut                          | 4 | S0071810800 | GSEC/PANTO/<br>N-01  | C0030005  |           |
|       | Spring Washer                | 4 | S0071510801 | GSEC/PANTO/<br>SW-02 | C0030006  |           |
| iv)   | Adjusting Screw              | 4 | S0220131600 | GSEC/PANTO/<br>057   | C0330     |           |
|       | Nut                          | 4 | S0220133801 | GSEC/PANTO/<br>154   | C0340     |           |
| 6.    | MAIN SPRING ASSEMBLY         |   |             |                      |           |           |
| i)    | Pin                          | 6 | S0221121201 | GSEC/PANTO/<br>077   | C0360     | IOH       |
|       | Spring Washer M12            | 6 | S0071511201 | GSEC/PANTO/<br>SW-04 | C0060001  |           |
|       | Nut M12                      | 6 | S0071811205 | GSEC/PANTO/<br>N-03  | C0060002  |           |
|       | Split Pin                    | 6 | S0072010225 | GSEC/PANTO/          | C0060003  |           |

|       |                                |   |              |                      |          |     |
|-------|--------------------------------|---|--------------|----------------------|----------|-----|
|       | Size Ø 2.5x18L                 |   |              | SP-03                |          |     |
| ii)   | Main Spring                    | 2 | S0221137501  | GSEC/PANTO/<br>126   | C0610    |     |
|       | Spring Holder                  | 2 | S0221139101  | GSEC/PANTO/<br>079   | C0620    |     |
|       | Anchored Plate                 | 2 | S0221136801  | GSEC/PANTO/<br>125   | C0630    |     |
|       | Screw                          | 2 | S0222137202  | GSEC/PANTO/<br>010   | C0830    |     |
|       | Nut                            | 4 | S007811400   | GSEC/PANTO/<br>N-04  | C0060004 |     |
| iii)  | Ball Bearing 6302              | 4 | S0077010172  | GSEC/PANTO/<br>BR-04 | C0370    |     |
| iv)   | Flange/Washer                  | 8 | S0220130501  | GSEC/PANTO/<br>072   | C0380    |     |
| 7.    | PUSH ROD ASSEMBLY              |   |              |                      |          |     |
| i)    | Pin                            | 1 | S0221133601  | GSEC/PANTO/<br>012   | C0920    |     |
|       | Plain Washer                   | 1 | S0071600901  | GSEC/PANTO/<br>PW-04 | C0090001 |     |
|       | Spring Washer                  | 1 | S0071510801  | GSEC/PANTO/<br>SW-02 | C0090002 |     |
|       | Hex. Nut                       | 1 | S0071810800  | GSEC/PANTO/<br>N-01  | C0090003 |     |
|       | Split Pin                      | 1 | S00720010100 | GSEC/PANTO/<br>SP-07 | C0090004 |     |
| ii)   | Hex. Head Screw                | 2 | S0070830816  | GSEC/PANTO/<br>B-02  | C0090005 |     |
|       | Plain Washer                   | 2 | S0071600901  | GSEC/PANTO/<br>PW-04 | C0090006 |     |
|       | Spring Washer                  | 2 | S0071510801  | GSEC/PANTO/<br>SW-02 | C0090007 |     |
| 8.    | CENTER PEDESTAL ASSEMBLY       |   |              |                      |          |     |
| i)    | Sealing Felt<br>Size 6x6x135L  | 2 | S0082240605  | GSEC/PANTO/<br>F-03  | C0040001 | AOH |
| ii)   | Shunt                          | 1 | S0220133204  | GSEC/PANTO/<br>078   | C0450    |     |
| iii)  | Hex. Head Screw,<br>Size M8x25 | 1 | S0070830816  | GSEC/PANTO/<br>B-03  | C0040002 |     |
|       | Spring Washer,                 | 1 | S0071510801  | GSEC/PANTO/<br>SW-02 | C0040003 |     |
|       | Plane Washer                   | 1 | S0071600901  | GSEC/PANTO/<br>PW-04 | C0040004 |     |
| iv)   | Ball Bearing 2204              | 1 | S0077010165  | GSEC/PANTO/<br>BR-02 | C0420    | IOH |
| v)    | Pin                            | 1 | S0221121001  | GSEC/PANTO/<br>085   | C0430    |     |
| vi)   | Circlip                        | 1 | S0082040584  | GSEC/PANTO/<br>007   | C480     |     |
| vii)  | Thrust Washer 'A'              | 1 | S0221120801  | GSEC/PANTO/<br>008   | C0490    |     |
| viii) | Thrust Washer 'B'              | 1 | S0221120901  | GSEC/PANTO/<br>009   | C04100   |     |
| ix)   | Grease Nipple                  | 1 | S0082205971  | GSEC/PANTO/<br>103   | C0440    |     |
| x)    | Pin                            | 4 | S00724400516 | GSEC/PANTO/<br>P-01  | C0040005 |     |
| xi)   | Split Pin                      | 1 | S0072010336  | GSEC/PANTO/<br>SP-04 | C0040006 |     |

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|       |                                          |   |              |                      |           |     |
|-------|------------------------------------------|---|--------------|----------------------|-----------|-----|
| xii)  | Roll Pin                                 | 1 | S0072050430  | GSEC/PANTO/<br>RP-01 | * C0470   |     |
| 9.    | MIDDLE ARTICULATION ASSEMBLY             |   |              |                      |           |     |
| i)    | Shunt                                    | 1 | S0220133204  | GSEC/PANTO/<br>106   | C0450     | AOH |
| ii)   | Shunt                                    | 2 | S0220133203  | GSEC/PANTO/<br>105   | C0320     |     |
| iii)  | Bimetal Washer                           | 1 | S0220131503  | GSEC/PANTO/<br>070   | C01240    |     |
| iv)   | Bimetal Plate                            | 1 | S0220025403  | GSEC/PANTO/<br>054   | C01250    |     |
| v)    | Stud,                                    | 1 | S0221125300  | GSEC/PANTO/<br>SD-01 | C01280    |     |
|       | Spring Washer                            | 1 | S0071510801  | GSEC/PANTO/<br>SW-02 | C00120001 |     |
|       | Nut                                      | 1 | S0071810800  | GSEC/PANTO/<br>N-01  | C0012003  |     |
| vi)   | Sq. Head Bolt,                           | 2 | S0070870830  | GSEC/PANTO/<br>B-03  | C00120005 |     |
|       | Plane Washer                             | 2 | S0071600901  | GSEC/PANTO/<br>PW-04 | C00120006 |     |
|       | Spring Washer                            | 2 | S0071510801  | GSEC/PANTO/<br>SW-02 | C00120007 |     |
|       | Hex. Nut                                 | 2 | S0071810800  | GSEC/PANTO/<br>N-01  | C00120008 |     |
| vii)  | Hex Head Bolt<br>Size M12x100L           | 4 | S0072821290  | GSEC/PANTO/<br>B-08  | C00120009 |     |
|       | Spring Washer                            | 4 | S0071511201  | GSEC/PANTO/<br>SW-04 | C00120010 |     |
|       | Hex. Nut                                 | 4 | S0071811200  | GSEC/PANTO/<br>N-03  | C00120011 |     |
| viii) | Center Swing Ling                        | 1 | S0221124901  | GSEC/PANTO/<br>043   | C01210    |     |
| ix)   | Sheet Cover                              | 1 | S0221125000  | GSEC/PANTO/<br>146   | C01220    |     |
|       | Self Tapping Screw                       | 4 | S0070318108  |                      | C00120004 |     |
| x)    | Cover                                    | 2 | S0220130401  | GSEC/PANTO/<br>001   | C0250     |     |
|       | Cover Retaining<br>Ring                  | 2 | S0220130800  | GSEC/PANTO/<br>002   | C0260     |     |
| xi)   | Pin,                                     | 1 | S0221121001  | GSEC/PANTO/<br>068   | C0430     |     |
|       | Plane Washer,                            | 1 | S00716601601 | GSEC/PANTO/<br>PW-02 | C00120012 |     |
|       | Spring Washer                            | 1 | S0071511401  | GSEC/PANTO/<br>SW-05 | C00120013 |     |
|       | Hex. Nut &                               | 1 | S0071511401  | GSEC/PANTO/<br>N-04  | C00120014 |     |
|       | Split Pin<br>Size Ø3x 25 L               | 1 | S0072010336  | GSEC/PANTO/<br>SP-04 | C00120015 |     |
| xii)  | Grease Nipple                            | 1 | S0082205971  | GSEC/PANTO/<br>103   | C0440     |     |
| xiii) | Ball Bearing 2204                        | 1 | S0077010165  | GSEC/PANTO/<br>BR-02 | C0420     |     |
| xiv)  | Circlip                                  | 1 | S0082040584  | GSEC/PANTO/<br>019   | C01480    |     |
| xv)   | Circlip                                  | 2 | S0082040590  | GSEC/PANTO/<br>038   | C01270    |     |
| 10.   | MIDDLE ARTICULATION ARM FITTING ASSEMBLY |   |              |                      |           |     |

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|            |                                                       |   |             |                      |           |     |
|------------|-------------------------------------------------------|---|-------------|----------------------|-----------|-----|
| i)         | Ball Bearing 6205                                     | 2 | S0077200138 | GSEC/PANTO/<br>BR-03 | C01330    |     |
| ii)        | Lock Plate                                            | 1 | S021125200  | GSEC/PANTO/<br>082   | C01230    |     |
| iii)       | Lock Washer<br>SKF-HM5                                | 2 | S0077510305 | GSEC/PANTO/<br>021   | C01340    |     |
| iv)        | Lock Nut<br>SKF-MB5                                   | 2 | S0077510405 | GSEC/PANTO/<br>020   | C01260    |     |
| v)         | Middle Linkage Arm                                    | 1 | S0221125501 | GSEC/PANTO/<br>049   | C01310    |     |
| vi)        | Special Nut                                           | 1 | S0221125100 | GSEC/PANTO/<br>047   | C01260    |     |
| vii)       | Distance Piece                                        | 1 | S0221125600 | GSEC/PANTO/<br>067   | C01320    |     |
| <b>11.</b> | <b>LONGITUDINAL TUBE</b>                              |   |             |                      |           |     |
| i)         | Rubber Bush<br>SKEL 4434                              | 2 | S0221138901 | GSEC/PANTO/<br>151   | C01430    | AOH |
| ii)        | Plug                                                  | 2 | S0221120201 | GSEC/PANTO/<br>015   | C01420    | IOH |
| <b>12.</b> | <b>UPPER ARTICULATION ASSEMBLY</b>                    |   |             |                      |           |     |
| i)         | Shunt                                                 | 2 | S0220133203 | GSEC/PANTO/<br>104   | C0320     | AOH |
| ii)        | Bi-Metal Washer                                       | 4 | S0220131503 | GSEC/PANTO/<br>070   | C01240    |     |
| iii)       | Top mounting<br>Pt. 'A' Loco                          | 1 | S0221115401 | GSEC/PANTO/<br>022   | C015210   | IOH |
| iv)        | Top mounting<br>Pt. 'C' EMU                           | 1 | S0221115402 | GSEC/PANTO/<br>107   | C01522    |     |
| v)         | Top mounting<br>Pt. 'B' Loco                          | 1 | S0221117601 | GSEC/PANTO/<br>022   | C015240   |     |
| vi)        | Top mounting<br>Pt. 'D' EMU                           | 1 | S0221117602 | GSEC/PANTO/<br>107   | C01524    |     |
| vii)       | Cylinder Support<br>Loco                              | 2 | S0221126201 | GSEC/PANTO/<br>025   | C01540    |     |
| viii)      | Cylinder Support<br>Pt 'A' EMU                        | 1 | S0221126401 | GSEC/PANTO/<br>108   | C01526    |     |
| ix)        | Cylinder Support Pt<br>'B' EMU                        | 1 | S0221126401 | GSEC/PANTO/<br>108   | C01527    |     |
| x)         | Special Washer                                        | 2 | S0072820845 | GSEC/PANTO/<br>005   | C01550    |     |
| xi)        | Hex. Head Bolt<br>Size M8x25L                         | 2 | S0072820845 | GSEC/PANTO/<br>B-03  | C00150001 |     |
|            | Plain Washer                                          | 2 | S0071600901 | GSEC/PANTO/<br>PW-04 | C00150002 |     |
|            | Spring washer                                         | 2 | S0071510801 | GSEC/PANTO/<br>SW-02 | C00150003 |     |
|            | Hex. Nut<br>M8                                        | 2 | S0071810800 | GSEC/PANTO/<br>N-01  | C00150004 |     |
| xii)       | Hex. Head Bolt<br>Size M8                             | 2 | S0072821270 | GSEC/PANTO/<br>B-04  | C00150008 |     |
|            | Spring washer                                         | 2 | S0071511201 | GSEC/PANTO/<br>SW-02 | C00150009 |     |
|            | Hex. Nut<br>M8                                        | 2 | S0071811205 | GSEC/PANTO/<br>N-01  | C00150010 |     |
| xiii)      | Hex. Head Bolt<br>Size M12                            | 2 | S0072821265 | GSEC/PANTO/<br>B-07  | C00150005 |     |
|            | Spring washer                                         | 2 | S0071511201 | GSEC/PANTO/<br>SW-04 | C00150006 |     |
|            | Hex. Nut                                              | 2 | S0071811205 | GSEC/PANTO/<br>N-03  | C00150007 |     |
| <b>13.</b> | <b>SUPPORT ROD CYLINDER ASSEMBLY MODIFIED FOR MCS</b> |   |             |                      |           |     |

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|      |                                                                                           |   |             |                          |           |          |
|------|-------------------------------------------------------------------------------------------|---|-------------|--------------------------|-----------|----------|
| i)   | Spring<br>SKEL 4682                                                                       | 2 | S221125801  | GSEC/PANTO/<br>061       | C15660    | AOH      |
| ii)  | Sealing Felt<br>Size 6mm                                                                  | 2 | S0082240605 | GSEC/PANTO/<br>F-01&F-02 | C00150011 |          |
| iii) | Split Pin                                                                                 | 2 | S0072010322 | GSEC/PANTO/<br>SP-05     |           |          |
| iv)  | Bush Big                                                                                  | 2 | S0220133001 | GSEC/PANTO/<br>060       | C015630   | IOH      |
|      | Bush Small                                                                                | 2 | S0220133101 | GSEC/PANTO/<br>116       | C015640   |          |
|      | Bush End Cap                                                                              | 2 | S0220131301 | GSEC/PANTO/<br>069       | C01620    |          |
| v)   | Pin                                                                                       | 2 | S0221125701 | GSEC/PANTO/<br>027       | C015620   |          |
|      | Plane Washer                                                                              | 2 | S0071601101 | GSEC/PANTO/<br>PW-05     | C00150006 |          |
| vi)  | Split Pin                                                                                 | 2 | S0072010440 | GSEC/PANTO/<br>SP-04     | C00150014 |          |
| vii) | Support Rod for<br>Metalised Carbon<br>Strips                                             | 2 | S0221118601 | GSEC/PANTO/<br>153       | C015610   | Modified |
| 14.  | BOW ASSEMBLY WITH METALISED CARBON STRIPS COMPLETE                                        |   |             |                          |           |          |
| i)   | Horn with Bush<br>End Wearing Strips<br>(R.H.)<br>End Wearing Strips<br>(R.H.)            | 2 | S0221119801 | GSEC/PANTO/<br>216 A     | C01610    | IOH      |
|      |                                                                                           | 2 | S0221139601 | GSEC/PANTO/<br>139       | C01650    |          |
|      |                                                                                           | 2 | S0221139901 | GSEC/PANTO/<br>140       | C01660    |          |
| ii)  | Metalised Carbon<br>Strips complete with<br>screws, washers &<br>nuts.<br>SKEL4303 Rev'4' | 2 | S0221138801 | GSEC/PANTO/<br>152       | C01670    |          |
| iii) | Bow Strap                                                                                 | 2 | S0221139301 | GSEC/PANTO/<br>059       | C01630    |          |
| iv)  | Distance Piece                                                                            | 3 | S0221139401 | GSEC/PANTO/<br>045       | C01640    |          |
| 15.  | MECHANISM ASSEMBLY                                                                        |   |             |                          |           |          |
| i)   | Pin                                                                                       | 2 | S0221128200 | GSEC/PANTO/<br>087       | C01760    | IOH      |
|      | Bush                                                                                      | 2 | S0221128301 | GSEC/PANTO/<br>088       | C01770    |          |
|      | Split Pin                                                                                 | 2 | S0072010440 | GSEC/PANTO/<br>SP-05     | C00170001 |          |

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