



World-class turf maintenance equipment

# OPERATING INSTRUCTIONS

## ROSCA

MACHINE REFERENCE	SBS/1500
SERIAL NUMBER	.....
CN CODE	8432 29 10



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Company reg no 641526 - Vat No GB 345 9918 12

**EC DECLARATION  
OF  
CONFORMITY**

We the undersigned  
SISIS EQUIPMENT (Macclesfield) LIMITED

Certify that the Ride On Brush System

Make SISIS

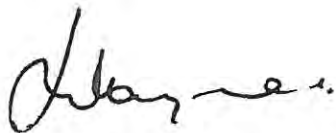
Type Rosca

Series 1

Conforms to EC Directives and  
amendments 2006/42/EC

Standard BS7370

*This certificate applies only to NEW equipment supplied  
by SISIS or our authorised dealer*



J.W. Hargreaves  
Director

Certificate Number  
CE84233910



We want you to obtain the best performance from this machine. If after reading the following instructions, you have any problems please contact SISIS at Macclesfield or your local SISIS Territory Manager or SISIS Dealer.

## GENERAL DESCRIPTION

The SISIS ROSCA has been designed for use on artificial surfaces to re-distribute the infill and keep the infill material from compacting and migrating, whilst also brushing/grooming the carpet pile.

The Rosca has 2 mid mounted oscillating brushes which are lifted and lowered by an electric ram. This also allows for an increase in ground contact. A spring system in the ram allows for a constant and even ground pressure over slight undulations.

The oscillating brushes carry out a more intense brushing action than drag type brushes. The slower the forward speed the more brush oscillations per meter.

The drag brushes at the rear of the Rosca are lifted and lowered by an electric ram. The two wing or outer brushes are attached to gas springs which ensure a constant and even pressure on the surface. These brushes are used for daily maintenance of the surface to re-distribute the infill material and raise and groom the carpet pile.

Photo 1

## OPERATING THE ROSCA

Before starting the Rosca, ensure that the drive lever (Photo 1) is in the drive position and the brushes are raised clear of the ground and the center brushes are out of drive. Ensure the **RED** isolator switch is in the **ON** position and the throttle control lever is in the **CHOKE** position. Now turn the ignition key.

**NEVER** start the engine with the ignition key unless you are in the drivers seat

When the engine is running, move the throttle lever into the **RUN/IDLE** position and allow the

engine to warm up.

When the engine is running smoothly, release the brake and push the accelerator pedal gently down. (The front of the pedal is forward the back of the pedal is reverse). (Photo 2)

Photo 2



The Rosca has a hydrostatic drive unit. The further down you push the pedal the faster you will travel.

When you release the pedal you will come to a gentle stop. Always come to a complete stop before putting the Rosca in reverse.

Photo 3



To lower the center brushes to the surface, push the switch (Photo 3) until the brushes touch the surface. Ensure that the vehicle is moving before lowering to ground.

To start the oscillating center brushes put the lever (Photo 4) into drive.



Photo 4

To lower the rear brushes push the switch (Photo 3) until the rear brushes contact the surface and lower the two outer brushes.

Photo 5

To switch the engine off turn the **RED** isolator switch located above the throttle either left or right. (Photo 5)



**NEVER** leave the drivers seat with the engine running. Always switch the engine **OFF** at the isolator switch and leave the switch in the **OFF**



position until you are ready to re-start the engine.

Always ensure that the isolator is in the ON position before starting the engine.

The fuel fill is located on the engine.

The oil fill and dipstick are located on the engine.

If the battery is flat the engine can be started with the recoil pull start, which is located on the engine. Ensure that the isolator switch is ON and the throttle is in the CHOKE position and the brake is in the ON position and the oscillating brushes are in the OFF position.



Photo 6

The battery is located under the panel below the seat. (Photo 6) Undo the two over center catches and remove the panel to reveal the battery and the hydrostatic oil top up bottle.

The hydrostatic drive unit is sealed and unless the unit develops a leak should not require attention. If the header bottle needs an oil top up, use SAE30 engine oil (same as the engine uses).

The rear of the Rosca is fitted with a two bar ball hitch for towing other implements or a small trailer. DO NOT overload the ball hitch as steering may be affected.

Oil in engine	SAE30
Oil in hydrostat	SAE30
Tyre Pressures	
Front	25 PSI
Rear	25 PSI
Battery	12 VDC
Engine	Briggs & Stratton 11.5hp vertical
Drive System	Hydrostatic direct from engine
Brush drive	Belt from engine with jockey

**ROUTINE MAINTENANCE**

- Check tyres are correct pressure (25 PSI)
- Check for loose nuts and bolts
- Check engine oil level
- Check brushes for wear and damage

**REMOVING THE BODY COVER**

Some maintenance work may require the body cover to be removed. The sequence is:

- 1 Disconnect RED isolator switch from handle-bar (Photo 5)



Photo 9

Photo 5

- 2 Remove handlebar mounting bracket from cover (Photo 9)



- 3 Remove seat from mountings (Photo 6)



Photo 6

- 4 Remove panel from under seat

- 5 Remove forward/reverse pedal (Photo 2)



Photo 2

6 Remove throttle lever end (Photo 12)



Photo 12

7 Remove knobs from brake and brush drive lever (Photo 4)



Photo 4

8 Remove knob from drive free-wheel lever (Photo 1)



Photo 1

9 Unplug electric plug from inspection plate (Photo 8)



Photo 8

10 Feed wire loom through cover of machine to avoid snagging



11 Remove 4 (1 in each corner) cover retaining bolts (Photo 10)



Photo 10

12 Lift off cover, taking care not to snag wiring loom - best done with 2 people

Replacement is a reversal of the above procedure, again taking care not to snag wiring loom.

### BELT DRIVE TENSIONING

After some hours use, it may be necessary to re-tension drive belt to the brush drive.

The belts can be tensioned from a position underneath the machine, and can be accessed by raising and jacking the front wheels.

There are two cables that run from below the engagement levers to their respective drives (Photo 11). The brush drive cable has a longer, narrower spring tensioner (B).

Slacken the screws in the securing clamp and pull through excess slack. Re-tighten clamp bolts.

The hand brake cable (A) can be tensioned in the same way.

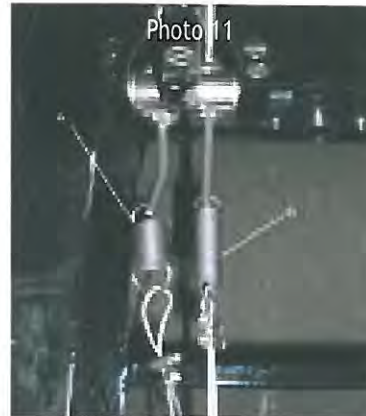


Photo 11

tension type clutch

For engine maintenance see engine book supplied with machine.

## SPECIFICATION

Model ref	SBS/1500
Overall width including rear brushes (working pass)	3.2 mtr
Overall width of center oscillating brushes	1.5 mtr
Transport width	1.5 mtr
Length	1.9 mtr
Height	1.2 mtr
Engine with electric start	11.5hp B&S



# sisis

## PARTS LIST & DRAWINGS

# ROSCA

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**SALES/SPARES 01625 503030**  
Website [www.sisis.com](http://www.sisis.com)

<i>item</i>	<i>part</i>	<i>description</i>	<i>qty</i>	<i>item</i>	<i>part</i>	<i>description</i>	<i>qty</i>
1	HUECUB245	6.3 push on connector	2	59	8256	grip	2
				60	8354	tensioner pulley	1
3	37576	choke lever	1	61	8435	idler pulley	1
4	8307	countersunk screw	2	62	8710	cap head screw	1
5	1/1231	nut	8	63	8719	circlip	2
6	1/1228	nut	24	64	8729	cap head screw	2
7	1/1227	h nut	12	65	8802	cap head scrw	4
8	1/1223	nut	25	66	8803	bush	8
9	1/1222	h nut	9	67	8952	linch pin	1
10	1/1221	h nut	5	68	8955	end cap	8
11	1/1220	nut	51	69	20016	cable splice	1
12	1/1218	nut	36	70	20049	knob	3
13	1/1217	nut	36	71	20189	bearing	11
14	1/1193	cheese head screw	6	72	20194	key	1
15	1/1181	bolt	5	73	20323	plug	2
16	1/1175	setscrew	2	74	20384	cap head screw	4
17	1/1169	bolt	1	75	20444	sel lok pin	2
18	1/1164	bolt	4	76	20452	h washer	4
19	1/1158	bolt	2	77	20783	wheel	2
20	1/1157	bolt	4	78	20796	wheel	2
21	1/1139	bolt	4	79	20985	spring	1
22	1/1122	setscrew	1	80	21043	seat	1
23	1/1120	bolt	2	81	21279	cap head screw	1
24	1/1112	bolt	4	82	21552	mud washer	6
25	1/1106	setscrew	2	83	21623	jubilee clip	2
26	1/1105	setscrew	20	84	21661	full nut	1
27	1/1104	setscrew	4	85	21687	clamp	4
28	1/1099	setscrew	2	86	21706	ball joint	11
29	1/1098	bolt	1	87	21717	plug	2
30	1/1096	setscrew	22	88	21739	rubber bobbin	2
31	1/1094	setscrew	1	89	21777	cap head screw	1
32	1/1082	h washer	2	90	21785	key	2
33	1/1081	washer	1	91	21834	bush	1
34	1/1073	washer	4	92	21852	flanged bush	4
35	1/1072	washer	2	93	21922	vibration mount	4
36	1/1070	washer	2	94	21970	split in	2
37	1/1063	s washer	1	95	22054	tensioner	1
38	1/1062	s washer	14	96	22060	taper lok bush	1
39	1/1061	s washer	1	97	22074	cap head screw	1
40	1/1060	s washer	6	98	22078	tensioner sprocket	1
41	1/1039	s washer	10	99	22103	but head screw	35
42	1/1436	setscrew	2	100	22119	bush	1
43	1/1010	key	2	101	22121	rod end	5
44	1250	bolt	2	102	22123	cap head screw	5
45	1290	nut	2	103	22269	gearbox	1
46	1394	stop switch	1	104	22278-2	filter	1
47	1871	pop rivet	2	105	22278-1	cap	1
48	1947	grease nipple	3	106	22278	oil reservoir	1
49	1951	setscrew	6	107	22280	terry clip	1
50	1989	grub screw	4	108	22307	oil tube	1m
51	8007	chain	1	109	22309	battery	1
52	8032	bearing	8	110	22310	handlebar	1
53	8048	bearing	1	111	22312	engine	1
54	8049	bearing	4	112	22314	gas spring	2
55	8068	grub screw	8	113	22316	nylon setscrew	15
56	8113	split link	1	114	22317	nylon nut	15
57	8128	key	1	115	22318	towing ball	1
58	8173	bearing	2	116	22319	actuator back brush	1



<i>item</i>	<i>part</i>	<i>description</i>	<i>qty</i>	<i>item</i>	<i>part</i>	<i>description</i>	<i>qty</i>
117	22320	actuator centre brush	1	176	37342	crank arm	1
118	22322	spring	1				
119	22323	fan	1	178	37344	aluminium brush holder	1
120	22324	spring	1	179	37345	threaded ba	2
121	22325	eye bolt	1	180	37346	cover	1
122	22326	57T sprocket	1	181	37348	engine base plate	1
123	22327	switch	2	182	37349	pulley base plate	1
124	22328	solenoid	1	183	37354	seat support	2
125	22332	acouststic insulation	2m	184	37355	lower drive plate	1
126	22333	drive belt	1	185	37356	sprocket drive shaft	1
127	32973	hub	2	186	37357	pulleyd rive shaft	1
128	37347	starter switch plate	1	187	37358	spider coupling	1
129	35835	shaft end washer	2				
				189	37360	earth cable battery	1
				190	37361	wire battery to solenoid	1
132	37598	side brush	2	191	37362	wiring loom	1
133	36000	standard nameplate	1	192	37363	wire solenoid to ignition	1
134	37300	pulley	1	193	37364	wire solenoid to engine	1
135	37301	pulley	1				
136	37302	sprocket	1				
137	37303	chassis	1				
138	37304	suspension arm	1	197	37368	solenoid earth wire	1
139	37305	LH front axle	1				
140	37306	RH front axle	1	199	37575	centre brush	2
141	37307	steering rod assembly	1	200	37371	brush holder	1
142	37308	track rod long	1	201	37372	Rosca decal	3
143	37309	control rod short	1	202	37373	drive decal	1
144	37310	handlebar pad	1	203	37374	Up/Down decal	1
145	37311	accelerator pedal	1	204	37375	brush drive decal	1
146	37312	accelerator pedal pivot	1	205	37376	Fast/Slow decal	1
147	37313	speed lever	1	206	7084	wheel bolt	8
148	37314	drive lever	1	207	1493	inspection label	1
149	37315	brake lever	1	208	33941	CE mark decal	1
150	37316	block	2	209	8712	earth wire	1
151	37317	lever stop	1	210	37394	solenoid engine wire	1
152	37318	speed connecting rod	1	211	37467	belt guide	2
153	37319	speed lever gearbox	1	212	37577	battery stud	2
154	37320	belt tensioner	1	213	37578	battery strap	1
155	37321	bypass lever	1	214	1/1336	wing nut	2
156	37322	push rod	1				
157	37323	pulley bracket	1				
158	37324	spacer	1				
159	37325	drive cable	1				
160	37326	brake cable	1				
161	37327	rear brush support	1				
162	37328	top pivot arm	1				
163	37329	bottom pivot arm	1				
164	37330	rear side brush frame	2				
165	37599	rear brush	1				
166	37332	rear brush frame	1				
167	37333	lift arm	1				
168	37334	centre brush support	1				
169	37335	pivot tube	2				
170	37336	brush holder	1				
171	37337	cross shaft	1				
172	37338	bearing spacer	1				
173	37339	actuator top	1				
174	37340	spacer	2				
175	37341	spacer	1				

DECALS

**SISIS  
ROSCA**

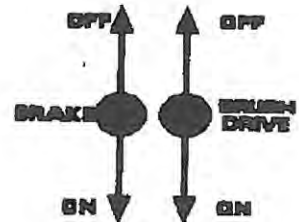
37372

**PULL TO  
DRIVE  
PUSH TO  
DISENGAGE**

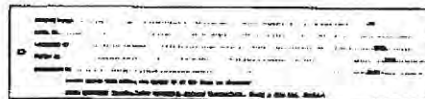
37373

**CENTRE REAR  
BRUSH BRUSH**  
UP UP  
DOWN DOWN

37374



37375

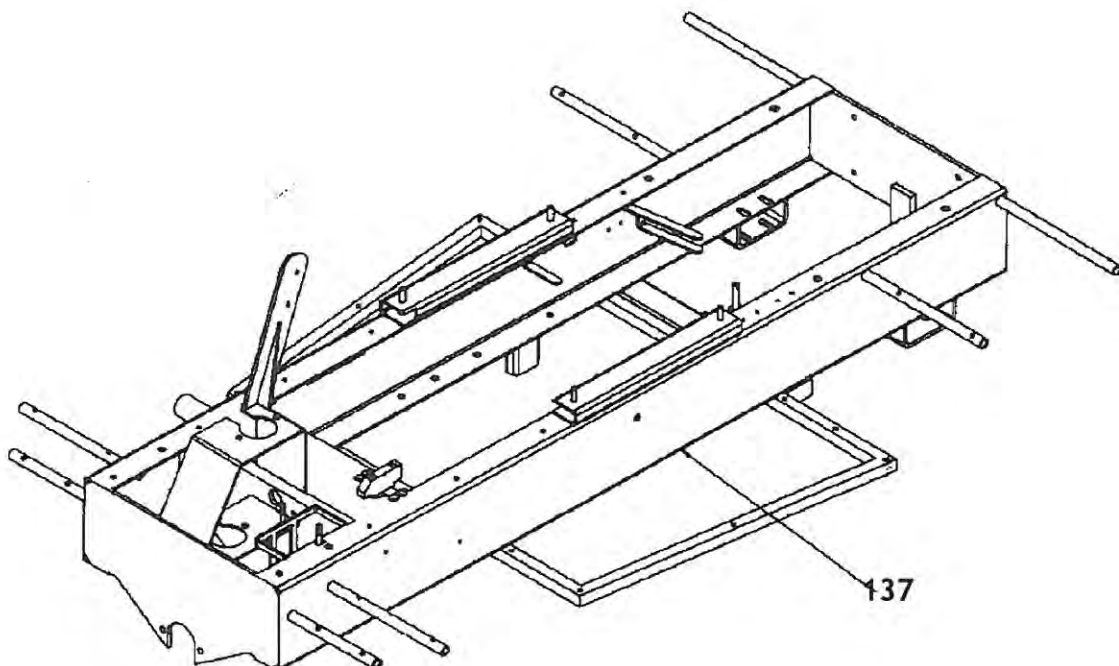


1493

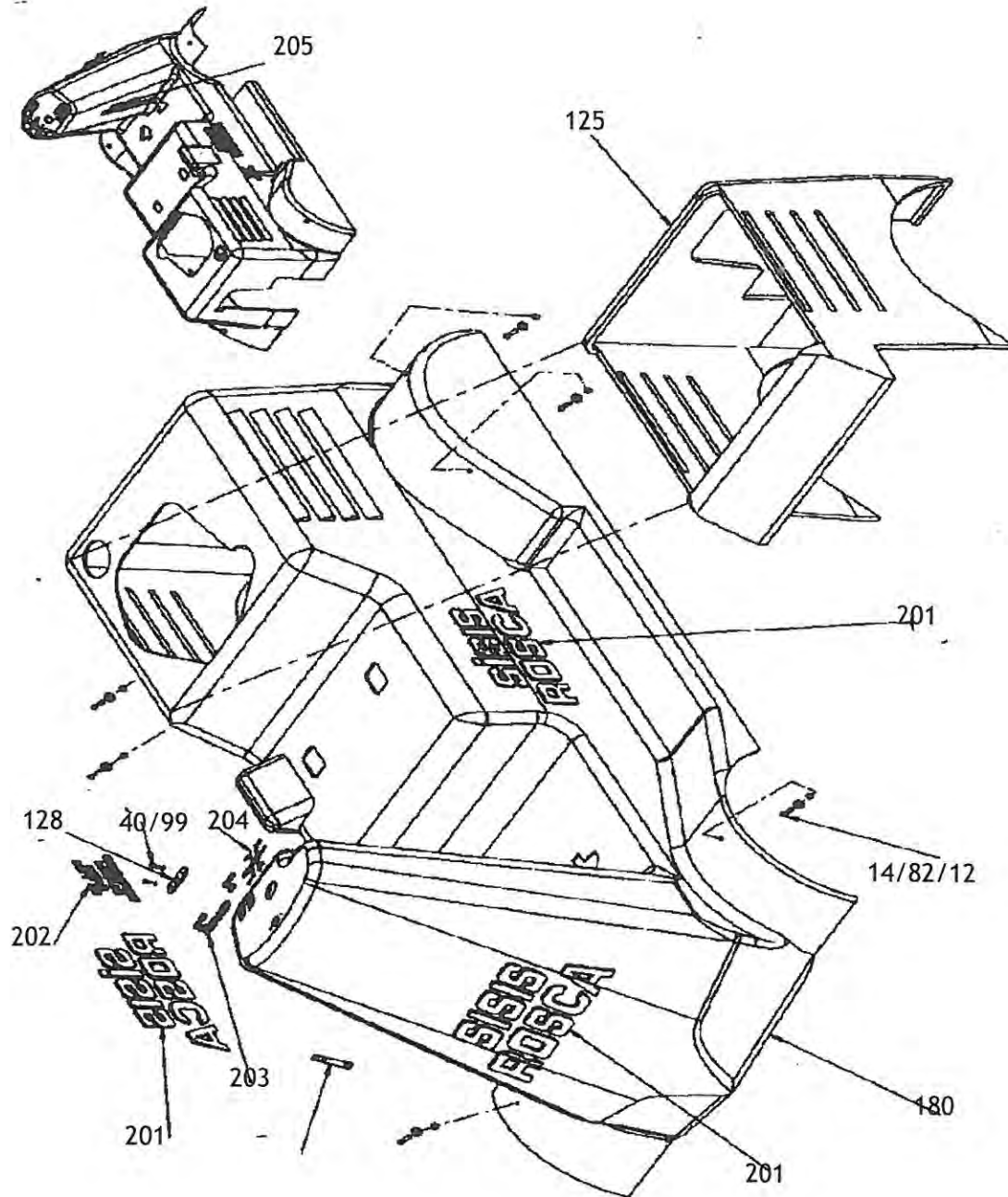


37376

CHASSIS

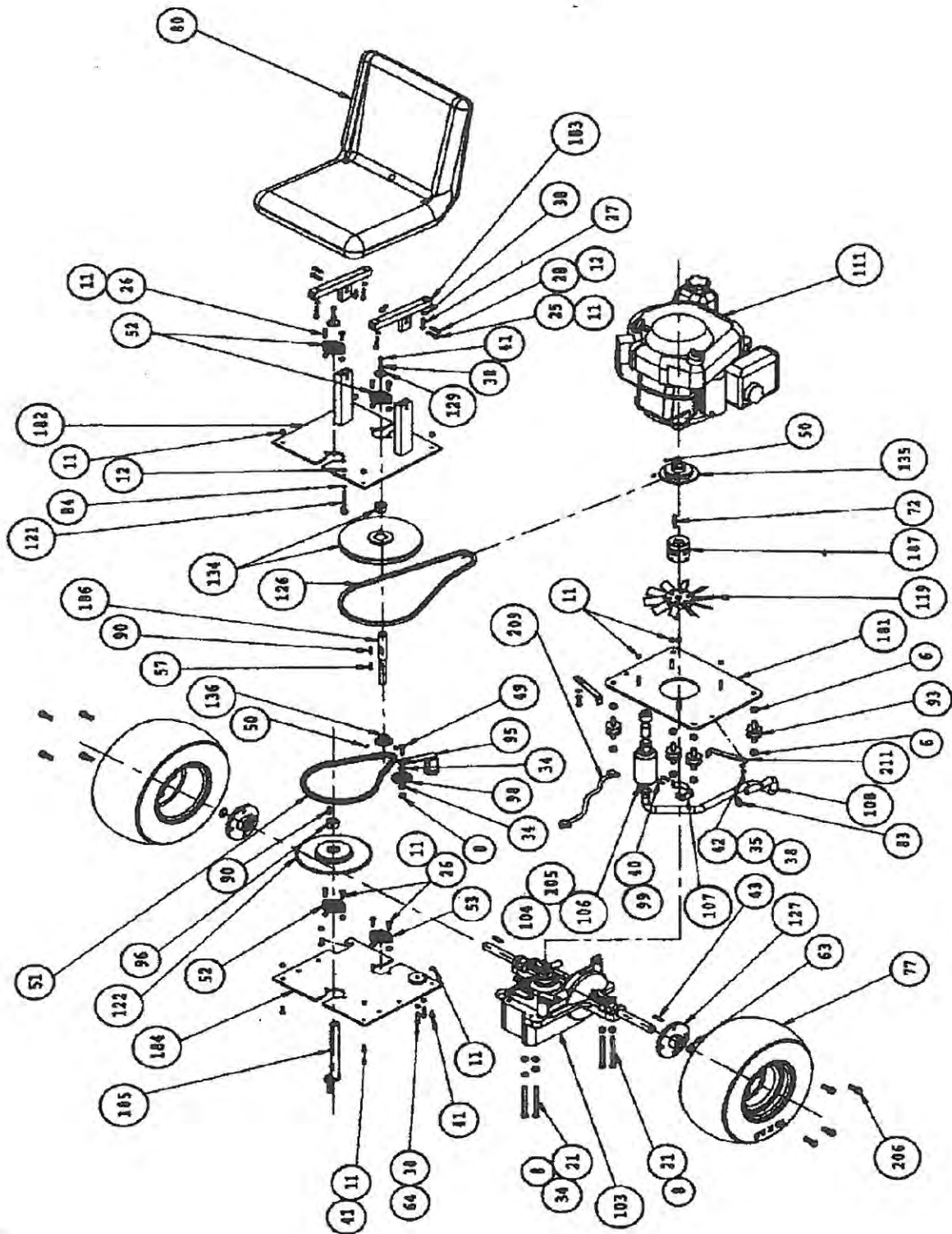


COVER

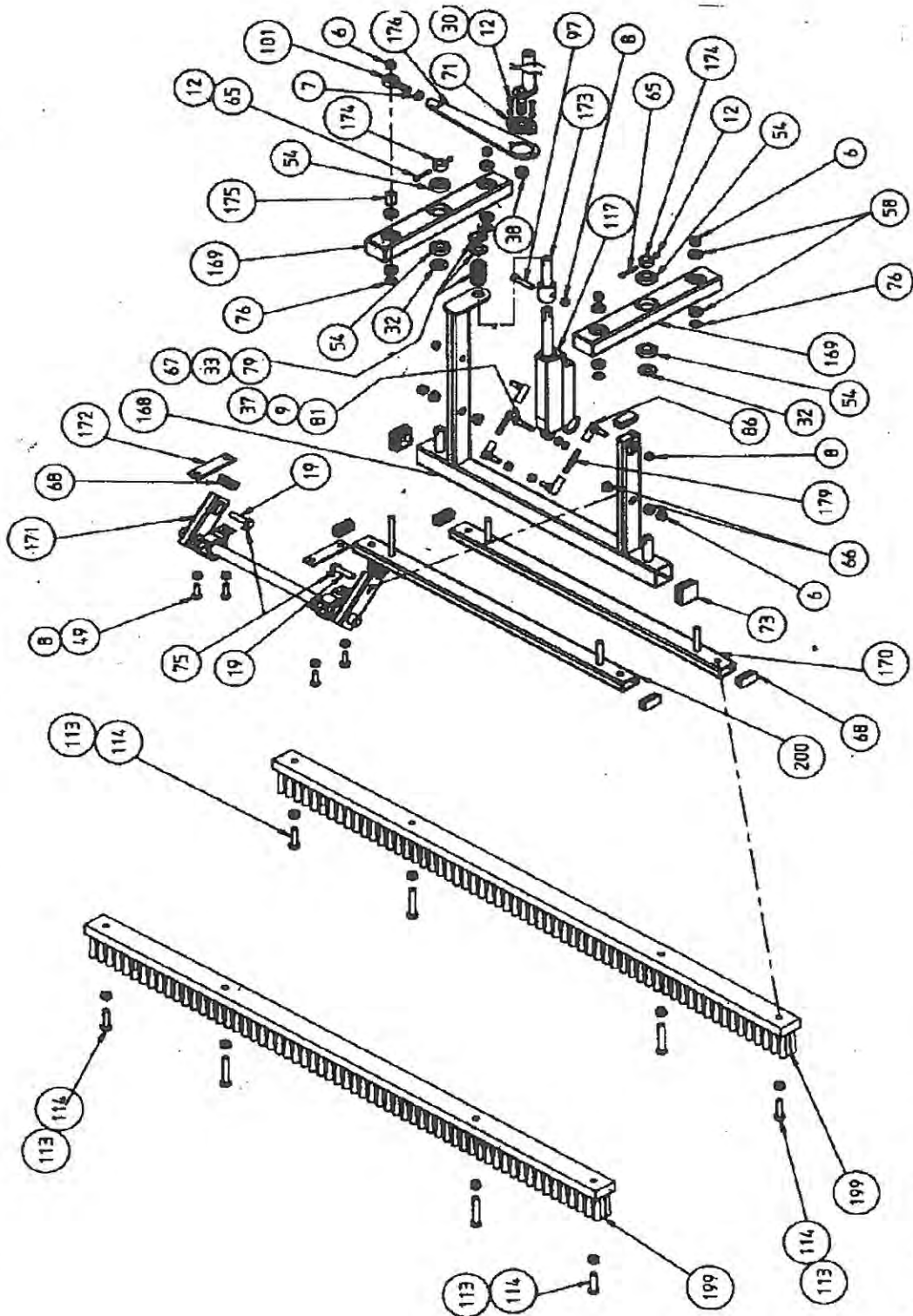




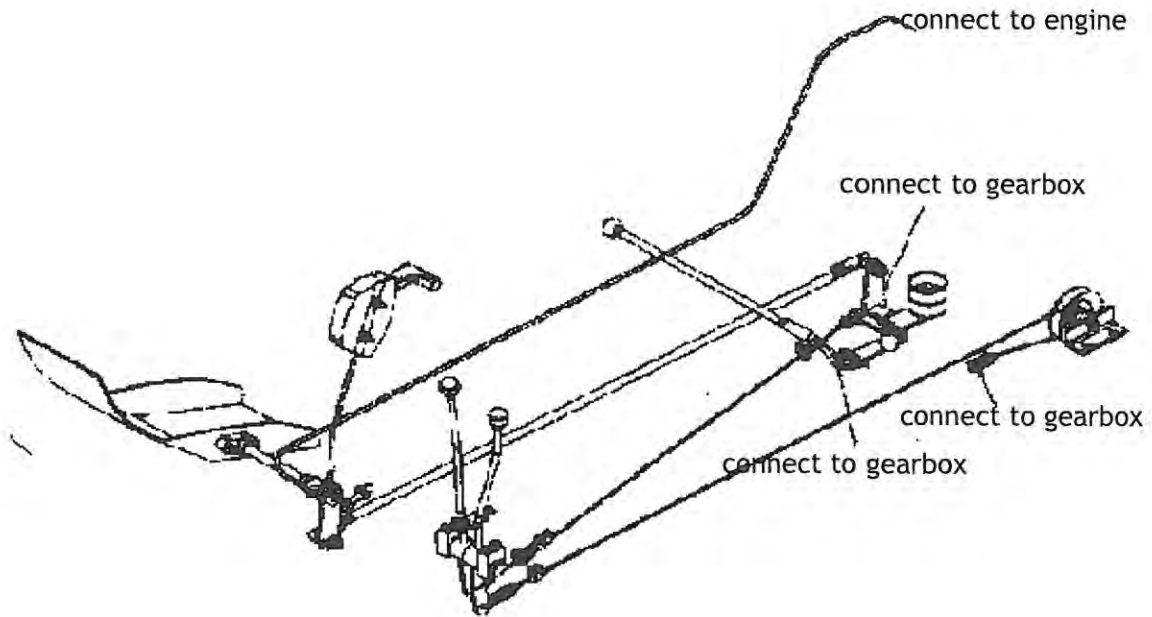
DRIVE



CENTRE BRUSH

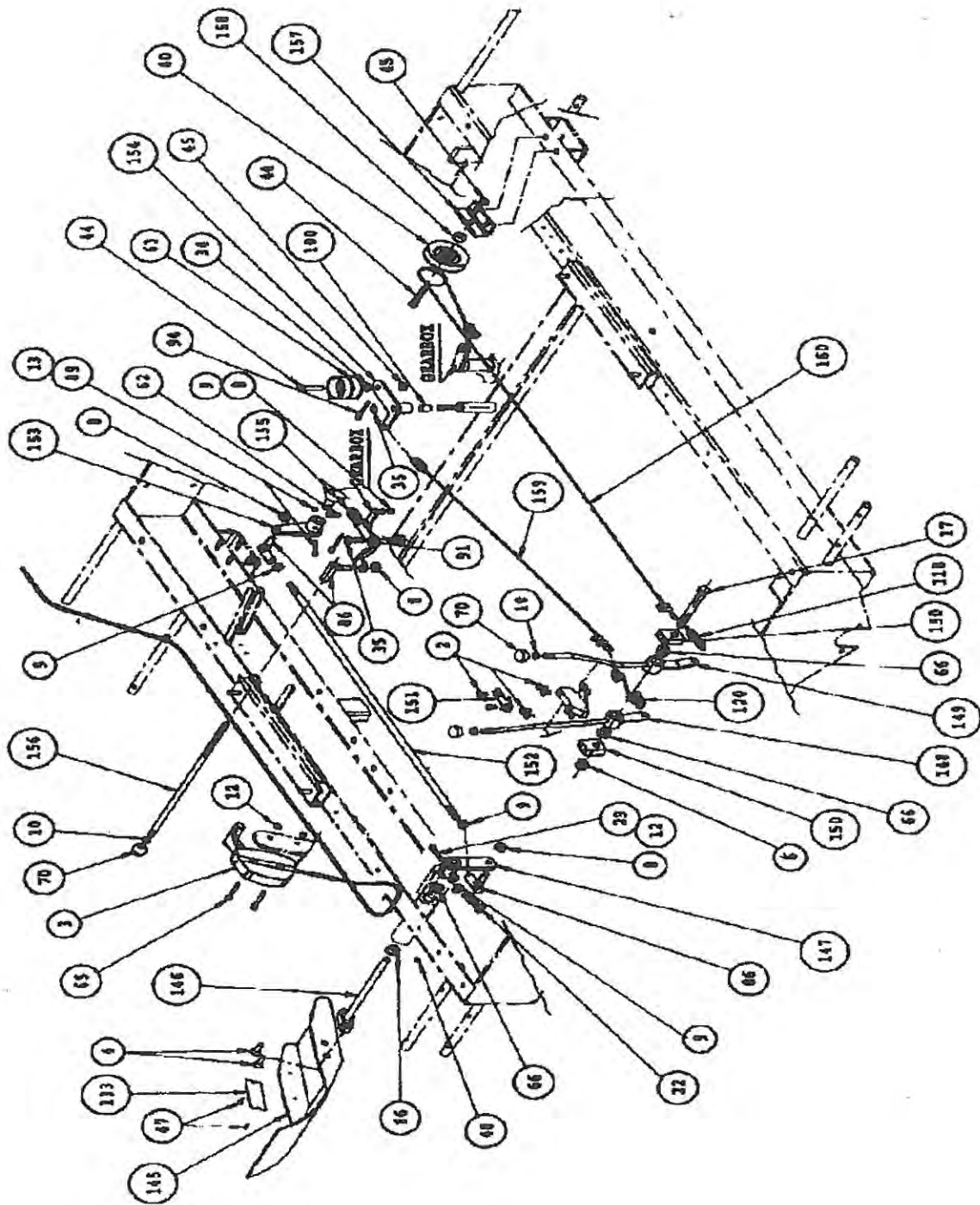


CONTROLS

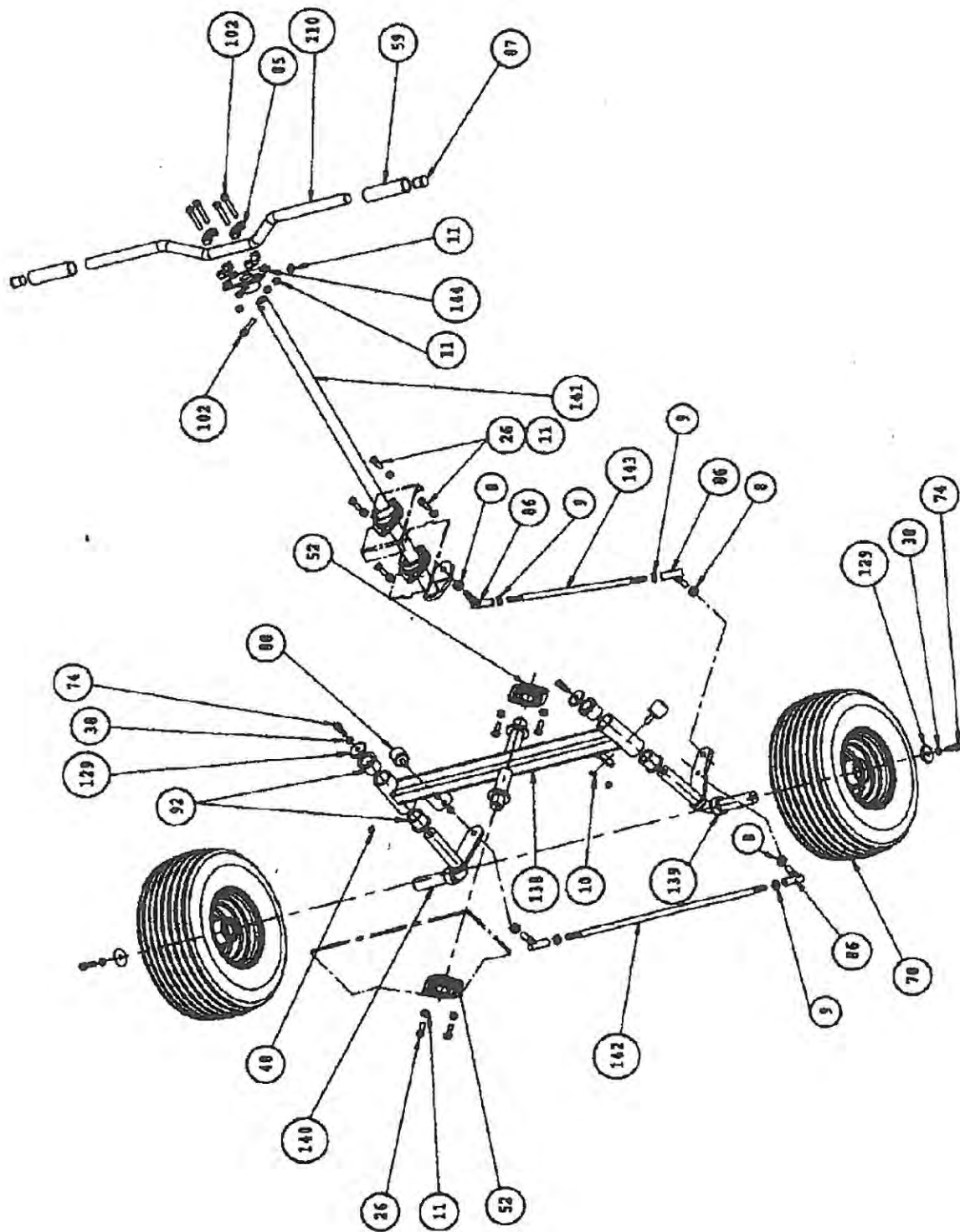




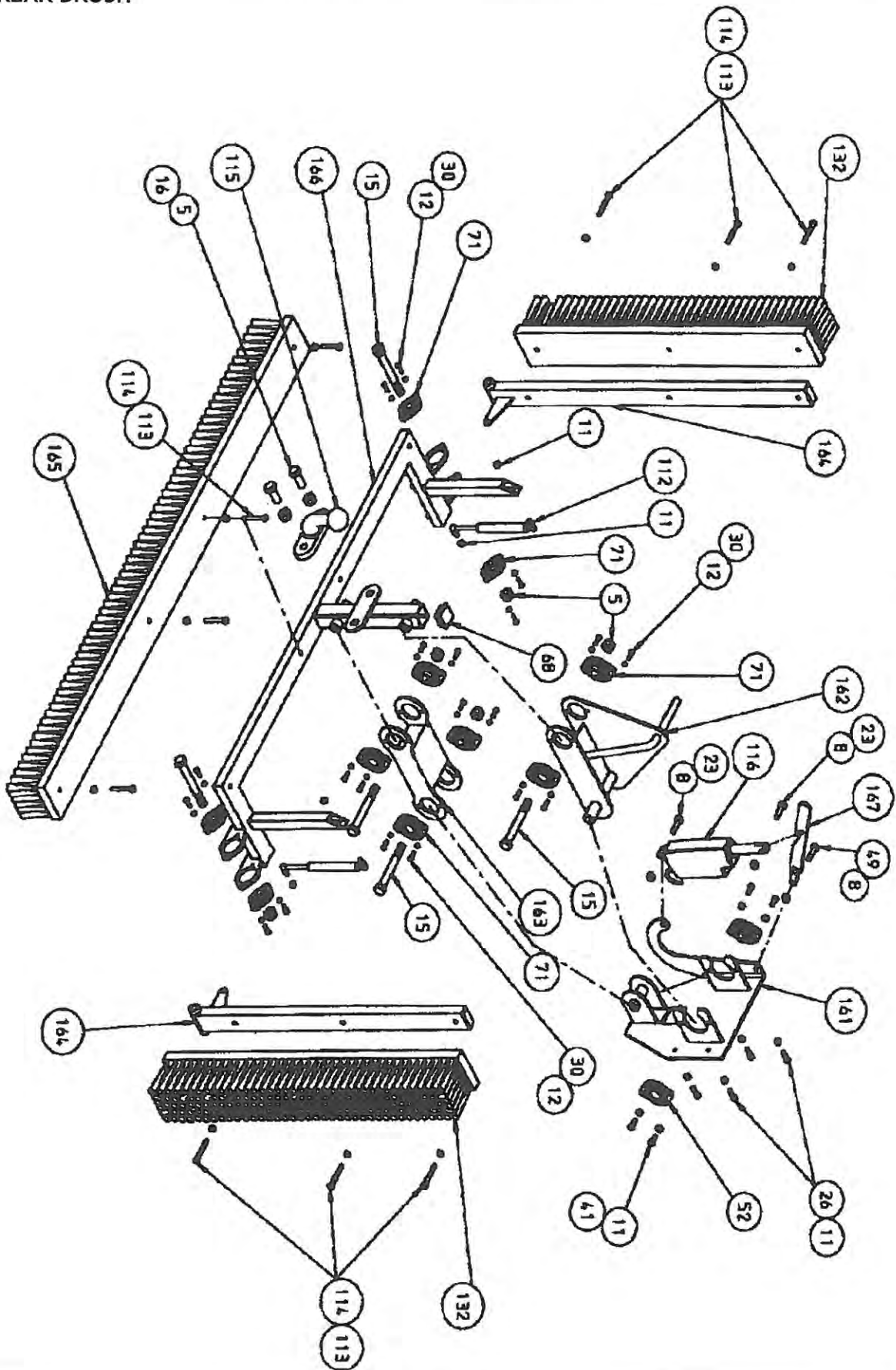
CONTROLS



FRONT STEERING

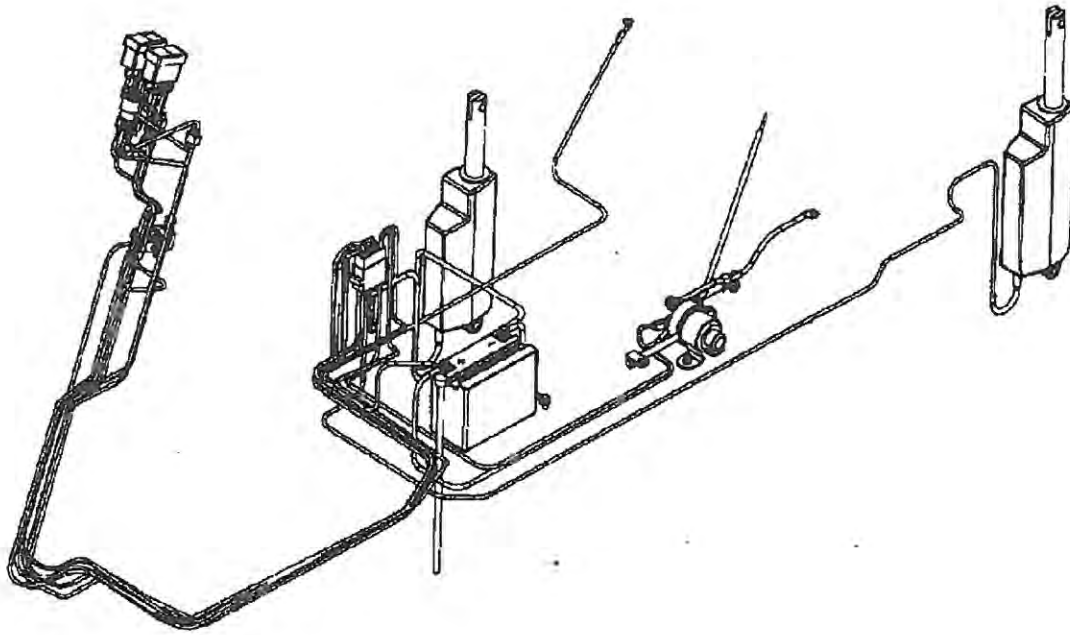


REAR BRUSH

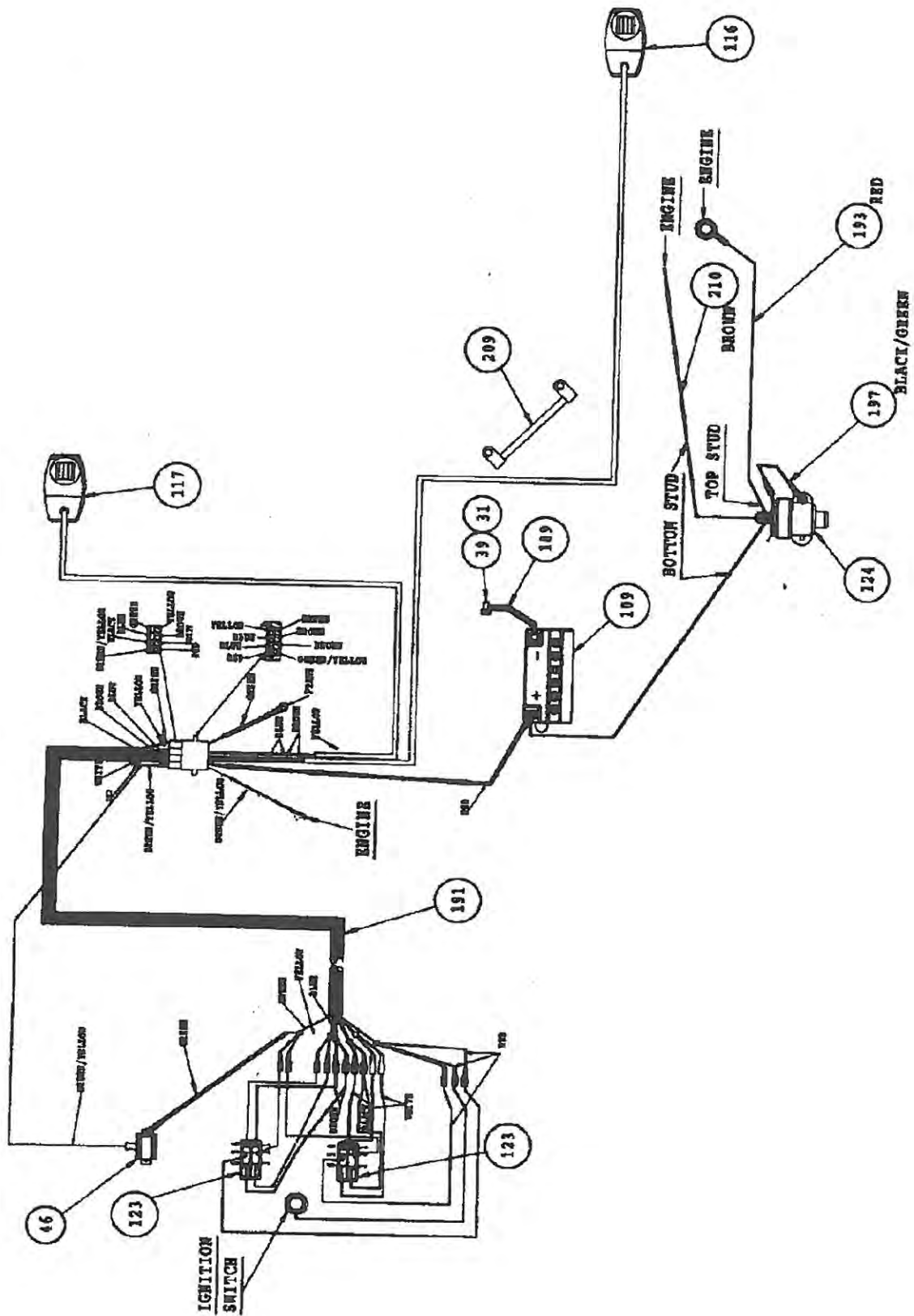




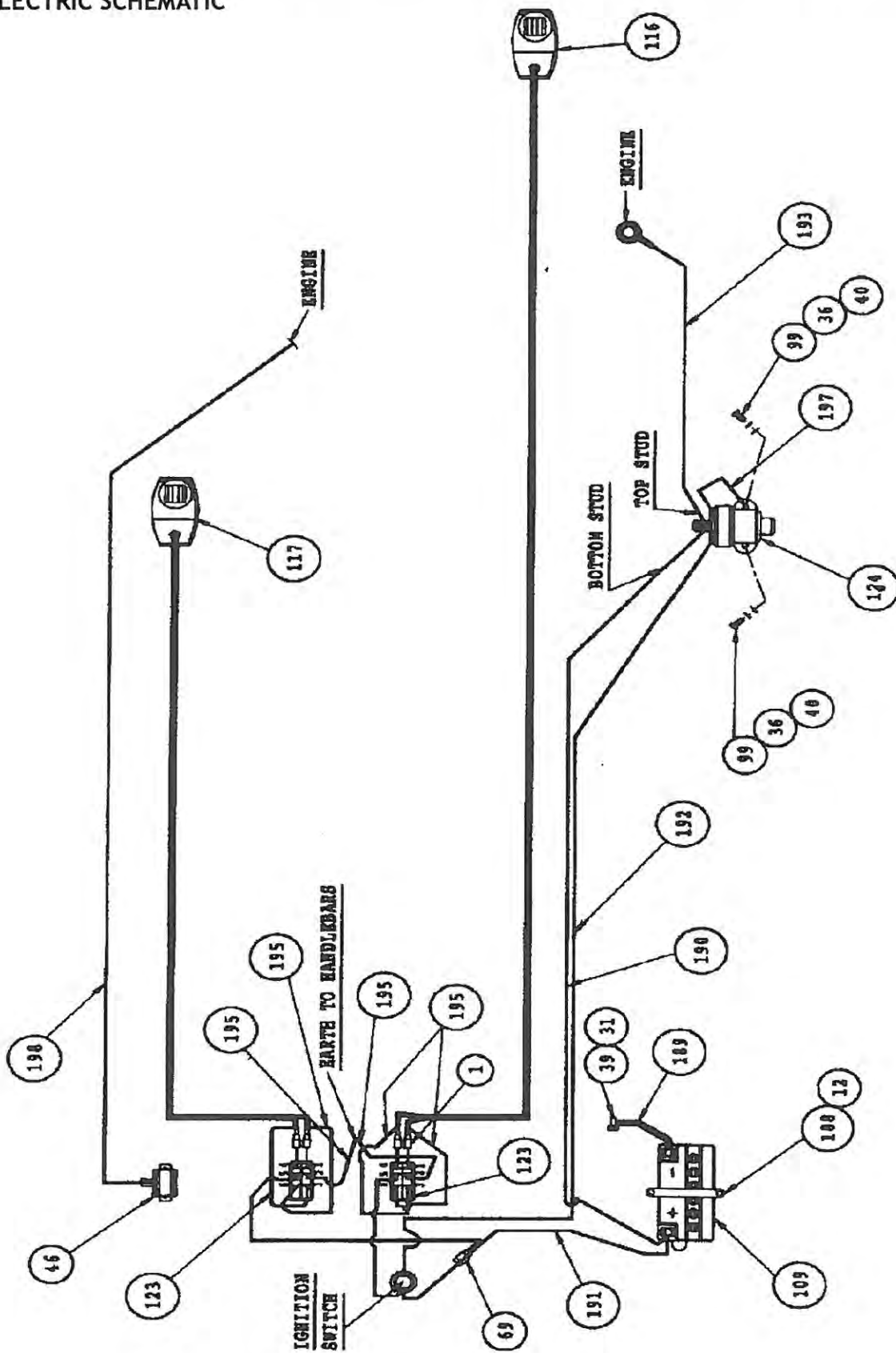
ELECTRICS



ELECTRIC SCHEMATIC



ELECTRIC SCHEMATIC



3.2 All measurements were made with the operator present.

## 4 Instrumentation

4.1 The instrumentation used for the tests is summarised in the following table:

Manufacturer	Type	Description	Serial No.
Rion	NL15	Integrating Sound Level Meter	1170672
Rion	UC-53A	Microphone	76388
Bruel & Kjaer	4230	Calibrator	1684973
Svan	912E	Real Time Analyser	2491
Svan	06A	4 Channel Module	3288
Dytran	3023/M2	Tri-Axial HAV Accelerometer	223
Rion	PV62	Tri-Axial WBV Accelerometer	5185

**Table 4.1 Instrumentation**

4.2 All of the instrumentation is maintained within the AVT Equipment Management System. This forms part of the Company's fully accredited ISO 9001 Quality Management System and involves regular cross calibration against the AVT, UKAS controlled, standard instruments.

## 5 Results Summary

- 5.1 Overall sound power level, 103 dB  $L_{WA}$ .
- 5.2 Operator's ear sound pressure level, 88 dB  $L_{Aeq}$ .
- 5.3 Hand-arm vibration,  $2.9ms^{-2}$ .
- 5.4 Whole-body vibration,  $1.09ms^{-2}$ .



Alan Matthews MIOA  
Senior Acoustic Consultant – AV Technology Ltd



