

**M-TEST (Mackay) Pty. Ltd.** A.C.N. 010 691 906  
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**for INSPECTION AND NON-DESTRUCTIVE TESTING**

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SB  
3rd May, 2023  
Page 1 of 51

## **INSPECTION REPORT NO. M23-8959**

**CLIENT:** **Golding Contractors Pty. Ltd.**

**CLIENT CONTACT:** Mr. S. Shew

**ORDER NO.:** 4500434460

**MACHINE IDENTIFICATION:** **Hitachi EX3600 Excavator EX0043**

**SUBJECT:** Inspection and non-destructive testing of Hitachi EX3600 excavator EX0043 at Broadlea Coal Mine.

**DATE OF TEST:** 5th April, 2023

**INSPECTORS:** Mr. J. Fleming

### **TEST DATA:**

Test Method - A.S.3978 (2003) MTP-101  
Material Specification/Type - Not specified / Carbon steel is client supplied information  
Acceptance/Rejection Criteria - Report all cracks and discontinuities detected.  
Surface Condition - Painted  
Limitations of Test - Client nominated components only  
Presence of paint, dirt and grease on surface may mask defects/discontinuities.



Accredited for compliance with ISO/IEC 17025 (11513) - testing & ISO/IEC 17020 (11634)  
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## **RESULTS OF EXAMINATION**

VT - Visual Testing

### **HITACHI EX3600 EXCAVATOR EX0043**

Refer to Photograph No. 1 for machine tested.

#### **SECTION A: SIDE FRAMES (VT)**

Cracks detected. Refer to Defect Table for locations and lengths.

#### **SECTION B: TRACK FRAME (VT)**

##### **Slew Internal**

Cracks detected. Refer to Defect Table for locations and lengths.

##### **Slew External**

No visual defects detected.

##### **Slew Remainder**

No visual defects detected.

#### **SECTION C: MAIN FRAME (VT)**

Cracks detected. Refer to Defect Table for locations and lengths.

#### **SECTION D: BOOM EXTERNAL (VT)**

Cracks detected. Refer to Defect Table for locations and lengths.

#### **SECTION E: BOOM INTERNAL (VT)**

Not inspected.

#### **SECTION F: STICK ATTACHMENT EXTERNAL (VT)**

Cracks detected. Refer to Defect Table for locations and lengths.

#### **SECTION G: STICK INTERNAL (VT)**

Not inspected.

**RESULTS OF EXAMINATION**

VT - Visual Testing

**HITACHI EX3600 EXCAVATOR EX0043 CONT'D**

Refer to Photograph No. 1 for machine tested.

**SECTION H: BUCKET (VT)**

Not inspected.

**SECTION I: BUCKET LINKS / H LINKS (VT)**

Not inspected.

**SECTION J: MISCELLANEOUS AREAS (VT)****Operations Cab Riser**

No visual defects detected.

**Engine House**

Cracks detected. Refer to Defect Table for locations and lengths.

**Fan House**

Cracks detected. Refer to Defect Table for locations and lengths.

**RESULTS OF EXAMINATION**

VT - Visual Testing

**HITACHI EX3600 EXCAVATOR EX0043 CONT'D****DEFECT TABLE**

Defect No.	Location	Defect Details		Figure No.	Previous Length (M22-830)
		Type	Length (Mm) / Description		
A7	Side Frame - Left Hand Side	Crack	10 & 10	A1	10 & 10
A8	Side Frame - Left Hand Side	Cracks	Repaired	A1	35
A9	Side Frame - Left Hand Side	Cracks	Repaired	A1	40
B1	Slew Internal	Crack	Repaired	B1	50
B2	Slew Internal	Crack	10	B1	-
B3	Slew Internal	Crack	420	B1	-
B4	Slew Internal	Crack	40+	B1	-
B8	Track Frame	Crack	20	B1	30 & 80
B9	Track Frame Slew	Crack	Not Inspected	B1	42, 5, 5 & 10
B11	Track Frame Slew	Crack	Repaired	B1	10, 10 & 10
B12	Track Frame Slew	Crack	Not Inspected	B1	20 & 22
B15	Track Frame	Cracks	Repaired	B1	35 & 130
B19	Slew Internal	Crack	Repaired	B1	170
B20	Track Frame	Crack	Repaired	B1	195
B21	Track Frame	Crack	Repaired	B1	200
B22	Track Frame	Crack	Repaired	B1	20
B23	Track Frame	Missing Bolt	Repaired	B1	-
B24	Track Frame	Missing Bolt	Repaired	B1	-
B25	Slew Internal	Crack	Repaired	B1	-

**RESULTS OF EXAMINATION**

VT - Visual Testing

**HITACHI EX3600 EXCAVATOR EX0043 CONT'D****DEFECT TABLE CONT'D**

Defect No.	Location	Defect Details		Figure No.	Previous Length (M23-8300)
		Type	Length (mm) / Description		
C1	Left Hand Side Inboard	Cracks	20 & 50	C1	85
C2	Hydraulic Bracket	Crack	60	C1	15+
C3	External Left Hand Outboard Side	Crack & Missing Bolts	20	C1	20
C4	External Right Hand Outboard Side	Crack	45	C1	45
C6	Main Frame Right Hand Outboard Side	Crack	40	C2	80
C7	Main Frame Right Hand Outboard Side	Crack	Repaired	C2	90
C8	Main Frame Left Hand Inboard Side	Cracks	Repaired	C1	380
C9	Main Frame Right Hand Outboard Side	Crack	20	C2	100
C10	Main Frame Right Hand Outboard Side	Crack	520	C1	520
C11	Front Middle Outboard	Crack	Not Inspected	C1	25
C12	External Left Hand Outboard Side	Cracks	15 & 20	C1	-
C13	Center of Main Frame	Crack	30	C2	-
C14	Main Frame Right Hand Outboard Side	Crack	30	C2	-
C15	Main Frame Right Hand Outboard Side	Crack	10	C2	-
D2	Boom - Left Hand Side	Cracks	Not Inspected	D1	15 & 30
D3	Boom - Left Hand Side Outboard	Crack	30	D1	-
D4	Boom - Left Hand Side Inboard	Crack	70+	D1	-
D5	Boom - Right Hand Side	Missing Clamp & Cracks	Repaired	D2	120 & 140
D6	Boom - Right Hand Side	Crack	Repaired	D2	85
D7	Boom - Left Hand Side Outboard	Crack	15	D2	-
D8	Boom - Left Hand Side Inboard	Crack	70	D2	-
D9	Boom - Left Hand Side	Missing / Loose Bolt	-	D1	-
D10	Boom - Left Hand Side	Broken	-	D1	-
D11	Boom - Left Hand Side	Cylinder Wearing on Boom	-	D1	-

**RESULTS OF EXAMINATION**

VT - Visual Testing

**HITACHI EX3600 EXCAVATOR EX0043 CONT'D****DEFECT TABLE CONT'D**

Defect No.	Location	Defect Details		Figure No.	Previous Length (M22-8300)
		Type	Length (mm) / Description		
E1	Boom Left Hand Side - Internal	Crack	Not Inspected	D1	25mm Deep 100mm Long
F2	Stick	Cracks	50 & 55	F1	Repaired
F16	Stick - Left Hand Side - External	Crack	Repaired	F1	-
G1	Stick - Right Hand Side - Internal	Crack	Not Inspected	F1	150mm long 25mm deep
G2	Stick - Right Hand Side - Internal	Crack	Not Inspected	F1	50mm long 34mm deep
G3	Stick - Right Hand Side - Internal	Crack	Not Inspected	F1	80mm long 35mm deep
H1	Bucket - Outboard Right Hand Side	Cracks	Not Inspected	H4	10, 10 & 35
H2	Bucket - Outboard Left Hand Side	Crack	Not Inspected	H4	10 & 10
H3	Bucket - Front plate	Cracks	Not Inspected	H4	Repaired
H4	Bucket - Underside Right Hand Side	Crack	Not Inspected	H1	60
H5	Bucket - Underside Left Hand Side	Crack	Not Inspected	H1	110
H6	Bucket - Underside Left Hand Side	Crack	Not Inspected	H1	100
H7	Bucket - Inboard Right Hand Side	Crack	Not Inspected	H3	80
H8	Bucket - Inboard Left Hand Side	Crack	Not Inspected	H3	60
H9	Bucket - Left Hand Outboard Side	Crack	Not Inspected	H4	10
H10	Bucket - Left Hand Outboard Side	Crack	Not Inspected	H4	100
H11	Bucket - Left Hand Outboard Side	Crack	Not Inspected	H4	15
H12	Bucket - Right Hand Outboard Side	Crack	Not Inspected	H4	20
H13	Bucket - Right Hand Outboard Side	Crack	Not Inspected	H4	10
H14	Bucket - Right Hand Outboard Side	Crack	Not Inspected	H4	35
H15	Bucket - Right Hand Outboard Side	Crack	Not Inspected	H4	65
H16	Bucket - Right Hand Outboard Side	Cracks	Not Inspected	H4	15 & 15
H17	Bucket - Lip	Cracks	Not Inspected	H2	10 & 10

**RESULTS OF EXAMINATION**

VT - Visual Testing

**HITACHI EX3600 EXCAVATOR EX0043 CONT'D****DEFECT TABLE CONT'D**

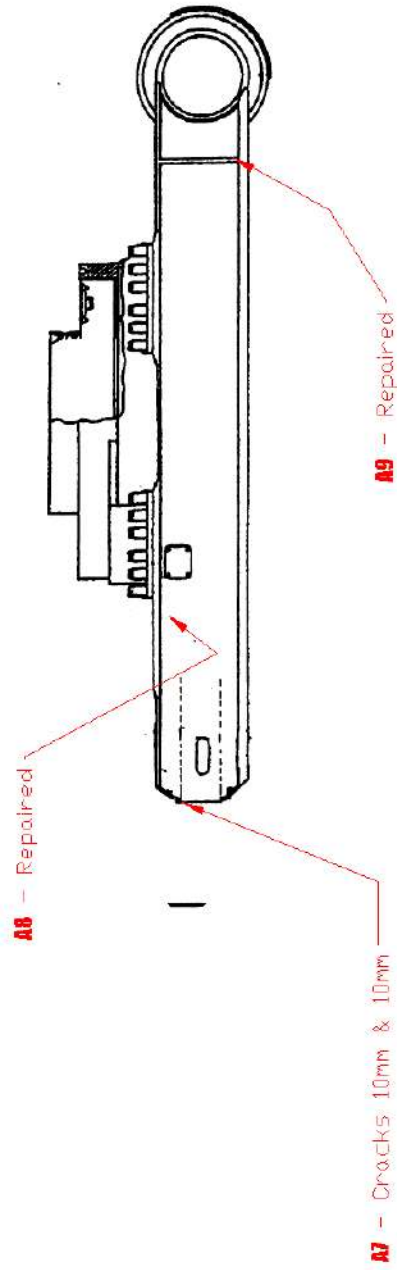
Defect No.	Location	Defect Details		Figure No.	Previous Length (M22-8300)
		Type	Length (mm) / Description		
H18	Bucket - Underside Floor	Crack	Not Inspected	H4	300
H19	Bucket - Lip	Cracks	Not Inspected	H2	30 & 20
H20	Bucket - Lip	Crack	Not Inspected	H2	20
H21	Bucket - Lip	Cracks	Not Inspected	H2	35 & 35
H22	Bucket - Lip	Cracks	Not Inspected	H2	10 & 10
H23	Bucket - Underside Floor	Cracks	Not Inspected	H4	10 & 20
H24	Bucket - Right Hand Inboard Side	Cracks	Not Inspected	H2	100 & 90
H25	Bucket - Left Hand Inboard Side	Cracks	Not Inspected	H2	50, 65, 20 & 45
H26	Bucket - Rear	Crack	Not Inspected	H1	32
I1	Bucket Link - Left Hand Side	Cracks	Not Inspected	I1	5, 5 & 5
J1	Engine House - Left Hand Side External	Mechanical Damage & Missing Bolt	-	-	-
J2	Engine House - Rear External	Corrosion	-	-	-
J3	Engine House - Rear External	Missing Bolt	-	-	-
J4	Engine House - Center Walkway	Missing Bolt	-	-	-
J5	Right Hand Side Walkway - Operators Cab	Missing Bolt	-	-	-
J6	Fan House Roof	Crack	60	-	-


**J. FLEMING****Inspector**

Att..



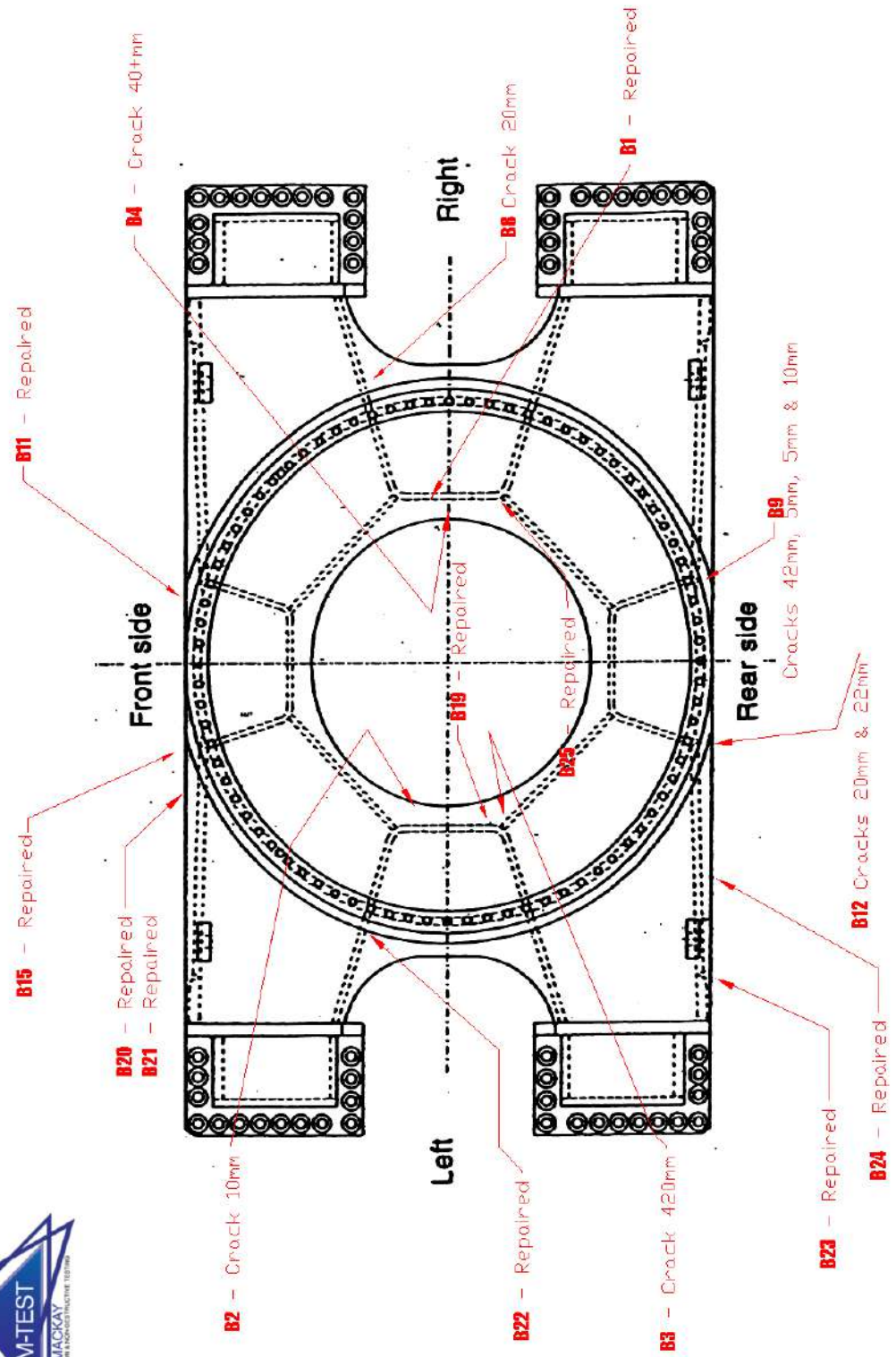
**Figure-A1**







**Figure- B1**



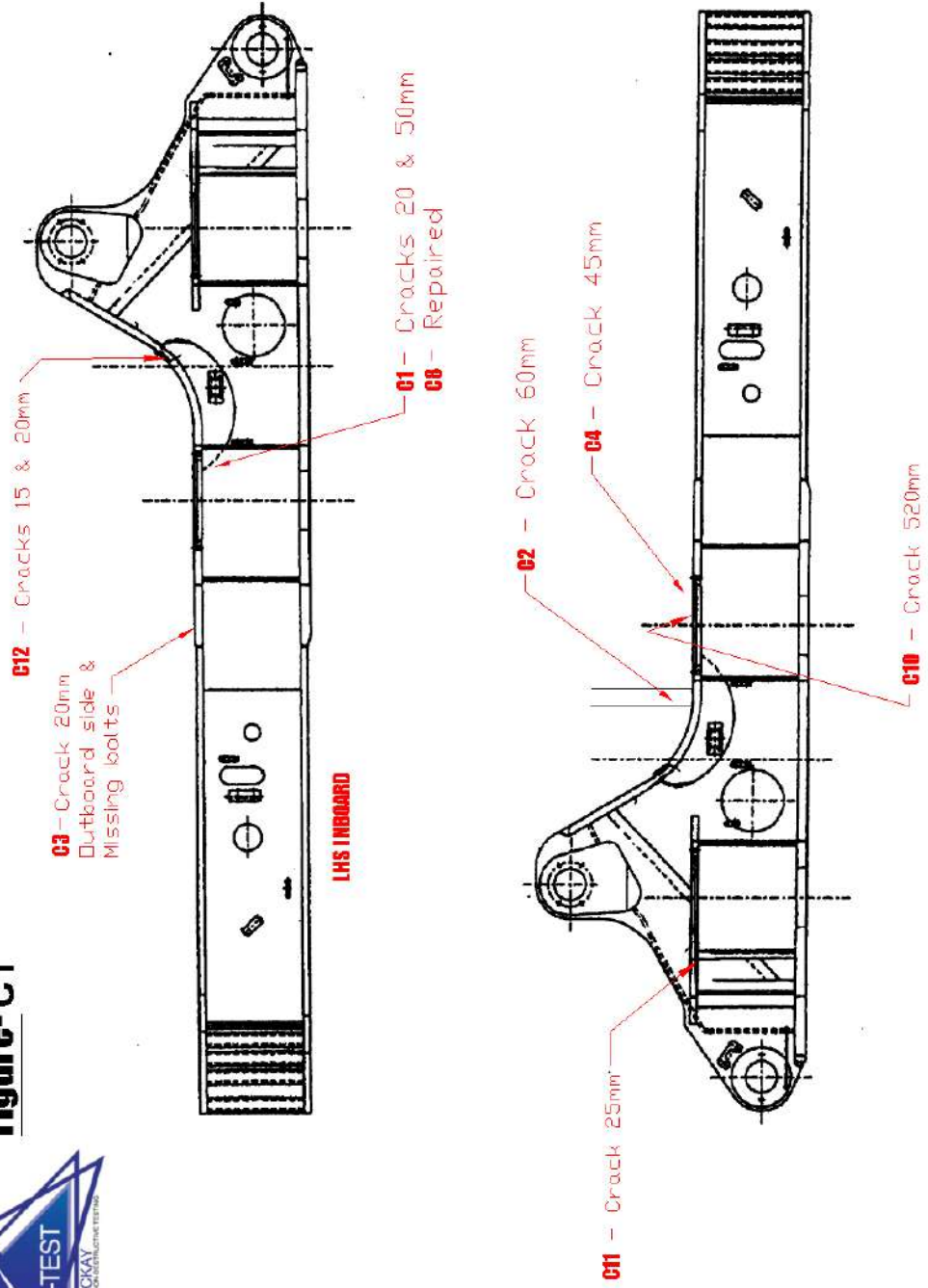
**TRACK FRAME**

MODEL: 3600 EX0043  
MACHINE: HITACHI

NOT TO SCALE



**Figure-C1**



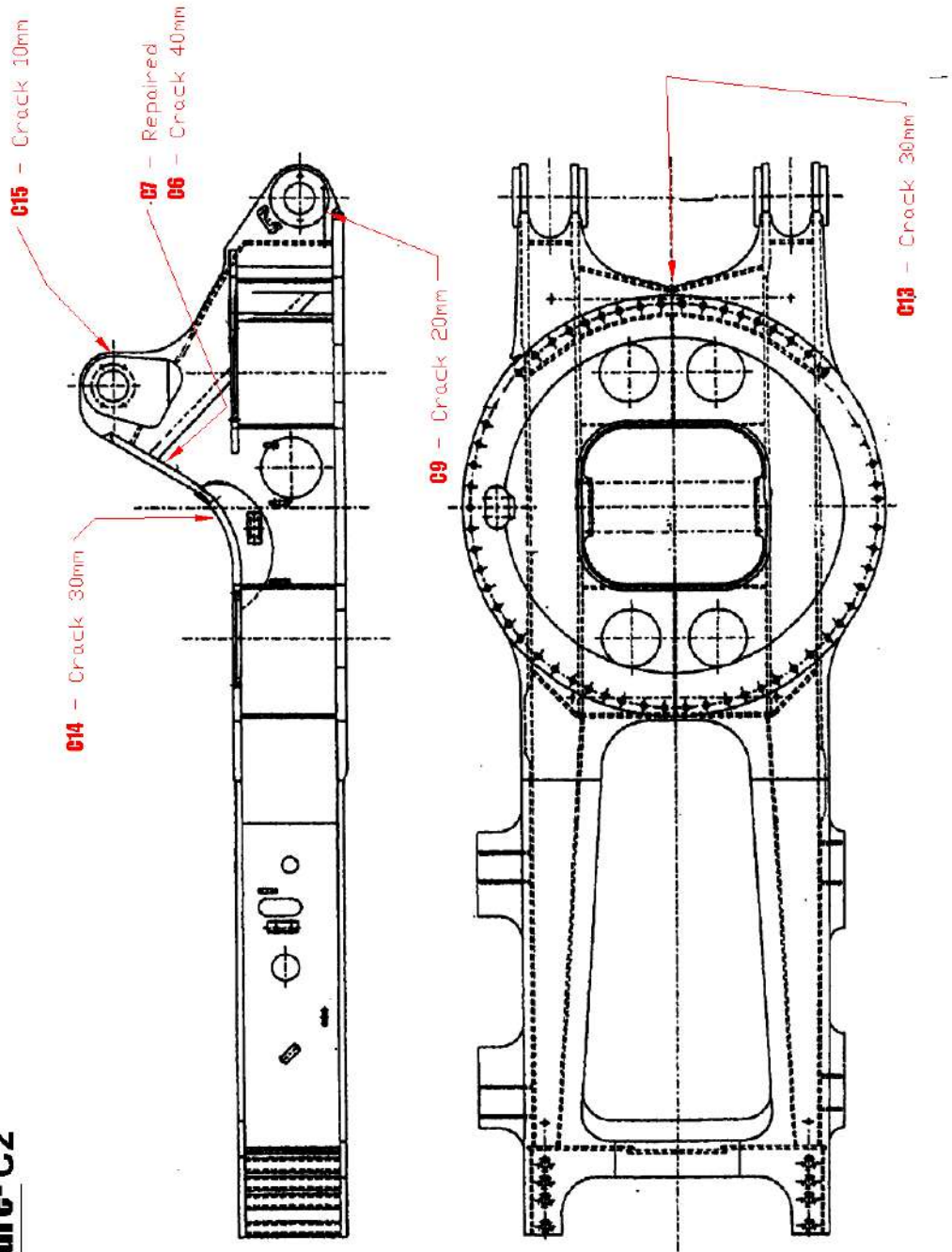
**MAIN FRAME LEFT HAND SIDE**

MODEL: 3600 EX0043  
MACHINE: HITACHI

NOT TO SCALE

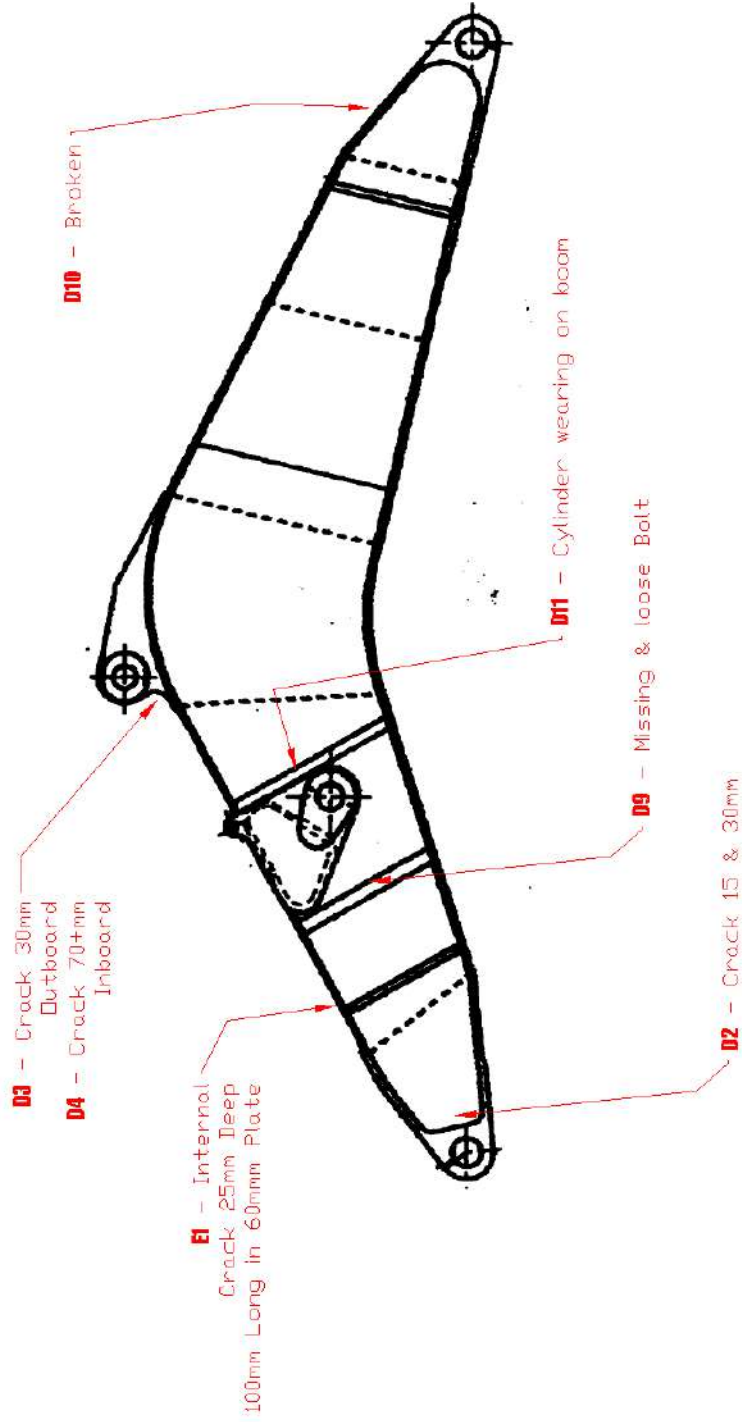


**Figure-C2**



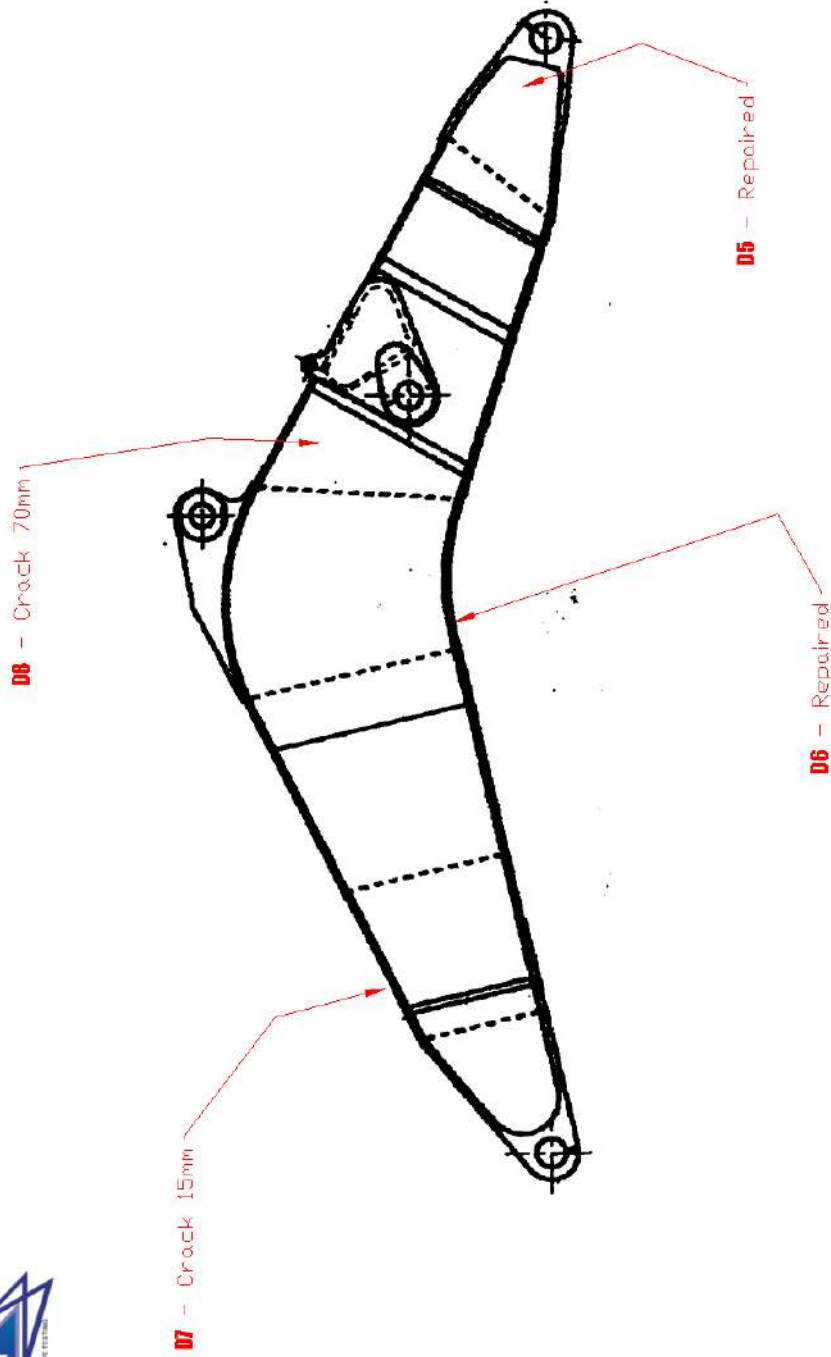


**Figure- D1**



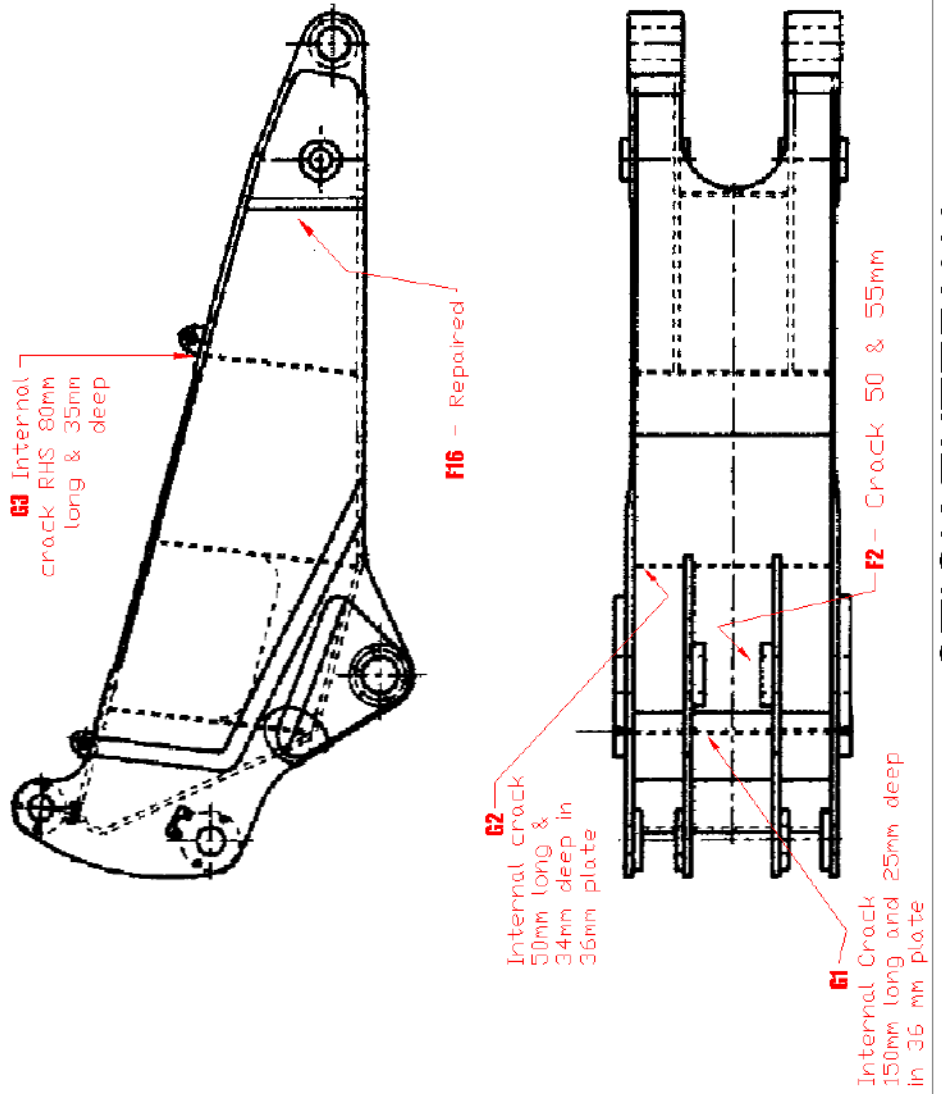


**Figure-D2**



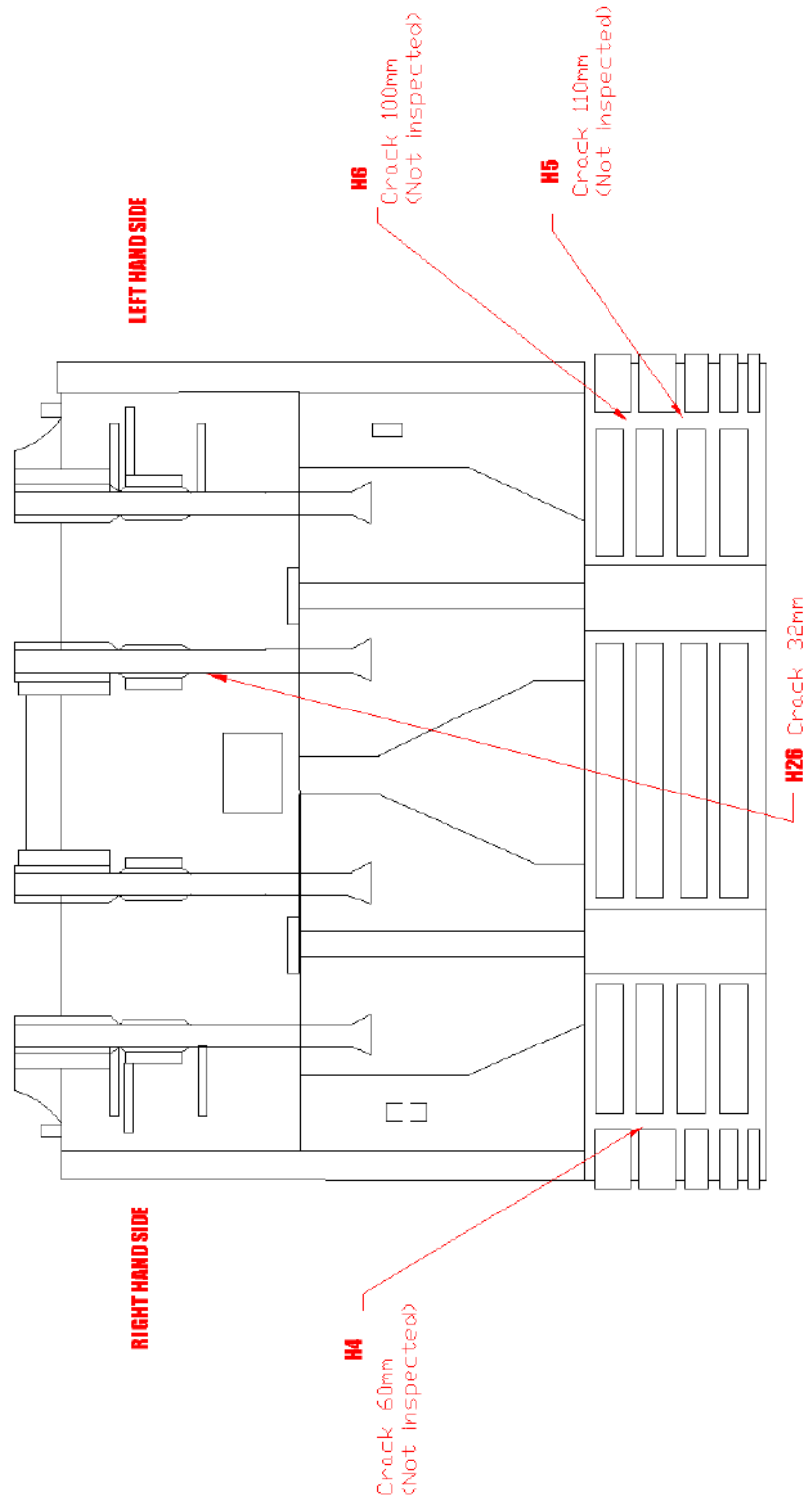


**Figure- F1**



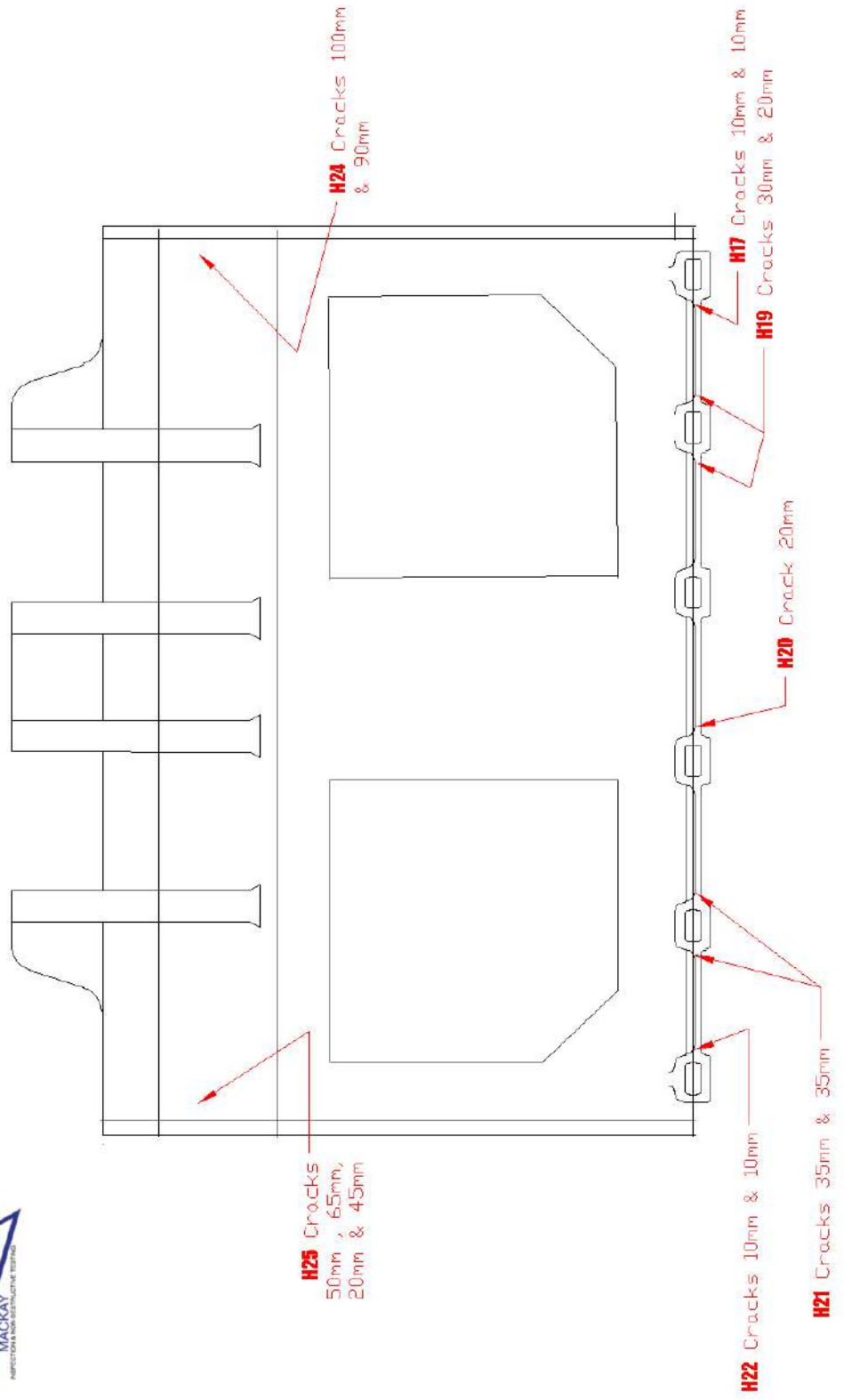


**Figure- H1**





**Figure-H2**



**EARS AND FRONT WALL**

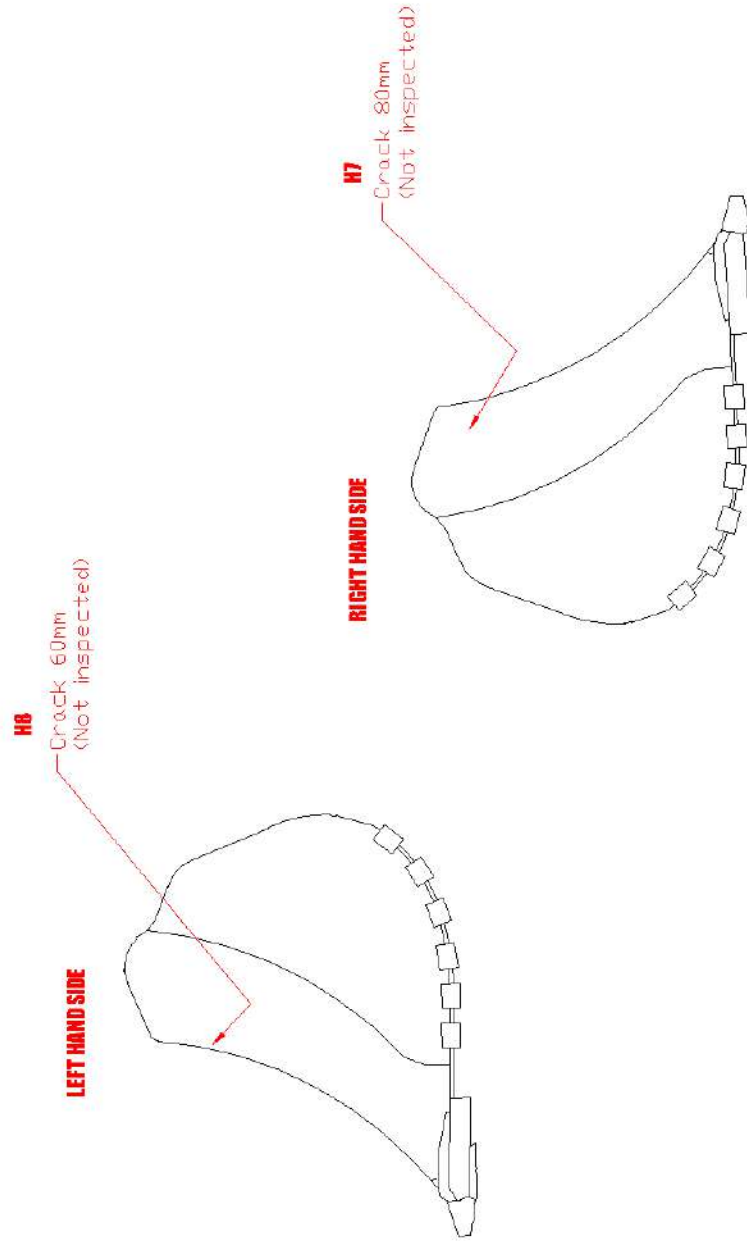
MODEL: 3600 EX0043  
MACHINE: HITACHI

NOT TO SCALE



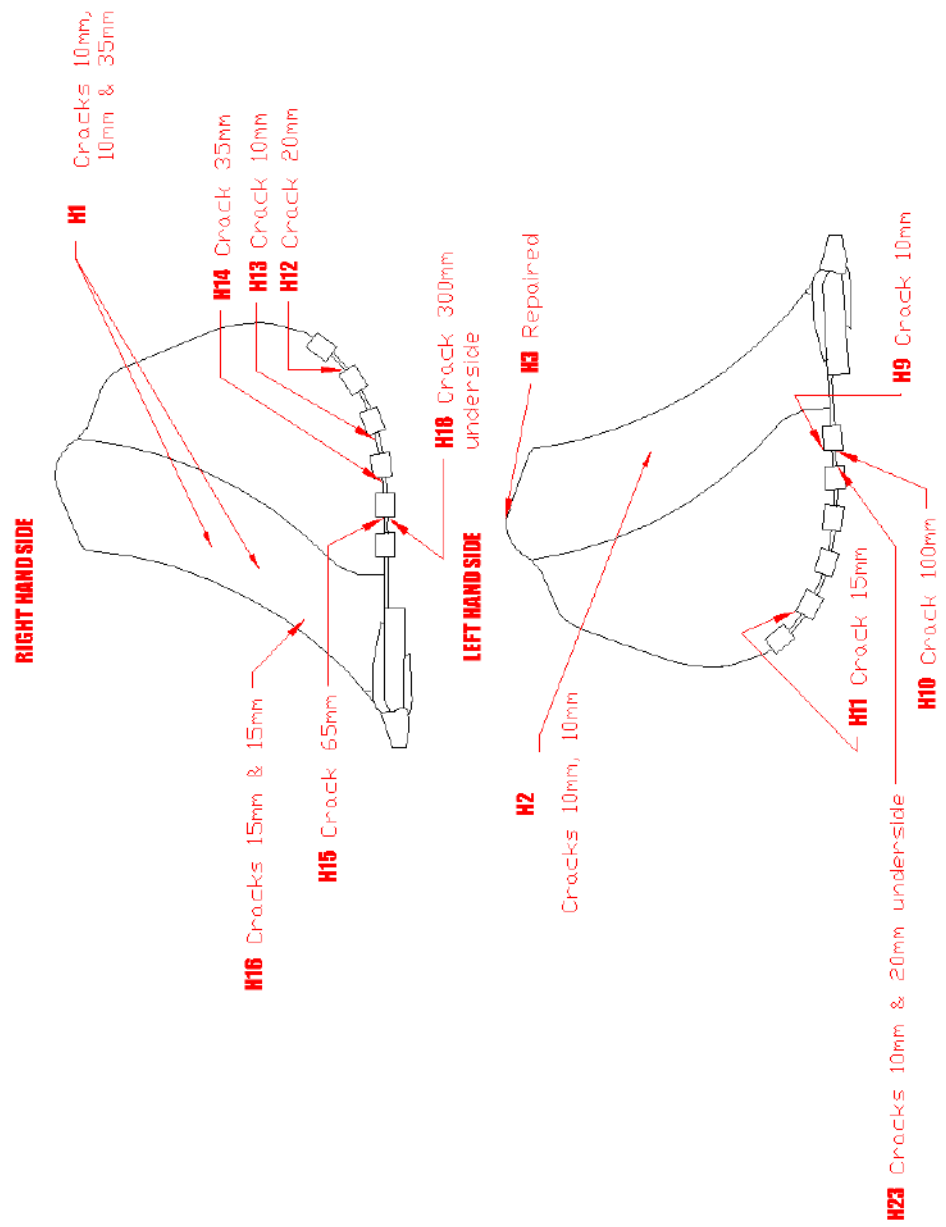


**Figure- H3**



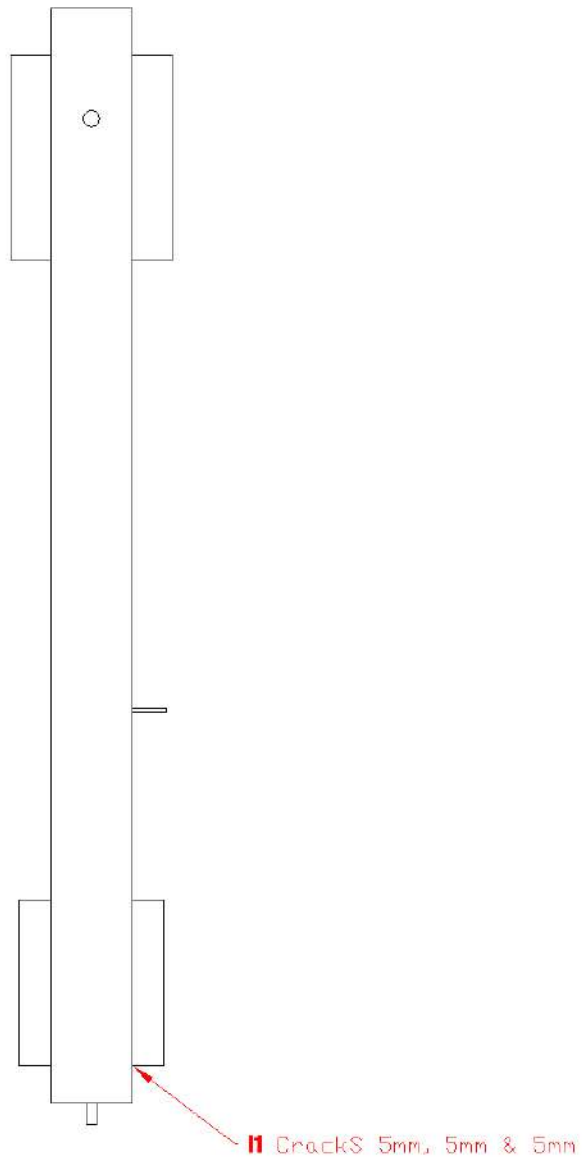


**Figure-H4**





**Figure- 11**



MODEL: 3600 EX0043

MACHINE: HITACHI

**DOG BONE LINK**

NOT TO SCALE

PHOTOGRAPH NO. 1 - Hitachi EX3600 Excavator EX0043



DEFECT NO. A7



DEFECT NO. B2



DEFECT NO. B3



DEFECT NO. B3



DEFECT NO. B8



DEFECT NO. B9



DEFECT NO. B12



DEFECT NO. C1





DEFECT NO. C1



DEFECT NO. C2



DEFECT NO. C3



DEFECT NO. C4



DEFECT NO. C6



DEFECT NO. C9



DEFECT NO. C10



DEFECT NO. C11



DEFECT NO. C12



DEFECT NO. C13



DEFECT NO. C13



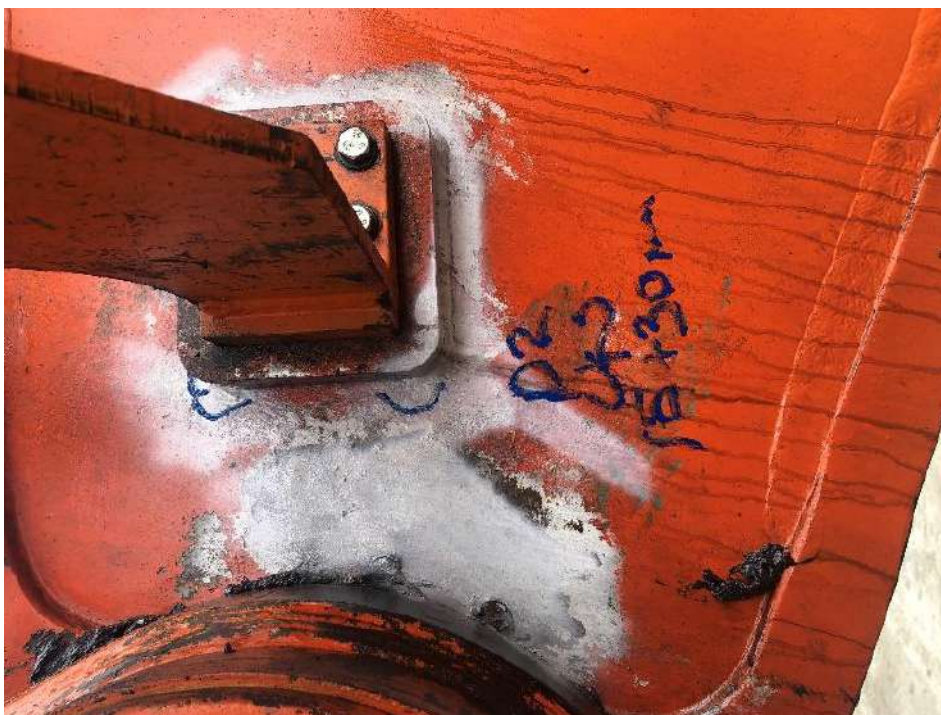
DEFECT NO. C14



DEFECT NO. C15



DEFECT NO. D2



DEFECT NO. D3



DEFECT NO. D4





DEFECT NO. D7



DEFECT NO. D8



DEFECT NO. D9



DEFECT NO. D10



DEFECT NO. D11



DEFECT NO. F2



DEFECT NO. H1



DEFECT NO. H2



DEFECT NO. H9



DEFECT NO. H10



DEFECT NO. H11



DEFECT NO. H12



DEFECT NO. H13



DEFECT NO. H14



DEFECT NO. H15



DEFECT NO. H16





DEFECT NO. H17



DEFECT NO. H18



DEFECT NO. H19



DEFECT NO. H20



DEFECT NO. H21

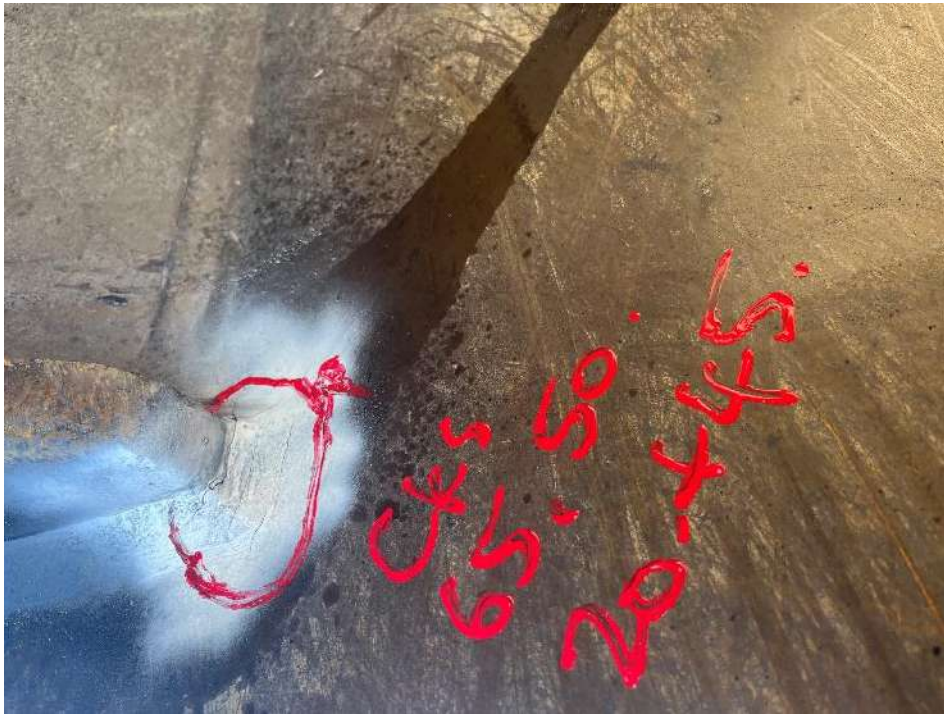


DEFECT NO. H22





DEFECT NO. H25



DEFECT NO. H26



DEFECT NO. I1



DEFECT NO. J1



DEFECT NO. J2



DEFECT NO. J2



DEFECT NO. J2



DEFECT NO. J3





DEFECT NO. J4



DEFECT NO. J5



DEFECT NO. J6



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