LEAFLET 4

MANUAL HANDLING

AMENDMENT RECORD

Amnd No	Date	Text Affected	Authority and Date
001	11 May 10	Annex E: para 3 – Corrected reference to Annex B Para 3 onward modified to add clarification on male/female multiplication factor (changed to 1.5) for referencing against table 4	SSDC Safety3 11 May 10
002	21 May 10	Annex E: para 6 rephrased for clarity	SSDC Safety3 21 May 10
003	21 June 10	New paragraph added at 5.9 providing guidance on calculating the effective weight of a load when using manual handling aids.	SSDC Safety3 21 June 10
004	16 Aug 10	Para 5.3 - Line added on repetative activities/processes and work-related musculoskeletal disorders. Annex E: Re-written and paragraphs renumbered. Calculation of correction factors (table 5) for male/female manual handling operations in different guidance weight zones simplified.	SSDC Safety3 16 Aug 10
005	01 Aug 11	Para 4.4 ammended to aid clarity	SSDC Safety3 01 Aug 11

REVISION NOTE

Leaflet 4, Manual Handling has been extensively revised placing greater emphasis on health risk assessment using existing and improved information sources and replacing the tick box assessment with a 3x3 risk matrix.

HISTORICAL RECORD

This Leaflet was introduced in April 2003
Reviewed in 2010

This policy has been equality and diversity impact assessed in accordance with Departmental policy. This resulted in a Part 1 screening only completed (no direct discrimination or adverse impact identified) This policy is due for review on 6 April 2014

LEAFLET 4

MANUAL HANDLING

Contents

FOREWORD

This leaflet is published under the authority of the Defence Occupational Health and Safety Board (OHSB). This leaflet is for application across all areas of the MOD and the Armed Forces and reflects recent changes in legislation and or MOD practices.

1. SCOPE

1.1. This leaflet describes MOD's methodology for the assessment of risk arising from manual handling activities. It provides guidance for Line Management and staff (both Service and civilian) on the risk assessment process and the responsibilities for implementing control measures in compliance with the Manual Handling Operation Regulations (MHOR) and to reduce the risk of injury from manual handling to a level that is as low as is reasonably practicable.

1.2. The term "line manager" is used throughout this Leaflet to mean the person with direct responsibility for the safe conduct of the work activity. For military activities this will usually lie within the chain of command.

2. INTRODUCTION

2.1. Work related injuries resulting in musculoskeletal disorders (MSDs) account for about half of all work related ill-health, many of these are caused by the poor management and practice of manual handling. The MHOR require employers to risk assess the transporting or supporting of a load including lifting, putting down, carrying, pushing, pulling, moving by hand or bodily force and introduce management controls to reduce the risk of injury to a level that is as low as is reasonably practicable.

3. RESPONSIBILITIES

3.1 Line Managers

3.1.1 It is the duty of the line manager to ensure, so far as is reasonably practicable, that systems of work are safe and without risk to health; therefore suitable and sufficient assessments of the risk to the health and safety of staff from manual handling activities are carried out by a competent person (Assessor) with the co-operation of supervisors and operators.

3.1.2 The Line Manager is responsible for ensuring that assessments are in place and that risk control measures are being adhered to and are continually monitored for effectiveness.

3.2 Risk Assessors

3.2.1 Wherever there is a potential of harm from manual handling activities, the risk must be assessed and evaluated by a competent person who must have knowledge of the process/activity, how and in what environment the activity is to be carried out and in conjunction with staff undertaking the activity. If the person assessing the risk is not the line manager, they must inform the relevent line manager of the findings of the assessment and, if appropriate, explain the risks and the required control measures to manage those risks.

3.3 All Staff

3.3.1 All staff are to comply with safe systems of work, training, etc. provided by line management for manual handling activities and report any deficiencies that may be evident. Staff engaged in manual handling are to inform their line manager or supervisor about any physical or medical condition that could affect their ability to undertake manual handling operations safely.

4. RISK ASSESSMENT

4.1 Before carrying out any risk assessment of manual handling operations, first determine whether it is reasonably practicable to avoid manual handling entirely by referring to the flow chart (Annex A). If, following this initial risk assessment, manual handling is no longer required, there is no need to carry out any further manual handling assessment.

4.2 If there is a requirement for manual handling then a risk assessment must be conducted. To determine whether a formal risk assessment is required, an informal appraisal otherwise known as a Dynamic Assessment needs to be carried out;

OPERATIONS REQUIRING NO FORMAL RISK ASSESSMENT

4.3 The dynamic assessment will be sufficient if:

- Loads weighing less than 3 kg unless task has a high frequency; and
- Package is not of unusual dimensions or awkward shape; and
- Temperature is within a comfortable range; and
- Lift does not involve extremes of movement e.g twisting.

If the operation does not fit into all of the above criteria, then a formal Risk Assessment may be necessary.

OPERATIONS THAT MAY REQUIRE A FORMAL RISK ASSESSMENT

4.4 Annex B provides guidance weights for lifting and lowering for a fully fit adult; loads that fall within these weights do not nomally require a detailed risk assessment to be carried unless the activity is restricted by one or more of the following factors:

- The nature of the load (hot, cold, shape, size, ease of grip, etc.).
- The task or process involved (twisting or over-reaching, high work frequency and process rates etc).
- The capability of the individual. (The ability to carry out manual handling safely varies between individuals; the published guidelines may be exceeded once the risk assessment process has been satisfactorily completed having taken into consideration the individual's fitness, age, gender, health and/or previous injuries etc.).
- The working environment (space, lighting, temperature, floor condition, etc.).

If in doubt an assessment shall be carried out.

4.5 Where the line manager is satisfied that no additional risk is present as a result of the above list then there is no requirement to carry out a formal risk assessment.

OPERATIONS THAT WILL REQUIRE A FORMAL RISK ASSESSMENT

4.6 Where lifting or lowering results in the hands moving out of the zones shown in Annex B, i.e. exceeding the weights stated, a detailed assessment will be required.

4.7 It should be noted that the purpose of these guideline weights is to avoid wasting time and effort when conducting the risk assessment, they must not be regarded as safe weight limits for lifting. This is because there are too many other factors involved.

4.8 If a formal risk assessment is required, this must be completed by a competent assessor in conjunction with the line manager and the staff undertaking the manual handling operation (this can be done using the form at Annex D).

5. ASSESSING THE RISK

5.1 New assessments will be carried out using this guidance (which requires minimal training) and must be conducted by 'competent' persons (Assessors) who have working knowledge of the processes and activities to be assessed.

5.2 Assessments must be carried out taking into account gender, age, and health etc. However, there is no need to assess every individual, it is quite acceptable to do a generic assessment that is common to a group of staff and/or for similar operations. The main point is to identify the risk of injury and highlight how to make practical improvements.

5.3 Special consideration should be given to new and expectant mothers (see JSP 375 Vol 2 - Leaflet 36 – New and Expectant Mothers at Work) and to Young People (see JSP Vol 2 Leaflet 35 – Health and Safety of Young Persons). For activities or processes that contain a repetatitve element, consideration shall be given to the potential for "work-related musculoskeletal disorders" (WMSDs); and evaluated using the guidance in JSP 375 Vol 2 leaflet 52.

5.4 The assessment should consider activities and processes, the environment, the individual and the load as well as the interfaces and additive effects of their component parts. Therefore one of the first assessment activities is to:

- fully identify the task;
- identify the load;
- identify the environment in which the task is to be carried out;
- identify who may be carrying out the task;
- identify any other factors relevant to task e.g. wearing of PPE.

5.5 The assessment must consider all circumstances in which the task may be undertaken, hence assessors must have working knowledge of these processes and activities in order to complete the required 'suitable and sufficient' assessment.

5.6 The Assessment is recorded on MOD Form 5012 (Annex D with guidance for calculations at Annex E) to this leaflet. Once completed it should be passed to the line manager for implementation of the recommended actions.

5.7 If the manual handling operation is to be conducted as a multi-person task, the value of the load cannot simply be divided by the number of people involved in the operation.

5.8 If the number of people undertaking the manual handling operation doubles, the effective load value is assessed as 2/3 of the actual weight.
(e.g. 90kg weight lifted by 2 people = 90 x 2/3 = 60kg per person).

1 person	2 person	4 persons	8 persons
90 kg x 1 = 90Kg			
↳	90kg x 2/3 = 60kg		
	↳	60kg x 2/3 = 40Kg	
		↳	40Kg x 2/3 = 27Kg

5.9 When using manual handling aids (sack/pallet trolleys etc.) the effort required to move the load can be significantly reduced and the effective load for the purpose of assessment adjusted accordingly. When calculating the effective load several factors need to be taken into consideration: friction; rolling resistance due to the surface over which the load is to be moved; angle of any slope to be negotiated; condition of the mechanical handling aid (bearings, tyres (under inflation), wheel alignment, buckled wheels/axels etc.); and the weight of the mechanical handling aid itself. As a general rule, the following values should be used to calculate the effective load for assessment:

Incline/slope	Percentage of combined weight of load and manual handling aid
Level ground	10%
up to 7^o (1 in 8)	20%
7^o to 15^o (1 in 8 to 1 in 4)	35%
15^o to 30^o (1 in 4 to 1 in 2)	60%

e.g. a load of 90Kg on a trolley weighing 10Kg having a combined weight of 100Kg being moved up a gentle slope of 5^o will be assessed as a load of 20Kg on the load/frequency graph of the assessment form .

The Task

5.10 Does the task involve:

- holding loads at a distance from the body – this increases general stress on the lower back.
- twisting of the trunk - stress on the lower back is increased significantly if such postures are adopted, even worse is to twist whilst supporting a load.
- stooping - this increases stress on lower back, either by bending or leaning forward with the back straight. To be avoided where possible.
- lifting above waist height or lowering below mid thigh - excessive reaching upwards and downwards places additional strain on arms and back. Control of the load becomes more difficult and because arms are extended they are more prone to injury. Lifts beginning at floor level should be avoided where possible and should finish no higher than waist height.
- moving a load over excessive distances - large distances are more demanding than smaller ones. Moreover it is more likely to necessitate a change of grip part way, further increasing the risk of injury.
- excessive pushing or pulling of the load - the risk of injury is increased if pulling or pulling is carried out with the hands much below waist height or above shoulder height.
- repetitive handling - a small load handled very frequently can create as large a risk of injury as a one-off handling of a more substantial load. The effect will be worsened by jerky, hurried movements which can multiply the stress placed on the body.

- frequent or prolonged physical effort resulting in insufficient rest or recovery periods - if physical stresses are prolonged during physically demanding work then fatigue will occur, and this increases the risk of injury. Consider rest breaks from task to allow recovery e.g. changing to another task, which uses a different set of muscles.

NOTE: THE GUIDELINE WEIGHTS SHOWN IN ANNEX B ASSUMES THE PACE OF WORK IS NOT FORCED, THERE ARE ADEQUATE TIMES TO REST AND THE LOAD IS NOT HELD FOR ANY PROLONGED PERIOD OF TIME. THE WEIGHTS SUGGESTED MUST BE REDUCED IF THE OPERATION IS REPEATED MORE OFTEN.

Individual Capability

5.11 Does the task:

- stretch the employee's physical capabilities to the point of risking injury - In general the lifting strength of women as a group is less than that of men. To provide protection for working women, guidelines are usually reduced by a third (see Annex B). Individuals' physical capability varies with age normally peaking in the early 20s and declining thereafter becoming more significant from the mid 40s. Therefore the risk of injury may be higher for employees in their teens or in their 50s or 60s. Young persons (16-18) should be considered a significant risk and special consideration should be given towards that group.
- pose a risk due to the employee's present state of health or pose a hazard for those who are new or expectant mothers. Allowances should be made where the LM has been made aware that a member of staff is a new or expectant mother or where the pregnancy is visibly apparent.
- restrict the manual handling capability of an individual due to a previous history of a back, knee, hip condition, hernia or any other problem.
- require additional knowledge or training for the task to be carried out safely - The risk of injury will be increased where a worker does not have the information or training necessary for safe performance. Training should cover:
    - how to recognise the risk in manual handling.
    - appropriate systems of work.
    - use of mechanical aids.
    - good handling techniques.

5.12 The Disability Discrimination Act places a duty on employers to make reasonable adjustments to the workplace or employment arrangements to ensure that disabled people are not placed at a disadvantage compared to an able bodied person. Allowances should be made for any health problem which the employer could be reasonably expected to be aware of and which might have bearing on the ability to carry out manual handling operations in safety.

The Load

5.13 Is the load:

- heavy - consideration must be given to reducing the load and/or obtaining mechanical assistance. If this is not possible, then handling by two or more people may make possible an operation that is beyond the capability of one person, thus reducing the risk of injury to a solo operator. However, the load that a team can handle in safety is less than the sum of loads that individual team members could cope with when working alone. One person should plan and take charge of the operation ensuring that the movements are co-ordinated. Team members should preferably be of broadly similar build and physical capability.
- bulky/unwieldy - the shape of the load will affect the way that it can be held and can often make it harder to get a good grip:
    - If handlers have to lean away from a load to keep it off the ground they will be forced into unfavourable postures.
    - The bulk of the load can also interfere with vision, thus increasing the risk of slipping, tripping, falling or colliding with obstructions.
    - Should the centre of gravity of the load not be central within the load, the risk of injury is increased.
- difficult to grasp - if load is difficult to grasp because it is rounded, smooth etc, its handling will call for extra grip strength which is tiring and will involve inadvertent changes of posture. There will also be a greater risk of dropping the load.
- unstable or contents likely to shift - if load is unstable because it lacks rigidity, the likelihood of injury is increased. The instability may impose sudden stresses for which the handler is not prepared.
- intrinsically harmful (e.g. sharp/hot) - risk of injury can arise from the external state of a load. Such characteristics may also impair grip, discourage good posture or otherwise interfere with safe handling.

The Working Environment

5.14 Consider:

- space constraints preventing good posture - if the working environment hinders working at a safe height or prevents good posture e.g. working in or moving through a narrow gap, the risk of injury from manual handling will be increased.
- uneven, slippery or unstable floors - in addition to increasing the likelihood of slips, trips and falls, uneven or slippery floors hinder smooth movement creating additional risk.
- variations in level of floors or work surfaces - the presence of steps, or slopes can increase the risk of injury.
- hot/cold conditions - high temperatures, high humidity or cold can cause rapid fatigue. Inappropriate gloves and other protective clothing, which may be required, can also hinder movement, impair dexterity and reduce grip.
- strong air movements - sudden air movements caused by a ventilation system or the wind can make large loads more difficult to manage safely.

- poor lighting conditions - dimness or glare may cause poor posture. Contrast between areas of bright light and deep shadow can aggravate tripping hazards and hinder the accurate judgment of height and distance.

Other factors

5.15 These may include:

- clothing, footwear or Personal Protective Equipment (PPE). Clothing, footwear and PPE must be adequate for the task being undertaken and allow free movement and posture for the manual handling process being undertaken.
- goods deliveries and dispatch. Line managers should be aware of times, sizes of loads etc. The risk assessment should take into consideration events which may occur outside of the normal parameters (e.g. inappropriate delivery vehicles, damaged packaging etc.).

6. CONTROL MEASURES

6.1 The Manual Handling Operation Regulations establishes a clear hierarchy of control measures. These are as follows:

- Avoid hazardous manual handling operations so far as is reasonably practicable by addressing the following questions:
    - Can the movement of the loads be eliminated altogether e.g. can the workplace or task be redesigned to avoid moving loads or could delivery be arranged to the point of use?
    - Can the operations be automated?
    - Can mechanical devices be used (e.g. trucks, barrows, rollers, handling aids, forklift trucks, sack trucks)?
- Make a suitable and sufficient risk assessment of the risk of injury of any hazardous manual handling operations that cannot be avoided.
- Reduce the risk of injury for operations so far as is reasonably practicable. This can be done by improvements to the task and load, (e.g. reduce the load size and/or distance travelled; consider a team load.)

NOTE: RISK ASSESSMENTS MUST SHOW THAT THIS HIERARCHY OF MEASURES HAS BEEN CONSIDERED.

Recommended action to remove or reduce risk to the lowest possible level

6.2 If an item must be moved, the use of mechanical aids to eliminate the need for manual handling altogether should take primacy; if this option is not reasonably practicable then a review of the task should be undertaken to minimize the need for manual handling (e.g. reducing distance carried from point of delivery to end user).

6.3 Adequate information, instruction and training should be given in order to undertake the task safely. The type of training could comprise of a combination of the following:

- The “Safe Manual Handling” course (Defence Electronic Learning Centre).
- A video.
- Manual handling courses run internally and externally.

- On the job training.
- Task specific training.
- Refresher training; this must be considered when risk assessments are reviewed.

NOTE: A VIDEO MUST NOT BE USED AS A SUBSTITUTE FOR PRACTICAL INSTRUCTION BUT CAN BE USED AS PART OF THE TRAINING PACKAGE. THE CORRECT LIFTING TECHNIQUES ARE ILLUSTRATED IN ANNEX C.

6.4 Changing the task to remove the need for lifts from floor level, long carrying distances, twisting or stooping, etc

6.5 Reducing the size and or weight of the load and or the redesign of packaging to improve the ease of handling should be considered.

6.6 Improvements to the working environment should include the removal of obstructions, improvements to the flooring, lighting etc.

6.7 In some instances there will be resource or other implications (e.g. contractual), which prevent the immediate implementation of control measures. Therefore the short term, medium term and long term measures should be stated:

- Short-term measures may comprise stopping the activity, a briefing in safe lifting techniques, a removal of obstructions;
- Medium term measures could be the provision of mechanical handling aids;
- Longer term could be the relocation of the storage area due to a unit move or rebuild.

6.8 Line Managers are required to demonstrate that they have done all that is “reasonably practicable” in the circumstances to reduce risk, this may be demonstrated by raising any outstanding issues up through the correct Chain of Command.

7. REVIEW

7.1 An initial review of the risk assessment and working practices should take place shortly after implementation, in order to check the effectiveness of any new control measures and validation of progress that has been made towards implementation of medium and long term controls.

7.2 Subsequent reviews should be undertaken:

- When there has been a significant change in the task, procedure or technology.
- There is reason to suspect they are no longer valid, e.g. should an accident or incident occur.
- A minimum of every two years but subject to the degree of risk and local policy.

NOTE: EACH REVIEW SHOULD INCLUDE THE LINE MANAGER’S ASSESSMENT OF THE EFFECTIVENESS OF CONTROL MEASURES, AND ANY FURTHER CONTROLS THAT MAY BE REQUIRED.

8. RELATED DOCUMENTS

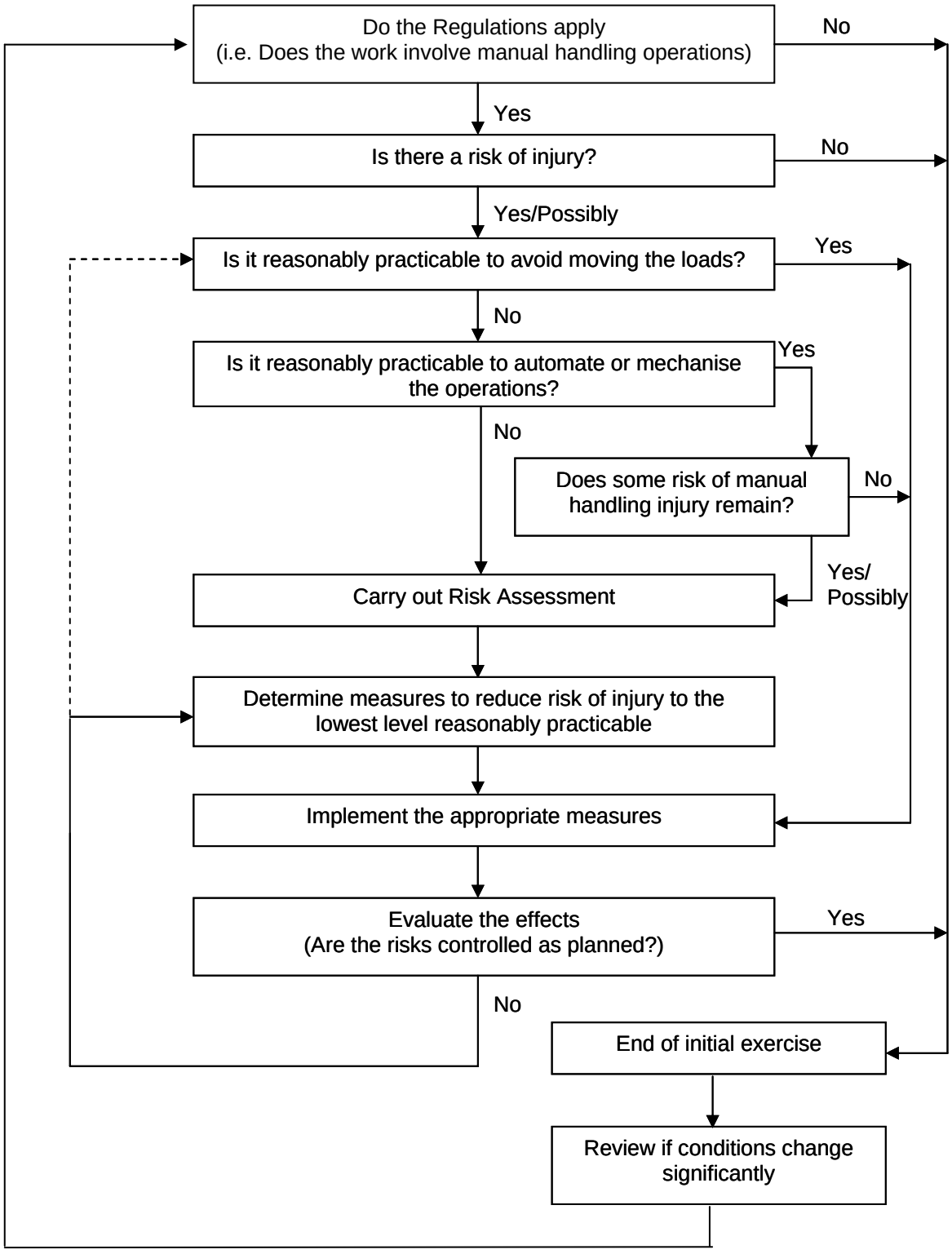
JSP 375 Vol 2

- Leaflet 35 - Health and Safety of Young Persons.
- Leaflet 36 - New and Expectant Mothers at Work.
- Leaflet 52 - Work Related Upper Limb Disorder.
- Leaflet 55 - Retention of Records.

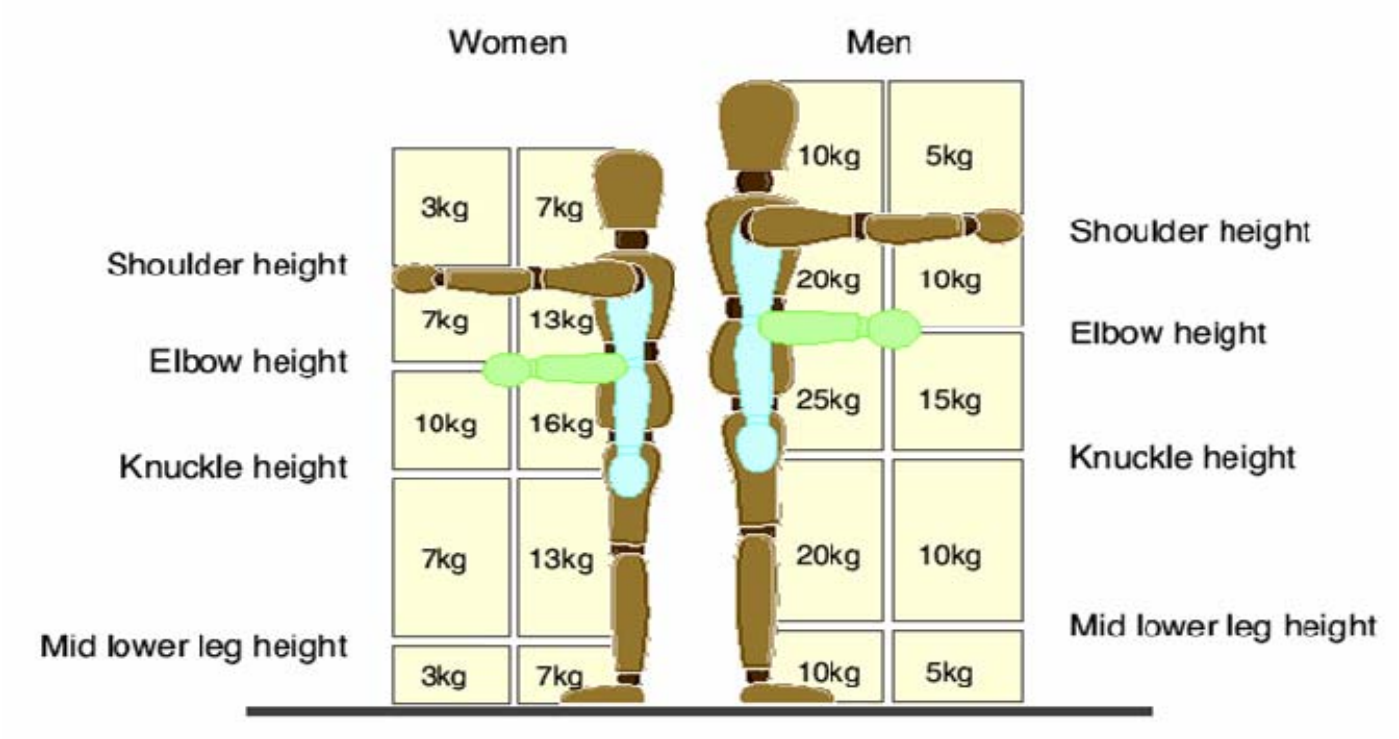
Other documents (Legislation and Guidance)

- HSE INDG 143 - Getting To Grips with Manual Handling
- Manual Handling Operations Regulations.
- HSE L23 - Guidance on MHOR Regulations.
- HSG 60 Upper Limb Disorders in the Workplace

Manual Handling Risk Assessment - Flowchart



Guidance Weights



Correct Lifting Techniques

Plan lift

1. Ensure that you are wearing suitable footwear and appropriate clothing for lifting.
2. Consider the destination.
3. Examine Load - Is help required with the load?
4. Can it be reduced in size?
5. Make sure area is free from clutter.

Place the Feet

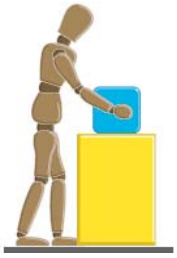
1 Approximately shoulder width apart.
2 Face the direction intended.
3 Leading leg forward.
4 Heaviest part of load towards you.

Adopt good posture

1. Slight bending of the back, hips and knees

Get a firm Grip

1 Keep arms within boundary formed by legs.
2. Ensure that the load is not just on the fingers.
3. Elbows close to sides.



Move the Load

1 Lift load to waist height.
2. Move slowly to avoid jerky movements.
3. Keep close to load.
4. Maintain your vision.

Lower Load

1. Lower load slowly, ensuring back is straight and knees bent.
2. Avoid crushing fingers when lowering.
3. Put down, then adjust into desired position.

Note: Always test the load before attempting to lift – if in doubt seek assistance.

MANUAL HANDLING RISK ASSESSMENT FORM — MoD Form 5012

Assessment N$^{o.}$:	Location:	Date:
PART 1 –The Task		
Description:		
This assessment is: Task specific ☐ Person specific ☐	Risk: **Low** ☐ **Medium** ☐ **High** ☐	
Frequency/day:	Time/operation (mins):	
Has automation or mechanisation of the processes been considered and implemented: ☐Yes / ☐No If No give details as to why this is not a practicable solution:		

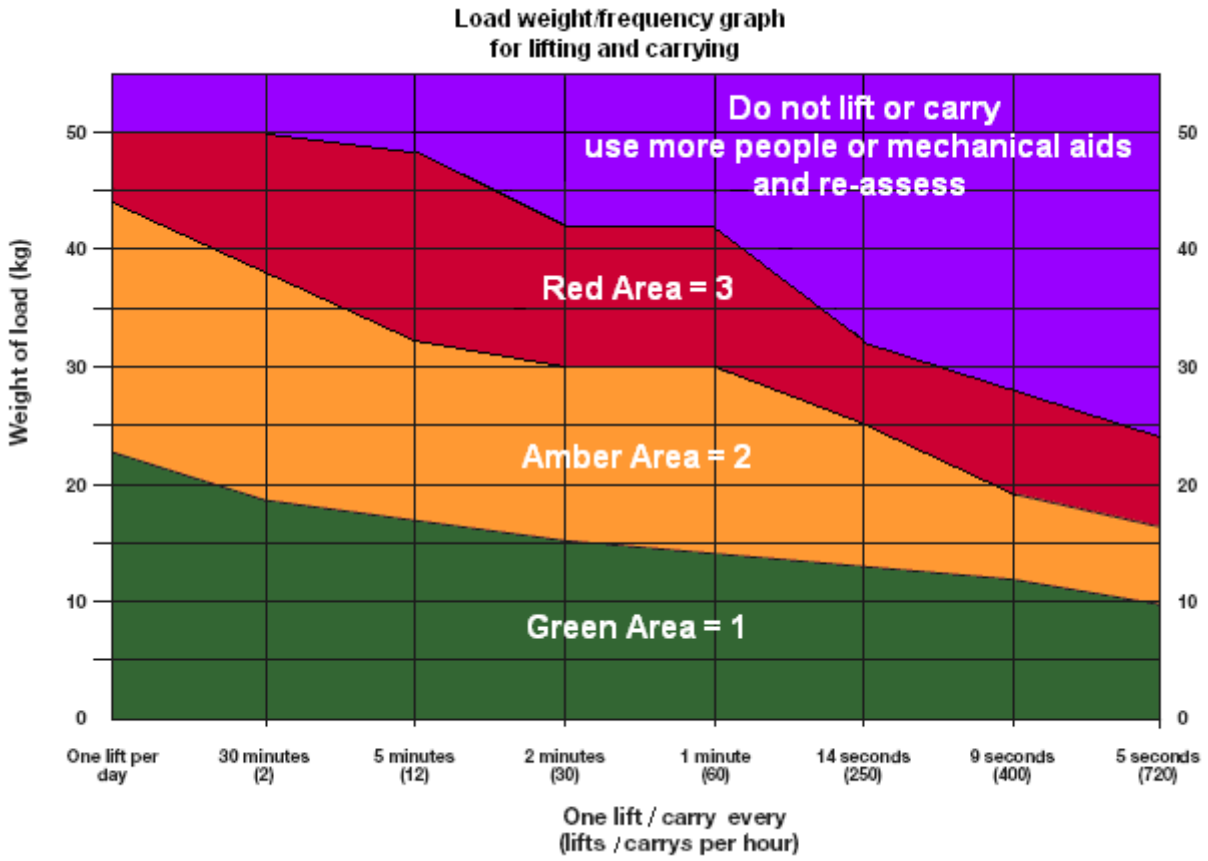
PART 2 – Assessment

Task/Person	Low 1	Medium 2	High 3	Score
Hand distance from the lower back	Upper arms aligned vertically **AND** upright trunk	Upper arms angled away from body **OR** trunk bent forward	Upper arms angled away from body **AND** trunk bent forward	
Vertical lift region **Pushing or pulling**	Above knee **AND** below elbow height Above elbow **AND** below shoulder height	Below knee but above floor **AND** above elbow but below head height Above knuckle **AND** below elbow height	Floor level or below **OR** at head height or above Above shoulder **OR** below knuckle height	
Trunk twisting and sideways bending	Trunk neither twists or bends to the side	Trunk twists **OR** bends to the side	Trunk twists **AND** bends to the side	
Grip on the load	Containers with well designed handles or handholds, fit for purpose **OR** Loose parts enabling comfortable grip	Containers with poor handles or handholds **OR** Fingers to be clamped at 90 degrees under the container	Containers of poor design. Loose parts, irregular objects, bulky or difficult to handle **OR** Non-rigid sacks or unpredictable loads	
			TOTAL	

Environment	Low 1	Medium 2	High 3	Score
Postural, PPE or Clothing constraints	Unhindered	Restricted	Severely restricted	
Floor surface	Dry and clean floor in good condition	Dry floor but in poor condition, worn or uneven	Contaminated/wet or unstable footing (sand, rocks, etc.)	
Lighting conditions	Natural daylight or equivalent	Very bright (dazzling) or dull	Dark or impaired vision (e.g. night time or heavy rain)	
Obstacles en route when carrying	None	Sloping floor, steps, closed doors or tripping hazards.	Up ladders or similar (e.g. climb on vehicle) or steep slopes	
			TOTAL	

Task/Person	Activity Hazard Risk value		
7-12	☐ **2 Med**	☐ **3 High**	☐ **3 High**
5-6	☐ **1 Low**	☐ **2 Med**	☐ **3 High**
4	☐ **1 Low**	☐ **1 Low**	☐ **2 Med**
Environment	**4**	**5-6**	**7-12**

Activity Hazard Risk value: green = 1 ☐ amber = 2 ☐ red = 3 ☐



Activity Hazard Risk value	RISK		
3	☐ 2 Med	☐ 3 High	☐ 3 High
2	☐ 1 Low	☐ 2 Med	☐ 3 High
1	☐ 1 Low	☐ 1 Low	☐ 2 Med
Load/Weight Frequency	1	2	3

PART 3 – Summary of Control Measures to be included in work instructions

Information Instruction and Training required.	

PART 4 – Sign off

Overall Risk	☐ Low	☐ Med	☐ High

Assessor:	Service/Staff No:	Rank/Grade:
Line Manager:	Service/Staff No:	Rank/Grade:

PART 5 - REVIEW RECORD When review completed update Issue Status on front page.

Date:	Name:	Service/Staff No:	Rank/Grade:
Date:	Name:	Service/Staff No:	Rank/Grade:

CALCULATING THE RISK USING THE MANUAL HANDLING RISK ASSESSMENT FORM (MoD Form 5012)

1. Using the tables in Part 2 (Tables 1 and 2) allocate a rating to each element of the task and the environment in which it is to be carried out.

Task/Person	Low 1	Medium 2	High 3	Score
Hand distance from the lower back	Upper arms aligned vertically **AND** upright trunk	Upper arms angled away from body **OR** Trunk bent forward	Upper arms angled away from body **AND** trunk bent forward	A
Vertical lift region **Pushing or pulling**	Above knee **AND** below elbow height Above elbow **AND** below shoulder height	Below knee but above floor **AND** above elbow but below head height Above knuckle **AND** below elbow height	Floor level or below **OR** at head height or above Above shoulder **OR** below knuckle height	B
Trunk twisting and sideways bending	Trunk Neither twists or bends to the side	Trunk twists **OR** bends to the side	Trunk twists **AND** bends to the side	C
Grip on the load	Containers with well designed handles or handholds, fit for purpose **OR** Loose parts enabling comfortable grip	Containers with poor handles or handholds **OR** Fingers to be clamped at 90 degrees under the container	Containers of poor design. Loose parts, irregular objects, bulky or difficult to handle **OR** Non-rigid sacks or unpredictable loads	D
			TOTAL	

TABLE 1 A+B+C+D

Environment	Low 1	Medium 2	High 3	Score
Postural, PPE or Clothing constraints	Unhindered	Restricted posture	Severely restricted posture	E
Floor surface	Dry and clean floor in good condition	Dry floor but in poor condition, worn or uneven	Contaminated/wet or unstable footing (sand, rocks, etc.)	F
Lighting conditions	Natural daylight or equivalent	Very bright (dazzling) or dull	Dark or impaired vision (e.g. night time or heavy rain)	G
Obstacles en route when carrying	None	Sloping floor, steps, closed doors or tripping hazards.	Up ladders or similar (e.g. climb on vehicle) or steep slopes	H
			TOTAL	

TABLE 2 E+F+G+H

2. Add up the totals for tables 1 & 2 and using the matrix (Table 3) assign the Activity Hazard Risk value.

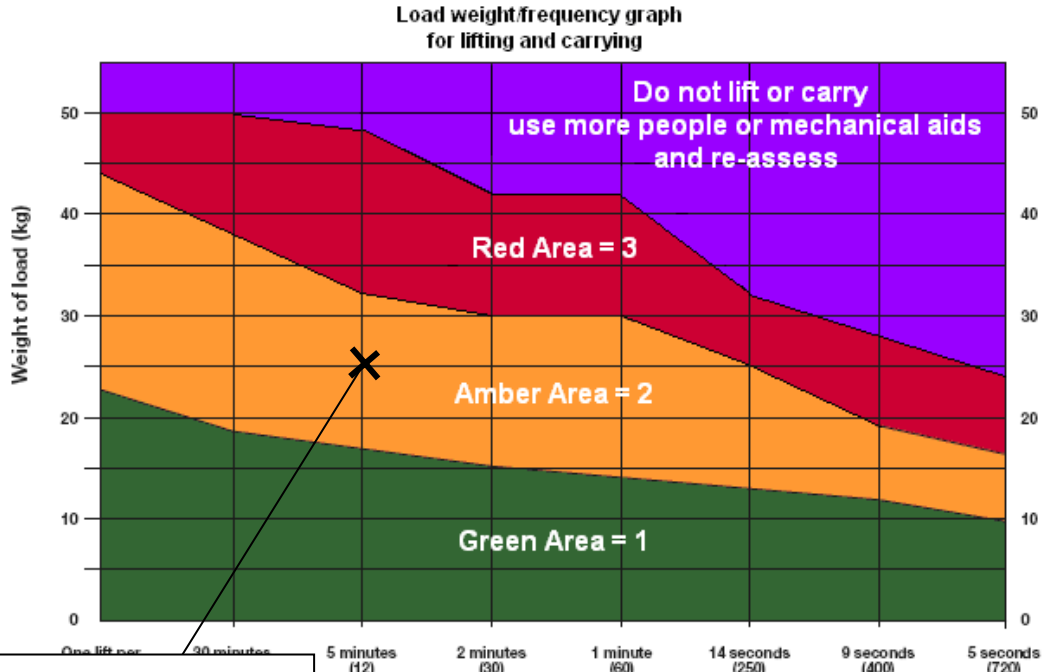
Task/Person	Activity Hazard Risk value		
7-12	☐ 2 Med	☐ 3 High	☐ 3 High
5-6	☐ 1 Low	☐ 2 Med	☐ 3 High
4	☐ 1 Low	☐ 1 Low	☐ 2 Med
Environment	4	5-6	7-12
Activity Hazard Risk value: green = 1 ☐ amber = 2 ☐ red = 3 ☐			

Total from table 1

Total from table 2

TABLE 3

Result of Table 3 taken from intersection of table 1 & 2 totals



One lift/carry of 25Kg load every 5 minutes

TABLE 4 – values for fully fit male (Lifting/carrying at knuckle height)

3. Use Table 4 to calculate a load weight/frequency hazard value for the lifting and/or carrying aspect of the task. Table 4 provides a hazard rating for the frequency of lifting/carrying weights at knuckle level held against the trunk of the body for a fully fit male (25Kg guidance weight zone – Annex B).

4. When calculating the load hazard value, for the purpose of assessment the effective load must be multiplied by a correction factor ***β*** (table 5) where ***β*** = 25Kg ÷ guidance weight zone (Annex B) that the operation takes place in.

	Guidance Weight Zones (Kg) (Annex B)								
	25	20	16	15	13	10	7	5	3
Factor ***β***	1.00	1.25	1.56	1.67	1.92	2.50	3.57	5.00	8.33

TABLE 5

Example calculations:

i) for a male liting or pushing a 15Kg load at the feet (10Kg zone), when assigning the hazard value for the effective load at Table 4 the weight of the load must be calculated as:

15Kg x ***β*** (2.50 for 10Kg) = 37.5Kg
(this evaluates the load as a medium risk for a frequency of up to 2 lifts every hour or high risk for more frequent lifts);

ii) for a female liting or pushing a 15Kg load at the feet (7Kg zone), when assigning the hazard value for the effective load at Table 4 the weight of the load must be calculated as:

15Kg x ***β*** (3.57 for 7Kg) = 53.6Kg
(this evaluates the load as too higher risk to lift or move without manual handling aids.)

5. Using the matrix at Table 6, the overall risk is derived from the point where the Activity Hazard Risk value (Table 3) and the Load/Weight frequency value (Table 4) intersect.

Taken from result of table 3

Activity Hazard Risk value	RISK		
3	2 Med	3 High	3 High
2	1 Low	2 Med	3 High
1	1 Low	1 Low	2 Med
Load/Weight Frequency	Green = 1	Amber = 2	Red = 3

Taken from table 4

TABLE 6