



COL250 & COL330

RAISE AND LOWER MAST

Installation and Operations



COL250 & COL330

Installation and Operations

HEALTH AND SAFETY REQUIREMENTS:

EQUIPMENT TYPE: COUNTERBALANCE UNITS

WE STRONGLY RECOMMEND THAT THESE REQUIREMENTS ARE READ CAREFULLY BEFORE ATTEMPTING TO INSTALL, OPERATE AND MAINTAIN THIS EQUIPMENT.

REFERENCE SHOULD ALSO BE MADE TO THE APPROPRIATE COUNTERBALANCE OPERATING INSTRUCTIONS WHICH ARE SUPPLIED WITH THE UNIT.

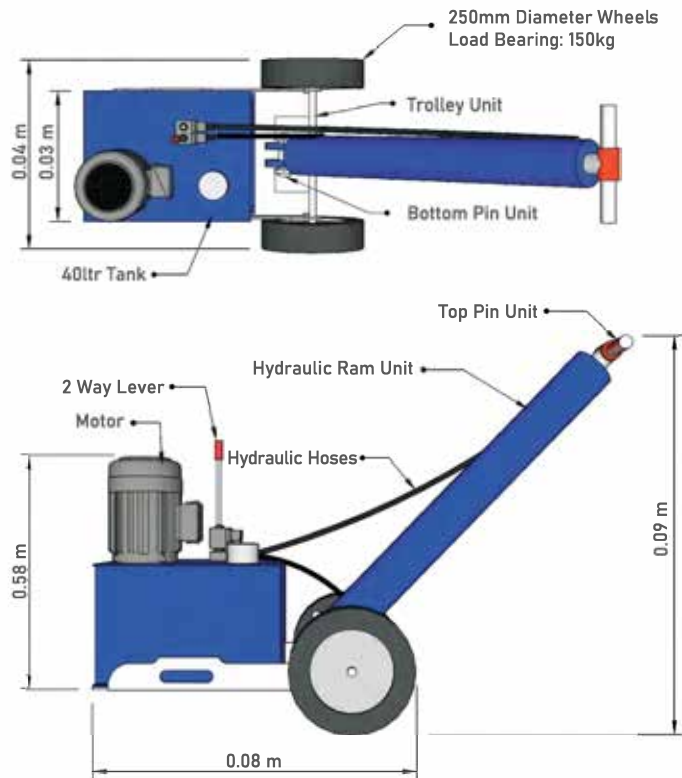
GENERAL

Operatives should be familiar with the requirements of the following documentation:-

- i) HEALTH AND SAFETY AT WORK ACT: 1974
- ii) CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH REGULATIONS: 1999
- iii) PERSONAL PROTECTIVE EQUIPMENT AT WORK REGULATIONS: 1992
- iv) THE PROVISION AND USE OF WORK EQUIPMENT REGULATIONS: 1998
- v) COUNTERBALANCE OPERATING AND MAINTENANCE INSTRUCTIONS.

SAFETY POINTS:

- i) It is essential that all operators are trained and authorised in the safe use of the counterbalance unit.
- ii) It is recommended that certified operator training be carried out by Authorised Distributor/Kellwood Lighting personnel.
- iii) The counterbalance unit must only be used for the purpose intended, as described in the operating instructions. Kellwood Lighting Limited will not be held responsible for any misuse or abuse of the unit. Similarly no repair, modification or maintenance work, other than that specified in the instructions, must be carried out unless authorised by Kellwood.
- iv) During the lowering and raising operation the operator must ensure that all non essential personnel and members of the public are kept clear from the areas adjacent to and in front of the column. These areas should be clearly defined and cordoned off to prevent access.
- v) It is also important that hands and loose items of clothing are kept away from moving parts, both on the column and counterbalance unit.
- vi) Head protection must be worn at all times when operating a counterbalance unit on a raise and lower column.
- vii) When manhandling or lifting the counterbalance the operator should ensure that they are physically capable of carrying out the task. Ensure good manual handling techniques are employed at all times and for heavy units two persons should carry out the task.
- viii) Refer to the appropriate performance data sheet, supplied with the column installation instructions, for a list of maximum permitted headload weights and wind areas.
- ix) The unit must be visually checked, before and after use, for signs of damage or worn parts. If repairs are necessary they must be carried out prior to using the counterbalance unit. For hydraulic units it is essential that the ram be closed after use. Failure to do so could result in damage to the piston rod and seals, which in turn could compromise the safe working of the unit.
- x) It is recommended that the counterbalance unit be stored indoors when not in use.
- xi) When using hydraulic counterbalance units it is essential that the operator is aware of the C.O.S.H.H. regulations relating to the safe handling of hydraulic oil. Reference should be made to the C.O.S.H.H. data sheet which accompanies the hydraulic counterbalance unit.

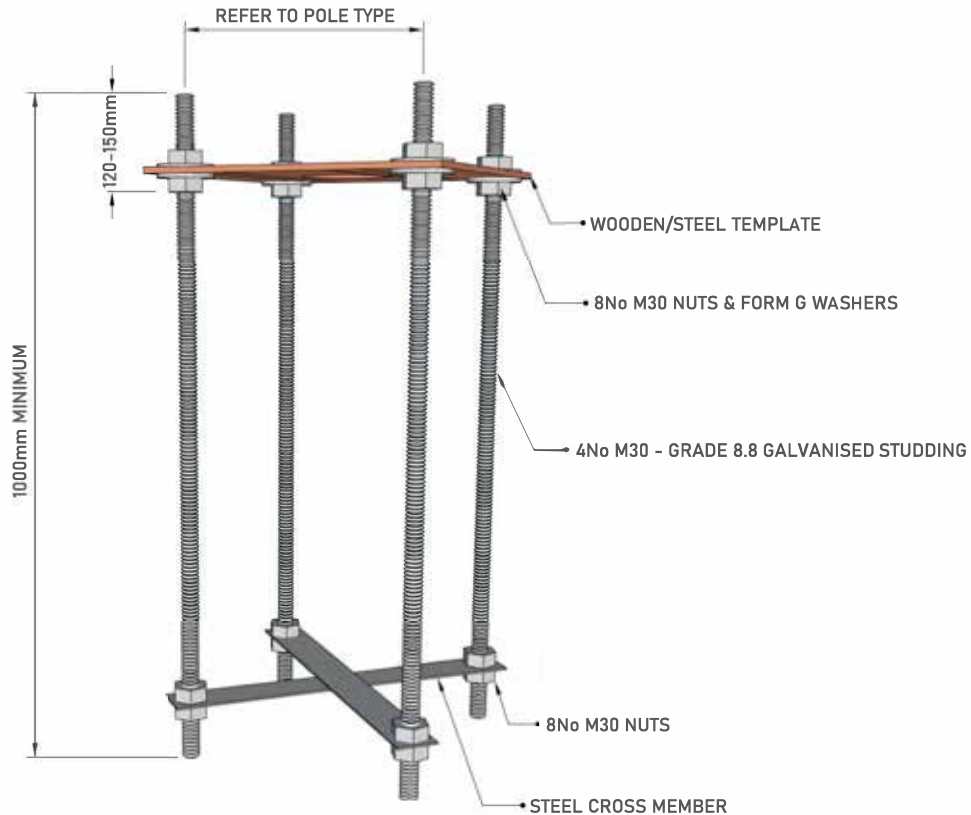


Electrical Note:

230V Input

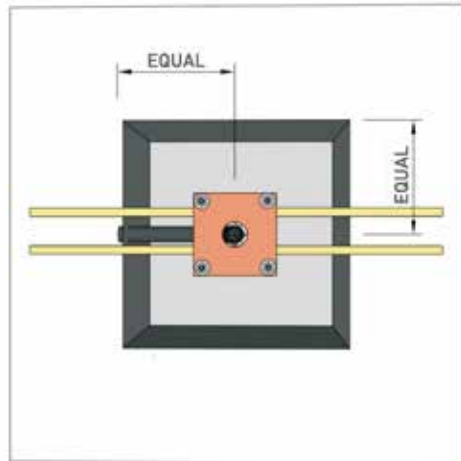
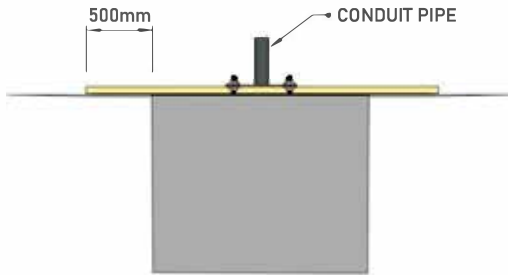
Motor 3.0m lead with Commando Socket

Hydraulic Hoses Hydraulic Unit to only be operated by qualified/approved person(s)



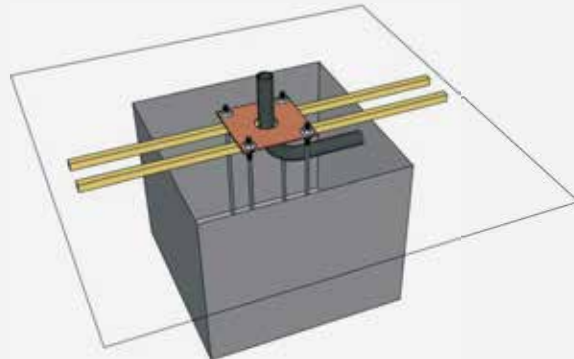
Note:

1. REMOVE ALL BURRS & SHARP EDGES.
2. DO NOT SCALE, IF IN DOUBT ASK.
3. ALL STANDARDS & SPECIFICATIONS ARE TO THE LATEST REVISION.
4. MATERIAL: MINIMUM GRADE TO S355 WITH TENSILE LOAD OF 490N/mm.
5. FINISH: HOT DIP GALV TO BS 1461.
6. FOUNDATION BOLTS TO BE MINIMUM GRADE 8.8.
7. FOUNDATION NUTS & WASHERS TO BE INSPECTED EVERY 6 MONTHS BY AN APPROVED CONTRACTOR.

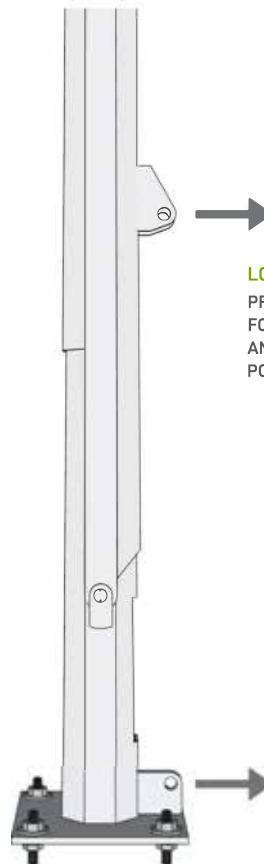
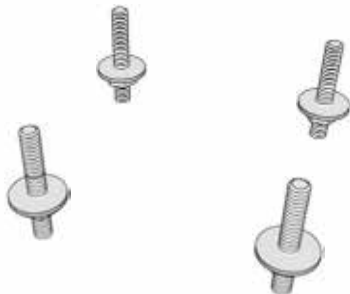


PRIOR TO CIVILS COMMENCING, CHECK GROUND BEARING TYPE BEFORE WORKS STARTING. (REINFORCING BOARDS OR CAGE MAYBE REQUIRED)

1. ONCE THE SQUARE HOLE HAS BEEN EXCAVATED, PLACE 2 TIMBERS (DOUBLE THE LENGTH OF THE HOLE SIZE) WITHIN THE FOUNDATION CRADLE UNIT AND LOWER INTO THE HOLE. POSITIONING CENTRAL ON ALL FOUR SIDES. SIZE OF TIMBERS TO BE 3X2. ALLOWING 120-150MM OF FULL THREAD PROTRUDING ABOVE GROUND LEVEL.
2. PLACE CONDUIT PIPING FROM THE TRENCH AND FEED CENTRALLY THROUGH THE FOUNDATION CRADLE TEMPLATE.
3. POUR CONCRETE INTO THE HOLE AND TO THE REQUIRED HEIGHT. SMOOTH OVER THE TOP SURFACE TO ALLOW FOR A SMOOTH/EVEN FINISH.
4. PLACE SAFETY BARRIERS/TAPE AROUND FOUNDATION BLOCK TO PREVENT SLIPS/TRIPS OCCURRING.
5. ONCE FULLY CURED, REMOVE THE NUTS AND WASHERS, ALONG WITH THE 2 TIMBERS. WIRE BRUSH THE EXPOSED THREADS READY FOR THE POLES TO BE ERECTED.



1.
USING LIFTING AID TO TRANSPORT BASE SECTION ABOVE THE EXPOSED STUDDING WITH THE USE OF CERTIFIED LIFTING SLINGS ONLY.
2.
CABLE TO BE GUIDED THROUGH THE FOUNDATION CONDUIT PIPE. MAKING SURE THE CABLE IS FREE FROM DAMAGE WHILST INSTALLING THE BASE SECTION OF THE POLE.
3.
PLACE NUTS ONTO EACH EXPOSED STUDDING AND FORM G WASHER. USING LEVELER TO SQUARE ALL 4 CORNERS PRIOR TO BASE INSTALLATION.
4.
ONCE BASE SECTION INSTALLED OVER STUDDING, PLACE A FURTHER FORM G WASHER AND NUT ONTO THE STUDDING.
5.
REMOVE THE TENSION OF THE LIFTING SLING ON THE MAST, THEN TORQUE THE NUTS SECURELY.
5.
DO NOT LEVEL THE BASE SECTION FROM THE SHAFT, DUE TO BEING TAPERED.



LOWERING DIRECTION:

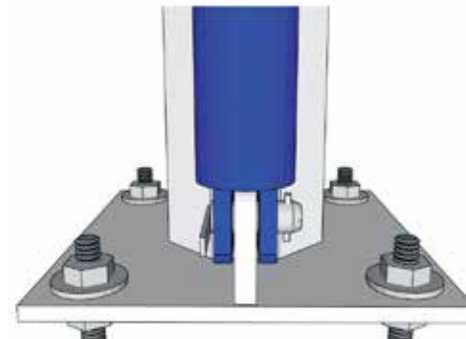
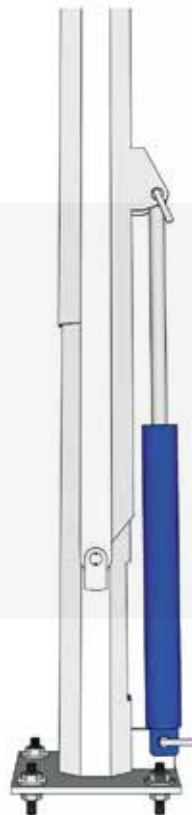
PRIOR TO INSTALLING THE BASE SECTION ONTO THE FOUNDATION STUDDING, MAKE SURE THE RAISING AND LOWERING DIRECTION IS IN THE CORRECT POSITION.

PRIOR TO LOWERING OPERATION, HYDRAULIC RAM UNIT MUST BE PLACED ON TO THE MAST AND SECURED CORRECTLY.

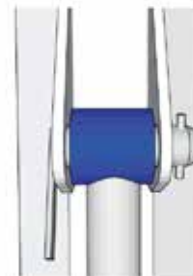
RAM UNIT WITH THE BORE SECTION TO BE SECURE ON THE FLANGE PLATE BLOCK, ONCE PIN FULLY INSERTED, PLACE THE SAFETY PIN THROUGH THE PIN UNIT (TOP RIGHT IMAGE).

WHILST HOLDING THE RAM UNIT UPRIGHT. POWER THE UNIT AND EXTEND THE ROD SECTION UNTIL THE ROD KNUCKLE (BOTTOM RIGHT IMAGE) IS IN LINE WITH THE POLE LUG HOLES. THEN PLACE SAFETY PIN.

DOUBLE CHECK ALL AREAS AGAIN PRIOR TO CARRYING OUT THE NEXT OPERATION.



BOTH SETS OF PINS ARE IDENTICAL FOR EASE OF INSTALLATION.



HEALTH AND SAFETY:

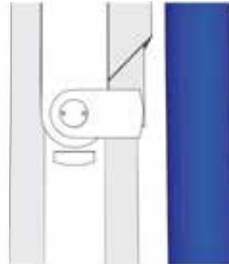
BEFORE OPERATING SYSTEM, MAKE SURE THE AREA EITHER RAISING OR LOWERING IS FULLY CLEAR.

MAKING SURE NO PERSON(S) WALK UNDERNEATH OR BE NEAR OPERATIONS.

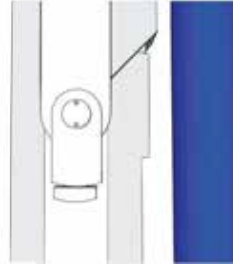
BARRIER THE AREA AND WEAR FULL PERSONAL PROTECTIVE EQUIPMENT AT ALL TIMES.



BEFORE OPERATING THE HYDRAULIC SYSTEM, MAKE SURE THE EAR SECTIONS ARE FREE AND ROTATE PRIOR TO EXTENDING THE RAM UNIT.



POWERING THE POWER PACK UNIT, ROTATE THE EAR PLATES 90 DEGREE EITHER TO THE LEFT OR RIGHT. KEEPING HELD WHILST EXTENDING THE RAM OPEN.

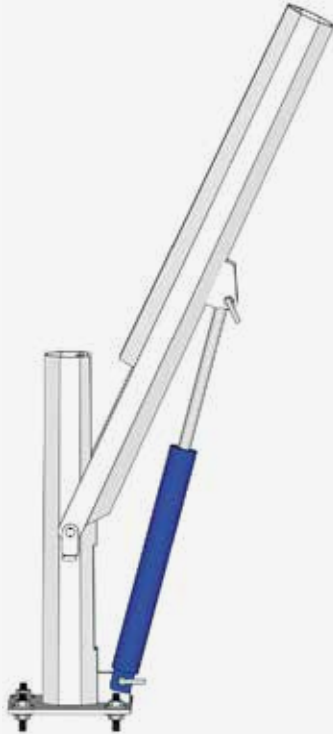


ONCE THE EAR PLATES ARE CLEAR OF THE POLE BLOCKS, RELEASE BACK TO 90 DEGREE. FOLLOWED BY RETRACTING THE RAM.



ONCE THE EAR HAS COMPRESSED AGAINST THE POLE BLOCK, THE SHAFT SECTION WILL ARTICULATE (STOP PROCEDURE IF SHAFT AND HEAD IS BOUNCING).

CAREFULLY LOWER POLE TO GROUND LEVEL.



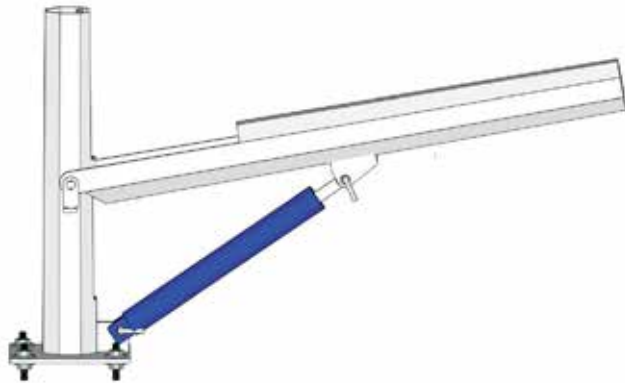
RETRACTING THE RAM BACK INTO THE CLOSED POSITION, THE REAR WILL COMPRESS AGAINST THE BASE BLOCK.

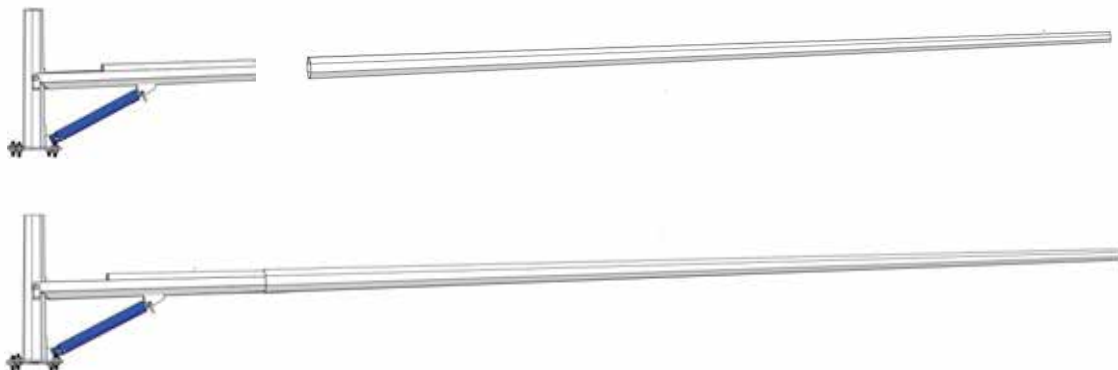
WHILST IN THE LOWERING DIRECTION, THE SHAFT WILL TILT FORWARD AND CREATE A FORM OF SHOCK/BOUNCE EFFECT.

IF THIS IS TO BE SEEN, THEN PLEASE STOP AND ALLOW THE MOVEMENT TO SETTLE.

COMMENCE WITH LOWERING THE SHAFT UNTIL FULLY LOWERED TO NEAR GROUND LEVEL AND PLACING A TRESSLE TO STABILISE THE TOP SHAFT AND FLOODLIGHTS.

TURN OFF THE POWER SUPPLY TO THE HYDRAULIC POWER PACK WHILST NOT IN USE.





USE OF LIFTING MACHINERY AND SLINGS, OR, MULTIPLE OPERATIVES TO HANDLE AND SLIDE THE MID SHAFT SECTION ON TO THE BASE UNIT.

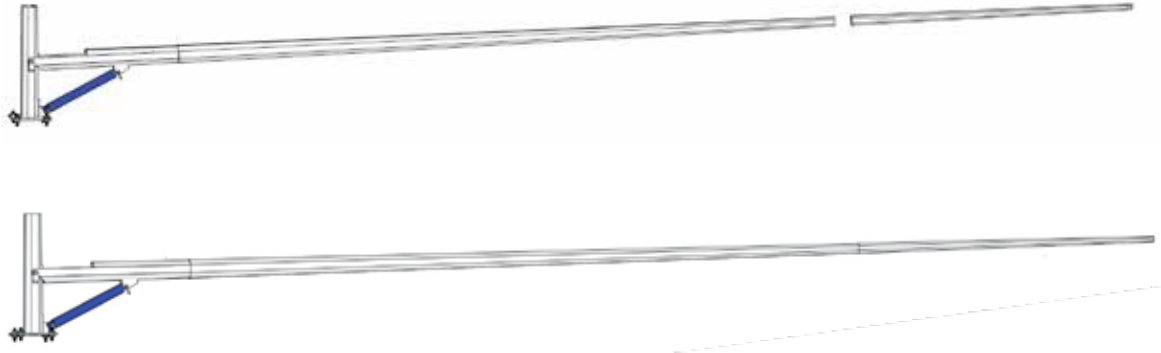
BEFORE SLIDING THE MID SHAFT SECTION, REVIEW AT LEAST 500mm OF THE BASE SHAFT FOR AN EXPOSED BURRS AND REMOVE IF NOTICED. ANY OBSTRUCTIONS WILL PREVENT THE MID SHAFT FROM SLIDING/DOCKING IN SITU.

PENCIL MARK OR TAPE A GUIDE LINE AT 450mm FROM THE TOP OF THE BASE SHAFT. AS THIS WILL ENABLE THE INSTALLER A GUIDE ON THE SHAFTS BEING FULLY ASSEMBLED.

USE TIMBER BLOCKS AT THE END OF EACH SHAFT SECTION TO PROTECT WHEN IMPACTING THE MATERIAL

IF IN DOUBT, THEN ASK.





USE OF LIFTING MACHINERY AND SLINGS, OR, MULTIPLE OPERATIVES TO HANDLE AND SLIDE THE MID SHAFT SECTION ON TO THE BASE UNIT.

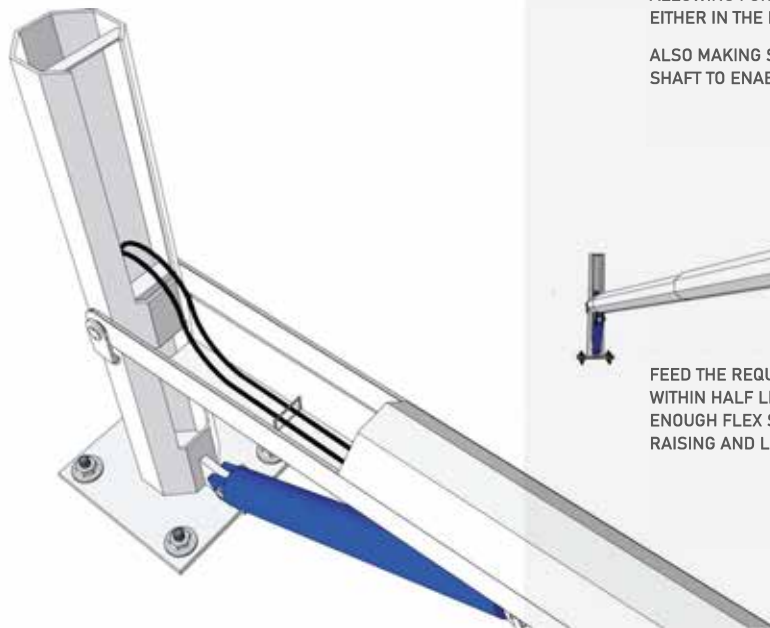
BEFORE SLIDING THE MID SHAFT SECTION, REVIEW AT LEAST 500mm OF THE BASE SHAFT FOR AN EXPOSED BURRS AND REMOVE IF NOTICED. ANY OBSTRUCTIONS WILL PREVENT THE MID SHAFT FROM SLIDING/DOCKING IN SITU.

PENCIL MARK OR TAPE A GUIDE LINE AT 450mm FROM THE TOP OF THE BASE SHAFT. AS THIS WILL ENABLE THE INSTALLER A GUIDE ON THE SHAFTS BEING FULLY ASSEMBLED.

USE TIMBER BLOCKS AT THE END OF EACH SHAFT SECTION TO PROTECT WHEN IMPACTING THE MATERIAL

IF IN DOUBT, THEN ASK.



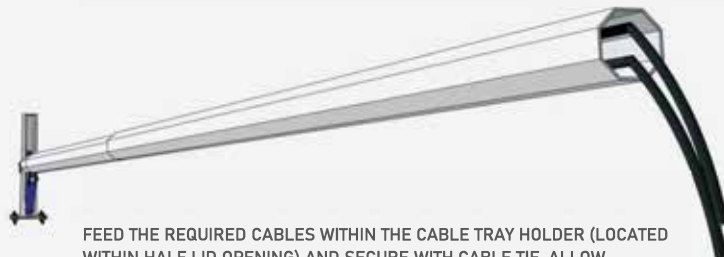


USING A COBRA TO FEED THE CABLES THROUGH THE SHAFT SECTIONS.

FEED THE EQUIPMENT FROM THE TOP SHAFT SECTION UNTIL REACHING THE BASE OPENING SECTION. THIS WILL ALLOW THE CABLE TO RUN FREELY THROUGH THE SHAFTS.

TAPE THE CABLE(S) TO THE COBRA, START TO PULL THE COBRA BACK THROUGH THE SHAFT AND GUIDING THE CABLE INTO THE TOP SHAFT. ALLOWING FOR ENOUGH CABLE TO THEN BE ELECTRICAL CONNECTED EITHER IN THE BASE COMPARTMENT OR FEEDER PILLAR.

ALSO MAKING SURE YOU HAVE ENOUGH CABLE AT THE TOP OF THE SHAFT TO ENABLE THE FLOODLIGHTS TO BE CONNECTED.



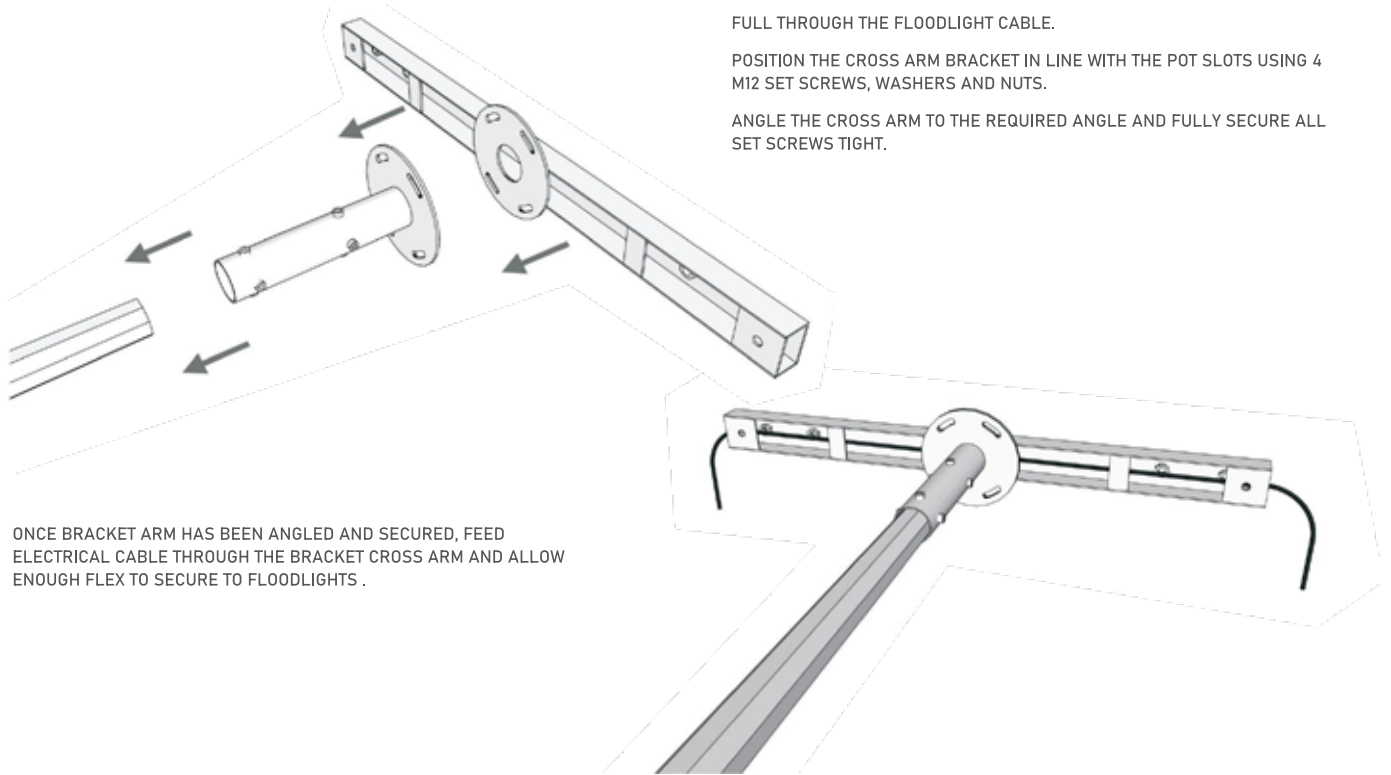
FEED THE REQUIRED CABLES WITHIN THE CABLE TRAY HOLDER (LOCATED WITHIN HALF LID OPENING) AND SECURE WITH CABLE TIE. ALLOW ENOUGH FLEX SO THE CABLE(S) DO NOT BECOME UNDER STRESS WHILST RAISING AND LOWERING THE MAST.

SLIDE BRACKET POT UNIT OVER THE TOP OF THE SHAFT AND SECURE AT 8 POINTS OF THE WELDED NUTS FROM THE BRACKET.

FULL THROUGH THE FLOODLIGHT CABLE.

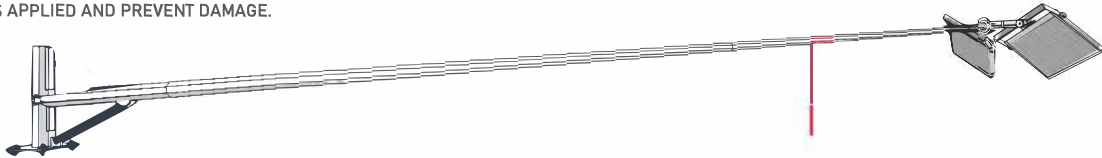
POSITION THE CROSS ARM BRACKET IN LINE WITH THE POT SLOTS USING 4 M12 SET SCREWS, WASHERS AND NUTS.

ANGLE THE CROSS ARM TO THE REQUIRED ANGLE AND FULLY SECURE ALL SET SCREWS TIGHT.



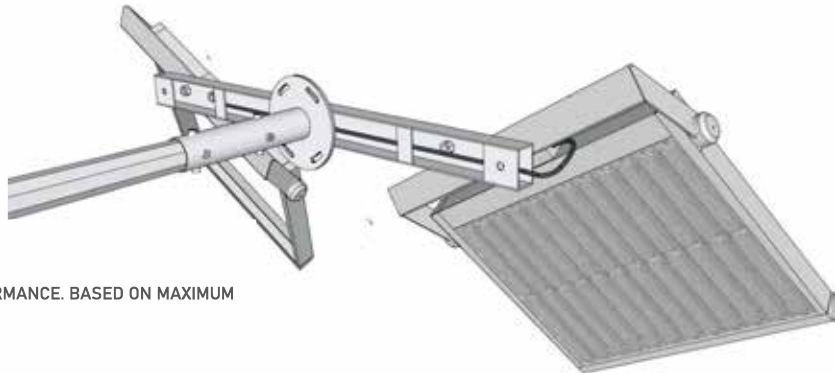
ONCE BRACKET ARM HAS BEEN ANGLED AND SECURED, FEED ELECTRICAL CABLE THROUGH THE BRACKET CROSS ARM AND ALLOW ENOUGH FLEX TO SECURE TO FLOODLIGHTS .

PLACE TRESSEL OR FORM OF PROP TO SUPPORT THE SHAFTS WHEN AT THE LOWERING POSITION, DURING FLOODLIGHT INSTALLATION. WHICH THIS WILL REDUCE THE STRESS LOADS APPLIED AND PREVENT DAMAGE.



SECURE FLOODLIGHT(S) USING M20 X 50mm SET SCREWS, COMPLETE WITH SPRING WASHER, FLAT WASHERS AND NUT TO SUIT.

WIRE FLOODLIGHT TO THE MANUFACTURES INSTALLATION INSTRUCTIONS.



REFER TO MAST DATASHEET FOR STRUCTURAL PERFORMANCE. BASED ON MAXIMUM WEIGHT AND WIND AREA ALLOWANCES.

IF IN DOUBT, ASK.



3.

WHEN MAST IS VERTICAL, ALLOW THE MAST TO SETTLE AND REDUCE THE DEFLECTION/BOUNCE. POSITION THE EAR PLATE IN THE UNLOCKED POSITION (90 DEGREES) AND RETRACT THE RAM. THE HALF LID SECTION THEN OVERLAPS THE BASE SECTION AND THEN DOCK IN PLACE.

MOVE THEN THE EAR PLATES BACK IN TO THE LOCKED POSITION.

HEALTH AND SAFETY: MAKE SURE CABLES AND BODY PARTS ARE NOT BETWEEN THE LID AND BASE DURING THE OPERATION.



2.

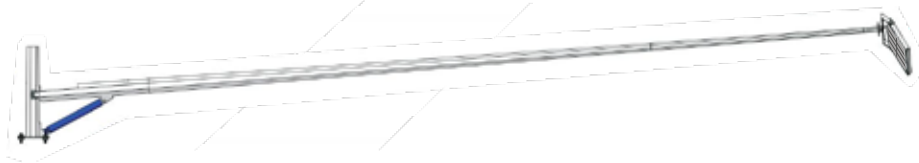
ONCE THE SHAFT HAS REACHED THE FINAL 20 DEGREES FROM VERTICAL POSITION. MAKE SURE THAT THE CABLES ARE RUNNING IN LINE WITH THE BASE SECTION OPENING. PREVENTING THE CABLES FROM BEING TRAPPED BETWEEN THE SHAFT AND BASE.

1.

PRIOR TO RAISING THE MAST. MAKE SURE ALL CABLES ARE FREE FROM DAMAGE.

DO NOT STAND OR WALK UNDERNEATH MAST WHILST IN OPERATION.

MAKE SURE EAR PLATES ARE NOT IN THE LOCKED POSITION AS THIS WILL CAUSE DAMAGE TO THE MAST.

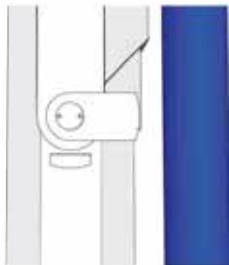


HEALTH AND SAFETY:

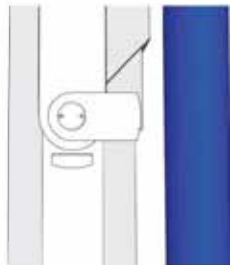
BEFORE OPERATING SYSTEM, MAKE SURE THE AREA IS CLEAR FOR EITHER RAISING OR LOWERING IS FULLY CLEAR.

MAKING SURE NO PERSON(S) WALK UNDERNEATH OR BE NEAR OPERATIONS.

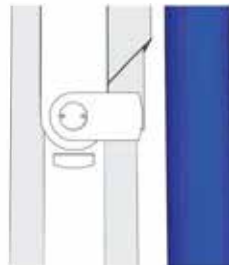
BARRIER THE AREA AND WEAR FULL PERSONAL PROTECTIVE EQUIPMENT AT ALL TIMES.



BEFORE OPERATING THE HYDRAULIC SYSTEM, MAKE SURE THE EAR SECTIONS ARE FREE AND ROTATE PRIOR TO EXTENDING THE RAM UNIT.



ROTATE EAR PLATE 90 DEGREES AND HOLD IN PLACE WHILST RAM IS EXTENDING TO VERTICAL POSITION.



WHILST RETRACTING THE RAM TO DOCKING POSITION, RETAIN THE EAR PLATE 90 DEGREES FROM THE POLE BLOCK.



ONCE DOCKED, LOWER THE EAR PLATE IN LINE WITH THE POLE.

RELEASE THE PRESSURE ON THE RAM PINS AND REMOVE HYDRAULIC RAM FROM THE POLE. MAKING SURE THE RAM IS IN THE CLOSED POSITION BEFORE TRANSPORTING.

Kellwood Lighting Ltd

Unit 7,
Catherinefield Ind. Est.,
Dumfries,
Scotland
DG1 3PQ

Tel: +44 (0)1387 255 816

www.kellwoodlighting.co.uk