Chapter 7 – REFERENCES

[1] Aeronautical Design Standard (2000). "Handling Qualities Requirements for Military Rotorcraft", ADS-33E-PRF, U.S. Army Aviation and Missile Command, Aviation Engineering Directorate, Redstone Arsenal, Alabama, March 2000.

[2] AIAA/ANSI (2001). *Guide to human performance measurements*. Reston, VA: American Institute of Aeronautics and Astronautics.

[3] American Technologies Network Corporation (November 2006). How night vision works [On-line]. Available: http://www.atncorp.com/HowNightVisionWorks.

[4] Atencio, A., Turpin, T., Shively, R.J. and Dowell, S. (2002). Contact analog/compressed symbology heading tape assessment. Proceedings of the 58th Forum of the American Helicopter Society, Montreal, Canada, pp. 829-837.

[5] Bradley, A. and Kaiser, M.K. (1994). Evaluation of visual acuity with Gen III night vision goggles. Ames Research Center. Moffett Field, CA, NASA Report No. N94-23974.

[6] Braithwaite, M.G., Douglass, P.K., Durnford, S.J. and Lucas, G. (1998). The hazard of spatial disorientation during helicopter flight using night vision devices. *Aviation, Space and Environmental Medicine, 69,* 1038-1044.

[7] Braithwaithe, M.G., Durnford, S.J., Crowley, J.S., Rosado, N.R. and Albano, J.P. (1998). Spatial disorientation in US Army rotary-wing operations. *Aviation, Space, and Environmental Medicine, 69,* 1031-1037.

[8] Cooper, G.E. and Harper, R.P. (1969). The Use of Pilot Rating in the Evaluation of Aircraft Handling Qualities, National Aeronautics and Space Administration, Technical Note TN D-5153, Washington D.C.

[9] Craig, C., Macuda, T., Thomas, P., Allison, R. and Jennings, S. (2005). Light Source Halos in Night Vision Goggles: Psychophysical Assessments *Society of Photo-Optical Instrumentation Engineers (SPIE) Proceedings*.

[10] Craig, G., Jennings, S., Macuda, T., Gauthier, M., Parush, A. and Tang, D. (2006). "Assessing the Impact of Night Vision Goggles on Spatial Navigation", LTR-FRL-2006-0038.

[11] Endsley, M.R. (1993). Toward a theory of situational awareness in dynamic systems. *Human Factors*, *37*, 32-64.

[12] Endsley, M.R. (2000). Theoretical underpinnings of situational awareness: A critical review. In M.R. Endsley and D.J. Garland (Eds.), *Situation awareness analysis and measurement*. (pp. 3-32). Mahwah, NJ: Lawrence Erlbaum Associates.

[13] Ercoline, W.R., Self, B.P. and Matthews, R.S.J. (2002). Effects of three helmet-mounted display symbologies on unusual attitude recognition and recovery. *Aviation, Space and Environmental Medicine, 73 (11),* 1053-1058.

[14] Gescheider, G.A. (1997). *Psychophysics: The fundamentals (3rd Ed.)*. Lawrence Erlbaum Associates. New Jersey.

[15] Green, D.L. (1994). Assessment of Night Vision Goggle Workload – Flight Test Engineer's Guide. (Rept. No. DOT/FAA/RD-94/20). Prepared for Systems Control Technology, Inc., Arlington, VA.

[16] Grunwald, A., DeMaio, J., Shively, R.J., Nadler, I., Silbiger, J. and Brickner, M.S. (2006). Effectiveness of Scene-Linked Symbology in a Simulated Helicopter Hovering Task. Paper presented at the 62nd Forum of the American Helicopter Society, Phoenix, Arizona.

[17] Gubbels, A.W., Carignan, S.J.R.P. and Craig, G. (2002). Methodological Issues in Handling Qualities Flight Tests of Helmet-Mounted Display Systems, American Institute of Aeronautics and Astronautics.

[18] Harper, R.P. and Cooper, G.E. (1986). Handling Qualities and Pilot Evaluation. *Journal of Guidance*, September – October, 1986.

[19] Hart, S.G. and Staveland, L.E. (1988). Development of the NASA TLX (Task Load Index): Results of experimental and theoretical research. In P.A. Hancock and N. Meshkati (Eds.), *Human mental workload* (pp. 139-183).

[20] Hodgkinson, J. (1998). *Aircraft Handling Qualities*, AIAA, Washington D.C.

[21] Hoffman Engineering (1997). AVN-20/20 and AVN-20/20C: NVD setup reference for infinity focus and performance verification, Revision F. (CTM-ANV-20/20). Stamford, CT: Hoffman Engineering.

[22] Hughes, P.K. (2001). What is different about vision through night vision goggles? In G. Kearney, M. Creamer, R. Marshall and A. Goyne (Eds.). *Managing stress in the Australian defence force*. Canberra: Defence Publishing Service.

[23] Hughes, P., Gibbs, P. and Spataro, M. (2002). "Aircrew Eye-Movement Behaviour during Simulated Helicopter Flight with ANVIS HUD Symbology or Head-Down Cockpit Displays" In Gale, A.G., Haslegrave, C.M., Taylor, S.P. and Wood, J. (Eds.), Vision in Vehicles 9. Proceedings of the ninth international conference on vision in vehicles. Amsterdam: North-Holland.

[24] Hughes, P., Gibbs, P. and Spataro, M. (2003). "Simulated Helicopter Contour and Formation Flight during the Day and at Night with Helmet-Mounted Display Symbology", DSTO-TR-1560.

[25] Hughes, P.K, Zalevski, A.M. and Gibbs, P. (2000). Visual acuity, contrast sensitivity, and stereopsis when viewing with night vision goggles (DSTO-TR-1012). Melbourne: Defence Science and Technology Organisation.

[26] Jennings, S., Craig, G., Macuda, T. and Erdos, R. (2006). Preliminary assessment of night vision goggle operations for the Ontario Ministry of Natural Resources. LTR-FRL-2006-0007.

[27] Jennings, S., Gubbels, A.W., Swail, C.P. and Craig, G. (1998). In flight evaluation of a fibre optic helmet-mounted display. In Lewandowski, R.J., Haworth, L.A. and Girolamo, H.J. (Eds.). Head-Mounted Displays III. Proceedings of SPIE, 3362, 126-135.

[28] Jones, K. and Shwalier, T.J. (1998). *Instrument flight procedures*. Air Force Manual 11-217, Volume 2, Issue 6.

[29] Lupo, J.C. (1972). The theory and measurement of the signal-to-noise ratio of second generation image intensifiers. *Optica Acta, 19(8)*, 651-661.

[30] Macuda, T., Craig, G., Jennings, S., Erdos, R., Carignan, S., Healey, S., Miller, J. and Allison, R. (2006a). "Night Vision Goggle Standard Operating Procedures for the Ontario Ministry of Natural Resources", LTR-FRL-2006-0008.

[31] Macuda, T., Craig, G., Erdos, R., Carignan, S., Jennings, S., Swail, C., Schnell, T., Poolman, P., Allison, R. and Lenert, A. (2006b). "Neural Avionics: Development of Airborne Neural Recording Capabilities in Fixed and Rotary Wing Aircraft to Monitor Pilot Mental State", LTR-FRL-2006-0050.

[32] Macuda, T., Allison, R., Thomas, P., Truong, L., Tang, D., Craig, G. and Jennings, S. (2005). Comparison of Three Night Vision Intensification Tube Technologies on Resolution Acuity: Results from Grating and Hoffman ANV-126 Tasks Society of Photo-Optical Instrumentation Engineers (SPIE) Proceedings.

[33] Macuda, T., Craig, G., Jennings, S. and Allison, R. (2004). "Detection of Motion Defined Form Under Simulated Night Conditions", Society of Photo-Optical Instrumentation Engineers (SPIE) Proceedings.

[34] Macuda, T., Craig, C., Allison, R., Guterman, P., Thomas, P. and Jennings, S. (2005). Detection of motion-defined form using Night Vision Goggles Society of Photo-Optical Instrumentation Engineers (SPIE) Proceedings.

[35] MAWTS-1 Helicopter Night Vision Device (NVD) Manual: 5th Edition. A Reference Guide for the Fleet Marine Force (FWF) Assault Night Warfighter. October 27, 1998. United States Marine Corps. Marine Aviation Weapons and Tactics Squadron One.

[36] Niall, K.K., Reising, J.D. and Martin, E.L. (1999). Distance estimation with night vision goggles: A little feedback goes a long way. *Human Factors*, *41*, 495-506.

[37] Padfield, G.D. (1995). *Helicopter flight dynamics: The theory and application of flying qualities and simulation modelling*. AIAA, Washington D.C.

[38] Photonis-DEP (November 2006). How image intensifiers work [On-line]. Available: http://www.dep.nl/documentation/animation.

[39] Pinkus, A. and Task, H.L. (1998). Measuring observers' visual acuity through night vision goggles. US Air Force Research Laboratory Technical Report No. ASC98-1884.

[40] Rabin, J. (1993). Vernier acuity through night vision goggles. *Optometry and Vision Science*, *70*, 689-691.

[41] Rash, C.E., Mozo, B.T., McLean, W.E., McEntire, B.J., Haley, J.L., Licina, J.R. and Richardson, L.W. (1996). Assessment Methodology for Integrated Helmet and Display Systems in Rotary Wing Aircraft. USAARL Report #96-1 U.S. Army Aeromedical Research Laboratory, Fort Rucker.

[42] Rash, C.E., Mora, J.C. and Ledford, M.H. (2000). Test and Evaluation. In C.E. Rash (Ed.), *Helmet-mounted displays: Design issues for rotary wing aircraft.* US Army Medical Research and Material Command: Fort Detrick, Maryland.

[43] RCA Electro-Optics Handbook (1974). *Electro-optics handbook technical series EOH-11*. Lancaster: RCA Corp.

[44] Regan, D. (2000). *Human perception of objects*. Sinauer Associates Inc.: Sunderland, Massachusetts.

[45] Reising, J.D., Antonio, J.C. and Fields, B. (1996). Procedures for Conducting a Field Evaluation of Night Vision Goggle- Compatible Cockpit Lighting (Final Report, December 1994 – August 1995). Report Number: AD-A308777; AL/HR-TR-1995-0167. Armstrong Lab, Mesa, AZ.

[46] Self, B.P., Breun, M., Feldt, B., Perry, C. and Ercoline, W.R. (2003). Assessment of Pilot Performance Using a Moving Horizon (Inside-Out), a Moving Aircraft (Outside-In), and an Arc-Segmented Attitude Reference Display. Paper Presented at NATO Research and Technology Organisation meeting, Spatial Disorientation in Military Vehicles: Causes, Consequences and Cures (RTO-MP-086).

[47] Swenson, H., Zelenka, R., Dearing, M., Hardy, G., Clark, R., Zirkler, A., Davis, T. and Amatrudo, G. (1994). "Design and flight evaluation of a visually-coupled symbology for integrated navigation and near-terrain flight guidance," Helmet- and Head-Mounted Displays and Symbology Design Requirements, SPIE Vol. 2218.

[48] Szoboszlay, Z., Hardy, G. and Welsh, T. (2004). Improving the Flight Path Marker Symbol on Rotorcraft Synthetic Vision Displays. Paper presented at the American Helicopter Society 60th Annual Forum.

[49] Szoboszlay, Z. and Moralez, E. (2006). Altitude and Ground Track Predicting Flight Path Marker Symbol for Rotorcraft Synthetic Vision Displays. Paper presented at the 62nd Forum of the American Helicopter Society, Phoenix, Arizona.

[50] Task, H.L., (1992).*"Night Vision Devices and Characteristics."* In Visual Problems in Night Operations (pp. 7-1 – 7-8), NATO Advisory Group for Aerospace Research and Development, Neuilly-sur-Seine, France.

[51] Thomas, P., Allison, R., Carr, P., Macuda, T., Jennings, S. and Craig, G. (2005). Physical modeling and characterization of the halo phenomenon in night vision goggles. Society of Photo-Optical Instrumentation Engineers (SPIE) Proceedings.

[52] Thorndycraft, D. (2002). Flight Evaluation of Helicopter Pilot Night Vision Aids Using a Novel Racetrack Methodology. 28th European Rotorcraft Forum, Bristol, U.K., September 17-20.

[53] Thorndycraft, D. (2006). Overview of Joint NCR/QinetiQ Flight Trial SNOWGOOSE: A Study of Advanced Symbology Using Display Night Vision Goggles. Paper presented at the 62nd Forum of the American Helicopter Society, Phoenix, Arizona.

[54] Thorndycraft, D., Jennings, S. and Craig, G. (2005). Flight assessment of pathway in sky symbology using display night vision goggles. NATO RTO-MP-HFM-125, Paper No. 19, pp. 19-1 – 19-22.

[55] Thorndycraft, D. and Craig, G. (2004). Trial Iguana: A flight evaluation of conformal symbology using display night vision goggles. Paper presented at 30th European Rotorcraft Forum, Marseilles, France, pp. 65-1 – 65-14.

[56] U.S. Navy (1993). MIL-L-85762A Lighting, Aircraft, Interior, Night Vision Imaging System (NVIS) Compatible, U.S. Navy, Patuxent River, Maryland.

[57] U.S. Navy (1995). U.S. Naval Test Pilot School Flight Test Manual, Rotary Wing Stability & Control. Naval Air Warfare Centre, Patuxent River, Maryland.

[58] Wierville, W.W. and Casali, J.G. (1983). A validated rating scale for global mental workload measurement applications. Proceedings of the 27th Annual Meeting Human Factors Society, Norfolk, VA., 120-133.