



User Manual

DEFENDER A314



38 Telford Way, Telford Way Industrial Way, Kettering. Northants. NN15 8UN. Tel:01536 529876

INDEX

TITLE PAGE

INDEX PAGE

ABOUT THIS MANUAL

INTRODUCTORY INFORMATION

CHAPTER 1

IDENTIFICATION DATA
DECLARATION OF CONFORMITY
DECLARATION OF CONSTRUCTOR
REFERENCE REGULATIONS DOCUMENTS
TECHNICAL INFORMATION
USE AND STORAGE
STATIC TEST

SAFETY STANDARDS, USER'S INSTRUCTIONS

CHAPTER 2

WARNINGS AND INTRODUCTION
SAFETY
UTILIZATION LIMITS
SUMMARY OF MOST IMPORTANT WARNINGS

**DESCRIPTIONS, CONTROLS, MAIN FEATURES, GENERAL OPERATION,
AND EMERGENCY PROCEDURES**

CHAPTER 3

DESCRIPTION OF MACHINE
MAIN COMPONENTS
TECHNICAL FEATURES
WORKING AREA
GENERAL LAYOUT
SAFETY DEVICES
BASKET AUTO LEVELLING SYSTEM
START UP PROCEDURE AND OPERATION
EMERGENCY PROCEDURE

MAINTENANCE

CHAPTER 4

MAINTENANCE PROGRAMME
LUBRICATION AND MAINTENANCE POINTS
TROUBLE SHOOTING

MARKING

CHAPTER 5

PLATES ON THE MACHINE

INSPECTION REGISTER

CHAPTER 6

INSPECTION REGISTRATION SHEETS
TRANSFER OF TITLE SHEETS
STRUCTURAL COMPONENTS REPLACEMENT SHEETS
MECHANISMS REPLACEMENT SHEETS
SAFETY DEVICES REPLACEMENT SHEETS
TRAINING SHEETS

ABOUT THIS MANUAL

PLEASE NOTE THAT THE A314 PLATFORM IS MOUNTED TO VARIOUS CHASSIS AND THE PHOTOS / DIAGRAMS USED IN THIS MANUAL MAY DIFFER FROM THE MODEL YOU ARE USING BUT ALL SYSTEMS AND EMERGENCY PROCEDURES ARE UNIVERSAL.

Reasonable safety conditions during work are essential to prevent serious damages to oneself and to other people. Therefore, it is essential to follow the **WARNINGS** and to carefully read this manual presenting accurate and fundamental instructions on routine and periodic maintenance procedures.



**WARNING:
READ AND KEEP THIS MANUAL!**

STUDY USER'S INSTRUCTIONS.

The operator shall be trained on the use of this machine, he should know its lifting capacity and utilisation limits, he should know and carefully follow safety standards. The instruction manual is a fundamental element for the proper use and the maintenance of this equipment.

TECHNICAL ASSISTANCE SERVICE

For repair, service and warranty assistance please call CUMBERLAND INDUSTRIES UK LIMITED on +44(0) 1536 529 876

SPARE PARTS SERVICE

Guarantee of good functioning and service life is ensured by the use of original spare parts only.

At the end of this manual there are some sheets on which every intervention, modernisation and change is to be recorded. By doing this, you and we will always have an updated statistical memorandum of the machine.



**WARNING:
THESE MANUAL INSTRUCTIONS DO NOT
REPLACE BUT COMPLETE OUR
OBLIGATIONS ON SAFETY AND
ACCIDENT LEGISLATION.**

ATTENTION:

IF THE OPERATOR EXCEEDS THE LOAD VALUE INDICATED BY THE WORKING AREA. THIS CAN LEAD TO STRUCTURAL DAMAGES AND THE OVERTURNING OF THE AERIAL WORKING PLATFORM WILL RESULT

CHAPTER 1

INTRODUCTORY INFORMATION



WARNING SIGNS



WARNING - DANGER SIGNS



PROHIBITED SIGNS



WARNING - CRUSHING SIGNS

IDENTIFICATION DATA OF THE MACHINE

All the information for the identification of the machine is on an information plate on the turret.

 SOCAGE SRL STRADA STATALE 12 n.10 41030 SORBARA (MO) ITALY tel. 059 902656 fax 059 907304	
PIATTAFORMA DI LAVORO MOBILE ELEVABILE MOBILE ELEVATING WORKING PLATFORM	
MODELLO MODEL	SO - 0022
NOME COMMERCIALE TRADE NAME	DA 320
MATRICOLA SERIAL NUMBER	320DAXXX
ANNO DI COSTRUZIONE YEAR OF MANUFACTURING	2010
PORTATA MASSIMA MAXIMUM LOAD	225 kg 2 PERSONE MAXIMUM LOAD PEOPLE
CARICO ORIZZONTALE MASSIMO MAXIMUM HORIZONTAL LOAD	40 daN
VELOCITA' MASSIMA VENTO MAXIMUM WIND SPEED	12,5 m/s
INCLINAZIONE MAX TELAI MAXIMUM CHASSIS INCLINATION	2 °
MASSA TOTALE CON AUTOCARRO TOTAL MASS WITH TRUCK	3500 kg

 CUMBERLAND INDUSTRIES UK

NOTIFIED BODY ID No. 1878 MANUFACTURE: SOCAGE AERIAL PLATFORMS STRADE STATALE 12n.10-41030 SORBARA DI BOMPORTO (MO) ITALY PHONE:(0503)924-1551 FAX:(503)684-1793 DISTRIBUTOR & EU-representative CUMBERLAND INDUSTRIES UK KETTERING, NORTHANTS. GREAT BRITAIN. PHONE:(01536) 529876 FAX:(01536) 513498

MODEL/TYPE	SOCAGE A314 50-0030		UNIT EQUIPPED WITH	<input type="checkbox"/> BASKET
DATE MFD	<input type="text" value="xx / xx / 20xx"/>	PER BASKET	<input type="text" value="496"/> lbs OR <input type="text" value="225"/> kgs	
SERIAL No.	<input type="text" value="313AXXX"/>	ALL BASKETS	<input type="text" value="496"/> lbs OR <input type="text" value="225"/> kgs	
RATED PLATFORM HEIGHT	<input type="text" value="13.5 m"/>	MAX MANUAL FORCE	<input type="text" value="400"/> n	
A MATERIAL HANDLING OR LIFTING ATTACHMENT IS INSTALLED <input type="checkbox"/> YES <input type="checkbox"/> NO				
(SEE LOAD CHARTS FOR CAPACITY) MAXIMUM SAFE WORKING LOAD <input type="text" value=""/> kg				
MAX WIND SPEED	<input type="text" value="12.5"/> M/SECOND	ELECTRICAL SYSTEM VOLTAGE	<input type="text" value="12"/> VDC	
MAX HYDRAULIC PRESSURE	<input type="text" value="3000"/> PSI OR <input type="text" value="205"/> BAR			
INSULATED BOOM	<input type="checkbox"/> YES <input type="checkbox"/> NO	DESIGN VOLTAGE	<input type="text" value=""/>	
DIELECTRIC RATING IS CATEGORY	<input type="checkbox"/>	DATE OF QUALIFICATION TEST	<input type="text" value="xx / xx / 20xx"/>	
MAX CHASSIS INCLINATION	<input type="text" value="5"/> DEG.	DATE OF STABILITY TEST	<input type="text" value=""/>	
OUTRIGGERS REQUIRED FOR STABILITY	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
MIN CHASSIS WEIGHT FOR STABILITY	<input type="text" value="6349"/> lbs OR <input type="text" value="2880"/> kgs			
COUNTRY OF INSTALLATION / MOUNTING	<input type="text" value="UNITED KINGDOM"/>			
MANUFACTURE OF BOOM:	THIS UNIT WAS INSTALLED BY:			
 Strada Statale 12, n. 10-41030 Sorbara di Bomporto (MO), Italy Tel: +39.059.902656 Fax: +39.059.907304 Web: www.cumberlandindustriesuk.co.uk	 CUMBERLAND INDUSTRIES UK 2250 Kettering Parkway, Kettering Venture Park, Kettering, Northants, United Kingdom, NN15 6XR Tel: +44 (0) 01536 529876 Fax: +44 (0) 01536 513498 Web: www.cumberlandindustriesuk.co.uk			
WARNING: BEFORE OPERATING UNIT, READ AND UNDERSTAND ALL OPERATING AND SAFETY INFORMATION IN MANUAL AND ALL INFORMATION ON THIS UNIT.				
THE INFORMATION CONTAINED ON THIS PLATE SUPERSEDES ANY OTHER DATA PLATE INFORMATION ON THIS EQUIPMENT				
				

DECLARATION OF CONFORMITY

SOCAGE SRL a socio unico
STRADA STATALE 12 N. 10
SORBARA DI BOMPORTO (MODENA) ITALY
TEL. 059.902656 FAX 059.902613

Società sottoposta a direzione e coordinamento da parte di FIRST STEP srl

Composizione del fascicolo tecnico a cura di:
Ufficio tecnico Socage presso, Socage s.r.l., strada statale 12 n°10, Sorbara di Bomporto (modena) Italy

PIATTAFORMA DI LAVORO ELEVABILE / MOBILE ELEVATING WORKING PLATFORM

Modello/Tipo/Type/Type/Modelle:	SO-0030
Nome commerciale/Nombre comercial/Nom commercial/Trade name/Geschäftsname:	A 314
Matricola/Matricula/N° de serie/Serial number/Serien nr. :	313Axxx
Anno di fabbricazione/Año de fabricación/Année de fabrication/year of construction/baujahr:	2011
Su autocarro/autocar/camion/truck/lastkraftwagen:	LAND ROVER DEFENDER
Matricola/Matricula/N° de serie/Serial number/Serien nr. :	xxxxxxx.....

DECLARATION

(ORIGINAL)

We, the undersigned, hereby declare under our exclusive responsibility that the machine in question conforms to the prescriptions of the Machinery Directive 2006/42/EC and the Directives 2006/95/EC, 2004/108/EC, 2000/14/EC and the standard EN280:2001/A2:2009.

It is identical to the aerial working platform objet of the CE type certification. (Enclosure IV)

Esame per la Certificazione CE eseguita da: Examen para la Certificación CE realizada por: Examen pour la Certification CE exécuté par: Examination for EC Certification executed by: Prüfung für die EG-Bescheinigung ausgeführt vom:	VERICERT SRL (Notified Body n. 1878) Verità Ricerca Certezza Conformità Via Cavina, 19 48100 RAVENNA - Italy
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------

Numero di Certificazione CE: Certificación CE número: Certification CE numéro: Certification EC number: Zertifikation EG nummer::	1878M170001CT0110
-----------------------------------------------------------------------------------------------------------------------------------------------	-------------------

SOCAGE srl

Presidente del C.d.A.

FIRENZO FLISI

Sorbara, li _____

DECLARATION OF THE CONSTRUCTOR

SOCAGE SRL a socio unico
STRADA STATALE 12 N. 10
SORBARA DI BOMPORTO (MODENA) ITALY
TEL. 059.902656 FAX 059.902613

Società sottoposta a direzione e coordinamento da parte di FIRST STEP srl

Composizione del fascicolo tecnico a cura di:
Ufficio tecnico Socage presso, Socage s.r.l., strada statale 12 n°10, Sorbara di Bomporto (modena) Italy

AERIAL WORKING PLATFORM SUPPLIED IN KIT

Modello/Tipo/Type/Type/Modelle: SO-0030

Nome commerciale/Nombre comercial/Nom commercial/Trade name/Geschäftsname: A 314

Matricola/Matricula/N° de serie/Serial number/Serien nr. :313Axxx

DECLARATION

We, the undersigned, hereby declare under our exclusive responsibility that the machine in question conforms to the prescriptions of the Machinery Directive 2006/42/EC and the Directives 2006/95/EC, 2004/108/EC, 2000/14/EC and the standard EN280:2001/A2:2009.

It is strictly prohibited for the machine which is the subject of this declaration to be put into service before the machine on which it will be incorporated or assembled has been declared compliant with the provisions of the Directive 2006/42/EC.

Esame per la Certificazione CE eseguita da:
Examen para la Certificación CE realizada por:
Examen pour la Certification CE exécuté par:
Examination for EC Certification executed by:
Prüfung für die EG-Bescheinigung ausgeführt vom:

VERICERT SRL (Notified Body n. 1878)
Verità Ricerca Certezza Conformità
Via Cavina, 19
48100 RAVENNA - Italy

Numero di Certificazione CE:
Certificación CE número:
Certification CE numéro:
Certification EC number:
Zertifikation EG nummer::

1878M170001CT0110

SOCAGE srl

Presidente del C.d.A.

FIORENZO FLISI
Sorbara, li _____

DECLARATION OF THE CONFORMITY



CUMBERLAND INDUSTRIES UK LTD



DECLARATION OF CONFORMITY



Company: SOCAGE S.r.l
Product: AERIAL PLATFORMS
Address: Starda Statale 12, n 10-41030
Sorbara di Bomporto (MO)
Italy
Tel: +39.059 90.26.56
Fax: +39.059 90.73.04

EU-representative:

Company: Cumberland Industries UK
Address: 38 Telford Way
Telford Way Industrial Estate,
Kettering.
Northants. NN16 8UN.
Tel: 01536 529876
Fax: 01536 513498

Product: SOCAGE **Type:** A314 **Serial No:** 313A—
Chassis: XXXXXX **Type:** XXXX **Chassis No:** SALLDBWS7BA—

Hereby declare that:

The installation on the vehicle, according to the advised method in the Installation Manual and the close collaboration of the vehicle manufacturer, is manufactured in conformity with the Machinery Directive 2006/42/EC and taking guidance from EN280:2001 + A1 2004 + A2 2009

The equivalent safety shall be assured by operator training

- a) In the use of the machine to handle variable loads.
- b) In the use of the machine at work on energised power lines.

It is the responsibility of the manufacturer, placing the machine on the market in the EU,

- a) To provide certification of electrical properties to ANSI A92.2-1990 Section 5.3 issued by a competent and certified laboratory.
- b) To carry out quality assurance dielectric tests in accordance with ANSI A92.2-1990 Section 5.3 before the machine is put into service for the first time.
- c) To inform the customer of the need to conform to ANSI 92.2-1990 Section 8.2.2 Regular Inspection and Tests.

Notified Body: Vericert S.r.L.
Notify Body No. 1878
Via Cavina 19 Ravenna – Italy
Type certificate no: 1878M 170106CT0310-INT.01 Dated 03/08/2011

Tech File: TF/TRX

Has type examined and tested, that the mentioned machines are in conformity with the mentioned Directives and Standards. On the basis of that they hereby state the following type certificate:

John Cox in the Engineer department of Cumberland Industries UK Ltd 38 Telford Way, Telford Way Industrial Estate, Kettering. Northants. NN16 8UN is authorized to compile the Technical File.

Place and date: Kettering, 27/02/2012
Signature: Paul Murphy, Managing Director

Form F37 issue03

REFERENCE REGULATIONS

This technical document "OPERATION AND MAINTENANCE MANUAL" for aerial platform model **A 314**

This document has been written in compliance with harmonised regulations;

UNI EN 12100-1st part paragraph 3.21
UNI EN 12100-2nd part paragraph 6.
EN 280 paragraph 7.

REVISIONS TO THIS DOCUMENT

It is an integral part of the machine and is in compliance with all regulations, laws and directives binding at the time written;

The manual cannot be considered inadequate if it is subsequently updated because of more recent alterations or upgrades to this platform model.

Changes, adaptations, etc. (if any) made on any machine's sold afterwards are not the responsibility of the manufacturer to modify the manual to suit the alterations.

Any possible supplement to this manual that the manufacturer judges important to send to the user should be kept together with the manual to which is an integral part.

TECHNICAL INFORMATION

REFERENCE REGULATIONS

SOCAGE platform's are manufactured in compliance with the following Directives:

- 2006/42/EC (Machine Directive),
- 2004/108/EC
- 2006/95/EC (EMC)
- 2000/14/EC.

ENFORCED HARMONIZED REGULATIONS

EN 12100-1:2005 Safety of the equipment (basic procedure);
EN 12100-2:2005 Safety of the equipment (technical principles);
EN 294:1993 Safety distances of the upper parts;
EN ISO 13850:2007 Emergency stop devices;
EN 349:1994 Distances of pressing of parts of the body;
IEC/EN 60204-1 Electrical equipment of the machines;
DIN 15018 foglio 3 Calculations of steel structures;
DPR 303/56 General regulations for hygiene on work
DPR 547/55 Regulations for prevention of accidents on work place
EN 13849-1:2007 Safety related parts of control system
EN 280:2005 Aerial work platforms
EN 12999:2002;A1:2004 Cranes safety- Loaders Cranes
EN 982:1997 Safety requirements for fluid systems and their components

ENFORCED REGULATIONS AND TECHNICAL RULES

- EN 280 (Raise able working platforms)
- EN 80 WGP8 (TC147) (Structural calculation)

NUMBER OF ESTIMATED LOADING CYCLES according to EN 280

100.000 (e.g. 10 Years, 50 weeks per year, 40 hours per week, 5 cycles per hour)

Within this number of cycles a complete overhaul and a deep structural inspection of the machine should be carried out. If working conditions are particularly heavy (e.g. always maximum load, maximum outreach etc.) this inspection must be completed sooner (ask the manufacturer for an inspection of the machine).

**EVERY 1500 - 4500 HOURS,
WE SUGGEST A COMPLETE VEHICLE INSPECTION BY THE MANUFACTURER OR SUPPLIER.**

CYCLES REDUCTION FOR AUTHORIZED MACHINES AT INCREASED LOAD CAPACITY

66.000 (e.g. 7 Years, 48 weeks per year, 40 hours per week, 5 cycles per hour)

Within this number of cycles a complete overhaul and a deep structural inspection of the machine should be carried out. If working conditions are particularly heavy (e.g. always maximum load, maximum outreach etc.) this inspection must be completed sooner (ask the manufacturer for an inspection of the machine).

**EVERY 1000 - 3000 HOURS,
WE SUGGEST A COMPLETE VEHICLE INSPECTION BY THE MANUFACTURER.**

USE AND STORAGE

SOCAGE platforms are manufactured to function under these environmental conditions:

- 1) Working temperature: min. -10°C max. +40°C
- 2) Humidity 30% - 95% without condensation

When the machine is to be used under environmental conditions other than the standard operating conditions above. Special devices, covers and equipment insulators are available on request.

IMPORTANT

NEVER USE THE MACHINE UNDER UNFAVOURABLE AIR CONDITIONS (i.e.: MANY WORKING HOURS IN VICINITY OF THE SEA).

- 1) Storage temperature: -30°C max. +60°C.
- 2) If the oil temperature tends to exceed 70° C. it is necessary to mount a heat exchanger, these are available as an optional upgrade.

COUNTERWEIGHT AND ACCESSORIES

All the sub-frame structure, outriggers or any fitted ballast weights, which are present during the first inspection, are not to be remove from the platform because they form integral parts of the machine and they attribute to the stability of the overall machine.

Static test

The machine HAS SUCCESSFULLY OVERCOME THE STATIC TEST carried out according to;

EN280:2001/A2:2009 as follows:

Machine positioned at max allowed inclination; (2.0 Degrees for an aerial platform)

Machine with minimum allowed stabilisation; (Outriggers barely taking ground pressure)

Pantograph boom totally raised and parallel to the ground;

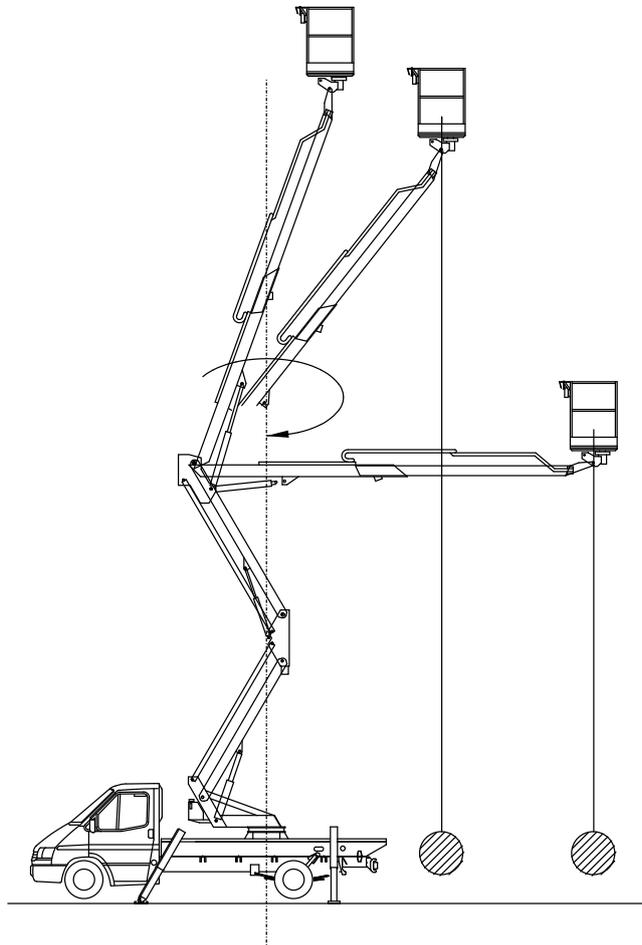
Machine at max outreach, positioned over the worst case position;
(Boom over the front wheel arch and tyre)

Test load equal to nominal load + an increase foreseen by EN280 enhanced stability.

- 1) Load calculated to simulate 12.5m/s Wind,
- 2) Maximum number of allowed operators.
- 3) Dynamic effects.

Slow starting of the machine rotation on the whole working area (at least 180° sideways), always keeping under control the position of the outriggers opposite the boom.

The test is considered overcome only if in the whole working area two outriggers never lift at the same time (so only one of the outriggers can be lifted, according to the position of the boom).



CHAPTER 2

SAFETY STANDARDS USER'S INSTRUCTIONS

The documentation contained in this chapter is composed of n°12 pages, this included.

For use of this LAND ROVER DEFENDER Aerial platform. The operators should be:

- 1) Perfect physical condition.
- 2) Have an operator's licence (Correct type for use of the vehicle mounted boom)
- 3) Be instructed in the use of platform operation.
- 4) Have read and understood all the instructions and information in this manual and on the machine.

IMPORTANT WARNINGS



ALL THE PROVISIONS ON USE AND MAINTENANCE CONTAINED IN THIS MANUAL ARE UNBREAKABLE, THEREFORE WE RECOMMEND TO CAREFULLY AND FREQUENTLY READ THEM AND TO ALWAYS PUT THEM INTO PRACTICE.



WITHOUT PREJUDICE TO SOCAGE SRL'S AND CUMBERLANDS NON-LIABILITY OUTSIDE THE WARRANTY GIVEN, AFTER INSPECTION AND DELIVERY OF THE MACHINE, SOCAGE SRL RECOMMENDS TO CAREFULLY AND REGULARLY FOLLOW ALL THE PROVISIONS CONTAINED IN THIS MANUAL AND TO CORRECTLY PUT INTO PRACTICE THE REGULATIONS IN FORCE. THE NON-ENFORCEMENT OF WHAT IS INDICATED ABOVE IS ANOTHER REASON OF NON-LIABILITY FOR DAMAGES AGAINST THE MACHINE, THINGS, PERSONS AND OTHERS.



IN THE ABOVE INDICATED CASES THE 12-MONTHS WARRANTY IS NOT EFFECTIVE. TECHNICAL DATA CONTAINED IN THIS MANUAL CAN UNDERGO CHANGES DUE TO THE DIFFERENT TYPES OF TRUCKS, TO TECHNICAL CHANGES, OR TO THE ENTERING INTO FORCE OF MODIFIED REGULATIONS.



THEREFORE, THE USER SHOULD CAREFULLY STUDY THE ABOVE MENTIONED TECHNICAL DATA.



FOR SPECIAL WORKING CONDITIONS NOT INDICATED IN THIS DOCUMENT PLEASE ASK THE MANUFACTURER FOR WRITTEN APPROVAL.

INTRODUCTION

The operator of the platform being the only element of the machine that can think and reason is held responsible when using the machine and their responsibilities are not reduced by the addition of safety devices fitted to the machine.

Safety devices are intended to help, not to supervise operations.

Safety devices can be mechanic, electronic, or both and they are for this reason subject to breakdowns. The operator is the sole person responsible for his own safety and for the safety of by-standards. He must act as a professional at all times following all safety standards.

ALWAYS KEEP IN MIND: THE NON APPLIANCE TO **JUST ONE** SAFETY STANDARD CAN CAUSE ACCIDENTS TO PERSONS, OBJECTS OR TO THE MACHINE.

The operator should make sure that every person he is working with is aware of dangers related to the functioning of the platform and therefore is properly trained.

At any time, the operator should be aware of his own responsibility for the safety of his work-mates, for the safety of the machine and of everything surrounding it.

The operator should always check that the platform is properly stabilised; he should keep in mind the wind conditions and the effect of the wind on the movements of the boom.

IT IS COMPULSORY TO LEARN AND TO FOLLOW ALL SAFETY STANDARDS.

IT IS ESSENTIAL TO UNDERSTAND THIS MANUAL BEFORE USING THE PLATFORM.

IN CASE OF HIRE OR SALE, THE HIRER OR SELLER MUST GIVE THESE INSTRUCTIONS TO THE NEW USER OR OWNER.

A COPY OF THE MANUAL MUST BE KEPT WITH THE UNIT AT ALL TIMES

SAFETY :

FOR SAFETY PURPOSES, IT IS ABSOLUTELY ESSENTIAL TO ALWAYS CARRY OUT THE FOLLOWING:

- Only properly trained operators should use the Aerial Platform, in accordance with local regulations.
- It is absolutely forbidden to use the equipment with weight exceeding the SWL indicated on the machine and in this document
- Read the content of all the decals, plates put on the equipment and in the maintenance and user manuals.
- The machine must be operated by at least two persons, one of them being a skilled worker perfectly knowing the use of the machine and who will stay on the ground. If there isn't a person in control on the ground, the operator must remove the key from the ground controls to stop tampering by passersby.
- Before using the equipment make sure the stabilisers are diploid on solid ground and always use spreader plates under the stabiliser feet on soft ground. *These boards must be of a thickness and a suitable material for the thrust and vehicle weight and must be tried before use with an operator in the machine. We recommend that the SWL is placed in the basket and a test is carried out prior to an operator using the machine.*
- Always maintain and check correct tyre pressures to ensure maximum stability
- If the ground slopes, make sure that the inclination does not exceed 2°. Use level indicator fitted to machine. The maximum deviation of the thrust bearing plane from the horizontal line must not exceed 2°.
- Make sure that the platform never rests on other structures, whether fixed or moving.
- When working under overhead structure always take great care that you can't get into the situation to become trapped between the basket and the structure.
- The platform operations to reach the working point must be carried out by the operator in the platform.
- **OPERATION FROM GROUND CONTROLS IS ALLOWED IN CASES OF EMERGENCY ONLY** since, from ground, it is impossible to correctly estimate any interference, obstacle, real dynamic of basket movements, etc.
- If the platform is used on busy roads, it is compulsory to signal the presence of such platform by both the appropriate ground signals and the flashing lights and to follow traffic regulations.
- When entering into the basket, safety harnesses must be immediately fastened to the anchor points and basket entry protection must be closed; make sure they are properly locked.
- All workers should wear the safety equipment/ware, in accordance with the law.
- Do not drop any materials or objects from the basket when the platform is raised. Provide necessary protections and measures for the safeguard of persons below the vehicles working area.

- Do not use tools which are not in compliance with regulations in force.
- Electrocutation can be caused by operating too close to power lines. Always stay the recommend safe distance from power lines.
- When using the platform, watch boom swing is clear of vehicle traffic lanes and moving obstructions.
- Only stand on the floor of the basket.
- Do not use the Access Platform as a crane.
- Do not operate in windy condition greater than 12.5m/s.
- Ensure boom/outrigger are stowed correctly and warning lights/buzzer are not going before driving vehicle.

LOLER (Lifting Equipment Regulation).

The operator must make sure before the MEWP is used that it has a current Thorough Examination certificate.

Certification of work equipment, including MEWPs is covered by The Lifting Operations and Lifting Equipment Regulations (LOLER). These regulations give legal effect to previous HSE recommendations and require every MEWP in use to be covered by a currently valid evidence of "Thorough Examination". The LOLER certificate is valid for 6 month and the MEWP must only be used with a in date certificate.



Only Trained operators should operator a MEWP and been familiar with the type of MEWP they are operating.

An un-trained operator can cause death or serious injury to himself or other personnel.



Operator must always wear a approved safety harness for the type of MEWP they are using.



Never operate the MEWP near to over head power lines. As this could result in death or serious injury.



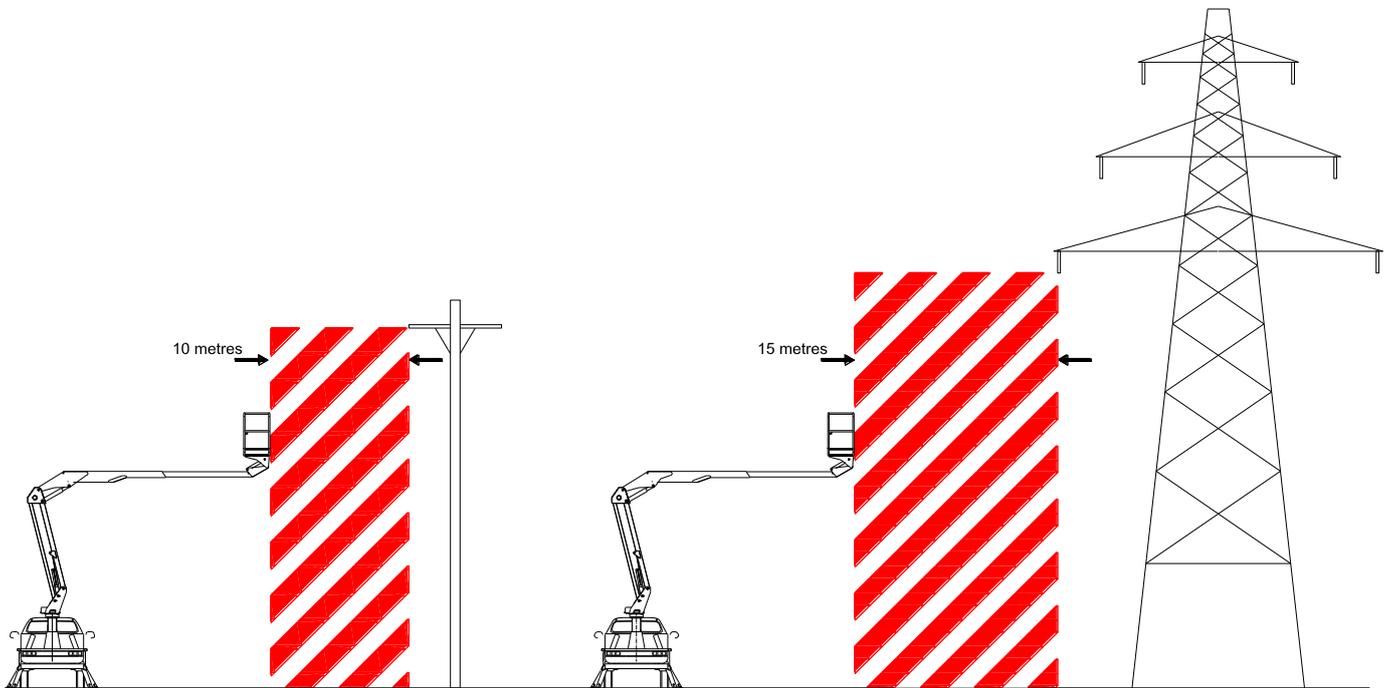
Operator must be aware of obstacles before and while using the MEWP. Failure to do so could cause crushing from being trapped or damage to the MEWP.

Operating Near Overhead Power lines

Great care must be taken when operating near overhead power lines. The Access Platform has no insulated value so a safe distance must be maintained at all times. If the unit is fitted with a Plastic Basket this does not offer any kind of protection to the personnel in the basket or ground.

Only Access Platforms certified as Insulated Aerial Device (IAD) can work near overhead power lines.

A minimum safe distance must always be kept between the overhead lines and the closest point of the MEWP when fully extended. This distance is 15m with overhead lines mounted on steel towers and 10m with lines mounted on poles of wood. These distances are measured horizontally at ground level from a position vertically below the outermost conductor at the tower or pole position.



OPERATING INSTRUCTION

While Driving the Vehicle:

- Drive with caution and avoid excessive speeds, braking and cornering.
- Check if the chosen road is suitable to the equipment dimensions.
- Check if tyres show wear and tear and if the tyre pressures are correct (when tyres are cold).
- Put on the hand brake when the machine is parked and if necessary lock the wheels with wedges. It is forbidden to travel or to move the truck with people or objects in the basket or on the turret or on the deck floor unless they fixed.

BEFORE GOING UP:

- Carry out daily inspections as indicated in chapter 4 "Maintenance".
- Check handbrake is applied, gearbox is in neutral.
- Engage PTO and check warning lights and listen for any warning buzzer.
- Deploy any warning signs/cones and turn on warning beacon as per local/company regulations.
- Check ground condition and deploy outriggers, use spreader plates if required. Check correct deployment and use level bubble to check inclination is within the limit of the MEWP.
- Use the protective helmets and the approved accident-prevention P.P.E.
- Ensure the ground controls duty change over switch has been moved to basket and the key removed.
- Check to make sure that the automatic levelling of the basket is perfectly reset (basket horizontal).
- Fasten safety harnesses to the harness anchor points.
- Close entry protections.
- Once again, make sure that all controls are in working order.
- Make sure that all operators are aware of use and maintenance provisions.
- wind is NOT exceeding 12,5 m/s

WHEN RAISED

- While operating the aerial platform, please keep in mind the area or travel for the end knuckle;
- During rotation, lifting, lowering, etc, ensure you are aware of any possible collision obstacles.
- Keep a minimum safe distance from electric power lines and pylons. Follow current working near power line regulations for the correct minimum distances.
- Avoid any collisions with the basket, booms, the truck cabin, stabilisers, other parts of the machine, fixed (buildings) or moving (vehicles, cranes, etc.).
- Do not stand under the working area of the equipment, in particular under booms and basket.
- Use the equipment for vertical movements only, never perform any throwing or thrusting towards any direction.
- Keep your hands far from joints or openings.
- It is forbidden to increase the load or to move people in and out of the basket.

AT THE END OF WORK

- Make sure that the aerial platform is fully docked:- rotate the platform so it is over the boom rest. Lower the lower boom completely before lowering upper boom until the boom structure is touching the boom rest docking switch and the telescopic interlock switch located at the far end of the telescopic boom under the plastic cover.
- With Ground Access to Basket option: When lower the upper boom, check the tele-boom will not hit the ground before the upper boom touches boom rest. If tele-boom does look like it will make contact with the ground first, retract enough to clear ground contact but lower enough for access from basket. The using tele-boom controls on decking, full retract tele-boom.
- Ensure the basket is left in the level position and that the stabilisers have been completely retracted until the red light has extinguished.
- Check that there are no warning light and buzzer. Disengage PTO.

UTILIZATION LIMITS

DO NOT USE THE MACHINE :

- With a load exceeding working load capacity of the basket (Safe working load).
- On a ground surface which is not resistant to the pressure and weight under the stabilisers.
- On a slope or inclination exceeding 2°.
- With the side stress in the basket exceeding 20daN (200 N) for every person (max. 40daN (400 N) for more than one person).
- With a wind exceeding 12,5 m/s.
- Within refrigerating chambers.
- In explosive or poisonous surroundings.
- During a thunderstorm.
- With poor visibility.
- In a not enough ventilated area. (Toxic exhaust gas of thermal engines).

INFORMATION ABOUT WIND SPEED

WIND FORCE Beaufort scale	WIND SPEED M/s	DESIGNATION	FEATURE
0	0.0 - 0.2	Calm	Calm wind; smoke is whipped up vertically or nearly vertically.
1 2	0.3 - 1.5 1.6 - 3.3	Light breeze	The wind direction is given by the smoke one; wind is felt on the face, leaves as well as baffle plate start moving.
3 4	3.4 - 5.4 5.5 - 7.9	Moderate breeze	Leaves and branches move continuously. Dust and paper are moved on the ground.
5	8.0 - 10.7	Quite near gale	Small branches with leaves move; waves on canals and lakes are formed.
6	10.8 - 13.8	Near gale	Big branches swing, wind whistles when passing through the electric line cables; it is difficult to walk with the umbrella opened.
7	13.9 - 17.1	Strong gale	Trees swing; it is difficult to walk.
8	17.2 - 20.7	Stormy wind	Branches are broken; it is hardly possible to walk.
9	20.8 - 24.4	Storm	The wind damages houses (antennas and roofing-tiles are swept away).

WIND SPEED IS MEASURED ON AVERAGE FOR APPROXIMATELY 10 MINUTES AT A 10-METER HEIGHT ON A LEVEL GROUND.



**Wind Speed will vary according to height from ground and whether working in open area or near obstruction (building, trees, etc)
Do not take equipment in the basket that has a large surface area.
Always take into account wind condition as this could cause the MEWP to lose stability and cause death or serious injury.**

IMPORTANT!!! CONSISTENCY OF THE GROUND

During the deployment of the outriggers the operator needs to give particular attention to the condition of the ground where you plan on deploying the outriggers plates. You always have to verify the consistency and the solidity of the ground and if necessary use an up-rated outrigger pad to obtain a better load distribution.

(If you have doubt ask your manager or a civil engineer with experience with ground consistency).

For the load values transmitted into the ground from the machine's outriggers, **see chapter 3 "Characteristics and performances"**. Below is a chart with the allowable pressures for different types of ground.

For the calculation of the specific pressure loaded on the ground from the outriggers use this formula:

$$P = F/A$$

P= specific pressure loaded on the ground by the outrigger (daN/cm²-kg/cm²)

F= maximum load of the outriggers (kg-see chap. 3)

A= area/bearing surface of the outrigger (cm²)

Example for the platform with

F= 3200 kg and the blasé plates with surface A= 400 cm² (dimensions 20x20 cm)

P= 3200/400= 8 daN/cm²

With Spreader plates with surface A'= 1600 cm² (dimensions 40x40 cm)

P'= 3200/1600= 2 daN/cm²

As an indication of relative bearing pressures, a car tyre exerts a pressure of approximately 2.46kg/cm² (2.4 bar) (35 lb/in²) whereas a typical MEWP outrigger without a spreader pad may well generate a pressure in excess of 14.1kg/cm² (13.8 bar) (200 lb/in²).

Chart with the values of the ground consistency

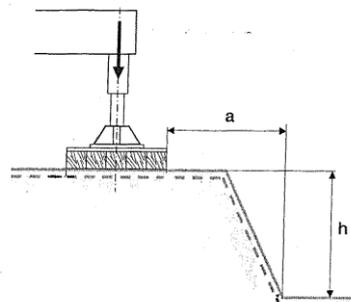
Kind of ground	Specific pressure allowable(daN/cm ²)
Shifted ground, not compact	1 - 2
Compact and granular ground (sand)	2 - 6
Compact ground (sand + gravel)	4 - 10
Rocks of middle consistency (limestone-sandstone) -paving suitable for the transit of the heavy means	10 - 15
Rocks of remarkable consistency (strong limestone-strong sandstone)	15 - 30
Compact rocks (porphyry-basalt-granite)	30 - 50

IMPORTANT!!! – SECURITY DISTANCE FROM DITCHES/SLOPES

During the installation of the outriggers, keep always a sufficient security distance from ditches and slopes. This distance is a consequence of the kind of ditch/slope (propped and not propped) and of the kind of ground (we advise you to refer to a civil engineer experienced of the ground consistency). For guidance we give you below the scheme/theoretical rule:

In case of ground subject to landslides or reported - $a = 2xh$

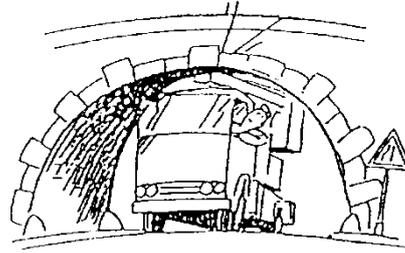
In case of compact ground, not subjected to landslides or Reported – $a = 1xh$



SAFETY MOST IMPORTANT WARNINGS

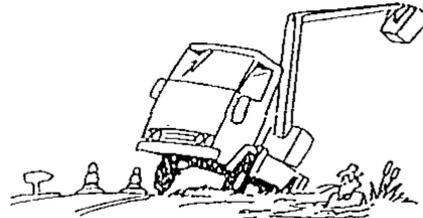
MOVEMENT

Be aware of obstacles e.g. bridges.



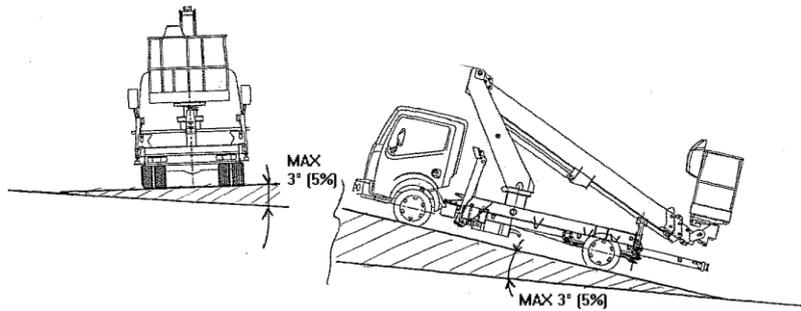
STABILIZATION

Check ground solidity prior to using the machine.



STABILIZATION

Do not exceed maximum inclination.
(see data plate and labels
Installed of unit)

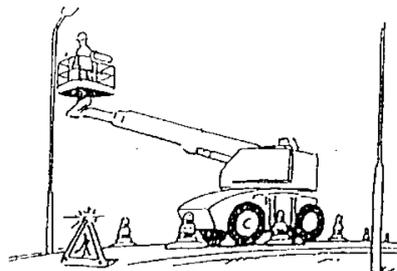


VEHICLE LEVELLING



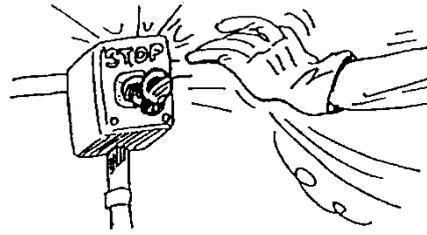
WORKING AREA

Place barriers around working area.



EMERGENCY STOP

If there is any anomaly, stop the machine.
BEFORE SWITCHING ON THE MACHINE AGAIN, MAKE SURE THAT DANGEROUS CONDITION HAS ENDED



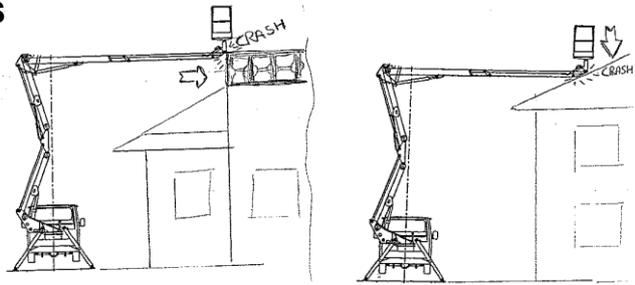
OBSTACLES AND ELECTRIC LINES

Make sure that there are no electric lines
Within the safe distance guidelines



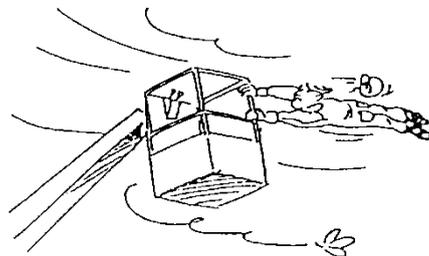
PUSHING OR LOWERING AGAINST OBSTACLES

Extending the boom against obstacles
(opening/closing and/or lifting/lowering)
may create structural damage to the machine and
have a serious risk of tipping over the platform.
Before and during any movements, always
Verify visually the encumbrance of the machine
structure in all directions (with particular attention to
the hidden parts, such as the lower part of the basket).



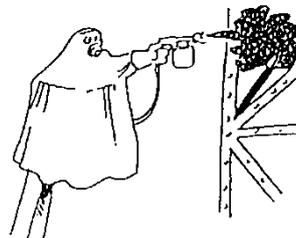
WIND

ALWAYS AND PROPERLY use safety harnesses.
Do not operate platform if wind is exceeding 12,5 m/s



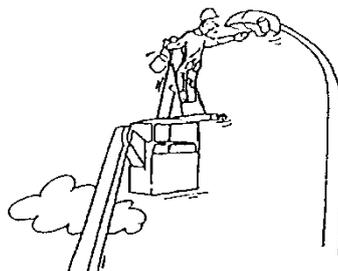
PROTECTIONS

When performing special works,
safeguard yourself and the machine.



IN THE BASKET

Never use ladders, boards, or other objects
to reach out of the basket, **IT IS FORBIDDEN**
to exit the basket when it is raised.



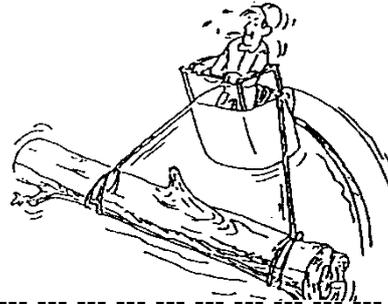
IN THE BASKET

Never exceed the loading capacity allowed in the basket.



LIFTING

Never use the platform as a lifting device, not even for small weights.



SAFETY BELTS AND HELMET

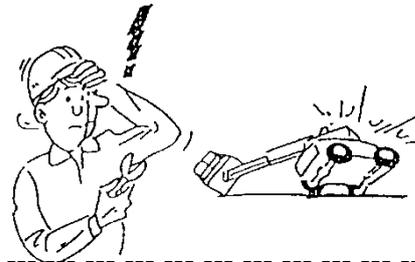
ALWAYS AND PROPERLY use safety harnesses.

Do not fasten harnesses to structures outside the basket



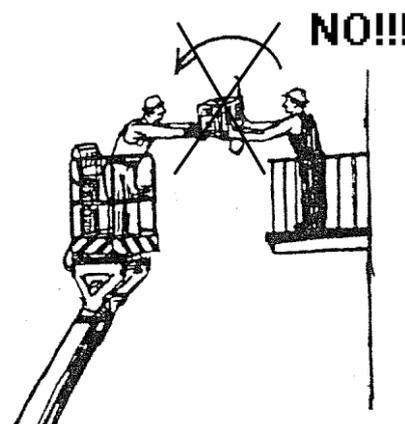
REPAIRS AND MODIFICATIONS

Do not carry out any repair or modification unless at authorised repair shops.



ATTENTION !!! LOAD ON HEIGHT

Do not load or unload the basket while it is raised. This operation can cause the tilting of the machine or serious damage to the structure.



CHAPTER 3

DESCRIPTIONS, CONTROLS, MAIN FEATURES, GENERAL OPERATION AND EMERGENCY PROCEDURES

Description of the machine

3.1 Declared use of the machine

The Cumberland / Socage aerial working platform is designed and built for lifting and moving a maximum of 2 people safely within a self levelling basket, to a height and outreach as stated within this manual.

The platform lifts the personnel vertically, allows horizontal movement by means of pinned joints and hydraulic extensions and also allows angular movements via the rotary turret.

The machine works in conjunction with the outriggers pressed into the ground taking up positive ground pressure, the chassis can be levelled between 0° and 2°. The A314 Aerial platform needs to be deployed with the nose of the chassis facing up hill when deployed on an incline, and ensure the front tyre is still touching the ground. Personnel can take tools into the basket up to the maximum capacity indicated. Once at height, the staff cannot transfer objects and/or persons to the basket from another height source.

Boom Assembly

The Socage A314 boom assembly is an articulating telescopic non-insulated access platform. Fitted with a two person Aluminium basket as standard with Plastic basket when operator requires an enclosed basket.

Intended Use

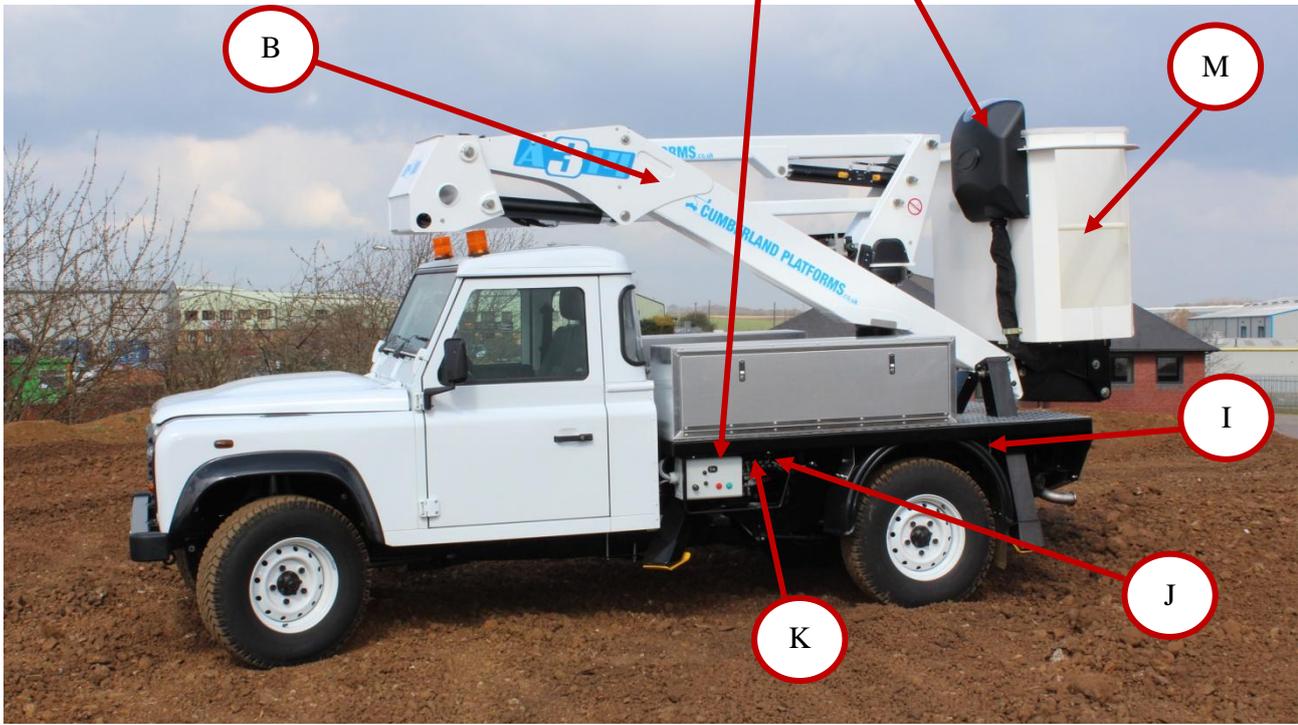
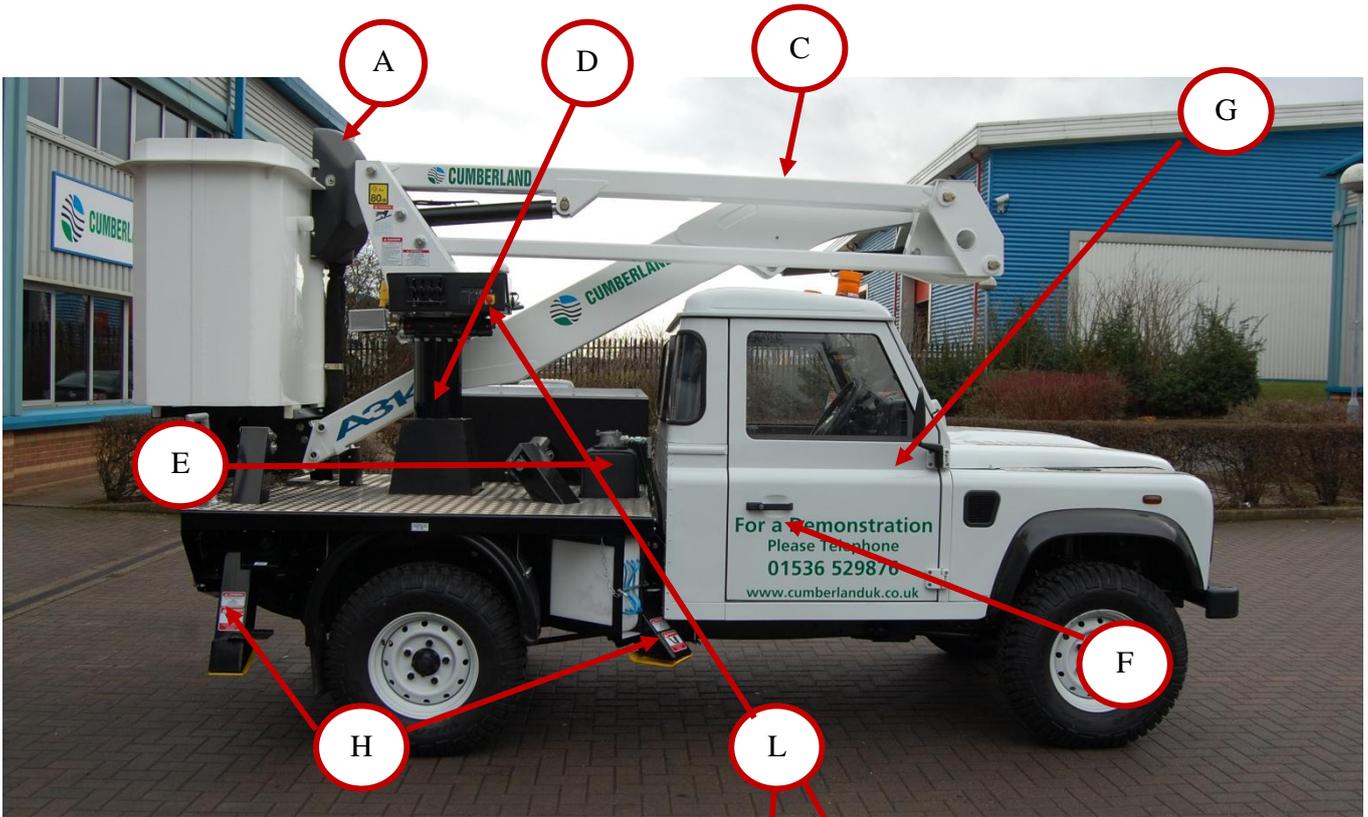
This aerial device is designed and manufactured for work on highways maintenance, (roadside installations including bridges, lighting columns, signage, cameras), also building maintenance work and trees work.

The articulated type of boom makes it possible to overcome overhead obstacles and obtain a greater outreach.

Operators who use the Socage A314 do so in the day to day, repair, maintenance and inspection.

Light Inspection / Maintenance	Building Inspection / Maintenance	Tree Inspection / Maintenance	Structure Inspection
			

Main components



A – Basket Controls

Hydraulic distributor for the movement of the basket platform.

B – Main Upper Boom Assembly

Upper boom incorporating telescopic extending boom with internal hydraulic cylinders.

C – Lower Boom

The articulated booms are the connection element between the rotary turret and the main upper boom assembly. They are connected to each other by a knuckle joint. The arms are moved by a hydraulic cylinder and a rod positioned inside the head, which guarantees perfect synchronism.

D – Turret / Boom support

Fabricated in top quality sheet steel, it is composed folded steel and electro-welded reinforcements. It is installed on to a rotation bearing which in turn is mounted to the pedestal. Rotation is by a hydraulic motor with a worm screw and automatic brake.

E – Oil tank

Is the tank that contains the oil for powering the machine's hydraulic plant, complete with MIN/MAX level

F – Control board in cab

To check the correct engagement of the power take-off, warning light and buzzer. It is equipped with a timer in order to detect functioning times.

G – Power take-off control

This is situated in the cab and is electrically operated on the Toyota Hilux model and manually operated on the Landrover Defender model.

H – Outriggers

With individual or simultaneous descent, they are fixed to the sub frame.

I – Sub frame

Top quality steel structure for mounting the aerial platform assembly to the vehicle chassis. It is finished with a non slip aluminium tread plate.

J – Emergency pump

The hand pump for emergency operation is situated on the nearside of the vehicle under the decking..

K – Outrigger controls

Hydraulic distributor and panel for selecting outrigger movement.

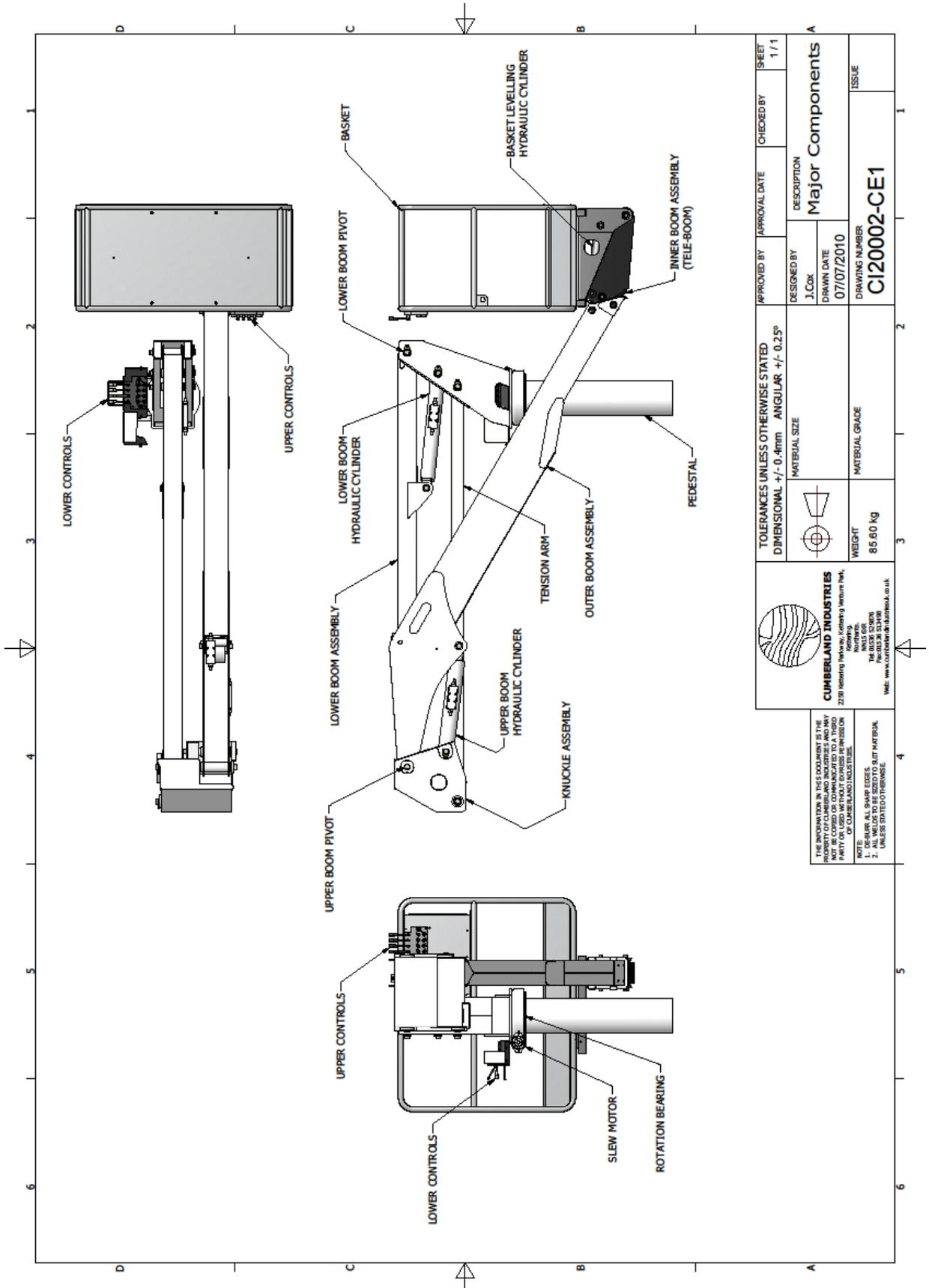
L – Emergency controls

For moving the machine to the ground during descent in emergency conditions. Uses the vehicle battery as alternative power source, will continue to run while there is power in the battery. Emergency decent motor will also retract the outriggers for easy vehicle recovery.

M- Operator basket

Aluminium tubular basket standard or option white plastic duck under basket.

Boom Major Components

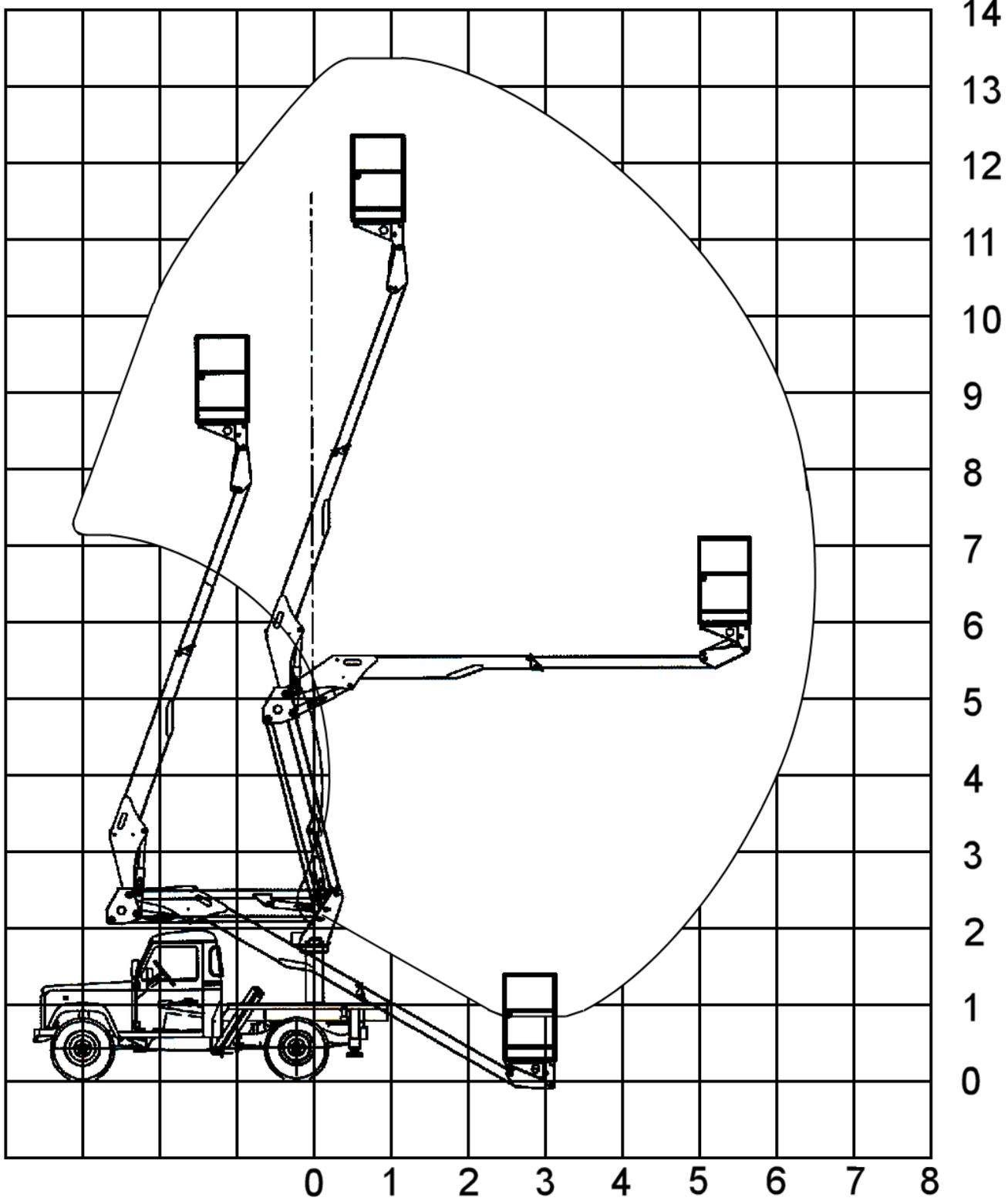


<p>DESIGNED BY J.Cox</p> <p>DRAWN DATE 07/07/2010</p>		<p>APPROVED BY</p> <p>APPROVAL DATE</p>		<p>CHECKED BY 1/1</p>	<p>SHEET 1/1</p>
<p>DESCRIPTION Major Components</p>					
<p>DRAWING NUMBER CI20002-CE1</p>					
<p>MATERIAL GRADE</p>		<p>TOLERANCES UNLESS OTHERWISE STATED DIMENSIONAL +/- 0.4mm ANGULAR +/- 0.25°</p>			
<p>WEIGHT 85.60 kg</p>		<p>MATERIAL SIZE</p>			
<p>CUMBERLAND INDUSTRIES 2700 Remondy Road, Remondy, North Wales The Old Bus Station, Remondy, North Wales Web: www.cumberlandindustries.co.uk</p>					
<p>THE INFORMATION IN THIS DOCUMENT IS THE PROPERTY OF CUMBERLAND INDUSTRIES AND MAY NOT BE COPIED OR COMMUNICATED TO A THIRD PARTY WITHOUT THE WRITTEN PERMISSION OF CUMBERLAND INDUSTRIES.</p> <p>NOTE: 1. DIMENSIONS SHOWN IN PARENTHESES ARE FOR INFORMATION ONLY. 2. DIMENSIONS SHOWN IN SQUARES ARE FOR INFORMATION ONLY. 3. DIMENSIONS SHOWN IN CIRCLES ARE FOR INFORMATION ONLY. 4. UNLESS STATED OTHERWISE.</p>					

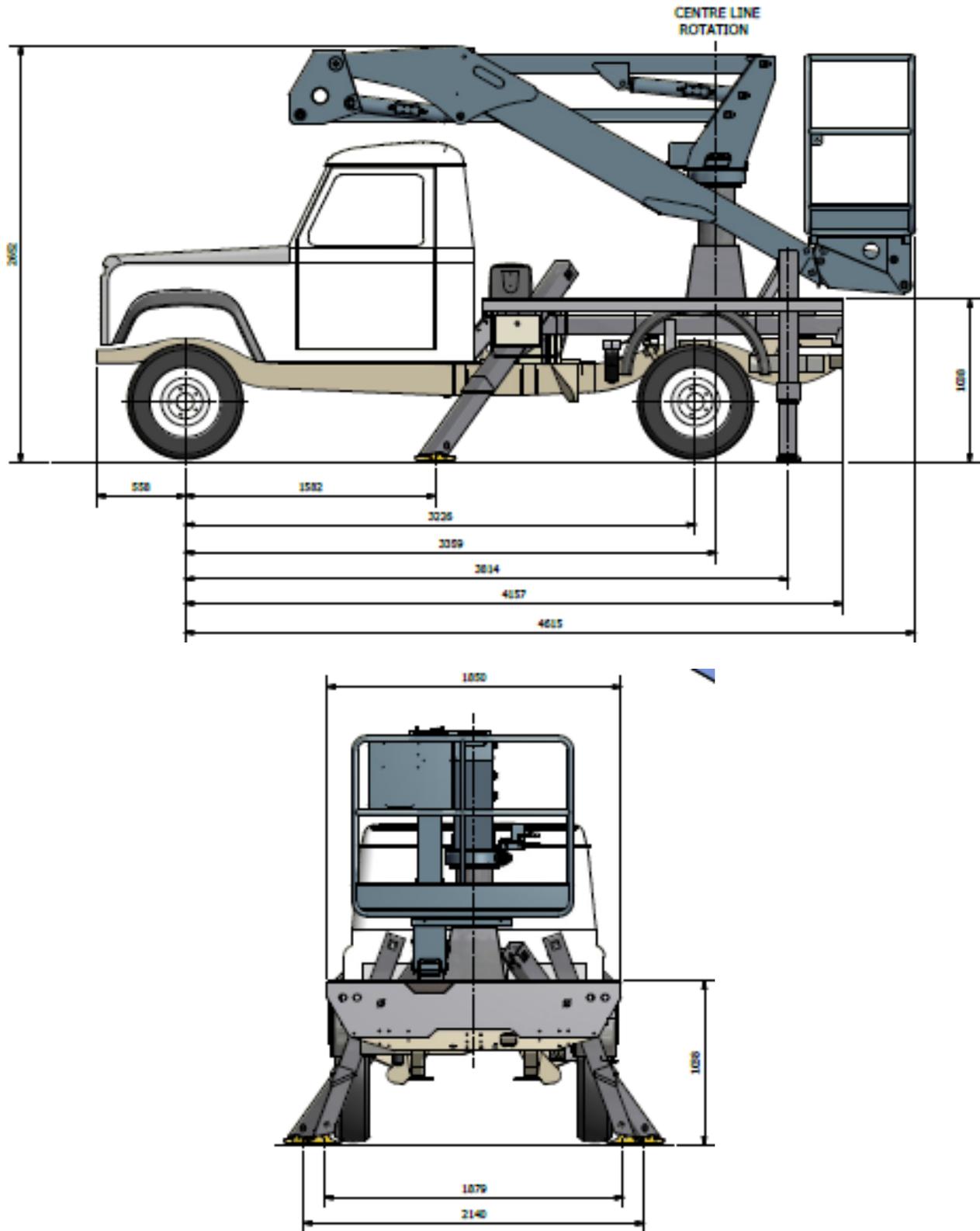
Technical features

Model	A314	
Maximum work height	m	13,50
Basket walking floor maximum height	m	11,50
Maximum work reach	m	6,50
Basket maximum outreach	m	6.20
Standard capacity	kg	225
Dimensions of aluminium basket	mm	1400x700x1100
Dimensions of polyethylene basket (optional)	mm	1220x630x1100
Superstructure rotation	°	720 Degrees
Lifting speed	m/s	0.4
Extension speed	m/s	0.4
Rotation speed	m/s	0.7
Maximum load under the outriggers	kg	2766
Specific load under the outriggers	kg/cm ²	12
Travelling dimensions	2.7 metres	
Level of machine vibrations	m/s ²	< 0,25
Noise intensity level LWA	dB	80
<p>Note: The noise produced is caused by the motor of the truck, the detection of the noise on the platform at 1.60m from the walking floor during the ascent, descent and extension phases has not signalled noise pressure exceeding 80 dBA</p>		

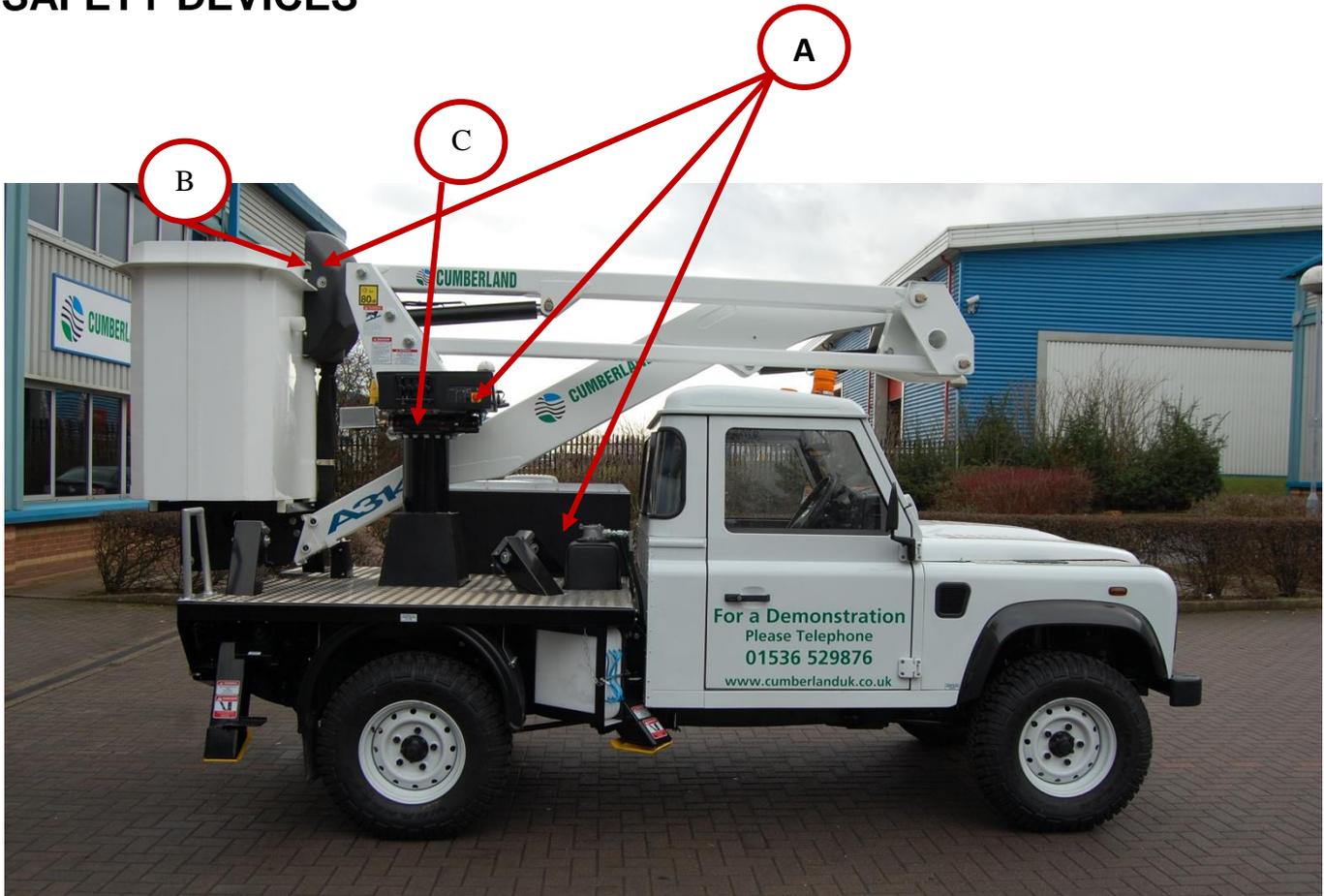
WORKING AREA



GENERAL LAYOUT



SAFETY DEVICES



A – Emergency stop buttons

They are present on the turret and on the controls in the car. They stop any platform function in the case of an emergency.

B – Manual basket levelling

Allows manual levelling of the basket the cage

C– Emergency controls

They are present on the rotary turret and are used to move the platform in emergency condition.

Locking valves directly mounted to all hydraulic cylinders

All cylinder movement is stopped immediately in the event of a hydraulic hose burst or there is a pressure drop on one side of the cylinder for any reason. The valve will lock off all fluid movement within the cylinder. Once this valve is operated due to a drop in pressure, the only way to work the cylinder is to restore hydraulic pressure.



Outriggers/boom interlock

The outrigger controls are only live and activated if the main boom is seated in the travel / rest position and the telescopic boom is retracted all the way in. The duty change over switch needs to be in the “jacks” position for the outrigger circuit to be activated.

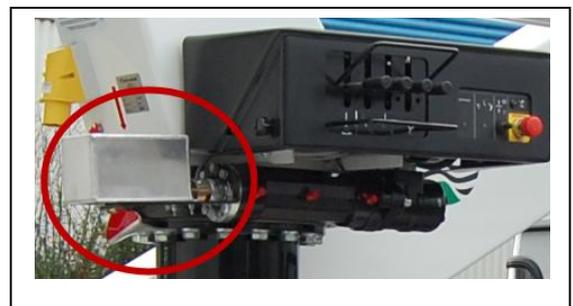


Once the outriggers are deployed toward the ground, the red “jacks Un-stowed” light will illuminate. Once the outriggers are taking positive ground pressure, the green “jacks ok” light will illuminate. Once the green light is on, the operator can choose which boom control circuit to energise by selecting the desired position using the above duty change over switch.



Rotation brake in work position

Once the rotation movement has been stopped, the turret is immediately blocked to prevent any movement during aerial work.



Safety Harness belt attachments

Positioned on the basket, they are used to attach the operator's safety belts during use of the platform.



BASKET LEVELLING SYSTEM

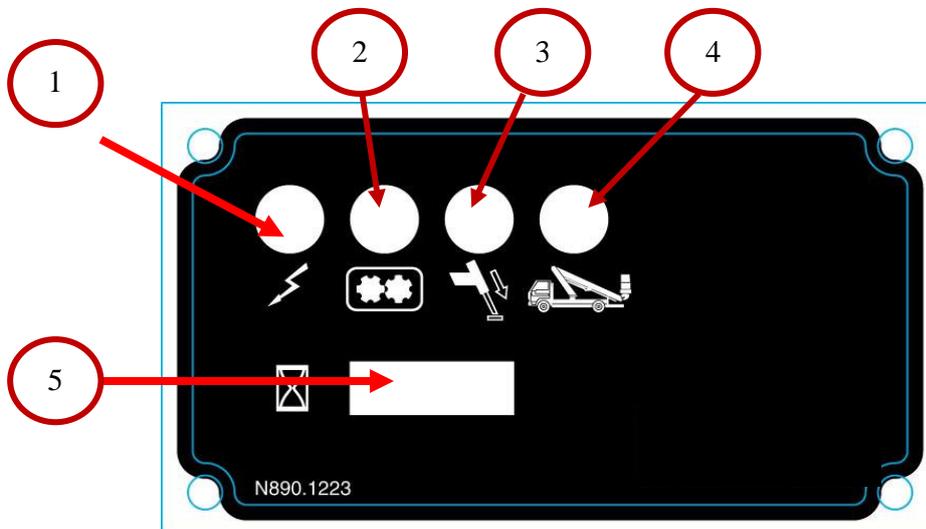
The basket has an automatic hydraulic levelling system fitted; sometimes the operator will require levelling the basket (trim the basket) manually. To operate the manual levelling, Lift and move the spring loaded control lever either forward or backwards to incline the basket in either direction by ($\pm 4^\circ$). Once the basket is levelled to the operators' satisfaction release the lever and the spring will return the lever to the locked neutral position.



PANEL IN TRUCK CAB

The following are present on the panel inside the truck cab:

- 1- PLE power supply line white indicator light.
- 2- Power take-off inserted orange signal light.
- 3- Red indicator light signalling incorrect closure of the outriggers when moving (optional)
- 4- Green light indicating correct position of the platform during movement
- 5- Timer with simultaneous switch-on at the PLE electric control boards



START-UP PROCEDURE

	<p>Before initial boom deployment, please ensure the operator is happy with the location of the stationary vehicle, and to ensure the operator has accessed ground conditions, any nearby obstructions and any over head lines that may be an obstruction while the boom is in use.</p> <p>Once the operator is happy with the location of the vehicle, please proceed with the operating procedure below.</p>
----------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Enter the vehicle cabin via the driver side.

Pull on the parking (hand) brake.

Position the gear lever in the neutral position, keeping the truck engine ticking over.



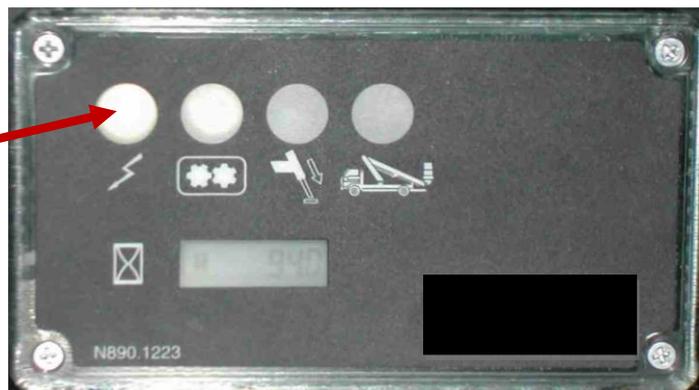
The vehicle engine revs **MUST NOT** exceed 1000 rpm



The maximum chassis inclination accepted for the chassis is 2°

At this point, the platform electric plant power supply indicator switches-on on the panel in the cab.

Platform
power supply
light on yellow



Engaging the PTO:

The Land Rover has a manually operated PTO mounted to the gearbox.

1) Ensure the parking brake has been applied.	5) Move the high / low box gear lever into the neutral position.
2) Ensure the vehicle is in neutral gear.	
3) Start the vehicle engine.	
4) Press foot down onto clutch pedal.	
7) With the clutch still engaged, slowly push forward the PTO lever.	6) Using the main gear lever, engage 3 rd gear.
 <p>This will engage the pto coupling onto the transfer box.</p>	
8) Release the clutch to re-engage 3 rd gear. The PTO will then be engaged and rotating. The yellow in cabin light will illuminate.	<p>PLATFORM IS READY TO USE</p>

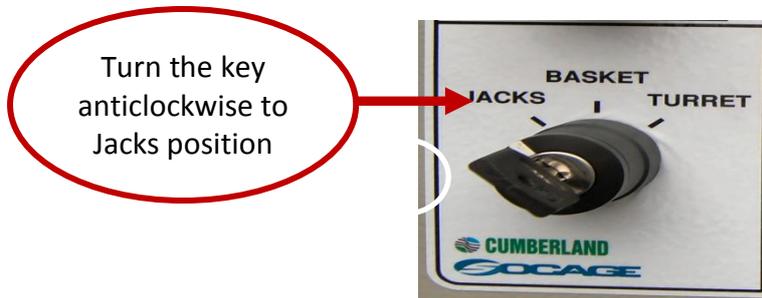
If the power take-off has been inserted correctly, the power take-off red indicator lights up.



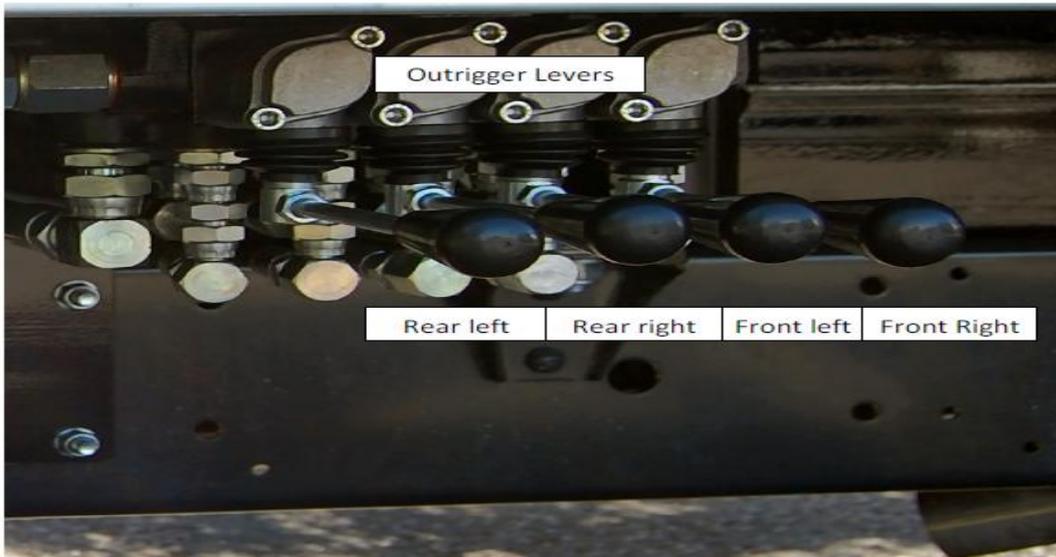
PTO engaged light on – red

Lowering the stabilising jacks

Go to the control board at the base and position the selector switch key in position 'Jacks'



The outriggers controls are positioned under the decking and are composed of 4 levers which hydraulically (one for each outrigger) operate the descent and ascent of the outriggers. Each outrigger can be controlled individually by moving up or down.



STABILISATION

The outriggers controls are positioned on the near side rear under the decking. They are composed of a dual-effect hydraulic distributor and 4 levers (one for each outrigger). The descent and ascent of the outriggers is performed by controlling the levers. Each outrigger can be controlled individually by holding the relevant lever. All outriggers must be touching the ground and have positive pressure before it is possible to operate the boom. Once all 4 outriggers have pressure the 'Jacks stowed' light will turn to green. Once the boom has been moved out of docking, it is impossible to move the outriggers.

To retract the outriggers, the boom must be correctly docked and switch turn to jacks. Operate the spool levers to raise all the outriggers. A red un-stow light will go out once all the outriggers have been stowed correctly.



The descent and ascent manoeuvres of the outriggers must be performed symmetrically, controlling all four outriggers simultaneously or, if activated individually by moving all four gradually alternately or in pairs. If excess pressure is applied to individual outriggers it may cause structural damage to the outrigger or the sub-frame.

The machine is equipped with inclined front outriggers (towards the vehicle cab) and rear vertical outriggers so we recommend always deploying the front diagonal stabilisers on the ground first. This is to prevent the rear vertical outriggers being damaged due to the vehicle slipping.

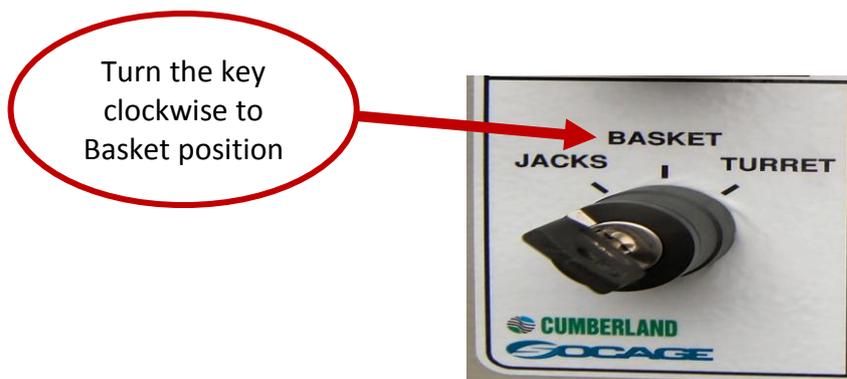
NEVER OPERATE BY LOWERING OR LIFTING ONE, TWO OR THREE STABILISERS COMPLETELY OR SEPARATELY.

Proceed with stabilisation until the spirit level on the chassis at the side of the rotary turret is centred.



Operating the platform from the basket

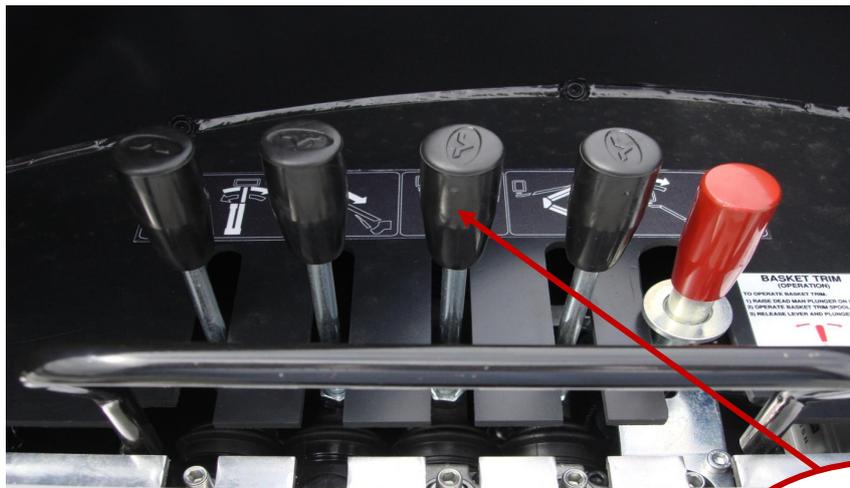
Turn the key to position to Basket on the label to operate the basket controls.



REMOVE THE KEY FROM THE SELECTOR BEFORE CLIMBING INTO THE BASKET.

Climb into the basket and wear relevant safety gear and fix the safety belts to the attachments indicated.

The first movement to perform is lifting the telescopic arm.



To raise boom, push the lever forward

Once you have raised the arm all other operations can be used.

Closing the platform

Retract the telescopic boom extension completely, if the platform is not equipped with basket entry at ground level option (*not available on all chassis installation*).

Centre the booms over the centre of the vehicle and lower the lower boom fully.

Lower the upper boom to the boom rest support, adjust rotation to line up with the docking and fully lower upper boom into docking. If the operator is planning to leave basket at ground level make sure tele-boom does not make contact with ground first. Retract tele-boom in so the upper boom can be docked. Leave basket and use control at decking to retract tele-boom completely.

Switch to outriggers on control panel, operator spool lever upwards, raise all outrigger together as much as possible. Raise outrigger fully and check the outrigger are fully stowed by the red warning light on the control box situated on the decking

Remove the key from the control panel.



Tele-boom Control for basket ground entry (Optional)

Disconnect the power take-off as follows:

Engage the clutch, put the gears into neutral and pull the PTO back towards the seat, Release clutch.



Always correctly disconnect the power take-off before driving the vehicle. Failure to do so will cause damage to the hydraulic pump.

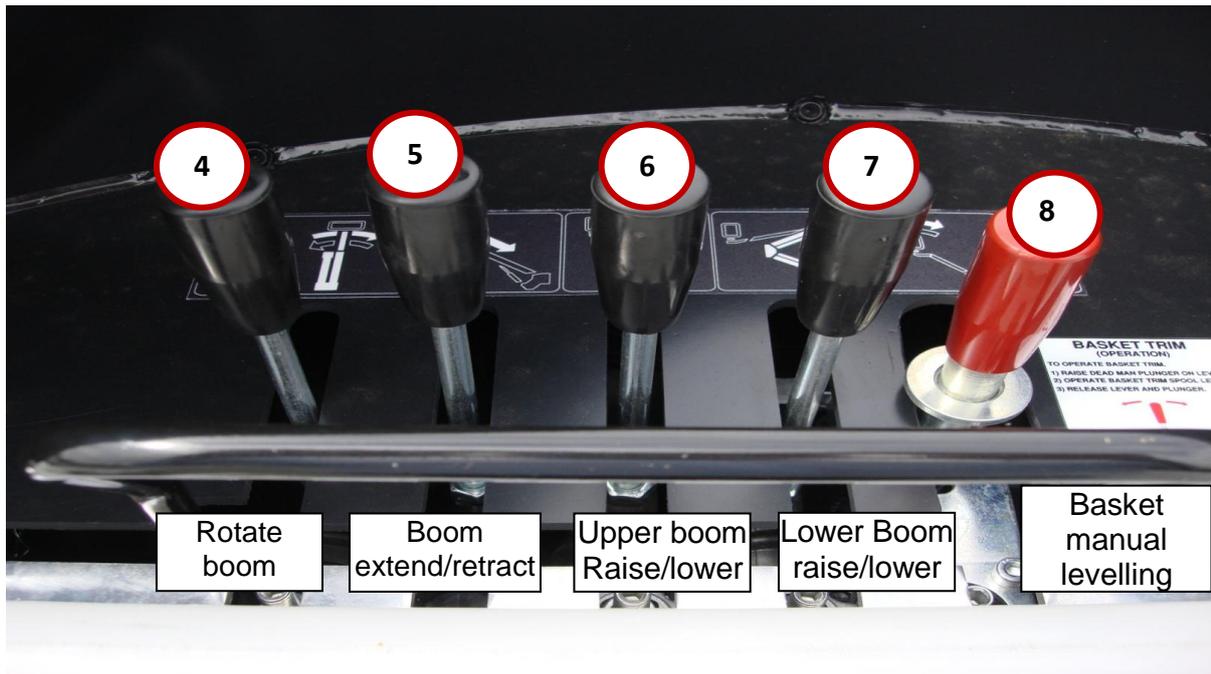


Pull lever back to disengage PTO, light will turn off on control panel

BASKET CONTROLS

POS.	DESCRIPTION AND FUNCTIONING
1	Self-retaining emergency button. Pressing this button will cease all functions on the platform, shutdown all manoeuvres and stop truck engine. To restore functioning, release the button by turning the upper part.
2	Truck engine start-stop button / Emergency Pump operation
3	Truck engine stop and horn switch-on
4	Lever selector for turret rotation control. (PLEASE NOTE THE PLATFORM SHOULD ROTATE A MAX 360°, IF THE PLATFORM EXCEEDS THIS STOP USING IT AND CONTACT AN APPROVED ENGINEER)
5	Lever selector for boom extension and retract movement.
6	Lever selector to control boom raise and lower Upper boom assembly movement.
7	Lever selector to control lower boom raise and lower movement.
8	Lever selector for basket levelling control, level is locked into place by dead man collar. To operate lever, lift collar so spool lever can be operated. <i>N.B: it is recommended to use this control with the platform in the rest and to always activate it very slowly to prevent the danger of the operator being tipped from the basket</i>





TURRECT CONTROLS

POS. DESCRIPTION AND FUNCTIONING

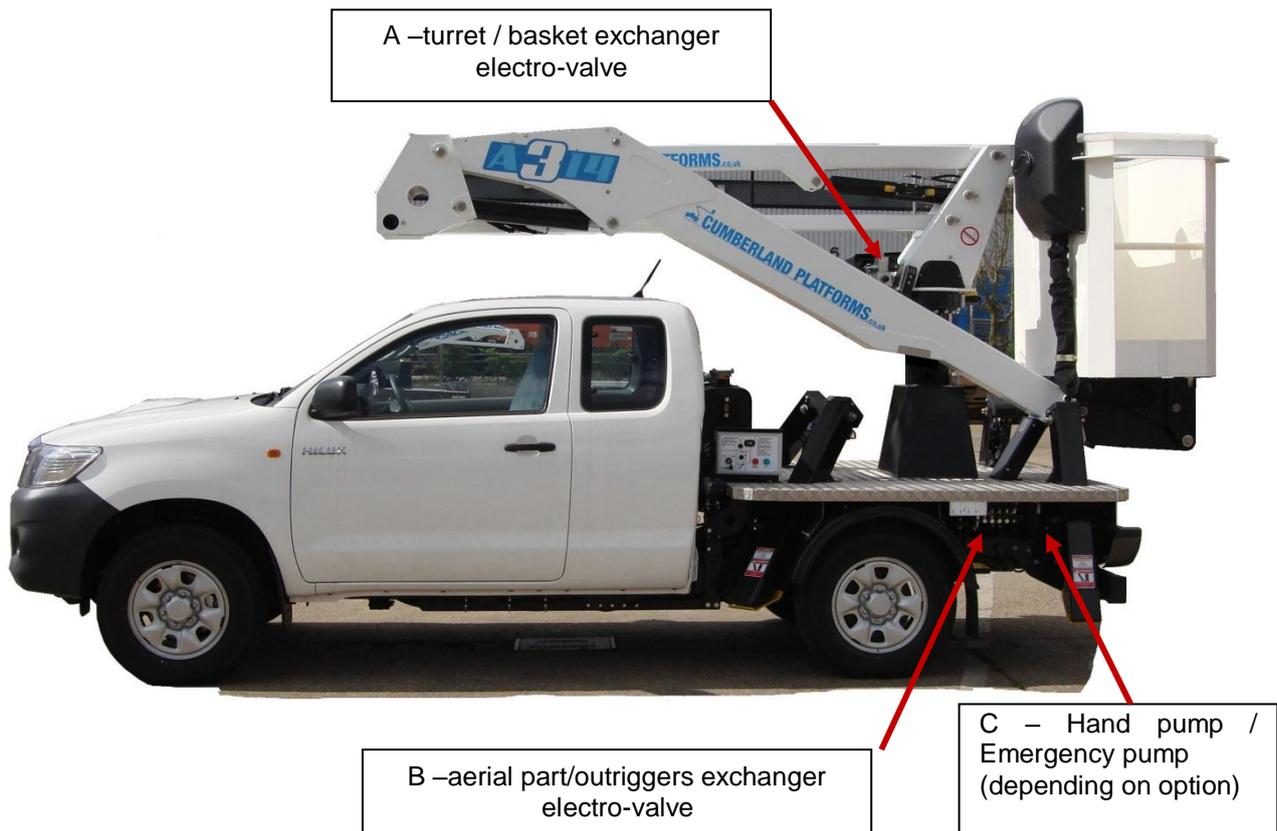
- 1 Self-retaining emergency button. Pressing this button will cease all functions on the platform, shutdown all manoeuvres and stop truck engine. To restore functioning, release the button by turning the upper part.
- 2 Truck engine start-stop button / Emergency Pump operation
- 3 Lever selector for turret rotation control.
- 4 Lever selector for boom extension and retract movement.
- 5 Lever selector to control boom raise and lower Upper boom assembly movement.
- 6 Lever selector to control lower boom raise and lower movement.



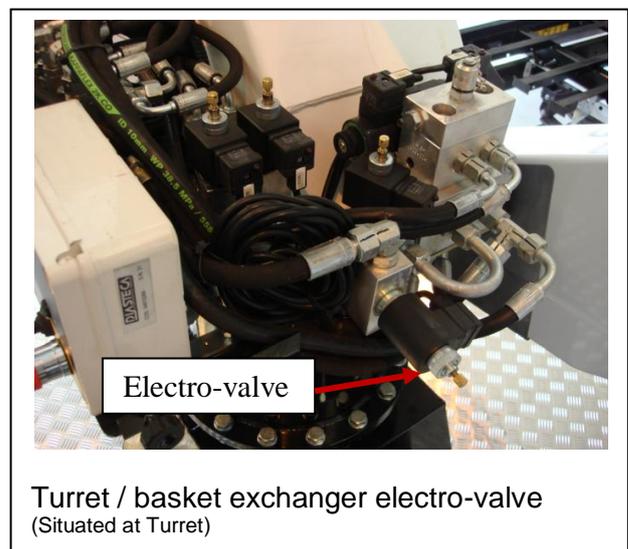
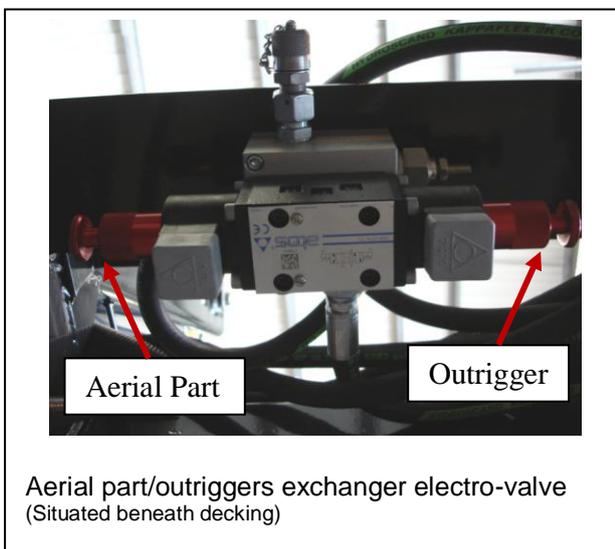
EMERGENCY PROCEDURE

In the case of a fault or interruption of the hydraulic pump or electric power supply during use, the operator has a different means of operating the platform depending on the type of failure.

Layout of Emergency Controls and Systems.



- A – Exchanger electro-valve that diverts the oil from the controls in turret to the controls on the basket.
- B – Exchanger electro-valve that diverts the oil from the aerial part to the outriggers.
- C – Hand pump/ Emergency Pump (*depending on customer option*)





Emergency Pump
(Optional)



Hand Pump
(Optional)

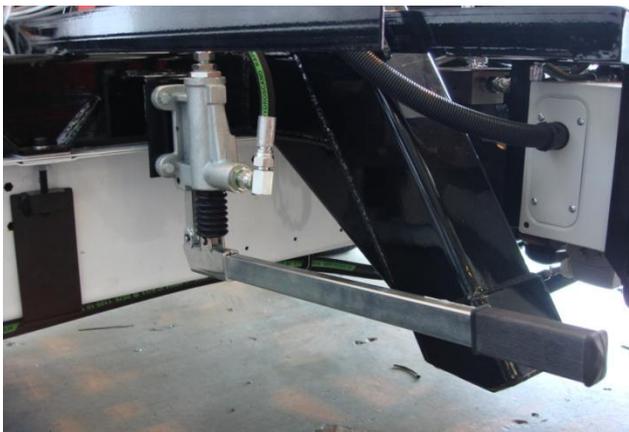
Depending on the Customer requirement the unit may come with either a Hand Pump or Emergency Pump or even both.

Hydraulic power supply failure

The operator on the ground can carry out the lowering of the platform by performing the emergency movement from the ground level controls.

In the case of just hydraulic power supply failure, the machine can be moved with the aid of the manual pump proceeding as follows:

Take the manual pump lever, (normally kept in the truck cab) and insert it in the manual pump positioned at the side of the outrigger controls.



Make sure the vehicle ignition is turned on

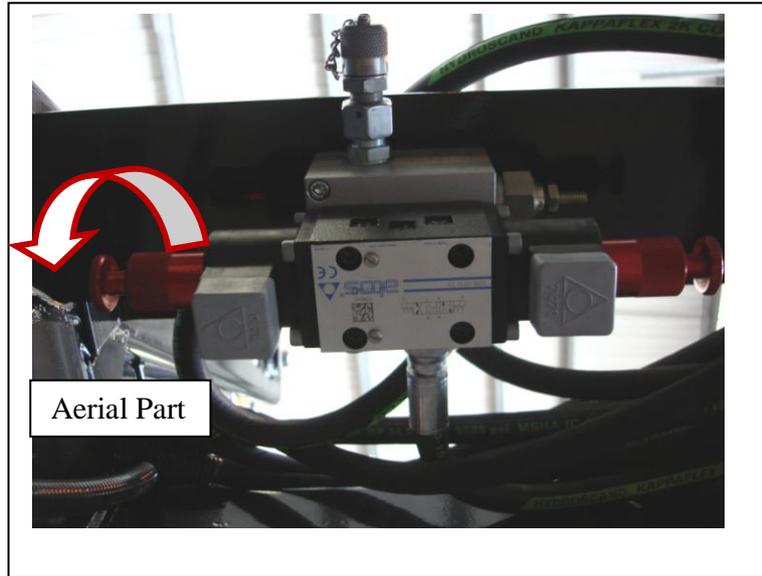
Turn the key clockwise to select turret

Operate the controls on the turret and at the same time operating the manual pump using the control levers to close the aerial part.

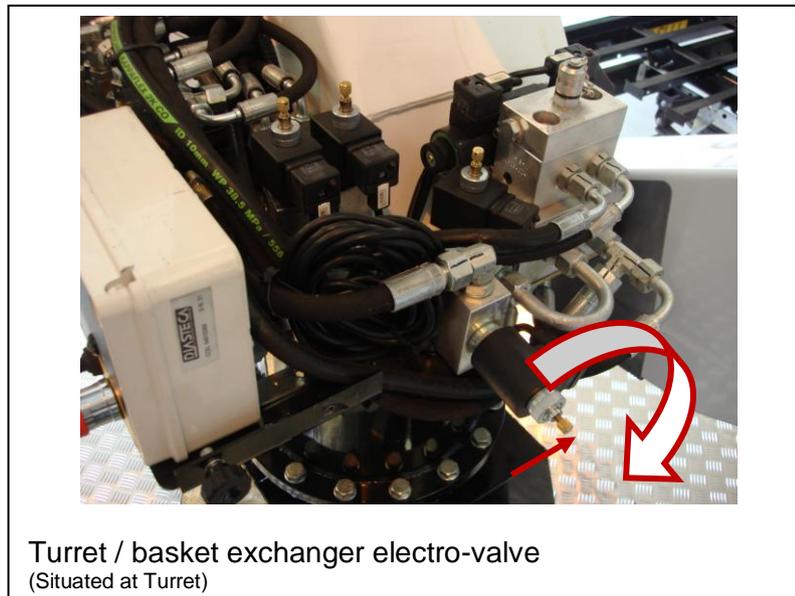
To retract the outriggers, turn the key anti-clockwise to jacks. Activate the outrigger control levers and at the same time operate the manual pump lever.

Electric power supply failure or Solenoid Failure

In the case of electric power supply failure, proceed as follows:
Beneath the decking frame near to the outrigger controls is a electro-valve. Turn the knob clockwise on the Aerial Part side till it goes tight.



To operate the turret controls remove the cover. Beneath that is the Turret / basket valve electro-valve. Turn the knob clockwise, till it goes tight.



Operate the controls on the turret and at the same time operating the manual pump or electrical emergency pump depending which is fitted, using the control levers at turret to close the aerial part.



Make sure all electro-valve knobs have been return to their normal position before operating the platform again. We recommended contacting a Socage authorised workshop to have the platform checked over before putting it back into service

Procedure for electric emergency descent (optional)

To activate the electric (emergency descent) pump press start button upwards, either from the cage or the Turret.

Now, holding the electric button up (as in photo below) to operate the emergency pump, use the hydraulic distributor levers to operate the platform.

(DO NOT OPERATE THE EMERGENCY MOTOR FOR MORE THE 30 sec's AT A TIME).

At this point, using the control panel in the basket or the turret it is possible to fully operate the platform and return the basket to a safe position.



CHAPTER 4

MAINTENANCE

Always seek advice from Socage or Cumberland prior to repairs and servicing.

ATTENTION!!! WELDING / RESTORATION

Different parts of the machine are made with steel of high elastic limit; never carryout welding or repairs without the authorization from the manufacture.

It is of the utmost importance that this equipment is washed with water cleaning machine as to remove all polluting elements which can damage materials and impair good functioning.

After washing, lubricate all components as to properly restore sliding conditions and check if there are elements out of shape or which show wear. If so, it is compulsory to apply to an authorised service shop to replace these elements.

For lubricating material refer to what indicated in this manual.

It is essential to take into account that even safety devices can wear and that one has to always check if they are clean, lubricated and unimpaired. Under normal working conditions cleaning and lubricating operations as described above can be carried out once a month. This interval has to be reduced if there is a situation of use or an environment harder than normal.

It is impossible to describe all these situations what follows is therefore a list of some examples:

Machine setting into operation again after a long period of stoppage.

Extremely high or extremely low environmental temperatures with subsequent fast lubricant deterioration or extreme hardening.

Painting and sand blasting works during which the material tends to enter into the friction sliding guides and to combine with grease thus creating a mixture which is no more a lubricant but becomes an abrasive substance wearing out the components of the machine and locking the sliding guides.

We rely on your conscientiousness in tracing down, in relation to the ways in which the machine is used, when and how to perform control and maintenance absolutely necessary to the perfect functioning and good state of preservation of safety devices and of the machine in general.

WARNING

FOR THE SAFEGUARD OF THE MACHINE AND OF OPERATORS IT IS COMPULSORY TO USE ORIGINAL SPARE PARTS.

DURING WASHING WITH HIGH-PRESSURE JET DO NOT AIM AT BOXES, CABINETS AND ELECTRIC COMPONENTS. DO NOT WASH WITH DETERGENTS, CHEMICALS, PETROL OR SIMILAR SUBSTANCES, WHICH CAN DAMAGE RUBBER PARTS, PLASTIC COMPONENTS AND FILMS.

DO NOT PERFORM ANY MAINTENANCE OPERATION IF THE MACHINE IS MOVING. TURN ALL MOTORS OFF AND REMOVE KEYS FROM THE CONTROL PANEL AND FROM THE DASHBOARD OF THE TRUCK. FOR BALL JOINTS WE SUGGEST TO REPEAT GREASING WITH THE MACHINE IN DIFFERENT POSITIONS.

IF THE MACHINE IS TO BE STORED FOR A LONG TIME:

- Store it in a dry and well-aired place.
- Remove starting keys from the machine.
- Clean filter and electric system.
- Protect contacts and remote control switches with special ant oxidising products.
- Grease sliding guides, chains and surfaces which are not protected by painting.
- Do not cover the machine with a plastic material since it would create damaging condensation.
- As far as the vehicle is concerned, follow indications suggested by its manufacturer.

Before putting the machine into operation again, carry out a full inspection and service.

MAINTENANCE PROGRAMME

Important: After completing any kind of control or maintenance, carryout the daily inspection controls prior to using the machine

Every day prior to operation into operation

- . Check engine oils and fluid, also ensure that the battery is sound
 - . Check condition and correct tyre pressure
 - . Check all warning lights and buzzers
 - . Check Emergency stop buttons
 - . Interlocking systems for boom / stabilisers
 - . Confirm operation of all controls
 - . Operate Platform from turret controls and confirm proper operation of boom and basket levelling
 - . Hydraulic oil tank levels
 - . Check for damage or split hydraulic pipes
 - . Check for hydraulic oil leaks
 - . Check Decals are in place and legible
 - . Check for damage to boom, basket and sub-frame components
 - . Check emergency operation:- electric pump works from all station (optional)
Manual Pump, check lever is with vehicle (optional)
- Check that the rotation stop is working , the platform should only rotate 360° max.

Every month 120hrs

- . As above with daily checks
- . Grease stabilisers and all moving parts clean machine

Every 3 months 360 hrs

- . Inspect main fixings and tighten parts
- . Check thrust bearing nuts and bolts
- . Check sub-frame and boom for cracks
- . Lubricate as indicated in Fig 1

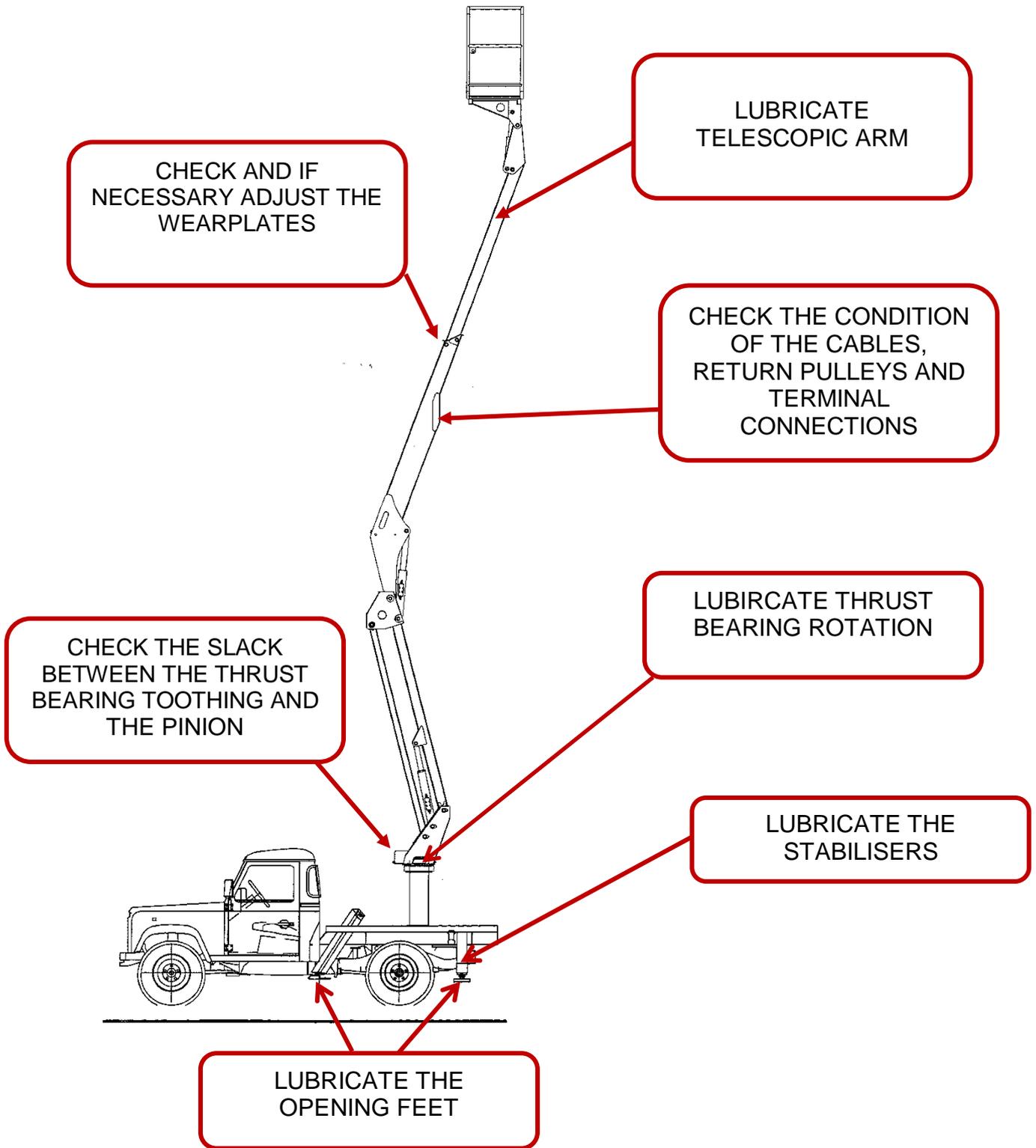
Every 6 months 750 hours

- . Perform a complete inspection (LOLER) of the machine by a competent person.
- . Replace hydraulic oil filters and carryout full service.
- . Lubricate as indicated in Fig 1

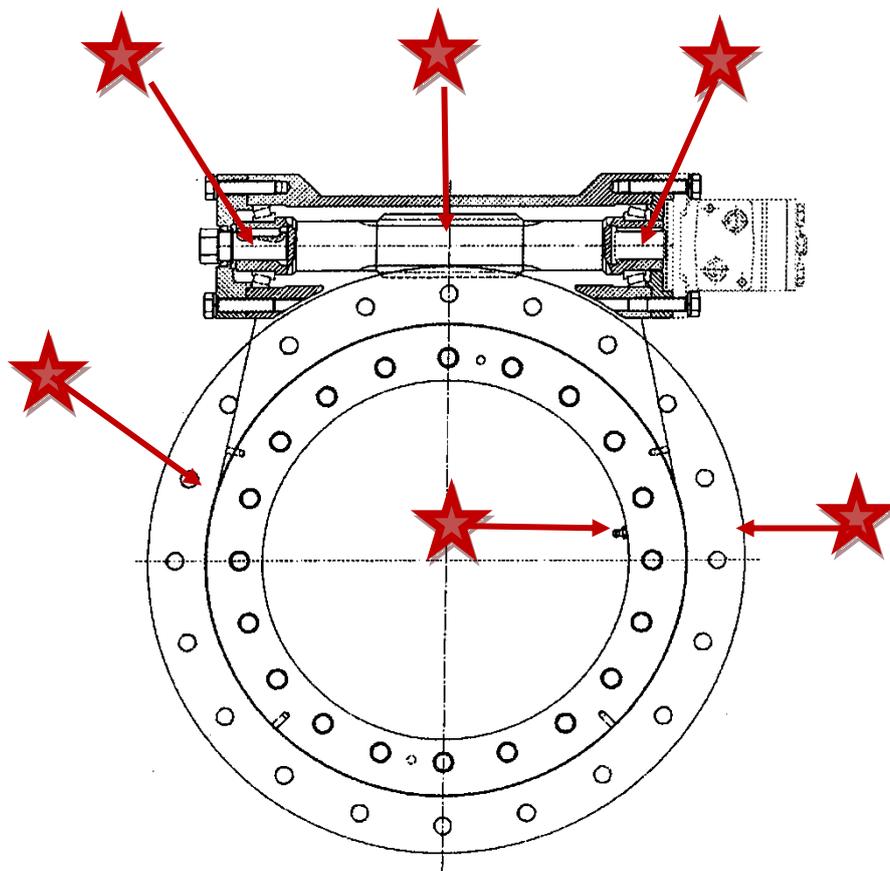
Every year 1500 hours

- . Perform a complete inspection (LOLER) of the machine by a competent person.
- . Replace hydraulic oil filters and carryout full service.
- . Replace hydraulic oil
- . Lubricate as indicated in Fig 1

Fig 1 Lubrication and maintenance points



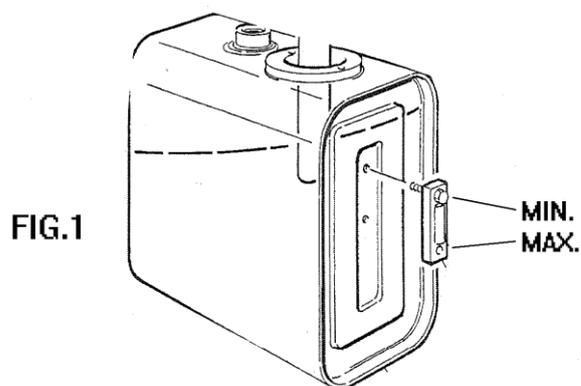
GREASING / LUBRICATION OF THE CENTRE BEARING ROTATION UNIT



USE GREASE ON THESE POINTS

VERIFICATION HYDRAULIC OIL LEVEL

Check that the hydraulic oil level is between the minimum and maximum values like in Fig 1. Check the oil level when the platform is fully closed and the outriggers are retracted the vehicle must be on level ground.



OIL FILTER CARTRIDGE REPLACEMENT

The hydraulic oil filter is near the outrigger controls under the decking (fig.2).

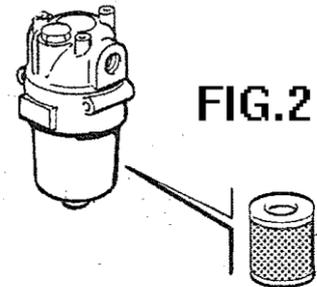
Always use genuine filters, these cannot be cleaned.

For the replacement operation you have to proceed in this way:

Clean the filter external body

Screw out the lower part of the filter and extract the inside cartridge

Insert the new cartridge and retighten the lower part of the filter



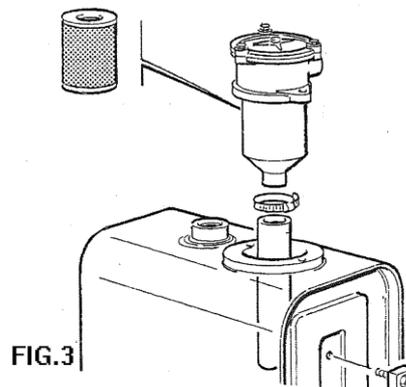
REPLACEMENT/RETURN FILTER CARTRIDGE CLEANING

The return filter cartridge is situated on the upper part of the tank (fig.3).

For a correct filter maintenance it's necessary to clean the inside filter cartridge and to replace it when its level of stoppage has exceeded the maximum limit (it's underlined by an evident dirty that can't be removed on its external surface).

For the cleaning and replacement operation you have to proceed in this way:

- clean the external body, remove upper screws of the cover and extract the inside cartridge
- clean the inside and replace the cartridge
- insert the new cartridge and retighten the screws of the cover
- Fill with hydraulic oil



TROUBLE SHOOTING

Fault	Possible causes	Possible solutions
INSUFFICIENT PRESSURE or pressure gradient in comparison to the level required in the circuit	<p>1. Pressure relief valve half-open</p> <p>2. pump defect</p> <p>3. excessive inner leaks</p> <p>4. excessive loading loss</p>	<p>1a) Needs recalibration b) Spring breakdown c) Dirt under seats d) Change valve.</p> <p>2. see points 5 to 11</p> <p>3a) tightening collects in the cylinders and in the hydraulic motors show wear b) Distributor and valves worn c) Wrong grade of oil, change</p> <p>4a) Wrong grade of oil, change b) oil pass - through not adequately shaped c) oil pass-through partially obstructed</p>
PUMP DEFECT Lack of power	<p>5. Intake restricted</p> <p>6. Air lock</p> <p>7 Defective pump</p>	<p>5a) Intake filter too small or obstructed. b) Blocked intake hose c) Hose size incorrect or kinked</p> <p>6a) Loose connection b) Damage to hydraulic tank c) Faulty seal in valve</p> <p>7 Change pump</p>
NOISY PUMP (please note some gear pumps are slightly noisy naturally)	<p>8. capitation</p> <p>9. Air lock</p> <p>10. Worn internal mechanism</p> <p>11. system vibrations</p>	<p>8 a) Intake restricted: see point 5 b) wrong grade oil: see point 4</p> <p>9. See point 6</p> <p>10. Change pump</p> <p>11. Defective installation or loose fixings</p>

OVERHEATING i.e. oil temperature above limit of 50°-60°	<p>12. Oil pressure too high</p> <p>13. Blocked valve</p> <p>14. insufficient cooling due to climate conditions</p>	<p>12. Recalibrate system pressure</p> <p>13.a) clean valve b) renew valve</p> <p>14.a) Add oil cooler b) Oil cooler blocked or not effective</p>
Hydraulic controls not working correctly	<p>15. Air in the system</p> <p>16. valves locked or blocked</p>	<p>15.a) Bleed system b) Eliminate air leaks: see point 6</p> <p>16. Clean valves or renew</p>

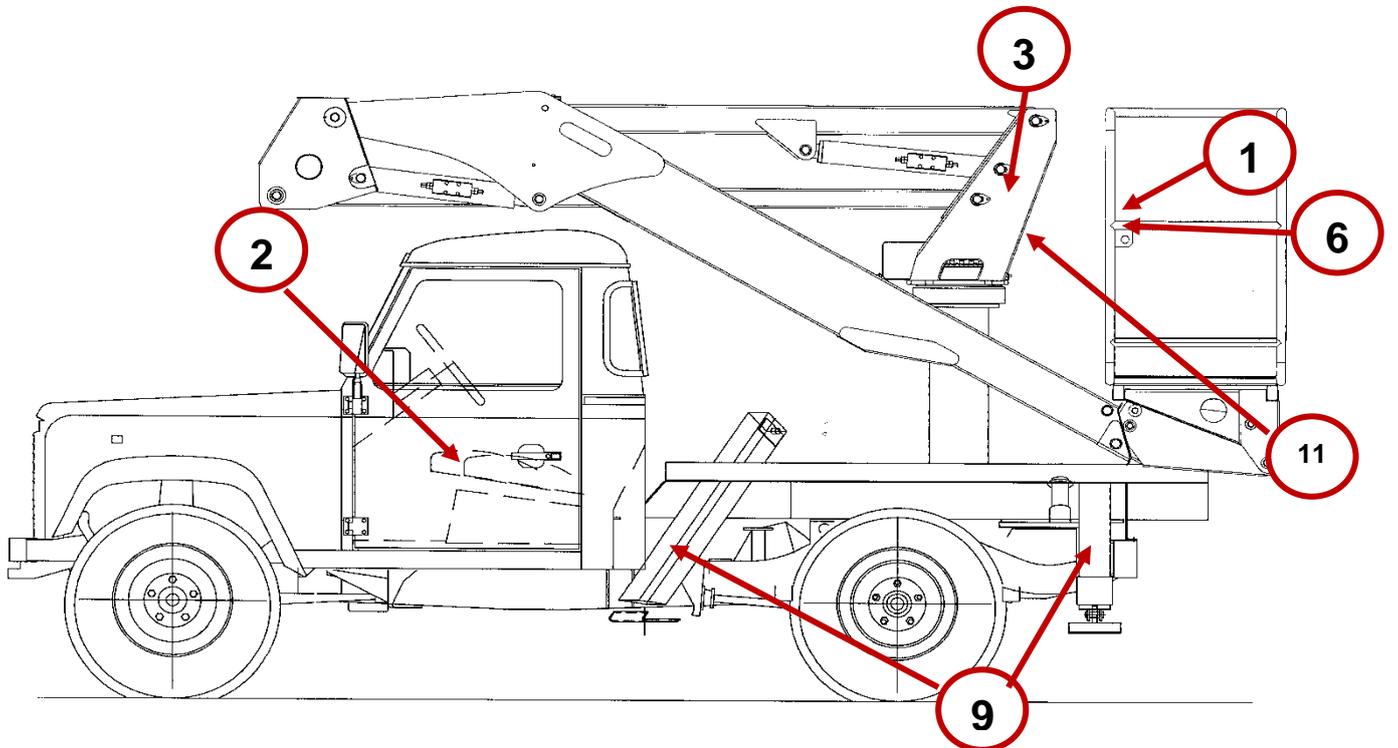
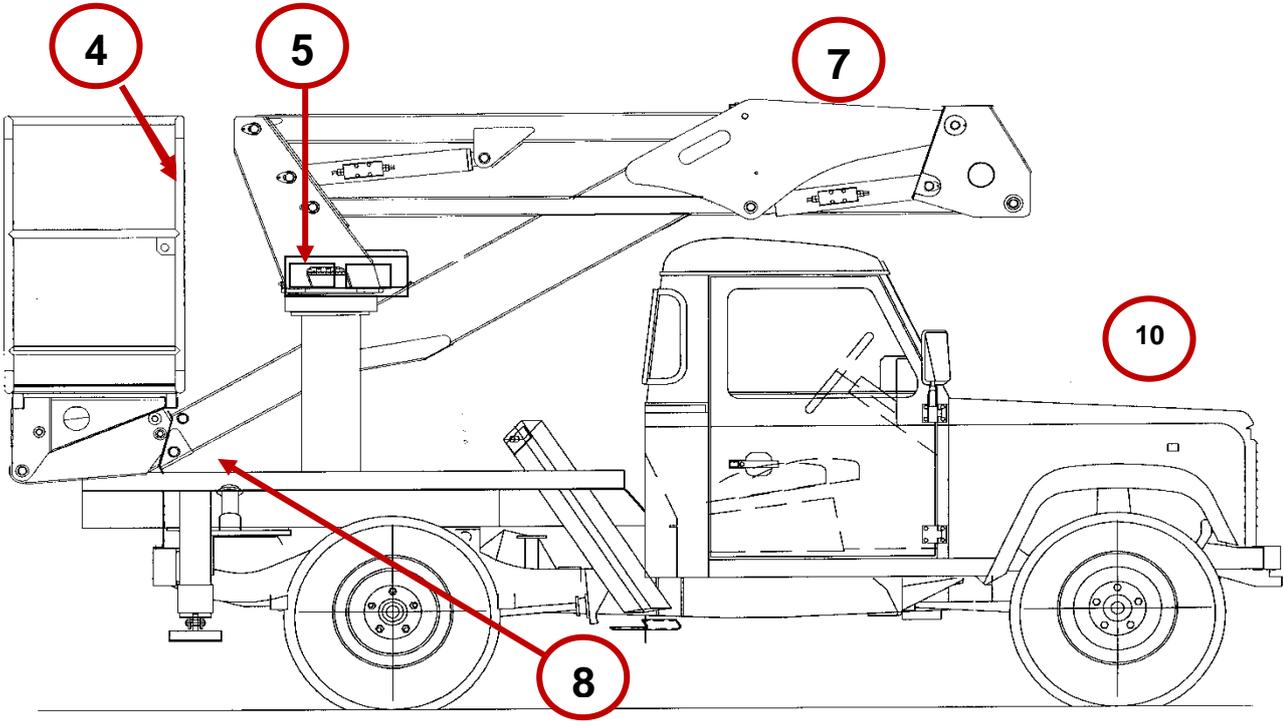
CHAPTER 5

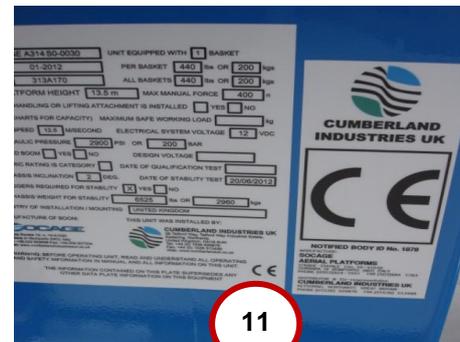
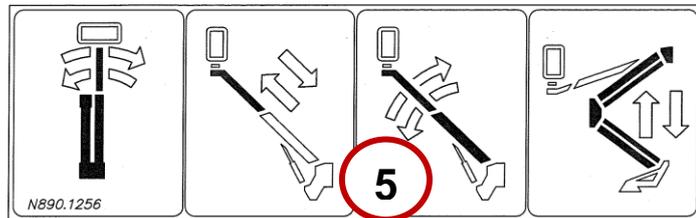
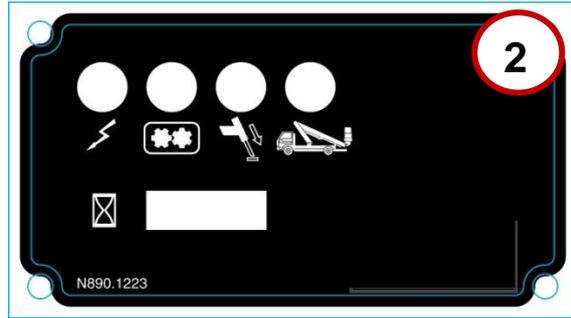
MARKINGS

THIS CHAPTER CONTAINS MACHINE IDENTIFICATION, SAFETY AND UTILIZATION INSTRUCTION PLATES. IT IS COMPULSORY TO CHECK IF THESE PLATES ARE INTEGRAL AND CLEAR.

The markings stated in the Manual are for guidance only; the actual markings may be slightly different depending on the vehicle model used.

MARKINGS





CHAPTER 6

INSPECTION REGISTER

REFERENCE REGULATIONS

This inspection register is given by Messrs. SOCAGE to the user of this platform, in compliance with 2006/42/EC directive.

PRESERVATION INSTRUCTIONS

This register is to be considered an integral part of the platform and should accompany this equipment during its whole working life up to final scrapping.

ATTENTION!!!

According to the regulation 2006/42/CE together with this register also the certificates of the replaced components must be recorded (motor, mechanisms, structural elements, safety devices and as well as the dedicated components) as well as the reports of important repairs.

COMPILATION INSTRUCTIONS

The following instructions are given according to provisions known at the date of the platform is put into service.

NB.: THE FREQUENCY AND IMPORTANCE OF ANY TESTS MAY ALSO DEPEND ON NATIONAL REGULATIONS.

This register has been conceived to write down, according to proposed charts, the following events related to the useful life of the machine:

Periodic inspections (Max every six months) to be carried out by the person in charge of Health and safety at the company which owns the platform

Transfers of title

Replacement of motor, mechanisms, structural components, safety devices and relevant components

Breakdowns of significant importance and appropriate repairs

PERIODIC INSPECTIONS

Inspection date	Date of next inspection	Name of inspector	Comments	Signature

PERIODIC INSPECTIONS

Inspection date	Date of next inspection	Name of inspector	Comments	Signature

DELIVERY OF TO THE FIRST OWNER

This platform, serial number....., manufactured by Cumberland Industries UK Limited.

as indicated in this inspection register was delivered by Cumberland, to:

.....
.....
.....
.....
.....

according to the conditions set forth by the agreement, with technical, dimension and functional specifications indicated in the instruction manual and in the summary contained in this Register.

MESSRS.

SUBSEQUENT TRANSFERS OF TITLE

On title of the platform in question was transferred to :

.....
.....
.....

We certify that, on the above mentioned date, technical, dimension and functional specifications of the lifter in question are in accordance to original specifications and that changes, if any, have been written down in this Register.

The seller

The buyer

.....

.....

SUBSEQUENT TRANSFERS OF TITLE

On title of the platform in question was transferred to :

.....
.....
.....

We certify that, on the above mentioned date, technical, dimension and functional specifications of the lifter in question are in accordance to original specifications and that changes, if any, have been written down in this Register.

The seller

The buyer

.....

.....

STRUCTURAL COMPONENTS REPLACEMENT SHEET

REPLACEMENT OF STRUCTURAL COMPONENTS

Date:

component description

.....

manufacturer: supplied by:

reason for the replacement:

.....
.....
.....

The person in charge of the replacement The user

.....

REPLACEMENT OF STRUCTURAL COMPONENTS

Date:

component description

.....

manufacturer: supplied by:

reason for the replacement:

.....
.....
.....

The person in charge of the replacement The user

.....

REPLACEMENT OF STRUCTURAL COMPONENTS

Date:

component description

.....

manufacturer: supplied by:

reason for the replacement:

.....
.....
.....

The person in charge of the replacement The user

.....

MECHANISM REPLACEMENT SHEET

REPLACEMENT OF MECHANISMS

Date:

component description

.....

manufacturer: supplied by:

reason for the replacement:

.....
.....
.....

The person in charge of the replacement The user

.....

REPLACEMENT OF MECHANISMS

Date:

component description

.....

manufacturer: supplied by:

reason for the replacement:

.....
.....
.....

The person in charge of the replacement The user

.....

REPLACEMENT OF MECHANISMS

Date:

component description

.....

manufacturer: supplied by:

reason for the replacement:

.....
.....
.....

The person in charge of the replacement The user

.....

SAFETY DEVICES REPLACEMENT SHEET

REPLACEMENT OF SAFETY DEVICES AND RELEVANT COMPONENTS

Date:

component description

.....

manufacturer: supplied by:

reason for the replacement:

.....
.....
.....

The person in charge of the replacement The user

.....

REPLACEMENT OF SAFETY DEVICES AND RELEVANT COMPONENTS

Date:

component description

.....

manufacturer: supplied by:

reason for the replacement:

.....
.....
.....

The person in charge of the replacement The user

.....

REPLACEMENT OF SAFETY DEVICES AND RELEVANT COMPONENTS

Date:

component description

.....

manufacturer: supplied by:

reason for the replacement:

.....
.....
.....

The person in charge of the replacement The user

.....

