



PANDROL

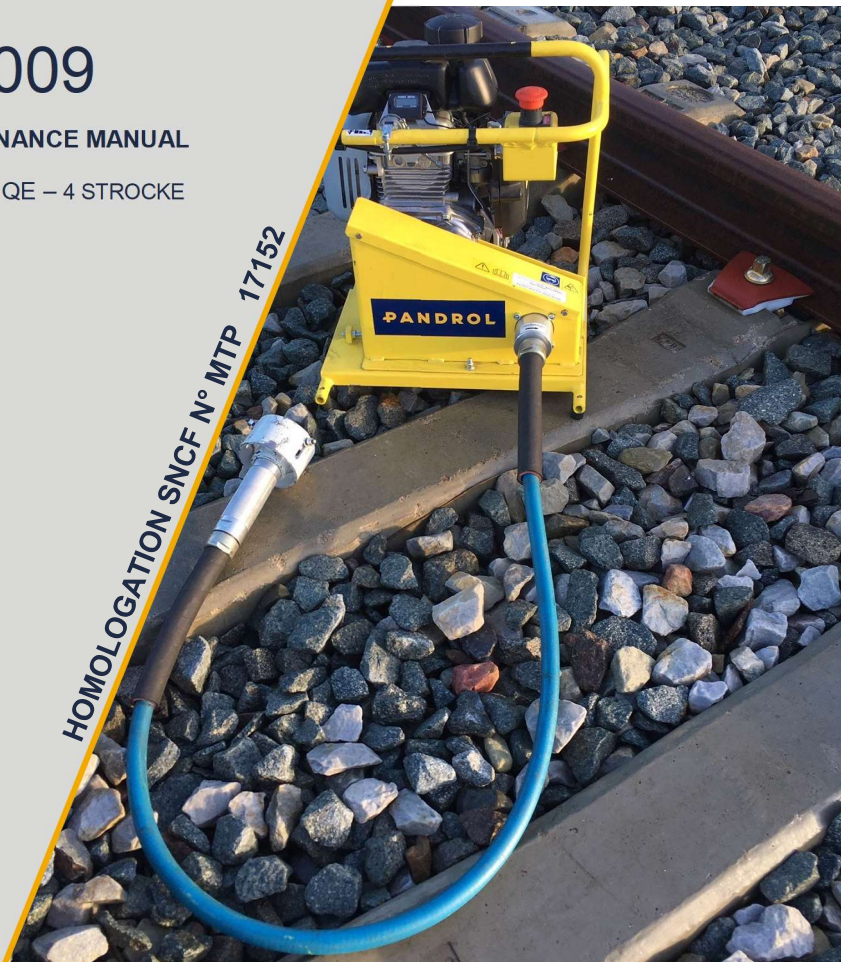
PORTABLE FLEXIBLE SHAFT GRINDER

Ref 42143009

OPERATING AND MAINTENANCE MANUAL

GML24 Type (with GX100U QE – 4 STROKE
TYPE HONDA ENGINE)

Ref 14311007



PANDROL

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En cas de litige, la version française fait référence – The French version will be decisive in cases of litigation

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I – SAFETY LABEL EXPLANATION



WARNING ! The machine presents special risks.

Improper use can result in personal injury



Read and understand the instructions carefully before using the machine.



WARNING ! Sparks can cause a fire in the event of contact with flammable materials such as gasoline, wood, dry grass etc.



Always use goggles or a protective visor.

II – GENERAL SAFETY INSTRUCTION

- Never use the grinding unit without first reading and understanding its operating instructions.
- Only qualified and trained personnel should operate and use the hose grinder.
- All maintenance work must be carried out by trained and qualified personnel.
- The user of the grinding unit must comply with the current regulations and procedures of the network.
- ATTENTION when the engine is stopped, the grinding wheel continues to rotate by inertia for a few seconds.
- Never use the machine in case of fatigue or when taking substances, such as medicines or alcohol, that could impair vision, dexterity or the ability to assess risks.
- The user must ensure that his environment is clear (person, animal ...).
- The fuel tank must be operated at a standstill in a well-ventilated place during this operation:
 - DO NOT SMOKE
 - Do not stand close to an open flame
 - Do not spill fuel out of fuel tank
- The user should not make any changes to the design or configuration of the group.
- If fuel is spilled, immediately clean the machine and move it a minimum of 5m before starting.
- The grinding assembly is a machine that must be handled by a single user.
- Petrol-contaminated clothing must be changed immediately.
- Never fill the tank flush

- Avoid running the engine in an unventilated space, producing toxic gases.
- The fuel must be stored in properly approved, properly labeled and approved containers.
- Close the fuel supply valve at the end of the work.
- STOP the engine before replacing the grinding wheel.
- Ensure that the maximum permissible speed of the grinding wheels and discs is compatible with the speed of the machine.
- Do not use a grindstone that has passed the expiry date.
- Never use damaged grinding wheels.
- Run a new or re-assembled grinding wheel for 30 seconds; the personnel to be held away during the test, except the user who must hold his machine so as to be outside the opening side of the projector.
- Perform measurements of the speed of rotation of the grinding wheel after each operation on the motor.
- Check the clamping of the flanges to prevent the disc from sliding during grinding.
- Use only grindstone whose bore corresponds to the diameter of the grinding wheel axle.
- Fasten and tighten the protector before operating the grinder.
- Replace the guard after any bursting of the grinding wheel.
- Store furniture in a dry place so that it stays perfectly flat.
- In the event of a fire on the hose grinder, use a Class B fire extinguisher (preferably powder).
- Wearing personal protective equipment is mandatory



III - DESCRIPTION

The lightweight grinding unit has been designed to efficiently prepare the surface of the rail before fixing the connections, deburring of the needle blades, etc.

A flexible transmission (insulated sheath) transmits the mechanical power to the grinding tool.

A complete range of specific tools easily adapts to flexible transmission.

IV – INSTRUCTIONS FOR USE

1-Storage

- Do not store the machine outdoors without protecting the engine from rain
- Drain the gasoline circuit before prolonged storage
- Never fold the unit to prevent fuel leakage

2-Handling

The grinding group with flexible operating weight weighs 23 Kg
Gripping is carried out by 1 person at the handling handle



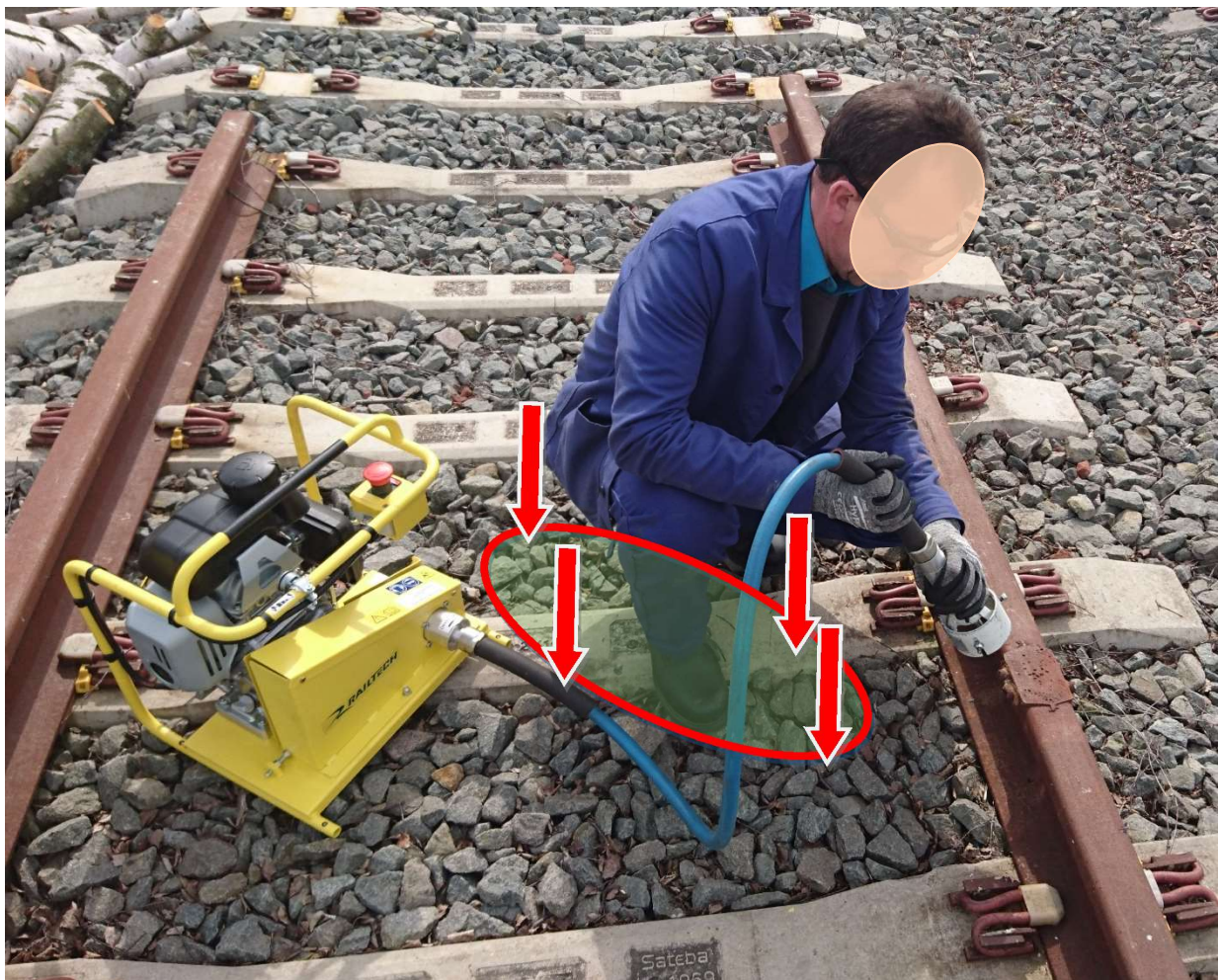
3-Précautions before putting into service

- Check the operation of the grinding unit according to the instructions of the maintenance manual supplied with the machine
- Use as fuel gasoline without lead, **octane 95**
- Check and unlock the engine stop button
- Check that the acceleration control is not in the acceleration position (pictogram havre)
- Read the manual of the engine carefully

4-WORK STATION

The user must always handle the portable hose grinder inside the track (safety reminder).
The area of the user at his workstation is represented by a blue perimeter and 4 arrows.

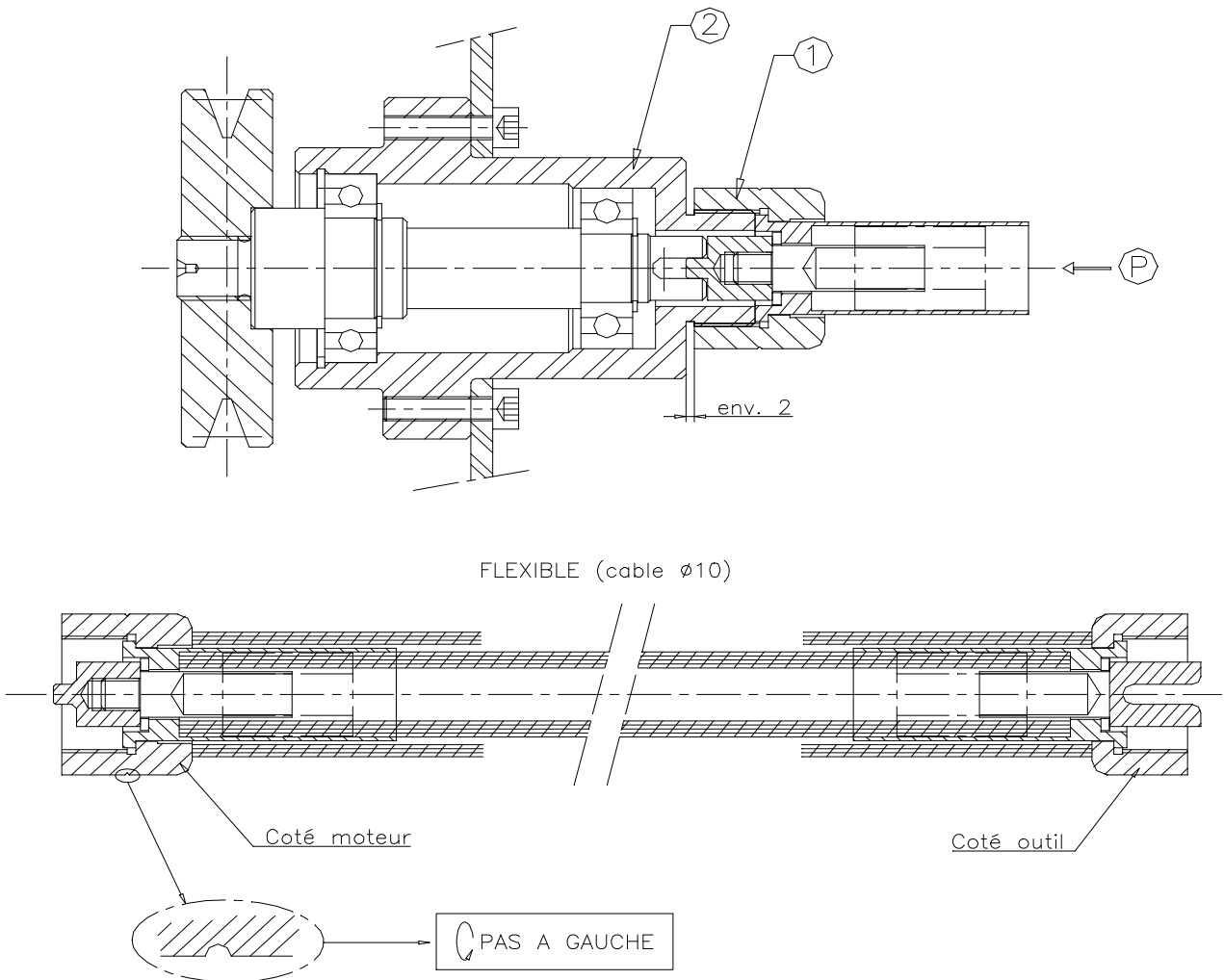
See image below :



5-Assembly the hose on the motor

Orient the hose pin in the shaft notch, hand tighten the nut 1 by 5 turns to engage the hose nut on the flange 2 by exerting a slight thrust P (the nut is machined with one Not left)

(Tighten moderately with flat key 36 on flat)



6-Assembly the tool

The tool is mounted with the motor stopped

The transmission of the rotation between the hose and the tool is effected by a tenon / mortise system. A nut, not to the right, ensures the connection of the tool to the hose. Tightening is done with a 36 mm flat wrench.

7-Assembly the grinding wheel

The assembly of the grinding wheel is carried out with the motor stopped

To mount a grinding wheel, it is necessary to use a flat key of 16, a wrench with studs (see exploded tools). Tighten the grinding wheel using the appropriate keys.

For lapidary grinding wheels, after assembly, start the engine and press the grinding wheel to ensure proper tightening.

8-Starting

8.1 Before starting :

- Make sure that the « punch » stop button is not engaged
- Check :
 - o The correct condition of the hose, wheel and wheel housings,
 - o Assembly and tightening of the grinding wheel
- Check the engine oil level
- Check the condition of the air filter

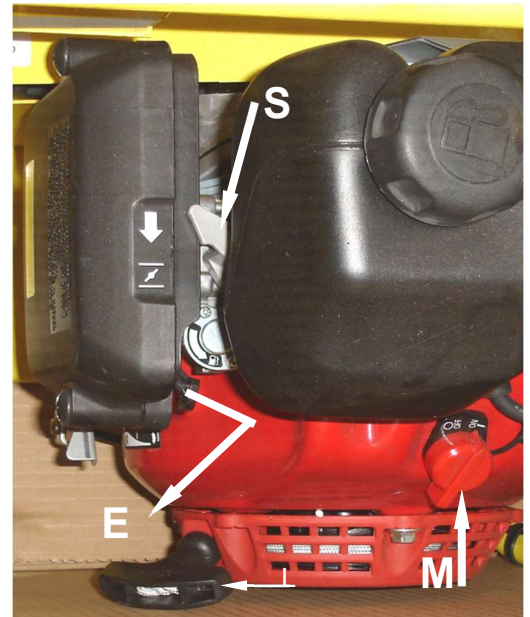
Never run the engine without an air filter, resulting in premature engine wear

- Check the fuel level.
 - o The full ones must be carried out engine stopped (unleaded regular gasoline)

8.2 Getting started :

- Open the fuel tap (**E**)
- Close the starter flap by operating the control (**S**)
- Accelerate slightly using the throttle grip (**A**)
- Set the switch (**M**) on the « **ON** » position
- Pull the launch handle (**L**) until you feel a resistance, then shoot with a blow.
- As soon as the engine is running, return the choke open position.
- Turn the throttle on the engine

NOTE : In cold weather, leave the choke closing position until the motor has a step regular. When the engine is hot, leave the engine starter in open position from the start.



8.3 Engine stop

- Swithh of the throttle by acting on the throttle control (Acceleration lever (**A**) on « turtle »)
- Set the switch (**M**) to the « **OFF** » position
- Close the fuel tap



V - APPLICATIONS

CAUTION : DO NOT USE WHEELS THAT HAVE EXCEEDED THE USE DATE

* FOR GRINDING OF RAIL HEAD PROFILE

- Ball wheel 73 x 60

REF 47901004

* FOR GRINDING IN THE RAIL CORE

- Grinding wheel 50 x 60

REF 47901003

* FOR GRINDING IN T.O.J. - 0.13 (Oblique Tangent of Junction 0.13)

- Grinding wheel diameter 80 x 16 x 12

REF 47901012

* FOR NEEDLE GRINDING

- Flexible disc diameter 178

REF 47902005

* FOR USE OF THE CUTTING DISC

- Flat hub 180 x 3.2 x 22.2

REF 47901017

* FOR REPAIR OF THE G.J (GLUED JOINTS)

- Disc diameter 100 x 4.8 x 16

REF 47901027

* TO REPAIR CONNECTIONS

- Wheel with lamella 80 x 50

REF 47902001

- Wheel with slats 60 x 30

REF 47902002



The used grinding wheel is a waste according to code 12 01 21

VI - MAINTENANCE

MAINTENANCE HAS ENGINEED AT STOP

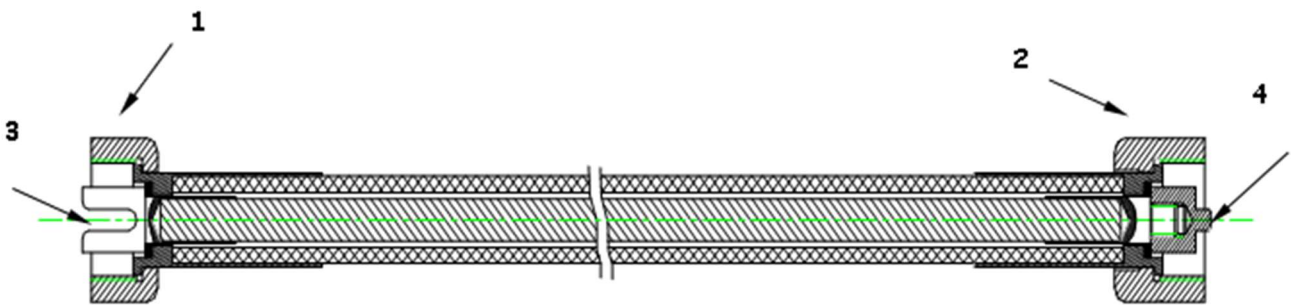
The group must be kept clean to make a good visual follow-up of the general condition.
 Maintenance must be performed by qualified personnel.
 It is necessary to lubricate the hose EVERY 10 HOURS OF OPERATION FONCTIONNEMENT

Procedure :

- Remove the tool by unscrewing the end nut **1** (not to the right)
- Unscrew the hose from the unit by unscrewing the nut **2** (not left)
- Block the end of the flexible shaft **3** with a screwdriver (mortise)
- Unscrew the stud at the other end **4** with a pair of pliers. The shaft flexible on the mortise side
- Clean to remove the old grease, coat the flexible shaft with a new grease
- Reassemble in reverse order

FLEXIBLE SHEATH AND FLEXIBLE SHAFT ASSEMBLY 2M

REF 14315002



Type of grease :

Mineral lithium calcium grease

Pénétration 265 – 295

Quantity : about 50 gr

For the engine, refer to its instructions

Tableau de périodicité de maintenance

OBJECT	Operation's nature	PERIODICITY		
		Before using	After using	Precense of wear signs or incorrect functioning
Complete machine	Inspection de la machine	X		
Complete machine	Clear the engine using a towel or comprimed air gun to remove the dirtiness		X	
Centrifugal clutch	Remplacement			X
SPZ trapedoidal	Remplacement			X
Accelerator cable	Remplacement			X

NOTE: These recommendations are not limiting. Continuous monitoring of the GML24 and well organized preventive maintenance will extend the life of the hose grinder.

Responsibility for maintenance is the responsibility of the owner of the equipment.
Maintenance must be carried out at least once a year by a competent and qualified person

VI- SIGNALISATION

Our GML24 are traceable on this company plate

Plaque de firme

	Norme:	
	Type :	
Agrément SNCF :		
Réf :	N° de série :	Année :
Trs/min Outil ϕ :		mm Masse : Kg

VII – TECHNICAL CHARACTERICS

- **4-stroke petrol engine with centrifugal clutch**
 - Power: 2.2 KW (3 Cv) at 3600 rpm
 - Exhaust silencers
- **Remote motor stop button**
- **Cable Acceleration Control**
- **Centrifugal clutch: start of clutch: 1800 rpm +/- 100**
- **Insulating hose transmission**
- **Tool rotation speed: 5500 rpm.**
- **Weight without hose (empty weight of the group): 19.35 Kg**
- **Weight with hose: 23 Kg**
- **Ground in running order (with hose): 24,10 Kg**
- **Dimensions (W x W x H): 410 x 390 x 500 mm**
- **Sound level**
 - Sound pressure level Lpa: 85.5 dB (A)
 - Sound power level LWa: 95.4 dB (A)
- **Vibration level**

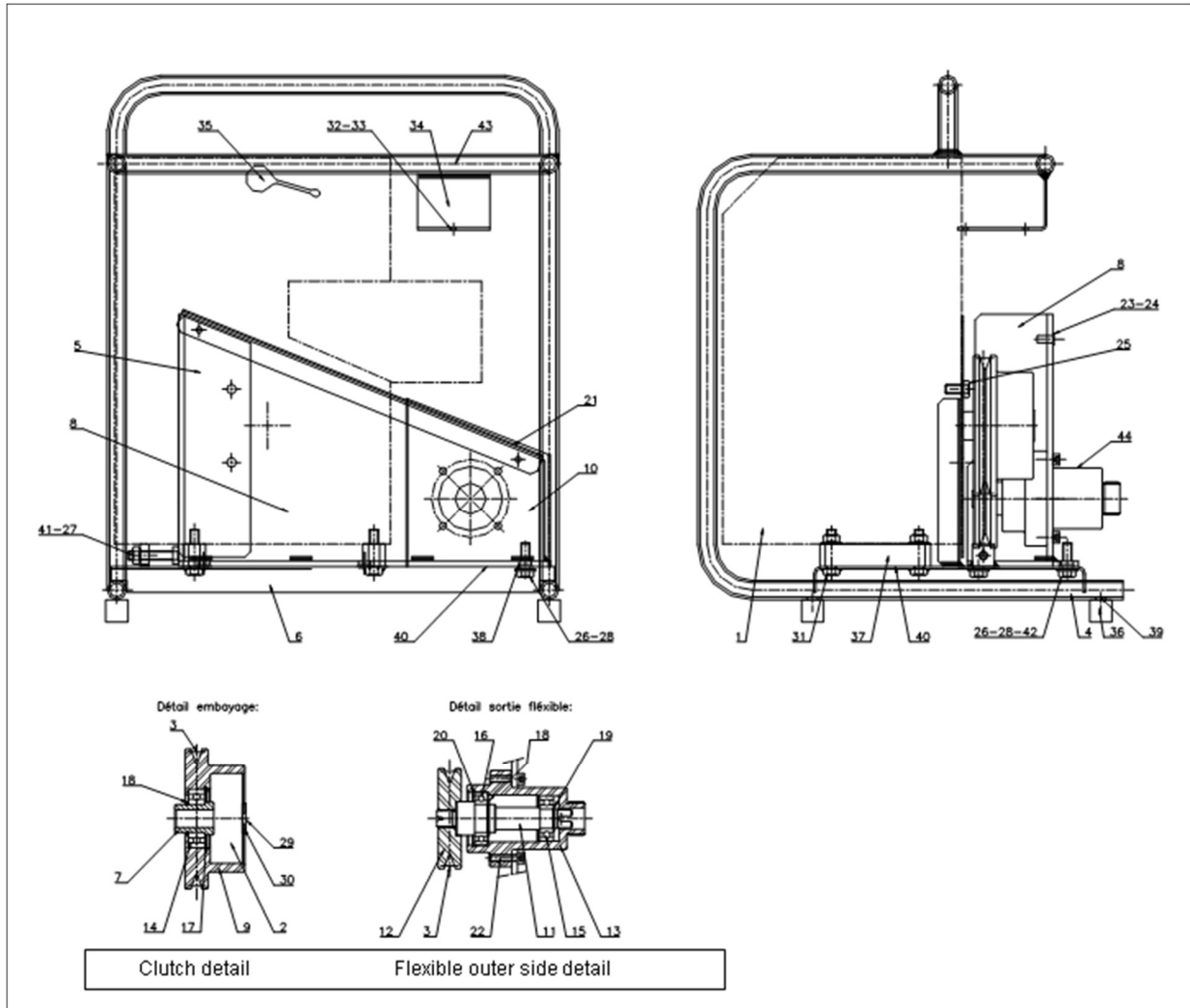
- Head Reference:

14316001 with cup wheel 73x60	: <2,5 m.s²
14316004 with cup wheel 50x60	: 2,66 m.s²
14316006 with Spanzec disc Ø 178	: 6,31 m.s²
14316020 with flat grinding wheel 125x16x20	: 7.50 m.s²
14316014 with disc Ø 180 x 3.2 x 22.2	: 6.31 m.s²
14316013 with flap wheel 60x30: 7,50 m.s²	
14316013 with conical grinding wheel on rod 30x50	: 3,16 m.s⁻²
14316013 with cylindrical grinding wheel on rod 20x25	: 2,82 m.s⁻²

VIII – LISTE DES PIÈCES DÉTACHÉES SPARE PARTS LIST

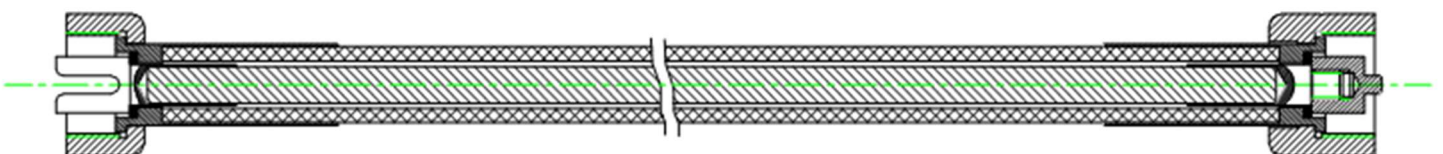
CHASSIS – MOTEUR EMBRAYAGE

FRAME – ENGINE - CLUTCH



ENSEMBLE GAINÉ DE FLEXIBLE ET ARBRE SOUPLE 2M

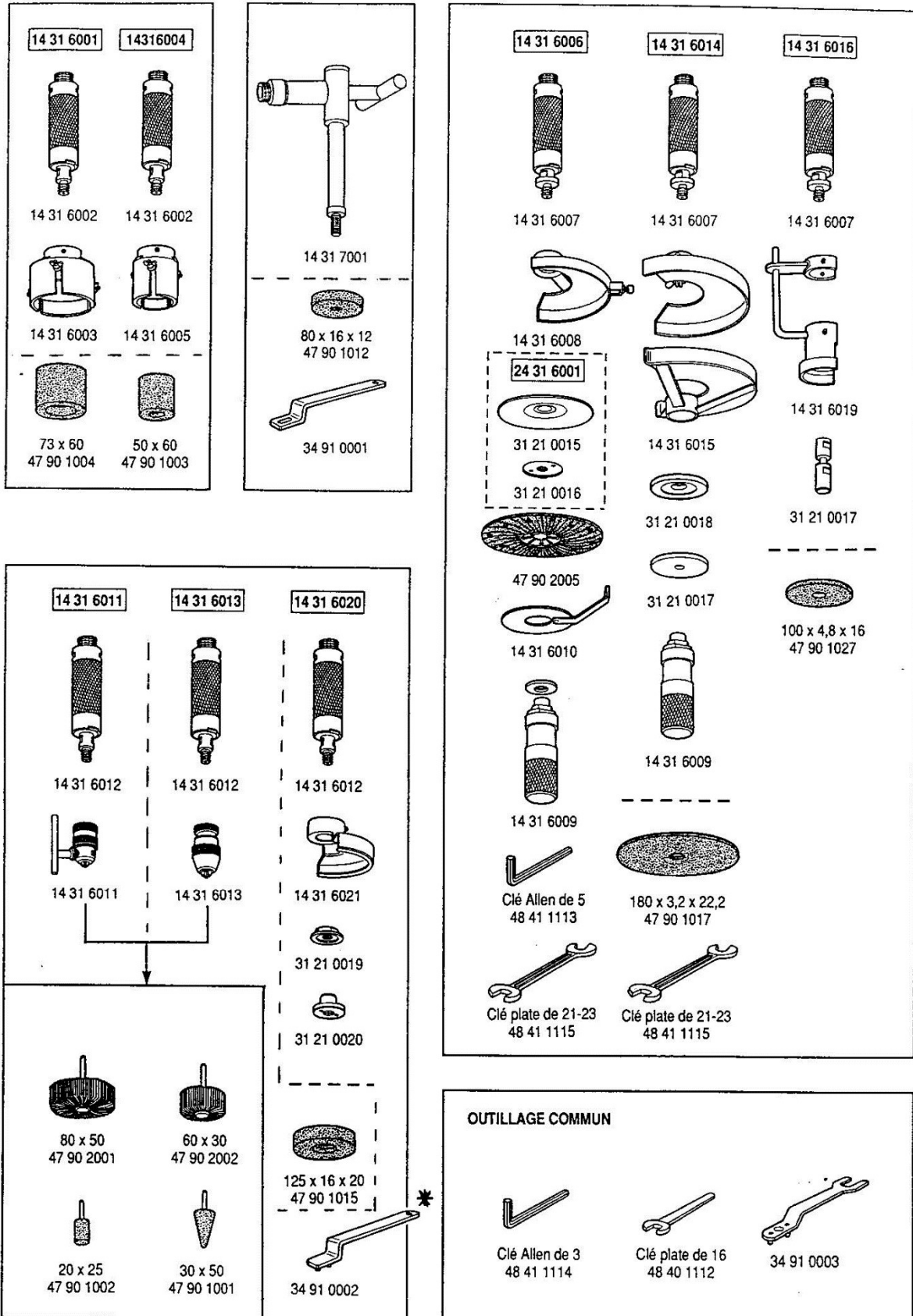
REF 14315002



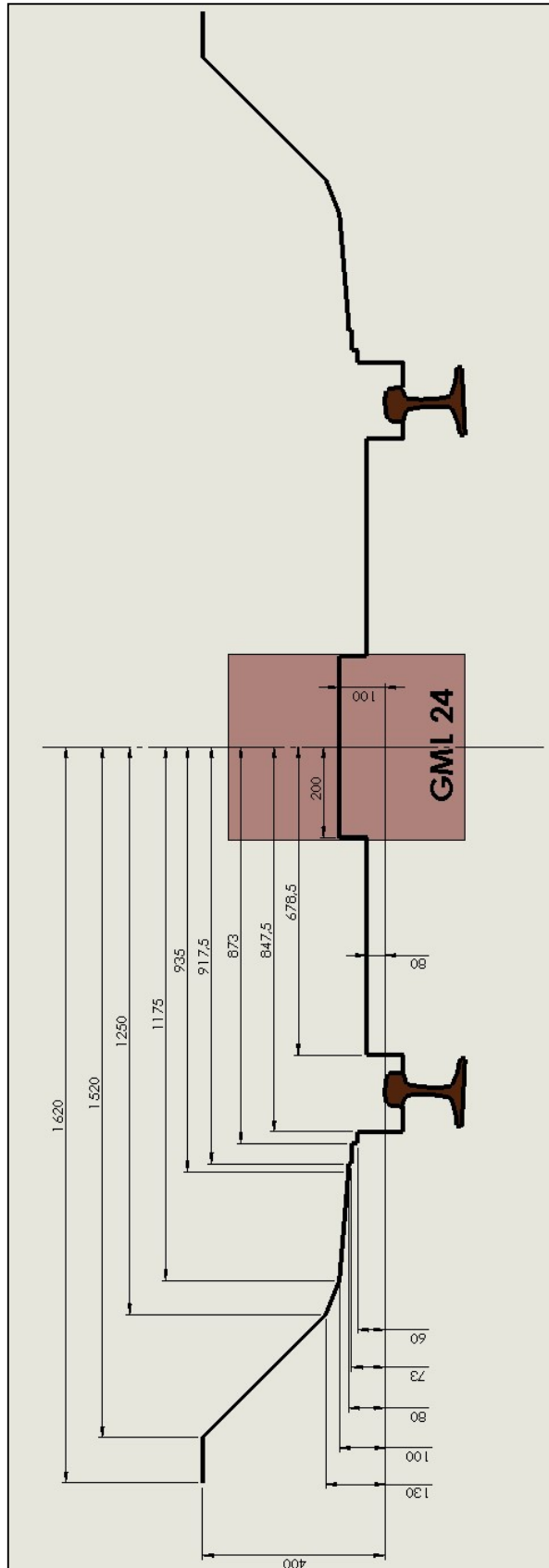
Rep	Ref	Qté	Désignation	Description
1	47002031	1	Moteur Honda GX100 U QE	Honda GX 100 U QE engine
2	45201010	1	Embrayage centrifuge	Centrifugal clutch
3	44801025	1	Courroie trapézoïdale SPZ	V-Belt
4	35910310	1	Châssis support moteur	Frame
5	31910230	1	Plat moteur	Transmission support
6	35910311	1	Plaque support moteur	Engine support
7	31210374	1	Bride embrayage	Clutch clamp
8	35930004	1	Carter de transmission	Drive casing
9	31210373	1	Poulie cloche d'embrayage	Pulley with clutch drum
10	31910231	1	Plat de protection	Protection plate
11	31110206	1	Arbre poulie	Shaft
12	31230063	1	Poulie	Pulley
13	31230064	1	Bride	Clamp
14	44010005	1	Roulement 6205-2RS	Ball bearing 6205-2RS
15	44010002	1	Roulement 6203-2RS	Ball bearing 6203-2RS
16	44010006	1	Roulement 6005-2RS	Ball bearing 6005-2RS
17	41801009	1	Circlips intérieur Ø 52	Inner circlips Ø 52
18	41802005	2	Circlips extérieur Ø 25	Outer circlips Ø 25
19	41802004	1	Circlips extérieur Ø 17	Outer circlips Ø 17
20	41801006	1	Circlips intérieur Ø 47	Inner circlips Ø 47
21	31910232	1	Equerre de protection	Protection piece
22	41006018	4	Vis CHC M6 x 25	Screw CHC M6 x 25
23	40905009	2	Ecrou à sertir	Nut
24	41005013	2	Vis inox HM5 x 15	Screw HM5 x 15
25	41008011	2	Vis HM8 x 16	Screw HM8 x 16
26	41008010	3	Vis HM8 x 25	Screw HM8 x 25
27	40908004	5	Ecrou HM8	Nut HM8
28	41108005	7	Rondelle AZ 8	Washer AZ 8
29	41099012	1	Vis TF/90 Hc 1/4" 28 UNF	Screw TF/90 hc 1/4" 28 UNF
30	31210265	1	Rondelle	Washer
31	41008006	4	Vis HM8 x 35	Screw HM8 x 35
32	41004001	2	Vis CHC M4 X 16	Screw CHC M4 x 16
33	40904002	2	Ecrou Nylstop HM4	Nut HM4
34	47802028	1	Bouton "ouvert / fermé"	Switch "on-off"
35	47401001	1	Manette SAKER	Throttle-lever
36	47320001	4	Plot Paulstra	Elastic stud
37	31930022	2	Cale moteur	Distance sleeve
38	40908002	3	Ecrou à sertir M8	Nut M8
39	40906010	4	Ecrou à sertir M6	Nut M6
40	42243011	1	Plaque de Firme	Firm plate
41	41008015	1	Vis M8 x 40	Screw M8 x 40
42	41108001	3	Rondelle M8N	Washer M8N
	44901001	1,5m	Câble	Cable
	44902001	1m	Gaine pour câble	Cable casing
	44902002	1	Embout de câble	Cable end piece

ECLATE DES OUTILS

(* La clé à 2 plots ref. 3491002 pour démontage de la meule est fournie avec la tête complète référence 14316020)



IX – PLAN DE CONTRÔLE SUIVANT EN13977



**FICHE DE CONTROLE
CLIENT**

**CONTROL CARD
CUSTOMER'S COPY**

**MEULEUSE A FLEXIBLE TYPE GML 24 FLEXIBLE SHAFT GRINDER GML 24 TYPE
REF 14311007**

N°	Désignation des contrôles <i>Description of controls</i>	Contrôle <i>Checked by</i>
1	Vitesse de rotation des outils : 5500 Tr/min \pm 250 tours <i>Tools rotation speed : 5500 rpm \pm 250 rotations</i>	
2	Rotation flexible et essai <i>Control and test of the flexible shaft rotation</i>	
3	Montage flexible <i>Flexible shaft assembly</i>	
4	Fonctionnement embrayage centrifuge <i>Centrifugal clutch process</i>	
5	Aspect général <i>General aspect</i>	
6	Outillage <i>Tools</i>	
7	Notice d'utilisation REF 42143009 <i>User's manual</i>	
8	Accessoires <i>Accessories</i>	
Date de fabrication	<i>Date of manufacturing</i>	
Fait à Raismes le Nom	<i>Drawn up in Raismes, the.....</i> <i>Name :</i>	
Signature	<i>Signature :</i>	

Références à rappeler en cas de réclamation
In case of complaint, please quote these references

N° de machine	Machine nbr :
Moteur Type	Engine Type :
Numéro	Number :

**FICHE DE CONTROLE
CLIENT**

**CONTROL CARD
CUSTOMER'S COPY**

**MEULEUSE A FLEXIBLE TYPE GML 24 FLEXIBLE SHAFT GRINDER GML 24 TYPE
REF 14311007**

N°	Désignation des contrôles <i>Description of controls</i>	Contrôle <i>Checked by</i>
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Moteur Type	<i>Engine Type :</i>
Numéro	<i>Number :</i>

SAV / Commercial

Contacter votre représentant commercial / Contact your local representative

Ou / Or +33 (0) 1 46 88 17 00

Ou / Or Infos.pandrol-fr@pandrol.com

IV - ATTESTATION DE CONFORMITE

CERTIFICATE OF CONFORMITY

Le constructeur soussigné (the undersigned manufacturer)

PANDROL (DIVISION MATERIEL)

Z.I DU BAS PRE

59590 RAISMES



Certifie que le matériel neuf désigné ci-après (certify that the under described products)

MEULEUSE à FLEXIBLE PORTABLE

TYPE GML24

Moteur HONDA GX 100 UQE

Référence 14311007

PORTABLE GRINDING UNIT WITH

FLEXIBLE SHAFT GML24 Type

HONDA engine GX 100 UQE

Référence 14311007

N° de machine (machine number) :

Est conforme (comply with)

- **A LA CONFORME EUROPEENE NF EN 13977**
(THE EUROPEENE NORM NF EN 13977)
- **AUX DISPOSITIONS REGLEMENTAIRES DEFINIES PAR LA DIRECTIVE 2006/42/CE**
(THE INFORMATIONS STATED IN THE LEGAL DOCUMENTATION OF THE DIRECTIVE 2006/42/CE)
- **Aux prescriptions de l'article R4313-20 (procedure d'auto certification)**
(the regulations of R4313-20 article – self certification procedure)
- **M. LISINSKI Aurélien est le détenteur du dossier technique**

Raismes, 05/2019
Bruno JOIRIS
Directeur Industriel

Aurélien LISINSKI
Responsable division matériel et équipement

PANDROL

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