

PARTS LIST FOR MUSCLEMAN EXCAVATOR

Item	Part No.	Description	Qty.
1	5035	Seal	1
2	5015	Wheel and Tyre Assembly	2
3	5145	LH Wheel Arm	1
4	5146	RH Wheel Arm	1
5	5100	Main Frame Assembly	1
6	5120	Drop Link	1
7	5124	Pin 20mm x 140mm (Bucket Ram/Bellcrank)	1
8	5125	Swing Casting	1
9	5126	Pin 20mm x 146mm	1
10	5127	Pin 20mm x 106mm	1
11	5128	Pin 20mm x 190mm	1
12	5129	Pin 20mm x 75mm	2
13	5131	Pin Shouldered 40mm x 242mm	1
14	5132	Pin Shouldered 28mm x 172mm	2
15	5076	RH Mudguard Support Bracket	1
16	5133	Pin Shouldered 30mm x 196mm (Boom Locking)	1
17	5134	Pin 20mm x 140mm	1
18	5135	Pin 20mm x 127mm	5
19	5136	Pin 20mm x 50mm (Casting Lock)	1
20	5137	Pin 40mm x 193mm (Boom/Casting Pivot)	1
21	5138	Pin 40mm x 137mm (Boom/Dipper Pivot)	1
22	5139	Pin 20mm x 210mm (Slew Ram/Casting)	1
23	5140	Pin 20mm x 165mm (Boom Cylinder/Casting)	1
24	5141	Pin 28mm x 170mm (Dipper/Bellcrank) (Drop Arm/Bellcrank)	2
25	5156	Bell Crank Lever	1
26	5162	Boom	1
27	5188	Dipper	1
28	5196	Oil Tank	1
29	5208	LH Spade Lug Arm	1
30	5209	RH Spade Lug Arm	1
31	5173	Bucket 8" (2 Teeth)	1
	5174	Bucket 12" (3 Teeth)	1
	5175	Bucket 12" (4 Teeth)	1
32	5049	Bucket Teeth	A/R
33	5059	Hydraulic Cylinder (Bucket Slewing)	2
34	5060	Hydraulic Cylinder (Dipper)	1
35	5061	Hydraulic Cylinder (Boom)	1
36	5062	Tie Wrap (24")	4
37	5051	LH Suspension Unit	1

Item	Part No.	Description	Qty.
38	5050	RH Suspension Unit	1
39	5036	Control Block	1
40	5027	Pump Unit	1
41	5029	Flexible Coupling	1
42	5063	Pump Flange Flexible Coupling	1
43	5064	Drive Flange Flexible Coupling	1
44	5026	Honda OX 140 Engine	1
45	5031	In Tank Filler	1
	5032	In Tank Filter Element	1
46	5054	Breather Valve	1
47	5033	Magnetic Drain Plug	1
48	5065	Hose - Oil Tank to Pump	1
49	5066	Hose - Pump to Control Block	1
50	5067	Hose - Control Block to Oil Tank	1
51	5068	Hose - Control Block to Slew Cylinder	2
52	5069	Hose - Control Block to Boom Cylinder	2
53	5070	Hose - Control Block to Dipper Cylinder	2
54	5071	Hose - Boom Steel Pipes to Bucket Cylinder	2
55	5072	Adapter 1/4" x 1/2" BSP Male	9
56	5073	Dowty Washer 1/2"	8
57	5074	Adapter 3/8" x 1/2" BSP Male	3
58	5075	Dowty Washer 3/8"	2
59	4163	Mudguard	2
60	5077	LH Mudguard Support Bracket	1
61	5048	Bungee Cord (Mudguard)	2
62	5223	Wheel (narrow access)	2
63	5224	Wheel Arm (narrow access)	2
64	4125	Washer 1/2" Plain	+
65	5039	Bush (MB 4040 DU) (Main Frame & Boom)	6
66	5038	Thrust Washer (Main Frame Casting)	1
67	5041	Bush (MB 2830 DU)	4
68	5078	Roll Pin 6mm x 40mm	18
69	5079	Roll Pin 6mm x 60mm	3
70	5080	Gauge Hydraulic Pressure	1
71	5086	Pin, Locking	10
72	5009	Pin, Component	4
73	5088	Washer Plain 28mm ID	2
74	5011	Wheel Bearing, Inner	4
75	4127	Washer 3/8"	2
76	5473	Nut 3/8" UNC Castillated	2

Item	Part No.	Description	Qty.
77	5474	Split Pin 3/32" dia x 2" long	2
78	5475	Grease Cap	2
79	5101	Engine Mounting Plate	1
80	5234	Key, Pump Drive	1
81	5089	Bolt M10 (course) x 160mm long	2
82	5090	Nut M10 (course) Self Locking	2
83	4182	Washer M10	4
84	5091	Setscrew 1/2" UNF x 1 1/4" long	12
85	1341	Nut 1/2" UNF Nyloc	16
86	5092	Bolt 1/2" UNF x 2" long	4
87	4109	Setscrew 3/8" UNF x 1" long	4
88	5093	Bolt M8 x 50mm long	4
89	2044	Nut M8 Nyloc.	4
90	4180	Washer M8	8
91	5094	Washer 3/8" Single Coil Spring	4
92	5097	Setscrew M8 x 15mm long	4
93	5098	Setscrew M6 x 35mm long	4
94	2767	Nut M6 Nyloc.	4
95	2763	Washer M6	4
96	5099	Hose - Control Block to Boom Pipes	2
97	5117	Adapter 3/8" x 3/8" Male	1
98	5118	Adapter 1/4" x 3/8" Male	1
99	5119	Adapter 1/4" x 1/2" BSP Male	8
100	5233	Dowty Washer 1/2" BSP	12
101	5030	Suction Strainer	1
102	5034	Sight Level Gauge	1
103	5012	Wheel Bearing, Outer	1

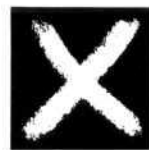
NOTE



1. Hydraulic Cylinder Kit - Part No. 5037
2. Hose Kit - Part No. 5045
3. Cylinder Seal Kit - Part No. 5058
4. Narrow Access Wheel Kit - Part No. 5215



SAFETY PRECAUTIONS







BE SAFE - ENSURE COMMON SENSE
AT ALL TIMES







  DO be safety conscious and dress properly when operating the Muscleman. Always wear substantial footwear.



  DO when towing, secure all components with the lock pins provided.



  DO check all nuts, bolts, pins, and hydraulic oil levels daily.



  DO pre plan the excavation site and contact the local council, telephone, electricity, gas or water boards regarding any buried services. Inspect the site for hidden hazards, and remove loose objects such as timber, wire etc before digging.

  DO exercise extreme caution with controls when working in deep excavations, next to buildings, when other workers are in the area, on slippery slopes, and with wet or loose materials.



  DO when working attached to the towing vehicle ensure the towing vehicles parking brake is applied prior to starting operations.



  DO stop the engine and make sure all working parts are in contact with the ground (bucket, outriggers, wheels), before making adjustments of any sort.



  DO allow additional time and distance for stopping and turning when towing your machine.



  DO ensure all applicable highway regulations regarding towing are observed.



FIRE HAZARD!



  DO handle fuel with extreme caution. Wipe off all spilled fuel before starting the engine.



  DO keep the engine free of any accumulation of dirt, grease, oil, or other flammable material.



  DO allow your engine to cool before storing in a confined place.



  DO NOT allow anyone lacking in age or experience to operate the Muscleman.



  DO NOT attempt to tow the unit without having the components set up and stored correctly.



  DO NOT allow passengers on the Muscleman at any time when operating or towing.



  DO NOT start work without completing the daily maintenance checks.



  DO NOT use other than recommended lubricants, hydraulic oil or fuel.



  DO NOT attempt to operate on very steep slopes.



  DO NOT 'bottom out' the hydraulic rams continually.

  DO NOT work around deep or soft shouldered excavations without exercising appropriate safety precautions.



  DO NOT overtighten hose fittings as this will damage seals.



  DO NOT adjust the pre-set relief valve on the control block.



  DO NOT run the engine in a confined space.

  DO NOT make adjustments to the Muscleman with the engine running.

FIRE HAZARD!

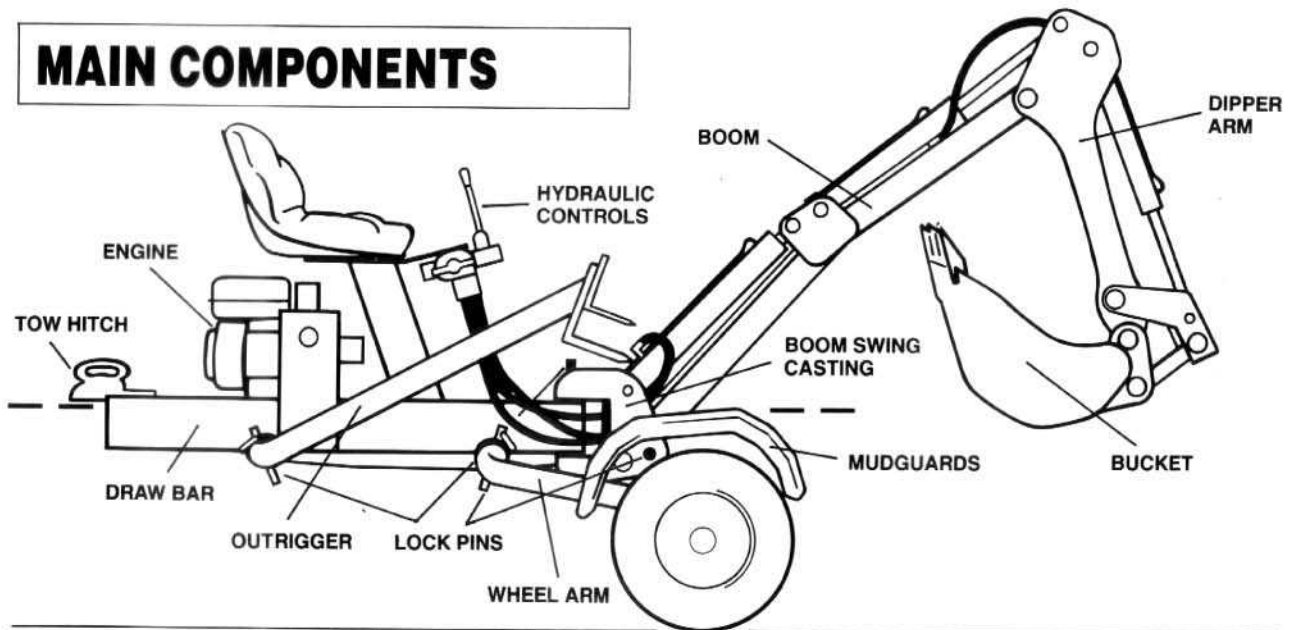
  DO NOT fuel the engine when it is hot, whilst it is running or whilst you are smoking.

  DO NOT run engine with air filter/shroud or baffle restricted or clogged up with debris, nor allow a build up of flammable or foreign matter near the exhaust. (See engine instruction book).

  DO NOT store the Muscleman where fuel fumes may accumulate or reach an open

IDENTIFICATION AND CONTROLS

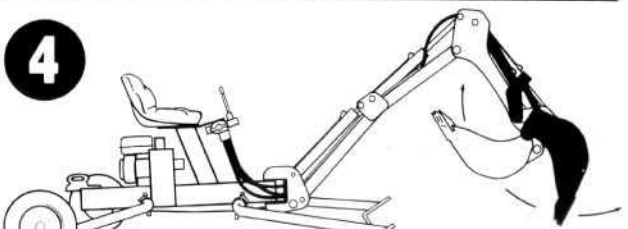
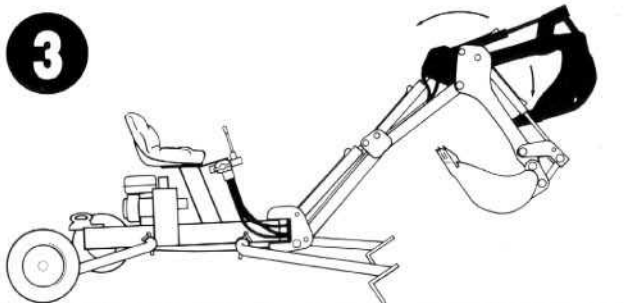
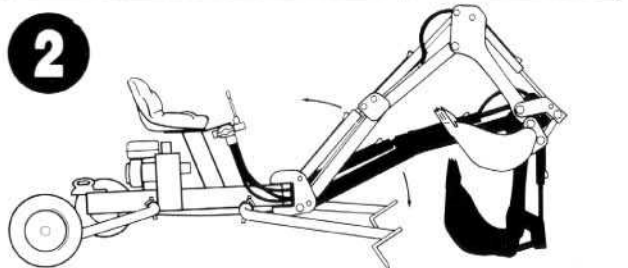
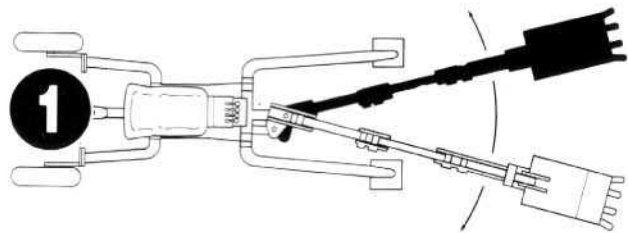
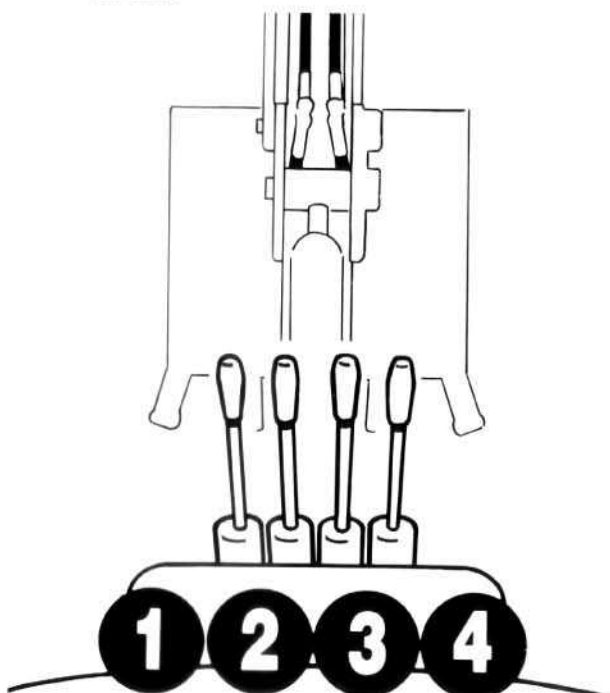
MAIN COMPONENTS



HYDRAULIC CONTROLS

WHEN SEATED THE CONTROLS ARE FROM LEFT TO RIGHT:—

- 1** Sews the BOOM to the right when pushed forwards and to the left when pulled rearwards.
- 2** Lowers the BOOM when pushed forwards, and raises it when pulled rearwards.
- 3** Lowers the DIPPER ARM when pushed forwards and raises it when pulled rearwards.
- 4** Lowers the BUCKET when pushed forwards and raises it when pulled rearwards.



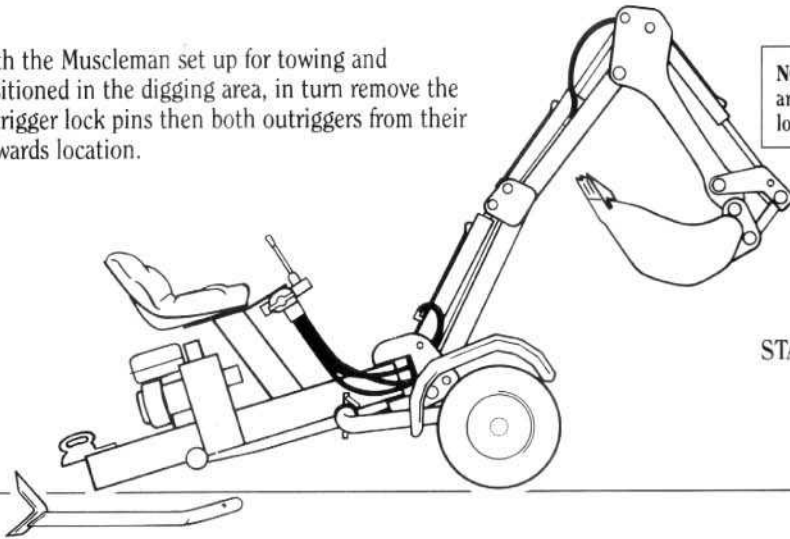
SETTING UP

ENSURE YOU HAVE STUDIED AND FAMILIARISED YOURSELF WITH THE IDENTIFICATION OF ALL COMPONENTS AND THE OPERATION OF ALL CONTROLS (SEE PAGE 3)

NOTE: The controls should only be operated whilst sat in the operators seat, however during setting up, it is necessary to operate the control levers from a standing position beside the Muscleman. Keep your body clear of the Muscleman. Operate the controls carefully as sudden movement of the boom or dipper will make the draw bar jerk upwards with enough force to cause injury.

- 1** With the Muscleman set up for towing and positioned in the digging area, in turn remove the outrigger lock pins then both outriggers from their forwards location.

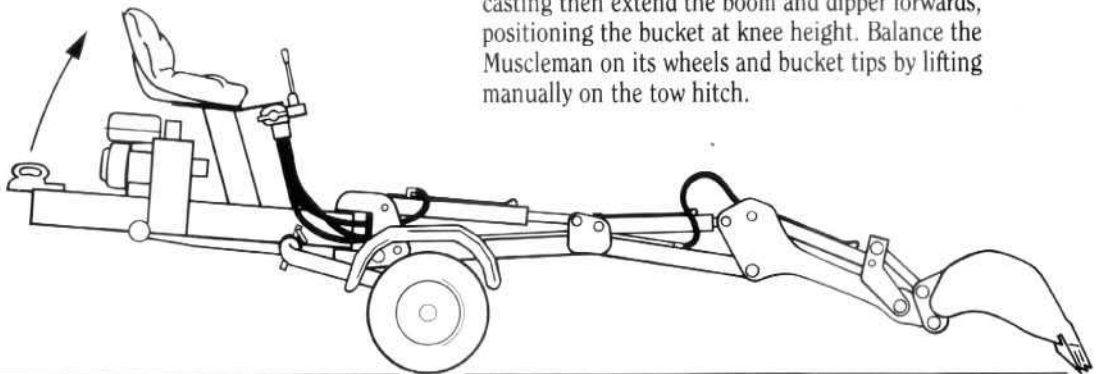
NOTE When removing outriggers or wheel arms, take the weight firmly before removing lock pins.



START THE ENGINE

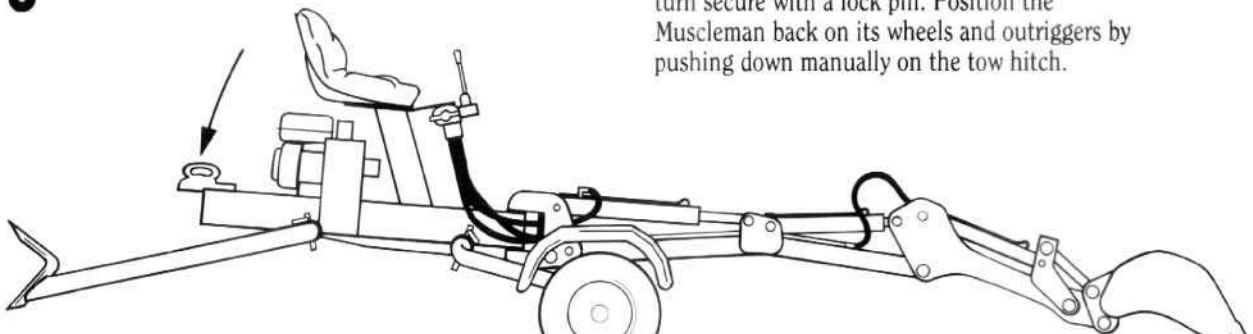
2

Remove both lock pins from the boom swing casting then extend the boom and dipper forwards, positioning the bucket at knee height. Balance the Muscleman on its wheels and bucket tips by lifting manually on the tow hitch.



3

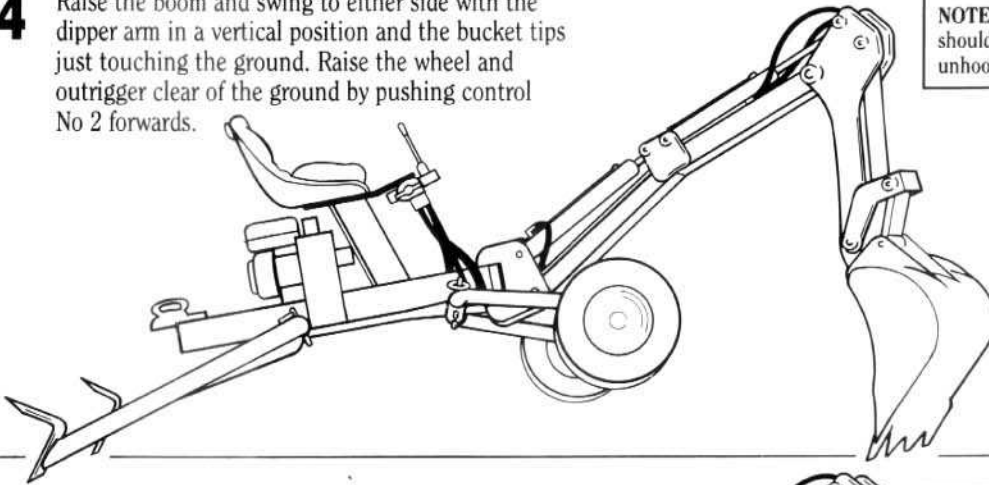
Fit each outrigger in their rearwards location and in turn secure with a lock pin. Position the Muscleman back on its wheels and outriggers by pushing down manually on the tow hitch.



SETTING UP

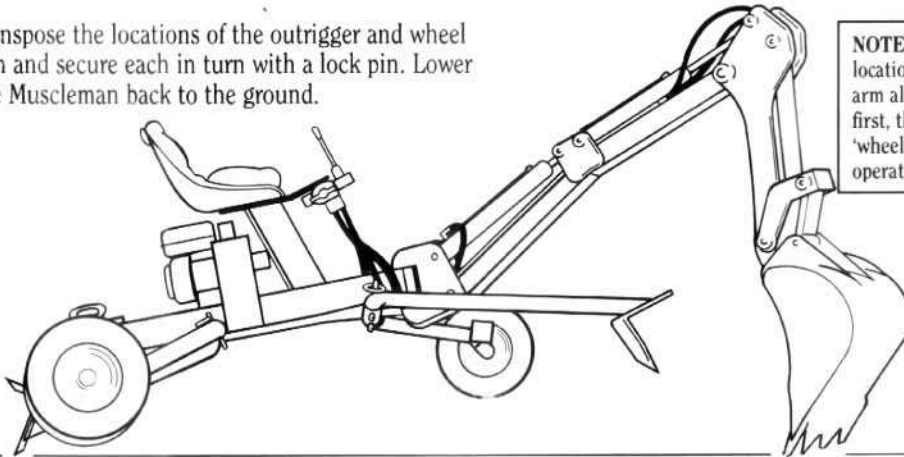
- 4** Raise the boom and swing to either side with the dipper arm in a vertical position and the bucket tips just touching the ground. Raise the wheel and outrigger clear of the ground by pushing control No 2 forwards.

NOTE At this stage, the mudguards should be removed by carefully unhooking the elasticated straps.

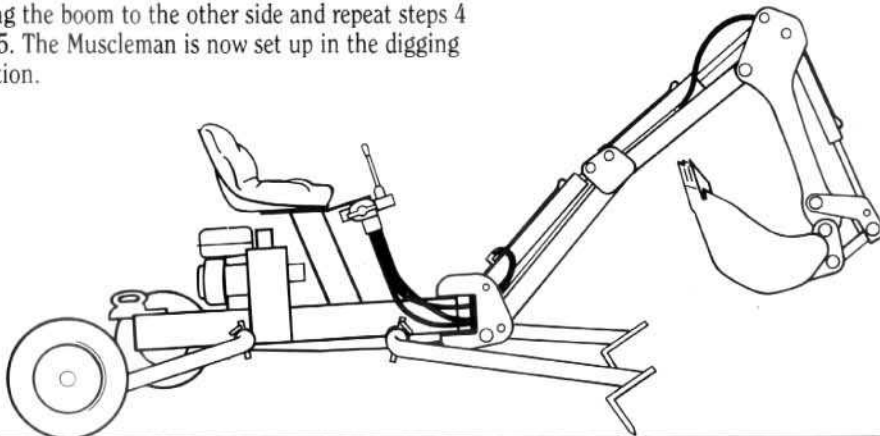


- 5** Transpose the locations of the outrigger and wheel arm and secure each in turn with a lock pin. Lower the Muscleman back to the ground.

NOTE When transposing the locations of the outrigger and wheel arm always remove the outrigger first, the wheel arm can then be 'wheeled to' and secured in its operating position with ease.



- 6** Swing the boom to the other side and repeat steps 4 and 5. The Muscleman is now set up in the digging position.

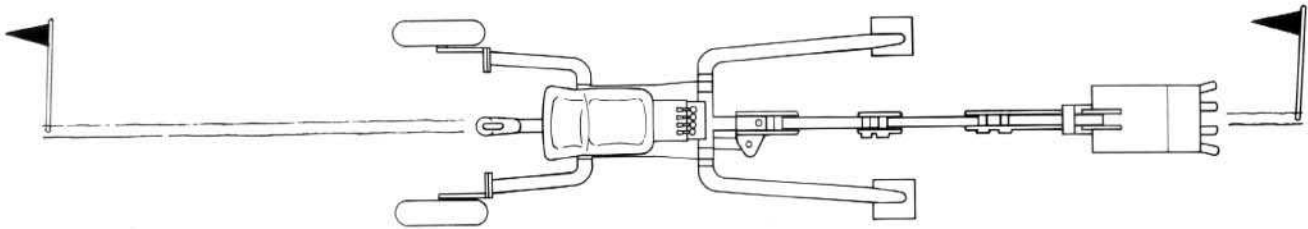


- 7** REVERTING THE MUSCLEMAN TO ITS TOWING POSITION IS A SIMPLE REVERSAL OF THE SETTING UP OPERATION.

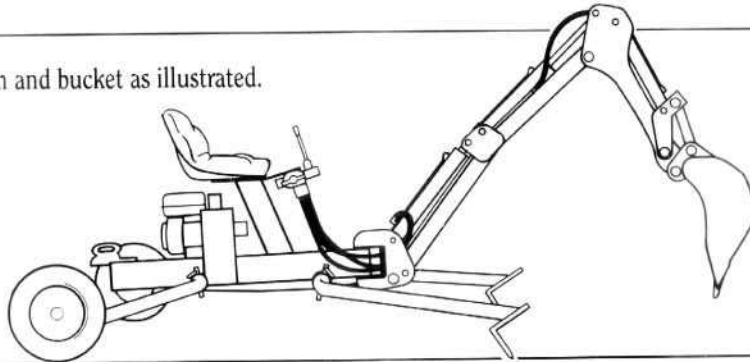
STARTING TO DIG

STRAIGHT LINE DIGGING

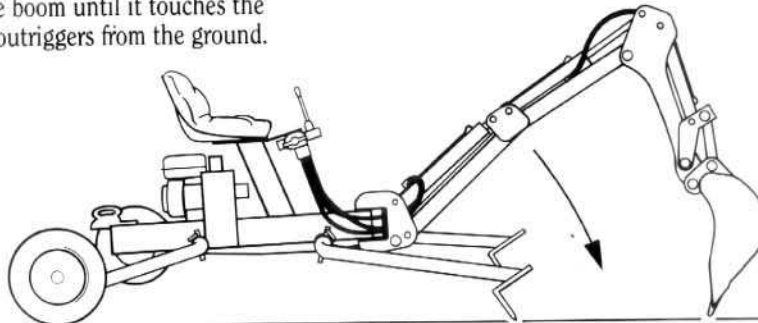
- 1 Using lime or sand mark out a line along which you want to dig.



- 2 Position the boom, dipper arm and bucket as illustrated.



- 3 Using control No. 2, lower the boom until it touches the ground, but DO NOT lift the outriggers from the ground.

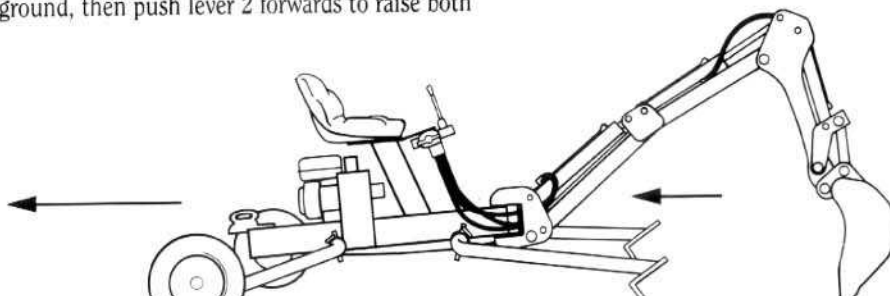


- 4 Using control levers 3 and 4 a full bucket will be obtained. Should either of these movements 'stop', a slight tap on lever No. 2, towards the operator, will

overcome this resistance by taking the Muscleman's weight off the bucket teeth.

- 5 To move the Muscleman rearwards along the line of digging pull control lever 3 rearwards to position the dipper arm vertically with the bucket teeth touching the ground, then push lever 2 forwards to raise both

outriggers clear of the ground. Push control lever 3 forwards, which will push the Muscleman rearwards on its wheels. Control the direction with control lever 1.



MAINTENANCE/SPECIFICATIONS

MAINTENANCE

For engine maintenance please see your engine owners instruction manual. Routine checks of your Muscleman will ensure trouble free operation and less 'breakdown' time. Every effort has been made to keep maintenance to a minimum and there are no grease points on the machine except in the wheel hubs.

REMEMBER DAILY CHECKING ONLY TAKES A LITTLE EFFORT AND A FEW MINUTES, BUT IT COULD SAVE YOU HOURS OF LOST WORK TIME.

A maintenance checking schedule is shown in the table below.

ITEMS	DAILY (8 hrs)	WEEKLY (50 hrs)	100 hrs +
Hydraulic oil — check level	●		
Hydraulic filter* — examine			●
Hydraulic hoses — examine for leaks and wear	●		
Cylinders — examine for leaks		●	
Filler breather cap — examine		●	
Tyre pressures — ensure 30 psi		●	
Replaceable bucket tips — examine for wear and damage			●
All nuts, bolts studs and chains — check for security	●		

* In addition to this the hydraulic filter element must be replaced after the first 100 hours and then every 500 hours. When replacing the filter it is important to smear the filter seal with oil to prevent it sticking during fitting and removal.

SPECIFICATIONS

ENGINE

Honda GX140. 144cc, 4 cycle, air cooled. 5 HP at 3600 rpm. For further details please see your engine owners instruction manual.

HYDRAULIC PUMP

Gear type, rated at 2 gallons (9 litres) per minute at 3600 rpm.

CONTROL VALVE

4 Bank series valve, incorporating pre-set relief valve at 2200 psi.

CYLINDERS

Double acting 2" (50.8mm) × 11"/12" (279.4/304.8mm) stroke. Working pressure 2500 psi, test pressure 5000 psi. Rod — EN8 hard chromed, tube — CDS 2 honed. End fittings are fitted with 2 Glycador PMDX non lubricated bushings.

HYDRAULIC

Capacity 3.5 galls (15.75 litres). 7" suction strainer. Spin on, in line 10 micron filter element, and magnetic drain plug.

RESERVOIR

Spin on, in line 10 micron filter element, and magnetic drain plug.

WHEELS/SUSPENSION

Custom built 850 lbs (385 kgs) NSA torsional rubberised maintenance free system.

OIL

HYDRAULIC Filtrate Achilles EP 32 light hydraulic oil.

ENGINE Multi grade SAE 10W-30

