



# PANDROL

## RAILS CLEANER

### Ref 42111013

OPERATING AND MAINTENANCE  
MANUAL

Ref 14391003

DR40 TYPE with honda gxv160 engine

HOMOLOGATION SNCF N° MTP18364



PANDROL

Siège Social et Usine : Z.I. du Bas Pré – B.P. 9 – 59590 RAISMES – FRANCE- Tél. : 33 (0) 3.27.22.26.26 - Fax : 33 (0) 3.27.22.26.00

Direction Générale et Commerciale Immeuble West Plaza – 9 rue du Débarcadère- CS90029 – 92707 COLOMBES Cedex

Tel 33.1.46.88.17.00 – Infos.pandrol@pandrol.com – Fax 33.1.46.88.17.00 et 17 66

DR40 14391003

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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 can be dangerous.**

**Careless and incorrect use results in injury to the operator.**



**Read carefully the instructions of the operating manual before using the machine**



**WARNING ! Pay attention to the turning parts of the machine**

## II – GENERAL SAFETY INSTRUCTIONS

- Never start up the rail cleaner until you have read and understood the directions for use
- The rail cleaner must be handled by a single one operator and be held with both hands to drive it with accuracy and safety
- All maintenance operations must be carried out by a qualified staff
- The operator must ensure that no one can affect his work (people, animals, flammable material, buried cables and wires)
- The operator must respect the regulations, procedures and particular orders of the railway operating Network
- Never use the machine when you are tired or under influence of medicines, alcohol or substances which can alter your sight, dexterity or appreciation capacity
- Two persons must place the machine on the track
- Under no circumstances the original design and configuration of the rail profile grinder should be modify
- Exhaust gas contains toxic carbon monoxide, **never run the engine in a closed or confined area**
- After operating, some engine parts become very hot for a moment, don't touch them
- Refuel the tank in a well ventilated area, engine stopped ; don't overfill the tank. during this operation
  - **DON'T SMOKE**
  - **DON'T REMAIN NEAR A NAKED FLAME**
  - **DON'T SPILL ANY PETROL OUTSIDE THE TANK**
- If some petrol has been spilled, immediately clean the machine and move it by a minimum of 5 meters before any starting up

- Clothes damped by petrol must be changed immediately
- Close the engine petrol valve immediately after operation end
- Do not use brushes which maximum rotation speed stipulated by the supplier would be inferior to 6000 rpm
- Only use a brush which show a bore corresponding to the wheel support shaft diameter, **in other words : 22.2 mm**
- Engine shall be stopped before brush replacement
- Every time a new brush is fitted, let it run light for 30 seconds. During this test all the staff must be kept at a distance with the exception of the user who must hold the machine in such a way that he is protected by the guard
- Measure the brush rotation speed every time the machine has been repaired
- At every brush dismantle check the good aspect of the tightening nut threading and supporting side
- The engine can be dismantling from the shearing unit, **never use it for any other operation.**
- Wearing personal protective equipment may be necessary !



### III – DESCRIPTION

The rail cleaner, used on track to superficial brushing of the top of the rail head, allows getting off the oxidation **on a width of 40 mm** by two passes to ensure the correct functioning of the track circuit (signal system).

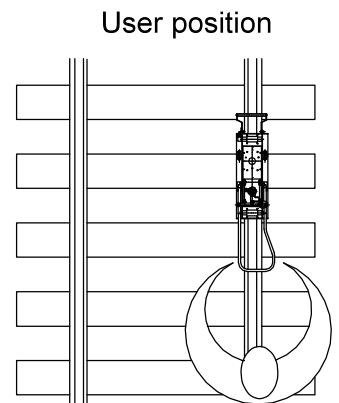
**Any other use is excluded**

The operator pushes the machine which is guided on the rail by rollers

A thermic engine drives in rotation a metallic brush by transmission with pulley and belt

To operate the machine, the user disposes of :

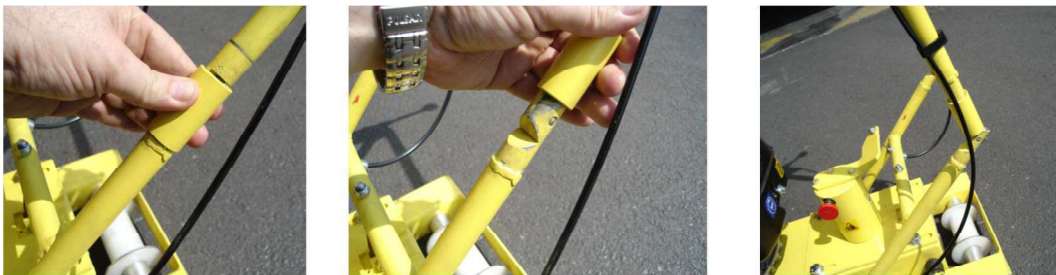
- an accelerating lever for the engine
- a lowering lever for the brush



# IV – USE INSTRUCTIONS

## 1-Storing

- Don't store the rail cleaner outside without engine protection from rain
- Drain and clean the petrol circuit before a long storing time
- To fold down the drive handle on the machine first move up the sliding collar to free the joint

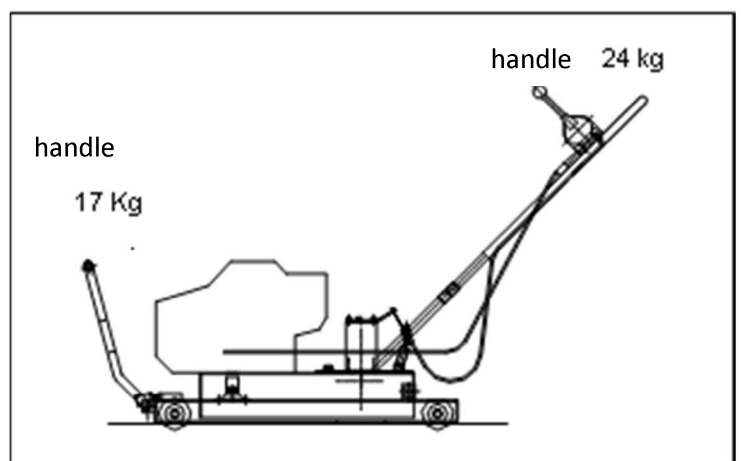


- Don't lay down the machine
- After a long storing time, check the belt aspect

## 2-Handling

The weight of the machine in order to work is 41 Kg

Two persons for its handling are necessary, one at each handle



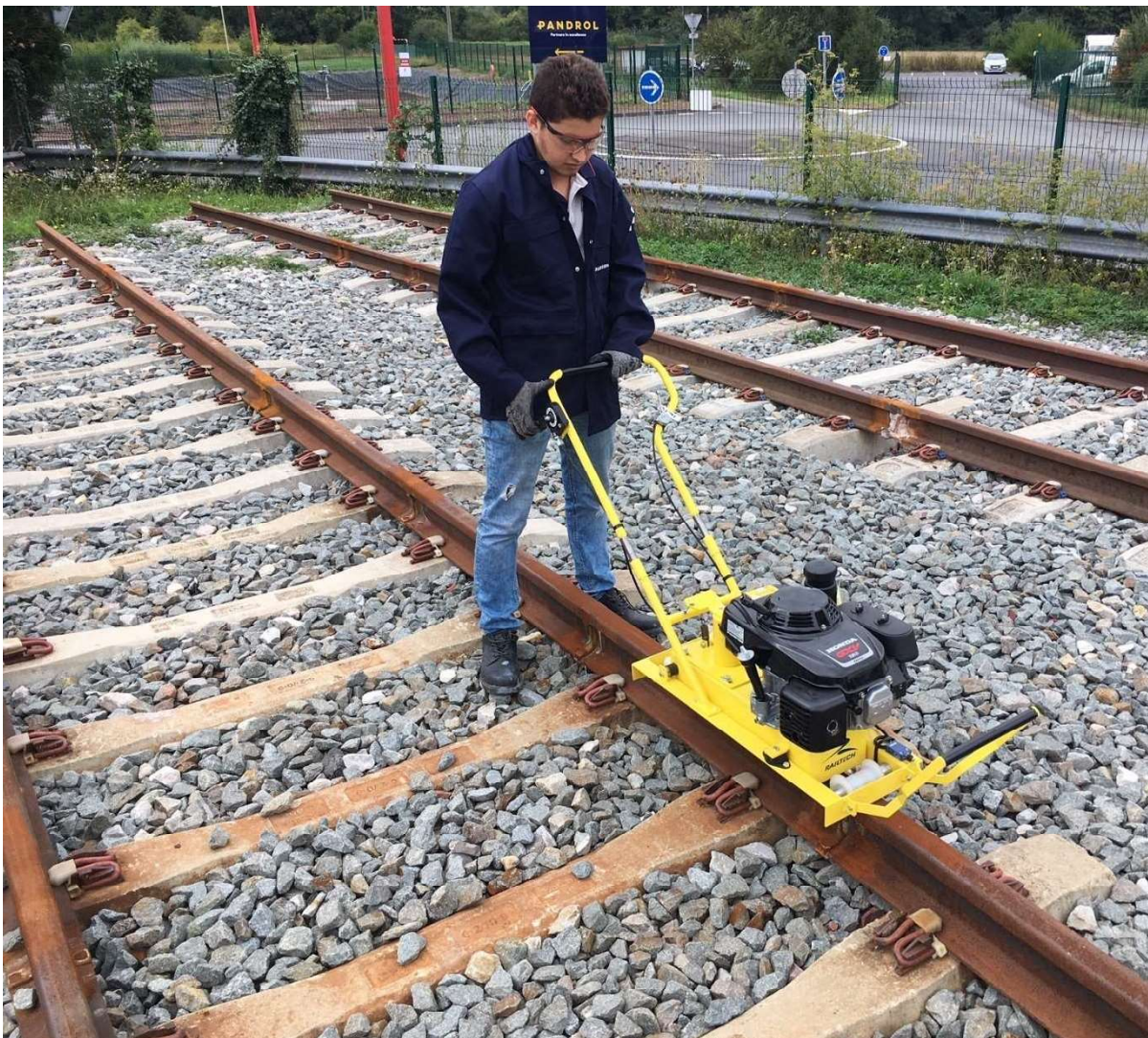


### 3-Safety measures before operating

- Check
- engine oil level, for the quality and quantity see the engine operating manual
- belt aspect and tension
- the brush presence and its wear
- Every brush witch height is inferior to 15 mm must be replaced

### 4-Workstation

The operator must position one leg on each side of the rail; see photo below:



## 5-Operating

### 5.1 Starting up the engine

In handling position the front drive handle stops the engine work possibility.  
Before starting up the engine ensure that it is not in such a position but in work position.

- **Cold engine :**

- Open the petrol valve
- Bring the engine control lever to “choke” position 1
- Pull slightly the starter grip until a resistance is felt, then pull it briskly
- Bring the engine control lever to the position of the speed you want to obtain

- **Warm engine :**

- do not use the choke if the engine is warm
- Just pull down the control lever in a position to obtain a standard idle speed (between 2 and 3)

- **Stop the engine :**

- Bring up the engine control lever in position STOP (3)
- Close the petrol valve



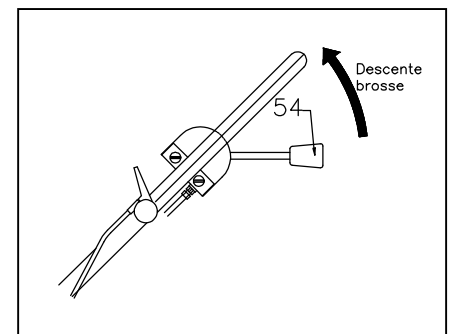
### 5.2 Operating the brush

A lever (**item 54**)

allows moving the brush in high or in low position

(see machine label)

at the end of scaling operation imperatively put the brush in high position



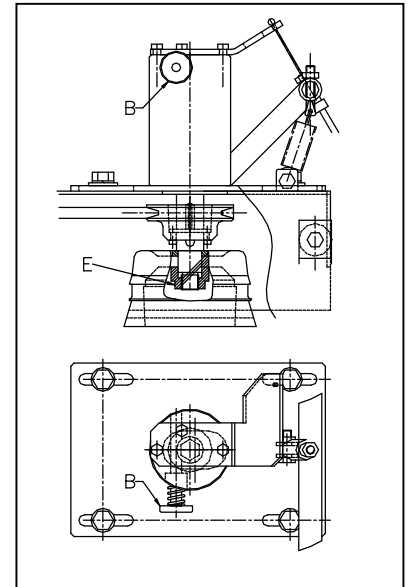
### 5.3 Changement de brosse

- Removal the brush

- Lock the rotation of the brush support axle by pushing on the red knob **item B**
- Loose the nut **item E** with a tube shaped wrench, bend 24, and in the same time press down the knob **item B**
- Unscrew the nut and remove the brush



The worn brush is a common industrial waste according to norm 17 04 05



- Mounting a new brush
  - proceed in reverse way

## V – MAINTENANCE

OBJECT	DESCRIPTION	PERIODICITY				
		Before use	After use	50hour of use	100hour of use	Sign of wear or incorrect operation
Complete machine	Machine inspection	X				
Complete machine	Clean the machine with a clean cloth or with a compressed gun to remove the dirt		X			
Roller	Cleaning			X		
	Adjust the clearance				X	
XPZ 837 Belt	Replacement					X
Throttle cable	Replacement					X

These recommendations are not restrictive. Continuous shearing machine and well-organized preventive maintenance will extend the life of the machine.

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

Maintain the machine cleanly in order to make a good and regular supervision of the general aspect. All maintenance operations must be carried out by a qualified staff.



## 1-Engine

- refer to the manual delivered with the engine

## 2-Transmission

### New machine

VERIFY THE BELT TENSION AFTER TWO HOURS WORKING

- Engine stopped, petrol valve closed, lay down the rail cleaner
- Press moderately in the middle of the belt with a finger

THE BELT IS CORRECTLY TIGHTENED IF IT CAN BE EMBEDDED ABOUT 10 MM If it's necessary the tension must be adjusted

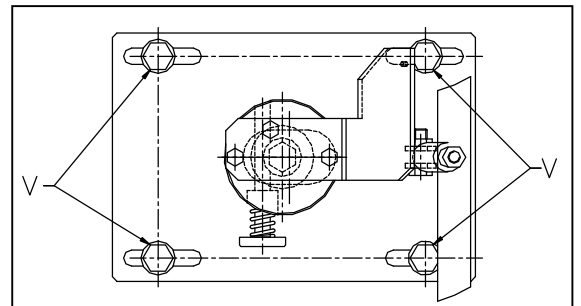
- **Tightening the belt**
  - Loose the for screws **item V** with a 17 pipe wrench
  - Move the brush support bearing to tighten the belt
  - Tighten back the for screws **item V**

When the screws reach far end their housing, the belt is worn, it's time to replace it

- **Replace the belt**

**Belt type : XPZ 850 reference 44801003**

- Loose the for screws **item V** with a 17 pipe wrench
- Move the brush support bearing to loosen the belt
- Replace the belt and tighten it



For reassembling proceed in reverse way

### Usual maintenance

Verify periodically the belt appearance and tension following the procedure of the preceding paragraph.

The belt must not show any signs of damage (grooves or cuts) ; if defects are detected it's necessary to replace it.



After you lay down the rail cleaner, wait a few minutes before starting the engine for a new scaling operation

## VI – SIGNALISATION

The DR40 machine benefits of traçability on the ID plate.

### ID PLATE

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

### ETIQUETTE EN 13977



## VII – TECHNICAL CHARACTERICS

### RAIL CLEANER

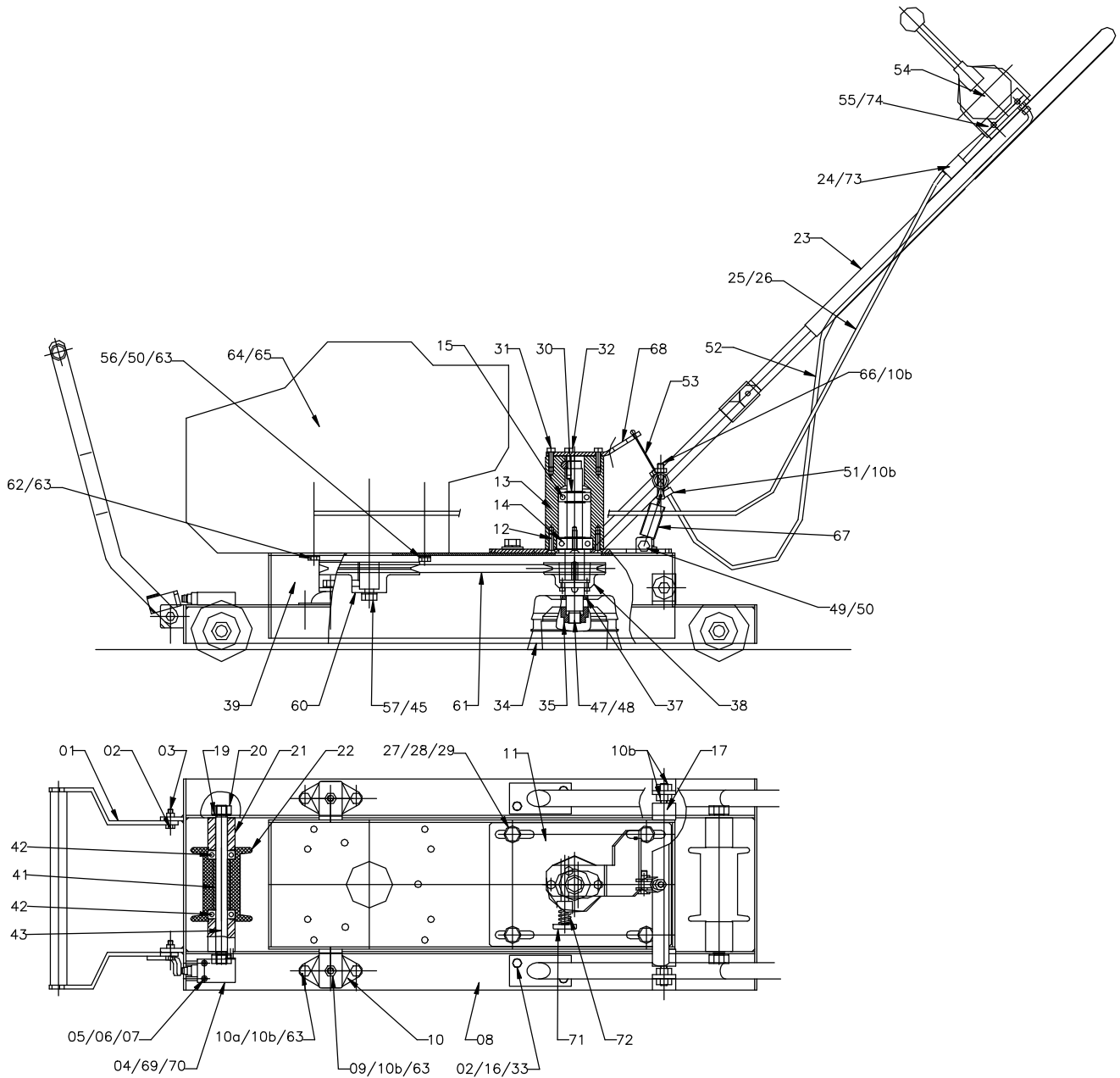
### DR 40 TYPE

Engine	HONDA GXV 160
Power	4,1 KW / (5,5 Cv) at 3600 rpm
Range	2 hours
Weight unloaded	41 Kg
Dimensions :	L x l x h
storing position	1020 x 430 x 600 mm
work position	1460 x 430 x 755 mm
TOOL	Metallic brush
	Outer Ø 120 mm
	Cable strands Ø 0.8 mm
Speed	6000 + 100 tr/min. - 200
Noise pressure level Lpa	90 dB (A)
Noise power level LWA	104 dB (A)
Vibrations level	7,9 ms <sup>-2</sup>

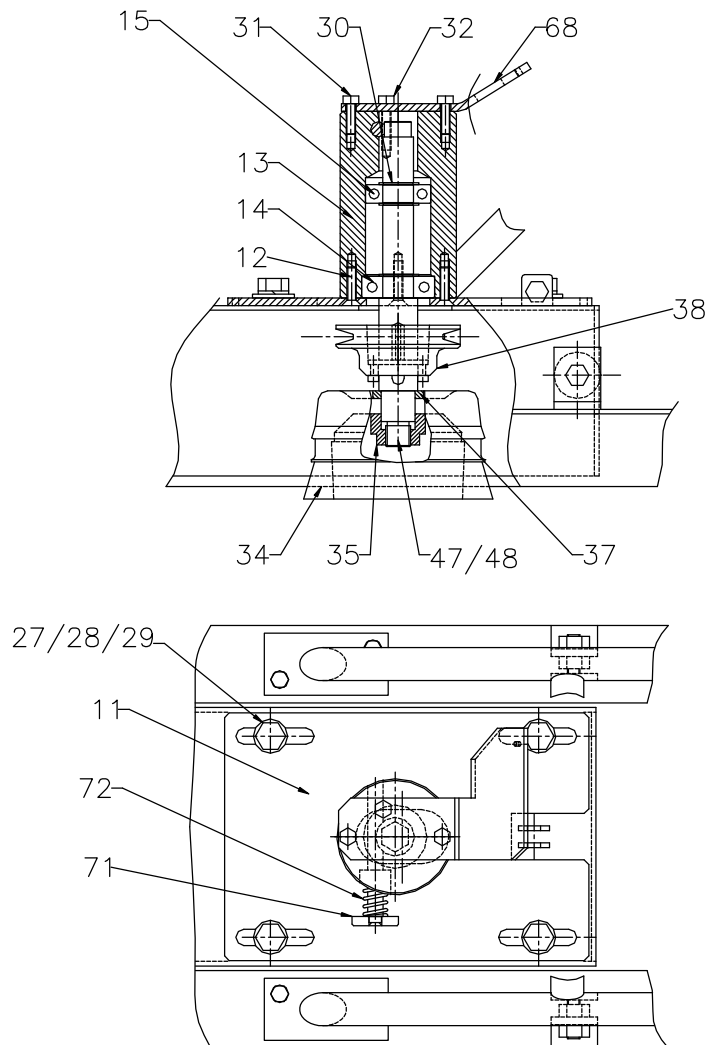


## **VIII – LISTE DES PIECES DETACHEES SPARE PARTS LIST**





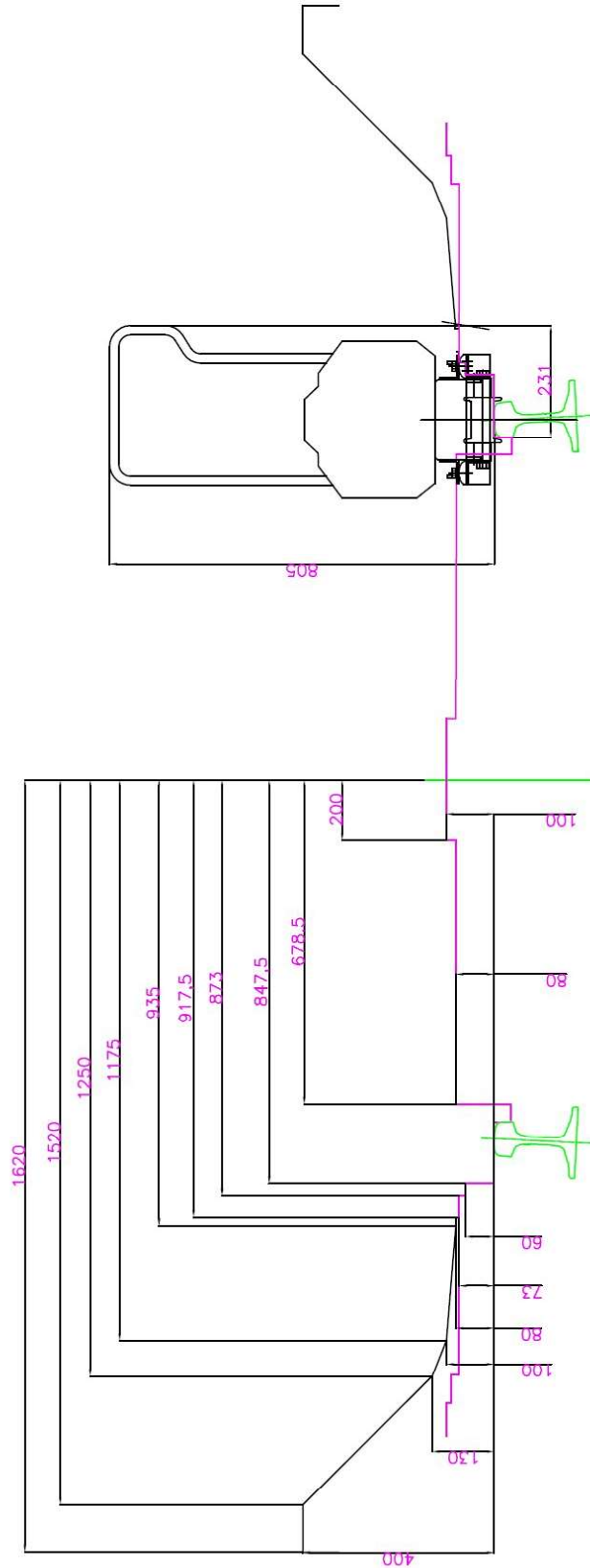
Rep	Ref	Qty	Désignation	Description
1	35910069	1	Poignée de sécurité électrique	Electrical safety device handle
2	41006015	6	Vis HM 6 X 20	Screw HM 6 X 20
3	40906006	2	Ecrou HM6 Nylstop	Nut HM6
4	47802002	1	Interrupteur	Switch
5	41004008	2	Vis CHc M4 X 25	Screw CHc M4 X 25
6	41104003	2	Rondelle M4N	Washer M4N
7	40904002	2	Ecrou HM4 Nylstop	Nut H M4
8	35910255	1	Châssis principal	Main frame
9	41008015	2	Vis HM 8 X 40	Screw HM 8 X 40
10	47310001	2	Plot	Elastic plug
10a	41008008	4	Vis HM 8 X 16	Screw HM 8 X 16
10b	40908004	8	Ecrou HM8	Nut HM8
16	40906006	4	Ecrou HM6	Nut HM6
17	47330001	2	Plot	Elastic plug
19	41114003	4	Rondelle éventail de 14	Washer
20	40914003	4	Ecrou HM14	Nut HM14
21	31210002	4	Bossage	Spacer
22	31270001	2	Galet	Roller
23	35910070	1	Ensemble poignée pliante	Folding arm
24	47401001	1	Manette des gaz	Engine control lever
25	44901001	1	Câble Ø 1.2	Cable Ø 1.2
26	44902001	1	Gaine pour câble	Cable hose
33	41106001	4	Rondelle W6	Washer W6
39	35910256	1	Châssis articulé	Articulated frame
41	31210106	2	Entretoise de galet	Roller spacer
42	44010015	4	Roulement 6202 – 2RS	Ball bearing 6202 – 2RS
43	31110046	2	Axe de galet	Roller axis
49	41008036	1	Vis HM8 X 25	Screw HM8 X 25
50	40908001	1	Ecrou HM8	Nut HM8
51	31110202	1	Vis de réglage	Adjusting screw
52	44902003	0.85m	Gaine Ø 3.2 / 5.7	Cable hose Ø 3.2 / 5.7
53	44901004	2.5 m	Câble 19 brins Ø 2.5	Cable Ø 2.5
54	47401008	1	Manette de descente de brosse	Lowering lever for brush
55	41008009	2	Vis F/90 Hc M8 x 16	Screw F/90 Hc M8 x 16
56	41008015	2	Vis HM 8 X 40	Screw HM 8 X 40
57	41099010	1	Vis H 7/16" Lg ¾" 20 UNF	Screw H 7/16" ¾" long 20 UNF
58	41108003	2	Rondelle M10N	Washer M10N
60	31210329	1	Poulie motrice	Driving pulley
61	44801003	1	Courroie trapézoïdale XPZ 850	Trapezoidal belt XPZ 850
62	41099001	2	Vis H 5/16" Lg ¾" 24 UNF	Screw H 5/16" ¾" long 24 UNF
63	41108004	12	Rondelle W8	Washer W8
64	47002028	1	Moteur HONDA GXV 160	HONDA GXV 160 engine
65	41403002	1	Clavette disque 4 x 6,5	Woodruff key 4 x 6,5
66	31110194	1	Tige de réglage	Adjusting rod
67	47201008	1	Ressort de traction	Spring
68	34910105	1	Support de câble	Cable support
69	47801057	1	Cosse	Spade terminal
70	47801014	1	Cosse à œillet	Eye Spade terminal



Rep.	Ref	Qty	Désignation	Description
11	31910247	1	Support de palier d'axe de brosse	
12	41006040	4	Vis F/90 Hc M6 x 25	Screw Hc M6 x 25
13	31210388	1	Palier d'arbre de brosse	Brush shaft bearing
14	44010033	1	Roulement 6204 2RS	Ball bearing 6204 2RS
15	44010037	1	Roulement 6004 2RS	Ball bearing 6004 2RS
27	41010003	4	Vis HM 10 x 25	Screw HM 10 x 25
28	41110002	5	Rondelle W10	Washer W10N
29	41110003	1	Etiquette port de lunette	Safety label
30	41802014	3	Circlips Ø 20	Circlips Ø 20
31	41006003	2	Vis HM 6 x 16	Screw HM 6 x 16
32	41006048	1	Vis HM 6 x 25	Screw HM 6 x 25
34	47902003	1	Brosse métallique	Metallic brush
35	31210024	1	Ecrou de serrage de la brosse	Brush tightening nut
37	31210103	1	Rondelle d'appui pour brosse	Brush supporting washer
38	45102001	1	Poulie Magic grip	Magic grip pulley
47	47401015	0.045m	Barreau Clavette 8x7	Key 8x7
48	31110213	1	Axe porte brosse	Brush axle
68	34910105	1	Support de câble	Cable support
71	31210389	1	Ensemble doigt de blocage	Clamping set
72	47202001	1	Ressort de compression	Spring



# VIII - PLAN DE CONTROLE SUIVANT EN13977







**FICHE DE CONTROLE**  
CLIENT

**CONTROL CARD**  
CUSTOMER'S COPY

**DECALAMINEUSE DE RAILS TYPE DR 40    RAIL CLEANER DR 40 TYPE**  
**14391003**

N°	Désignation des contrôles <i>Description of controls</i>	Contrôle <i>Checked by</i>
1	CHASSIS : FONCTIONNEMENT    Galets guide ( <i>Rollers</i> ) <i>frame : working test    Articulation (joints)</i>	
2	Vitesse de rotation de l'axe porte brosse (6000 tr/min) <i>Brush-holder axis rotating speed (6000 rpm)</i>	
	Vitesse de rotation du moteur (3600 tr/min. ± 100) <i>Engine rotating speed (3600 rpm ± 100)</i>	
3	Essai de brossage <i>Working test</i> Vérification de l'arrêt de sécurité du moteur <i>Good working of the Engine stop safety device</i>	
4	Aspect Général <i>General appearance</i>	
5	Outillage <i>Tools</i>	
6	Notice d'utilisation    REF. 42111013 <i>User's manual</i>	
7	Garantie moteur <i>Guarantee card for the engine</i>	

Date de fabrication    *Date of manufacturing*.....

Fait à Raismes le    *Drawn up in Raismes, the*.....

Nom    *Name* : .....

Signature    *Signature* :

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

N° de machine	<i>Machine nbr :</i>
Moteur Type	<i>Engine Type :</i>
Numéro	<i>Number :</i>





**FICHE DE CONTROLE**  
CLIENT

**CONTROL CARD**  
CUSTOMER'S COPY

**DECALAMINEUSE DE RAILS TYPE DR 40    RAIL CLEANER DR 40 TYPE**

**14391003**

N°	Désignation des contrôles <i>Description of controls</i>	Contrôle <i>Checked by</i>
1	CHASSIS : FONCTIONNEMENT    Galets guide ( <i>Rollers</i> ) <i>frame : working test    Articulation (joints)</i>	
2	Vitesse de rotation de l'axe porte brosse (6000 tr/min) <i>Brush-holder axis rotating speed (6000 rpm)</i>	
	Vitesse de rotation du moteur (3600 tr/min. ± 100) <i>Engine rotating speed (3600 rpm ± 100)</i>	
3	Essai de brossage <i>Working test</i> Vérification de l'arrêt de sécurité du moteur <i>Good working of the Engine stop safety device</i>	
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Date de fabrication    *Date of manufacturing.....*  
 Fait à Raismes le    *Drawn up in Raismes, the.....*  
 Nom    *Name : .....*  
 Signature    *Signature :*

**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 :*

**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](mailto: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)

**DECALAMINEUSE DE RAIL**

**TYPE DR40**

**Moteur HONDA GXV 160**

**Référence 14391003**

**RAIL DESCALER**

**DR40 TYPE**

**HONDA GXV 160 engine**

**Référence 14391003**

**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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