WINGET

OPERATION, MAINTENANCE & SPARE PARTS MANUAL

7/200T MIXER

(SEE 225/330T MANUAL)

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WINGET

TILTING DRUM MIXER

7/200T

(SEE 225/330T MANUAL)

This manual is a reprint of the Winget publication No S137 last printed during December 1979 and is a direct copy of one of the remaining original manuals.

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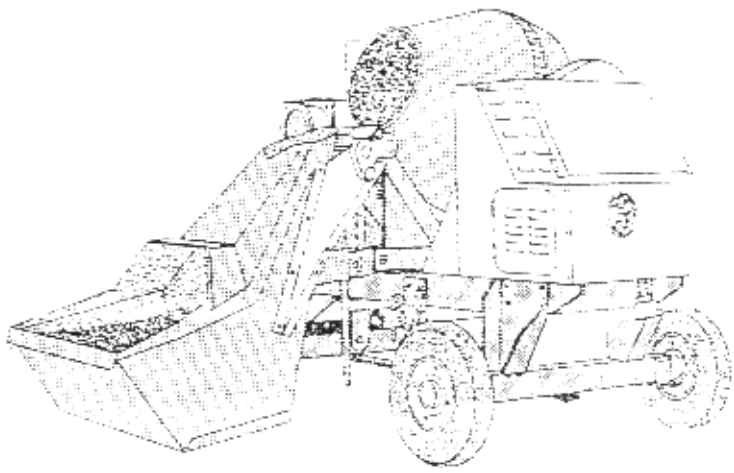

Winget

Winget

7/20T

Publication Nº S137

Operation, Maintenance & Spare Parts Manual

INTRODUCTION

The operating instructions and maintenance recommendations contained in this book will enable you to become familiar with your mixer to obtain the best results in the shortest possible time.

The life and trouble free running of your machine will depend largely on the care it receives. It is your responsibility to ensure that the maintenance instructions outlined in this book are carried out.

When replacements are required, it is essential that only genuine parts are used and that any repair or servicing work is carried out by competent mechanics.

WINGET LTD.

Winget

GUARANTEE

As every reasonable care is taken that goods of this Company's manufacture shall be free from defect in material and workmanship, the Company will supply free to any destination in the British Isles named in the tender or F.O.B. British Ports in the case of goods situated abroad, any part or parts which, under normal service, appears to the Company's satisfaction to have been at the time of delivery defect in such parts, provided it is notified thereof within 12 months or 2,000 working hours from the date of delivery (whichever shall be the earlier) or, where the Company is responsible for erection, within twelve months from the date on which the customer is notified that any plant or machinery is ready for starting up provided that:-

a) Written notice is given to the Company within seven days of the discovery of the defect.

b) Unless otherwise agreed, the alleged defective part or parts are returned to the Company's Works, carriage paid and its inspection establishes the claim. Replaced parts shall become the property of the Company.

c) No part which is not of the Company's manufacture has been fitted, otherwise than by it or on its behalf, or with its written approval.

d) No unauthorised alteration or modification has been made to the machine or component the subject of the claim.

In no cases shall the Company be responsible for the cost of fitting replacement parts.

Machines parts or components sold by the Company but not of its manufacture are subject only to such warranty (whether expressed or implied by law) as is given by the makers thereof and are not covered by this Guarantee. The Company will as far as is practicable make available to the purchaser the benefit of any warranty given to the Company by the makers of such machines or components.

This Guarantee and/or warranty is personal to the Company's customer and may not be assigned.

Any other warranty or condition expressed or implied by law and whether statutory or otherwise is hereby excluded as is also any claim based on any verbal or other representation or conditions made in relation to any goods the subject of any offer or tender submitted by the Company unless confirmed in writing by a Divisional Director or the Secretary of the Company.

Save as aforesaid the Company shall not be responsible for any loss or injury or damage however caused or arising.

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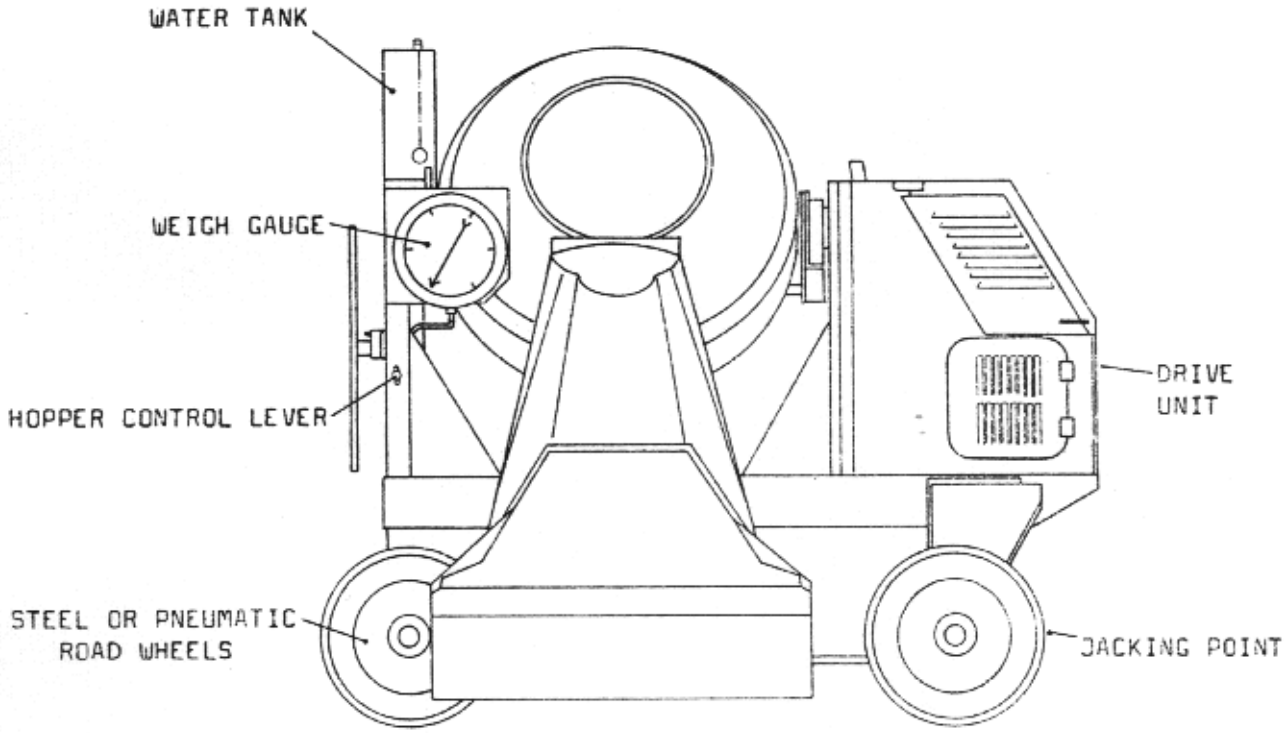
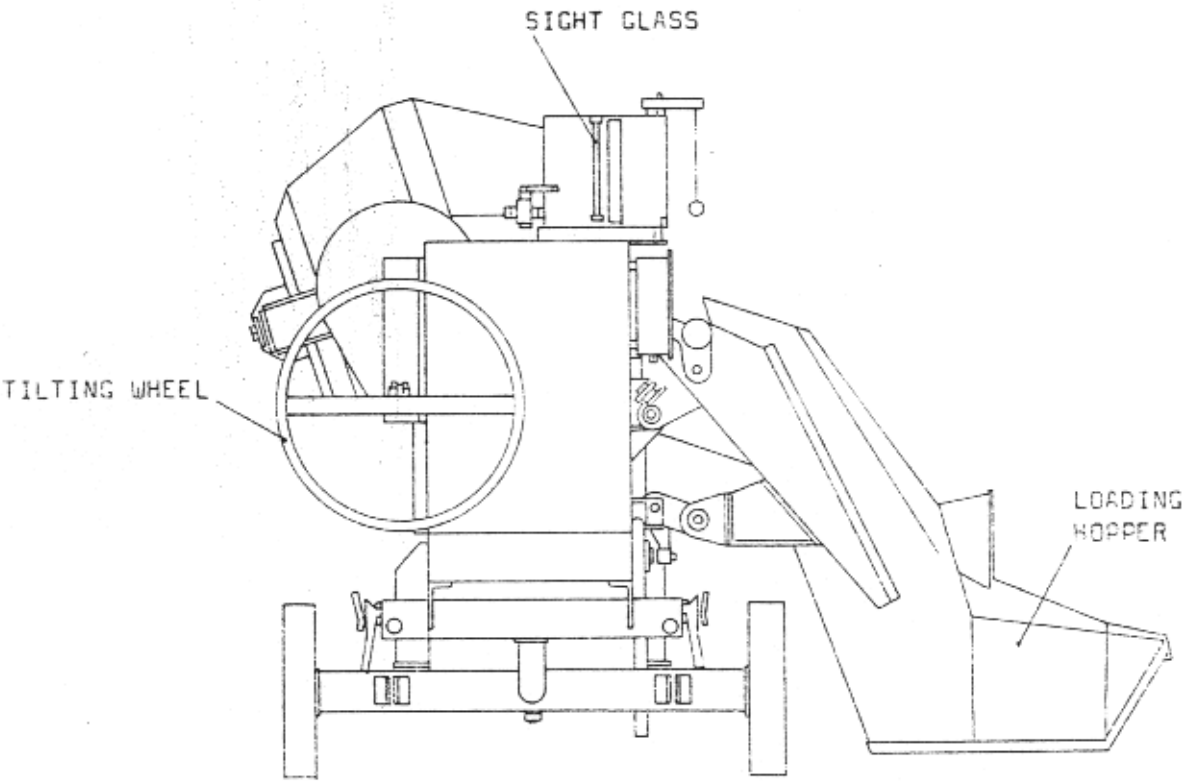
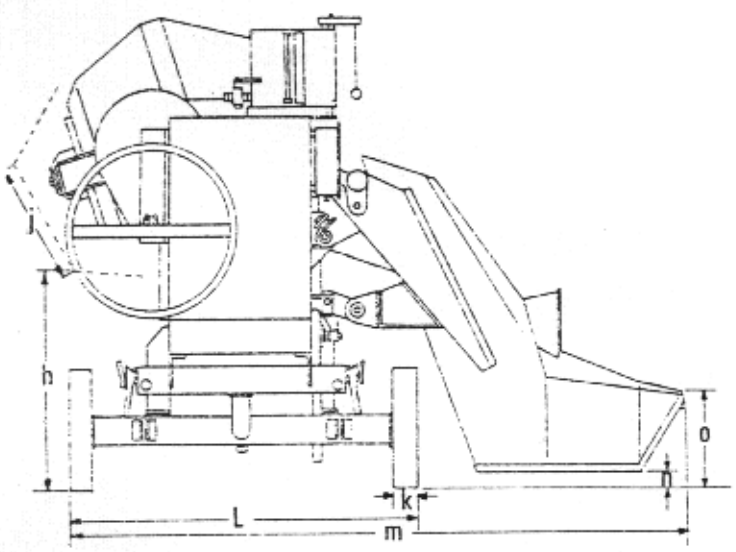
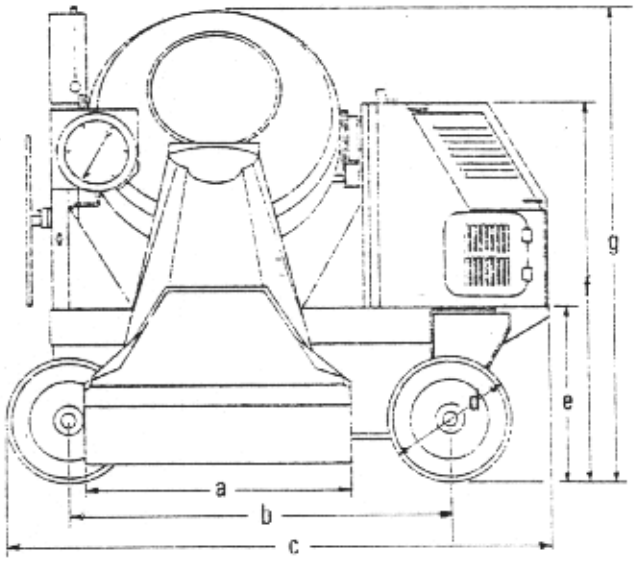
General Arrangement





DIMENSIONAL DRAWING





200T			
A	1220mm	H	1000mm
B	1725mm	J	565mm
C	2525mm	K	125mm
D	640mm	L	1675mm
E	785mm	M	2930mm
F	1740mm	N	50mm
G	2130mm	O	410mm

Description & Operation

DESCRIPTION AND OPERATING INSTRUCTIONS

INSTALLING YOUR MIXER ON THE SITE

Ensure that the mixer is sited on firm ground and standing level in both directions. If the ground is loose or made up, it is recommended that the mixer be stood on stout timbers.

If pneumatic roadwheels are fitted, place a stout timber under each pair of stabilizing jacks, attached to the front and rear axles, lower the stabilizing jacks until they come firmly into contact with the timber, lock in position. Engage sprags, screw up to lock the front axle and chock the wheels firmly in position. Remove and stow the towing bar. Release the hopper safety prop. This is done by turning the engine by hand with the hopper control lever held in the "RAISE" position until the weight of the hopper is taken off the prop. Turn retaining latch upwards and swing the prop downwards into its lowest position. Hold the hopper control in the LOWER position and allow the hopper to come down under its own weight. If a batch weigher is fitted, ensure at least 50mm (2 in.) clearance between the base of the hopper and the ground to ensure accurate readings to be obtained.

If a drag feeder is used assemble jib and cable support . It is necessary when a dragline is fitted to use a loading ramp or to erect a barrier of boards in front of the loading hopper so that materials may easily be tipped into it. This is particularly important when using a mixer fitted with a batch weigher, to prevent the build up of aggregate underneath the hopper, as this will cause faulty batch weights to be given.

Assemble the portable feed apron, if one is to be used, placing it squarely in front of the mixer so that the hopper does not foul it when being raised or lowered. The horizontal rubber flap is pushed forward by the dragline shovel when charging the hopper, the flap preventing material from falling between the hopper and ramp. Finally, stake the apron securely in position, using the four picketing lugs on the sides. Extend the centre position of the ramp to separate the aggregate by fitting boards.

TRANSPORTING THE MIXER

To reduce the overall height of the mixer, it is sometimes necessary to dismantle the dragline jib and remove the loading hopper from its cradle. Ensure the stabilizing jacks are raised fully or removed and stowed.

Assembling Dragline Jib - If fitted

Bolt the mounting bracket to the inside of the hopper with the lugs toward the front edge of the hopper. Place the jib assembly in the hopper with the fairlead against the mounting bracket. Fit the mounting hooks loosely in position. Attach a stout rope to the jib. Turn the drum upright.

Raise the hopper, either by running the engine or turning it by hand, until the jib assembly takes up a new position, retained there by the mounting hooks. Continue to raise the hopper until the ends of the front legs of the jib are beside the mating legs already attached to the mixer. Stop engine if running.

With a man on either side of the hopper lift the front legs of the jib and drop the mounting tongues of each into the fixed legs. Insert a long bolt through the upper hole in each of the fixed legs engaging it with a hole in the mounting tongues to provide a loose hinge. Remove the mounting hooks. Move the drum as far as possible towards the charging position, secure the rope attached to the jib to the centre of the drum trunnion. Place pieces of wood between the rope and the edge of the drum to increase the leverage. Raise the jib by turning the handwheel until the cable support socket is just above the front edge of the hopper, insert the cable support complete with pulley fixed to tip. Thread electric control cable through pulley. Continue to raise the jib until it is fully up.

(Note) Keep the rope taut until the rear leg support clamps are in position. Thread the dragline cable through the rear leg of the jib assembly. Fit the rear leg support clamps loosely in position. Remove the hinge bolts from the front legs and fit support clamps, tighten the bolts of the rear clamps.

(Note) The support clamps for the front and rear legs are different in as much that there are only three locating pins on the two front clamps.

Complete the fitting of the cable through the jib fairlead and to the dragline shovel. Plug in the electric control cable to the mixer. Remove the mounting bracket from the hopper, and secure the mounting hooks to it. Stow the assembled items in the compartment in the end of the frame below the engine housing.

Dismantling Dragline Jib - If fitted

Disconnect, and remove from the mixer the electric control cable and the dragline shovel. Withdraw the dragline cable from the jib and fairlead, by winding it back on to the winch drum. Fit a stout rope to the jib and to the drum trunnion, making certain that the drum is in the upright position. Insert blocks of wood as before. Bolt the mounting bracket into the base of the hopper. (Note) The rope should be held taut by the handwheel until the jib is secured in the hopper.

Remove the four support leg clamps. Insert the two hinge bolts as described.

Raise the hopper until the base is vertical, this can be done by running the engine or turning it by hand. Stop engine if running. Lower the jib towards the hopper (lifting the rear legs slightly will allow the weight of the jib to carry it forward). It may be found necessary to lower the hopper a little to allow the jib fairlead to enter. Remove the cable support from its mounting when it is close to the front edge of the hopper. Continue to lower jib until the fairlead rests in the hopper, against the mounting bracket.

Fit the mounting hooks, remove the hinge bolts and lift the tongues of the front legs clear of the fixed legs. Lower the hopper slowly, steadying the jib as it takes up its final position against the front edge of the hopper. Remove jib from hopper.

Replace the support leg clamps on the fixed jib legs to avoid loss. Secure mounting hooks to mounting bracket and stow.

(Note) If flare plates are fitted to the hopper, these must be removed before attempting to erect or dismantle the jib assembly by the method described.

Removing the Hopper

Under certain circumstances it may be desirable to remove the hopper. This is readily effected by removing the eight bolts attaching the hopper to the cradle. Alternatively it might be desired that the hopper be removed with the cradle still attached. In this case the hopper pivot shaft and the two upper ram yoke pins should be removed allowing the hopper and cradle to be detached. It is advisable to replace the hopper pivot shaft in the cradle and the ram yoke pins in the yoke to avoid loss in transit.

Lifting the Mixer

Lifting eyes are provided for using crane hooks when loading for transporting. They are located, one in the left hand side of the hopper cradle, when looking at the machine from the hopper side, the second one at the top of the trunnion pedestal next to the engine housing. Lifting the mixer should be carried out with the hopper up, or if the hopper has been removed for transporting, with the cradle in the up position.

DRUM CONTROLS

Any of three pre-set positions CHARGE-MIX-DISCHARGE can be obtained.

Tilting Wheel Lock

A lever type locking mechanism, located in the hub of the tilting handwheel gives positive locking in any of the three pre-set positions. To release, hold handwheel firmly, push the locking lever upwards. The handwheel is then turned one complete revolution either way to locate drum position. The handwheel is then locked by pushing the locking lever downwards into the horizontal position.

WARNING. Do not hold the locking lever in the engaging position and turn the handwheel to engage the lock, this will cause damage to the locking mechanism.

HOPPER OPERATION

Control

The hydraulic control valve for operating the hopper is mounted on the trunnion pedestal near to the tilting handwheel.

To Raise Hopper

Lift the control lever and hold it until the hopper is fully up. Do not hold the control in the RAISE position with the hopper up for more than a few moments or overheating and loss of efficiency will result.

To Lower Hopper

Push the control lever downwards; releasing the lever will check the descent of the hopper as necessary.

(NOTE) The hopper must not be lifted and lowered with aggregate as this can damage the loadcell and also cause false reading on the weigh dial.

WATER TANK

The water tank is a cistern type which automatically shows the quantity of water from 4 to 57 litres on the graduated scale at the side of the tank.

Filling and discharging the tank are simple operations. The main supply comes into the tank through a stop cock. As soon as the indicator float in the sight glass tube begins to rise, sufficient water is available for a measured amount of water to be discharged. Close the stop cock. When the drum is in the charge position, pull the chain which in turn lifts the valve from its lower seat allowing the required amount of water to be discharged into the mixing drum. After discharging, release the chain-pull and refill the tank.

Optional - Water Pump

Water pump should never be run dry or the seal may be damaged.

Draining the Tank

During periods of frosty weather, to avoid damage, it is advisable to drain the tank at the end of each day's working. To do this set the drum in the "CHARGE" position, close the stop cock and drain the water into the drum, then disconnect the water supply to the mixer. Finally empty the water from the drum.

BATCHWEIGHER - if fitted

The weigher gauge mounted in a box on the tilt end pedestal is connected by hydraulic piping to the loadcell mounted near the hopper lower pivot arm. The hydraulic circuit is primed and sealed on leaving the works and on no account should it be tampered with. The gauge gives accurate indication of batch weights. The adjustable coloured pointers mounted on the rim of the gauge can be set by the operator to the aggregate proportions required. A protective lid is provided for the gauge box to prevent damage when not in use.

It is important that the mixer is standing firm and level and that there is at least 50mm (2 in.) clearance between the ground and the base of the hopper at all times. If aggregate is allowed to build up inaccurate gauge readings will be obtained.

Normal Operation

Set the pointers on the gauge to the aggregate proportions you require. With the engine running lower the hopper SLOWLY ONTO THE LOADCELL. Hold the hopper control lever fully down for a few seconds until the gauge needle begins to move up to "0" then release. The hopper is then ready to load. If you cannot get an "0" reading adjust the gauge as described in the following paragraph.

To Zero the Weighing Gauge

With the mixer engine running carry out the following :

(a) Lower the hopper on to the loadcell as described.

(b) Check that the hopper is clear of the ground, taking care not to stand on any part of the hopper.

(c) Adjust the knurled knob on the side of the gauge to set the point to "0".

(d) Repeat, lowering the hopper three to four times to check that you obtain a consistent "0" reading.

DRAGLINE FEEDER - if fitted

The winch unit is mounted on the discharge side of the mixer, and is hydraulically driven. It is fitted with an hydraulic Solenoid valve which is controlled by a pushswitch button on the shovel handle. The electrical circuit is energized by a 12 volt dynamo driven by the engine, which energizes the Solenoid valve.

Operation

Withthe engine running, pull the shovel back over the aggregate away from the mixer. Depressing the pushbutton switch on the shovel handle will operate the winch by activating the Solenoid valve and start to drag the shovel towards the mixer. Ensure downward angle of shovel is not too steep. To stop the loaded shovel when it has reached the hopper, simply release the push button switch and tip the contents of the shovel into the hopper. After rigging the electric control cable, a trial run of the shovel may show that the slack of the electric cable is not taken up by the bottom free pulley as the shovel moves into the mixer. To prevent this, increase the size of the weight on the bottom free pulley; if the pulley then comes too close to the ground wind a couple of turns of cable on to the stowage arms on the shovel.

WARNING

The hoist must not be operated whilst a mix is in the drum or overloading will result.

BEFORE STARTING UP

Read carefully the engine manufacturer's handbook supplied with this mixer. Check the amount of fuel in tank and the level of lubricating oil in engine sump. With the hopper down check the level of oil in header tank.

TO MIX CONCRETE

Set the coloured points on the weigher gauge (if fitted) to the aggregate proportions you require and load hopper.

Move the drum into the CHARGE position. Operate water tank, fill and discharge into drum. Raise the hopper to tip the aggregate into the drum. When all the materials are in the drum, lower the hopper and load for next batch, and set drum in the MIX position.

After allowing a short interval for mixing, the concrete in the drum should be discharged.

WHEN WORKING IS FINISHED

(a) Thoroughly clean out the drum with water and gravel.

(b) Clean out the hopper and wash down the outside of the mixer.

(c) Drain water tank if frost is likely.

(d) Raise hopper, place safety prop in position and lock.

(e) Stop engine.

(f) Grease up machine for next day's working.

(g) Replace cover on weigher gauge box.

(h) Lock engine housing to prevent tampering and loss of tools.

Maintenance

MAINTENANCE

LUBRICATION

General

All main running parts are lubricated through drilled shafts and special greaseways by the provision of grease nipples. The lubrication diagram, gives the location of these points. Get into the habit of greasing the nipples each day, and refill with a good quality medium grease when empty. Pay particular attention to nipples fitted to ram pivots, bevel pinion shaft, trunnion bearings and jockey sprockets. The use of a grease gun will ensure that the greaseways are kept clear. Be clean about greasing nipples, do not allow sand or cement to become mixed with the grease. Keep grease tin lids closed when not in use. Apply a little engine oil from time to time on pin joints on water tank controls, track rods on steering assembly and hinges on housings, etc. Bearings must not be allowed to run dry; when greasing it is better to give a little often rather than a lot at long intervals.

Transmission

Lubricate the main bevel pinion drive chain and the pump drive chain once a week with a little engine oil. Check chain tension and adjust if necessary.

CHAIN TENSIONING

On no account must chains be over tightened. Undue tightness puts excessive strains on pump and engine bearings causing vibration and considerable wear. A very rough guide to chain tension is to allow the equivalent amount of one chain pitch free movement on the slack side of the chain, i.e. 19mm ($\frac{3}{4}$in.) chain pitch - 19mm ($\frac{3}{4}$in.) slack, etc.

HYDRAULIC SYSTEM

Header Tank

This is mounted inside the drive end trunnion pedestal, easily accessible through the door in the pedestal. Check the level of the oil weekly (50 hrs. running) with the hopper down and engine stopped. Remember to clean the area around the cap before removing it, to prevent dirt falling into the tank. Ensure that oil level is 8cm (3in.) from top of tank.

Recommended Oils

Top up the system as necessary using an oil of the correct grade, do not mix different grades of oil. The approximate capacity of the system is 3 gallons and it is filled with Shell Tellus 27 at the works, the particular grade of oil being shown on a label attached to the top of the tank.

SAE 30 oil for temperatures above 32.8°C. (90°F).

Dismantling the System

Do not remove or expose any part of the internal hydraulic gear in the event of breakdown, unless so instructed, as this may lead to further complications when correcting the fault.

BATCHWEIGHER - if fitted

Include the grease nipples on the upper hopper pivot links in your daily servicing.

To allow accurate functioning, keep the mechanism as clean as possible, special attention being paid to the lower link pivot. Clean the ground under the hopper frequently to avoid any build up of aggregate.

(Note) On no account must the loadcell be disconnected from the weighing dial. No responsibility will be accepted by us if the lead seals attached to the pipe unions are broken.

Dynamo - if fitted

The dynamo is belt driven. To adjust the belt the general method is to slacken the dynamo fixing bolts and pivot it in its mounting to tension the drive, afterwards re-tightening the fixing bolts.

Check the brushes periodically.

Greasers are provided on the two rope sheaves on the jib, include these in your daily servicing. If the electric cable to the shovel needs repairing, it should not be shortened by more than 1524mm (5 ft.).

The regulator cut-out voltage should be maintained at 12½ to 13 volts.

GENERAL MAINTENANCE

Check for tightness from time to time, all bolts, nuts, keys etc. especially during the first few weeks of operation. Pay particular attention to engine fixing bolts. Clean top of header tank before removing filler cap. Add oil of recommended grade.

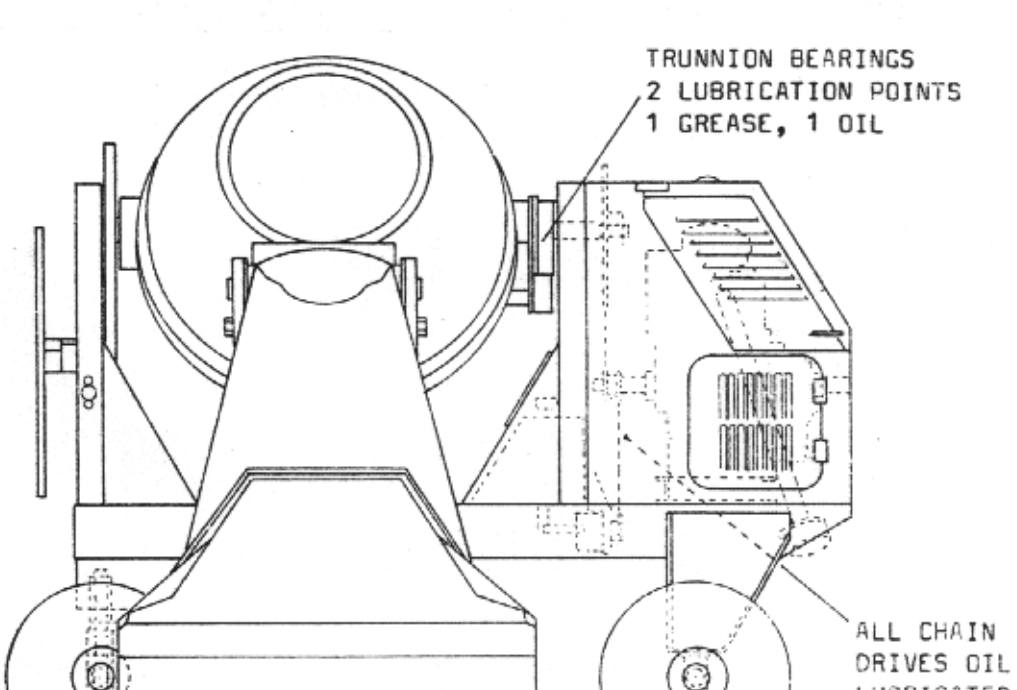
Drain water tank during frosty weather.

When not in use, keep weigher gauge box lid on, and engine housing locked to prevent tampering and loss of tools.

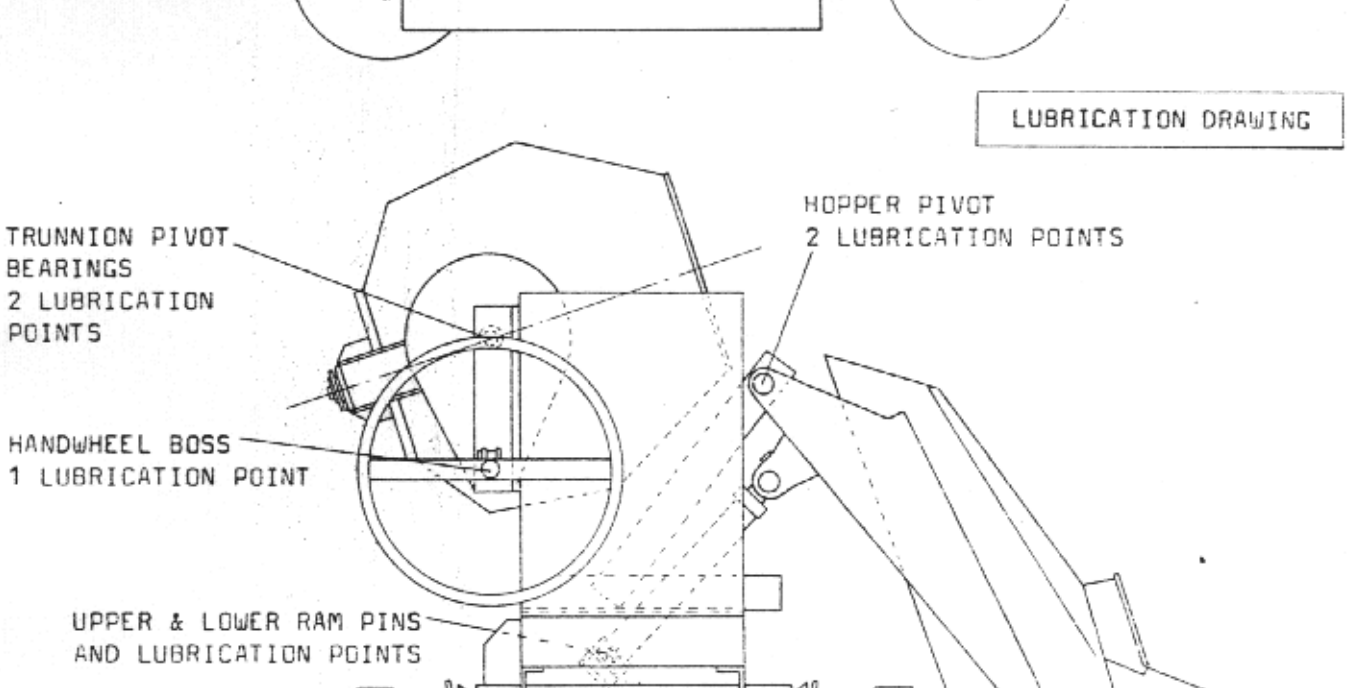
TYRE PRESSURES

These should be checked at regular intervals and before transportation from site to site. Recommended tyre pressures 35 psi all round.

Maintenance



LUBRICATION DRAWING



SERVICING SCHEDULE

DAILY

MIXER
Lubricate daily through grease nipples using a good quality medium grease. Alvania Grease 2 is used at works - see lubrication diagram. Thoroughly clean out drum when mixing is finished, with water and gravel. Wash out hopper and hose down mixer. Keep access doors and panels closed. Drain water tank if frost is likely.
ENGINE SUMP LUBRICATION FUEL TANK
See Engine Handbook

NOTE

IT IS IN THE USERS OWN INTEREST TO MAINTAIN ENGINE AIR, LUBRICATING OIL AND FUEL FILTERS AT THE MANUFACTURER'S RECOMMENDED INTERVALS, TOPPING UP WITH CLEAN OIL AND FUEL FROM CLEAN CONTAINERS AS NECESSARY. RUNNING THE ENGINE WITH DEFECTIVE AIR OR OIL FILTERS WILL RESULT IN RAPID WEAR, HIGH RUNNING COSTS AND LOSS OF RELIABILITY.

WEEKLY

DRIVE CHAIN
Check tension, adjust if necessary.
DRUM AND TRUNNION
Apply oil to Bevel Gear and Bevel Pinion.
HYDRAULIC HEADER TANK
Clean top of tank - remove filler cap and check level. Check with hopper down and engine stopped.
DRAGLINE DYNAMO
Check belt tension, adjust if necessary as described.
GENERAL
Apply a little engine oil to pin joints on water tank controls, axle pivots, etc. Check two screws on hydraulic valve (Hooper).

MONTHLY

BREATHER FILTER ON HYDRAULIC TANK
Remove breather filter and rinse in clean petrol, air dry thoroughly before refitting. Cover aperture while filter is being cleaned.

THREE MONTHLY

GEAR RING
Lubricate with Shell Cardium "D" compound every three months.
HYDRAULIC HEADER TANK FILLING FILTER
Remove, clean and inspect.

SIX MONTHLY

BREATHER FILTER ON HYDRAULIC TANK
Renew breather filter.

EQUIVALENT GRADES OF OIL

APPLICATION	SHELL	BP	ESSO	MOBIL	CASTROL
Chain Drive	Talpa 30	Energol OE175	Esstic 65	Mobilgear 628	Magna XH
Open Gears, Bevel Gears	Cardium Fluid D	Energol BL 450/2	Surret N850	Mobil Tac E	Grippa 605
Hydraulic System-up to 90°F.	Tellus Oil 27	Energol HLP 80	Nuto H54	Mobil D.T.E.25	Hyspin AW 532
Hydraulic System-above 90°F.	Tellus Oil 33	Energol HLP 100	Nuto H54	Mobil D.T.E.26	Hyspin AW 568
Grease Points	Alvania Grease 2	Ener-grease LS2	Beacon 2	Mobilplex 47	Spheerol APT 2

NOTE:- In the above we list the lubricant specifications as recommended by various companies. These are intended as a guide only and should your site conditions be in any way abnormal your local oil supplier should be consulted.

Spares

Please note that a number of components are described as being c/w screws, nuts and washers, this is no longer the case and all fixings should be ordered separately if required. Imperial fixings may no longer be available and the nearest metric equivalent will be supplied.

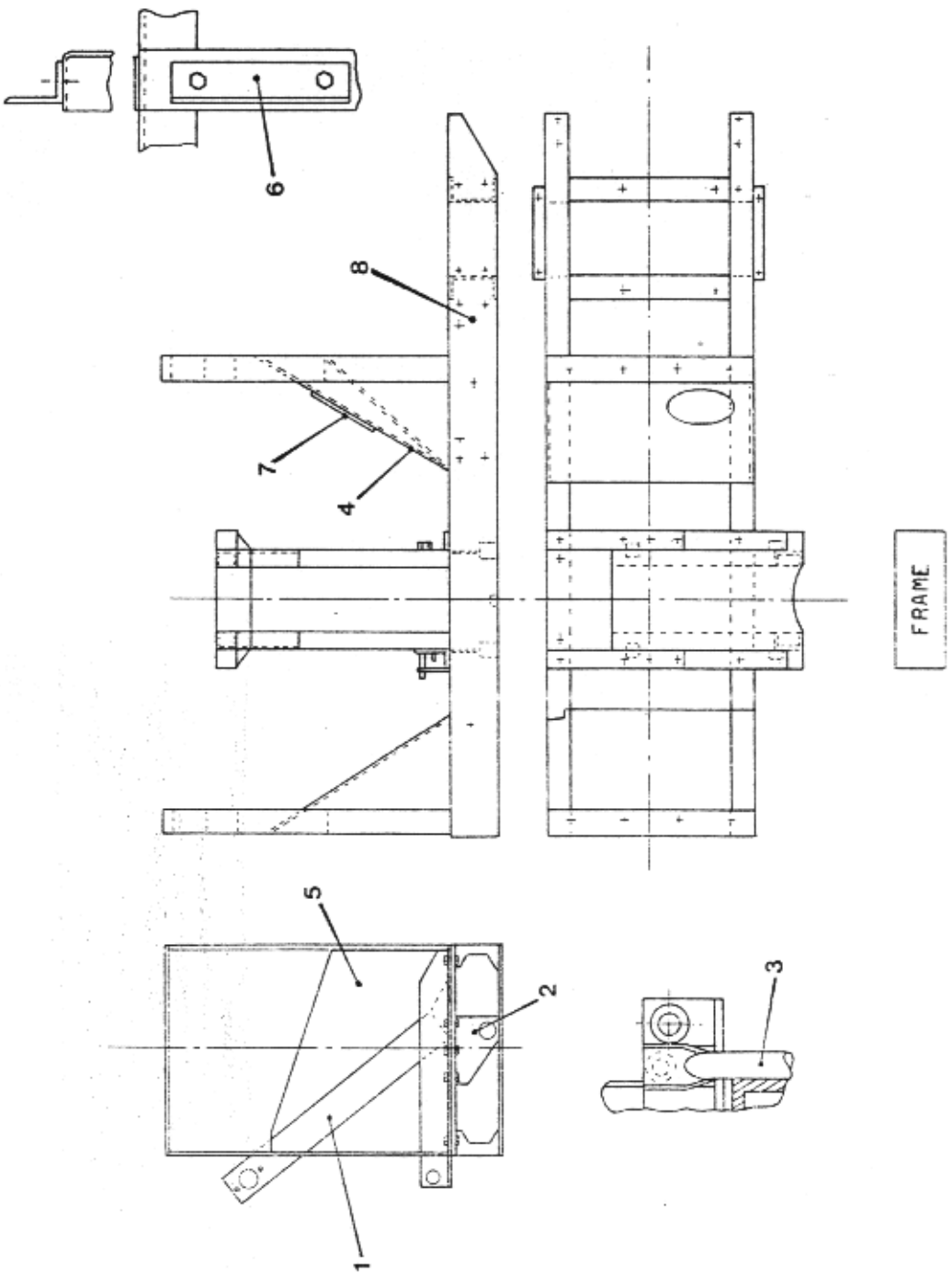
TO FIND A SPARE PART

The assemblies have been divided into groups and given identification letters A, B, C etc. To identify a component, first find the relevant assembly in the list given. This will give you a group letter to turn to. On turning to this group the illustrations will enable you to identify the part you required and give you a reference number. Against this number in the Parts List will be found the DESCRIPTION and PART NUMBER information which we require.

To avoid delays and errors, remember always quote THE MACHINE NUMBER which will be found stamped on a plate at the side of the machine.

Spares Group

A1	FRAME
B1	PORTABILITY
C1	DRUM AND TRUNNION
D1	HOPPER AND RAM
E1	HYDRAULIC SYSTEM
F1	WATER TANK
G1	GUARDS
H1	DRIVE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FRAME
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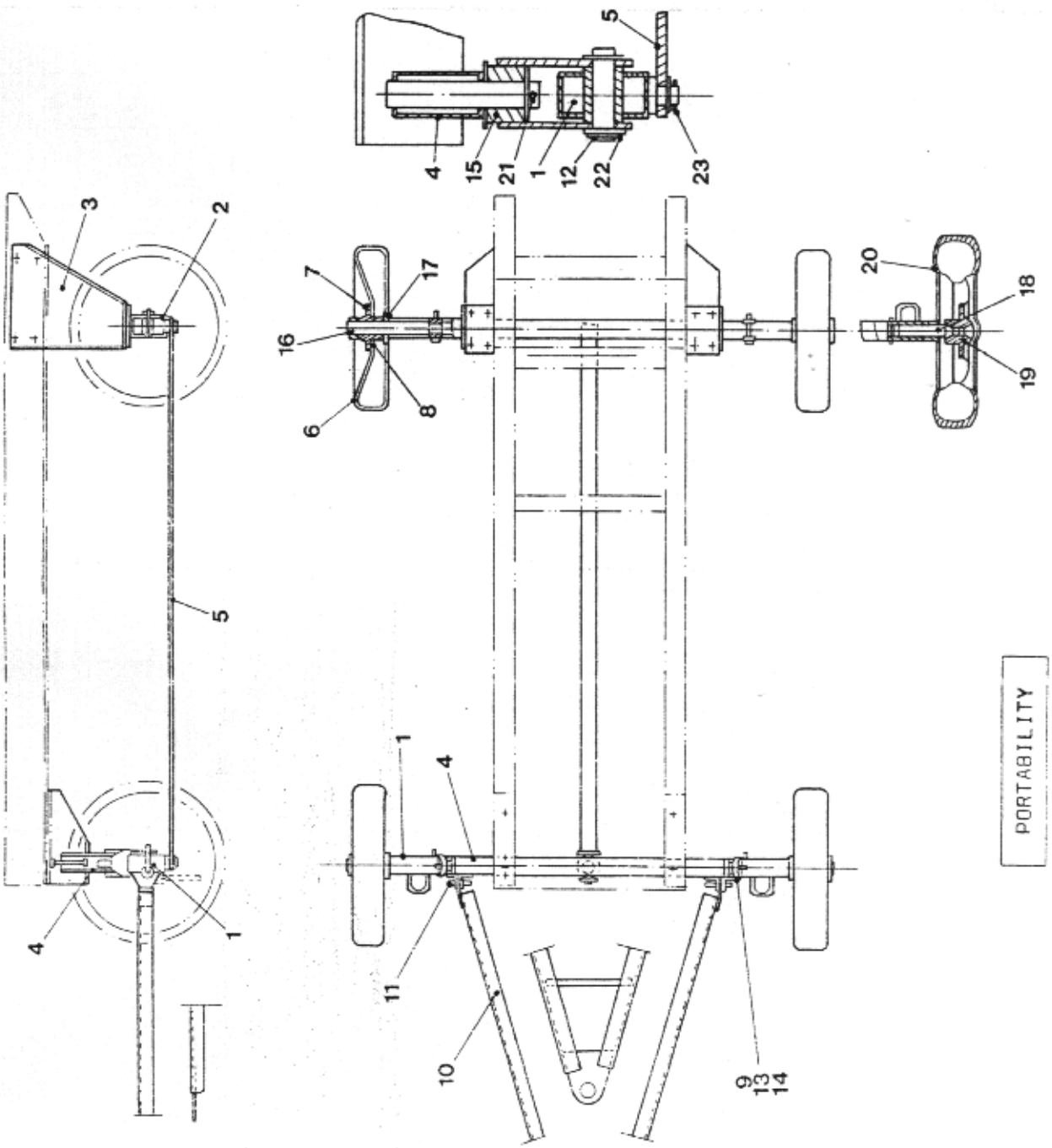
1

Ref	Description	Part No	Qty
1	Hopper Pivot Frame	513 2165 00	1
2	Hopper Ram Bracket	513 2166 00	1
3	Hopper Prop.	513 2167 00	1
4	Pedestal Cover Drive End	513 2168 00	1
5	Pedestal Cover Control End	513 2169 00	1
6	Lifting Eye	513 2387 00	1
7	Access Cover	513 2170 00	1
8	Main Frame	513 2306 00	1

Ref	Description	Part No	Qty

When Ordering Always Quote :— Machine No , Part No, Description and Quantity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13
14
PORTABILITY

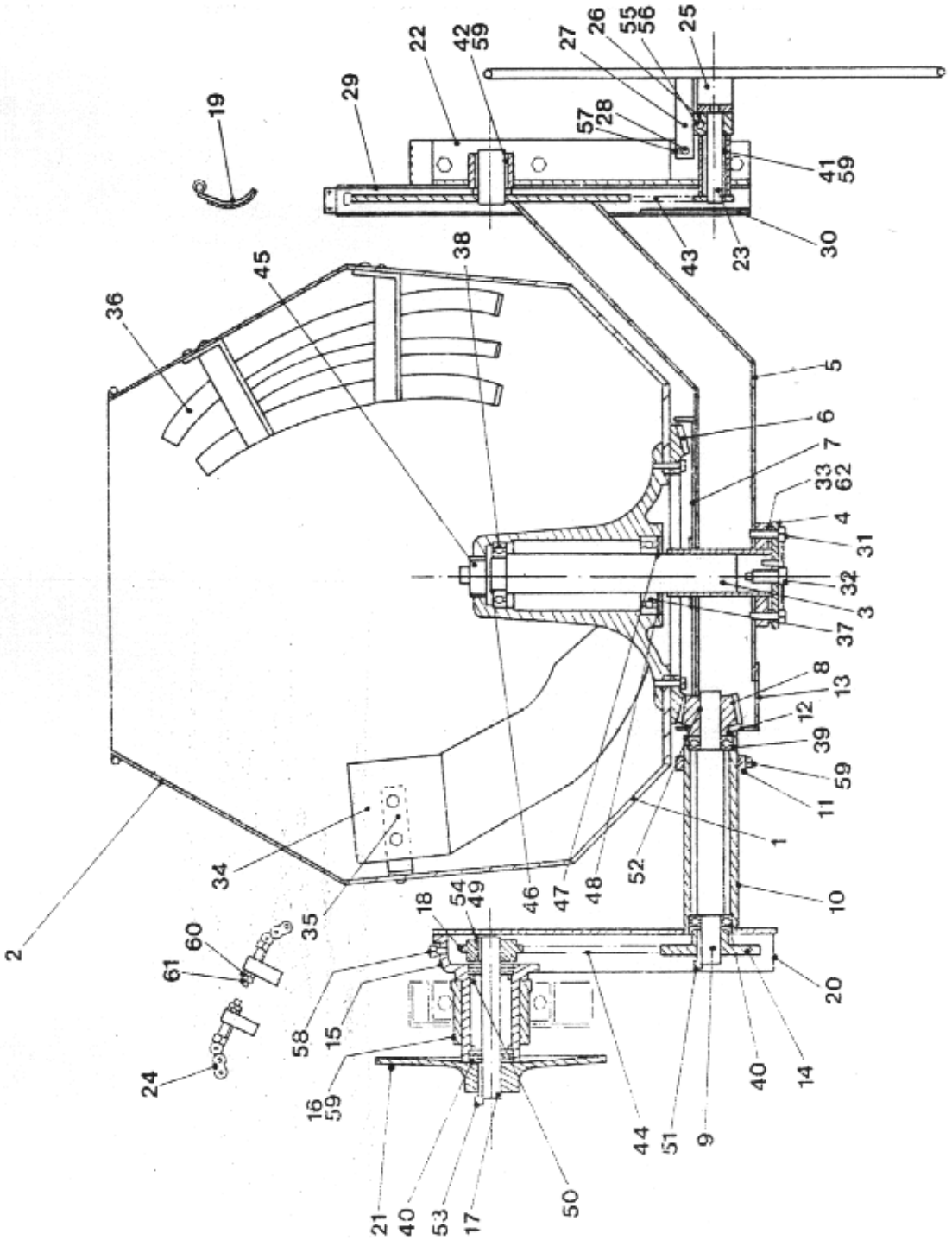
Ref	Description	Part N°	Qty ☆	Qty ★
1	Front Axle	555 1027 00	1	1
2	Rear Axle	513 2161 00	1	1
3	Rear Axle Bracket	513 2162 00	*1	1*
4	Front Axle Carrier	513 2163 00	1	1
5	Axle Tie Bar	513 2164 00	1	1
6	Roadwheel Pressing	513 1422 00	4	
7	Wheel Hub	513 1423 00	4	
8	Backing Plate	511 1654 00	4	
9	Axle Sprag	555 1011 00	2	2
10	Tow Bar	555 1012 00	1	1
11	Tow Bar Drop End Pin	555 1021 00	2	
12	Axle Pivot Pin	555 1014 00	1	1
13	Sprag Pin	555 1017 00	2	2
14	Sprag Retainer	555 1018 00	2	2
15	Axle Pivot	555 1019 00	1	1
16	Stub Axle (Steel Wheels)	555 1023 00	4	
17	Stub Axle Spacer	555 1025 00	4	
18	Stub Axle	513 2452 00		4
19	PX Plain Hub Assembly	475 6020 00		4
20	Pressed Steel Wheel with Tyre and Tube	475 6010 00		4
21	Pin	353 8243 20	1	1
22	Pin	353 8123 20	2	2
23	Pin	353 8122 40	2	2

* 1 Left-Hand and 1 Right-Hand

☆ Steel Wheel

★ Pnuematic Wheel

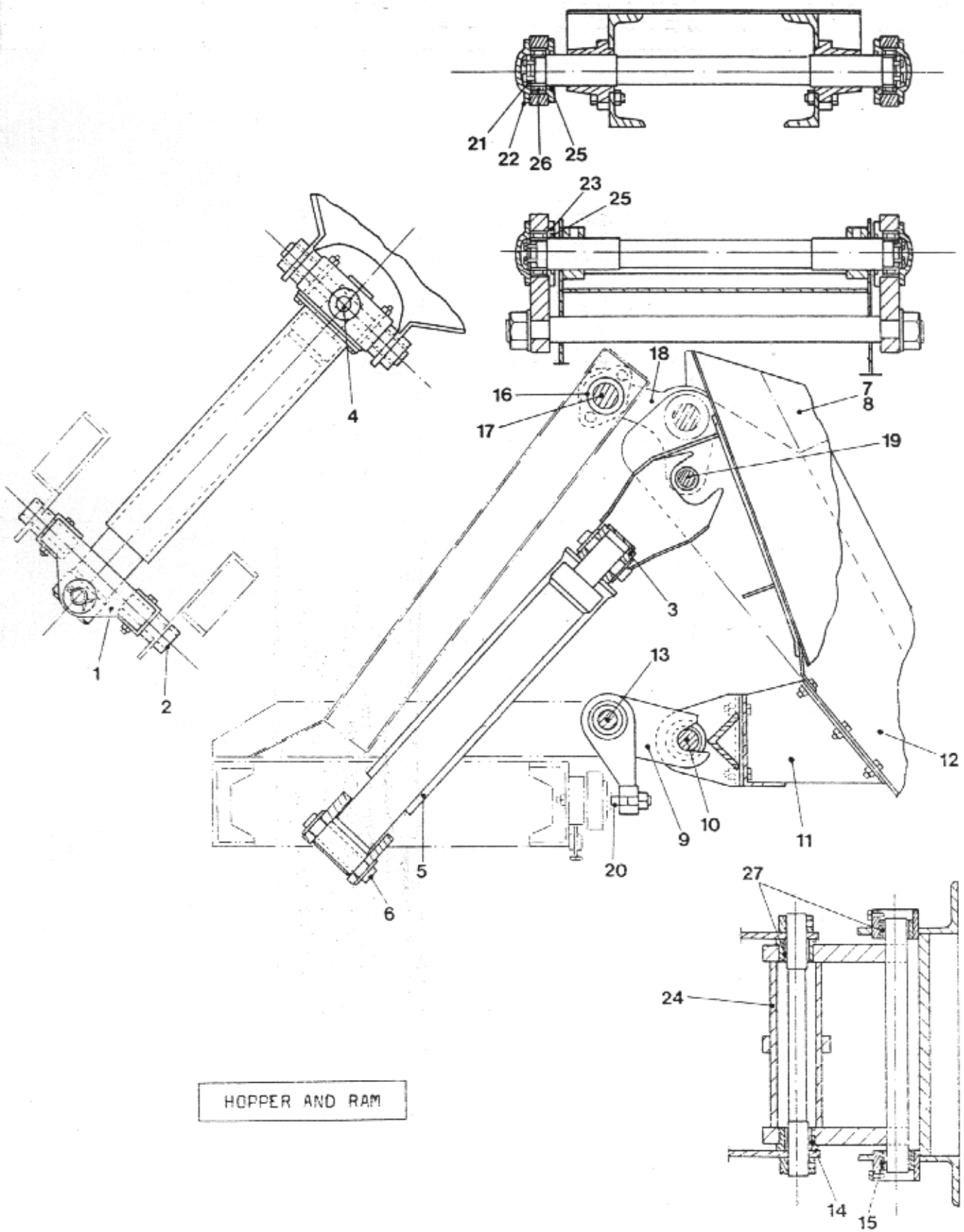
Ref	Description	Part N°	Qty


DRUM AND TRUNNION

When Ordering Always Quote :— Machine No, Part No, Description and Quantity

Ref	Description	Part No	Qty
1	Drum Base	513 2157 00	1
2	Drum Top	513 2188 00	1
3	Drum Shaft	513 2180 00	1
4	Drum Shaft Flange	513 2181 00	1
5	Trunnion	513 2176 00	1
6	Bevel Gear Ring - 102 Teeth	513 2151 00	1
7	Bevel Gear Guard	513 2186 00	1
8	Bevel Pinion - 20 Teeth	513 2189 00	1
9	Bevel Pinion Shaft	513 2183 00	1
10	Bevel Pinion Shaft Housing	513 2185 00	1
11	Clamp Block for Housing	513 2178 00	1
12	Sealing Washer	513 2184 00	1
13	Bevel Pinion Guard	513 2187 00	1
14	Sprocket on Bevel Pinion Shaft - 29 Teeth	513 2154 00	1
15	Trunnion Journal	513 2156 00	1
16	Trunnion Journal Bearing	513 2152 00	1
17	Counter Shaft	513 2182 00	1
18	Sprocket on Counter Shaft	513 2190 00	1
19	Chain Shoe	513 2226 00	1
20	Trunnion Chain Guard	513 2191 00	1
21	Chainwheel on Counter shaft - 64 Teeth	513 2153 00	1
22	Tilting Bracket	513 2192 00	1
23	Tilting Shaft and Pinion Assembly	513 2195 00	1
24	Chain Tensioner	513 2199 00	1
25	Handwheel and Boss Assembly	513 2198 00	1
26	Cotter	513 2196 00	1
27	Locking Latch	513 2202 00	1
28	Locking Latch Pivot Pin	513 2203 00	1
29	Tilting Chain Guard	513 2200 00	1
30	Tilting Chain Guard Strap	513 2201 00	1
31	Setscrew for Drum Shaft flange	513 2301 00	2
32	Setscrew for Drum Shaft	513 2302 00	1
33	Packing Shim	513 2364 00	As Reqd.
34	Lower Drum Blade	502 7728 00	2
35	Drum Blade Cleat	502 7758 00	2
36	Skeleton Blade	502 4764 00	1
37	Ball Bearing	109 4750 20	1

Ref	Description	Part No	Qty
38	Ball Bearing	109 4600 20	1
39	Ball Bearing	102 9350 20	1
40	Ball Bearing	109 4350 20	3
41	Glacier Bearing	112 8034 00	2
42	Glacier Bearing	112 8035 00	1
43	Chain with Connecting Links	134 1050 99	1 Lgth.
44	Chain with Connecting Links	134 9110 62	1 Lgth.
45	Taper Plug	241 7160 00	1
46	Circlip (Drum Shaft)	142 3360 00	1
47	Circlip (Drum Shaft)	142 3430 00	1
48	Circlip (Drum Shaft)	142 3440 00	1
49	Circlip (Counter Shaft)	142 3300 00	1
50	Circlip (Counter Shaft)	142 3100 00	2
51	Gib Hd. Key (Bevel Pinion Shaft)	304 3100 40	1
52	Gib Hd. Key (Bevel Pinion Shaft)	304 3100 40	1
53	Gib Hd. Key (Counter Shaft)	304 3100 40	1
54	Parallel Key (Counter Shaft)	304 7100 40	1
55	Nut	330 1212 00	1
56	Washer (Spring Type)	464 3512 00	1
57	Cup Point Grub Screw	403 7606 03	1
58	Oil Hole Cover	315 6010 00	1
59	Grease Nipple	333 1020 20	3
60	Nut	330 1210 00	2
61	Locknut	330 6010 00	2
62	Plain Bright Washer	463 3316 00	As Reqd



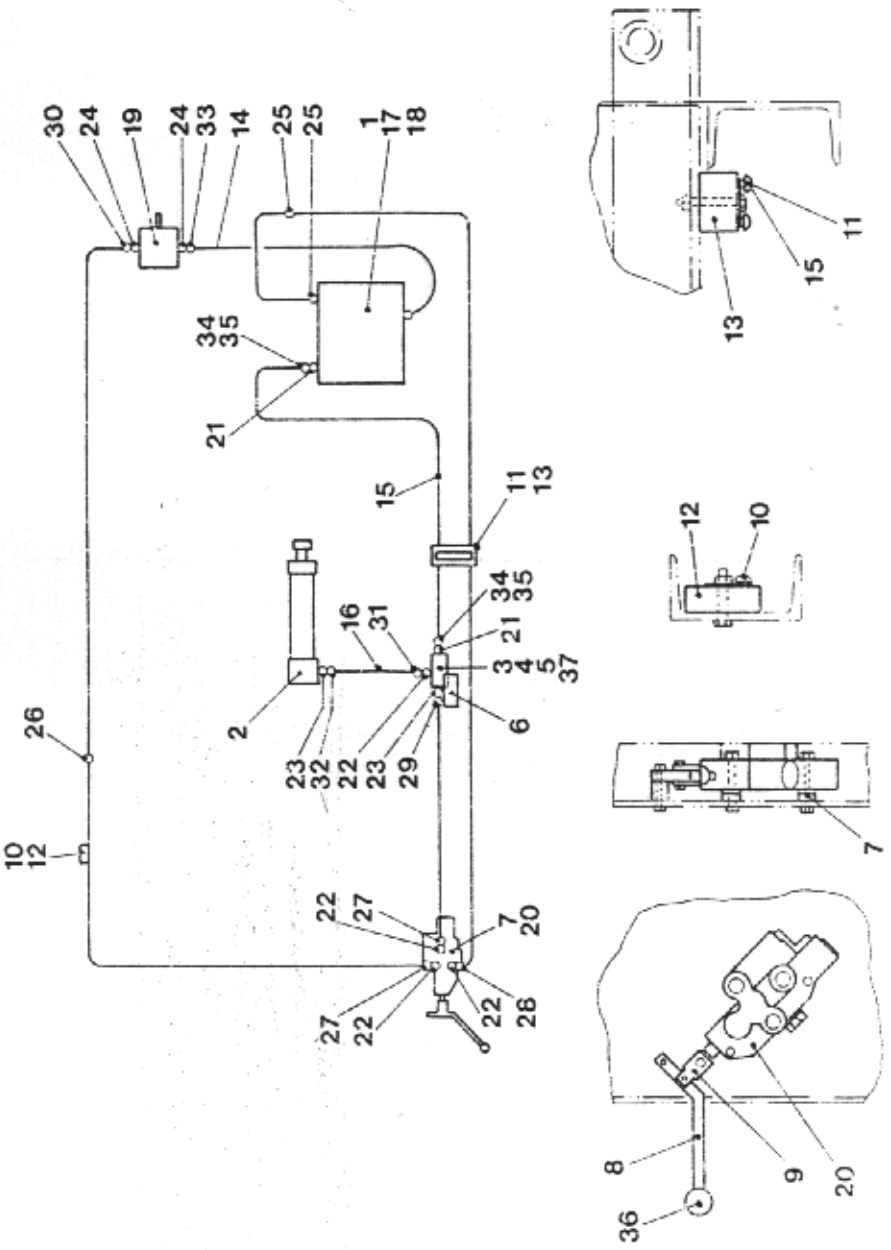
HOPPER AND RAM

When Ordering :— Always Quote Machine Nº, Part Nº, Description and Quantity

Ref	Description	Part No	Qty
1	Lower Ram Yoke	503 0516 00	1
2	Ram Yoke Pin	503 0537 00	4
3	Upper Ram Yoke	503 0515 00	1
4	Upper Yoke Pin	503 0497 00	1
5	Ram Shroud	503 0496 00	1
6	Lower Yoke Pin	503 0498 00	1
7	Loading Hopper	513 1090 00	1
8	Hopper Cover Assembly	513 1094 00	1
9	Lower Hopper Cradle Bracket	503 1204 00	1
10	Lower Cradle Shaft	513 2264 00	1
11	Connection Bracket for Hopper Cradle Bracket	513 1099 00	1
12	Hopper Cradle (with Weigher)	513 1093 00	1
13	Lower Arm Pivot Shaft	513 2263 00	1
14	Lower Pivot Insert	513 2266 00	2
15	Lower Cradle Bracket Insert	513 2267 00	2
16	Hopper Pivot Bearing	503 1163 00	2
17	Top Pivot Shaft	503 1165 00	2
18	Upper Links	503 1166 00	2
19	Top Link Spacer	503 1164 00	1
20	Striking Button	503 1507 00	1
21	Bearing Retainer	503 1160 00	4
22	Bearing Cap	503 1162 00	4
23	Seal Housing	503 1161 00	4
24	Lower Arm Pivot	513 2265 00	1
25	Seal	112 8350 00	4
26	Needle Roller	113 1250 00	4
27	Bush	112 7530 00	4

Ref	Description	Part No	Qty

When Ordering Always Quote :— Machine No, Part No, Description and Quantity



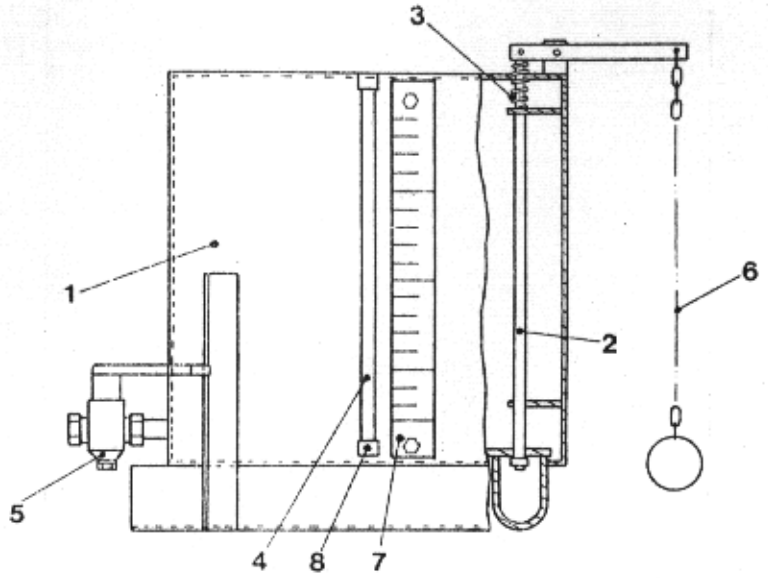
HYDRAULIC SYSTEM

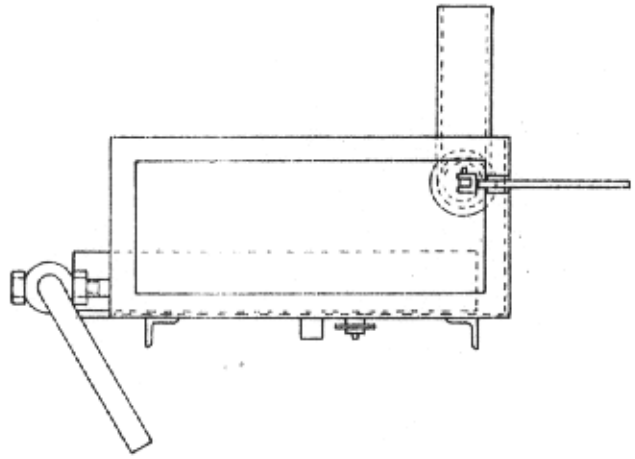
When Ordering Always Quote :— Machine No, Part No, Description and Quantity

Ref	Description	Part No	Qty
1	Hydraulic Tank and Pump Drive Assy.	513 2390 00	1
2	Hopper Ram	513 2459 00	1
3	Bleed Valve Assembly	513 2388 00	1
4	Bleed Valve Body	503 1394 00	1
5	Bleed Valve Plunger	503 1395 00	1
6	Bleed Valve Support Plate	513 2370 00	1
7	Boss	513 2489 00	2
8	Control Lever	513 2490 00	1
9	Control Lever Link	513 2491 00	1
10	Pipe Clip	503 0933 00	1
11	Pipe Clip	503 0934 00	1
12	Pipe Clip Block	503 0935 00	1
13	Pipe Clip Block	513 2396 00	1
14	Mod. to Moulding for Pump Inlet	513 2389 00	1
15	Nylon Tube (Weigher only)	110 9530 10	1 Lgth
16	Single Wire Hose	260 4062 40	1
17	Filler Breather Unit	220 5110 00	1
18	Filter	220 5910 00	1
19	Hydraulic Pump	361 1350 00	1
20	Hydraulic Control Valve	451 4600 00	1
21	Bonded Seal	417 8020 00	2
22	Bonded Seal	417 8030 00	4
23	Bonded Seal	417 8040 00	2
24	Bonded Seal	417 8060 00	2
25	Straight Coupling	446 3080 00	2
26	Straight Coupling	446 3220 00	1
27	Parallel Male Stud Coupling	446 3170 00	2
28	Parallel Male Stud Coupling	446 3380 00	1
29	Parallel Male Stud Coupling	446 3490 00	1
30	Parallel Male Stud Coupling	446 6120 00	1
31	Stud Adaptor Male	446 6110 00	1
32	Stud Adaptor Male	446 6140 00	1
33	Stud Standpipe Adaptor	446 6600 00	1
34	Simplifix Parallel Male Stud Coupling (Weigher Only)	141 1064 10	2
35	Brass Shoulder Plug (Non-Weigher only)	360 1020 00	2
36	Knob	307 1010 00	1
37	Compression Spring	423 2082 00	1

Ref	Description	Part No	Qty
	W272135000 C3615		

Ref	Description	Part Nº	Qty
1	Tank	513 2856 00	1
2	Valve	513 2862 00 AND 513 2857 00	1
3	Spring	425 4330 00	1
4	Sight Glass	430 9040 01	1
5	Valve	450 1512 00	1
6	Chain with Ring	513 2864 00	1
7	Capacity Plate	513 2865 00	1
8	Sight Glass Block	614 1041 00	2





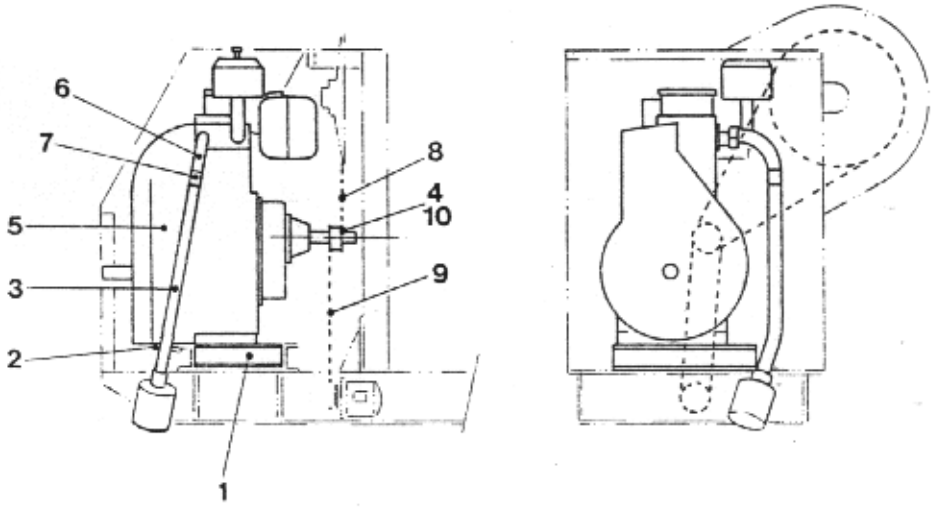
WATER TANK

When Ordering Always Quote :— Machine Nº, Part Nº, Description and Quantity

GUARDS

Ref	Description	Part Nº	Qty
1	Discharge Side Panel	513 2276 00	1
2	Charge Side Panel	513 2275 00	1
3	Bridge Piece	513 2286 00	1
4	Door for Side Panels	513 2277 00	2
5	Lid for Engine Housing	513 2281 00	1
6	Front Panel (Diesel Drive)	513 2278 00	1
7	Front Panel (Electric Drive)	513 2279 00	1
8	Door for Front Panel (Electric Drive)	513 2280 00	1
9	Lid Stay	513 2284 00	2
10	Closing Plate	513 2285 00	1
11	Chain Guard	513 2287 00	1
12	Name Plate	504 6460 00	1
13	Label Engine Housing Lid Warning	504 6009 00	1

DRIVE



Ref	Description	Part Nº	Qty
1	Engine Bed	513 2296 00	1
2	Exhaust Pipe Clip	513 2295 00	1
3	Exhaust Pipe	513 2292 00	1
4	Engine Sprocket	503 0499 00	1
5	Petter PH1 Air-Cooled Diesel Engine		1
6	Standard Bend	240 3080 00	1
7	Socket	241 9080 00	2
8	Roller Chain	134 1061 00	1
9	Roller Chain	134 1060 60	1
10	Gib Head Key	300 1062 20	1

CALIFORNIA

Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm