



**ATEX APPROVED**

**AIR SAWS FOR THE PROFESSIONAL**



**JSM**

*operating instructions*



## EC Declaration of Conformity

Cengar. Ltd.  
70, Lister Lane, Halifax  
England HX1 5DN

We the undersigned, declare under our sole responsibility that the following apparatus: -

Machine description: Cengar Air Saw  
Machine Type: JSM

Is in conformity with the following relevant EC legislation:

Machinery Directive 2006/42/EC  
Atex Directive 94/ 9/EC

Based on the following Harmonised Standards:

EN13463-1:2001

And therefore complies with the essential requirements of those directives.

Additional Information:

ATEX Coding II 2G T5 I M2  
Certificate No. TRL08ATEX21175X  
Technical File No. CEEX-0803

Authorised Signature:

Date:

Title of Signatory:

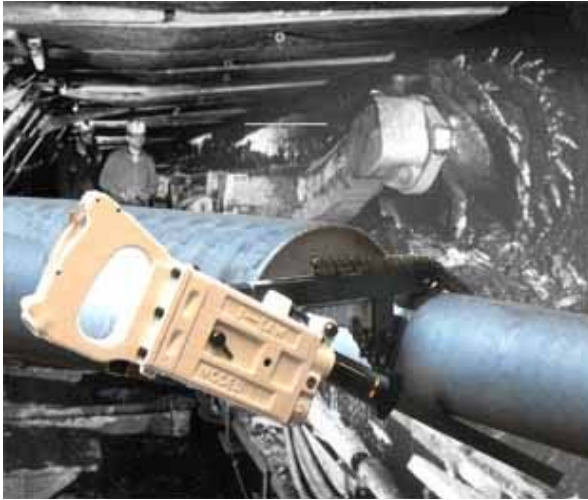
17/11/08

General Manager - Cengar Ltd.

A handwritten signature in black ink, appearing to read 'Ray J. [unclear]', is positioned above the 'Authorised Signature' label.

# Cengar Air Saw Model JSM

We recommend normal safe working practices should be followed as per the Health and Safety at Work Act, or the appropriate National and State Laws. We recommend that eye protection be worn when using Cengar Saws



## SPECIFICATIONS

Speed	400/600 strokes per minute
Stroke	57 mm
Air Consumption	0.168m <sup>3</sup> /minute
Air Pressure	5-6 Bar
Weight	6.9 Kgs.
Length	448 mm.
Height	141 mm.
Width	54 mm.
Vibration Level averaged	1.38 m/s <sup>2</sup>
Sound Pressure Level	80.5 db.
Sound Power Level	89.9 db.
Atex Certification	II 2G T5 I M2

## CENGAR SAWS

are hand held reciprocating saws designed to cut metals and plastics in production environments and can be used in Atex zoned areas where appropriate. They should only be used by trained operators who are responsible for the safety of themselves and others in the vicinity. Saw blades are capable of causing serious injury

Think safe

Act safe

Be safe

## LUBRICATION

Use Cengar Green Oil with longer lasting coating properties for best results. Cengar Green Oil is specially prepared to: -

- 1 Emulsify the water generally found in compressed air lines.
- 2 Give perfect mist lubrication.
- 3 Remain fluid at the low working temperature of compressed air tools.
- 4 Contains corrosion and oxidation inhibitors.

Incorrect oils if used will soon “break down” forming a sludge which will slow and eventually stop the action of the saw. See maintenance details.

## INSTALLATION OF BLADES.

Before attempting to insert or change a blade, ensure that the air supply is isolated by disconnecting the air line. Loosen the retaining grub screws with the key provided, insert blade through nosepiece so that the teeth are cutting on the pull stroke.

Locate the back screw in the hole in the end of the blade, for a positive drive, the front screw can then be tightened to grip the blade firmly.

## BLADES

Cengar “Shatterproof” Bi-Metal blades are specially prepared for use with Cengar saws, to withstand the high operating speeds, and give maximum cutting life.

Choose the teeth per inch to suit the characteristics of the material being cut.

Choose pitch to ensure that at least 3 or 4 teeth are cutting at the same time.

**Always remove the saw from the airline before commencing any maintenance work.**

**Only fit genuine Cengar parts and accessories, or safety may be**

## **OPERATING THE SAW**

We recommend that eye protection be worn, and normal safe working practices observed as per the Health and Safety at work act, and the appropriate National and State Laws.

The JSM should be used in conjunction with the pipe clamp where possible.

Connect the air supply, rest the blade on the material to be cut with the nosepiece firmly abutted to the work piece, with forward hand pressure, to prevent judder. Allow the Cengar Saw to cut under its own weight, with just a slight downward hand pressure to keep the teeth engaged in the cut. It is not necessary to put excessive downward pressure on the saw, this only accelerates blade wear, and prevents the saw from operating efficiently. Normal airline pressure of 5 to 6 Bar is required , any higher pressure only accelerates internal wear of the machine.

## **USE IN HAZARDOUS AREAS**

We strongly advise that the contact area of the blade on the work piece be quenched with coolant or water during cutting to dissipate any heat which may be created by the cutting process.

Anti-static conductive air hose must be used, with adequate earth bond continuity (resistance below 1 ohm), to ground any electrostatic charges.

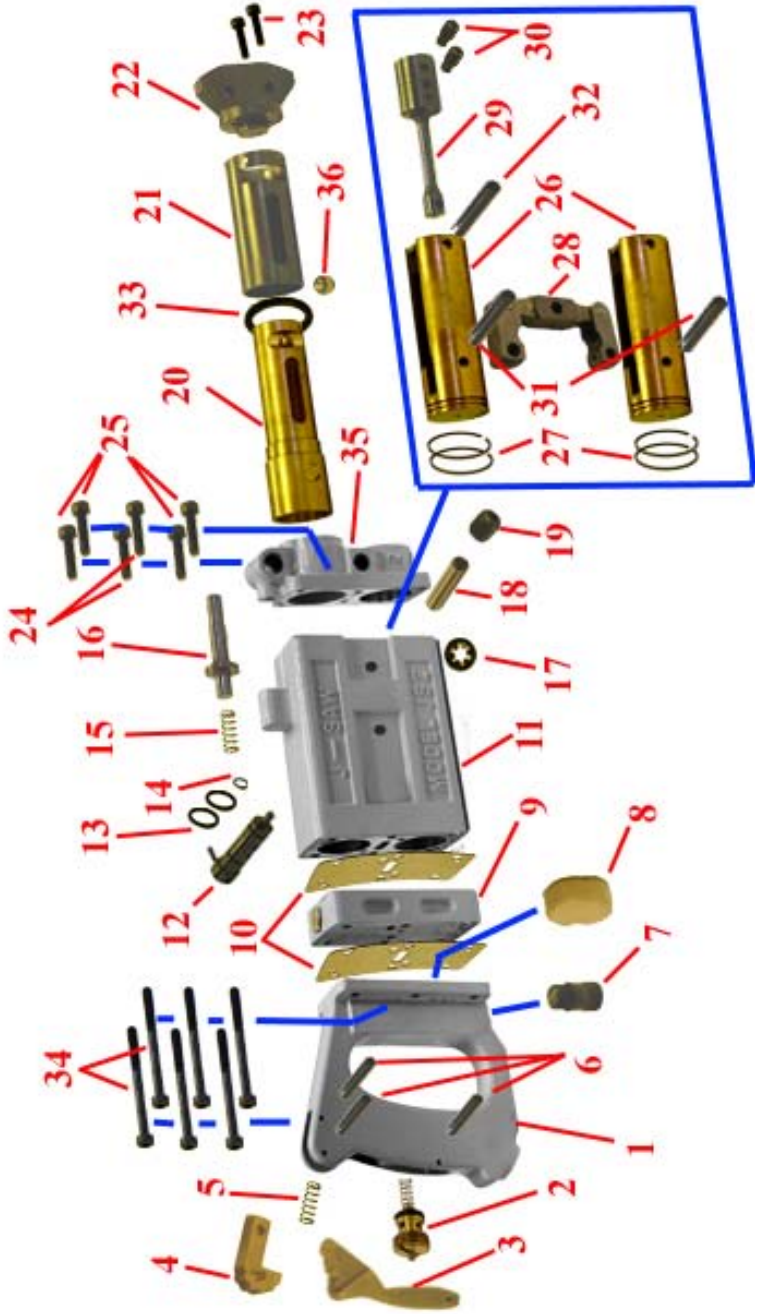
## **MAINTENANCE AND GENERAL HINTS**

Always ensure sufficient oil in the tool, especially when the saw is in constant use.

The valve unit part no. 8308ZA is a vital component manufactured to close tolerances, and will not tolerate abusive treatment. Lubrication is essential. Any neglect will seriously affect performance of the saw, causing the saw to stall intermittently, or stop completely.

Very little maintenance is required if the correct oil is used, but incorrect oil will soon breakdown into sludge, slowing down the action of the saw, necessitating its removal by use of Cengar M.S. Cleaner. It is imperative that the saw is re-oiled immediately after cleaning, with Cengar Green Oil.

# JSM Exploded View



Item	Part No.	Description	Number Per Tool	Item	Part No.	Description	Number Per tool
<b>1</b>	<b>8301M</b>	<b>Handle ZA12</b>	<b>1</b>	<b>19</b>	<b>8313</b>	<b>Screw for above</b>	<b>1</b>
<b>2</b>	<b>50034</b>	<b>Valve in Handle</b>	<b>1</b>	<b>20</b>	<b>8319</b>	<b>Conn. Rod Guide</b>	<b>1</b>
<b>3</b>	<b>8303</b>	<b>Trigger &amp; Catch</b>	<b>1</b>	<b>21</b>	<b>8320</b>	<b>Silencer Guard</b>	<b>1</b>
			<b>1</b>	<b>22</b>	<b>8324</b>	<b>Nosepiece</b>	<b>1</b>
<b>5</b>	<b>9334A</b>	<b>Spring</b>	<b>1</b>	<b>23</b>	<b>54160</b>	<b>Screws—nosepiece</b>	<b>2</b>
<b>6</b>	<b>51834</b>	<b>Pins for trigger</b>	<b>3</b>	<b>24</b>	<b>54034</b>	<b>Screws</b>	<b>2</b>
<b>7</b>	<b>8306</b>	<b>Oil Plug &amp; Seal</b>	<b>1</b>	<b>25</b>	<b>53034</b>	<b>Screws</b>	<b>4</b>
<b>8</b>	<b>8307F</b>	<b>Filter</b>	<b>1</b>	<b>26</b>	<b>8310</b>	<b>Piston</b>	<b>2</b>
<b>9</b>	<b>8308M</b>	<b>Valve Unit Complete</b>	<b>1</b>	<b>27</b>	<b>8310LS</b>	<b>Piston Seal</b>	<b>2</b>
<b>10</b>	<b>8307</b>	<b>Gasket</b>	<b>2</b>	<b>28</b>	<b>8312</b>	<b>Ling to Pistons</b>	<b>1</b>
<b>11</b>	<b>8309M</b>	<b>Body</b>	<b>1</b>	<b>29</b>	<b>8318</b>	<b>Connecting Rod</b>	<b>1</b>
<b>12</b>	<b>8314</b>	<b>Speed Regulator</b>	<b>1</b>	<b>30</b>	<b>55516</b>	<b>Blade Grip Screws</b>	<b>2</b>
<b>13</b>	<b>5012</b>	<b>‘O’ Ring</b>	<b>2</b>	<b>31</b>	<b>51114</b>	<b>Pins to Piston</b>	<b>2</b>
<b>14</b>	<b>5006</b>	<b>‘O’ Ring</b>	<b>1</b>	<b>32</b>	<b>51114</b>	<b>Pin to Conn Rod</b>	<b>1</b>
<b>15</b>	<b>8315A</b>	<b>Spring</b>	<b>1</b>	<b>33</b>	<b>0291</b>	<b>‘O’ Ring</b>	<b>1</b>
<b>16</b>	<b>8315</b>	<b>Clamp Securing Pin</b>	<b>1</b>	<b>34</b>	<b>54134</b>	<b>Screws—Handle</b>	<b>6</b>
<b>17</b>	<b>8314C</b>	<b>Regulator retainer</b>	<b>1</b>	<b>35</b>	<b>8316M</b>	<b>Front end Bracket</b>	<b>1</b>
<b>18</b>	<b>55161</b>	<b>Centre Shaft</b>	<b>1</b>	<b>36</b>	<b>9332C</b>	<b>Détente Ball</b>	<b>1</b>

## **IF THE SAW DOES NOT OPERATE**

- 1 Check that the air supply is switched on.
- 2 Check air supply is correct.
- 3 Valve in handle (part no. 50034) could be worn and/or the seal is broken, blocking an air passage. Check and replace if necessary.
- 4 Valve unit (Part No. 8308) may be stuck. **IT IS IMPERATIVE TO REMOVE THE SAW FROM THE AIRLINE BEFORE COMMENCING THIS CHECK.** Remove the two hexagonal nuts, push out valve piston with a pencil, keeping note which end is top. Clean with oil only, NEVER USE ABRASIVE. Clean valve bore with oil, re-fit piston from top, keeping the seal at the top end. Tighten nuts and reconnect saw to air supply.

## **REPLACEMENT OF PISTON SEALS**

- 1 Each seal consists of two rings, replacements must be fitted as follows: -
- 2 Place the elastic ring in the centre of the piston groove, ensuring it is not twisted
- 3 Fit the Stiffer sealing ring on top of the elastic ring, Use some green oil to ease its passage over the piston.
- 4 Fit the pistons into the bores using a ring compressor, with a coating of Cengar Green oil, and ensure they slide smoothly over the full travel range.

## **PIPE CUTTING WITH THE JSM**

1. Fit the post into the appropriate side of the clamp, the cut line will be 50mm (2") away from the nearest side face of the foot.
2. Position the clamp on the pipe, with the chain around, and tighten with spanner provided. Ensure that the clamp is perpendicular to pipe for a square cut. (Fig.1)

**Fig. 1**



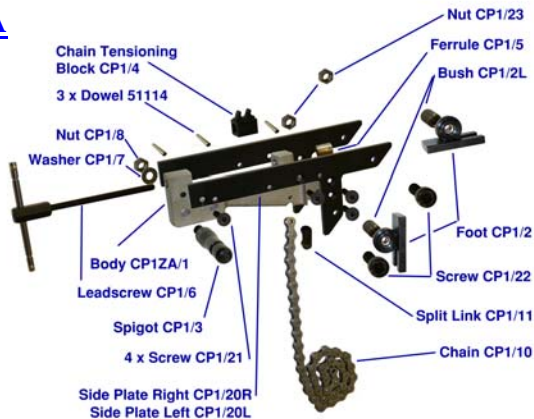


3. Fit the desired saw blade with the teeth uppermost
4. Mount the machine on to the post of the clamp, by pulling back the plunger on the top of the saw, and sliding onto the post until the plunger snaps back. Ensure the machine has locked on properly.
5. When mounted correctly, the blade should be under the pipe, such that the weight of the machine applies the cutting force to the blade. (Fig.2)
6. Start the machine, locking on the trigger, and gently bring the blade into contact with the work, gradually release the weight of the machine and allow the cut to take place without extra force.
7. If using a long blade for larger diameter pipes, the bow guide supplied can be used to ensure a straight cut is achieved. Once the blade has entered into the work enough to self support, the bow guide is no longer needed. (Fig.2)

**Fig. 2**



**Clamp CP 1ZA**  
**Spares**



## **NEVER**

- 1 **NEVER** fit breakable “All-Hard” blades in Cengar saws, these can shatter causing injury to yourself and others.
- 2 **NEVER** operate saw without wearing safety glasses
- 3 **NEVER** operate saw whilst you, or others are near the saw blade, which can cause serious injury or trapping
- 4 **NEVER** use excessive force, this may increase vibration above safe levels
- 5 **NEVER** hold the Cengar saw in a vice by the body, this will distort the bores, rendering the tool inoperative.
- 6 **NEVER** screw nameplates to the body, as the screws may penetrate an airway or bore.
- 7 **NEVER** operate the Cengar saw without lubrication.
- 8 **NEVER** be tempted to clean internal parts with anything other than a clean lint free cloth, and M.S. Cleaner, or Cengar Green oil.
- 9 **NEVER** modify Cengar saws or use non Cengar parts, this will invalidate ATEX approval, and warranty.

## **ALWAYS**

- 1 **ALWAYS** use Cengar green oil for best results. Keeping the saw clean and well oiled will give excellent reliability, and a long life.
- 2 **ALWAYS** use Cengar Bi-Metal Shatterproof blades, for safety, and best cutting performance
- 3 **ALWAYS** isolate the air supply when changing blades.
- 4 **ALWAYS** wear eye protection when using sawing machines.
- 5 **ALWAYS** keep the nosepiece abutted to the work to prevent excessive vibration
- 6 **ALWAYS** isolate the machine when not in use
- 7 **ALWAYS** keep others away from the saw blade to prevent injury or trapping
- 8 **ALWAYS** have machines vibration tested annually to ensure exposure is kept to the minimum

## ACCESSORIES

### Saw Blades



MJ 300      300 mm long x 25 mm blade, pitches 6, 8, 10, & 14  
MJ 450      450 mm long x 25 mm blade, pitches 6, 8, 10, & 14

Other types available on request

### Cengar Green Oil



GO 9107P      Cengar Green Oil 250 ml plastic bottles for all air tools  
GO 9109      As above in 5 litre container  
GO 9110      As above in 25 litre container

### M.S. Cleaner

MS 9105      1 litre General purpose cleaning fluid for air tools.  
MS 9125      50 ml. In a dropper bottle. - Enough for 10 tools  
**Always use plenty of Cengar green oil afterwards.**



### Pipe Clamp

CP 1ZA      Clamp to mount saw to sections

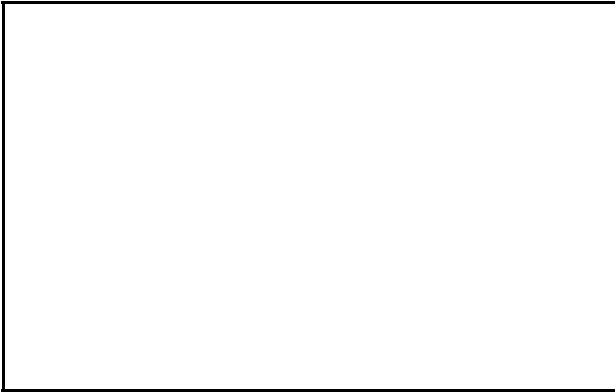
### Bow Guide

CP 2      Bow Guide assembly to keep longer blades in line

## SERVICE

We offer a full factory repair and refurbishment service for Cengar Saws, - normally within 5 working days. Quotations at no charge can be given before work is carried out.

## DISTRIBUTOR ADDRESS



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