APPENDIX 1

(Goods Details – attached to this letter)

1. **<u>Description of Goods for Quotation:</u>** Mechanical Spare Parts for the Major Overhaul of the Monorail Hoist at the Gas Compressor Platform

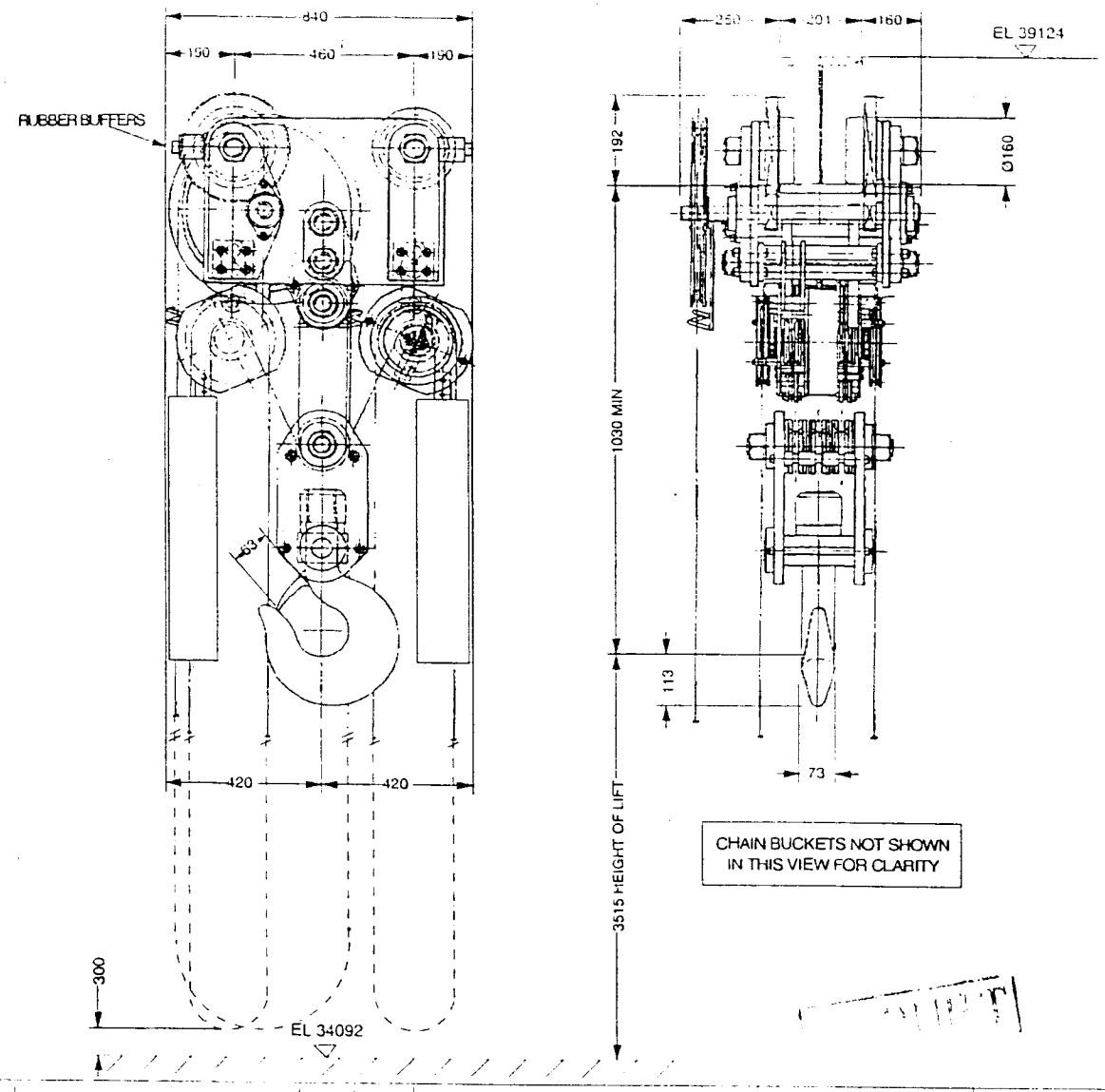
No.	Name	Technical Specifications	Unit	Quantity	Note
1	Chain hoist with trolley -SWL 12 Tons/ Pa lăng xích gồm con lăn	J.Barnsley Chain hoist & Trolley or equivalent; **Including two (2) years' spare parts as recommended by the Manufacturer,** with, at a minimum, the following items: - Friction Brake Disc (Friction washer): 1 set - Ratchet Disc (Ratchet Ring): 1 pce - Pawl Spring: 1 pce - Ratchet Pawl: 1 pce - Latch Kit (Circlip): 1 set **Specification:** - **Equipment: Combined Chain Hoists & Trolleys** - **S.W.L.: 12 Tonnes** - **Headroom ≤1.030 ± 20 mm** - **Effective Height of Lift: ≥3515mm** - **Beam Size: H506x201x11x19** - **Area Classification: Hazardous; Class I, Division 2, Group D** - **Hoist Area Classification: Sparkproof** - Hoist Designed In Accordance With BS 3243:1990 - Falls Of Load Chain: 6 - **Total Weight Of Hoist: ≤ 625 Kgs** - Effort To Raise SWL: 2 x 30 Kgs - Lifting Velocity Ratio: 2 x 252:1 - Effort To Travel Hoist: 28 Kgs - Travel Velocity Ratio: 8.19:1 - **Max. Wheel Load: 3156 Kgs** - Min. Track Radius: 7500mm **Bill Of Materials:** - Steel Plate: BS EN 10025:1993 S275JR - Load Sprocket: Aluminium Bronze BS 1400, Grade AB2 - Brake Parts: Phosphor Bronze BS 1400, Grade PB1 And AB2 - Brake Discs: Cork Nitrile - Chain Wheels: Aluminium Bronze BS 1400, Grade AB2	Set	1	

		- Trolley Wheels: Aluminium Bronze BS 1400, Grade AB2 - Chain Guides: Aluminium Bronze BS 1400, Grade AB2 - **Hooks: BS 970, Grade EN5A. Bronze Sprayed** - **Load Chain: BS 3114:1985 Grade 80. Zinc Plated** - Hand Chain: BS 6405:1984 Grade 30. Galvanised And Polished - Load Chain Troughs: Stainless Steel - Paint Specification: O.S.P.S.1 (Alternate Yellow/Black Bands Suitable For Marine And Offshore Environment *Refer to the attached technical documents from J.Barnsley: Specification & Drawing - Six 12 Tonne Hand Operated Combined Chain Hoists - Drawing No. M/877-81/83A; Data Sheet No. 3713-44-WTF-DS-133 (Page 1 of 12); Operating & Maintenance Manual*			
2	Chain hoist with trolley -SWL 10 Tons/ Pa lăng xích gồm con lăn	J.Barnsley Chain hoist & Trolley or equivalent; **Including two (2) years' spare parts as recommended by the Manufacturer,** with, at a minimum, the following items: - Friction Brake Disc (Friction washer): 1 set - Ratchet Disc (Ratchet Ring): 1 pce - Pawl Spring: 1 pce - Ratchet Pawl: 1 pce - Latch Kit (Circlip): 1 set **Specification:** - **Equipment: Combined Chain Hoists & Trolleys** - **S.W.L.: 10 Tonnes** - **Headroom ≤1.030 ± 20 mm** - **Effective Height of Lift: ≥3515mm** - **Beam Size: H506x201x11x19** - **Area Classification: Hazardous; Class I, Division 2, Group D** - **Hoist Area Classification: Sparkproof** - Hoist Designed In Accordance With BS 3243:1990 - Falls Of Load Chain: 5 - **Total Weight Of Hoist: ≤ 575 Kgs** - Effort To Raise SWL: 33 Kgs - Lifting Velocity Ratio: 420:1 - Effort To Travel Hoist: 23 Kgs - Travel Velocity Ratio: 8.19:1 - **Max. Wheel Load: 2645 Kgs** - Min. Track Radius: 4500mm **Bill Of Materials:**	Set	1	

		- Steel Plate: BS EN 10025:1993 S275JR - Load Sprocket: Aluminium Bronze BS 1400, Grade AB2 - Brake Parts: Phosphor Bronze BS 1400, Grade PB1 And AB2 - Brake Discs: Cork Nitrile - Chain Wheels: Aluminium Bronze BS 1400, Grade AB2 - Trolley Wheels: Aluminium Bronze BS 1400, Grade AB2 - Chain Guides: Aluminium Bronze BS 1400, Grade AB2 - **Hooks: BS 970, Grade EN5A. Bronze Sprayed** - **Load Chain: BS 3114:1985 Grade 80. Zinc Plated** - Hand Chain: BS 6405:1984 Grade 30. Galvanised And Polished - Load Chain Troughs: Stainless Steel - Paint Specification: O.S.P.S.1 (Alternate Yellow/Black Bands Suitable For Marine And Offshore Environment *Refer to the attached technical documents from J.Barnsley: Specification & Drawing - Five 10 Tonne Hand Operated Combined Chain Hoists - Drawing No. M/884-88A; Data Sheet No. 3713-44-WTF-DS-133 (Page 3 of 12); Operating & Maintenance Manual*			

Ghi chú/ *N*ote:

1. Key Technical Requirements: Equal to or better than the requirements for the main technical parameters and characteristics (**highlighted in bold**) specified in the Goods List.
   The offered Chain Hoists & Trolleys shall be fully compatible with the existing beam system (Beam Size: H506x201x11x19) and suitable for direct installation in accordance with Drawing No. M/877-81/83A (Item 1) and Drawing No. M/884-88A (Item 2), without requiring any modification or replacement of the existing beams.
2. Other Technical Requirements: Equal to, equivalent to, or better than the requirements for the remaining technical parameters and characteristics specified in the Goods List.



WHITE TIGER - CCP PROJECT, VIETNAM (P/No 007010)
ELEC./MANUAL HOISTS AND TROLLEY

SPECIFICATION

TAG No: M101, M102, M103, M104, M105, M107
EQUIPMENT: SIX COMBINED CHAIN HOISTS & TROLLEYS
S.W.L.: 12 TONNES
AREA CLASSIFICATION: HAZARDOUS
HOIST AREA CLASSIFICATION: SPARKPROOF
HOIST DESIGNED IN ACCORDANCE WITH BS 3243:1990

FALLS OF LOAD CHAIN: 6
TOTAL WEIGHT OF HOIST: 625 Kgs
EFFORT TO RAISE SWL: 2 x 30 Kgs
LIFTING VELOCITY RATIO: 2 x 252:1
EFFORT TO TRAVEL HOIST: 28 Kgs
TRAVEL VELOCITY RATIO: 8.19:1
MAX. WHEEL LOAD: 3156 Kgs
MIN. TRACK RADIUS: 7500mm

BILL OF MATERIALS
STEEL PLATE: BS EN 10025:1993 S275JR
LOAD SPROCKET: ALUMINIUM BRONZE BS 1400, GRADE AB2
BRAKE PARTS: PHOSPHOR BRONZE BS 1400, GRADE PB1 AND AB2
BRAKE DISCS: CORK NITRILE
CHAIN WHEELS: ALUMINIUM BRONZE BS 1400, GRADE AB2
TROLLEY WHEELS: ALUMINIUM BRONZE BS 1400, GRADE AB2
CHAIN GUIDES: ALUMINIUM BRONZE BS 1400, GRADE AB2
HOOKS : BS 970, GRADE EN5A. BRONZE SPRAYED
LOAD CHAIN: BS 3114:1985 GRADE 80. ZINC PLATED
HAND CHAIN: BS 6405:1984 GRADE 30. GALVANISED AND POLISHED
LOAD CHAIN TROUGHS. STAINLESS STEEL

PAINT SPECIFICATION: 0.S.P.S.1 (ALTERNATE YELLOW/BLACK BANDS SUITABLE FOR MARINE AND OFFSHORE ENVIRONMENT

TAG No.	BEAM SIZE	PURPOSE
M - 101	H506x201x11x19	HP COMPRESSOR A TURBINE
M - 102	H506x201x11x19	HP COMPRESSOR B TURBINE
M - 103	H506x201x11x19	HP COMPRESSOR C TURBINE
M - 104	H506x201x11x19	HP COMPRESSOR D TURBINE
M - 105	H506x201x11x19	HP COMPRESSOR E TURBINE
M - 107	H506x201x11x19	BETWEEN M - 106 TO LOADING AREA

REV	DETAIL	DATE	REV	DETAIL	DATE
A	COMMENTS AS PER FAX NO CCP-M-1191	23.7.96			

IN ACCORDANCE WITH BS 308
ALL DIMENSIONS IN MM
UNLESS OTHERWISE STATED

PROJECTION

CLIENT PETECHIM/VIETSOVPETRO
CONTRACTOR SAMSUNG HEAVY IND LTD
ORDER No: 3A-0101

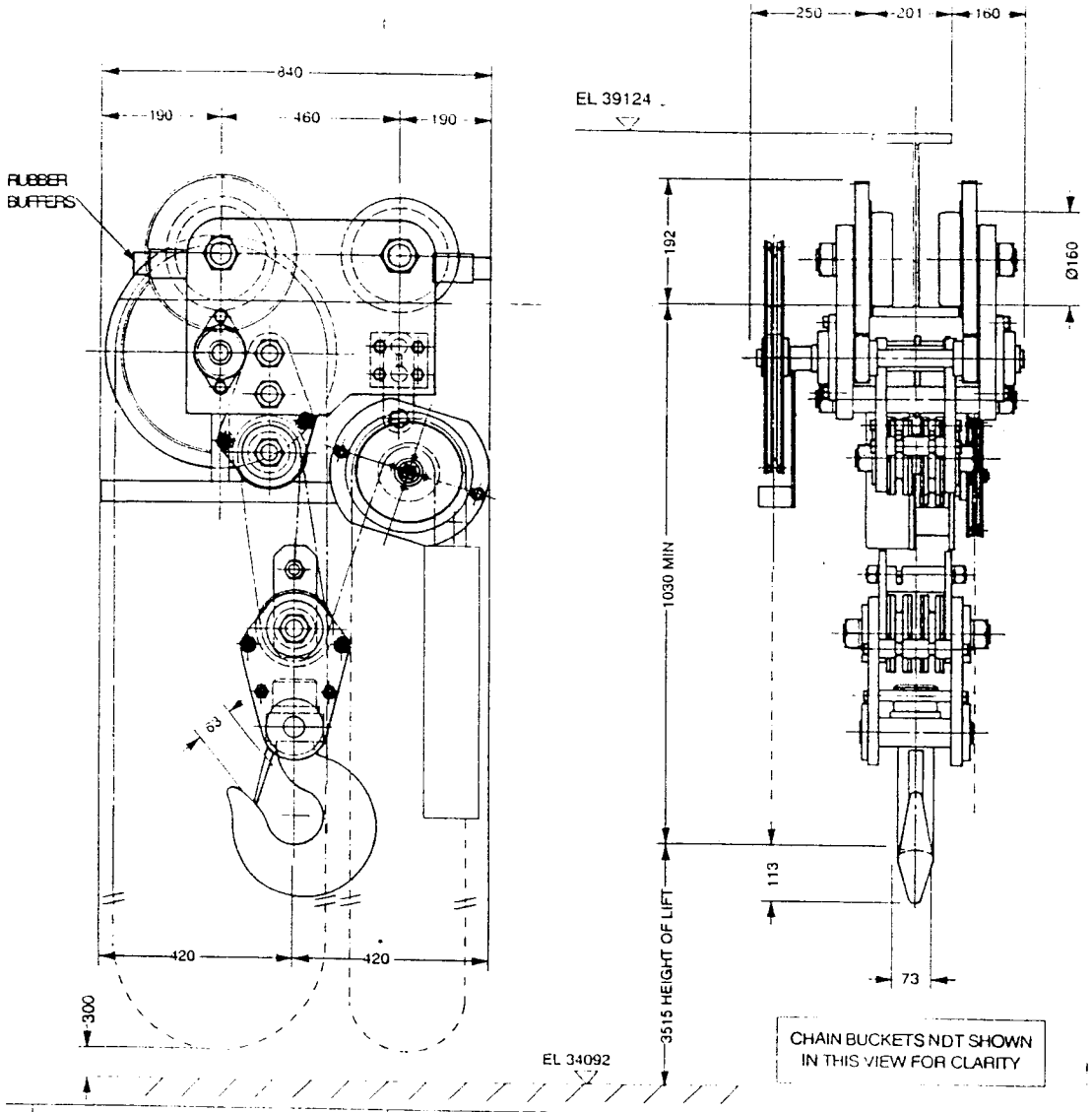
DRAWN BY	M. Smith	28-5-96
CHECKED	M. J. Bain	28-5-96
APPROVED	J. Farrance	28-5-96

J BARNSLEY

UNIT 16, PEDMORE ROAD INDUSTRIAL ESTATE,
PEDMORE ROAD, BRIERLEY HILL,
WEST MIDLANDS DY5 1TJ

TITLE
SIX 12 TONNE HAND OPERATED
COMBINED CHAIN HOISTS

JOB No	33902-06 & 08
SCALE	N.T.S.
DRG No	M/877-81/83A



WHITE TIGER - CCP PROJECT, VIETNAM (P/No 007010)
ELEC./MANUAL HOISTS AND TROLLEY

SPECIFICATION

TAG No: M108, M109, M110, M111, M112
EQUIPMENT: FIVE COMBINED CHAIN HOISTS & TROLLEYS
S.W.L.: 10 TONNES
AREA CLASSIFICATION : HAZARDOUS
HOIST AREA CLASSIFICATION : SPARKPROOF
HOIST DESIGNED IN ACCORDANCE WITH BS 3243:1990

FALLS OF LOAD CHAIN : 5
TOTAL WEIGHT OF HOIST : 575 Kgs
EFFORT TO RAISE SWL : 33 Kgs
LIFTING VELOCITY RATIO : 420:1
EFFORT TO TRAVEL HOIST : 23 Kgs
TRAVEL VELOCITY RATIO : 8.19:1
MAX. WHEEL LOAD : 2645 Kgs
MIN. TRACK RADIUS : 4500mm

BILL OF MATERIALS
STEEL PLATE: BS EN 10025:1993 S275JR
LOAD SPROCKET: ALUMINIUM BRONZE BS 1400, GRADE AB2
BRAKE PARTS: PHOSPHOR BRONZE BS 1400, GRADE PB1 AND AB2
BRAKE DISCS: CORK NITRILE
CHAIN WHEELS: ALUMINIUM BRONZE BS 1400, GRADE AB2
TROLLEY WHEELS: ALUMINIUM BRONZE BS 1400, GRADE AB2
CHAIN GUIDES: ALUMINIUM BRONZE BS 1400, GRADE AB2
HOOKS: BS 970, GRADE EN5A. BRONZE SPRAYED
LOAD CHAIN: BS 3114 :1985 GRADE 80. ZINC PLATED
HAND CHAIN: BS 6405:1984 GRADE 30. GALVANISED AND POLISHED
LOAD CHAIN TROUGH: STAINLESS STEEL

PAINT SPECIFICATION: O.S.P.S.1 ALTERNATE YELLOW/BLACK BANDS
SUITABLE FOR MARINE AND OFFSHORE ENVIRONMENT

TAG No.	BEAM SIZE	PURPOSE
M - 108	H506x201x11x19	HP COMPRESSOR A
M - 109	H506x201x11x19	HP COMPRESSOR B
M - 110	H506x201x11x19	HP COMPRESSOR C
M - 111	H506x201x11x19	HP COMPRESSOR D
M - 112	H506x201x11x19	HP COMPRESSOR E

REV	DETAIL	DATE	REV	DETAIL	DATE
A	COMMENTS AS PER FAX NO CCP-M-1191	23.7.96			

IN ACCORDANCE WITH BS 308
ALL DIMENSIONS IN MM
UNLESS OTHERWISE STATED

PROJECTION

CLIENT: PETECHIM/VIETSOVPETRO
CONTACTOR: SAMSUNG HEAVY IND LTD
ORDER No: 3A-0101

DRAWN BY	M. Smith	29-5-96
CHECKED	M.J. Bale	29-5-96
APPROVED	J. Barnsley	29-5-96

J BARNSLEY
UNIT 16, PEDMORE ROAD INDUSTRIAL ESTATE
PEDMORE ROAD, BRIERLEY HILL,
WEST MIDLANDS, DY5 1TJ

TITLE
FIVE 10 TONNE HAND OPERATED COMBINED CHAIN HOISTS

JOB No	33909-13
SCALE	NTS
DRG No	M/884-88A

PROJECT : PETROVIETNAM GAS UTILISATION			JOB NO. : 3713
LOCATION : PLATFORM CCP WHITE TIGER FIELD			CUSTOMER. PETECHIM / VIETSOPETRO
ITEM NO. : M-101, M-102, M-103, M-104, M-105, M-107			AREA CLASSIFICATION : CL I DIV 2 GR. D HAZ
NO. REQD. : 6			MFR. : J. BARNSLEY
	VENDOR UNIT CHARACTERISTICS		
1	MAKE	:	BARNSLEY / ZENITH
2	CAPACITY / LIFT	:	12 TONNE
3	VELOCITY RATIO	:	2 x 252 : 1
4	HEAD ROOM	:	1030 mm
5	PULL FOR HOISTING (IN KGS.)	:	2 x 30 KGS
6	PULL FOR TRAVERSING (IN KGS.)	:	28 KGS
7	NO. OF TROLLEY WHEELS	:	4
8	NO. OF FALLS (LOAD CHAIN)	:	6
9	LENGTH OF CHAIN PASSED PER METRE LIFT	:	2 x 252
10	TYPE OF GEAR	:	SPUR
11	AUTOMATIC LOAD BRAKE (TYPE)	:	FRICTION DISC
12	BOTTOM HOOK-SWIVELLING WITH THRUST BEARING(TYPE)	:	SEE 11 WITH SAFETY CATCH
13	TOP HOOK (TYPE)	:	N/A
14	AUTOMATIC MECH. LOAD BRAKE (TYPE)	:	SEE 11
15	BEAM SIZE FLANGE WIDTH	:	201 mm
16	a) LOAD CHAIN TROUGH (TYPE)	:	STAINLESS STEEL
	b) MINIMUM CURVE RADIUS	:	7500 mm
17	LENGTH OF CHAIN SUITABLE FOR - HOIST CHAIN	:	6000 mm H.O.L
	OPERATION FROM DECK FLOOR - TRAVERSE CHAIN	:	6000 mm H.O.L
18	TOTAL WEIGHT	:	625 KGS
19	MATERIAL OF CONTRUCTION		
19.1	LOAD CHAIN (HOIST)	:	STEEL GR. 80
19.2	HAND CHAIN - HOIST	:	STEEL GR. 30
	- TRAVERSE	:	STEEL GR. 30
19.3	LOAD WHEEL	:	AL-BRONZE AB 2
19.4	GEAR - HOIST	:	EN 24 STEEL
	- TRAVERSE	:	EN 9 STEEL
19.5	RATCHET. WHEEL	:	PHOSPHER BRONZE
19.6	PAWL	:	FORGED STEEL
19.7	HAND WHEELS	:	AL-BRONZE
19.8	TROLLEY WHEELS RIM	:	AL - BRONZE
19.9	TROLLEY WHEEL HUB	:	AL- BRONZE
19.10	BOTTOM HOOKS	:	BRONZE SPRAYED
19.11	LOAD CHAIN TROUGH	:	STAINLESS STEEL
19.12	FRAME	:	43A STEEL
19.13	HAND CHAIN GUIDE	:	BRONZE
19.14	LOAD CHAIN GUIDE	:	BRONZE
		:	
		:	

NOTE :

1. VENDOR TO FILL THE DATA SHEET SEPARATELY FOR EACH MONORAIL HOIST AS APPLICABLE

3713/C23

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A4-210X297

PROJECT : [illegible]		JOB NO. : 3713
LOCATION : PLATFORM CCP WHITE TIGER FIELD		CUSTOMER PETECHIM / VETSOPETRO
ITEM NO. : M-108, M-109, M-110, M-111, M-112		AREA CLASSIFICATION : CLI DIV 2 GR. D
NO. REQD. : 5		MFR. : J. BARNSLEY

VENDOR UNIT CHARACTERISTICS

1	MAKE	:	BARNSLEY ZENITH
2	CAPACITY / LIFT	:	10 TONNE
3	VELOCITY RATIO	:	420 : 1
4	HEAD ROOM	:	1030 mm
5	PULL FOR HOISTING (IN KGS.)	:	33 KGS
6	PULL FOR TRAVERSING (IN KGS.)	:	23 KGS
7	NO. OF TROLLEY WHEELS	:	4
8	NO. OF FALLS (LOAD CHAIN)	:	5
9	LENGTH OF CHAIN PASSED PER METRE LIFT	:	420
10	TYPE OF GEAR	:	SPUR
11	AUTOMATIC LOAD BRAKE (TYPE)	:	FRICTION DISC
12	BOTTOM HOOK-SWIVELLING WITH THRUST BEARING(TYPE)		BS 2903 WITH SAFETY CATCH
13	TOP HOOK (TYPE)	:	N/A
14	AUTOMATIC MECH. LOAD BRAKE (TYPE)	:	SEE 11
15	BEAM SIZE FLANGE WIDTH	:	201
16	a) LOAD CHAIN TROUGH (TYPE)	:	STAINLESS STEEL
	b) MINIMUM CURVE RADIUS	:	4500 mm
17	LENGTH OF CHAIN SUITABLE FOR - HOIST CHAIN	:	6000 mm H.O.L
	OPERATION FROM DECK FLOOR - TRAVERSE CHAIN	:	3000 mm H.O.L
18	TOTAL WEIGHT	:	575 KGS
19	MATERIAL OF CONTRUCTION		
19.1	LOAD CHAIN (HOIST)	:	STEEL GR. 80
19.2	HAND CHAIN - HOIST	:	STEEL GR. 30
	- TRAVERSE	:	STEEL GR. 30
19.3	LOAD WHEEL	:	AL-BRONZE AB 2
19.4	GEAR - HOIST	:	EN 24 STEEL
	- TRAVERSE	:	EN 9 STEEL
19.5	RATCHET. WHEEL	:	PHOSPHER BRONZE
19.6	PAWL	:	FORGED STEEL
19.7	HAND WHEELS	:	AL-BRONZE
19.8	TROLLEY WHEELS RIM	:	AL - BRONZE
19.9	TROLLEY WHEEL HUB	:	AL- BRONZE
19.10	BOTTOM HOOKS	:	BRONZE SPRAYED
19.11	LOAD CHAIN TROUGH	:	STAINLESS STEEL
19.12	FRAME	:	43 A STEEL
19.13	HAND CHAIN GUIDE	:	BRONZE
19.14	LOAD CHAIN GUIDE	:	BRONZE
		:	

NOTE :

1. VENDOR TO FILL THE DATA SHEET SEPARATELY FOR EACH MONORAIL HOIST AS APPLICABLE

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3713/023

A4-210X297

CCP White Tiger Project - 7010
Elec. Hoist/Monorail Hoist/Miscellaneous
P.O. NO. 3A-0101
JBC REF: 33902-27

J BARNSLEY
Cranes Limited
Unit 16 Pedmore Road Ind Estate
Pedmore Road
Brierley Hill
West Midlands
DY5 1TJ

Tel: +44 (0) 1384 484811
Fax: +44 (0) 1384 484333

OPERATING

&

MAINTENANCE

MANUAL

ALL ITEM NO.s (EXCEPT M-106)

MANUAL HOISTS

JBC REF: 33902-24

CCP White Tiger Project - 7010
Elec. Hoist/Monorail Hoist/Miscellaneous
P.O. NO. 3A-0101
JBC REF: 33902-27

J BARNSLEY
Cranes Limited
Unit 16 Pedmore Road Ind Estate
Pedmore Road
Brierley Hill
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Fax: +44 (0) 1384 484333

OPERATING & MAINTENANCE MANUAL

INDEX

PRE-INSTALLATION CHECKS

PHYSICAL CLEARANCES

INITIAL LUBRICATION

COMMISSIONING

OPERATING INSTRUCTIONS

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LUBRICATION

MAINTENANCE

DISMANTLING AND REPLACEMENT PARTS - LOAD CHAIN RENEWAL

DISMANTLING HOIST

DISMANTLING LIFTING UNIT

REASSEMBLY

BRAKE ASSEMBLY

HAND CHAIN HOISTS

The suspension arrangements are of two types - hook or trolley. Hook suspension arrangements, for capacities up to 2 tonnes, consist of a top hook assembly which is directly attached to the lifting unit. Hook suspension arrangements, for capacities of 3 tonnes and over, comprise a top yoke, which contains a top hook. Each lifting unit is attached to the yoke by means of a suspension link.

Pre-Installation Checks

Check for transit damage.
Check that all fasteners and joints are tight and secure.
Check the capacity of the lifting unit and bottom block.
Check that the load chain is in good order and not twisted.

Hook Suspension Hoists

The suspension point should be of a correct size to admit the top hook of the hoist, and allow it to rest properly on the saddle. It must be adequate to support the hoist while it is being operated at its maximum capacity (safe working load).

Travelling Hoists

The runway beam or girder should be of correct size, of adequate strength with an even running surface, and should be packed level at support points. The level of the running surface should not deviate by more than 2mm in any 2 metre length of track. The maximum deviation, in height, along the total track length, of any runway, must not exceed 10mm. Where it is possible to lift the unit onto the beam without dismantling the trolley, the hoist should be positioned on the beam and end stops fitted to both ends of the beam.

Physical Clearances

The hoist must hand free of all obstructions.
The suspension point should be in such a position that the load hook and any anticipated load can be raised and lowered free of obstructions.
Travelling hoist: The path of the hoist, the load hook and any anticipated load must be free of obstruction.
On hoists of 3 tonne capacity and over the bottom hook must not touch the floor. If necessary, shorten the length of the load chain.

Initial Lubrication

It is essential to lubricate the load chain before being put into use.

Commissioning

All units are tested in accordance with UK Statutory requirements, and a Test Certificate supplied.
On completion of installation, but before the crane is put into regular service the following procedure should be carried out:-
Check all joints and fasteners are tight and secure.
Operate the hoist with both no load and full load and check that the operation is smooth at all times.
Check operation of hoist brake, under light load and full load conditions.
Travel units - run throughout the full extent of the runway, ensuring adequate clearance at all times.

J. BARNSLEY
Cranes Ltd

HAND CHAIN HOIST - OPERATING INSTRUCTIONS

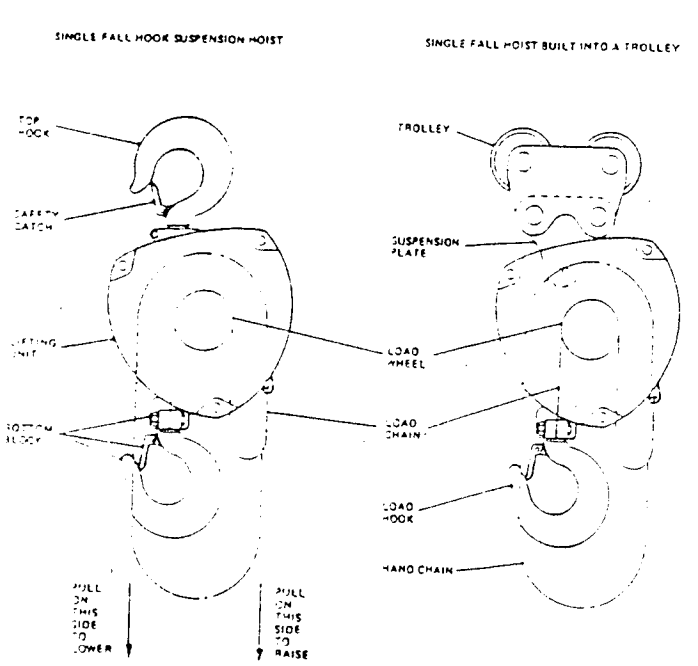
Hoist blocks are suitable for in-line lifting only. Side pulling should always be avoided.
To raise or lower the bottom block, pull on the appropriate side of the hand chain as shown. Use an appropriate sling (so not use the load chain for slinging) and attach the ring on the sling to the bottom hook. Ensure the ring is properly seated and the safety catch on the hook is closed. On multi-fall hoists check that the load chain is not twisted due to the bottom block turning over.

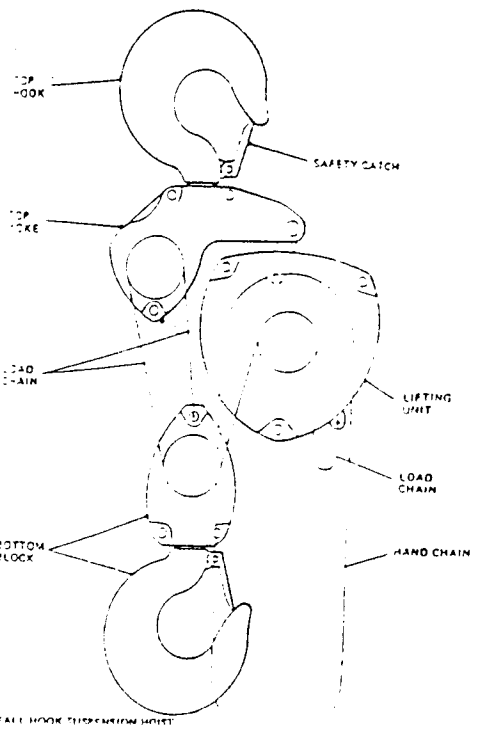
Safe Working Load

The safe working load is that load indicated on the hoist unit capacity plate. This is the maximum load that may safety be lifted with the hoist. Under no circumstances should a load greater than the SWL be suspended from the hoist.

Care and use of Hoist

As with all lifting appliances care is necessary in the use of the hoist and proper and safe working routines should always be observed.
Careless or rough handling to maintain the hoist may result in a dangerous failure of the unit.
Always examine the hoist carefully before you use it - your life may be at stake. Look for cracks or damage, particularly with hooks and load chain. Check that the hooks are not distorted and the safety catches are fitted and close properly. Note: an apparently ill-fitting safety catch can be an indicated of a distorted hook.
Examine the hoist and load chain regularly. Do not use the hoist if it is damaged or parts are missing or if the load chain is worn or damaged.
Check that any slings or attachments are in good order.
Keep the load chain clean and oiled to prevent undue damage or wear. When in use, avoid dragging the load chain through dirt or mud.
When the hoist is used in a corrosive environment, ensure that it is regularly and adequately lubricated.
In an abrasive environment , cleanliness is extremely important. Do not over lubricate.
When working at height or carrying the hoist take adequate care of the safety of those below.
Do not exceed the safe working load of the hoist.
Do not operate the hoist if you do not have a clear view of the bottom block and the load.
For a hoist fitted onto a runway check that;
- the length of the runway to be used, is clear of obstructions and in good order.
- end stops are fitted at both ends of the runway and that they are secure and in good condition.





J. BARNSLEY
Cranes Ltd

CARE AND SAFE USE OF CHAIN PULLEY BLOCKS

Chain pulley blocks are precision made and should be treated with appropriate care. Do not drop chain pulley blocks from a height.

Never lift a load in excess of the safe working load on the block. The block has been tested at more than this load, but it has been done under carefully controlled conditions. Use of the block at any load greater than the safe working load may result in damage.

Never use a load chain as a sling i.e. by back hooking. Do not tie knots in the load chain or join it by bolts.

Before use, examine the load chain to ensure that there is no twist. In the case of a block lifting on two parts of chain, twist can arise for the bottom block being accidentally turned over.

Keep load chain well lubricated along their whole length and especially at the contact points between the links. Where oils and greases are not desirable use a dry lubricant. Failure to maintain correct lubrication reduces to life of the chain.

If the load chain jumps, does not work smoothly, or marks in use, it is probably out of pitch and should be replaced.

Do not allow dirt or hard grease to gather in the pockets of the load or hand chain wheels.

Chain pulley blocks are designed for lifting loads vertically and should not be used for pulling horizontally or at an angle or for towing vehicles, without due allowance being made.

Never lift with the point of the hook.

Never run the load chain out too far. When the bottom hook is run out beyond the extended dimension, an excessive and dangerous load is imposed at the load chain slack end anchorage. When the block is rigged, care should be taken to ensure that the load can be landed without running out the load too far.

Never make any alterations to the load chain without reference to the block maker or to an accredited repairer.

All chain pulley blocks should be registered. They should be inspected frequently and should be examined, cleaned and lubricated at recognised intervals.

Remember to correct the range marking on the block of at any time an alteration is made in this dimension.

HAND CHAIN HOISTS

J. BARNSLEY Cranes Ltd

LUBRICATION

If high duty use or in abrasive, corrosive or hot environments, the hoist may require more frequent attention and the frequencies given below must be regarded as a minimum.

Part	Lubricant			Application	Frequency
	Shell	BP	Rocol		
CHAIN					
Load Chain	Omala 320	Energol GR-XP320	M070 MV3*	Oil can, brush or swab. Ensure whole length of chain is clean and adequately lubricated. Pay particular attention to the point of contact between the links (i.e. chain saddles).	3 monthly
Hand Chain	Omala 320	Energol GR-XP320	M070 MV3*	Oil can, brush or swab. Keep the whole length of the chain clean and lightly lubricated.	6 monthly
HOOKS, YOKE & BOTTOM BLOCK					
Hook, shank and thrust face (500Kg 1t, 2t & 2t hoists)	Alvania Grease RA	Energrease L21M	Tufgear 85	Clean hooks and swivel halves and repack. To remove swivel halves, remove lifting unit gear cover and withdraw hook pin.	2 yearly
Hook Thrust Bearings (5t and over hoists)	Alvania Grease RA	Energrease LS2		Clean and repack	2 yearly
Load Wheel Needle Bearings	Alvania Grease RA	Energrease LS2		Pressure packed on assembly	No lubrication required
LIFTING UNIT					
Spur Gearing			Tufgear 85	Clean all gears and apply fresh lubricant to all gear teeth.	14monthly
Plain Bearings (gearcover, side plates & loadwheel)			Tufgear 85	Liberally smear the inside of all brushes.	14monthly
Needle and Roller Bearings	Alvania Grease RA	Energrease LS2		Pressure packed on assembly	No lubrication required
Driving Shaft			Tufgear 85	Clean shaft and apply fresh grease over entire surface of shaft.	14monthly
Ratchet Ring	Omala 320	Energol GR-XP320	M070	Lightly smear bore and teeth only.	14monthly
Handchain or Wheel or Load Limiter Hub	Omala 320	Energol GR-XP320	M070	Lightly smear the bore only.	14monthly
TROLLEY					
Runner Bearings	Pressure packed during manufacture - no relubrication requirements.				
Traverse shaft (geared travel only)	Alvania Grease 2 + MOS_2	Energrease GG		Liberally smear the bush ends where these mate with another surface.	Lubricate only after stripping down the trolley for replace-ment parts.
Spur Gearing (geared travel only)	Cardium Compound D	Energrease GG	Tufgear 85	Clean all gears and apply fresh lubricant ensuring full cover, without allowing any lubricant onto the runner treads.	14monthly

* Dry film lubricant for use in abrasive conditions.

MAINTENANCE

Statutory regulations require that the hoists should be inspected and certified at regular intervals by a competent person. This is a safety measure, and to fulfil both this requirement and to obtain the most efficient and reliable operation, the hoist should be regularly serviced and maintained.

Routine Examination

The hoist should be regularly inspected for damage and wear and to ensure that it is operating smoothly. Where the hoist is used infrequently, a visual check should be made of the hoist each time it is used.
The following is a guide to routine checks which should be carried out on a hoist, which is used in normal operation conditions. Where a hoist in used or stored outdoors or in corrosive or abrasive conditions, inspection and lubrication must be attended to more frequently.

External Inspection (monthly checks)

Capacity Indication	Inspect monthly	There should be a clear indication of capacity
HOOK TOP/BOTTOM		
Deformation of Hook	Inspect visually	There should be no deformation of the hook. Safety catch should close against the tip of the hook.
Damage to the Hook	Inspect visually	There should be no cracks, or serious damage.
Bend in the Neck of Hook	Inspect visually	Hook should hang square to lifting unit or top yoke (to hook) or to side plates (bottom block).
Suspension Pin	Inspect visually	Should not be bent, cracked or worn.
Side Plates and Suspension Plates	Inspect visually	There should be no cracks, damage or wear.
Rivets, Bolts and Nuts	Inspect visually	All fasteners should be tight
Safety Catch	Inspect visually	Should close properly
Chain	Inspect visually	Should be properly lubricated and free from rust and dust.
Slack End Pin and Chain Anchor	Inspect visually	Should not be bent
Chain Wheels	Inspect visually	Chain pockets should not be deformed, should rotate freely.
Chain Guide Rollers	Inspect visually	Should rotate freely and keep chain in the pockets of the chain wheel(s). Examine rollers for wear where they contact the chain. Replace rollers if wear exceeds maximum shown.
TROLLEY		
Side plates	Inspect visually	Should not be cracked or damaged. Cross bolt holes should not be elongated.
Cross Bolts	Inspect visually	Should not be bent.

TROLLEY

Trolley Runners	Inspect visually	Should not be cracked, damaged or worn and should rotate freely.
Gearing (traverse shaft and geared runners where fitted)	Inspect visually	Gear teeth should not be chipped, flattened, deformed or damaged. Traverse shaft should be secure and not bent or deformed. There should be no movement or play between the shaft and the handchain wheel.
Handchain Wheel (Gear Travel	Inspect visually	Wheel should not be cracked or damaged. Chain pockets should not be deformed.

FUNCTIONS (monthly tests)

Lifting and Lowering	Lift and lower a light load (approx 25Kg)	Hoist should operate smoothly and easily. Pawl should click during lifting.
Braking	Lift and lower the full safe working load	Lifting and lowering operations should be smooth without any of the following defects. 1. Load falls if hand chain released. 2. Load falls while lowering. 3. Load slips.

INTERNAL CONSTRUCTION (14monthly service)

The routine inspection and tests listed above, together with the following inspections should be carried out every fourteen months by a competent person as part of the UK statutory inspection requirement and to ensure the efficient and safe use of the hoist.
To carry out these inspections it will be necessary to dismantle the hoist and lifting unit as described later.

IMPORTANT After re-assembly, the operation of the hoist must be tested firstly with a load of approximately 25Kg and then with the full safe working load.

Suspension Pin	Remove from unit and inspect visually.	Should not be bent, corn or cracked.
Ratchet Wheel and Pawl	Inspect visually before dismant-ling brake (see below)	Wear on the ratchet teeth profile and pawl must not be excessive-pawl must engage fully in the ratchet teeth. The Pawl should not be rusted. Check that the pawl stud is secure and that the circlip is retaining the pawl
Load Wheels and Chain Wheels	Inspect visually	Clean out loadwheel chain pockets and check that these are not deformed.
Spur Wheels and Pinions	Inspect visually	Clean off lubricant and check that gear teeth are not chipped, damaged or worn. Relubricate.
Hand Chain Wheel	Inspect visually	Chain pockets should not be deformed.
Chain Guide Rollers	Inspect visually rotate freely.	Should not be damaged, worn or deformed and must
Stripper	Inspect visually	Tip of stripper should not be seriously flattened or damaged. (If in doubt consult a competent lifting gear engineer or fit new items).

Brake

Examine the disc hub, friction washers, ratchet ring and handchain wheel, pawl, pawl spring and pawl stud. All items must be in good condition. The faces of the hub, ratchet ring and handchain wheel must not be worn or scored.
The friction discs should be measured with a vernier caliper.
Minimum permissible thickness is 1.5mm. Friction discs must not be split or cracked.

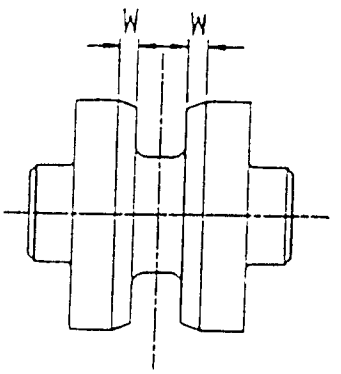
WARNING

FRICTION DISCS AND THE FACES OF THE HUB, RATCHET RING AND HANDCHAIN WHEEL MUST BE KEPT CLEAR OF ALL LUBRICANTS.

NEVER LUBRICATE ANY FRICTION DISCS

FAILURE OF THE BRAKE WILL RESULT IN THE LOAD FALLING

Permitted Wear on Chain Guide Roller

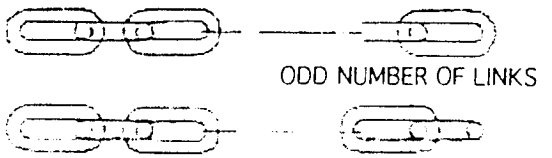


Width of wear pattern (w) must not exceed 3mm.

DISMANTLING AND REPLACEMENT PARTS

Load Chain Renewal

Provided the chain links are not deformed the load chain can be replaced with the hoist in the suspension position. Alternatively the hoist can be re moved from the suspension point and the work carried out on a bench. If the chain is jammed in the lifting unit the hoist should be removed from the suspension point and stripped down.



Odd and Even Numbers of Chain Links

With the hoist suspended

1. Lower the bottom block onto the floor or suitable support.
2. Detach the slack end pin.
3. Join the new chain to the old chain as follows:
   Hoists up to 2 tonne—cut a piece from one side of the last link to form a C.
   Hoists over 2 tonne— use a piece of wire to form a temporary link.

   N B The welded side of the links must face away from the lifting unit loadwheel.

4. Operate the hand chain to draw the new chain through the lifting unit, leaving only sufficient chain to attach to the slack end pin.
5. Attach the chain to the lifting unit, by means of the slack end pin, ensuring that the chain is not twisted.
6. On hoists up to 2 tonnes, dismantle the bottom block, check that it is not damaged or worn and fit it to the new chain. Check that the bottom block hangs in the correct plane (as shown in Figure 1) when drawn up to the lifting unit.
7. On 3 to 16 tonnes hoists, pull the chain through the top yoke (except 5 tonne hoist) and the bottom block. Detach the old chain and attach the new chain to the chain anchor.

   N B Examine the anchor pin. If it is bent or worn, fit a new pin.

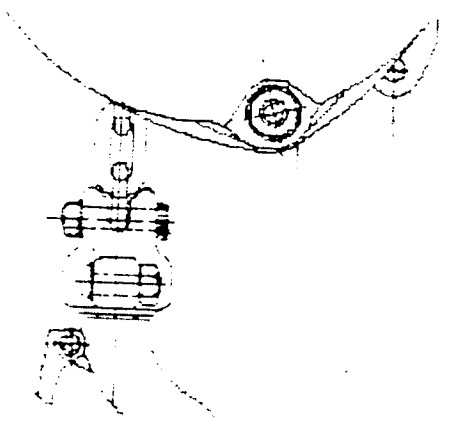
8. On 20 tonne hoists, operate the second lifting unit to draw the chain through to the slack end pin on the second lifting unit. Detach the old chain and attach the new chain to the lifting unit by means of the slack end pin, ensuring that the chain is not twisted.
9. Wipe the chain clean and lubricate.
10. Before putting the hoist back into use carry out an external inspection lie monthly checks and tests) and test the functions according to the instructions on .

With the hoist on a work bench

1. Detach the slack end pin.
2. Operate the handchain wheel to pass the load chain through and out of the lifting unit.
3. Detach the chain from the bottom block and top yoke hoists over 2 tonnes).
4. Feed the new chain into the lifting unit loadwheel, with the leading link in the correct plane to fit onto the slack end pin and with the welded side of the chain link facing out from the loadwheel circumference.
5. Turn the handchain wheel to draw the load chain through the lifting unit.
6. Attach the chain to the lifting unit, by means of the slack end pin, ensuring that the chain is not twisted.
7. On 5 tonne hoists, fit the chain to the top yoke.
8. On 3 tonne and 8 tonne hoists, thread the chain over the chainwheel in the top yoke.
9. On all hoists up to 8 tonnes, fit the bottom block to the chain.
10. On 10 tonne and 16 tonne hoists, thread the loadchain through the bottom block and top yoke. Check that the chain is not twisted, and attach it to the top yoke.
11. On 20 tonne hoists, thread the loadchain through the bottom block and top yoke. Pass the loadchain through the second lifting unit and attach it to the second lifting unit with the slack end pin, ensuring that the chain is not twisted.
12. Return the hoist to its suspension point. Check that the loadchain is not twisted then wipe it clean and lubricate it.
13. Test the operation of the hoist with a load of approximately 25 kg and with full safe working load.

Fitting Bottom Block

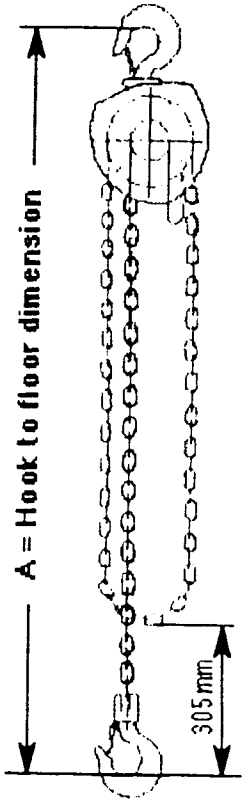
On 500kg, 1 tonne and 2 tonne bottom blocks, the top socket head shoulder screw must be fitted with the head on the right hand side, relative to the lifting unit, as shown below. Where the loadchain is anchored to the bottom block, the nut on the setscrew which anchors the chain must be tightened to a maximum torque of:
500 kg hoists — 4Nm (3 lbft)
1 & 3 tonne hoists—10Nm (7.5 lbft)
2 & 8 tonne hoists—34Nm (25 lbft)
Ensure chain hangs relative to the lifting unit as shown below (chain hanging without twists).



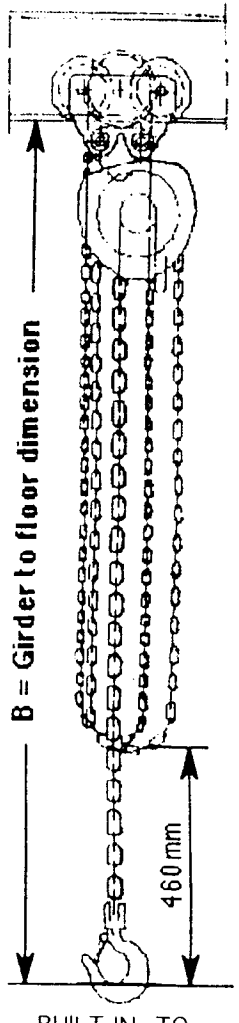
Fitting Bottom Block

Chain Sizes and lengths

		LOADCHAIN				HANDCHAIN				
						LIFTING			TRAVERSE	
HOIST CAPACITY	TROLLEY WIDTH RANGE (Built-in travelling units only) mm	SIZE	LENGTH mm		Odd or even number of links	SIZE	LENGTH mm		SIZE	LENGTH mm
			Hook Suspension	Built-in travelling			Hook suspension	Built-in travelling		
500 kg	76 to 210	5	A—82	B—80	Even	5	2A-671	2B-1000	No. 5 (7/32 inch)	2B-600 even number of links
	210 to 305			B—120				2B—1080		
1t	76to210	6.3	A-149	B-130	Even	5	2A-704	2B-1000		
	210 to 305			B-170				2B-1080		
2t	90 to 216	10	A—117	B—80	Even	6	2A-738	2B-990		
	216to 305							2B—1070		
3t	126 to 210	6.3	3A—845	3B-700	Odd	5	2A-878	2B-1100		
	210 to 305			3B—900				2B—1230		
5t	126 to 210	10	2A—570	2B-390	Odd	6	2A-852	2B-1000		
	210 to 305			2B-520				2B—1130		
8t	154 to 305	10	3A—1450	3B—1300	Odd	6	2A—1330	2B—1200	6.5mm long link	2B-490 even number of links
10t	154 to 305	10	4A 2050	4B 1900	Odd	6	2A 770	2B 1190		
16t	-	10	6A—4430	-	Odd	6	2A—1130	-	-	-
20t	-	10	8A—6190	-	Odd	6	Two chains each 2A-1200	-	-	-



HOOK SUSPENSION



BUILT-IN TO TROLLEY

DISMANTLING THE HOIST

Warning

Take care before releasing the unit, as the loadchain may be considerably heavier than the lifting unit.

1. Prepare a clean area of the floor and position the hoist over it.
2. Operate the handchain to lower the bottom block until the load chain is fully wound out. If the bottom block does not rest on the floor, provide a suitable support to relieve the tension on the loadchain.
3. Remove the cotter pin (item 22), withdraw the slack end pin (item 21) and operate the handchain wheel to wind the loadchain through the lifting unit.
4. On all hoists over 2 tonnes, support the weight of the lifting unit and remove the setscrew securing the lifting unit suspension link to the top yoke. Lower the lifting unit to the floor.
5. On lower capacity hook suspension hoists, remove the complete hoist by unhooking from the suspension point.
6. On lower capacity hoists built into a trolley, remove the hoist complete with trolley, by removing the end stops from one end of the runway beam or by slackening the trolley crossbolt nuts. (A trolley can be fully dismantled by removing the crossbolt nuts).

DISMANTLING LIFTING UNIT

1. Remove the hand chain cover (item 35) by removing three nuts and washers (items 37 & 36).
2. Remove spacers (item 30) and lift off hand chain.
3. Remove retaining pin (item 34) of C clip (item 48) and hand chain wheel retaining nut (item 33).
4. Grip the end of the driving shaft (item 10) and unscrew the hand chain wheel (item 31).

NB Do not disturb the round locking nut (item 47).

5. Remove the cover (item 29) and friction washers, ratchet ring, and disc hub (items 24, 25,23).
6. If required remove the pawl (item 26) and spring (item 27) by removing the circlip (item 28).
7. Remove the gear cover (item 6) by removing three nuts and washers (items 37 & 36).
8. Remove the two spurwheel assemblies (item 7).
9. Withdraw the top hook pin (item 59) and remove the top hook or trolley suspension plate.
10. Withdraw the chain stop pin (item 20) and remove the anchor plate(s).
11. Withdraw the drive shaft (item 10) and lift off the washer (item 11).

DISMANTLING LIFTING UNIT Contd

12. Lift off the sideplate (item 5) complete with spurwheel (item 12) and loadwh (item 9).
13. Remove the chain guide rollers (item 16) and chain stripper (item 15).
14. If required separate the spurwheel (item 12) and the loadwheel (item 9) from sideplate (item 5).
15. Examine the bearings.

NB If bearings or stay bolts are damaged or the pawl stud is loose, the complete s plate assembly must be replaced.

REASSEMBLY

The components are reassembled in reverse order.
Note the following:-

1. The intermediate spurwheels (item 7) and the load spurwheel (item 12) should aligned with S and O marks as shown.
2. Components should be cleaned and lubricated as listed in the lubrication instructions.
3. The brake components must be assembled according to the Brake Assembly instructions below.
4. If a new load wheel has been fitted a new load chain must be fitted.
5. The six nuts (item 37) securing the gear cover and handchain wheel cover must tightened to the following torques:

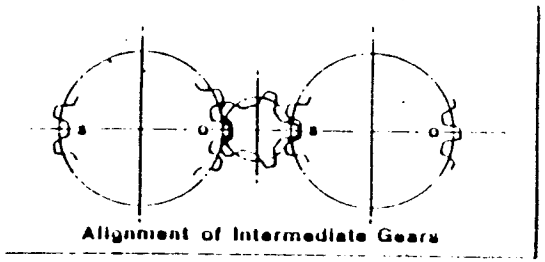
500kg hoists	11Nm (8lbft)
1 & 3 tonne hoists	11Nm (8lbft)
2 tonne hoists	21.75Nm (16lbft)
5 tonne & over hoists	21.75Nm (16lbft)

6. To fit the load chain, see Load Chain renewal with the hoist on a workbench.
7. If a hoist has a trolley and this has been dismantled.
8. After reassemble the complete hoist should be tested, by a competent persc checks should include a light load test of approximately 25kg and the full safe working load.

BRAKE ASSEMBLY

The brake assembly comprises the disc hub (item 23), the friction washers (item 24), th ratchet ring (item 25), hand wheel (item 31) and slotted nut (item 33).

1. When assembling the brake tighten the disc hub (item 23) and hand wheel (ite 32) finger tight only.
2. The slotted nut (item 33) should be tightened firmly and then unscrewed one slot.
3. Lock the nut in position with a new stainless steel splitpin.



Lifting Unit

Lifting Unit Spare Parts

Note: 20 tonne hoists have two lifting units, all other hoists have one lifting unit.
Quantities given are for one lifting unit.

Itm	Description	Qty	Part Number					
			500 kg	1 t	2 t	3 t	5 t	8 t, 10 t, 16 t, 20 t
1	Nameplate - 1 T to 5 T	1	4102-1613	4102-1620	4102-1638	4102-1652	4102-1669	see below
	Nameplate - 8 T	1	---	---	---	---	---	4102-1677
	Nameplate - 10 T	1	---	---	---	---	---	4102-1684
	Nameplate - 16 T	1	---	---	---	---	---	4102-1691
	Nameplate - 20 T	1	---	---	---	---	---	4102-1704
2	Self Tapping Screw	4	2146-0244	2146-0244	2146-0244	2146-0244	2146-0244	2146-0244
4	Sideplate H/C Wheel Side	1	4441-1603	4441-1627	4441-1379	4441-1627	4441-1379	4441-1379
5	Sideplate G/Box Side	1	4441-1610	4441-1635	4441-1659	4441-1635	4441-1659	4441-1659
6	Gear Cover with bearings	1	4441-0706	4441-0713	4444-0996	4441-0713	4444-0996	4444-0996
7	Spurwheel Assembly	2	4602-1383	4602-1376	4603-0937	4602-1376	4603-0937	4603-0937
9	Loadwheel Assembly	1	4621-0841	4621-0858	4621-0750	4621-0858	4621-0750	4621-0750
10	Driveshaft	1	4600-0490	4600-0483	4600-0476	4600-0483	4600-0476	4600-0476
11	Thrust Washer	1	3140-1594	3140-1594	3140-1449	3140-1594	3140-1449	3140-1449
12	Load Spurwheel	1	4609-2656	4609-2632	4609-2671	4609-2632	4609-2671	4609-2671
15	Chain Stripper	1	4625-0125	4625-0133	4625-0140	4625-0133	4625-0140	4625-0140
16	Chain Guide Roller	2	4622-0141	4622-0165	4622-0173	4622-0165	4622-0173	4622-0173
17	Anchor Plate	1	3011-0139	---	---	---	---	---
18	Anchor Plate (LHS) *	1	---	3011-0153	3011-0178	3011-0153	3011-0178	3011-0178
19	Anchor Plate (RHS) *	1	---	3011-0146	3011-0160	3011-0146	3011-0160	3011-0160
20	Anchor Plate Pin	1	3204-0591	3204-0584	3204-0577	3204-0584	3204-0577	3204-0577
21	Chain Stop Pin	1	3201-0241	3201-0234	3201-0226	3201-0234	3201-0226	3201-0226
22	Split Pin	1	2016-0556	2016-0556	2016-0563	2016-0556	2016-0563	2016-0563
23	Disc Hub	1	3227-0124	3227-0124	3227-0132	3227-0124	3227-0132	3227-0132
24	Friction Washer	2	2314-3501	2314-3501	2314-3518	2314-3501	2314-3518	2314-3518
25	Ratchet Ring	1	4618-0164	4618-0164	4618-0172	4618-0164	4618-0172	4618-0172
26	Ratchet Pawl	1	4619-0276	4619-0283	4619-0283	4619-0283	4619-0178	4619-0178
27	Pawl Spring	1	2314-3095	2314-3095	2314-3108	2314-3095	2314-3108	2314-3108
28	Circlip	1	2052-0350	2052-0350	2052-0465	2052-0350	2052-0465	2052-0465
29	Brake Cover	1	3032-0681	4447-0767	3032-0733	4447-0767	3032-0733	3032-0733
30	Spacer	3	3150-0475	3150-0475	3150-0482	3150-0475	3150-0482	3150-0482
31	Handchain Wheel	1	4620-0337	4620-0305	4620-0329	4620-0305	4620-0329	4620-0329
32	Washer	1	2080-0740	2080-0740	2080-0740	2080-0740	2080-0740	2080-0740
33	Castle Nut	1	2172-0292	2172-0292	2172-0292	2172-0292	2172-0292	2172-0292
34	Split Pin	1	2016-0549	2016-0549	2016-0549	2016-0549	2016-0549	2016-0549
35	Handchain Wheel Cover	1	4459-1134	4459-1141	4459-1075	4459-1141	4459-1075	4459-1075
36	Washer	6	2080-0288	2080-0288	2080-0491	2081-0269	2081-0277	2081-0277
37	Nut (self locking)	6	2183-0038	2183-0038	2183-0084	2171-0789	2171-0796	2171-0796
38	Spacer	1	---	3150-0510	3150-0499	3150-0510	3150-0499	3150-0499
39	Loadchain (state length)	1	2143-0056	2143-0017	2143-0024	2143-0017	2143-0024	2143-0024
40	Handchain (state length)	1	1283-0078	1283-0078	1283-0085	1283-0078	1283-0085	1283-0085
41	Hand Chain Wheel	1	4620-0312	4620-0344	4620-0351	4620-0344	4620-0351	4620-0351
42	Friction Washer	2	2314-3501	2314-3501	2314-3518	2314-3501	2314-3518	2314-3518
43	Centre Hub	1	3242-0048	3242-0048	3242-0055	3242-0048	3242-0055	3242-0055
44	Plate	1	3172-0027	3172-0027	3172-0010	3172-0027	3172-0010	3172-0010
45	Disc Spring	1	4542-0009	4542-0009	2314-3220	4542-0009	2314-3220	2314-3220
46	Lockwasher	1	2084-0146	2084-0146	2084-0146	2084-0146	2084-0146	2084-0146
47	Lock Nut	1	2174-0059	2174-0059	2174-0059	2174-0059	2174-0059	2174-0059
48	Retaining Clip	1	4957-0186	4957-0186	4957-0186	4957-0186	4957-0186	4957-0186
49a	Suspension Link	2	---	---	---	---	---	4690-0315
49b	Suspension Link *	1	---	---	---	3011-0229	---	---
49c	Suspension Link *	1	---	---	---	3011-0212	---	---
50	Suspension Boss	1	---	---	---	---	---	3280-0026
59	Top Hook Pin	1	3200-0193	3200-0186	3204-0569	3200-0186	3204-0569	3204-0569

* Items marked thus are only supplied as a pair.

When ordering spare parts quote the hoist serial number, the hoist capacity, the item number, description, part number and quantity required.

CCP White Tiger Project - 7010
Elec. Hoist/Monorail Hoist/Miscellaneous
P.O. NO. 3A-0101
JBC REF: 33926

J BARNSLEY
Cranes Limited

2 TONNE TIGHT TURN FLAT BED TRAILER

OPERATING & MAINTENANCE INSTRUCTIONS

OPERATING

Examine the equipment carefully before attempting to use to ensure that no damage has occurred in transit.

The equipment must only be used for the purpose for which it was designed.

The Safe Working Load is clearly marked on the equipment and must not be exceeded.

Check the travel path is clear.

Do not overload front or rear axle.

Load should be evenly distributed. To be placed where possible on the middle of the trailer deck.

Do not manoeuvre sharply at speed.

This trailer is designed to be used on a flat smooth surface, do not mount curbs or steps.

Passengers must not travel on the trailer.

MAINTENANCE

Ensure that the equipment is properly maintained.

Turn table should be checked and regreased as necessary.

Check bolts for tightness on a monthly basis.

Always examine for damage before taking into use.

LUBRICATION

Prior to installation, the turn table must be regreased whilst turning the upper ring until a grease collar appears at all bearing caps around the entire circumference. A lithium based grease of penetration class 2 should be used for this and for subsequent regreasing. Regreasing should also be carried out after installation, rotating the turn table to achieve uniform grease distribution. The intervals for lubrication and checking the bolt torque should be not less than once per month.