



CHECKLIST: REMOTE HANDLING				
CRITERIA	YES	NO	N/A	COMMENTS
1. Are self-alignment devices provided for components which must be joined remotely?				
2. Are quick-disconnect devices provided to reduce remote-handling difficulties?				
3. Are all fasteners captive and readily replaceable by remote-handling techniques?				
4. Are each lock or latching mechanism operable from a single point, have a positive catch, and provide a clear visual indication of the latch position?				
5. Is provisions provided for transmitting information from remote work areas to the operator of the remote-handling system? Visual information should be regarded as most critical, followed, in order, by kinesthetic, tactual, and auditory feedback.				
6. Are power manipulators provided with positive stops to prevent accidents?				
7. For tasks requiring manipulative dexterity and load capacities of less than 10 kg (22 lb.) are manipulators with position control (ie. Zero order control in which the operator's control output directly determines the machine output) provided?				
8. For tasks requiring manipulative dexterity and load capacities of less than 10 kg (22 lb.) are manipulators with mutual force reflection between control and effector provided?				
9. For tasks requiring manipulative dexterity and load capacities of less than 10 kg (22 lb.) are manipulators with seven degrees of freedom in motion and force control (i.e., three for translation, three for rotation, and one for gripping).				
10. For tasks involving gross positioning of loads heavier than 10 kg (22 lb), are electrically or hydraulically powered manipulators with rate control provided (i.e. the operators control output directly determines the rate of change of the machine output)?				
11. Is a viewing system provided which gives the operator of a remote manipulator adequate information with respect to the three spatial coordinates of the workspace?				
12. When permitted by shielding requirements, are provisions made for the operator to view the work directly through shielding windows?)				
13. In order to avoid distortion, are requirements minimized for direct viewing of objects either near the viewing window or at line-of-sight angles at incidences greater than 60 degrees?				
14. Are viewing systems such as closed circuit television systems, periscopes, and microscopes, provided to supplement direct viewing, where required by specific remote handling situations?				
15. Are symbol or pattern-coding used in preference to color-coding for television viewing?				
16. Are letters, numbers, and important details which must be viewed by means of television light against a dark background? Are glazed or reflecting surfaces avoided?				
17. Does the lighting provided in remote work areas such that reflected light, as measured at the operator's work station (in direct viewing), conform with the requirements of this MIL Standard, or as specified by the procuring activity?				



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18. Is monochromatic lighting provided when viewing conditions are near threshold, when high magnification powers are required, or when the operator is required to view the work at high angles of incidence through refractive materials?				