

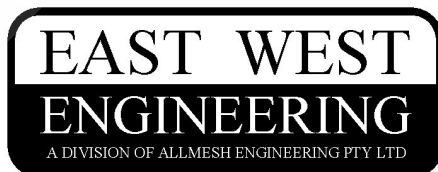
EAST WEST ENGINEERING
INSTRUCTION MANUAL

Type GB-CM2
GAS CYLINDER STORAGE CAGE

Table of contents

	Page
1) Quality Policy Statement_____	2
2) General Description of Product_____	2
3) Assembly Instructions_____	3
4) Method of Attachment_____	3
5) Operational and Safety Procedures_____	4
6) Risk Control Measures – Summary_____	6
7) Parts List_____	9
8) Maintenance_____	10
9) Compliance Plate Information_____	11
10) Certification Information_____	12
11) Terms and Conditions_____	13
Appendix A_____	Attached
Appendix B_____	Attached

ALL EAST WEST CRANE CAGES CONFORM TO
AS/NZS 1554.1:2011, AS 1418.1 – 2004, AS 2550.1 – 2011,
AS 2359.1 – 1995 & AS 2359.2 – 2013



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1) QUALITY POLICY STATEMENT

East West Engineering is an Australian Owned company in the Sydney suburb of Brookvale. We are Australia's leading manufacturer of forklift attachments, storage, waste containers and environmental protection equipment.

East West Engineering's products are a result of extensive market research into our customer's needs. From the first concept to engineering certification and finally, CAD/CAM manufacturing, all our designs have been rigorously researched and developed.

2) GENERAL DESCRIPTION OF PRODUCT

The type GB-CM2 Gas Cylinder Storage Cage is suitable for gas cylinder and associated equipment storage and comes complete with load-binder to securely fasten gas cylinders at the rear of the cage. The cage is fitted with a 4 point crane lift and forklift pockets for transport. Designed for use on building sites and mines, the cage has a lockable door with mesh sides and a galvanised roof to ensure cylinder and gear security.

The type GB-CM2 Gas Cylinder Storage Cage has a floor area of 1 square metre (1000 x 1000mm), weighs 160 kg and has a Safe Working Load (SWL) of 1000 kg. The standard finish on the type GB-CM2 Gas Cylinder Storage Cage is Zinc Plated.

Crane attachments¹ are designed in accordance with AS 2550.1 and AS1418 where relevant. Forklift attachments are designed in accordance with AS 2359.1 where relevant. The uses of specific crane and forklift attachments should also be in conformance with the statutory regulations that are relevant at the time of design registration.

The use of this attachment is restricted to the purpose for which it is designed. EAST WEST ENGINEERING is not liable if this restriction is breached.

Note: The use of the words '**Forklift**' & '**Industrial Truck**' throughout these instructions both refer to '**Powered Industrial Truck**' as defined in AS 2359.1.

Type Data

To accurately identify the Gas Cylinder Storage Cage and when ordering parts, please quote the **Type** and **Serial Number**. This information can be found on the compliance plate situated on the side of the Cage. Please refer *Fig. 9.1* and *Table 9.2*, codes "A" and "B" for more information.



WARNING: These Instructions **MUST** be **READ** in **FULL** by the **Crane/Forklift Operator & all Crane Personnel** and all Operational & Safety Procedures and Risk Control Measures complied with before the use of this attachment.

¹ Crane attachments cover the following Crane, Hoists and Winches: Bridge, Gantry and Portal cranes, Tower static and mobile Cranes. Hoists of the Chain, Cylinder, Scaffolding and Wire rope types. Winches of the Creeper, Drum, and Trolley type.

3) ASSEMBLY INSTRUCTIONS

The type GB-CM2 Gas Cylinder Storage Cage may be supplied disassembled. Refer to the Assembly Instructions contained within the packaged unit to correctly assemble the unit prior to its use. All fasteners on the unit **MUST BE** correctly tightened in accordance with the Assembly Instructions.



WARNING: The type GB-CM2 Gas Cylinder Storage Cage **MUST NOT** be used unless assembled strictly in accordance with the Assembly Instructions supplied.

4) METHOD OF ATTACHMENT

Forklift attachment procedure

Before handling the GB-CM2 Gas Cylinder Storage Cage with a forklift, ensure that the fork arms are suited to the attachment and set to a width that ensure stability of the load.

To ensure the GB-CM2 Gas Cylinder Storage Cage stays on the tines when elevated, always back tilt the forklift mast. Before lifting the Cage, ensure the gate is secured with the gate Pad Bolt and any cylinders within the cage secured by the straps/load binder. Any other equipment within the Cage must be secured appropriately to prevent movement.

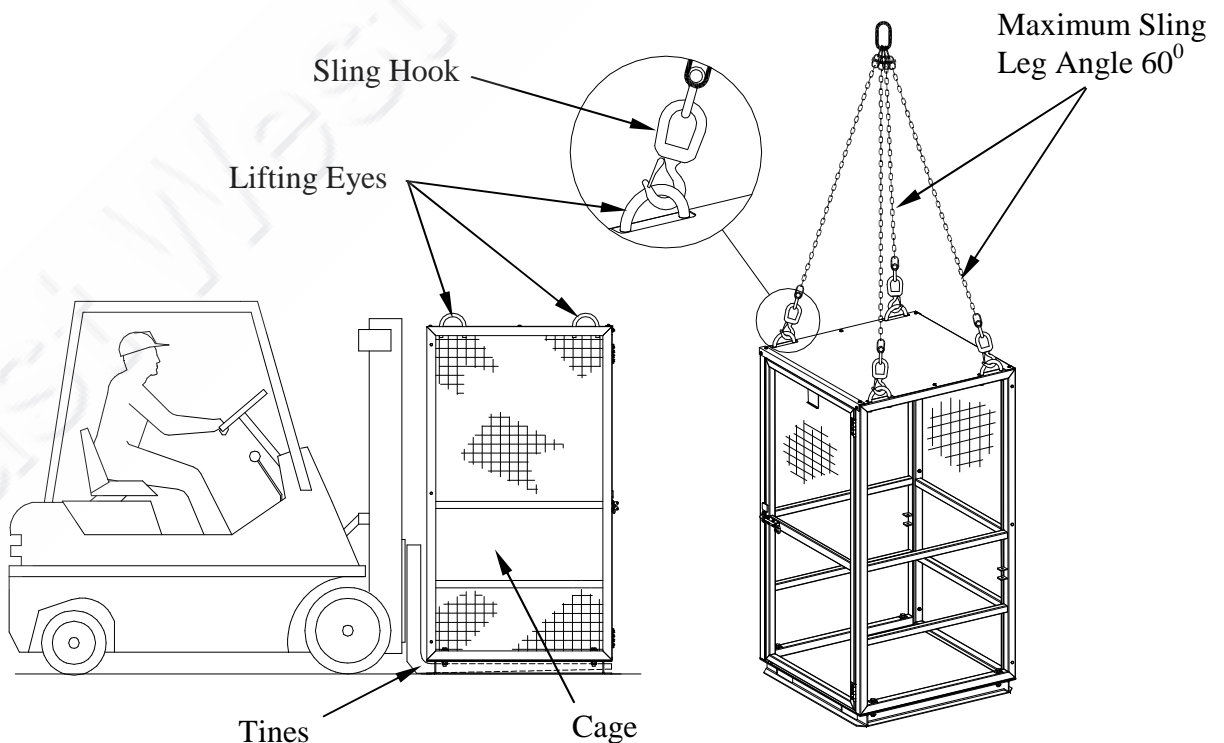


Fig. 3.1A

Fig. 3.1B

Crane attachment procedure

A qualified person shall operate the crane and the GB-CM2 Gas Cylinder Storage Cage shall be hoisted in a safe manner. Before lifting the Cage, ensure the gate is secured with the gate Pad Bolt and any cylinders within the cage secured by the straps/load binder. Any other equipment within the Cage must be secured appropriately to prevent movement.

When a crane is used to hoist the GB-CM2 Gas Cylinder Storage Cage, attach a four-leg lifting chain to each of the lifting eyes as shown in *Fig. 3.1B* above. Ensure that the sling length provides a **maximum leg angle of 60°**. If fitted, consult the chain data plate regarding the number of leg slings and maximum angle of the chain sling.

When engaging or disengaging the crane hook, ensure the crane attachment chains are not twisted or tangled. Use of a single fall rope to hoist the crane attachment, may allow the hook to spin and create a dangerous situation. Do not allow the crane hook to rest on or in the GB-CM2 Gas Cylinder Storage Cage. Keep the Cage in an upright position at all times.

5) OPERATIONAL and SAFETY PROCEDURES

Preliminary Safety Checks

A “Competent Person” shall inspect all components on the GB-CM2 Gas Cylinder Storage Cage and Crane to ensure they are in safe working order. Do not use the Cage if any of the components are damaged or not in safe working condition. A “Competent Person” shall inspect the lifting slings, gate/pad bolt system, hinges, load binder and straps daily to ensure they are operational and in safe working order. Replace any damaged woven straps before allowing the Cage back into service.

The Operator shall check that the Cage has been correctly fitted in accordance with these Instructions (refer Section 4), and/or the relevant Crane or Industrial Truck Operator’s Manual depending on the operation to be carried out.

The Operator shall check that any cylinders within the Cage are firmly secured by the straps/load binder and that any other equipment within the Cage has been secured appropriately to prevent movement.

All signage must be strictly adhered to and checked to ensure that the compliance plate is not damaged and is legible.

General Operating and Safety Procedures

The use of the GB-CM2 Gas Cylinder Storage Cage shall be limited to those situations for which it is specifically designed and in accordance with AS 2550.1. All lifting equipment used must meet the relevant Australian Standards including AS 3990.1, AS 3775 and AS 3776.

Forklift attachments can alter load centres and reduce the load capacity. The type of load to be handled in addition to the operating conditions must be considered when determining the actual working capacity for each application.

All operating checks as stated in Section 6 below and as stated in AS 2550.1 and/or AS 2359.2 are to be carried out at the start of shifts or immediately prior to the lifting of loads.

Do not exceed the recommended Crane, Forklift or Cage rating.



WARNING: Any SWL noted on the Cage is a structural rating of the Cage only and makes no claim to the suitability of the Crane/Forklift. Actual load may be restricted to the suitability of the Crane/Forklift. Actual rated working load of the Crane must be obtained from the Crane manufacturer. Actual lift truck capacities must be obtained from the lift truck manufacturer.

Before the GB-CM2 Gas Cylinder Storage Cage elevates any load, the Operator shall lift it to the required working height to confirm that all systems function correctly.

Ensure all Risk Control Measures, as outlined in Section 6 and detailed in Appendix A, are complied with before hoisting the Cage by Crane or before lifting the Cage using an Industrial Truck.

East West Engineering attachments shall not be modified in any way which affects the operation or performance except with the prior approval of East West Engineering. After any changes have been effected, appropriate alterations shall be made on the relevant nameplate and markings prior to placing the attachment back into service. East West Engineering must be notified of the changes to nameplates and markings with reference to the attachment serial number.

6) RISK CONTROL MEASURES – SUMMARY

When handling loads, the Risk Control Measures outlined below in Sections 6.1 (for Crane Operations), 6.2 (for Forklift Operations) and 6.3 are to be observed by the Crane/Forklift Operator and Crane Personnel to ensure all identified hazards relative to using this equipment are eliminated or controlled – refer Appendix A for a detailed analysis;

6.1 Risk Control Measures – Crane Operations

- A) The Crane Operator’s qualifications must conform to the requirements of the relevant regulatory authority. Where applicable, the Crane Operator shall hold a certificate of competency. To operate a particular Crane, the Operator must be authorised by a responsible representative of the Crane used or hiring contractor. Training in the safe use of the attachment shall be undertaken before usage. The Crane Operator must not work the Crane unless they are physically and mentally capable. This is in accordance with AS 2550.1 clause 6.2.
- B) Authorised personnel must perform the following pre-checks on the Crane in accordance with the operating manual before the Crane is placed into service. Typically, Crane pre-checks as stated in AS 2550.1 Appendix G covers the following;
- Oil level, fuel levels and lubrication,
 - Condition of ropes, rope terminals, fittings & anchor points, rope drums and sheaves,
 - Condition and pressure of tyres where applicable,
 - Drain all water from air reservoirs,
 - Structural checks for loose, damaged or cracked components that may be indicated by rust marks, flaking or marked paint,
 - Check the security and application of counter weights,
 - Load moment system, where fitted is correctly set,
 - Indicator appropriate to the boom or fly-jib length is correctly fitted,
 - Cleanliness of cabin – is it free from grease, oil, rags, tools etc.,
 - Pneumatic and hydraulic systems and their safety devices operate correctly,
 - Operation of the Crane through all motions with particular attention to brakes,
 - Operation of all limit switches, cut out and safety devices.
 - Communications equipment is working correctly and clearly loud enough to be heard,
 - All fire extinguishers are placed in the correct position and are suitable for the particular application and are in working order.
- C) In conformance with AS 2550.1 clause 6.1, the operator shall review the logbook where applicable and be satisfied about the presence of unauthorised personnel on the crane, safe working condition of the crane and safe operation of each of the crane movements. Authorised personnel must carry out any adjustments or alteration needed for safe operation.
- D) Any stabilisers shall be engaged prior to lifting.
- E) Do not exceed the rated working load of the Crane.
- F) Ensure that all movements of the Crane are carried out under power.
- G) **Do NOT** move the Crane/attachment unless the safety of persons in the vicinity of the Crane is assured. Be alert to the possibility of trapping or injuring persons in the vicinity of the Crane when handling loads or moving the Crane.

- H) Unless a dangerous situation occurs, follow directions and signals given by an authorised person. Cease any Crane movement if a dangerous situation occurs.
- I) The Operator shall hoist the load vertically and in a smooth manner at slow speeds with minimum acceleration and deceleration.
- J) Sudden stops, jerky or other movements that may cause the load to swing unduly must be avoided. Ensure minimum impact when Crane engages 'end stops'.
- K) Movement of hook/attachment when out of sight is only permissible when directed by an authorised person such as a dogman, Crane chase, spotter or rigger.
- L) The hook/attachment must be raised sufficiently to avoid collision during horizontal movement. Only when the load is freely suspended is horizontal movement permissible.
- M) When landing the Cage, avoid developing rope slack.
- N) The Operator must know the location of the main isolation switch and Fire fighting equipment.

6.2 Risk Control Measures – Forklift Operations

- A) The Industrial Truck Operator requires a suitable forklift licence to cover both the Industrial Truck being operated and any attachment that has been fitted. Training in the safe transport of the Cage shall be undertaken before usage.
- B) Authorised personnel must perform the following pre-checks immediately prior to the use of the Industrial Truck in accordance with AS 2359.2 Clause 3.1 and 6.4 and corrective action initiated where applicable;
 - Nameplate and markings regarding the Industrial Truck and Attachment capacities are to be read and acknowledged,
 - Condition of lift and tilt systems on the Industrial Truck to be checked,
 - Inspect all tyres for wear, condition and pressure if applicable,
 - Liquid levels of battery cell electrolyte, oils (hydraulic, engine, transmission and brake), cooling water and fuel to be checked,
 - All steering and brake controls, warning devices and lights to be checked for effective operation.
- C) Do not exceed the rated capacity of the Industrial Truck to handle the load.
- D) The Industrial Trucks shall be used on a hard level surface. The area in which the Cage is to be used shall be assessed as suitable for the task to be undertaken. There should be suitable clear space to safely transport the Cage and a system developed for handling the load.
- E) Manoeuvre slowly and cautiously when the Cage is elevated.
- F) Transport the Cage positioned as low as practicable.
- G) The mast if adjustable shall be back tilted.
- H) Never drag the Cage horizontally along the ground.
- I) The Operator shall keep hands and feet clear of controls other than controls in use.
- J) Ensure safety features are provided, visible and working effectively.

6.3 Risk Control Measures – General Operations

- A) Gain assurance from a responsible person that the Cage and/or load may be handled safely and that person has provided all information necessary to ensure that risks are eliminated or controlled.
- B) While lifting in an area subject to passing traffic, barriers or warning signs shall be used to prevent any interference.
- C) The Operator shall check the Cage is securely attached, refer Section 4.
- D) The Operator to ensure any cylinders within the Cage have been firmly secured by the straps/load binder and that any other equipment within the Cage has been secured appropriately to prevent movement.
- E) The Operator shall ensure the Cage Gate is closed and secured with the Pad Bolt at all times whilst lifting, lowering or transporting the Cage.
- F) **This Cage is not designed or certified to convey Personnel.** The Operator to ensure that **NO PERSONNEL rides on or in the Cage at any time.**
- G) The Operator shall stay with the Crane/Industrial Truck controls at all times.
- H) The Operator shall keep clear of overhead obstructions and in particular **MAINTAIN RELEVANT CLEARANCE OF ELECTRICAL CONDUCTORS.**
- I) Before any load is hoisted, the Operator shall lift the Cage unladen to the required working height to confirm that all systems are functioning correctly.
- J) Ensure there has been no unauthorised interference or alteration to the equipment that may cause risk.
- K) Ensure regular maintenance, testing and inspections are carried out and recorded in accordance with the relevant Crane and/or Industrial Truck Manuals and these instructions (refer Section 8), and corrective action initiated where applicable.
- L) Ensure the instructions of East West Engineering are followed.
- M) If any of the equipment becomes unsafe, stop all usage until the risk is eliminated or controlled



WARNING: Failure to observe the above **Risk Control Measures** and those outlined in **Appendix A** could result in **SERIOUS INJURY** or **DEATH.**

7) PARTS LIST

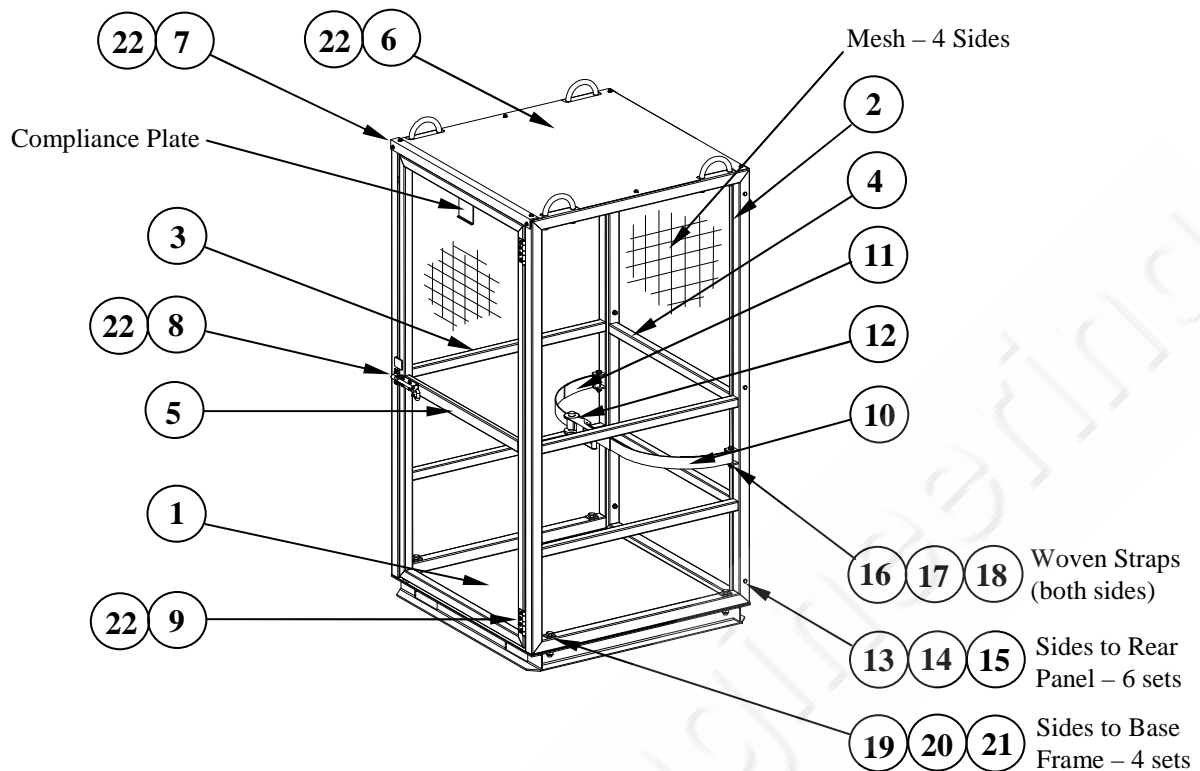


Fig. 7.1

Item	Description	Part Number	Qty
1	Base Frame Assembly	GB-CM2-03	1
2	Cage Right Hand Side Panel	GB-CM2-06	1
3	Cage Left Hand Side Panel	GB-CM2-07	1
4	Cage Rear Panel	GB-CM2-09	1
5	Cage Gate Panel	GB-CM2-10	1
6	Cage Roof Panel	GB-CM2-11	1
7	Front Support Angle	GB-CM2-15	1
8	Pad Bolt & Catch (12mm Dia)	“Downee” GPBL 10	1
9	Butt Hinge (100 x 75mm)	BLHP-75C	2
10	Woven Strap 50mm (Special 800mm)	GB-CM-04	1
11	Woven Strap 50mm (2M)	GB-CM-10	1
12	Hand Ratchet (2500 kg)	AG4-LC	1
13	Bolt – Hex Head (Grade 8.8)	M8 x 90mm (Grd 8.8)	6
14	Washer – Flat	M8	6
15	Nut – Nyloc	M8	6
16	Bolt – Hex Head (Grade 8.8)	M10 x 80mm (Grd 8.8)	2
17	Washer – Flat	M10	2
18	Nut – Nyloc	M10	2
19	Bolt – Hex Head (Grade 8.8)	M16 x 90mm (Grd 8.8)	4
20	Washer – Flat	M16	4
21	Nut – Nyloc	M16	4
22	Tek Screw	#14 – 20 x 22mm Long	32

Table 7.2

8) MAINTENANCE

Regular maintenance including Testing, Inspection and Cleaning should be carried out on the Cage to reduce the risk of potential hazards arising. The Cage should be cleaned and visually inspected by a “Competent Person” under adequate lighting conditions, before each shift, to ensure all components are functioning correctly and are free from any noticeable wear or damage, particularly at any load bearing or highly stressed points. If components are considered worn or damaged, or if safety charts or labels are damaged or illegible, the Cage should be taken out of service and East West Engineering or an “Authorised Person” contacted for advice. Periodic testing may be required if any damage is noted as this could be an indication of abuse or overloading. Regular cleaning makes identification of damage easier. Keep maintenance records to ensure safety checks are carried out.

Maintenance Schedule

Description	Maintenance Period					
	Daily or 8 Hrs	Weekly or 40 Hrs	Monthly or 160 Hrs	3 Months or 500 Hrs	Annually or 2000 Hrs	Other
Cage Frame	CI					
Gate Hinges & Pad Bolt	CI	GS		T		
Ratchet & Straps	CI					
Lifting Lugs/Chains	CI					

Table 8.1

Maintenance to be carried out		
Maintenance Codes	Lubricant to be used	
GS = Grease smear	D = Drain	G = Grease, Shell Alvania R2 or equivalent
GN = Grease at nipple	R = Replace	H = Hydraulic Oil Shell Tellus
CI = Clean and inspect	T = Tighten	Ot = Oil, Shell 20W/40W or equivalent
C = Check & fill oil to level	N = Note below	Oa = Oil, Shell Turbo T32 or equivalent

Table 8.2

9) COMPLIANCE PLATE INFORMATION

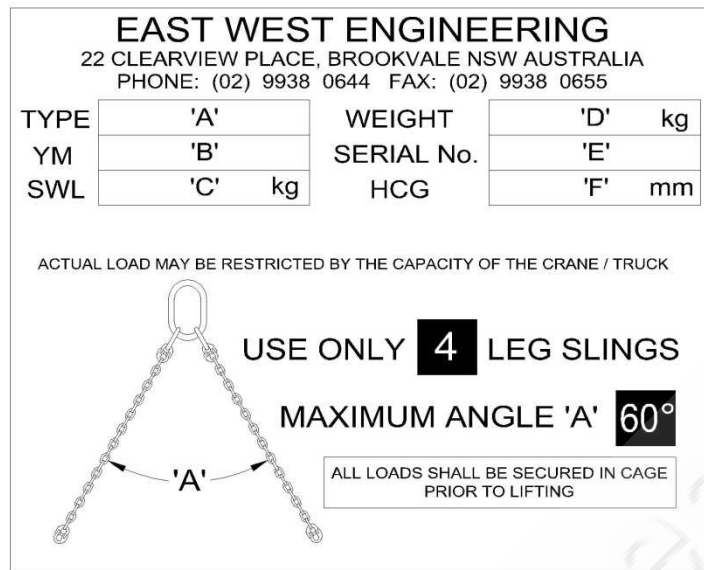


Fig. 9.1

A	Product Type	Refer "A", Table 9.2
B	Year of Manufacture	Individually stamped
C	Safe Working Load	Refer "C", Table 9.2
D	Dry Weight of the unit	Refer "D", Table 9.2
E	Serial Number	Individually stamped
F	Horizontal C of G	Refer "F", Table 9.2

COMPLIANCE PLATE MARKING						
Type	"A"	"B"	"C"	"D"	"E"	"F"
GB-CM2	GB-CM2	YM	750	160	Serial No	515

Table 9.2

10) CERTIFICATION INFORMATION

Certificate

Type GB-CM2 GAS CYLINDER STORAGE CAGE

We certify that the type GB-CM2 Gas Cylinder Storage Cage is rated to 1000kg Safe Working Load (SWL) and is designed and fabricated strictly in accordance with relevant Australian Standards including those listed below –

AS/NZS 1554.1: 2011	Structural Steel Welding – Welding of Steel Structures
AS 1418.1 – 2004	Cranes – General Requirements
AS 2550.1 – 2011	Cranes – Safe Use, General Requirements
AS 2359.1 – 1995	Powered Industrial Trucks – General Requirements
AS 2359.2 – 2013	SAA Industrial Truck Code – Operation
AS 3990 – 1993	Mechanical Equipment – Steelwork
AS 4991 – 2004	Lifting Devices

Signed on behalf of **EAST WEST ENGINEERING,**



Ron King
MANAGING DIRECTOR

11) TERMS of TRADE, CONDITIONS of SALE and WARRANTY STATEMENT

1. East West Engineering (EWE) products are to be used only as indicated. Misuse or misapplication may cause failure resulting in possible property damage or bodily injury.
2. It is the obligation of the user to ensure EWE products are used in accordance with appropriate Codes and System requirements.
3. All liability for EWE products performance is disclaimed and the warranty will be voided if any of the following conditions exist:
 - 3.1) the product is used beyond the published or stated rate load limit. Note: **ALL** ratings are for static conditions and do not account for dynamic loading such as wind, water or seismic loads,
 - 3.2) the product is not properly installed per published or stated instructions,
 - 3.3) the loading to the product is not vertical,
 - 3.4) the product is deformed or stressed in any way during fitting or installation,
 - 3.5) the product is used in a corrosive environment.
4. All safety regulations required by the user must be observed.
5. EWE products at the time of dispatch are warranted to be free of defects in material or workmanship. **NO OTHER WARRANTY EXPRESSED OR IMPLIED SHALL EXIST IN CONNECTION WITH THE SALE OR USE OF EWE PRODUCTS.** Claims for errors, shortages, defects or non-conformities ascertainable upon inspection must be made in writing within 15 days after buyer's receipt of products. All other claims must be made to EWE within 12 months of the date of shipment for products hydraulically operated and within 12 months for products without hydraulics. Products claimed nonconforming or defective must upon EWE's request promptly be returned for inspection. Claims not made as provided above and within the applicable time period will be barred. EWE shall in no event be responsible if the products have not been used in accordance with the specifications and/or recommended procedures. EWE will, at its option either repair or replace nonconforming or defective products for which it is responsible or return to buyer their purchase price. The foregoing states buyer's exclusive remedy for any breach of EWE warranty and for any claim, whether sounding in contracts, tort or negligence for loss or injury caused by the sale or use of any product. Without limiting the generality of the foregoing EWE shall in no way be responsible for any loss of business or profits, downtime or delay, labour, repair or material cost or any similar or dissimilar consequential loss or damage incurred by the Buyer.
6. Examine goods immediately upon receipt and advise any damage or shortage to carriers and ourselves within 15 days, otherwise no claim whatever will be considered. Provided advice is given within the prescribed time, we will make good any shortage and will repair or replace free of charge goods damaged in transit where we are responsible for delivery of the goods.
7. If goods are not received within 14 days from receipt of invoice please advise us in writing.
8. If any error is discovered in this invoicing please notify supplying branch at once for correction.
9. **Property and Payment:** – By acceptance of delivery and retention of the goods it is acknowledged that the property of the goods remains with EWE and that legal title thereto will not pass until payment is made but that nevertheless the goods are at your risk after delivery. In the event that payment is not made within 30 days of delivery, or other agreed terms, full licence and authority is given to EWE to enter any premises where the goods are stored and to recover possession of them. In the event of the sale of the goods prior to payment, the proceeds of sale belong to EWE.
10. **Terms of Payment:** – Unless credit has been arranged strictly net cash; if credit has been arranged payment must be made by the 25th day of the month, following the month appearing in the date on the front of this invoice.
11. **East West Engineering reserves the right to alter specifications, designs and prices without notification.**

Appendix A – to form Part of the Instruction Manual

Risk Control Measures & Risk Assessment for Identified Hazards



Equipment Type & Description: Type GB-CM2 Gas Cylinder Storage Cage Sheet: 1 of 16

Operation	Hazards Identified	Risk Assessment	Risk Control Measures in Place	Risk Control In Place (Date)
1. Crane Operational Safety Pre-Checks.	a) Unsafe use of Crane resulting in Cage, and/or items shifting & falling from height and striking Personnel and/or objects.	<ul style="list-style-type: none"> • Serious Risk to Personnel. • Moderate Risk to Operator. 	<ul style="list-style-type: none"> - The Crane has been duly commissioned & all lifting apparatus appropriately marked in accordance with AS 1418. - Pre-operational inspections (in accordance with AS 2550.1), to be carried out before each shift – Crane taken out of service if any risks or malfunctions are found. These MUST be reported & recorded for assessment by a competent person. - Operator to review logbook, be satisfied about presence of unauthorised personnel on the Crane & the safe working conditions of the Crane. - Operator to ensure the rated working load of the Crane & any lifting apparatus is not exceeded. - (continued on sheet 2 of 16). 	

Assessment carried out by: Allan WALKER, East West Engineering Date of Assessment: 26th August 2009

Appendix A – to form Part of the Instruction Manual

Risk Control Measures & Risk Assessment for Identified Hazards



Equipment Type & Description: Type GB-CM2 Gas Cylinder Storage Cage Sheet: 2 of 16

Operation	Hazards Identified	Risk Assessment	Risk Control Measures in Place	Risk Control In Place (Date)
1. Crane Operational Safety Pre-Checks (Continued).	a) Unsafe use of Crane resulting in Cage, and/or items shifting & falling from height and striking Personnel and/or objects. (Continued)	<ul style="list-style-type: none"> • Serious Risk to Personnel. • Moderate Risk to Operator. 	<ul style="list-style-type: none"> - Any stabilisers to be engaged prior to lifting. - All Crane movements to be carried out under power. - The operational areas to be assessed for hazards prior to and during work shifts. - The Operator to be provided with all necessary information to ensure risks are eliminated or controlled. - The Crane must to be left in safe condition after each shift. - Inspections, maintenance and repairs to be carried out in accordance with the relative Crane Instruction Manuals and AS 2550.1. 	

Assessment carried out by: Allan WALKER, East West Engineering Date of Assessment: 26th August 2009

Appendix A – to form Part of the Instruction Manual

Risk Control Measures & Risk Assessment for Identified Hazards



Equipment Type & Description: Type GB-CM2 Gas Cylinder Storage Cage Sheet: 3 of 16

Operation	Hazards Identified	Risk Assessment	Risk Control Measures in Place	Risk Control In Place (Date)
1. Crane Operational Safety Pre-Checks (continued).	b) Electric Shock	<ul style="list-style-type: none"> • Serious Risk to Operator. • Serious Risk to Personnel. 	<ul style="list-style-type: none"> - All Risk Control Measures outlined in 1(a) above are to be in place. - The Power Supply is to be compatible with the Crane. - Operator to keep clear of overhead obstructions and in particular MAINTAIN RELEVANT CLEARANCES of ELECTRICAL Conductors. - A Spotter shall be used whenever operating near aerial conductors in accordance with AS 2550.1. - Ensure an Electrical isolation procedure developed for the Crane is in place – Operator must know location of main isolation switch & fire fighting equipment. - If more than 25 persons employed at workplace/site, a Certified First Aider to be at Workplace or on Site. 	

Assessment carried out by: Allan WALKER, East West Engineering Date of Assessment: 26th August 2009

Appendix A – to form Part of the Instruction Manual

Risk Control Measures & Risk Assessment for Identified Hazards



Equipment Type & Description: Type GB-CM2 Gas Cylinder Storage Cage Sheet: 4 of 16

Operation	Hazards Identified	Risk Assessment	Risk Control Measures in Place	Risk Control In Place (Date)
2. Industrial Truck Operational Safety Pre-Checks.	a) Unsafe use of Industrial Truck – resulting in Cage and/or Items shifting & falling from height and striking Personnel and/or objects.	<ul style="list-style-type: none"> • Serious Risk to Operator. • Serious Risk to Personnel. 	<ul style="list-style-type: none"> - Pre-operational inspections (in accordance with AS 2359.2), to be carried out before each shift – Industrial Truck taken out of service if any risks or malfunctions are found. These MUST be reported & recorded for assessment by a competent person. - Inspections, maintenance and repairs to be carried out in accordance with the relative Industrial Truck Operating Manuals and AS 2359.2. - The Industrial Truck & attachments supporting the Cage to comply with AS 2359.1. - The rated capacity of the Industrial Truck to handle the load must not be exceeded. - (continued on sheet 5 of 16). 	

Assessment carried out by: Allan WALKER, East West Engineering Date of Assessment: 26th August 2009

Appendix A – to form Part of the Instruction Manual

Risk Control Measures & Risk Assessment for Identified Hazards



Equipment Type & Description: Type GB-CM2 Gas Cylinder Storage Cage Sheet: 5 of 16

Operation	Hazards Identified	Risk Assessment	Risk Control Measures in Place	Risk Control In Place (Date)
2. Industrial Truck Operational Safety Pre-Checks (continued).	a) Unsafe use of Industrial Truck – resulting in Cage and/or Items shifting & falling from height and striking Personnel and/or objects (continued).	<ul style="list-style-type: none"> • Serious Risk to Operator. • Serious Risk to Personnel. 	<ul style="list-style-type: none"> - The operational areas to be assessed for hazards prior to and during work shifts. - The Industrial Truck to be used on a hard level surface. - The Industrial Truck to be left in a safe condition after each shift. - The Operator to be provided with all necessary information to ensure risks are eliminated or controlled - If more than 25 persons employed at workplace/site, a Certified First Aider to be at Workplace or on Site when the Industrial Truck is being used. 	

Assessment carried out by: Allan WALKER, East West Engineering Date of Assessment: 26th August 2009

Appendix A – to form Part of the Instruction Manual

Risk Control Measures & Risk Assessment for Identified Hazards



Equipment Type & Description: Type GB-CM2 Gas Cylinder Storage Cage Sheet: 6 of 16

Operation	Hazards Identified	Risk Assessment	Risk Control Measures in Place	Risk Control In Place (Date)
3. Cage Operational Safety Pre-Checks.	a) Unsafe use of Cage resulting in Cage and/or Load shifting & falling from height and striking personnel and/or objects.	<ul style="list-style-type: none"> • Serious Risk to Personnel. • Moderate Risk to Operator. 	<ul style="list-style-type: none"> - Inspections, maintenance and repairs to be carried out in accordance with Instruction Manual. - All Pre-Checks listed in the Instruction Manual are to be carried out before each shift. - The Cage is to be fitted securely to the lifting apparatus according to the Instruction Manual. - Any Cylinders within the Cage to be firmly secured by the strap/load binder & any other equipment secured appropriately before use. - All instructions for the use of the Cage as laid out in the Instruction manual are to be followed. - The Operator to lift the Cage to required height to confirm all systems are functioning correctly. - (continued on sheet 7 of 16) 	

Assessment carried out by: Allan WALKER, East West Engineering Date of Assessment: 26th August 2009

Appendix A – to form Part of the Instruction Manual

Risk Control Measures & Risk Assessment for Identified Hazards



Equipment Type & Description: Type GB-CM2 Gas Cylinder Storage Cage Sheet: 7 of 16

Operation	Hazards Identified	Risk Assessment	Risk Control Measures in Place	Risk Control In Place (Date)
3. Cage Operational Safety Pre-Checks (continued).	a) Unsafe use of Cage resulting in Cage and/or Load shifting & falling from height and striking personnel and/or objects. (continued).	<ul style="list-style-type: none"> • Serious Risk to Personnel. • Moderate Risk to Operator. 	<ul style="list-style-type: none"> - The Operator to ensure there has been no unauthorised interference or alteration to the equipment that may cause risk. - The hoist used to lift the Cage is not to be twisted or tangled before lifting. - If any equipment becomes unsafe, stop all usage until risk has been eliminated or controlled. - The use of the Cage is limited to those situations for which it is specifically designed and/or in accordance with AS 2550.1. 	

Assessment carried out by: Allan WALKER, East West Engineering Date of Assessment: 26th August 2009

Appendix A – to form Part of the Instruction Manual

Risk Control Measures & Risk Assessment for Identified Hazards



Equipment Type & Description: Type GB-CM2 Gas Cylinder Storage Cage Sheet: 8 of 16

Operation	Hazards Identified	Risk Assessment	Risk Control Measures in Place	Risk Control In Place (Date)
4. Lifting, Lowering, transporting or manoeuvring Cage/Load with Crane or Industrial Truck.	a) Unsafe/Incompetent Operator.	<ul style="list-style-type: none"> • Serious Risk to Operator. • Serious Risk to Personnel. 	<ul style="list-style-type: none"> - Only Certified & fully Trained Operators are to use the Crane or Industrial Truck. - Operators must not work the Crane or Industrial Truck unless physically & mentally capable. 	
	b) Items Falling from Height.	<ul style="list-style-type: none"> • Serious Risk to Personnel. • Moderate Risk to Operator. 	<ul style="list-style-type: none"> - All Risk Control Measures outlined above are to be in place. - Operator to ensure the Cage is fitted securely to the lifting apparatus and prevented from swinging. - Any Cylinders within the Cage to be firmly secured by the strap/load binder & any other equipment secured appropriately before use. - Operator to ensure the Cage Gate is secured in the closed position at all times whilst lifting, lowering or transporting the Cage. - (continued on sheet 9 of 16) 	

Assessment carried out by: Allan WALKER, East West Engineering Date of Assessment: 26th August 2009

Appendix A – to form Part of the Instruction Manual

Risk Control Measures & Risk Assessment for Identified Hazards



Equipment Type & Description: Type GB-CM2 Gas Cylinder Storage Cage Sheet: 9 of 16

Operation	Hazards Identified	Risk Assessment	Risk Control Measures in Place	Risk Control In Place (Date)
4. Lifting, Lowering, transporting or manoeuvring Cage/Load with Crane or Industrial Truck (continued).	b) Items falling from height (continued).	<ul style="list-style-type: none"> • Serious Risk to Personnel. • Moderate Risk to Operator. 	<ul style="list-style-type: none"> - Barriers/Warning Signs in areas subject to passing traffic to be installed. - NO PERSONNEL to ride on or in Cage at any time. - The Cage to be raised no higher than necessary. - The Industrial Truck mast, if adjustable, to be back tilted. - Transport the Cage as low as practicable. - Operator to hoist Cage vertically in a smooth manner slowly with minimum acceleration & deceleration. 	
	c) Cage and/or load uncontrolled and/or having unexpected movements.	<ul style="list-style-type: none"> • Serious Risk to Personnel • Moderate Risk to Operator. 	<ul style="list-style-type: none"> - All Risk Control Measures outlined in 4(b) above are to be in place. - Operator to gain assurance from a responsible person that the Cage and any load may be handled safely. - (continued on sheet 10 of 16) 	

Assessment carried out by: Allan WALKER, East West Engineering Date of Assessment: 26th August 2009

Appendix A – to form Part of the Instruction Manual

Risk Control Measures & Risk Assessment for Identified Hazards



Equipment Type & Description: Type GB-CM2 Gas Cylinder Storage Cage Sheet: 10 of 16

Operation	Hazards Identified	Risk Assessment	Risk Control Measures in Place	Risk Control In Place (Date)
4. Lifting, Lowering, transporting or manoeuvring Cage/Load with Crane or Industrial Truck (continued).	c) Cage and/or load uncontrolled and/or having unexpected movements (continued).	<ul style="list-style-type: none"> • Serious Risk to Personnel. • Moderate Risk to Operator. 	<ul style="list-style-type: none"> - The Cage is NOT to be dragged along the ground. - Use a 'tagline' if necessary - The Operator is to stay with controls at all times whilst in operation. - Operator to avoid sudden stops, jerky movements. - Cage not to be moved unless the safety of persons in the vicinity of the Crane/Industrial Truck is assured. - Operator to follow directions & signals given by an authorised person unless a dangerous situation occurs in which case all Cage movements to cease. - Cage/hook not to be moved when out of sight unless directed to by authorised person. - When landing the Cage by Crane, rope slack must be avoided. 	

Assessment carried out by: Allan WALKER, East West Engineering Date of Assessment: 26th August 2009

Appendix A – to form Part of the Instruction Manual

Risk Control Measures & Risk Assessment for Identified Hazards



Equipment Type & Description: Type GB-CM2 Gas Cylinder Storage Cage Sheet: 11 of 16

Operation	Hazards Identified	Risk Assessment	Risk Control Measures in Place	Risk Control In Place (Date)
4. Lifting, Lowering, transporting or manoeuvring Cage/Load with Crane or Industrial Truck (continued).	d) Operator exposed to fixed/moving components.	<ul style="list-style-type: none"> • Serious Risk to Operator. 	<ul style="list-style-type: none"> - The Operator is to stay with the controls at all times whilst in operation. - The Operator is to keep hands/feet wholly within Crane/Industrial Truck Cab whilst in operation. 	
	e) Cage and/or load too heavy and/or unbalanced (e.g. Industrial Truck overturning).	<ul style="list-style-type: none"> • Serious Risk to Operator. • Serious Risk to Personnel. 	<ul style="list-style-type: none"> - All Risk Control Measures outlined in 4(b) and 4(c) above are to be in place. - The Operator to be aware of the weight of Cage & load. - The rated working load of the Crane is NOT to be exceeded. - The rating capacity of the Industrial Truck to handle the load is NOT to be exceeded. - The Operator is to be trained in the use of lifting booms, slings & chains for lifting loads. - (continued on sheet 12 of 16) 	

Assessment carried out by: Allan WALKER, East West Engineering Date of Assessment: 26th August 2009

Appendix A – to form Part of the Instruction Manual

Risk Control Measures & Risk Assessment for Identified Hazards



Equipment Type & Description: Type GB-CM2 Gas Cylinder Storage Cage Sheet: 12 of 16

Operation	Hazards Identified	Risk Assessment	Risk Control Measures in Place	Risk Control In Place (Date)
4. Lifting, Lowering, transporting or manoeuvring Cage/Load with Crane or Industrial Truck (continued).	e) Cage and/or load too heavy and/or unbalanced (e.g. Industrial Truck overturning). (continued)	<ul style="list-style-type: none"> • Serious Risk to Operator. • Serious Risk to Personnel. 	<ul style="list-style-type: none"> - When transporting using an Industrial Truck, it is to be used on a hard surface, the area assessed before usage. 	
	f) Cage/Load and/or Industrial Truck striking Personnel.	<ul style="list-style-type: none"> • Serious Risk to Personnel. 	<ul style="list-style-type: none"> - All Risk Control Measures outlined in 4(c) and 4(e) above are to be in place. - A suitable clear space between barriers is to be left to safely use the Cage. - The Crane/Cage is NOT to be moved unless the safety of Personnel is assured. - Cage MUST be visible to Personnel controlling the Crane movements at all times whilst suspended. - (continued on sheet 13 of 16) 	

Assessment carried out by: Allan WALKER, East West Engineering Date of Assessment: 26th August 2009

Appendix A – to form Part of the Instruction Manual

Risk Control Measures & Risk Assessment for Identified Hazards



Equipment Type & Description: Type GB-CM2 Gas Cylinder Storage Cage Sheet: 13 of 16

Operation	Hazards Identified	Risk Assessment	Risk Control Measures in Place	Risk Control In Place (Date)
4. Lifting, Lowering, transporting or manoeuvring Cage/Load with Crane or Industrial Truck (continued).	f) Cage/Load and/or Industrial Truck striking Personnel (continued).	<ul style="list-style-type: none"> • Serious Risk to Personnel. 	<ul style="list-style-type: none"> - All safety equipment on the Crane/Industrial Truck MUST be functioning before use, (ie Reversing Beepers). - Convex mirrors are to be placed at Aisle corners used by Industrial Trucks. - A system is to be developed for handling the Cage/loads about the Workplace/Site. - Manoeuvre slowly & cautiously when the Cage/load is elevated. 	

Assessment carried out by: Allan WALKER, East West Engineering Date of Assessment: 26th August 2009

Appendix A – to form Part of the Instruction Manual

Risk Control Measures & Risk Assessment for Identified Hazards



Equipment Type & Description: Type GB-CM2 Gas Cylinder Storage Cage Sheet: 14 of 16

Operation	Hazards Identified	Risk Assessment	Risk Control Measures in Place	Risk Control In Place (Date)
4. Lifting, Lowering, transporting or manoeuvring Cage/Load with Crane or Industrial Truck (continued).	g) Cage/Load striking objects, Industrial Truck and/or Mast striking Objects.	<ul style="list-style-type: none"> • Serious Risk to Operator. • Serious Risk to Personnel. 	<ul style="list-style-type: none"> - All Risk Control Measures outlined in 4(b), 4(c) and 4(f) above are to be in place. - Lifting & lowering areas to be assessed & the Crane Operator and/or Controller made aware of any objects within the path of normal Crane movements. - Cage/hook to be raised sufficiently to avoid collision during horizontal movements. - The Crane or Industrial Truck Mast to keep clear of any overhead obstructions, and in particular ELECTRICAL conductors. - Work areas to be assessed to ensure NO overhead fittings can be contacted by Industrial Truck mast, Cage and/or load. 	

Assessment carried out by: Allan WALKER, East West Engineering Date of Assessment: 26th August 2009

Appendix A – to form Part of the Instruction Manual

Risk Control Measures & Risk Assessment for Identified Hazards



Equipment Type & Description: Type GB-CM2 Gas Cylinder Storage Cage Sheet: 15 of 16

Operation	Hazards Identified	Risk Assessment	Risk Control Measures in Place	Risk Control In Place (Date)
4. Lifting, Lowering, transporting or manoeuvring Cage/Load with Crane or Industrial Truck (Continued)	h) Crane or Industrial Truck falling from raised areas.	<ul style="list-style-type: none"> • Serious Risk to Operator. • Serious Risk to Personnel. 	<ul style="list-style-type: none"> - All Risk Control Measures outlined above are to be in place. - All safety railings are to be placed in raised areas such as Ramps, Loading Docks etc. 	
	i) Entanglement with lifting ropes, chains, slings, beams, fallropes & taglines.	<ul style="list-style-type: none"> • Serious Risk to Personnel. 	<ul style="list-style-type: none"> - All Risk Control Measures outlined above are to be in place. - Spotters, Dogmen, Riggers are to be well clear of any lifting apparatus before any Crane movements take place. - All lifting ropes, chains, slings and/or lifting beams are to be prevented from swinging and/or become slack. 	

Assessment carried out by: Allan WALKER, East West Engineering Date of Assessment: 26th August 2009

Appendix A – to form Part of the Instruction Manual

Risk Control Measures & Risk Assessment for Identified Hazards



Equipment Type & Description: Type GB-CM2 Gas Cylinder Storage Cage Sheet: 16 of 16

Operation	Hazards Identified	Risk Assessment	Risk Control Measures in Place	Risk Control In Place (Date)
5. Storage of Cage	a) Cage becoming damaged.	<ul style="list-style-type: none"> • Serious Risk to Personnel. • Moderate Risk to Operator. 	<ul style="list-style-type: none"> - Regular Maintenance, inspection and testing according to the Instruction Manual to be carried out. - Cage to be stored in dry areas and away from any corrosive chemicals. 	
	b) Cage in the way of normal Workplace/Site Operations.	<ul style="list-style-type: none"> • Moderate Risk to Personnel. 	<ul style="list-style-type: none"> - Attachment to be stored in areas which will not interfere with the normal running of the Workplace/Site. 	

Assessment carried out by: Allan WALKER, East West Engineering Date of Assessment: 26th August 2009

Appendix B – to form part of the Instruction Manual

ASSEMBLY INSTRUCTIONS

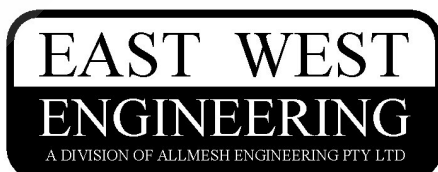
Type GB-CM2 GAS CYLINDER STORAGE CAGE

Flat Pack Contents

Item	Part Number	Description	Quantity
1	GB-CM2-03	Base Frame Assembly	1
2	GB-CM2-20	Cage Right Hand Side Panel Assembly	1
3	GB-CM2-07	Cage Left Hand Side Panel	1
4	GB-CM2-09	Cage Rear Panel	1
5	GB-CM2-21	Cage Gate Panel Assembly	1
6	GB-CM2-11	Cage Roof Panel	1
7	GB-CM2-15	Front Support Angle	1
8	GB-CM-04	Woven Strap 50mm (Special 800mm)	1
9	GB-CM-10	Woven Strap 50mm (2M)	1
10	AG4-LC	Hand Ratchet (2500kg)	1
11	GPBL 10(C)	Pad Bolt Catch	1
12	M8 x 90	Bolt – Hex Head M8 x 90mm long (Grade 8.8)	6
13	M8	Nut – Nyloc M8	6
14	M8	Washer – Flat M8	12
15	M10 x 80	Bolt – Hex Head M10 x 80mm long (Grade 8.8)	2
16	M10	Nut – Nyloc M10	2
17	M10	Washer – Flat M10	2
18	M16 x 90	Bolt–Hex Head M16 x 90mm long (Grade 8.8)	4
19	M16	Nut– Nyloc M16	4
20	M16	Washer – Flat M16	4
21	#14 - 20	Tek Screw #14 - 20 x 22 Long	18

Note:

Items 11 to 21 have been packaged in the plastic bag provided with the Flat Pack.



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TOOL REQUIREMENTS

The following Tools will be required to assembly the type GB-CM2 Storage Cage;

Ring Spanners	13, 18, 19 & 24mm A/F
Electric/Air Drill	Fitted with 10mm A/F Socket (for 'Tek' Screws)
100mm Clamps	2 required
Shims	1mm (2 off), 2mm & 3mm – supplied by East West Engineering

ASSEMBLY INSTRUCTIONS

- A) Unpack all items packed inside the 'Flat Pack' carton.
- B) Prior to assembly, ensure the minimum quantity of components as detailed under 'Flat Pack Contents' above, have been supplied. Please contact East West Engineering or their Authorised Agent prior to assembly if components are missing or damaged.
- C) Place the Base Frame Assembly (Item 1) on level ground. Place the Cage RH Side Panel Assembly (Item 2) onto the Base orientated as shown in Figure 1.1 & 1.2 with the Mesh to the outside of the Cage, Hinges towards the front, aligning the two (2) bottom holes with those in the Base. Loosely assemble together using two (2) M16 x 90mm long Hex. Head Grade 8.8 Bolts (Item 18), M16 Nyloc Nuts (Item 19) and M16 Flat Washers (Item 20 – placed under Nuts) with the Bolt heads positioned as shown in Figure 1.2 below.

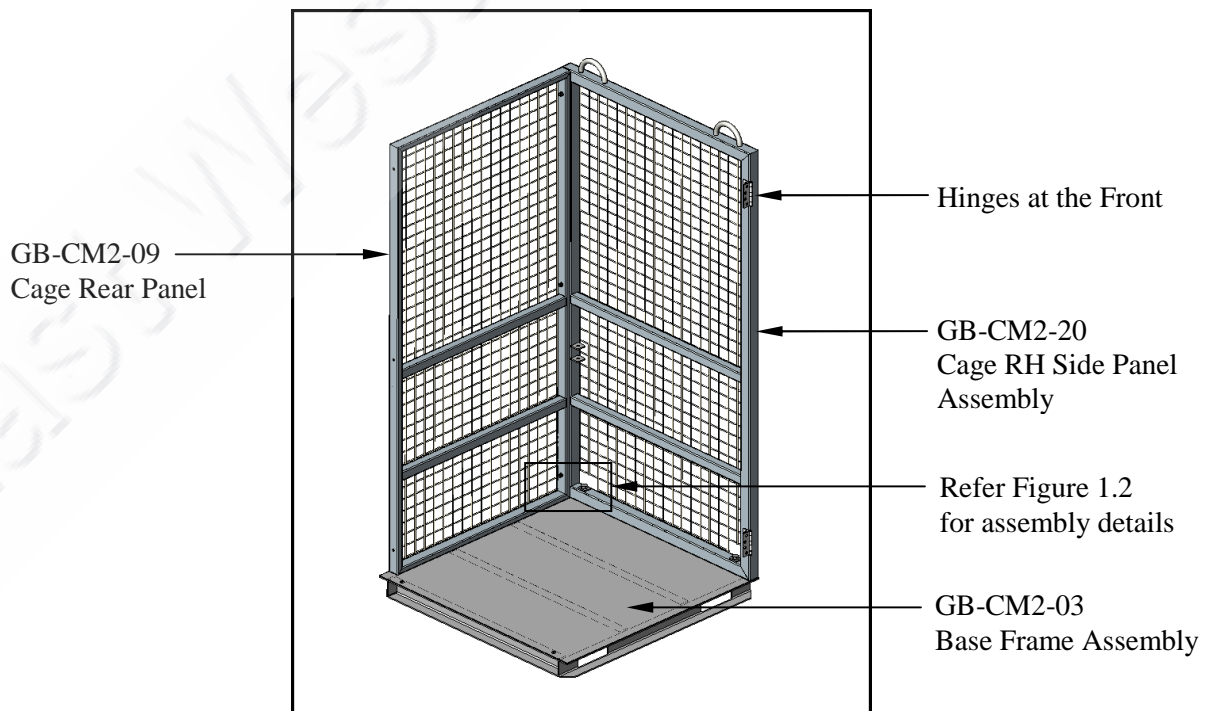


Figure 1.1

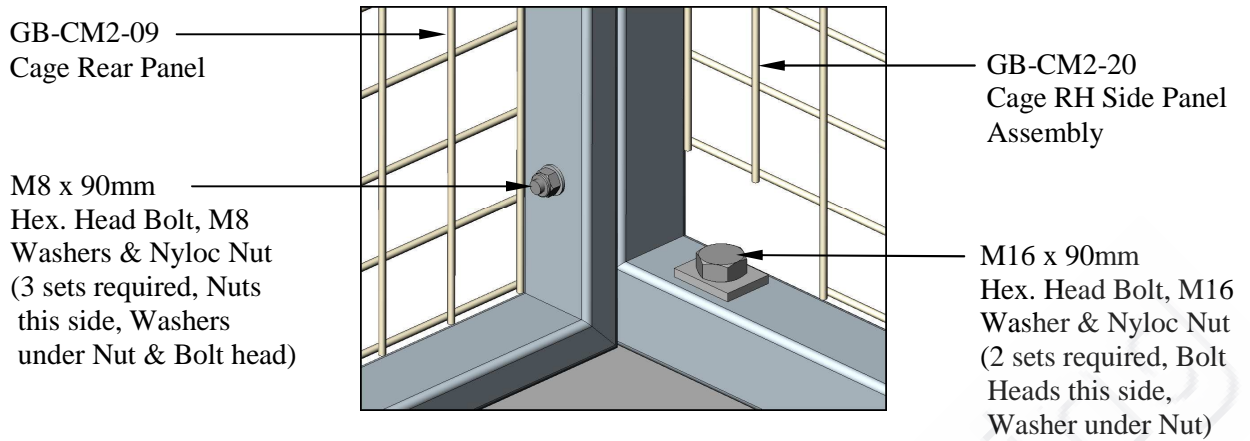


Figure 1.2

- D) Place the Cage Rear Panel (Item 4) onto the Base orientated as shown in Figure 1.1 & 1.2 with the Mesh to the outside of the Cage, aligning the three (3) side holes with those in the Cage RH Side Panel Assembly. Loosely assemble both Panels together using three (3) M8 x 90mm long Hex. Head Grade 8.8 Bolts (Item 12), M8 Nyloc Nuts (Item 13), placing M8 Flat Washers (Item 14) under the Nuts & Bolt Heads. Bolt heads to be positioned outside Cage as shown.
- E) Place the Cage LH Side Panel (Item 3) onto the Base orientated as shown in Figure 1.3 with the Mesh to the outside of the Cage, aligning the two (2) bottom holes with those in the Base. Loosely assemble to the Base & Cage Rear Panel using the same procedure used to assembly the Cage RH Side Panel Assembly.

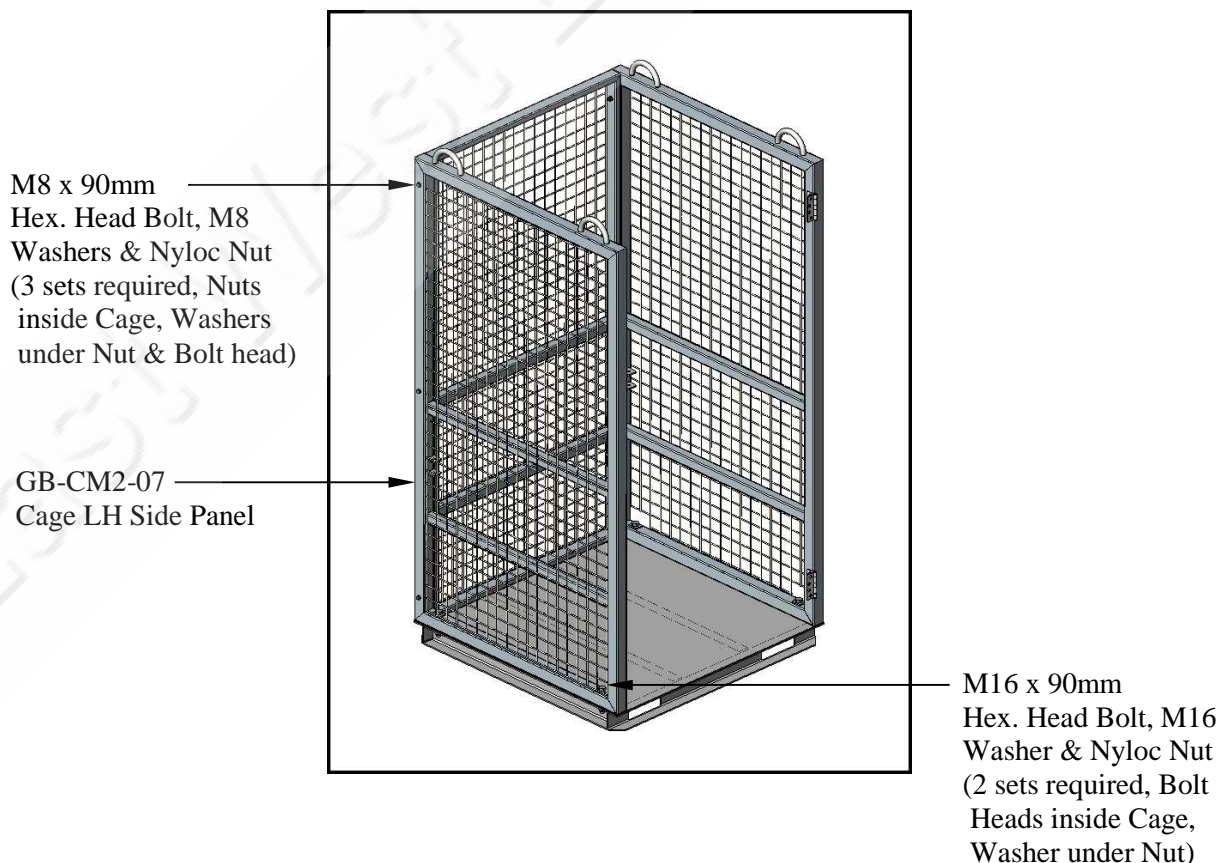


Figure 1.3

- F) Ensuring all Panels are orientated correctly and are sitting square to the Base Frame, tighten all Side Panel Bolts/Nuts and then the Rear Panel Bolts/Nuts.

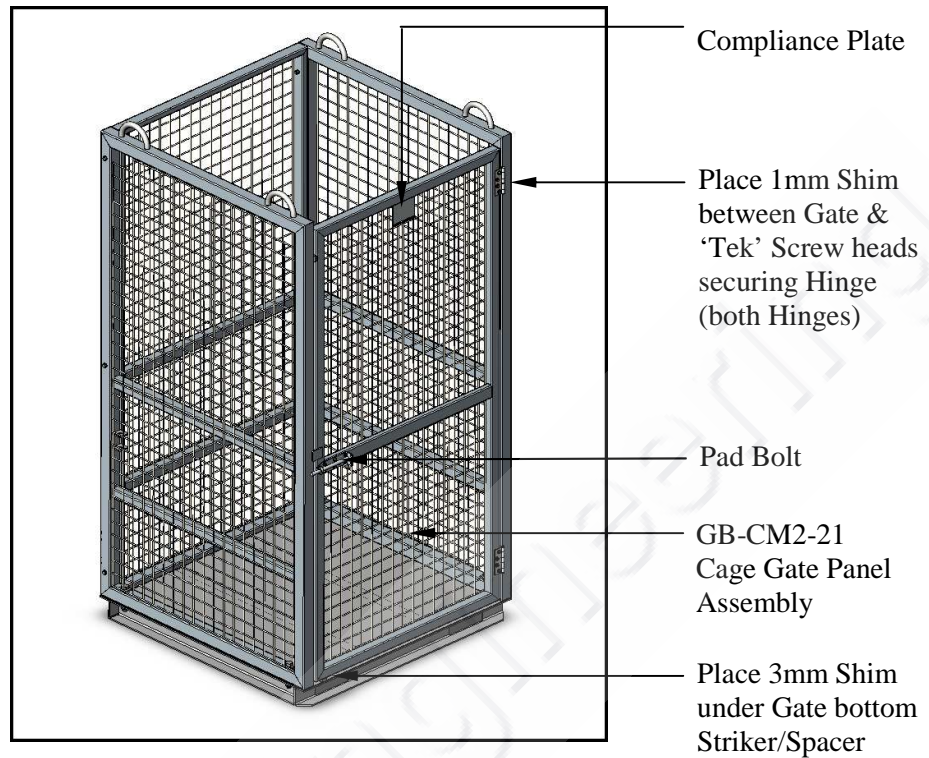


Figure 1.4

- G) Fit the Cage Gate Panel Assembly (Item 5) between the Side Panels placing a 3mm shim (supplied) under the Gate bottom striker/spacer and 1mm shims (supplied) between the Gate and 'Tek' Screw heads as shown in Figure 1.6 below. Ensure the Gate is orientated as shown in Figure 1.4 above – Pad Bolt opposite Hinges on the outside, Compliance Plate at the top. Align the front of the Gate with the front of the Side Panels ensuring an even gap between Gate, Side Panels and Base of about 10 to 12mm as shown in Figure 1.5. Clamp the Gate to the RH Side Panel and secure Hinges using #14 – 20 x 22 long 'Tek' Screws (Item 21), 4 per Hinge.

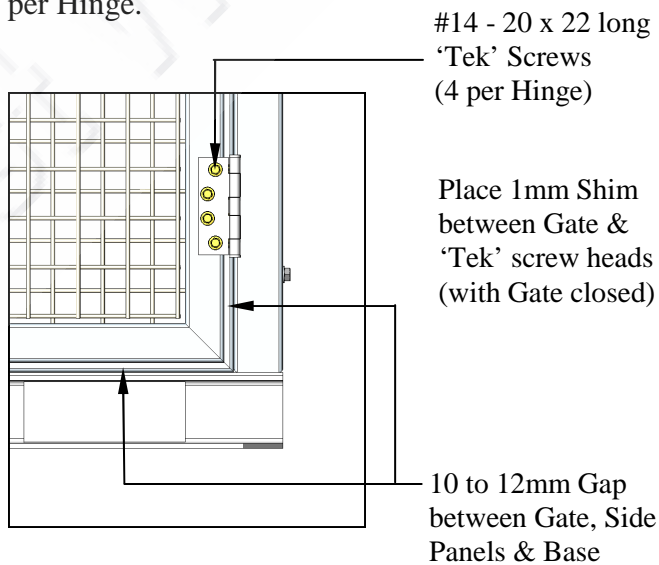


Figure 1.5

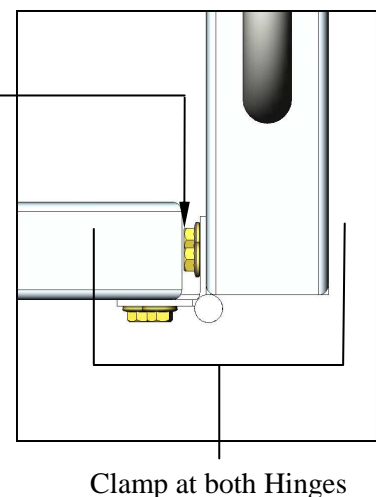


Figure 1.6

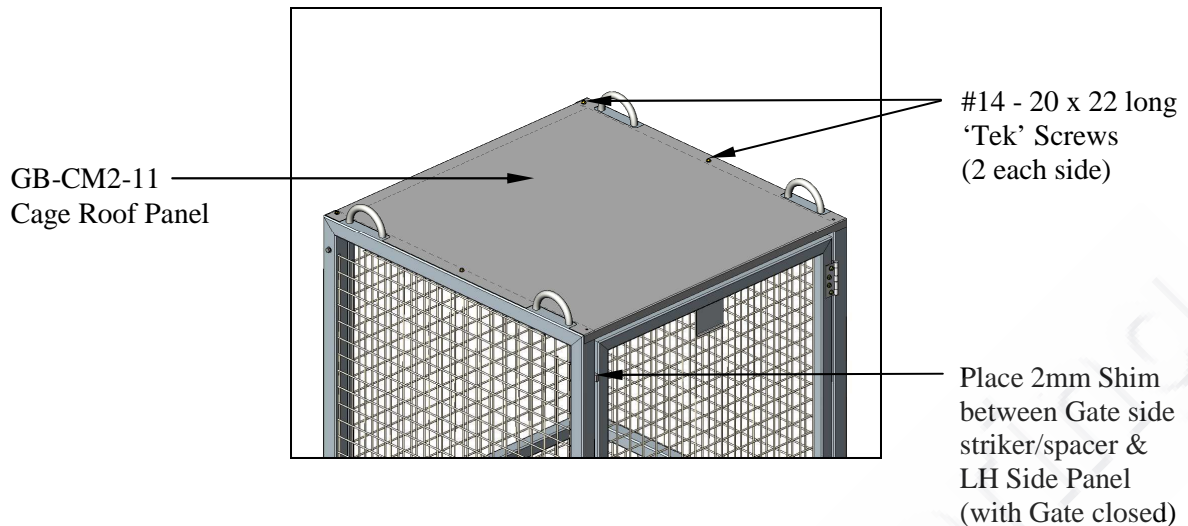


Figure 1.7

- H) Place the Cage Roof Panel (Item 6) on top of the Cage as shown in Figure 1.7 above. Ensure the fold in the Cage Roof Panel is overhanging at the front/Gate end of the Cage. Place a 2mm shim (supplied) between the Gate side striker/spacer and Cage LH Side Panel to ensure correct operation of the Gate with the Roof components fitted. With the Roof Panel hard against the Side Panels at the front and sitting centrally on the roof of the Cage, secure the Panel at the rear and centre using #14 – 20 x 22 long 'Tek' Screws (Item 21 – 4 required).

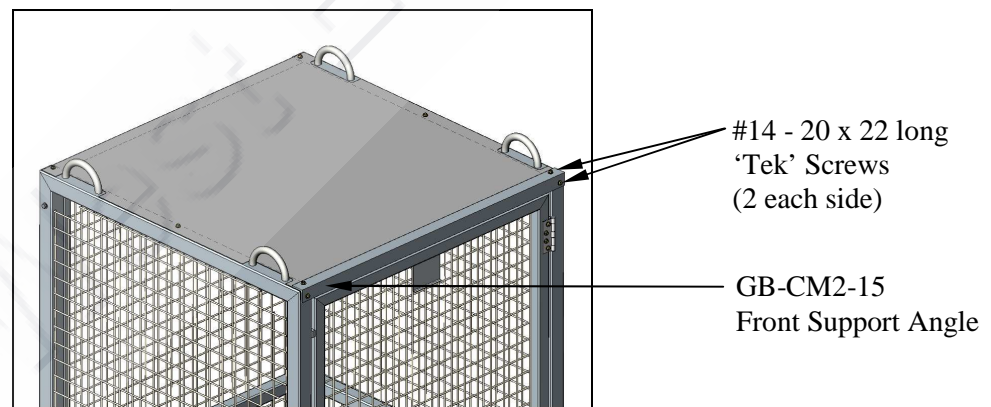


Figure 1.8

- I) With the 2mm shim still positioned, place the Front Support Angle (Item 15) over the Roof Panel fold as shown in Figure 1.8 above. Ensure the top Angle holes align with the holes in the Roof Panel. (Note: the holes in the ends of the Angle are offset – the inner most holes should be at the top). With the Angle hard up against the Roof Panel fold secure the Angle to the Side Panels at the top using #14 – 20 x 22 long 'Tek' Screws (Item 21 – 2 required). These 'Tek' screws should go through the Angle and existing holes in the Roof Panel. Once the Angle has been secured at the top, secure the Angle at the front using #14 – 20 x 22 long 'Tek' Screws (Item 21 – 2 required).
- J) Remove all shims and ensure the Gate opens and shuts without any interference.

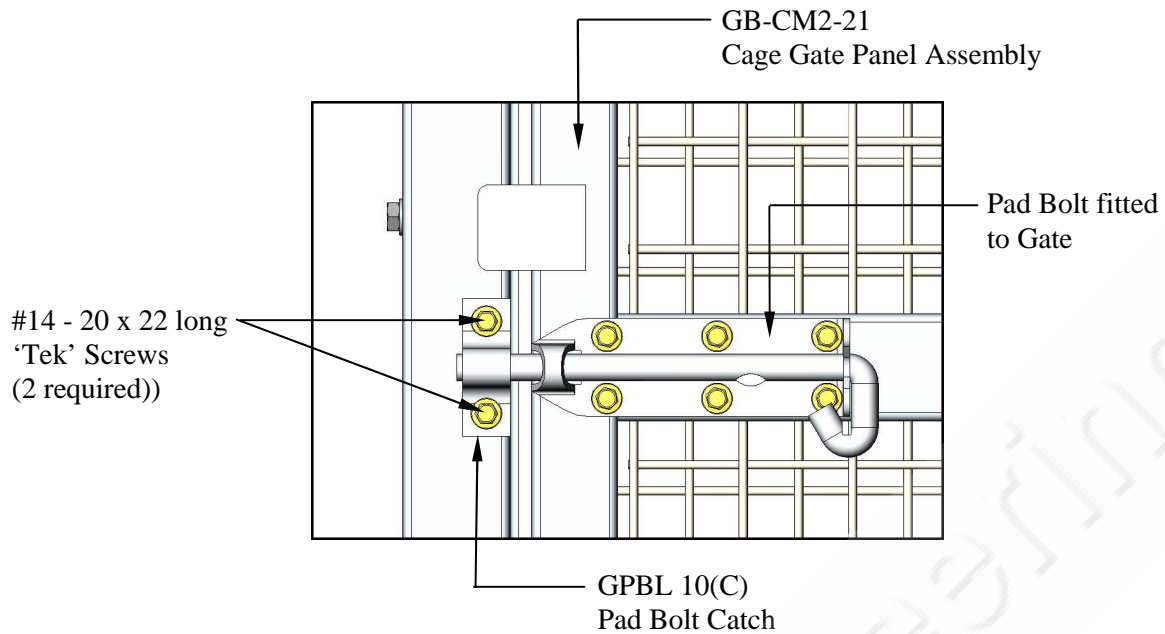


Figure 1.9

- K) With the Gate shut and Pad Bolt closed as shown in Figure 1.9 above, position the Pad Bolt Catch over the Pad Bolt aligning the edge with the inner face of the Side Panel. Ensuring equal clearance around the Pad Bolt, secure the Catch to the Side Panel using #14 – 20 x 22 long ‘Tek’ Screws (Item 21 – 2 required).

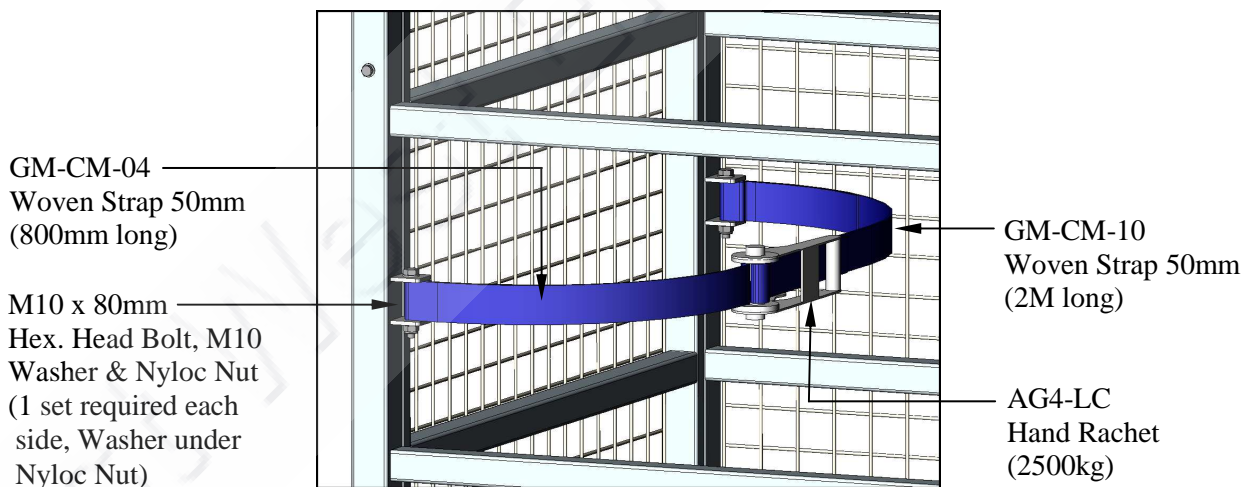


Figure 1.10

- L) Both Woven Straps (Items 8 & 9), and Hand Ratchet (Item 10) have been supplied already assembled together. Secure each end of the Straps to the Bushes inside the Cage using one (1) M10 x 80mm long Hex. Head Grade 8.8 Bolt (Item 15), M10 Nyloc Nut (Item 16) and M10 Flat Washer (Item 17 – under the Bolt head) as shown in Figure 1.10 above. The Bolts to be passed through the loop in the Straps with the Bolt head at the top of the Bush.
- M) The Gas Cylinder Storage Cage is now fully assembled and ready for use. Please read the Instruction Manual and in particular the ‘Risk Control Measures’, supplied with the unit before use.