

RAIL DRILLS

Cembre Rail Drilling Machines have been specifically designed for use in Railway applications to provide a consistent and accurate hole, in all types of weather conditions. Due to their compact size, our drill can save considerable time by allowing direct operation in cases which would normally require the removal of armament. Special twist drill bits can be used for hole diameters of 9/32 to 1 1/8" on rail up to 3 1/2" thick. Broach cutters can be used for hole diameters 3/4" to 1 1/2" on rails up to 2 3/4" thick.

The drills are provided with a coolant system consisting of a reservoir and pump for use with suitable cooling lubricants. Connection to the rail drill is by a quick coupler. The units are lightweight and ideally suited for one man operation.

LD-3PY - 2 cycle gas

GENERAL FEATURES:

- **Engine:** 2 cycles
- **Displacement:** 48.6 cc
- **Fuel:** 2% (1:50) oil/gasoline mixture
- **Start:** by rope pull
- **Clutch:** Centrifugal with automatic intervention
- **Power:** 1.9 HP; 1.4 kW
- **Drilling range:** Ø 9/32" to 1 1/2"
- **Max drilling thickness:** 2 3/4"
- **Weight:** 40 lbs



LD-2EY - Electric

GENERAL FEATURES:

- **Electric single phase engine:**
 - supply voltage 120 V - 60 Hz
 - power rating 1.8 W
- **Drilling range:** Ø 9/32" to 1 1/2"
- **Max drilling thickness:** 2 3/4"
- **Weight:** 38 lbs



RAIL DRILLS

LD-8H - Hydraulic

GENERAL FEATURES:

- Engine: hydraulic
- Oil input flow: 5 gpm
- Oil input pressure: 2,000 psi
- Power: 2 kW
- Weight: 44 lbs

Drilling range: \varnothing 9/32" to 1 1/2"



LD-41PY - Four cycle gas

GENERAL FEATURES:

- Engine: four cycle
- Displacement: 35.8 cc
- Fuel: unloaded regular grade gasoline
- Start: by rope pull
- Clutch: centrifugal with automatic intervention
- Power: 1.3 HP ; 1 kW
- Weight: 43 lbs

Drilling range: \varnothing 9/32" to 1 1/2"



LD-12BY - Battery

GENERAL FEATURES:

- Direct current electric motor
- Supply voltage: 24 V DC
- Power rating: 345 W
- Weight: 37 lbs

Drilling range: \varnothing 9/32" to 3/4"



BATTERY PACK:

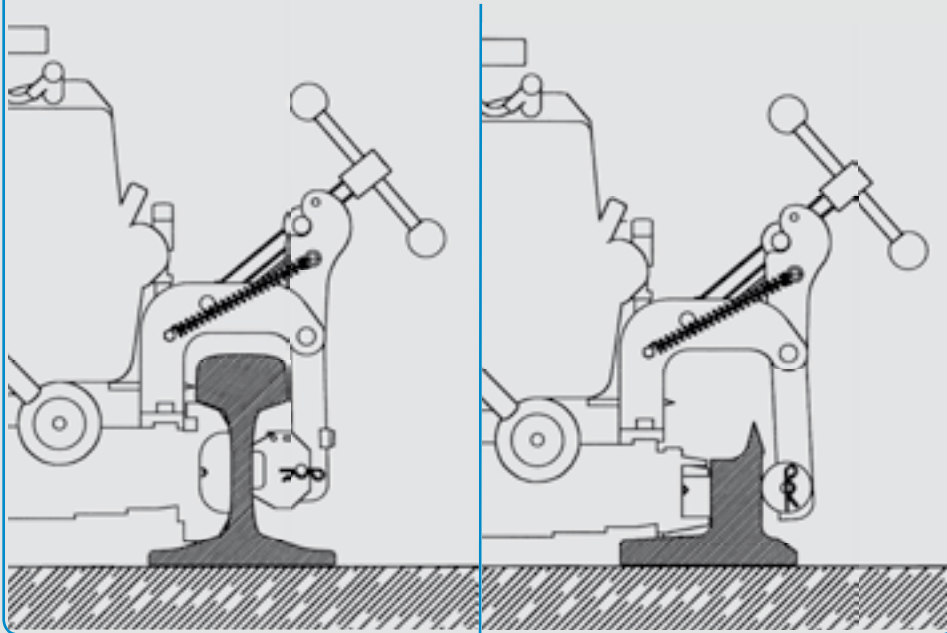
- BP 24-16 (24 V DC 16 Ah): 33.2 lbs.
- BP 24-10 (24 V DC 10 Ah): 24.2 lbs.
- Battery condition display
- Protection fuse
- Battery charger 24V 2A max.

RAIL DRILLS

Typical fixing situations:

To the Railweb

This system is ideally suited to working when the track is under possession or if not under possession when adequate train sighting provision is in place, however removal from the rail can be quickly achieved if so required. Using this arrangement, a hole can be drilled in correspondence of tie.



Rail drills for drilling in correspondence of guard rail

LD-3PYGR

GENERAL FEATURES:

- **Engine:** 2 cycles
- **Displacement:** 48.6 cc
- **Fuel:** 2% (1:50) oil/gasoline mixture
- **Start:** by rope pull
- **Clutch:** Centrifugal with automatic intervention
- **Power:** 1.9 HP; 1.4 kW
- **Drilling range:** Ø 9/32" to 1 1/2"
- **Max drilling thickness:** 2 3/4"
- **Weight:** 40 lbs.



LD-2EYGR

GENERAL FEATURES:

- **Electric single phase engine:**
 - supply voltage 120 V - 60 Hz
 - power rating 1.8 kW
- **Drilling range:** Ø 9/32" to 1 1/2"
- **Max drilling thickness:** 2 3/4"
- **Weight:** 38 lbs



LD-41PYGR

GENERAL FEATURES:

- **Engine:** four cycle
- **Displacement:** 35.8 cc
- **Fuel:** unloaded regular grade gasoline
- **Start:** by rope pull
- **Clutch:** centrifugal with automatic intervention
- **Power:** 1.3 HP ; 1 kW
- **Drilling range:** Ø 9/32" to 1 1/2"
- **Weight:** 43 lbs



STANDARD ACCESSORIES (ALWAYS SUPPLIED WITH THE DRILLING MACHINE) RAIL DRILLS TYPE LD-3PY AND LD-2EY

These machines are supplied with the following accessories:

DBG-Y Over Rail Clamp

For clamping of drilling machine to rail web and track fittings
Complete with

- TDB 6 termination

SR 5000 Coolant unit

Coolant unit consisting of pressure vessel and hose, fitted with a manual pump and maximum pressure valve. Connection to the drilling machine is by quick coupler.

Measure for mixture preparation* (6261300)

It allows to prepare the oil-gas mixture

Oil for the gear box for LD-3PY 100 ml (6001361)

Oil for the gear box for LD-2EY 140 ml (6001362)

Range of tools

- 1 x spark plug key*
- 1 x 5 mm Allen key (6134020)
- 1 x 6 mm Allen key (6134030)
- 1 x 4 mm Allen key, with handle (6134010)
- 1 x swarf brush (6261310)

* Accessory supplied only for LD-3PY (6134040) and LD-41PY (6134042) rail drills

Socket head cap screws

4 pcs for clamping cutter or adaptor into spindle shaft (6340160)

4 pcs for securing drilling template to the front plate (6900316)

4 pcs for securing heavy duty drilling template to the front plate (6900330)

ARE Adaptor

For the external application of the coolant. Fits directly to the SR 5000 coolant unit coupler

FOR USE WITH BROACH CUTTERS

Guide Bits

Allow the automatic control (opening and closing) of the flow of the cooling mixture during the drilling operation. They must be inserted in the rear of the cutter, before the cutter is located into the spindle.

- PPC2 For use with short broach cutters (7/8" depth of cut)
- PPL2 For use with long broach cutters (2" depth of cut)

FOR USE WITH SPIRAL BITS

DPE Spacer

For use with APE adaptor to activate the coolant when using spiral drill bits.



OPTIONAL ACCESSORIES FOR RAIL DRILLING MACHINES (TO BE ORDERED SEPARATELY)



TST 50 two stage template (to be used with DBG - AY clamp)

This device enables the drilling of 150 lb and aluminium composite contact rails from one side.

TST 50 Restart of work stroke: 1.97"

Typical application: – Aluminium composite rail

– 150 lb contact rail (Please see pag. 20 for accessories)

Rail shoes for positioning the drill on running and guard rails

Enable the automatic positioning of the machine on the drilling axis of each specific rail.



Picture A

Cembre Rail Shoes Drilling On Running Rails

MPAU	Cembre universal rail shoe (for other types of rail or special application such as drilling #20 high speed switch points)
MPAU-10	Cembre universal short rail shoe (for other types of rail or special application)
MPAF 40 LB ASCE	Cembre Shoe for drilling 40 LB ASCE rail (Bolt hole elevation 1 9/16")
MPAF 60 LB ASCE	Cembre Shoe for drilling 60 LB ASCE rail (Bolt hole elevation 1 115/128")
MPAF 80 LB ASCE	Cembre Shoe for drilling 80 LB ASCE rail (Bolt hole elevation 2 3/16")
MPAF 85 LB ASCE	Cembre Shoe for drilling 85 LB ASCE rail (Bolt hole elevation 2 17/64")
MPAF 85 LB PRR	Cembre Shoe for drilling 85 LB PRR rail (Bolt hole elevation 2 1/16")
MPAF 85 LB PS	Cembre Shoe for drilling 85 LB PS rail (Bolt hole elevation 2 15/64")
MPAF 90 LB ARA-A	Cembre Shoe for drilling 90 LB ARA-A rail (Bolt hole elevation 2 9/16")
MPAF 90 LB ASCE	Cembre Shoe for drilling 90 LB ASCE rail (Bolt hole elevation 2 45/128")
MPAF 100 LB ARA-A	Cembre Shoe for drilling 100 LB ARA-A rail (Bolt hole elevation 2 3/4")
MPAF 100 LB ARA-B	Cembre Shoe for drilling 100 LB ARA-B rail (Bolt hole elevation 2 65/128")
MPAF 100 LB ASCE	Cembre Shoe for drilling 100 LB ASCE rail (Bolt hole elevation 2 65/128")
MPAF 100 LB DY	Cembre Shoe for drilling 100 LB DY rail (Bolt hole elevation 2 5/8")
MPAF 100 LB NH	Cembre Shoe for drilling 100 LB NYNH& H rail (Bolt hole elevation 2 39/64")
MPAF 100 LB RE	Cembre Shoe for drilling 100 LB RE rail (Bolt hole elevation 2 45/64")
MPAF 100 LB RE-HF	Cembre Shoe for drilling 100 LB RE-HF rail (Bolt hole elevation 2 45/64")
MPAF 100 LB PRR	Cembre Shoe for drilling 100 LB PRR rail (Bolt hole elevation 2 9/32")
MPAF 100 LB PS	Cembre Shoe for drilling 100 LB PS rail (Bolt hole elevation 2 31/64")
MPAF 105 LB DY	Cembre Shoe for drilling 105 LB DY & 110 LB RE rail (Bolt hole elevation 2 43/64")
MPAF 115/119 LB RE	Cembre Shoe for drilling 112/115/119 LB RE rail (Bolt hole elevation 2 7/8")
MPAF 122 CB	Cembre Shoe for drilling 122 CB rail (Bolt hole elevation 2 7/8")
MPAF 127 LB DYM	Cembre Shoe for drilling 127 LB DY rail (Bolt hole elevation 3 1/8")
MPAF 130 LB RE	Cembre Shoe for drilling 130 LB RE/HF-A rail (Bolt hole elevation 2 3/4")
MPAF 130 LB RE-HF	Cembre Shoe for drilling 130 LB RE/HF rail (Bolt hole elevation 3 1/16")
MPAF 130 LB HF-B	Cembre Shoe for drilling 130 LB HF-B rail (Bolt hole elevation 3 3/8")

MPAF 130 LB PS

Cembre Shoe for drilling 130 LB PS rail (Bolt hole elevation 2 3/4")

MPAF 131 LB RE

Cembre Shoe for drilling 131 LB RE rail (Bolt hole elevation 3 1/2")

MPAF 132 LB RE

Cembre Shoe for drilling 132 LB RE running rail (Bolt hole elevation 3 3/32")

MPAF 133 LB RE

Cembre Shoe for drilling 133 LB RE rail (Bolt hole elevation 3")

MPAF 136 LB RE

Cembre Shoe for drilling 136 LB RE rail (Bolt hole elevation 3 3/32")

MPAF 136 LB LVM

Cembre Shoe for drilling 136 LB LE VAL rail (Bolt hole elevation 3 1/16")

MPAF 140 LB RE

Cembre Shoe for drilling 140 LB RE and 140 PS rail (Bolt hole elevation 3")

MPAF 141 LB AB

Cembre Shoe for drilling 141 LB AB and 141 LB RE rail (Bolt hole elevation 3 3/32")

MPAF 152 LB PS

Cembre Shoe for drilling 152 LB PS rail (Bolt hole elevation 3 3/4") to be used with PFA1 (arbour extension) and PPL5 (Pilot Bit)

MPAF 155 LB PS

Cembre Shoe for drilling 155 LB PS rail (Bolt hole elevation 3 3/8") to be used with PFA1 (arbor extension) and PPL5 (Pilot Bit)

Cembre Rail Shoes Drilling On Guard Rails (Using DBG-GR clamp)

MPAF 100 LB ARA-B GR

Cembre Shoe for drilling 100 LB ARA-B guard rail (Bolt hole elevation 2 1/4")

MPAF 115/119 LB RE GR

Cembre Shoe for drilling 112/115/119 LB RE guard rail (Bolt hole elevation 2 5/8")

MPAF 115 LB-RE-3132

Cembre Shoe for drilling 115 LB-RE-3132 guard rail (Bolt hole elevation 3 1/32")

MPAF 132 LB-RE-3932

Cembre Shoe for drilling 132 LB RE guard rail (Bolt hole elevation 3 9/32")

MPAF 136 LB-RE-314

Cembre Shoe for drilling 136 LB RE guard rail (Bolt hole elevation 3 1/4")

Cembre Rail Shoes Drilling On Girder Rails (Using DBG-LY clamp and 2" depth cutters)

MPAF 128/149 LB GR

Cembre Shoe for drilling girder rail (Bolt hole elevation 3")

MPAF 128/149 LB GR 234

Cembre Shoe for drilling girder rail (Bolt hole elevation 2 3/4")

MPAF 149 LB GR 234

Cembre Shoe for drilling girder rail (Bolt hole elevation 2 3/4")

MPAF GGR 118

Cembre Shoe for drilling girder rail (Bolt hole elevation 2 3/8")

MPAF RI 60 N

Cembre Shoe for drilling girder rail (Bolt hole elevation 2.87")

MPAS RI 60 N

Cembre Shoe for drilling vertically in the groove of girder rail (see picture A)

MPAF NP4AM

Cembre Shoe for drilling girder rail (Bolt hole elevation 2.87")

MPAF BA9101

Cembre Shoe for drilling 180-105 LB girder rail (Bolt hole elevation 2.87")

OPTIONAL ACCESSORIES FOR RAIL DRILLING MACHINES (TO BE ORDERED SEPARATELY)



VAL LD-SR

- Steel carrying case for **RAIL DRILL** and **SR 5000**



VAL LD

- Steel carrying case for **RAIL DRILL**
- Accommodates the complete drill together with the **DBG-Y** clamp and the **VAL-MPA** tool case
- 22 1/2" (L) x 13 1/2" (W) x 17 1/2" (H)



VAL MPA

- Suitable for storage of rail shoes, cutters and accessories
- 15 1/2" (L) x 13 3/4" (W) x 2 1/4" (H)

DBG-GR device for clamping the drill in correspondance of guard rail



DBG-LY device for clamping the drill to the girder rails



DBG-AY device for clamping the drill to the third rails

For drilling 150 lb and aluminium composite contact rails from one side (to be used with TST 50 two stage template).



LUBROCOOLER

LR2 concentrate, 1 or 5 gallons. This product of vegetable origin, to be watered down in the percentage 95% water, 5% oil, will provide a white colour mixture very effective for the drilling operations resulting in no heating at the rail or the drilling machines



ANTIFREEZE

Concentrate of 1 or 5 gallons LR3 added to the lubro cooling mixture with the right percentage will maintain the lubrocooling mixture fluid in negative temperature conditions.

MRF SR-SFA POSITIONING JIG

MRF SR-SFA positioning jigs and accessories facilitate accurate drilling in rail of holes with predefined centres namely using Cembre drilling machines:

- 2 holes with centres of 145 mm (fig. 1, Pos. 1 and 2)
- 2 holes with centres of 270 mm (fig. 1, Pos. 1 and 3)
- 3 holes with centres of 148 mm (fig. 1, Pos. 4, 5 and 6)

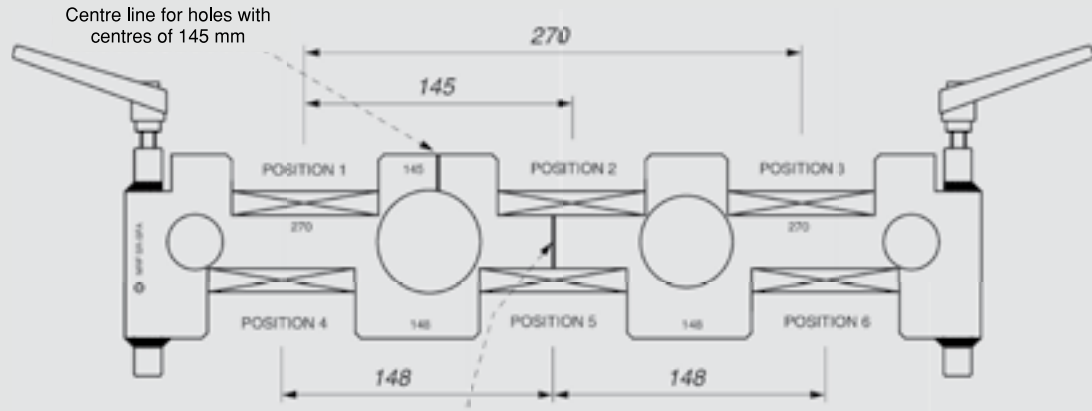


fig. 1

Centre line for holes with centres of 270 and 148 mm

SUPPORT
SR-SKI



fig. 2

TEMPLATES
SR...

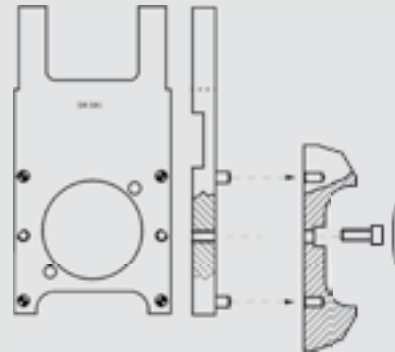


fig. 3



fig. 4

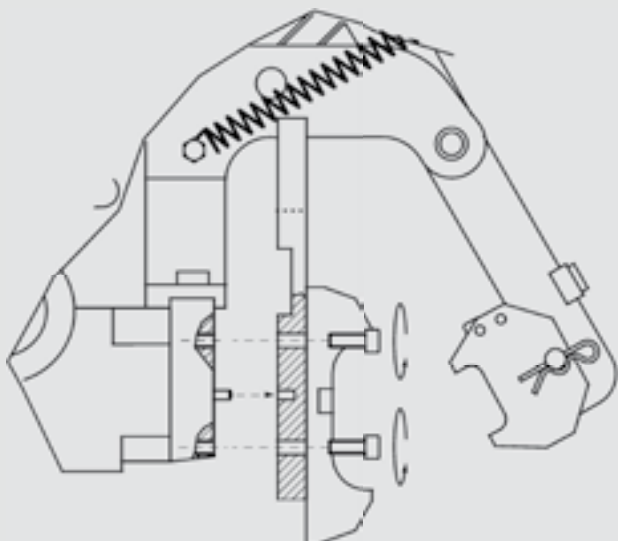


fig. 5

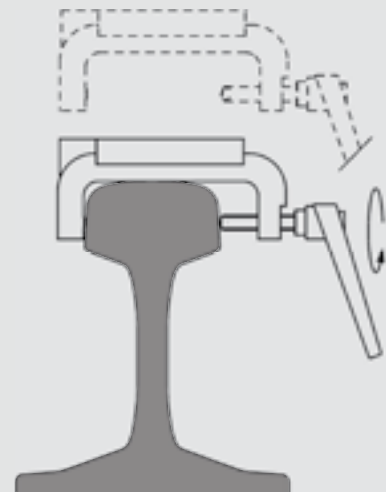
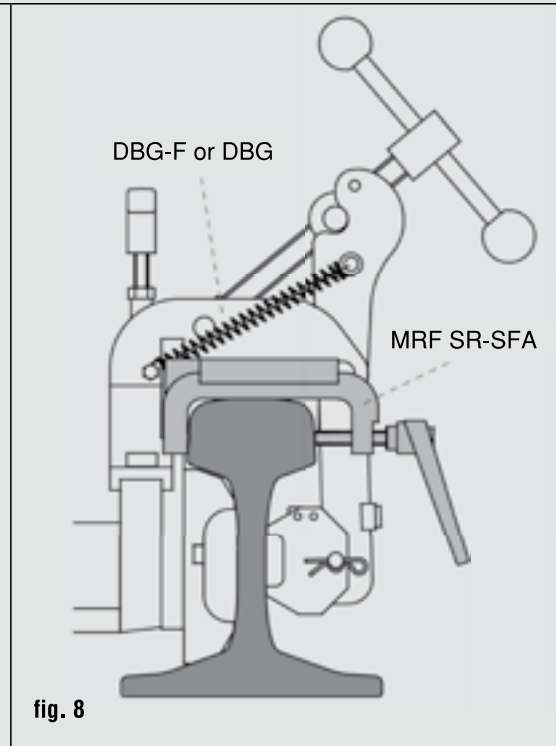
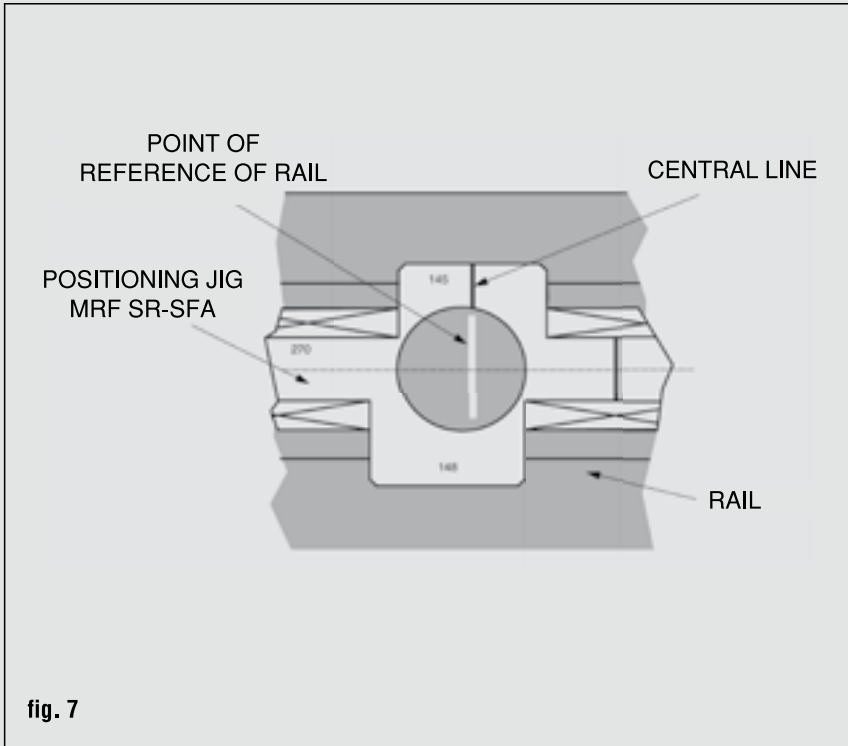


fig. 6

MRF SR-SFA POSITIONING JIG

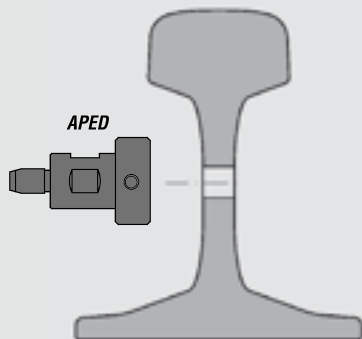


Assembly:

- Select the SR.... template kit according to the rail to be drilled.
- Assemble the SR templates on to the SR-SKI support, fixing with the M6x16 screws supplied (ref. fig. 3 and 4); locating pins on the support will ensure correct positioning.
- Assemble the support on to the front plate of the drilling machine, centre it by the pins and tighten it by the 2 screws M6x25 supplied with the drilling machine (ref. fig. 5).
- Position the jig in the required place on the rail head and lock it by the handle clamps (ref. fig. 6).
- When locking the jig align, if necessary, the appropriate centre line on the jig with a reference mark on the rail head (ref. fig. 7). Should it be necessary during the drilling phase to move the jig, exact repositioning can be achieved via the reference mark on the rail head.



Fig. 1



SHOES AND TERMINATION BLOCKS FOR TIEFENBACH WELL SENSOR

Rail	Shoe	Termination Block
115 RE	SRT115 RE-86.5	TDB6/115RE
132 RE	SRT132 RE-86,5	TDB6/132RE
119 RE	SRT119 RE	TDB6/119RE
136 RE	SRT136 RE	TDB6/136RE
141 AB	SRT141AB-86,5	TDB6/141AB
127 DY	SRT127 DY	TDB6/127DY
133 RE	SRT133 RE	TDB6/133RE
100 ASCE	SRT100 ASCE	TDB6/100ASCE
105 DY	SRT105 DY	TDB6/105DY

OPTIONAL ACCESSORIES FOR RAIL DRILLING MACHINES (TO BE ORDERED SEPARATELY)

Joint bar positioning gauges

Positioning gauges MRFY for drilling Joint bar holes at pre-defined distances between rail end and holes center lines.

POSITIONING GAUGE	Distance from end of rail to Center Line 1 st hole	Distance from Center Line 1 st hole to Center Line 2 nd hole	Distance from Center Line 2 nd hole to Center Line 3 rd hole
MRFY 10	2 21/32"	7 1/4"	5 1/2"
	3 1/2"	6"	6"
MRFY 11	2 21/32"	7 1/4"	5 1/2"
	3 1/2"	4 3/4"	4 3/4"
MRFY 12	2 23/32"	6"	7"
	3 1/2"	6"	6"
MRFY 13	3"	6"	-
	2 7/16"	5"	-
MRFY 14	2 7/16"	7"	-
	2 3/8"	7"	-
MRFY 15	2 3/4"	6 3/4"	6 3/4"
	2 11/16"	5 1/2"	5 1/2"
MRFY 16C	3 1/2"	6"	6"

MRFY 10: Suitable for drilling the following rails 100 ARA-B, 115 and 119 RE

MRFY 11: Suitable for drilling the following rails 100 ARA-B and 105 DL&W

MRFY 12: Suitable for drilling the following rails 115, 119, 132, 136, 140 LB RE, 130 and 155 PS

MRFY 13: Suitable for drilling the following rails 80, 90 LB ASCE and 100 ARA-A

MRFY 14: Suitable for drilling the 85 LB ASCE rail

MRFY 15: Suitable for drilling 130 LB RE and 136 LB LE. VAL rails

MRFUY: Universal positioning gauge for all rail sizes

Please note: other positioning gauge sizes available upon request.

MRF SR-SFA

Suitable for installing various models of axle counters (call Cembre Inc Edison office for details).

Cembre Broach Cutters 2" Depth of Cut (To Be Used With Cembre PPL2 Pilot Bit)

01354	(7/8" hole diameter)
01355	(15/16" hole diameter)
01356	(1" hole diameter)
01357	(1 1/16" hole diameter)
01358	(1 1/8" hole diameter)
01359	(1 3/16" hole diameter)
01360	(1 1/4" hole diameter)
01361	(1 5/16" hole diameter)
01362	(1 3/8" hole diameter)
01363	(1 7/16" hole diameter)
01364	(1 1/2" hole diameter)
12218	(9/16" hole diameter)

Cembre Broach Cutters 7/8" Depth of Cut (To Be Used With Cembre PPC2 Pilot Bit)

15128	(7/8" hole diameter)
15130	(15/16" hole diameter)
15132	(1" hole diameter)
15234	(1 1/16" hole diameter)
Cembre TSC 1 1/8"	(1 1/8" hole diameter)
15138	(1 3/16" hole diameter)
Cembre TSC 1 1/4"	(1 1/4" hole diameter)
Cembre TSC 1 5/16"	(1 5/16" hole diameter)
15144	(1 3/8" hole diameter)
15146	(1 7/16" hole diameter)
Cembre TSC 1 1/2"	(1 1/2" hole diameter)
Cembre TSC 3/4"	(3/4" hole diameter)

Cembre Broach Cutters 3" Depth of Cut (To Be Used With 3-10528 Pilot Bit)

3-12224	(3/4" hole diameter)
3-12226	(13/16" hole diameter)
3-12228	(7/8" hole diameter)
3-12230	(15/16" hole diameter)
3-12232	(1" hole diameter)
3-12236	(1 1/8" hole diameter)

Cembre Pilot Bits (For Use With Broach Cutters)

Cembre Pilot bit type PPDF2
(to be used with 3" long cutters)
Cembre Pilot Bit type PP1
(to be used with 1" long cutters)
Cembre Pilot Bit type PPL2
(to be used with 2" long cutters)
Cembre Pilot Bit type PPC2
(to be used with 7/8" long cutters)
Pilot Bit type 3-10528
(to be used with 3" long cutters)

BROACH CUTTERS

These cutters rapidly produce high quality, accurate holes in a single pass. The automatic lubricating system reduces friction and eliminates heat build up during the drilling operation. Under standard conditions a broach cutter can drill 40-50 holes, depending on the hardness of the rail.



OPTIONAL ACCESSORIES FOR RAIL DRILLING MACHINES (TO BE ORDERED SEPARATELY)

AOT ADAPTER FOR TWISTER BROACH CUTTERS

A new adapter for Cembre drilling machines has been specifically designed to accept broach cutters, already in use by customers, having the one-touch fixing system.

This new adapter does not have any grub screw since broach cutter twister type are held in place by the special shape of their shaft. The broach cutter is fix into the adapter by an easy push & twist operation: push the cutter into the adapter and twist clockwise. In order to fix the **AOT** adapter to the drilling machine, proceed by tightening the 2 grub screws of the shaft, as commonly done to fix standard broach cutters.

AOT adapter requires the PPL2 Pilot Bit.



SPECIAL SPIRAL TWIST BITS

Using these bits guarantees optimum performance during the drilling operation. The semi-automatic lubricating system, reduces friction and eliminates heat build up during the drilling operation. As a rule, under normal conditions, a spiral bit can drill 70-100 holes, depending on the hardness of the rail.

Reference	Diameter	Adapter	Spacer	Additional Accessories
PE70	9/32"	APED70	included in the APED70	not required
PE95 C	3/8"	APED 3/8 Y	included in the APED 3/8 Y	not required
PE130	1/2"	APED130	included in the APED130	not required
PE160	5/8"	APED135/165	included in the APED135/165	not required
PE190	3/4"	without adapter	DPE	not required
PE220	7/8"	without adapter	DPE	not required
PE130L-AR	1/2"	APED130	included in the APED130	TST50 + DBG-AY
PE3/4"-L1-AR	3/4"	without adapter	DPE	TST50 + DBG-AY
PE7/8"-L1-AR	7/8"	without adapter	DPE	TST50 + DBG-AY
PE1"-L1-AR	1"	without adapter	DPE	TST50 + DBG-AY
PE1-1/8"-L1-AR	1 1/8"	without adapter	DPE	TST50 + DBG-AY
PE1-1/4"-L1-AR	1 1/4"	without adapter	DPE	TST50 + DBG-AY

SPECIAL APPLICATION FOR CEMBRE RAIL DRILLS

APPLICATION	CLAMP	TEMPLATE	CUTTERS	EXTENSION	PILOT BIT
UIC 69*	DBC	AAT	2"	PFA	PPL4
150 LB	TST 50 + DBG-AY	MPAF 150 LB-3Y	3"	PFA 1	PPDF2
Aluminum-Rail- Aluminum COMPOSITE	TST 50 + DBG-AY	MPAF 56 CF COMP ¹ MPAF 84 CF COMP ² MPAF 84 CP COMP ³ MPAF 85 LB ASCE	PE 130-LAR (1/2" HOLE DIAM) PE 3/4"-L1AR (3/4" HOLE DIAM) PE 7/8"-L1AR (7/8" HOLE DIAM) PE 1"-L1AR (1" HOLE DIAM) PE 1 1/4"-L1AR (1 1/4" HOLE DIAM) PE 1 1/8"-L1AR (1 1/8" HOLE DIAM)		

* = APPLICATION DEVELOPED FOR NARROW CHAIRS

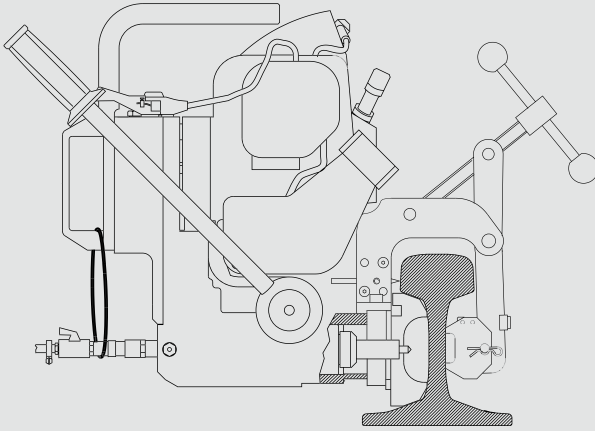
1 = FOR DRILLING 56 lb ALUMINUM BAR MANUFACTURED BY FOSTER

2 = FOR DRILLING 84 lb ALUMINUM BAR MANUFACTURED BY FOSTER

3 = FOR DRILLING 84 lb ALUMINUM BAR MANUFACTURED BY PORTER

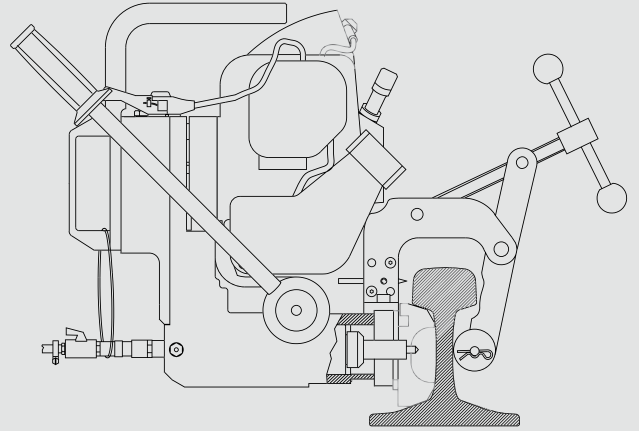
EXAMPLE OF RAIL DRILLING MACHINE INSTALLATION

USE ON RUNNING RAILS



STANDARD USE

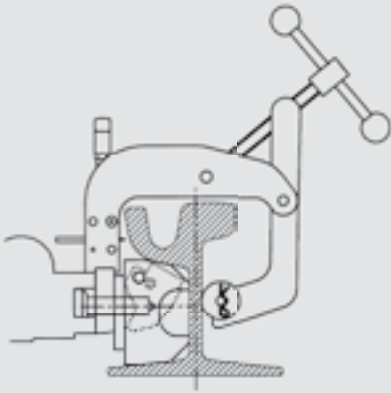
DBG-Y over rail clamp equipped with TDB- 6 termination



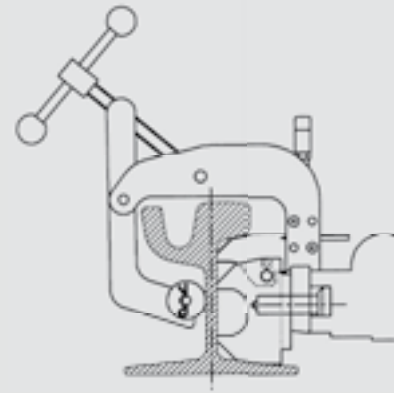
DRILLING BY THE GUARD RAIL

DBG-GR over rail clamp equipped with TDB-1 termination

USE ON GIRDER RAIL (for example 128 or GGR 118)



- **DBG-LY** over rail clamp
- Specific positioning template **MPAF**
- Use of 2" depth of cut broach cutters



The design of the shoe (combination) allows the positioning on both sides of the rails