metallkraft
Metallbearbeitungsmaschinen

Operating instructions

Plate shears

hydraulical

- HTBS BASIC 2106, 2606
- HTBS BASIC 3106, 3110, 3113, 3116, 3120
- HTBS BASIC 4106, 4110, 4113

HTBS BASIC 2106

HTBS BASIC

Imprint

Product identification

Hydraulic plate shears

			Item number
HTBS	BASIC	2106	4202106
HTBS	BASIC	2606	4202606
HTBS	BASIC	3106	4203106
HTBS	BASIC	3110	4203110
HTBS	BASIC	3113	4203113
HTBS	BASIC	3116	4203116
HTBS	BASIC	3120	4203120
HTBS	BASIC	4106	4204106
HTBS	BASIC	4110	4204110
HTBS	BASIC	4113	4204113

Manufacturer

Stuermer Maschinen GmbH
Dr.-Robert-Pfleger-Str. 26
D-96103 Hallstadt

Fax: 0049 (0) 951 96555 - 55

E-Mail: info@metallkraft.de
Internet: www.metallkraft.de

Indications regarding the operating instructions

Original Instructions

Edition: 11.04.2019
Version: 1.01
Language: english

Author: SN

Copyright information

TABLE OF CONTENTS **PAGE**

FOREWORD 5
CONTENT AND PURPOSE OF THIS INSTRUCTIONMANUAL 5
STANDARDS LIST OF HYDRAULIC GUILLOTINE SHEARS DESIGN AND PRODUCTION 6
TYPE PLATE 7
TECHNICAL SPECS 12
SAFETY 13
SAFETY EQUIPMENTS 13
GENERAL SAFETY 13
PREVENTIVE SAFETY MEASURES AGAINST OPERATING RISKS 14
SAFETY FEATURES 15
SAFETY INSTRUCTIONS 15
TRANSPORTING THEMACHINE 16
BEFORE LIFTING THE MACHINE 18
STORING CONDITIONS 18
STORING OF BLADES 18
STORING OPERATING CONDITIONS 18
PREPARATION FOR INSTALLATION AND SAFETY DISTANCES 19
INSTALLATION OF THE MACHINE 19
IMPORTANT POINTS TO CONSIDER BEFORE RUNNING THE HYDRAULIC GUILLOTINE SHEARS 21
HYDRAULIC GUILLOTINE SHEARS FIRST TEST ANDINSPECTION 21
OIL LEVEL AND POLLUTION INDICATOR 22
DURING THE RUN 22
ELECTRICAL AND CONTROL PANEL 23
FUNCTIONS OF THE CONTROL PANEL 24
FIRST STEPS 25
General Introduction 25
Choose a language 25
Basic Screen Description 26
Starting the pump motor 26
Easy cut with the EasyCut page 27
PROGRAMS 28
Program menu 28
Creating a simple, new program 29
Additional cutting functions 31
Use current program 33
Call up saved program 33
OTHER MENUS 34
Manual movement 34
user setting 34
Service 36
INFORMATION AND ERROR MESSAGES 39
BLADE ADJUSTMENT 42
CONNECTION OF LOWER BLADE 42
UPPER BLADE CONNECTION 43
GAP ADJUSTMENT 44
CUTTING ADJUSTMENT 45
BACKGAUGE ADJUSTMENT 46

info@metallkraft.de, www.metallkraft.de

BACKGUAGE SYSTEM 46
SAFETY POINTS TO CONCIDER DURING THE MAINTENANCE OF THE BACKGAUGE 47
FRONT ARMS 48
MAINTENANCE 48
MAINTENANCE OF THE MACHINE 48
MAINTENANCE OF THE HYDRAULIC SYSTEM 49
MAINTENANCE ON HYDRAULIC SYSTEM 49
MAINTENANCE PERIODS 50
DAILY MAINTENANCE 50
WEEKLY MAINTENANCE 50
MONTHLY MAINTENANCE 51
TWO MONTHLY MAINTENANCE 51
THREE MONTHS MAINTENANCE 51
2000 HOURS MAINTENANCE 51
GREASING 52
Lubrication schedule for plate shears 53
POSSIBLE ERRORS THAT MAY OCCUR 54
IF THE MACHINE DOES NOT RECEIVE COMMANDS; 54
MACHINE TAKES COMMAND, BUT IF THERE IS NO FUNCTIONAL MOVEMENTS; 54
THE MACHINE RUNS, THE UPPER BEAM DON'T MOVES FROM THE LOWER DEAD POINT TO THE UPPER DEAD POINT OR FROM THE UPPER DEAD POINT TO THE LOWER DEAD POINT; 54
THE MACHINE WORKS, BUT IF THE MACHINE DOES NOT HAVE THE PRESSURE; 55
THE MACHINE WORKS, BUT IF YOU GOT CUTTIN FAULTS; 55
ACCIDENTS MAY OCCUR AND THE METHODS OF GETTING RID 55
GENERAL EQUIPMENT OF THE HYDRAULIC GUILLOTINE SHEARS 56
DECLARATION OF CONFORMITY 57

FOREWORD

Hydraulic Guillotine Shear industry is an ever-evolving industry depending on market's needs and technological advancements.

To be able to respond to this demand ;

"Our mission is to provide our customers utmost efficiency and high performance by incorporating latest technological advancements and examplary engineering"

This book you are holding now provides detailed information about the transport of the machine, placing and installing the machine, introduction to functions of the machine as well as techniques about maintenance, repair, security and usage. Your machine will serve you for long years as long as you adhere to information provided in this document.

We wish your new investment in METALLKRAFT and will prove long-term and useful and we welcome you to METALLKRAFT family!

CONTENT AND PURPOSE OF THIS INSTRUCTIONMANUAL

This instruction manual is prepared with the purpose of providing all the information necessary for maintenance

and servicing of the machine to maintenance personnel as well as information about functional and technical characteristics of the machine to the operators who will run this machine.

METALLKRAFT cannot be deemed responsible from the damages that may arise by not using the information given in this manual or using the information in a wrong way.

Any inquiries about this manual or the machine should be directed to below addresses.

All aftersales service will be carried out by METALLKRAFT or authorized METALLKRAFT distributors. METALLKRAFT won't be held responsible for any failure or damage rising from unauthorized service attempts by third parties. Unauthorized third party servicing will also terminate machine's warranty.

STANDARDS LIST OF HYDRAULIC GUILLOTINE SHEARS DESIGN AND PRODUCTION

EN 12622; Safety of machine tools – Hydraılic Guillotine Shears

EN 294:1992;Safety of Machinery-Safety Distances to Prevent Danger Zones Being Reached by the Upper Limbs

EN 999:1998; Safety of machinery - The positioning of protective equipment in respect of approach speeds of parts of the human body

EN ISO 13850:2006; Safety of machinery - Emergency stop - Principles for design

EN ISO 13849-1:2006; Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design

EN 982:1996;Safety of machinery- Safety requirements for fluid power systems and their components- hydraulics

EN 983:1996;Safety of machinery- Safety requirements for fluid power systems and their components- Pneumatics

EN ISO 11202: Acoustics-Noise emitted by machinery and equipment-Measurement of emission sound pressure levels at a work station and at other specified positions-Survey method in situ

EN 1050:1996 ;Safety of machinery-Principles for risk assessment

EN ISO 12100-1:2003;Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology

EN ISO 12100-2:2003;Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles

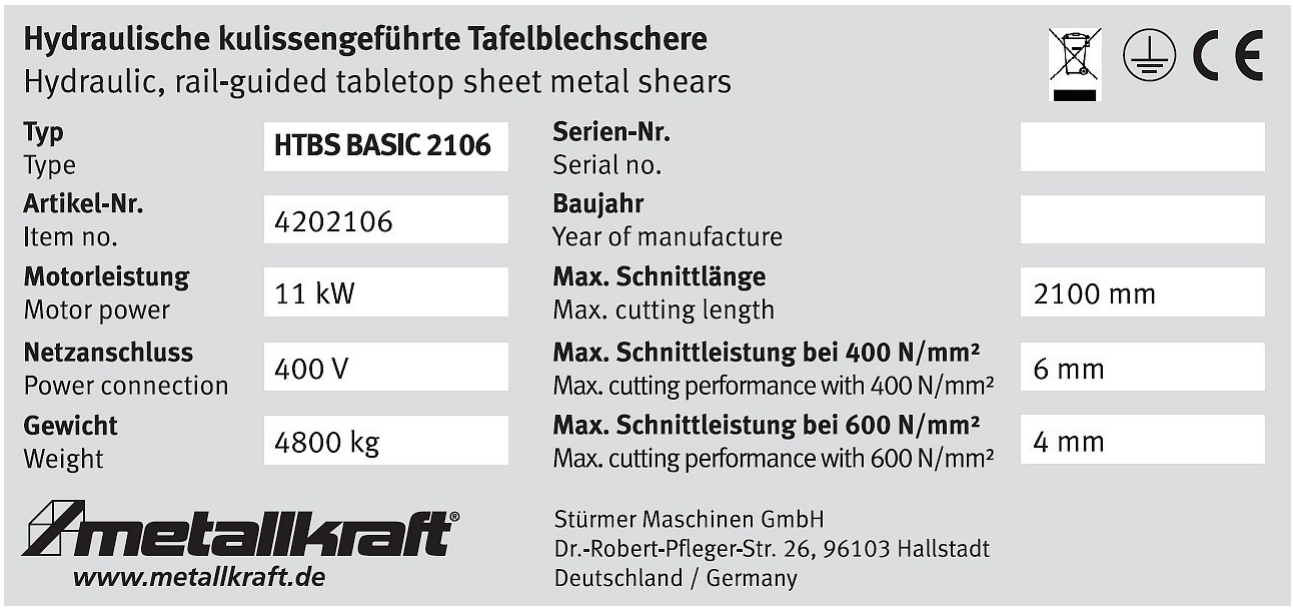
EN 60204-1:2006;Safety of machinery - Electrical equipment of machines Part 1: General requirements

EN 61000–6–2:2005;Electromagnetic compatibility (EMC) -- Part 6-2: Generic standards - Immunity for industrial environments

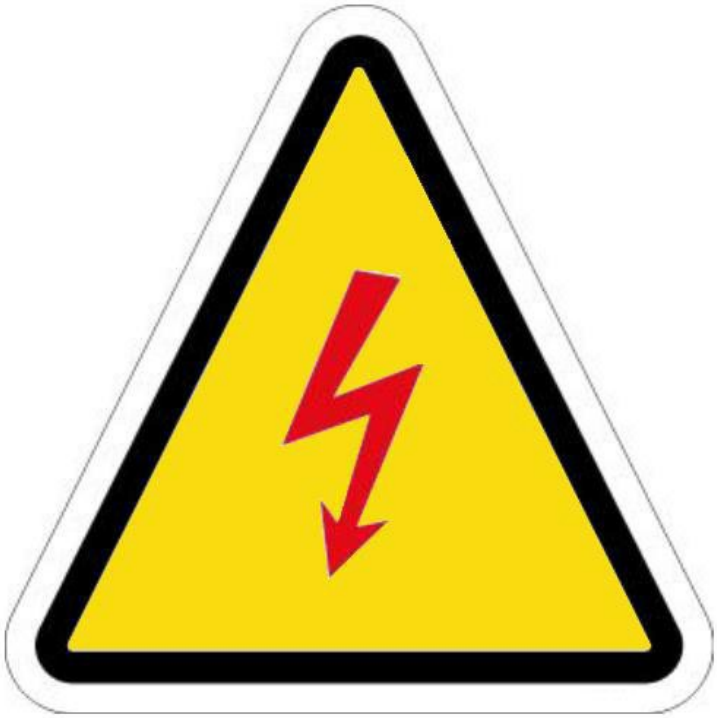
EN 61000–6–4:2001;Electromagnetic compatibility (EMC) - Part 6-4: Generic standards; Emission standard for industrial environments.

TYPE PLATE

INFO LABEL: On the plate shears a nameplate for identification is attached.

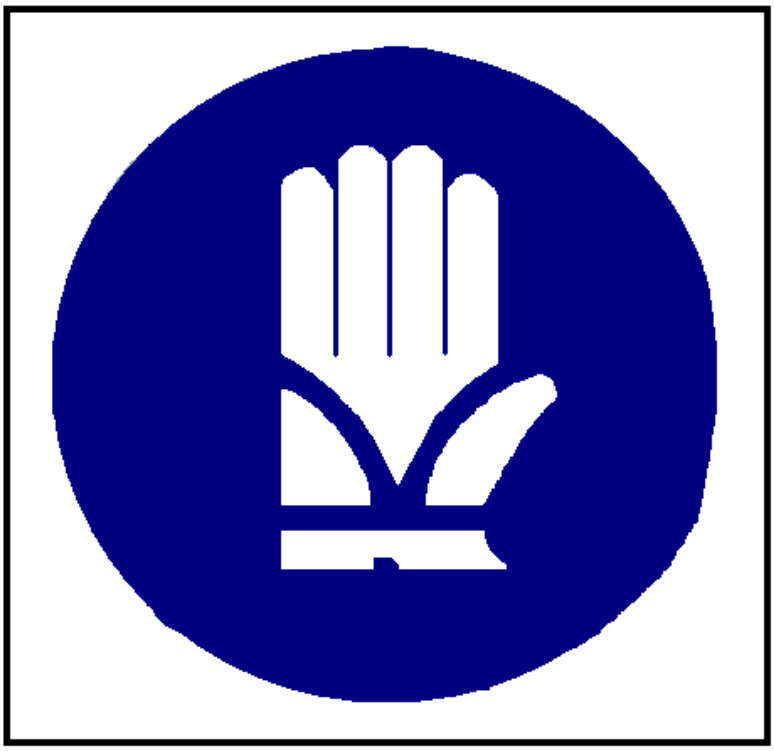


ELECTRICITY INFO LABEL: Provides the electrical information about the machine. Placed on the side of the machine, behind the electrical panel.

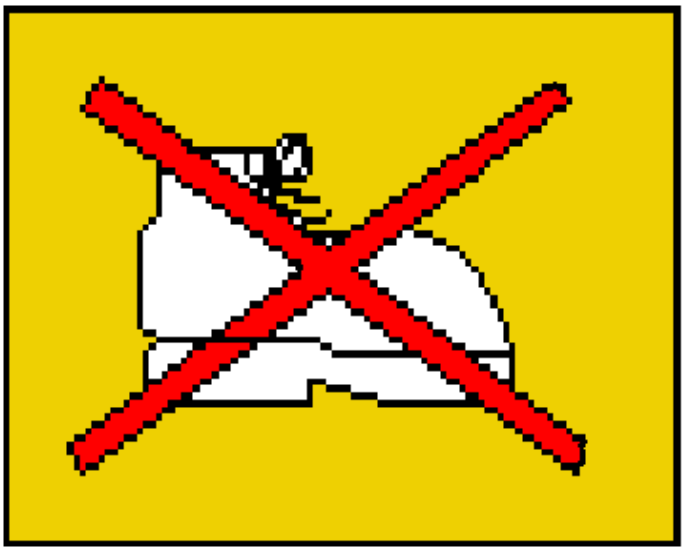


VOLTAGE WARNING LABEL: Indicates high voltage existence where the label is placed. No maintenance can be done without powering down the machine in these areas.

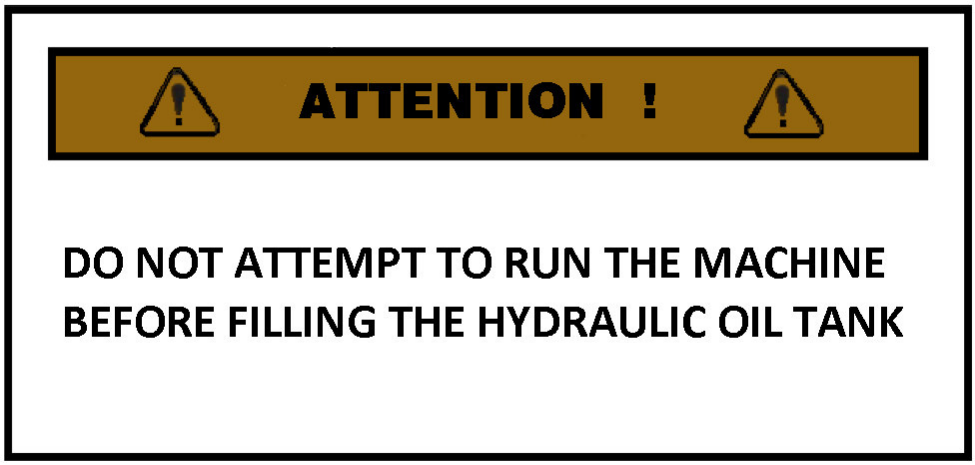
PINCH POINT WARNING : Operator should pay maximum attention while working in this area.Operator should never place his hands between the upper and lower blade while power is on.



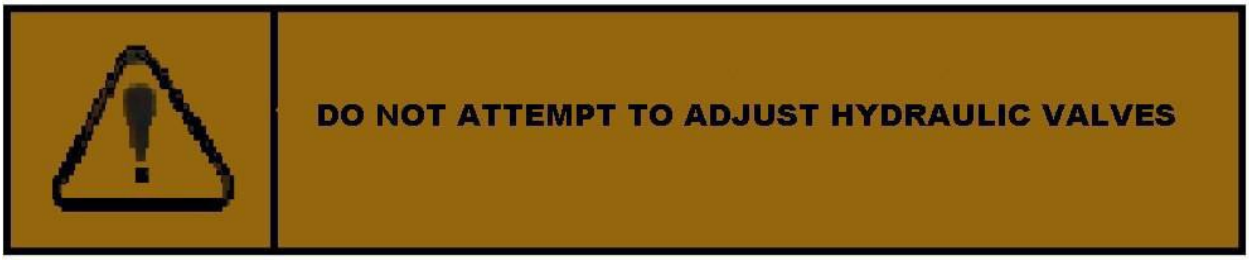
WEAR GLOVES Warns the operator to wear work gloves



DO NOT STEP ON LABEL: Some parts of the machine cant take extra weight and may be damaged if stepped on. The operator and maintenance staff should avoid stepping on parts where this label is on.

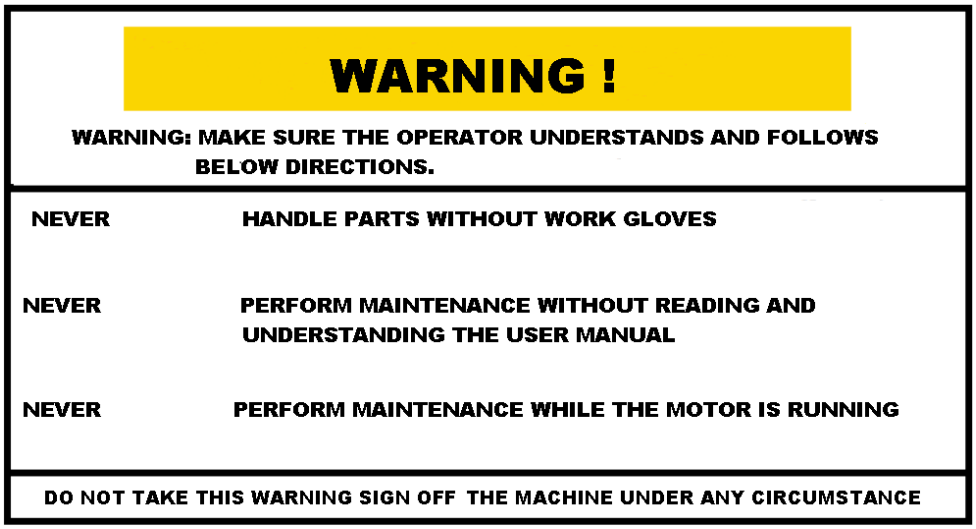


WARNING LABEL: Warns the operator not to run the machine before filling hydraulic oil.



WARNING LABEL: Warns the operator not to adjust the valves.

WARNING LABEL: Provides the information on technician capacity.



WARNING LABEL: Provides instructions to be read by operator before running the machine

Blade gap Chart

15.1. BIÇAKLAR ARASI KESME BOŞLUĞU ÇİZELGESİ

SAC KALINLIĞI	KARBONLU ÇELİKLER			PASLANMAZ ÇELİKLER			ALÜMİNYUM YUMUŞAK	ALÜMİNYUM ALAŞIMLARI				BAKIR VE BAKIR ALAŞIMLARI(PRİNÇ)			
	330 -370	370 - 500	500 - 700	450 - 660	600 - 800	800 -950	90-110	110-250	250-350	350-510		210-350	350-550	550-710	
	350 N/mm²	450 N/mm²	600 N/mm²	550 N/mm²	700 N/mm²	850 N/mm²	100 N/mm²	200 N/mm²	300 N/mm²	450 N/mm²		300 N/mm²	450 N/mm²	600 N/mm²	
	SAE 1005 St 33	SAE 1005 St 37	SAE 1005 St 60	430 304	316 305	301 431	Al 99,0 Al 99,5	AlMnlCu AlMgl	AlMg3 AlMg4	AlZn6MgCu AlCu4SiMg		Cu-ETP Cu-DLP	CuAg 0.1(B) CuCrl	CuSn8 CuAl8	
0.25	0	0	0	0	0	0	0	0	0	0		0	0	0	
0.50	0.5	0.5	0.5	0.5	0.5	0	0	0.5	0.5	0.5		0.5	0.5	0.5	
0.80	0.5	0.5	0.5	0.5	0.5	0	0	0.5	0.5	0.5		0.5	0.5	0.5	
1.00	0.5	1	1	1	1	1.5	0.5	0.5	0.5	1		0.5	1	1	
1.50	1	1.5	2	2	2	2	0.5	1	1	1.5		1	1.5	2	
1.80	1.5	2	2	2	2.5	2.5	0.5	1	1.5	2		1.5	2	2	
2.00	1.5	2	2.5	2.5	2.5	2.5	0.5	1.5	2	2		1.5	2	2.5	
2.50	2	2.5	3	3	3	3.5	1	2	2	2.5		2	2.5	3	
3.00	2.5	3	3.5	3	3.5	1.5	2	2.5	3	2.5		3	2.5	3	
4.00	3	4	4.5	4	4.5	5	2.5	3	3.5	4		3.5	4	4.5	
5.00	4	5	5.5	5.5	6	6	3	3.5	4.5	5		4.5	5	6	
6.00	5	6	7	6.5	7	8	3.5	4.5	5	6		5	6	7	
7.00	6	7	8	7.5	8.5	9	4	5	6	7		6	7	8.5	
8.00	7	8	9	8.5	10	11	4.5	6	7	8		7	8	10	
9.00	8	9	10	10	11	12	5	6.5	7.5	9		7.5	9	11	
10.00	9	10	11	11	12	13.5	5.5	7	8.5	10		8.5	10	12	
12.00	11	12	13	12.5	14	16	6.5	8.5	10	12		10	12	13.5	
13.00	12	13	15	13.5	15.5	18	7.5	10	11.5	13.5		11.5	13.5	16.5	
15.00	13	15	17	16	1	20	8	11	12.5	15		12	15	18	
18.00	15.5	18	20	19	22	25	9	12	15	18		15	18	21	
20.00	18	20	22	21.5	25	27	10	13	17	20		16.5	20	23.5	
22.00	20	22	25	24	27	29	11	15	18	22		18	22	26	
25.00	22	25	28	27	28	32	12	17	20.5	25		20	25	28	

info@metallkraft.de, www.metallkraft.de

TECHNICAL SPECS

General data HTBS BASIC	2106	2606	3106	3110	3113
Cutting length max. (A)	2100 mm	2600 mm	3100 mm	3100 mm	3100 mm
Cutting capacity in steel 400 N/mm^2	6 mm	6 mm	6 mm	10 mm	13 mm
Cutting capacity in Cr/Ni 600 N/mm^2	4 mm	4 mm	4 mm	6 mm	8 mm
Stand throat (D)	50 mm	50 mm	50 mm	50 mm	50 mm
Max. strokes per minute for full cutting length	16 pro min.	16 pro min.	16 pro min.	14 pro min.	12 pro min.
Cutting angle	1,50°	1,50°	1,50°	1,80°	2,30°
Table height (C)	760 mm	790 mm	790 mm	805 mm	805 mm
Table depth (B)	510 mm	510 mm	510 mm	625 mm	635 mm
Table length (R)	2570 mm	3100 mm	3600 mm	3380 mm	3460 mm
Number of blank holders	10	13	15	15	15
Blank holder pressure	9 t	11 t	13 t	21 t	35 t
Rear stop speed	200 mm/min	200 mm/min	200 mm/min	200 mm/min	200 mm/min
Driving power (400 V / 50/60 Hz)	11 kW	11 kW	15 kW	22 kW	30 kW
Oil tank capacity	200 l	200 l	200 l	250 l	300 l
Length (L)	3100 mm	3600 mm	4110 mm	4000 mm	4100 mm
Depth (W1)	2550 mm	2650 mm	3650 mm	3700 mm	37500 mm
Height (H)	1650 mm	1800 mm	1800 mm	2100 mm	2150 mm
Weight	4800 kg	5700 kg	7000 kg	9000 kg	12000 kg

General data HTBS BASIC	3116	3120	4106	4110	4113
Cutting length max. (A)	3100 mm	3100 mm	4100 mm	4100 mm	4100 mm
Cutting capacity in steel 400 N/mm^2	16 mm	20 mm	6 mm	10 mm	13 mm
Cutting capacity in Cr/Ni 600 N/mm^2	10 mm	13 mm	4 mm	6 mm	8 mm
Stand throat (D)	50 mm	50 mm	50 mm	50 mm	50 mm
Max. strokes per minute for full cutting length	10 pro min.	8 pro min.	14 pro min.	12 pro min.	10 pro min.
Cutting angle	2,50°	2,70°	1,50°	1,80°	2,30°
Table height (C)	880 mm	880 mm	790 mm	805 mm	805 mm
Table depth (B)	790 mm	810 mm	510 mm	625 mm	635 mm
Table length (R)	3520 mm	3600 mm	4610 mm	4460 mm	4500 mm
Number of blank holders	15	15	19	19	19
Blank holder pressure	65 t	82 t	16 t	27 t	44 t
Rear stop speed	200 mm/min	200 mm/min	200 mm/min	200 mm/min	200 mm/min
Driving power	37 kW	45 kW	15 kW	22 kW	30 kW
Oil tank capacity	400 l	500 l	200 l	250 l	300 l
Length (L)	4100 mm	4150 mm	5200 mm	5000 mm	5100 mm

info@metallkraft.de, www.metallkraft.de

Depth (W1)	3800 mm	3950 mm	3650 mm	3700 mm	3750 mm
Height (H)	2400 mm	2450 mm	1800 mm	2200 mm	2250 mm
Weight	16000 kg	21000 kg	10000 kg	12500 kg	15000 kg

SAFETY

SAFETY EQUIPMENTS :

1. Emergency Stop Button on Control Panel,
2. Emergency Stop Button on foot pedal,
3. Protection Covers on Sides,
4. Emergency Stop Buttons on the Upper Beam,
5. Switched on the Upper Beam,
6. Finger Protection in front of the blades,
7. Protection covers over the piston,
8. Photocells on the back side of the machine,

GENERAL SAFETY :

All safety rules below should be strictly followed during set-up, operation of the machine and maintenance.

1. Machine should not be operated before reading this manual.
2. All electrical connections should be performed by an authorized electrician.
3. Machine should not be operated without the safety covers on.
4. Do not step on the cable of foot pedal or stumble upon it.
5. Do not leave tools, pieces or any other material on or around the machine that can cause safety hazards.
6. Do not put any material other than the pieces to cut on the front support arms and front table.
7. The front support plates with roller balls can carry 45 kg. Each. Do not put anything other than the material that will be cut on these plates.
8. Do not wear loose clothes like ties or scarves while operating or maintaining the machine
9. Machine should be operated by one operator unless the part to be cut are long for one operator to handle alone.
10. Machine's power should be cut off before service and maintenance.
11. All safety stickers on the machine should be observed.
12. While cutting a part on the machine, the part should never be held from the back or from the sides and always should be held from the front.
13. Hands should be off the part during the cutting operation.
14. Except for maintenance and service, security systems on the machine should never be disabled.
15. Any electrical or hydraulic part on the machine should be replaced by METALLKRAFT service techs or authorized service techs by METALLKRAFT.
16. Operators should stay away from protected areas like the backgauge or cylinders.

17. There should be no welding done on the machine or near the machine as this may damage electrical components of themachine.

18. Chemicals or solvents that can damage painted and/or machined surfaces should not be used on the machine

19. Surrounding area around the machine should be kept clean of water, oil or checmicals in order to avoid slippery surfaces.

20. Machine should only operated by trained operators.

21. Protective equipment like work gloves, glasses, hard top hats and protective shoes must be used when operating machine.

PREVENTIVE SAFETY MEASURES AGAINST OPERATING RISKS

A) The most common accidents that ocur on these type of machines are hands getting stuck between the blades of the machine. In order to prevent these type of accidents, a steel protective cage is designed and installed at the front of the cutting blades. The gap in this protective cage allows only the shet metal to pass through and keeps operators' fingers and hands safe.

B) Another hazardous area for operators are the throats on each side of the machine where one can reach the cutting blades from behind. In order to prevent this risk, protective covers are installed on each throat. These covers should be kept on as long as the machine is in use and has power.

C) The area where the backgauge and cutting beam is located is another hazardous area. Nobody should enter this area while the machine is in use. Only in case of maintenance and service, it is safe to enter but the machine should be turned off. If any sheet metal is stuck in the back side and the operator should go inside at the back, he should press on the switch that is on the backgauge and keep it pressed until he leaves. This ensures nobody can run the machine while he is inside.

D) The pistons that move the cutting beam are dangerous while moving. There are protective covers to prevent risks here and they should not be taken off while the machine is inuse.

E) Machine stroke is adjusted to factory defaults and limited by top and bottom limit switches. These limit switches should not be tempered with in any case.

F) Backgauge system has also limit switches to prevent crashes. These switches also should not be tempered with.

G) Electrical panelis designed with safety in mind and when it is opened, the machine stops automatically. It is unsafe to operate the machine while electrical panel door is open.

H) To be used in any emergency situation, emergecny stop buttons are located on the foot pedal and the top beam.

I) Hydraulic system is designed completely to withstand high pressure peaks. The maximum pressure is limited by utilizing a fixed pressure security valve and other securityvalves.

J) A phase protection relay is utilized on the machine to prevent damages by wrong wiring of the phases. In a situation like this, phase protection relay will cut the power and prevent any damage on the machine.

K) In the event of a high voltage peak or low voltage, machine and electrical components on the machine are protected by high voltage relays.

L) Buttons of the main panel are internally lighted. In order to see the cutting line and the backguage

of the machine, there are fluorescent lamp is used on the back side of the machine. Blind spots and stroskobik effects that may ocur in this section are eliminated by this way. See prune blind spots that may occur in this section and will eliminate stroskobik effects.

M) Static electricity that accumulates on the machine is released to the ground by the ground connection in the electrical cabinet and anchorage screws and plates. This prevents static electricity to cause any damage on the electrical components of the machine.

N) Control circuits are safeguarded. Unsafeguarded parts of the machine are placed in the safest places of the machine. Any short circuit, if the phase sequence is changed at lower or cut the voltage in the event that the thermal overcurrent relays, fuses freak current relay, phase sequence relay and the machine is located in the engine control components and control circuit are secured. Other than that damage may occur in the machine, the main circuit power control cabinet or panel main link switch on the main switch can bede-energized.

P) The main panel ground connection and the connection of the machine to the ground and anchor bolts of static electricity accumulated on the machine gives directly to the ground. This prevents damagaes and risks that may ocur due to static electricity.

R) Machine control pedal on the machine is connected via a socket. Again with the aim of seeing the different points of the machine the electrical connection of the control pedal made with the cable covered with flexible spiral hose. Ths spiral hose is a substance derived plastic and may be damaged or deformated in case of high load. Again, this spiral hose with foot pedal can be placed at different points in front of the machine and may be the reason of fall due to insertion of the cables carrying spiral hose, fatigue, shock, and etc..

S) There should not be any caused or not caused of the machine oil, water or any other liquids around the machine. Such agents may be the reason of falls and impacts into the machine as a result ofsliding.

T) There should not be caused or not caused of the machine any parts or objects around the machine. These objects may be the reason of falls, totterings and bumps as a result ofhooks.

SAFETY FEATURES

1. Use the nearest emergency stop button to stop the machine in an emergencysituation.
2. Pressure valves and check valves provide safe operation in the hydraulicsystem.
3. Protective covers are used to prevent Access to blades from the sides of themachine.
4. Backgauge belt system and thickness adjustment system is covered by protective covers. There are photocells on the back of the machine for safety.
5. ELectrical units are safe due to necessary electricalsystem.

SAFETY INSTRUCTIONS

1 . When connecting power to the machine, the electrical values in this instruction manual and on the labels on the machine should be observed and followed.

2 . Do not get any part of your body close to moving parts on themachine.

3 . Do not attempt to operate, service or maintain the machine without getting a proper training and reading this manual thoroughly.

info@metallkraft.de, www.metallkraft.de

4 . Never service or maintain the machine while the main motor ison.

5 . Service and maintenance should be performed by METALLKRAFT technicians or authorized staff by METALLKRAFT.. Never attempt to adjust hydraulic valves.

6 . Never tamper with the cutting limit switches of the upperbeam

7 . Do not adjust the main pressure over the limits stated in this manual and on the labels on the machine.

8 . There are protective covers in front and sides of both cylinders. Machine should never run without these covers on.

10. There is "EMERGENCY STOP" button on the pedal fort he safety usage. Use this button in case of an emergency.

11. There are warning labels located on elekctrical panel, electrical sheet and motor. Please take in concidaration all these warnings.

TRANSPORTING THE MACHINE

A Crane needs to be arranged before the truck carrying the machine arrives to the

facility it will be installed. There are two lifting points, one on each side of the machine

ATTENTION: All lifting operations should be done by these lifting points. Never attempt to lift the machine below the table, electrical cabinet or anywhere from the frame.

to lift the machine

Please follow below steps for all lifting operations of the machine

- Heavy ropes and chains to lift the machine should be chosen considering max. load/length
- During lifting, the angle between two sides of the rope, chain should not exceed 90° (See Diagram 1)
- Machine should be lifted and moved carefully without colliding any part of the machine with the ground, wall etc.

Machine should be placed on solid ground that can withstand the weight of the machine to prevent any fall over and damage to the machine or its components. The packaging made in factory is only for protection from rain, water etc. and does not offer protection against any damage from fall overs.

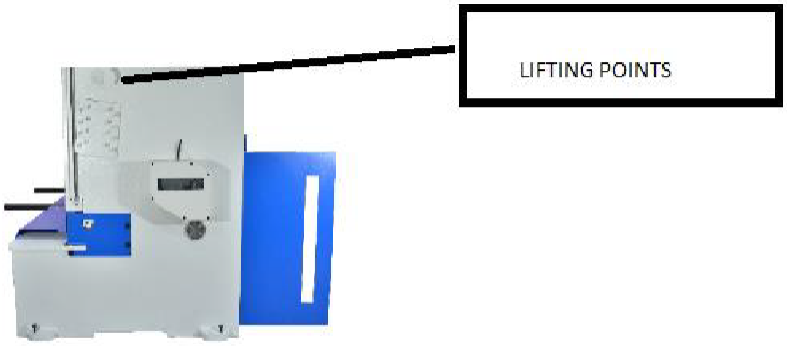
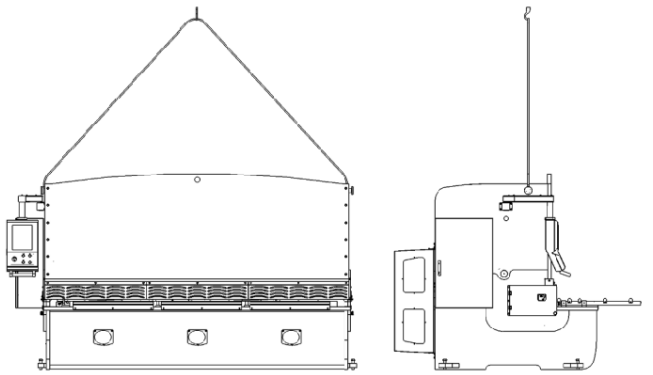


DIAGRAM 1



Açı Ayarlı Makas Taşıma Planı

BEFORE LIFTING THE MACHINE :

Some parts of the machine cannot withstand and may be deformed if heavy weights are put on.

STORING CONDITIONS

METALLKRAFT Hydraulic Guillotine Shears are stored in a way not to be effected by environmental affects in METALLKRAFT facility and shipped to you in this pristine condition.
If METALLKRAFT Shears will be stored for a period of time before installation;

6. Machine should be stored under normal operating conditions. If the machine is to be stored in a location with high humidity, controller panel, electrical panel, cable connections, cable carriers and all electrical and hydraulic components should be covered with humidity absorbing material.

7. Before shipping out of METALLKRAFT facility, the upper blade is brought to lowest point. If the machine is to be stored, it should be stored in this fashion.

8. Machine should not be stored under direct sunlight or extreme temperatures. Machine should not be stored in open areas where it can be exposed to rain, snow or cold temperatures. These conditions may damage electrical and hydraulic components.

9. Machined areas (where no paint is applied) should be lubricated periodically with anti-rust, protective grease.

10. The floor that the machine will be placed on should be flat andrigid.

11. The screws of hydraulic cylinders should be lubricated with a mixture of hydraulic oil and anti-rustgrease.

STORING OF BLADES :

If the blades are to be stored for a period of time, in order to prevent wear&tear on blades, these tools should be stored&moved on wooden pallets. When not in use, these tools should be lubricated with protective oil.

STORING OPERATING CONDITIONS

1. In order to have a long life on hydraulic and electronic components, below min. and max. conditions should be observed.

	min .	**max.**
Storing Temperature	-10° (14° F)	+ 50° (122° F)
Operating Temperature	+ 5° (41° F)	+ 35° (95° F)
Oil Temperature	+ 5° (41° F)	+ 80° (176° F)
Relative Humidity	20 %	75 %

Under + 5° C (41° F) ambient temperature, control panel, electrical panel and hydraulic system should be isolated against cold damage.

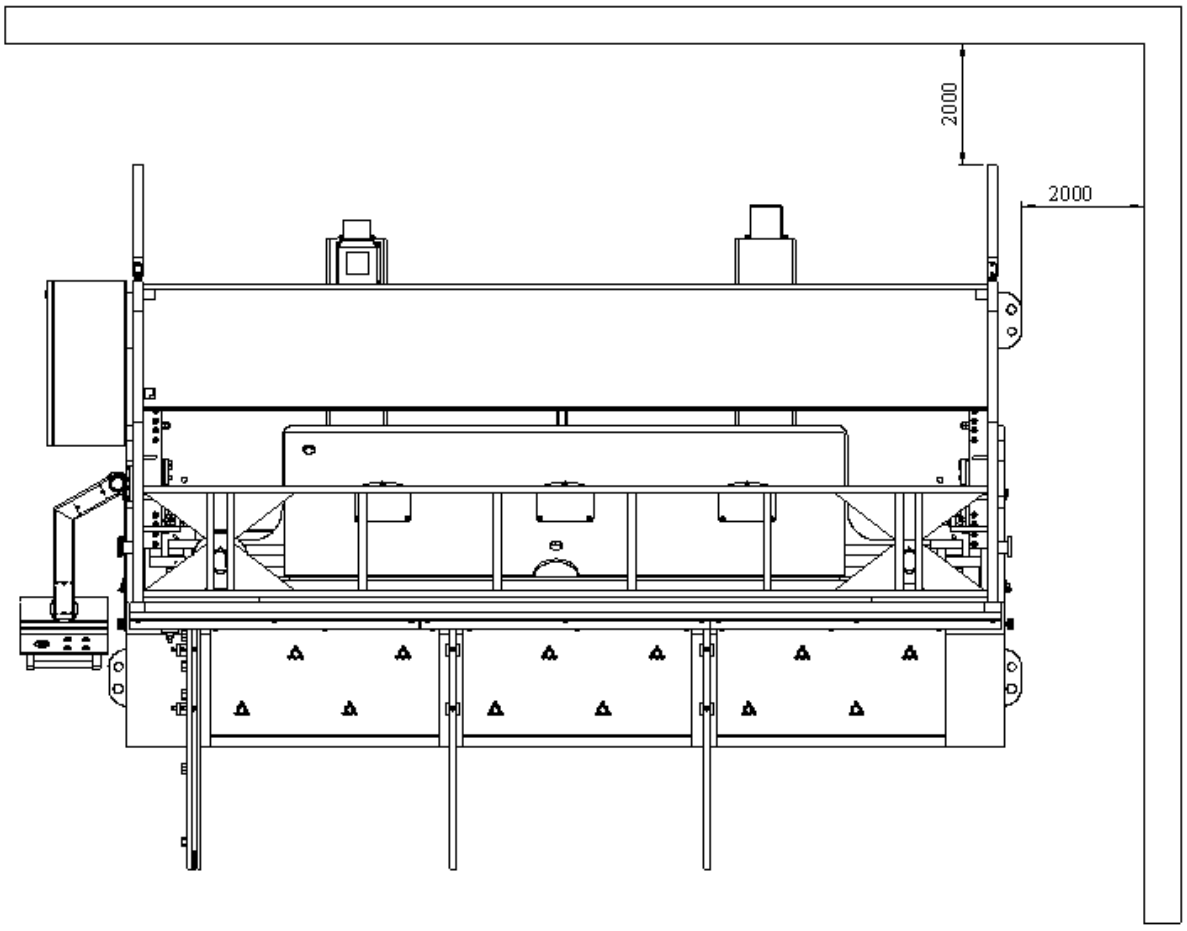
PREPARATION FOR INSTALLATION AND SAFETY DISTANCES

Machine should be placed on a flat and rigid floor. The operating area of the machine should have a minimum of 320 mm (12,60”) concrete slab. The variation on the surface of the concrete should not exceed 2 mm (0.07”).

Machine should be leveled with a water level placed on the table of the machine and by adjusting leveling bolts on four corners of the machine.

Machine should be leveled from four corners. (Foundation and installation drawings are enclosed within this manual)

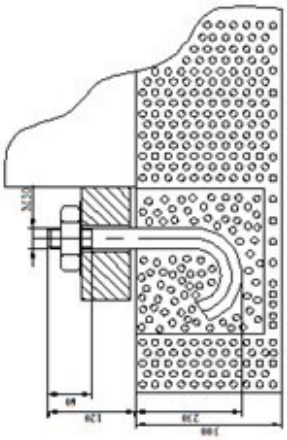
- There should be a minimum distance of 2000 mm (78.70”) between back of the machine and the backwall. This allows maintenance and service to be performed easily when needed.
- There should be a minimum distance of 2000 mm (78.70”) on each side of the machine (or enough distance not less than 2000 mm that will allow your products to be evacuated from side of themachine)



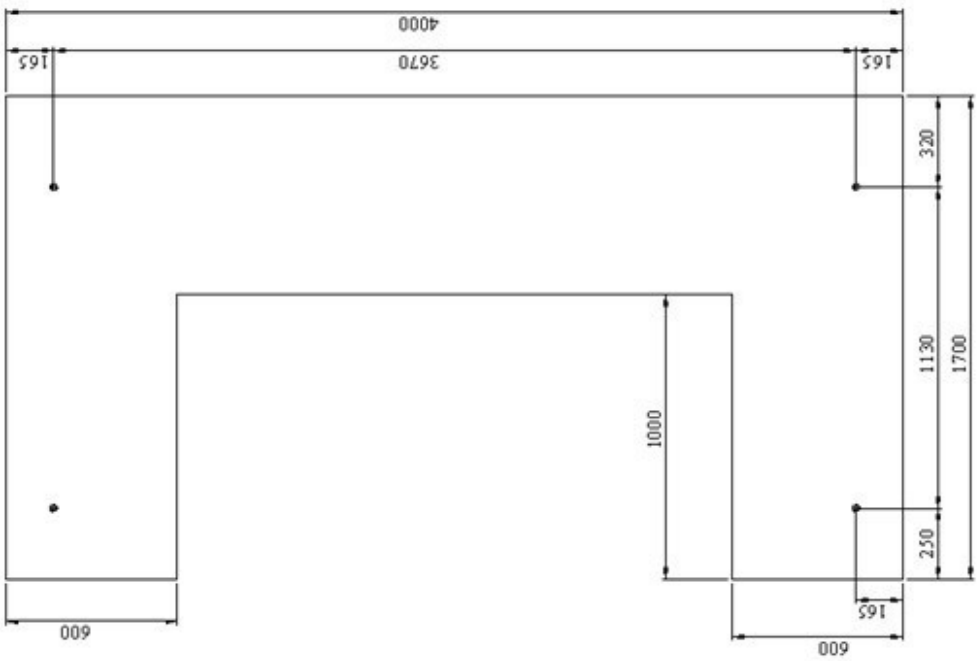
INSTALLATION OF THE MACHINE

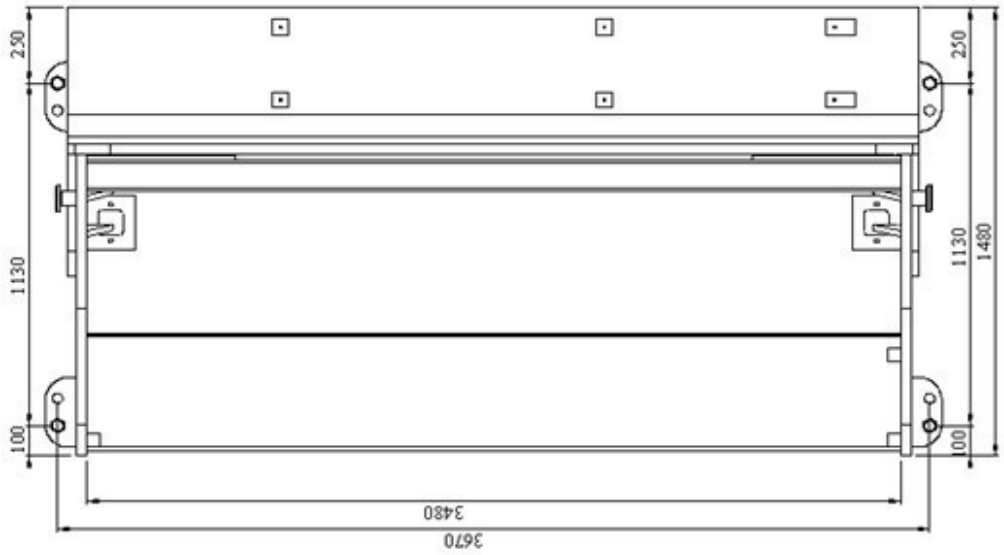
1. The floor the machine will be installed on should be concrete slab andflat.
2. Anchorage bolts should be prepared according to the drawings enclosed in this manual and should be fixed on the floor according to the drawings enclosed.
3. Machine should be carried by a crane (overhead crane) and should be lowered on the anchorage bolts that are fixed on four corners.
4. After the machine is put on the anchorage bolts, the bolts should be tightened and machine should be leveled with a water level.
5. If the machine is placed permanently in the facility, the anchorage plates and bolts

can be fixed to the ground with concrete.



Yerleşim Planı
Foundation Plan)





IMPORTANT POINTS TO CONSIDER BEFORE RUNNING THE HYDRAULIC GUILLOTINE SHEARS

1. This instruction manual should be reviewed thoroughly and safety precautions in this manual should be performed before and while running the machine.

2. Rear cages, throat covers and cylinder covers should be inspected to make sure they are secure in their place.

3. Please sure that the cover of the electric cabinet is closed (ıf you would like to open firstly you should turn the switch to “0”) otherwise the cover of the electric cabinet designed as not opened while power is on.

4. Please check whether the (Emergency Buton) is pressed on. If they are on please release them by pressing again.

5. The lubrication points shown in this manual should be lubricated and this should be repeated frequently.

6. Please don’t put any unnecessary objects on or around the machine

7. Fill the oil tank to appropriate level with the oil type shown in this manual.

8. Check the hydraulic oil whether is clean or not. (you can check it on the oil gauge, in the diagram blue area means the oil is clean, yellow means critic and red means oil is dirty)

9. Control tightness of the upper and lowerblades

10. Make sure the blade gap is set according to the thickness of the plate to be cut.

11. Blade Gap adjustment should be according to the sheet thickness.

HYDRAULIC GUILLOTINE SHEARS FIRST TEST AND INSPECTION

1- Make the eye control of the Hydraulic Guillotine Shear. Check if there is any damage or deformation may occure during the transportation.

2- Check the oil level and the oil pollution of the Hydraulic Guillotine Shears.

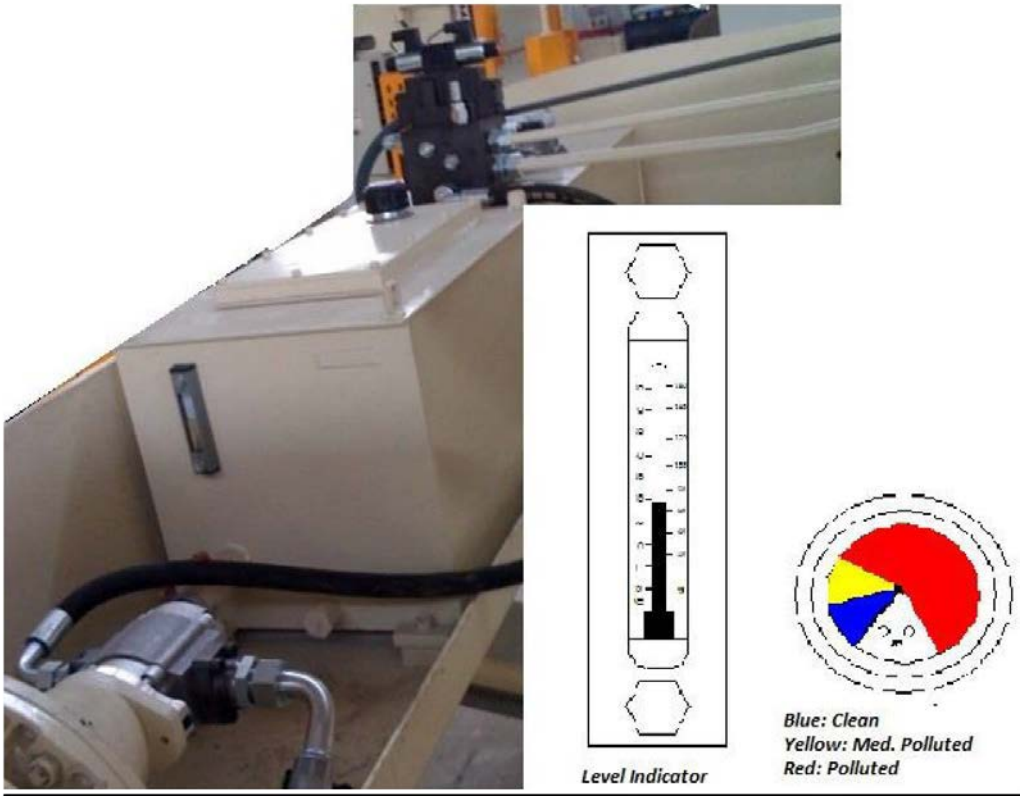
3- Check the twist direction of the main electric motor. If the phase procession relay indication lamp inside the panel (F.S.R) is “on” the twist direction of the motor is in the right direction. Pano içerisindeki faz sırası rolesi (F.S.R) lambası yanıyor ise motor dönüş yönü doğrudur. If the phase procession relay indication lamp is not lighted the twist of the electirc motor is on the wrong direction, 24V AC voltage will not go to the control circuit and the machine will not run. In this case from 3 phases coming to the connectors L1, L2, L3 change the places of connectors L1 and L3. In this way the right direction will be given to the electrical motor.

4- Please check the balance of the Hydraulic Guillotine Sheras during the fixation on the ground.

5- Make the eye control of the blades.

6- Check the data sensor located at the rear of the machine.

OIL LEVEL AND POLLUTION INDICATOR



DURING THE RUN

1. Machine designed as to stop the power supply in case if the electric connection done reverse. In this case check the electric system and apply the right electrical connections, then restart the machine and check the twist direction of the motor.

2. In the beginning of the day, before you will start to work on the machine, please run the machine without any function for 10-15 min. in order to heat the oil.

3. Do not use the machine with the pressure more than maximum pressure value indicated on the label. (See the label on the rear side of electrical cabinet)

4. Machine should be used only by qualified and trained operator.

5. Using machine by two or more operators may occure the accidents, that is why there should be only one operator to use the machine.

6. Our company will not take the responsobility if the other blades than supplied with METALLKRAFT Hydraulic Guillotine Shears will be used on the machine. In the meantime all the problems may occur due to the usage of the other blades will be out of guarantee.

7. The operator who use the machine must wear gloves, glasses and other protectivewears.

ELECTRICAL AND CONTROL PANEL

info@metallkraft.de, www.metallkraft.de

CybTouch 8G

Swing cut shears & Shears with cutting angel

user manual V2.4c

info@metallkraft.de, www.metallkraft.de

General Introduction

This user manual is for the numerical control CybTouch 6 W (Vibration cut shear) - G (shear with variable cutting angle) determined (Dec. 2011). Depending on the software development status and type of the CybTouch (Configuration / Functions) controlled scissors, it may be that the machine described in this manual does not exactly match your current CybTouch. However, these are only minor differences.

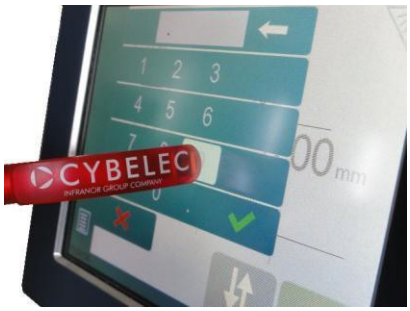
Touchscreens are sensitive to pressure.

Do not press too hard

on the Screen.

Excessive pressure on the screen can damage the display. Damage of this kind does not fall under the manufacturer's warranty!

Do not touch the screen with sharp and / or pointed objects (sheet metal, screwdriver, metal ballpoint pen tip, etc.), but only with your fingers (with or without gloves) or with a plastic pin. Check if your fingertip gloves contain metal parts that could damage the screen.



Exercise for a few minutes to gently press the screen. You will notice that the screen is very responsive and comfortable to use.

Screen cleaning

Press the , to clean the screen while the CybTouch is on.

Use only a damp, soft cloth with soap or a neutral detergent.

NEVER use solvents like gasoline, benzene, alcohol, etc.!

Choose a language

Choose your language by following these steps:

1. Touch the ***Menu***-Button .
2. Touch the ***Other Menus***.
3. Touch the ***User settings***.
4. Touch on ***Language*** and select your language in the list.

CybTouch8_Shear_Usermanual

info@metallkraft.de, www.metallkraft.de

USING OF EASYCUT PAGE

Basic Screen Description

Information about the current cycle*

Used Material

Pump ON/OFF *

Screen cleaning

Material thickness symbol

backgauge position

Material thickness - value

symbol backgauge

position-value

Cutting length (inaktiv)

Number of parts to be cut (inactive)*

Start - Stop-cut

Menu time

Line for interactive messages

AutoCut (disabled here)*

sheet-uphold system (inactive here)

***Only available for machines equipped with this option or if the option was configured during machine installation.**

Starting the pump motor

Touch the ***pump*** for 2 seconds, if available on the screen.

As soon as the engine is running, the button turns red .

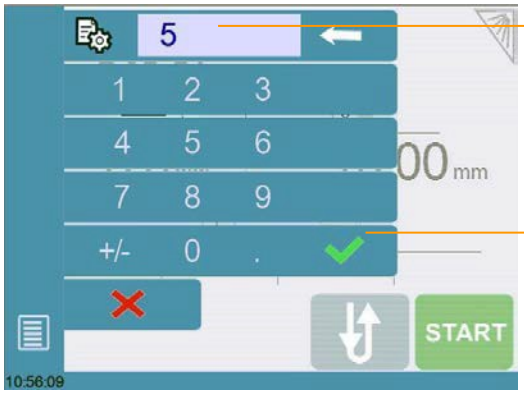
If the ***pump motor*** Button is not displayed on the screen, you can start the motor of the main pump by pressing the corresponding button on the machine.

info@metallkraft.de, www.metallkraft.de

Easy cut with the EasyCut page

1. Touch the keyfield ***Material*** to select the type of material you are using.

2. Touch the ***Material strength***-value.



3. Enter the material thickness.

4. Confirm input.

5. Touch the ***backgauge position***-value and enter the value by using the keyboard.

6. Touch ***START*** or briefly press the foot pedal to position the backgauge.

When the machine is ready, the ***START*** -Button will display ***OK***. As long as ***OK*** is displayed, the machine does not cut:

7. Press the foot pedal to cut the material.

Program menu

When you touch the ***Menu*** -button on the EasyCut page, the following program menu opens:

What is a program?

- A program is a series of different sequences (cuts) that are executed one after the other to produce a complete part.
- A program can be saved and recalled at a later time for an identical task.
- An obsolete program can be deleted.
- A program can be executed without saving, if it is needed only
- once. A program can contain up to 24 sequences.
- The page of the material settings of a program (start page of the program) is generally called "Sequence 0".

By using programm section ***New Program*** deletes the previous program, which is currently in the main memory, and switches directly to sequence 0, so that the operator can enter data for the new program.

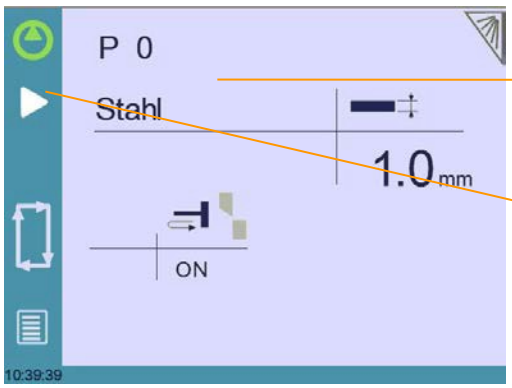
By using programm section ***Current Program*** is changed to sequence 1 of the last executed / programmed program.

Call up the program displays the table of contents of the stored programs.

Creating a simple, new program

New Program :Touch ***New Program*** in the Program menu to start creating a new program. In our example we create a program with two sequences:

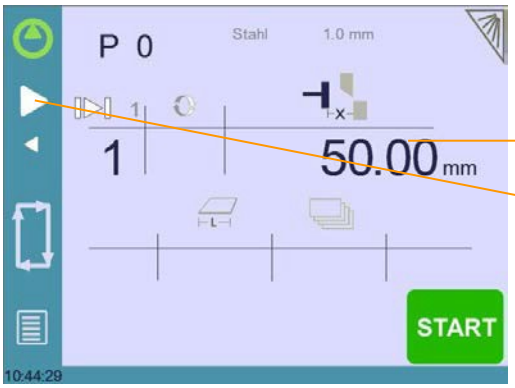
Page 1 of the program - Sequence 0, basic program properties:



1. Select material and thickness, as on the EasyCut page.

2. Touch the button ***Next page.***

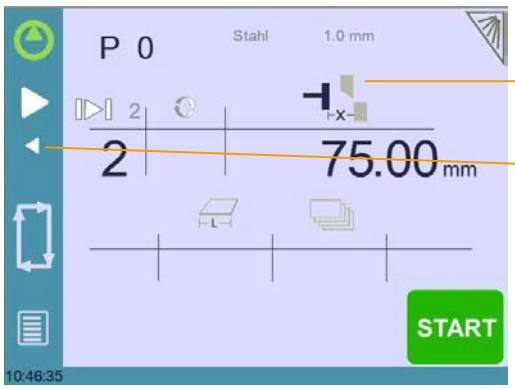
Page 2 of the program - Sequence 1, program properties for the first cut:



3. Touch the ***Backgauge***-position value and enter the value by using the keypad.

4. Touch the ***Next page*** button and confirm the entry to create a new step.

Page 3 of the program: Sequence 2, program properties for the second cut:



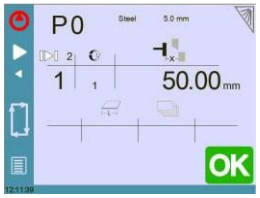
5. Touch the ***backgauge position***-value and enter it using the keyboard.

6. Go back to the first created sequence by touching the ***Previous page*** button.

7. Turn on the pump by touching the ***Pump On - Off*** button for 2 seconds (or press the button on the machine directly).

8. Touch the ***START*** button or briefly press the foot pedal to position the backgauge.

   When the machine is ready, the ***START*** button will show ***OK***. As long as ***OK*** is displayed, the machine does not cut:



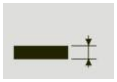
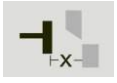
9. Press the foot pedal to run the program.

Note: Up to 24 sequences can be added to a program.

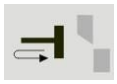
After editing, you can save the program by touching the field ***P0*** (program number) and giving the program a number so that you can use it again later.

Additional cutting functions

Various other functions are available to make the task easier for the operator. These functions can be used in EasyCut mode as well as for programs. The table below summarizes and describes all the buttons and features available on the CybTouch 6:
** Functions marked with an asterisk (*) are not available on all machines and depend on the CybTouch version and machine type.*

Symbol/Button	Beschreibung
 Pump ON*	The pump is switched off. To turn on, touch this button for 2 seconds until it turns red.
 Pump OFF*	The pump is switched on. To turn off, touch this button for 2 seconds until it turns green.
 Screen cleaning	Touching the ***Screen cleaning*** button deactivates the screen for 8 seconds to allow the operator time to clean the screen with a damp cloth with neutral soap or a neutral detergent.
 Menu	If you touch the ***Menu***-Button on the EasyCut page, the program menu will open. By touching the ***Menu***-Button on the program page, the operator can access the EasyCut page as well as the other menu pages..
 Material thickness	Touching the ***Material thickness***-Button or icon allows the user to enter the material thickness.
 Next page	The operator can use this button to go to the next page of the program or menu.
 Previous page	The operator can use this button to go to the previous page of the program or menu.
 Sequence	Only available in program mode. Touching this button allows the operator to insert a sequence after the sequence selected in a program (or delete the selected sequence). The small number next to this button indicates the total number of sequences in this program.
 Backgauge	The ***Backgauge***-Symbol is activated; Shifting the backgauge value below the icon allows the operator to change the backgauge position. If you touch this symbol, the backgauge value is hidden and the backgauge moves to the end of the machine. For cuts that do not require a backgauge.
 Hinged backgauge	The backgauge is disabled and will not be used. This function is used for cuts that do not require backgauge.

 Cutting length	The cutting length can be activated or deactivated by touching this button. The operator can enter a cut length value by touching the value under this button. The value is expressed in sec. For fixed cutting angles and in mm for variable cutting angles.
 piece counter	The operator can enter the number of parts to be cut by touching this symbol and entering a value.
 AutoCut* OFF	The ***AutoCut***- function is switched off. To turn it on, the operator can touch this button. This feature is only available in EasyCut mode.
 AutoCut* ON	The ***AutoCut***-Funktion function is switched on. With this feature, the operator can continuously cut by simply holding down the foot pedal. When the pedal is released, the ***AutoCut***-function turns off.
 sequence repeat (CY)	Only available in program mode. Touching this button allows the operator to define how often the selected sequence should be repeated in the cycle.
 Cutting gap*	This symbol and the value below represent the gap. In general, it can not be changed. It is automatically calculated according to the material type and thickness. However, on certain machines, the value may be changed by the operator within a certain tolerance range.
 Sheet-Offset*	Touching the sheet offset icon or the value below it allows the operator to enter an offset for the cut. This function is only available for shears with variable cutting angle. When activated, the blade stops as soon as it reaches the offset position.
 Sheet uphold system* OFF	Sheet support is deactivated. Touching this button activates the sheet metal holding device.
 Sheet uphold system* On, 2 Positions	Sheet holding device 2 positions is activated: by touching this button sheet support is deactivated.
 Sheet uphold system* On, 3 Positions	Sheet holding device 3 positions is activated: by touching this button sheet support is deactivated.
 Return-to-sender* OFF	With the return to ***Return to sender*** -function the cut parts are returned to the operator by means of backgauge so that they can remove them without having to run to the rear of the press. The ***Return to sender***-function can only be activated if the sheet metal holding device is activated.
 Return-to-sender* OFF	The ***Return to sender***-function is activated. After cutting, it lights up red and the ***Return to sender***-function is ready for use again.

 Return-to-Sender* ready	The ***Return to sender***- function is ready. The operator can hold down this button until the backgauge returns the cut parts to him so he can remove them. In order to use the return function, the machine can be extended by a special button.
 Blade retraction* OFF	The ***Blade retraction*** fiunction is switched off. After the cut, the backgauge is not retracted. Touching this symbol activates the backgauge retraction.
 Blade retraction* ON	The ***Blade retraction*** function is switched on. After the cut, the backgauge is retracted. Touching this symbol deactivates the backgauge retraction.
 Move knife bar down	The icon is inactive: to move the knife bar, the operator must press the pedal in manual mode. Depending on the type of machine, the cutter bar automatically moves up or not when the pedal is released.
 Move knife bar up	The operator can move the knife bar up by touching this button in manual mode. If a value is entered in the field next to this symbol, the operator can move the cutter bar up in increments.
 cutting angel*	On shears with variable cutting angle, the operator can adjust the cutting angle.

Use current program

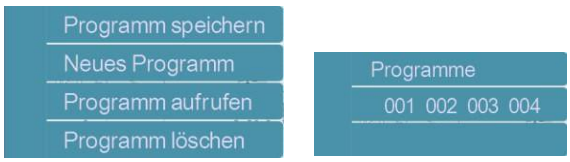
With ***Current Program*** you can open the last program in the main memory. This is especially useful when an operator cuts multiple sheets with one program, but another colleague must quickly cut one or two sheets.

In this case, the operator simply touches the ***Menu***-Button and then ***EasyCut***. Now his colleague can work on the machine with the EasyCut page.

After the colleague has finished his short task, the operator simply touches the ***Menu***- Button and the ***Current Programm*** to reopen his program and continue working (even if the program has not been saved).

Call up saved program

On the program page, touch the name of the program and then ***Call up Program***. A list of stored programs will be displayed. Touch the desired program. It is loaded immediately into the main memory and is ready for use.



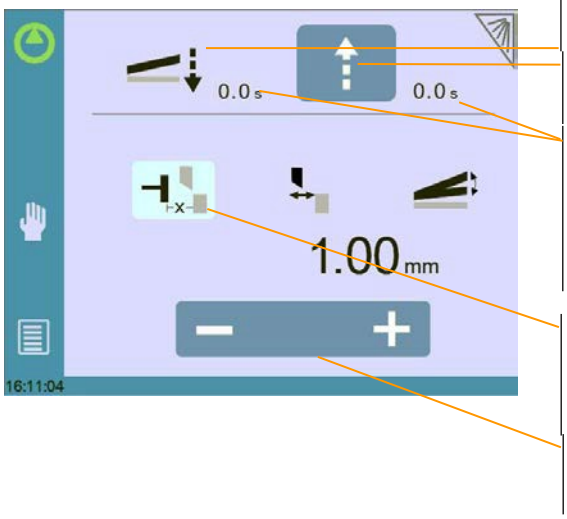
OTHER MENUS

When you touch ***Other Menus*** the following menu appears:

Manual movement

If you select ***Manuel movement*** in ***Other Menus***, the following page is displayed.

On this page, the operator can manually change angles and functions.



This symbol remains inactive. As long as the foot pedal is pressed, the cutter bar moves down. Depending on the type of machine, the cutter bar automatically moves up or not when the pedal is released.

Touch this icon to move the knife bar up.

Enter a value to create substeps for the programmed duration.

If 0.0s are programmed, movement will be carried out as long as the "move up" button is touched or the foot pedal is pressed.

To change the angle, select one of the Symbols. The selected angle is marked.

user setting

If you touch ***user setting*** the following menu appears:

Language

Touch ***Language*** and select your language from the list.

Event display

This allows the operator to view a log file to track problems. Technicians typically need and use these to solve problems of all kinds.

Calibration of the touch screen

Used to calibrate the touchscreen. That It is recommended to use the tip of a plastic pen to gently touch the center of each cross displayed when prompted.

Clock time adjustment

Here the user can set time and date on the CybTouch.

AutoCut OT time

Waiting time (maximum 2 seconds) at top dead center between two cuts in AutoCut mode.

Used to give the operator enough time to position the sheet at the back gauge before the blade moves down again.

Brightness xx% Eco xx

Here it is possible to adjust screen brightness for normal mode and eco mode.

Unit of length

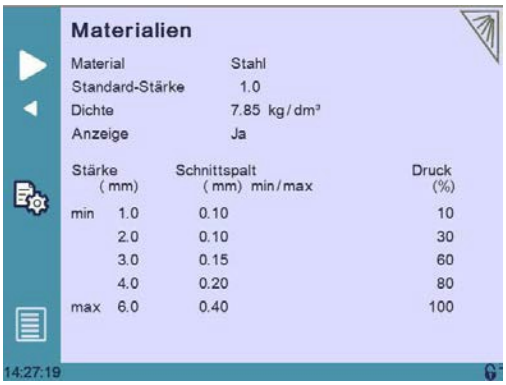
Choose between mm and inches.

Materials

From the EasyCut page, access the Materials page by touching the ***Menu*** button, then ***Current program***, then ***Menu*** again and finally ***User settings***Now scroll to the next page by touching the button and then ***Materials***.

Enter the required access code on the numeric keypad followed by pressing .

The Materials page is displayed:



Here you can change the default properties of each material or configure a new material and its properties on the CybTouch:

- ***Material***: Selected name of the material (here: ***Steel***).
- ***Standard-thickness***: Standard thickness of the material (here: ***1.0*** mm) when retrieving the material.
- ***Display***: determines whether the material is available for selection or not (here: ***Yes***).
- ***Thickness/Cutting gap/Cutting angel / min – max:*** Determines the standard cutting gap and cutting angle used according to the thickness of the material.

There are three predefined standard materials available (steel, stainless steel, aluminum).

Additional materials can be added. Add a material by simply touching  until a blank page appears (***called Material_X***).
Geben Then enter the values of the material to be created, as mentioned above. If the operator wants to change the cutting gap to improve the cut quality, multiple tolerance values must be entered (in the ***min/max.*** column)

Beside the column ***Cutting gap*** the header is ***min/max***. If you touch them, two columns are displayed (min and max). For each manufacturer-defined cutting gap, the operator can define different tolerance values.

The values entered here must not cause programming errors and must be machine- compatible. If you activate this function, the kerf will automatically be displayed on the working pages.

Stärke (mm)		Schnittspalt (mm) min/max			Druck (%)
min	1.0	0.10	0.05	0.12	10
	2.0	0.10	0.05	0.15	30
	3.0	0.15	0.15	0.20	60
	4.0	0.20	0.15	0.30	80
max	6.0	0.40	0.25	0.40	100

Service

When you touch ***Service*** in the *Aldere Menu* the following ***Service*** menu appears. You will be asked for a key code. Enter the service code and press ***Enter***.

Das Blech ist zu sch	50.00 mm
Wartung	
Information	
Machine status	Nein

Adjusting of the angle --X--

To adjust the position of the backgauge. This operation is unnecessary if the backgauge has been configured to look for the index when the machine is started up.

Maintenance

The Maintenance screen displays the amount of space available on the CybTouch and the degree of fragmentation.The ***Maintenance*** screen is also used for the following actions:

- **Format memory:** Use only with the help of a technician.
- **Create internal backups of the** machine and axis parameters. Usually only by performed a service technician after the machine installation finishes and the Machine is ready.

Restore of the machine and axis parameters.

- If the machine parameters are changed by mistake, the machine owner can use this function to restore the original installation parameters.

Just touch ***internal backup*** (interne Sicherung) uand select the operation you need to perform. You need an access code.

All the above actions require codes and should only be done by technicians or on request of a technician.

Information

When you touch ***Information*** all information regarding the following data is displayed:

- Hardware
- Boot-Version
- HF-connection (High-frequency connection)
- MMS (human-machine-interface)
- real time

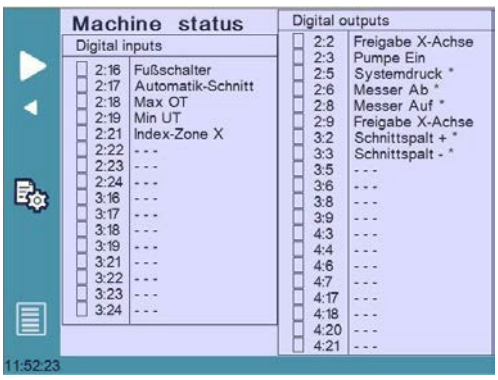
Touch the button *Advanced*  to view more detailed information.

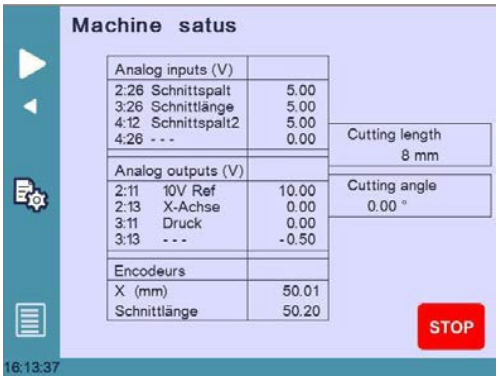
Machine Status (Maschinenstatus)

Select **Yes** (Ja) or **No** (Nein), to determine if the machine status screen should be available during operation or not. This feature allows the operator to view the inputs and outputs during machine operation. This information can be requested by a technician to help identify a problem in the work process.

If the machine status is set to **Yes** (Ja) If the machine status is set to Yes, the operator can access the Machine Status page from any side of the CybTouch by touching the area on the screen marked in red below.

The two machine status pages are now available and can be viewed by touching :





INFORMATION AND ERROR MESSAGES

Below is a list of warnings and error messages that may be displayed in the interactive message line:

- Information is highlighted in green and automatically hidden.
- Error messages (machine or NC errors) are highlighted in red. They report a machine or NC error to the user and sometimes require an action from the end user or technician.

INFORMATION	
10 //Cyclus in progress	The user has touched the touch screen during a running cycle (the screen is locked except for the STOP button).
15 //Input "Automatic cut" not active	The "Auto Cut" input has been configured but not activated. It must be enabled to enable the AutoCut feature on the EasyCut page. Normally a switch or key switch is used to activate this function.
18 //No value entered	The user has not entered a value.
19 //Switched on	I/O are now supplied with 24V.
29 //End of the list	The end of the list was reached. Scroll back.
32 //Data is entered	The operation can not be performed because data is being entered. Please finish the data entry and try again.
35 //Access not allowed	The user must enter a different code.
43 //Waiting for input "RTS Ready"	A switch ensures that the sheet metaluphold device is in the correct position to the user, so that he can move the back gauge to remove the cut sheet metal. Make sure that the sheet metal uphold device is in the highest position. Otherwise, check the RTS switch.
44 // MinUT limit reached	The minimum UT limit was reached, the closing movement was interrupted. This can happen in manual mode. If this message is frequently displayed in normal cutting mode, the machine parameters must be adjusted.
ERROR MESSAGES	
03 //Buffer Full	The part-program memory is full, you cannot add another sequence.
04 //Code refused	The level code to access the selected page is not correct. Try again or ask for it if you do not have it.
05 //File not compatible	The loaded part-program is incompatible with the NC. This part should be deleted.
06 //Machine parameter file problem	This file is corrupt and cannot be saved. Try to restart the NC. If the problem persists, format the memory. Ask your dealer if the original parameters are available as a backup before formatting the memory.
07 //Machine parameters not compatible, please format data	This message appears when a software update has been made over a much older version and the parameters are no longer compatible. It can also appear if the uploaded parameters (with RFlink) are much older or newer than the current software version and they are not be compatible. A new start up of the machine must be made. Contact your dealer.
11 //Write to file problem	This file is corrupt and cannot be saved. Try to restart the NC. If the problem persists, format the memory. Ask your dealer if the original parameters are available as a backup before formatting the memory.

12 // X smaller than minimum limit	The user has entered a value below the limit or a stored value of the program is below this limit. Change the value.
13 // X over maximum limit	The user has entered a value above the limit or a stored value of the program is above this limit. Change the value.
15 // input "min UT" is active!	The minimum UT value has been reached and can not fall below undershot.
19 // Sheet support X safety	A safety area was set during the use of sheet metal uphold device. Sheet uphold device can not be used while programming X in this range.
20 // Cycle repeat = 0	The cycle can not be started because the cycle repetition is set to "0".
21 // No material defined (define one or more in MP)	No materials have been defined on the material pages (in the user settings). A material must be programmed and selected to perform the calculations.
25 //No FAST task running [ ]	Turn the machine OFF for 1 minute and restart.
28 // I/O no 24V or overload (output in safety off)	I / O 24 V power supply no longer available or overcurrent at the output. Reset all safety devices on the machine, check the protective grids, the rear guard lock, etc. If the problem recurs, switch the machine OFF for 3 minutes and restart. If the problem persists, the machine must be checked by hand and / or a technician.
30 // Touch Screen error, code [ ]	Contact your dealer with the specific error code and any other necessary information.
31 // Retraction mandatory for the selected thickness	The retreat can not be deactivated because the material thickness is too high.
32 // Pedal released before end of cycle	The cut length has been programmed and the user has removed his foot from the pedal before this length has been reached. In this case, the cut is considered incomplete. If the cut length has been specified in a program, the pedal must be pressed until the cutter bar returns automatically.
33 // Syntax error in XML file	This file is corrupted and can not be used. Try to restart the NC. If it is a program, try deleting it.
34 //Memory allocation problem (xml)	Can be displayed when loading an item (program, parameters, etc.) when the memory is almost full.
35 //Endless loop on process task	Process error. Please restart the NC and inform your dealer.
39 //“Pedal” input refused	Pressing the pedal is not accepted in this page/situation.
41 // Cutting angle < min angle	When a movement is attempted, the cutting angle is smaller than the minimum machine limits. Check the Materials page Check the material side to make sure that none of the angles are outside the machine limits.
42 // Cutting angle > max angle	When a movement is attempted, the cutting angle is larger than the maximum machine limits. Check the Materials page Check the material side to make sure that none of the angles are outside the machine limits.
44 //“External stop” input is active	External stop may be caused by safety devices, emergency buttons, rear protection guards, etc. See machine instructions.

58 // Fw Axes Error 32 [Trajectory tracking error]	This is a regulator error. The axis could not follow its trajectory. Reset the error. This can be due to excessive friction, resistance or obstacles during the axis movement. It can also be a drive error. If problem persists, call a technician.

66 // Fw Axes Error 33 [Maximum voltage time exceeded (10V)]	This is a regulator error. The axis could not follow its trajectory. Reset the error. This can be due to excessive friction, resistance or obstacles during the axis movement. It can also be a drive error. If problem persists, call a technician.
67 //Fw Axes Error 39 [Speed tracking error]	This is a regulator error. The axis could not follow its trajectory. Reset the error. This can be due to excessive friction, resistance or obstacles during the axis movement. It can also be a drive error. If problem persists, call a technician.
69 // The machine is not indexed! No limit !	Before indexing the machine, the NC can not locate the axes. Movements are allowed on the manual side, but the electronic limits are not active. The user is responsible for stopping the axis movement before reaching the limits.
70 // Blade gap out of limit	When a movement is attempted, the blade gap is out is out of machine limits. Check the Material page. Check the material side to make sure that none of the angles are outside the machine limits.

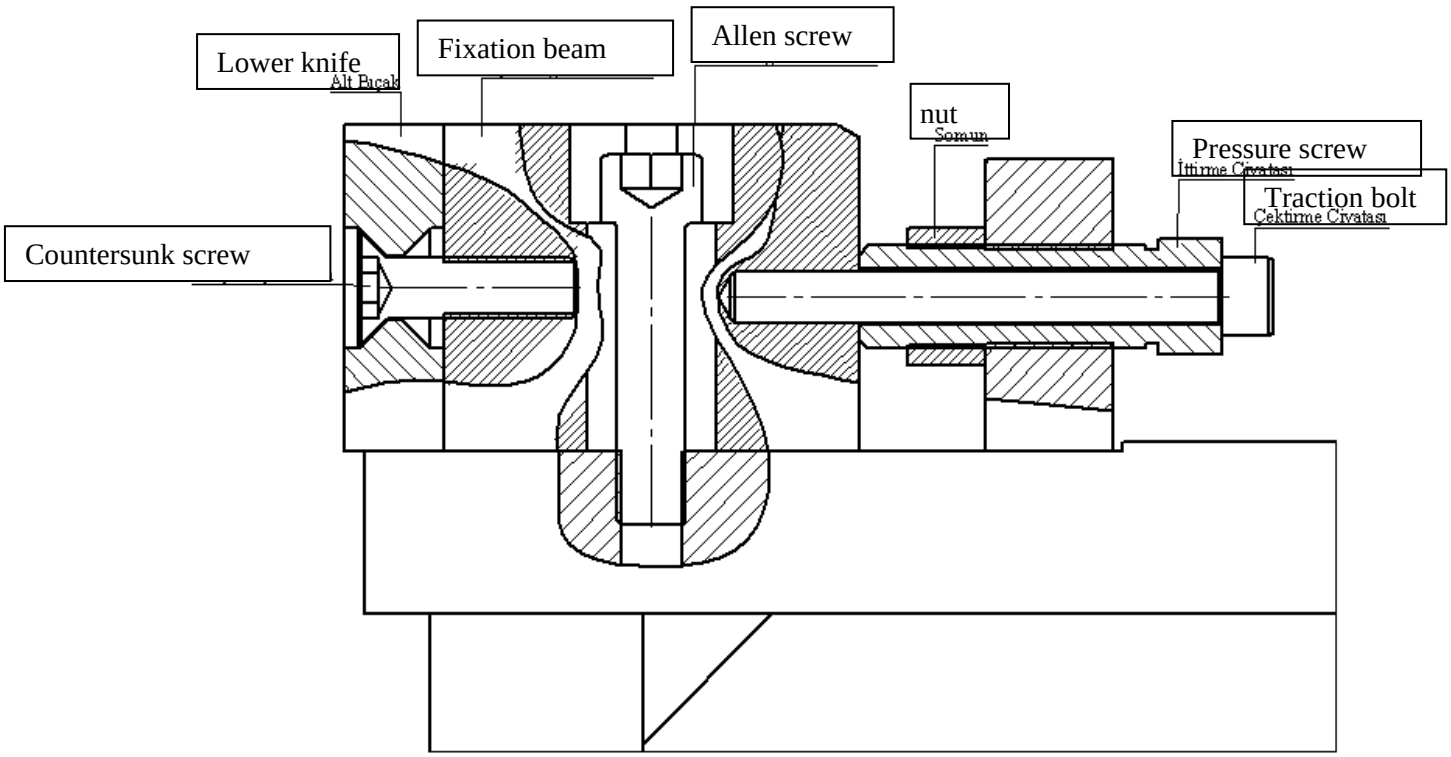
BLADE ADJUSTMENT:

The most important point must be considered in order to get the presice cutting; the axis of the bşades must be in the same direction and the cutting must be performed in this way. The required balde gap adjustment is done in our factory. But after the long time of using the machine abrasion may ocur on the cutting surface of the blades.As the result of this abrasion the quiality of the cutting will not be at the high level. In this case the cutting surface of the blade must to be sharpen again. After the resharpen process readjustment is required. The steps for readjustment is shown below.

CONNECTION OF LOWER BLADE

Note: Lower beam lower blade connection is shown in the picture below.

1. Blade Connection Wedge connecting to the lower beam with wedge connection bolt.
2. Countersunk bolt is tighten and the blade connection wedge connecting to the lower blade.
3. Pushing bolt and bolt nut is tighten as shown on the Picture.
4. Puller bolt connecting to the blade connecting wedge through the pushing bolt.
5. After the process explained above the lower blade conection is done.

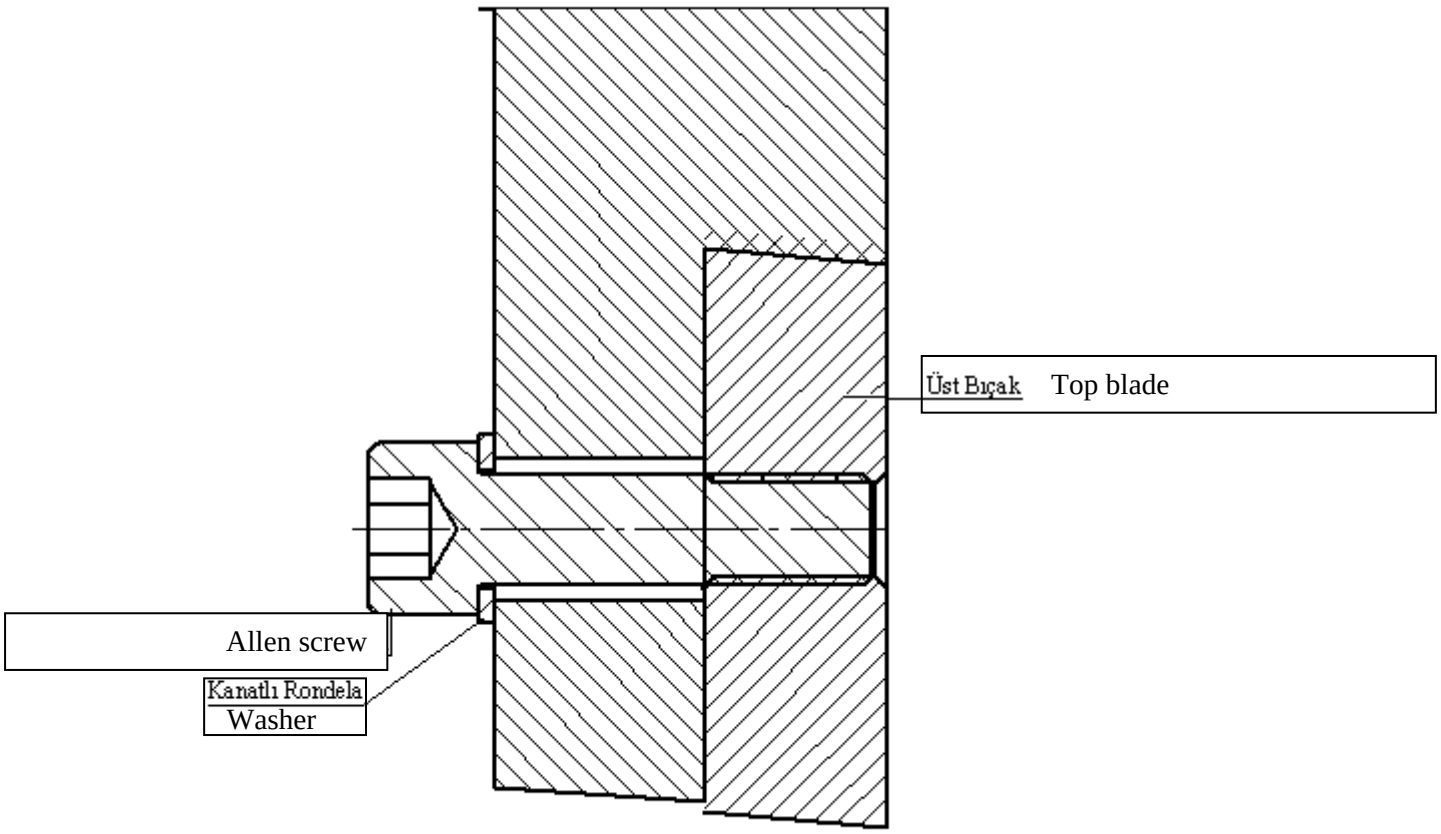


info@metallkraft.de, www.metallkraft.de

UPPER BLADE CONNECTION

Note: Upper beam upper blade connection is shown in the picture below.

1. Upper blade connecting to the upper beam with allen head bolt and withwasher.
2. During the gap adjustment of the upper blade make sure that the bolts aretightened.
3. Make sure there is no differences on the connection places if the segmented upper blade is used.
4. After the process explained above the upper blade upper beam connection isdone.

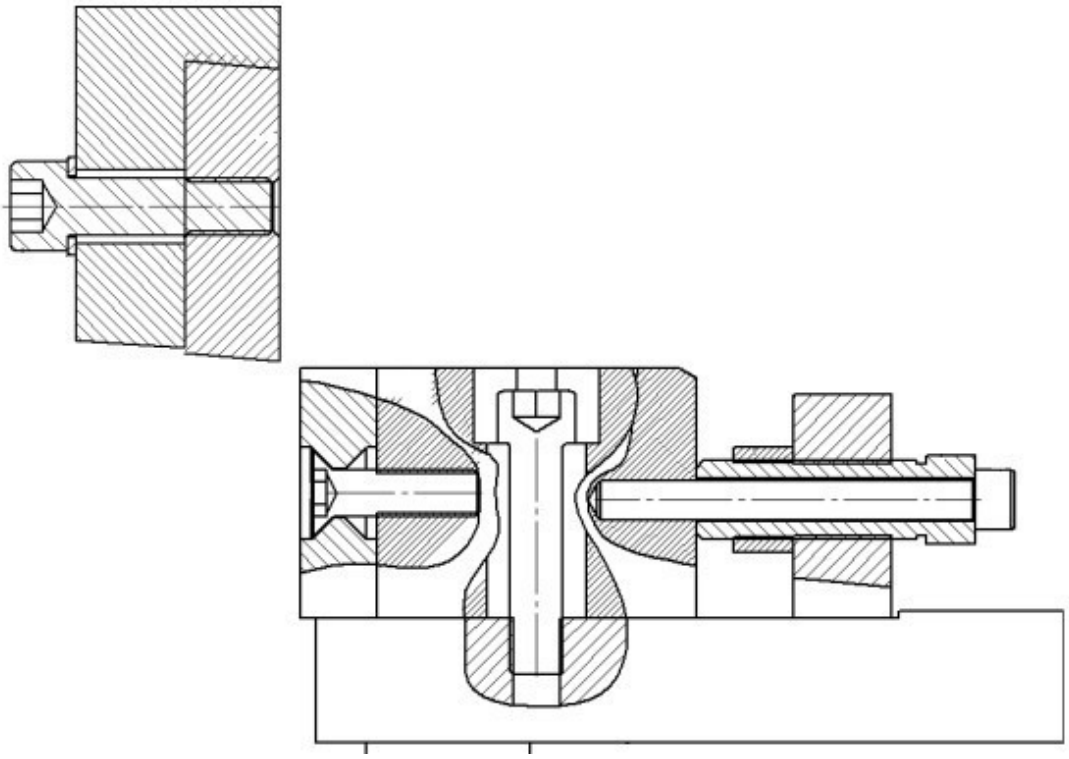


info@metallkraft.de, www.metallkraft.de

GAP ADJUSTMENT

Note: See the gap adjustment from the Picture below.

1. MAke sure the upper blade and the lower blade connections are done.
2. Move the upper beam so that the upper blade and lower blade arecrossing.
3. By using the pushing bolt and pulling bolt make the zero adjustment between the uper and lower blades. Use the gap knife for controlling.
4. Fix the pushing bolt nut after the blade zero adjustment.
5. Make sure all the bolts and nuts are tighten.
6. You can start for process by doing the gap adjustment according to the sheet is going to be cutted.



CUTTING ADJUSTMENT

Cutting gap adjustment is required for different sheet thicknesses. This cutting gap adjustment provideng by potentiometer on the machine by entering the feeler gauge thickness, motion system and setting up by the motion of the cogwheel. Sheet thicknesses on the screen of the control panel are adjustable by the entered appropriate sheet of the metal sheet.

For example; If 2mm metal sheet is going to be cutted choose the 2 mm sheet thickness from the panel. Now your shears are ready to cut sheet with 2 mm. thickness. For sheet with 5 mm. thickness choose 5 mm. and turn to the position of 5.

15.1. BIÇAKLAR ARASI KESME BOŞLUĞU ÇİZELGESİ

SAC KALINLIĞI	KARBONLU ÇELİKLER			PASLANMAZ ÇELİKLER			ALÜMİNYUM YUMUŞAK	ALÜMİNYUM ALAŞIMLARI			BAKIR VE BAKIR ALAŞIMLARI(PRİNÇ)		
	330 -370	370 - 500	500 - 700	450 - 660	600 - 800	800 -950	90-110	110-250	250-350	350-510	210-350	350-550	550-710
	350 N/mm²	450 N/mm²	600 N/mm²	550 N/mm²	700 N/mm²	850 N/mm²	100 N/mm²	200 N/mm²	300 N/mm²	450 N/mm²	300 N/mm²	450 N/mm²	600 N/mm²
	SAE 1005 St 33	SAE 1005 St 37	SAE 1005 St 60	430 304	316 305	301 431	Al 99,0 Al 99,5	AlMnlCu AlMgl	AlMg3 AlMg4	AlZn6MgCu AlCu4SiMg	Cu-ETP Cu-DLP	CuAg 0.1(B) CuCrl	CuSn8 CuAl8
0.25	0	0	0	0	0	0	0	0	0	0	0	0	0
0.50	0.5	0.5	0.5	0.5	0.5	0	0	0.5	0.5	0.5	0.5	0.5	0.5
0.80	0.5	0.5	0.5	0.5	0.5	0	0	0.5	0.5	0.5	0.5	0.5	0.5
1.00	0.5	1	1	1	1	1.5	0.5	0.5	0.5	1	0.5	1	1
1.50	1	1.5	2	2	2	2	0.5	1	1	1.5	1	1.5	2
1.80	1.5	2	2	2	2.5	2.5	0.5	1	1.5	2	1.5	2	2
2.00	1.5	2	2.5	2.5	2.5	2.5	0.5	1.5	2	2	1.5	2	2.5
2.50	2	2.5	3	3	3	3.5	1	2	2	2.5	2	2.5	3
3.00	2.5	3	3.5	3	3.5	1.5	2	2.5	3	2.5	3	2.5	3
4.00	3	4	4.5	4	4.5	5	2.5	3	3.5	4	3.5	4	4.5
5.00	4	5	5.5	5.5	6	6	3	3.5	4.5	5	4.5	5	6
6.00	5	6	7	6.5	7	8	3.5	4.5	5	6	5	6	7
7.00	6	7	8	7.5	8.5	9	4	5	6	7	6	7	8.5
8.00	7	8	9	8.5	10	11	4.5	6	7	8	7	8	10
9.00	8	9	10	10	11	12	5	6.5	7.5	9	7.5	9	11
10.00	9	10	11	11	12	13.5	5.5	7	8.5	10	8.5	10	12
12.00	11	12	13	12.5	14	16	6.5	8.5	10	12	10	12	13.5
13.00	12	13	15	13.5	15.5	18	7.5	10	11.5	13.5	11.5	13.5	16.5
15.00	13	15	17	16	1	20	8	11	12.5	15	12	15	18
18.00	15.5	18	20	19	22	25	9	12	15	18	15	18	21
20.00	18	20	22	21.5	25	27	10	13	17	20	16.5	20	23.5
22.00	20	22	25	24	27	29	11	15	18	22	18	22	26
25.00	22	25	28	27	28	32	12	17	20.5	25	20	25	28

info@metallkraft.de, www.metallkraft.de

BACKGAUGE ADJUSTMENT

Backgauge may move back and forward by NC. This movement is a system that can be read with a precision of 0.1 mm.NC programs stored in the memory controller via the operator is able to work very quickly and series. (Please use this guide to the NC controller that is attached to the back of the instruction manual you will find the NC controller.)In the time machine back gauge distance from the machine read on the differences between NC indicator may (armrest buffer size with a sheet gauge cutting the sheet of the measure appears on the digital display compatibility) be the case.In this case, re-referencing of the machine backgauge system (reset) operation should be performed.

BACKGUAGE SYSTEM

Backgauge System which is placed at the rear of the rear foot is protected by datasensor system.Passing through thedata sensor will automatically stop the machine and will not function. Data sensors should only proceed during maintenance while in stop and where all kinds of machine maintenance, troubleshooting should be done in the meantime.

Backgauge movement is provided by the electrical motor. Electric motor drive the ball screw with pulley and belt system, so taht allows the system to act..

Backgauge system tensioning bolt located in the buffer is connected to the pressure point of the profile which provides resistance against bending.In the case of any bending that comes here two stud bolts must be tightenedin order to resolve the bending.

Backgauge system allows cutting up to 1m in size. If the cutting of sheet longer than 1 meter backgauge system automatically folds itself and remains disabled.

Backguage precise adjustment provided by the precise adjustment bolt and nut system located on the blade bolt.

Tension of all timing belts of the backgauge system should be checked periodically.During these controls safety rules must be observed.

Also consider the lubrication of the backgauge sliding system.

SAFETY POINTS TO CONCIDER DURING THE MAINTENANCE OF THE BACKGAUGE:

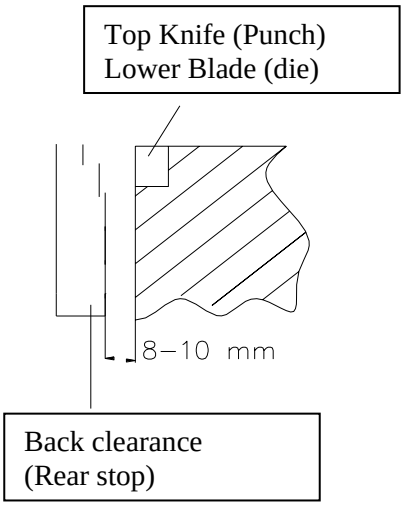
Do not run the machine during the maintenance. Please concider the height of the system during your probable moving down and up.

a) All parts; Maintenance should be done only after the required precautions.

b) During the control of timing belt and pulley system, (firstly take off the safety covers) be carefull with your hands if there is any manual effort is required between the timing belt and pulleys. Do not perfrom any act with your hands between timing belt connections. Do not start the machine before you will put on the safety covers.

c) Weight-bearing instruments should be used in case of complete disassembly of the system.

d) Check the limit switches of the backgauge. Otherwise, if the limit switches are disabled, backgauge may hit the lower beam and blade system.



FRONT ARMS

The purpose of the system is to carry the cutted parts of the sheet and act as a gauge to provide cutting restrained.

Ruler and front arms and the lower arms which are components of the main job. Measurement is provided by means of nails located on the armrest.Grub screws on the armrests for the sheet adjustment should be well tightened. If not tightened, screws may move and the cutting may be inoccurate.

Ruler forearms and its parts connected and fixed to the lower beam by the allen bolts. If the bolts of this connection are weak ruler forearms and its parts may move and cutting will be inoccurate. In the meantime they may also drop down in case if thay are weak. As the result the part damage, machine damage or the operator damage may occur. These parts must be pulled out only during the maintenance.

There are gauge pieces located on the ruler forearms in order to provide the smooth angle of the sheet fort he cutting process. Weakness of the fixation of this gauges may be the reason of the inoccurate cutting.

MAINTENANCE

MAINTENANCE OF THE MACHINE

1. Sheras lubrication points as shown in the lubrication plan, must be lubricated regularlywith indicated oils and indicated periods.

2. Lower blades and upper blades must be clean. Use protective oil if you dont use the blades.

3. Electric motors (main motor, backgauge motor) may be dirty because of the environment. In this case clean the motor covers, propeller and inside parts periodically after the putting out the back cover of the motor.

4. All hinge locations, platforms and cutting gap adjustment and friction eccentric ports should be lubricated periodically.

5. On the machine screw connections must be tightened periodically..

6. Lower blades, the upper blade and the blade fasteners thereon, during the processing of metal sheets oxide, slag etc..may occur. To avoid such situations, the upper blades and blade fasteners periodically, if possible, should be cleaned before eachrun.

MAINTENANCE OF THE HYDRAULIC SYSTEM

1. The hydraulic system should be kept extremely clean.
2. From the indicator on the tank, the oil level should be checkedperiodically.
3. Hydraulic tank suction filter should be cleaned at the end of 500 workinghours.
4. Return filters should be checked frequently and cleaned in the sameperiod.
5. Hydraulic oil in the tank of the machine must be changed after 5000 study hours from the firt run of the machine and then every 2000 study hours. The oil should be which is recommended on the lubrication table.
6. Pressure relief valve is set in our factory, the setting of the pressure on the valve must not be made in any intervention.
7. Plumbing connection records must be cheked periodically, the records must be tightened to unwind.

MAINTENANCE ON HYDRAULIC SYSTEM

Control	Frequency	Responsible
Greasing	Daily	Operator
Greasing the blades	Daily	Operator
Inspection of covers	Daily	Operator
Leak check on cylinders	Daily	Operator
Oil level check	Weekly	Operator
Cylinder connection bolt check	Weekly	Operator
Leak check on hydraulic elements and hoses		Operator
	Weekly	Operator
Limit switch check	Weakly	Operator
Blade screws check	Weekly	Operator
Electrical connections	Annualy	Electrician

MAINTENANCE PERIODS

This section describes periodically maintenance of the machine under separate headings. Create the maintenance schedule to ensure the follow-up periodical maintenance. Make sure that the power supply is disabled during the the maintenance.

DAILY MAINTENANCE :

Daily maintenance should be done regularly every day.

1. All parts of the machine must be eye checked generally.

2. Arising from the daily operation, it is necessary to clean the place needed to be cleaned.

3. Hydraulic leak may occur in the hydraulic system to troubleshoot, record and nuts should be checked for tightness.

4. On the oil tank in the hydraulic oil level indicator, oil level should be checked. (The oil level should be at the top of the display.)

5. The tilting of the piston pressure points should be lubricated with grease.

WEEKLY MAINTENANCE :

Weekly maintenance should be done regularly every week.

1. Machining time in the work environment or the working of materials that may occur slag, metal particles or dust particles, must be cleaned with a vacuum dust cleaner. (Air blower variety of tools in this system is not recommended, because the air of dust particles and various particles may damage the system by enteringin undesirable locations)

2. All of fasteners (bolts, nuts, records, etc.). should be checked for tightness..

3. Below the name of the place, must be cleaned with a soft cleanser.

- Backgauge parts;
- Front arms;
- Upper blade, lower blade and carrier ball system.

4. Lubrication of all of the locations indicated in the scheme, must be lubricated with oil which is recommended.

MONTHLY MAINTENANCE:

Monthly Maintenance should be done regularly every month.

1. Unpainted metal parts of the machine must be lubricated with protective oil.
2. It is required to clean the control panel and pedal control unit with a non-abrasive cleaner.

TWO MONTHLY MAINTENANCE:

Two Monthly Maintenance should be done regularly every two months. .

1. Filter in electric cabinet should be cleaned with compressed air.
2. Return filter in the hydraulic system (the filter cover to be removed) should be cleaned with pressurized air and then by washing with gas or other chemical products.

THREE MONTHS MAINTENANCE:

Three-Month Maintenance should be done regularly every three months.

1. Inside electrical cabinets and electrical wiring must be cleaned with dry material that does not contain abrasives.
2. Fasteners should be removed and be protected with antioxidants in order to prevent oxidation.

2000 HOURS MAINTENANCE :

Should be done regularly every 2000 hours.

In Hydraulic Guillotine Shear (as can be seen in hydraulic diagram) there are a number of sensitive valve systems, orifice and etc. The safety of the system depends on the hydraulic system and therefore the hydraulic oil cleanliness.

1. In the first study of the hydraulic system after 500 hours and then after every 2000 hours hydraulic oil should be changed in accordance with the recommended oil.
2. Hydraulic hoses and pipes, the entire system including system block valve should be dismantled and cleaned with compressed air.
3. Hydraulic oil in the oil tank must be replaced. During the first filling of the hydraulic oil and hydraulic oil change, oil must be placed in the tank after filtering.
4. Backguage, front arms, bearings of the system should be checked. If there are any problems bearings should be replaced.
5. The coupling system that connects main motor with hydraulic pump must be checked.

NOTE1: Breakdowns and damages may occur in case if an above psecified maintenance is not applied will not be under the warranty.

NOTE2: The hydraulic pump must not be oilless.

NOTE3: For a safe operation; suitable replacement parts should be used.

GREASING

GREASING CHART

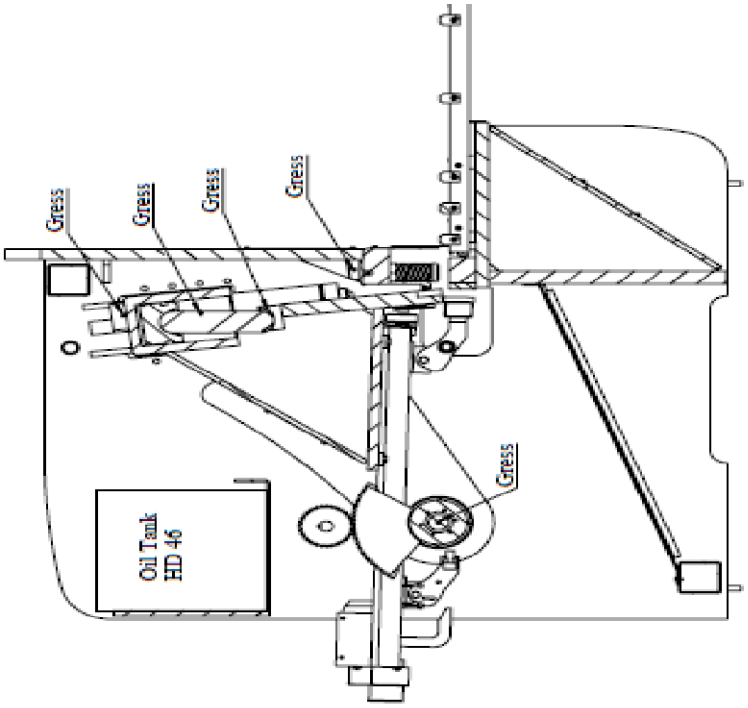
NO	COMPONENT	FREQUENCY	TYPE
1	Lower beam and blade connection parts	Weekly	Grease
2	Backgauge Ballscrew	Weekly	Grease
3	Backgauge linear screws	Weekly	Grease
4	Gear grou	Weekly	Grease
5	Hydraulic Tank	Depending on the level	ISO VG 46 (Hyd. Oil)

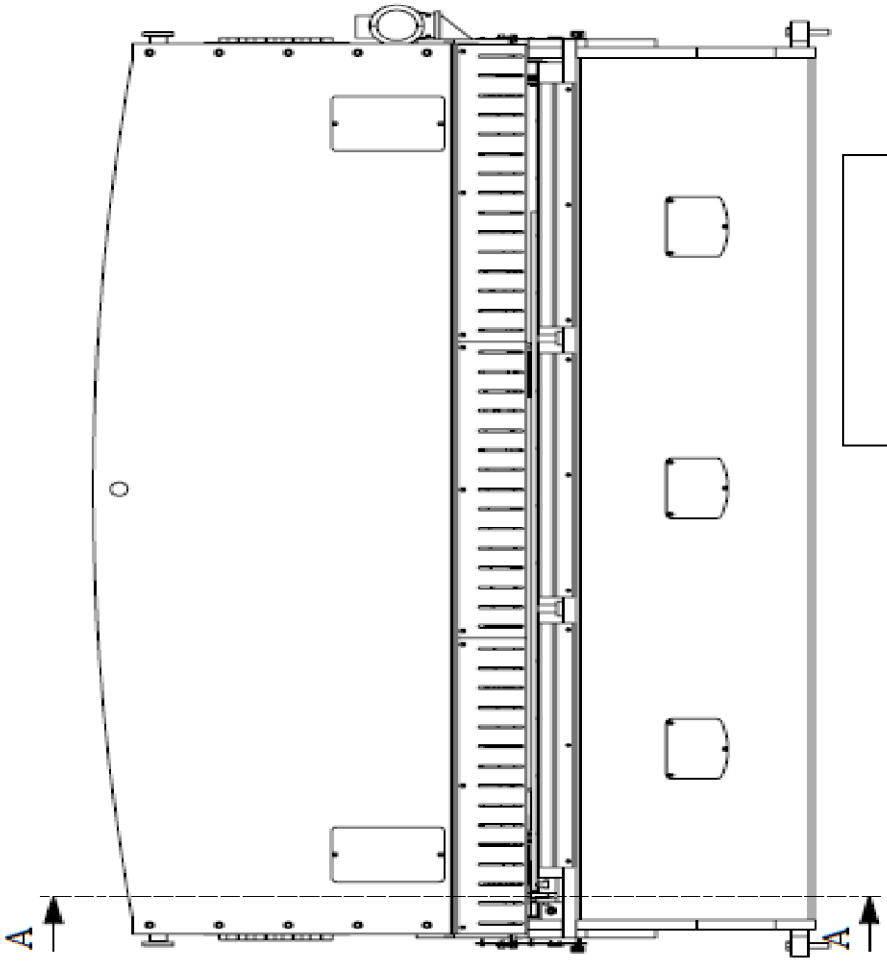
HYDRAULIC OIL

NO	HYDRAULIC OIL	CODE
	Standard Oil Spec	ISO VG 46 (reccomended)
1	ARAL	VITAN GF 46
2	BP	HLP 46
3	CALTEX-TEXACO	RANDO OIL 46
4	CASTROL	AWS 46
5	ESSO	NUTOH 46
6	GULF	HARMONY 46 AW
7	HUILE RENAULT-ELF	OLNA 46
8	MOBIL	DTE 46
9	PURFINA FRANCE	HYDRAN 46
10	SHELL	TELLUS 46
11	TURCAS	HYSPIN AWS 46
12	VALVOLINE	ULTRAMAX 46
13	VEEDOL	ANDARIN 46
14	YACCO	TRANSHYD 46

GREASE

NO	GREASE	TYPE
1	PETROL OFİSİ	GREASE 2 WITH MOLIBDEN
2	MOBIL	MOBIL GREASE SPECIAL
3	SHELL	SHELL RETINAX EPX 2





Lubrication schedule for plate shears

info@metallkraft.de, www.metallkraft.de

POSSIBLE ERRORS THAT MAY OCCUR.

IF THE MACHINE DOES NOT RECEIVE COMMANDS;

1. direction of rotation of the main motor that moves hydraulic pump must be checked. The direction on the sign must be the the same as the direction of rotation. (See the light inside the cabinet phase sequence relays).

2. The hydraulic oil level should be checked whether it is low.

3. At the entrance to the clipboard R, S, T phase should be checked by an electrical diagram.

4. Power circuit in the control cabinet must be checked according to the electric wiring scheme.

5. The emergency stop button to be checked whether it is open (pressed)

6. Check the photocell whether it is activated or not.

MACHINE TAKES COMMAND, BUT IF THERE IS NO FUNCTIONAL MOVEMENTS;

1 The coupling system that connects motor with the pump must be checked.

2. The functions of the control panel and foot pedals should be checked.

3. Hydraulic valves may have mechanical warning; check the valve socket inputs and whether the required voltage is supplied or not (see electric and hydraulic circuit diagram).

4. Pressure swicth can give continuous contact, that contact should be checked. (See hydraulic and electrical circuit diagrams, circuit diagram)

THE MACHINE RUNS, THE UPPER BEAM DON'T MOVES FROM THE LOWER DEAD POINT TO THE UPPER DEAD POINT OR FROM THE UPPER DEAD POINT TO THE LOWER DEAD POINT;

1. Pressure relief valve should be checked clear, these valves should be cleaned with compressed air (see hydraulic circuit diagram).

2. Pressure switch max. is set to a higher value than the normal value should be set to (see hydraulic circuit diagram).

3. The main pressure valve should be checked. (See hydraulic circuit diagram)

4. Counter-pressure valve setting should be checked, disassembled and cleaned if necessary.

THE MACHINE WORKS, BUT IF THE MACHINE DOES NOT HAVE THE PRESSURE;

1. Pressure swicth may be set to a very low level settings should be checked.
2. The main pressure relief valve, set to very low values, must be checked.
3. May not have adequate oil flow. Check with your hands whether the oil is coming from the pipes inside of the tank. If oil is comes disassemle and squeeze the top pilot line.
4. Make sure the hydraulic pump is working correctly.
5. Pressure regulating valve should be checked, disassembled and cleaned if necessary.

CAUTION: These procedures definetely should not be the case when the machine is run.

THE MACHINE WORKS, BUT IF YOU GOT CUTTIN FAULTS;

1. Thickness adjustment system can be adjusted to the proper thickness settings. These settings must be made again according to the sheet thickness.
2. Machine may not be in full balance, balance should be checked..
3. The upper and lower blades may not be at the same plane. The blades should be adjusted.
4. Backgauge may be unadjusted. Backgauge settings adjustment should be made as described in related part.

ACCIDENTS MAY OCCUR AND THE METHODS OF GETTING RID.

1.Accident
Operator's hand caught between the upper blade with the lower blade;

- Emergency Stop button must be pressed at first.
- Reset the machine.
- Lift the upper beam by pressing the pressing the foot pedal.
- Remove operator’s hand from the place of accident.

2. Accident
If the workpiece falls on the operator’s hands;

- Press Emergency Stop button in order to prevent uncontrolled movement of the machine.
- Remove the jammed hands if it is possible to carry the workpiece by hands.

3.Accident
If pressure hose that is connected to the hydraulic cylinder explodes;

- Stop the machine by pressing the emergency stop button.
- Turn off the main switch.
- Maintenance team and the relevant supervisor should be notified.
- Open the main switch and activate the after changing the hydraulic hoses.

GENERAL EQUIPMENT OF THE HYDRAULIC GUILLOTINE SHEARS.

Construction of the machine has been designed and manufactured entirely of steel to operate under dynamic operating conditions. The brands used in the system and application areas are presented below:

HYDRAULIC PUMP	: HOERBİGER, ECKERLE
VALVES	: HOERBIGER
ELECTRIC POWER UNIT	:SIEMENS
ELECTRIC MOTORS	: GAMAK OR WATT
LIGHT CURTAINS	: LEUZE
HYDRAULIC CYLINDERS	:METALLKRAFT
HYDRAULIC SEALS	:MERKEL,KASTAŞ OR POLİLAS
CNC CONTROL UNIT	: CYBELEC

Backgauge stopper system, can be adjusted with the high precision and may be displayed on the NC screen with precision of 0,1 mm. Programs can be stored in memory and can be displayed on the screen if desired.

The machine can be set to desired cutting length by the means of special measure system. In this way the machine blade to be cut down to size of cutting material lenght and then process returns to the upper dead point.

Desired thickness adjusted by potentiometer (control panel).The machine's cutting thickness adjusted between max. cutting thickness and min. cutting thickness.

Cutting and lifting hydraulic cylinders, covered with metal sheet in order to provide operator’s safety.

PAINTS ARE USED

White	RAL 9002
Blue	RAL 5017

16 Declaration of Conformity

According to Machine directive 2006/42/EG Annex II 1.A

Manufacturer/seller: Stürmer Maschinen GmbH
Dr.-Robert-Pfleger-Starße 26
D-96103 Hallstadt

hereby declares that the following product

Product group: Metallkraft® Metallbearbeitungsmaschinen

Machine type: Plate shears

Machine designation:	**Item number:**
HTBS BASIC 2106	4202106
HTBS BASIC 2606	4202606
HTBS BASIC 3106	4203106
HTBS BASIC 3110	4203110
HTBS BASIC 3113	4203113
HTBS BASIC 3116	4203116
HTBS BASIC 3120	4203120
HTBS BASIC 4106	4204106
HTBS BASIC 4110	4204110
HTBS BASIC 4113	4204113

Serial number: _____

Year of manufacturer: 20____

complies with all relevant regulations of the aforementioned directive as well as any other, applicable directives (subsequently added) – including the changes applicable at the time the declaration was made.

Applicable EU directives:	2014/30/EU	EMC-Directive
	2011/65/EU	RoHS-Directive

The following, harmonised standards have been applied:

DIN EN ISO 12100:2010	Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)
DIN EN 60204-1:2019-06	Safety of machinery - Electrical equipment of machines - Part 1: General requirements (IEC 60204-1:2016, modified)
DIN EN ISO 13849-1:2016-06	Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design (ISO 13849-1:2015)
DIN EN ISO 4413:2011-04	Hydraulic fluid power - General rules and safety requirements for systems and their components (ISO 4413:2010)
DIN EN 12622:2014-02	Machine tools - Safety - Hydraulic presses

Responsible for documentation: Kilian Stürmer, Stürmer Maschinen GmbH,
Dr.-Robert-Pfleger-Str. 26, D-96103 Hallstadt

Hallstadt, 5 July 2019

Kilian Stürmer
General Manager

CE


stürmer
OPTIMUM