Service Record

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| **Manufacturer** | Pertec |
| **Description** | Hard Disk Drive : 5Mb Removable Cartridge +5Mb fixed Disk |
| **Model** | D344-M016-NWU |
| **Serial Number** | 261601446 |
| **Service Manual** | Pertec Operating and Service Manual No. 104630 |

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| **Date** | **Initial Inspection Observation** | **Tech** |
| 28 Aug 2014 | Top sheet metal is banged up pretty much | MFE |
| 28 Aug 2014 | Foam gaskets and foam pre-filter have turned to powder | MFE |
| 28 Aug 2014 | Disk-cleaning brush assembly has been removed, but not the brush motor | MFE |
| 28 Aug 2014 | Upper read/write heads look pretty good. The lower heads are dirty. | MFE |
| 28 Aug 2014 | Positioner carriage is stuck back against magnet | MFE |
| 28 Aug 2014 | Positioner carriage bearings sound very dry | MFE |
| 28 Aug 2014 | Spindle sounds bad. Belt, bearings... | MFE |
| 28 Aug 2014 | Center-left positioner carriage bearing has been replaced w/ NMB SSR-2ZZ | MFE |
|  | Voicecoil has been repaired: one turn of winding has been removed. The next turn is loose (and is the cause of audible ringing in servo) | MFE |

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| **Date** | **Replacement/Repair** | **Tech** |
| 28 Aug 2014 | Clean absolute air filter | MFE |
| 28 Aug 2014 | Replace foam air pre-filter (homemade) | MFE |
|  | Straighten top sheet metal and front panel assembly | MFE |
| 28 Aug 2014 | Remove remains of foam gaskets, clean gasket debris, replace gaskets with adhesive foam insulation (very similar to original.) | MFE |
| 28 Aug 2014 | Replace velocity sensor magnet (I broke the old one.) | MFE |
| 28 Aug 2014 | Clean, re-grease all positioner carriage bearings | MFE |
| 28 Aug 2014 | Clean positioner scale and reticle | MFE |
| 28 Aug 2014 | Clean positioner shaft and everything else accessible | MFE |
|  | Clean motor pulley surface | MFE |
|  | Replace idler bearing with a used bearing. Clean idler pulley. | MFE |
|  | Replace belt | MFE |
|  | Replace defective U45 on logic PCBA | MFE |
|  | Replace power switch lamp | MFE |
|  | Repair spare voicecoil with epoxy (loose windings) and replace original voicecoil with this repaired one. Adjust velocity sensor position so that it drags very slightly in the coil. This eliminated ringing in the positioner servo. | MFE |
| 16 Oct 2014 | Clean and re-grease spindle motor bearings | MFE |
| 4 Nov 2014 | Replace both blower bearings with new ones (MRC 38ZZ 157L) | MFE |
| 4 Nov 2014 | Clean blower chamber, upper and lower disk chambers thoroughly | MFE |
| 4 Nov 2014 | Replace fixed disk | MFE |
| 3Mar 2015 | Clean upper head, replace fixed disk (unsuccessful: instant crash) | MFE |

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| **Date** | **Section** | **Adjustment** | **Tech** |
| 28 Aug 2014 |  | Check raw power supply voltages (all ok) | MFE |
| 28 Aug 2014 | 6.6.2 | Adjust to exactly 5.0V and 10.0V | MFE |
| 28 Aug 2014 | 6.6.3 | Adjusted AC motor speed control (ok) | MFE |
|  | 6.7.11 | Reticle-to-scale gap set to .005” | MFE |
|  | 6.8.1 | TP20 voltage = 12.2V P-P +/-0.1V across entire range | MFE |
|  | 6.8.2 | TP2 voltage = 12.2V P-P | MFE |
|  | 6.8.3 | Quadrature adjusted | MFE |
|  | 6.8.4 | TP6 voltage is between -8V and +10V (ok), TP14 ok | MFE |
|  | 6.8.5 | TP3 is between -(V and +9V (ok), TP7 ok | MFE |
|  | 6.9.2 | Procedure performed - ok | MFE |
|  | 6.9.3 | Not necessary - crossover was already at ground | MFE |
|  | 6.9.4 | TP15 adjusted to 1.40V P-P (ok) | MFE |
|  | 6.9.5 | Adjust to 38 mS | MFE |
|  | 6.9.6, 6.9.7 | Overshoot adjusted to near 0 | MFE |
|  | 6.9.8 | Adjust t1 to 300 uS. TP3 swings from +9V to -9V (ok) | MFE |
|  | 6.9.9.2 | Check overshoot: TP20 0.5V max (ok) | MFE |
|  | 6.9.9.3 | Measured:  Step Tracks Spec Measured  7 0-1 <10 mS 3.5 mS (ok)  8 200-201 <10 mS 3.5 mS (ok)  9 404-405 <10 mS 3.5 mS (ok)  10 0-134 <40 mS 36 mS (ok)  11 0-405 <65 mS 62 mS (ok) | MFE |
|  | 6.10.2 | Test AC speed with Adexer: 24984 uS/rev (ok) | MFE |
|  | 6.4.1 | Clean and inspect heads | MFE |
|  | 6.11 | ok | MFE |
| 15 Oct 2014 | 6.12.1.2 | 43.26 nS (ok) | MFE |
|  | 6.12.2.2 | Adjust to 300 nS (ok) | MFE |
|  | 6.12.2.3 | 270 nS (ok) | MFE |
|  | 6.12.3.2 | Both TP15 and TP16 are 125 nS (ok) | MFE |
| 4 Nov 2014 | 6.18.2 | Adjust lower transducer gap to 0.07” | MFE |
| 4 Nov 2014 | 6.18.1 | Using home-made alignment tool (made from a disk cartridge hub), adjust upper transducer gap to 0.015” | MFE |
| 5 Nov 2014 | 6.14.7.3 | CE radial alignment | MFE |
| 5 Nov 2014 | 6.14.8 | CE Circumferential alignment | MFE |
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