



1. Risk Assessment

The following assessment is dealing with tasks and activities done by AG TRANSPORT staff and caused by AG TRANSPORT core services, their connection and linking to each other and the occurring risks and dangers to personnel and property.

1.1 Definition of hazard severity and frequency of occurrence

All tasks and activities are assessed using a rating of hazard severity and frequency of occurrence described below. A risk ratio is calculated by multiplication of severity and occurrence. Tasks and activities producing a risk ratio of more than 12 are evaluated in deeper detail to reduce the frequency of occurrence in order to reach a total ratio of 12 or less.

HAZARD SEVERITY	5 = VERY HIGH	(Fatal occupational accident, major damages and loss > € 10.000)
	4 = HIGH	(Serious occupational injury with permanent health consequence, damages < €10.000)
	3 = MODERATE	(Recorded occupational injury with lost days >3 days, potential)
	2 = SLIGHT	(recorded occupational injury with medical treatment < 3 days)
	1 = NIL	(recorded occupational injury without medical treatment)

FREQUENCY OF OCCURRENCE	5 = FREQUENTLY	(once or a few times per shift, or regularly during the day)
	4 = UNDER MANY CIRCUMSTANCES	(once or few times a month, few times during activity)
	3 = QUITE POSSIBLE	(happens up to 2 or 3 times a year)
	2 = VERY SELDOM	(very unlikely to happen but possible)
	1 = NOT LIKELY	(never happens)

1.2 Summary of hazardous tasks and activities

1.2.1 General activities

The following table is a list of general items, naming activities that are part of many different tasks done by AG TRANSPORT staff in everyday business. For in-detail assessment and evaluation see chapter 1.3.

S – hazard severity | F – frequency of occurrence

Item	Name	S	F
G	Work in AG TRANSPORT operation areas	3.0	3.0
1	Work on ladders and scaffolds or otherwise in a height	4.0	2.0
2	Manual handling/carrying of weights	3.0	2.0
3	Use of portable electric tools	4.0	1.0
4	Manipulation of bolts	3.0	3.0
5	Guiding of suspended loads	3.0	2.0
6	Use of telescopic forklift trucks	4.0	1.0
7	Handling of hazardous substances	3.0	2.0
8	Use of hydraulic oil under high pressure	5.0	1.0
9	Work in constricted areas	5.0	2.0

1.2.2 Frequent works

Special activities connected to tasks of AG TRANSPORT staff complete the total range of works happening on AG TRANSPORT jobsites. These special activities are being assessed and evaluated in chapter 1.4.



General and special activities are being combined to frequent works in below tables. The works' hazard severity and frequency of occurrence are calculated by building a weighted arithmetic mean. Therefore, activities are weighted by their frequency of events.

It is kindly noted, that below prepared tables focus on the activity of assembling and dismantling lattice boom cranes.

W – weighting of activities

A Crane works			W	4.3	1.9
A1	Slinging of loads	General items 1, 2, 9	5	4.0	2.0
A2	Lifting of loads	General items 2, 5	5	4.0	2.0
A3	Slewing actions	General items 2, 5	5	5.0	2.0
A4	Positioning and repositioning of cranes	General items 1, 2, 4, 6, 8, 9	3	4.0	3.0
A5	Reeving of hooks	General items 1, 2	1	3.0	2.0
8	Use of hydraulic oil under high pressure		5	5.0	1.0
7	Handling of hazardous substances		2	3.0	2.0

B Transport			W	3.8	2.2
B1	Joining/dismantling of transport equipment	General items 1, 2, 6, 9	3	3.0	2.0
B2	Backing down	General item 9	5	4.0	3.0
B3	Parking of transport equipment		5	3.0	3.0
B4	Driving in constricted areas	General item 9	5	3.0	2.0
7	Handling of hazardous substances		2	3.0	2.0
8	Use of hydraulic oil under high pressure		4	5.0	1.0
9	Work in constricted areas		5	5.0	2.0

1.2.3 Works requiring special attention

The task of rigging a lattice boom crane requires several works, which need to be given special attention due to the combination of necessary knowledge, cooperation of personnel, combination of different machines and machine type- or configuration-based special procedures. Assessment and evaluation is being done in chapter 1.5 according below tables.

I Tandem lifts			W	4.8	2.0
I-1	Cooperation of multiple cranes	General items 1, 9	5	5.0	3.0
A	Crane works		5	4.3	1.9
8	Use of hydraulic oil under high pressure		4	5.0	1.0
9	Work in constricted areas		4	5.0	2.0

II Connection of suspended loads to fixed structures			W	4.5	2.0
II-1	Fixing bolt connections	General items 1, 2, 4, 5, 8, 9	5	4.0	3.0
A	Crane works		5	4.3	1.9
8	Use of hydraulic oil under high pressure		4	5.0	1.0
9	Work in constricted areas		4	5.0	2.0

III Reeving of pulleys using hydraulic winches			W	3.8	2.3
III-1	Reeving auxiliary winches	General items 1, 2, 9	5	3.0	3.0
III-2	Operating connected winches		5	4.0	2.0
8	Use of hydraulic oil under high pressure		2	5.0	1.0



1.3 Assessment of general activities risks

WORK OPERATION	GENERAL: Work in AG TRANSPORT operation areas	
HAZARDS	Falling from a height, falling objects, spillage, swinging objects, use of forklift trucks, vehicular traffic ...	
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	Contractors/Customer's/Visitors in AG TRANSPORT operation areas.	
HAZARD SEVERITY	5 = VERY HIGH	SEVERITY 3
	4 = HIGH	
	3 = MODERATE	
	2 = SLIGHT	
	1 = NIL	
FREQUENCY OF OCCURRENCE	5 = FREQUENTLY	FREQUENCY 3
	4 = UNDER MANY CIRCUMSTANCES	
	3 = QUITE POSSIBLE	
	2 = VERY SELDOM	
	1 = NOT LIKELY	
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE	RATING 9
EXISTING CONTROLS	<p>AG TRANSPORT operation areas are 'Hard Hat' and 'Safety Footwear' areas at all times. AG TRANSPORT staff will challenge anyone not recognised or failing to wear the appropriate PPE. All visitors will be accompanied when on site. Only authorised personnel will be allowed in the area. AG TRANSPORT team work trained to work at height, lifting, toolbox talk to be done, last minute inspection done.</p> <p>Absorbant granules must be laid over all oil and or grease spillages. Once the granules have absorbed the spillage they will be swept up and disposed of in an appropriate manner. Spillage's caused by others and left will be cleaned up as above, and then reported to the Foreman/Project Manager. Major spills should be contained using appropriate absorbent 'socks' and prevented from entering the drainage system.</p> <p>This risk assessment ist NOT a sufficient replacement for safety instructions of diversive AG TRANSPORT equipment. It is to be seen as a completion of the totality of these documents, covering risks occurring from the collaboration of diverse equipment and personnel.</p>	



WORK OPERATION	ITEM 1: Work on ladders and scaffolds or otherwise in a height	
HAZARDS	Falling from a height, falling objects	
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT staff, other contractors AG TRANSPORT equipment	
HAZARD SEVERITY	5 = VERY HIGH	SEVERITY 4
	4 = HIGH	
	3 = MODERATE	
	2 = SLIGHT	
	1 = NIL	
FREQUENCY OF OCCURRENCE	5 = FREQUENTLY	FREQUENCY 2
	4 = UNDER MANY CIRCUMSTANCES	
	3 = QUITE POSSIBLE	
	2 = VERY SELDOM	
	1 = NOT LIKELY	
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE	RATING 8
EXISTING CONTROLS	<p>Personnel wear fall protection harness whenever working on scaffolds (if they have to climb on the rail). All working platforms in a height are surrounded by railings. Climbing on top of girders is being avoided as far as practicable.</p> <p>Personnel are in radio contact with crane operators whenever working on the boom or on girders in order not to carry out unexpected movements of the crane. If not, personnel on girders are surveilled by a banksman who is in radio contact with crane operators</p> <p>Ladders are to be used as access equipment and should not be used to work from. Ladders are positioned on firm level ground. All ladders are securely tied off and, if appropriate, footed regardless of the duration of the job. Ladders are set up at approximately a 75° angle. The head of the ladder is rested against a solid surface. It is ensured that the ladder reaches at least 1m above the working platform. The stepping off rung is level with the landing place. Personnel do not carry heavy items or long lengths of material up ladders. All ladders are suitable for the task. All defects are to be reported to the Foreman/Project Manager. When using stepladders the top step is not used. Ladders are carried in horizontal position to avoid collisions with overhead obstructions and live cables.</p>	



WORK OPERATION	ITEM 2: Manual handling/carrying of weights	
HAZARDS	Sprains, strains, Cuts and grazes, repetitive strain injuries, work related upper limb disorders and herniated discs, hand injury, sharp edges	
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT, customer's employees, other contractors and visitors.	
HAZARD SEVERITY	5 = VERY HIGH	SEVERITY 3
	4 = HIGH	
	3 = MODERATE	
	2 = SLIGHT	
	1 = NIL	
FREQUENCY OF OCCURRENCE	5 = FREQUENTLY	FREQUENCY 2
	4 = UNDER MANY CIRCUMSTANCES	
	3 = QUITE POSSIBLE	
	2 = VERY SELDOM	
	1 = NOT LIKELY	
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE	RATING 6
EXISTING CONTROLS	<p>Manual handling is being avoided as far as practicable. Material handling equipment is used whenever possible.</p> <p>If lifting is necessary, think first, and if you have any doubts about your individual capabilities, get help. Stand as close to the load as possible. Spread the feet to form a stable base. Bend the knees keeping the back in a straight natural line. Grasp the load firmly in the hands, if required, wear gloves. Lift using the legs and not the back. Hold the load close to the body. When moving with a load, keep the load close to the body, tuck in the arms, face the direction of travel, make sure the field of vision is clear, do not change the grip, twist or lean back. To lower the load, bend the knees keeping the back in a straight natural line, lower the load slowly and make sure that your hands and feet are out of the way. Use of correct type of gloves. Paper of manual handling training to be provided.</p>	



WORK OPERATION	ITEM 3: Use of portable electric tools								
HAZARDS	Direct contact with live parts not normally exposed. Indirect contact with normally exposed parts made live by faults. Damaged plugs, cracked casings, bent pins or frayed and unsecured cables. Physical bodily harm through misuse. Electric shock, burns, explosion/arcing resulting in fire, damage to equipment and or personal injury.								
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT, customer's employees, other contractors and visitors.								
HAZARD SEVERITY	<table border="1"> <tr><td>5 = VERY HIGH</td></tr> <tr><td>4 = HIGH</td></tr> <tr><td>3 = MODERATE</td></tr> <tr><td>2 = SLIGHT</td></tr> <tr><td>1 = NIL</td></tr> </table>	5 = VERY HIGH	4 = HIGH	3 = MODERATE	2 = SLIGHT	1 = NIL	<table border="1"> <tr><td>SEVERITY</td></tr> <tr><td>4</td></tr> </table>	SEVERITY	4
5 = VERY HIGH									
4 = HIGH									
3 = MODERATE									
2 = SLIGHT									
1 = NIL									
SEVERITY									
4									
FREQUENCY OF OCCURRENCE	<table border="1"> <tr><td>5 = FREQUENTLY</td></tr> <tr><td>4 = UNDER MANY CIRCUMSTANCES</td></tr> <tr><td>3 = QUITE POSSIBLE</td></tr> <tr><td>2 = VERY SELDOM</td></tr> <tr><td>1 = NOT LIKELY</td></tr> </table>	5 = FREQUENTLY	4 = UNDER MANY CIRCUMSTANCES	3 = QUITE POSSIBLE	2 = VERY SELDOM	1 = NOT LIKELY	<table border="1"> <tr><td>FREQUENCY</td></tr> <tr><td>1</td></tr> </table>	FREQUENCY	1
5 = FREQUENTLY									
4 = UNDER MANY CIRCUMSTANCES									
3 = QUITE POSSIBLE									
2 = VERY SELDOM									
1 = NOT LIKELY									
FREQUENCY									
1									
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY	<table border="1"> <tr><td>RATING</td></tr> <tr><td>4</td></tr> </table>	RATING	4					
RATING									
4									
EXISTING CONTROLS	<p>All portable electric hand tools will operate at 230V or less and be suitably earthed. All portable appliances will be checked and certificated annually. All electrical equipment will be checked daily for signs of damage and not used if there is any doubt regarding the condition of the tool. All portable electric hand tools will be unplugged when not in use or when unattended. The correct tool for the job will be used at all times.</p> <p>All cases of electric shock, however minor, must be reported to the Foreman/Project Manager. All tools used to be in good condition and the correct tool for the job. Use of adequate/appropriate PPEs. Training on correct use of the tools.</p>								



WORK OPERATION	ITEM 4: Manipulation of bolts	
HAZARDS	Crushes or bruises, fractures or other injuries.	
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT staff	
HAZARD SEVERITY	5 = VERY HIGH	SEVERITY 3
	4 = HIGH	
	3 = MODERATE	
	2 = SLIGHT	
	1 = NIL	
FREQUENCY OF OCCURRENCE	5 = FREQUENTLY	FREQUENCY 2
	4 = UNDER MANY CIRCUMSTANCES	
	3 = QUITE POSSIBLE	
	2 = VERY SELDOM	
	1 = NOT LIKELY	
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE	RATING 9
EXISTING CONTROLS	<p>If bolts are being manipulated by hammers, personnel ensure that the area of the bolt is clear and without obstacles. No heavy hammers are used as long as a bolt needs to be supported manually.</p> <p>Upon use of hydraulic aggregates, risks and controls mentioned under item 8 apply.</p> <p>Personnel wear PPE whenever working on bolts and bolt hitches, including correct gloves.</p>	



WORK OPERATION	ITEM 5: Guiding of suspended loads	
HAZARDS	Personal injury by collisions between personnel in charge and objects in their working radius. Damage on equipment and goods. Fall of goods.	
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT, customer's employees, other contractors and visitors. AG TRANSPORT equipment, customer's goods.	
HAZARD SEVERITY	5 = VERY HIGH	SEVERITY 3
	4 = HIGH	
	3 = MODERATE	
	2 = SLIGHT	
	1 = NIL	
FREQUENCY OF OCCURRENCE	5 = FREQUENTLY	FREQUENCY 2
	4 = UNDER MANY CIRCUMSTANCES	
	3 = QUITE POSSIBLE	
	2 = VERY SELDOM	
	1 = NOT LIKELY	
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE	RATING 6
EXISTING CONTROLS	<p>Personnel will think about their capabilities before goods are lifted. Depending on the weight and windage area of the goods, the wind and circumstances on the jobsite, the foreman/project manager decides how many people and/or vehicles are to guide a suspended load OR – in special high-wind circumstances – if the goods are lifted anyway.</p> <p>Personnel in charge wear PPE, especially protective gloves during the whole period of guiding a load. Guide ropes are inspected before each application for visible damages and periodically for their total condition. Number of guide ropes and personnel is dimensioned in a way that loss of one rope will not bring the others in severe trouble.</p> <p>Guiding operations are briefed before lifting and coordinated by the crane supervisor. Also see items A12 and A13. Rigger has to be trained and wear "orange" or "yellow" rigger jacket to be visible for crane operator. Ensure good communication with rigger and crane operator.</p>	



WORK OPERATION	ITEM 6: Use of telescopic forklift trucks	
HAZARDS	Personal injury or damage on equipment and goods through unstable or too heavy loads, loads impairing vision or speeding, incorrect driving techniques on slopes or unauthorised carrying of passengers. Personal injury when lifting personnel on forks. Fall of materials and goods. Collision with pedestrians and or objects. Property damage and/or personal injury.	
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT, customer's employees, other contractors and visitors.	
HAZARD SEVERITY	5 = VERY HIGH 4 = HIGH 3 = MODERATE 2 = SLIGHT 1 = NIL	SEVERITY 4
FREQUENCY OF OCCURRENCE	5 = FREQUENTLY 4 = UNDER MANY CIRCUMSTANCES 3 = QUITE POSSIBLE 2 = VERY SELDOM 1 = NOT LIKELY	FREQUENCY 1
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE	RATING 4
EXISTING CONTROLS	Only suitably trained and authorised personnel will operate Forklifts All FLT's are subject to a regular service/maintenance programme. Operators will carry out a daily 'Pre-operational check'. All FLT lifting operations will have a lifting plan drawn up prior to the lift taking place. Passengers will not be carried on lift trucks. Driver has to wear seat belt during driving. No overspeed, check ground condition Personnel will not, under ANY circumstances, be lifted up on the forks of the truck. If people need to gain access using the forklift truck an appropriate man cage will be used. The man cage is inspected periodically and will be secured to the truck in line with the manufacturer's instructions. If the load reduces the visibility of the driver, a banksman will be used to ensure the safe movement of the load. No overloading of Forklift, use of full extended outriggers during lift. Ensure correct placement of the load as per its gravity center.	



WORK OPERATION	ITEM 7: Handling of hazardous substances	
HAZARDS	Spillage of diesel or other hazardous substances due to inappropriate use of equipment or inattentive personnel. Environmental damage or personal injury due to spilled substances.	
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT staff Ground (as third party property)	
HAZARD SEVERITY	5 = VERY HIGH	SEVERITY 3
	4 = HIGH	
	3 = MODERATE	
	2 = SLIGHT	
	1 = NIL	
FREQUENCY OF OCCURRENCE	5 = FREQUENTLY	FREQUENCY 2
	4 = UNDER MANY CIRCUMSTANCES	
	3 = QUITE POSSIBLE	
	2 = VERY SELDOM	
	1 = NOT LIKELY	
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE	RATING 6
EXISTING CONTROLS	<p>MSDS (Material Safety Data Sheet) has to be present and toolbox talk has to be given to anybody handling chemicals. The foreman/project manager will pass on information relating to specific hazards to all relevant people.</p> <p>The handling of hazardous substances on the site is avoided as far as practicable. Only diesel and (by means of ADR) harmless hydraulic oil will be handled frequently.</p> <p>Only authorized personnel wearing PPE, especially protective gloves and clothing will handle hazardous substances. If necessary collecting pans are used.</p> <p>Oil binding agents in a sufficient quantity are available at site at any time. (spill kit)</p> <p>There will be no unauthorised mixing of hazardous substances.</p> <p>For risks and controls using hazardous substances also see item 8.</p> <p>Hazardous substances have to be stored in adequate container.</p>	



WORK OPERATION	ITEM 8: Use of hydraulic oil under high pressure	
HAZARDS	Severe personal injury due to leakage of hydraulic oil under high pressure (up to 400 bar/5800 psi), carcinogenic effects/skin irritation. Environmental damage (ground contamination) Environment (as third party property)	
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT, customer's employees, other contractors and visitors.	
HAZARD SEVERITY	5 = VERY HIGH	SEVERITY 5
	4 = HIGH	
	3 = MODERATE	
	2 = SLIGHT	
	1 = NIL	
FREQUENCY OF OCCURRENCE	5 = FREQUENTLY	FREQUENCY 1
	4 = UNDER MANY CIRCUMSTANCES	
	3 = QUITE POSSIBLE	
	2 = VERY SELDOM	
	1 = NOT LIKELY	
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE	RATING 5
EXISTING CONTROLS	<p>Only suitably trained personnel will connect/disconnect hydraulic tubes and operate hydraulic jacks or cylinders. No safety systems to avoid the spillage of oil will be switched off or bridged.</p> <p>All hydraulic tubes are being checked for visible porosity, cracks or leaks.</p> <p>Substances will only be used in accordance with the manufacturer's instructions.</p> <p>Protective gloves and PPE will be used in all cases as appropriate.</p> <p>Good personal hygiene standards will be adopted at all times.</p> <p>The use of suitable barrier creams will be advocated.</p> <p>Oil binding agents are available on the site at any time.</p> <p>In case of leak, system has to be stopped immediately. No repair on working equipment.</p>	



WORK OPERATION	ITEM 9: Work in constricted areas	
HAZARDS	Personal injury caused by collisions between vehicular traffic and personnel. Ground or overhead obstacles.	
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT staff, other contractors.	
HAZARD SEVERITY	5 = VERY HIGH	SEVERITY 5
	4 = HIGH	
	3 = MODERATE	
	2 = SLIGHT	
	1 = NIL	
FREQUENCY OF OCCURRENCE	5 = FREQUENTLY	FREQUENCY 2
	4 = UNDER MANY CIRCUMSTANCES	
	3 = QUITE POSSIBLE	
	2 = VERY SELDOM	
	1 = NOT LIKELY	
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE	RATING 10
EXISTING CONTROLS	<p>Ensure good lightning conditions. All persons have to wear high-visible jackets. Banksman has to be present when vehicle are reversing, vehicle to be fitted with audible reversing warning device. Drivers/operators of vehicles or plant must be suitably trained, authorised and licensed (if appropriate). All speed limits and/or restrictions must be adhered to. Vehicles and plant must be used for the purpose they were intended for. All vehicles and plant will be checked periodically for defects.</p> <p>Wherever it is unavoidable that machinery and personnel work in constricted areas at the same time, operation is to be surveilled by a third person who is in radio or sight contact to both the manual worker and the operator of the machinery.</p> <p>Work under loads resting on jacks or girders is to be avoided as far as practicable.</p> <p>Objects are not to be left on the ground carelessly where they can be obstacles for pedestrians concentrating on vehicles or suspended loads. Carry out Last Minute Inspection. Openings on the floor have to be secured.</p>	



WORK OPERATION	ITEM A2: Lifting of loads	
HAZARDS	Personal injury or damage to goods and equipment due to swinging loads. Falling loads due to insufficient slinging Dangerous situations due to wrong or unknown load weights or environmental conditions	
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT, customer's employees, other contractors and visitors. AG TRANSPORT equipment, customer's goods, third party property	
GENERAL RISKS APPLICABLE	ITEM	NAME
	2	Manual handling/carrying of weights
	5	Guiding of suspended loads
HAZARD SEVERITY	5 = VERY HIGH	SEVERITY 4
	4 = HIGH	
	3 = MODERATE	
	2 = SLIGHT	
	1 = NIL	
FREQUENCY OF OCCURRENCE	5 = FREQUENTLY	FREQUENCY 2
	4 = UNDER MANY CIRCUMSTANCES	
	3 = QUITE POSSIBLE	
	2 = VERY SELDOM	
	1 = NOT LIKELY	
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE	RATING 8
EXISTING CONTROLS	<p>Crane operation areas are to meet AG TRANSPORT's requirements regarding size, evenness and capacity to bear pressure.</p> <p>The crane operator carries out all operations according the approved lifting plan, to the crane manufacturer's documentation, safety instructions and load charts. If actual weights exceed lifting equipment capacities, AG TRANSPORT staff will replace slings/ropes by appropriate equipment. If crane capacities are exceeded, lifting operations will not be carried out.</p> <p>ALL lifting activities are to be carried out by an experienced supervisor. In case of "GREEN" and "YELLOW" lifts, the supervisor can be the rigger, if he/she is sufficiently qualified.</p> <p>The supervisor is to be in radio or sight contact to the crane operator.</p> <p>The crane operator will not carry out any movements as long as he/she receives multiple, differing or unclear commands.</p> <p>Personnel will avoid by any means that people stay under suspended loads. Crane operators or supervisors will NEVER order/carry out slewing actions over people. No lift in case of strong wind > 12m/s. Outrigger on mobile crane has to be extended according to operating instructions, ground conditions have to be checked.</p>	



WORK OPERATION	ITEM A3: Slewing actions	
HAZARDS	Personal injuries on people staying in crane slewing area while working Damage on equipment and goods parked/stored in crane slewing area.	
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT staff, customer's employees, other contractors and visitors. AG TRANSPORT equipment, customer's goods, third party property.	
GENERAL RISKS APPLICABLE	ITEM	NAME
HAZARD SEVERITY	5 = VERY HIGH	
	4 = HIGH	
	3 = MODERATE	
	2 = SLIGHT	
	1 = NIL	
		SEVERITY 5
FREQUENCY OF OCCURRENCE	5 = FREQUENTLY	
	4 = UNDER MANY CIRCUMSTANCES	
	3 = QUITE POSSIBLE	
	2 = VERY SELDOM	
	1 = NOT LIKELY	
		FREQUENCY 2
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE	RATING 10
EXISTING CONTROLS	Erection of safety barrier in hazardous area. No work under suspended load. Supervisor(s) will challenge all non-AG TRANSPORT personnel in crane working area. No parking of vehicles will be tolerated in crane working area. AG TRANSPORT staff not being involved in lifting actions will stay clear from crane slewing area. Objects will not be left in crane slewing area. Overhead obstacles are recognized in the planning phase of each project and therefore either removed or the crane working area is being planned according to these obstacles. Further controls similar to ITEM A2	



WORK OPERATION	ITEM A4: Positioning and repositioning of cranes	
HAZARDS	Personal injuries on people staying in crane moving or slewing area. Damage on equipment and goods parked/stored in crane moving or slewing area.	
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT staff, customer's employees, other contractors and visitors. AG TRANSPORT equipment, customer's goods, third party property.	
GENERAL RISKS APPLICABLE	ITEM	NAME
	1	Work on ladders and scaffolds or otherwise in a height
	2	Manual handling/carrying of weights
	4	Manipulation of bolts
	6	Use of telescopic forklift trucks
	8	Use of hydraulic oil under high pressure
	9	Work in constricted areas
HAZARD SEVERITY	5 = VERY HIGH	SEVERITY 4
	4 = HIGH	
	3 = MODERATE	
	2 = SLIGHT	
	1 = NIL	
FREQUENCY OF OCCURRENCE	5 = FREQUENTLY	FREQUENCY 3
	4 = UNDER MANY CIRCUMSTANCES	
	3 = QUITE POSSIBLE	
	2 = VERY SELDOM	
	1 = NOT LIKELY	
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE	RATING 12
EXISTING CONTROLS	<p>Erection of safety barrier in hazardous area. No work under suspended load. Supervisor(s) will challenge all non-AG TRANSPORT personnel in crane working and moving area. AG TRANSPORT staff not being involved in crane positioning actions will stay clear from respective area. Overhead obstacles are recognized before moving of crane with telescopic boom in upright position. Underground circumstances are known before travelling with ballasted mobile crane.</p> <p>Crane operators are aware of and follow safety precautions and workflows given by manufacturer's operating instructions at any time.</p> <p>Further controls similar to ITEM A1 and A2.</p>	



WORK OPERATION	ITEM A5: Reeving of hooks	
HAZARDS	Personal injuries on AG TRANSPORT staff handling ropes. Damage on equipment due to erroneous rigging.	
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT staff and equipment	
GENERAL RISKS APPLICABLE	ITEM	NAME
	1	Work on ladders and scaffolds or otherwise in a height
	2	Manual handling/carrying of weights
HAZARD SEVERITY	5 = VERY HIGH	SEVERITY 3
	4 = HIGH	
	3 = MODERATE	
	2 = SLIGHT	
	1 = NIL	
FREQUENCY OF OCCURRENCE	5 = FREQUENTLY	FREQUENCY 2
	4 = UNDER MANY CIRCUMSTANCES	
	3 = QUITE POSSIBLE	
	2 = VERY SELDOM	
	1 = NOT LIKELY	
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE	RATING 6
EXISTING CONTROLS	<p>Ensure safe condition for riggers before starting reeving activities – fix ropes or shut down crane engine if necessary. Riggers wear PPE according to their task during reeving action.</p> <p>Reeving is carried out according to crane manufacturer’s reeving plans and operating instructions (sheaves to be used) as well as crane job’s requirements (number of strings)</p> <p>Crane operators and riggers are aware of and follow safety precautions and workflows given by manufacturer’s operating instructions at any time.</p>	



WORK OPERATION:	ITEM B1: Joining/dismantling of transport equipment	
HAZARDS	Personal injury and damage on equipment/goods due to defective equipment/parts, unsafe use, disregarding of manufacturer's instructions. Fall from trailer, hand injury.	
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT staff, AG TRANSPORT equipment	
GENERAL RISKS APPLICABLE	ITEM	NAME
	1	Work on ladders and scaffolds or otherwise in a height
	2	Manual handling/carrying of weights
	3	Use of portable electric tools
	4	Manipulation of bolts
	6	Use of (telescopic) forklift trucks
	8	Use of hydraulic oil under high pressure
	9	Work in constricted areas
HAZARD SEVERITY	5 = VERY HIGH	SEVERITY 3
	4 = HIGH	
	3 = MODERATE	
	2 = SLIGHT	
	1 = NIL	
FREQUENCY OF OCCURRENCE	5 = FREQUENTLY	FREQUENCY 2
	4 = UNDER MANY CIRCUMSTANCES	
	3 = QUITE POSSIBLE	
	2 = VERY SELDOM	
	1 = NOT LIKELY	
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE	RATING 6
EXISTING CONTROLS	<p>In general, rigging works on trailers are being carried out by drivers. They have sufficient experience concerning their equipment and the handling. If help is needed, drivers will brief helpers in detail and action will only be taken upon directive of the driver in charge.</p> <p>Special attention is to be paid to the secure connection of hydraulic clutches and when hydraulic aggregates are used for the manipulation of bolts (see general risk items below)</p> <p>When working at height on trailer, riggers have to wear PPEs against falling.</p> <p>Use of gloves by rigger</p>	



WORK OPERATION	ITEM B2: Backing down or driving in constricted areas	
HAZARDS	Personal injury and damage on equipment/goods caused by collisions between pedestrians, vehicles or goods and the backing-down vehicle due to dead angles.	
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT staff, customer's employees, other contractors and visitors, general public. AG TRANSPORT equipment, other contractor's equipment/property, client's or third party property	
GENERAL RISKS APPLICABLE	ITEM	NAME
	9	Work in constricted areas
HAZARD SEVERITY	5 = VERY HIGH	SEVERITY 4
	4 = HIGH	
	3 = MODERATE	
	2 = SLIGHT	
	1 = NIL	
FREQUENCY OF OCCURRENCE	5 = FREQUENTLY	FREQUENCY 3
	4 = UNDER MANY CIRCUMSTANCES	
	3 = QUITE POSSIBLE	
	2 = VERY SELDOM	
	1 = NOT LIKELY	
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE	RATING 12
EXISTING CONTROLS	<p>According to the law, all AG TRANSPORT HGVs are equipped with "backalarm". This is also required for any third party HGV on AG TRANSPORT jobsites.</p> <p>Additionally drivers will switch on hazard warning lights and yellow rotating flashing beacons when backing down.</p> <p>When backing down in constricted areas, drivers will be assisted by an experienced banksman, escorting the backing-down vehicle, keeping his dead angle clear of pedestrians, vehicles and other goods and directing him through constrictions.</p> <p>If necessary, the banksman will steer the trailer. Check clearance of the road before driving.</p>	



WORK OPERATION:	ITEM B3: Parking of transport equipment	
HAZARDS	Personal injury, goods/property damage caused from unauthorized operation or rolling off due to fixing brake failure	
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT staff, customer's employees, other contractors and visitors, general public. AG TRANSPORT equipment, other contractor's equipment/property, client's or third party property	
GENERAL RISKS APPLICABLE	ITEM	NAME
HAZARD SEVERITY	5 = VERY HIGH	SEVERITY 3
	4 = HIGH	
	3 = MODERATE	
	2 = SLIGHT	
	1 = NIL	
FREQUENCY OF OCCURRENCE	5 = FREQUENTLY	FREQUENCY 3
	4 = UNDER MANY CIRCUMSTANCES	
	3 = QUITE POSSIBLE	
	2 = VERY SELDOM	
	1 = NOT LIKELY	
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE	RATING 9
EXISTING CONTROLS	Trucks and trailers are regularly inspected for structural defects, and roadworthiness. When not in use, vehicles are being parked in a designated place, secured by fixing brakes or chocks and locked. The driver will not leave the key in the vehicle. The key is kept by the driver or – if vehicle is being used by multiple people, handed over to the foreman. No parking in front of emergency exit on firefighting system.	



WORK OPERATION:	ITEM B4: Transporting heavy goods	
HAZARDS	Structural failure of trailer, Hydraulic suspension failure, Hydraulic hose failure, Suspension strut failure, Tyre failure.	
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT, customer's employees, other contractors and visitors, general public. Goods being carried.	
GENERAL RISKS APPLICABLE	ITEM	NAME
	9	Work in constricted areas
HAZARD SEVERITY	5 = VERY HIGH	
	4 = HIGH	
	3 = MODERATE	
	2 = SLIGHT	
	1 = NIL	
	SEVERITY	
	3	
FREQUENCY OF OCCURRENCE	5 = FREQUENTLY	
	4 = UNDER MANY CIRCUMSTANCES	
	3 = QUITE POSSIBLE	
	2 = VERY SELDOM	
	1 = NOT LIKELY	
	FREQUENCY	
	2	
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE	
	RATING	
	6	
EXISTING CONTROLS	<p>The driver is used to the truck and trailer and aware of safety precautions and workflows given by the manufacturer's operating instructions.</p> <p>Lashing on trailers is basically driver's task. AG TRANSPORT staff will not release trucks with insufficient lashing from site.</p> <p>Damaged or unfitting trailers will not be loaded.</p> <p>Trailers are regularly inspected for structural defects, trailers never loaded beyond 90% of capacity.</p> <p>Lockout safety valve and non-return valves can isolate any problem area and prevent trailer collapse.</p> <p>Tyres can be changed while trailer is under full load and there is spare capacity in adjacent tyres.</p> <p>Check clearance of the road</p>	



1.5 Assessment of tasks requiring special attention

WORK OPERATION:	ITEM I-1: Cooperation of multiple cranes		
HAZARDS	Damage to property, equipment and personnel by unsafe execution of lifts.		
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT, customer's employees, other contractors and visitors, general public. Goods being carried.		
GENERAL RISKS APPLICABLE	ITEM	NAME	
	1	Work on ladders and scaffolds or otherwise in a height	
	9	Work in constricted areas	
HAZARD SEVERITY	5 = VERY HIGH		SEVERITY 5
	4 = HIGH		
	3 = MODERATE		
	2 = SLIGHT		
	1 = NIL		
FREQUENCY OF OCCURRENCE	5 = FREQUENTLY		FREQUENCY 3
	4 = UNDER MANY CIRCUMSTANCES		
	3 = QUITE POSSIBLE		
	2 = VERY SELDOM		
	1 = NOT LIKELY		
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE		RATING 15
EXISTING CONTROLS	<p>All crane operators involved are experienced in their job, well trained on the machine type they are using and speaking/understanding a joint language.</p> <p>Lifts carried out by more than one crane have to be surveilled by one or more experienced banksmen. In case of more than one banksman, one head banksman is named, who is in radio or visual contact to all crane operators.</p> <p>Further controls according to items A1, A2 and A3</p> <p>Structural and statutory restrictions are given attention at any time.</p>		
FURTHER ACTION REQUIRED TO REDUCE RISKS	<p>Crane parts are being slinged on lifting points determined by the manufacturer. Special attention is given to the operating instructions concerning center of gravity in different configurations in case of use of more than one crane.</p> <p>For any other loads, which are not property of AG TRANSPORT, client will provide detailed information containing position of center of gravity, total weight and lifting points to allow in-detail planning of tandem lift by AG TRANSPORT staff.</p>		
RESIDUAL RISK (H x F_R = RR_R)	HAZARD x FREQUENCY AFTER FURTHER ACTIONS IMPLEMENTED		
	Hazard Severity	5	Frequency reduced to 2 Therefore RESIDUAL RISK 10



WORK OPERATION:	ITEM II-1: Fixing bolt connections	
HAZARDS	Crushes or bruises, fractures or other injuries. Collapse of crane in case of fault installation of connections and clips.	
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT, customer's employees, other contractors and visitors, general public. Goods being carried.	
GENERAL RISKS APPLICABLE	ITEM	NAME
	1	Work on ladders and scaffolds or otherwise in a height
	2	Manual handling/carrying of weights
	4	Manipulation of bolts
	5	Guiding of suspended loads
	8	Use of hydraulic oil under high pressure
	9	Work in constricted areas
HAZARD SEVERITY	5 = VERY HIGH	SEVERITY 4
	4 = HIGH	
	3 = MODERATE	
	2 = SLIGHT	
	1 = NIL	
FREQUENCY OF OCCURRENCE	5 = FREQUENTLY	FREQUENCY 2
	4 = UNDER MANY CIRCUMSTANCES	
	3 = QUITE POSSIBLE	
	2 = VERY SELDOM	
	1 = NOT LIKELY	
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE	RATING 8
EXISTING CONTROLS	<p>If bolts are being manipulated by hammers, personnel ensure that the area of the bolt is clear and without obstacles. No heavy hammers are used as long as a bolt needs to be supported manually.</p> <p>Upon use of hydraulic aggregates or main crane's own hydraulic system, risks and controls mentioned under item 8 apply.</p> <p>If bolts connecting boom sections are manipulated, sufficiently equipped riggers connect upper bolts first, bolt connections on lower end of the sections last. Before disconnection of tackle, riggers stay clear of the boom section when auxiliary crane lets off weight to avoid damage and injury by lowering boom structure.</p> <p>All bolt connections and clips are visibly inspected by crane operator before erection of boom system.</p> <p>Personnel wear PPE whenever working on bolts and bolt hitches, including correct gloves.</p>	



WORK OPERATION:	ITEM III-1: Reeving auxiliary winches	
HAZARDS	Crushes, bruises, fractures or other injuries caused by moving ropes when getting caught between sheaves and ropes or in case of breaking ropes.	
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT staff, other contractors and visitors AG TRANSPORT equipment	
GENERAL RISKS APPLICABLE	ITEM	NAME
	1	Work on ladders and scaffolds or otherwise in a height
	2	Manual handling/carrying of weights
	9	Work in constricted areas
HAZARD SEVERITY	5 = VERY HIGH	
	4 = HIGH	
	3 = MODERATE	
	2 = SLIGHT	
	1 = NIL	
	SEVERITY	
	3	
FREQUENCY OF OCCURRENCE	5 = FREQUENTLY	
	4 = UNDER MANY CIRCUMSTANCES	
	3 = QUITE POSSIBLE	
	2 = VERY SELDOM	
	1 = NOT LIKELY	
	FREQUENCY	
	3	
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE	
	RATING	
	9	
EXISTING CONTROLS	<p>Riggers use PPE whenever working with steel wires and ropes. Operators are well aware of procedures determined by manufacturer's operating instructions.</p> <p>Assembly instructions for reeving using auxiliary winches are followed at all times.</p> <p>Auxiliary ropes and connections undergo visual check before use.</p> <p>Rigger applying auxiliary rope under or inside the lattice boom construction only acts upon release of his banksman, who is in radio or visual contact with crane operator in the cabin.</p>	



WORK OPERATION:	ITEM III-2: Operating connected winches						
HAZARDS	Crushes, bruises, fractures or other injuries caused by moving ropes when getting caught between sheaves and ropes or in case of breaking ropes. Damage to property in nearby surroundings by flying ropes in case of breakage.						
PERSONNEL / PROPERTY AT RISK (POTENTIAL)	AG TRANSPORT staff, other contractors and visitors AG TRANSPORT equipment and other property in nearby surroundings						
GENERAL RISKS APPLICABLE	ITEM	NAME					
HAZARD SEVERITY	<table border="1"> <tr><td>5 = VERY HIGH</td></tr> <tr><td>4 = HIGH</td></tr> <tr><td>3 = MODERATE</td></tr> <tr><td>2 = SLIGHT</td></tr> <tr><td>1 = NIL</td></tr> </table>	5 = VERY HIGH	4 = HIGH	3 = MODERATE	2 = SLIGHT	1 = NIL	SEVERITY 4
5 = VERY HIGH							
4 = HIGH							
3 = MODERATE							
2 = SLIGHT							
1 = NIL							
FREQUENCY OF OCCURRENCE	<table border="1"> <tr><td>5 = FREQUENTLY</td></tr> <tr><td>4 = UNDER MANY CIRCUMSTANCES</td></tr> <tr><td>3 = QUITE POSSIBLE</td></tr> <tr><td>2 = VERY SELDOM</td></tr> <tr><td>1 = NOT LIKELY</td></tr> </table>	5 = FREQUENTLY	4 = UNDER MANY CIRCUMSTANCES	3 = QUITE POSSIBLE	2 = VERY SELDOM	1 = NOT LIKELY	FREQUENCY 2
5 = FREQUENTLY							
4 = UNDER MANY CIRCUMSTANCES							
3 = QUITE POSSIBLE							
2 = VERY SELDOM							
1 = NOT LIKELY							
TOTAL RISK RATING	RISK = HAZARD SEVERITY x FREQUENCY OF OCCURRENCE	RATING 8					
EXISTING CONTROLS	<p>Riggers use PPE whenever working with steel wires and ropes. Operators are well aware of procedures determined by manufacturer's operating instructions.</p> <p>When both auxiliary and main ropes are connected and operator moves winches, riggers stay clear of nearby surroundings.</p> <p>Operator and rigger foreman stay in radio or visual contact throughout the reeving operation.</p>						