

1 GREASE POINT
ON RAM EYE

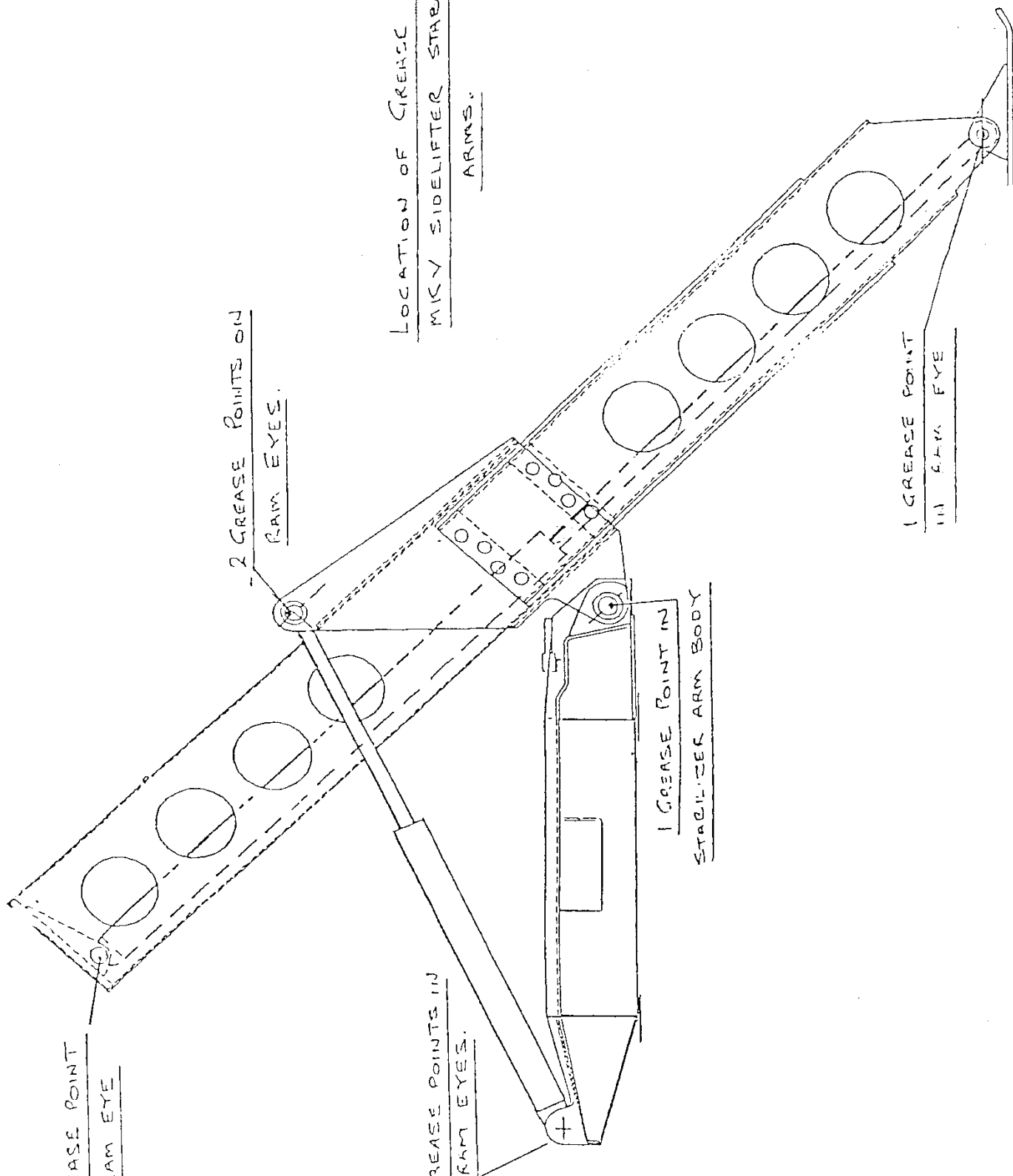
2 GREASE POINTS ON
RAM EYES.

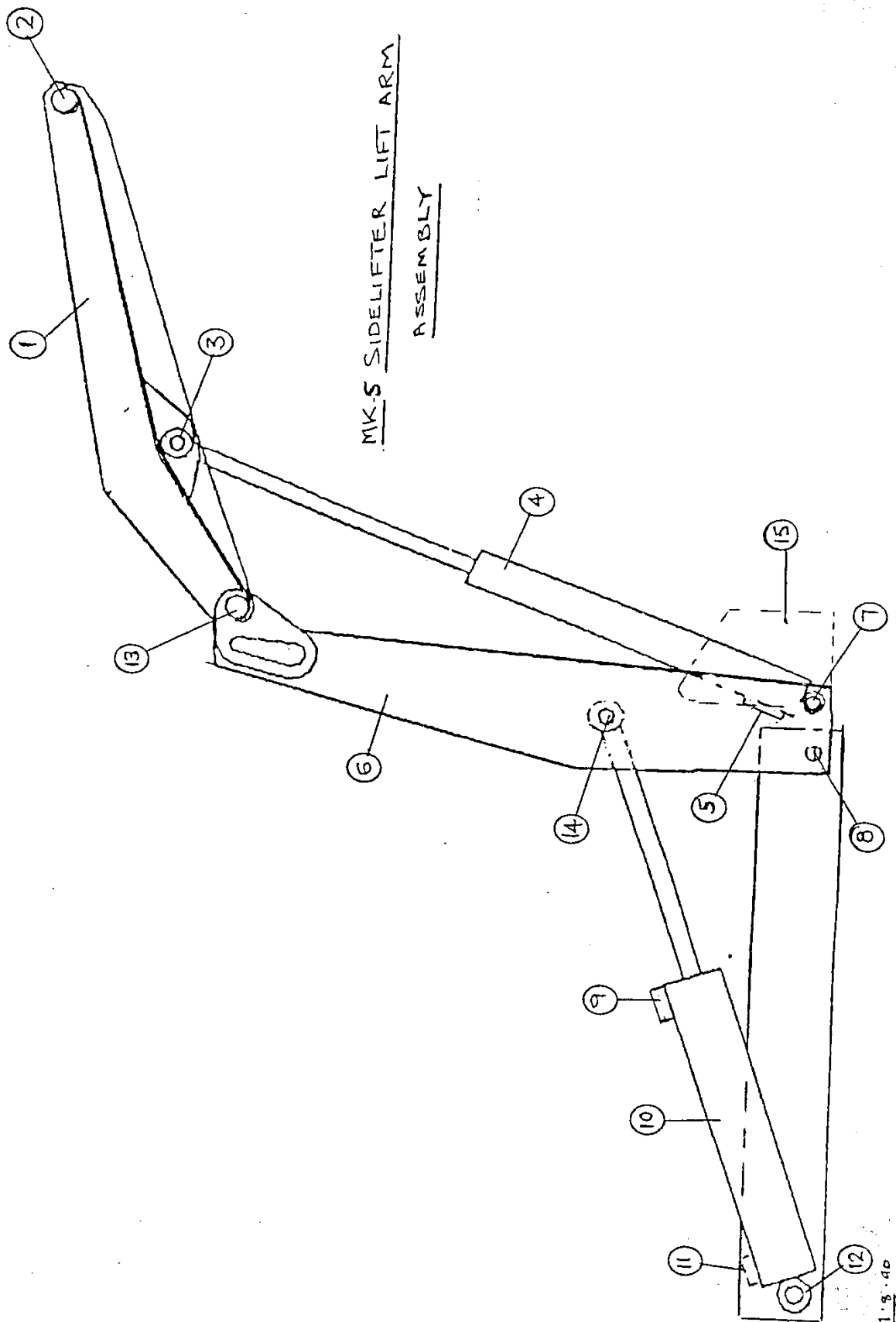
2 GREASE POINTS IN
RAM EYES.

1 GREASE POINT IN
STABILIZER ARM BODY

1 GREASE POINT
IN RAM EYE

LOCATION OF GREASE POINTS
M1V SIDELIFTER STABILIZER
ARMS.





MK-5 SIDELIFTER LIFT ARM
ASSEMBLY

MK5 LIFT ARM ASSEMBLY. (SHEET 1)

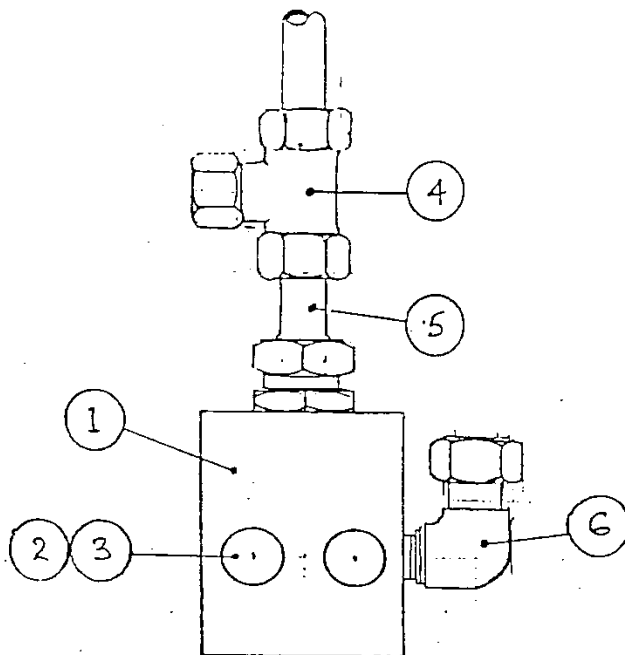
EM	PART NO	DESCRIPTION	MFR'S PART NO	NO REQ'D
1	01785	BOOM TOP LIFTING		2
2	00904	PIN "G"		2
	00907	KEEPER PIN G		4
	NUTM62500	BOLT	M6 HEX HD X 25LG	12
	00738	D.U. BEARING 70IDx60LG	'GLACIER' BEARING 70IDx60LG	4
3	00919	PIN "F"		2
	00924	KEEPER PLATE		2
	NUTM103000	SET SCREWS	M10 HEX. HD. X 30LG	4
	SLOMB 60x40	D.U. BUSH 60IDx40LG	GLACIER BEARING 60x40LG	4
4	01297	RAM TOP LIFTING		2
5	SEE DETAIL "D"			2
6	01142	BOOM LOWER LIFT		2
7	00917	PIN "E"		2
	00924	KEEPER PLATE		2
	NUTM103000	SET SCREWS		4
	SLOMB 60x40	D.U. BUSH 60IDx40LG	'GLACIER' BEARING 60x40LG	4
8	00914	PIN "A"		2
	00924	KEEPER PLATE		2
	NUTM103000	SET SCREWS		4
	00738	D.U. BUSH 70IDx60LG	'GLACIER' BEARING 70x60LG	4
9	SEE DETAIL "C"			2
10	01298	RAM BOTTOM LIFTING		2
11	SEE DETAIL "B"			2
12	00913	PIN "B"		2
	00924	KEEPER PLATE		2
	NUTM103000	SET SCREWS		4
	SLOMB 70x60	D.U. BUSH 70IDx60LG	'GLACIER' BEARING 70x60LG	4
13	00916	PIN "D"		2
	00924	KEEPER PLATE		2
	NUTM103000	SET SCREWS		4
	00738	D.U. BUSH 70IDx60LG	GLACIER BEARING 70IDx60LG	4

MK 5 LIFT ARM ASSEMBLY (SHEET 2)

ITEM	PART NO	DESCRIPTION	MNF'RS PART NO	No. REQD
14	00915	PIN 'C'		2
	00924	KEEPER PLATE		2
	NUTM103000	SET SCREWS		4
	SLMB70x60	D.U BEARING 70IDx60LG	'GLACIER' BEARING 70IDx60LG	4
15	01193	GUARD FRONT	FOR OVERCENTRE VALVE	1
OR	01195	GUARD REAR	" "	1

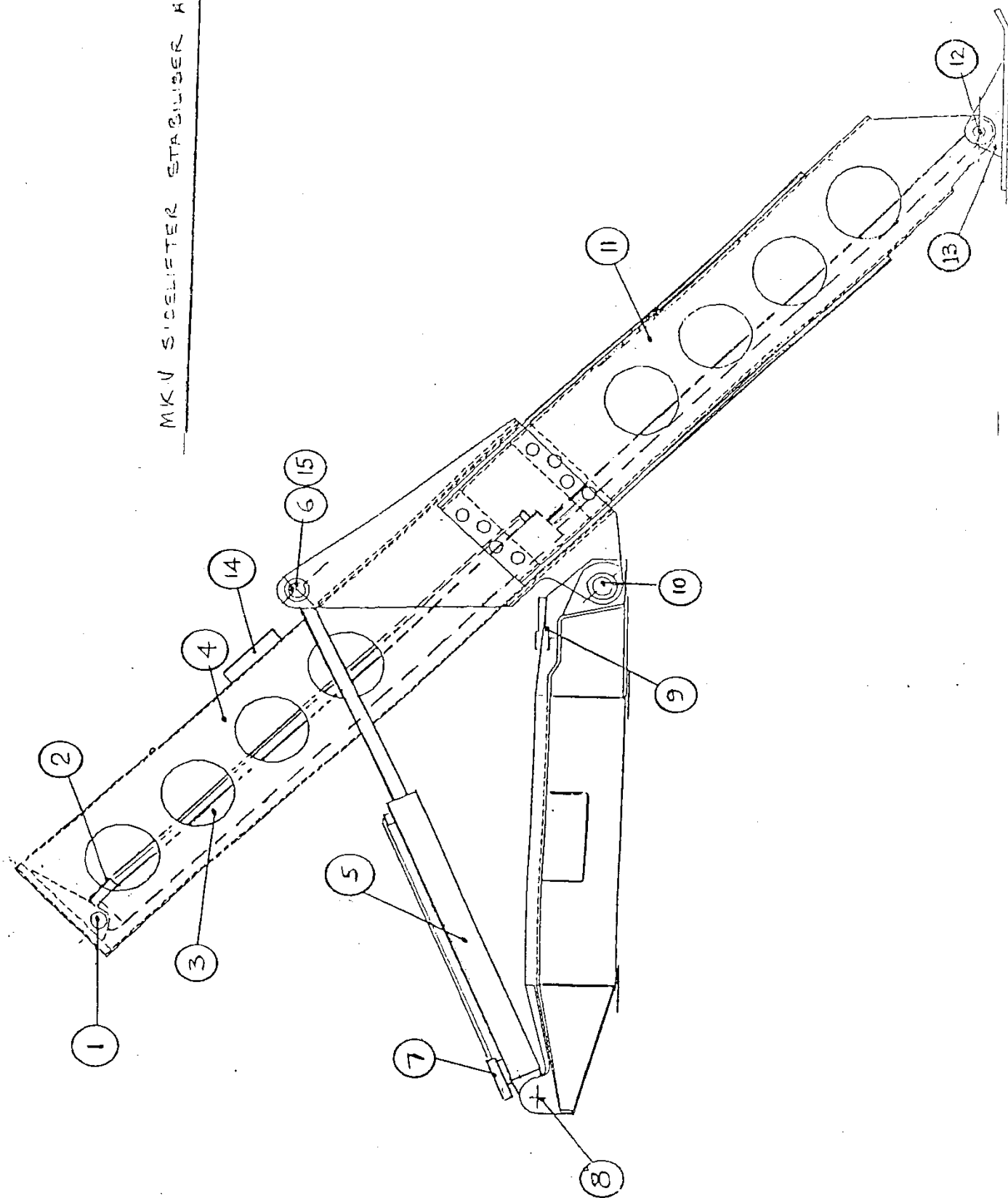
DETAIL "A"

PILOT CHECK VALVE.



ITEM	PT NO	DESCRIPTION	MNF'S PT NO	No.
1	00189	VALVE. PILOT CHECK	4K 32 N4 BG 2	1
2	00101	WASHER HEAVY GALV.	5/16 x 22 mm OD x 3 mm	2
3	NBSUNCL05/b28	HEX CAP SCREW UNF 5/16 x 1 3/4" H.T.		2
4	01521	TUBE TEE 'SWAGELOK'	S-10-10-3.	1
5	01515	TUBE ADAPTOR 'SWAGELOK'	S-10-TA-1-ART.	1
6	01519	MALE ELBOW	S-1010-2-B.	1

MKV SIDEWATER STABILIZER ASSEMBLY

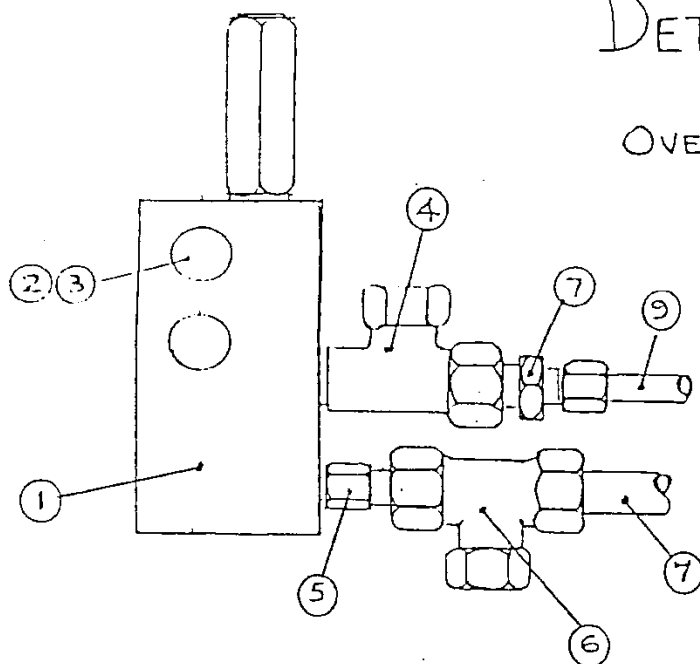


MIK 5 STABILISER NSSY

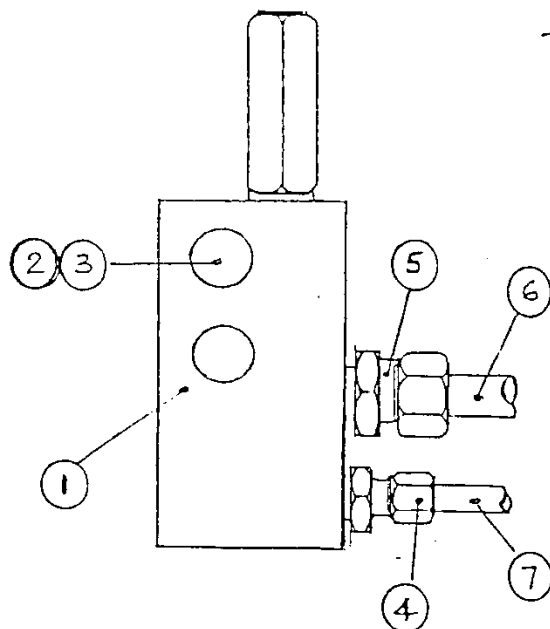
[illegible]

DETAIL 'B'

OVER CENTRE VALVE



ITEM	PART NO	DESCRIPTION	MNF'S PART NO	No. REQD
	00188	VALVE. OVERCENTRE	1E14-P46G-50S-45	1
2	00901	WASHER HEAVY DUTY	5/16 x 20mm O.D x 3mm	2
3	NBSUNCLOS/02B	HEX CAP SCREW 5/16 x 1 3/4	'UNBRAKO'	2
4	01522	MALE RUN TEE.	S-1010-3TMT	1
5	01515	TUBE ADAPTOR	S-10-TA-1-ART	1
6	01521	PIPE TEE	S-1010-3.	1
7	01530	REDUCING UNION	S-600-R-10	1
8		16mm O.D SEAMLESS STEEL TUBE TO BS 6301		
9		9.5mm O.D " " " " " "		

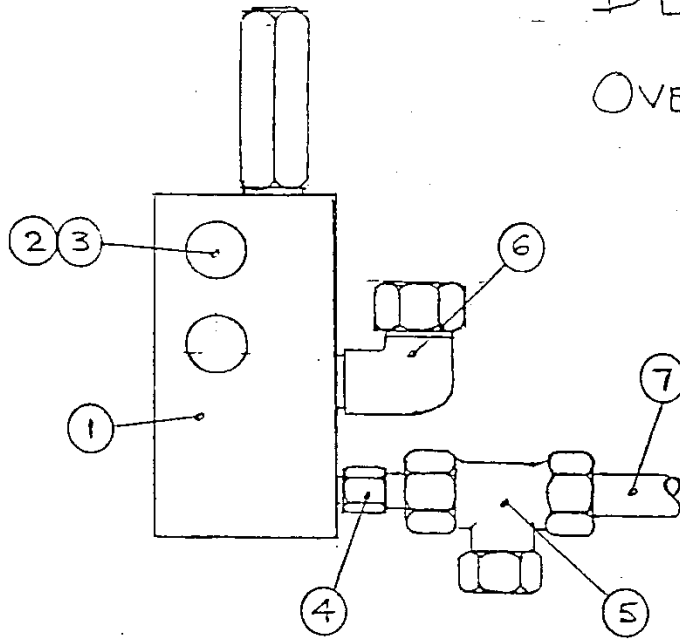


DETAIL 'C'
OVERCENTRE VALVE

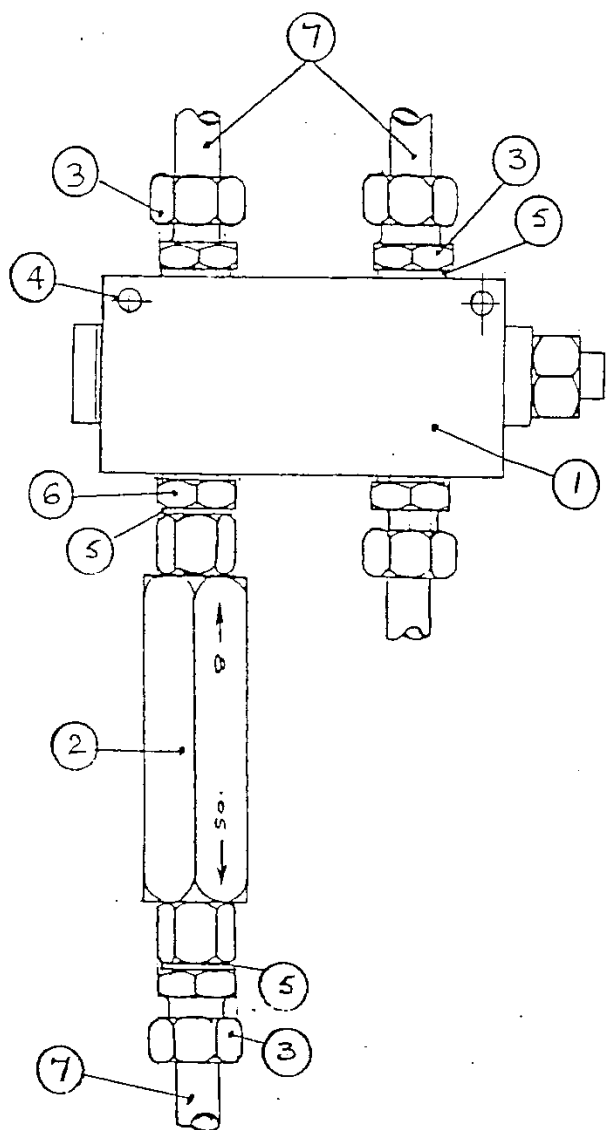
ITEM	PART NO	DESCRIPTION	MNFS PART NO	No. REQD.
1	00188	VALVE OVERCENTRE	1E14-P46G-50S-45	1
2	00901	WASHER HEAVY DUTY	5/16 x 20mm O.D x 3mm	2
3	NBSUNCLOS/028	HEX. CAP SCREW 5/16 x 1 3/4	'UNBRAKO'	2
4	01529	MALE CONNECTOR	S-600-1-4RT	1
5	01516	MALE CONNECTOR	S-1010-1-B	1
6		16mm O.D SEAMLESS STEEL TUBE TO B.S 6301		
		75mm O.D " " " " " "		

DETAIL 'D'

OVERCENTRE VALVE



ITEM	PART NO	DESCRIPTION	MNF'S PT NO	NO REQD.
1	00188	VALVE, OVERCENTRE	1E14-P46G-50S-4S	1
2	00901	WASHER HEAVY DUTY	5/16 x 20mm O.D x 3mm	2
3	NBS0NCL051028	HEX CAP SCREW 5/16 x 1 3/4	'UNBRAKO'	2
4	01515	TUBE ADAPTOR	S-10-TA-1-4RT	1
5	01521	PIPE TEE	S-1010-3	1
6	01519	MALE ELBOW	S-1010-2-8	1
7		16mm O.D SEAMLESS STEEL TUBE TO B.S 6301		

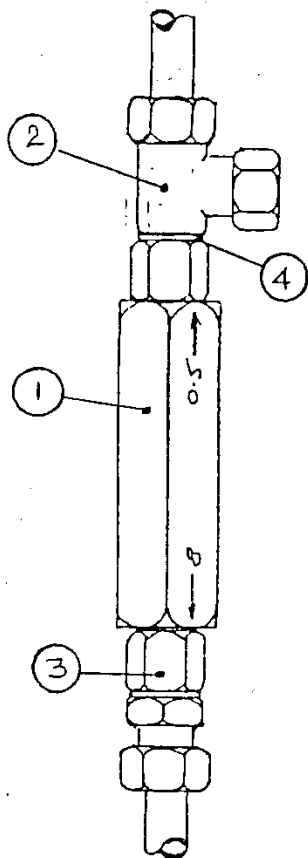


DETAIL 'E'

REGENERATIVE VALVE

DOUBLE CHECK VALVE

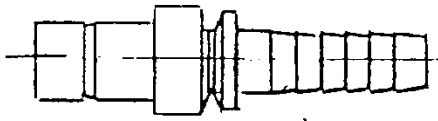
ITEM	PART NO	DESCRIPTION	MNF'S PART NO	No REQ'd
1	01309	VALVE REGENERATIVE	VRCL40	1
2	01308	VALVE DOUBLE CHECK	VVD40	1
3	01517	MALE CONNECTOR	S-1010-1-BRS	4
4	NBSUBM06/60	HEX HEAD BOLT	M6x60	2
5	HYD4/599/080	DOWTY SEAL		6
6	HYD4/509/080	NIPPLE	1/2" BSPP TO 1/2" BSPP	1



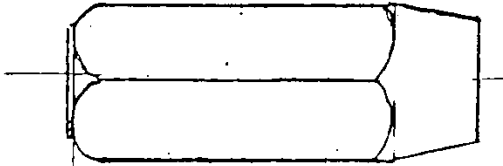
DETAIL F

DOUBLE CHECK VALVE

ITEM	PART NO	DESCRIPTION	MNFR'S PT NO	No Req'd
1	01308	VALVE DOUBLE CHECK	VBD40	1
2	01522	MALE RUN TEE	S-1010-3MT	1
3	01517	MALE CONNECTOR	S-1010-1-BRS	1
4	HYDA/599/080	DOWTY SEAL		2



HOSE TAIL PT NO 01080



FERRULE PT NO HYD4/403/080

HYDRAULIC HOSE

DETAILS.

FOR STD 1 METRE LONG HOSE PT NO 14187 USED IN MOST POSITIONS ON MK4 AND MK5 SIDE LIFTERS.

Item	PART NO	DESCRIPTION	MNFR'S DETAILS	NO REQD
1	17702	TUBE/HOSE ADAPTOR	SWAGELOK S-8-HC-A1-1011	2
2	HYD4/012/080	HOSE 8-MT 1/2"	GATES MECAFLEX.	1MTR
3	HYD4/403/080	FERRULE SWAGE FOR 1/2" MECAFLEX.		2
4	03108	SWAGELOK FERRULE FRT.	1013-1	2
5	03109	" " BACK	1014-1	2
6	14188	SWAGELOK NUT	1012-1	2

FOR OTHER HOSES, ALL ITEMS AS ABOVE EXCEPT FOR ITEM 2 WHICH WILL BE OF LENGTH TO SUIT.

FOR HYDRAULIC HOSES TO PRESSURE GAUGES PARTS REQUIRED ARE:

Item	PART NO	DESCRIPTION	MNF'S DETAILS	NO. REQD
1	17703	TUBE/HOSE ADAPTOR	S-8-HC-A1-401	2
2	HYD4/01/040	HOSE - C2AT - 1/4"	LENGTH AS REQUIRED	MTRS
3	HYD4/402/040	FERRULE SWAGE FOR 1/4" HOSE		2
4	03111	FERRULE FRONT	S-403-1	2
5	03112	FERRULE BACK	S-404-1	2
6	17241	NUT	S-402-1	2

ALL HYDRAULIC HOSE MUST COMPLY WITH:

S.A.E. STANDARD 100 R2AT.

GREASE POINTS ON:
EACH SIDE OF TOP ARM

2 GREASE POINTS
IN PIN ENDS.

LOCATION OF GREASE
POINTS MK V SIDE LIFTER
LIFTING ARMS

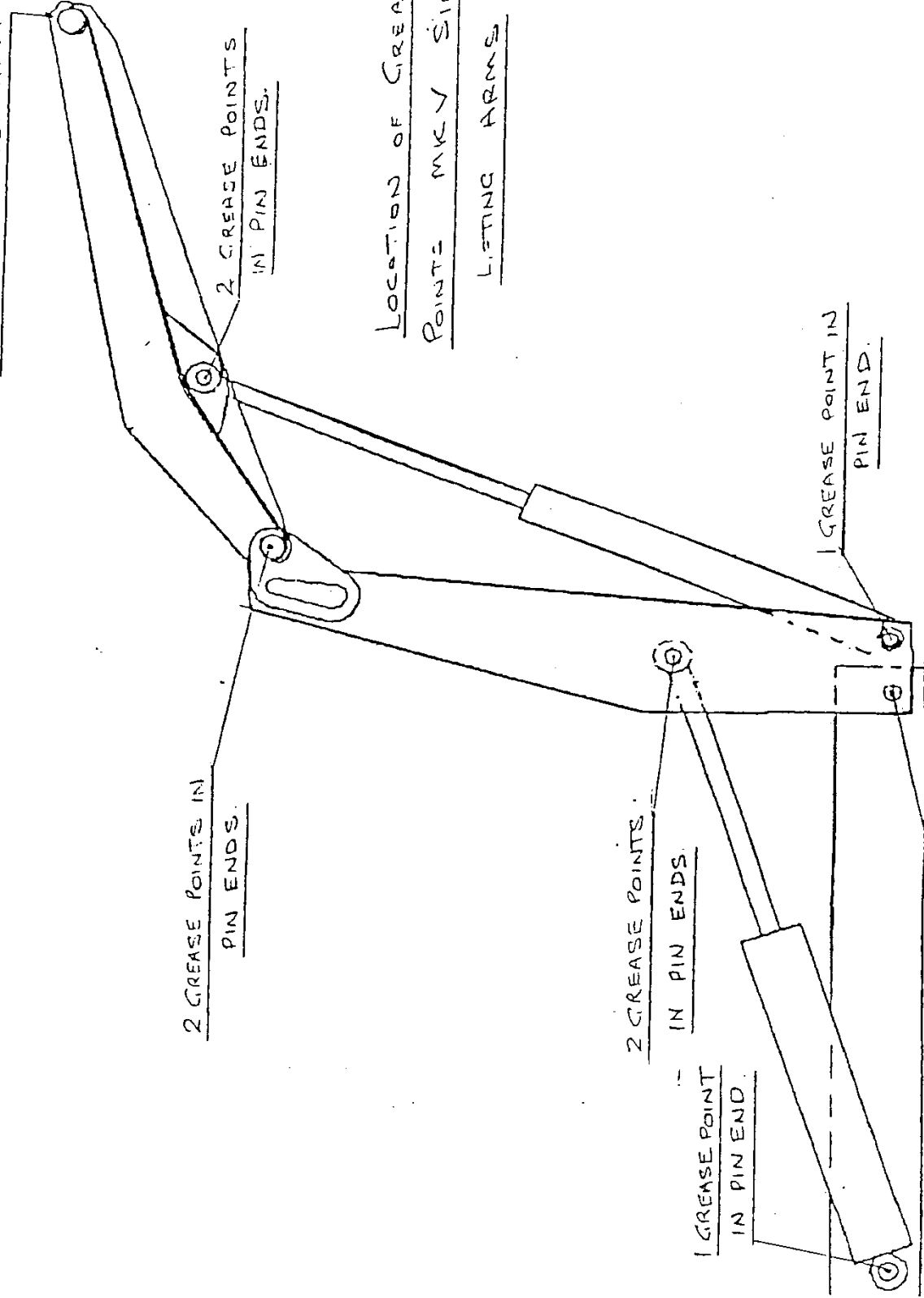
2 GREASE POINTS IN
PIN ENDS.

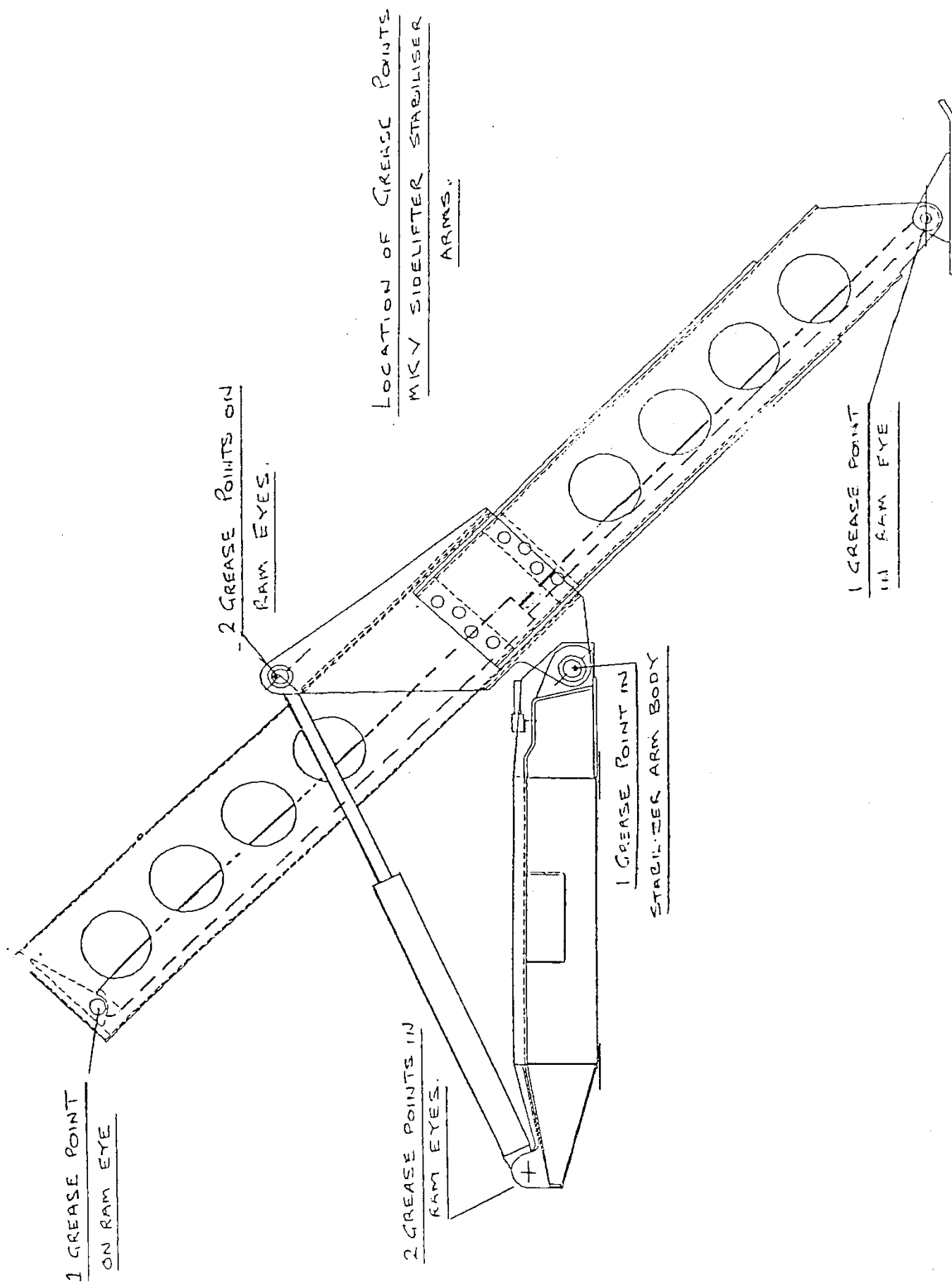
1 GREASE POINT IN
PIN END.

2 GREASE POINTS
IN PIN ENDS.

1 GREASE POINT
IN PIN END.

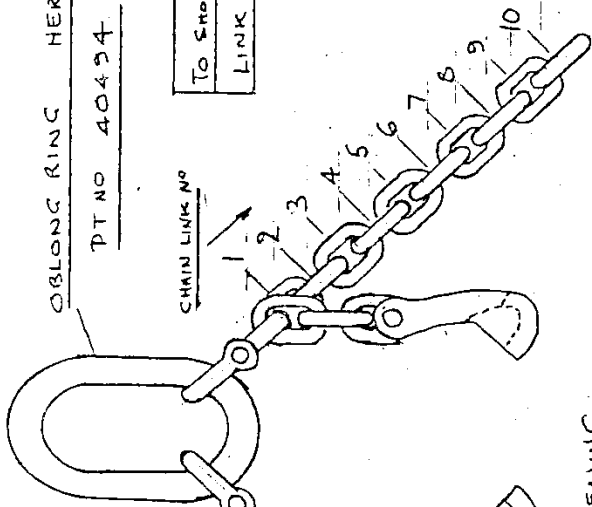
2 GREASE POINTS IN PIN ENDS.





SIDELIFTER TYPE	CHAIN LGTH.	NO OF LINKS
MK 4	2580	52
MK 5	2795	58
MK 5S	2795	58
MK 5D0	3278	68

HAMMER LOCK 16mm.
HERC-ALLOY 40440



ANLOK SHORTENING
HOOK AF 734

16mm HERC-ALLOY CHAIN

HAMMER LOCK 16mm HERC-ALLOY 40440

LIFTING LUG AUSTRALIA - PT NO

NEW ZEALAND - PT NO

AFTER ALL - PT NO

TO SHORTEN CHAINS FOR "DOUBLE STACKING" PLACE LINK "X" INTO SHORTENING HOOK.		
SIDELIFTER TYPE	LINK X	
MK 4		NO 8
MK 5		NO 9
MK 5 S		NO 9
MK DROP DECK		N.A.

CHAINS FITTED TO SIDELIFTER TYPE	FRONT	REAR
MK 4 ALL MODELS EXCEPT 40'0	PT 50005	PT 50005
MK 4 RIGID 46'0	PT 50005	PT 01835
MK 5 STD. AND TROMBONE	PT 01836	PT 01836
MK 5 DROP DECK	PT 01835	PT 01835
MK 5S	PT 01836	PT 01836

SIDELIFTER LIFTING CHAIN ASSEMBLIES.		
STEEL BROS	N.Z LTD	CHRISTCHURCH
DRAWN R.M.S.		
NOT TO SCALE	DATE	5.10.90
AK 50.6-3373		

PRESTON SHOE FOR ISO CONTAINERS and FLATS

Before using the lifting Shoes please read the following:
The F97 Test Certificate is only valid subject to the following conditions:

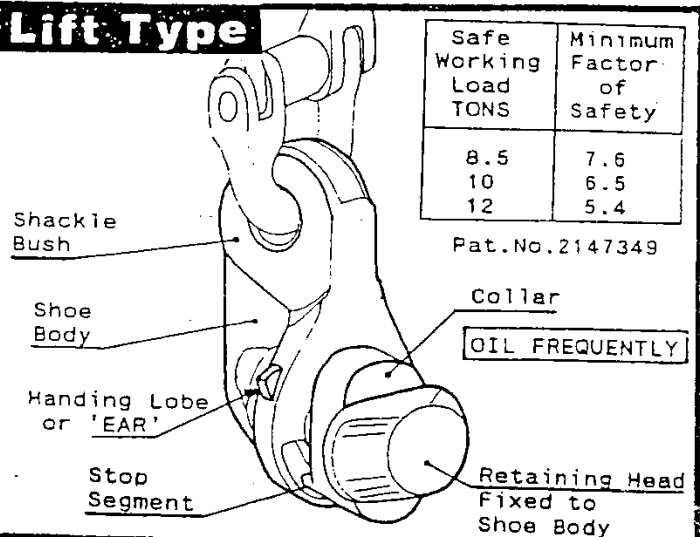
- 1) No further heat treatment, welding or other mechanical alterations are made during the working life of the shoe.
 - 2) The Shoes are used in bottom corner fittings only of freight units applicable for lifting via bottom lift slings as given in ISO 3874:1988 (E) Table 5.
 - 3) The load is applied via a shackle or other suitable coupling device having the same Safe Working Load as the Shoe and it is subjected to a direct load only. The lifting chains being parallel to the sides of the unit being lifted.
 - 4) The Shoes are used in a reasonable manner and not subjected to excessive force or shock loading at any time nor used to lever the container or flat when awkwardly positioned.
- ENSURE THAT ALL FOUR SHOES ARE CORRECTLY ENGAGED, IN ACCORDANCE WITH INSTRUCTIONS OVERLEAF, BEFORE LIFTING.

Vertical Lift Type

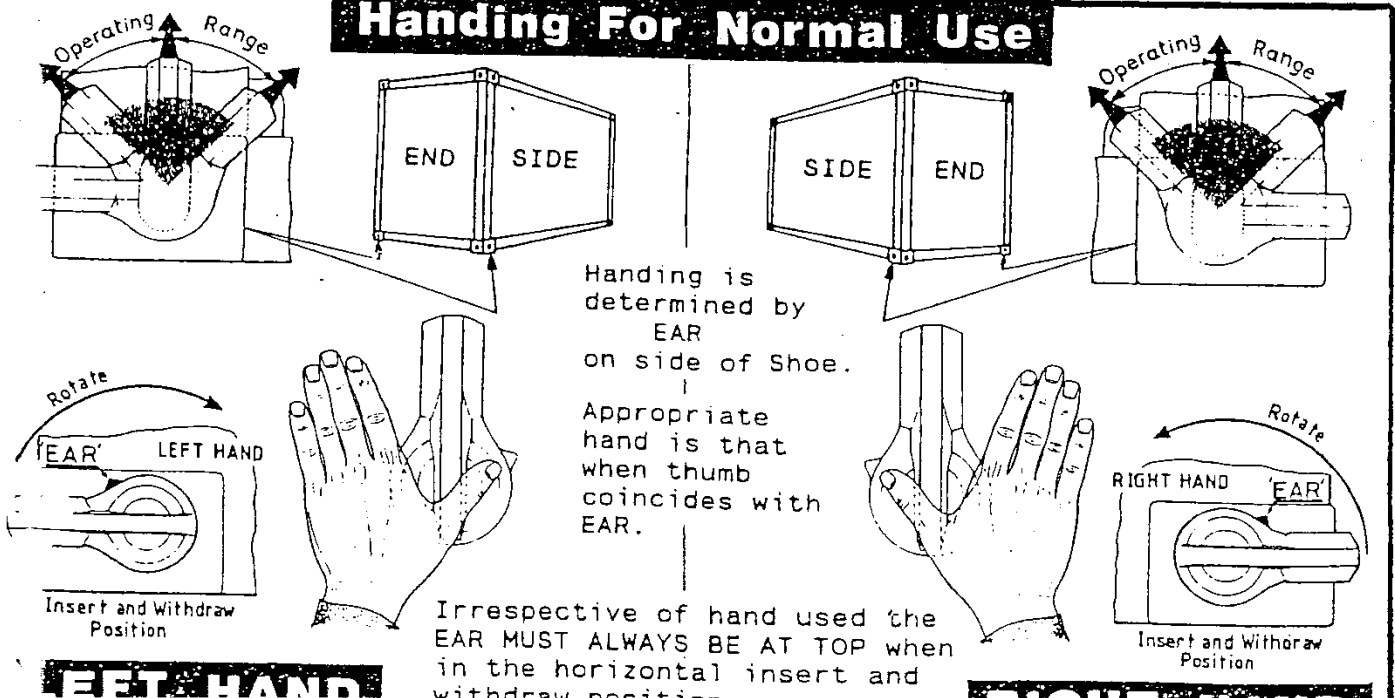
GENERAL DESCRIPTION

This type of lifting lug is principally for use with containers and platforms (flats) fitted with ISO corner fittings having dimensions as per ISO/R1161 (S3591). The mechanism for this lug produces a symmetrical operating range 45° either side of the vertical. The Shoes, however, are rounded and instructions for normal use are given overleaf.

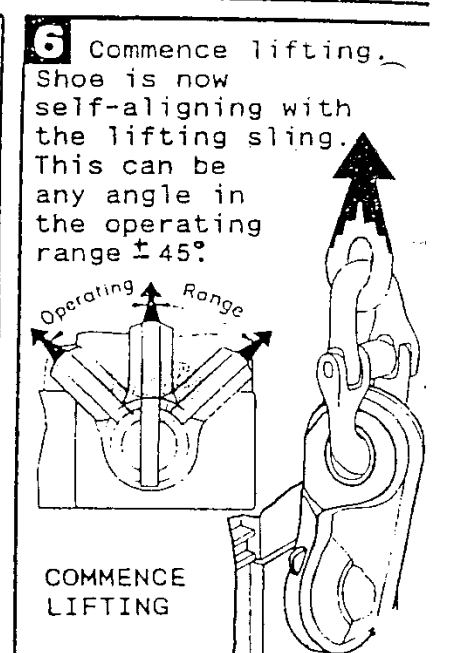
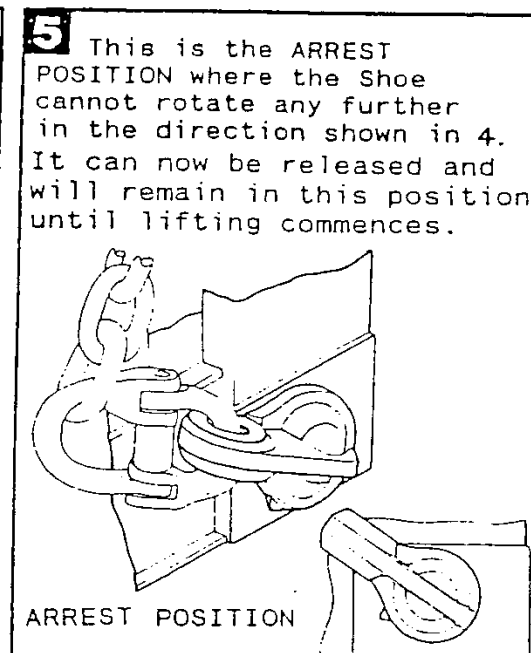
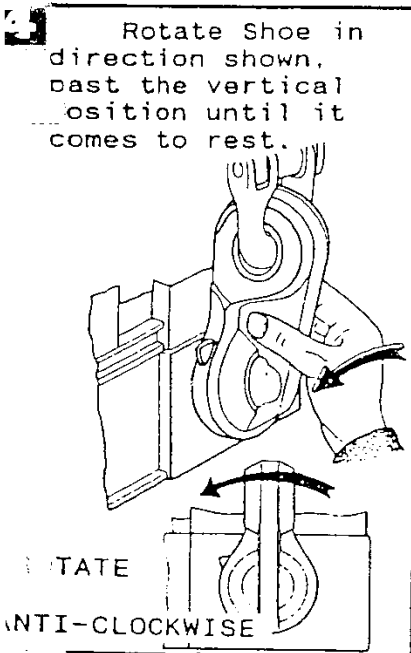
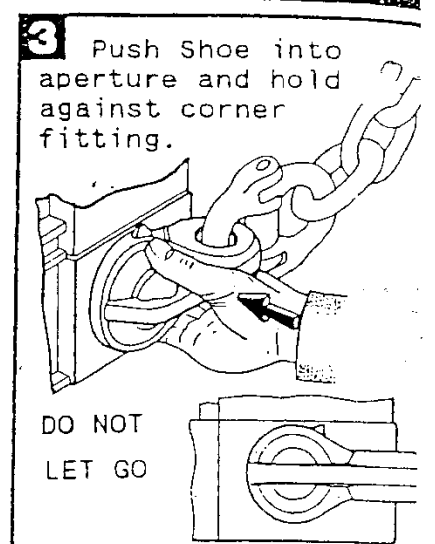
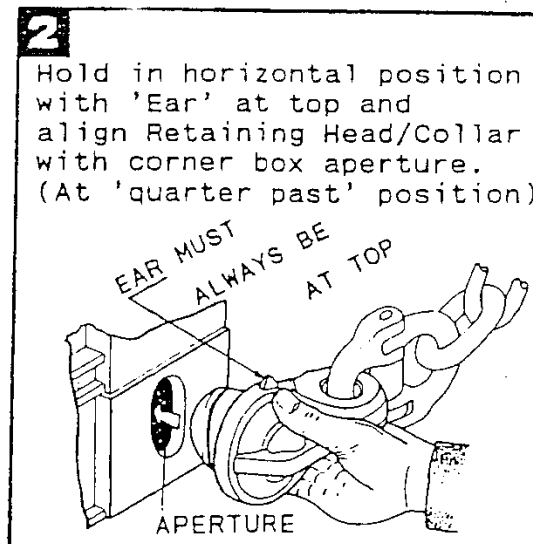
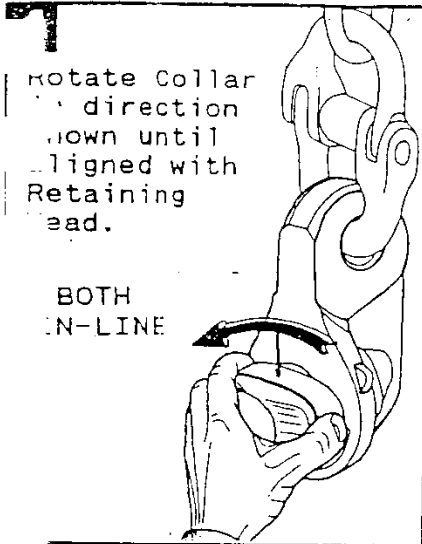
The main features of the PRESTON SHOE are shown in the opposite diagram.



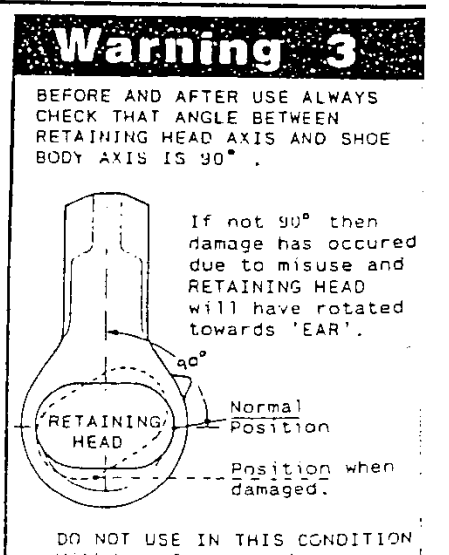
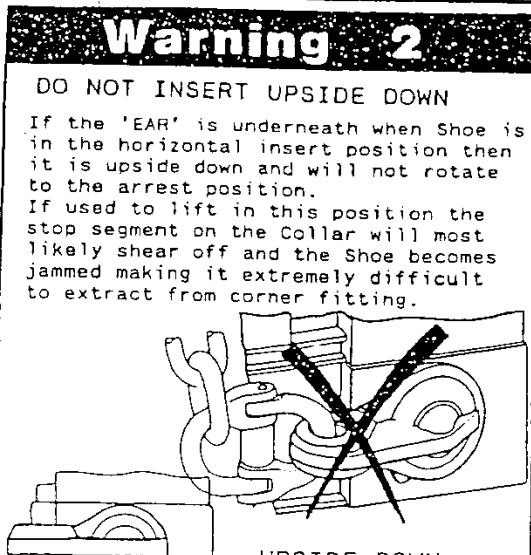
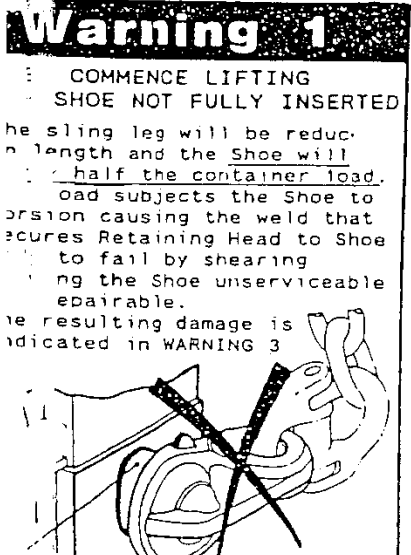
Handing For Normal Use



OPERATION OF RIGHT HAND Vertical Lift Type Shoe



To Remove With the lifting slings slack in the arrest position (5), reverse steps (4) then (3) to (2). If the sling falls to position (2) then shoe will release itself.



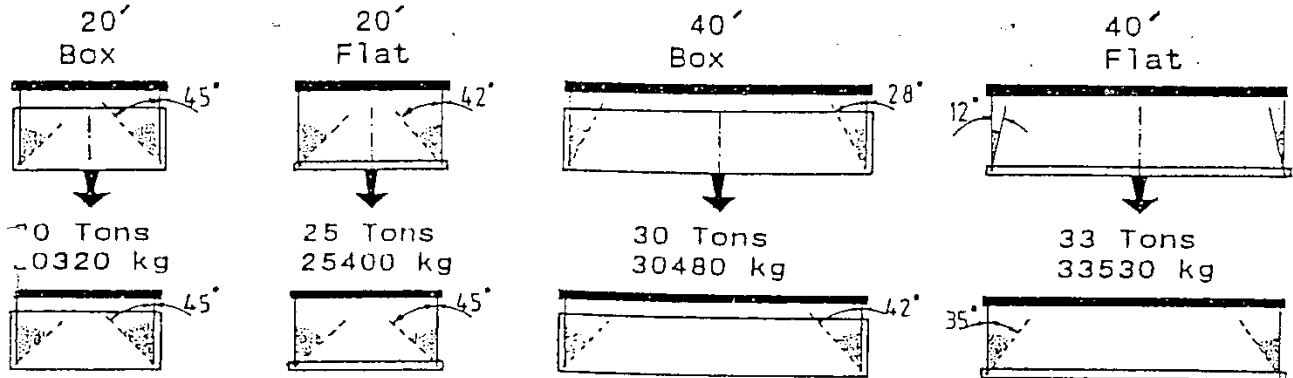
The vertical Life Type Shoe has an operating range of 45° either side of vertical allowing lifting at an angle other than vertical. For example end lifting with two leg slings from single point, also using a 30 ft. long top frame to lift 40 ft. units.

In all cases the limiting lifting angles must not be exceeded. The Tables below show the limiting angles for 20 ft. and 40 ft. containers and flats when centre of gravity is central and when offset by 5%, quoted in BS 3951 Pt. 1 1989 4.2.4 to be maximum that should be permitted in normal operating conditions.

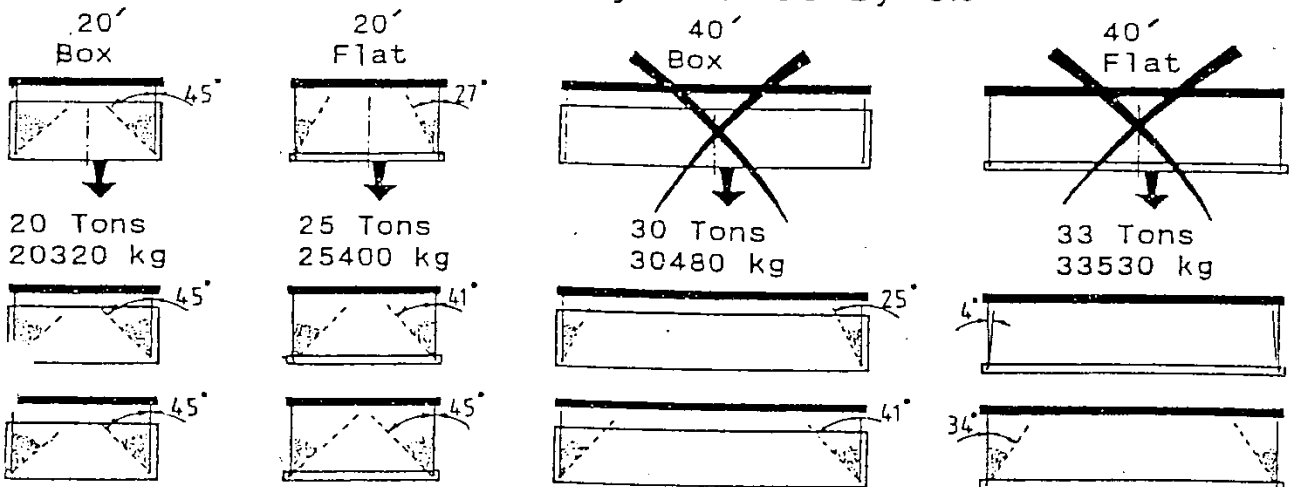
If used to lift SWAP BODIES ensure that shoes operate normally before lifting. These units are fitted with inboard lifting points that invariably are NOT ISO standard. (Shoes fitted with reduced collar/retaining head sizes are available to order).

LIMITING LIFTING ANGLES WHEN SIDE LIFTING

Central Centre of Gravity



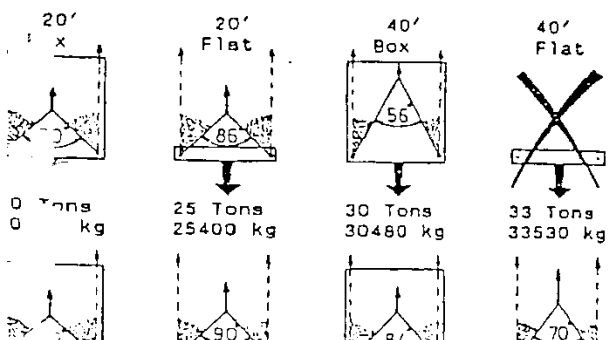
Centre of Gravity offset by 5%



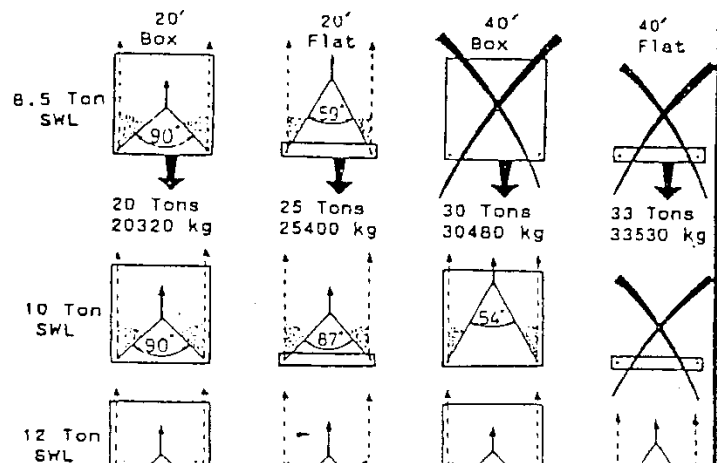
LIMITING LIFTING ANGLES WHEN END LIFTING

When using two leg slings the included angle shown must not be exceeded. The range from vertical to sling angle is half the included angle.

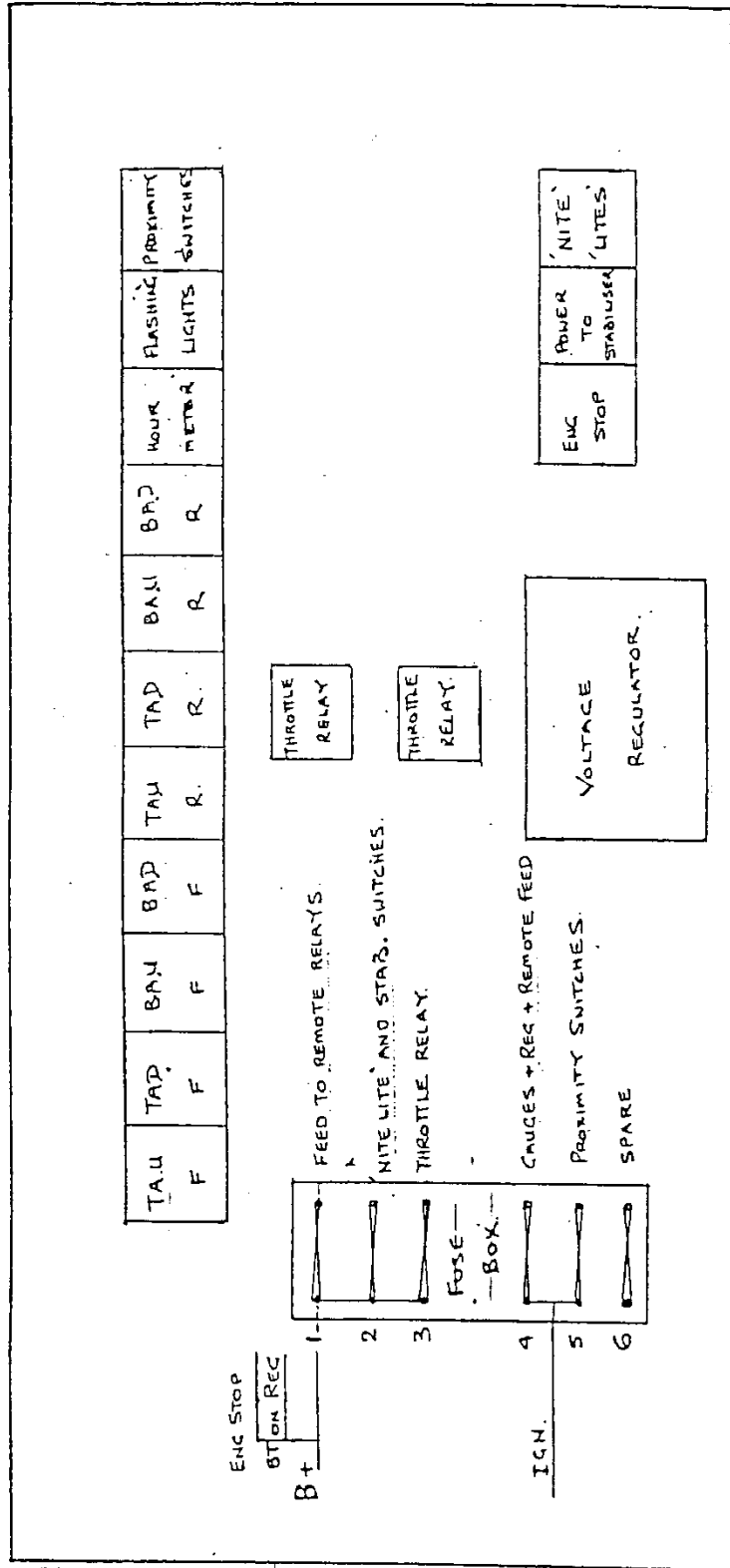
Central Centre of Gravity



Centre of Gravity offset by 5%



VIEW INTO MAIN CONTROL BOX WHEN OPENED

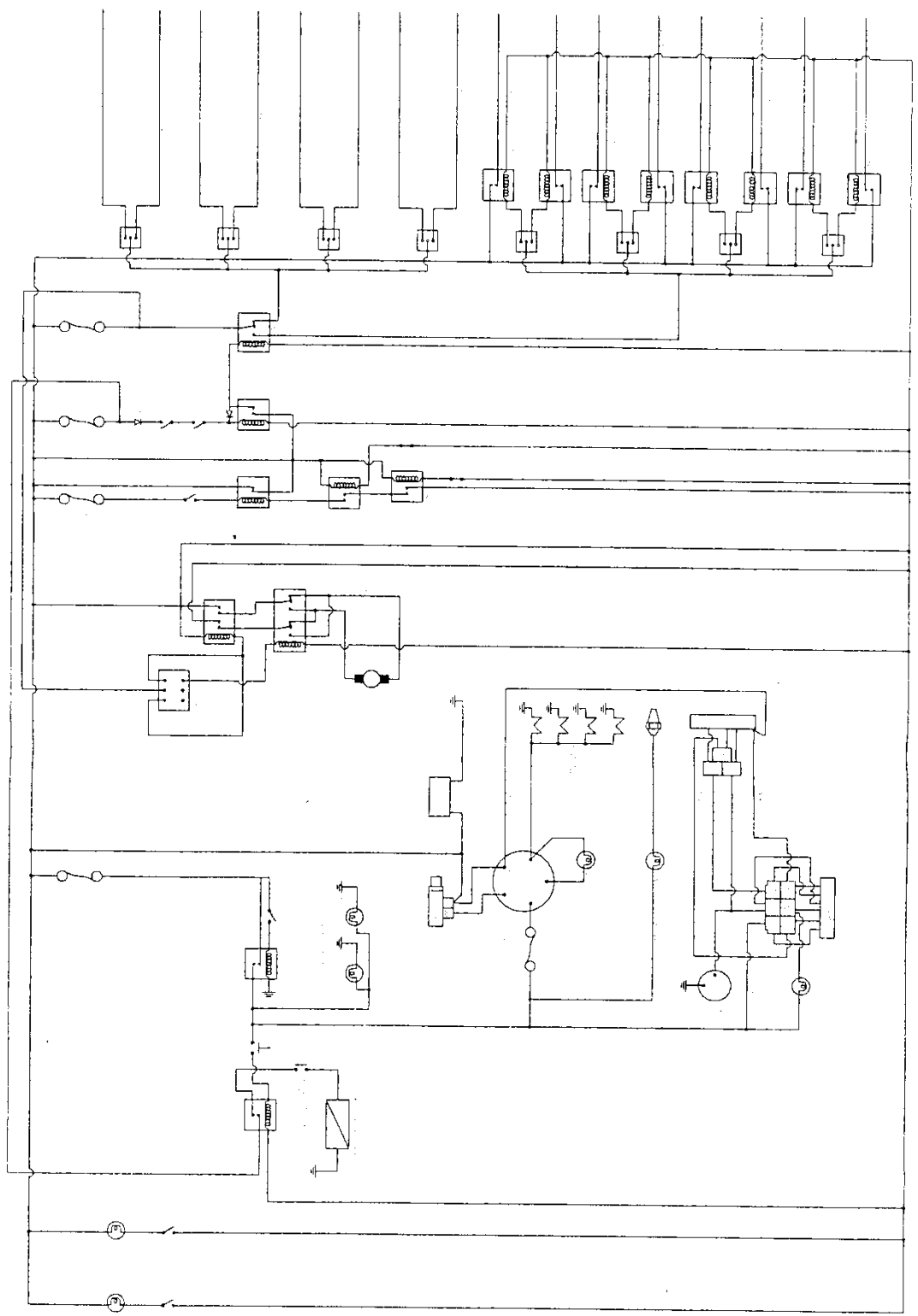


LEGEND	
F	FRONT
R	REAR
TA	TOP ARM
BA	BOTTOM ARM
U	UP
D	DOWN

WIRE COLOR REMOTE SWITCHES TO RELAYS	
TA U F	WHITE
TA D F	ORANGE
BA U F	RED
BA D F	TURQUOISE
TA U R	YELLOW
TA D R	GREEN
BA U R	PINK
BA D R	BLACK
ENGINE STOP	- GREY
BATTERY +	- BLUE

STEEL BROS. N.Z. LTD. SOKGURN.	
LAYOUT OF MKS SIDELIFTER CONTROL BOX.	
DATE 10.7.20	DRAWING NO.
ISSUE A.	AK 50.4 - 3362

FIGURE 1 - SAFETY SYSTEM
 FUSE 2 - ENGINE STOP - PRIORITY SWITCHES
 FUSE 3 - LIFT & INHIBIT RELAYS
 FUSE 4 - RELAY & LAMP
 FUSE 6 - WORK LIGHTS



Rev	Iss	Mod
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1

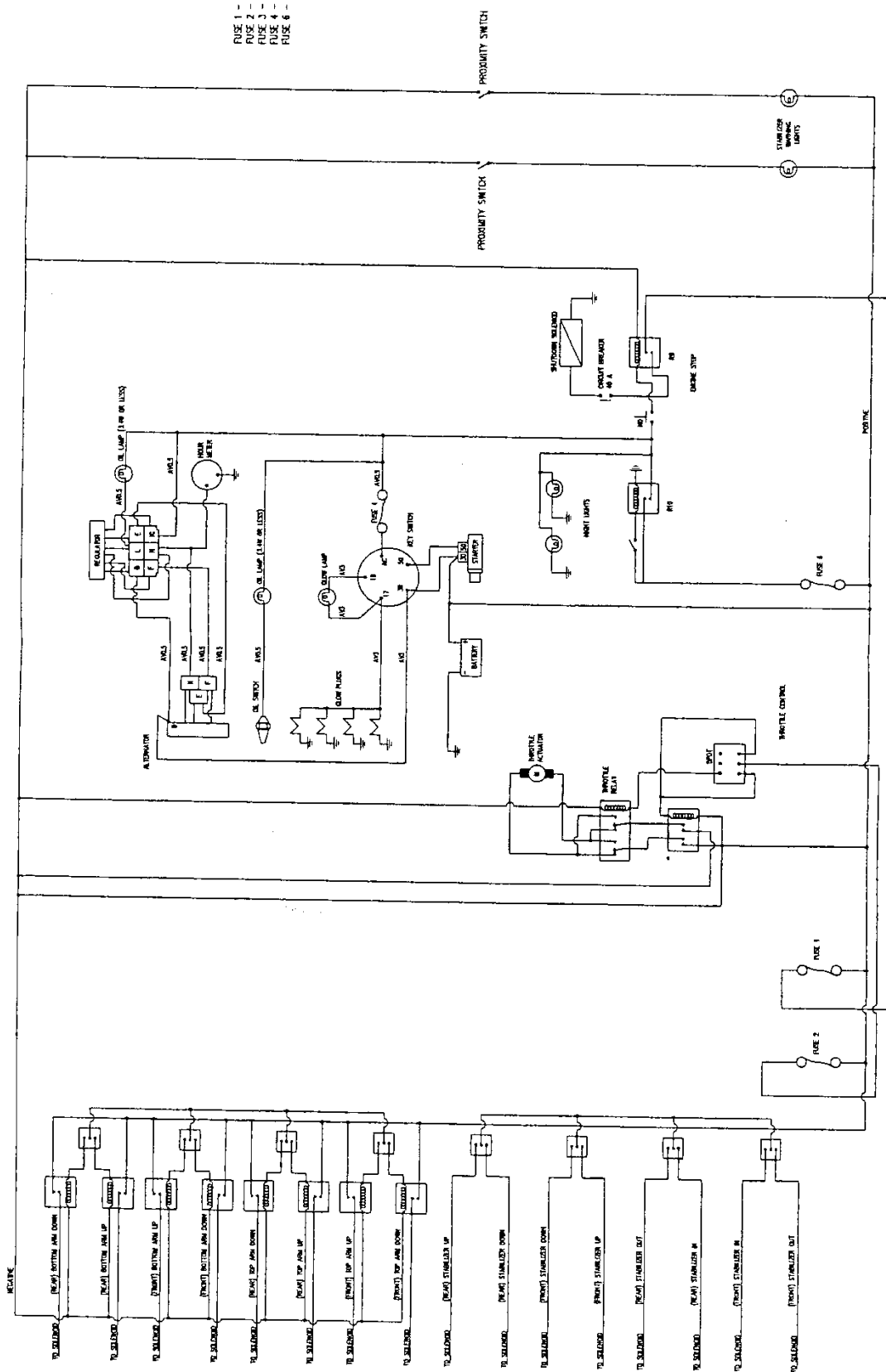
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 Christchurch.

Rev	Iss	Mod
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1

Item	Part No.	Dwg. No.	Description
1	1	1	1
2	1	1	1
3	1	1	1
4	1	1	1
5	1	1	1
6	1	1	1
7	1	1	1
8	1	1	1
9	1	1	1
10	1	1	1



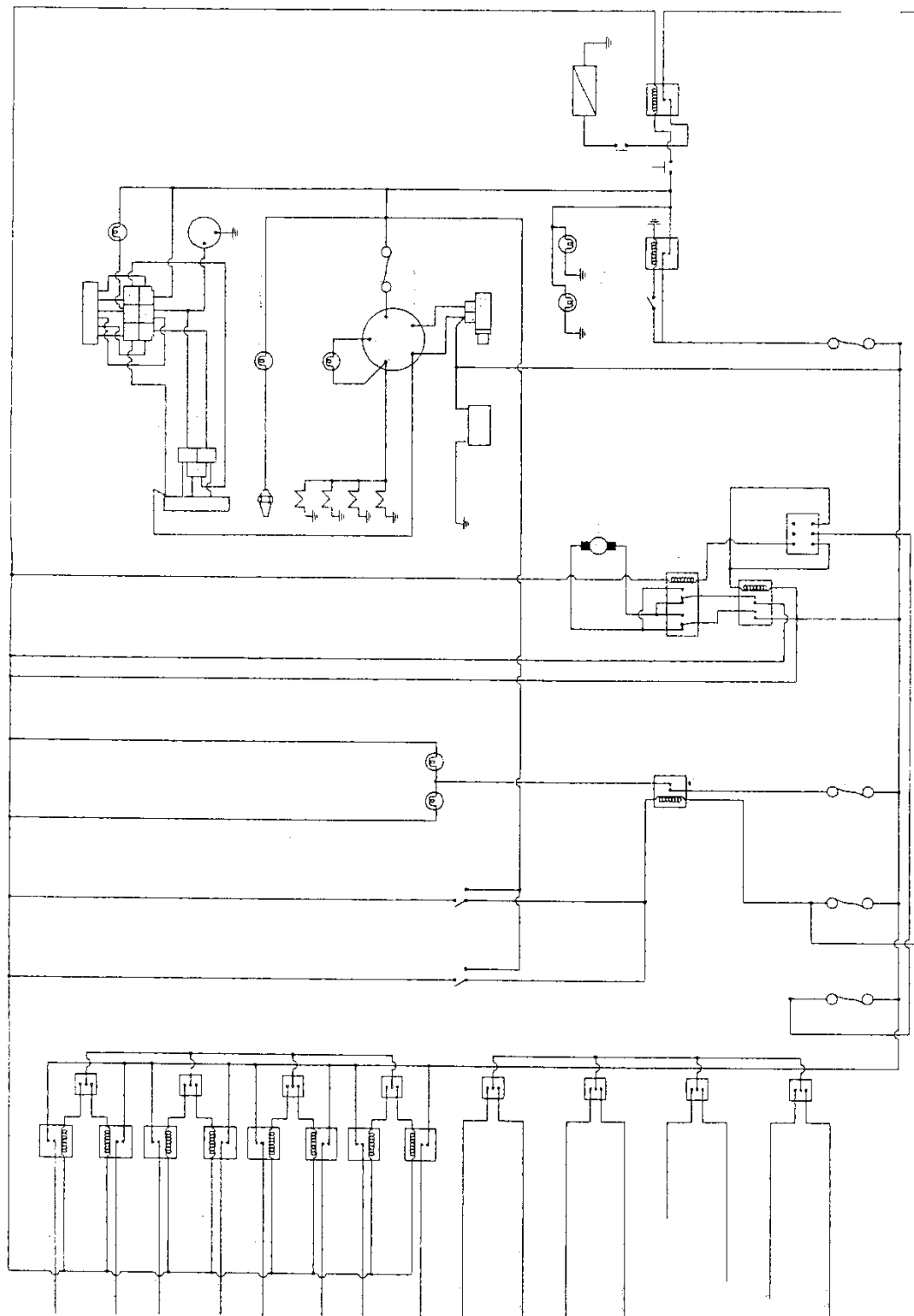
Item	Part No.	Drq. No.	Description	Qty
Title: WIRING DIAGRAM MKS S/L SERIAL No. 583788-501 & 583805-502				
Client:				
		Drq. No:	A1850002	
		Part No. 13695	Issue:	
		ASSY DWG	Job No:	

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Christchurch.



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ECN	Date	First Issue	Modification



FUSE 1 - SAFETY SYSTEM
 FUSE 2 - ENGINE STOP
 FUSE 3 - LEFT & RIGHT RELAYS
 FUSE 4 - REMOTE & BUNKER
 FUSE 5 - WORK LIGHTS

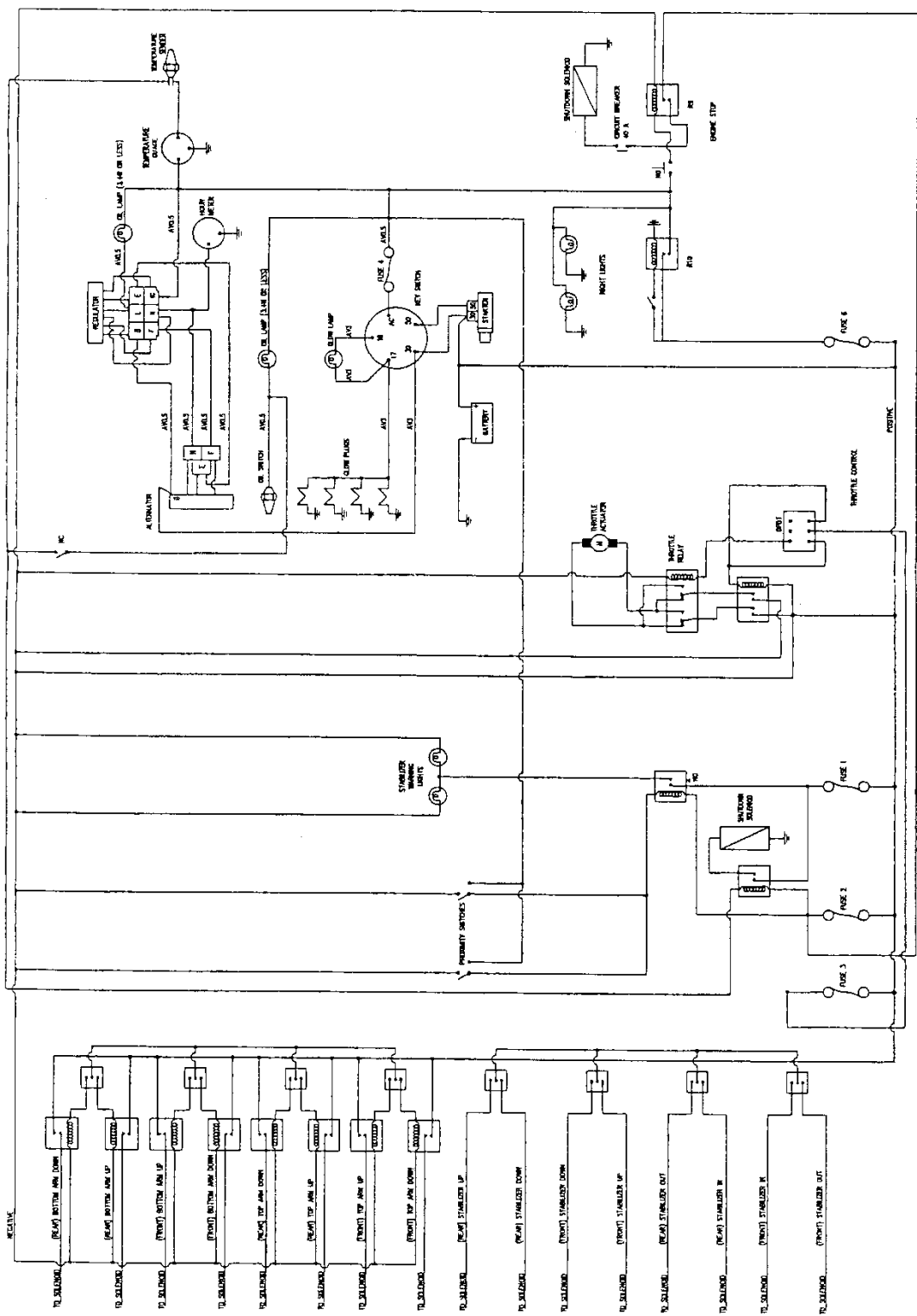
Item	Part No.	Dwg. No.	Description	Qty
Title: WIRING DIAGRAM MAS 5/L SPECIAL NUMBERS 507 LIFT				
Client:				
Dwg. No. A1850004				
Part No. 14597				
Issue:				
Job No.				
ASSY DWG.				

Drawn: M. W. W. W.	Date: 22-8-89
Scale: NTS	Serial No: SB
Reg. No:	For:
Issued:	Date:

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No.	Date	First Issue	Modification
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			



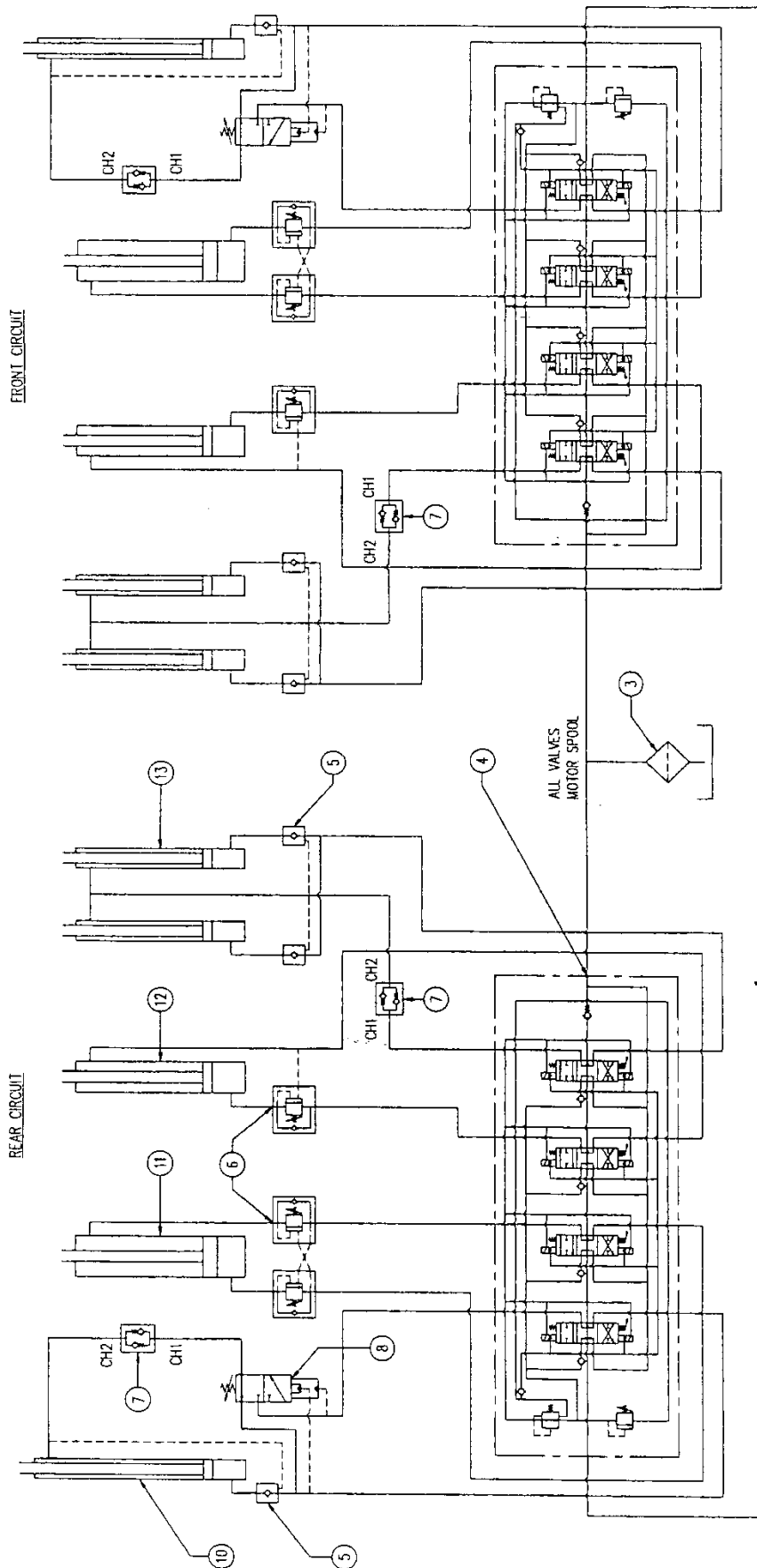
FUSE 1 - SAFETY SYSTEM
 FUSE 2 - ENGINE STOP PROXIMITY SWITCHES
 FUSE 3 - ENGINE STOP PROXIMITY RELAYS
 FUSE 4 - ENGINE STOP PROXIMITY LAMPS
 FUSE 5 - ENGINE STOP PROXIMITY LAMPS
 FUSE 6 - WORK LIGHTS

Item	Part No.	Qty.	Description
Title: WIRING DIAGRAM MK5 S/L WITH FAIL SAFE CIRCUIT			
Client:			
Drawn: M. DUNN Date: 12-1-88			
Scal: TS Serial No: SB			
Reg: TS			
Date:			
Part No: 15633			
Job No:			
ASSY DWG:			

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ECN	Date	First Issue	Modification
A			



VALVE		PSI	SETTING	MPa
A	MAIN RELIEF VALVE	4000		27.6
B	OVERCENTRE VALVE - UPPER BOOM TILT	5000		34.5
C	OVERCENTRE VALVE - LOWER BOOM TILT	5000		34.5

NOTE: PRESSURES QUOTED ARE AT A VOLUME FLOW RATE OF 39 LITRES/MINUTE (3000 RPM)

Item	Part No.	Drq. No.	Description	Qty
13	01189		RAM STABILISER LUFFING	4
12	01297		RAM UPPER BOOM TILT	2
11	01298		RAM LOWER BOOM TILT	2
10	01106		RAM STABILISER EXTENSION	2
9				
8	01309		VALVE REGENERATIVE	2
7	01308		VALVE DOUBLE CHECK	2
6	00188		VALVE OVCNTRRE	6
5	00189		VALVE PILOT CHECK GASKET MOUNTED	6
4	01305		VALVE DIRECTIONAL CONTROL	2
3	00191		FILTER	1
2	SL025		BALL VALVE	2
1	00192		PUMP ANDREW 13 LITRES PER 1000 RPM	1

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Steel Bros (NZ) Ltd.
1-31 Evers Rd.
Christchurch.

FCN	Date	Modification
A	11-12-50	ITEM 7 CORRECTED
C	13-8-50	CIRCUIT MODIFIED
B	8-6-50	CIRCUIT MODIFIED
A		First sue

Drawn : D WALTERS	Date : 14-6-88
Scale : N.T.S.	Serial No: SB
Reg. No:	Tare :
Issued:	Date :

Title: HYDRAULIC CIRCUIT - MK 5 SIDELIFTER

Doc No: A2800001

Part No: 13702

Next Assy. -	Job No:
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