



Instruction Manual

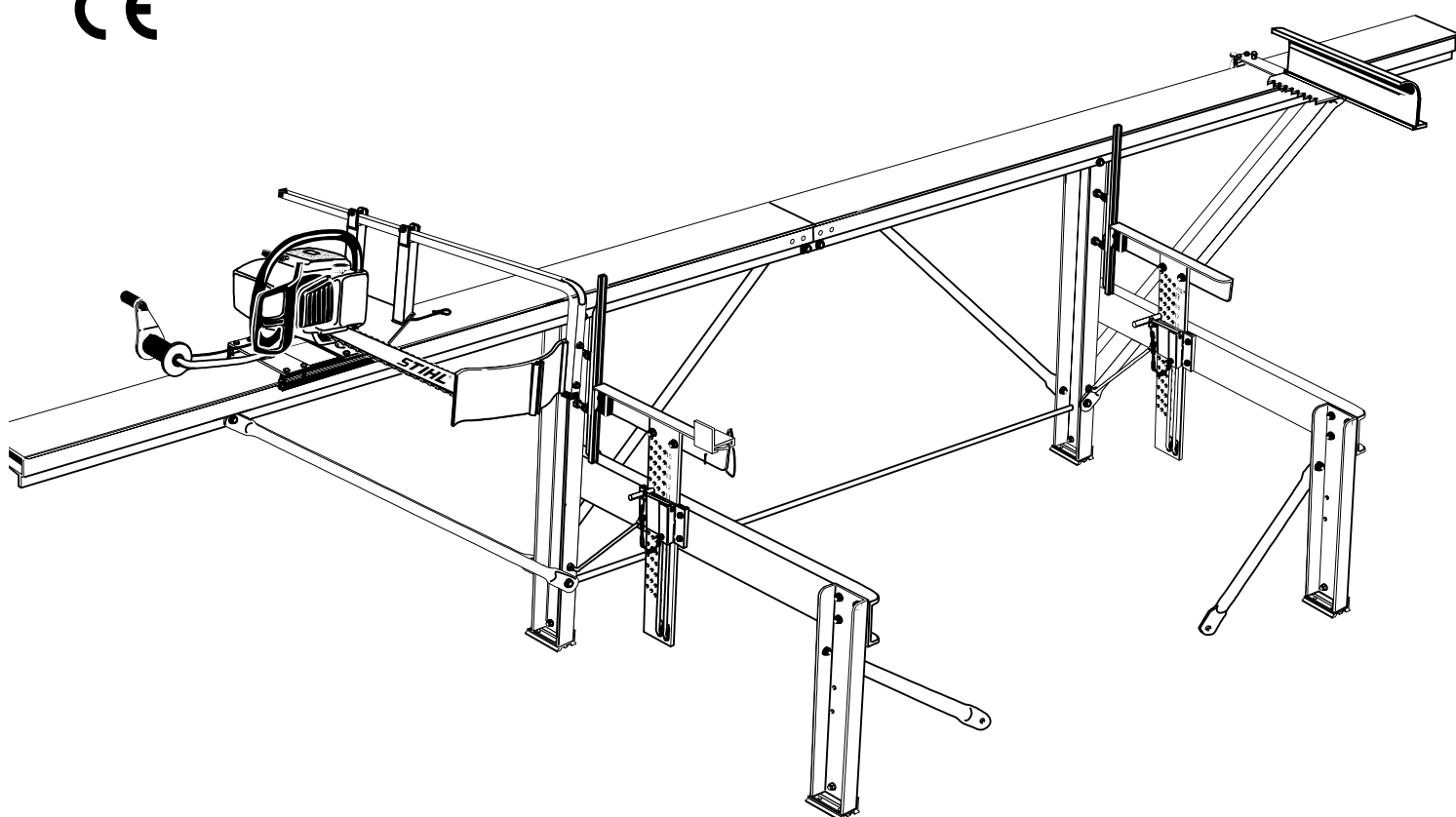
Owner's Manual

Assembling

Safety Precautions

Operating Instructions

Maintenance



BA001_2009

Warning:
Always follow safety precautions in
Owner's Manual - improper use can
cause serious injury !

| Contents | Page |
|--|-------------|
| For your safety | 4 |
| Part names | 6 |
| Overview | 7 |
| Assembly Instructions | 8 |
| Package Contents | 8 |
| Tools required | 8 |
| Assembling the guide rail | 9 |
| Assembling the long legs | 10 |
| Mounting the struts | 11 |
| Fitting the short legs and the crossmember | 12 |
| Mounting the log fence | 13 |
| Fitting the log-raising device | 14 |
| Mounting the short strut | 18 |
| Mounting the saw carriage | 19 |
| Mounting the spiked bumper and guard | 23 |
| Mounting the adjustable log stop, U417 | 24 |
| Adjusting the LOGOSOL | 25 |
| Loading the LOGOSOL | 29 |
| Example sawing operation | 32 |
| After work | 36 |
| Maintenance of bars and chains | 36 |
| Replacing the lifting cable and the feed cable | 37 |
| Replacing sliding blocks on the carriage and the spiked bumper | 37 |
| Rail extension kits | 38 |
| Fine-tuning the joint couplers | 39 |
| Troubleshooting | 40 |
| Maintenance and repair chart | 42 |
| Technical data | 43 |
| Purchasing spare parts | 44 |
| Recommendations for bars, chains and chainsaws | 45 |
| Manufacturer's declaration | 46 |



Printed on paper free from chlorine bleaching agents. Printing inks contain vegetable oils. Paper is recyclable.

Illustrations: Mattias Byström.
©1997 LOGOSOL, Härnösand
0458-395-3021

For your safety



Additional safety precautions are necessary when working with the LOGOSOL.



Read through the entire Operating Manual carefully before using the LOGOSOL for the first time. Failure to observe the following safety instructions may result in fatal injury.

Obey all applicable accident prevention regulations and the recommendations of employers' liability insurers.

It is imperative that you read the chainsaw Operating Manual for the particular chainsaw used and obey all safety instructions that it provides.

If you are working with the LOGOSOL for the first time:

Ask your dealer to demonstrate how to work safely with the equipment, follow the step-by-step assembly video - or attend a special training course.

Minors must not work with LOGOSOL –

except for young people over 16 years old who have been trained under appropriate supervision. **Make sure that children, animals and onlookers are kept at a safe distance.**

LOGOSOL must only be passed or lent to people familiar with this model and its operation. The Operating Manual must always be handed over with the equipment.

To work with LOGOSOL you must be fit –
well rested, healthy and in good

physical condition – take breaks from work in good time to prevent tiredness.

Do not work alone –

Always remain within calling distance of other people who can provide help in an emergency.

Only use attachments supplied or expressly approved by LOGOSOL.

Do not use any other attachments, because they lead to an increased risk of accidents.

Remember: An accident is usually caused by carelessness, neglect or oversight!

Wear protective clothing and equipment.

Clothing must be appropriate and must not hamper movement. Clothing must be close-fitting e.g. working overalls. Loose worker's jackets must not be worn. We recommend STIHL safety overalls.

Do not wear any loose clothing, such as a scarf, tie or jewelry that might catch in wood or scrub.

Long hair must be tied and secured (headband, cap, helmet, etc.)



Wear safety shoes with high-grip soles and steel toecaps.



Use face shield protection and protective goggles because of the risk of eye injuries due

to parts such as chips and the like being thrown out of the saw during operation. **Wear safety helmet.**

Warning a face shield does not provide sufficient eye protection.

Wear "personal" noise protection - e.g. ear defenders.



Wear strong gloves, if possible of chrome leather



Before topping up the fuel tank, switch off the engine. Do not smoke - gasoline catches

fire very easily. **Keep clear of open fires! Do not spill any fuel!**

If any fuel is spilt, immediately clean the affected components. Do not allow any gasoline to spill on to your clothing - otherwise change clothes immediately.

After topping up with fuel, close the tank lid as tightly as possible. This reduces the risk of the lid coming loose due to vibration and allowing gasoline to escape. Fatal risk of burns!

Maintenance and repairs

LOGOSOL must be regularly maintained. Only perform the maintenance and repair operations described in this Operating Manual.

Ask your chainsaw customer service department to perform all other maintenance and repairs.

Do not make any alterations to LOGOSOL. Safety may otherwise be adversely affected - risk of accident and injury.

Operating safety:

When working with the LOGOSOL, the frame must not be tilted at an angle - danger of accident due to overturning.

When working on soft ground, lay a wide base under the legs of the LOGOSOL.

Hold the cranks (for raising and lowering the logs) firmly when turning them. If released, the

crank may spin back and hit your hand.

When rolling the log up-wards, no-one must be standing behind the log or in its rolling line.

Always keep your hands well clear, so that they cannot be caught if the lifting cable snaps and lashes back.

Do not operate the chainsaw with the throttle lever locked in the starting throttle position - the throttle lever must always be operated by hand.

Do not use the ripping chain for cross-cuts, because of the increased danger of kickback.

Safety distance:

No other people should be allowed within 10 meters (32.8 ft) – danger of injury if the chain breaks.

Large tree trunks should only be rolled onto LOGOSOL using a self-attaching loading ramp (see section on “Loading the LOGOSOL”)

The overall load capacity of a the LOGOSOL is 500 kg (1100lb.). The 2.5 meter (8.2 ft) extension increases the capacity by 250 kg (550 lbs).

Note: Keep a first aid kit and fire extinguisher handy at all times and know how to use them.

LOGOSOL is constantly developing and improving all machines and devices. We must therefore reserve the right to change the design, technical characteristics and equipment of the products described here.

Note: Do not use this product without first reviewing all of the contents of this manual, including the safety instructions and warnings.

WARRANTY AND LIMITATION OF LIABILITY

Logosol warrants that all items delivered hereunder shall be free of defects in workmanship and material. Should any failure to conform with this warranty appear under normal and proper usage, within 90 days after the date of delivery or moving to storage, whichever occurs first, LOGOSOL or its authorized dealer, shall if given prompt notice by purchaser, correct such nonconformity, at its option, either by repair or replacement, or by refund of the purchase price of the nonconformity items. Return of all items to Logosol pursuant shall be at purchaser's risk and expense.

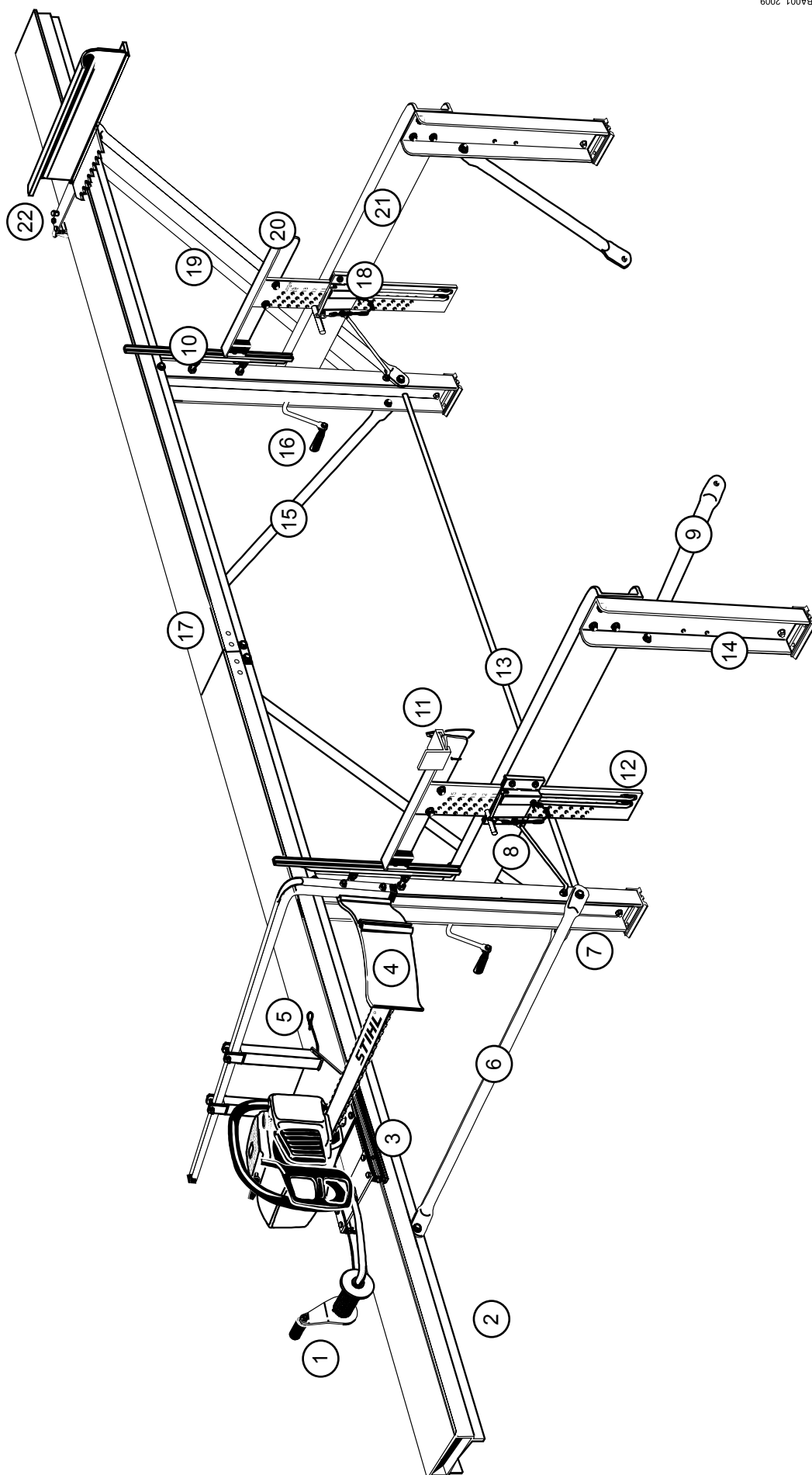
LIABILITY LIMITS

The foregoing warranties are exclusive and in lieu of all other warranties of quality, written, oral or implied and all other warranties including any warranty of merchantability or fitness for purpose are hereby disclaimed.

Logosol shall in no case be liable for special, indirect, incidental or consequential damages, and correction of nonconformities in the manner and for the period of time provided above, shall be purchaser's exclusive remedy and shall constitute fulfillment of all liabilities of Logosol whether in warranty, contract, negligence or otherwise, with respect to the quality of the items delivered hereunder. Logosol shall in no event be responsible for providing working access to the defect, including disassembly and reassembly of the equipment. All causes of action against Logosol arising out of or relating to this contract or the performance hereof shall expire unless brought within one year of the time of accrual thereof.

Pos. Part name

| | |
|----|--------------------------|
| 1 | Feed crank |
| 2 | Adjustable log stop |
| 3 | Saw carriage |
| 4 | Chain guard |
| 5 | Feed cable |
| 6 | Front long strut |
| 7 | Long leg |
| 8 | Elbow strut |
| 9 | Short strut |
| 10 | Log fence |
| 11 | Stop-plate |
| 12 | Rule beam |
| 13 | Adjusting strut |
| 14 | Short leg |
| 15 | Rear short strut |
| 16 | Crank |
| 17 | Guide rail |
| 18 | Plate clamp |
| 19 | Rear long strut |
| 20 | Log support |
| 21 | Crossmember |
| 22 | Spiked bumper with guard |



Assembly Instructions

To ensure precision when sawing, the LOGOSOL should be assembled and aligned in the place where it will actually be used.

Since the LOGOSOL is a bulky system, it is erected in separate assemblies. as you go along, the various components and assemblies must be lined up with one another.

The illustrations given in the Assembly manual therefore use the following symbols:



Screw these screws or nuts as far as they will go, but do not tighten them fully, because this part or assembly will have to be further aligned later.



Tighten these screws or nuts fully as far as they will go.



Parts or assemblies marked by this symbol must be aligned at right angles to one another.



Line up these assemblies by sighting over one edge or by using a plumb line.

The majority of fixings are M6 x 25 collar screws with M6 collar locknuts, which are therefore simply referred to as screws or nuts in the text. Screws and nuts of other dimensions and shapes are specifically identified.

For parts or assemblies that are assembled identically, the attachment or construction of only one representative part or assembly is described. The other parts or assemblies can then be fitted or assembled in the same way.

Package Contents

In the interest of environmentally sound packaging and space-saving some of the struts have been inserted in the guide rail.

The following parts are contained in each pack:

Pack 1

- 2 Guide rails (2500 mm)
- 1 Rail connector (300 mm)
- 2 Front long struts (1240 mm)
- 2 Front short struts (500 mm)
- 2 Rear long struts slotted (1240 mm)
- 2 Rear short struts slotted (960 mm)
- 1 Adjusting strut (1825 mm)

Pack 2

- 2 Long legs (890 mm)
- 2 Short legs (520 mm)
- 2 Crossmembers (950 mm)
- 2 Cranks
- 2 Log fence
- 2 Log supports
- 2 Plate-clamps
- 2 Rule beams
- 1 Set of parts for saw carriage
- 1 Set of parts for spiked bumper (dog)
- 1 Adjustable log stop, U417

Box in pack 2

- 2 Stop-plates
- 4 Base-angles
- 5 Bags of screws and nuts
- 1 Bag of spare screws
- 1 Bag containing small parts and screws
- 2 Lock pins
- 6 Cable reels
- 2 Threaded bolts
- 4 Sliding blocks for plate-clamp
- 2 Sliding blocks for log-support
- 1 Setting gauge

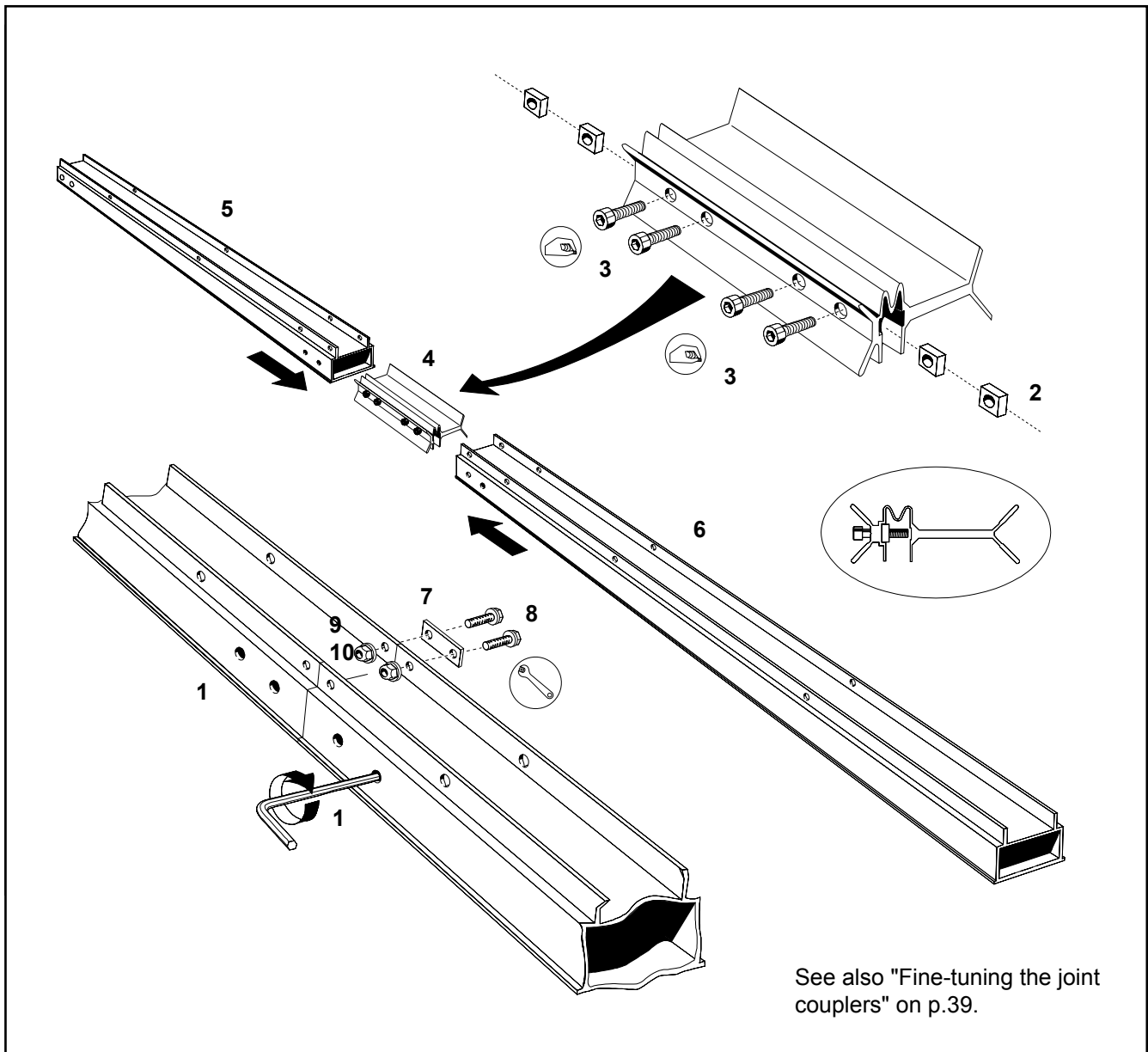
Tools required

Note: These tools are not supplied with the LOGOSOL:

- Tool for hexagon head screws (e.g. flat spanner, ring spanner, etc.):
10 mm across flats (a/f)
13 mm a/f
16/17 a/f
- Hexagon socket wrench/Allen key (metric)
3 mm a/f
6 mm a/f
- 1 x cruciform screwdriver
- 1 x square for angle alignment
- To convert the chainsaw, the following tool is needed in addition to the tool kit supplied with the saw: Flat spanner, ring spanner or similar:

1 x 8 a/f

Assembling the Guide rail



Warning: The ends of the guide rail halves do not have the same number of holes.

The two guide rail halves must be fitted together so that

- 1 two holes are next to each other on each longitudinal side
 - To prevent damage to the contact surface of the guide rail, use the guide rail pack as underlay - cut the box in two along two edges, and lay the two parts flat behind each other.
- 2 Insert the square nuts (M8) in the groove and

3 Screw in the hexagonal socket head screws (M8x25) as far as they will go without tightening.

4 Insert the rail connector in

5 one half of the guide rail. The holes and screw heads must line up

- Tighten screws with moderate force and insert a hexagon socket wrench in one screw head in order to prevent the rail connector from sliding

6 Push the second half of the guide rail

4 over the rail connector until it

rests against the first half.

- Tighten all four screws.

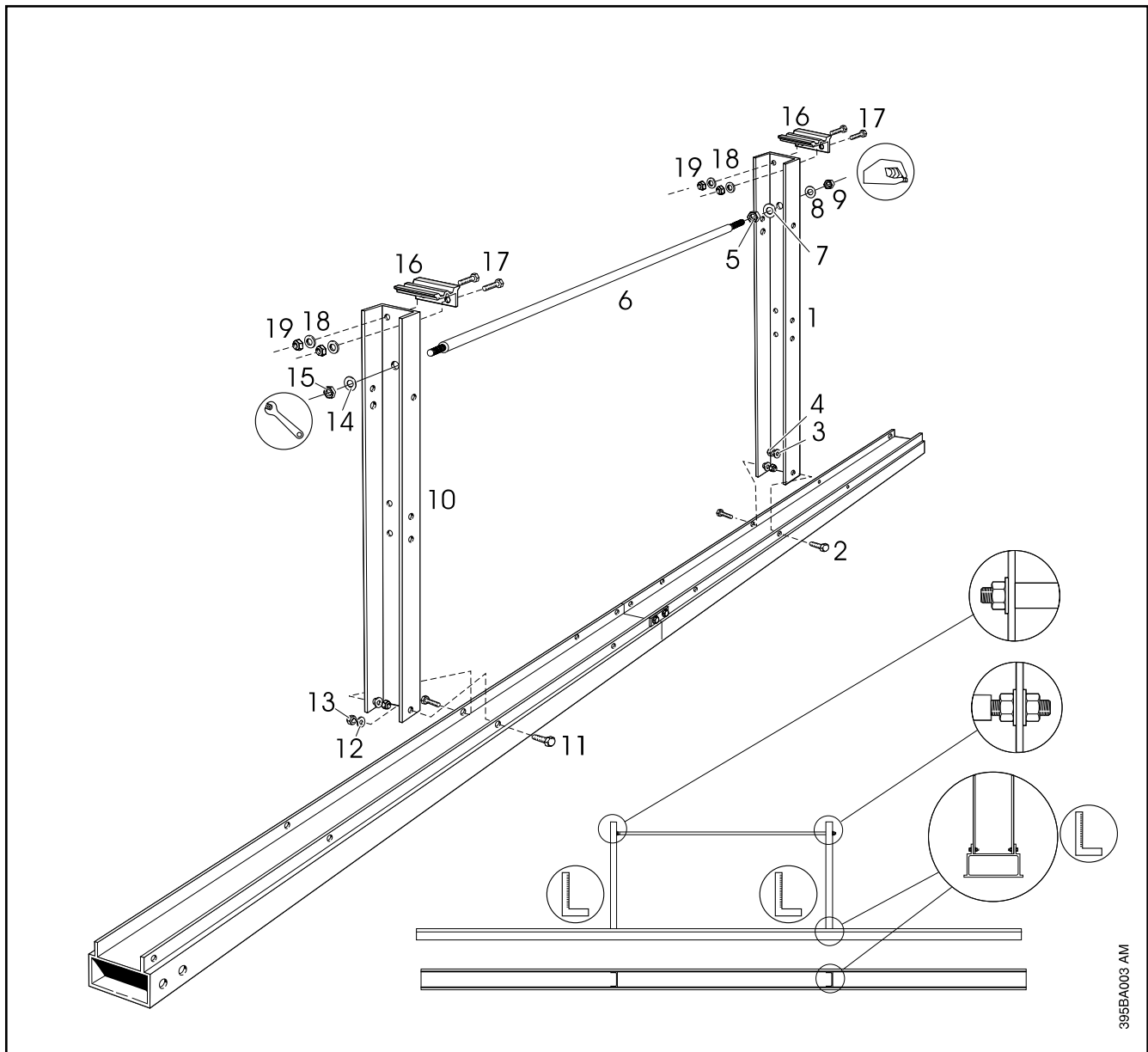
7 Fit the fishplate - the holes must line up

8 Push the screws through the holes.

9 Fit the washers.

10 Fit and tighten the nuts.

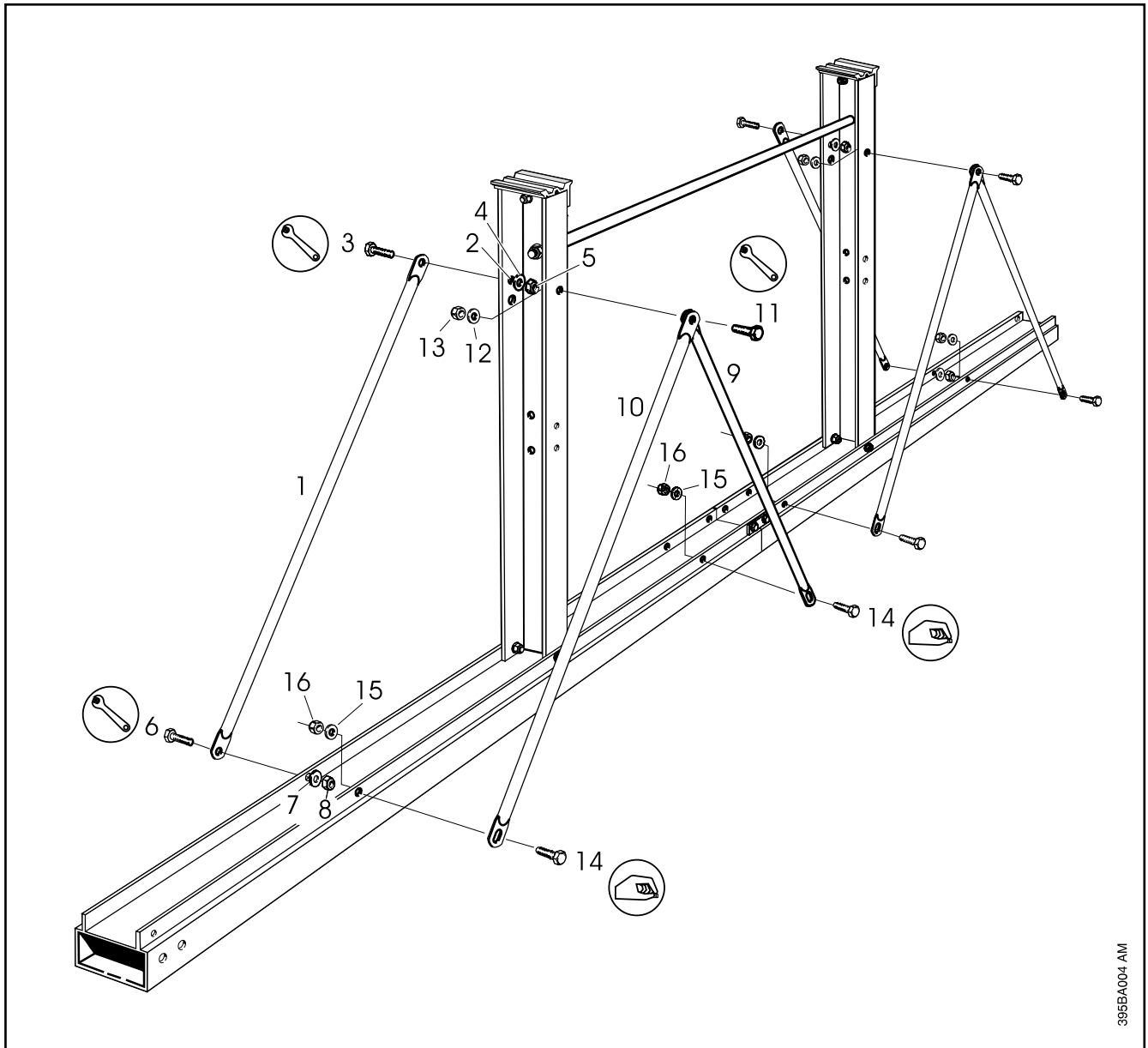
Assembling the long leg



395BA003 AM

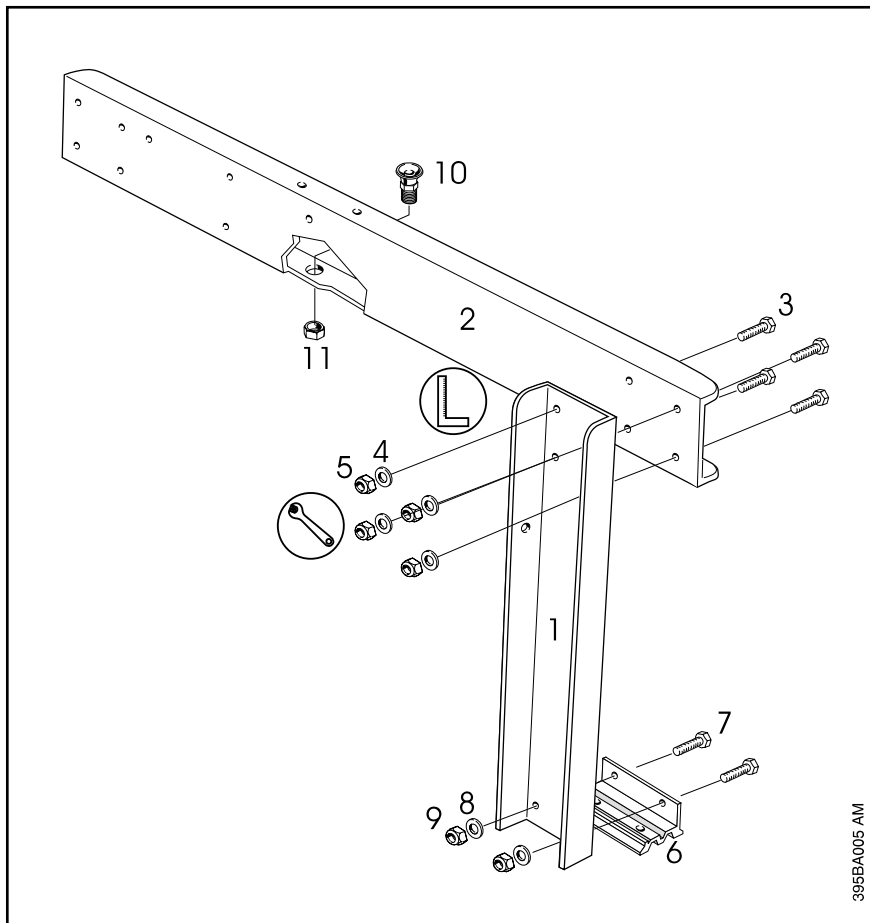
- 1 insert the long leg **flush** in the guide rail - the holes must line up.
- 2 Push screws through the holes.
- 3 Fit washers
- 4 Screw nuts as far as they will go without tightening.
- 1 Align angle of the leg.
- 4 Fully tighten the nuts.
- 5 Place nut (M10) over the long threaded end of the
- 6 Adjusting strut, and screw the nut to the end of the thread.
- 7 Fit washer and push strut end through the hole in the mounted long leg.
- 8 Fit washer and
- 9 Screw nut (M10) a few turns.
- 10 Insert second long legs, with the same alignment as the first, **flush** in to the guide rail - holes must line up.
- 11 Push screws through holes.
- 12 Fit washers.
- 13 Screw on nuts as far as they will go without tightening - Push the free end of the
- 6 adjusting strut through the hole in the second
- 10 long leg.
- 14 Fit washer.
- 15 Screw on nut (M10) and tighten firmly.
- 10 Adjust angle of the long leg.
- 13 Tighten nuts.
- 16 Fit base angles - holes must line up.
- 17 Push screws through holes.
- 18 Fit washers.
- 19 Screw on nuts and tighten firmly.

Mounting the struts

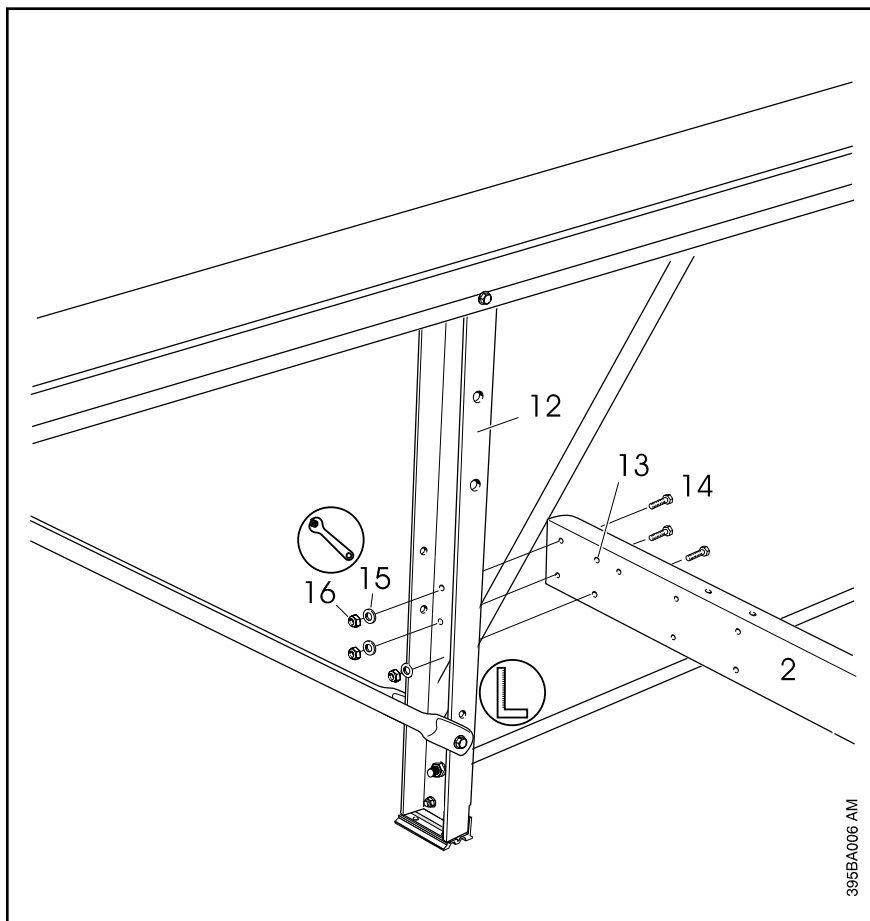


- | | | |
|---|--|--|
| <p>1 Fit the front struts to the side with the</p> <p>2 holes (Ø10 mm) for the elbow support - Line up the holes in the strut and leg.</p> <p>3 Push screws through holes.</p> <p>4 Fit washers.</p> <p>5 Screw on nuts and tighten - Line up the holes on the strut and guide rail.</p> <p>6 Push screws through hole.</p> | <p>7 Fit washers.</p> <p>8 Fit and tighten nuts.</p> <p>9 Fit the rear short struts, together with the</p> <p>10 rear long struts to the long leg, with the oblong slots of the struts at the guide rail.</p> <p>11 Insert screws.</p> <p>12 Fit washers.</p> <p>13 Screw on nuts as far as they will go without tightening - Line up the</p> | <p>slots on the struts with the holes in the guide rail.</p> <p>14 Insert screws.</p> <p>15 Fit washers.</p> <p>16 Screw on nuts as far as they will go.</p> <p>13 Tighten nuts.</p> |
|---|--|--|

Mounting the short leg and crossmember

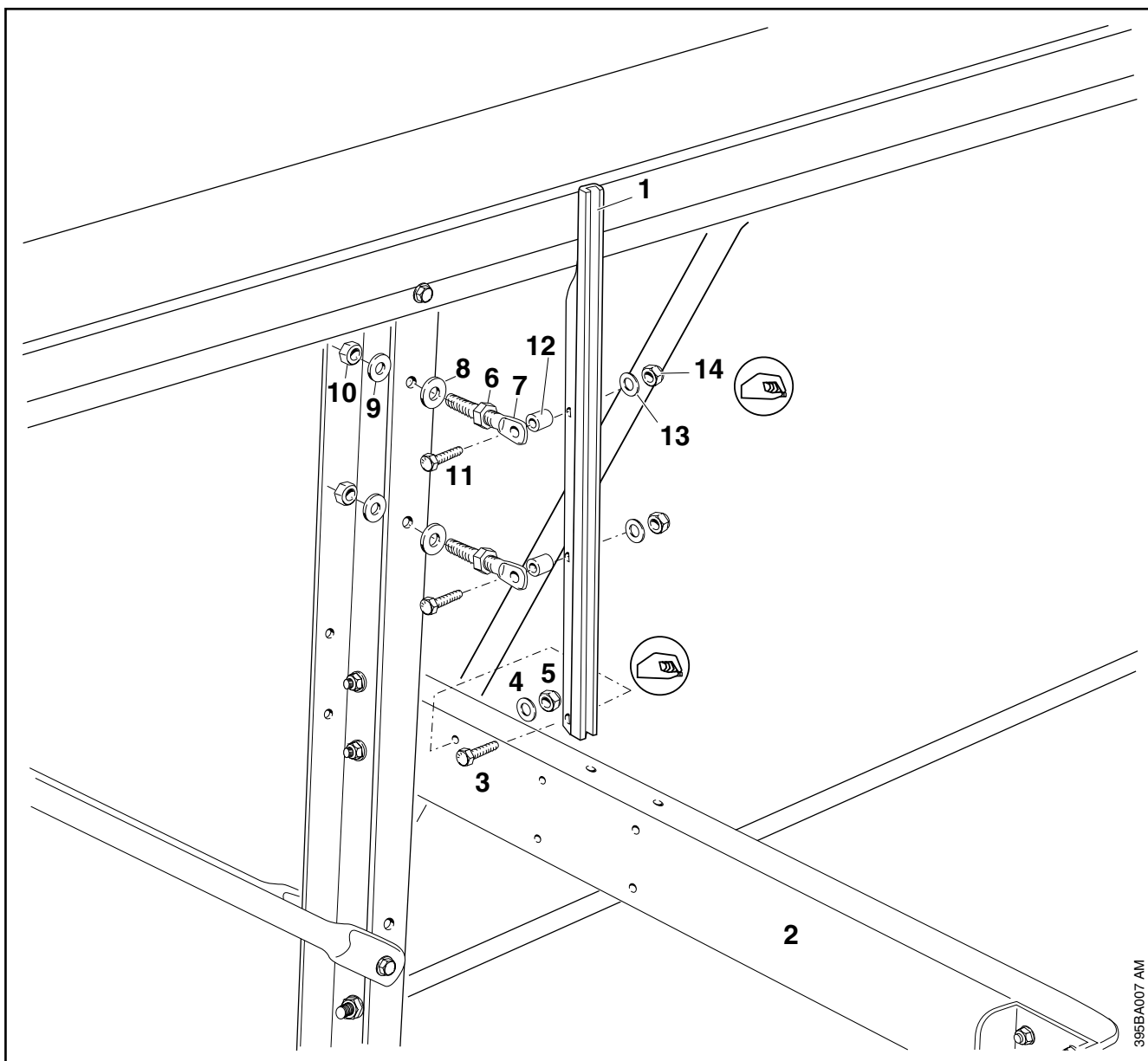


- 1** Place the short leg, with its rounded end upwards, on the
- 2** crossmember (end with the four drilled holes) - the holes must line up.
- 3** Insert screws
- 4** Fit washers
- 5** Screw on nuts as far as they will go without tightening.
- 1** Align short leg against
- 2** crossmember.
- 5** Tighten nuts
- 6** Position base angle - The holes must line up
- 7** Insert screws
- 8** Fit washers
- 9** Screw on nuts and tighten.
- 10** Insert cable guard
- 11** Screw on nut and tighten with moderate force



- Stand the preassembled guide rail on its legs.
- 2** Place crossmember on
 - 12** long leg. Holes must line up.
 - 13** Leave hole free.
 - 14** Insert screws.
 - 15** Fit washers.
 - 16** Screw on nuts as far as they will go without tightening.
 - 2** Align crossmember with
 - 12** long leg.
 - 16** Tighten nuts.

Mounting the log fence



Line up the lowest hole on the
1 log fence with the hole on the
2 crossmember.

3 Insert screw.

4 Fit washers.

5 Screw on nuts as far as it will go
 without tightening.

6 Fit nut (M8) onto the

7 adjusting bolt and screw it to the
 end of the thread.

8 Fit spring washer.

7 Push the adjusting bolt through
 the hole on the long leg.

9 Fit spring washer.

10 Screw nut (M8) a few turns.

11 Push collar screw (M6x35)

through the eye of the adjusting
 bolt.

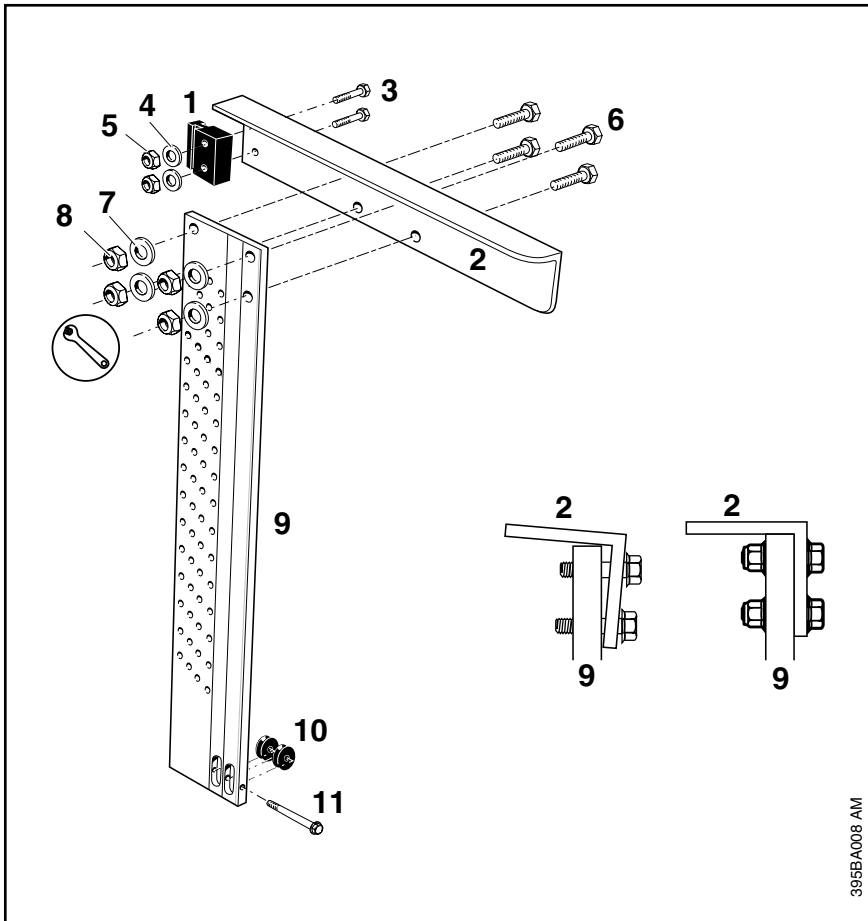
12 Fit bushing over screw and
 insert through hole on the

1 log fence.

13 Fit washers.

14 Screw on nut and tighten.

Fitting the Log-Raising system



- 1 Position the sliding block on the
- 2 log support - the holes must line up.
- 3 Insert collar screws (M6x35)
- 4 Fit washers
- 5 Screw on nuts and tighten with moderate force.

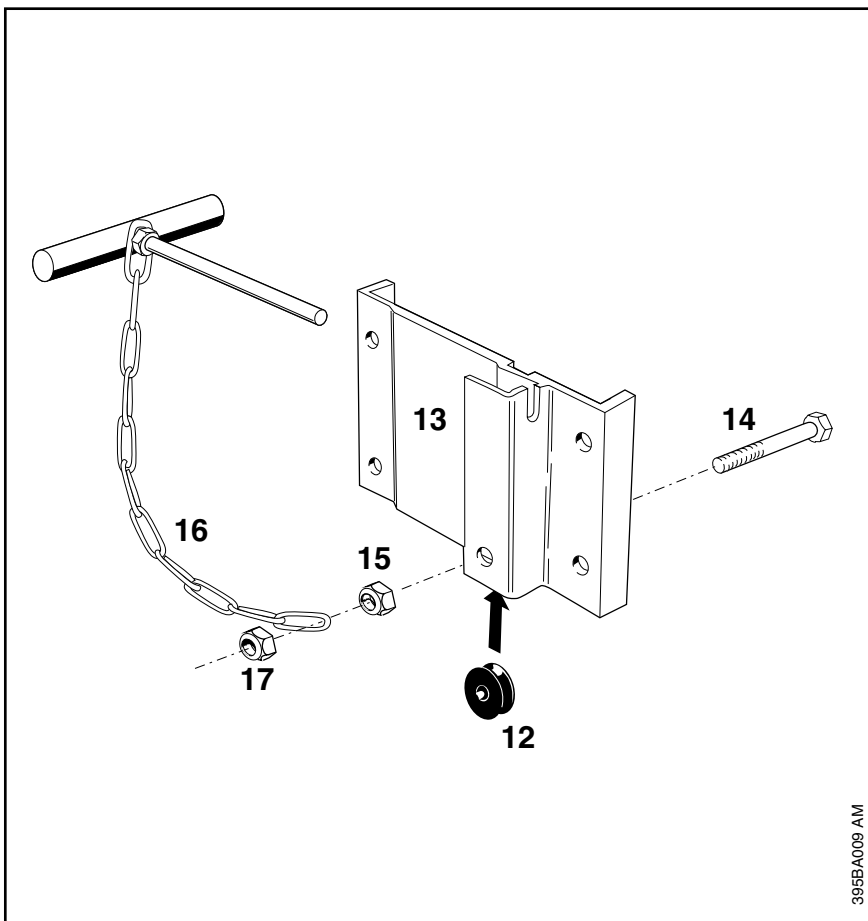
The top end of the rule beam has been machined with high precision to ensure that it is at perfect right angles to the longitudinal sides of the plate.



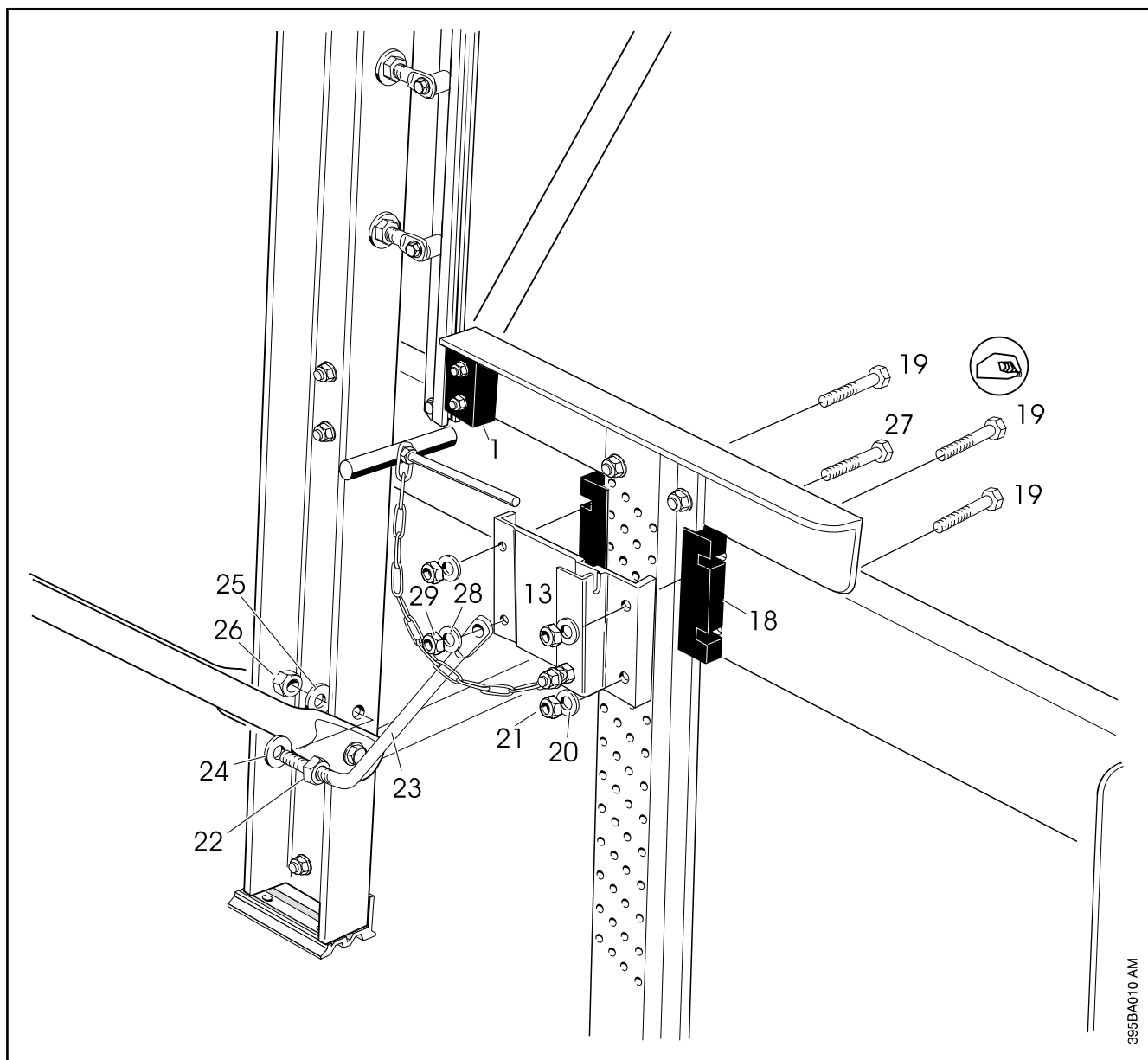
Therefore it must not be modified under any circumstances.

To ensure that this angular precision is matched by the log support, the holes are very close fit. Therefore, proceed as follows:

- 2 Tilt the log support until the
- 6 collar screws (M8x30) can be pushed through the holes
- 7 Fit washer.
- 8 Screw on the collar locknuts and tighten, until the log support rests flat against the
- 9 rule beam.
- 10 Insert the cable pulleys in the slots in the rule beam.
- 9 rule beam - the holes must line up.
- 11 Insert hexagon head screw (M6x60) and tighten moderately - the cable pulleys must be free to rotate smoothly.

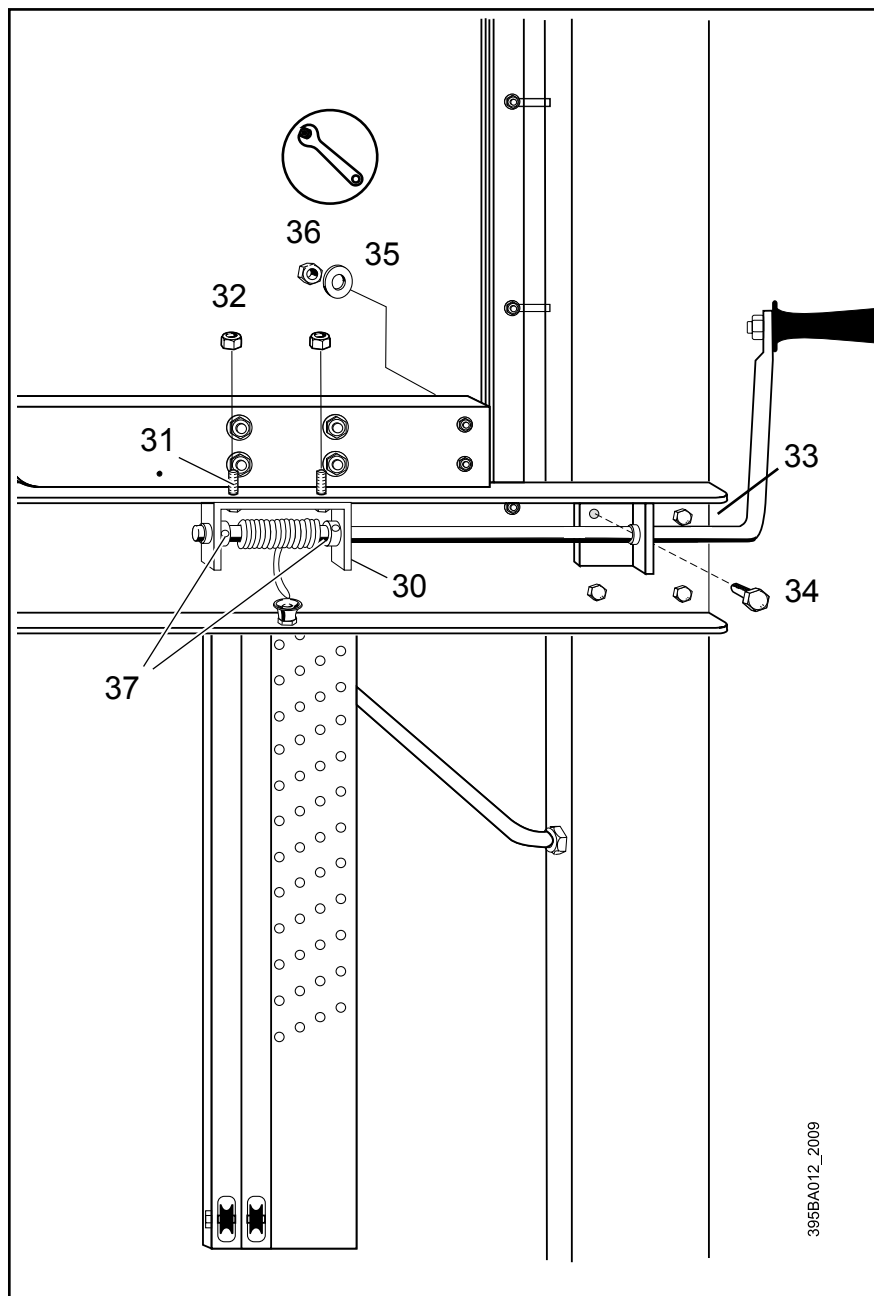


- 12 Insert cable pulley in the guide channel of the
- 13 plate clamp - Holes must line up.
- 14 Insert hexagon head screw (M6x35) - the screw must be seated in the groove.
- 15 Fit collar-locknut and tighten with moderate force - the cable pulley must be free to rotate smoothly.
- 16 lock chain.
- 17 screw on locknut.



395BA010 AM

- | | | |
|--|---|---|
| <p>1 Fit the sliding block into the groove of the log fence from above.</p> <p>18 Fit the sliding blocks to the rule beam - The slots in the sliding block must line up with the holes in the crossmember.</p> <p>13 Fit the plate-clamp - holes must line up.</p> <p>19 Insert the collar screws (M6x35).</p> <p>20 Fit washers.</p> | <p>21 Screw on nuts as far as they will go.</p> <p>22 Fit nut (M10) onto the</p> <p>23 elbow strut and screw it to the end of the thread.</p> <p>24 Fit spring washer - insert threaded end of</p> <p>23 elbow strut through the hole in the long strut.</p> <p>25 Fit spring washer.</p> | <p>26 Screw on nut (M10) a few turns. Line up the hole on the</p> <p>23 elbow strut with the free hole on the</p> <p>13 plate-clamp.</p> <p>27 Insert collar screw (M6x35).</p> <p>28 Fit washer.</p> <p>29 Screw on nuts as far as it will go.</p> |
|--|---|---|



30 Line up the holes of the bearing block with the holes of the cross-member.

31 Insert hexagon head screws (M6x16).

32 Fit and tighten locknuts (M6).

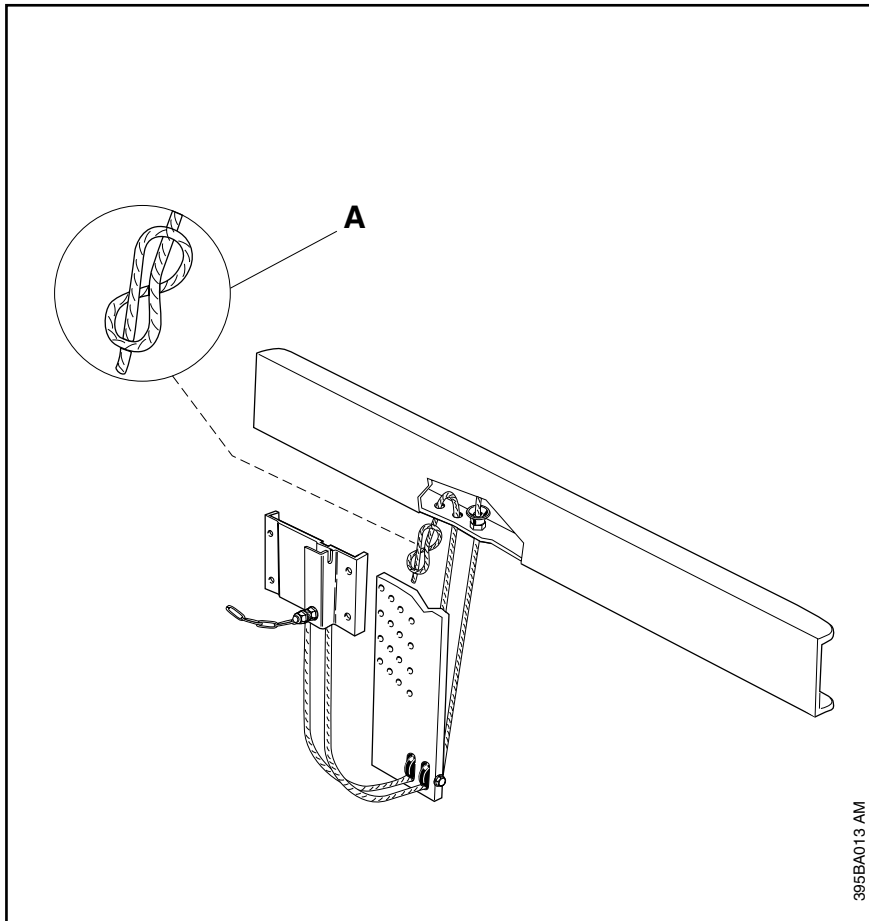
33 Place bearing angle against the free hole of the long leg.

34 Insert screw.

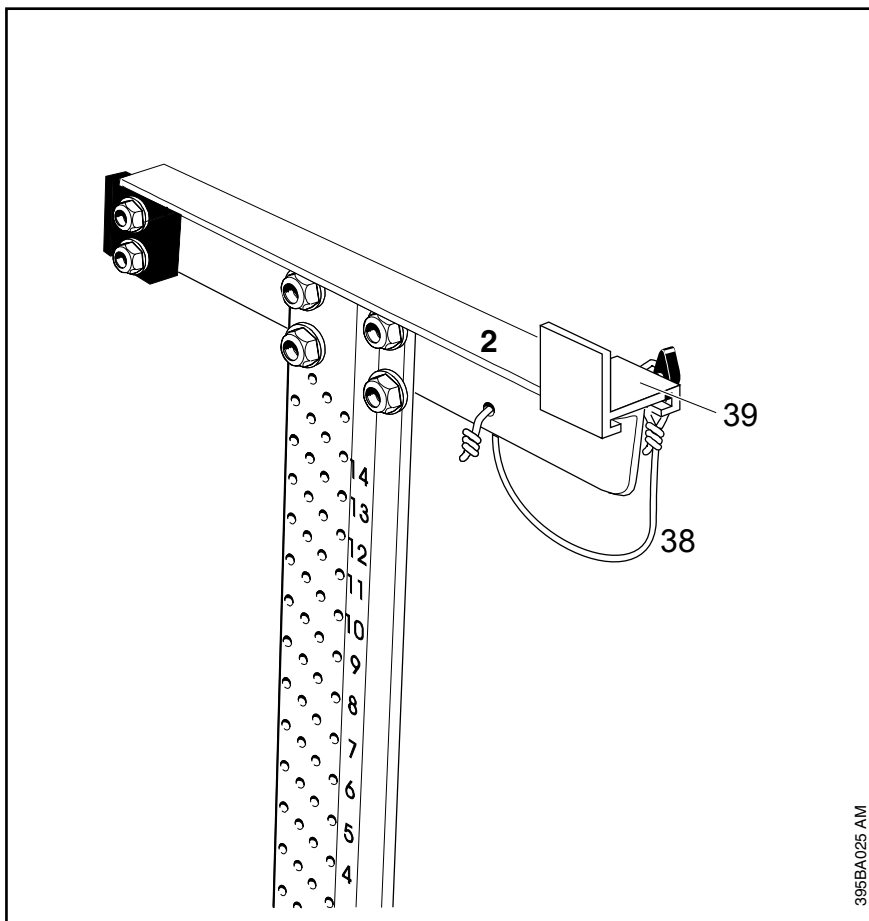
35 Fit washer.

36 Screw on nut and tighten.

395BA012_2009



- Thread the lifting cable through holes - as shown in the illustration opposite, and
- A** secure with special knot.
- Wind up lifting cable counter-clockwise

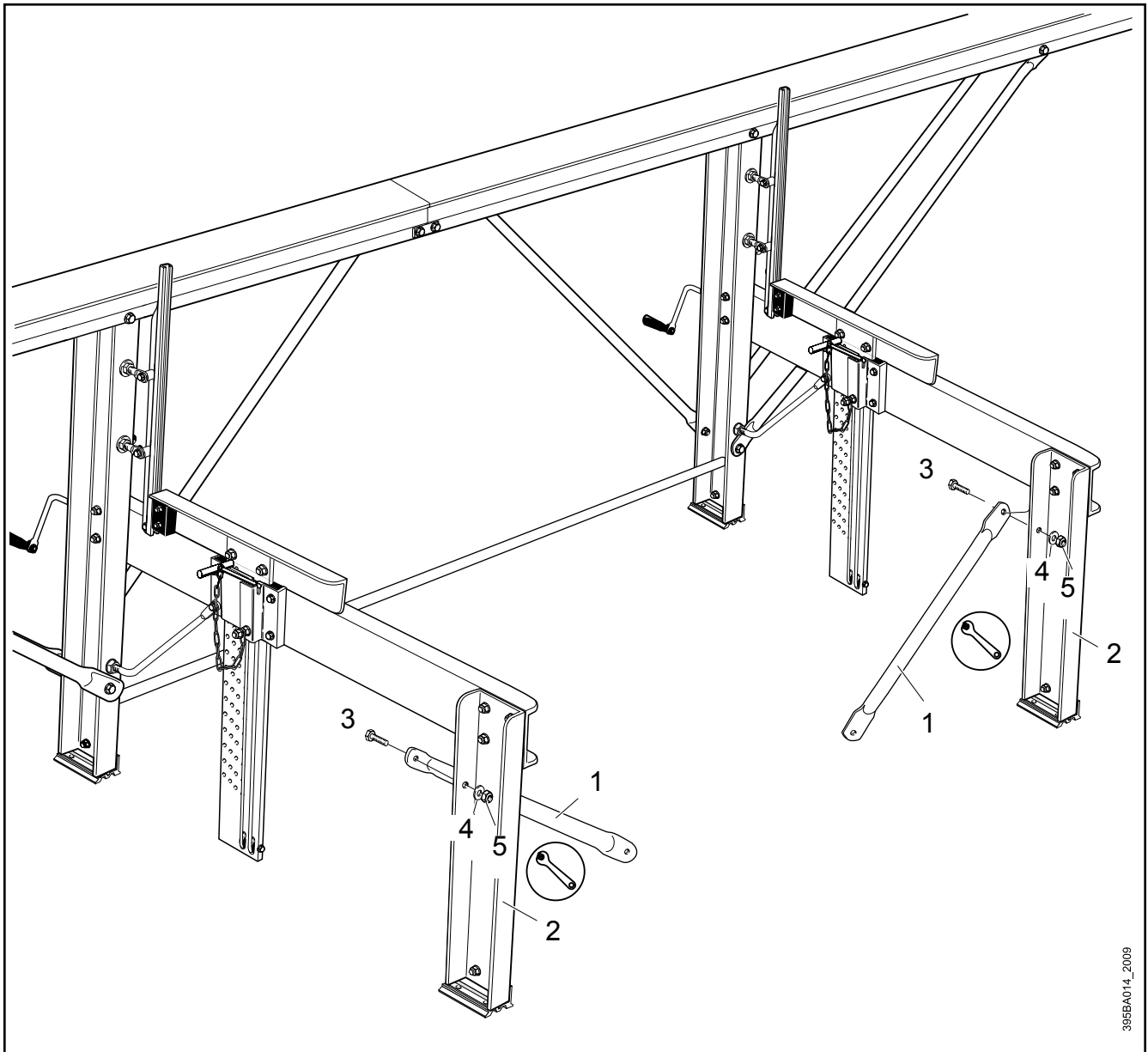


- 38** Thread the securing cord of the
- 39** stop-plate from behind, through the hole in the
- 2** log support, and secure with a simple knot.
- If required, place the stop plate on the log support and secure with wing screw.

Note: The stop-plate must be removed when loading.

Warning: The stop-plate must always secure the log in order to prevent it from roll off the log support. The stop-plate in combination with the spiked bumper are designed to reduce the risk of crush injuries caused by a log rolling of the log support.

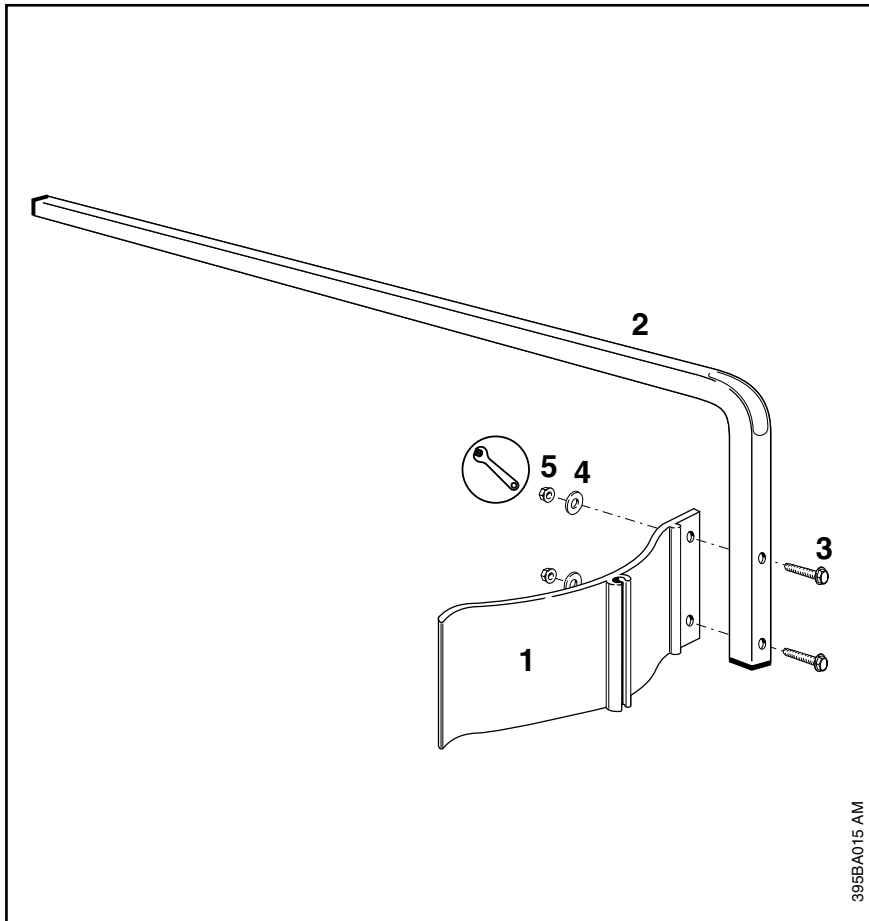
Mounting the short strut



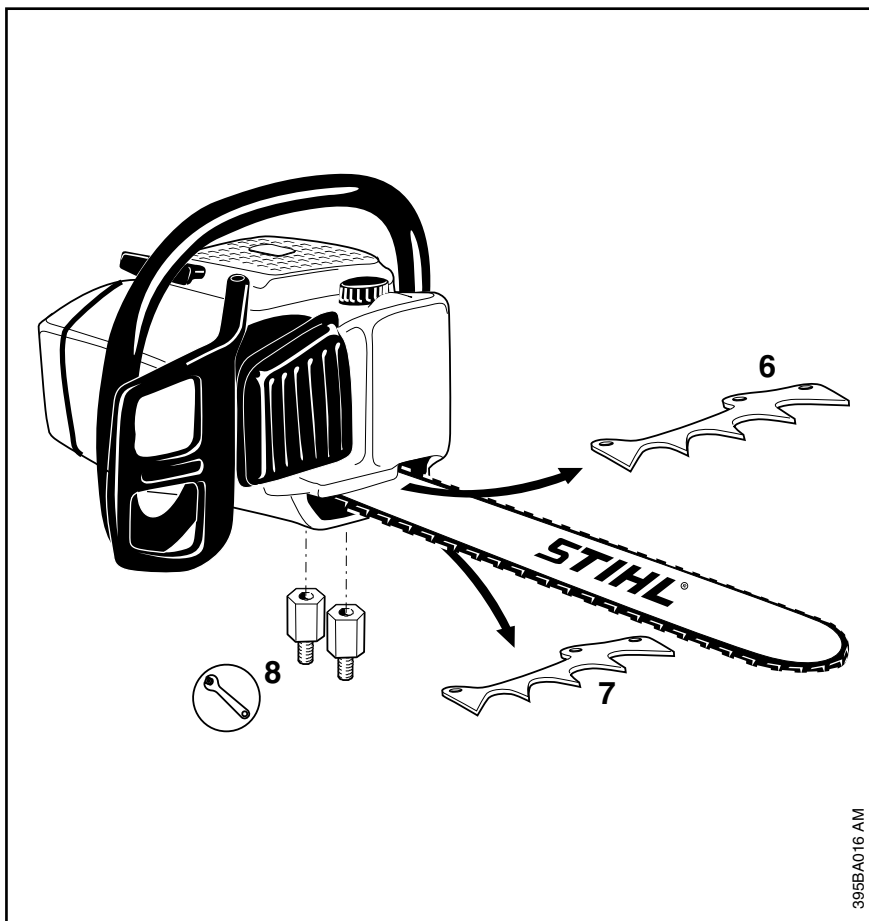
395BA014_2009

- 1 Position short struts on the
- 2 short legs. Holes must line up.
- 3 Insert screws.
- 4 Fit washers.
- 5 Fit and tighten nuts.

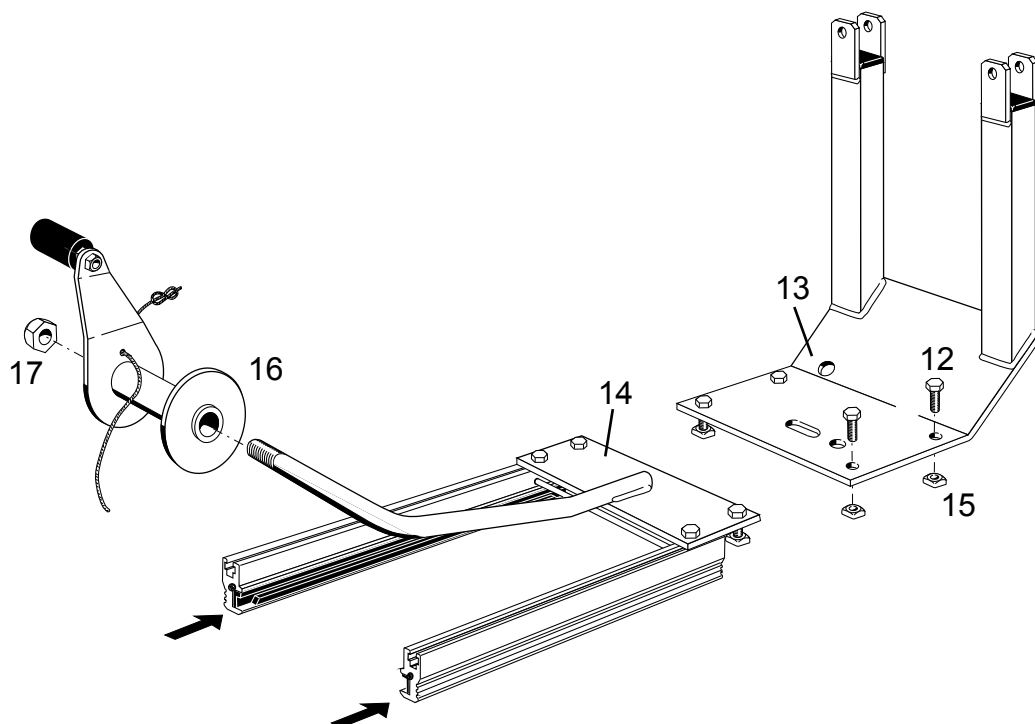
Fitting the saw carriage



- 1 Position the guard on the
- 2 guard bar. Holes must line up.
- 3 Insert screws.
- 4 Fit washers.
- 5 Fit nuts and tighten



- Remove nuts from the chain sprocket cover and remove the chain sprocket cover - (put the nuts to one side, since they will be needed to fix the chainsaw to the carriage)
- 6 Remove the spiked bumper from the housing. Leave the screws on the housing and refit and tighten nuts.
- 7 Remove the spiked bumper from the chain sprocket cover. Refit nuts and tighten.
- Refit chain sprocket cover.
- 8 Insert and tighten the plug bolts.



395BA027_2009

12 Insert the hexagon head screws (M6x16) through the holes on the edge of the

13 guard holder or

14 crank support plate.

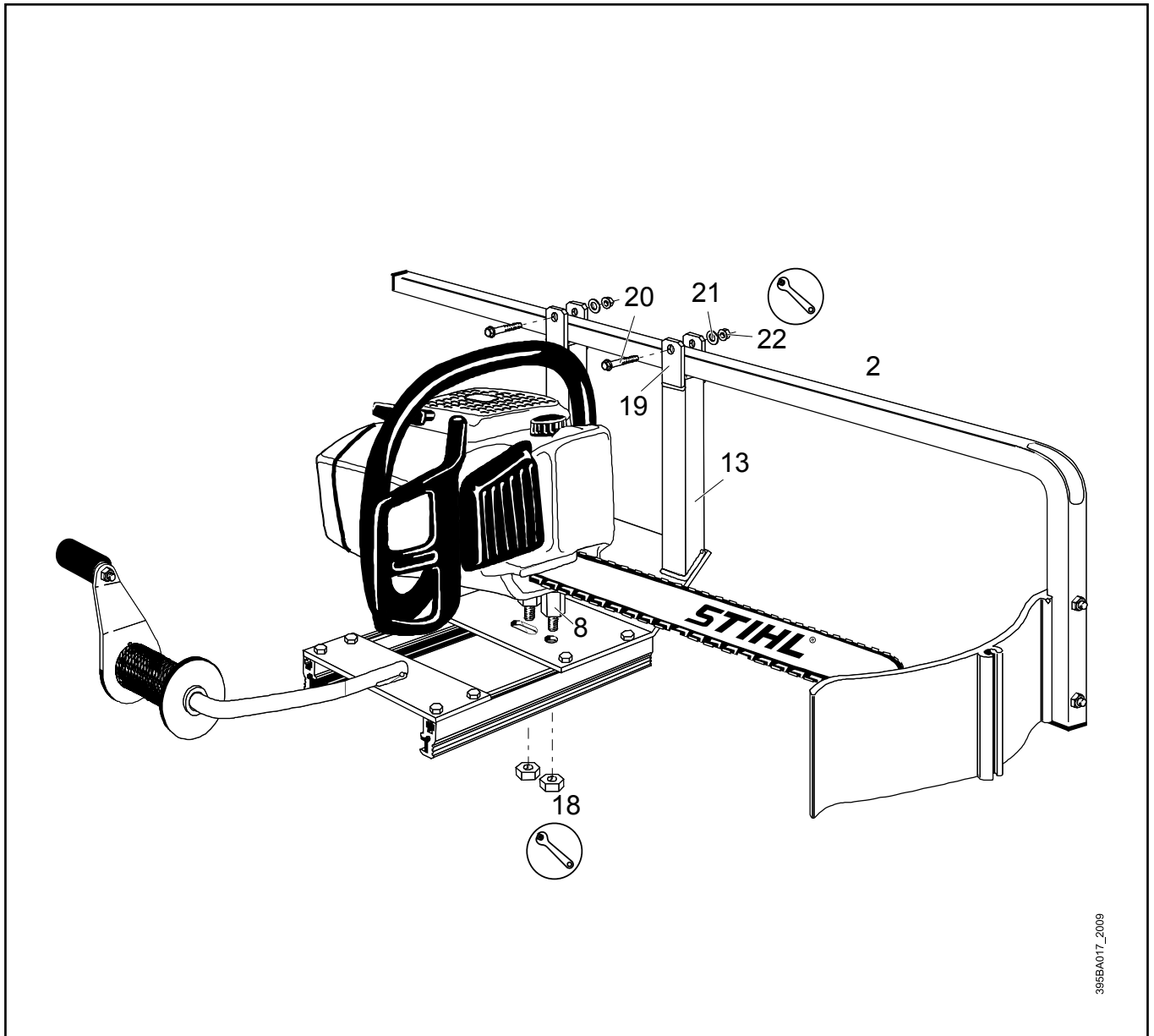
15 Fit square nuts (M6).

- Insert the square nuts of the crank support plate into the grooved of the aluminum sliding blocks, and push the crank support plate to the end of the aluminum sliding blocks.
- Insert the square nuts of the guard holder into the grooves of the aluminum sliding blocks, and push the guard holder up to its angle-edge onto the aluminum sliding blocks.

12 Tighten screws.

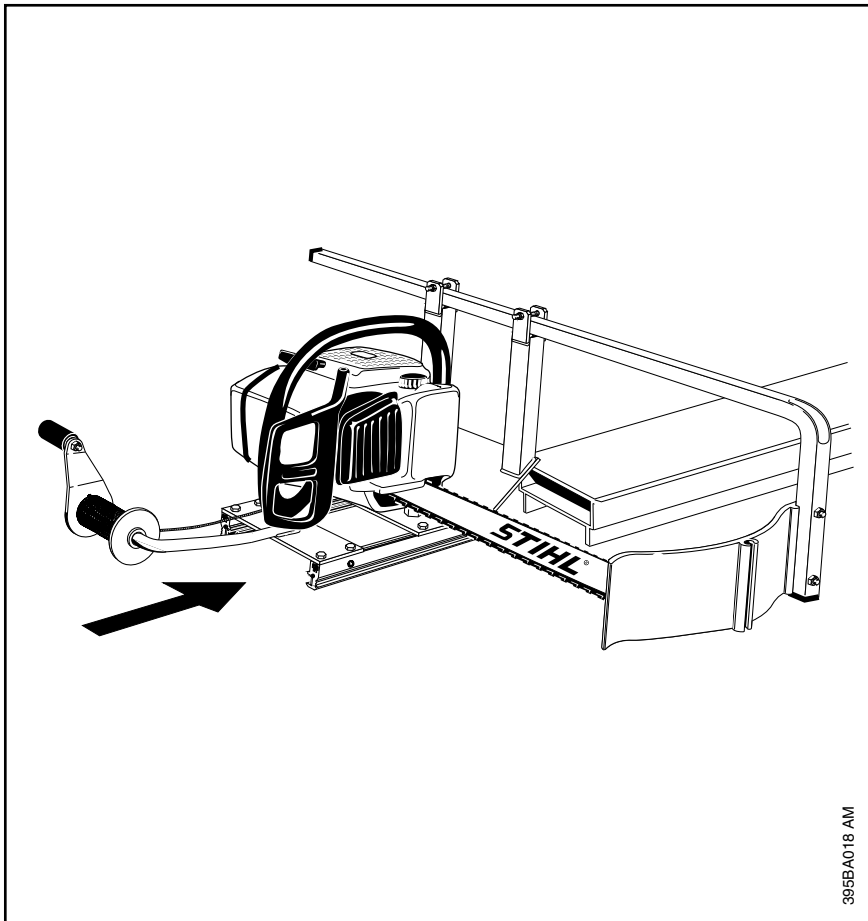
16 Fit crank and

17 screw on locknut (M10), tightening with moderate force - the cable spool must be free to turn.



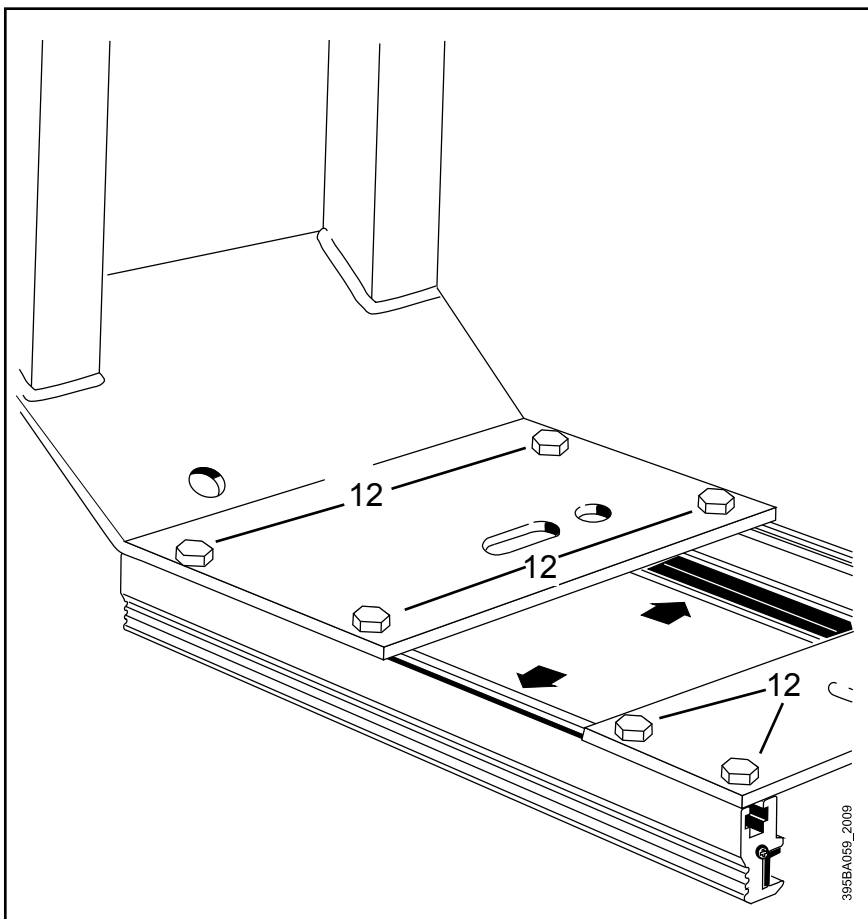
395BA017_2009

- | | | |
|---|---|---|
| <p>8 Fit the studs through the hole and slot of the</p> <p>13 guard holder.</p> <p>18 Fit and tighten nuts</p> <p>2 Insert the guard bar in the</p> | <p>19 mounting on the guard holder.</p> <p>20 insert collar screws (M6x45).</p> <p>21 Fit washers.</p> <p>22 Screw on nuts.</p> | <ul style="list-style-type: none"> Adjust the gap between the guard and the chain at the end of the guide bar to about 50 mm. <p>22 Tighten nuts.</p> |
|---|---|---|



- Push the assembled saw carriage onto the guide rail, with the guard pointing in the directions of the log support.

⚠ WARNING: Always make sure that the chainsaw is correctly fitted to the carriage and that the carriage is correctly pushed onto the guide rail before starting the saw.



Adjust play

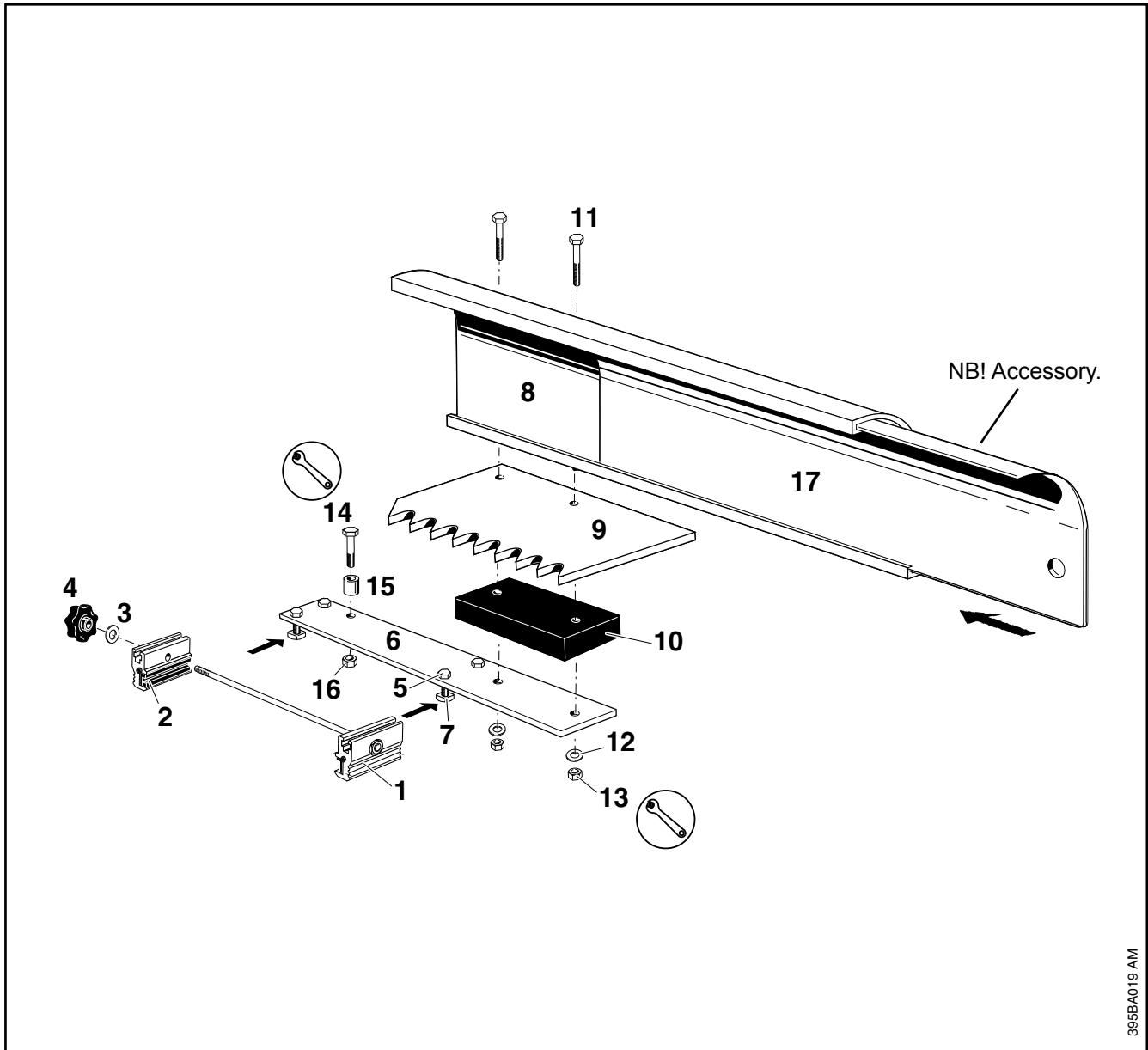
- The carriage should slide easily and it is all right if there is a horizontal play. If you want to increase or decrease the horizontal play, carry out following points:

When the carriage is mounted on the guide rail,

- 12** loosen the screws and then re-tighten them.

- If the carriage still does not slide easily, file the plastic sliding block with a flat file until the carriage can slide easily.

Mounting the spiked bumper and guard



Insert the threaded rods of the

- 1 aluminum sliding block through the holes of the second
- 2 aluminum sliding block.
- 3 Fit washer.
- 4 Tighten clamp nut a few turns.
- 5 Insert collar screws (M6x16) through the holes of the
- 6 base plate of the spiked bumper.
- 7 Fit square nuts (M6).
- Insert the square nuts of the base plate into the grooves of the slide-rail, and push the base plate onto the aluminum sliding block until sliding block are flush with the base plate

- 5 Tighten screws.

Line up the holes on the

- 8 guard,
- 9 spiked bumper,
- 10 spacer plate and
- 6 base plate

- 11 Insert hexagon head screws (M6x45).

- 12 Fit washers.

- 13 Fit nuts and tighten.

- 14 Insert hexagon head screw (M6x25) through the

- 15 sleeve and hole of the

- 6 base plate.

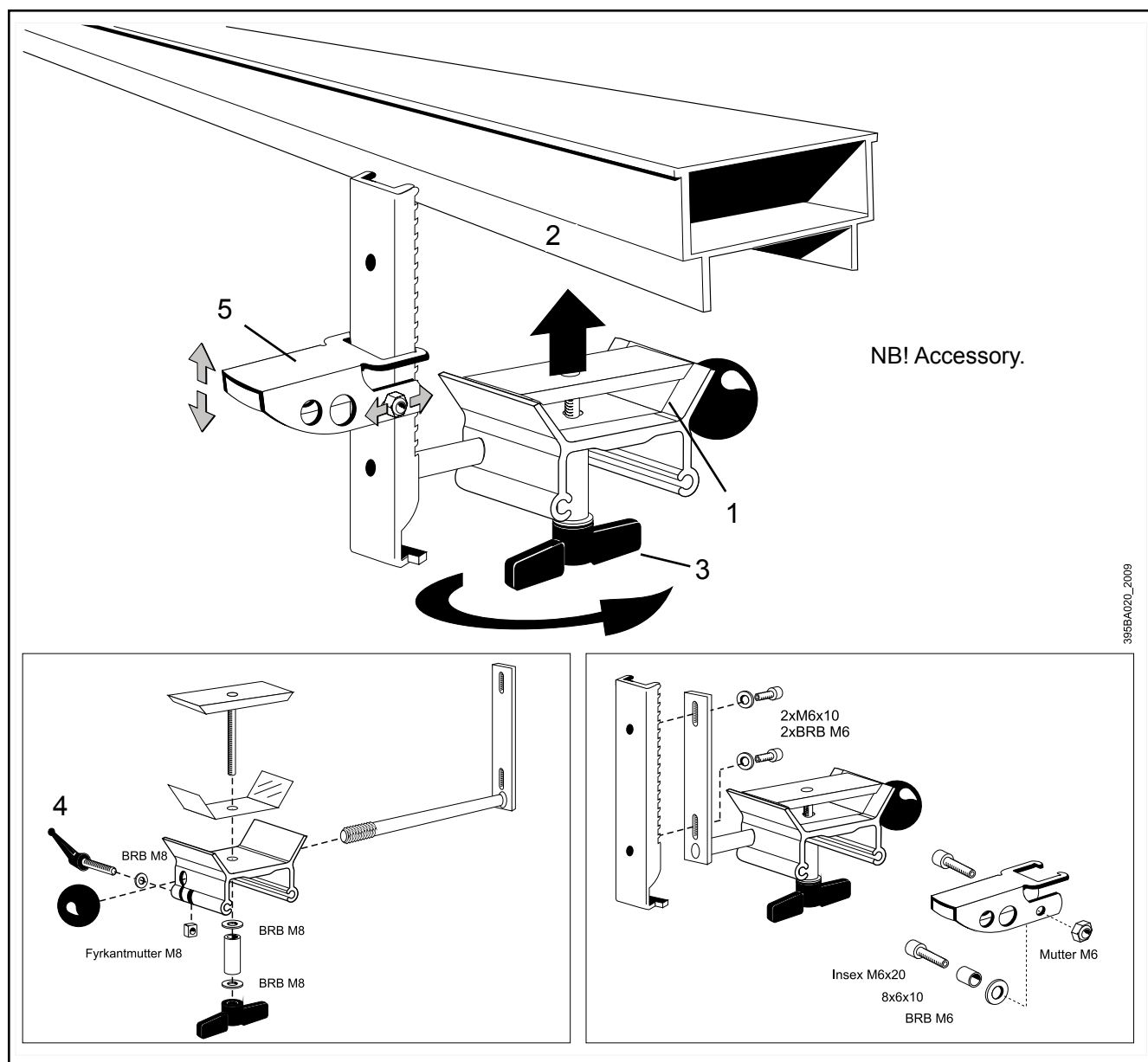
- 4 With the clamp nut, the spiked bumper can be clamped to any point along the guide rail.

⚠ The guard extension is an accessory, which can be ordered from Logosol. The extensions should be mounted when a guide bar longer than 50 cm are to be used.

Adjusting the guard extension

- Push a suitable screwdriver or the multi-socket wrench of the chainsaw through the hole on the
- 17 guard extension piece and hold with one hand - with the other hand,
- 8 hold the guard. Now adjust the guard to the desired position by pulling or pushing

Mounting the accessory adjustable log stop, U417 (optional extra)



To prevent vibration, always use the adjustable log stop.

The log stop holds the log against the guide rail in order to prevent it shaking out of line.

The stop can be mounted at any point on the guide rail, if possible close to the end of the log, opposite the spiked bumper.

- 1 Insert the adjustable log stop from underneath as far as it will go into
- 2 the guide rail and clamp in place with the
- 3 wing knob.

Adjusting the log stop

Fit the log stop close to the log support (pos. 20, s.6) and fine-tune the serrated plate so that the support (5) correspond with the fixed steps of the sawmill.

Using the log stop

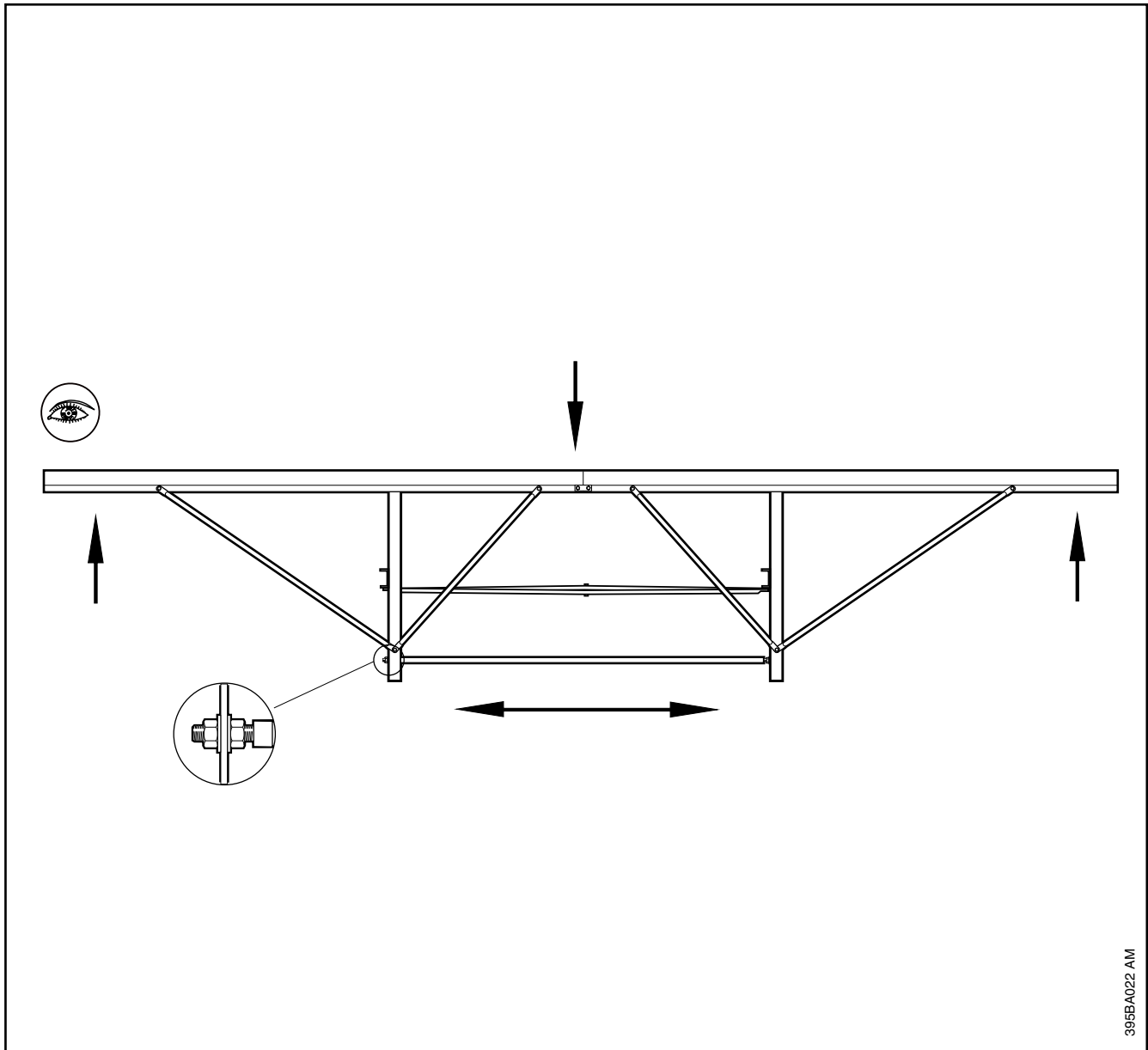
Stödet skall monteras nära stockens ände.

- 4 Loosen the knob - turn and push or pull the serrated plate so that it presses against the log. This prevents vibrations.
- 4 retighten the knob.

To support overhanging ends

- 5 the support can be adjusted in height. For adjusting the height of the adjustable log stop, see separate instructions.

Adjusting the LOGOSOL



Checking the guide rail

Check that the guide rail is straight

- by sighting along one edge of the guide rail

or

- by stretching a line (e.g. feed cable) along the rail and placing a coin underneath both ends: all along the guide rail, the gap between the line and the guide rail must be the coin thickness.

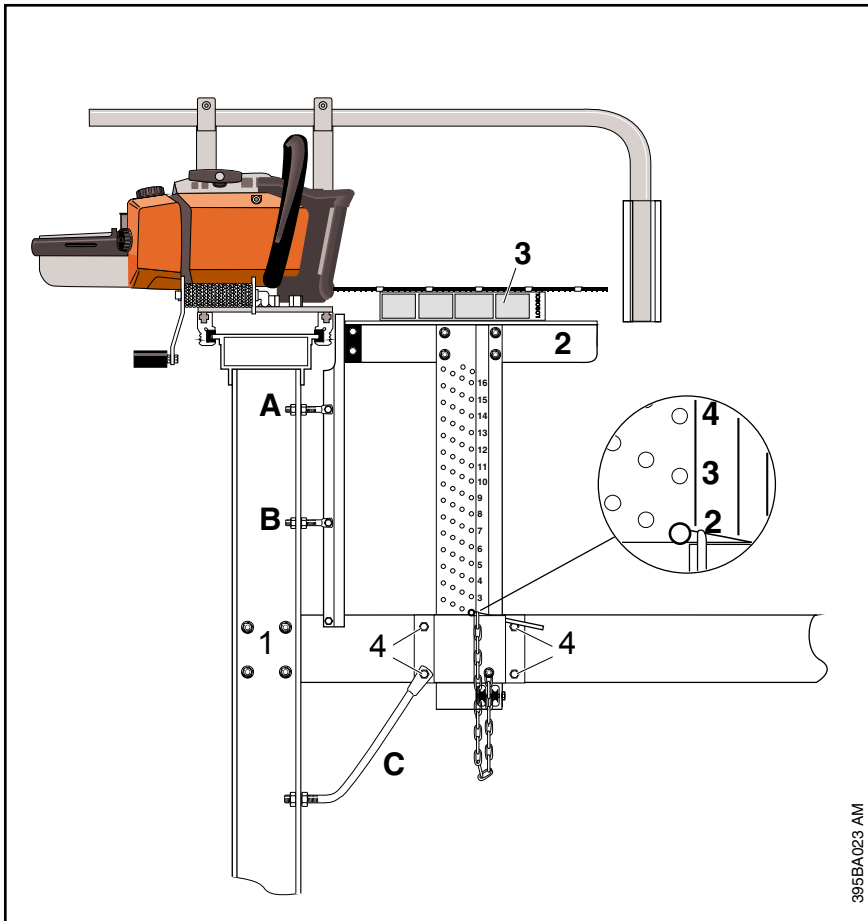
Adjusting the guide rail

By modifying the distance between the long legs, any bending of the guide rail can be corrected:

- Increasing the distance raises the ends and lowers the middle.
- Reducing the distance lowers the ends and raises the middle.
- Adjust the nuts on the adjusting strut until the guide rail is level.
- Lock both nuts and check the guide rail again.

Tightening the struts

- Tighten the screws and nuts of the rear struts on the guide rail side.



Check that the log support is parallel to the saw guide bar, and adjust if necessary.

Both log supports must be checked.

The long leg must fit flush, without gaps, in the guide rail.

- 1 Loosen the four screws and
- 2 Set the rule beam to 2" (insert the locating pin in the bottom hole of the line marked 2").
- Take the load fully off the lifting cable. The lock pin sits firmly in place.
- 3 Place the setting gauge on the log support - The gap between the guide bar and the setting gauge must be the same along the full length. If not, adjust as follows:

B Loosen the nuts of the lower adjusting bolt.

A Adjust the nuts of the upper adjusting bolt until the gap is the same along the full length.

- Lock the nuts, and check the gap again.

B Fit the nuts on the lower setting bolt and tighten them.

C By adjusting the nuts of the elbow strut the gap between the log support and the guide bar can be reduced so that the setting gauge fits in.

- Check that the adjustment has not changed when the nuts are tightened.

1 Tighten screws.

Check smooth operation of the log-raising device

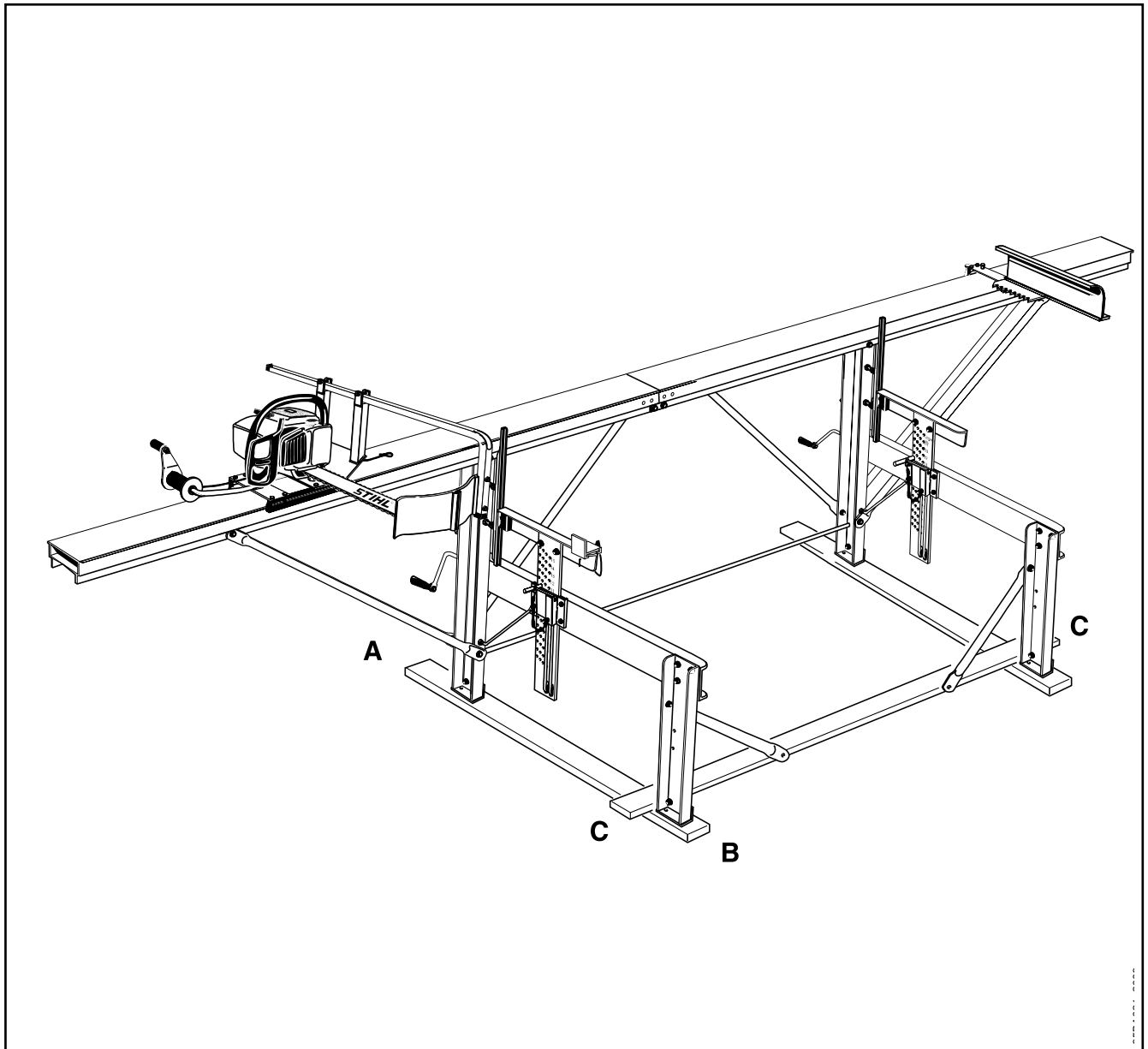
Lower the log-raising device if it does not operate smoothly.

- 4 Loosen the screws and corresponding nuts on the plate-clamp and retighten - if necessary change the appropriate nuts on the

B adjusting bolt to correct any deflection of the log stop.



Check that all screws and nuts are screwed tight.



WARNING !

If the LOGOSOL is placed on a soft-surface with poor support capacity, the saw mill stability no longer can be guaranteed, suitable supports must be placed under the legs.

NOTE: For optimal sawing results, LOGOSOL should always be screwed to a wooden-frame, as illustrated above.

The planks used should be $1\frac{1}{5}$ " - $1\frac{3}{5}$ " (2-3 cm) thick and should project about 20" (50 cm) behind (A) and 4" (10 cm) in front of (B) and (C).

Use the cruciform screws supplied for fixing:

- approx. $1\frac{1}{5}$ " (30 mm) for legs and struts.
- approx. $2\frac{2}{5}$ " (60 mm) for plank to plank.

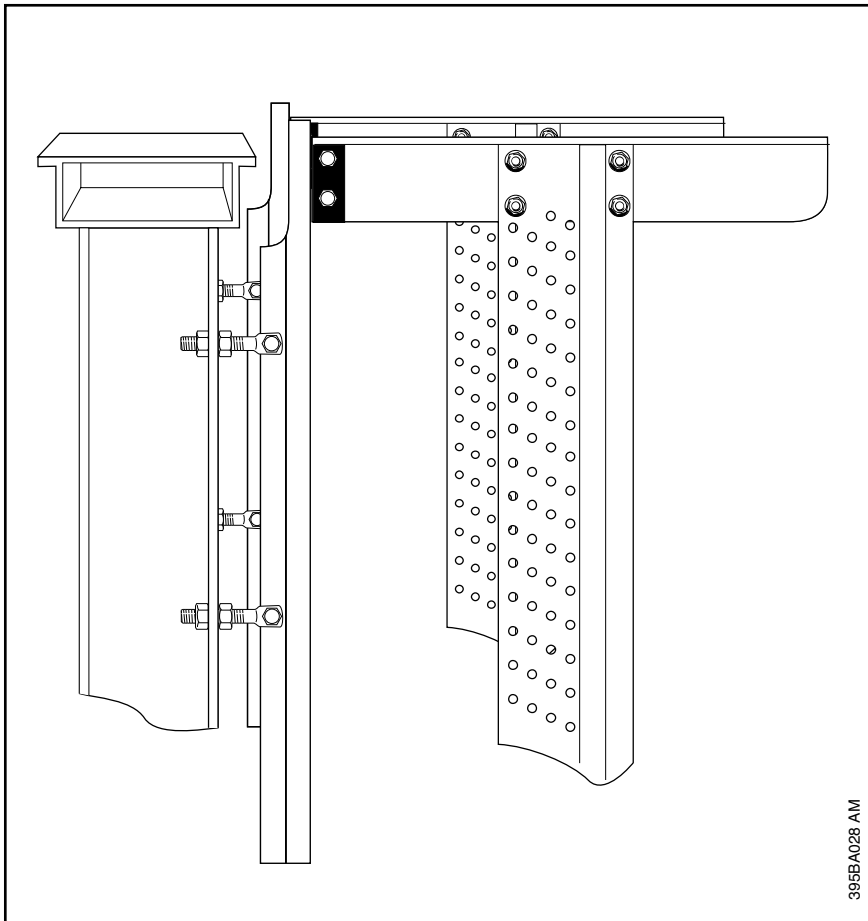
Screw the long plank and short legs to the same plank.

Lay one cross-plank against the short legs and screw it to the longitudinal planks - screw the free ends of the short struts to the cross-plank.



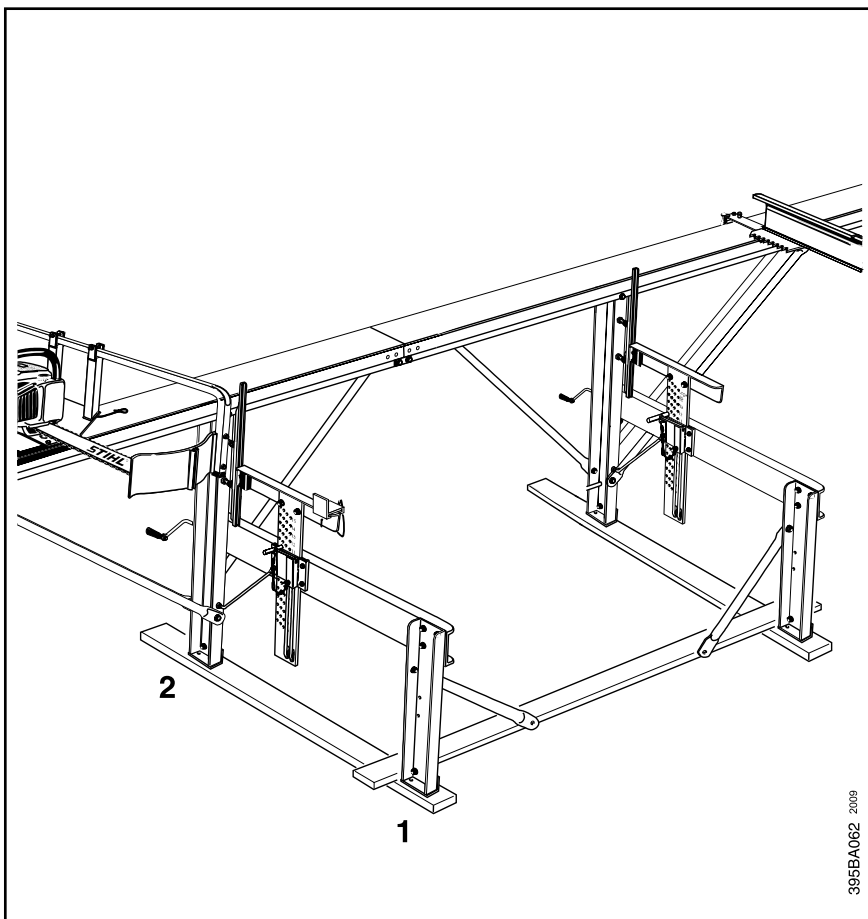
WARNING !

When working with LOGOSOL the frame must not be tilted at an angle - danger of accident due to overturning.



Check that the log supports are parallel with each other - including after moving LOGOSOL.

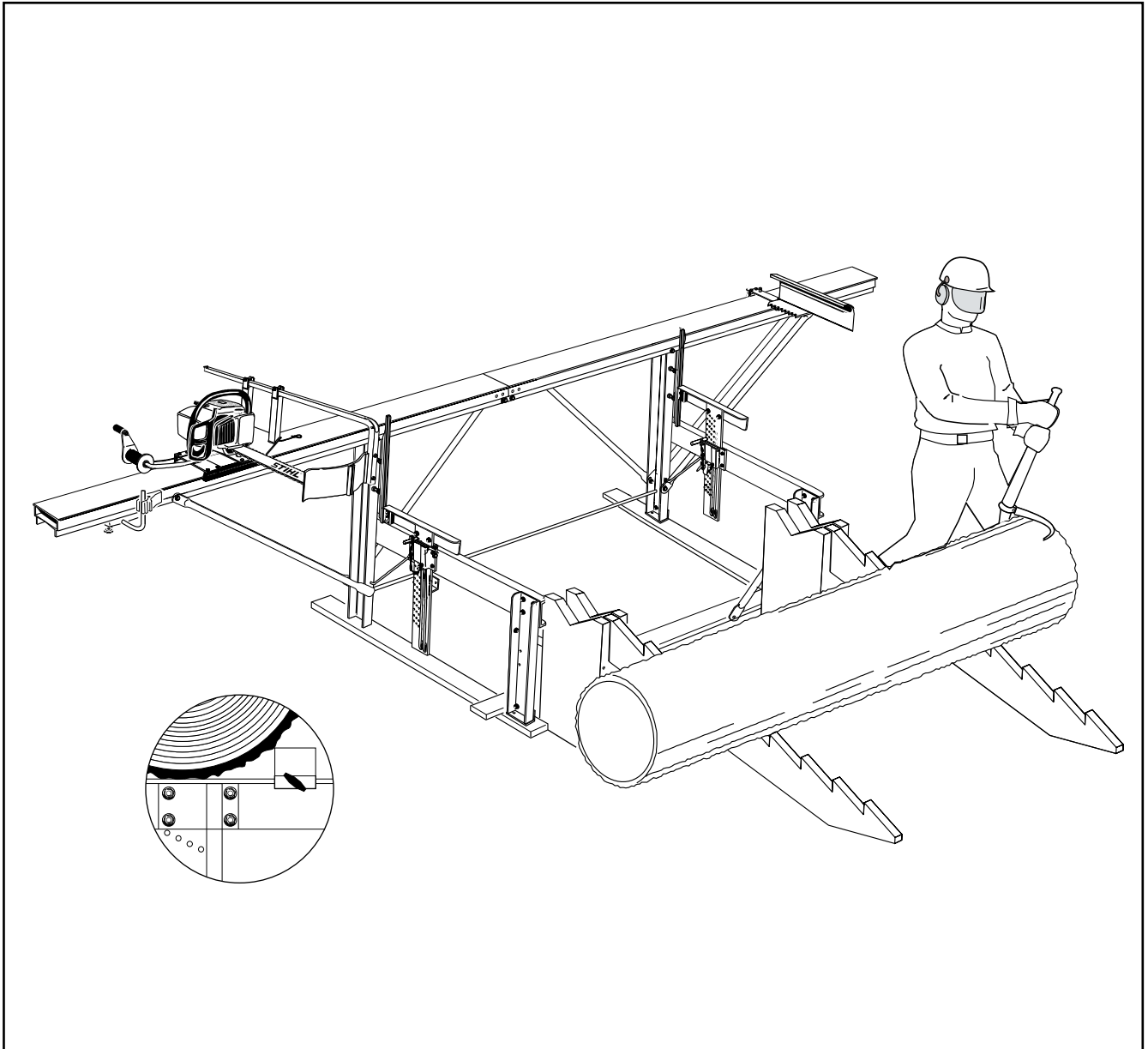
- By sighting from an edge of the front log support to an edge of the rear log support from several sighting points, check that the front and rear log support are parallel



Adjust the log support to bring them into parallel with each other

- By underpinning on one side, either under the
 - 1 short leg or
 - 2 long leg, align the log support in parallel with each other
- Check again whether the log supports are parallel.

Loading the LOGOSOL



If the timber is on a transport vehicle or similar system, use one of the loading methods on the following pages.

Loading methods on the ground.

Make a ramp that enables the logs to be lifted in stages. The support frame consists of a single unit.



WARNING !

Never stand in the direction of rolling of the log. Large tree-trunks should only be rolled onto the LOGOSOL using a loading ramp. The overall load capacity of a LOGOSOL is 1100 lb. (500 k). The 8.2 ft. (2.5 m) extension increases the capacity by 550 lb. (250 kg).

Adjust the saw carriage and spiked bumper to a position that does not obstruct loading. If necessary remove them from the guide rail altogether.

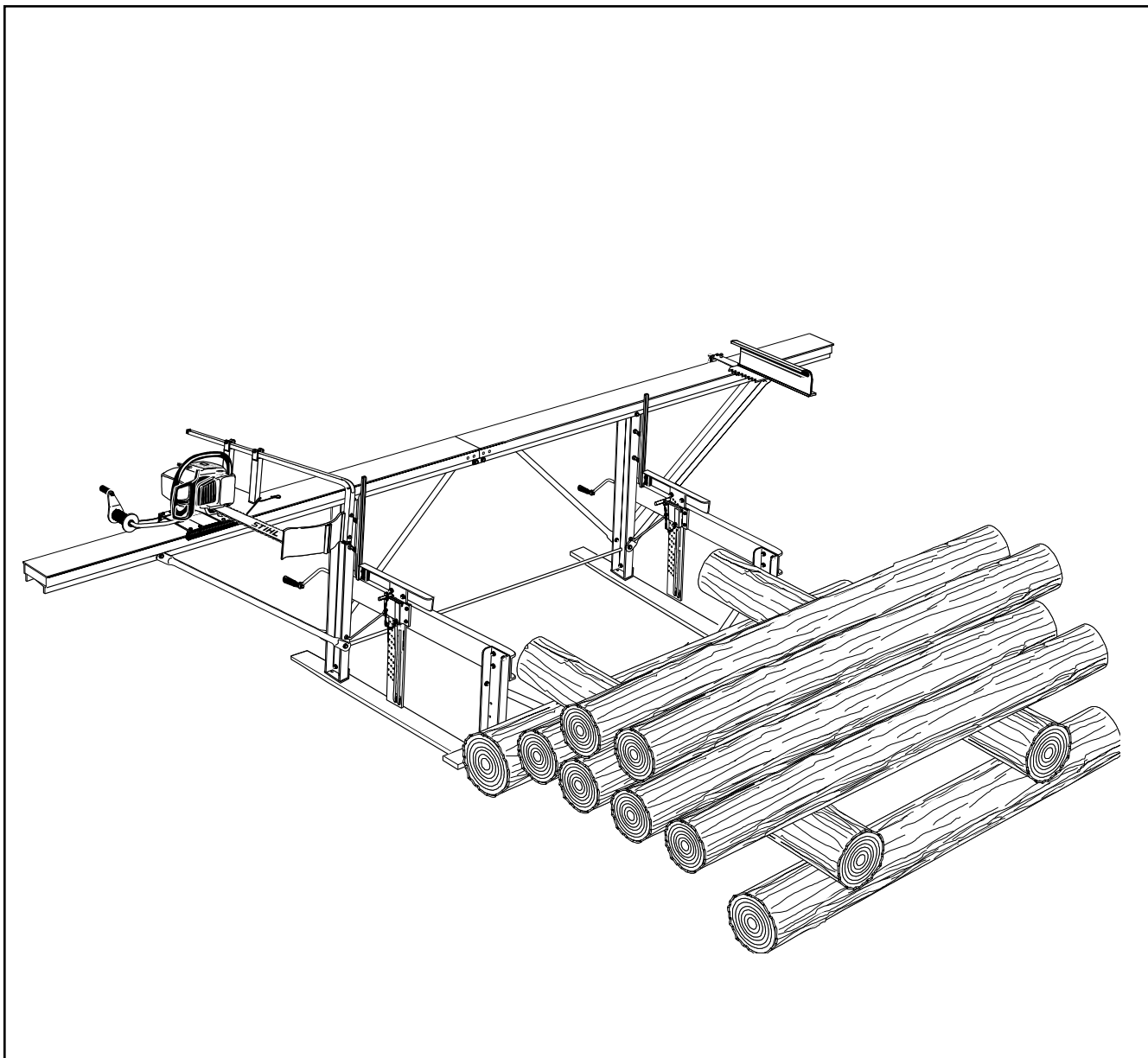
- Lower the log support fully.
- Fit the support frame to the short legs.
- Fit the ramps into the slots in the middle of the support frame.
- Roll the log up to the ramp.
- Roll the log up to the first stage with a cant hook.
- Turn the cant hook round and continue rolling the log up the ramp.

Repeat this movement until the log lies on the crossmembers.

- Stand behind the LOGOSOL and roll the log on to the log support with the cant hook

Mount the log stop-plate to the log support, and push it against the log to hold the log in place

- Tighten the wing nut of the stop-plate.



Loading methods for logs delivered on a transport vehicle or similar and processed in only a few days on the site.



WARNING !

Never stand in the direction of rolling of the log. Large tree-trunks should only be rolled onto the LOGOSOL using a loading ramp. The overall load capacity of a LOGOSOL is 1100 lb. (500 k). The 8.2 ft. (2.5 m) extension increases the capacity by 550 lb. (250 kg).

Make a ramp that enables the logs as shown in the drawing above. The loading ramp should reach the same height as the crossmembers.



WARNING !

Secure the logs of the loading ramp with wedges.

The loading ramp makes it easier to unload the timber from the vehicle and load the LOGOSOL. The logs must be secured against accidental slipping.



WARNING !

Never stand between the loading ramp and LOGOSOL. Never stand or walk on the loading ramp due to risk for accidental slipping.

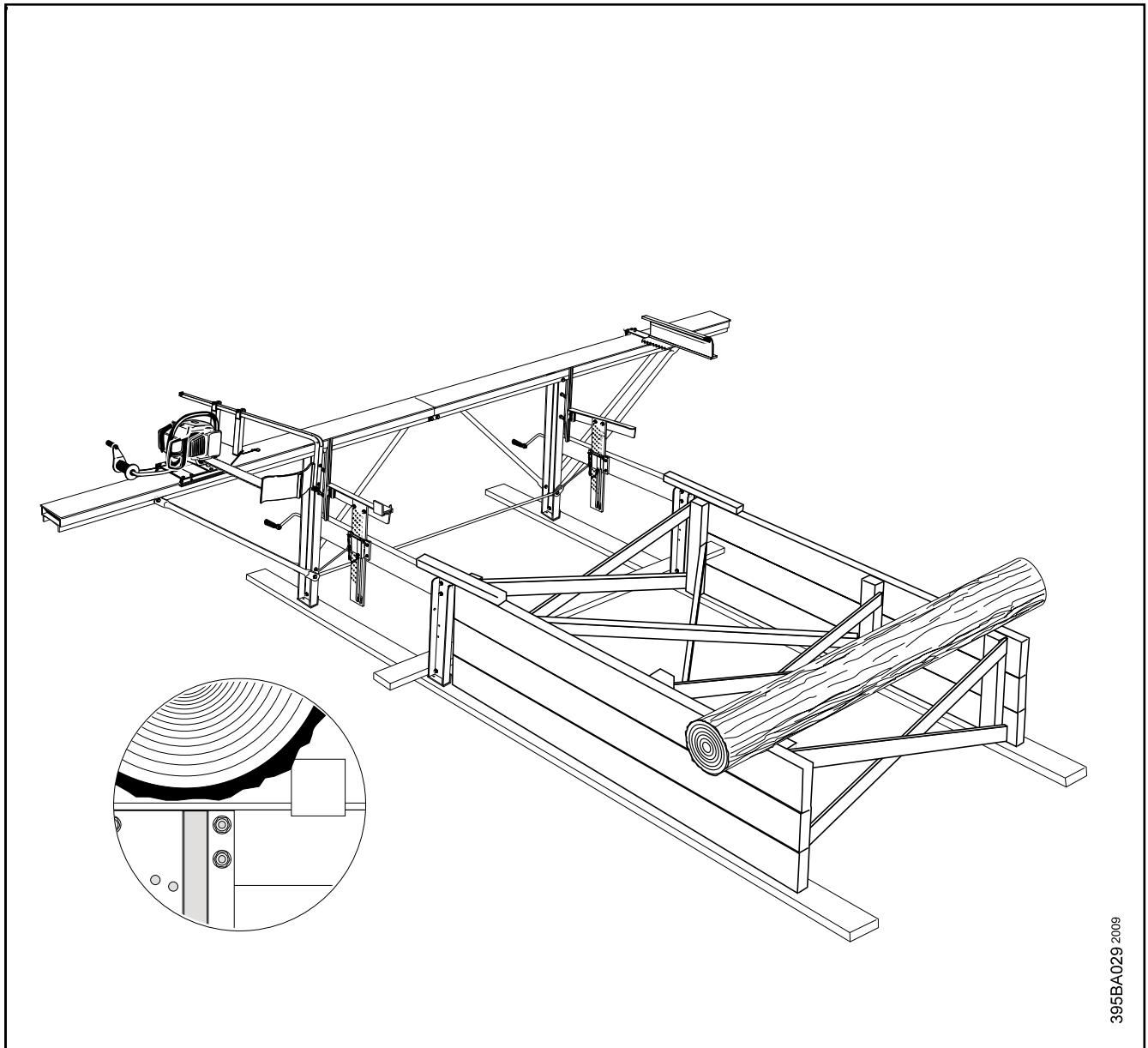
Adjust the saw carriage and spiked

bumper to a position that does not obstruct loading. If necessary remove them from the guide rail altogether.

- Fully lower the log support.
- Push a log forwards with the cant hook until it lies on the crossmembers.
- Stand behind the LOGOSOL and roll the log to the log support with the cant hook.

Mount the stop-plate on the log support and push it against the log to hold the log in place

- Tighten the wing nut of the stop-plate



395BA029 2009

Loading methods if the logs are delivered on a transport vehicle or similar system and are sawn on-site over a long period.



WARNING !

Never stand in the direction of rolling of the log. Large tree-trunks should only be rolled onto the LOGOSOL using a loading ramp. The overall load capacity of a LOGOSOL is 1100 lb. (500 k). The 8.2 ft. (2.5 m) extension increases the capacity by 550 lb. (250 kg).

Build the loading ramp as shown in the drawing above. The loading ramp makes it easier to unload the

logs from the vehicle and load the LOGOSOL. The logs of the loading frame must be secured against accidental slipping.

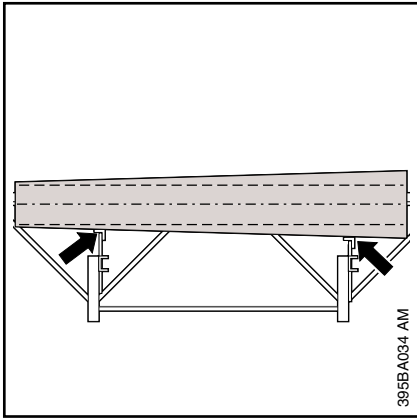
Adjust the saw carriage and spiked bumper to a position that does not obstruct loading. If necessary remove them from the guide rail altogether.

- Fully lower the log support.
- Push a log forwards with the cant hook until it rests on the cross-members.
- Stand behind the LOGOSOL and roll the log to the log support with the cant hook.

Mount the stop-plate on the log support and push it against the log to hold the log in place.

- Tighten the wing nut of the stop-plate

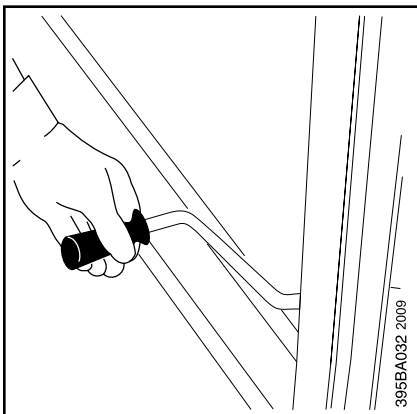
Example sawing operation



Load the LOGOSOL as described in the section on "Loading the LOGOSOL" - secure the log against the log support with the stop plates.

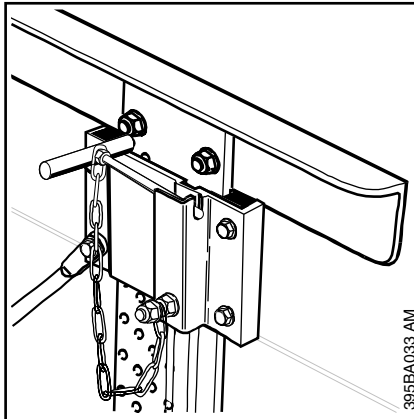
Note:

Sawing should always be in parallel to the central fibers of the log - The two drilled plates (see arrow) may therefore have to be set to different heights when the log is rested on an uncut side.



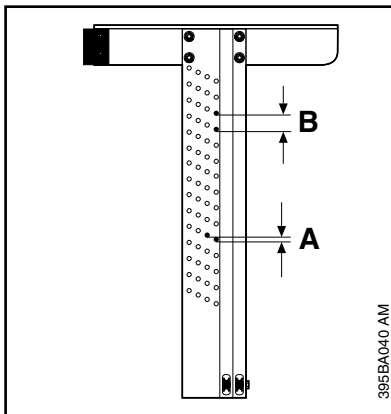
- Turn the lever to raise or lower the log to the correct position for the first cut

WARNING ! Hold the cranks firmly when turning them. If released, the crank may spin back and hit your hand.



- Insert the lock pin in an appropriate hole and secure its lever by inserting it in the slot of the plate-clamp.
- Lower the rule beam with the crank, until the lock-pin rests on the crossmember. **The lifting cable must be fully relieved of load.**

WARNING ! Always keep your hands well clear, so that they cannot be caught if the lifting cable snaps and lashes back.

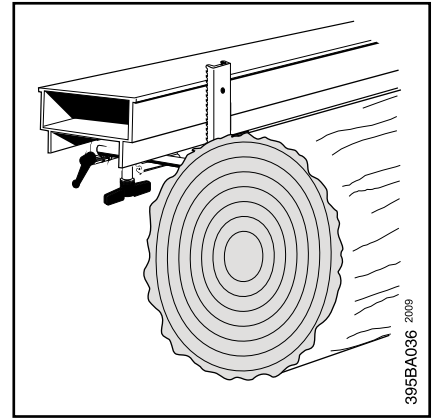


The distance between diagonally adjacent holes is

A 1/4" (6.3 mm)

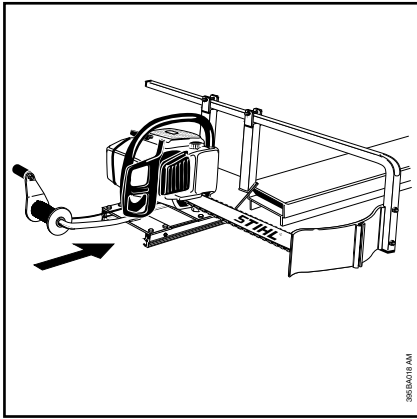
The distance between vertically adjacent holes is

B 1" (25.4 mm)

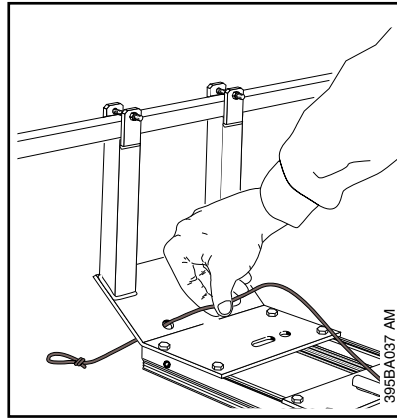


NB! Accessory. See p.24.

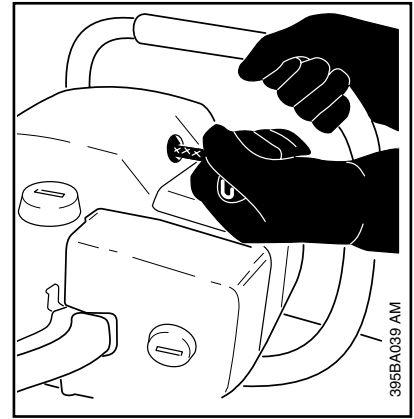
- Support the guide rail against the log- to do so, place the adjustable stop, U417 against the log, close to its end. The small log support can be disengaged and folded down if the log only needs to be supported laterally.



- Push the saw carriage on to the guide rail up to a point close to the log end



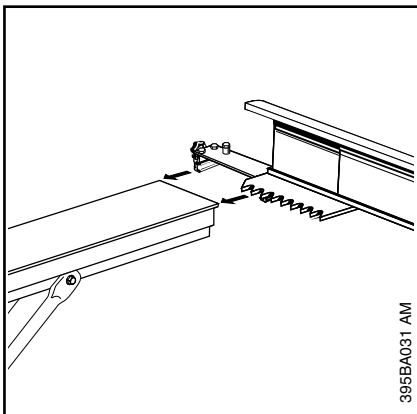
- Pass the feed cable through the hole in the slanting plate of the sledge.
- Pull the feed cable along to the spiked bumper.



- Start the chainsaw



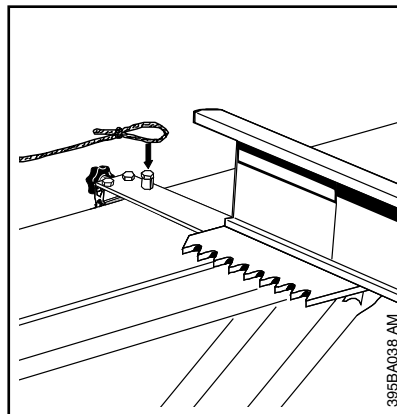
WARNING ! Be sure the chainsaw manual is read where instructions of starting the chainsaw are given. You must always follow it's safety requirements. Keep area clear of by-standers when milling.



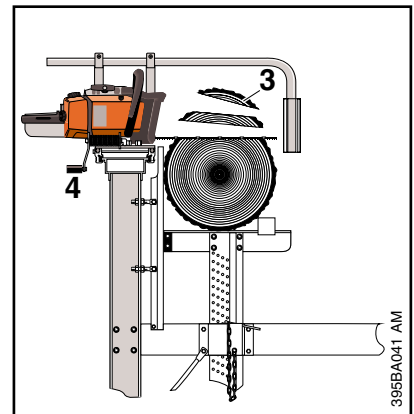
- Push the spiked bumper on to the guide rail.
- Place the spiked bumper at the end of the log.

For short pieces of wood or for pieces that do not lie flat:

- Tighten the clamp screw by hand.



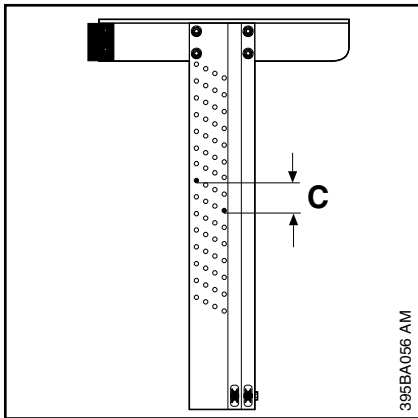
- Hang the feed cable over the screw on the spiked bumper.



- 3 Make the first cut and remove the first slab.
- 4 Move the chainsaw forwards evenly with the crank. Always saw at full throttle, and make sure that the engine speed does not drop. Turn off the saw and pull it back after each cut.



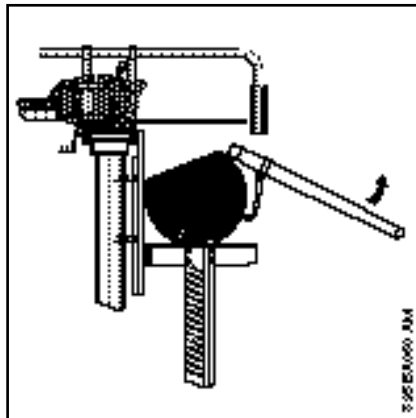
WARNING ! The stop-plate must always secure the log during operation in order to prevent crush injuries, as may occur should a log roll off the log support.



Set cutting thickness to 1 ½" for the first plank.

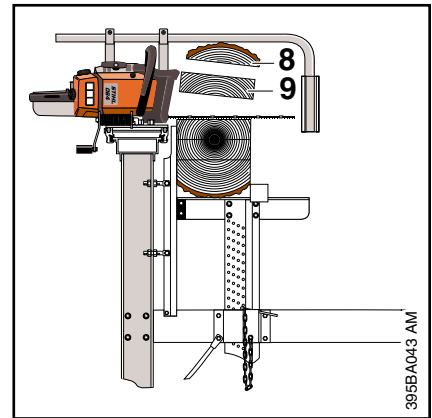
To do so, raise both log supports by

- C** 1 ¾" – the kerf width of the chain, ¼", must always be taken into account, and so ¼" more than the desired thickness must always be set



Turn the log

- Remove the stop-plates from the log-supports.
- Lower the log supports as far as they will go.
- Turn the log - with a quarter turn, the same sawn side will be against the log fences, and with a half turn it will be face down on the log supports.
- Secure the log with the stop-plates of the log-supports.

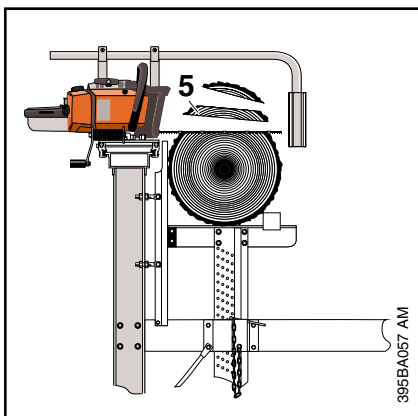


- Align the log parallel to its central fiber.

8 Saw off the third slab.

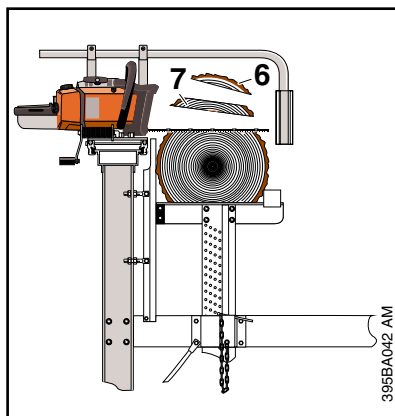
Make further cuts.

- Set the cutting thickness.
- 9** Saw off the plank or board.
- Turn the log until its unsawn side is uppermost.



Make the second cut and saw off the first

- 5** plank. Proceed in the same way as for the first cut.
- Turn the log, until the sawn side is face down on the log supports.

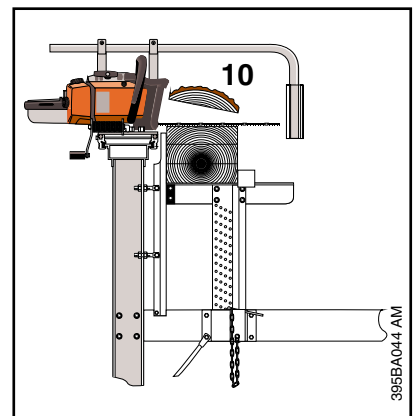


- Set both log supports to the same height.

6 Saw off the second slab.

7 Set the cutting thickness for the second plank and saw off.

- Turn the log until one of the cut sides rests against the log fences.

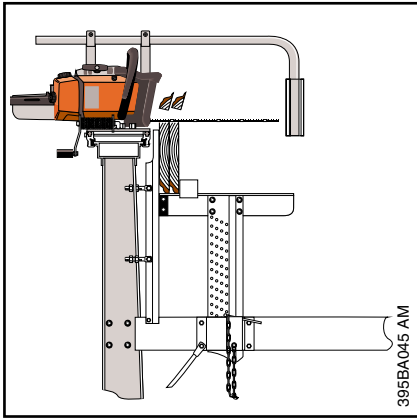


Set both log supports to the same height.

10 Saw off the fourth and last slab.

Make other cuts

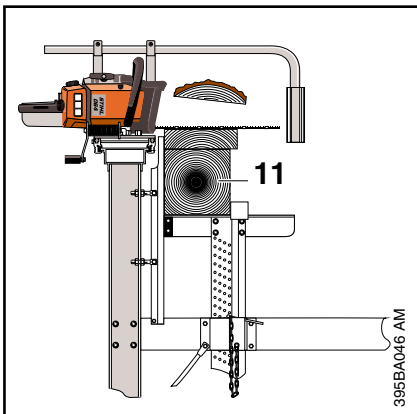
- Set the sawing thickness for the next cut.
- Saw off plank or board.



Trimming planks

Place the planks vertically against the log fence

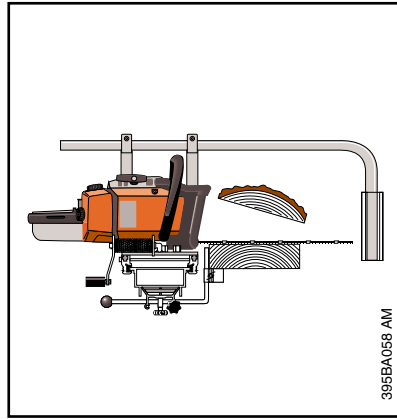
- Secure the planks with stop plates on the log support, the spiked bumper and the adjustable log stop.
- Set the cutting height.
- Saw off edges.
- Turn the planks over.
- Set the cutting height.
- Saw off the second edge.



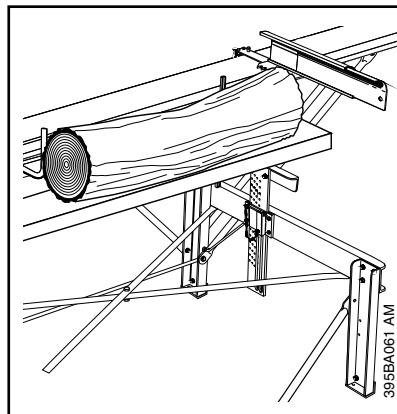
Sawing from thin beams

To prevent thin beams from bending place

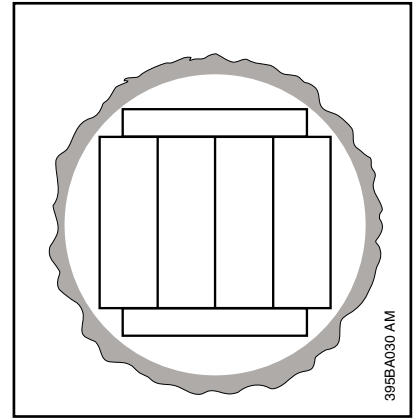
11 a solid fresh-cut beam underneath them.



In addition, the end can be fixed in the correct position by the adjustable log stop, U417, and the spiked bumper.



Note: In this way, you can also saw short blocks, pieces of bark and particularly bent logs.



The result of this example sawing operation can be as illustrated above.

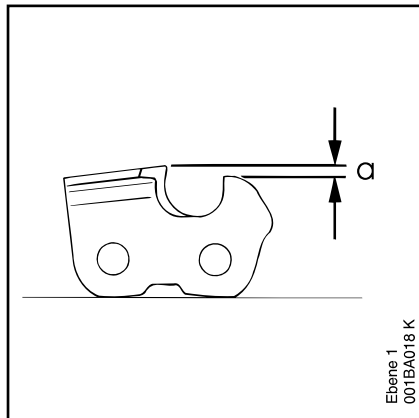
After work

- Carry out all work on the chainsaw in accordance with the operating instructions.
- Remove sawdust and saw waste and clean the LOGOSOL.
- Check that all running parts are running smoothly - if not, clean the edges or surfaces on which the sliders run. **Never lubricate.** Lubricants cause dirt and sawdust to stick to surfaces, thereby preventing smooth sliding.

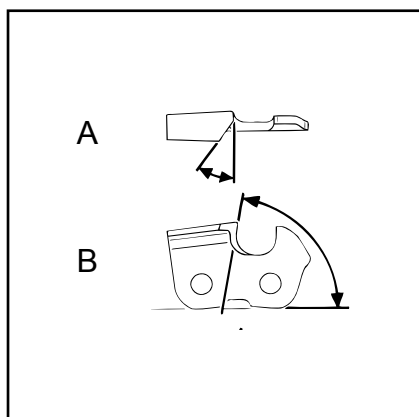
Maintenance of chain-saw bars and chains

Sharpening the saw chain

As described in the Operating Manual of the chain saw. Non-standard dimensions and instructions are listed.



To obtain good cutting performance with ripping chains, it is especially important to adhere to the depth gauge setting $a = 0.65 \text{ mm}$ between the cutting edge and the depth gauge.



Non-standard filing angles for the ripping chain:

A 10°

C 45-60°



WARNING: Ripping chain is designed for milling only. Cross-cutting with ripping chain can result in kick-back and cause severe injury.

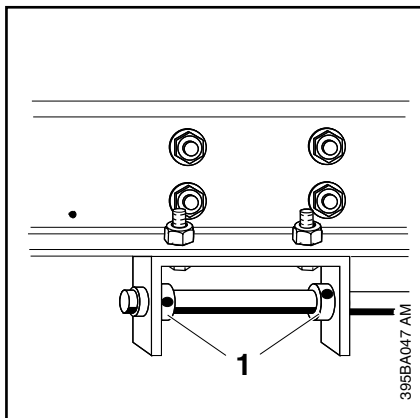
Maintenance of bars and chains

Due to the mechanical feed of LOGOSOL, chain lubrication must always be set to the highest level. Given the high chip removal rate of longitudinal cutting, the bars and chains may overheat. Chain lubrication is also permitted under these conditions.

The high chip removal rate and mechanical feed also lead to greater stress on the chain sprocket. For this reason the chain sprocket must be checked more frequently and replaced earlier than in standard chainsaw applications.

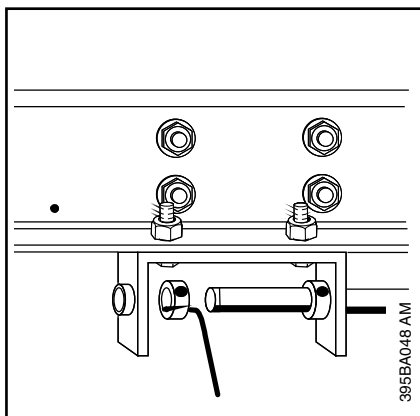
Note: Use 4-5 chains alternately with one sprocket during the breaking-in phase.

Replacing cables

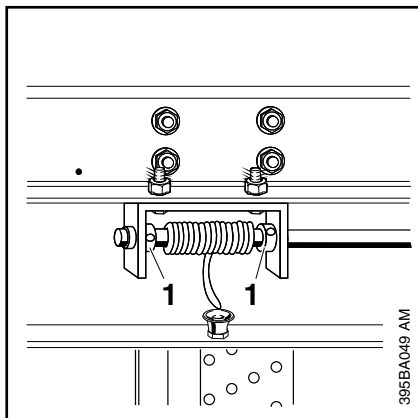


Lifting cable

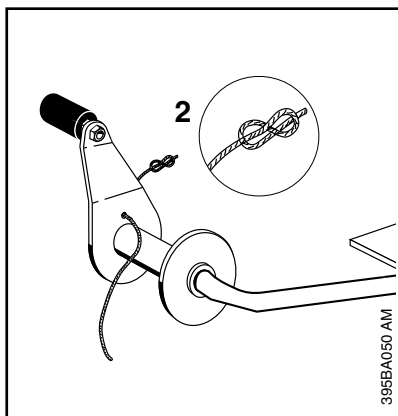
- Fully lower the log support - Loosen the threaded rods at the 1 setting gauge
- Pull the cable out of the groove of the setting collar and remove.



- Pull back the crank until you can take the first setting ring from the shaft.
- Insert a new cable in the groove of the setting ring.
- Push the setting ring complete with fitted cable on to the crank shaft.



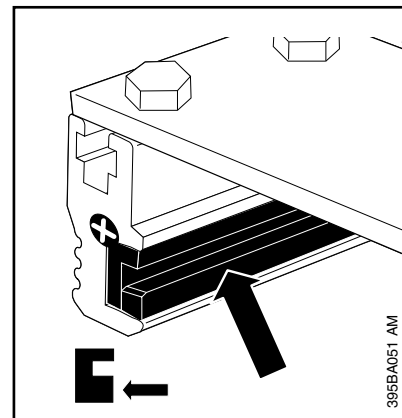
- 1 Press the setting rings as far as they will go against the bearing block.
- Tighten the threaded rods.
 - Thread the cable through, as described in the section on "Fitting the log-raising device".
 - Wind on the lifting cable counter-clockwise



Feed cable

- Remove the old cable.
- Push new cable through the hole on the crank handle and secure. 2 with a special knot.
- Wind on the cable.

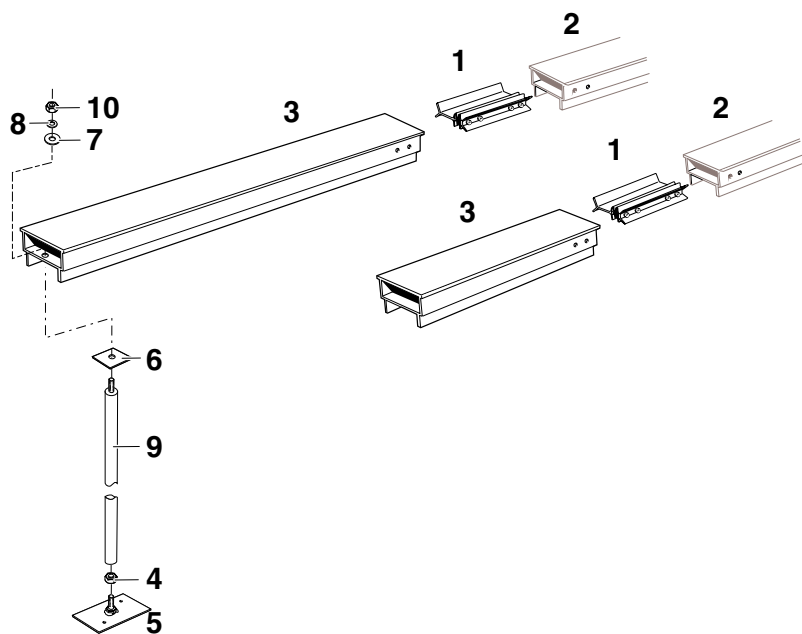
Replacing sliding blocks (plastic)



Saw carriage and spiked bumper

- Unscrew the cruciform screw.
- Push the sliding block out of its groove.
- Replace and insert a new sliding block in the groove with the wider edge down (see arrow).
- Screw in the cruciform screw and tighten.
- If necessary, file off the sliding block until it slides easily on the guide rail.

Rail extension kits



1.64 ft (0.5 m) and 3.28 ft (1.0 m) rail extension kit

- 1 Insert the rail connector half-way into the
- 2 guide channel - the holes and screw heads must line up.
 - Tighten the screws with moderate force and leave a hexagon socket wrench in one of the screw heads to prevent the rail connector slipping.
- 3 Fit the extension piece - the holes and screw must line up.
 - Tighten all four screws.

For the 3.28 ft (1.0 m) rail extension kit only

- 4 Screw nut (M10) onto the threaded rod of the
- 5 footplate.
- 6 Fit the plate and feed the threaded end through the hole of the extension piece.
- 7 Fit the washer and
- 8 spring washer to the threaded end
- 9 of the leg.
- 10 Screw on nut (M10) and tighten.

- 9 Place leg on
- 5 footplate and adjust height with
- 4 nut.

A 1.64 ft or 3.38 ft rail extension kit can be fitted at either end of the guide rail and only at the end, never in the middle.

8.2 ft (2.5 m) rail extension kit

Note: This rail extension must be mounted on the left-hand side of the LOGOSOL mill.

Assembly is similar to the construction of a complete LOGOSOL, with the one difference that the adjusting strut is only installed when joining to the main structure.

- Unscrew the nut on the adjusting strut of the LOGOSOL.
- 11 Screw the inside thread end of the adjusting strut on the extension to the threaded end of the LOGOSOL adjusting strut, and tighten.

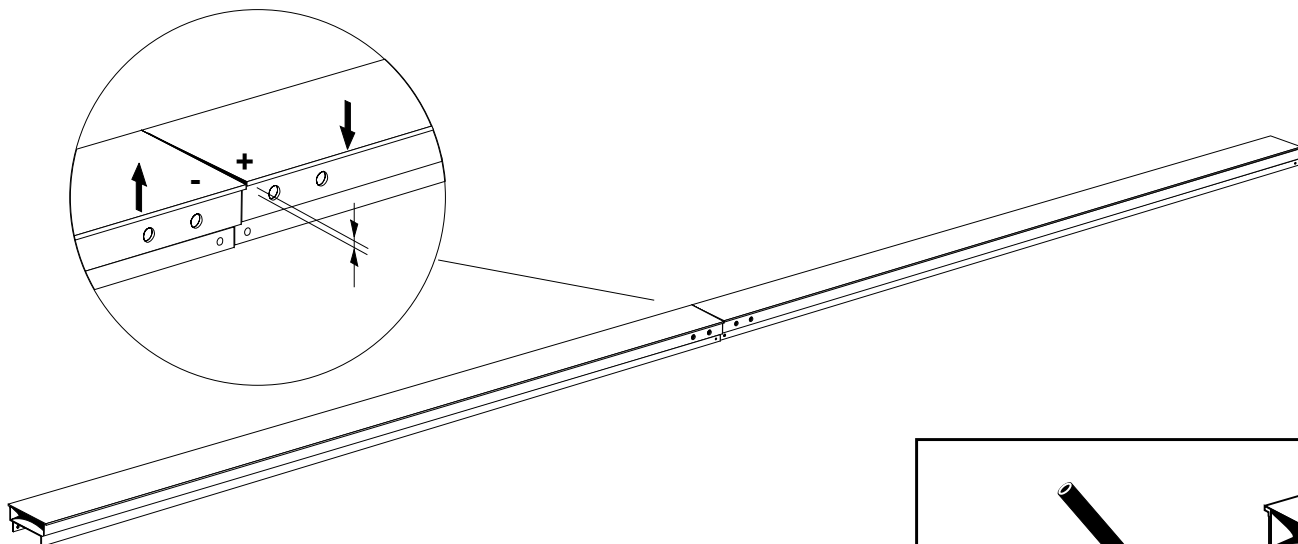


WARNING !

The 8.2 ft rail extension may only be fitted directly to a LOGOSOL sawmill.

395BA054 AM

395BA053_2009



Fine-tuning the joint couplers

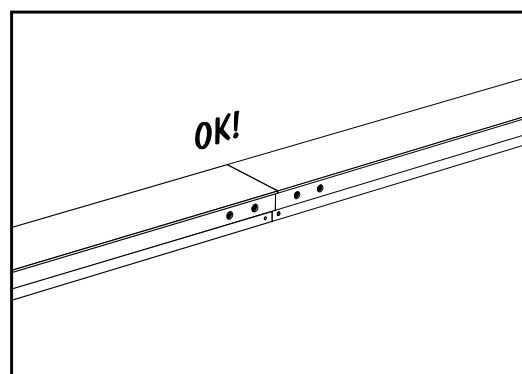
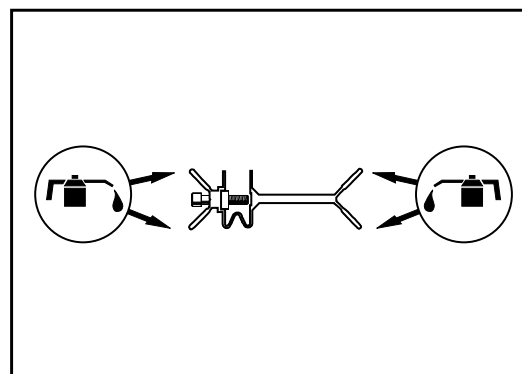
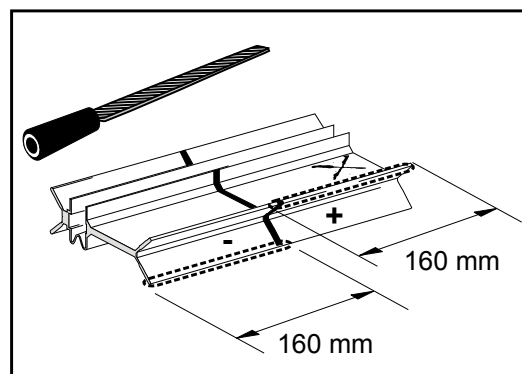
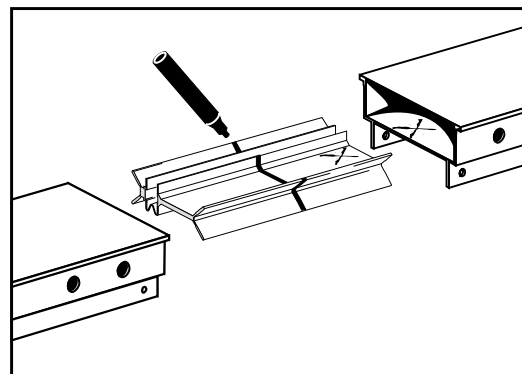
When two guide rails are coupled together, you often get a small difference in level on the sliding surface, which can make it difficult for the saw unit to run or make it bump as it passes the joint. This can easily be adjusted at the joint coupler.

Before you start modifying the joint coupler, make sure that it is correctly fitted in the rails. The joint coupler should be fitted as follows:

- A. Grind off sharp edges on both ends of the guide rail using a fine sandpaper or a fine-cut file
- B. Check the sides of the joint coupler. If necessary, file away protruding damages.
- C. Clean the inside of the guide rails.
4. Oil the long sides of the joint coupler before you insert it into the guide rails.
- D. Turn the joint coupler to the correct direction. The screws should be visible on the upper side before the guide rails are pushed together.
- E. Hit the rails gently using your hand or a rubber hammer while you are gradually tightening the expander screws to make sure that the joint coupler expands properly inside the guide rails.

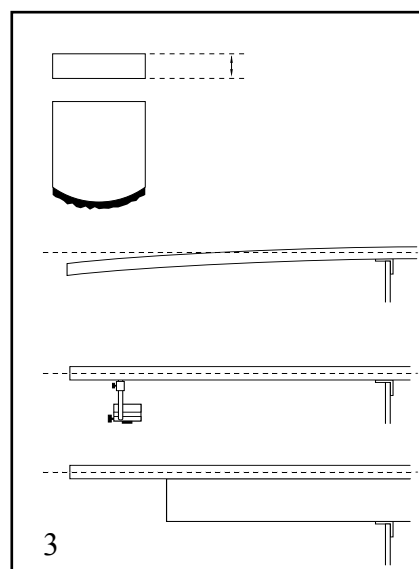
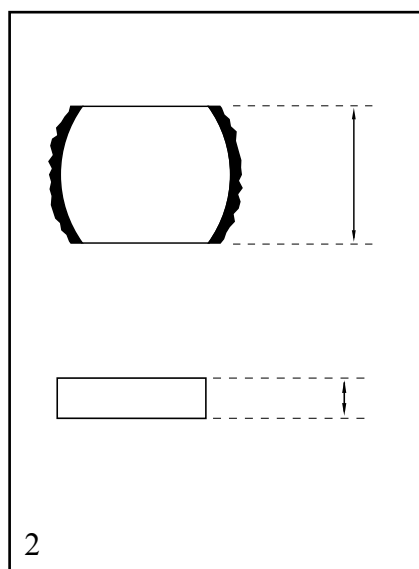
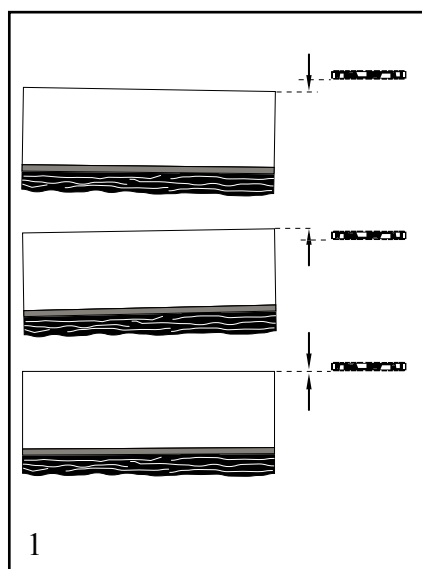
Adjusting the joint coupler.

1. If you can feel that there is a height difference on the joint where the guide rails meet, mark the point that is too high with '+' and the point that is too low with '-', using a pencil. NB: Height deviations on the middle point of the joint do not matter and should not be adjusted.
2. Mark the joint coupler with a felt pen, so that you know which end of the coupler belongs to which guide rail. For instance, write "X" inside one of the guide rails and on one of the coupler's ends. Also draw a line across the joint coupler, so that you know where the middle is.
3. File carefully using a flat file on the upper flange or flanges of the coupler that belongs to the side or sides of the guide rail you want to lower (+), and file equally on the lower flange that belongs to the side you want to raise (-). Start from the edge and file 160 mm towards the other end, i.e. 10 mm over the centre line.
4. Oil the filed surfaces.
5. Fit the guide rails together according to the instructions above (A-E) and inspect the result of your adjustment. If you are not satisfied, repeat the process from step 1 until the guide rails are level. Deviations less than 0.1 mm should not be adjusted.



Troubleshooting

| Fault | Cause | Remedy | Prevention |
|---|---|---|--|
| (1) Guide bar drifts up or down, springs back out of the cut when pulling; saw does not cut straight. | Chain incorrectly sharpened | Sharpen chain correctly. Maintain filing angle. | Use correct chain file with holder |
| | Cutting teeth damaged | Sharpen entire chain, making sure to maintain uniform tooth length, or fit new chain. | Kontrollera att stocken är fri från spik, grus och sand. |
| | Worn guide bar | Replace guide bar. | A correctly maintained chain prevents increased wear on the guide bar. |
| | Guide bar bent | Replace guide bar. | Check that the guide bar is straight. |
| (2) The sawn products are thinner on one side. The saw does not cut straight. | Log supports incorrectly adjusted | Adjust log support correctly | Check the setting using the setting gauge. |
| | Guide bar bent | Replace guide bar. | |
| (2) The sawn products are thinner at one or both ends. | Log supports incorrectly adjusted | Adjust log supports correctly | Check the setting using the setting gauge. |
| | Guide rail incorrectly adjusted | Adjust guide rail correctly. | |
| (3) The thickness varies over the length of the sawn product. | Log moves due to internal stresses | Shorten the log. | Before each cut, turn the log 90° so that the stresses are gradually absorbed. |
| | The ends of a thin plank are dropping due to their intrinsic weight | Use the adjustable log stop (U417) or underpin with a beam | |



| Fault | Cause | Remedy | Prevention |
|--|---|---|---|
| (2) Uneven thickness after turning the block | Bent guide rail, or the height of the log supports is incorrectly set. | Adjust the guide rail or the log supports correctly. | Check alignment with the gauge. |
| Decreasing saw speed | Blunt chain | Stop immediately and check the bar and chain. | Keep log free of dirt or similar. |
| | | Sharpen the chain, adjust depth gauge. | Regularly maintain the bar and chain. |
| | Faulty chainsaw | Follow instructions in the Chainsaw Operating Manual. | Regularly maintain the chainsaw |
| Sawmill vibrating | Occurs under particular loads, has no effect on the quality of the cut | Check the position of the variable log fence and adjust if necessary. | Use the adjustable log stop U417. |
| Chain breakage | Sawing with blunt chain | Fit new chain. | Regularly sharpen and maintain the chain. |
| | Chain overstretched | Fit new chain. | Check chain tension before sawing |
| | Chain insufficiently lubricated (tie straps overstressed) | Fit new chain. | Follow instructions in chainsaw Operating Manual. |
| | Wrong chain sprocket (damaged drive elements) | Replace chain sprocket, fit new chain. | Use the correct chain/sprocket combination. |
| | Chain sprocket worn or used wrong chain (damaged drive elements) | Replace chain sprocket, fit new chain. | Use 4-5 chains alternately with one sprocket during the running-in phase. |
| The sawn surface is below par | Damaged chain | Fit new chain | Bark dirty logs before sawing them. |
| | The side-plate angle is aggressive. Hard types of wood can increase the risk of getting a sawn surface below par. | It can be necessary to sharpen new chains too. Sharpen according to the instructions on p.36. | Use an electric sharpening machine. |

Maintenance and repair chart

| | | | | | | | | |
|---|------------------------|----------------------|--------------------------|------------------------------|----------------|------------|-----------|----------|
| The following tasks are intended for normal operating conditions. In difficult conditions (severe dust, extremely resinous wood, tropical woods etc.) and longer daily working hours, the specified intervals should be correspondingly reduced. | | Before starting work | After ending work, daily | For uneven cutting thickness | After erection | If damaged | If needed | See page |
| Complete LOGOSOL | Condition | X | | | | | | 36 |
| | Clean | | X | | | | | 36 |
| Guide rail | Straightness | | | X | X | | X | 26 |
| Log support | Operating test | X | | | | | | 27 |
| | Parallel check | | | X | X | | X | 27-28 |
| Plastic sliding block - log supports | Replace | | | | | X | X | |
| Saw carriage | Operating test | X | | | | | | 19-22 |
| Plastic sliding block - saw carriage | Replace | | | | | X | X | 37 |
| Feed cable | Replace | | | | | X | X | 37 |
| Sliding block on the rule beam | Replace | | | | | X | X | |
| Lifting cable | Replace | | | | | X | X | 37 |
| Spiked bumper | Operating test | X | | | | | | |
| Sliding block on the rule beam | Replace | | | | | X | X | 37 |
| Plastic parts | Spray with slide spray | | | | | | X | |
| All screws | Retighten | | | | X | | X | |

LOGOSOL users may only perform the maintenance and repair operations **described in these user instructions. All other repairs may** only be performed by a duly **authorized customer service workshop.**

After repair, guarantee claims will only be accepted if their repair was carried out by a duly authorized service company with original spares.



WARNING !

Operating your LOGOSOL without proper modified parts may cause injury to yourself and your equipment.

Technical Data

Material: Extruded aluminum

Length: 16.4 ft (5.0 m)

Width: 3.28 ft (1.0 m)

Weight: 110 lb. (50 kg)

Log dimensions

Log thickness max.: Ø 20" (50 cm)

Log length max.: 15.41 ft (4.7 m) standard version

Distance between

cross-members 5.9 ft (1.8 m)

Rail extension kits: 1.64 ft (0.5 m)

3.28 ft (1.0 m)

8.2 ft (2.5 m)

How to order spare parts

To simplify the purchase of spare parts, please specify the sales reference with the manufacturer's serial number next to it.

Serial number

| | | | | | | |
|--|--|--|--|--|--|--|
| | | | | | | |
|--|--|--|--|--|--|--|

The serial number is located on top of the crossmember.

Accessories

Cutting equipment

For Stihl 064 / 066 / E4000 / E 5000 / E8000:

Guide bar - 16" (40 cm), 1.3 picco

Ripping chain for guide bar above, 60 DL

Guide bar - 25" (63 cm), 1.3 picco

Ripping chain for guide bar above, 84 DL

For Stihl 064 / 066:

Chain drive sprocket, picco 3/8"

For E 5000:

Star drive 3/8"

Bar nose steering, for petrol chainsaw

Bar nose steering, for Logosol's electric saw unit

Water cooling for the cutting equipment on Logosol's electric saw unit

Sharpening equipment

Manual electric chain grinder

Automatic sharpening robot

Extensions

End extension 0.5 m (1.6 ft)

End extension 1.0 m (3.2 ft)

Support leg with adjustable foot

Half sawmill 2.5 m (8 ft)

Aids

Log turner, helps you rotate the log

Hearing protection with face shield

Folding rule 2 m, with millimeter and inch scales

Electric sawing unit

E 5000, high capacity 3-phase saw, incl. support leg

Feeder for E 5000, stepless in both directions

Bandsaw, 3-phase, with 350 mm (13.8") opening

Moulders

Electric log moulder, 3-phase

Log moulder powered by petrol chainsaw

Logosol SH230 planer, dimensioner and moulder

Artikelnummer

3003-025-0040

3999-000-0060

3003-025-0063

3999-000-0084

1122-640-2006

1207-642-1310

6605-000-0205

6605-000-0200

6605-000-0100

9999-000-1525

9999-000-1515

4510-720-6602

9999-000-1004

6600-000-3001

4510-720-6104

9999-000-2702

7001-884-2233

9922-130-0000

6601-000-0005

6600-000-1000

9999-000-7500

7600-000-0230

7700-000-0230

7202-000-0230



Guide bars adapted for sawmills.

EU declaration

In accord with EU's machinery directive 98/37/EG,
Annexe 2A

Manufacturer: LOGOSOL AB,
Industrigatan 13,
SE-871 53 Härnösand

The company hereby certifies that

Logosol's sawmill

Type: M5

is manufactured in accord with the following EU
directives:

98/37/EG, Machinery directive

2006/95/EG, Low voltage directive

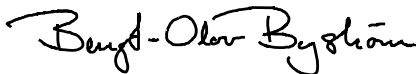
2004/108/EG, EMC directive

As framework for this declaration following
standards have been used:

EN ISO 12100-1:2003, EN ISO 12100-2:2003,

EN 60204-1:2007 +(EMC standard)

Härnösand, 16-06-2009



Bengt-Olov Byström MD, Logosol AB, Sweden



Warning !

We draw to your attention to the fact that this product may not be put into operation until the chainsaw that you intend to mount on the product has been validated as conforming to the provisions of the applicable Directives.

LOGOSOL AB
Industrigatan 13
S-871 53 Härnösand
Sweden

Phone: +46 (0)611 182 85
Fax: +46 (0)611 182 89
E-mail: info@logosol.se
Internet: www.logosol.se

LOGOSOL INC.
116 Solleftea Drive
PO. Box 660
Madison MS 39130
USA

Toll-free: 1-877-LOGOSOL
Phone: +1-601-856-1889
Fax: +1-601-856-9535
E-mail: info@logosol.com
Internet: www.logosol.com

LOGOSOL UK
The Sawmill
Abbey St. Bathans, Duns
Berwickshire TD11 3TX

Phone: 01361 840251
Fax: 01361 840389
E-mail: enquiries@logosol.co.uk
Internet: www.logosol.co.uk