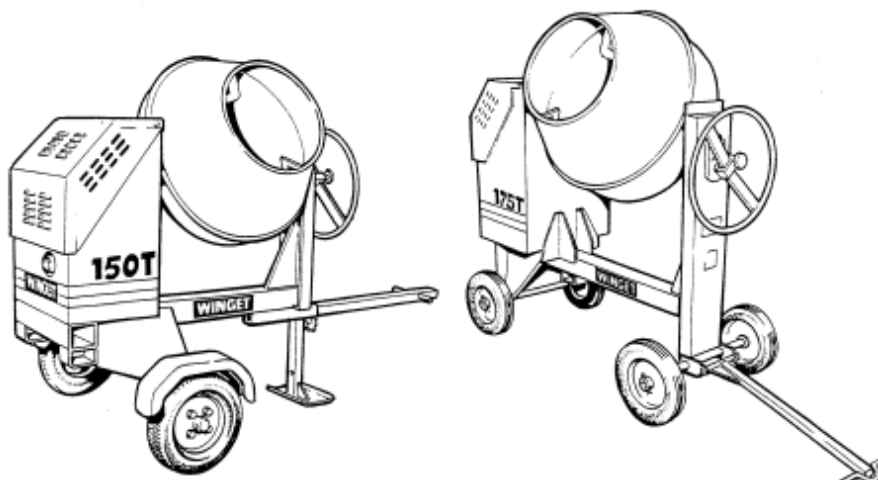


# MIXERS

## 100T 150T 175T



## OPERATORS HANDBOOK

&

## PARTS

YANMAR L48N5 & L48V5V ENGINES

For older variations of these machines, including those with Lister Petter hand-start engines, [click here](#) to be redirected to the correct operators manual.

V603781

December 2020

# WINGET

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## INTRODUCTION

III

### THE HANDBOOK

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

**WARNING** *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.

These are the original instructions in the English Language issued by Winget Limited to comply with the requirements of Directive 2006/42/EC

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.

## IV

## INTRODUCTION

### 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.

## SAFE WORKING

1.1

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.

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 or the Handbrake applied.

Keep the engine housing lid closed when the engine is running.

The towing speeds of *Fast Tow* mixers, when used on public highways, may be subject to local or national road traffic regulations.

Wear suitable personal protective equipment (PPE) i.e. heavy duty gloves, eye protection and suitable footwear

**1.2**

**SAFE WORKING**

**ENGINE**

**WARNING**



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**

**WARNING**



Starting engines that are fitted with charge windings which have been disconnected from the battery will cause irreparable damage unless the stator leads from the rectifier/regulator have been removed.

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 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.

**SAFE WORKING**

**1.3**

**WARNING**



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.

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.



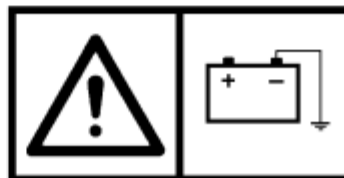
Attach lifting hooks to this eye.



Read Operators Handbook, or Operators Handbook storage place.

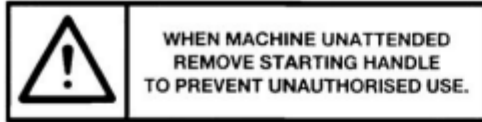


The battery negative terminal is connected to earth.



**1.4 SAFE WORKING**

Remove starting handle.



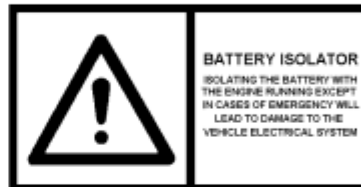
Keep hands clear of drum.



Beware of electrical hazards.



Battery isolator.



Engine stop.



Keep clear of chain drives.



These surfaces may be hot.





**SAFE WORKING****1.5****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.

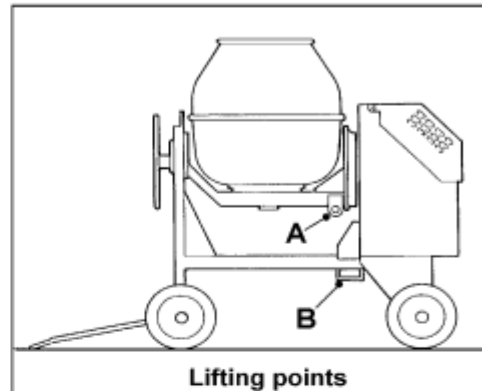
It is recommended that chains or webbing slings are used to lift the mixer via the lifting point on the trunnion and that ratchet type webbing straps are used to lash the mixer down.

**Lifting the Mixer (Crane)**

Turn the drum and trunnion through 180deg. and, using the locking pin in the tilting handwheel, lock the assembly in this position with the lifting eye 'A' uppermost. Attach suitable lifting equipment to the lifting eye and slowly take the weight. Do not 'snatch' the mixer otherwise damage may be caused to the lifting point, trunnion or lifting equipment. To prevent the drawbar swinging freely as the mixer clears the ground, rest the drawbar's 'T' handle on the mainframe below the upturned drum. 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. Be aware that the mixer will tend to swing as it clears the ground.

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

Using the tilting handwheel locking plunger, lock the drum upright as illustrated overleaf. 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 the forks below the mainframe so that one tine enters and passes through the bracket 'B' below the mainframe, the other fork should be spread as wide as possible. Position the carriage as close as possible to the mixer and rest the mixer's drawbar on one of the fork tines to prevent it swinging freely.

Slowly tilt the carriage back slightly to prevent the mixer rocking forward and 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.

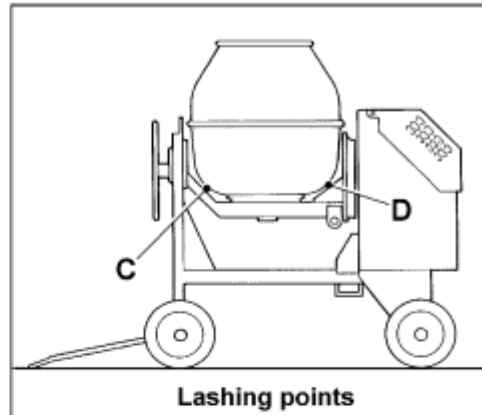
**1.6**

**SAFE WORKING**

**Lashing Down**

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

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 is below the mixer and not forming an obstruction on the vehicle bed. Lock the drum in the upright position. Pass one of the webbing straps between the drum and trunnion at point 'C' 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 'D' 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.



## OPERATION

2.1

### INSTALLING THE MIXER ON SITE

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

**WARNING** *For mixer weights, see "Specifications"*



Never carry mixers by their lifting points on public roads.

Do not tow four wheeled mixers across uneven ground.

The ground on which the mixer stands must be level and stable. Ensure that the wheels are chocked, or the handbrake, if fitted is applied.

### ENGINE OPERATION

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



#### Before starting the engine:

Ensure the engine is 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.

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

### ENGINE SAFETY

*The following pages of engine operating instructions are of a general nature and should be read in conjunction with the engine operators handbook*

2.2

OPERATION

Yanmar L48

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 a while (for about 15 seconds) before attempting to start again.

**WARNING** *If the starting motor is turned for too long, the motor will overheat rapidly and starter motor seizure/failure will occur. Always leave the starting key turned on, in the ON position, while the engine is running.*



Cold Starting. Not applicable to L48V5V

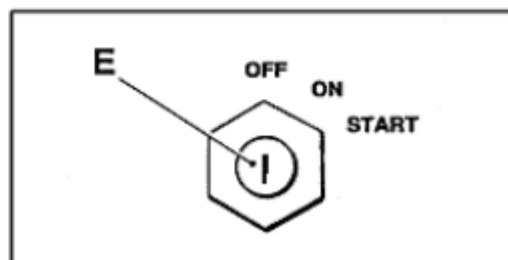
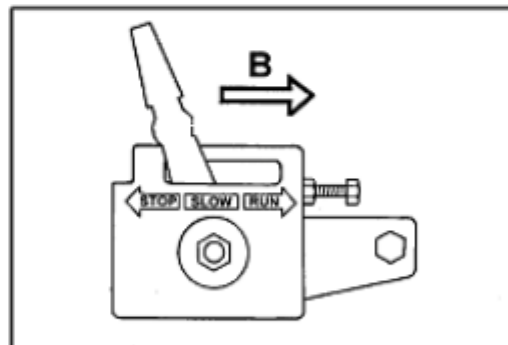
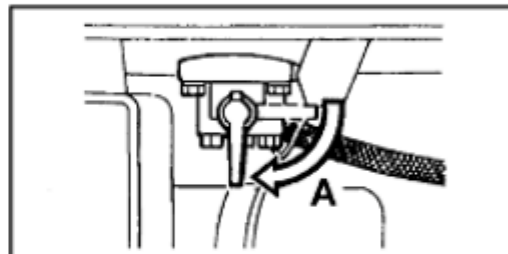
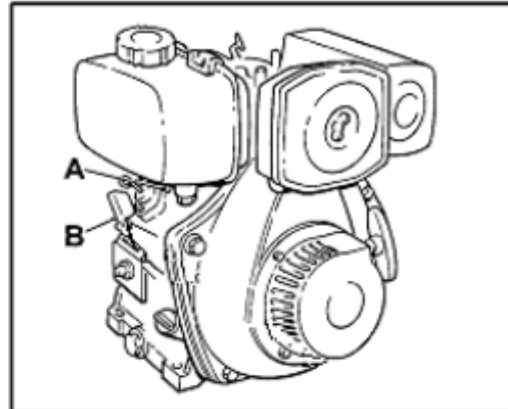
In cold weather, if the engine is hard to start, remove the rubber plug of the rocker arm cover and add 2cc of engine oil before starting. Do not add more than 2cc of engine oil to prevent internal engine damage. (Bent engine Conrod)

**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.



## OPERATION

2.3

### Yanmar L48

#### Stopping the engine

Press the red stop button located by the engine speed control. In an emergency pull the external Stop Cable.

The engine should stop.

Turn the starter key to the OFF position, Remove the key to prevent unauthorised use.

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 for long periods.

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



*Do not stop the engine with the decompression lever. This can cause serious damage to valves, piston & cylinder head.*

2.4

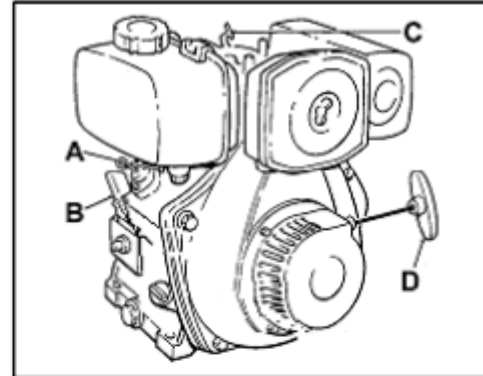
OPERATION

**Yanmar L48**

**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**

**Do not use the following procedure if the start key is not available, starting the engine with the start switch in the OFF position will damage the charging system.**

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.

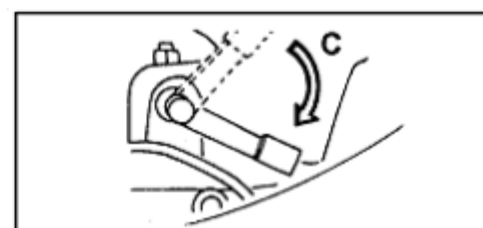
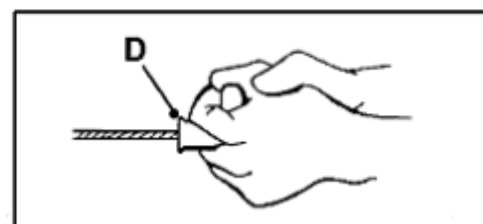
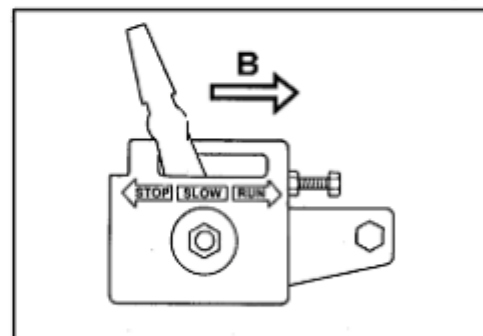
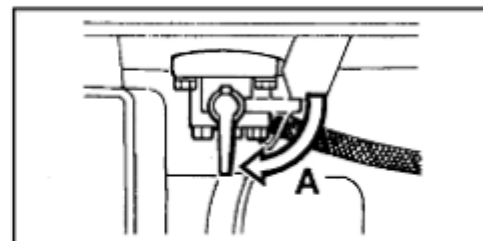
Push down the decompression lever (C). It will return automatically when the recoil starter is pulled.

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, not applicable to L48V5V**

In cold weather, if the engine is hard to start, use the same cold start procedure as described on page 2.2.



## OPERATION

2.5

### Before mixing

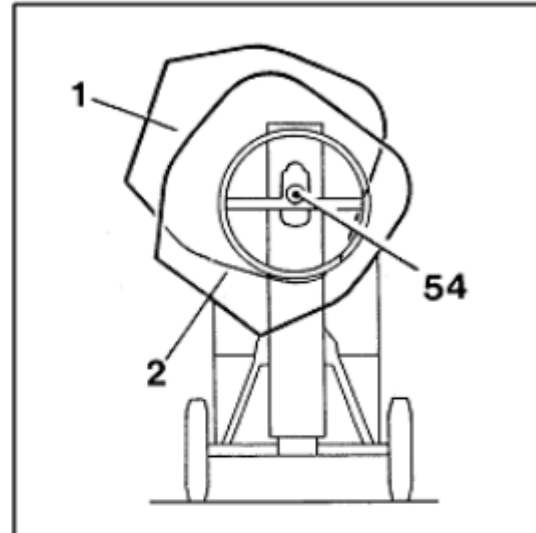
The operator must calculate the correct percentages of water and aggregates to be mixed.

**WARNING** *Cements can cause skin irritation; wear protective clothing, gloves and footwear.*



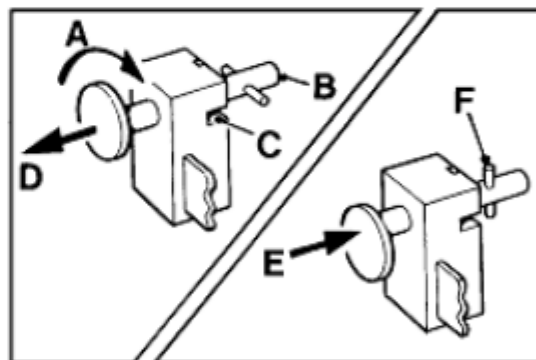
### Mixer drum positions

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. Over mixing can reduce the strength and cause segregation of aggregates.

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.

### Rotation of the drum

Looking at the mouth of the drum, the engines drive the drum in a clockwise direction.

**2.6**

**OPERATION**

**At the end of the working day**

- A** Thoroughly clean out the mixing drum with water and gravel (not bricks) and rinse the mixer down to remove loose concrete or mortar.
- B** Stop engine, and remove the key to prevent unauthorised use of the machine.
- C** Oil/Grease the machine.
- D** Clean round the fuel tank cap, using a clean receptacle fill the fuel tank with fuel, to the level of the red plug visible through the filler neck. Make sure the filler strainer located in the filler neck is clean. Refit the fuel tank cap.



## OPERATION

2.7

### **INSTALLING/REMOVING THE LIGHTING BOARD (WHERE FITTED)**

Where a lighting board is supplied with the Mixer, follow the procedure below to install and remove the lighting board when preparing for road towing or for use on site.

The board locates on the rear lower panel of the mixer and is secured by two threaded wing nuts.

To attach, locate the threaded studs on the rear of the board into the two holes in the rear lower panel. Secure in place using the wing nuts hand tightening until the board is secure.

The lighting cable should pass through the engine housing wrap around the mainframe centre section and drawbar before being plugged into the towing vehicles trailer lighting socket.

To remove, unplug the lighting cable from the towing vehicle. Unwrap the lighting cable and pass back through the engine housing. Remove the two wing nuts and lift the board clear of the mixer. Store safely until required.

**SERVICING**

**3.1**

**SERVICE SCHEDULE**

(See also the relevant Engine Workshop Manual)

**IMPORTANT!**  
For servicing the Yanmar engine, also refer to the separate Engine Operation Manual

<b>Every day</b>	
Links & hinges:	Lubricate.
Shafts & bearings:	Lubricate.
Engine: (see Engine Manual)	Check fuel and lubricating oil levels. Check for oil and fuel leaks. Clean/replace air cleaner element under very dusty conditions

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

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

<b>Every 200 hours. The above and following items</b>	
Nuts, bolts & keys:	Tighten.
Engine:	Change lubricating oil. Renew fuel filter element

<b>Every 400 hours. The above and following items</b>	
Engine:	Replace air cleaner element. Clean the engine oil filter (see Engine Manual). Check exhaust and induction for leaks, damage or restrictions. Renew fuel filter element. (see Engine Manual). Check battery charge winding system. (see Engine Manual). Check injector nozzle condition. (see Engine Manual). Check fuel injection timing. (see Engine Manual). Check valve clearance. (see Engine Manual).

<b>Every 1000 hours. The above and following items</b>	
Engine: (see Engine Manual)	Check fuel injection pump. (see Engine Manual). Clean cylinder barrel and head fins. Flush, clean and refill fuel tank.

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


**3.2**

**SERVICING**

**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.*

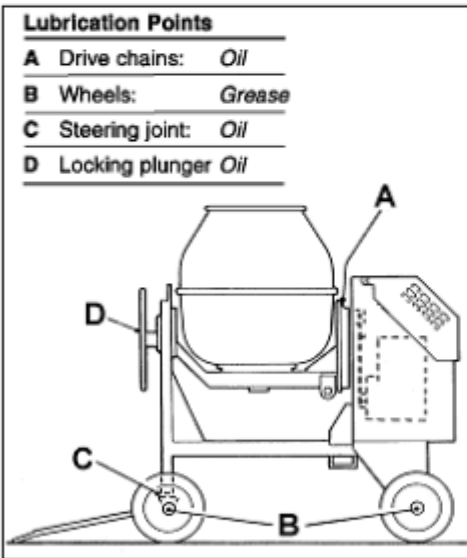


**Every day**

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 drives**

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

**Drive chains:**

Lubricate drive chains (**A**) with a little engine oil.

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

On the slack side of the chain there should be a maximum 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.

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

**Drive belts:**

**WARNING** *NEVER oil belts.*



Check the tension of the belt and adjust if necessary. The belt should deflect no more than 2 to 3 mm using thumb pressure.

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

**SERVICING**

**3.3**


**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)

**WARNING**  *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**

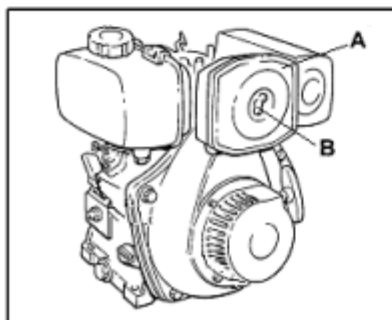
**Every day or 125 hours (see schedule)**

**Change the Air Cleaner as follows:**

Stop the engine.

Wipe down the outer casing of the air filter housing (A) to remove any loose dirt or dust.

Remove the wing nut (B) securing the filter cover




**Air cleaner (continued)**

Remove the cover and lift out the filter element.

Wipe down the inside of the filter housing ensuring no debris enters the engine.

Check the condition of the cover seal, clean/replace the filter element.

Refit the cover ensuring it is seated down on the housing face, refit and tighten the wing nut.

**WARNING**  *Never run the engine with the filter removed, dirt and dust will enter the engine causing damage.*


**Engine Lubrication Oil**

**Every day**

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

**Every 200 hours and after first month or 50 hours**

**Drain and refill the oil sump as follows:**

**WARNING**  *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.

Remove the engine housing rear cover.

**3.4**

**SERVICING**

**Engine Lubrication Oil (Cont)**

Place a suitable container under the oil drain hose. Remove the hexagon drain plug and drain the oil. Note the L48V is fitted with an oil drain tap in the sump.

Take care if the oil is hot.

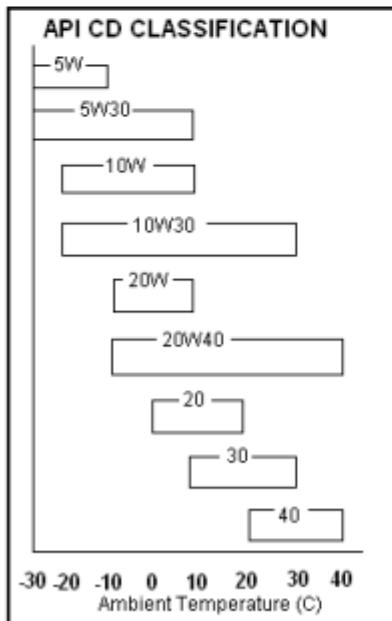
Note: releasing the oil filler will improve the flow of oil from the hose.

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

Replace the drain plug taking care not to overtighten it. Close the tap on the L48V Engine.

Top up the engine oil using the correct grade of engine oil to the mark on the engine dipstick.

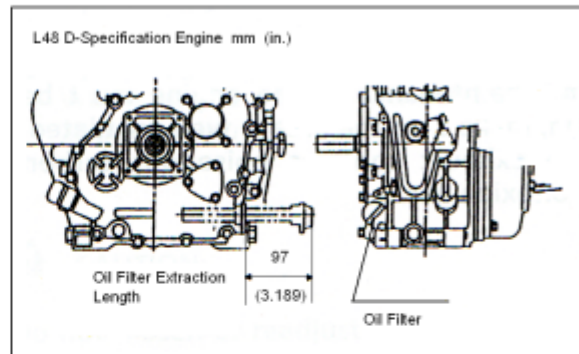
Refit the rear cover.



**Engine Oil Filter**

**Every 400 hours and after first month or 50 hours**

**Change the Oil Filter as follows:**



Remove the engine housing rear cover.

Drain the engine lubricating oil as described on page 3.3.

Disconnect and remove the battery.

Remove the filter retaining screw and withdraw the filter assembly.

Wash the wire mesh element in suitable cleaning solvent and dry.

Check the condition of the sealing "O" ring and refit the filter assembly.

Refit the retaining screw.

Refit the battery.

Refill the sump with clean engine oil of the correct grade.

Check the filter for leaks.

Refit the engine housing rear cover.

## SERVICING

3.5

### Fuel Filter Element

Clean every 200 hours, replace every 400 hours

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


Remove the engine housing rear cover.

Cover the battery with suitable cleaning cloths or disconnect and remove.

Turn the fuel cock/tap to the "OFF" position.

Place a suitable clean receptacle below the fuel tank drain plug. Remove the plug and drain the fuel.

Unless you can be absolutely certain the fuel is clean and uncontaminated dispose of the fuel in a responsible manner.

**WARNING**  *Dispose of waste fuel/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 fuel/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.*

Loosen the two nuts directly below the fuel cock/tap and pull the filter out via the fuel filler oriface.

Wash the filter thoroughly with clean diesel fuel.

Refit in the reverse order.

Refit the drain plug.

Top up the fuel tank to the level of

### Fuel Filter Element (Cont)

the red plug in the tank inlet strainer.

Turn the fuel cock/tap to the "ON" position  
Check the system for leaks.

Mop up any spilt diesel fuel.

If removed refit the battery.

Move the engine control lever to the 'RUN' position, start and run test the engine.

Refit the engine housing rear cover.

### Priming the Fuel System

**Prime the L48 fuel system as follows:**


Should the engine fail to start after changing the fuel filter carry out the following procedure:-

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

Ensure the fuel cock/tap is in the "ON" position.

Slacken the high pressure fuel pump to injector pipe at the injector and crank the engine over until fuel is seen to be pumped out of the pipe.

Tighten the fuel injector pipe.

**WARNING**  *If the starting motor is turned for too long, the motor will overheat rapidly and starter motor seizure/failure will occur.*

Start and run test the engine.

## 3.6

## SERVICING

### BATTERY

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

**WARNING**



*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

**SERVICING**
**3.7**
**Mixing 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 and reduce costs.

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

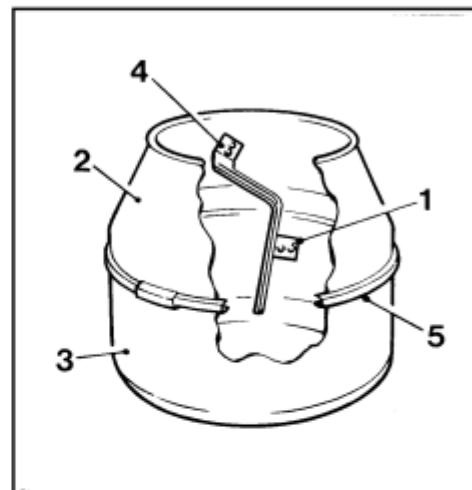
**1 Assembling drum using special clamping tool.**

*(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 gloves.*

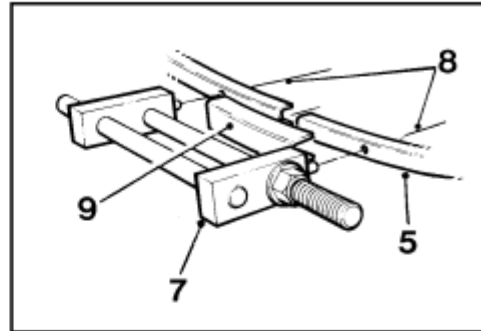
- C** Lift the cone (2) over the blades and position it on the drum base (3).
- D** Turn the cone until the two holes at the top of each blade (4) align with the holes in the cone. Fit bolts and tighten with fingers only.
- E** Smear silicone sealant around the inside face of the drum clip (5) (leave 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.



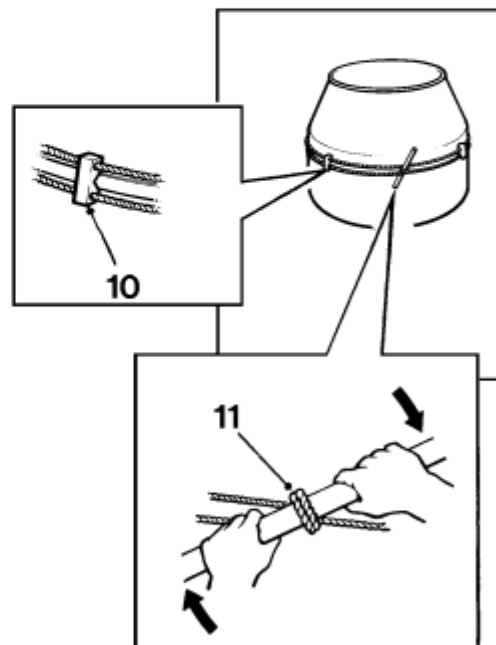


**3.8**
**SERVICING**
**Mixing drum assembly (Cont)**

- 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.
- I** 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".



**SERVICING**
**3.9**
**Mixing Drum Overhaul**

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

- 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.

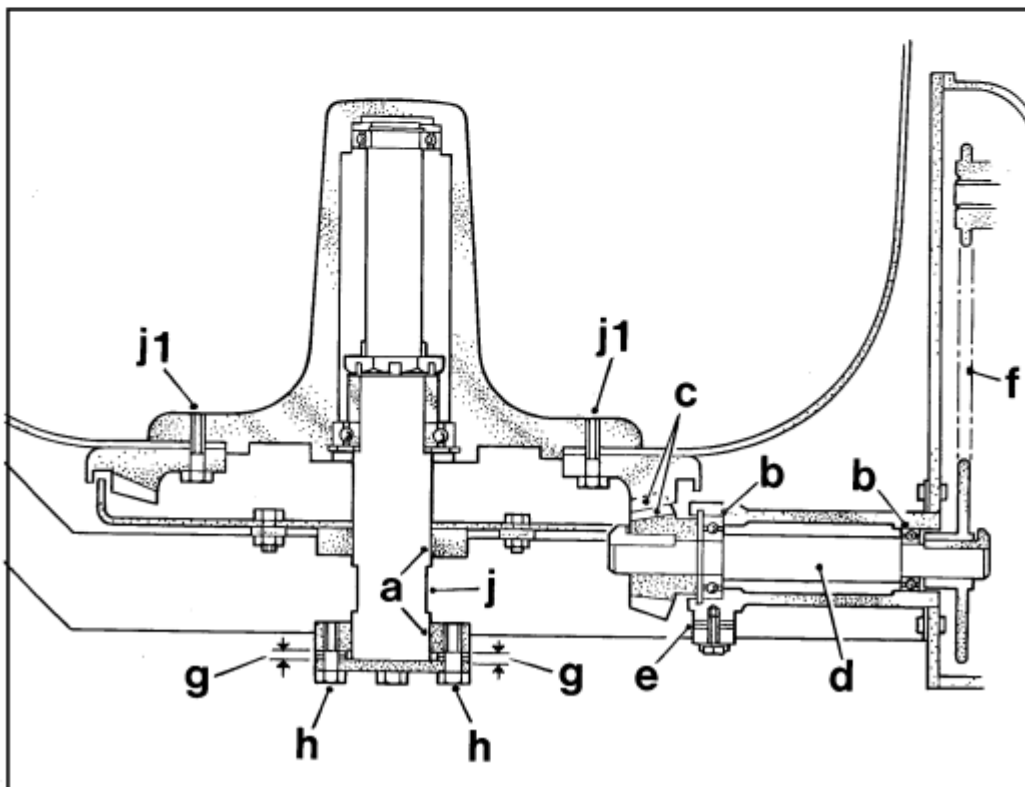
- D** The bevel pinion assembly (**d**) must be set horizontally in the trunnion. Do this as follows:

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.

Note: sealed for life bearings should be charged with grease before installation.




## 3.10

## SERVICING

### Suspension Units

#### Two wheeled mixers, "Fast tow"

The suspension units require no maintenance as they are a sealed unit. They have an internal construction of rubber rollers and have ends that are sealed with nylon bushes.

 **WARNING** *Do not subject suspension units to excessive heat (such as welding) as this could damage the rubber and nylon components.*

#### Before towing your mixer on the road:

If the mixer has been standing for some time check the wheels spin freely.

Check wheel nuts for tightness.

Check that the wheel bearings have been greased and that the nuts and split pins have been inserted properly on to the ends of the stub axles.

To gain access to the wheel bearings remove the plastic or metal cap from the centre of the wheel. Do this by carefully prizing off the cap with a screwdriver or tapping it with a block of wood.

#### Hub Bearings:

The hubs are fitted with taper roller type bearings, where it is important that the central hub nut must not be over tightened. There must be a small amount of end float (.004"). Usually it is sufficient to tighten the nut up fully, then unscrew it half a turn. Make sure that the split pin is then inserted.

### Tyres

Check the tyres for wear, damage and deterioration.

Check tyre pressures only when the tyres are cold.

*(see "specifications" section for tyre pressures)*

<b>TECHNICAL INFORMATION</b>	<b>4.1</b>
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**Lubricants**

Mixers are factory filled with the following oils

Engine, Yanmar L48: lubricating oil	AP1 CD 10W/30	0.8 litre
<i>Note: in cold weather engines can be filled with 10W to aid cold starting</i>		
Yanmar L48: fuel		2.5 litres

Drive chains	10W/30 or 20W/30
Bevel gears	Open gear fluid
Drum shaft	Anti-seize compound
Grease nipples	Multis EP 2
Linkages and hinges	10W/30 or 20W/30

**Noise levels of mixers.** Measured in accordance with EC Directive 2000/14/EC  
**Models 100T, 150T and 175T**

LPA 80	LWA 101

**Drum speed**

**Handbrake**

22 rpm	Tested to hold on a 5° & 10° slope with 600Kg of test weights applied
--------	---

**Tyre pressures**

50 lbin <sup>2</sup> (Two wheeled "Fast tow" mixers)
--

**Mixer drum sealant**

Silicone sealant (part number V2000772)
---

**Engine Power Output**

	<b>Yanmar</b>
	<i>Standard</i>
	<b>L48</b>
	@ 3000 rpm
<b>100T</b>	2.5kW (3.4hp)
<b>150T</b>	2.5kW (3.4hp)
<b>175T</b>	2.5kW (3.4hp)

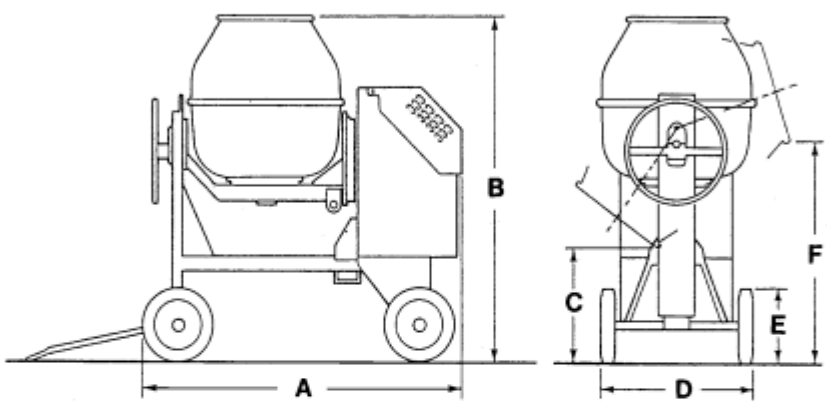
**4.2 TECHNICAL INFORMATION**

**DIMENSIONS**

**Four wheel models**

	100T	150T	175T
<b>A</b>	1515	1650	1680
<b>B</b>	1560	1730	1780
<b>C</b>	520	555	520
<b>D</b>	800	800	800
<b>E</b>	355	355	355
<b>F</b>	1000	1100	1110

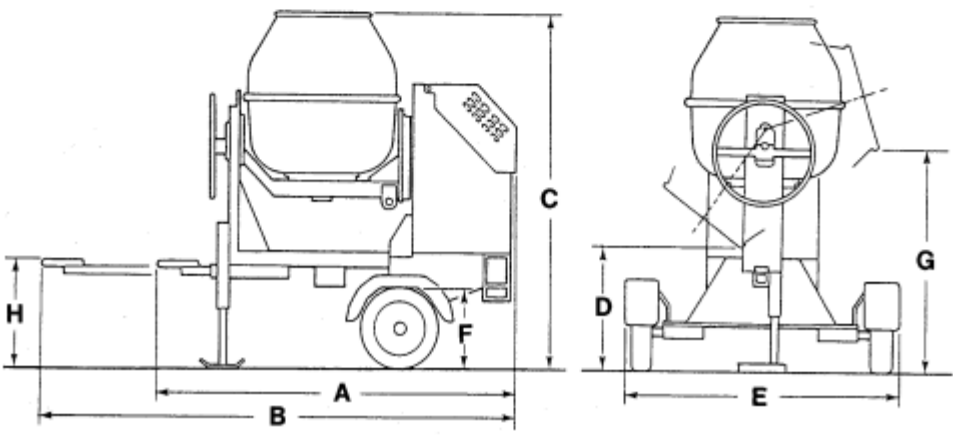
Weight (approx) L48 Eng		
100T	150T	175T
340kg	400kg	420kg



**Two wheel models**

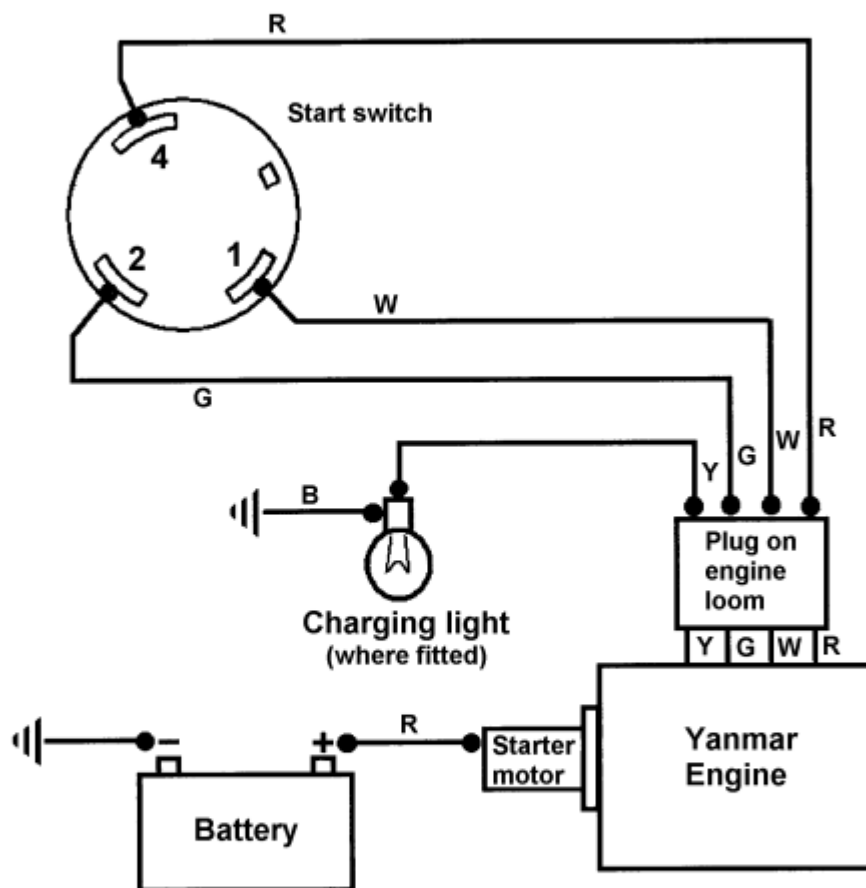
	100T	150T	175T
<b>A</b>	1805	1890	2060
<b>B</b>	2390	2490	2640
<b>C</b>	1610	1760	1840
<b>D</b>	565	600	590
<b>E</b>	1325	1325	1350
<b>F</b>	4.80/4.00-8	145R10	
<b>G</b>	1035	1140	1180
<b>H</b>	490	490	450

Weight (approx) L48 Eng		
100T	150T	175T
365kg	420kg	460kg



**TECHNICAL INFORMATION**
**4.3**
**YANMAR L48 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**

R Red  
 B Black  
 G Green  
 W White  
 Y Yellow

**NOTE: Wire identification**

The red wire to the battery is much thicker than the red wire to the start switch.

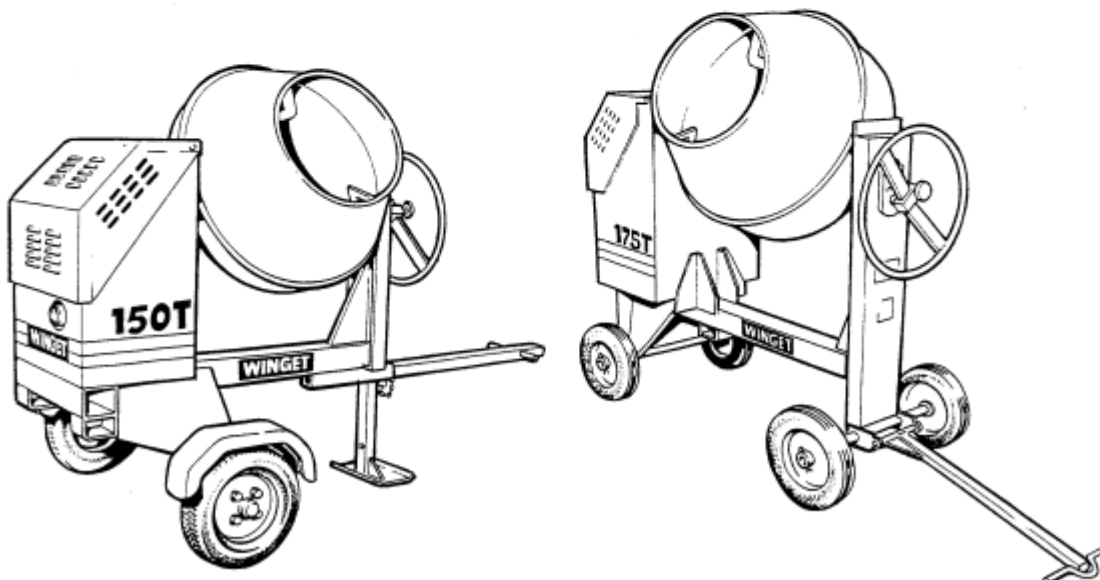
# PARTS

## Mixers

100T

150T

175T



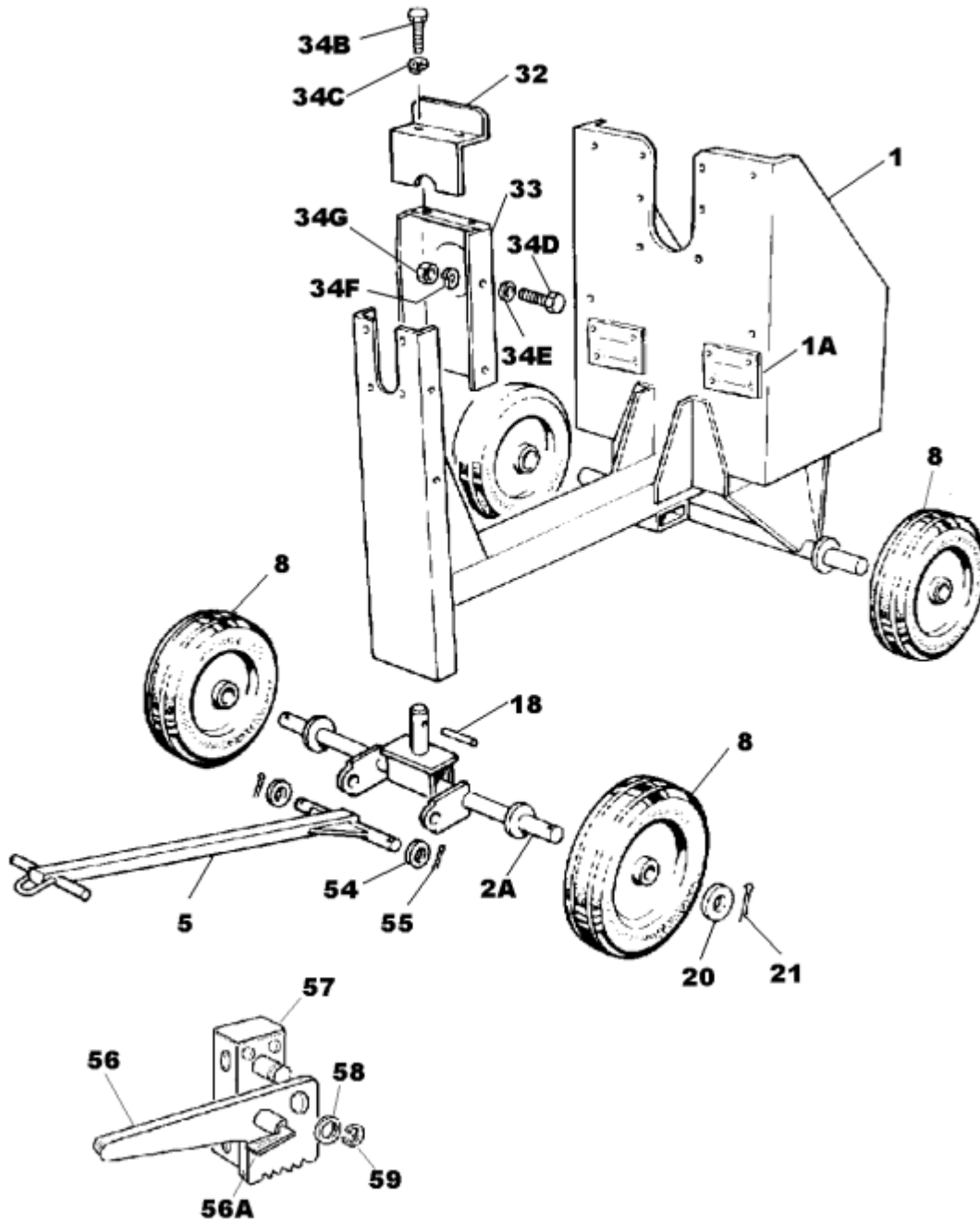
## Contents

<b>FOUR WHEEL MAINFRAME (100T &amp; 150T)</b>	<b>A - 1A</b>
<b>COVERS &amp; GUARDS (100T &amp; 150T)</b>	<b>A - 1B</b>
<b>FOUR WHEEL MAINFRAME (175T)</b>	<b>A - 2A</b>
<b>COVERS &amp; GUARDS (175T)</b>	<b>A - 2B</b>
<b>TWO WHEEL MAINFRAME (100T &amp; 150T)</b>	<b>A - 4</b>
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<b>DRUM</b>	<b>B - 1A</b>
<b>TRUNNION &amp; TILT WHEEL</b>	<b>B - 1B</b>
<b>DRUM DRIVE</b>	<b>B - 1C</b>
<b>YANMAR L48N5SJ1 (electric start)</b>	<b>C - 5</b>
<b>YANMAR L48V5VSJ1 (electric start) Stage 5 Compliant</b>	<b>C-5A</b>
<b>STARTING CIRCUIT, Yanmar L48N5SJ1/L48V5VSJ1</b>	<b>C - 6</b>
<b>EMERGENCY STOP CABLE, Yanmar L48N5SJ1/L48V5VSJ1</b>	<b>C - 6A</b>
<b>DECALS &amp; PLATES</b>	<b>D - 1</b>
<b>SPECIAL TOOLS</b>	<b>D - 3</b>



A - 1A

100T & 150T Mixers

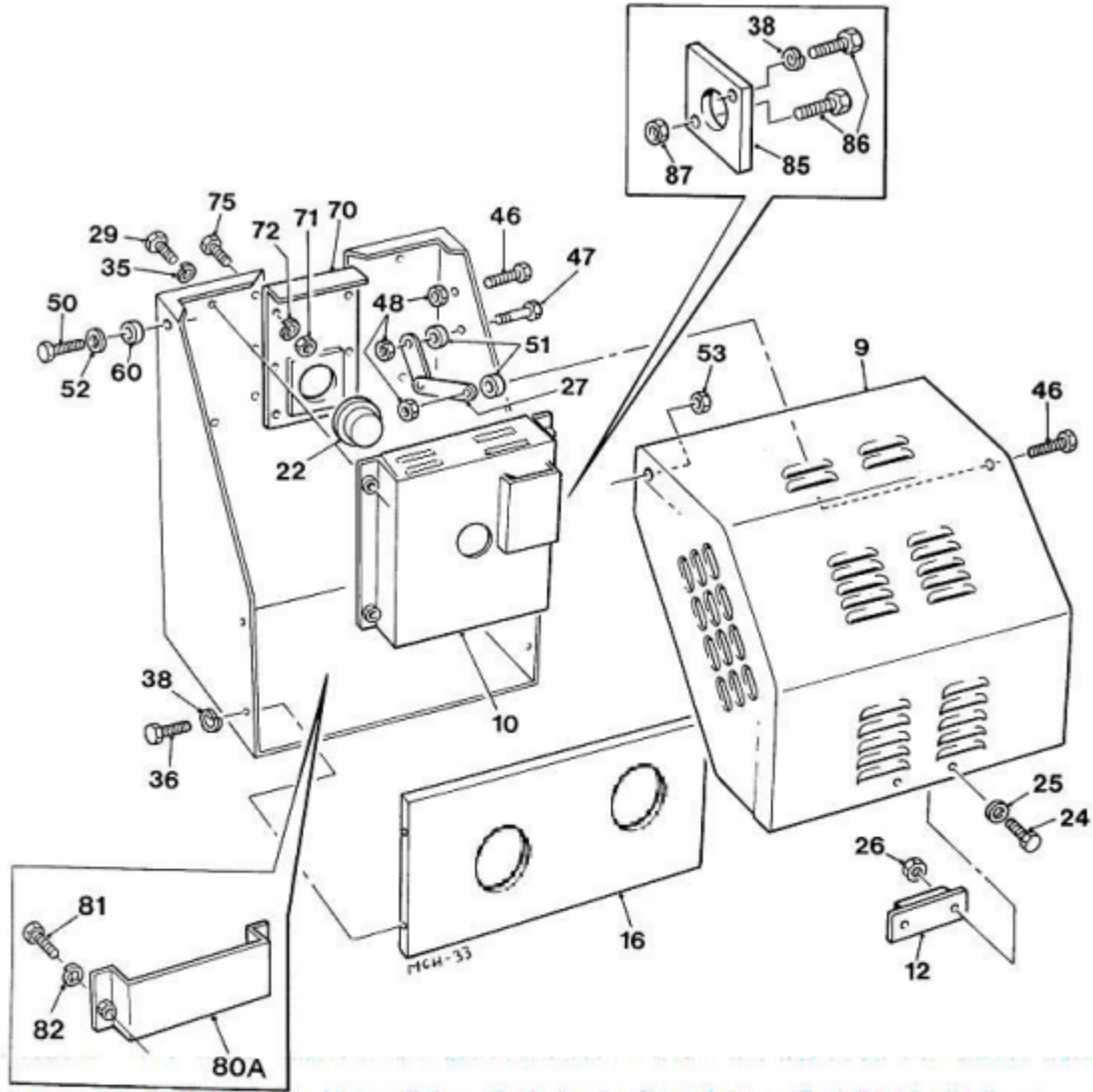


**FOUR WHEEL MAINFRAME & TOW BAR**
**A - 1A**

Item	Part no	Serial no	Description	Qty
1	513340900		MAINFRAME, <b>100T</b>	1
1A	513371700	11752/	PLATE, vent	2
1B	11S02A		SCREW, set	8
1C	17S03		WASHER, spring	8
1	513341000		MAINFRAME, <b>150T</b>	1
1A	513371700	05813/	PLATE, vent	2
1B	11S02B		SCREW, set	8
1C	17S03		WASHER, spring	8
2A	513358100		AXLE, front	1
5	513341200		TOWBAR	1
8	475115000		WHEEL, cushion tyre, 405mm dia	4
18	353830650		PIN, spirol	1
21	44S05G		PIN, split	4
22	10S09		WASHER, flat	4
-	513198400		GUARD, tilt wheel, assembly	1
32	513198402		GUARD, upper	1
33	513198401		GUARD, lower	1
34B	11S02B		SCREW, set	2
34C	17S03		WASHER, spring	2
34D	66S03CC		SCREW, set	4
34E	10S03		WASHER, flat	4
34F	41S05		WASHER, spring	4
34G	104S03		Nut	4
54	10S17		WASHER, flat	2
55	44S03D		PIN, split	2
		11195/	<b>100T</b>	
		05637/	<b>150T</b>	
56	513370600		LEVER, handbrake assembly	1
56A	513370800		CATCH, locking, sprung	1
57	513370700		PIVOT, bracket	1
57A	11S04C		SCREW, set, not illustrated	2
57B	17S05		WASHER, spring, not illustrated	2
57C	267S06		WASHER, flat, not illustrated	2
58	10S18		WASHER, flat	1
59	132412010		CIRCLIP	1

**A - 1B**

**100T & 150T Mixers**

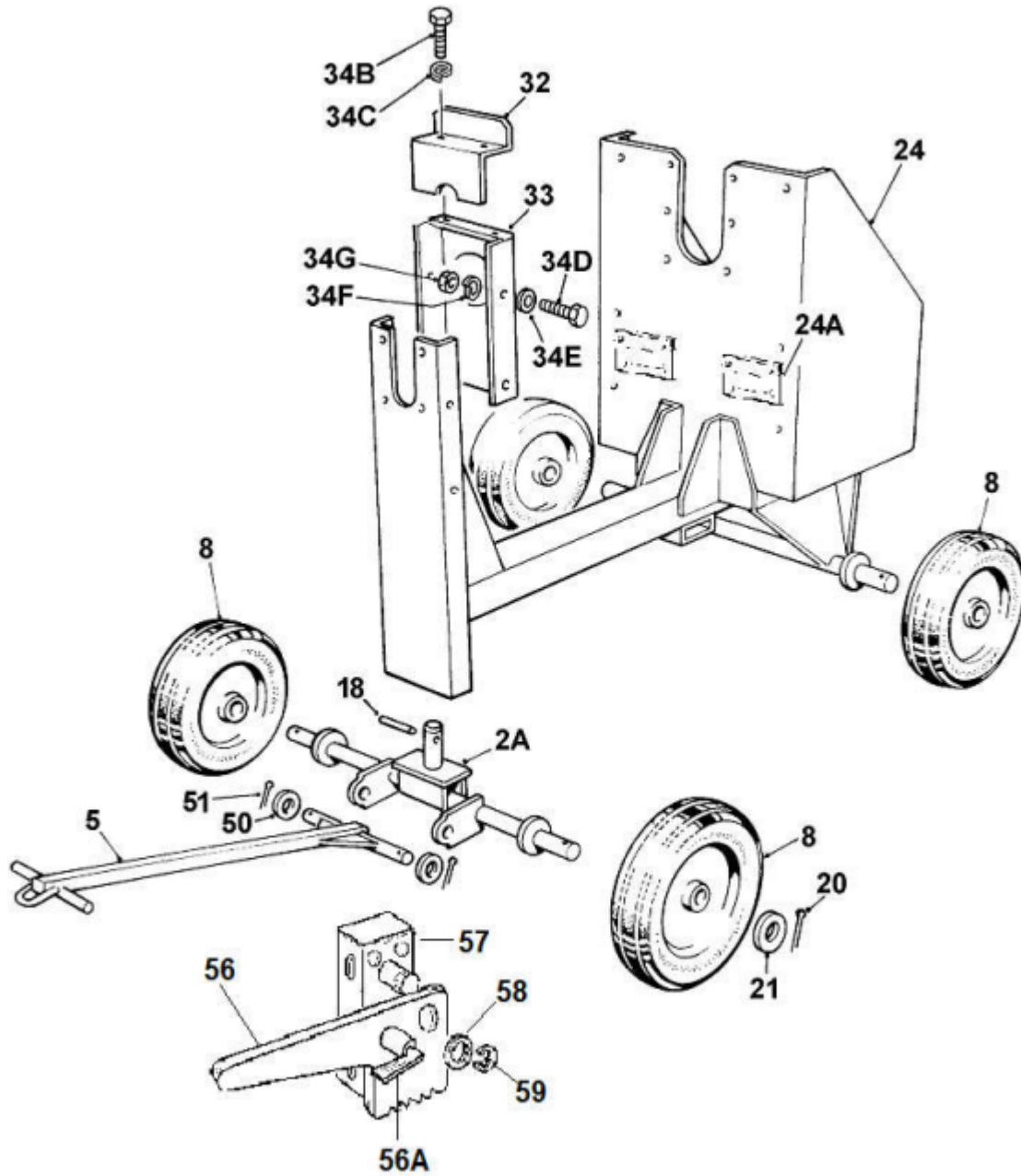


**COVERS & GUARDS**
**A - 1B**

Item	Part no	Serial no	Description	Qty
9	513341300		LID, engine housing	1
10	513341400	/11751	GUARD, belt L48N5SJ1S 100T	1
10	513341400	/05854	GUARD, belt L48N5SJ1S 150T	1
10A	513371600	11752/	GUARD, belt, L48V5VSJ1 engine, 100T	1
10B	513371500	05855/	GUARD, belt, L48V5VSJ1 engine, 150T	1
12	513205300		STOP, rubber	1
16	513341500		PLATE, closing, <b>100T</b>	1
16	513341600		PLATE, closing, <b>150T</b>	1
22	241859000		PLUG, polythene	1
24	11S02A		SCREW, set	2
25	267S04		WASHER, flat	2
26	61S02		NUT, Binx, self-locking	2
27	513287200		STAY, housing lid	1
29	11S02B		SCREW, set	4
35	17S03		WASHER, spring	4
36	11S02B		SCREW, set	4
38	17S03		WASHER, spring	4
46	28S02E		SCREW, set	2
47	6S02E		BOLT	1
48	87S02		NUT, binx, self-locking	3
50	11S04E		SCREW, set	2
51	513340800		SPACER	2
52	267S06		WASHER, flat	4
53	7S04		NUT	2
60	555170000		SPACER	2
70	513151800		BRACKET, trunnion	1
71	104S03		NUT	6
72	41S05		WASHER, spring	6
75	66S03CC		SCREW, set	6
80A	513362400	/05854	GUARD, <b>150T</b> <i>Not used with L48V5VSJ1 engine</i>	6
81	11S02A		SCREW, set	2
82	17S03		WASHER, spring	2
85	513362600		PLATE	1
86	11S02C		SCREW, set	2
87	61S02		NUT, Binx	1/2

A - 2A

175T Mixers

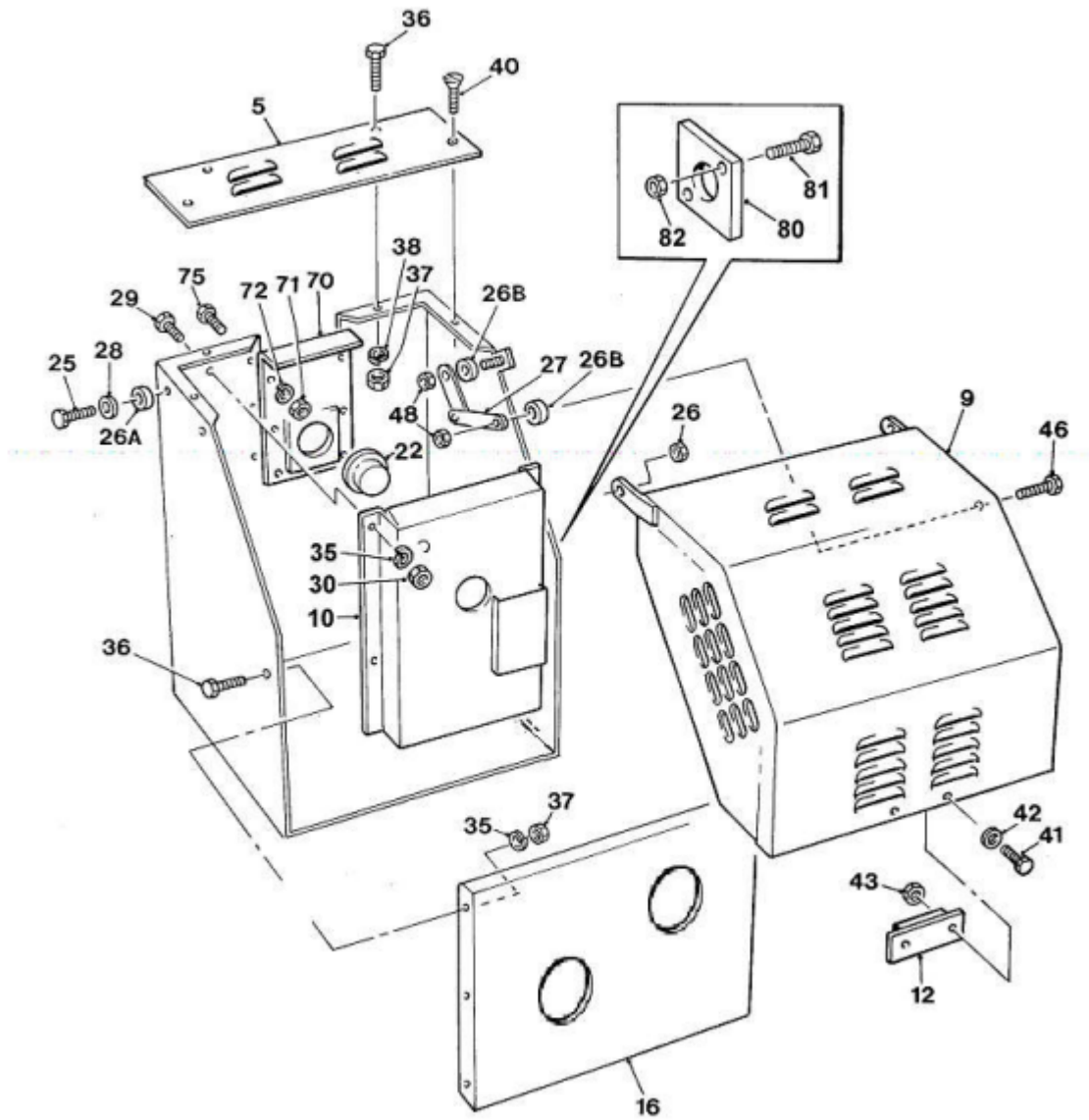


**FOUR WHEEL MAINFRAME & TOW BAR**
**A - 2A**

Item	Part no	Serial no	Description	Qty
2A	513358100	01726 /	AXLE, front	1
8	475115000	02282 /	WHEEL, cushion tyre, 405mm (16") dia	4
18	353830650		PIN, spirol	1
20	44S05G		PIN, split	4
21	10S09		WASHER, flat	4
24	513269400		MAINFRAME	1
24A	513371700	05811/	PLATE, vent	2
24B	11S02A		SCREW, set	8
24C	17S03		WASHER, spring	8
-	513198400		GUARD, tilt wheel, assembly	1
32	513198402		GUARD, upper	1
33	513198401		GUARD, lower	1
34B	11S02B		SCREW, set	2
34C	17S03		WASHER, spring	2
34D	66S03CC		SCREW, set	4
34E	10S03		WASHER, flat	4
34F	41S05		WASHER, spring	4
34G	104S03		NUT	4
50	10S17		WASHER, flat	2
51	44S03D		PIN, split	2
		05604/	<b>175T</b>	
56	513370600		LEVER, handbrake assembly	1
56A	513370800		CATCH, locking, sprung	1
57	513370700		PIVOT, bracket	1
57A	11S04C		SCREW, set, not illustrated	2
57B	17S05		WASHER, spring, not illustrated	2
57C	267S06		WASHER, flat, not illustrated	2
58	10S18		WASHER, flat	1
59	132412010		CIRCLIP	1

A - 2B

175T Mixers



**COVERS & GUARDS**

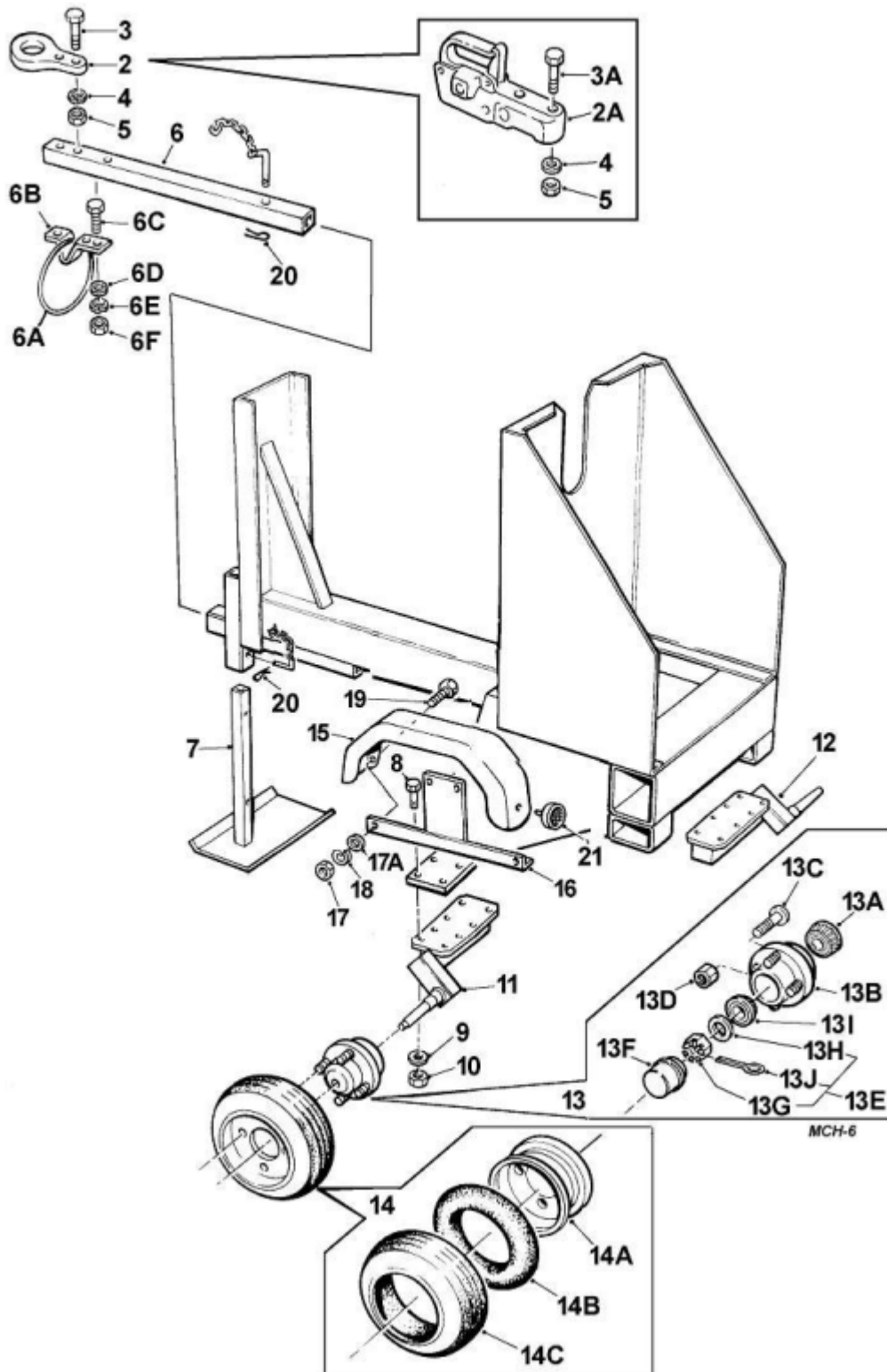
**A - 2B**

Item	Part no	Serial no	Description	Qty
5	513287000		TOP PLATE, engine housing	1
9	513286800		LID, engine housing	1
10	513248700	/05810	GUARD, belt, L48N5SJ1S	1
10A	513371400	05811/	GUARD, belt, L48V5VSJ1	1
12	513205300		STOP, rubber	1
16	513270300		PLATE, closing	1
22	241859000		PLUG, polythene	1
25	11S04E		SCREW, set	2
26	7S04		NUT	2
26A	555170000		SPACER	2
26B	513340800		SPACER	2
27	513287200		STAY, housing lid	1
28	267S06		WASHER, flat	2
29	66S03CC		SCREW, set	4
30	104S03		NUT	4
35	41S05		WASHER, spring	10
36	11S02A		SCREW, set	2
36A	66S03CC		SCREW, set	6
37	7S02		NUT	4
37A	104S03		NUT	6
38	17S03		WASHER, spring	4
40	52S02C		SCREW, c'sunk socket head	2
41	11S02A		SCREW, set	2
42	267S04		WASHER, flat	2
43	61S02		NUT, Binx, self-locking	2
46	6S02E		BOLT	1
48	87S02		NUT, binx	2
70	513151800		BRACKET, trunnion	1
71	104S03		NUT	6
72	41S05		WASHER, spring	6
75	66S03CC		SCREW, set	6
80	513362600		PLATE	1
81	11S02C		SCREW, set	2
82	61S02		NUT, Binx	2



**A - 4**

**100T & 150T Mixers**



**TWO WHEEL MAINFRAME & TOW BAR**

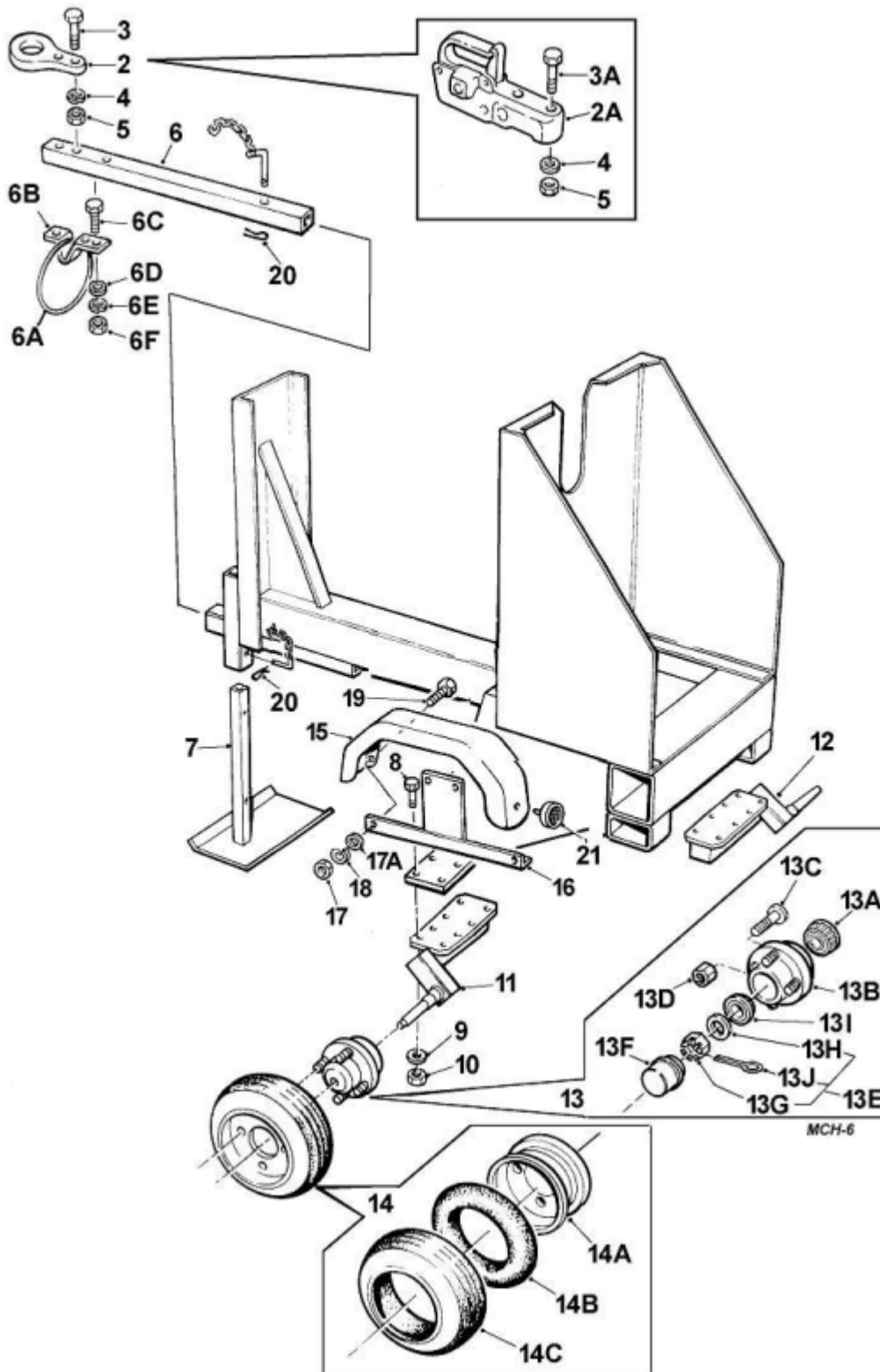
**A - 4**

Item	Part no	Date	Description	Qty
-	513342200		MAINFRAME, assembly, <b>100T</b>	1
-	513342300		MAINFRAME, assembly, <b>150T</b>	1
1	513344200		MAINFRAME, <b>100T</b>	1
1	513344300		MAINFRAME, <b>150T</b>	1
2	513344000		EYE, towing	1
2A	513364700		COUPLING, towing	1
3	8S04E		BOLT	2
3A	8S04L		BOLT	2
4	267S06		WASHER, spring	2
5	59S03		NUT	2
6	513343800		ARM, towing, adjustable	1
6A	V2004765		CABLE, breakaway, towbar	1
6B	V2004765A		SUPPORT, towbar	1
6C	11S04C		SCREW, set	3
6D	267S06		WASHER, flat	3
6E	17S05		WASHER, spring	3
6F	7S04		NUT	3
7	513343900		LEG, adjustable	1
8	8S03B		BOLT	16
9	267S05		WASHER, flat	16
10	61S03		NUT, locking	16
11	475130300		# SUSPENSION UNIT, L.H.	2
12	475130400		# SUSPENSION UNIT, R.H.	2
13	475130200		# HUB, wheel, assembly	2
13A	V600149		KIT, bearing	2
13B	V600150		HUB	1
13C	V600151		\$ KIT, stud, imperial 3/8" UNF	set of 4
13C	V603612		\$ KIT, stud, metric M10 fine	set of 4
13D	V600152		\$ KIT, nut, imperial 3/8" UNF	set of 4
13D	V603611		\$ KIT, nut, metric M10 fine	set of 4
			\$ <i>When ordering state whether "Metric" or "Imperial"</i>	
13E	V600153		KIT, fastening	1
13F	V600154		CAP	1
13G	216S08		NUT, "metric"	1
13G	92S07		NUT, "imperial"	1
13H	10S05		WASHER	1
13I	475117006		BEARING	1
13J	44S03C		PIN, split	1
14	475117021		# WHEEL, assembly	2
14A	V600155		RIM, wheel	1
14B	475117008		TUBE, inner	1
14C	475117007		TYRE	1

# Items 11, 12, 13, & 14 are supplied as part of kit suspension. Part number 513343700

**A - 4**

**100T & 150T Mixers**

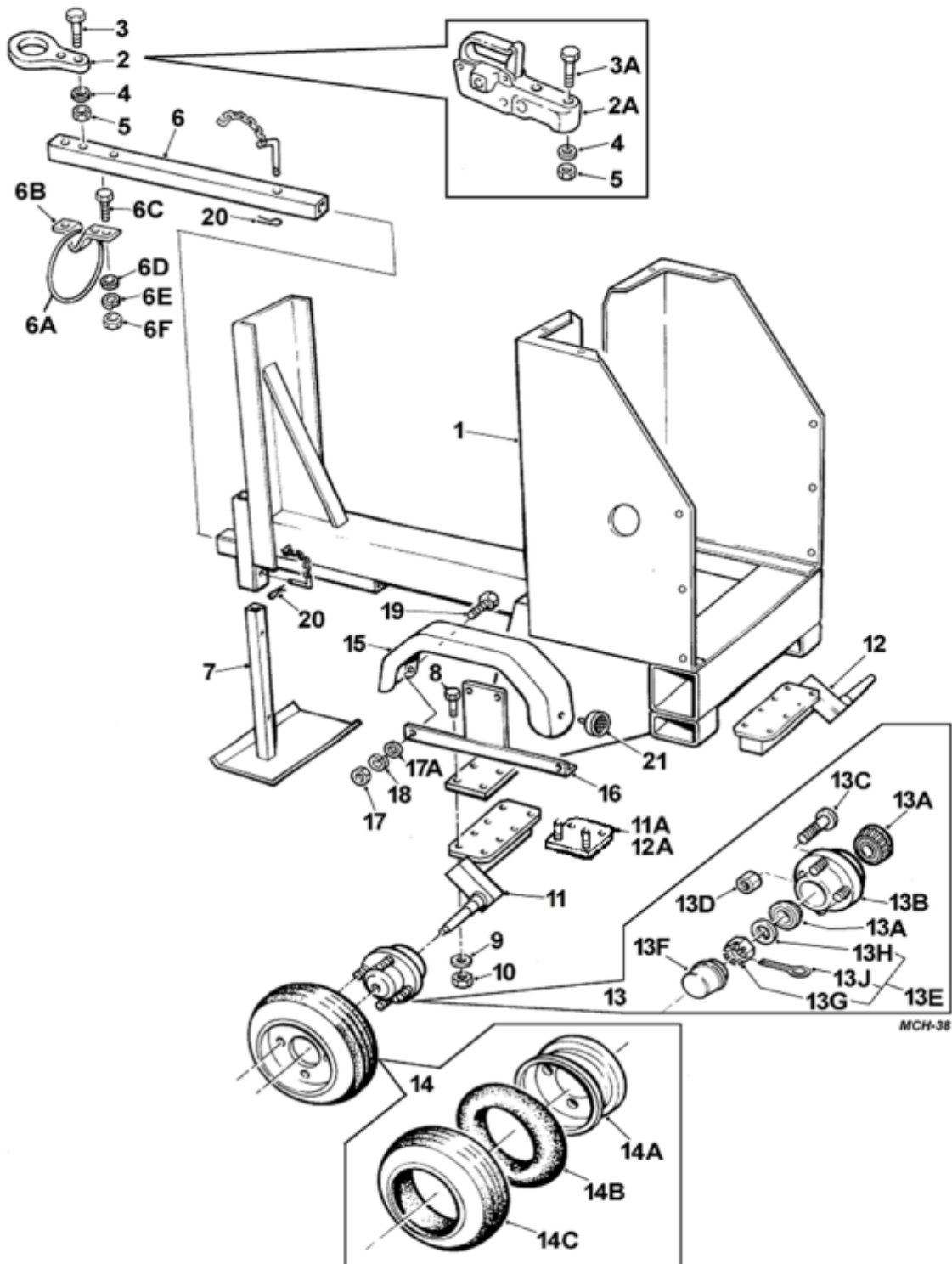


**TWO WHEEL MAINFRAME & TOW BAR**
**A - 4**

Item	Part no	Serial no	Description	Qty
15	513167900		MUDGUARD	2
16	513345700		BRACKET, mudguard	2
17	104S03		NUT	8
17A	V2004220		WASHER, flat	8
18	41S05		WASHER, spring	8
19	200S03E		SCREW, round head	8
20	902S02		PIN, lynch	2
21	386102000		REFLECTOR, red, non triangular, rear of mudguard, not EU from serial nos below	2
<b><i>Following parts are not illustrated</i></b>				
<b><i>From serial nos 100T-09456, 150T-05103</i></b>				
22	386103000		REFLECTOR, white, non triangular front of mudguard	2
22A	513369300S		BRACKET, reflector, white, straight	2
22B	11S01A		SCREW, set	4
22C	267S03		WASHER, flat	6
22D	59S13		NUT, nyloc	4
23	386104000		REFLECTOR, amber, non triangular top of mudguard	2
23A	513369300F		BRACKET, reflector, amber, folded	2
23B	11S01A		SCREW, set	4
23C	267S03		WASHER, flat	6
23D	59S13		NUT, nyloc	4
24	V2006349		BOARD, lighting	1
24A	513369700		BUSH, flanged, plastic	4
25	513369600		PLATE, lighting board mounting	1
25A	8S04F		BOLT, plate retaining	2
25B	V2004220		WASHER, special	4
25C	59S03		NUT, nyloc	2
26	V2006351		NUT, winged	2
27	267S06		WASHER, flat	2
<b><i>From serial nos 100T-11752, 150T-05813</i></b>				
28	513371700		PLATE, vent	2
29	11S02A		SCREW, set	8
30	17S03		WASHER, spring	8

**A - 5**

**175T Mixers**

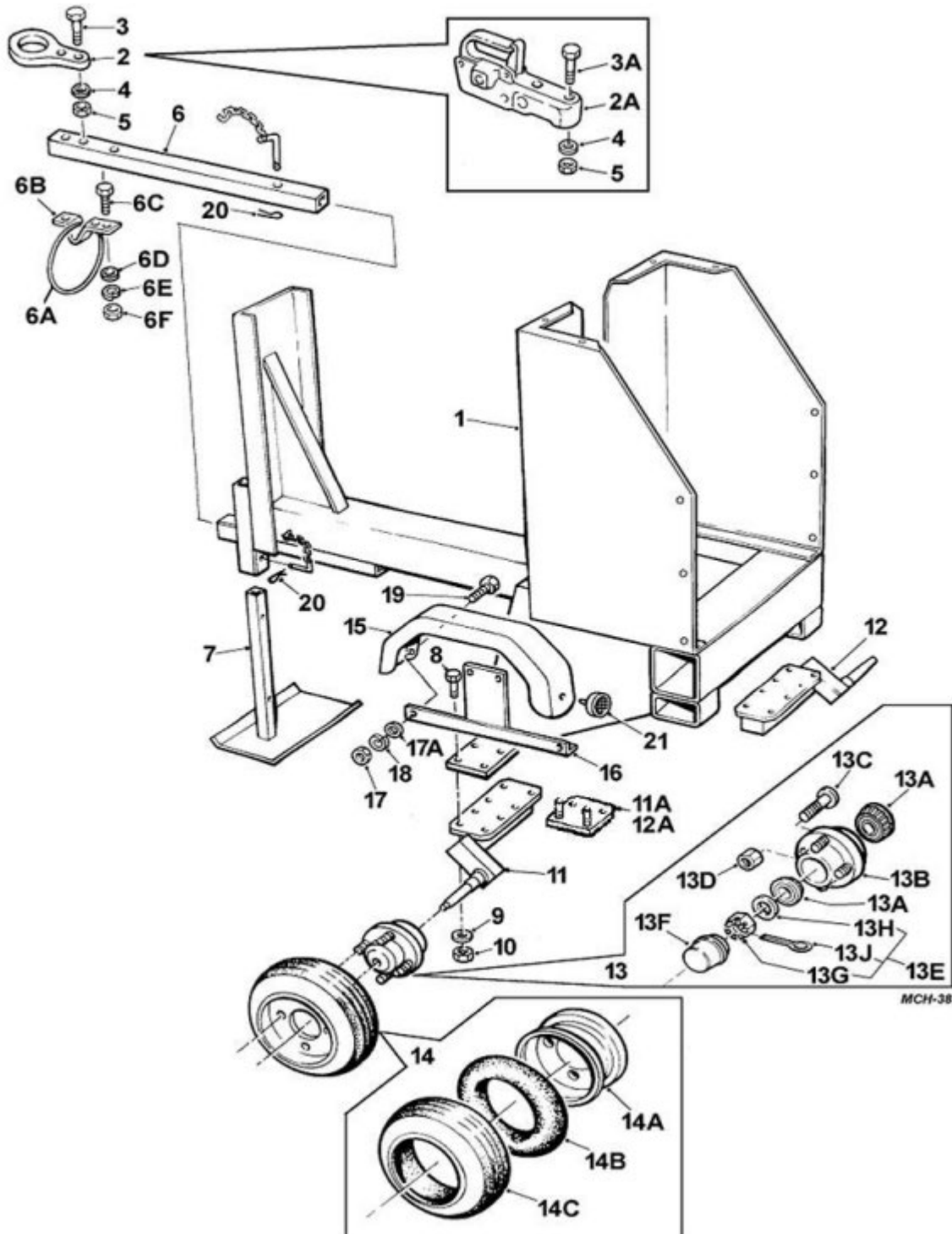


**TWO WHEEL MAINFRAME & TOW BAR**
**A - 5**

Item	Part no	Serial no	Description	Qty
.....	513345100		MAINFRAME, assembly	
1	513360200		MAINFRAME, <b>175T FT</b>	1
2	513344000		EYE, towing	1
2A	513364700		COUPLING, towing	1
3	8S04E		BOLT	2
3A	8S04L		BOLT	2
4	267S06		WASHER, spring	2
5	59S03		NUT	2
6	513343800		ARM, towing, adjustable	1
6A	V2004765		CABLE, breakaway, towbar	1
6B	V2004765A		SUPPORT, towbar	1
6C	11S04C		SCREW, set	3
6D	267S06		WASHER, flat	3
6E	17S05		WASHER, spring	3
6F	7S04		NUT	3
7	513343900		LEG, adjustable	1
8	11S05E		SCREW, set	16
8A	11S05F	05250/	SCREW, set, <i>use with 11A &amp; 12A</i>	4
9	267S07		WASHER, flat	16
10	61S05		NUT, locking	16
11	475130500		SUSPENSION UNIT, L.H.	2
<i>Peak Dynamic Suspension units with a longer radius arm introduced from S/No 05250. If replacing earlier units with Peak they must be replaced in pairs</i>				
11A	513370200	05250/	BRACKET, mudguard LH (PEAK SUS)	1
11B	59S04	05250/	NUT, nyloc	2
11C	267S07	05250/	WASHER, flat	2
12	475130600		SUSPENSION UNIT, R.H.	2
<i>Peak Dynamic Suspension units with a longer radius arm introduced from S/No 05250. If replacing earlier units with Peak they must be replaced in pairs</i>				
12A	513370100	05250/	BRACKET, mudguard RH (PEAK SUS)	1
12B	59S04	05250/	NUT, nyloc	2
12C	267S07	05250/	WASHER, flat	2
13	475130800		HUB, wheel, assembly	2
13A	V602718		KIT, bearing	2
13B	V602719		HUB	1
13C	V602721		KIT, stud	4
13D	V602720		KIT, wheel nut	4
13E	V600153		KIT, fastening	1
13F	V602722		CAP	1
13G	216S08		NUT, "metric"	1
13G	92S07		NUT, "imperial"	1
13H	10S05		WASHER	1
13J	44S03C		PIN, split	1

**A - 5**

**175T Mixers**



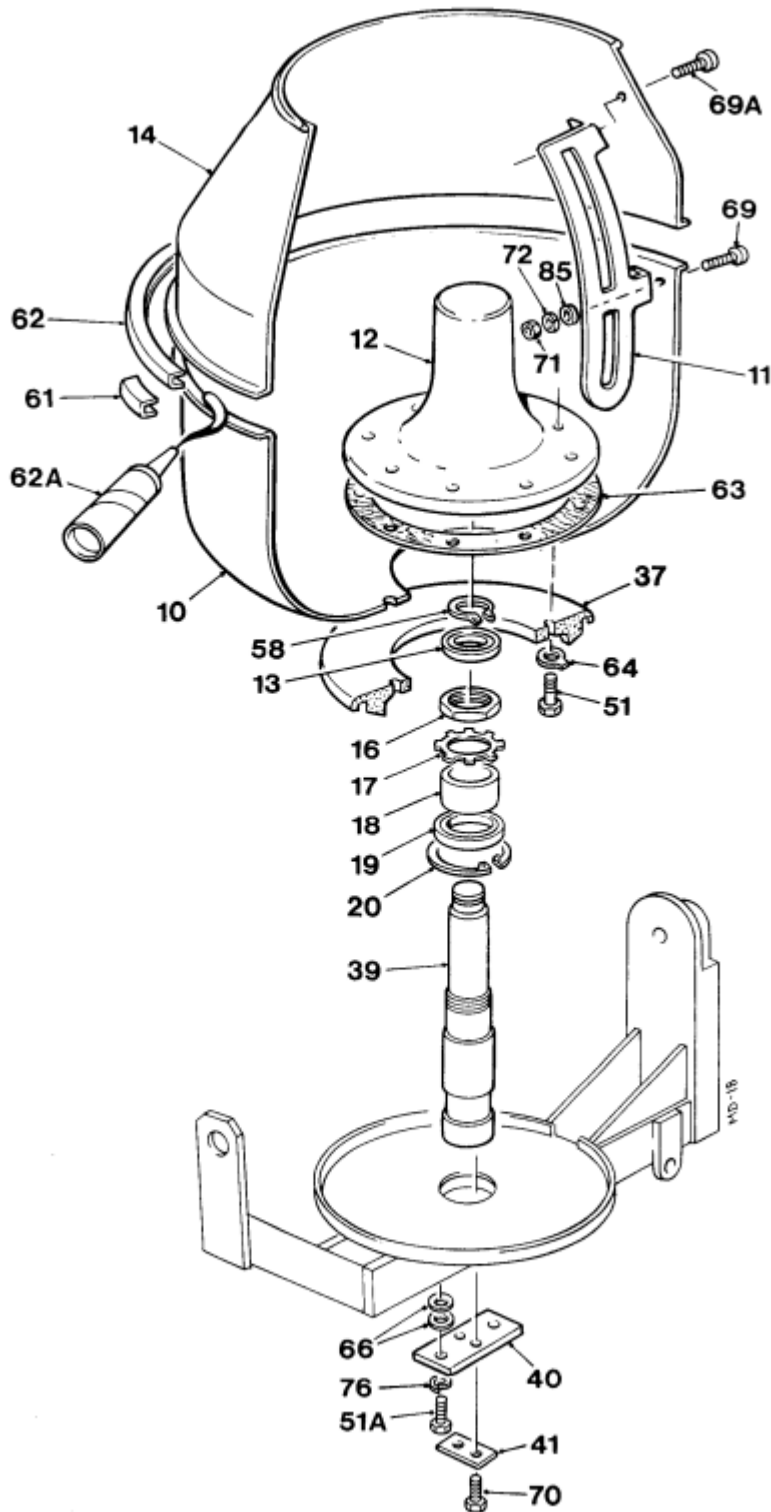
**TWO WHEEL MAINFRAME & TOW BAR**
**A - 5**

Item	Part no	Serial no	Description	Qty
13H	10S05		WASHER	1
13J	44S03C		PIN, split	1
14	475130700		WHEEL, assembly, 10"	2
14A	V602717		RIM, wheel, 10"	1
14B	475123001		TUBE, inner	1
14C	475123002		TYRE, 10"	1
15	513361000		MUDGUARD, plastic	2
16	513361100		BRACKET, mudguard	2
17	104S03		NUT	8
17A	V2004220		WASHER, "Special"	8
18	41S05		WASHER, spring	8
19	200S03E		SCREW, round head	8
20	902S02		PIN, lynch	2
21	386102000		REFLECTOR, red, non triangular rear of mudguard	2
<b>Following parts are not illustrated</b>				
21A	386103000	05101/	REFLECTOR, white, non triangular front of mudguard	2
21B	11S01A	05101/	SCREW, set, reflector mounting	2
21C	267S03	05101/	WASHER, flat	2
21D	59S13	05101/	NUT, nyloc	2
22	V2006349	05101/	BOARD, lighting	1
22A	513369700	05101/	BUSH, flanged, plastic	4
23	513369600	05101/	PLATE, lighting board mounting	1
23A	8S04F	05101/	BOLT, plate retaining	2
23B	V2004220	05101/	WASHER, special	4
23C	59S03	05101/	NUT, nyloc	2
23D	V2006351	05101/	NUT, winged	2
23E	267S06	05101/	WASHER, flat	2
The mudguard, item no 15, part no 513361000, is normally supplied fitted with a rectangular amber side reflector, should the mudguard not be supplied with the integral reflectors the following parts may be fitted				
24	386104000	05101/	REFLECTOR, amber, non triangular top of mudguard	2
24A	513369300F	05101/	BRACKET, folded, amber reflector	2
24B	11S01A	05101/	SCREW, set	6
24C	267S03	05101/	WASHER, flat	10
24D	59S13	05101/	NUT, nyloc	6
		05811/		
25	513371700		PLATE, vent	2
26	11S02A		SCREW, set	8
27	17S03		WASHER, spring	8



**B - 1A**

**100T, 150T & 175T Mixers**

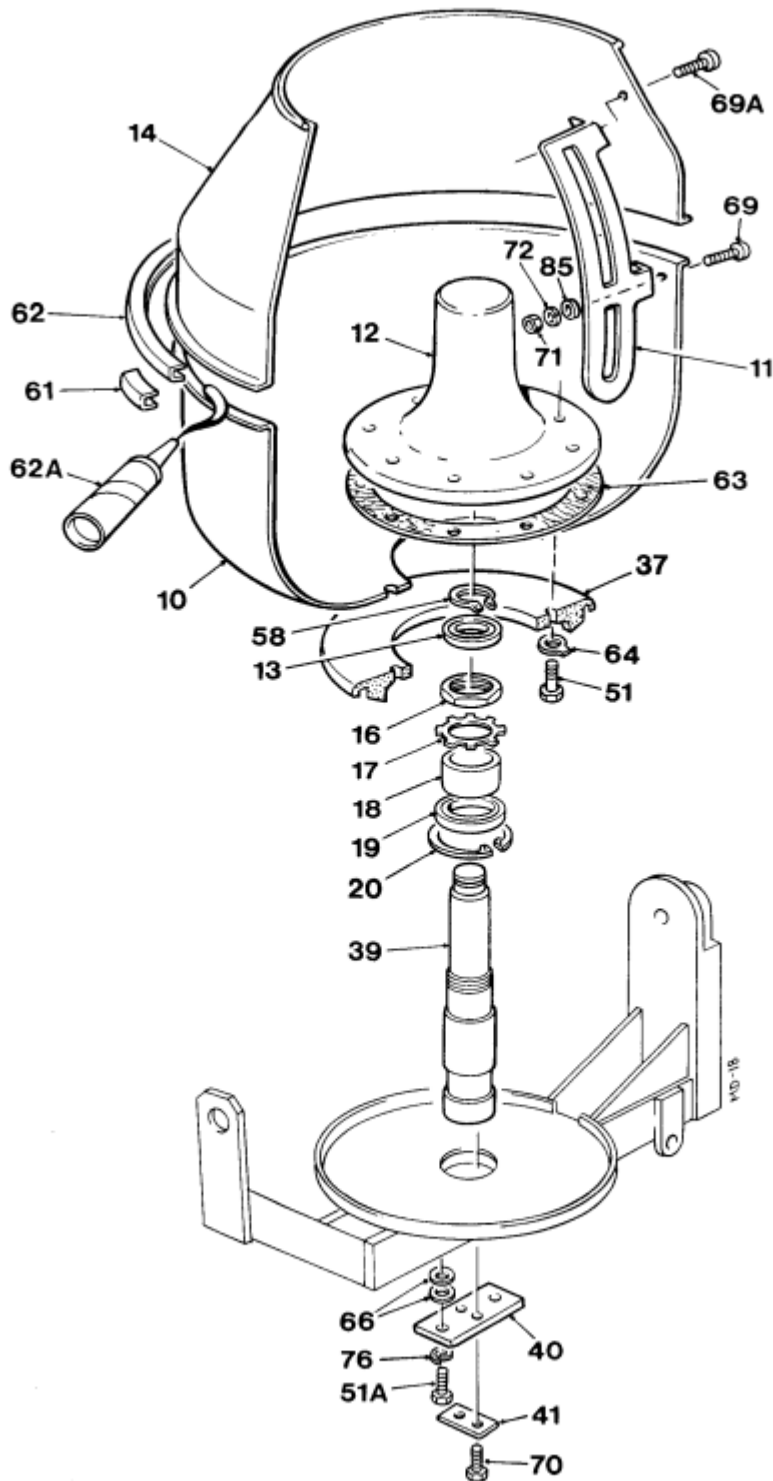


**DRUM**
**B - 1A**

Item	Part no	Serial no	Description	Qty
10	513152901		BASE, drum, <b>100T</b>	1
10	513161001		BASE, drum, <b>150T &amp; 175T</b>	1
11	513151100		BLADE, <b>100T</b>	2
11	513157500		BLADE, <b>150T &amp; 175</b>	2
12	513149600		DRUM CENTRE	1
13	88S07D		BEARING	1
14	513152902		CONE, drum, <b>100T</b>	1
14	513161002		CONE, drum, <b>150T</b>	1
14	513203202		CONE, drum, <b>175T</b>	1
16	513208800		NUT, locking	1
17	22096210		WASHER, locking	1
18	513152300		DISTANCE PIECE, drum shaft	1
19	88S20D		BEARING	1
20	132390000		CIRCLIP	1
37	513150100		BEVEL GEAR, drum	1
39	513152200		SHAFT, drum	1
40	513152000		FLANGE, drum shaft	1
41	513152100		WASHER, tab	1
51	66S05D		SCREW	8
51A	28S05G		SCREW	2
58	142330000		CIRCLIP	1
61	513203900		BRIDGE PIECE, <b>100T</b>	1
61	513203800		BRIDGE PIECE, <b>150T &amp; 175T</b>	1
62	513203600		CLIP, drum, <b>100T</b>	1
62	513203100		CLIP, drum, <b>150T &amp; 175T</b>	1
62A	V2000772		SEALANT	tube 1
63	513202800		GASKET	1
64	513199800		WASHER, tab	6
66	10S04		WASHER, flat	AR
69A	200S03E		SCREW, blade upper, <b>100T</b> , obsolete, use	
69A	301S06F		SCREW, blade upper, <b>100T</b> , metric	4
69	200S03G		SCREW, blade lower, <b>100T</b> , obsolete, use	
69	301S06H		SCREW, blade lower, <b>100T</b> , metric	4
69A	200S03G		SCREW, blade upper, <b>150T/175T</b> obsolete, use	
69A	301S06H		SCREW, blade upper <b>150T/175T</b> metric	4
69	200S03H		SCREW, blade lower, <b>150T/175T</b> obsolete, use	
69	301S06J		SCREW, blade lower <b>150T/175T</b> metric	4

**B - 1A**

**100T, 150T & 175T Mixers**



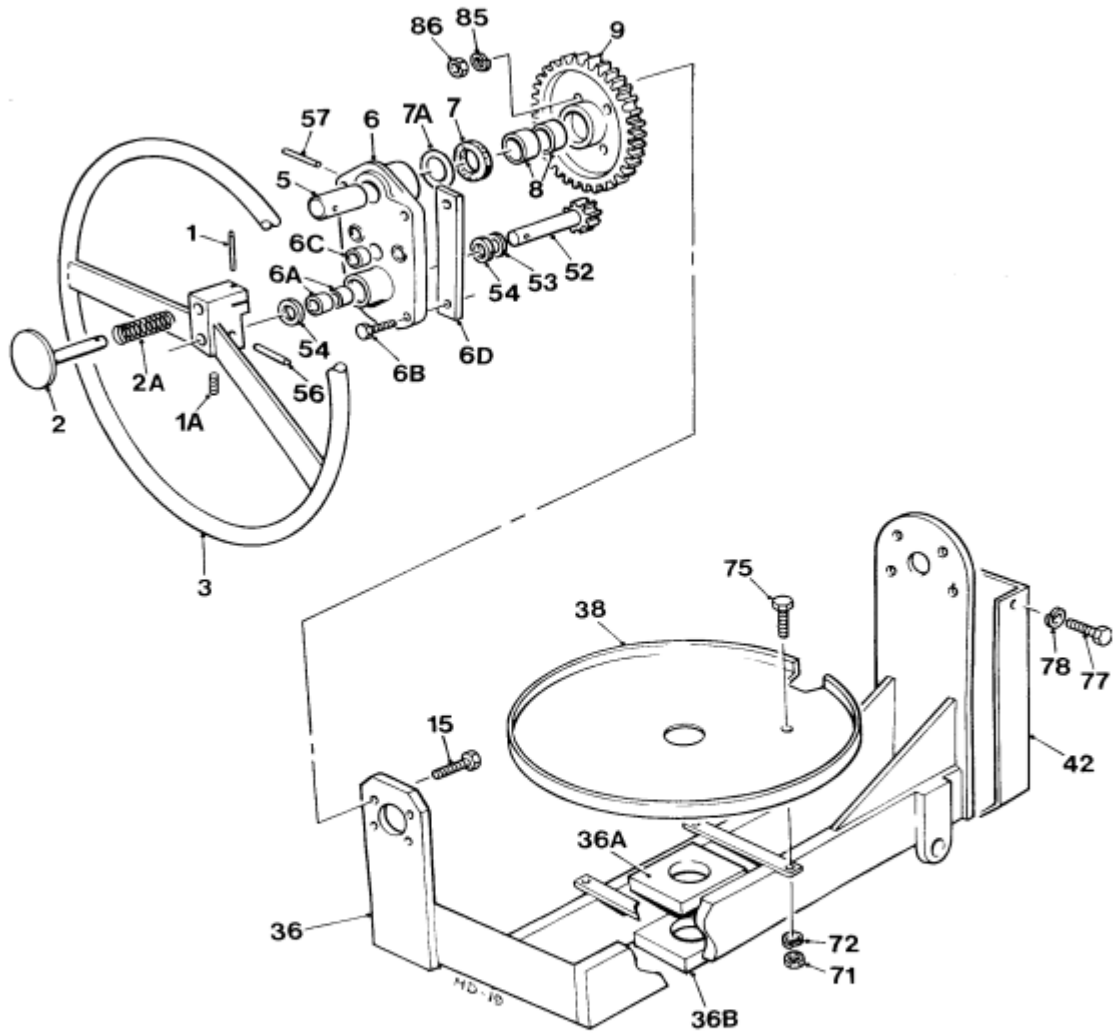
**DRUM**

**B - 1A**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
70	28S05G		SCREW	2
71	104S03		NUT, imperial, obsolete, use	
71	7S04		NUT, metric	8
72	41S05		WASHER, spring, imperial, obsolete, use	
72	17S05		WASHER, spring, metric	8
76	41S07		WASHER, spring	2
85	10S03		WASHER, flat, imperial, obsolete, use	
85	267S06		WASHER, flat, metric	8

**B - 1B**

**100T, 150T & 175T Mixers**



**TRUNNION & TILT WHEEL**

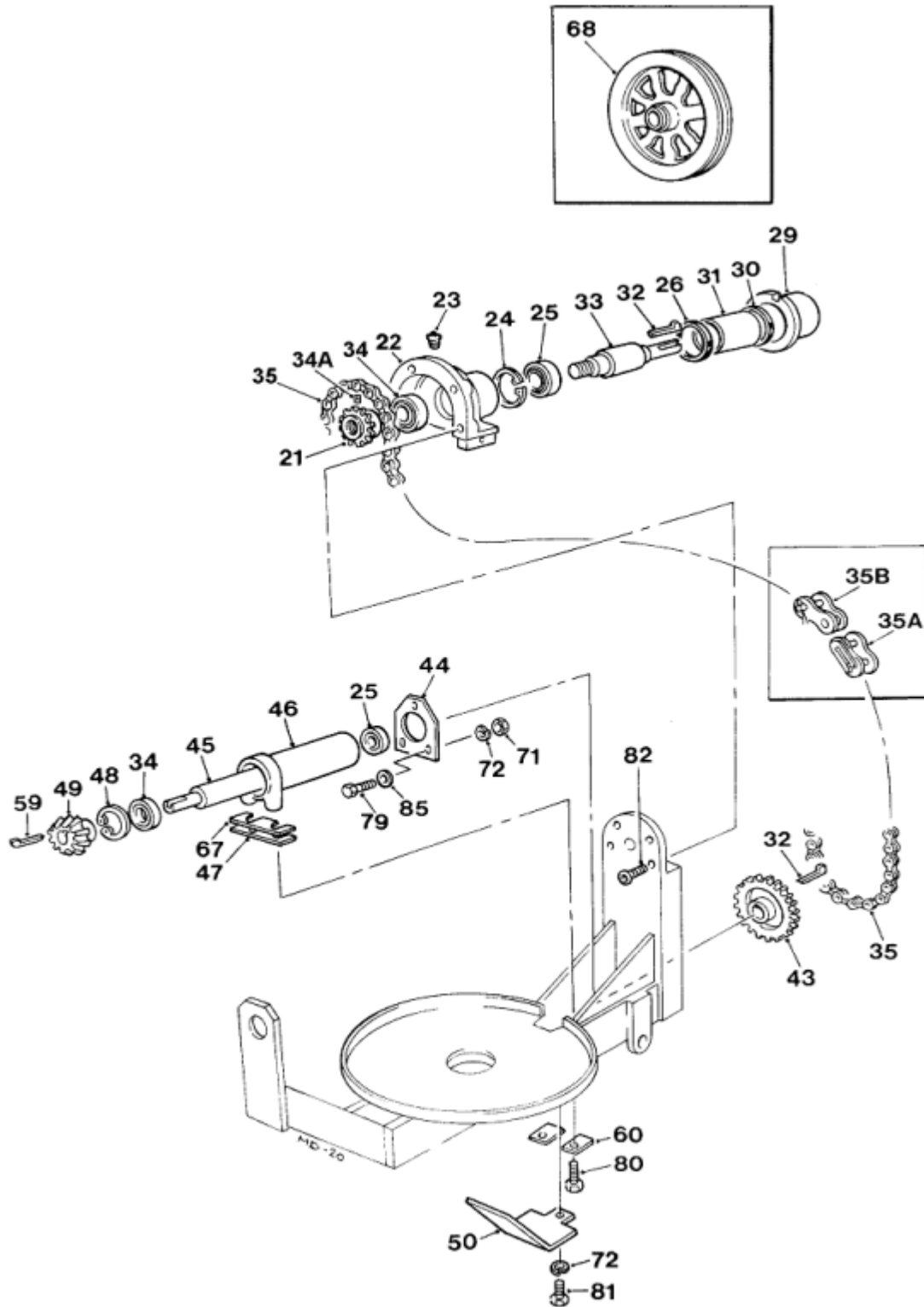
**B - 1B**

Item	Part no	Serial no	Description	Qty
1	54S01A		PIN, spirol	1
1A	57S06F1		SCREW, grub,	1
2	513194400		PLUNGER, locking	1
2A	513345300		SPRING, plunger	1
3	513345400		HANDWHEEL	1
5	513151000		STUB, trunnion journal	1
-	513149400		BRACKET, tilting, assembly	1
6	-		BRACKET, tilting (order assembly)	1
6A	112821000		BUSH	2
6B	103S04C		SCREW, socket head cap	4
6C	114625320		BUSH	3
6D	513212300		RETAINING BAR, tilting bracket	2
7	225520280		FELT SEAL	1
7A	10S09		WASHER, flat	AR
8	112820000		BUSH	2
9	513149300		GEAR, tilting	1
15	6S03E		BOLT	4
36	513211400		TRUNNION, <b>100T</b>	1
36	513211500		TRUNNION, <b>150T &amp; 175T</b>	1
36A	513212000		PLATE, upper (welded)	1
36B	513212000		PLATE, lower (welded)	1
38	513153000		GUARD, bevel gear	1
42	513152700		GUARD, chain, <b>100T</b>	1
42	513203300		GUARD, chain, <b>150T &amp; 175T</b>	1
52	513345600		PINION, tilting	1
53	10S18		WASHER, flat	1
54	225514220		WASHER, felt	2
56	513374900		PIN, grooved	1
57	55S07Q		PIN, spirol	1
71	104S03		NUT	4
72	41S05		WASHER, spring	4
75	66S03CC		SCREW, set	4
77	66S02CC		SCREW, set	2
78	41S04		WASHER, spring	2
85	10S03		WASHER, flat	4
86	107S14		NUT, 'Nyloc' self-locking	4

July '15

**B - 1C**

**100T, 150T & 175T Mixers**



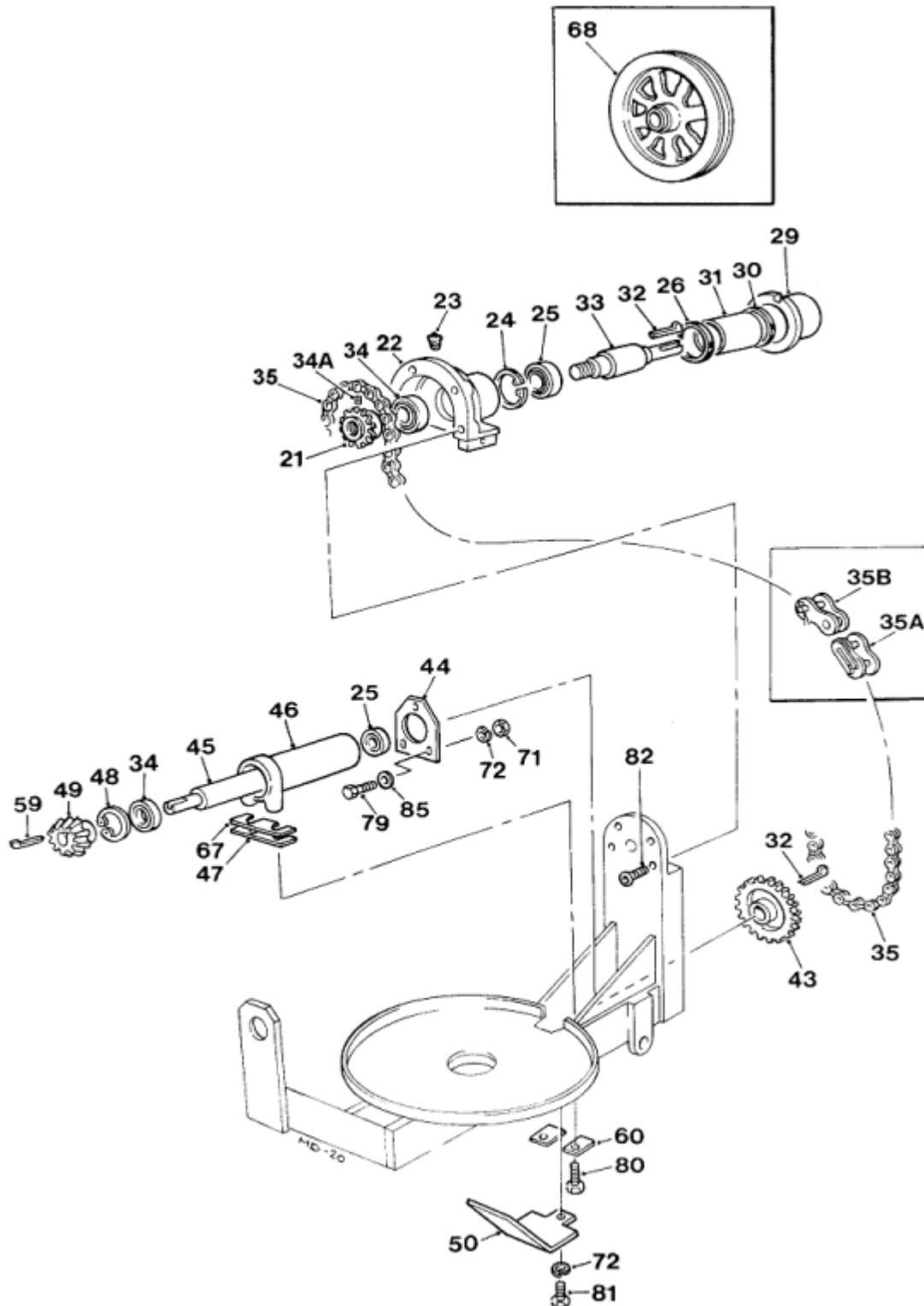
**DRUM DRIVE**
**B - 1C**

Item	Part no	Serial no	Description	Qty
21	513151600		SPROCKET, countershaft, L.H. thread	1
22	513149700		JOURNAL, trunnion	1
23	315803100		PLUG, lubricating	1
24	132352000		CIRCLIP	1
25	88S15D		BEARING	2
26	49S41		O' RING, 79mm I/D	1
29	513150400		BEARING, trunnion	1
30	49S42		O' RING, 75.5mm I/D	1
31	513153100		BEARING	1
32	300204140		KEY, gib head	2
33	513151700		COUNTERSHAFT, L.H. thread	1
34	88S05D		BEARING	2
34A	57S04D2		SCREW, grub	1
35	134105056		CHAIN, <b>100T</b>	1
35	134105060		CHAIN, <b>150T &amp; 175T</b>	1
35A	134105002		LINK, connecting	
35B	134105001		LINK, half	AR
43	513150300		SPROCKET, bevel pinion shaft	1
44	513298900		PLATE, adjusting	1
45	513152500		SHAFT, bevel pinion, <b>100T</b>	1
45	513158700		SHAFT, bevel pinion, <b>150T &amp; 175T</b>	1
46	513149800		HOUSING, pinion shaft, <b>100T</b>	1
46	513160700		HOUSING, pinion shaft, <b>150T &amp; 175T</b>	1
47	513152400		PACKING PIECE ( <i>set of 4</i> )	sets 2
48	132362000		CIRCLIP	1
49	513278400		BEVEL PINION	1
50	513211800		GUARD, bevel pinion	1
59	300204140		KEY, gib head	1
60	513211900		WASHER, tab	2
67	513211700		PACKER	1
68	513290700		PULLEY, 'V'	1
71	104S03		NUT	2



**B - 1C**

**100T, 150T & 175T Mixers**

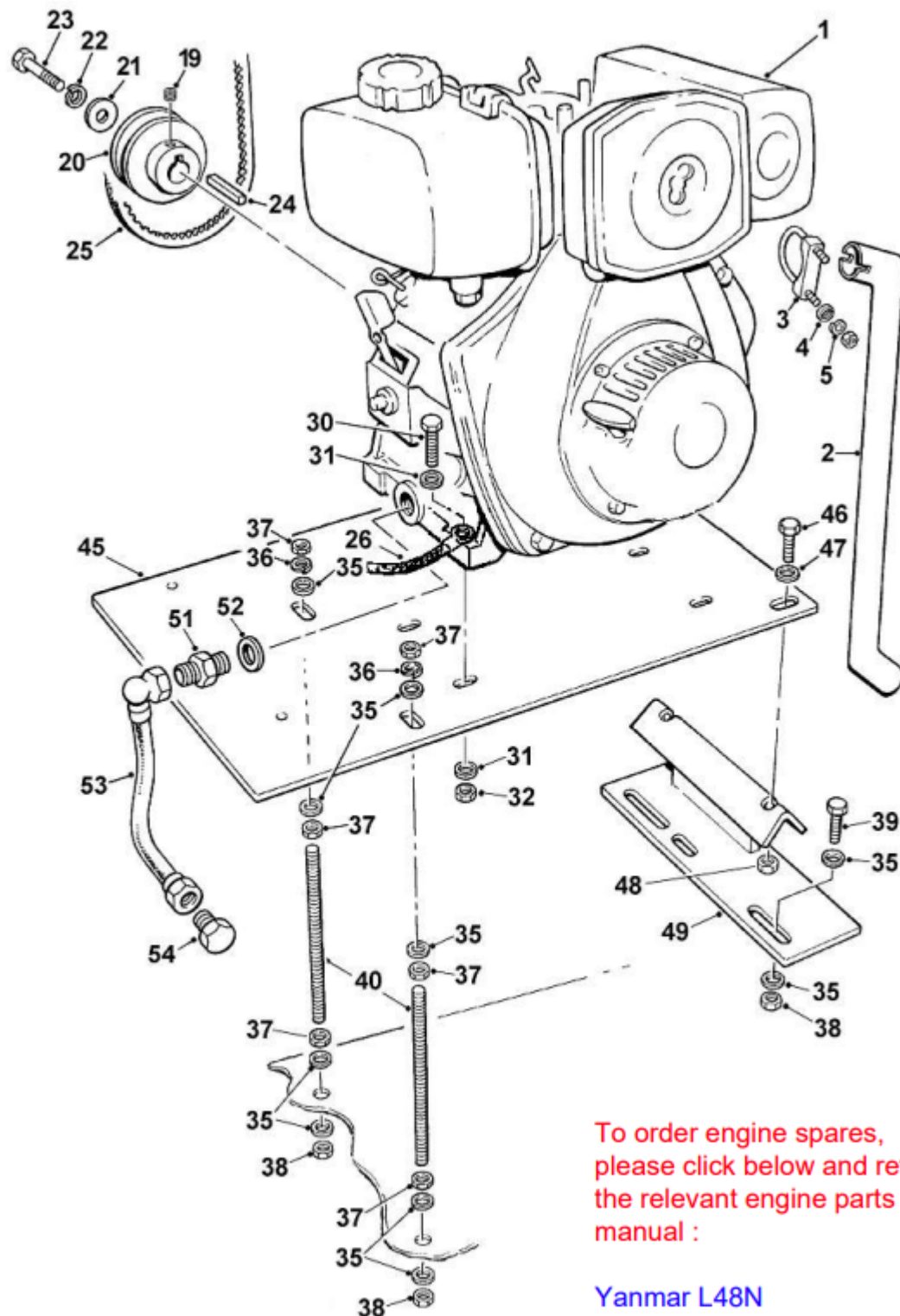


**DRUM DRIVE****B - 1C**

<u>Item</u>	<u>Part no</u>	<u>Serial no</u>	<u>Description</u>	<u>Qty</u>
72	41S05		WASHER, spring	4
79	66S03C		SCREW	3
80	66S03D		SCREW	2
81	66S03AA		SCREW	1
82	208S03F		SCREW, c/sunk socket	4
85	10S03		WASHER, flat	3

**C - 5**

**100T, 150T & 175T Mixers**



To order engine spares,  
please click below and refer to  
the relevant engine parts  
manual :

[Yanmar L48N](#)

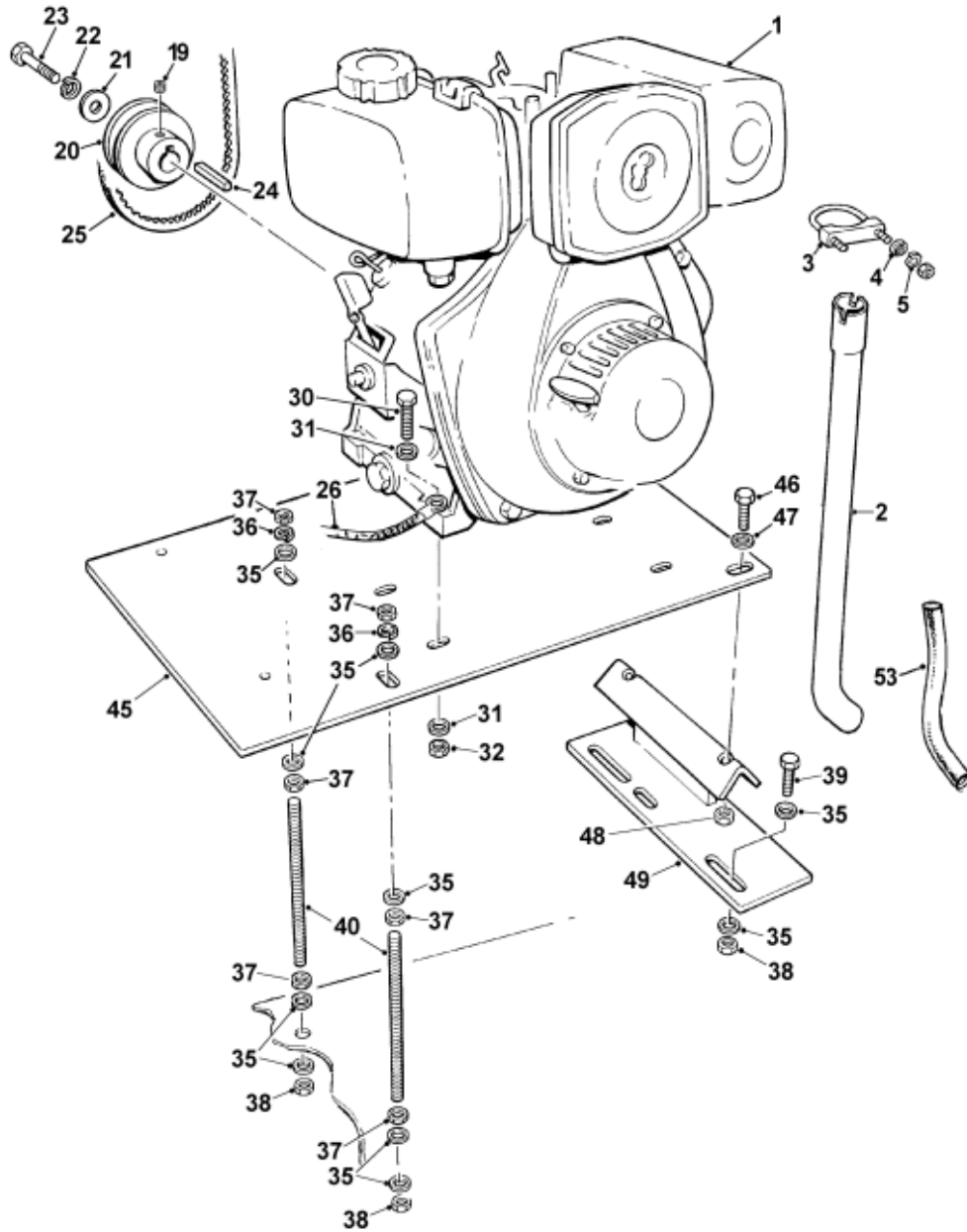
**YANMAR L48N5SJ1 (electric start)  
Engine & mounts**

**C - 5**

Item	Part no	Serial no	Description	Qty
<b>NOTE: For Battery, start switch &amp; loom, see page C-6</b>				
1	V2005210		ENGINE, Yanmar L48N5SJ1 <i>For Stage 5 Emission Compliant Engine, L48V5VSJ1, see page C-5A</i>	1
2	513361600		PIPE, exhaust	1
3	153S02		CLAMP, exhaust	1
4	267S05		WASHER, flat	2
5	17S04		WASHER, spring	2
19	57S04D2		SCREW, grub	1
20	V2005220		PULLEY	1
21	V2004220		WASHER, 'Special'	1
22	17S04		WASHER, spring	1
23	8S03D		BOLT	1
24	305110550		KEY, parallel	1
25	397400200		BELT, 'V', <b>100T</b>	1
25	397400600		BELT, 'V', <b>150T &amp; 175T</b>	1
26	.....		CABLE, negative (See page C-6)	1
30	8S03D		BOLT	4
31	267S05		WASHER, flat	8
32	61S03		NUT, self- locking "Binx"	4
35	267S07		WASHER, flat	12
36	17S06		WASHER, spring	2
37	7S05		NUT	6
38	61S05		NUT, self- locking "Binx"	4
39	11S05D		SCREW, set	2
40	513333100		STUD	2
45	513361800		PLATE, engine mounting	1
46	8S04D		BOLT	2
47	V2004220		WASHER, flat	2
48	61S04		NUT, self- locking "Binx"	2
49	513358800		SUPPORT, bracket	1
51	325S04		ADAPTOR, male/male	1
52	298S05		SEAL, bonded	1
53	31S02LL		HOSE, hydraulic	1
54	127S03		PLUG, blanking, engine oil drain	1

C - 5A

100T, 150T & 175T Mixers

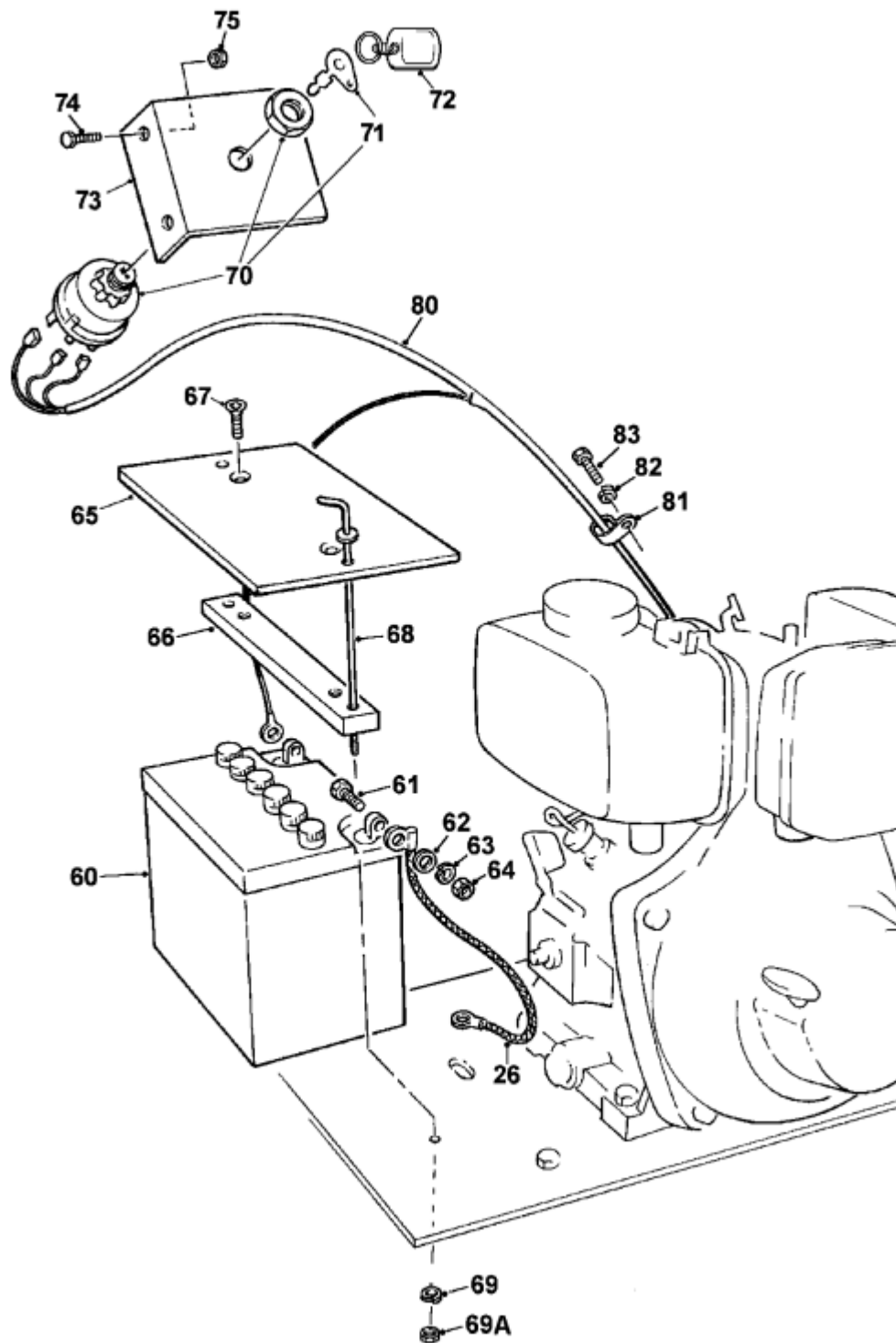


**YANMAR L48V5VSJ1 (electric start) Stage 5 Compliant C - 5A  
Engine & mounts**

Item	Part no	Serial no	Description	Qty
<b>NOTE: For Battery, start switch &amp; loom, see page C-6</b>				
		11752 /	<b>100T</b>	
		05855 /	<b>150T</b>	
		05858 /	<b>175T</b>	
1	V2006401		ENGINE, Yanmar L48V5VSJ1, Stage 5	1
2	513371300		PIPE, exhaust	1
3	153S02		CLAMP, exhaust	1
4	267S05		WASHER, flat	2
5	17S04		WASHER, spring	2
19	57S04D2		SCREW, grub	1
20	V2005220		PULLEY	1
21	V2004220		WASHER, 'Special'	1
22	17S04		WASHER, spring	1
23	8S03D		BOLT	1
24	305110550		KEY, parallel	1
25	397400200		BELT, 'V', <b>100T</b>	1
25	397400600		BELT, 'V', <b>150T &amp; 175T</b>	1
26	.....		CABLE, negative ( <i>See page C-6</i> )	1
30	8S03D		BOLT	4
31	267S05		WASHER, flat	8
32	61S03		NUT, self- locking "Binx"	4
35	267S07		WASHER, flat	12
36	17S06		WASHER, spring	2
37	7S05		NUT	4
38	61S05		NUT, self- locking "Binx"	6
39	11S05D		SCREW, set	2
40	513333100		STUD	2
45	513361800		PLATE, engine mounting	1
46	8S04D		BOLT	2
47	V2004220		WASHER, flat	2
48	61S04		NUT, self- locking "Binx"	2
49	513358800		SUPPORT, bracket	1
51	.....		TAP, oil drain, not illustrated ( <i>refer to engine parts manual</i> )	1
53	29S22		HOSE,oil drain, 450mm long	1

C - 6

100T, 150T & 175T Mixers



**YANMAR L48N5SJ1 & L48V5VSJ1 (electric start)  
Battery, start switch & loom**

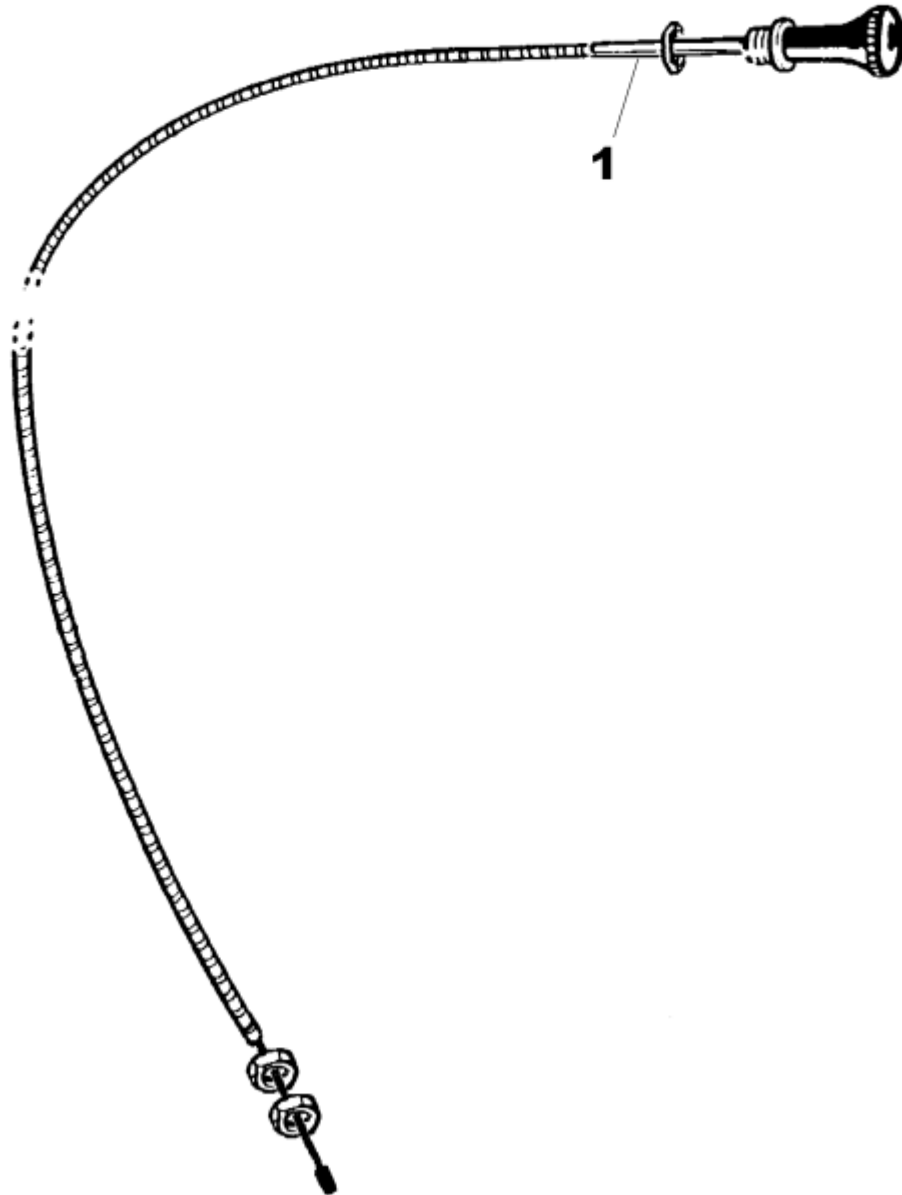
**C - 6**

Item	Part no	Serial no	Description	Qty
		06737 / 02719 /	<b>100T 150T &amp; 175T</b>	
26	V2005211		CABLE, negative	1
60	109S11		BATTERY, 12 volt	1
61	11S02B		SCREW, set	2
62	267S04		WASHER, flat	2
63	17S03		WASHER, spring	2
64	7S02		NUT	2
65	513362000		COVER, battery	1
66	513361900		CLAMP, battery	1
67	52S02E		SCREW, counter sunk	2
68	513361700		ROD, battery clamp	2
69	17S03		WASHER, spring	2
69A	7S02		NUT	2
70	V2003561		SWITCH, start, c/w key	1
71	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



C - 6A

100T, 150T & 175T Mixers



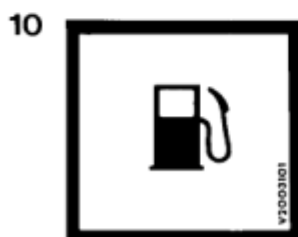
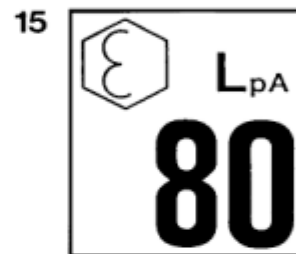
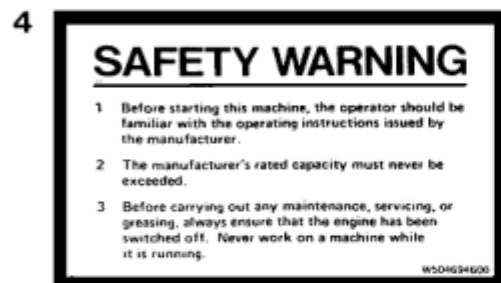
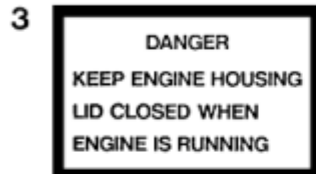
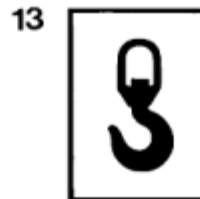
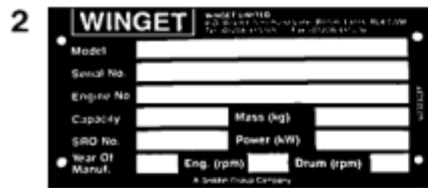
**YANMAR L48N5SJ1 (electric start)**  
**Emergency Stop Cable**

**C - 6A**

Item	Part no	Serial no	Description	Qty
		11195 /	<b>100T</b>	
		05637 /	<b>150T</b>	
		05604/	<b>175T</b>	
1	513370900		CABLE, emergency stop	1
2	267S04		WASHER, flat	2
3	V2006398		TIE, Cable, panel mount	1

D - 1

100T, 150T & 175T Mixers



**DECALS & PLATES**

**D - 1**

Item	Part no	Serial no	Description	Qty
				1
2	V2003037		PLATE, serial	1
—	101S05B		RIVET, pop	4
3	504600900		DECAL, "Engine housing lid closed"	1
4	504694600		DECAL, "Safety Warning"	1
8	V2003039		DECAL, "WINGET" logo,	3
9	V2003038		DECAL, stripe, 2 colour	AR
10	V2003101		DECAL, "Diesel fuel"	1
13	V2003665		DECAL, "Sling point"	1
14	V2003598		DECAL, "British made"	1
15	V2004130		DECAL, "LPA 80"	1
17	V2004307		DECAL, "Electrical hazard"	1
18	V2005208		DECAL, "Engine starting procedure"	1

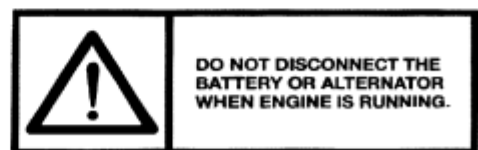
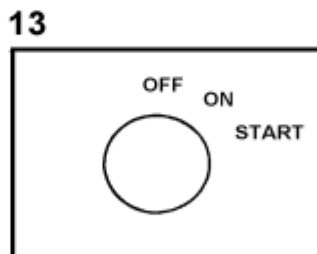
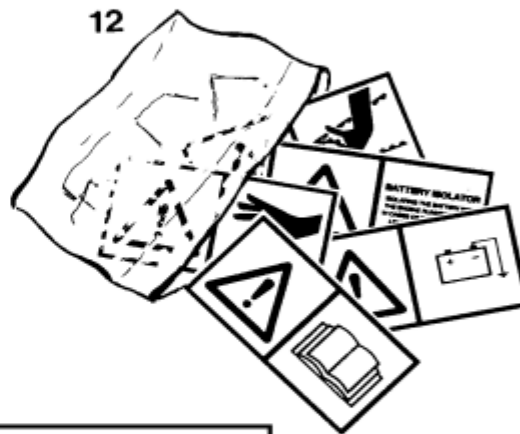
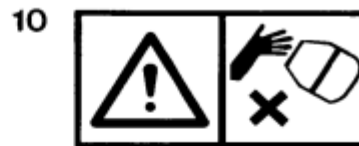
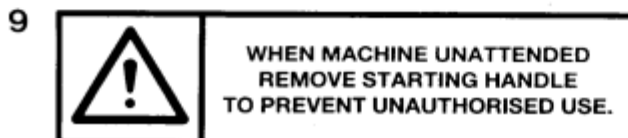
D - 2

100T 150T & 175T Mixers

1 **100 T**

2 **150 T**

3 **175 T**




**DECALS & PLATES**


**D - 2**

Item	Part no	Serial no	Description	Qty
1	V2003105		DECAL, "100T", Black	2
2	V2003106		DECAL, "150T" Black	2
3	V2003107		DECAL, "175T" Black	2
4	V2004227		DECAL, "Battery isolator"	1
5	V2004229		DECAL, "Operators handbook"	1
6	V2004235		DECAL, "Negative earth"	1
7	V2004282		DECAL, "Hot surface"	1
8	V2004281		DECAL, "Chain drive"	1
9	V2004288		DECAL, "Remove start handle"	1
10	V2004289		DECAL, "Keep hands clear of drum"	1
11	V2004302		DECAL, Engine stop"	1
12	V601906		KIT, decals, 100T, 150T, 175T Each kit contains all of the decals required for one machine.	1
13	V2005218		DECAL "Key switch"	1
14	V2004796		DECAL "Do not disconnect battery"	1
15	V2004223		DECAL "CE mark"	1


D - 2A

100T 150T & 175T Mixers

1  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. V1000236

2  LWA  
**101** dB V1000311

8 **EMERGENCY STOP**  
TO BE USED IN EMERGENCY ONLY


4  THE RECOIL STARTER SHOULD ONLY BE USED AS AN "EMERGENCY" MEANS OF STARTING THE ENGINE AND SHOULD BE USED WITH CARE. BE AWARE THAT STARTING THE ENGINE WITH THE RECOIL DUE TO THE ABSENCE OF THE START KEY OR BATTERY OR BECAUSE THE BATTERY IS DISCHARGED WILL RESULT IN DAMAGE TO THE ALTERNATOR. V1000216

9 **UK**  
**CA**

5 **ENGINE STOP** 

6  **IMPORTANT!**  
TO AVOID INJURY OR MACHINE DAMAGE DO NOT ENGAGE LOCKING PLUNGER WHILST HAND/WHEEL IN MOTION

10 **UK**  
**NI**

7 

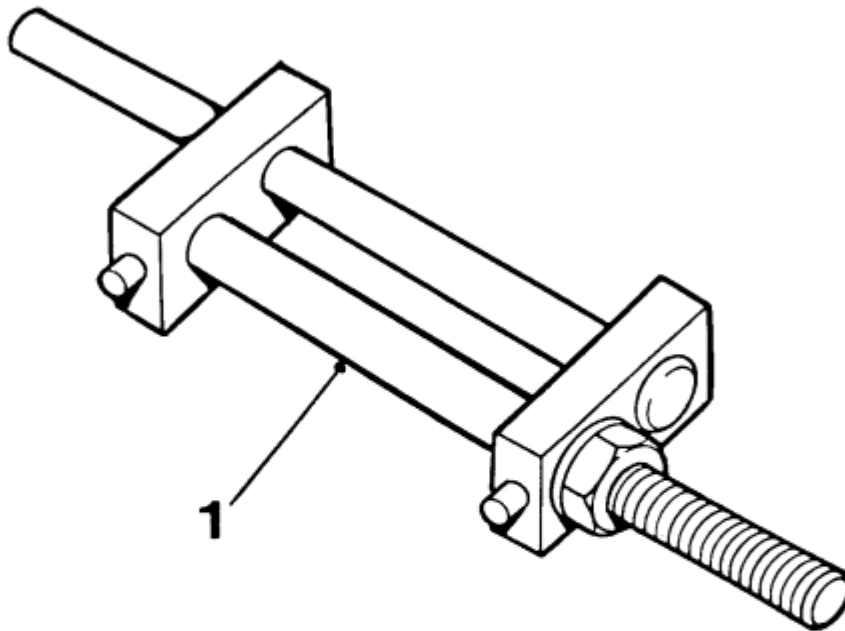
**DECALS & PLATES****D - 2A**

Item	Part no	Serial no	Description	Qty
1	V2005276		DECAL, " Engine cold starting" (Not used with L48V5V Engine)	1
2	V2005311		DECAL, "LWA 101"	1
4	V2005214		DECAL, "The recoil starter"	1
5	FSE357		DECAL, "Engine stop	1
6	V2005630		DECAL, "Locking Plunger"	1
7	V2004744		DECAL, " Eye Protection"	1
8	513371100		DECAL, "Emergency stop"	1
9	V2006402		DECAL "UKCA"	1
10	V2006403		DECAL "UKNI"	1



D - 3

100T 150T & 175T Mixers



**SPECIAL TOOLS**

**D - 3**

<u>Item</u>	<u>Part no</u>	<u>Serial no</u>	<u>Description</u>	<u>Qty</u>
1	513204000		CLAMP, drum clip	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.**