

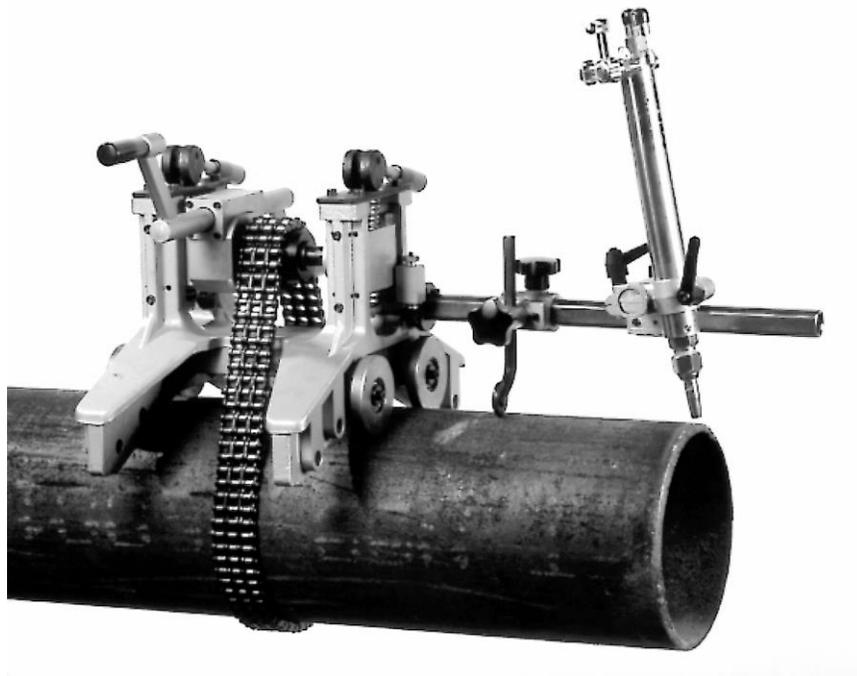


WHERE THERE'S PIPE, THERE'S MATHEY

# Maxi Jolli Chain Machine

Part Number 05-0510-000 & 05-0510-M08

## Parts and Operating Manual



Revised 1-18-12

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## 1.0 - SAFETY

Proper precautions should be taken when using this machine or any and all other heavy cutting and welding equipment. A little common sense goes a long way towards preventing accidents involving your Mathey Dearman Maxi Jolli Chain Machine.

- The operator and maintenance person shall read and understand the Maxi Jolli Chain Machine parts and operating manual prior to attempting operation of the equipment.
- The operator and maintenance person shall read and understand the torch parts and operating manual prior to attempting operation or maintenance of the oxy/fuel torch.
- Eye protection must be worn to protect eyes from sparks, flying slag and the brilliant flame.
- Protective clothing such as chaps, sleeves, steel toed shoes and gloves shall be worn to protect the operator from sparks or slag.
- Make sure loose clothing, tools, belts, etc. do not become entangled on the Chain Sprocket or Torch Arm.
- The periodic maintenance instructions must be followed in the Maxi Jolli Chain Machine parts and operating manual.
- Never use the Maxi Jolli Chain Machine for other than its intended purpose.
- Clear the general area where the Maxi Jolli Chain Machine will be used of all trip hazards.
- Use a Heat-Resistant Shield to protect nearby walls from sparks and hot material.
- Adequate ventilation is required to prevent the concentration of oxygen/fuel, gas and/or other toxic fumes.
- Do not store grease, gasoline or other flammable material in the area where the pipe is being cut.
- Never direct flame or debris associated with cutting process toward the oxygen or fuel gas cylinders.
- Do not operate Maxi Jolli Chain Machine equipped with Oxy/fuel or plasma torch in an explosive environment.
- Always have a fire extinguisher of the proper size and type in the work area.
- Remove all smouldering materials from the work area when work has been completed.
- Due to the risk of personnel injury never direct the flame or the fuel or plasma torch back toward the machine.
- Discontinue the operation of the Maxi Jolli Chain Machine, if it is vibrating or operating erratically.
- When using the Maxi Jolli Chain Machine, basic safety precautions must always be followed to reduce the risk of personal injury.
- Always operate the tool in accordance with the operating instructions.
- The Motorized Maxi Jolli Chain Machine shall not be used in an extremely moist environment such fog, mist, heavy dew, rain or standing water due to the risk of electrical shock.
- Disconnect the motorized Maxi Jolli Chain Machine from the power source when not in use or prior to inspecting the tool or performing any maintenance.
- Only an experienced electrician shall perform maintenance on the electrical motor or motor control box.
- The Oxy/Fuel Torches or the Plasma Torches must be properly installed and fastened in the Torch Holder assembly to avoid injury to the operator.
- There must be sufficient slack in the Oxy/Fuel or Plasma Hoses so the Saddle Machine will be able to make a full circle around the pipe to complete cut.
- Always follow the Oxy/fuel or plasma torch manufacturers operating instruction when using the Oxy/fuel or plasma torch Machine Torch.
- The pipe must be secured to the table or pipe stand, prior to mounting the machine on the pipe.
- Never wear loose clothing when operating the Maxi Jolli Chain Machine.
- The Sprocket Teeth must be free from all obstacles before operating the machine.
- Fire is hot. Keep all flammable material, including hands and feet, as far from the path of the Cutting Torch as possible.

**IN ADDITION TO THE ABOVE PROCEDURES, ALL SHOP, NATIONAL AND MANUFACTURER'S SAFETY INSTRUCTION CONCERNING THE FLAME CUTTING SYSTEM SHOULD BE FOLLOWED. ALL CUTTING OPERATIONS SHOULD BE CONDUCTED IN THE BEST OF SAFETY CONDITIONS.**

## 2.0 - GENERAL INFORMATION

If the manual should be lost or damaged, it is possible to obtain a copy from **Mathey Dearman, Inc.** at the phone number or address mentioned on the front page of the manual or on our Internet site at [www.mathey.com](http://www.mathey.com). When requesting a manual, please provide the following information:

- Type of Machine and Model
- Serial Number
- Supplier
- Name and Address of the User
- Correct Address where to Deliver the Copy of the Manual.

If the machine is the property of anyone, who is not the original purchaser, please inform us so we can communicate with the new owner for any up dated information. At the time of sale, the manual represents the state of the art technology and should be considered inadequate if it is later updated due to improvements. Mathey Dearman is not obligated to update the manual and/or the **Maxi Jolli Chain Machine** of the purchaser if improvements are made due to new technology.

This manual is supplied with the machine

- All operators, maintenance employees and other personnel must read the manual as it concerns safe operation, spare parts and warranty.
- The manual must be kept in a clean and humid free environment with easy reach of the operators.
- All operators must read the manual prior to attempting to install, use, perform maintenance or dismantle the Maxi Jolli Chain Machine.
- The supervisor must make sure the operators understand the operation of the Maxi Jolli Chain Machine and oxygen/fuel machine cutting torch.
- Do not damage or remove any labels or the nameplate fitted on the machine.
- Accidents can be prevented if the operator understand the operation of the machine and cutting torch.

## 3.0 - SPECIFICATION

### 3.1 – GENERAL SPECIFICATION

The **Maxi Chain driven cutting and bevelling machine** is designed to manually rotate a 1 3/8" / 35mm oxygen/fuel or plasma machine around pipes having an outside of 4-1/2" (114.3 mm.) and larger in diameter. The Maxi Jolli Chain Machine can be used with any gas cutting machine torch (acetylene, Butane, propylene, natural gas or propane gas) or Plasma cutting torch. If vertical adjustment of the torch is necessary a rack can be added to the torch. The torch holder is available for machine torch having a 32 pitch or metric rack. Pricing for propane or acetylene machine cutting torch is available.

### 3.2. - FEATURES

The Main Body, which is an alloy aluminium casting, is fitted with a forwarding device, tensioning screw, wheels, torch arm with out of round device and sliding support to support the torch. The machine is attached to the pipe by means of a 3-mesh chain along which it moves during the cutting operation. Two rotating crank handles are used to move the forwarding device composed of a worm screw and a bronze toothed rim that are joined to the chain sprocket. Two Tensioning Cams provide tension to the chain to fix the machine to the pipe. The forwarding device moves upward on two stainless steel columns as tension is applied to the chain. The Rack Holder Floating Device provides movement perpendicular to the machine line of travel and a Knob with Pinion Positions it.

### 3.3 – DIMENSION AND WEIGHT

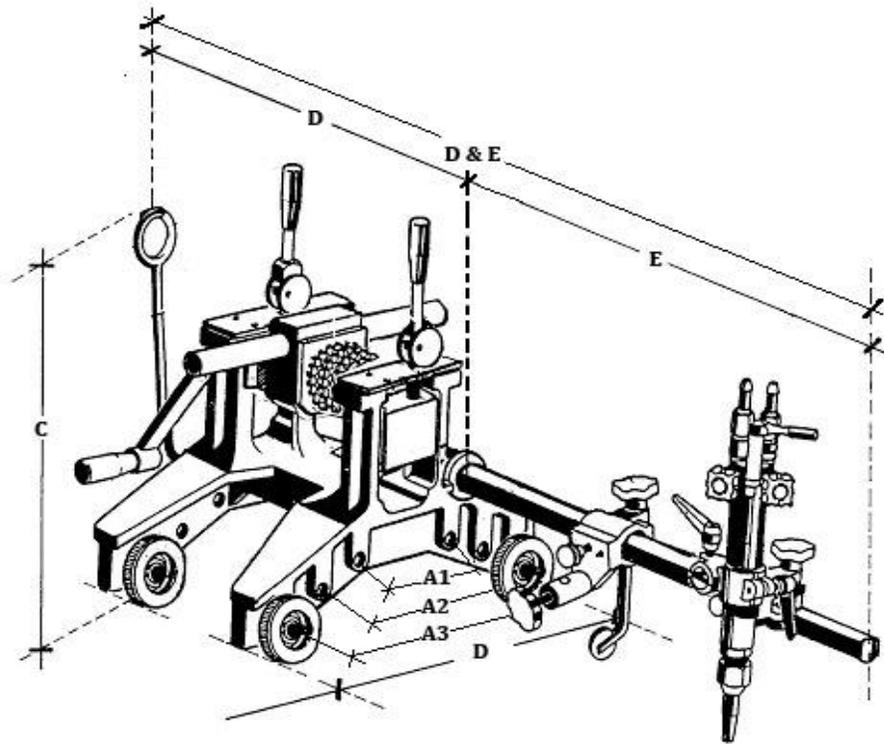


Figure 1 - Machine dimensions

Dimension Description	In / mm
Longitudinal wheel distance	(Position 1) A1 : 5 / 127
	(Position 2) A2 : 9-1/16 / 230
	(Position 3) A3 :
Total Height	C : 14-5/8 / 372
Transversal wheel distance	D : 8-1/16 / 205
Torch Arm Clearance	E : 13-5/16 / 338
Clearance parallel to pipe axis	D&E : 22 / 559
Clearance perpendicular to pipe axis	F : 21-3/8 / 543
<b>Description</b>	
<b>Net Weight of base unit (less Chain)</b>	
Manual model with Gas Torch	: 38 lbs. / 17.2 kg
230vac motorised Model with Gas Torch	: 45.8 lbs. / 20.8 kg
Manual model without Gas Torch	: 32 lbs. / 14.5 kg
230vac motorised model without Gas Torch	: 42 lbs. / 19 kg
Steel Carrying Case	: 33 lbs. / 15 kg
<b>Shipping Dimensions and weights</b>	
<b>Packaging size (in/mm)</b>	
Manual model with Gas Torch	: 19 x 17 x 16 / 483 x 432 x 406
Manual model without Gas Torch	: 19 x 17 x 16 / 483 x 432 x 406
230vac Motorized Model with Gas Torch	: 19 x 17 x 16 / 483 x 432 x 406
230vac Motorized Model without Gas Torch	: 19 x 17 x 16 / 483 x 432 x 406
Mini Steel Carrying Case	: 19 x 17 x 16 / 483 x 432 x 406

## 4.0 - OPERATING INSTRUCTION

### 4.1 - CHAIN LENGTH

To determine Drive chain length required see **Table 1** that shows the chain length for various diameters of pipe. For diameters of pipe, other than those listed, see the calculation formula on our web site at [www.mathey.com](http://www.mathey.com) or contact the Mathey Dearman Sales Department.

### 4.2 - HOW TO LENGTHEN OR SHORTEN THE DRIVE CHAIN

From **Table 1** select the drive-chain length required. If the chain length is incorrect, proceed as follow:

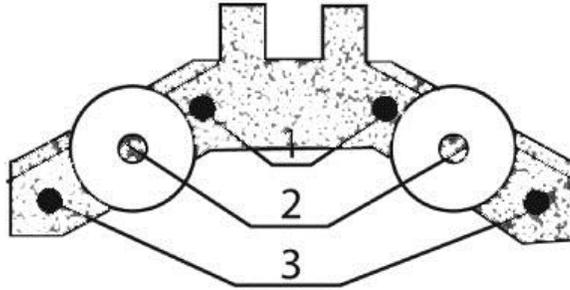


Figure 1- Wheel Positions

Table 1 - Length of Chain Required for Various Pipe Diameters

	In/mm						
Pipe Diameter*	4 / 102	6 / 152	8 / 203	10 / 254	12 / 305	16 / 406	18 / 457
Wheel Position	1	2	2	2	2	2	2
Chain Length	28 / 711	34 / 864	40 / 1016	46 / 1168	52 / 1321	62 / 1575	68 / 1727
Pipe Diameter*	20 / 508	22 / 559	24 / 610	26 / 660	28 / 711	30 / 762	32 / 813
Wheel Position	2	2	2	2	2	2	2
Chain Length	74 / 1881	80 / 2032	86 / 2184	93 / 2362	99 / 2515	105 / 2667	111 / 2816
Pipe Diameter*	36 / 914	38 / 965	40 / 1016	42 / 1067	48 / 1219	50 / 1270	52 / 1321
Wheel Position	3	3	3	3	3	3	3
Chain Length	123 / 3127	129 / 3283	136 / 3439	142 / 3607	161 / 4089	167 / 4242	173 / 4394

\*The pipe diameter listed is the nominal pipe size; for the actual pipe outside diameters see a commercial pipe chart. A chain calculation formula for determining the length of chain required for any size pipe can be found on the Internet at [www.mathey.com](http://www.mathey.com) under Support / Product Formulas / Maxi Jolli Chain Machine.

### To lengthen or shorten the Cotted Chain use the following procedure

- 4.2.1 Select the chain segments required to extend the chain to the length mentioned in Table 1. A Chain Calculation Formula for determining the length of chain needed can be found on the Internet at [www.mathey.com](http://www.mathey.com) under Product Formulas.
- 4.2.2 Set the Chain (Figure 5 Item 21) segment that is at the proper length in the Chain Unpinning Block Figure 5 Item 20B) and remove the Chain Pin with the Pin Extractor (Figure 5 Item 20A).

**NOTE:** If one pin is removed the chain, the ends are joined using a Joint Bolt (Figure 5 Item 21B) and Nut (Figure 5 Item 21A). If two pins are removed the chain is joined with the Chain Junction Link (Figure 5 Item 21D).

### 4.3 – CUTTING 16” PIPE AND SMALLER

- 4.3.1 Before placing the machine on the pipe, check area where the machine and guide strip will be placed on the pipe for concave or convex areas in the pipe surface. Remove as much of the deformity that is allowed by the welding specification.
- 4.3.2 Set the machine on the portion of the pipe that is to remain on the pipe stand, with the wheels on the torch arm side of the machine about 7” – 9” (179 - 229mm) away from the cut line. The distant from cut line to the wheels is dependent on the torch bevel angle.



**WARNING:** Do not place the machine on the portion of the pipe that is being cut off. This will result in possible injury and unreparable damage to the Maxi jolli Chain Machine.

- 4.3.3 Place the Chain (Figure 5 Item 21) over the sprocket (Figure 5 Item 4A).
- 4.3.4 Lay the chain (Figure 5 Item 21) to rest on the sprocket (Figure 3 5 Item 4A).



**WARNING:** When placing the chain (Figure 5 Item 21) on the sprocket (Figure 3 5 Item 4A) the hand can be pinched by the chain.

- 4.4.5 Join the Chain Segments with Chain Junction Link (Figure 5 Item 21D) or Joint Bolt (Figure 5 Item 21A) and Nut (Figure 5 Item 21B). If one pin is removed the chain, the ends are joined using a Joint Bolt (Figure 5 Item 21B) and Nut (Figure 5 Item 21A). If two pins are removed the chain is joined with the Chain Junction Link (Figure 5 Item 21D).
- 4.3.4 To apply tension to the chain rotate both handles (Figure 5 Item 8E) over center



**WARNING:** When rotating the handles (Figure 5 Item 8E) over center take care that they do not become caught between the handle and upper locking plate (Figure 5 Item 5).

- 4.3.5 For a square cut, rotate the Maxi Jolli Chain Machine 1 full turn around the pipe to insure the chain is perpendicular to the outside diameter of the pipe.
- 4.3.6 Recheck chain tension and adjust if required.
- 4.3.7 The Chain Machine is now ready for the installation of the fuel torch.

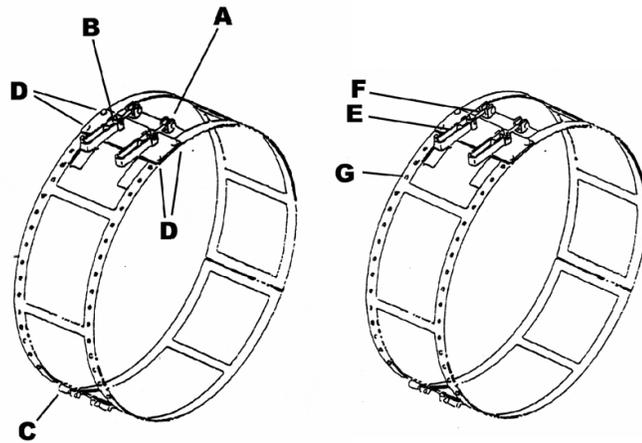
### 4.4 – CUTTING 18” PIPE AND LARGER

For accurate cuts on diameter larger a Guide Strip is required. The following the procedure for installation of the Guide Strip

- 4.4.1 Check the area 8” to 18” (203-457mm) away from the cut line where the Maxi guide strip will fit on the pipe for concave or convex areas in the pipe surface. Remove as much of the deformity in the pipe surface that is allowed by the welding specification in this area.

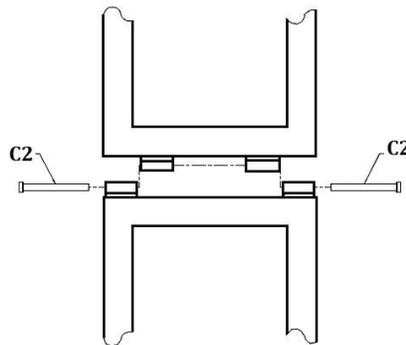


**Warning:** Do not place the machine on the portion of the pipe that is being cut off, this will result in serious injury to the operator and unreparable damage to the Maxi Jolli Chain Machine.



**FIGURE 1**

- 4.4.2 Form all sections of the guide strip so that they fit the pipe diameter to be cut as close as possible. The better the sections of the guide strip fit the diameter of the pipe; the easier it will be to adjust and latch the ends of the guide strip together.



- 4.4.3 Attach the sections of the guide strips together as shown in Figure 2 and insert the pins (C2).
- 4.4.4 The section containing the latch handle assemblies (B) should be at one end of the fully assembled guide strip and the section containing the receiver section ends (A) should be at the other end.
- 4.4.5 It may be necessary to move the latch handle assembly along the holes in the latch section in order to latch the guide strips to fit tightly around the pipe circumference. To move the latch Handle assembly to the proper location, remove the counter screws and domed nuts (Figure 1 Item D) from the latch handle assembly (Figure 1 Item B).
- 4.4.6 Place the latch handle assembly (Figure 1 Item B) base over the guide strip from which it was removed.
- 4.4.7 Locate the nearest holes (Figure 1 Item G) in that section of the guide strip and mark them.
- 4.4.8 Place the latch handle assemblies (Figure 1 Item B) over the marked holes and insert countersunk screws and nuts (Figure 1 Item D) in the latch handle assembly.
- 4.4.9 Tighten the domed nuts on the screws.

Table 2 - Guide Strip Sections required for a given diameter

Pipe Diameter In / mm	Head Section 05-0510-013B	Tail Section 05-0510-013D	Short Center Section 05-0510-013C	Long Center Section 05-0510-013A
18 / 458	1	1	****	****
20 / 508	1	1	****	****
24 / 610	1	1	****	****
28 / 711	1	1	1	****
30 / 762	1	1	1	****
32 / 813	1	1	1	****
34 / 864	1	1	****	1
36 / 914	1	1	****	1
42 / 1067	1	1	2	****
48 / 1219	1	1	1	1
52 / 1321	1	1	****	2
54 / 1372	1	1	2	1
58 / 1473	1	1	2	1
60 / 1524	1	1	1	2

- 4.4.10 Place the end of the latch adjustment bars (Figure 1 Item F) of the latch handle assemblies into the curved portion of the latch ends (Figure 1 Item A).
- 4.4.11 Adjust the end of the latch adjustment bars (Figure 1 Item F) until the handle of latch handle assembly will lock in position.



**WARNING:** There is a potential crush hazard, if the hand and fingers are caught between the edge of the guide strip and the pipe, when closing the guide strip latches.

- 4.4.1 Place the Maxi Jolli Chain Machine chain machine over the guide strip so the wheel are located on the outside of the guide strip.
- 4.3.3 Place the Chain (Figure 5 Item 21) over the sprocket (Figure 5 Item 4A).
- 4.4.4 Lay the chain (Figure 5 Item 21) to rest on the sprocket (Figure 3 5 Item 4A).



**WARNING:** When placing the chain (Figure 5 Item 21) on the sprocket (Figure 3 5 Item 4A) the hand can be pinched by the chain.

- 4.4.14 When placing the chain around the pipe, place the chain (Figure 3 Item N21) between the dome nuts located in the center of the guide strip.
- 4.4.15 Join the Chain Segments with Chain Junction Link (Figure 5 Item 21D) or Joint Bolt (Figure 5 Item 21A) and Nut (Figure 5 Item 21B). If one pin is removed the chain, the ends are joined using a Joint Bolt (Figure 5 Item 21B) and Nut (Figure 5 Item 21A). If two pins are removed the chain is joined with the Chain Junction Link (Figure 5 Item 21D)
- 4.4.16 To apply tension to the chain rotate both handles (Figure 5 Item 8E) over center.



**WARNING:** When rotating the handles (Figure 5 Item 8E) over center take care that they do not become caught between the handle and upper locking plate (Figure 5 Item 5).

- 4.4.17 For a square cut, rotate the Maxi Jolli Chain Machine 1 full turn around the pipe to insure the chain is perpendicular to the outside diameter of the pipe.
- 4.4.18 To apply tension to the chain rotate both handles (Figure 5 Item 8E) over center



**WARNING:** When rotating the handles (Figure 5 Item 8E) over center take care that they do not become caught between the handle and upper locking plate (Figure 5 Item 5).

- 4.4.19 For a square cut, rotate the Maxi Jolli Chain Machine 1 full turn around the pipe to insure the chain is perpendicular to the outside diameter of the pipe.
- 4.4.20 Recheck chain tension and adjust if required.
- 4.4.21 The Chain Machine is now ready for the installation of the fuel torch.

#### 4.5 - ASSEMBLING THE CUTTING TORCH TO THE MAXI JOLLI CHAIN MACHINE

The 1 3/8" (35mm) torch holder (17) is equipped with a knob with 32 pitch or metric sprocket (17/A) to Adjust the gas torch tip to pipe height. The Maxi Jolli Chain Machine can be used in conjunction with a plasma cutting system to cut stainless steel and non-ferrous pipes.

- 4.5.1 Verify the torch tip is appropriate size and type of gas per the torch manufacturer's instructions.

**Note:** When cutting at 30° or 37-1/2°, multiply wall thickness by 1.3 to determine tip size.

**Table 3 - How to select the right cutting tip for different cutting thickness and gas.**

Acetylene Gas			
Part Number	Cutting Thickness (in/mm)	Part Number	Cutting Thickness (in/mm)
05-0301-024	3/8 - 9/16 / 10 - 15	05-0301-043	2 - 4 / 50 - 100
05-0301-041	9/16 - 1 / 15 - 25	05-0301-032	4 - 7 / 100 - 175
05-0301-042	1 - 2 / 25 - 50	05-0301-044	7 - 8 / 175 - 200
Propane Gas			
Part Number	Cutting Thickness (in/mm)	Part Number	Cutting Thickness (in/mm)
05-0301-040	3/8 - 9/16 / 10 - 15	05-0301-035	2 - 3 / 50 - 75
05-0301-033	9/16 - 1 / 15 - 25	05-0301-036	3 - 6 / 75 - 150
05-0301-034	1 - 2 / 25 - 50	05-0301-037	6 - 8 / 150 - 200

The above mentioned tips are for the Mathey Dearman type torch. For other torches and speciality gas tips contact Mathey Dearman, Inc. For the tip size required for other torches see the torch manufacturer's instruction for that torch.

- 4.5.2 Install the torch into the torch holder (Figure 3 Item 17) and rotate the knob (Figure 3 Item 17/A) to adjust the gas torch tip to pipe height
- 4.5.3 Move the knob (Figure 5 Item 17A/1 or 17A) to check the torch arm tension
- 4.5.4 Adjust the socket head cap screws (Figure 3 Item 17C) as needed to make sure torch maintains the torch tip to pipe height.
- 4.5.5 Install the hoses on the torch per the torch manufacturer's instructions



**WARNING:** Extreme caution should be used when working with oxygen and fuel gases.

4.5.6 Set fuel gas and oxygen regulator pressure per the regulator manufacturer's instructions.



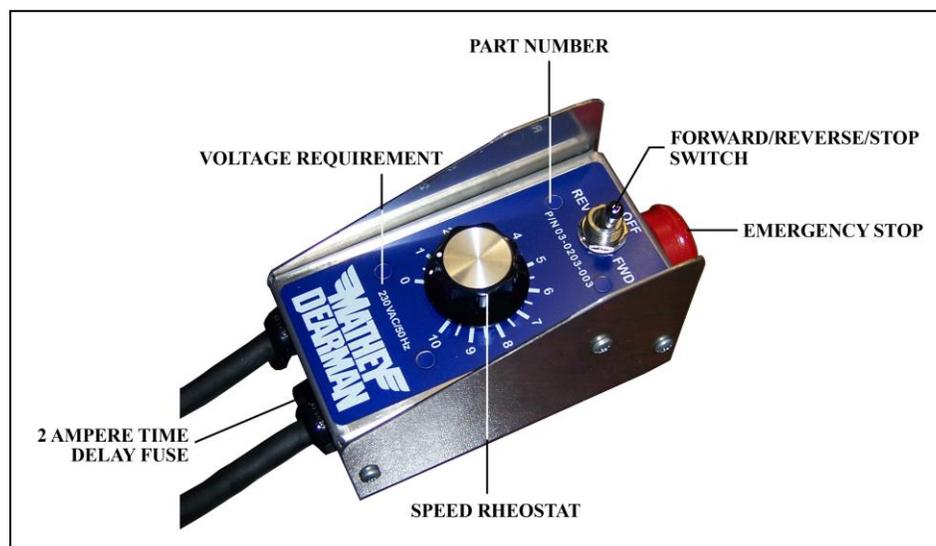
**WARNING:** Never stand in front of the oxygen and fuel gas regulator when adjusting the pressure

#### 4.6 - MANUAL MAXI JOLLI CHAIN MACHINE CUTTING PROCESS

- 4.6.1 Follow the instruction listed in section 4.1 through 4.5.
- 4.6.2 Light the gas torch per the manufacturer's instructions.
- 4.6.3 Rotate the crank handle (Figure 3 Item 24) back and forward preheating the pipe to the desired temperature per the torch manufacturer's instructions.
- 4.6.4 Rotate the Crank Handle (Figure 5 Item 24), while applying the Cutting Oxygen to the oxy/fuel Torch to minimize notching of the pipe.
- 4.6.5 Rotate the Crank Handle (Figure 5 Item 24) until the torch has completed the cut. A smooth consistent rotation of the crank handle is necessary to produce a smooth cut.
- 4.6.6 Turn off the cutting oxygen valve as soon as the cut per the torch manufacturer's instructions.
- 4.6.7 Turn of the gas and oxygen to the gas torch per the torch manufacturer's instructions

#### 4.7 - 230VAC MOTORIZED MAXI JOLLI CHAIN MACHINE CUTTING PROCESS

- 4.7.1 Follow the instruction listed in section 4.1 through 4.5
- 4.7.2 Depress the emergency stop switch on the motor control box.



**FIGURE 3**

- 4.7.3 Move the forward / stop / reverse switch to the center or off position.
- 4.7.4 Connect the motor control box to the Right Angle drive motor (22/B).
- 4.7.5 Connect the motor control box to the 230vac power source.



**WARNING:** When connecting the motor control box to the 230vac power source, there is a risk of sever electrical shock or death.

- 4.7.6 Twist to release the emergency stop switch.
- 4.7.7 Move the forward / stop / reverse switch to the forward or reverse position to check functionality of the equipment.
- 4.7.8 Increase the speed rheostat as needed to check functionality of the equipment.
- 4.7.9 Depress the emergency stop switch on the motor control box.
- 4.7.10 Move the forward / stop / reverse switch to the center or off position.
- 4.7.11 Move the speed rheostat dial to the 3 position.

- 4.7.12 Twist to release the emergency stop switch.
- 4.7.13 Light the gas torch per the torch manufacturer's instructions.
- 4.7.14 Move the forward / stop / reverse switch to the forward or reverse position.
- 4.7.15 Slowly move the machine back and forward preheat the pipe to the desired temperature.
- 4.7.16 Rotate the Maxi Jolli Chain Machine while applying the cutting oxygen to the oxy/ fuel gas torch to minimize notching of the pipe.
- 4.7.17 Continue to rotate the chain machine around the pipe until the cut is complete.
- 4.7.18 Turn off the cutting oxygen valve as soon as the cut is complete per the torch manufacturer's instructions.
- 4.7.20 Depress the emergency stop switch on the motor control box.
- 4.7.21 Turn of the gas and oxygen to the cutting torch per the torch manufacturer's instructions.
- 4.7.22 Move the forward / stop / reverse switch to the center or off position.
- 4.7.23 Disconnect the motor control box to the 230vac power source.

	<p><b>WARNING:</b> There is a risk of sever electrical shock or death, when disconnecting the motor control box from the 230vac power source.</p>
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**4.8 - DISASSEMBLY OF THE MANUAL MAXI JOLLI CHAIN MACHINE AFTER USE**

- 4.8.1 Remove the cutting torch from the torch holder (17). Check the functionality of the torch and cutting tip per the torch manufacturer's instructions.
- 4.8.2 Rotate the handle (Figure 3 Item 8E) over center releasing the chain tension.

	<p><b>WARNING:</b> Grasp the machine firmly when releasing the chain tension, because the machine will rotate around the pipe causing injury to the operator.</p>
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- 4.8.3 Disconnect the chain at the chain link (Figure 5 Item 21B) or remove chain coupling bolt (Figure item 21A) and nut (Figure item 21B).
- 4.8.4 Remove the chain machine base unit from the pipe.
- 4.8.5 Release both latch handle assemblies (B) and remove the Guide Strip from the pipe if applicable.

**4.9 - DISASSEMBLY OF THE 230VAC MOTORIZED MAXI JOLLI CHAIN MACHINE AFTER USE**

- 4.9.1 Disconnect the motor control box (Figure 5 Item 27) cord to the Right Angle drive motor (Figure 5 Item 22/B).
- 4.9.2 Remove the cutting torch from the holder (17). Check the function of the gas torch and cutting tip per the torch manufacturer's instructions.
- 4.9.3 Rotate the handle (Figure 3 Item 8E) over center releasing the chain tension.

	<p><b>WARNING:</b> Grasp the machine firmly when releasing the chain tension, because the machine will rotate around the pipe causing injury to the operator.</p>
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- 4.8.4 Disconnect the chain at the chain link (Figure 5 Item 21B) or remove chain coupling bolt (Figure 5 item 21A) and nut (Figure item 21B).
- 4.8.4 Remove the chain machine base unit from the pipe.
- 4.8.5 Release both latch handle assemblies (B) and remove the Guide Strip from the pipe if applicable.

**5.0 - SAFETY DEVICES**

**5.1 - Accident Prevention Rules.**

The operator should follow all shop, national and manufacturer standard Safety Procedures for the safety of the operators using the equipment such as:

- 5.1.1 Persons in the work area should always wear safety equipment such as safety glasses or face shield, gloves, safety shoes and other clothing suitable for the work environment and ambient temperature.
- 5.1.2 All the personnel, who are working around the machine, while the machine is operating, should wear safety glasses for eye protection.
- 5.1.3 Before starting the cutting operation, check the hoses for nicks, cuts and abrasions
- 5.1.4 Check the connections oxygen and fuel gas connections to the torch and Regulators.
- 5.1.5 The cutting speed must be properly adjusted considering the thickness of the pipe.
- 5.1.6 Keep the work area clear of all flammable material.
- 5.1.7 Always wear safety glasses when removing slag, grinding dust and other debris from the work area
- 5.1.8 Make sure the Maxi Jolli Chain Machine, torch, regulators and hose are properly maintained.
- 5.1.9 During the cutting process, all the personnel not associated with the cutting process must stay at a safe distance.

**IN ADDITION OF THE ABOVE PROCEDURES, ALL SHOP, NATIONAL AND MANUFACTURER'S SAFETY INSTRUCTIONS CONCERNING FLAME CUTTING SYSTEM SHOULD BE FOLLOWED. ALL CUTTING OPERATIONS SHOULD BE CONDUCTED IN THE BEST OF SAFETY CONDITIONS**

## **6.0 – CONDITIONS OF USE**

### **6.1 RECOMMENDATIONS FOR USE**

- 6.1.1 The Maxi Jolli Chain Machine is designed rotate a plasma or oxy/fuel gas torch around ferrous and nonferrous pipe having a minimum nominal pipe diameter of 4" (102mm).
- 6.1.2 It is not recommended to fit the guide strip and the drive chain on heavily crushed pipe or pipe having weld seam in excess of 3/8" (9.5mm) in order to avoid disfigurement of the guide strip and overloading of the drive chain.
- 6.1.3 Cutting of vertical pipe should not be attempted without the use the guide strip.

***Cutting of vertical pipe should not be attempted without the use the Maxi Guide Strip.***

## **7.0. - MAINTENANCE**

### **7.1 ROUTINE MAINTENANCE**

- 7.1.1 Routine maintenance should be planned in advance to avoid down time.
- 7.1.2 If the machine is in constant use, the period between routine maintenance checks should be shortened.
- 7.1.3 Check the machine to make sure it has not been dropped. If the machine has been dropped it should thoroughly check prior to using it for a cutting process.
- 7.1.4 Replace all worn parts during the routine maintenance inspection.
- 7.1.5 Maintain the gas torch and the oxygen and gas regulators per the manufacturer's instructions.
- 7.1.6 Check daily the oxygen and gas hoses for burns and abrasions.
- 7.1.7 Oxygen and gas bottles should be checked in accordance to the safety standard.

### **7.2 Extraordinary Maintenance**

The machine doesn't require specific maintenance under normal conditions. Please contact **Mathey Dearman Inc.**, for assistance and suggestions to obtain best machine performance prior to disassembly of cutting machine. Please inform manufacturer for any problems that occur or any suggestions to improve the performances of the machine. Your suggestions will aid in updating future machines.

**Table 4 - Maxi Jolli Chain Machine Trouble Shooting Guide**

Symptom	Probable Cause	Corrective Action
<b>Manual and Motorized Chain Machine</b>		
Machine slips on the pipe	1. Drive Chain (Figure 5 Item 21) is too long.	1. Shorten Chain as necessary.
	2. Pipe surface is too smooth.	2. Rough up surface of pipe.
	3. Weld bead is too tall.	3. Grind weld bead flush with pipe surface.
	4. Inadequate chain tension	4. Shorten Chain as needed.
	5. Weld seam was not ground flush causing inadequate chain tension	5. Grind weld seam smooth with surface of pipe.
Machine is cutting the pipe out of square	1. The Machine has not been taken one (1) full turn around the pipe prior to cutting.	1. When the machine is used without Guide Strip, rotate the machine 1 full rotation around the pipe prior to cutting the pipe.
	2. A Guide Strip was not used to cutting pipe larger than 18”.	2. Install the Guide Strip on pipe.
	3. A Guide Strip was not used when cutting spiral weld pipe.	3. Install the Guide Strip on pipe.
	4. A Guide Strip was not used when cutting pipe on a angle.	4. Install the Guide Strip on pipe.
	5. A Guide Strip was not used when cutting vertical pipe.	5. Install the Guide Strip on pipe.
	6. A large plasma torch is being used with the machine.	6. Install the Guide Strip on pipe.
	7. There is too much play between Rack Holder (12) and Sliding Support (14)	7. Tighten Screws in Sliding Support.
	8. The Tracer Point (13C) does not make contact with the pipe during machine’s rotation around the pipe.	8. Adjust the Tracer Point so that it makes contact the pipe through the machines’ entire rotation.
<b>Motorized Machines Only</b>		
Machine does not operate in forward or reverse	1. No voltage at Power Source.	1. Restore power at source.
	2. Fuse is blown	2. Replace Fuse.
	3. Connection between Motor Control Box and machine is loose or disconnected.	3. Reconnect wiring
	4. Set Screw (22C) in Coupling Sleeve (22A) is not engaged on the flat of the shaft of worm screw (3E).	4. Make sure Set Screw is above flat on Motor Shaft and tighten
	5. Set Screw (22C) in Coupling Sleeve (22A) has backed off and is making contact with the bore of the motor adaptor (22)	5. Tighten the Set Screw (22C ) in Coupling Sleeve (22A or 22A1). Make sure Set Screw is on the flat of the shaft of worm screw (3E).
Machine will not climb uphill when cutting thick wall pipe	1. Motor is operating below its curve power.	1. Use a cutting tip 1 to 2 sizes larger

## 8.0 - WARRANTY

### 8.1 – GENERAL CONDITIONS

#### *Mathey Dearman, Inc. Warranty and Terms and Conditions of Sale*

**LIMITED WARRANTY** Subject to the provisions contained herein, if any merchandise sold hereunder (except merchandise manufactured by other persons or firms) by Mathey Dearman, Inc. ("Mathey Dearman"), (either as the seller of the merchandise sometimes referred to herein as the "Company") is not in accordance with specifications shown on the order within customarily accepted tolerances, or is defective on account of workmanship or material, and if such merchandise is returned at the customer's expense and risk, to the Company's manufacturing facility (or at the Company's option, is returned to a repair facility authorized by the Company), within one (1) year after the Company's date of shipment thereof (the "Warranty Period"), the Company will, at its option, replace or repair the merchandise. This warranty, however, is subject to the conditions: (A) that the customer promptly notifies the Company in writing of any claim under this agreement, setting forth in detail any such claimed defect, and (B) That the Company be afforded a reasonable opportunity to examine the merchandise and to investigate and verify the claimed defect at the Company's manufacturing facility or at an authorized repair facility. The Company shall not be, in any event, liable for damages beyond the price paid by the customer for such defective merchandise. THE COMPANY SHALL NOT BE LIABLE TO CUSTOMER UNDER ANY THEORY OR CIRCUMSTANCES FOR CONSEQUENTIAL, INCIDENTAL, INDIRECT, PUNITIVE, OR EXEMPLARY DAMAGES. This agreement does not obligate the Company to bear any transportation charges in connection with the replacement or the repair of defective merchandise. As to any item manufactured by other persons or firms, the Company agrees to present a request for adjustment for repair to such manufacturer, and the customer agrees that the liability of the Company shall not exceed any adjustment with respect to which such manufacturer accepts responsibility. **THE ABOVE AGREEMENT IS IN LIEU OF ALL WARRANTIES, EXPRESSED OR IMPLIED AND IT IS AGREED THAT THERE IS NO EXPRESSED OR IMPLIED WARRANTY BY THE COMPANY AS TO THE MERCHANDISE'S FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, CAPACITY, OR EFFICIENCY AND THAT THERE ARE NO ORAL OR WRITTEN EXPRESSED OR IMPLIED WARRANTIES MADE IN CONNECTION WITH ANY SALE BY THE COMPANY OTHER THAN AS EXPRESSED HEREIN.** No modification or addition to this agreement, either before or after the contract of sale, shall be made except on written authority of the President or Vice President of the Company.

The Company shall have no liability for warranty claims if the merchandise has been abused, misused, vandalized, or operated beyond its specifications after delivery. Further, the Company shall also have no liability for Warranty Claims if the merchandise is from the Company's CGM Pipe Cutting and Beveling product line and has been used in any manner not in compliance with the "Conditions of Use", as applicable.

### 8.2 - LIMITATIONS

**Mathey Dearman Inc. is not responsible for the following:**

- Improper use of the machine.
- Use against the national and/or international regulation in force.
- Improper or wrong connection.
- Improper maintenance.
- Unauthorized modifications and/or services.
- Use of non-original spare parts or specific components not called for in this operating Manual.
- Failure to observe the operating instruction.
- Unusual events such as natural disasters.



## 9.0- NOT RECOMMENDED FOR USES

- Maxi Jolli Chain Machine is specially designed to cut and bevel pipes.
- Never to be used in presence of gas or inflammable liquid or solid.
- All obstacles must be removed before operation to insure proper clearance around the pipe.
- Flame torch must not be positioned in direction to the operator or other people.
- Never use torch with inappropriate gas.
- For proper use of Torch and Tip refer to the specific Manual for proper use.
- Switch off the cutting machine and torch prior to machine maintenance.

## 10 – STORAGE

### 10.1 - General information

- Lubricate all moving parts of the Maxi Jolli Chain Machine with a light coat of oil.
- Store the machine in a clean, dry, and safe environment.
- Store the machine in the Maxi Jolli Chain Machine storage box if the machine will not be used for an extended period of time.

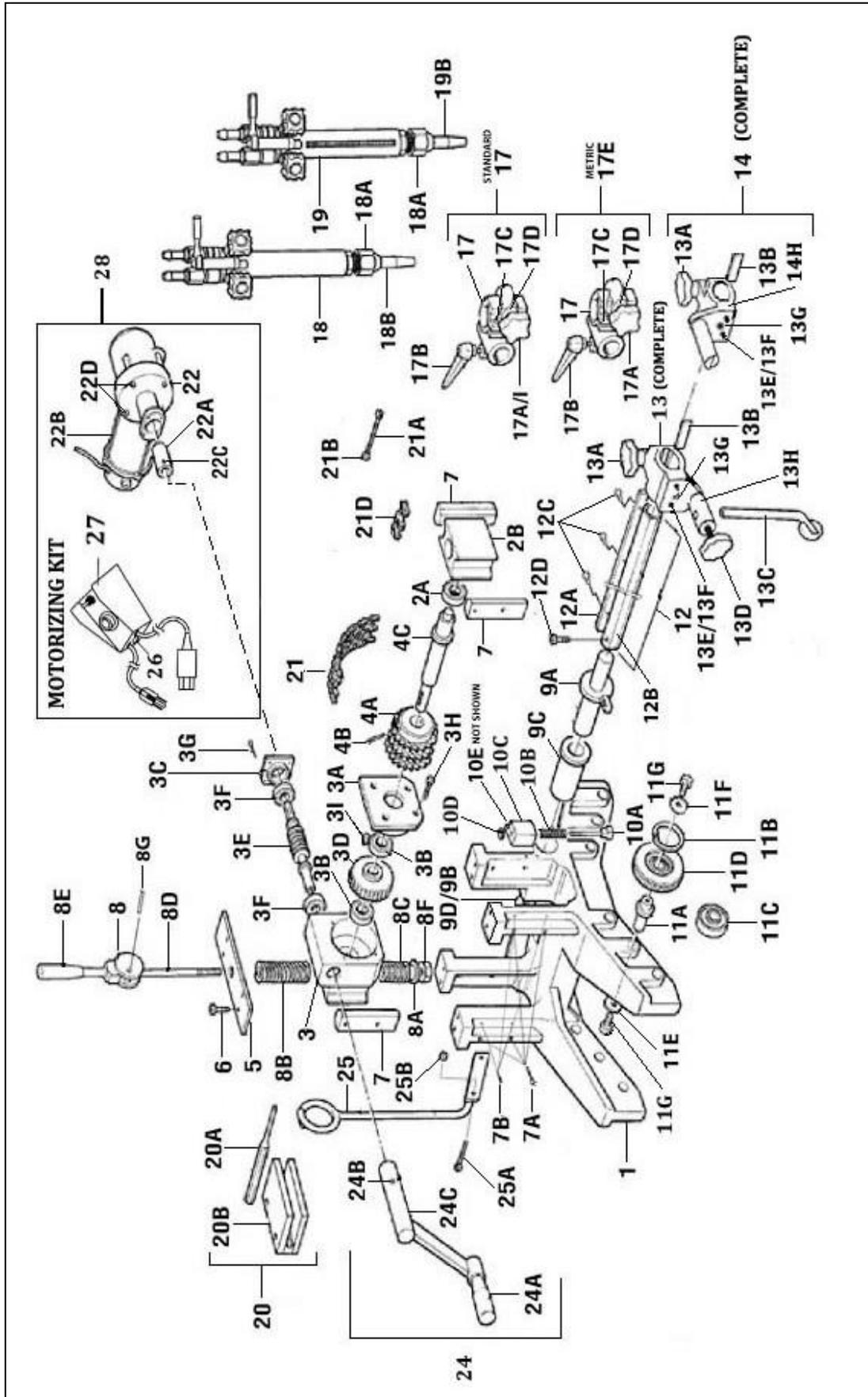
## 11.0 – RECYCLING OF COMPONENTS

### 11.1 - Separation of the components

- Separate the components by category for a possible re-use or separate waste.
- Reference local regulations concerning disposal of components.
- The components of MAXI JOLLI CHAIN MACHINE are:

Stainless steel	Columns, wheels, floating device, worm-crew bolts, toothed rim, shaft, spring.
Aluminium	Main body unit, "U" body unit, torch holder.
Brass	Sprocket, torch holder support, slide.
Plastic	Crank, knob, handle.

Figure 5 - Exploded Parts Drawing of the Maxi Jolli Chain Machine



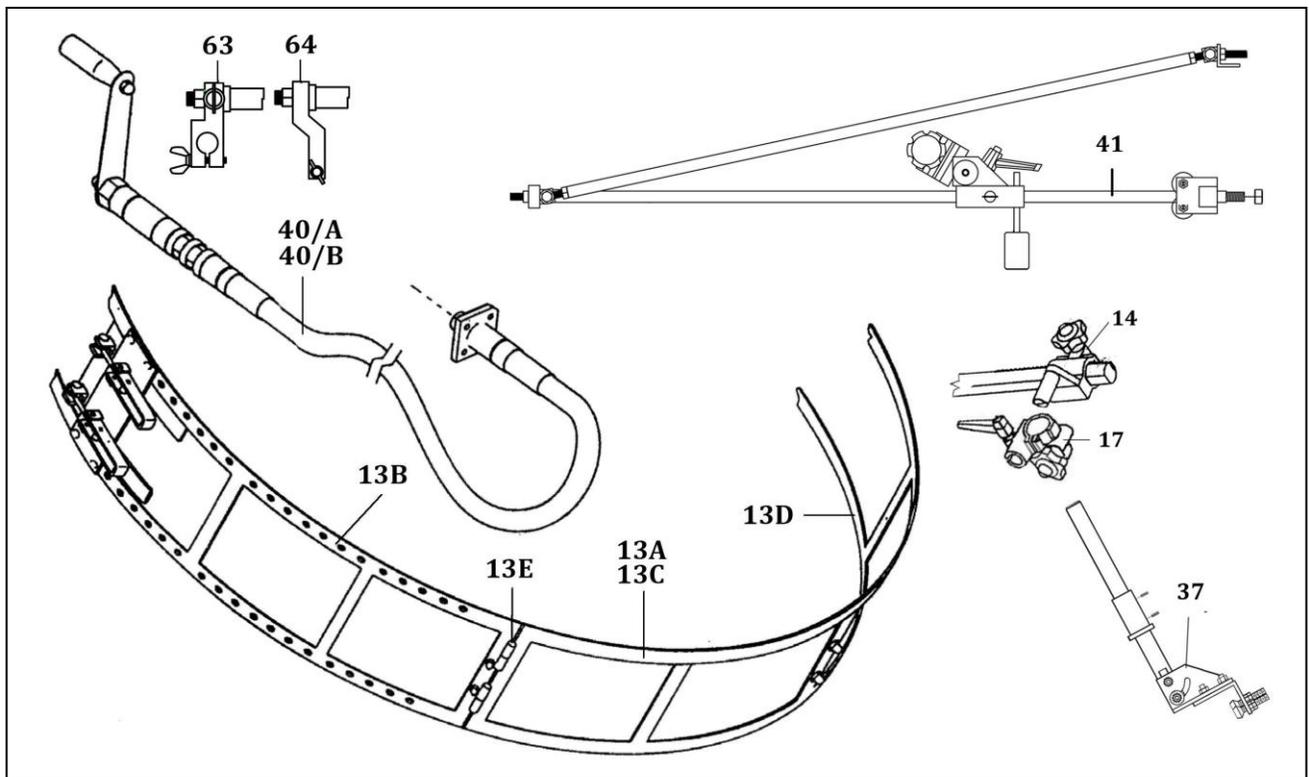
**Table 5 - Maxi Jolli Chain Machine Parts LIST**

ITEM	DESCRIPTION	PART NUMBER	ITEM	DESCRIPTION	PART NUMBER
1	Aluminum Main Body	05-0510-101	11D	Wheel	05-0510-111D
2B	Double Sliding Block	05-0510-102B	11E	Washer, 8MM	05-0510-111E
2A	Bearing	05-0510-111C	11F	Washer, 6MM	05-0510-111F
3	Black, Worm Gear Housing	05-0510-103	11G	Socket Head Screw, M6 x 10	05-0510-111G
3A	Flange	05-0510-103A	12	Torch arm with Bronze Rack	05-0510-112
3B	Bearing (2)	05-0510-103B	12A	Bronze Rack	05-0510-112A
3C	Flange, Worm Gear Housing (2)	05-0510-103C	12C	Socket Head Flat Screw, M3 x 6	05-0510-112C
3D	Bronze Toothed Rim	05-0510-103D	12D	Socket Head Cap Screw, M6 x 10	05-0510-111G
3E	Worm Screw	05-0510-103E	13	Sliding Support, Tracer Point (Complete)	05-0510-113
3F	Bearing (2)	05-0510-103F	13A	Knob with Metric Pinion	05-0510-113A
3G	Socket Head Cap Screw, M4 x12	05-0510-103G		Knob	05-0510-113J
3H	Socket Head Flat Screw, M4 x 12	05-0510-103H		Metric Pinion	05-0510-113F
3I	Key, Bronze Toothed Rim	05-0510-103I		Spring Pin, 4mm x 23mm	05-0510-113L
4A	Sprocket	05-0510-104A	13B	Brass Slide	05-0510-113B
4B	Locking Pin, Pinion 4 x 50mm	05-0510-104B	13C	Tracer Point	05-0510-113C
4C	Pinion Holder Shaft	05-0510-104C	13D	Handle, Tracer Point Locking	05-0510-113D
5	Upper Locking Plate	05-0510-105	13E	Socket Set Screw, M6 x 25	05-0510-113E
7	Bronze Ram	05-0510-107	13F	Hex Nut, M6	05-0510-113F
7A	Socket Set Screw, M5 x 40 (8)	05-0510-107A	13H	Tracer Point Sliding Support	05-0510-113H
7B	Socket Set Screw, M5 x 16 (8)	05-0510-107B	13G	Socket Set Screw, M10 x 16	05-0510-113G
8	Can Mechanism	05-0510-108	13J	Knob	05-0510-113J
8A	Washer, M10 (2)	05-0510-108A	14	Sliding Support (complete)	05-0510-114
8B	Upper Spring	05-0510-108B	14H	Sliding Support Housing	05-0510-114H
8C	Lower Spring (2)	05-0510-108C	17	Torch Holder Support with 32 Pitch Rack (Complete)	05-0510-117
8D	Traction Pin (2)	05-0510-108D	17E	Torch Holder Support with Metric Rack (Complete)	05-0510-117E
8E	Handle (2)	05-0510-108E	17A	Knob with Metric Gear	05-0510-117A
8F	Lock Nut, M10	05-0510-108F	17A/1	Knob with 32 Pitch Gear	05-0510-113A
8G	Pin, 8mm Dia. x 30mm	05-0510-108G	17B	Locking Knob	05-0510-117B
9A	Pin, Floating Device Holder	05-0510-109A	17C	Allen Head Cap Screw, M5 x 20	05-0510-117C
9B	Washer Pin Locking	05-0510-109B	17D	Allen Head Set Screw, M4 x 8	05-0510-117D
9C	Bronze Bushing, Floating Device	05-0510-109C	18	Cutting Torch less Rack	05-0300-005
9D	Socket Head Cap Screw, M8 x 16	05-0510-009D	18A	Locking Nut for Tip	05-0300-110
10A	Spring Guide, Pressure Control	05-0510-110A	18B	Tip, Cutting Torch	See Chart.
10B	Spring	05-0510-110B	19	Cutting Torch with Rack	05-0300-008
10C	Spring Housing	05-0510-110C	19B	Tip Cutting Torch	See Chart.
10D	Knob, Pressure Control	05-0510-110D	20	Chain Pin Extractor Block with Pin Extractor	05-0510-009
10E	Socket Head Cap Screw, M4 x 12	05-0510-110E	20A	Pin Extractor	05-0510-120
11	Wheel Complete (Complete)	05-0510-111	20B	Chain Pin Extractor Block	05-0510-120A
11A	Axle (includes 11G & 11E)	05-0510-111A	21	1/2" - Three Mesh Chain	05-0510-005E
11B	Snap Ring, (4)	05-0510-111B			
11C	Bearing, (4)	05-0510-101C			

**Table 5 - Maxi Jolli Chain Machine Parts List**

ITEM	DESCRIPTION	PART NUMBER	ITEM	DESCRIPTION	PART NUMBER
21A	Chain Coupling Bolt	05-0510-071	24B	Allen Head Set Screw, M6 x 8	05-0510-112C
21B	Chain Coupling Nut	05-0510-062	24C	Crank Arm	05-0510-124C
22	Motor Adaptor	05-0510-014	25	Hose Support	05-0510-125
22A	Motor Coupling	05-0510-015	25A	Bolt, M4 x 20	05-0510-125A
22B	Right Angle Drive Motor	03-0201-056	25B	Hex Nut, M4	05-0510-113F
22C	Screw, Socket 1/4" - 20 x 1/4" lg.	19.14C0.014	26	Fuse, 3 Ampere Time Delay	05-0550-038
22D	Socket Head Screw, 8-32 x 1"	11-08C0-100	27	230vac Motor Control Box	03-0203-006
24	Crank Handle Assembly, Complete	05-0510-124	28	230vac Motorizing Kit	05-0510-A07
24A	Revolving Handle	05-0510-124A			

**Figure 6 - Accessories**



**Table 7 – ACCESSORIES PARTS LIST**

<b>Item</b>	<b>DESCRIPTION</b>	<b>PART NUMBER</b>
14	Sliding Support	05-0510-114
17	Torch Holder with 32 Pitch Gear	05-0510-117
37	Grind Adaptor for US Grinder	05-0510-148
39/A	Guide Strip Head Section	05-0510-13B
39/B	Guide Strip Tail Section	05-0510-013D
39/C	Guide Strip Short Center Section	03-0510-013C
39/D	Guide Strip Long Center Section	05-0510-013A
39/E	Guide Strip Fastening Pin	05-0510-013E
40/A	9 Foot Flexible Drive Cable	05-0510-FDC
40/B	14 Foot Flexible Drive Cable	19-14C0-FD14
41	Contour Cutting Attachment	05-0510-126SS
63	Torch Elevation Adaptor for Customer torch Holder	05-0510-302
64	Torch Elevation Adaptor (Elevates Torch)	05-0510-301

**Table 8 – CHAIN KITS**

DESCRIPTION	WHEEL POSITION	PART NUMBER	NET WEIGHT LBS/KG
Chain Block with Pin Driver	--	05-0510-009	3 / 1.4
Chain Kit for 4" Pipe	1	01-0510-004	3 / 1.4
Chain Kit for 6" Pipe	2	01-0510-006	4 / 2
Chain Kit for 8" Pipe	2	01-0510-008	5 / 2.3
Chain Kit for 10" Pipe	2	01-0510-010	5 / 2.3
Chain Kit for 12" Pipe	2	01-0510-012	6 / 2.7
Chain Kit for 16" Pipe	2	01-0510-016	7 / 3
Chain Kit for 18" Pipe	2	01-0510-018	8 / 3.6
Chain Kit for 20" Pipe	2	01-0510-020	8 / 3.6
Chain Kit for 24" Pipe	2	01-0510-024	10 / 4.5
Chain Kit for 28" Pipe	2	01-0510-028	11 / 5
Chain Kit for 30" Pipe	2	01-0510-030	12 / 5.4
Chain Kit for 32" Pipe	2	01-0510-032	13 / 5.9
Chain Kit for 38" Pipe	2	01-0510-038	15 / 6.8
Chain Kit for 40" Pipe	3	01-0510-040	15 / 6.8
Chain Kit for 42" Pipe	3	01-0510-042	16 / 7.3
Chain Kit for 48" Pipe	3	01-0510-048	18 / 8.2
Chain Kit for 52" Pipe	3	01-0510-052	18 / 8.2
Chain Kit for 60" Pipe	3	01-0510-60	22 / 10

Figure 8 – Motor Control Box Schematic

