

# OPERATORS HANDBOOK & PARTS

Manual V602069 printed May 2011 (This publication includes Manual WMANS544) Up to Machine Serial No 1332



WINGET LIMITED, P.O. Box 41, Edgefold Industrial Estate, Plodder Lane, Bolton, BL4 0LS, England Tel: +44 (0) 1204 854650 Fax: +44 (0) 1204 854663 www.winget.co.uk

# INTRODUCTION

#### **CONTENTS**

#### Section

Page

#### INTRODUCTION

Introduction	II
Warranty	III
Safe Working	1.1
Decals	1.3
Lashing down & lifting points	1.6

#### **OPERATION**

Installation	2.1
Lister-Petter LT1/LV1-10 engines	2.2
Yanmar L40/L48 ARE-SE	
engines	2.4
Electric motors	2.7
Mixer drum positions	2.7
Mixing	2.7
End of work procedures	2.8

#### SERVICING

Service schedule	3.1
Greasing & lubrication	3.2
Drum drive	3.2
Bolt torques	3.3

Engines:

(Lister-Petter only. For Yanmar	
engines, see separate	
Operator's Manual)	
Air cleaner	3.3
Engine lubrication oil	3.4
Fuel filter & priming the fuel	
system	3.5
Battery	
Mixer drum assembly	
Mixer drum drive overhaul	

#### Section

Page

#### **TECHNICAL INFORMATION**

Lubricants	4.1
Noise levels	4.1
Drum speed	4.1
Mixer drum sealant	4.1
Engines & motors	4.1
Dimensions	4.2
Electrically driven mixers wiring	4.3
Yanmar L40/L48 ARE-SE	
key start wiring	4.4

#### PARTS

Illustrations of all mixer components

#### The Handbook

The contents of this Handbook, although correct at the time of publication may be subject to alteration by the Manufacturers without notice. Winget Limited operate a policy of continuous product development. Therefore, some illustrations or text within this publication may differ from vour machine.



The operator must read all the Handbook and fully understand its contents before attempting to operate the machine.

#### THE HANDBOOK MUST NOT BE REMOVED FROM THE MACHINE.

The Handbook must be kept clean and in good condition. Additional copies of the Handbook can be obtained from your Distributor.

The contents of this Operator's Handbook are designed as a guide to the machine's controls, operation, working capacities and maintenance. It is *not* a training manual.

Only trained operators should use this machine. Contact the C.I.T.B. or equivalent body for advice on training.

In this Handbook are **WARNING** notes. They are preceded by this symbol:





WARNING These notes are used to indicate the procedure being described in the Handbook must be followed to avoid serious injury or death to yourself or to others, or damage to the machine.

The warnings are also used to protect the machine from unsafe servicing practices.

Pay particular attention to the warnings given in the Handbook.

If you have any doubts about any aspect of the machine's capability or servicing procedures, you must consult the manufacturer.

# Π

#### Warranty terms & conditions

The Manufacturer assures you that if any part of the machine becomes defective due to faulty manufacture or materials within 12 months from the date of purchase, the part will be repaired or replaced under warranty free of charge by any authorised Winget Distributor. Warranty repairs *must* be carried out by Winget Distributors.

This Warranty is given to the first owner and may be transferred to subsequent owners for the balance of the Warranty period.

The Manufacturer's liability only extends to the costs of repair or replacement of the faulty parts and necessary labour charges involved in the repairs. The Company accepts no liability for any consequential loss, damage or injury, resulting directly or indirectly from any defect in the goods.

Items not covered by Warranty and considered to be the customer's responsibility include normal maintenance services; replacement of service items and consumables; replacement required due to abuse, accident, misuse or improper operation; replacement of wearable items e.g. pins, bushes, brake linings, clutch linings etc.

The Warranty will not apply where the equipment is modified, converted, or used for purposes other than those for which it was designed, unless clearance for the modifications etc. have been granted by the Manufacturer, in writing.

The Pre-Delivery Inspection and Warranty Registration Document must be completed correctly and returned to the Manufacturer within 7 days of sale date. Failure to do so may result in the claim being subsequently rejected.

Tyres and tubes are not covered by Warranty, but are covered by the tyre manufacturer's own warranty system which provides against defects in material or workmanship. Engines are covered separately by the engine manufacturers, and engine warranty repairs must be handled by the relevant engine manufacturers' distributors.

No claim will be considered if other than genuine Winget Limited parts, which must be obtained from Winget Limited via an authorised Distributor, are used to effect a repair, or if lubricants other than those recommended by Winget Limited are used.

The equipment must be serviced in accordance with the service schedules laid down by Winget Limited. Evidence that these have been complied with may be required before Warranty Claims are reimbursed.

The Manufacturer's policy is one of continuous improvement. Winget Limited reserve the right to change specifications without notice. No responsibility will be accepted for discrepancies which may occur between specification of machines and the descriptions contained in publications.

Safety is the responsibility of the persons working with this machine. Think "safety" at all times. Read and remember the contents of this Handbook.

#### MACHINE MODIFICATION



**WARNING** Any modifications to the machine will affect its working parameters and safety factors. Refer to the Manufacturers before fitting any non-standard equipment or parts.

> The manufacturers accept no responsibility for any modifications made after the machine has left the factory, unless previously agreed by the Manufacturers in writing. The Manufacturers will accept no liability for damage to property, personnel or the machine if failure is brought about due to such modifications, or fitment of spurious parts.

#### **OPERATION**

WARNING Only trained operators should use this machine.



Always be aware of local and national regulations governing the use of the machine.

Always ensure that all guards are in position and correctly fitted.

- *Electrically driven mixers*: Always ensure that the power supply has been correctly connected by a qualified electrician.
  - Electrical cables must be of a suitably armoured type. Ensure that they are protected from damage and not liable to be tripped over.
  - Do not connect to a household socket!
  - Use only with an RCD protected supply. Only connect via special feeding point (e.g. power distribution panel on building site with faultcurrent-breaker).

Only authorised persons should be allowed to operate the mixer, or be in the immediate area.

Never add fuel or lubricant to the machine while it is running.

Keep the area around the machine clear of obstructions which could cause persons to fall onto moving parts.

Keep the body and clothing clear of all moving and hot parts.

Always ensure that during operation the mixer is standing on stable and level ground and that the wheels are chocked.

Keep the engine/motor housing lid closed when the engine or electric motor are running.

#### ENGINE



Starting any diesel engine can be dangerous in the hands of inexperienced people. Operators must be instructed in the correct procedures before attempting to start any engine.

Always obtain advice before mixing oils; some oils are not compatible. If in doubt, drain and refill.

The materials used in the manufacture and treatment of some filters and elements may cause irritation or discomfort if they come into contact with the eyes or mouth and they may give off toxic gases if they are burnt.

Engine lifting eyes must not be used to lift the complete machine.

Ether based cold start aids in aerosol cans must not be used under any circumstances.

EXHAUST GASES CONTAIN CARBON MONOXIDE WHICH IS A COLOURLESS, ODOURLESS AND POISONOUS GAS THAT CAN CAUSE UNCONSCIOUSNESS AND DEATH.

#### ELECTRICAL SYSTEMS



**ING** Starting engines that are fitted with charge windings/alternators which have been disconnected from the battery may cause irreparable damage.

The following points must be strictly observed when charge windings are fitted otherwise serious damage can be done.

Never remove any electrical cable while the battery is connected in the circuit.

Only disconnect the battery with the engine stopped and all switches in the OFF position.

Always ensure that cables are fitted to their correct terminals. A short circuit or reversal of polarity will ruin diodes and transistors.

Never connect a battery into the system without checking that the voltage and polarity are correct.

Never flash any connection to check the current flow.

Never experiment with any adjustments or repairs to the system.

The battery and charge windings/alternators must be disconnected before commencing any electric welding when a pole strap is directly or indirectly connected to the engine.

BATTERIES CONTAIN SULPHURIC ACID WHICH CAN CAUSE SEVERE BURNS AND PRODUCE EXPLOSIVE GASES. If the acid has been splashed on the skin, eyes or clothes flush with copious amounts of fresh water and seek immediate medical aid.

#### **SERVICING & MAINTENANCE**



Never allow unqualified personnel to attempt to remove or replace any part of the machine, or anyone to remove large or heavy components without adequate lifting equipment.

Before maintenance work is begun, ensure that the engine is stopped, or that the electric motor is switched off, and isolated from the mains.

Always conform to service schedules except when an emergency calls for immediate action, or adverse conditions necessitate more frequent servicing.

Always report any defect at once, before an accident or consequential damage can occur.

On completion of maintenance, check that the machine functions correctly, and that all guards are correctly fitted.

**Disposal of waste oil.** Dispose of waste oil into waste oil storage tanks. If storage tanks are not available, consult your Distributor or local authority for addresses of local designated disposal points. It is illegal to dispose of waste oil into drains or water courses, or to bury it.

#### DECALS

Ensure that all warning decals fitted to the mixer are legible. If any should become detached, they must be replaced immediately.

#### Descriptions of the pictorial decals are as follows:

Fuel tank filling point.



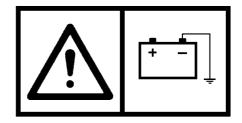
Attach lifting hooks to this eye.



Read Operators Handbook, or Operators Handbook storage place.



The battery negative terminal is connected to eath.



#### Remove starting handle.



WHEN MACHINE UNATTENDED REMOVE STARTING HANDLE TO PREVENT UNAUTHORISED USE.

Beware of electrical hazards.



Engine stop.



Keep clear of chain drives.



These surfaces may be hot.



Keep hands clear of drum.



Battery isolator.



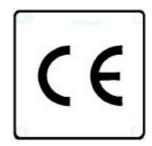
Wear ear protection.



#### Wear eye protection.



#### Conforms to EEC standards.



#### ISO 8999 safety symbols used with Lister/Petter engines



Read the handbook



Engine oil fill



Anti-clockwise rotation



On



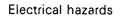
Rotational speed control

mi



Elapsed hours









Stop control (on engine)



Engine oil level



**Clockwise** rotation



Off



Linear speed control



Battery charging



General hot surface warning



Diesel fuel fill



Engine oil pressure



Lifting eye - engine only



Pre-heat



Tachometer



Engine cranking

#### Lashing down & lifting points

#### General

Care should be taken when lifting or transporting the mixer to ensure that lifting or retaining straps are in good condition and the following procedures must be followed when lifting or lashing down to avoid causing unnecessary damage.

It is recommended that chains or webbing slings are used to lift the mixer via the lifting eye on the mainframe (A) and that ratchet type webbing straps are used to lash the mixer down.

#### Lifting the Mixer (Crane)

Using the tilting handwheel and locking plunger, lock the drum upright as illustrated.

To prevent the drawbar swinging freely as the mixer clears the ground, lash it up to the handwheel **(B)**.

If the mixer is on site and the wheels are immersed in dried concrete or mortar the wheels must be freed before attempts are made to lift the mixer.

Attach suitable lifting equipment to the lifting eye **(A)** and slowly take the weight.

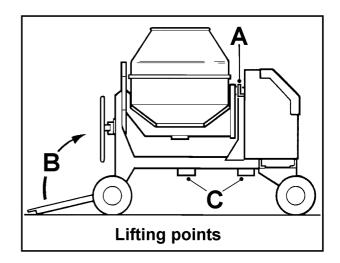
Do not 'snatch' the mixer otherwise damage may be caused to the lifting eye or lifting equipment.

Be aware that the mixer will tend to swing as it clears the ground.

#### Lifting the Mixer (Forklift/Telehandler)

Using the tilting handwheel and locking plunger, lock the drum upright as illustrated.

If the wheels are immersed in dried concrete or mortar, free them before attempting to lift the mixer.



Spread the fork tines and carefully position them so that they pass through the brackets **(C)** that are attached to the mainframe.

Position the carriage as close as possible to the mixer

Slowly tilt the carriage back slightly to prevent the mixer rocking forward, then raise the mixer just clear of the ground.

Do not raise the mixer unnecessarily high. Keep the height to the minimum required to clear any obstructions without unduly obstructing your forward vision.

When travelling keep your speed to the minimum and when loading vehicles do not raise the mixer to the height of the bed until the mixer is close to the vehicle.

Similarly when unloading vehicles lower the mixer just clear of the ground as soon as it clears the side of the vehicle.

#### Lashing down

The drum should be locked in the upright position, as illustrated, to keep the centre of gravity as low as possible.

It is recommended that unless the mixer is pulled up against a headboard or some form of substantial wheel chocks that two ratchet type webbing straps are used to retain the mixer, one pulling to the rear and one pulling to the front.

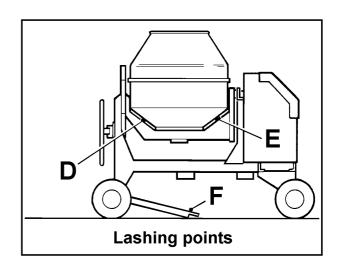
Position the mixer on the vehicle bed and chock the rear wheels to prevent it rolling until lashed down.

Turn the front axle so that the drawbar **(F)** is below the mixer and not forming an obstruction on the vehicle bed.

Pass one of the webbing straps between the drum and trunnion at point **(D)** and secure the strap down to retaining hooks on the vehicle bed in front of the mixer.

Pass the second strap between the drum and trunnion at point **(E)** and secure the strap down to retaining hooks on the vehicle bed to the rear of the mixer.

Tighten the straps by means of the ratchets until the mixer is securely held.



#### Installing the mixer on site

Welded to the mixer are lifting points. These are provided to assist with loading unloading the mixer and for or transportation across site.



WARNING For mixer weights, see "Specifications"

Never carry mixers by their lifting points on public roads.

Do not tow mixers across uneven ground.

The ground on which the mixer stands must be level and stable. Ensure that the wheels are chocked.

#### Electrically driven mixers:

Always ensure that the power supply is correctly connected or disconnected by a qualified electrician.

Electrical cables must be of a suitably armoured type. Ensure that they are protected from damage and are not liable to be tripped over.

Do not connect to a household socket!

Use only with an RCD protected supply. Only connect via special feeding point (e.g. power distribution panel on building site with fault-currentbreaker).

#### **Engine operation**



WARNING As soon as the engine has started the mixing drum will begin to rotate.

#### Before starting the engine:

Ensure the engine and drum are free to turn without obstruction.

Check that the lubricating oil level is correct. The oil sump must be filled to the 'full' mark on the dipstick; do not overfill.

Check that the fuel supply is adequate and the system is primed.

#### Electric key start machines only:

Ensure that the battery is connected, fully charged and serviceable.

#### **Engine Safety**



WARNING The following pages of engine operating instructions are of a general nature and should be read in conjunction with, or substituted by the engine Manufacturer's instructions.

> Starting any diesel engine can be dangerous in the hands of inexperienced people.

Before attempting to start any engine the operator should read the 'Safe Working' section of this book and be conversant with the use of the engine controls and the correct starting procedures.

ETHER BASED COLD START AIDS IN AEROSOL CANS MUST NOT BE USED UNDER ANY CIRCUMSTANCES.

EXHAUST GASES CONTAIN CARBON MONOXIDE WHICH IS A COLOURLESS, **ODOURLESS AND** POISONOUS GAS THAT CAN CAUSE UNCONSCIOUSNESS AND DEATH.

# 2.2

#### LT1-10/LV1-10 engines

#### Description

- A Dipstick
- **B** Lubricating oil filler
- **C** Engine control
- **D** Decompressor lever
- F Fuel tank

# D LT1-10

**OPERATION** 

#### The cold start aid (where fitted)

The cold start aid is fitted to the combustion air intake port and is used when the ambient temperature is below -10 deg.C (14 deg.F).

With the fuel turned on, turn the engine for up to 20 revolutions to prime the fuel and lubrication systems.

Withdraw the plunger (A) and fill one third of the cup (B) with the same type of lubricating oil as used in the engine.

Replace the plunger and inject the oil just before starting the engine.



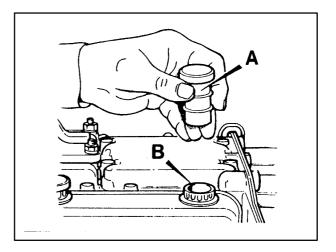
WARNING The device must not be used more than three times in succession during the same attempt to start the engine.

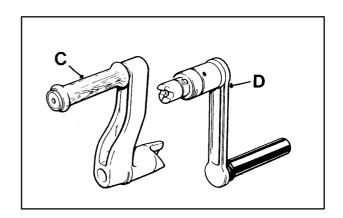
#### The starting handle(s)

A non-limited kick-back handle (C) or limited kick-back handle (D) system may be fitted to the engine.

The two handles are not interchangeable and care must be taken to ensure the correct type is retained with the engine.

Always use the correct starting handle which has been designed for the engine.





# **OPERATION**

Ensure there are no burrs on the handle.

Before attempting to use the handle, clean and lightly oil that part of it which fits onto the engine.

#### Hand starting the engine

Select the excess fuel position by gently pulling the engine control lever (L) outward over the middle catch (M) and turning it fully clockwise.

Move the decompressor lever towards the flywheel **(N)**.

Insert the correct handle (See: 'Starting handles') into the starting housing.

Turn the engine slowly for up to 20 turns to prime the combustion chamber and lubricating oil system.

Maintaining a firm grip on the starting handle, crank the engine really fast and when sufficient speed is obtained move the decompressor lever towards the gear end and continue to crank until the engine fires.

Retain a firm grip on the handle and remove it from the engine.

Close the engine lid and ensure that it stays closed while the engine is running.



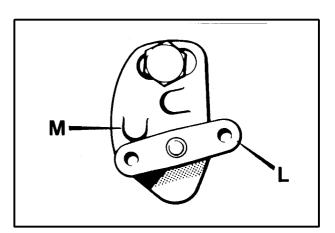
WARNING Do not stop the engine with a load in the drum.

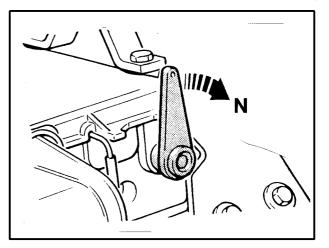
#### Stopping the engine

Turn the engine control anti-clockwise to the STOP position and hold it there until the engine comes to rest.



Never stop the engine by using the decompressor lever, or valve damage may occur.





# **OPERATION**

#### Yanmar L40/L48 ARE-SE

#### Description

- A Fuel cock
- **B** Engine speed lever
- E Starting key

#### Electric starting the engine

Open the fuel cock (A). Put the engine start lever to the RUN position (B).

Turn the starting key (E) clockwise to START position.

Remove your hand from the key as soon as the engine starts.

If the engine does not start after 10 seconds, wait for another 15 seconds before attempting to start again.



WARNING If the starter motor is turned for too long, the battery will go flat and motor seizure will occur. Always leave the starting key turned on, in the ON position, while the engine is running.

> Check monthly that the battery fluid is at the correct level.

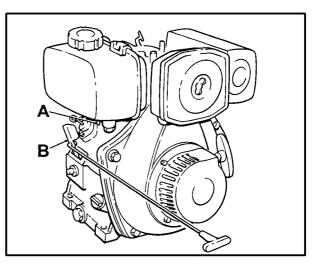
#### **Cold Starting**

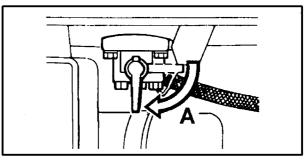
In cold weather, if the engine is hard to start, remove the rubber plug of the rocker arm cover and add 2cc of engine oil before starting. Do not add more than 2cc of engine oil to prevent internal engine damage.

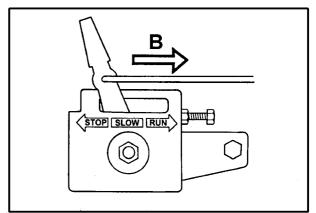


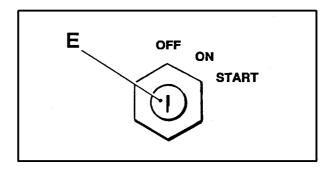
WARNING Never use any cold starting aids such as ether (Easy start), gasoline, paint ether or other volatile liquid or gas.

> Keep the rubber plug in the cover except when adding oil.









If the plug is not in place, rain, dirt and other contaminants may enter the engine and cause accelerated wear of internal parts.

#### Yanmar L40/L48 ARE-SE

#### Stopping the engine

Return the engine speed lever to the STOP position.

Note: On later engines it is necessary to depress the red button on the stop control to release this control into the STOP position.

With electric-start engines, turn the starter key to the OFF position.

Set the fuel cock lever to the CLOSED position.

Slowly pull out the recoil handle until pressure is felt (that is, to the point in the compression stroke where the intake and exhaust valves are closed), and leave the handle in this position. This prevents rust from forming while the engine is not in use.



WARNING If the engine keeps on running even after the speed lever is placed at STOP position, stop the engine by closing the fuel cock.

> Do not stop the engine with the decompression lever.

# **OPERATION**

#### Yanmar L40/L48 ARE-SE

Manual starting in the event of a flat battery

#### Description

- A Fuel cock
- B Engine speed lever
- **C** Decompression lever
- **D** Recoil starting handle

#### Starting the engine

Open the fuel cock (A).

Put the engine start lever to the RUN position **(B)**.

Turn the start key to ON.

Pull out the recoil starting handle **(D)** slowly until you feel a strong resistance, then return it to the initial position.

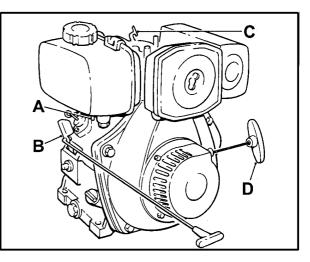
Push down the decompression lever **(C)**. It will return automatically when the recoil starter is pulled.

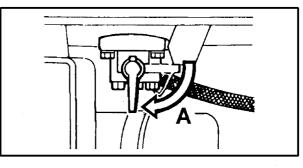
Grip the recoil starting handle **(D)** firmly with both hands. Pull the rope hard and fast. Pull it all the way out.

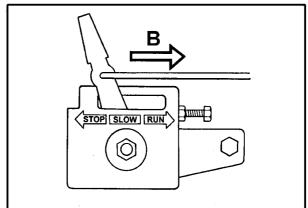
The engine should now have started. If it has not, repeat the procedure.

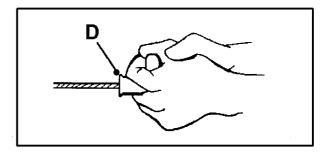
#### **Cold Starting**

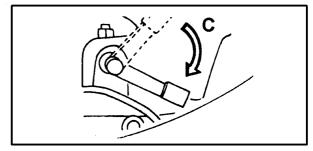
In cold weather, if the engine is hard to start, use the same cold start procedure as described on page 2.4.











# **OPERATION**

#### Electric motors To start and stop:

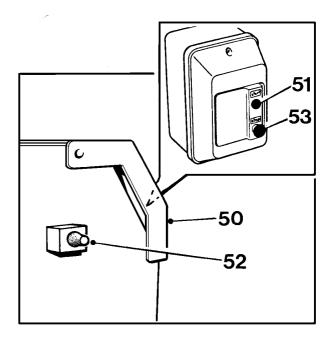
Gain access to start button by raising the motor cover (50).

Start the motor by pressing button (51). Lower the motor cover (50).

To stop the motor, press button (52). (Pressing button (53) will also stop it.)



WARNING In an EMERGENCY, press button (52) to stop the motor.



#### **Before mixing**

The operator must calculate the correct percentages of water and aggregates to be mixed.



WARNING Cements can cause skin irritation; wear protective clothing.

#### Mixer drum positions

The locking plunger (54) holds the mixing drum in one of the following positions Charge and Mix (1) or Discharge (2).

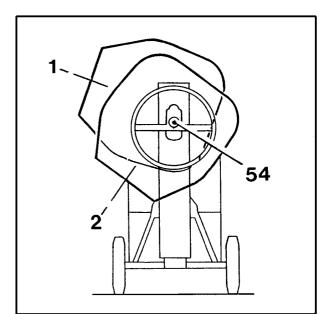
To release the handwheel: Rotate the plunger (A) until the cross-pin (B) aligns with the slot (C), then pull the plunger outwards (D).

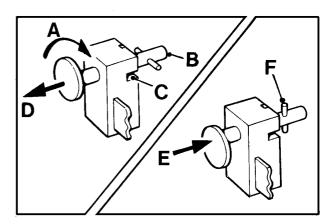
To lock the handwheel: Align the plunger with the appropriate hole in the frame, then push (E) and rotate the plunger until the cross-pin is vertical (F).

#### Mixing

Turn the drum to Charge and Mix position (1).

With the mixer running; charge the drum with the correct percentages of water and aggregates, then allow mixing to continue for about two minutes.





Ensure that a suitable container has been positioned by the side of the mixer to catch the discharging load.

Turn the drum to *Discharge* (2), and allow the load to run into the container.

#### At the end of the working day

- **A** Thoroughly clean out the mixing drum with water and gravel.
- **B** Stop engine, and remove the starting handle to prevent unauthorised use of the machine.
- **C** Grease the machine.
- **D** If the mixer has a diesel engine, fill the fuel tank.
- **E** If the mixer has an electric motor, it must be isolated from the mains.

#### SERVICE SCHEDULE

(See also the relevant Engine Workshop Manual)

YANMAR L40 ENGINE For servicing the Yanmar L40/L48 engine, see the

Every day		engine Operation Manua	
Links & hinges:	Lubricate.		
Shafts & bearings:	Lubricate.		
Engine:	Check fuel and lubricating oil levels.		
(see Engine Manual)	Check for oil and fuel leaks.		
	Clean/replace air cleaner element une	der very dusty conditions	

Every week (or 50 hours running) The above and following items		
Nuts, bolts and keys.	Tighten (Each week for first month).	
Drive chains:	Lubricate & check tension, check V belt tension on ES engines	
Drum Bevel Gears:	Lubricate with open gear fluid.	

Every 125 hours. The above and following items		
Engine:	Clean/replace air cleaner element under moderately dusty conditions.	
Battery (where fitted):	Check condition.	

Every 250 hours. The above and following items	
Nuts, bolts & keys:	Tighten.
Engine:	Change lubricating oil. Check valve clearance. <i>(see Engine Manual).</i> Clean/replace injectors if exhaust is dirty. <i>(see Engine Manual)</i> Renew fuel filter element if the fuel is not perfectly clean.

Every 500 hours. The above and following items		
Engine:	Replace air cleaner element.	
	Check exhaust and induction for leaks, damage or restrictions.	
	Renew fuel filter element.	
	Check battery charge winding system. (see Engine Manual)	

Every 1000 hours. The above and following items		
Engine:	Decarbonise if the engine performance has deteriorated.	
(see Engine Manual)	Clean cylinder barrel and head fins. Clean restrictor banjo union at the cylinder head end of the oil feed pipe. Flush and refill fuel tank.	

Every 5000 hours. The above and following items		
Engine:	Major overhaul, if necessary. (see Engine Manual)	

#### SERVICING PROCEDURE

#### **Greasing and lubrication**



WARNING It is essential that oils and grease used for servicing do not become contaminated with sand or cement dust.

#### **Every day**

Apply a little engine oil to pins, joints and hinges etc. to ensure that they move easily and are free from corrosion.

Shafts and bearings fitted with grease nipples must be greased using a good quality medium grease.

Bearings must not be allowed to run dry. When greasing it is better to give a little frequently rather than a lot at long intervals.

#### **Drum drive**

#### Every week (or 50 hours running)

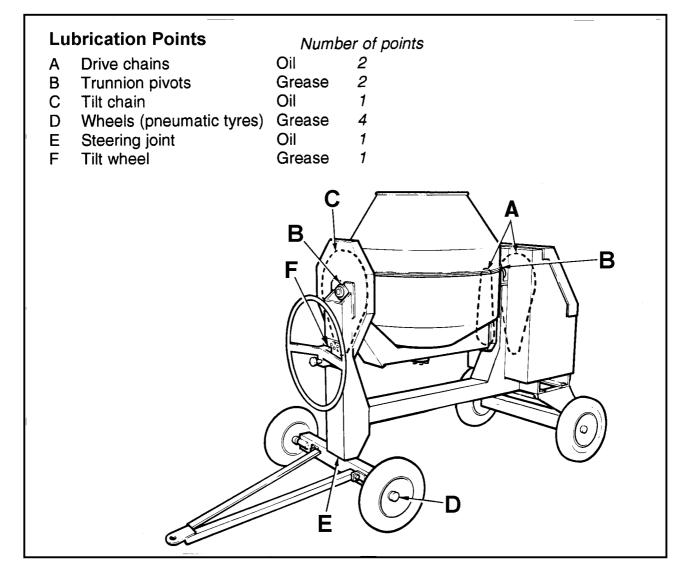
Lubricate drive chains (A) with a little engine oil. (Do not oil the belts of electrically driven machines.)

Check the tension of the chains and adjust if necessary as follows:

1 On the slack side of the chain there should be free movement equal to the length of one pitch of the chain.

i.e. If the pitch of the chain is 20mm, then the movement on the slack side should be 20mm.

2 Never over-tighten the chain as this will put excessive strain on engine bearings causing vibration and wear.



#### **Bolt torques**

Every week for the first month, then every three months

Check the tightness of all bolts, nuts, and keys etc. Pay particular attention to engine mounting bolts.

#### Engine, general servicing

Under very dusty conditions, air cleaners, lubricating oil and fuel filters will require more frequent attention. *(see the "Service Schedule" on page 3.1)* 



The materials used in the manufacture and treatment of some filters and elements may cause irritation or discomfort if they come into contact with the eyes or mouth and they may give off toxic gases if they are burnt.

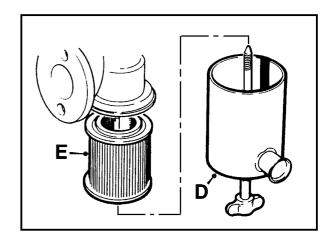
#### Air cleaner

Every day or 125 hours (see schedule)

Change the LT1-10/LV1-10 air cleaner as follows:

Remove the cover **(D)** by removing the centre bolt.

Remove the old element **(E)** and fit a new one.



#### **Engine lubrication oil**

#### Every day

Check lubrication oil level with the dipstick. Top up if necessary.

#### Every 250 hours

Drain and refill the oil sump as follows:



Dispose of waste oil into waste oil storage tanks. If storage tanks are not available, consult your Distributor or local authority for addresses of local designated disposal points. It is illegal to dispose of waste oil into drains or water courses, or to bury it.

Oils and fuels can cause skin irritation. Wear suitable protective clothing to prevent skin contact.

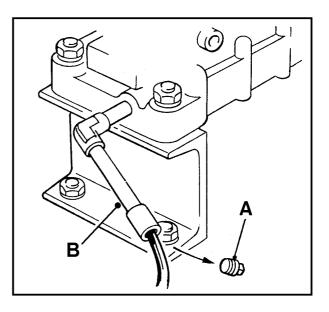
If possible run the engine immediately before draining the oil.

Note: During 2003 the metal drain pipe (B) was replaced by a flexable drain hose (not illustrated).

Place a suitable container under the drain plug. Remove the drain plug **(A)** and drain oil.

Clean and coat the threads of the drain plug with Hylomar PL32/M or Three Bond 1110B.

Replace the drain plug **(A)** taking care not to overtighten it.



#### **Fuel filter**

**Every 250 hours or 500 hours** (see schedule)

Before changing the filter read the warnings in the "Safe working" section of this handbook.

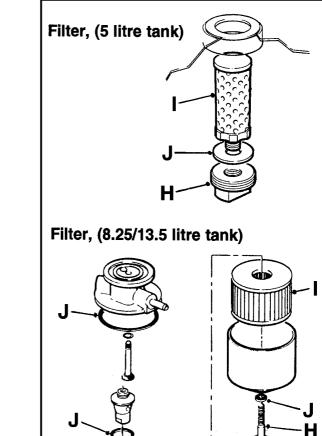
Change LT1-10/LV1-10 fuel filters as follows:

Remove the retaining bolt or plug **(H)**. Remove the old element **(I)** and joints **(J)**.

Fit a new element and new joints.

Replace and tighten the retaining bolt or plug **(H).** 

Prime the fuel system.



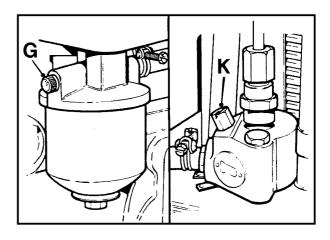
# Prime LT1-10/LV1-10 fuel system as follows:

Fill the fuel tank.

Move the engine control lever to the 'RUN' position.

Vent the filter through bleed screw **(G)** until a full air free flow of fuel is obtained.

Vent fuel through the pump bleed screw **(K)** until a full air free flow of fuel is obtained.



#### **Battery**



WARNING BATTERIES CONTAIN SULPHURIC ACID WHICH CAN CAUSE SEVERE **BURNS AND PRODUCE** EXPLOSIVE GASES.

> *If the acid has been splashed* on the skin, eyes or clothes flush with copious amounts of fresh water and seek immediate medical aid.

Check the battery as follows:

Wear protective gloves and goggles.

Clean the top of the battery filler plug area.

Remove the filler plugs and check that the electrolyte level is 6.0-9.0mm (0.25-0.37in) above the tops of the separators.

If necessary top up with distilled water.

In cold weather distilled water should only be added immediately before running the engine.

Replace and tighten the filler plugs.

Check that the terminal connections are tight; petroleum jelly will help to protect them from corrosion.

#### Mixer drum assembly

The drum is manufactured in two halves joined together by a drum clip. This allows either half to be replaced separately.

Some export machines are delivered with the drum cone and blades detached. This is to aid shipping.

There are two methods of reassembling the two halves of the drum, they are:

1 Assembling drum using special clamping tool.

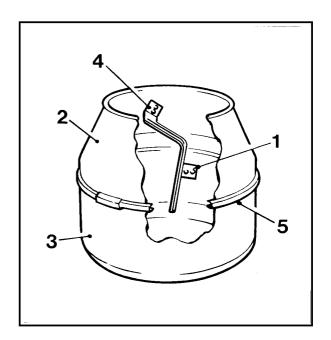
(The special clamping tool, part number 513204000 can be obtained from any Winget distributor.)

- A Bolt the two blades into the drum base (1). Tighten the bolts with fingers only.
- B Smear silicone sealant around the mating flanges of the cone (2) and drum base (3). (see 'Specifications' for mixer drum sealant)

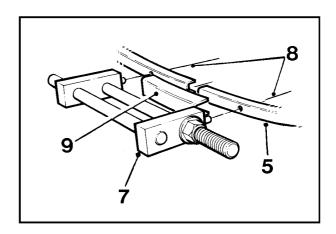


WARNING When applying silicone sealer, prevent contact with skin by wearing suitable aloves.

- C Lift the cone (2) over the blades and position it on the drum base (3).
- **D** Turn the cone until the two holes at the top of each blade (4) align with the holes in the cone. Fit bolts and tighten with fingers only.
- E Smear silicone sealant around the inside face of the drum clip (5) (leave 150mm each end of the clip clear of sealant to avoid risk of fire when welding).
- F Locate the drum clip around the periphery of the drum base and cone flange.

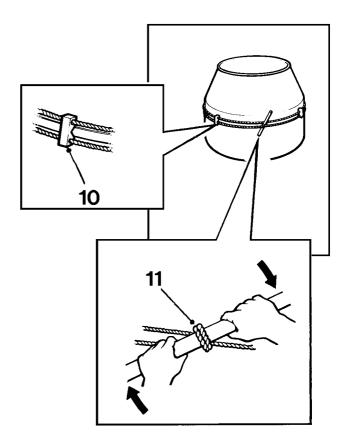


- **G** Locate the clamping tool (7) into the two holes (8) of the drum clip. Tighten the tool securely using a suitable spanner.
- H Centralise the bridge piece (9) on the drum clip between the jaws of the clamping tool.
- 1 Weld the bridge piece (9) to the drum clip (5). Remove the clamping tool (7).
- J Tighten securely all of the blade fixing bolts.



# 2 Assembling drum using a tourniquet.

- A If the special clamping tool is not available a tourniquet can be used as illustrated by looping a length of rope through four blocks of wood (10), each block having a vee cut, and two holes to take the rope.
- **B** Twist the rope around a bar **(11)** to tighten the drum clip.
- **C** All other aspects of the assembly are the same as "Assembling the drum using special clamping tool".



#### Mixer drum drive overhaul

On reassembling the drum drive, after an overhaul, the following points must be observed:

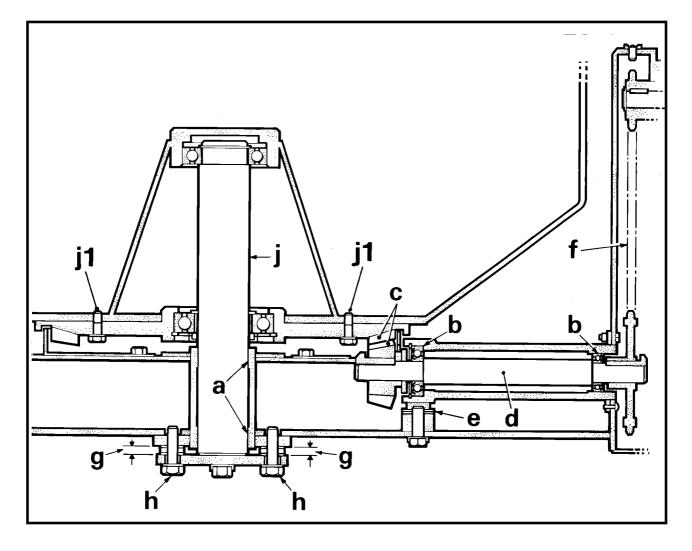
- **Note:** It is important to pack all sealed bearings with grease prior to assembly.
- A Coat with an anti-seize compound the drum shaft (j) at points (a), and the screws (j1).
- **B** The bearings (b) on either end of the bevel pinion shaft (d) are sealed for life and therefore require no maintenance.
- **C** The bevel gears **(c)** are to be coated liberally with Open Gear Fluid.

**D** The bevel pinion assembly **(d)** must be set horizontally in the trunnion. Do this as follows:

Ensure that the drive chain (f) is correctly adjusted, then set the bevel pinion assembly (d) horizontal by adjusting shims (e).

**E** To adjust the mesh of the bevel pinion gears proceed as follows:

Allow the bevel gear to sit fully in mesh with the bevel pinion. Check the number of washers required to fill the gap (g) between the drum shaft flange and the trunnion face. Remove one washer from each side, fit screws (h) and tighten. Acceptable backlash 3mm. By using a combination of the varying thickness of washers and shims it is possible to fine tune the backlash.



# 3.10

# SERVICING

# **TECHNICAL INFORMATION**

#### Lubricants

Mixers are factory filled with the following TOTAL oils.

Engine,	LT1/LV1-10: lubricating oil	Rubia B 10W/30	1.3 litres
	Yanmar L40/48: lubricating oil	Rubia B 10W/30	0.8 litres
	Note: In cold weather engines are to be filled with 10W oil to a		oil to aid starting.
	LT1/LV1-10: fuel		5.0 or 8.25 litres
Yanmar L40/48: fuel			2.5 litres

Electric motor bearing	Multis EP 2	
Drive chains	Rubia B 20W/30	
Bevel gears	Open gear fluid	
Drum shaft	Anti-seize compound	
Grease nipples	Multis EP 2	
Linkages and hinges	Rubia B 20W/30	

#### Noise levels of mixers

(Measured in accordance with EC Directive 2000/14/EC)

LPA 83	LWA 102	Lister-Petter LT1/LV1-10
LPA 80	LWA 101	Yanmar L40/48 ARE-SE
LPA 80	LWA 98	Electric motor

#### **Drum speed**

22 rpm *(approximately)* 

#### Mixer drum sealant

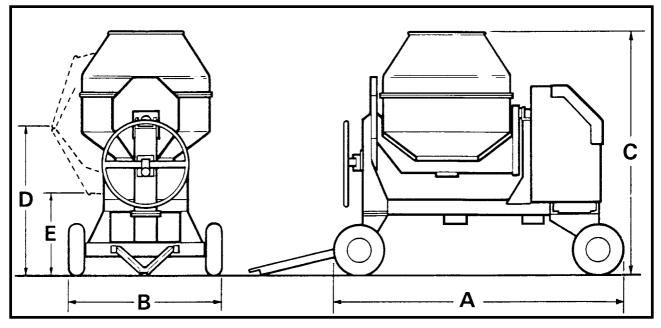
	Silicone sealant	(part number V2000772)
--	------------------	------------------------

#### **Engines and Motors**

Lister-Petter LT1/LV1-10	Yanmar L40/48 ARE-SE	Electric motors 240v
(Standard)	(Option)	(Option)
3 kW (4 hp) @ 1500 rpm	2.5kW (3.4hp) @ 3000 rpm	1.5 kW (2 hp) @ 1420 rpm

# **TECHNICAL INFORMATION**

### Dimensions



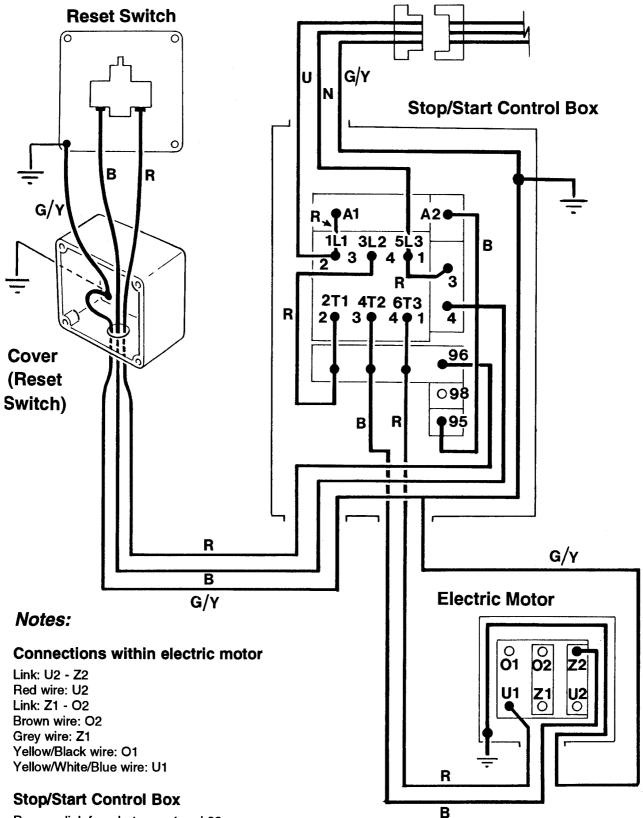
A Overall length	2208 mm
B Overall width	1320 mm
	1005 mm

- C Overall height 1825 mm
- **D** Loading height 1130 mm
- E Discharge height 660 mm
- -- Weight (approx) 600 kg

# **TECHNICAL INFORMATION**

#### Electrically driven mixers wiring circuit

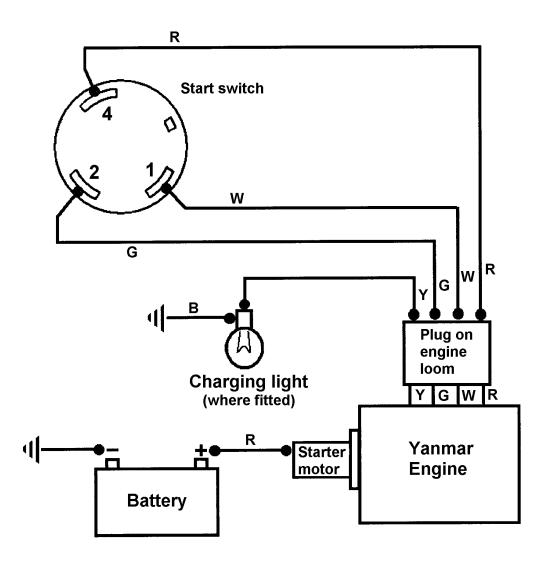
Electrical connections must only be made by a suitably qualified electrician.



Remove link from between 4 and 96

#### Yanmar L40/L48 ARE-SE key start wiring circuit

In addition to the circuit shown below, the engine is fitted with its own loom. (see Yanmar service literature)



Wire colours

**NOTE: Wire identification** 

much thicker than the red

wire to the start switch.

The red wire to the battery is

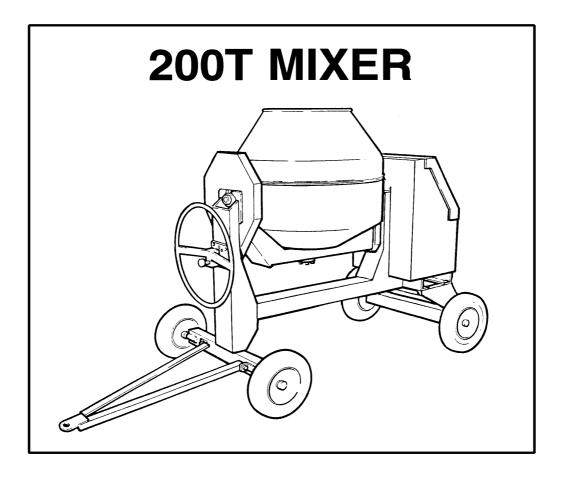
- R Red
- B Black
- G Green
- W White
- Y Yellow

# PARTS

# Mixers manufactured UP TO serial number T200DL0547 (November 1993)

# Mixers manufactured FROM serial number T200DL0548 (November 1993)

<<< TO BEGINNING OF BOOK



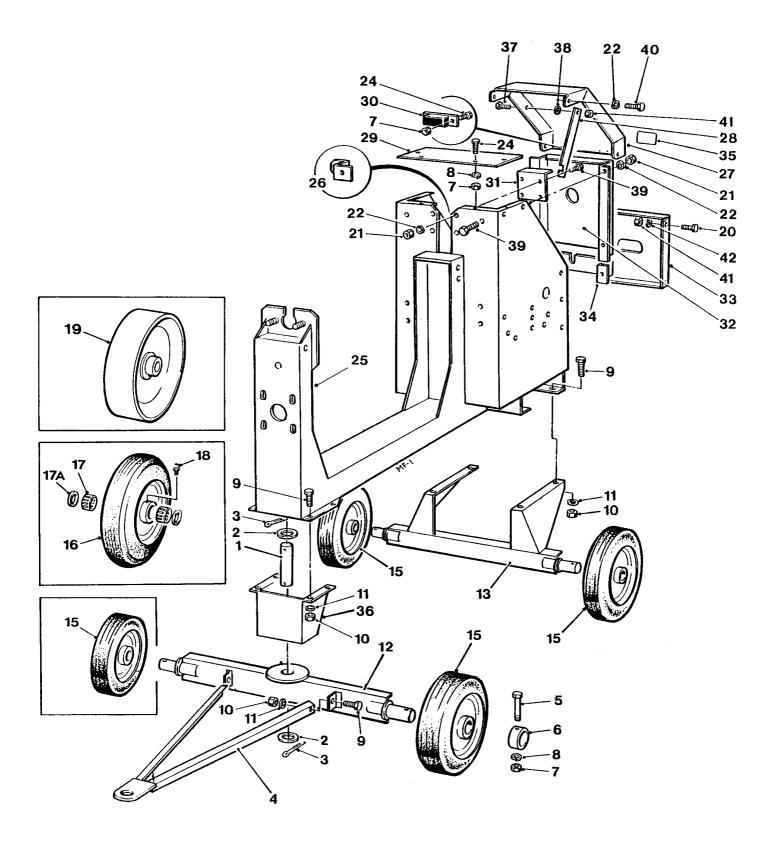
## Mixers manufactured up to serial number T200DL0547 (November 1993)

## CONTENTS

- A 1 MAINFRAME
- **B-1** DRUM & TRUNNION
- **C** 1 LISTER, drive assembly
- **C 2 PETTER, drive assembly**
- **C 3** ELECTRIC MOTOR, drive assembly
- **C 4** START/STOP SWITCHES, electric drive
- **D-1** DECALS & PLATES
- **D-3** SPECIAL TOOLS

**INDEX**, numerical

<<< TO BEGINNING OF PARTS



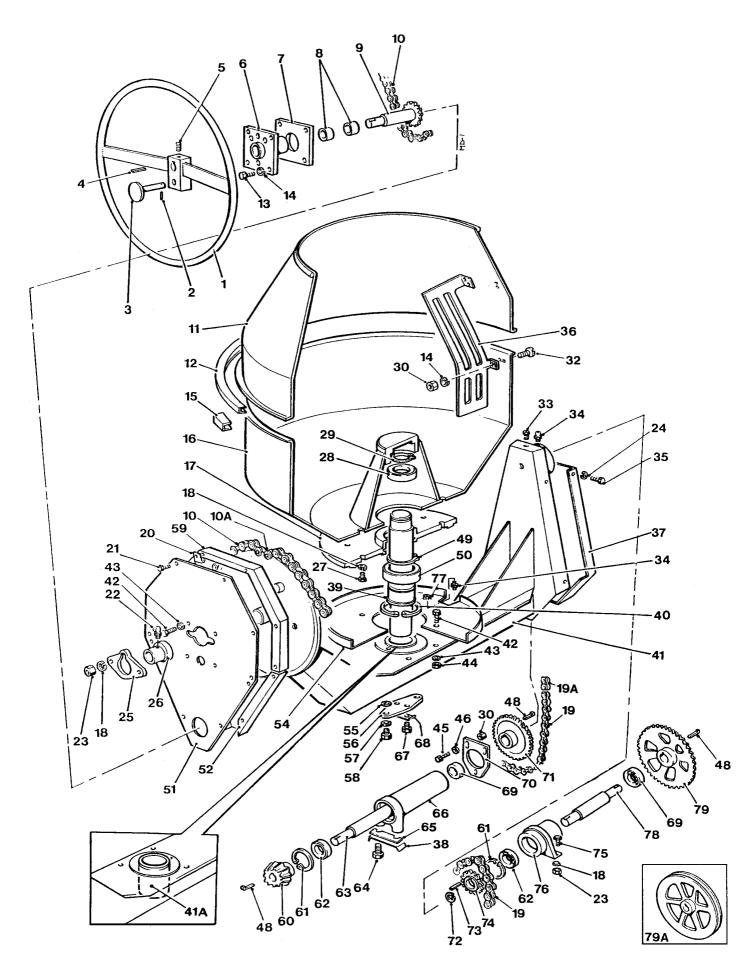
A - 1

#### MAINFRAME

A - 1

ltem	Part no	Serial no	Description	Qty
1	513315100	/ 0548	PIN, swivel	1
2	10S31		WASHER, flat	2
3	353308200		PIN, split	2
4	513315200		TOWBAR	1
5	63SO2K		BOLT	4
6	513324700		COLLAR, axle	4
7	7S02		NUT	10
8	17S03		WASHER, spring	8
9	1 1S05D		SCREW, set	10
10	61S05		NUT, self locking	10
11	267S07		WASHER, flat	10
12	513324900		AXLE, front	1
13	513325000		AXLE, rear	1
15	475115000		WHEEL, solid rubber, 16" x 4"	4
		Alternat	ive wheel arrangement	
16	475121000		WHEEL, pneumatic, 16" x 4" x 4 ply	4
	475121002		TYRE	1
	475121003		TUBE	1
17	475121001		BEARING, roller	1
17A	475122003		RETAINER	2
18	131S04		NIPPLE, grease	1
		Alternat	ive wheel arrangement	
19	513198500		WHEEL, pressed steel, 16" x 4"	4
20	11S03A		SCREW, set	4
21	7S03		NUT	10
22	17S04		WASHER, spring	12
24	11 S02A		SCREW, set	
25	513313100		MAINFRAME	1
26	513285000		BRACKET	1
27	513325500		LID, engine housing	1
28	513325800		STAY	1
29	513326000		PLATE	1
30	513205300		STOP, lid	2
31	513325900		PLATE	1
32	513248700		GUARD, chain	1
33	513325400		PLATE, closing	1
34			GUARD, pulley (see Drive Assy. page	s)
	504600900		DECAL	· 1
	513314700		BRACKET, swivel, front	1
37	11S03C		SCREW, set	1
38	267S05		WASHER, flat	1
39	11S03A		SCREW, set	10
40	11S04D		SCREW, set	2
41	7S03		NUT	5
	17S04		WASHER, spring	4

V601137 / Dec '93

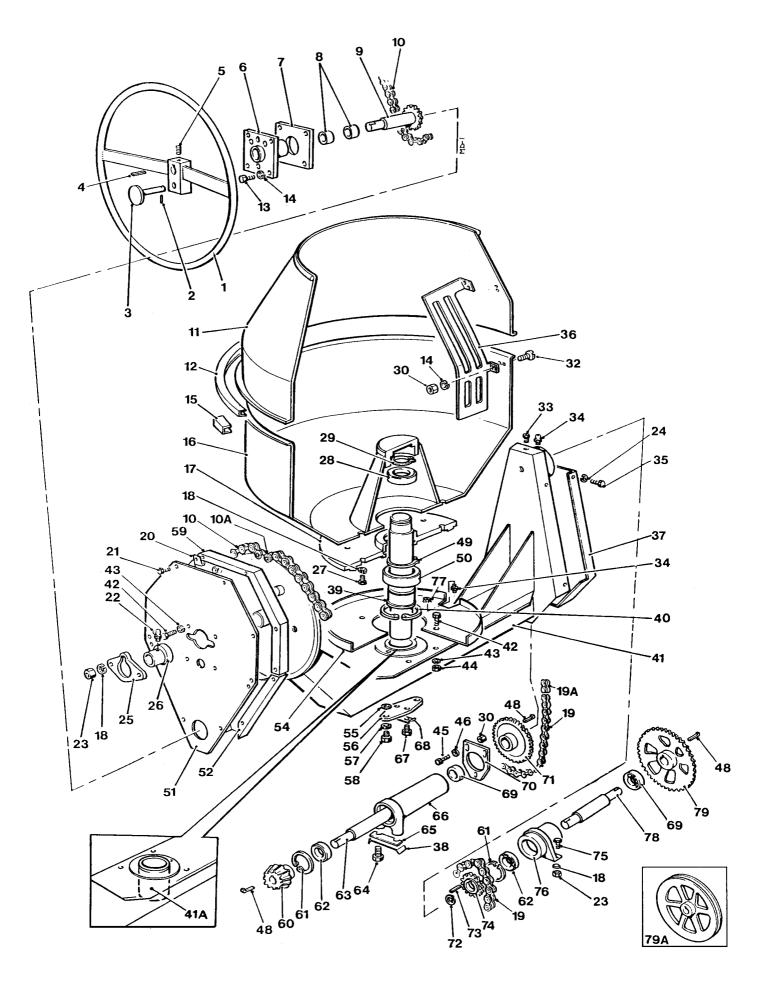


#### **DRUM & TRUNNION**

B - 1

Item	Part no	Serial no	Description	Qty
1	513315400	/ 0548	HANDWHEEL	1
2	352806100		PIN, mills	1
3	513194400		PLUNGER	1
4	304708040		KEY, feather	
5	403751016		SCREW, set	1
6	513315600		BEARING, handwheel	1
7	513315900		PLATE, backing	1
8	112803400		BUSH	2
9	513316000		SHAFT, tilting pinion	1
10	134105107		CHAIN, c/w connecting links	1
10A	134105002		LINK, connecting	2
11	513323902		DRUM TOP	1
12	513324100		DRUM CLIP	1
13	405101035		SCREW, set	4
14	17S05		WASHER, spring	4
15	513324200		BRIDGE PIECE	1
16	513324000		BASE, drum	1
17	513305200		GEAR, drum drive	1
18	17S06		WASHER, spring	10
19	134105070		CHAIN, c/w connecting link	1
	134105002		LINK, connecting	1
20	332719000		NUT, captive	10
	405100616		SCREW, set	10
22	333501020		NIPPLE, grease, 90 degree	1
	7S05		NUT	4
24	17S03		WASHER, spring	4
	513323800		PLATE, retaining	1
	513323700		INSERT	1
27	11 S05D		SCREW, set	6
	88S42D		BEARING	1
	132760000		CIRCLIP	1
	7S04		NUT	8
	17S05		WASHER, spring	8
32	402361025		SCREW	8
	315803100		PLUG, grease	1
34	333102020		NIPPLE, grease, straight	2
35	11 S02AA		SCREW, set	4
	513324300		BLADE, mixing	2
	513316600		GUARD, chain, trunnion	1
	513324400		WASHER, tab	1
	513310100		SHAFT, drum	1
	132313000		CIRCLIP	1
41	513308500	/ Dec 92	TRUNNION, (OBSOLETE: use 51	3354000)
41A	513309300	/ Dec 92	BOSS, shaft support (Fits trunn	
	540054000		513308500 only)	1
41	513354000	Jan 93 /	TRUNNION	1

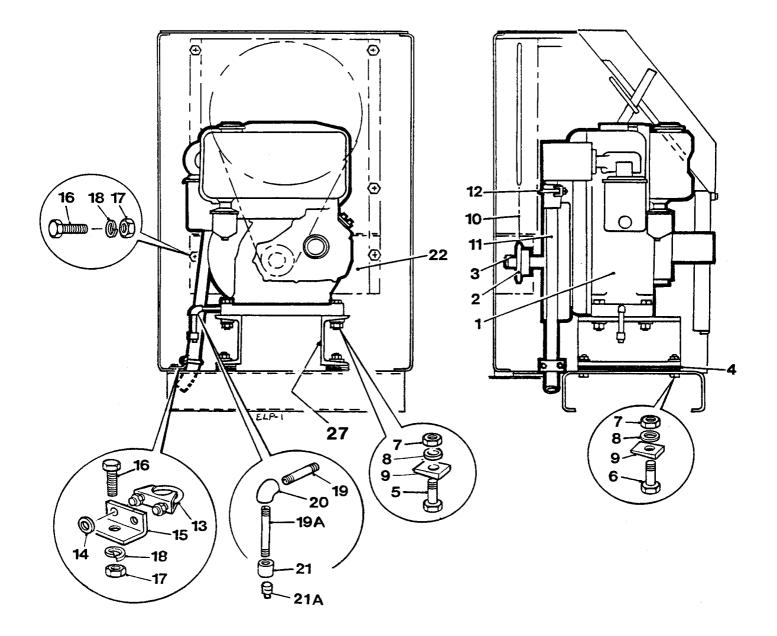
V601137 / Dec '93



#### **DRUM & TRUNNION**

B - 1	
-------	--

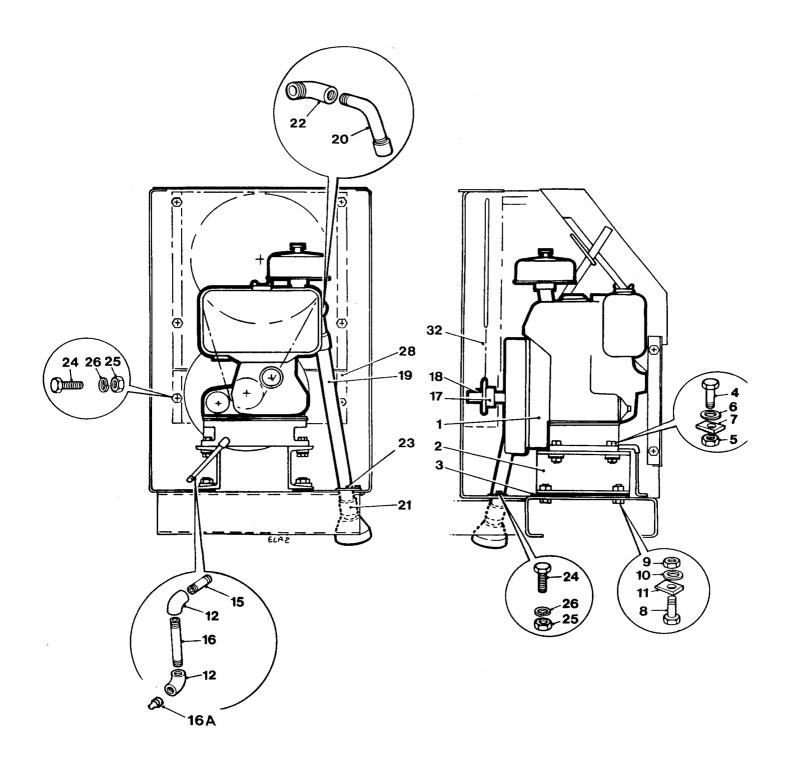
Item	Part no	Serial no	Description	Qty
40	110000	/ 05 49		0
	11S03B	/ 0548	SCREW, set	8
43	17S04		WASHER, spring	8
44 45	7S03		NUT SCREW, act	4
45 46	11S04B 17S05		SCREW, set WASHER, spring	2 2
	7S04		NUT	2
47	300110845		KEY, taper gib head	2
	132775000		CIRCLIP	
	88S45D		BEARING	1
	513313900		BACK PLATE, chain guard	1
	513316400		GUARD, chain	1
	513316500		GUARD, drum gear	1
55	12S26		WASHER, flat	AR
	513310600		FLANGE, drum shaft	1
57	17S08		WASHER, spring	2
58	11SO6H		SCREW, set	2
59	513316300		GUARD, upper tilt chain	1
	513310700		BEVEL PINION	1
61	132362000		CIRCLIP	. 1
	88S05D		BEARING	2
	513310300		SHAFT, bevel pinion	1
	11SO5H		SCREW, set	2
65	513152400		PACKING PIECE (set of 2)	set '
66	513305400		HOUSING, bevel pinion shaft	1
67	11SO6E		SCREW, set	2
68	513326300		WASHER, tab	1
69	88S15D		BEARING	2
70	513151900		PLATE, adjusting	1
71	513305300		CHAIN WHEEL, bevel pinion shaft	1
72	132725000		CIRCLIP	1
73	304708035		KEY, feather	1
74	513310500		SPROCKET, countershaft	1
75	11S05F		SCREW, set	2
76	513305500		BEARING, trunnion	1
77	72S09		NUT, welded	1
78	513310400		COUNTERSHAFT	1
79	513310800		CHAIN WHEEL, countershaft or	1
79A	513331800		PULLEY, vee, countershaft	1
	V2000772		SEALING COMPOUND, (Between items 11 & 16 on assy)	AR



#### DRIVE ASSEMBLY, LISTER

**C - 1** 

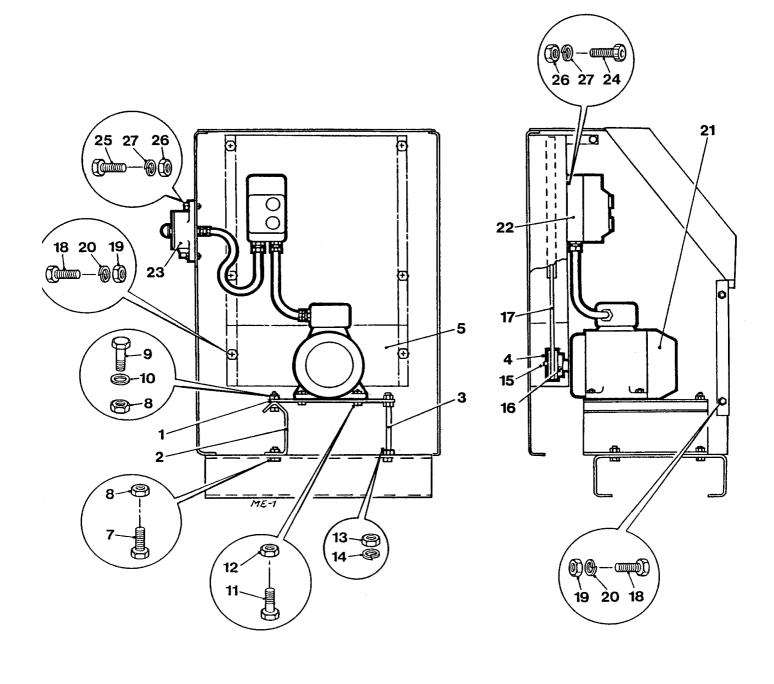
Item	Part no	Serial no	Description	Qty
1	354051000	/ 0548	ENGINE, LISTER LT1	1
2 3	513326400 300204160		SPROCKET, engine KEY, gib head	1 1
4	513248400		SHIMS	1 set
5 6 7 8 9	8S05J 8S05E 61S05 267S07 105S0S		BOLT BOLT NUT, locking WASHER, flat WASHER, taper	4 4 8 8 8
10 	134105095 134105002 134105001		CHAIN LINK, connecting LINK, half	1 1 AR
	513267500 354051005 153S01 267S04		PIPE, exhaust CLAMP, pipe CLAMP, pipe WASHER, flat	1 1 1 2
16	513337900 11S04B 7S04 17S05		BRACKET, exhaust SCREW, set NUT WASHER, spring	1 5 5 5
19A 20 21	513256500 513278200 241102000 241902000 241702000		PIPE, 2.5" long PIPE, 140mm long FITTING, elbow FITTING, straight female PLUG, oil drain	1 1 1 1
22	513266900		GUARD, sprocket	1
27	513267400		CHANNEL, engine mount, (LH & RH)	2



#### DRIVE ASSEMBLY, PETTER

#### **C - 2**

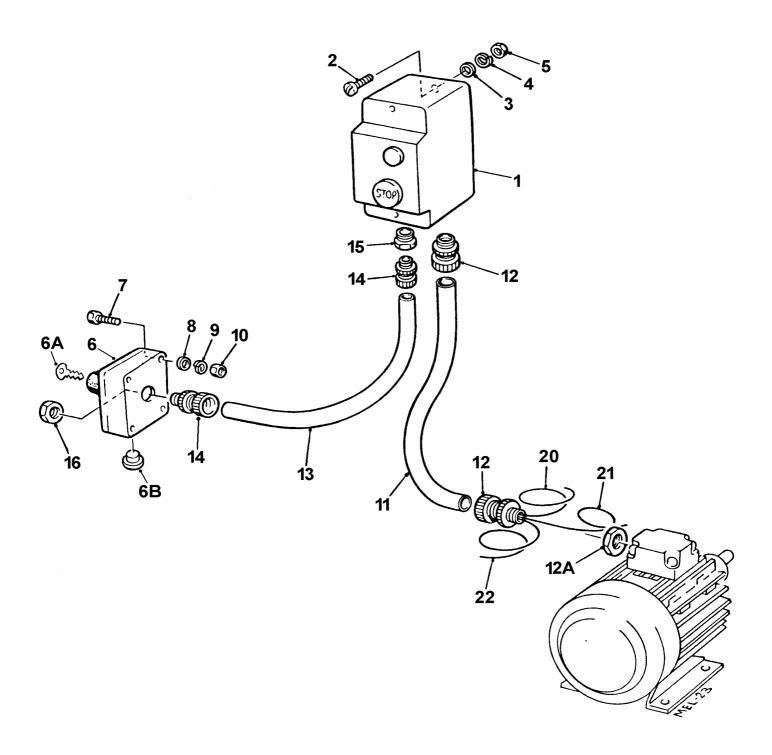
Item	Part no	Serial no	Description	Qty
1	354074900	/ 0548	ENGINE, PETTER AC1ZS	1
2	513267600		CHANNEL, engine mount	2
3	513248400		SHIMS	1 set
4	8S04E		BOLT	4
5	61S04		NUT, locking	4
6	267S06		WASHER, flat	4
7	105S04		WASHER, taper	4
8	8SO5F		BOLT	4
9	61S05		NUT, locking	4
10	267S07		WASHER, flat	4
11	105S05		WASHER, taper	4
12	241102000		FITTING, elbow, female	2
15	513278000		PIPE, 45mm long	1
16	513278200		PIPE, 140mm long	1
16A	241702000		PLUG, oil drain	1
17	513326400		SPROCKET, 15T, engine	1
18	300204160		KEY, gib head	1
19	513267700		PIPE, exhaust	1
20	240308000		BEND, 90 degree, male	1
21	241908000		SOCKET	1
22	240708000		FITTING, elbow, 90 degree, m/f	1
23	513326100		SUPPORT, exhaust pipe	1
24	11S04B		SCREW, set	3
25	7S04		NUT	3
26	17S05		WASHER, spring	3
28	513205700		GUARD, sprocket	1
32	134105094		CHAIN	1
	134105002		LINK, connecting	1
	134105001		LINK, half	AR



#### DRIVE ASSEMBLY, ELECTRIC

	- 3
--	-----

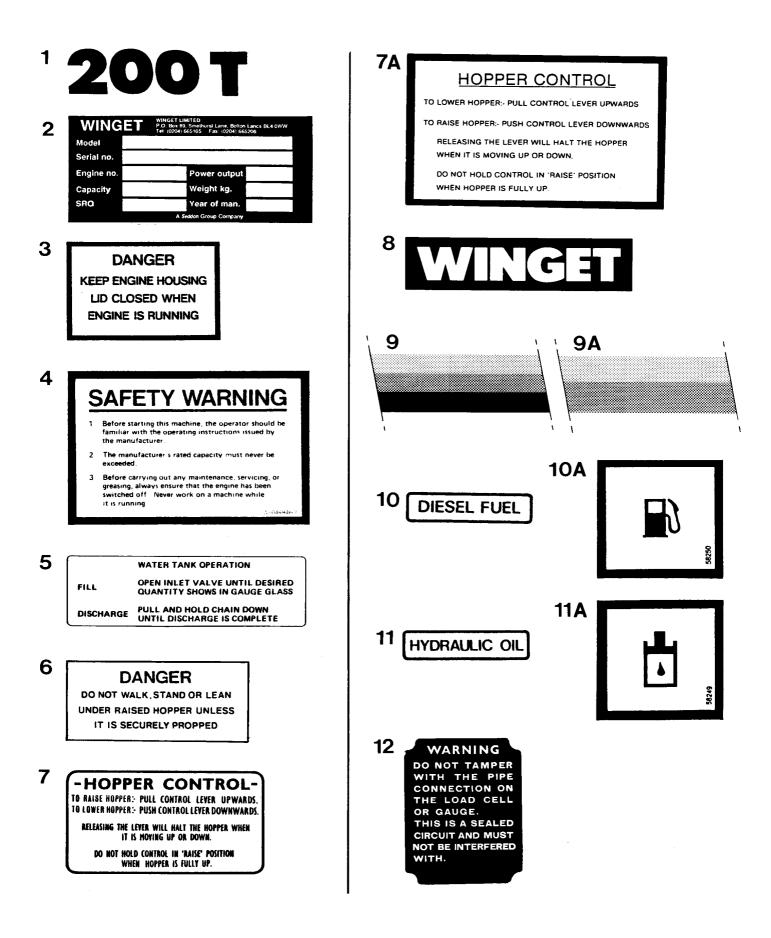
Item	Part no	Serial no	Description 0	Qty
1	513335900		PLATE, motor mounting	1
2	513336000		SUPPORT, motor mounting	1
3	513333100		STUD, motor adjusting	1
4	513333500		PULLEY, 'V'	1
5	513336100		GUARD, pulley	1
7	11S05D		SCREW, set	2
8	59S04		NUT, nylon insert	4
9	8S05E		BOLT	2
	267S07		WASHER, flat	2
11	11S04D		BOLT	4
12	59S03		NUT, nylon insert	4
13	7S05		NUT	4
14	17S06		WASHER, spring	4
15	304710840		KEY, parallel	1
16	57SO4D2		SCREW, socket, cone point	1
17	397400100		BELT 'V'	1
18	11S03A		SCREW	6
19	7S03		NUT	6
20	17S04		WASHER, spring	6
21	202438000		MOTOR	1
22			SWITCH, 'Start 1 Stop', (See page C - 4)	
23			SWITCH, 'stop' (See page C - 4)	
24			SCREW, (See page C - 4)	
25			SCREW, (See page C - 4)	
26			NUT, (See page C - 4)	
27			WASHER, (See page C - 4)	



#### SWITCHES & CABLES, Electric drive assembly

ltem	Part no	Serial no	Description	Qty
1 2 3 4 5	208392500 16SO6C 267S03 17S02 7S01		SWITCH, " Start / Stop SCREW WASHER, flat WASHER, spring NUT	1 2 2 2
6	205103400		SWITCH, " Stop " OBSOLETE: use 208880000	1
6	208870000	/ Oct-04	# SWITCH, stop, assembly # OBSOLETE: use 208880000	1
6A	V602651	/ Oct-04	KEY, stop switch	1
6   6A	208880000 208880000A 208880000B 208880000C V603623	Oct-04 / Oct-04 / Oct-04 / Oct-04 / Oct-04 /	SWITCH, stop, assembly MUSHROOM key reset, c/w keys CONTACTOR ENCLOSURE KEY, stop switch	1 1 1 2
6B	133470000		PLUG, stop switch casing	1
7 7	11S01C 11S01D	/ Oct-04 Oct-04 /	SCREW, set SCREW, set	2
8 9 10	267S03 17S02 7S01		WASHER spring WASHER, spring NUT	2 2 2
11 12 12A	131770010 131271000 133272000		TUBE, conduit, 20mm .75 COUPLING, 20mm NUT, locking	meter 2 1
13 14 15 16	131766010 131270000 131570016 133266050		TUBE, conduit, 16mm .75 COUPLING, 16mm FITTING, reducing NUT, locking	meter 2 1 1
20 21 22	144797000 144798000 144799000		CABLE, red(order by metCABLE, black(order by metCABLE, green/yellow(order by met	er) AR

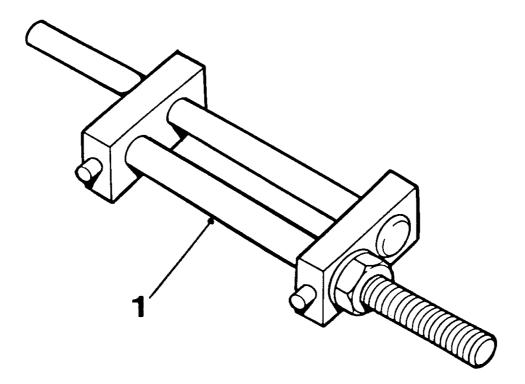
#### **D - 1**



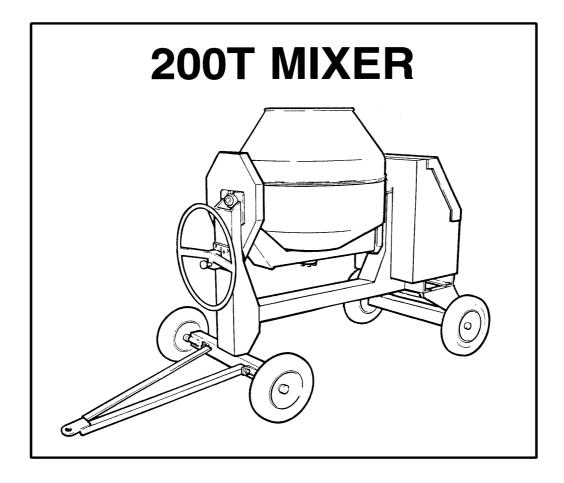
#### **DECALS & PLATES**

Item	Part no	Serial no Description	Qty
1	V2003110	200T	
2	10317A05	PLATE, serial (OBSOLETE: use V2003037)	
2	V2003037	PLATE, serial	
	15S01A	SCREW	
3	504600900	WARNING, engine housing	
4	504694600	WARNING, safety	
	513331500	WATER TANK OPERATION	
6	513331600	DANGER, hopper	
7	555153600	HOPPER CONTROL	
7A	555283500	HOPPER CONTROL	
8	V2003104	LOGO (OBSOLETE: use V2003039)	
	V2003039	LOGO, "WINGET"	
9	V2003103	STRIPE, bodywork, 3 colour (OBSOLETE:	
9	V2003103	use V2003038)	
9A	V2003038	STRIPE, bodywork, 2 colour	
10		DIESEL FUEL (OBSOLETE: use item I 0A	
	V2003101	DEISEL FUEL	
11 11 ۵	 V2003100	HYDRAULIC OIL (OBSOLETE: use item 11A) HYDRAULIC OIL	
	\$2000100		
	515175000	WARNING, loadcell	
	15S01A	SCREW	

D - 1



ltem	Part no	Serial no	Description	Qty
1	513204000		CLAMP, drum clip	1



# Numerical Index

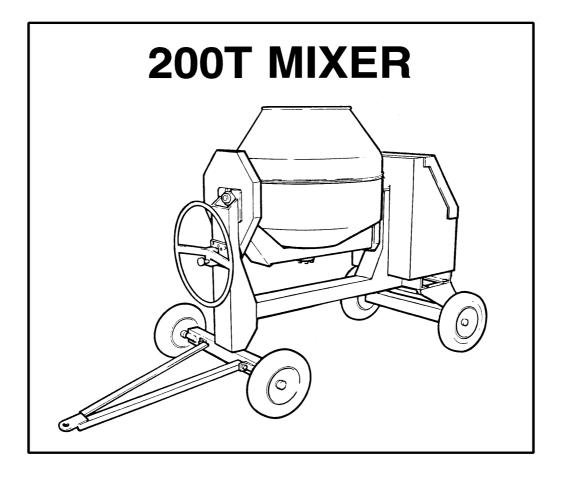
<<< TO BEGINNING OF SECTION

1

Part No.	Page	Part No.	Page	Part No.	Page
112803400	B - 1	241902000	C - 1	513198500	A - 1
131270000	C - 4	241908000	C - 2	513204000	D - 3
131271000	C - 4	300110845	B - 1	513205300	A - 1
131570016	C - 4	300204160	C - 1	513205700	C - 2
131766010	C - 4	300204160	C - 2	513248400	C - 1
131770010	C - 4	304708035	B - 1	513248400	C - 2
132313000	B - 1	304708040	B - 1	513248700	A - 1
132362000	B - 1	304710840	C - 3	513256500	C - 1
132725000	B - 1	315803100	B - 1	513266900	C - 1
132760000	B - 1	332719000	B - 1	513267400	C - 1
132775000	B - 1	333102020	B - 1	513267500	C - 1
133266050	C - 4	333501020	B - 1	513267600	C - 2
134105001	C - 1	352806100	B - 1	513267700	C - 2
134105001	C - 2	353308200	A - 1	513278000	C - 2
134105002	B - 1	354051000	C - 1	513278200	C - 1
134105002	C - 1	354051005	C - 1	513278200	C - 2
134105002	C - 2	354074900	C - 2	513285000	A - 1
134105070	B - 1	397400100	C - 3	513305200	B - 1
134105094	C - 2	402361025	B - 1	513305300	B - 1
134105095	C - 1	403751016	B - 1	513305400	B - 1
134105107	B - 1	405100616	B - 1	513305500	B - 1
144797000	C - 4	405101035	B - 1	513310100	B - 1
144798000	C - 4	475115000	A - 1	513310300	B - 1
144799000	C - 4	475121000	A - 1	513310400	B - 1
202438000	C - 3	475121001	A - 1	513310500	B - 1
205103400	C - 4	475121002	A - 1	513310600	B - 1
208392500	C - 4	475121003	A - 1	513310700	B - 1
208870000	C - 4	475122003	A - 1	513310800	B - 1
240308000	C - 2	504600900	A - 1	513313100	A - 1
240708000	C - 2	504600900	D - 1	513313900	B - 1
241102000	C - 1	504694600	D - 1	513314700	A - 1
241102000	C - 2	513151900	B - 1	513315100	A - 1
241702000	C - 1	513152400	B - 1	513315200	A - 1
241702000	C - 2	513194400	B - 1	513315400	B - 1

Part No.	Page	Part No.	Page	Part No.	Page
513315600	B - 1	513336100	C - 3	17S02	C - 4
513315900	B - 1	513337900	C - 1	17S03	A - 1
513316000	B - 1	515175000	D - 1	17S03	B - 1
513316300	B - 1	555153600	D - 1	17S04	A - 1
513316400	B - 1	555283500	D - 1	17S04	B - 1
513316500	B - 1	10317A05	D - 1	17S04	C - 3
513316600	B - 1	105S04	C - 2	17S05	B - 1
513323700	B - 1	105S05	C - 2	17S05	C - 1
513323800	B - 1	105S0S	C - 1	17S05	C - 2
513323902	B - 1	10S31	A - 1	17S06	B - 1
513324000	B - 1	11S02A	A - 1	17S06	C - 3
513324100	B - 1	11S02AA	B - 1	17S08	B - 1
513324200	B - 1	11S05D	B - 1	267S03	C - 4
513324300	B - 1	11S01C	C - 4	267S04	C - 1
513324400	B - 1	11S03A	A - 1	267S05	A - 1
513324700	A - 1	11S03A	C - 3	267S06	C - 2
513324900	A - 1	11S03B	B - 1	267S07	A - 1
513325000	A - 1	11S03C	A - 1	267S07	C - 1
513325400	A - 1	11S04B	B - 1	267S07	C - 2
513325500	A - 1	11S04B	C - 1	267S07	C - 3
513325800	A - 1	11S04B	C - 2	513308500	B - 1
513325900	A - 1	11S04D	A - 1	513309300	B - 1
513326000	A - 1	11S04D	C - 3	513354000	B - 1
513326100	C - 2	11S05D	A - 1	56S07	C - 4
513326300	B - 1	11S05D	C - 3	57S04D2	C - 3
513326400	C - 1	11S05F	B - 1	59S03	C - 3
513326400	C - 2	11SO5H	B - 1	59S04	C - 3
513331500	D - 1	11SO6E	B - 1	61S04	C - 2
513331600	D - 1	11SO6H	B - 1	61S05	A - 1
513331800	B - 1	12S26	B - 1	61S05	C - 1
513333100	C - 3	131S04	A - 1	61S05	C - 2
513333500	C - 3	153S01	C - 1	63SO2K	A - 1
513335900	C - 3	15S01A	D - 1	72S09	B - 1
513336000	C - 3	16SO6C	C - 4	7S01	C - 4

Part No.	Page
7S02	A - 1
7S03	A - 1
7S03	B - 1
7S03	C - 3
7S04	B - 1
7S04	C - 1
7S04	C - 2
7S05	B - 1
7S05	C - 3
88S05D	B - 1
88S42D	B - 1
88S45D	B - 1
8S04E	C - 2
8S05E	C - 1
8S05E	C - 3
8S05J	C - 1
8SO5F	C - 2
V2000772	B - 1
V2003037	D - 1
V2003038	D - 1
V2003039	D - 1
V2003100	D - 1
V2003101	D - 1
V2003103	D - 1
V2003104	D - 1
V2003110	D - 1



## Mixers manfactured from serial number T200DL0548 (November 1993)

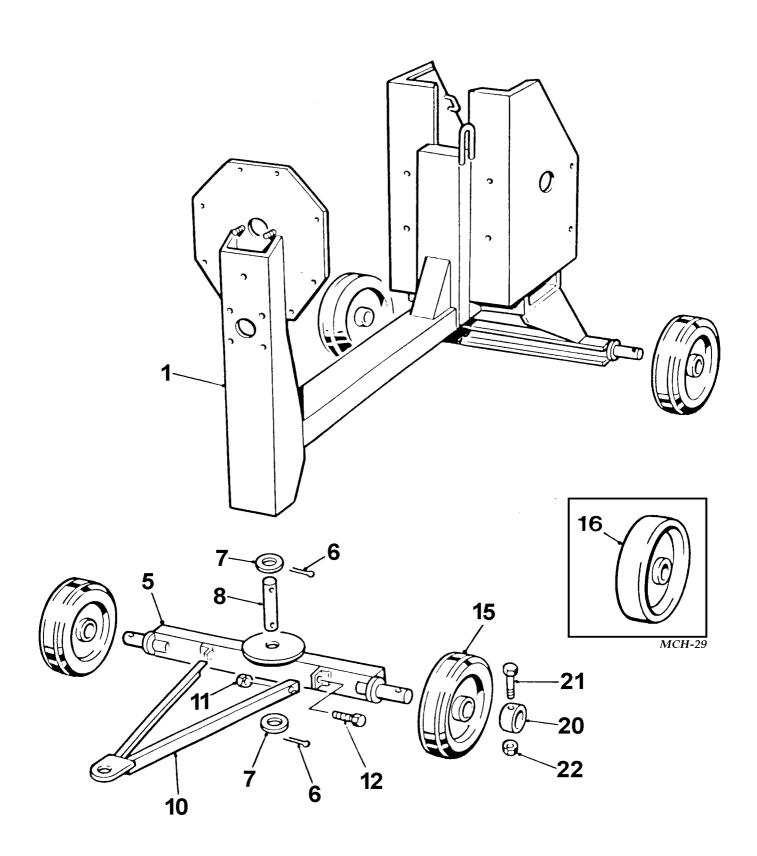
### **CONTENTS**

- A 1 MAINFRAME & FRONT AXLE
- A-2 PANELS
- **B-1** DRUM
- **B-2** TRUNNION & TILT WHEEL
- **B-3** DRUM DRIVE
- **C** 1 LISTER- PETTER LT1-10/LV1-10, engine
- **C 2 ELECTRIC MOTOR, drive assembly**
- **C 3** START / STOP SWITCHES, electric drive mixer
- **C 5** YANMAR L40/L48, electric start engine
- **C 6** ELECTRICS for Yanmar engine
- **D-1** DECALS & PLATES
- **D-2** SPECIAL TOOLS
- ..... INDEX, numerical

<<< TO BEGINNING OF PARTS

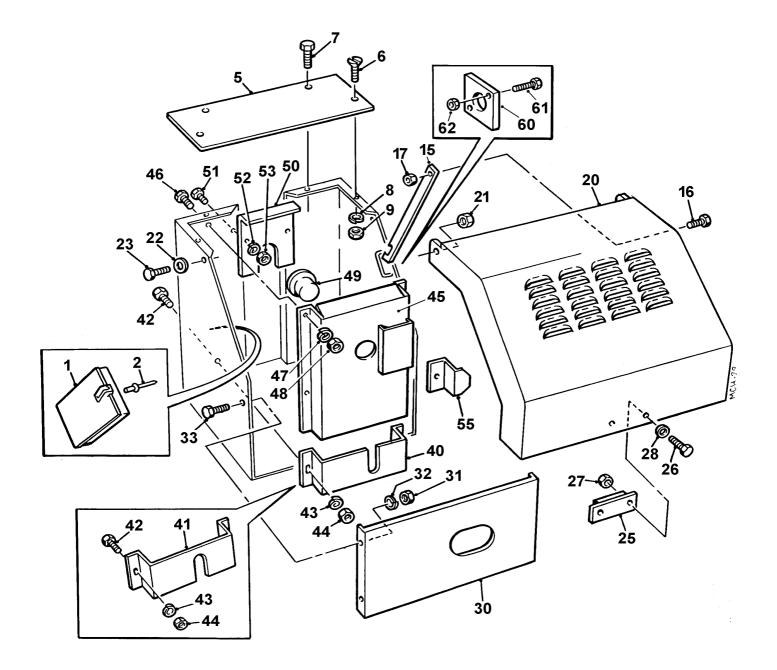
200T Mixer





#### MAINFRAME & FRONT AXLE

Item	Part no	Serial no	Description	Qty
				<u>_</u>
1	513357100		MAINFRAME	1
5	513324900		AXLE, front	1
6	353308200		PIN, split	2
7	10S31		WASHER, flat	2
8	513315100		PIN, swivel	1
10	513315200		BAR, towing	1
11	61S05		NUT, self-locking	2
12	11S05D		SCREW, set	2
15	475115000		WHEEL, solid rubber	4
			or	
16	513198500		WHEEL, steel	4
			,	
20	513324700		COLLAR	4
21	8S02H		BOLT	4
22	61S02		NUT, self-locking	4
			-	

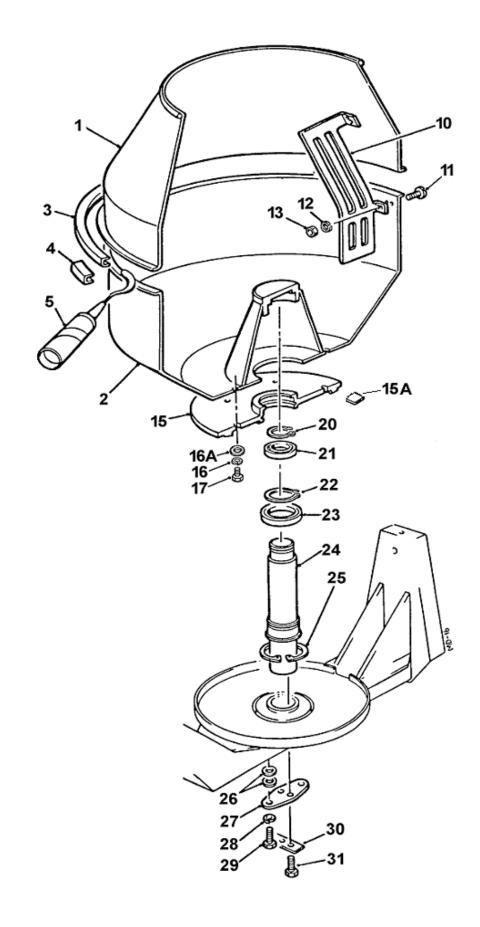


#### PANELS

#### A - 2

Item	Part no	Serial no	Description	Qty
1	V2003568	<i>(year) /</i> 1993	BOX, document (document box now welded to item 45)	1
2	101S07E	<i>(year) /</i> 1993	RIVET	2
5	513326000		PLATE	1
6	52S02C		SCREW, counter sunk head	2
7 8	11S03A 17S04		SCREW, set WASHER, spring	2 4
9	7S03		NUT	4
15	513325800		STRUT, cover support	1
16	11S03D		SCREW, set	1
17	61S03		NUT, self-locking	1
20	513325500		COVER, engine/electric motor	1
21 22	7S04 267S06		NUT WASHER, flat	2 2
23	11S04E		SCREW, set	2
25	513205300		STOP, lid	1
26	11S02A		SCREW, lid	2
27	61S02		NUT, self-locking	2
28	267S04		WASHER, flat	2
30	513325400		PLATE	1
31	7S03			4
32 33	17S04 11S03A		WASHER, spring SCREW, set	4 4
40	513266900		GUARD, sprocket (diesel engines)	1
41	513336100		GUARD, sprocket (electric motors)	1
42	11S04B		SCREW, set	2
43	17S05		WASHER, spring	2
44	7S04		NUT GUARD chain/belt	2
45 46	513248700 11S04B		SCREW, set	1 4
47	17S05		WASHER, spring	4
48	7S04		NUT	4
49	241859000		PLUG	1
50 51	513354600		PLATE	1
51	11S02A 17S03		SCREW, set WASHER, spring	2 2
53	7S02		NUT	2
55	513285000	<i>(year) /</i> Aug-94	BRACKET, starting handle stowage (bracket now welded to engine housing)	1 )
60	513362600	0844 /	PLATE (with Yanmar engines)	1
61	11S02C	0844 /	SCREW, set (with Yanmar engines)	2
62	61S02	0844 /	NUT, Binx (with Yanmar engines)	2

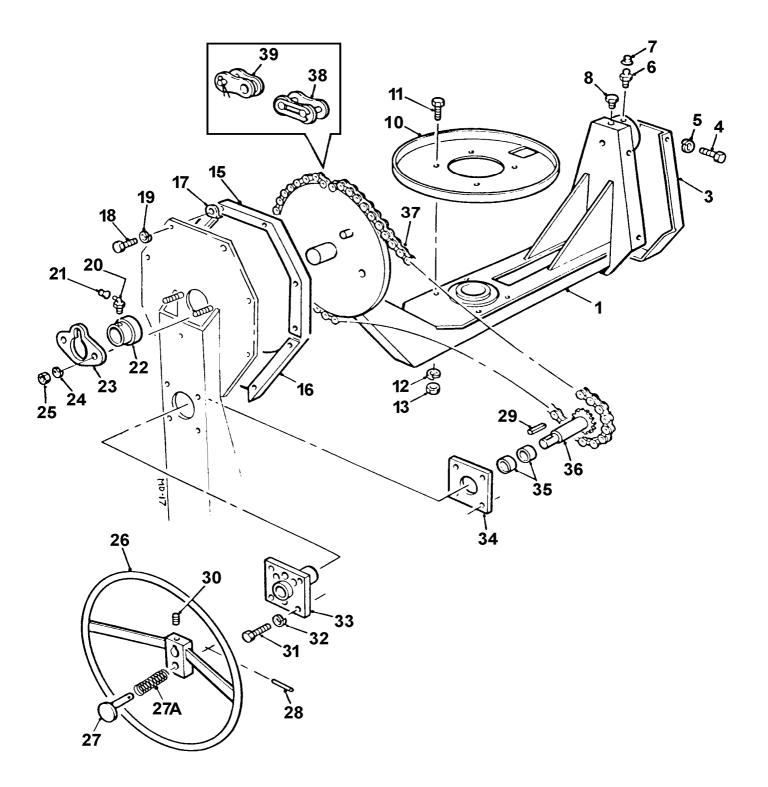
200T Mixer



ltom	Part no	Carial no	Description	0414
Item	Part no	Serial no	Description	Qty
1	513323902		DRUM, top	1
	513324000		DRUM, base	1
	513324100		CLIP, drum	1
	513324200		BRIDGE PIECE	1
	V2000772		ADHESIVE, flexible	tube 1
			,	
10	513324300		BLADE	2
11	16S09D		SCREW, slottted panhead	8
12	17S05		WASHER, spring	8
13	7S04		NUT	8
15	513305200		GEAR, drum drive	1
	513371201		PACKER, shim, 0.5mm	AR
	513371202		PACKER, shim, 1.0mm	AR
	513371203		PACKER, shim, 2.0mm	AR
	17S06		WASHER, spring	6
	267S07		WASHER, flat	6
17	11S05D		SCREW, set	6
20	132760000		CIRCLIP	1
	88S42D		BEARING	1
22	132775000		CIRCLIP	1
23	88S45D		BEARING	1
24	513310100		SHAFT, drum	1
25	132313000		CIRCLIP	1
26	267S09		WASHER, flat, thick 3mm	AR
26A	267S20		WASHER, flat, thin 2mm	AR
26B			WASHER, shim, 0.5mm	AR
26C			WASHER, shim, 1.0mm	AR
	513310600		PLATE	1
28			WASHER, spring	2
29			SCREW, set	2
30	513326300		WASHER, locking strip	1
31	11S06E		SCREW, set	2

**B - 2** 

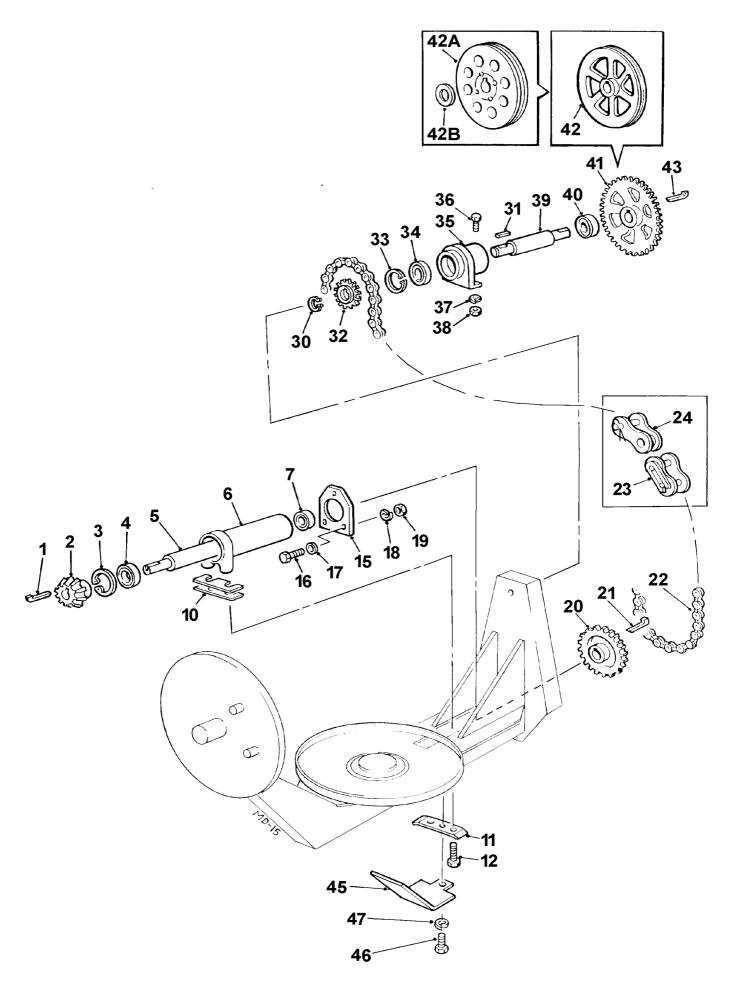
200T Mixer



#### **TRUNNION & TILT WHEEL**

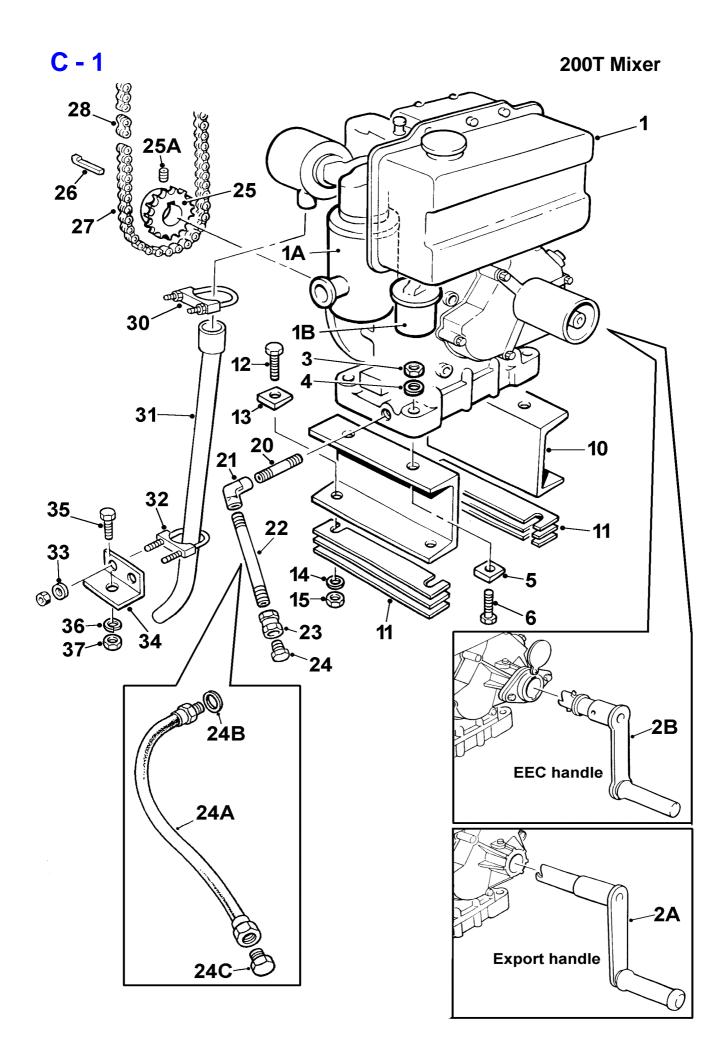
ltem	Part no	Serial no	Description	Qty
1	513354000		TRUNNION	1
3	513316600		COVER, rear	1
4	11S02AA		SCREW, set	4
5	17S03		WASHER, spring	4
6	131S01		NIPPLE, grease	1
7	176S01		CAP, nipple	1
8	315803100		NIPPLE, grease	1
	513316500		GUARD, drum gear	1
11	11S03B		SCREW, set	4
12	17S04		WASHER, spring	4
13	7S03		NUT	4
	513316300		GUARD, upper	1
	513316400		GUARD, lower	1
17			NUT, captive	10
18 19	11S02C 17S03		SCREW, set	10 10
19	17505		WASHER, spring	10
20	131S02		NIPPLE, grease, 900	1
21	176S01		CAP, nipple	1
	513323700		INSERT	1
	513323800		PLATE	1
24			WASHER, spring	2 2
25 26	7S05 513315400		NUT WHEEL, tilt	2
	513194400		PLUNGER, locking	1
	513345300	July-03 /	SPRING	1
	54S01A		PIN, roll	1
	304710840		KEY, rectangular feather	1
30	57S06F1		SCREW, grub	1
31	11S04E		SCREW, set	4
32	17S05		WASHER, spring	4
33			BEARING, tilt wheel	1
	513315900		PLATE	1
35	112803400		BUSH	2
36			SHAFT, tilt wheel	1
	134105107		CHAIN, tilt wheel	1
38 39	134105002 134105001		LINK, connecting LINK, half	2 AR
29	134103001		LINN, Hall	AK

#### 200T Mixer



#### DRUM DRIVE

Item	Part no	Serial no	Description	Qty
1 2 3 4 5 6 7	300110845 513310700 132362000 88S05D 513310300 513305400 88S15D		KEY, taper gib PINION CIRCLIP BEARING SHAFT HOUSING BEARING	1 1 1 1 1
10 11 12	513152400 513324400 11S05H		SHIM, pack WASHER, locking strip SCREW, set	set 1 1 2
15 16 17 18 19	513298900 11S04C 267S06 17S05 7S04		PLATE SCREW, set WASHER, flat WASHER, spring NUT	1 2 2 2 2
20 21	513305300 300110845		SPROCKET KEY, taber gib	1 1
	134105070 134105002 134105001		CHAIN LINK, connecting LINK, half	1 1 1
31 32 33 34 35 36 37 38 39	132725000 304708035 513310500 132362000 88S05D 513305500 11S05F 17S06 7S05 513310400 88S15D		CIRCLIP KEY, rectangular feather SPROCKET CIRCLIP BEARING HOUSING SCREW, set WASHER, spring NUT SHAFT, counter BEARING	1 1 1 1 2 2 1 1
41	513310800		SPROCKET, (Lister-Petter engines) or	1
42	513331800		PULLEY, (electric motors) or	1
	371123000 10S09		PULLEY, (Yanmar engines) WASHER, flat	1 1
43	300110845		KEY, gib head	1
46	513211800 66S03AA 41S05		GUARD, bevel pinion SCREW, set WASHER, spring	1 1 1



#### LISTER-PETTER LT1/LV1-10 engine

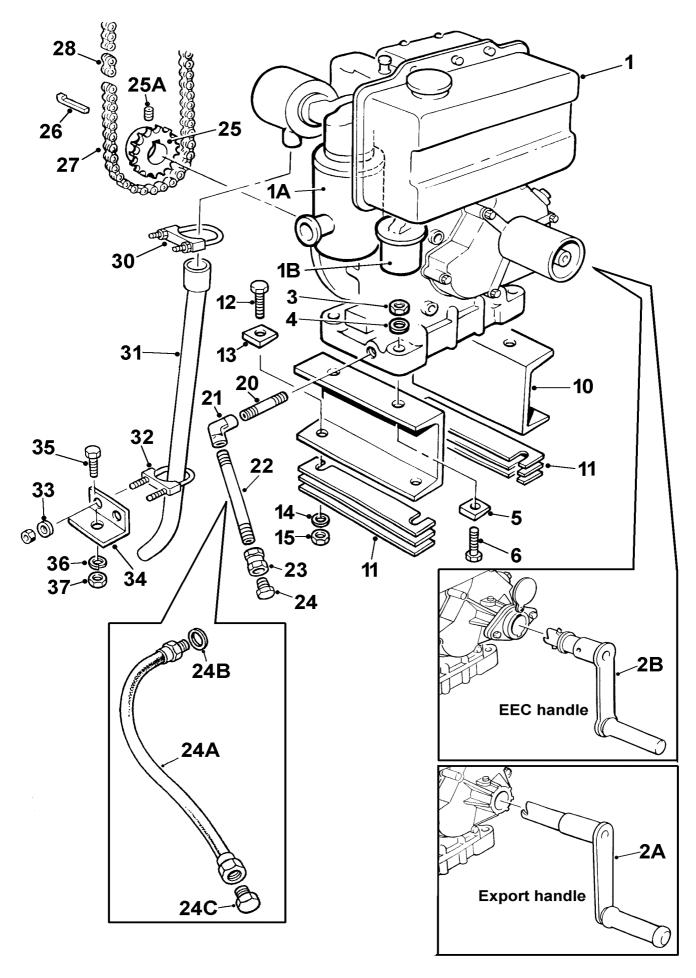
Item	Part no	Serial no	Description	Qty
1	354051000	/ 1013	ENGINE, LT1-10 "Export" without anti kickback	1
1	354051000	1014 / ENGINE, LV1-10 "Export" without anti kickback		1
1	354054100	/ 1013	ENGINE, LT1-10 "UK/EEC" with anti kickback	1
1	354054100	1014 /	ENGINE, LV1-10 <i>"UK/EEC" with anti kickback</i>	1
1A	EL60131350		FILTER, air	1
1B	EL20113118		FILTER, fuel	1
2A			HANDLE, engine starting "Export", without anti kick back	1
2B			HANDLE, engine starting "UK/EEC", with anti kick back	1

#### *NOTE:* ENGINE CHANGE Lister-Petter LT1-10 to LV1-10

Late in 2003 the Lister-Petter LT1-10 was superseded by the LV1-10. The engines as complete assemblies are interchangeable as are consumable items such as filters etc. Major items such as fuel injection pump, cylinder and piston, crankshaft, and conrod are different and when ordering spares it is important to quote the engine type.

3	61S05		NUT, "Binx", self-locking	4
4	267S07		WASHER, flat	4
5	105S05		WASHER, tapered	4
6	8S05J		BOLT	4
10	513267400		CHANNEL, engine mount	2
11	513248400		SHIMS	(set) 1
12	8S05E		BOLT	4
13	105S05		WASHER, tapered	4
14	267S07		WASHER, flat	4
15	61S05		NUT, "Binx", self-locking	4
20	513256500	/ 0609	PIPE, 63mm long	1
20	513359700	0610 / 0969	PIPE, 60mm long	1
21	241102000	/ 0609	FITTING, elbow	1
21	241104000	0610 / 0969	FITTING, elbow	1
22	513278200	/ 0609	PIPE, 140mm long	1
22	513359800	0610 / 0969	PIPE, 125mm long	1

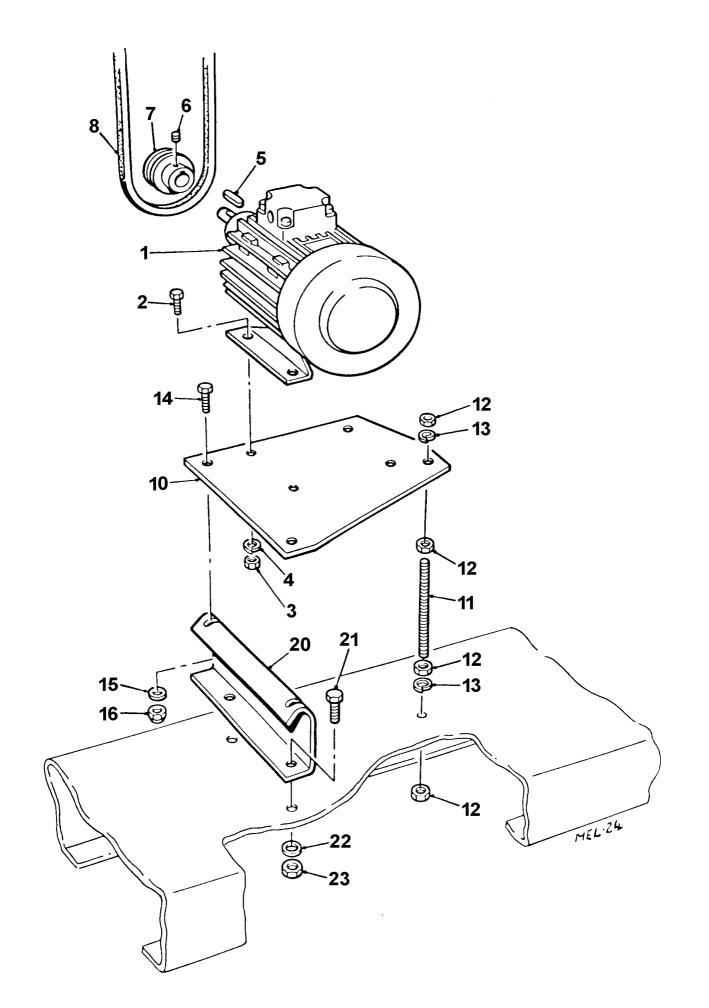
**C** - 1



# LISTER-PETTER LT1/LV1-10 engine

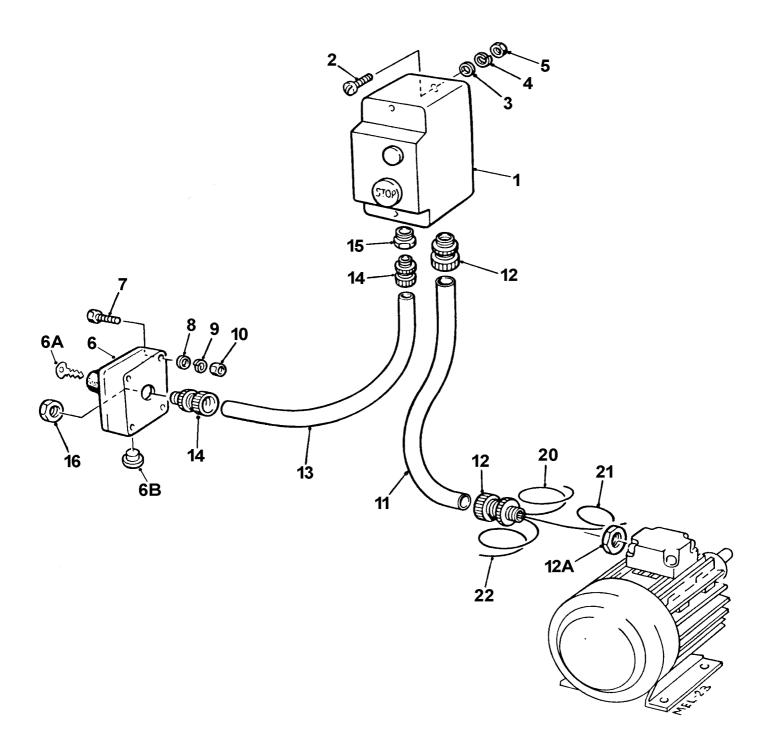
ltem	Part no	Serial no	Description	Qty
23	241902000	/ 0609	FITTING, straight, female	1
23	241904000	0610 / 0969	FITTING, straight, female	1
24		/ 0969	PLUG, oil drain (See Eng. Parts Cat.)	1
24A	513362800	0970 /	HOSE, flexable	1
24B	100S04	0970 /	SEAL, bonded	1
24C	127S04	0970 /	PLUG, blanking, oil drain	1
25	513326400		SPROCKET	1
25A	57S05D2		SCREW, grub	1
26	300204160		KEY	1
27	134105095		CHAIN	1
28	134105002		LINK, connecting	1
	134105001		LINK, half	AR
30	354051005		CLAMP, exhaust	1
31	513267500		PIPE, exhaust	1
32	153S01		CLAMP, exhaust	1
33	267S04		WASHER, flat	2
-	513337900		BRACKET	1
35	11S04B		SCREW, set	1
36	17S05		WASHER, spring	1
37	7S04		NUT	1

**C - 2** 



# **DRIVE ASSEMBLY, electric**

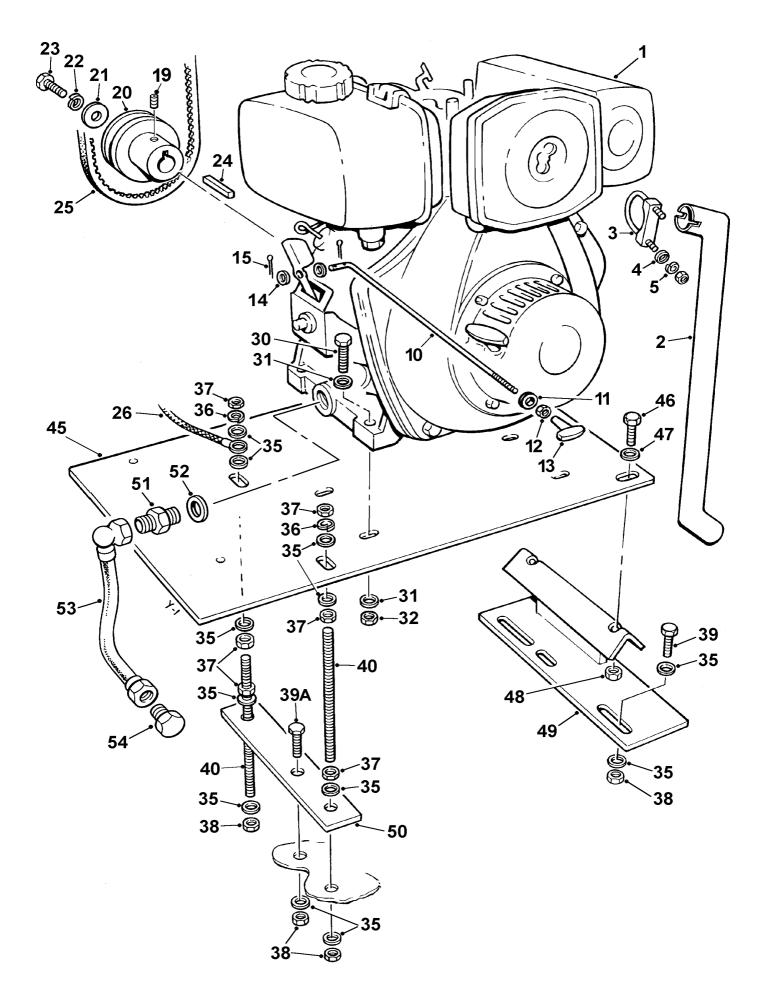
ltem	Part no	Serial no	Description	Qty
1	202438000		MOTOR, electric	1
2	11S04D		SCREW, set	4
3	7S04		NUT	4
4	17S05		WASHER, spring	4
5	304710840		KEY, parallel	1
6	57S04D2		SCREW, grub	1
7	513333500		PULLEY, vee	1
8	397400100		BELT, vee	1
10	513335900		PLATE, motor mounting	1
11	513333100		STUD	1
12	7S05		NUT	4
13	17S06		WASHER, spring	2
14	8S05E		BOLT	2
15	267S07		WASHER, flat	2
16	59S04		NUT, nylon insert	2
20	513336000		SUPPORT, motor mounting	1
21	11S05D		SCREW, set	2
22	267S07		WASHER, flat	2
23	59S04		NUT, nylon insert	2



## START / STOP SWITCHES, electric drive mixers

ltem	Part no	Serial no	Description	Qty
				1
1	208392500		SWITCH, "Start / Stop"	2
2	16S06C		SCREW	2
3	267S03		WASHER, flat	2
4	17S02		WASHER, spring	
5	7S01		NUT	2
6	208870000	/ Oct-04	# SWITCH, stop, assembly # OBSOLETE: use 208880	1 <b>000</b>
6A	V602651	/ Oct-04	KEY, stop switch	1
6	208880000	Oct-04 /	SWITCH, stop, assembly	1
	208880000A	Oct-04 /	MUSHROOM key reset	t, c/w keys 1
	208880000B	Oct-04 /	CONTACTOR	1
	208880000C	Oct-04 /	ENCLOSURE	1
6A	V603623	Oct-04 /	KEY, stop switch	2
6B	133470000		PLUG, stop switch casing	1
7	11S01C	/ Oct-04	SCREW, set	2
7	11S01D	Oct-04 /	SCREW, set	
8	267S03		WASHER, flat	2
9	17S02		WASHER, spring	2
10	7S01		NUT	2
11	131770010		TUBE, conduit, 20mm	.75 metre
12	131271000		COUPLING, 20mm	2
12A			NUT, locking	1
13	131766010		TUBE, conduit, 16mm	.75 metre
14	131270000		COUPLING, 16mm	2
15	131570016		FITTING, reducing	1
16	133266050		NUT, locking	1
20	144797000		CABLE, red	order by metre
21	144798000		CABLE, black	order by metre
22	144799000		CABLE, green/yellow	order by metre

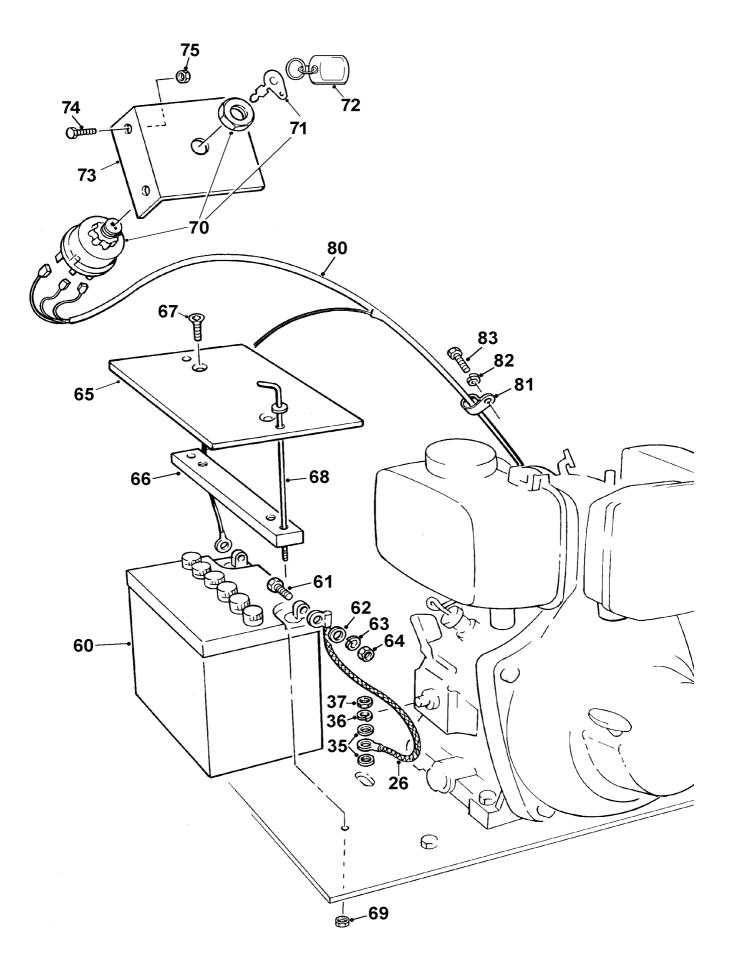
**C - 5** 



# YANMAR L40/L48 ARE-SE (electric start)

## Engine & mounts

Item	Part no	Serial no	Description	Qty
	Note:	For Battery, start s	witch & loom, see page C-6	
1	V2005210	0844 /	ENGINE, Yanmar L40/L48 ARE-SE	1
2 3 4 5	513361600 153S02 267S04 17S03		PIPE, exhaust CLAMP, exhaust WASHER, flat WASHER, spring	1 1 1 1
10	513362300	/ 0996	ROD, engine stop	1
11 12 13 14 15	254820000 7S02 V2005213 267S04 44S02B	/ 0996 / 0996 / 0996 / 0996 / 0996	GROMMET, open <i>(Fitted in eng. cover)</i> NUT HANDLE, 'T', engine stop WASHER, flat PIN, split	1 1 2 2
19 20	57S04D2 V2005220		SCREW, grub PULLEY	1 1
21 22 23 24	V2004220 17S04 11S03D 305110550		WASHER, 'Special' WASHER, spring SCREW, set KEY, parallel	1 1 1 1
25	397400500		BELT, 'V'	1
26			CABLE, negative (See page C-6)	1
30 31 32	8S03D 267S05 61S03		BOLT WASHER, flat NUT, self- locking "Binx"	4 8 4
35 36 37 38	267S07 17S06 7S05 61S05		WASHER, flat WASHER, spring NUT NUT, self- locking "Binx"	14 2 6 5
39 40	11S05D 513333100		SCREW, set STUD	3 2
45	513361800		PLATE, engine mounting	1
46 47 48 49	8S04D 267S06 61S04 513358800		BOLT WASHER, flat NUT, self- locking "Binx" SUPPORT, bracket	2 2 2 1
50	513362500		BAR, engine mount	1
51 52 53 54	325S04 298S05 31S02LL 127S03	0996 / 0996 / 0996 / 0996 /	ADAPTOR, male/male SEAL, bonded HOSE, engine oil drain PLUG, blanking	1 1 1 1



# YANMAR L40/L48 ARE-SE (electric start)

## Battery, start switch & loom

Item	Part no	Serial no	Description	Qty
26	V2005211	0844 /	CABLE, negative	1
35	267S07		WASHER, flat	2
36	17S06		WASHER, spring	1
37	7S05		NUT	1
60	109S11		BATTERY, 12 volt	1
61	11S02B		SCREW, set	1
62	267S04		WASHER, flat	1
63	17S03		WASHER, spring	1
64	7S02		NUT	1
65	513362000		COVER, battery	1
	513361900		CLAMP, battery	1
	52S02E		SCREW, counter sunk	2
	513361700		ROD, battery clamp	2
69	61S02		NUT, self-locking, 'Binx'	2
	V2003561		SWITCH, start, c/w keys	1
	V601179		KEY	2
72	V2003540		KEY RING	1
73	513359200		BRACKET, start switch	1
74	11S03A		SCREW, set	2
75	61S03		NUT, self-locking, 'Binx'	2
80	513362200		LOOM	1
81	V2005209		CLIP, 'P'	1
82	17S04		WASHER, spring	1
83	11S03A		SCREW, set	1

# **D - 1**

# 200T Mixer



#### DANGER

KEEP ENGINE HOUSING LID CLOSED WHEN ENGINE IS RUNNING

#### 4

# SAFETY WARNING

- Before starting this machine, the operator should be familiar with the operating instructions issued by the manufacturer.
- 2 The manufacturer's rated capacity must never be exceeded.
- 3 Before carrying out any maintenance, servicing, or greasing, always ensure that the engine has been switched off. Never work on a machine while it is running.

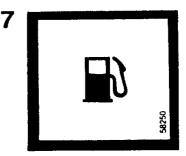


6 N

**6**A



IN COLD WEATHER, IF THE ENGINE IS HARD TO START, REMOVE THE RUBBER PLUG ON THE ROCKER COVER AND ADD NO MORE THAN 2cc OF ENGINE OIL BEFORE STARTING AS RECOMMENDED IN THE ENGINE OPERATORS HANDBOOK. ALWAYS REFIT THE RUBBER PLUG.







## **DECALS & PLATES**

Item	Part no	Serial no	Description	Qty
			Decomption	<u> </u>
1	V2003110		"200T"	2
2	V2003037 15S01A		PLATE, serial number SCREW	1 4
3	504600900		WARNING, engine housing	1
4	504694600		WARNING, safety	2
5	V2003039		LOGO, "WINGET"	3
6	V2003038		STRIPE, bodywork	2
6A	V2005276		ENGINE COLD STARTING	1
7	V2003101		DIESEL FUEL	1
8	V2003665		SLING POINTS	1
9	V2003598		BRITISH MADE	1

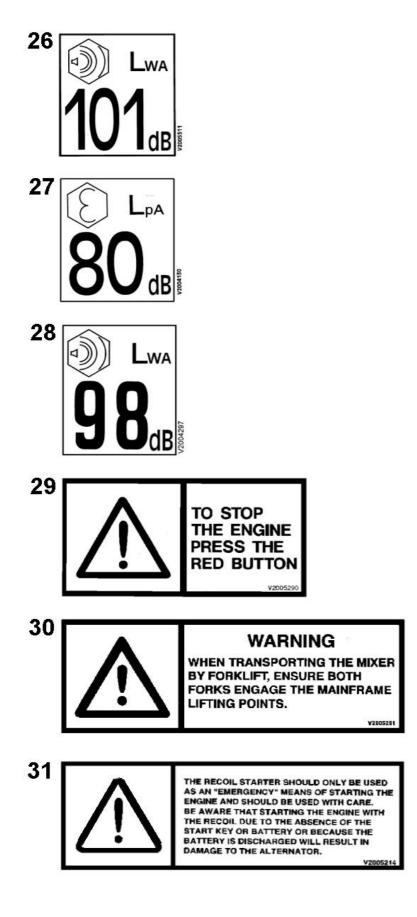
**D - 1A** 

200T Mixer



## **DECALS & PLATES**

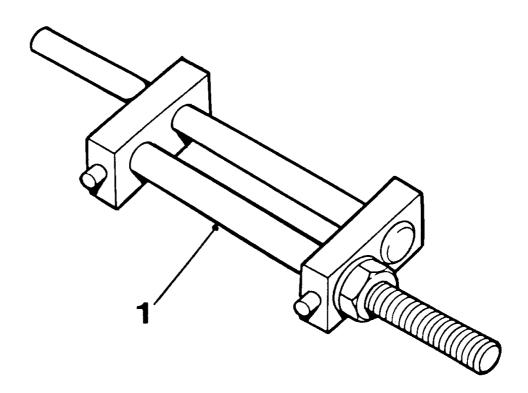
ltem	Part no	Serial no	Description	Qty
10	V2004302		ENGINE STOP	1
11	V2004307		ELECTRICAL HAZARD	2
12	V2004137		EAR PROTECTION	2
13	V2004744		EYE PROTECTION	2
14	V2004227		BATTERY ISOLATOR	1
15	V2004229		OPERATORS HANDBOOK	2
16	V2004282		HOT SURFACES	1
17	V2004289		HANDS CLEAR	2
18	V2005208		ENGINE STARTING PROCEDURE	1
19	V2004288		REMOVE STARTING HANDLE	1
20	V2004223		"CE" MARK	1
			(Only applied to EC specification mach	hines)
21	V2004235		NEGATIVE EARTH	1
22	V2004281		ENTRAPMENT	1
23	V2003574		83 LPA	
24	V2004132		102 LWA	1
				1



## **DECALS & PLATES**

# D - 1B

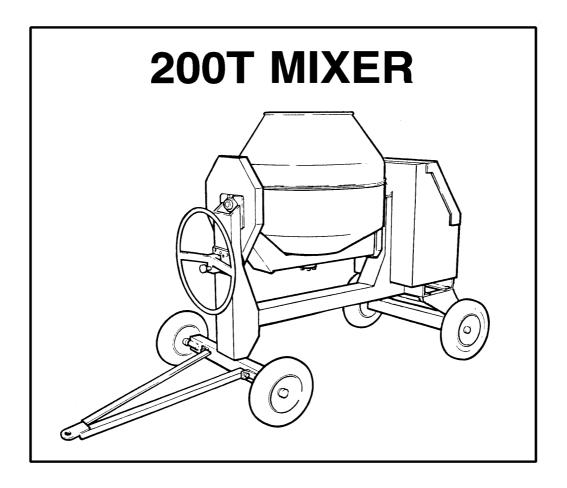
Item	Part no	Serial no	Description	Qty
26	V2005311		101 LWA	1
27	V2004130		80 LpA	1
28	V2004297		98 LWA	1
29	V2005290		STOP ENGINE WITH RED BUTTON	1
30	V2005291		TRANSPORTING WITH FORKS	1
31	V2005214		RECOIL STARTER WARNING	1



1 513204000

CLAMP, drum clip

1



# Numerical Index

<<< TO BEGINNING OF SECTION

Part No.	Page	Part No.	Page	Part No.	Page
112803400	B - 2	254820000	C - 5	513298900	B - 3
131271000	C - 3	300110845	B - 3	513305200	B - 1
131570016	C - 3	300110845	B - 3	513305300	B - 3
131766010	C - 3	300204160	C - 1	513305400	B - 3
131770010	C - 3	304708035	B - 3	513305500	B - 3
132313000	B - 1	304710840	B - 2	513310100	B - 1
132362000	B - 3	304710840	C - 2	513310300	B - 3
132725000	B - 3	305110550	C - 5	513310400	B - 3
132760000	B - 1	315803100	B - 2	513310500	B - 3
132775000	B - 1	332719000	B - 2	513310600	B - 1
133266050	C - 3	353308200	A - 1	513310700	B - 3
134105001	B - 2	354051000	C - 1	513310800	B - 3
134105001	B - 3	354051005	C - 1	513315100	A - 1
134105001	C - 1	354054100	C - 1	513315200	A - 1
134105002	B - 2	371123000	B - 3	513315400	B - 2
134105002	B - 3	397400100	C - 2	513315600	B - 2
134105002	C - 1	397400500	C - 5	513315900	B - 2
134105070	B - 3	475115000	A - 1	513316000	B - 2
134105095	C - 1	504600900	D - 1	513316300	B - 2
134105107	B - 2	504694600	D - 1	513316400	B - 2
144797000	C - 3	513152400	B - 3	513316500	B - 2
144798000	C - 3	513194400	B - 2	513316600	B - 2
144799000	C - 3	513198500	A - 1	513323700	B - 2
202438000	C - 2	513204000	D - 2	513323800	B - 2
208392500	C - 3	513205300	A - 2	513323902	B - 1
208870000	C - 3	513211800	B - 3	513324000	B - 1
208870000A	C - 3	513248400	C - 1	513324100	B - 1
208870000B	C - 3	513248700	A - 2	513324200	B - 1
208870000C	C - 3	513256500	C - 1	513324300	B - 1
241102000	C - 1	513266900	A - 2	513324400	B - 3
241104000	C - 1	513267400	C - 1	513324700	A - 1
241859000	A - 2	513267500	C - 1	513324900	A - 1
241902000	C - 1	513278200	C - 1	513325400	A - 2
241904000	C - 1	513285000	A - 2	513325500	A - 2

Part No.	Page	Part No.	Page	Part No.	Page
513325800	A - 2	11S01C	C - 3	16S09D	B - 1
513326000	A - 2	11S02A	A - 2	176S01	B - 2
513326300	B - 1	11S02A	A - 2	17S02	C - 3
513326400	C - 1	11S02AA	B - 2	17S03	A - 2
513331800	B - 3	11S02B	B - 2	17S03	B - 2
513333100	C - 2	11S02B	C - 6	17S03	C - 5
513333100	C - 5	11S02C	A - 2	17S03	C - 6
513333500	C - 2	11S03A	A - 2	17S04	A - 2
513335900	C - 2	11S03A	C - 6	17S04	B - 2
513336000	C - 2	11S03A	C - 6	17S04	C - 5
513336100	A - 2	11S03B	B - 2	17S04	C - 6
513337900	C - 1	11S03D	A - 2	17S05	A - 2
513354000	B - 2	11S03D	C - 5	17S05	B - 1
513354600	A - 2	11S04B	A - 2	17S05	B - 2
513357100	A - 1	11S04B	C - 1	17S05	B - 3
513358800	C - 5	11S04C	В-3	17S05	C - 1
513359200	C - 6	11S04D	C - 2	17S05	C - 2
513359700	C - 1	11S04E	A - 2	17S06	B - 1
513359800	C - 1	11S04E	B - 2	17S06	B - 2
513361600	C - 5	11S05D	A - 1	17S06	B - 3
513361700	C - 6	11S05D	B - 1	17S06	C - 2
513361800	C - 5	11S05D	C - 2	17S06	C - 5
513361900	C - 6	11S05D	C - 5	17S06	C - 6
513362000	C - 6	11S05F	B - 3	17S08	B - 1
513362200	C - 6	11S05H	В-3	267S03	C - 3
513362300	C - 5	11S06E	B - 1	267S04	A - 2
513362500	C - 5	11S06H	B - 1	267S04	C - 1
513362600	A - 2	127S04	C - 1	267S04	C - 5
100S04	C - 1	131S01	B - 2	267S04	C - 6
101S07E	A - 2	131S02	B - 2	267S05	C - 5
105S05	C - 1	153S01	C - 1	267S06	A - 2
109S11	C - 6	153S02	C - 5	267S06	B - 3
10S09	B - 3	15S01A	D - 1	267S06	C - 5
10S31	A - 1	16S06C	C - 3	267S07	B - 1

Part No.	Page	Part No.	Page	• •	Part No.	Page
267S07	C - 1	7S03	B - 2		V2004132	D - 1A
267S07	C - 2	7S04	A - 2		V2004137	D - 1A
267S07	C - 5	7S04	B - 1		V2004220	C - 5
267S07	C - 6	7S04	B - 3		V2004223	D - 1A
267S09	B - 1	7S04	C - 1		V2004227	D - 1A
41S05	B - 3	7S04	C - 2		V2004229	D - 1A
44S02B	C - 5	7S05	B - 2		V2004235	D - 1A
513362800	C - 1	7S05	B - 3		V2004281	D - 1A
52S02C	A - 2	7S05	C - 2		V2004282	D - 1A
52S02E	C - 6	7S05	C - 5		V2004288	D - 1A
54S01A	B - 2	7S05	C - 6		V2004289	D - 1A
56S07	C - 3	88S05D	B - 3		V2004297	D - 1B
57S04D2	C - 2	88S15D	B - 3		V2004302	D - 1A
57S04D2	C - 5	88S42D	B - 1		V2004307	D - 1A
57S05D2	C - 1	88S45D	B - 1		V2004744	D - 1A
57S06F1	B - 2	8S02H	A - 1		V2005208	D - 1A
59S04	C - 2	8S03D	C - 5		V2005209	C - 6
61S02	A - 1	8S04D	C - 5		V2005210	C - 5
61S02	A - 2	8S05E	C - 1		V2005211	C - 6
61S02	C - 6	8S05E	C - 2		V2005213	C - 5
61S02	A - 2	8S05J	C - 1		V2005220	C - 5
61S03	A - 2	V2000772	B - 1		V2005276	D - 1
61S03	C - 5	V2003037	D - 1		V2005290	D - 1B
61S03	C - 6	V2003038	D - 1		V2005291	D - 1B
61S04	C - 5	V2003039	D - 1		V2005311	D - 1B
61S05	A - 1	V2003101	D - 1		V601179	C - 6
61S05	C - 1	V2003110	D - 1			
61S05	C - 5	V2003540	C - 6			
66S03AA	B - 3	V2003561	C - 6			
7S01	C - 3	V2003568	A - 2			
7S02	A - 2	V2003574	D - 1A			
7S02	C - 5	V2003598	D - 1			
7S02	C - 6	V2003665	D - 1			
<b>7</b> \$03	A - 2	V2004130	D - 1B			

# 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.