

OPERATION MANUAL AND PART LIST VIBRATING BEAM / BULLFLOAT TYPE DuoScreed



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LIEVERS HOLLAND

Groot Mijdrechtstraat 68 – 3641 RW

Postbus 103 - 3640 AC

Mijdrecht (NL)

Tel.: 0031 – (0)297-231900 / Fax: 0031 – (0)297-231909

E-mail: info@lieversholland.nl / Internet: www.lieversholland.nl

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1. Preface

This manual has been written to help you operate and maintain the DuoScreed safely. This manual is intended for dealers and operators of DuoScreed and contains useful instructions for use, maintenance and repair. These instructions need to be respected and followed.

Guarantee provisions

All damage to parts of this machine, occurring within 12 months after date of purchase as a consequence of material, production or construction defects, will be replaced by the manufacturer as soon as possible.

The manufacturer declines all responsibility for unsafe situations, accidents and damage caused by:

- Ignoring safety and using instructions as described on the machine or the instruction manual.
- Incompetent or incorrect maintenance
- Use of the machine by unqualified personnel (employees who are unfamiliar with the content of this instruction manual).
- Storing the machine in a damp place.
- Other use than the prescribed use.
- Cleaning of the machine with a high pressure cleaner or by a water jet under high pressure.
- Alternations of the machine carried out by other than manufacturer. This also includes assembling of non-original parts.

(Furthermore are applicable the general terms of delivery and payment of the "METAALUNIE")

Cees de Wit

Guarantee certificate

DuoScreed nr: _____

Date of purchase: _____

			
PAT.NR. NL-1.010.349-C		PAT.NR. EP-0.995.859-A	
TYPE	DuoScreed	YEAR	
ENGINE	Honda GX35	MACH. NR.	
POWER	1,2 kW	R.P.M.	5000
<small>www.lieversholland.nl</small>			

Fig 1: Ratingplate DuoScreed

The ratingplate can be found on the operating handle (under).

2. Introduction

Intended use

The DuoScreed uses a unique reversible blade design which can be used for standard form- to form screeding or wet screeding. It is supplied in 2 components: the blade profile and the power unit. The power-unit consists of a twin handle between which the petrol engine is located. The engine drives, by means of a flexible shaft, the vibrator which is adjustable in 3 positions. The power-unit is equipped with a quick disconnect system, which allows attachment of various blade widths within minutes. With the vibrating alum. profile of the DuoScreed the top layer of freshly poured concrete is compacted, levelled and smoothed in one operation.

Working

The drive-unit of the DuoScreed (Petrol engine) is started by pulling the recoil-starter of the engine. The vibrating blade of the DuoScreed compacts, levels and smoothens freshly poured concrete in one operation.

The DuoScreed features a dualpurpose blade and can be used for form-to-form screeding or for wet screeding. By rotating the power-unit 180 degrees the operator can choose between screeding, using forms/rails, or wet screeding (see figures 2 and 3)

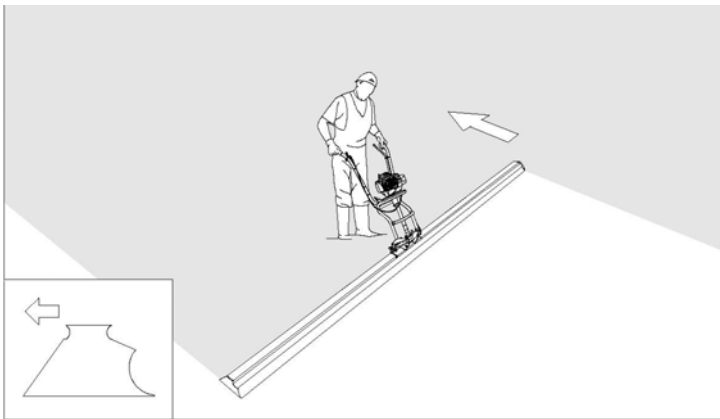


Fig. 2 The DuoScreed in action as a wet screeder (wet screeding side in direction of arrow)

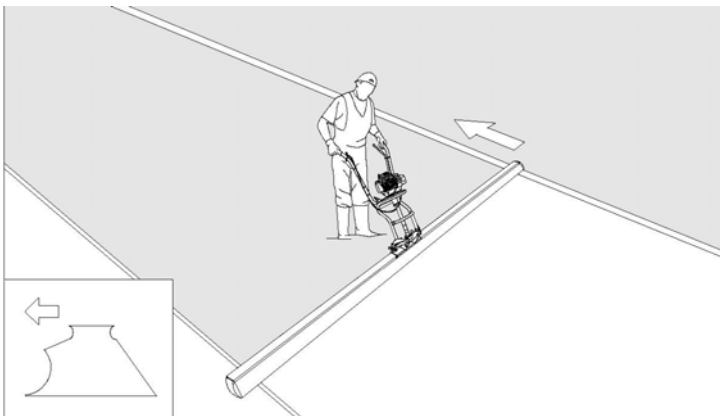
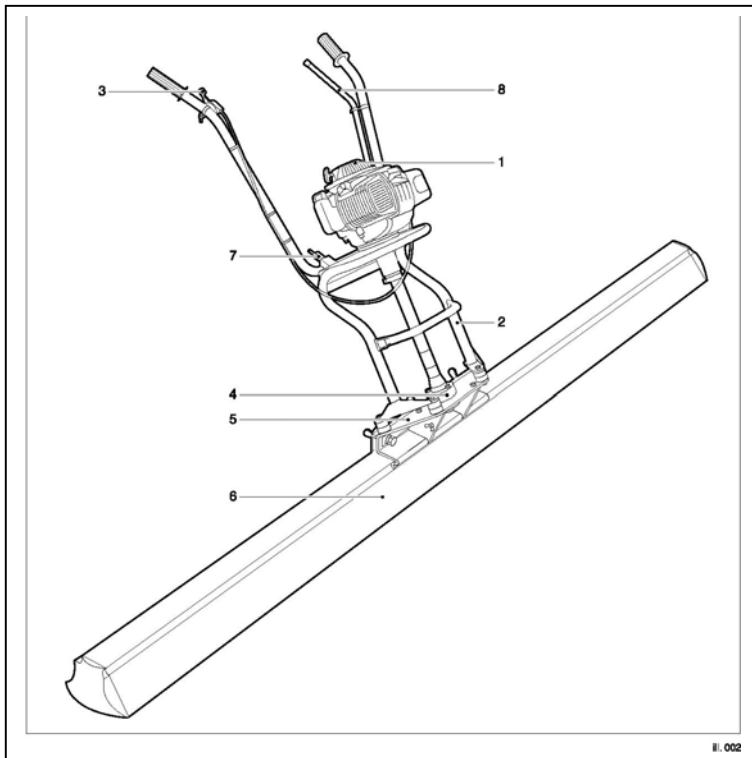


Fig. 3 The DuoScreed in action as a form to form screeder (cutting side in direction of arrow)



1. Petrol engine
2. Operating handle
3. throttle and cable
4. Vibrator
5. Quick (dis)connection system
6. Aluminium blade
7. Lock, adjustable control handle

Fig. 4: overview important components

3. Technical specifications

Technical data

TYPE	ALU BLADE LENGTH	DRIVE UNIT	CAPACITY	WEIGHT DRIVE UNIT
DuoScreed Standard	1,5 – 1,9 – 2,5 -3,0 -3,75 – 4,25 – 5,0 – 5,5* – 6,0* m	Honda GX – 35 4-stroke petrol engine, App. 5.500 tpm,	1,2 kW/1,6 HP	App. 12 kg.
DuoScreed lightweight (LW)	1,54 – 1,83 – 2,44 – 3,05 – 3,66 – 4,27 – 4,88 m	flexibele shaft drive		

Table 1: Types of DuoScreed

* Use 2 vibrating units when working with 5,5 (18ft) and 6 mtr. (20ft) blades.

Sealing : IP 54, splashproof
 Execution : Portable
 Dimensions : Depending on the execution
 Fuel : Euro unleaded (no fuelmix).

SYSTEM PROCESS	CONCRETE COMPACTION AND FINISHING
Process	Generating mechanical vibrations via petrol engine
Noise production	In open air max. 50 db (A)
Vibration acceleration XX	5,39 m/s ² ISO 5349
Maintenance	Cleaner; Water (brush)
Power consumption	See technical specifications
Working area	Portable execution Total incl. vibrating unit max.: 600 x 45 x 100 cms
System weight	Operating unit with petrol engine: 12 Kg. Blade standard: 4,6 kg per meter Blade LW: 3,0 kg per meter

Table 2: Technical data

4. Safety

Explanation of the used safety symbols



Fig. 5: safetysymbols

1. Read the instruction manual before using the machine.
2. Safety glasses, safety helmet and ear protection compulsory.
3. Working gloves compulsory.
4. Safety shoes with extra protection compulsory.
5. Inflammable material.
6. Be careful

ENSURE, THAT ALL SYMBOLS ON THE MACHINE, CAN ALWAYS BE CLEARLY READ.

4.1. Safety aspects

The following safety aspects apply to the machine:

- Safety symbols are present on the duoScreed

4.2. Safety precautions

- Always read the necessary instructions in the manual. If the safety aspects are not clear to you, then ask the manufacturer for an explanation.
- Ensure that you are qualified (familiar with the contents of this manual), to operate and carry out light maintenance-work to the machine when you are operating the machine for the first time.
- Regular maintenance improves safe operation of the DuoScreed.
- Wear a safety helmet, safety glasses, working gloves, which do not conduct electricity and protective clothing.
- On working areas, take notice and follow general and local safety regulations. Before starting your work, make sure that you are informed about all safety regulations and instructions.

The following safety-aspects specifically apply to those Lievers products which are equipped with a petrol engine.

- When the machine is not being used for longer periods of time, then it must be stored in a dry and clean area.
- Make sure that there is sufficient ventilation in spaces which are surrounded by walls.
- Never inhale exhaust gasses, they can damage your health and that of your colleagues.
- To avoid getting an electric shock, do not touch the high-tension cable or spark plug cap while the engine is running.
- Check for fuel leaks before running the machine.
- Do wear working-gloves, safety glasses and protecting clothing during refilling of fuel.
- Make sure that there is sufficient ventilation during refilling fuel.
- Refilling fuel is only allowed after the engine has been cooled off sufficiently.
- Refilling fuel while the engine is hot, might lead to a very dangerous situation
- Refilling fuel is prohibited in the direct vicinity of open fire, burning cigarettes, a heat source and in explosion dangerous areas.
- Do not smoke during refilling fuel.

5. Use

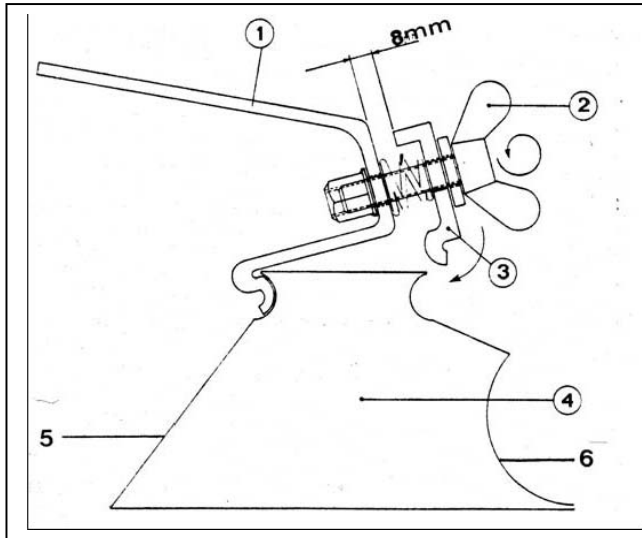
READ THE MANUAL CAREFULLY BEFORE USE. IF ASPECTS ARE NOT CLEAR TO YOU, CONTACT YOUR DEALER OF THE SUPPLIER.

For the location and description of the DuoScreed's parts, which are mentioned in the text, we refer to the illustration figure 4 in this manual.

5.1. Assembling the DuoScreed

- a) First determine whether you want to use the DuoScreed as a form-to-form screeder or as a wet screeder.
- b) DuoScreed is supplied in 2 components: the power-unit and the blade profile.
- c) The power-unit is equipped with a quick connection system, for easy mounting of the power-unit onto the blade profile.
- d) To connect the power-unit to the blade profile loosen the 3 wingbolts about 8mm. until the front clamping plate no. 3 fits into the collar of the profile. (see figure 6). Now tighten the 3 wingbolts no.2. Careful: Make sure that the unit is mounted between the 2 indication arrows, located on the blade

- e) Now unfold the twin control handle, adjust it to the proper height, and tighten the 2 clamps.
- f) Make sure that the DuoScreed is properly assembled and that the ON-OFF switch is in the ON position. Make sure that the fuel tank is filled (NO FUEL MIX).
- g) In case the DuoScreed is used for form-to-form screeding make sure that the rail supports are set to the right level.



1. Big retainer plate
2. Wingbolt
3. Small retainer plate
4. Blade profile
5. wet screed side
6. Form-to-form screed side

Fig. 6 Quick connection system

5.2 Operation and use of DuoScreed.

- 1) Place the DuoScreed profile on the rail supports or in case you want to use the DuoScreed as a wet screed, directly on the freshly poured concrete surface. Careful: before starting the petrol engine read the enclosed operation instructions carefully. Make sure before starting that the ON-OFF switch is in the ON position!
- 2) Now start the engine. Use the throttle handle to adjust the desired engine speed. After setting the engine speed start moving the DuoScreed backwards, the travelspeed depends on the consistency of the concrete.
- 3) If the DuoScreed vibrates too strongly the centrifugal force needs to be reduced. This is done by first removing the vibrator's protection cover and then adjusting the excentrical weights to a lower centrifugal force. (See figure 7). A well adjusted screeder will create a smooth and shining surface.
- 4) After the job is finished, remove the DuoScreed from the concrete lane and switch off the petrol engine.
- 5) After use, clean the DuoScreed according to the instructions described in chapter 6 of this manual. Place the DuoScreed on a dry, clean and stable surface.
- 6) If you do not expect to use the engine for a long period of time the fuel tank needs to be empty. Start the engine and let the engine run at idle speed until the fuel in the carburettor is used and the engine stops.

Please observe the following instructions:

- a) make sure to refill the fuel tank in time. Do not let the engine run until all the fuel is used. This might cause starting problems.
- b) prevent the DuoScreed of sinking into the concrete. After the engine has been switched on, immediately move the DuoScreed backwards.
- c) When using a low slump concrete, move the DuoScreed slowly across the surface of the concrete. When using a

high slump concrete, move the DuoScreed faster across the surface of the concrete.

- d) In case the DuoScreed is used as a wet screed it is recommended to first compact the freshly poured concrete with a poker vibrator while at the same time the height of the floor is set by means of a laser device. Then finish the floor with the DuoScreed, of which the vibrating profile compacts the top layer.

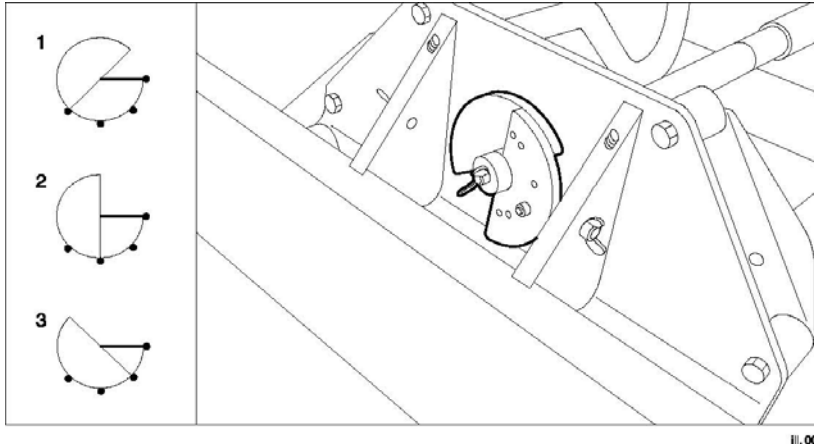


Fig. 7: Various positions of the vibrator.

Adjusting the centrifugal force:

CAREFUL: SWITCH OF THE ENGINE FIRST!

- a) Remove the protecting cover of the vibrator by loosening the springknob.
- b) Now loosen the wingbolt of the vibrator and adjust the vibrator in accordance with the indicated positions in the drawing. Retighten the wingbolt and refix the protection cover.

Setting range of the vibrator:

For light weight blades (LW), always use position1!

feet = meter	pos-excenter	1	2	3
5 = 1,50	1			
6 = 1,90	1			
8 = 2,50	1			
10 = 3	1			
12 = 3,75	2			
14 = 4,25	2			
16 = 5	3			
18 = 5,50	3			
20 = 6	3			

Fig. 8: various setting positions of the vibrator

6. Maintenance

Although this machine has a few moving parts, regular maintenance promotes a long and trouble-free life.

6.1. Maintenance

ONLY QUALIFIED PERSONNEL, FAMILIAR WITH THE CONTENTS OF THIS OPERATION MANUAL, ARE ALLOWED TO CARRY OUT MAINTENANCE AND REPAIR JOBS TO THE DUOSCREED.

- a) It is recommended to spray the aluminum profile and quick connector prior to operation, with a high quality form oil. (See figure 7.0)
- b) Clean the quick connection and blade on a daily basis.
- c) After use store the DuoScreed in a clean, dry and dustfree place.

ATTENTION: CONCRETE REMNANTS COULD DAMAGE THE QUICK CONNECTION. REMOVE CONCRETE REMNANTS FROM THE BLADE AND CONNECTION SYSTEM BEFORE THEY HARDEN OUT. THEY COULD EASILY INJURE THE OPERATOR.

WARNING: DO NOT CLEAN THE DUOSCREED WITH A HIGH PRESSURE CLEANER.

6.2 Cleaning and maintenance of the DuoScreed with Petrol engine.

Daily maintenance:

In order to achieve a maximum cooling effect the ventilation openings must stay free from dirt, grease and concrete. Check them at the end of each working day. If necessary clean them with a brush or a damp cloth.

TIP: FOR DETAILED SERVICING INSTRUCTIONS PLEASE READ THE OPERATION INSTRUCTIONS SUPPLIED BY THE MANUFACTURER OF THE HONDA PETROL ENGINE.

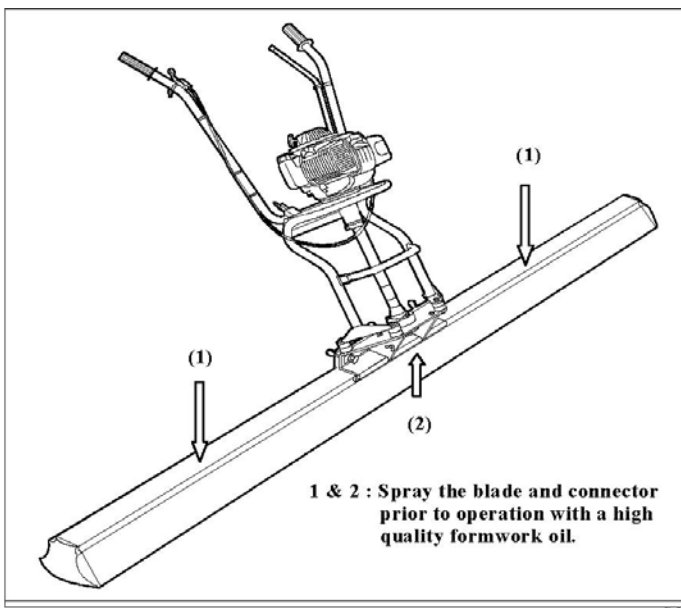


Fig. 9: Blade and connection system to be sprayed with formwork oil.

7. Troubleshooting, repairs

The table below shows the most occurring problems, causes and solutions:

PROBLEM	CAUSE	SOLUTION
The DuoScreed, used as a form-to-form screeder, vibrates too powerful and does not travel smoothly across the rail supports.	The vibrator vibrates too strong for the chosen working width and, therefore, lies very unstable on the rail support system and cannot travel and function in the proper way.	Remove the protection cover of the vibrator and adjust the excentrical weights in accordance with the setting range indicated by the manufacturer. (see figure 7 and 8). NOTE: When using a gasoline type of DuoScreed you can adjust the revolutions and centrifugal force by reducing or increasing the motorspeed to suit the required vibrations and beamwidth.
The DuoScreed vibrates insufficient and as a result the concrete floor cannot be levelled and smoothed in the proper way.	The centrifugal force of the vibrator is set too low. There is an excess of concrete in front of the leading edge. The chosen width of the profile is too big.	Increase the centrifugal force of the vibrator, (see figure 7 adjusting the centrifugal force). NOTE: In case you are using a DuoScreed with a petrol engine you can increase the centrifugal force by increasing the revolutions of the gasoline engine (full throttle). Make sure to maintain a roll of concrete of 20 mm equally spread out along the front of the leading beam. Choose a smaller profile width.
The DuoScreed type with Petrol engine fails to start or runs irregularly.	Insufficient fuel in the fuel tank. The starting procedure was not executed in the proper way. A failure in the gasoline engine.	Refill the fuel tank. Read the operation instructions of the gasoline engine carefully and repeat the starting procedure.

Table 2: the most occurring problems, causes and solutions.

Tip: Please contact Lievers Holland if problems occur that are not mentioned in the list, or if a mentioned problem is not solved by the solutions in the list.

Repairs

It is not strictly necessary to keep spare parts of the DuoScreed in stock. If you prefer to have parts in stock, please ask your supplier or dealer for advice.

TIP: WHEN ORDERING PARTS, FILL IN THE ORDER FORM ACCURATELY. LIEVERS B.V. DECLINES ALL RESPONSIBILITY FOR THE SUPPLY OF INCORRECT SPARES DUE TO INCOMPLETE OR UNCLEAR REQUESTS.

When ordering parts please state the following information:

- Type of machine.
- Year of construction.
- Order number plus description of the part.
- The required quantity.
- The dispatch address and dispatch mode.

Contact details Lievers Holland:

PO Box 103

3640 AC Mijdrecht

Tel: +31 (0)297-231900

Fax: +31 (0)297-231909

E-mail: info@lieversholland.nl

Internet: www.lieversholland.com

8. Dismantling, disposal

Safe disposal

Instructions for the protection of the environment. The old machine contains valuable materials. Take the discarded apparatus and accessories to the nearest official collection point.

Construction material

The machine is manufactured from the following materials:

Location	Material
Profile	Aluminium
Endcovers profile	Synthetic material
Twin handle control	Steel
Various parts (small)	Steel / aluminium
Housing petrol engine	Aluminium
Engine cover	Synthetic material
Fuel tank	Synthetic material
Silent blocks	Rubber
Handles	Rubber
Flexible shaft	Staal
Flexible shaft cover	Rubber
Hose connectors	Steel
Excentrical weights	Steel

Table 3: construction material used.

9. Part lists

9.1. DuoScreed with petrol Engine

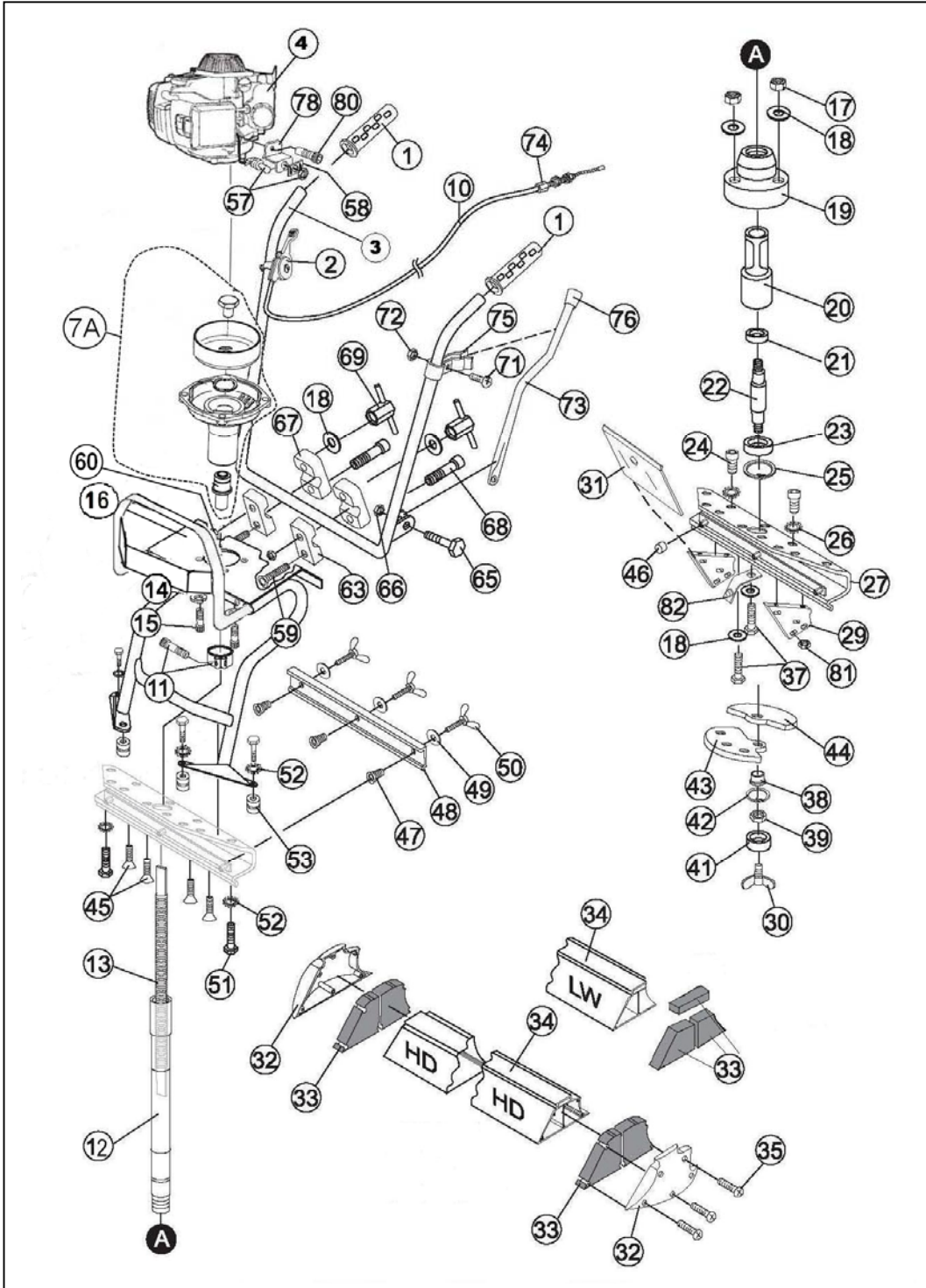


Fig10: exploded view DuoScreed with Honda petrol engine

REF.	PART.NO	QTY.	DESCRIPTION
1	2648	2	Handle grip
2	2647	1	Throttle handle
3	2633LW	1	Upper operating handle
4	2640A35	1	Engine Honda GX 35 S.E.T.
7a	2641	1	Centrifugal housing complete
10	2645LW	1	Throttle Asm. Cable 87 cms.
11	2626	1	Clamp for centrifugal housing
12	2625LW	1	Rubber hose with connectors
13	2621LW	1	Flexible shaft
14	0178	4	Spring washer M6 Type B
15	0165	4	Socket head bolt M6x25
16	2632LW	1	Lower Operating Handle
17	0101	3	Self-locking nut M8
18	0155	8	Flat washer M8
19	2611Kempl.	1	Excentric housing complete (19, 21, 22, 23 & 25)
20	1100000008	1	Coupling drive pin
21	2619	1	Bearing (small)
22	2612	1	Excentric shaft
23	2314	1	Bearing (big)
24	0278	4	Socket head bolt M8x30
25	0201	1	Retaining ring 17x1mm.
26	0213	4	Toothring M8
27	2604LW	1	Excentric assembly plate 350mm long
28	2610LW	1	Strip with nuts for alu.clamp 350mm long
29	2608N	2	Support block
31	2609N	1	Cover of excentric
32	2602	1	Set of end caps
33	2602LW	2	Set of seals in Alu.profile (one side) only for LW profile
33	2602A	2	Set of seals in Alu.profile (one side)
34	260015	1	DuoScreed profile 1.5 mtr. – 5 feet
	260020	1	Idem, but 1.9 mtr.
	260025	1	Idem, but 2.5 mtr.
	260030	1	Idem, but 3.0 mtr.
	260035	1	Idem, but 3.75 mtr.
	260040	1	Idem, but 4.25 mtr.
	260050	1	Idem, but 5.0 mtr.
	260055	1	Idem, but 5.50 mtr.
	260060	1	Idem, but 6.0 mtr.
	260015LW	1	Idem, but 1,52 mtr. = 5ft exact
	260018LW	1	Idem, but 1,83 mtr. = 6ft „
	260024LW	1	Idem, but 2,44 mtr. = 8ft „
	260030LW	1	Idem, but 3,05 mtr. = 10ft „
	260036LW	1	Idem, but 3,66 mtr. = 12ft „
	260042LW	1	Idem, but 4,27 mtr. = 14ft „
	260048LW	1	Idem, but 4,88 mtr. = 16ft „
35	0277	12	Self tapping screw M5x20
37	0129	3	Tapbolt M8x40
38	2614	1	Hinge bushing for excentric
39	0177	1	Nut M12 (fine)
41	2613	1	Clamping bush for excentric

REF.	PART. NO.	QTY.	DESCRIPTION
42	0175	1	Retaining ring M12
43	2615A	1	Excentric plate (small)
44	2615B	1	Excentric plate (big)
45	0207	4	Countersunk head screw 8.8 M8x25
46	2617	3	Plastic protection cap M12
47	2607	3	Compression spring for clamping strip
48	2605LW	1	Alu. clamping strip
49	0176	3	Washer M12x6
50	2606	3	Wing bolt
51	0285	4	Tap bolt M8x12
52	0212	8	Internal toothing ring M8
53	0056	4	Rubber buffer 30x30 M8
54	0124	4	Tap bolt M8x10
56	2643A	1	Earth wire for stop switch
57	2643	1	Stop switch
58	2658	1	ON-OFF indication plate
59	0283	2	Carriage bolt M8x50
60	0089	2	Self locking flange nut M6
63	2635	2	Lower Alu. clamp
65	0181	1	Tap bolt M6x30
66	0100	1	Self locking nut M6
67	2635A	2	Upper Alu. clamp
68	0284	2	Socket head bolt M6x40
69	2636	2	Clamp for height adjustment
71	0167	1	Screw M5x16
72	0099	1	Self locking nut M5
73	2637LW	1	Supporting leg
74	2644	1	Gas throttle adjustment bolt
75	2639	1	Clamp for supporting leg
76	2634	1	Rubber protection cap for supporting leg
77	2646	1	Engine RPM. blocking bush excluding 0239 screw M3 * 16
78	2321H	1	Switch bracket Honda GX-35
80	0269	1	Socket head bolt M5 x 12
81	0206	8	Square nut M8
82	26061	1	Spring clip for eccentric cover

Table 4: parts list DuoScreed

10. Declaration of conformity

EC DECLARATION OF CONFORMITY

EC-declaration of agreement for machinery

(Directive 2006/42/EC, Annexe II, under A)

Supplier: Bouwmachinefabriek Lievers B.V.
Address: Groot Mijdrechtstraat 68, 3641 RW Mijdrecht

Hereby declares that

The wetscreed / vibrating beam DuoScreed:

- 1) Complies with the regulations for the Machine Directive 2006/42/EC and the EMC-Directive 2004/108/EC.
- 2) complies with the following harmonised standards: NEN- EN 12100-1:2003, NEN- EN 12100-2:2003, NEN- EN 12649

Mijdrecht, November 1st, 2009

Supplier: Bouwmachinefabriek Lievers B.V.
Address: Groot Mijdrechtstraat 68, 3641 RW Mijdrecht



Name: C.M. de Wit
Position: Managing director