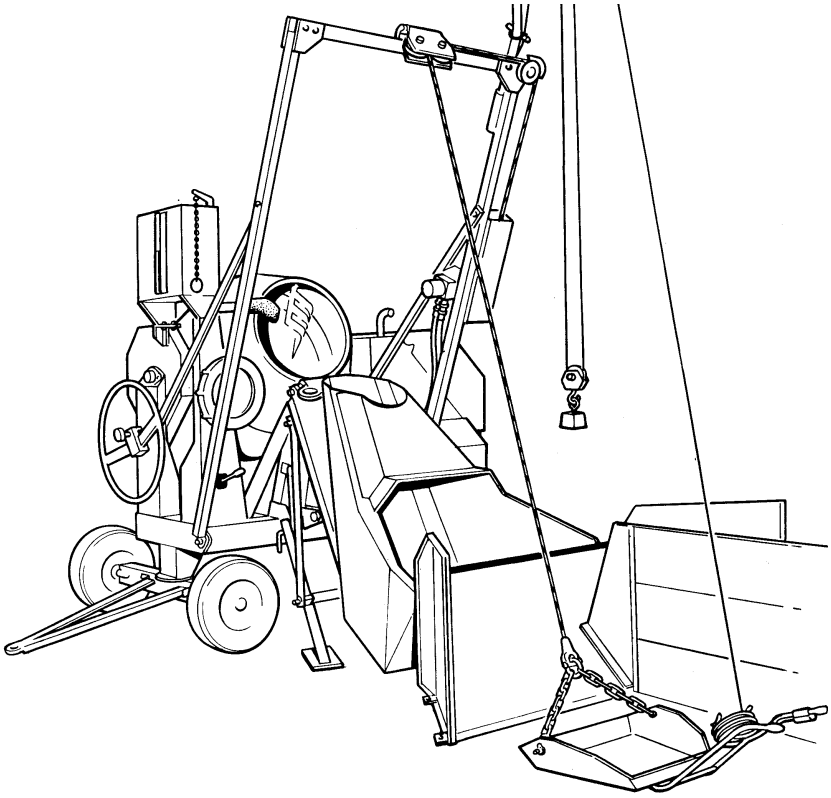
200TM

MECHANICALLY-FED MIXER



OPERATORS HANDBOOK
&
PARTS

Manual V601651 *August 2018*

(This publication also includes Manual MANS545)

WINGET

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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 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.

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

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.

IMPORTANT Engine change

From June 2005 (mixer serial number 1110) the Lister-Petter TS1 engine was replaced by the Lister-Petter TR1 engine. The TR range of engines is completely interchangeable with the TS range and consumable items such as filter elements are identical. There are some internal component differences and when ordering spares it is important to state whether it is a TS1 or TR1 engine.

Starting and maintenance instructions found throughout this Handbook which refer to TS engines are also applicable to the TR engine.

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.

IV INTRODUCTION

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.

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 fault-current-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.

In the case of mixers fitted with a loading hopper, do not allow any person to walk, stand or lean under the hopper when raised. It is recommended that the area around the hopper is guarded to prevent persons standing or walking under the hopper when the machine is in operation.

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/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

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, 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.

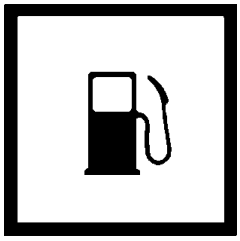
Disposal of waste oil. Dispose of waste oil into waste oil storage tanks. If storage tanks are not available, consult your Distributor or local authority for addresses of local designated disposal points. It is illegal to dispose of waste oil into drains or water courses, or to bury it.

DECALS

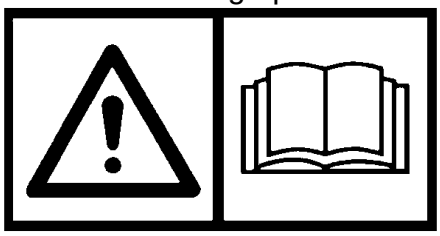
Ensure that all warning decals fitted to the mixer are legible. If any should become detached, they must be replaced immediately.

Descriptions of the pictorial decals are as follows:

Fuel tank filling point.

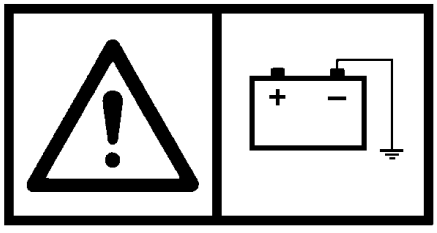


Read Operators Handbook, or Operators Handbook storage place.

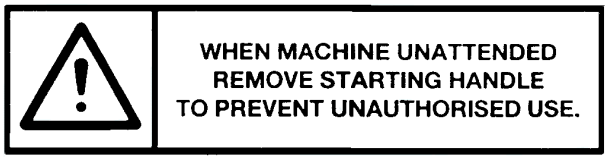


Attach lifting hooks to this eye.

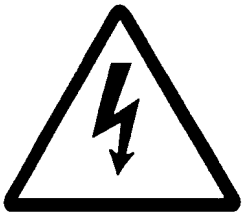
The battery negative terminal is connected to eath.



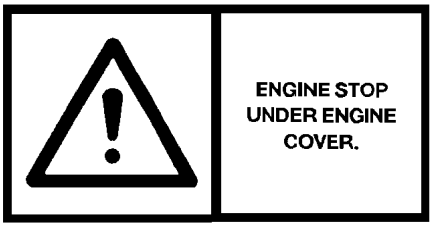
Remove starting handle.



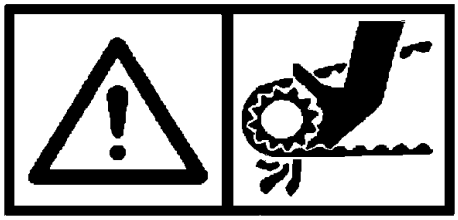
Beware of electrical hazards.



Engine stop.

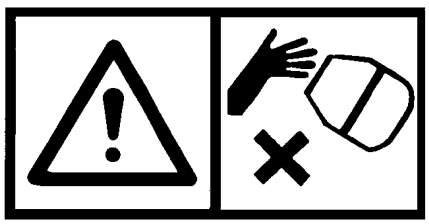


Keep clear of chain drives.

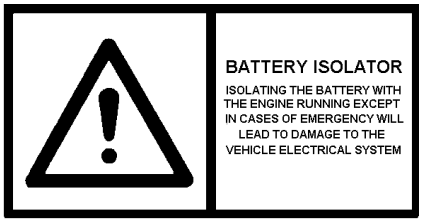


These surfaces may be hot.

Keep hands clear of drum.



Battery isolator.



Wear ear protection.

Wear eye protection.

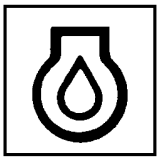
Conforms to EC standards.

ISO 8999 safety symbols used with Lister/Petter engines

Read the handbook

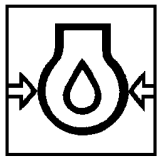
Stop control (on engine)

Diesel fuel fill

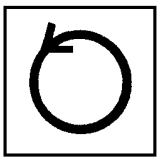


Engine oil fill

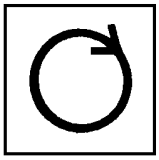
Engine oil level



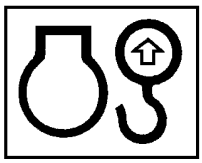
Engine oil pressure



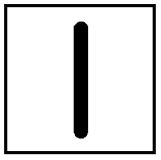
Anti-clockwise rotation



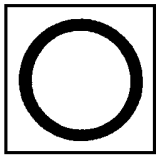
Clockwise rotation



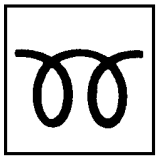
Lifting eye - engine only



On



Off

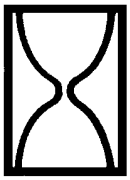


Pre-heat

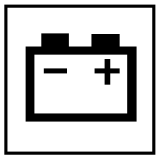
Rotational speed control

Linear speed control

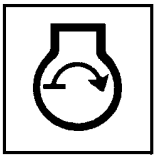
Tachometer



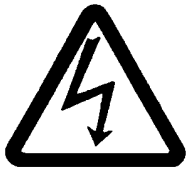
Elapsed hours



Battery charging



Engine cranking



Electrical hazards

General hot surface warning

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 eyes on the mainframe **(D)** and hopper **(E),** 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 so that the drums open end is away from the hopper.

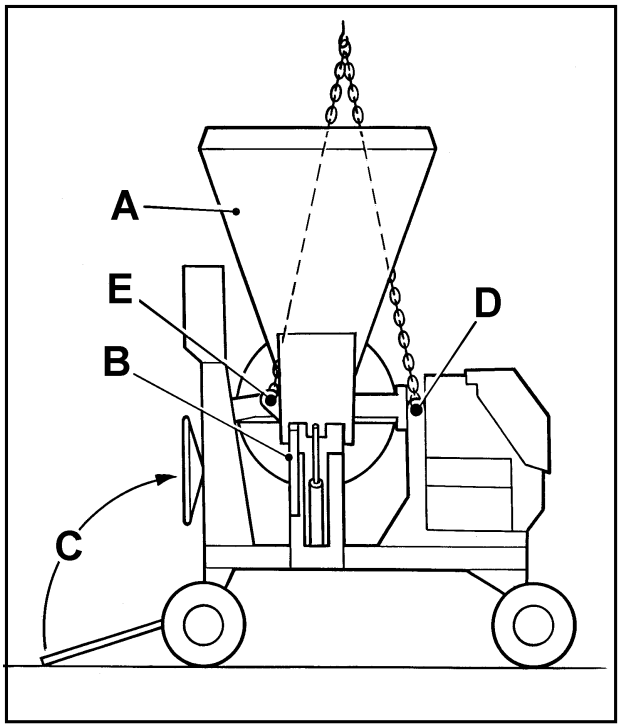
Raise the hopper **(A)** and insert the ram safety prop **(B).**

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

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 **(D)** on the mainframe and the lifting eye **(E)** on the hopper, and slowly take the weight.

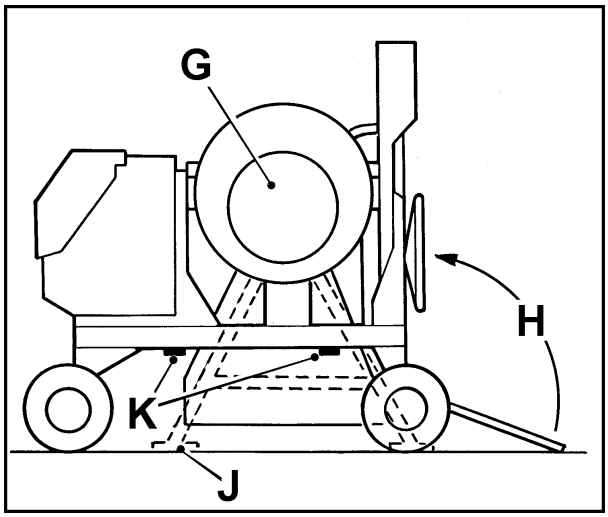
Do not 'snatch' the mixer otherwise damage may be caused to the lifting eyes or lifting equipment.



WARNING *As the mixer clears the ground the hopper safety prop **(B)** will come free from its upper seat and will swing down.*

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

Lifting the Mixer (Forklift/Telehandler)



Using the tilting handwheel and locking plunger, lock the drum so that the drums open end **(G)** is away from the hopper

Lower the hopper. (If not already down)

Remove stabiliser legs **(J)** (If fitted)

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

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

Spread the fork tines **(K)** as wide as possible for them to pass under the mainframe.

WARNING *Ensure the forks do not foul the bottom hoses of the hopper lifting ram*

Position the carriage as close as possible to the mixer

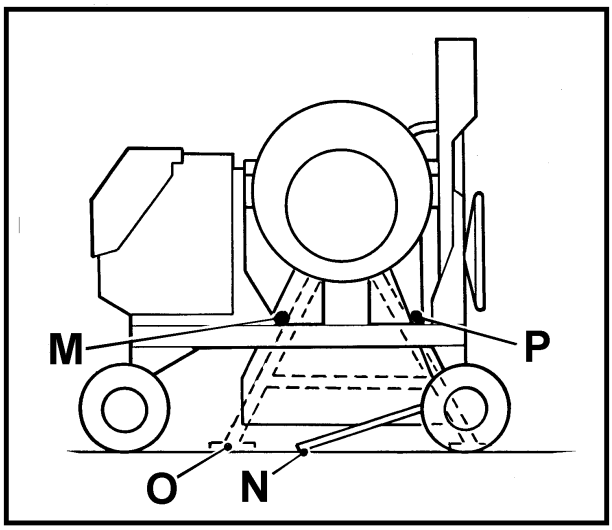
Slowly tilt the carriage back slightly to prevent the mixer rocking forward, then raise the mixer just clear of the ground.

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



Unless the mixer is pulled up against a headboard or some form of substantial wheel chocks, it is recommended 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.

Lower the hopper. (If not already down)

Turn the front axle so that the drawbar **(N)** is below the mixer, or alternatively remove it, so as not to form an obstruction on the vehicle bed.

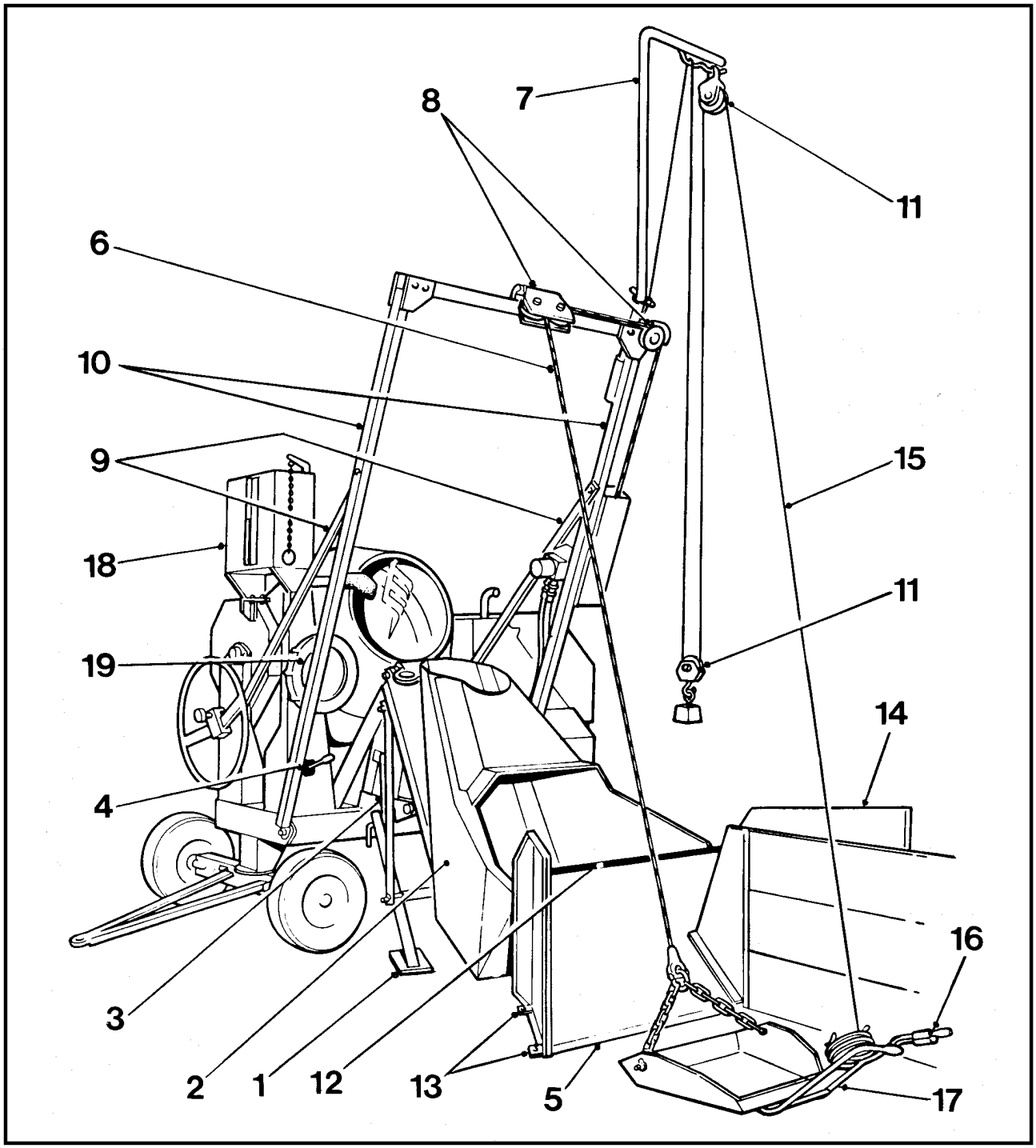
Fit the stabiliser legs **(O).**

Pass one of the webbing straps around the front of the mainframe at point **(P)** and secure the strap down to retaining hooks on the vehicle bed in front of the mixer.

Pass the second strap around the rear of the mainframe at point **(M)** 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.

MAIN COMPONENTS OF MIXER



1 Stabiliser
2 Hopper
3 Hopper safety prop
4 Hopper control lever
5 Hopper loading ramp
6 Dragline cable
7 Cable support
8 Dragline pulleys
9 Jib tie bars
10 Jib legs
11 Pulleys for electric cable
12 Rubber flap
13 Staking lugs
14 Feed apron
15 Electric cable
16 Micro switch
17 Dragline shovel
18 Water tank
19 Weigher gauge

2.2 INSTALLATION AND REMOVAL

INSTALLING THE MIXER ON SITE

Lifting the mixer

Two lifting eyes are provided for using hooks when unloading or loading the mixer for transportation.

When viewing the mixer from the hopper side, one lifting eye is situated on the left hand side of the hopper cradle, and the second eye is at the top of the trunnion pedestal next to the engine housing. The eyes are clearly marked with decals.

Installing stabiliser

The mixer must be sited on firm level ground.

Fit the stabiliser **(1)** to the mainframe **(20)** using the two locking pins **(21).** Secure these with lynch pins.

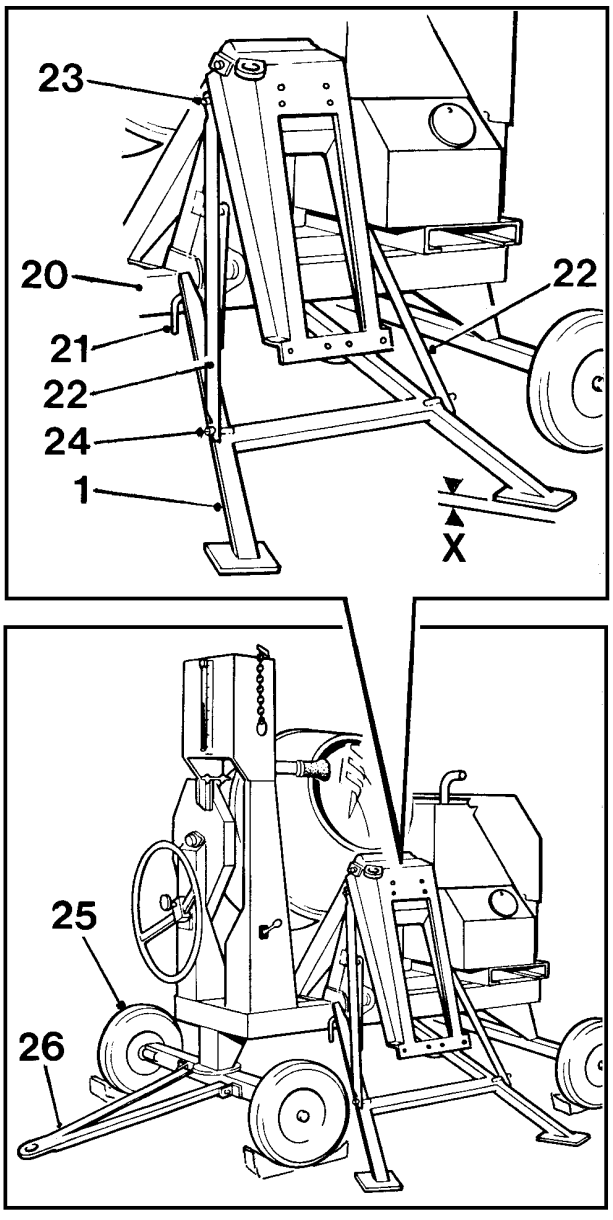
Locate the top (angled) ends of the struts **(22)** onto the pins **(23)** of mainframe, and fit the bottom ends onto the pins **(24)** of the stabliser. Fit the four locking pins and secure with lynch pins.

As the mixer is standing on level ground, it will be seen that there is a distance of approximately 25mm between the stabiliser feet and the ground **(X).** This space must be packed with timber equal to the area of the feet.

Chock all four roadwheels **(25)** to prevent the mixer from moving.

Remove the the tow bar **(26)** and stow it safely.

WARNING *Ensure that the tyre pressures are corrrect. (See specifications section for correct pressure.)*

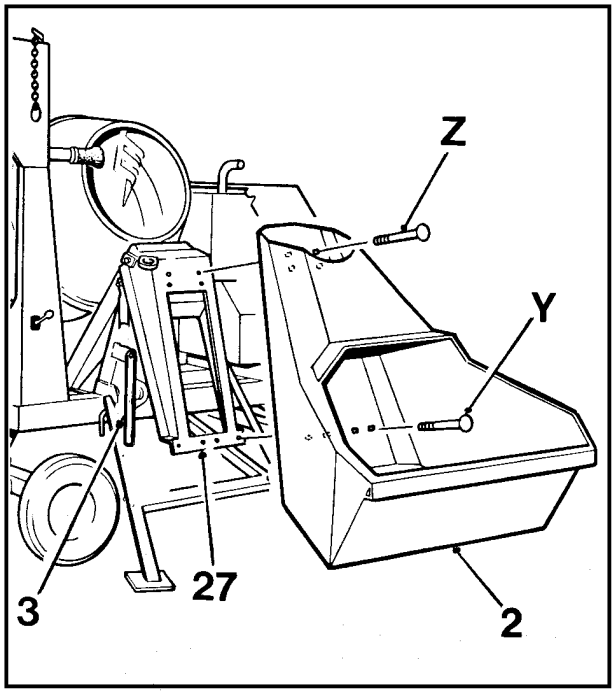


Installing the hopper

If the hopper **(2)** has been removed to assist with transportation, it will be necessary to refit it as follows;

Ensure that the cradle **(27)** is in the lowered position. if it is not, it can be lowered by raising it slightly, then swinging down the safety prop **(3).**

WARNING *The hopper weighs approximately 100 kgs.*



Using suitable lifting equipment, raise the hopper up to the cradle, aligning the eight fixing holes.

Insert coach bolts through the holes from the inside of the hopper. Fit nuts to the bottom four bolts **(Y)** and tighten securely. Fit nuts to the four top bolts **(Z)** leaving them finger tight.

Raise the hopper/cradle assembly and install the safety prop **(3).** Tighten the top four bolts securely.

Detach and remove the lifting equipment.

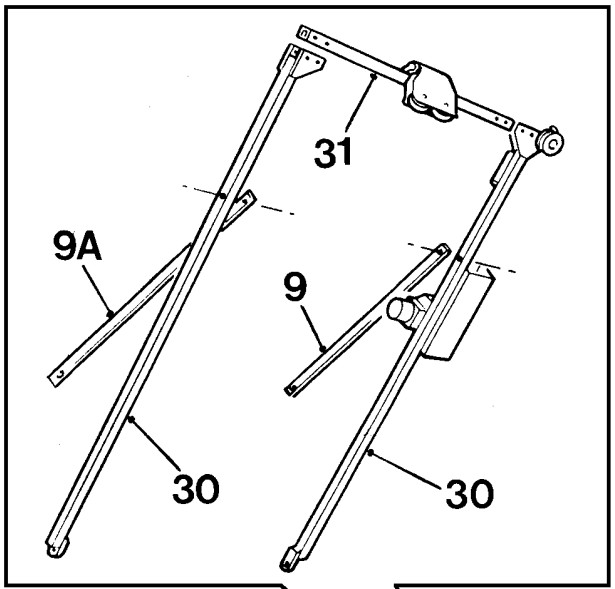
Installing the dragline jib (optional equipment)

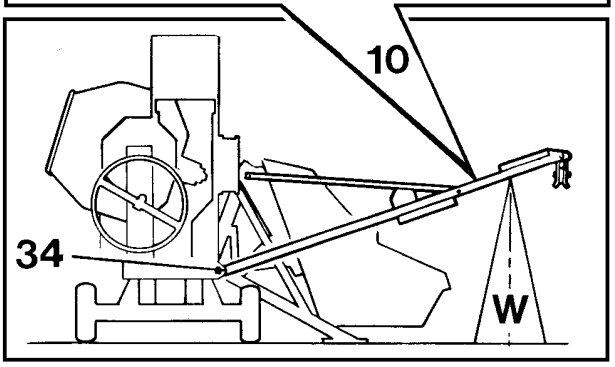
Assemble the jib legs **(30)** to the top beam **(31)** using the bolts provided. Loosely attach the jib tie bars **(9/9A)** with the longer bar **(M)** at the mixer tilt wheel end.

Place the jib **(10)** in position against the mainframe. Align the mounting holes at the base of the jib with the corresponding holes in the mainframe **(34).**

Using the nuts and bolts provided, fasten the jib to the mainframe leaving the nuts finger tight.

Support the top end of the jib on a trestle **(W)** approximately 1200mm high.





Pull out the dragline cable **(6)** from the winch **(35).**

Remove the cable cleat and thimble **(6A)** and thread the cable around pulley **(8)** and between pulleys **(8A)** on the jib. Replace the cleat and thimble, and connect the cable to the shovel ring **(36).**

Slot the cable mast **(7)** into its sleeve **(37)** on the jib leg.

Unwind the electric cable **(15)** from the shovel **(17).** Connect the plug **(17A)** to the socket situated beneath the engine housing.

Loop the cable **(15)** around the crossbar **(38)** at the bottom end of the cable mast, and over the cleat **(39)** at the top, leaving sufficient slack to allow the jib to pivot upwards.

Two pulleys are assembled onto the cable, the first one **(40)** is hung from the cleat **(39),** while the second pulley **(41)** hangs free between the first pulley and the cleat.

Tension is added to the cable by a weight **(42)** added to the free hanging pulley.

WARNING *The jib assembly weighs approximately 125 kgs.*

Securely fasten suitable lifting equipment to each end of the top beam **(N).**

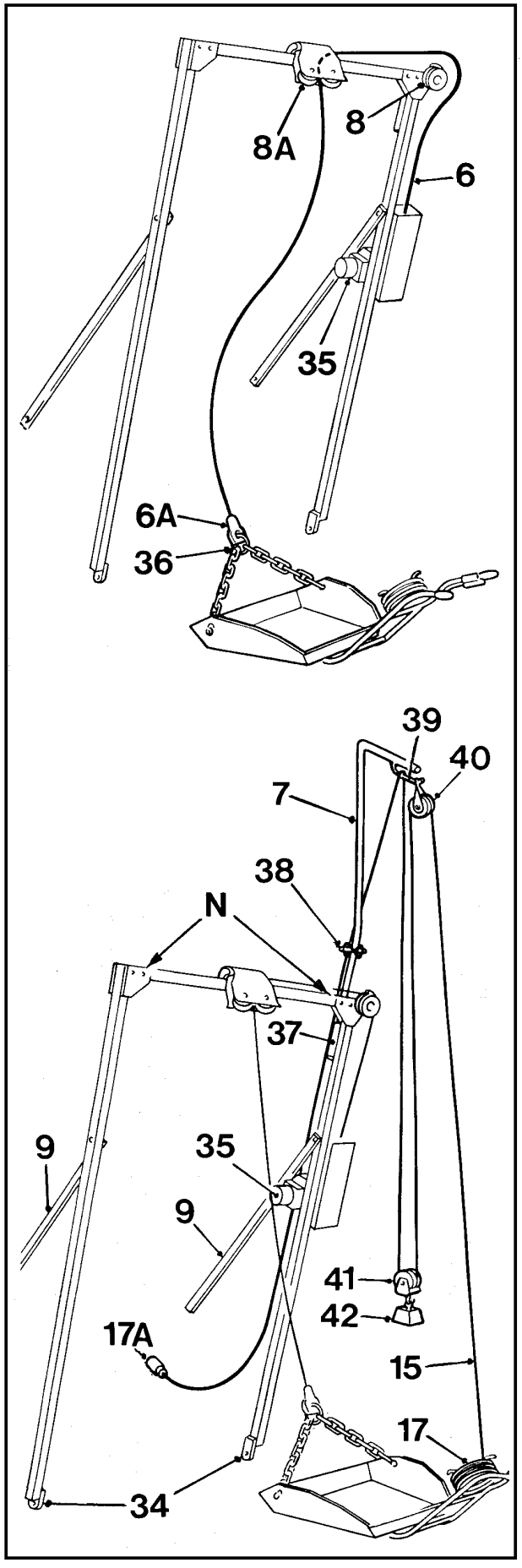
Raise the jib assembly until the jib tie bars **(9)** can be bolted in position in the holes provided adjacent to the tilt wheel and in the back of the engine housing.

Tighten bolts **(34),** to secure the jib legs to the mainframe.

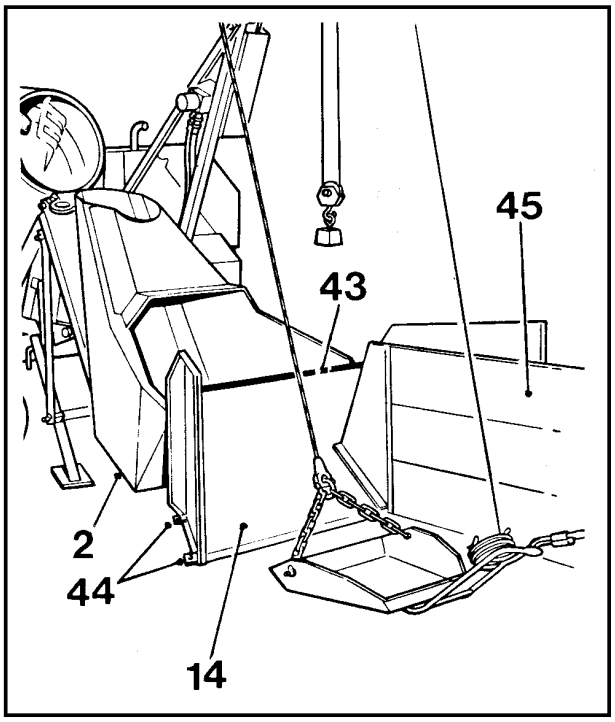
Connect the winch hydraulic motor **(35)** to the two hoses running from the solenoid valve.

Note: Ensure that the hoses are fitted to the correct motor ports. Connect together the hose and port marked with the same colour.

Strap the hoses to the jib leg.



Installing the feed apron (optional equipment)



It is recommended that when a dragline is fitted, a feed apron and ramp **(14)** are also installed in front of the loading hopper **(2)** so that materials may easily be tipped into it. This is particularly important when a batch weigher is fitted, as it prevents the build up of aggregate under the hopper, which will cause faulty batch weights to be given.

Assemble the feed apron and ramp. Place it squarely in front of the mixer so that the hopper does not foul it when being raised and lowered.

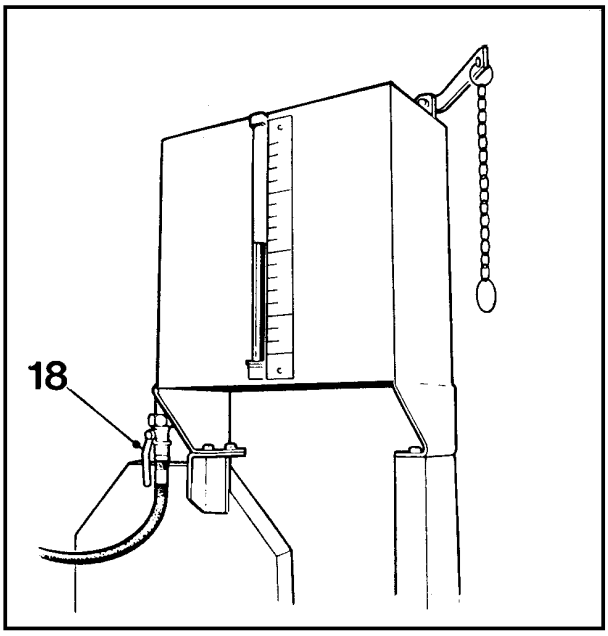
The horizontal rubber flap **(43)** prevents material from failing between the hopper **(14)** and ramp.

Stake the apron securely into position, using the four lugs **(44),** two on each side.

Extend the centre partition of the ramp by adding boards **(45).** This will help to separate the aggregates.

Installing water supply to tank

Connect the water tank stopcock **(18)** to a mains supply of clean water.



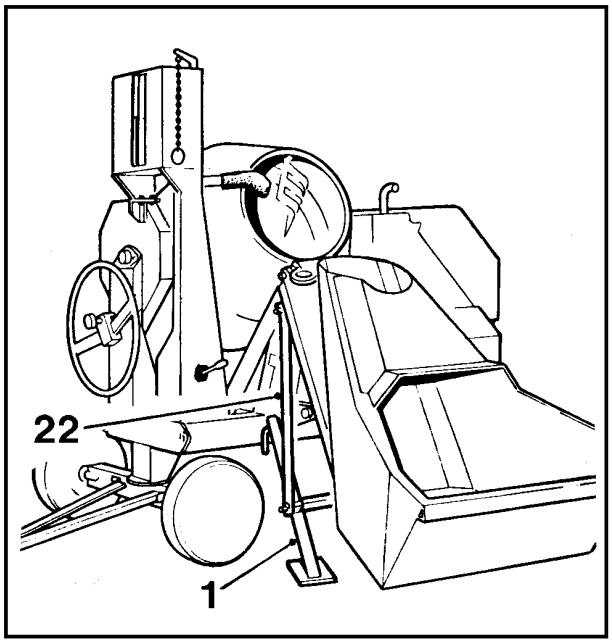
Installing electrically driven mixers (optional equipment)

Electrically driven mixers must be connected to the mains supply by a qualified electrician.

DISMANTLING THE MIXER FOR TRANSPORTATION

Transportation

When transporting the mixer on a vehicle, the dragline jib must be dismantled. It may also be necessary to remove the hopper from its cradle.



WARNING *If the hopper is fitted during transportation, the stabiliser **(1)** and struts **(22)** must be fitted.*

If the mixer is to be towed, the dragline jib must be dismantled, and the hopper and stabiliser removed.

Disconnecting electrically driven mixers

Electrically driven mixers must only be disconnected from the mains supply by a qualified electrician.

Dismantling the feed apron

Remove and stow the feed apron. Clear the area in front of the mixer to aid the dismantling of the hopper and dragline.

Dismantling the hopper

WARNING *Use suitable lifting equipment, securely fastened to the hopper to take its weight during dismantling.*

WARNING *The hopper weighs approximately 100 kgs.*

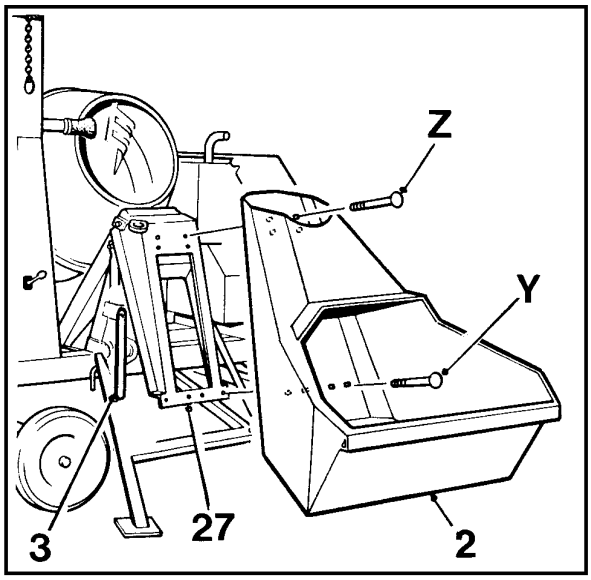
With the lifting equipment, slowly raise the hopper and swing the safety prop **(3)** up into position. Lower the hopper onto the prop.

Slacken the four bolts **(Z)** securing the top of the hopper **(2)** to the cradle **(27)** until they are only finger tight.

Raise the hopper and swing down the safety prop. Fully lower the hopper.

With the weight of the hopper taken on the lifting equipment, remove the four top **(Z)** and four bottom **(Y)** bolts. Lower the hopper to the ground.

Detach the lifting equipment. Replace the bolts in their holes in the cradle to prevent loss.



Dismantling the dragline

WARNING *Release all hydraulic pressure from the system as follows: Stop the engine. Raise and lower the hydraulic control lever several times. DO NOT RE-START THE ENGINE.*

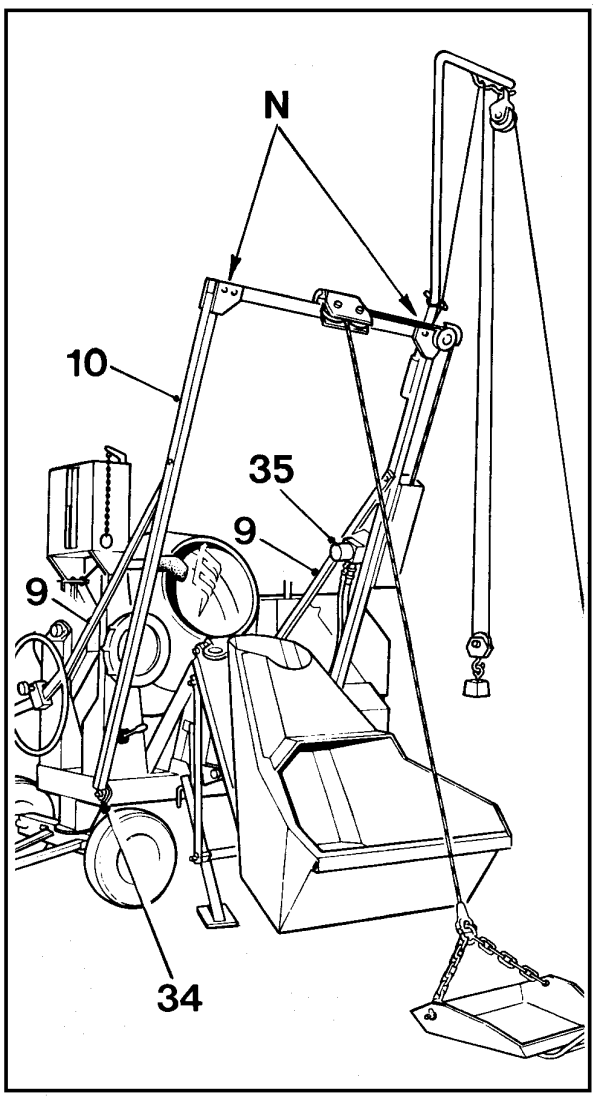
WARNING *Use suitable lifting equipment securely fastened at each end **(N)** of the jib top beam to take the weight of the jib during dismantling.*

Unfasten the hoses from the jib leg.

Remove the hoses from the winch hydraulic motor **(35).** Cap the ends of the hoses and the ports of the motor to prevent the ingress of dirt.

Take the weight of the jib **(10)** on the lifting equipment. Remove the bolts retaining the jib tie bars **(9)** to the mainframe. Slacken the bolts retaining the jib legs to the mainframe **(34).**

Lower the jib on to a trestle approximately



1200mm high capable of taking its weight.

Unfasten the dragline cable from the shovel ring **(36)** and remove the cleats and thimble from the cable.

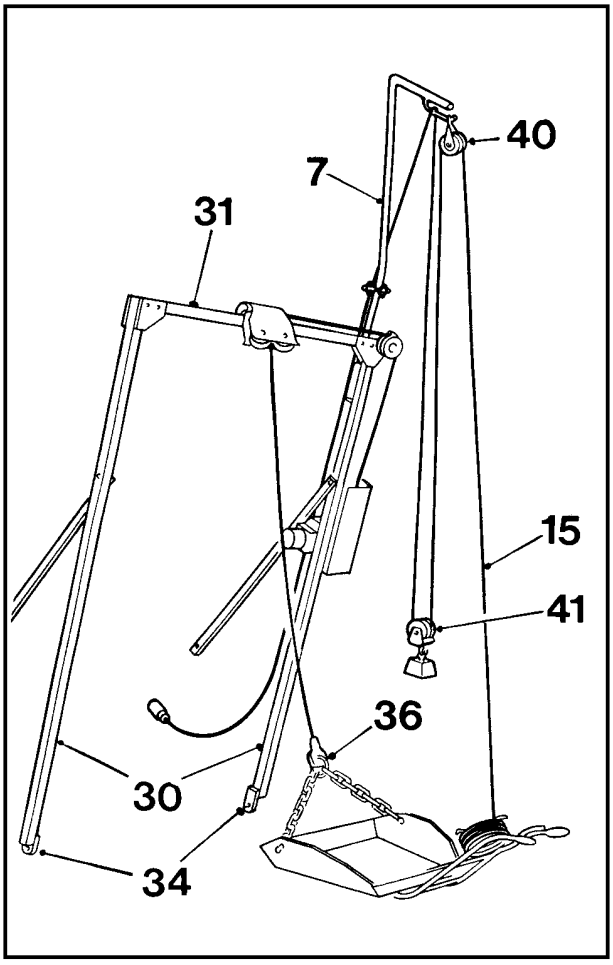
Wind the cable back onto the winch drum. Leave sufficient rope clear of the winch housing to enable it to be pulled out when reassembling the dragline. Replace cleats and thimble onto the dragline cable.

Unplug the electrical control cable from its socket under the engine housing. Remove the electrical cable **(15)** and pulleys **(40/41)** from the jib assembly. Wind the cable onto the shovel stowage arms. Strap the pulleys to the shovel handles to prevent loss. Remove the cable mast **(7).**

Remove the bolts **(34)** holding the jib legs to the mainframe.

To further assist in transporting, the jib legs **(30)** can be unbolted from the top bar **(31).**

Replace all bolts back in their holes to prevent loss.

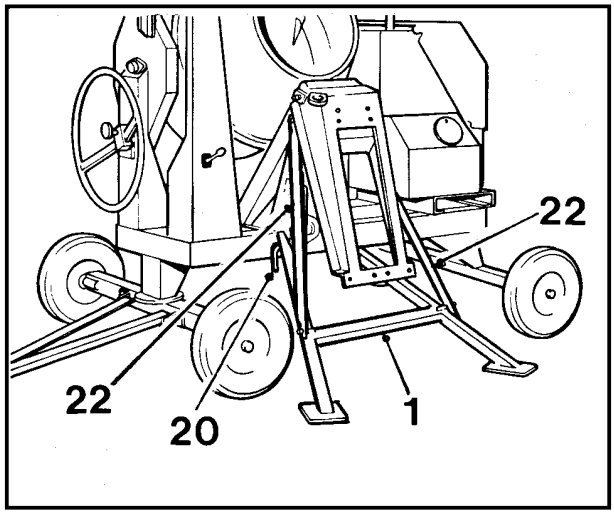


Dismantling stabiliser

Remove the two struts **(22).**

Remove the stabiliser **(1)** by extracting the pins securing it to the mainframe **(20).**

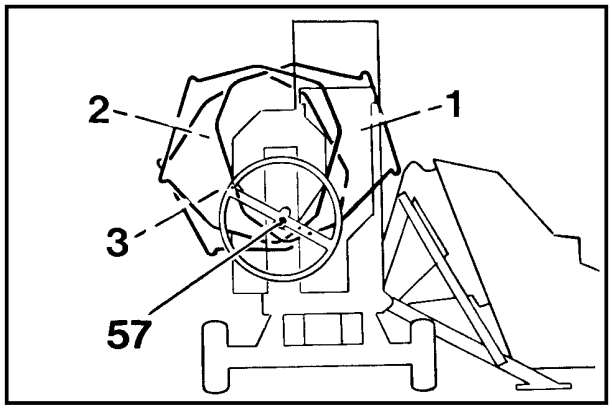
Replace all pins back in their holes to prevent loss.



OPERATION

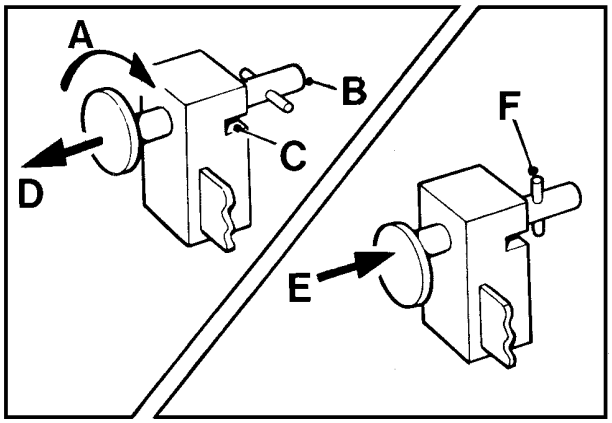
Mixer drum positions

The locking plunger **(57)** holds the mixing drum in one of the following positions CHARGE **(1)** / MIX **(2)** / DISCHARGE **(3).**



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),** or locates in the vertical slot.

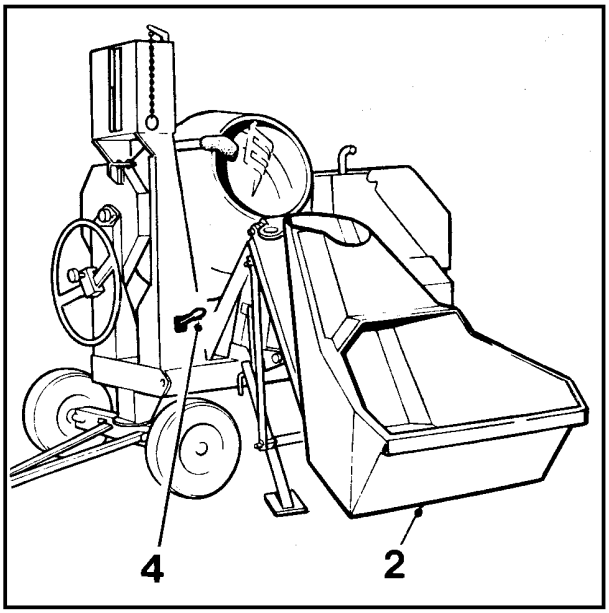


Hopper control

To raise hopper: Lift the control lever **(4)** and hold until the hopper **(2)** is fully raised. Releasing the lever to the neutral position will stop the ascent of the hopper.

WARNING Do *not hold in the fully raised position for more than a few seconds as this will cause the hydraulic components to overheat.*

To lower hopper: Push down the control lever to lower the hopper. Releasing the lever to the neutral position will stop the descent of the hopper.



Before starting

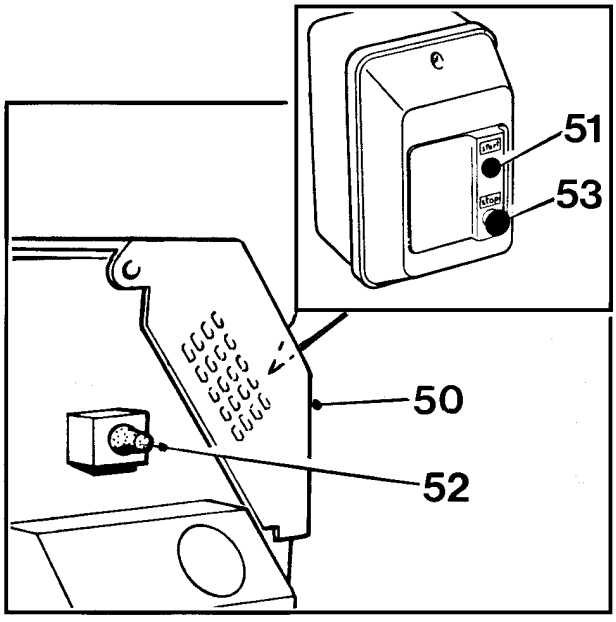
The operator must calculate the correct percentages of water and aggregates to be mixed.

Check that the fuel tank is full and that the level of lubricating oil in the engine sump is correct.

With the hopper in the down position, check the oil level in the hydraulic tank.

To start and stop the engine

WARNING *As soon as the engine has started the mixing drum will begin to rotate, and the hydraulic system will be pressurised.*



To start and stop electric motors:

To gain access to start button; raise the motor cover **(50).**

Start the motor by pressing button **(51).**

Lower the motor cover **(50).**

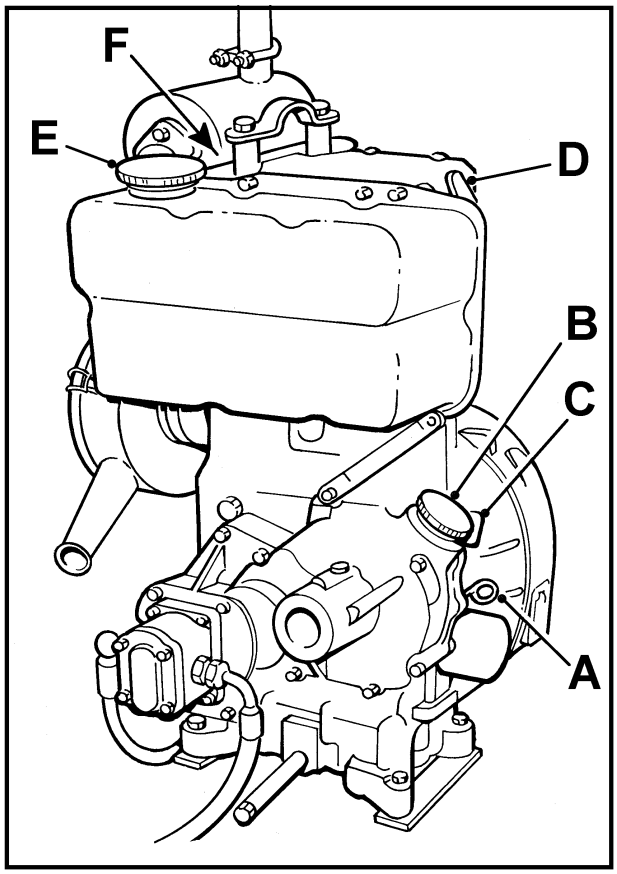
To stop the motor, press button **(52).** (Pressing button **(53)** will also stop it.)

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

To start and stop diesel engines:

The following instructions on how to start and stop the engine are for the Lister-Petter TS1 only.
For other engines please read the ***Engine Operators Handbook*** that has been supplied with the mixer.

TS/TR1 engines



Description

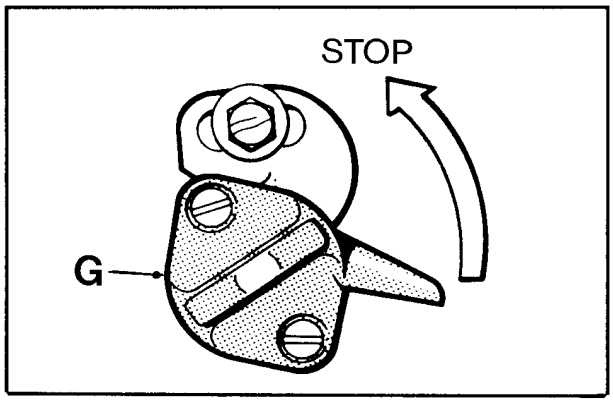
A Dipstick
B Lubricating oil filler
C Engine control
D Decompressor levers
E Fuel tank
F Cold start oil cup *(where fitted)*

Automatic Excess Fuel Device

The engine is fitted with an automatic excess fuel device which becomes operative, ready for the next start, when the engine is stopped.

If the engine stops other than by the operation of the engine control, the control **(G)** must be turned anti-clockwise to the 'STOP' position and released before the device can operate.

As the engine runs up to speed the excess fuel device will automatically reset to the normal running position.



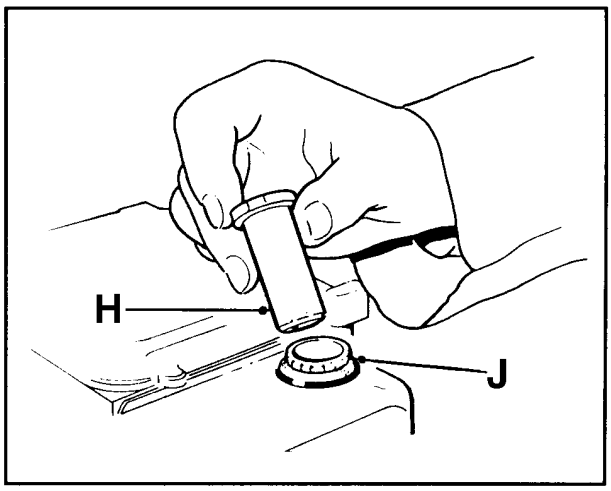
Cold start aid (where fitted)

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 **(H)** and fill one third of the cup **(J)** with the same type of lubricating oil as used in the engine.

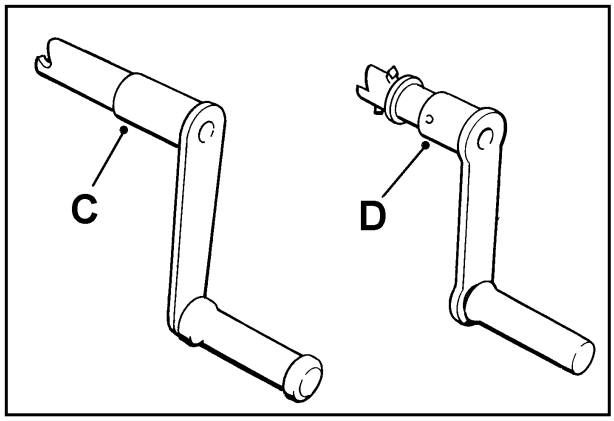
Replace the plunger and inject the oil just before starting the engine.



WARNING

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

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.

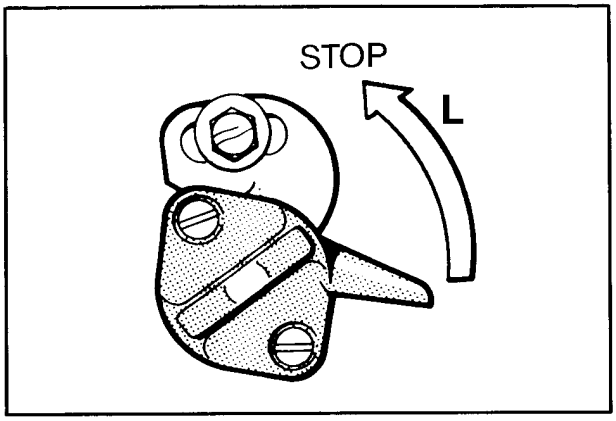
Always use the correct starting handle that has been designed for the engine.

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.

WARNING *Do not attempt to use a handle if it is damaged in any way.*

Hand starting the engine

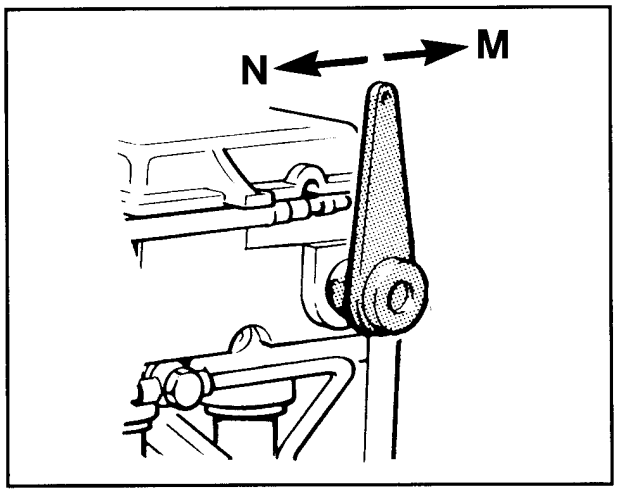


Turn the engine control lever anti-clockwise to the "STOP" position **(L)** and release it.

Move the decompressor levers towards the flywheel **(M).**

Insert the correct handle 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 levers away from the fly wheel **(N)** and continue to crank until the engine fires.

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

Key Starting engines

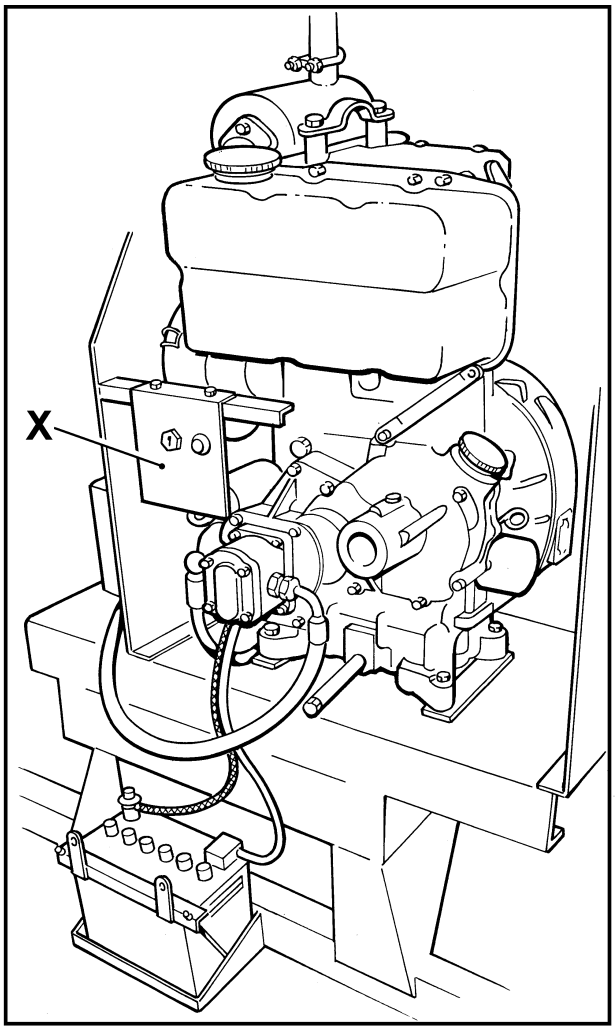
Check that the decompressor lever is away **(N)** from the flywheel.

Turn the engine control lever anti-clockwise to the "STOP" position **(L)** and release it.

On the panel **(X),** turn the start key clockwise to position **(1).** The battery charging light **(P)** will illuminate.

Turn the key and hold at the *"START"* position **(2)** until the engine fires and then release it immediately.

If the engine fails to start within 20 seconds, release the key and attempt to restart after allowing sufficient time for all moving parts to stop.



Stopping the engine

WARNING

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

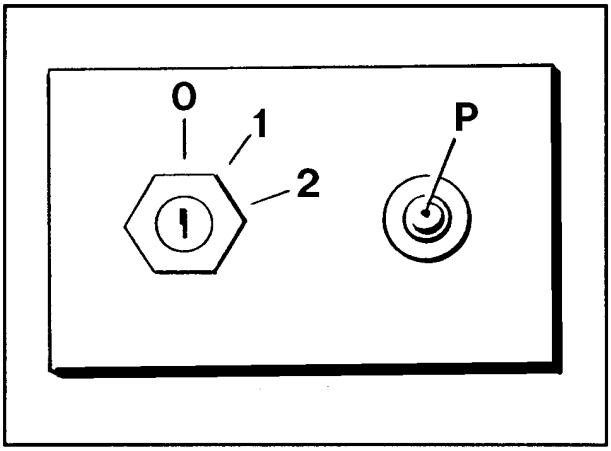
Hand start engines

Turn the engine control anti-clockwise to the "STOP" position **(L)** and hold it there until the engine comes to rest.

Key start engines

Turn the engine control anti-clockwise to the "STOP" position **(L)** and hold it there until the engine comes to rest.

After the engine has stopped, turn the starter key to the "OFF" **(0)** position.



Installation trials

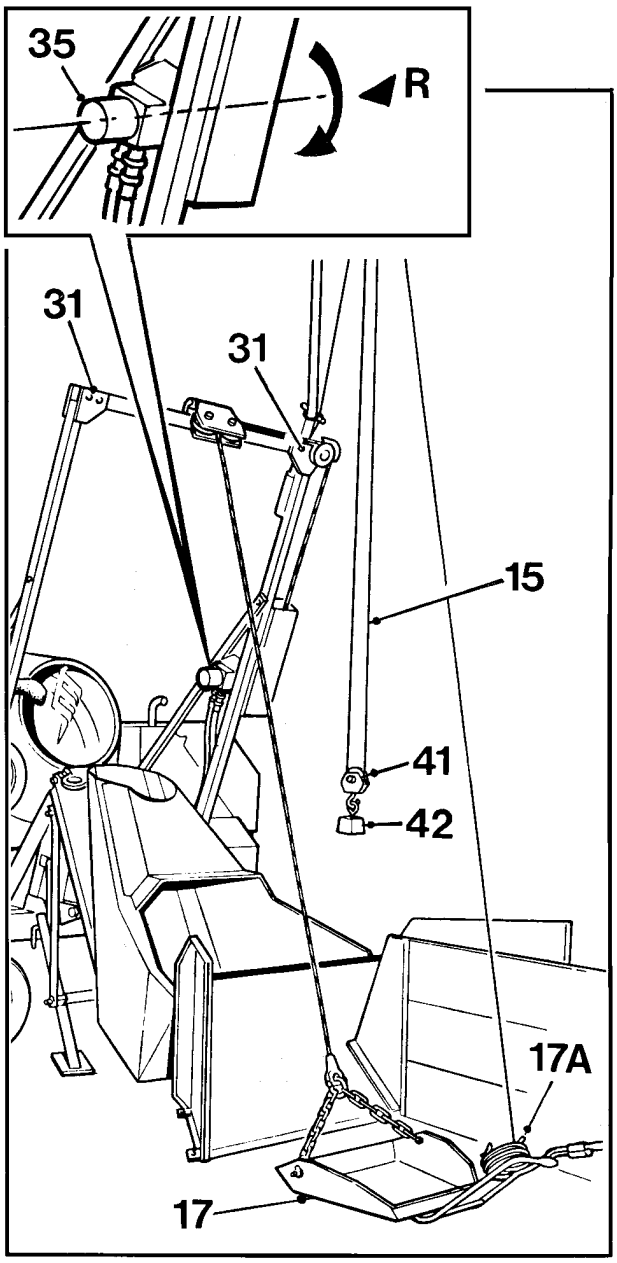
Before working with the mixer carry out the following trials;

1 Ensure that the winch motor **(35)** is revolving in the correct rotation. Viewed from the mixer engine end **(R),** the winch drum should rotate anti-clockwise. If it is not, then transpose the hydraulic motor hoses.

2 Slowly raise the hopper and check that it does not foul the legs of the jib. If necessary, slacken the four bolts **(31)** in the top beam and adjust the jib sideways to clear. Finally tighten all bolts.

3 A trial run may show that as the shovel **(17)** moves into the mixer the slack of the electric cable **(15)** is not taken up by the weighted pulley **(41).** To overcome this, increase the weight **(42)** on the pulley. If the pulley then comes too close to the ground, wind two turns of the cable onto the stowage arms **(17A)** on the shovel.

4 If weigher equipment is fitted it should be carefully checked and set up as shown in the Service section of this manual. Its accuracy should be verified by using a known weight.



To start mixing

Open the stopcock **(54)** on the water tank. Observe the gauge glass **(55)** as the tank fills to the correct level for one mix. Close the stopcock.

Note: The tank has the capacity to dispense quantities of water from 4 to 38 litres.

Turn the mixing drum to the CHARGE position, in preparation to receive a load from the hopper.

Note: If a weigher gauge is fitted, set the coloured pointers to the aggregate proportion required for one load of the hopper. *(see "Batch weigher')*

Lower the hopper **(2)** by pushing the control lever **(4)** down.

If the hopper will not lower. The following may have happened:

WARNING

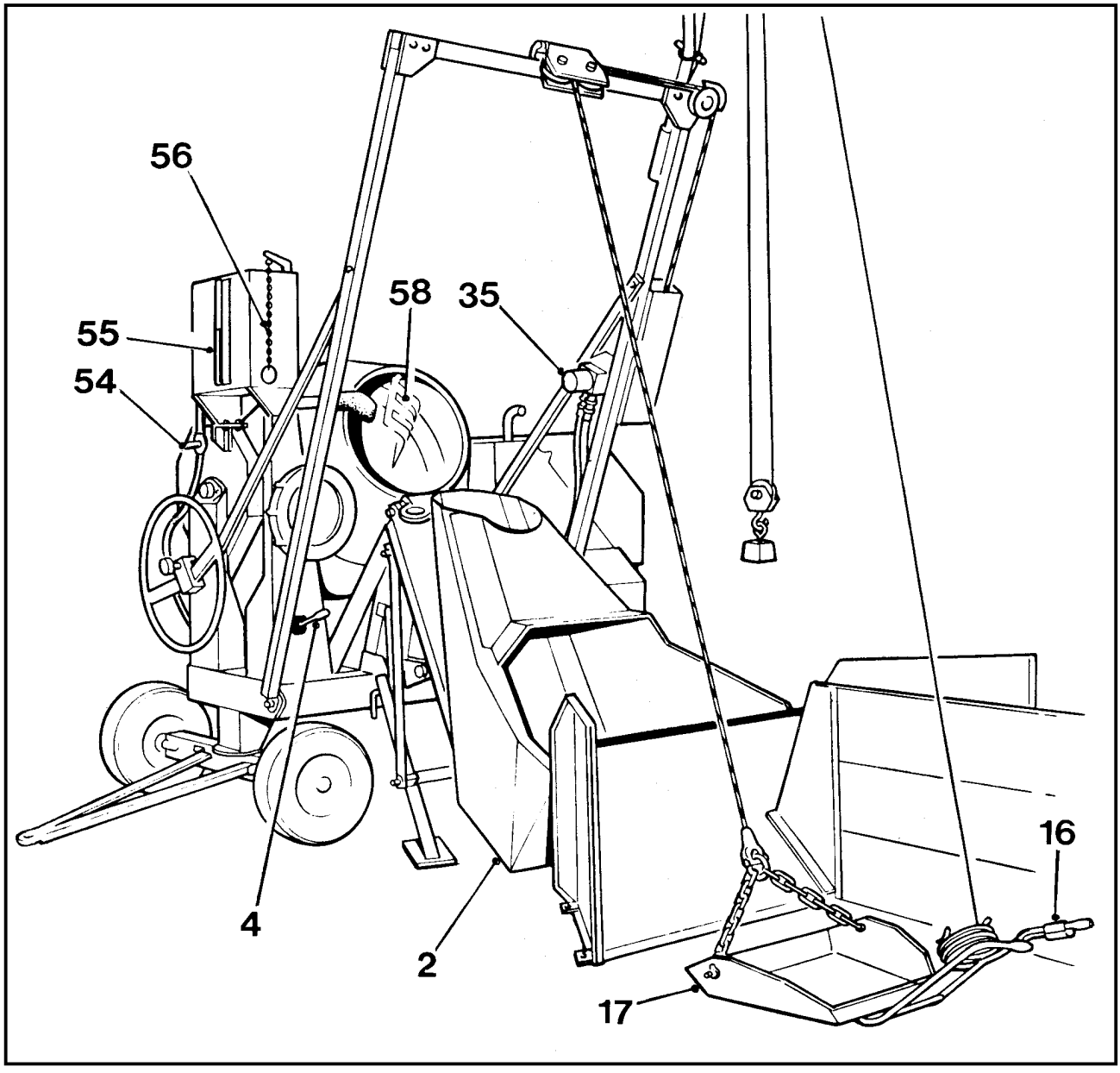
Hose failure valve lock-out (CE marked machines only)

Operating the hopper control valve lever in a violent manner may cause the Hose Failure Valve to "lock-out" and prevent the hopper from moving.

To release a "locked" Hose Failure Valve; operate the lever to raise the hopper, this will blow-off the Relief Valve. Then gently operate the lever to lower the hopper.

Load the hopper with aggregate by pulling the shovel **(17)** away from the mixer and back over the aggregate. Press and hold the micro-switch **(16)** on the shovel handle to start the winch motor **(35),** this will drag the shovel back towards the mixer. To stop the loaded shovel when it reaches the hopper, release the micro-switch, and slip the contents of the shovel into the hopper.

Pull the chain **(56)** to discharge the water, while simultaneously pulling the control lever (4) up to raise the hopper and tip the aggregate into the mixing drum **(58).**

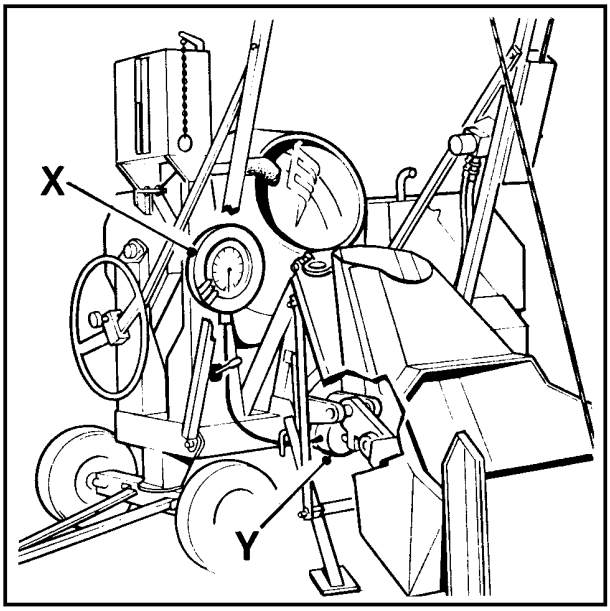


Turn the mixing drum to the MIX position. Allow the mixing to continue for about 1.5 to 2 minutes.

WARNING *Ensure that on the discharge side of the mixer there is positioned a suitable container to catch the discharging load.*

Turn the mixer to the DISCHARGE position, and allow the load to run into the container.

Batch weigher (if fitted)



The weigher gauge **(X)** is connected by a hydraulic pipe to a load cell **(Y)** mounted on the mainframe adjacent to the hopper cradle. The hydraulic circuit is primed and sealed by the manufacturers.

WARNING *The hydraulic gauge/load cell circuit must not be disconnected.*

The gauge, which is calibrated from 0 to 500 kg. (0 to 1100 lbs.) gives accurate indication of batch weights.

The adjustable coloured pointers mounted on the rim of the gauge can be set by the operator to the aggregate proportions required.

A protective lid is provided for the gauge to prevent damage when not in use.

WARNING *It is important that the mixer is standing firm and level and that there is at least 50mm (2") clearance between the ground and the base of the hopper at all times*.

WARNING *If aggregate is allowed to build up under the hopper, inaccurate gauge readings will be obtained.*

To use the batch weigher, proceed as follows:

Set the pointers on the gauge to the aggregate proportions required. With the engine running, slowly lower the hopper on to the load cell. Hold the hopper control lever fully down for a few seconds until the gauge needle begins to move up to "0" (zero) then release. The hopper is then ready to load.

If a "0" (zero) reading cannot be obtained, adjust the gauge.

To set the weighing gauge to zero, proceed as follows:

Ensure that the mixer engine is running.

A Lower the hopper onto the load cell.

B Check that the hopper is clear of the ground.

C Taking care not to stand on any part of the hopper, adjust the knurled knob on the side of the gauge to set the pointer to "0" (zero).

D Repeat lowering the hopper three or four times to check that a constant “0" (zero) reading is obtained.

At the end of the working day

A Stop engine, and remove the starting handle to prevent unauthorised use of the machine.

B Thoroughly clean out the mixing drum with water and gravel.

C Clean out the hopper and wash the outside of the mixer.

D Drain the water tank. This is particularly important during periods of frost. To drain the tank, position the mixing drum in the CHARGE position. Close the stopcock, and then pull the chain to drain the water into the drum. Turn the drum to the DISCHARGE position to empty the water.

E Fully lower the hopper.

F Grease the machine and fill the fuel tank.

G If the mixer has a weigher gauge, fit its protective cover.

3.10 OPERATION

SERVICE SCHEDULE

(See also the relevant Engine Workshop Manual)

Every day	
Batch weigher:	Check accuracy.
Links, hinges, shafts, bearings & pulleys:	Lubricate.
Engine: *(see Engine Manual)*	Check fuel & lubricating oil levels, also check for leaks. Clean/replace air cleaner element under very dusty conditions.

Every week (or 50 hours running) ***The above and following items***	
Nuts, bolts and keys:	Tighten *(Each week for first month).*
Battery:	Check electrolyte level & battery condition.
Hydraulic oil:	Check level.
Dragline:	Check condition of electrical control cable. Check condition of winch cable.
Drum Bevel Gears:	Open Gear Lubricant
Drive chains:	Lubricate & check tension.

Every 125 hours. ***The above and following items***	
Engine:	Clean/replace air cleaner under moderately dusty conditions.

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

Every 500 hours. ***The above and following items***	
Hydraulic tank:	Clean breather/filler cap & strainer.
Dynamo:	Check drive belt tension.
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***	
Hydraulic tank	Clean suction filter & change hydraulic oil.
Engine: *(see Engine Manual)*	Decarbonise if the engine performance has deteriorated. Clean cylinder barrel and head fins. Clean restrictor banjo union at the cylinder head end of oil feed pipe. Flush and refill fuel tank.

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

ENGINE

IMPORTANT

Engines fitted in 200TM mixers

Up to Feb. 1990, Lister-Petter PH1

To service this engine, please refer to the "Engine Operator's Handbook" or "Workshop Manual".

From Feb. 1990, Lister-Petter TS/TR1

This engine will require additional servicing and adjustment in addition to those quoted in this handbook. Please refer also to the "Engine Operator's Handbook" or "Workshop Manual".

ENGINE LUBRICATION OIL

For engine oil grades and oil change periods when operating in temperatures above 30 deg.C, *see "Engine Handbook".*

WARNING

Lubrication oil cleanliness is vital for the successful operation of your engine. The oil should be stored under the cleanest possible conditions. When changing or topping-up oil, use only clean receptacles.

Always wear protective gloves when handling oils for topping up, draining, or refilling.

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

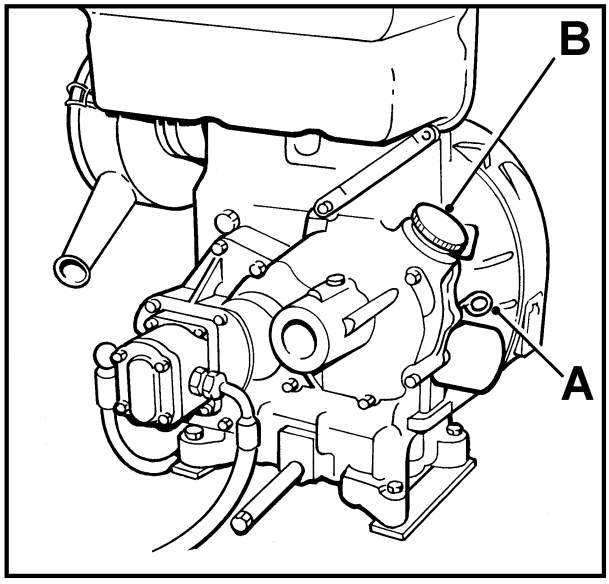
After handling oils the users hands should be thoroughly washed, particularly before eating.

Every 10 operating hours, or daily

Check lubrication oil level as follows:

Stop the engine and allow the oil to settle.

Remove and clean dipstick **(A)**, then check that the oil is at the full mark. If level is low, top up through the filler **(B)** to the full mark with clean oil of the correct grade. DO NOT OVERFILL.
For correct grade of engine oil, see "Specifications"



Every 250 hours

CHANGE SUMP OIL & OIL FILTER ELEMENT

Drain sump as follows:

If possible run the engine immediately before draining the oil.

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

WARNING

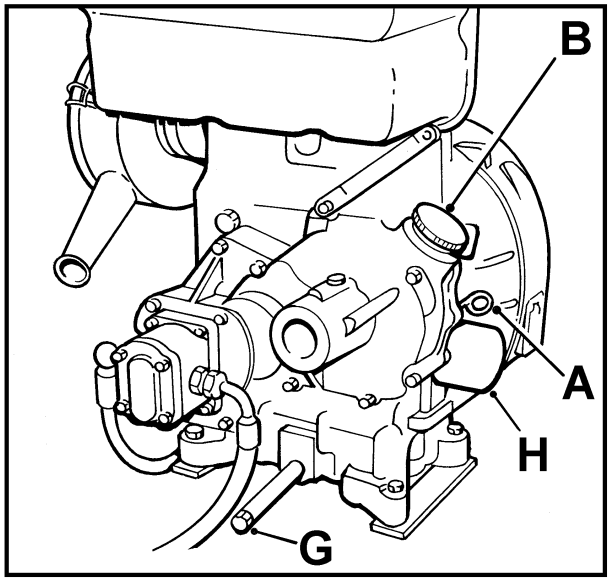
Disposal of waste oil.
Dispose of waste oil into waste oil storage tanks. If storage tanks are not available, consult your Distributor or local authority for addresses of local designated disposal points. It is illegal to dispose of waste oil into drains or water courses, or to bury it.

Clean and coat the threads of the drain plug with an appropriate sealant, e.g. Hylomar PL32/M or Three Bond 1110B.

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

Change oil filter element as follows:

Using a suitable strap wrench, unscrew and remove the old filter element **(H).**
Do not attempt to clean the old filter element ! Dispose of it safely.
Thoroughly clean the crankcase filter housing face.
Apply a small amount of clean engine oil to the element sealing joint.
Do not use a strap wrench to fit the new element.
Screw on the new element by hand, until the sealing joint is just touching the crankcase and then tighten a further half turn.



Refill sump as follows:

Fill the sump through the oil filler **(B)** to the top mark on the dipstick **(A).**

Start the engine, run it for a few minutes and check that the drain plug and the oil filter element, do not leak.

Stop the engine, allow the oil to settle for two minutes, then check the level on the dipstick **(A).**

Add more oil if necessary.

For correct grade of engine oil, see "Specifications".

FUEL SYSTEM

Every 10 operating hours, or daily

Fuel tank

Fill the fuel tank at the end of each day to reduce overnight condensation within the tank.

WARNING

Never mix gasoline or any other fuel mixes with diesel fuel because of increased fire or explosion risks.

Never remove the filler cap, or refuel, with the engine running.

Never smoke when refilling the tank.

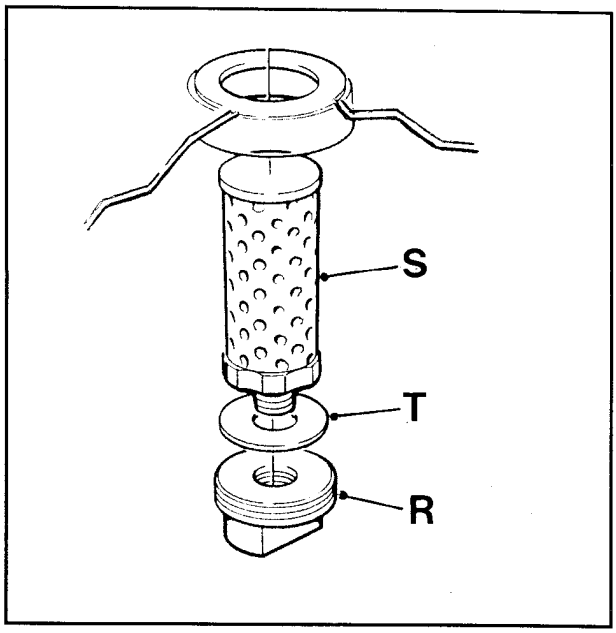
To fill the tank:

Stop the engine.

Clean the area around the filler cap. Remove the cap.

Fill the tank. *Do not fill the tank to capacity. Allow room for expansion, and wipe up spilt fuel immediately, otherwise paintwork will be damaged.*

Replace cap.



Every 250 hours

Fuel filter

The fuel filter is situated in the base of the fuel tank.

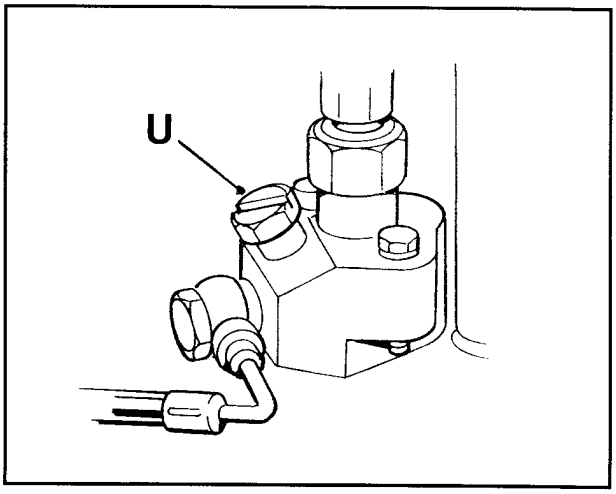
Change the fuel filter element if the fuel being used is not perfectly clean *(see below).*

Every 500 hours

Fuel filter

Change fuel filter element as follows:

Remove the retaining plug **(R).**
Remove the old element **(S)** and joint **(T).**
Fit new element and new joint.
Replace and tighten the retaining plug **(R).**
Prime the system.



Priming the fuel system

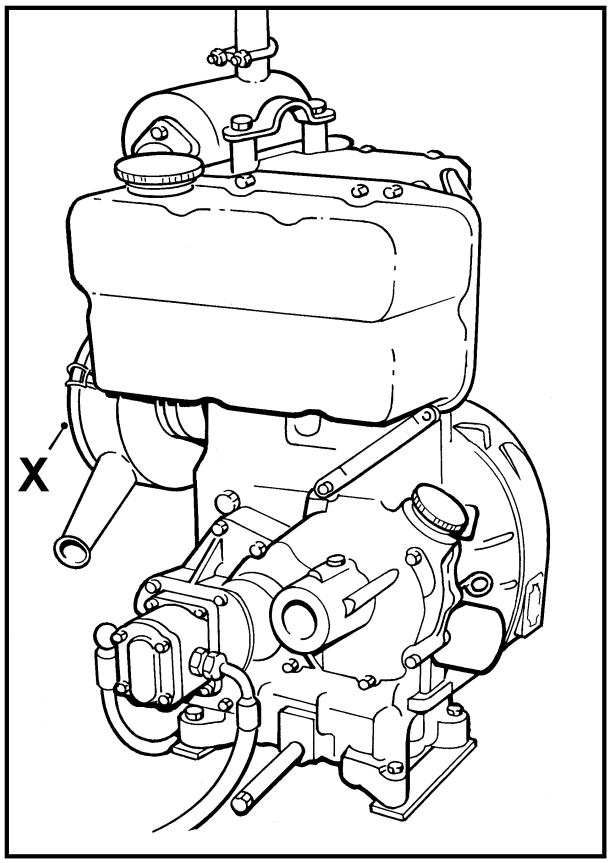
Prime the system as follows:

Fill the fuel tank.
Move the engine control lever to the RUN position.
Vent fuel at the pump through the bleed screw **(U)** until a full air free flow of fuel is obtained.

AIR CLEANER: clean/replace

Clean or replace the air cleaner **(X)** element under very dusty conditions.

Release the metal clips to access the element.



Every 125 operating hours

Air cleaner: check

Check air cleaner element. Replace if necessary

Every 500 operating hours

Air cleaner: replace

Fit new air cleaner element.

SAFE HANDLING OF BATTERIES

WARNING

The battery contains a sulphuric acid electrolyte which can cause severe burns and produce explosive gases.

Wear protective clothing, gloves and goggles when servicing the battery.

Avoid contact with the skin, eyes or clothing. If spilled onto the skin, flush immediately with cold water. If splashed into the eyes, flush immediately with cold water for 15 minutes and get prompt medical attention.

Do not take internally. If accidentally swallowed, call a doctor immediately.

Do not use a naked flame or smoke near the battery. Do not produce sparks with cable clamps when charging the battery or starting the engine with a slave battery.

Always disconnect battery leads, or activate battery isolator where fitted, before carrying out any maintenance to the electrical system.

ALWAYS dispose of unserviceable batteries safely. Comply with local byelaws and national regulations on the disposal of hazardous waste. Consult your local authority for addresses of local designated disposal points.

Every 50 hours

Check battery electrolyte level as follows:

Ensure that the electrical connections are clean and tight, and coat the terminals with petroleum jelly to protect them from corrosion.

Remove battery filler plugs and check that the electrolyte level is between 6 - 9 mm (0.25 - 0.37 in) above the tops of the separators.

If necessary, top-up with distilled water.

Replace battery filler plugs and tighten securely.

Battery removal

WARNING

If the battery is to be removed from the machine, ensure the following procedure is used.

Switch the engine off.

Remove the starter key from the machine.

Remove the battery cover and clamp.

Disconnect the earth **(-)** lead from the battery before removing the positive**(+)** lead.

Lift the battery from the machine.

WARNING

*When installing the battery, the positive **(+)** lead MUST be connected first.*

HYDRAULIC SYSTEM

WARNING

ALWAYS use the correct grade of hydraulic oil.

ALWAYS obtain advice before mixing different brands of oil. Some are not compatible .

In the event of a break down, NEVER dismantle any hydraulic valve or ram unless instructed to do so, as this may lead to further complications.

The capacity of the hydraulic system is approximately 9 litres.

Every week (or 50 hours running)

Check the level of the oil in the hydraulic tank **(60)** as follows:

Access to the filler cap is via the lid **(67).**

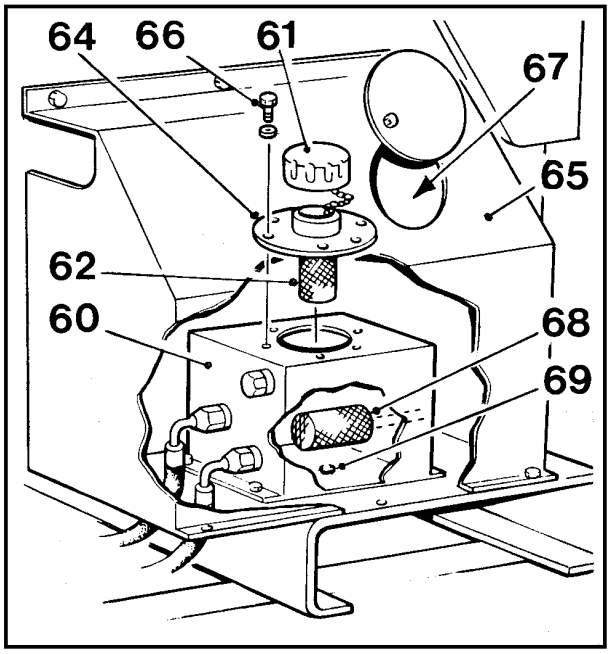
Clean the area around the filler cap **(61)** before removing it.

The oil level should be approximately 25mm (1 inch) below the filler neck. If necessary, top up with clean oil of the correct grade. *(see Specifications Section for oil grades)*

Filling strainer / breather cap

The neck of the tank filler is fitted with a cylindrical strainer **(62)** for filtering the hydraulic oil as the tank is either filled or topped up.

The filler cap incorporates a breather.



Every 500 hours

Clean the breather cap **(61)** as follows:

Clean the top of the tank.

Remove the breather cap, and cover the opening with a clean cloth.

The breather contained within the cap should be washed in petrol, and air dried.

Clean the strainer **(62)** as follows:

Unbolt and remove panel **(65)** covering the tank. Clean the top of the tank.

Remove the breather cap **(61)**.

The strainer is mounted in the lid **(64)** of the tank. Unscrew the 8 setscrews **(66)** and washers retaining the lid. Remove the lid and cover the opening with a clean cloth**.**

Thoroughly clean the strainer **(62)** with petrol, and air dry.

Remove the cloth and refit the lid **(64)** using the eight setscrews **(66)** and washers. Securely tighten the setscrews.

Refit the breather cap **(61).**

Refit the panel **(65).**

Every 1000 hours

Clean the suction filter **(68*)*** and change the oil as follows:

Clean and remove the tank lid complete with strainer and breather cap *(as previously described).*

Position a suitable container beneath the drain plug **(69)** to catch the oil that will be drained from the tank.

Remove the drain plug **(69)** from the bottom of the tank. Be sure not to lose the sealing washer. Stand clear as the oil drains from the tank**.**

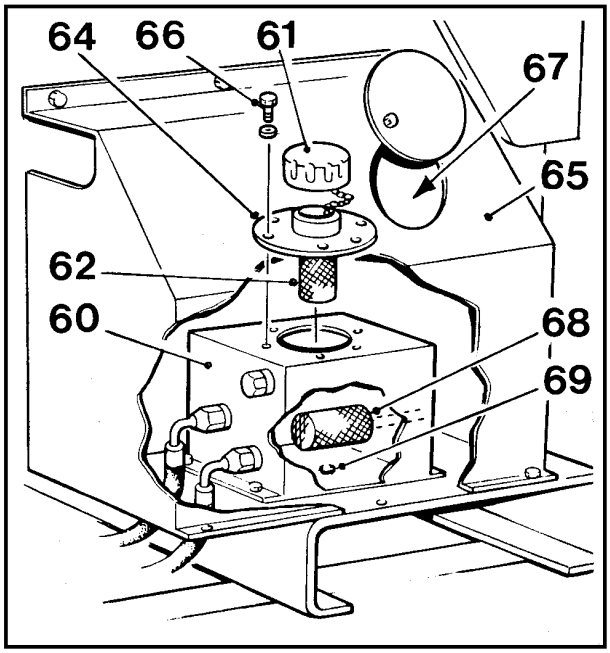
Unscrew the filter **(68)** from inside the tank, Thoroughly clean the filter in petrol, and air dry**.**

Replace the drain plug and its seal.

Screw the filter back inside the tank.

Refit the tank lid with the strainer and breather cap*. (Before fitting, these items should have been cleaned as previously described).*

Refill the tank with clean hydraulic oil of the correct grade.



WARNING

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.

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.

GENERAL LUBRICATION

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

Every day

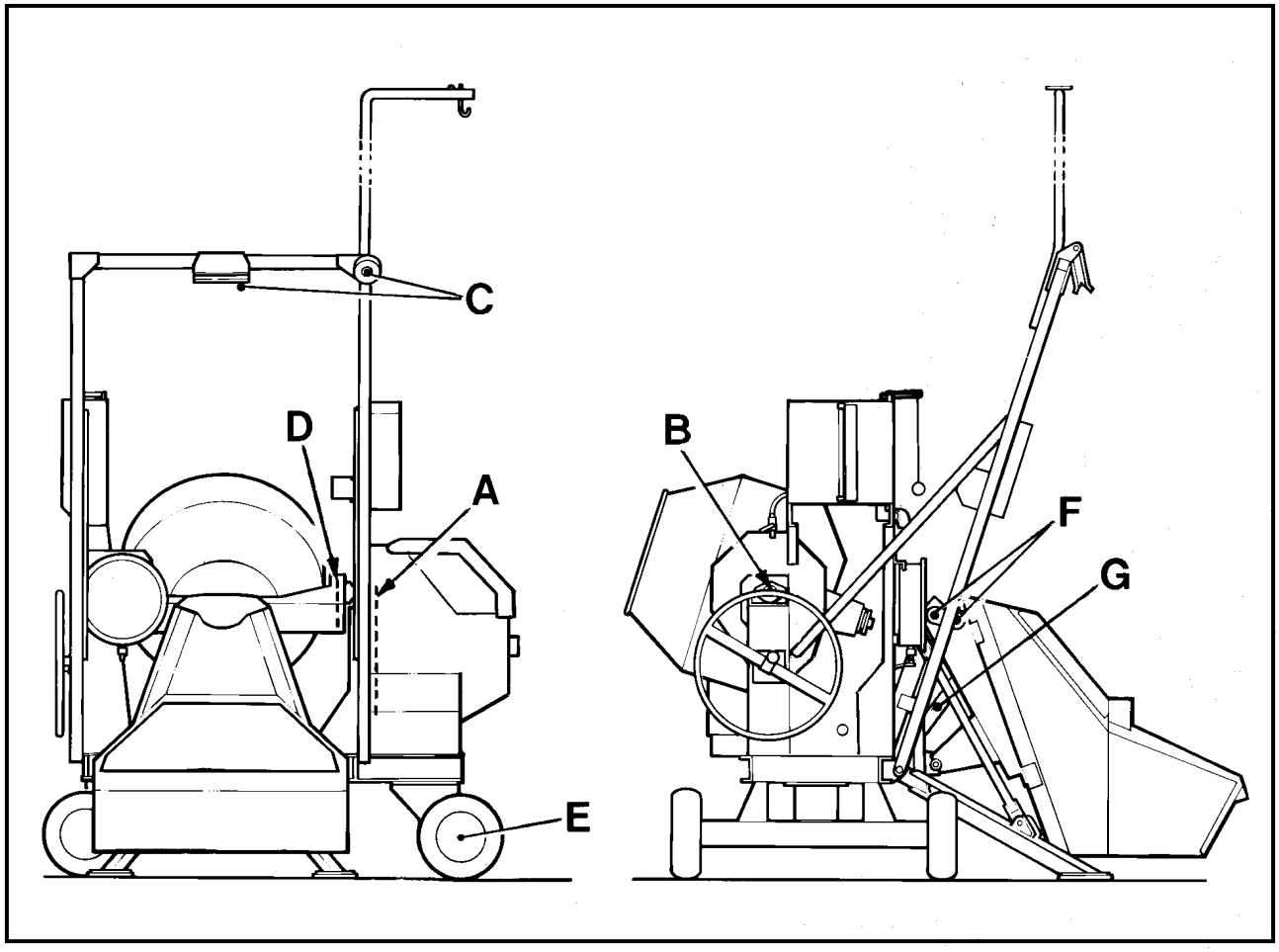
Apply a little engine oil to pin joints, water tank controls and hinges etc. to ensure that they move easily and are free from corrosion.

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.

LUBRICATION POINTS

	Number of points
A Main drive chain Oil	1
B Trunnion pivots Grease	2
C Dragline pulleys Grease	3
D Drive chain Oil	1
E Road wheels (pneumatic tyres) Grease	4
F Hopper pivots Grease	4
G Ram Grease	2



DRUM DRIVE

Every week (or 50 hours running)

Lubricate the main bevel pinion drive chain 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 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 chains as this will put excessive strain on engine bearings causing vibration and wear.

BATCH WEIGHER (if fitted)

Every day

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

Grease the four nipples on the upper hopper pivot links.

WARNING

The bushes in the lower links must NOT be lubricated, as this will cause them to deteriorate.

NEVER disconnect the load cell from the weighing dial.

Do not allow a loaded or empty hopper to drop uncontrolled onto the loadcell. Doing so can irreparably damage the loadcell or gauge by causing a large pressure spike.

DRAGLINE (if fitted)

Winch cable pulleys

Every day

Grease the nipples fitted to the three pulleys of the winch cable.

Dynamo

Every 500 hours

Check the tension of the dynamo drive belt. If necessary, adjust the belt as follows:

Slacken the dynamo fixing bolts.

Pivot the dynamo in its mounting to tension the drive.

Retighten the fixing bolts.

Check the dynamo brushes periodically.

The dynamo voltage is maintained at 12.5 to 13 volts by a pre-set regulator.

Electrical control cable

Every week (or 50 working hours)

Check the control cable for cuts and chafing, or other signs of damage.

If the control cable needs to be repaired, it should not be shortened by more than 1500mm (5 feet).

Hydraulic winch motor

The hydraulic winch motor does not require servicing.

Hydraulic winch cable

Every week (or 50 working hours)

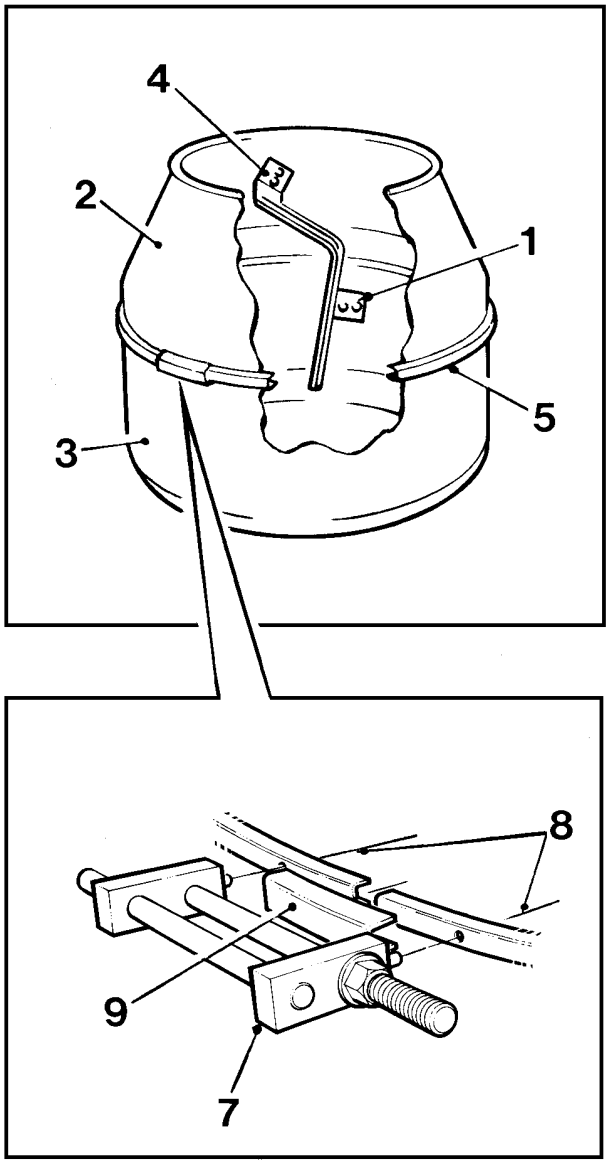
Check the winch cable for fraying, chafing or other signs of damage.

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:



A Assembling drum using special clamping tool.

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

Bolt the two blades into the drum base **(1).** Tighten the bolts with fingers only.

Lift the cone **(2)** over the blades and position it on the drum base **(3).**

Turn the cone until one hole at the top of each blade **(4)** aligns with one of the two holes in the cone. It is necessary to drill a new hole through the cone to align with the obstructed hole of each blade. Fit bolts and tighten with fingers only. Fill the unused holes in the cone with silicone sealer.
(see Specifications Section for sealer)

Smear silicone sealer around the inside face of the drum clip **(5).**

Locate the drum clip around the periphery of the drum base and cone flange.

Locate the clamping tool **(7)** into the two holes **(8)** of the drum clip. Tighten the tool securely, using a 0.5 inch U.N.C. spanner.

Centralise the bridge piece **(9)** on the drum clip between the jaws of the clamping tool.

Weld the bridge piece **(9)** to the drum clip **(5).**

Remove the clamping tool **(7).**

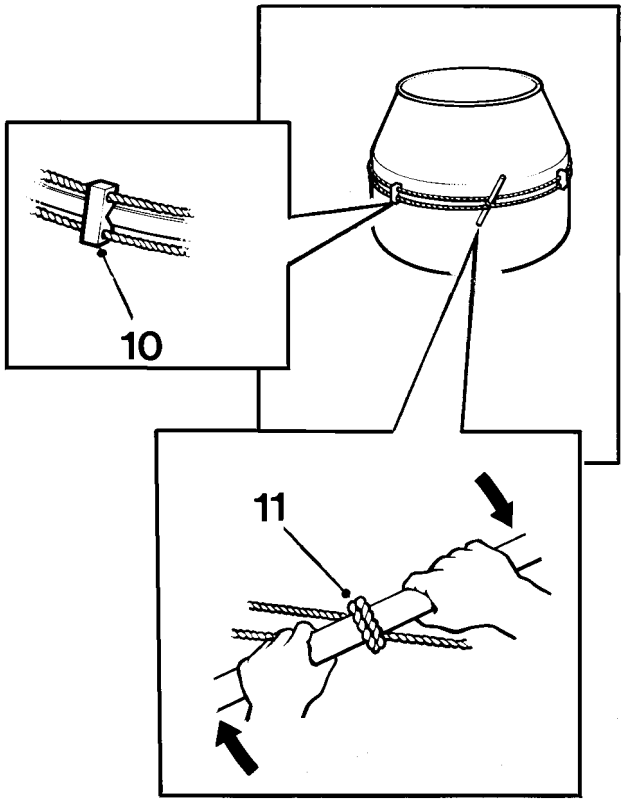
Tighten securely all of the blade fixing bolts.

B Assembling drum using a tourniquet

If the special clamping tool is not available a touniquet 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.

Twist the rope around a bar **(11)** to tighten the drum clip.

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 anti-seize compound the drum shaft **(j)** at points **(a)**, and the screws **(j1).**
(see Specifications Section for the Anti-seize Compound)

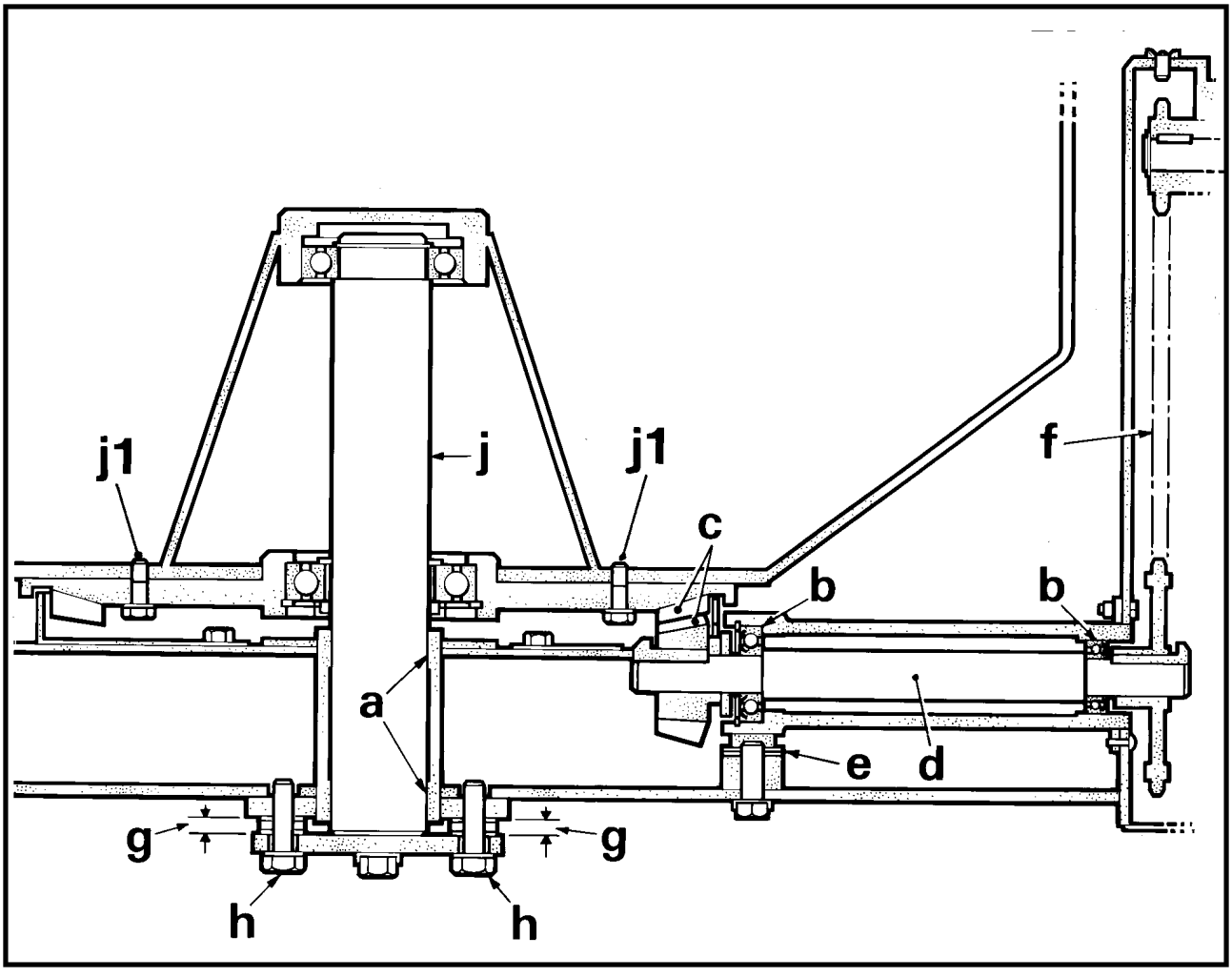
B The bearings **(b)** on either end of the bevel pinion shaft **(d)** are sealed for life and therefore require no maintenance after the initial charge of grease

The bevel gears **(c)** are to be coated liberally with Open Gear Fluid. *(see specifications Section)*

C 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).**

D 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. Using a combination of the varying thickness of shims and washers it is possible to fine tune the backlash. Acceptable backlash is approx. 3mm



TS/TR ENGINES (ELECTRIC START)

Electrical fault finding

When an electric start engine is fitted the charging system built into the engine provides the electrical power to operate the dragline solenoid valve.

Power is taken from terminal 2 on the ignition switch, through two core cable via a plug and socket, through the shovel mounted operating button/switch, back through the plug and socket down to the dragline solenoid valve *(see wiring diagram below).*

The most common causes of electrical failure are:

1 Break in the two core cable between the shovel mounted button/switch and the socket and plug mounted below the winch motor. (If the cable is shortened do not reduce the length to less than 19.8 metres, 65 feet.)

2 Ignition Switch in the "Off" position.

3 Dirty or loose electrical connections at the plug and socket, the solenoid valve, ignition switch or battery.

4 Flat battery.

5 Charging system failure. *(See Engine Workshop Manual).*

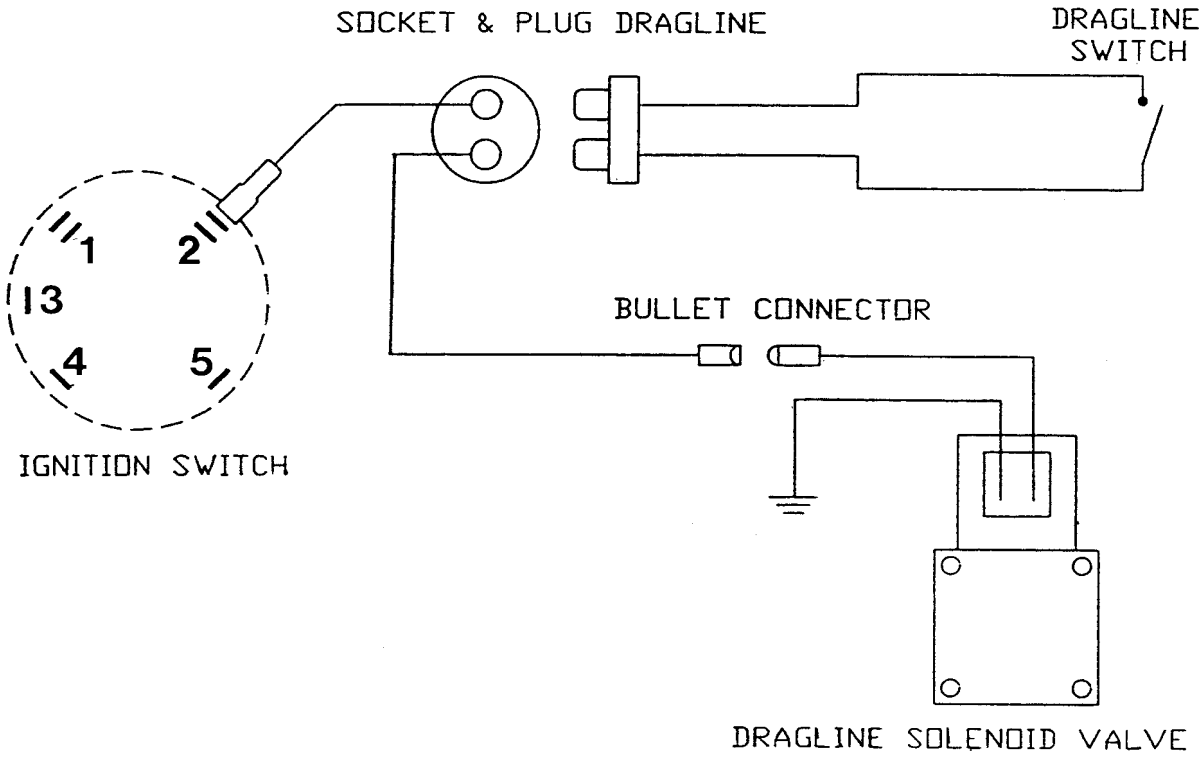
6 Bad Earth Connections.

Voltage Setting Instructions

It is not possible to adjust the voltage setting but the voltage can be measured at the terminal block on the solenoid valve.

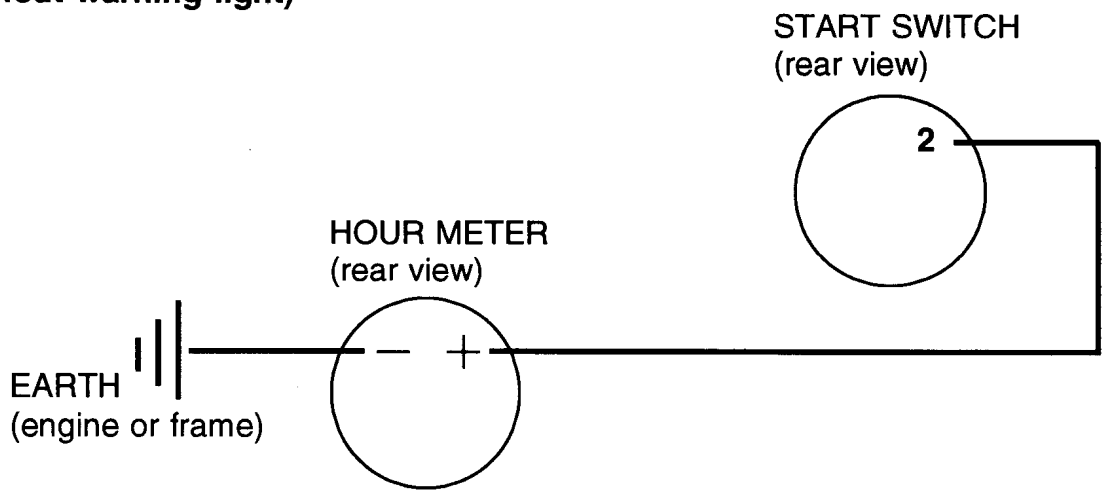
Remove the terminal block, connect a D.C. voltmeter to the terminal block and start the engine. Depress the shovel mounted button/switch and note the voltage reading. It should not exceed 14.5 volts. If the voltmeter indicates a negative reading or reads in the reverse direction interchange the voltmeter leads.

Electric start TS engines - dragline wiring

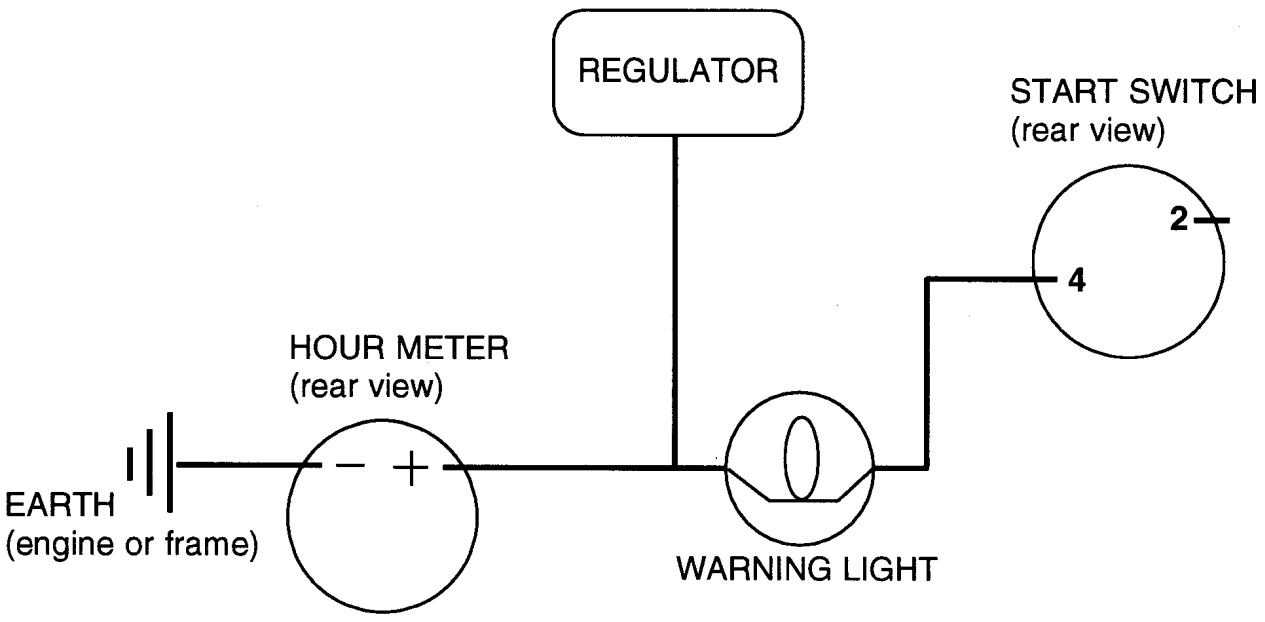


HOUR METER WIRING

Hour Meter
(without warning light)



Hour Meter
(with warning light)



DRAGLINE ELECTRICAL SYSTEM

Hand start engines and electric motor driven mixers:

Voltage setting instructions

Set the voltage as follows:

(to be read in conjunction with the illustration on the following page)

Start the machine.

Plug in loading shovel to machine. Remove solenoid valve cover and regulator adjusting screw rubber plug.

Connect a D.C. voltmeter to the two way terminal block inside the valve body. With the aid of a second person to operate the loading shovel, by depressing the shovel control unit push button, note the reading on the voltmeter.

The correct figure should be 12 volts. If the voltmeter reads in the reverse direction, interchange the voltmeter leads.

If voltage is incorrect, then with the meter still connected and the loading shovel working, turn voltage regulator adjusting screw **(8)** (situated above connection point '**A**') with a small short screwdriver, either clockwise or anticlockwise until meter reads 12 volts constantly.

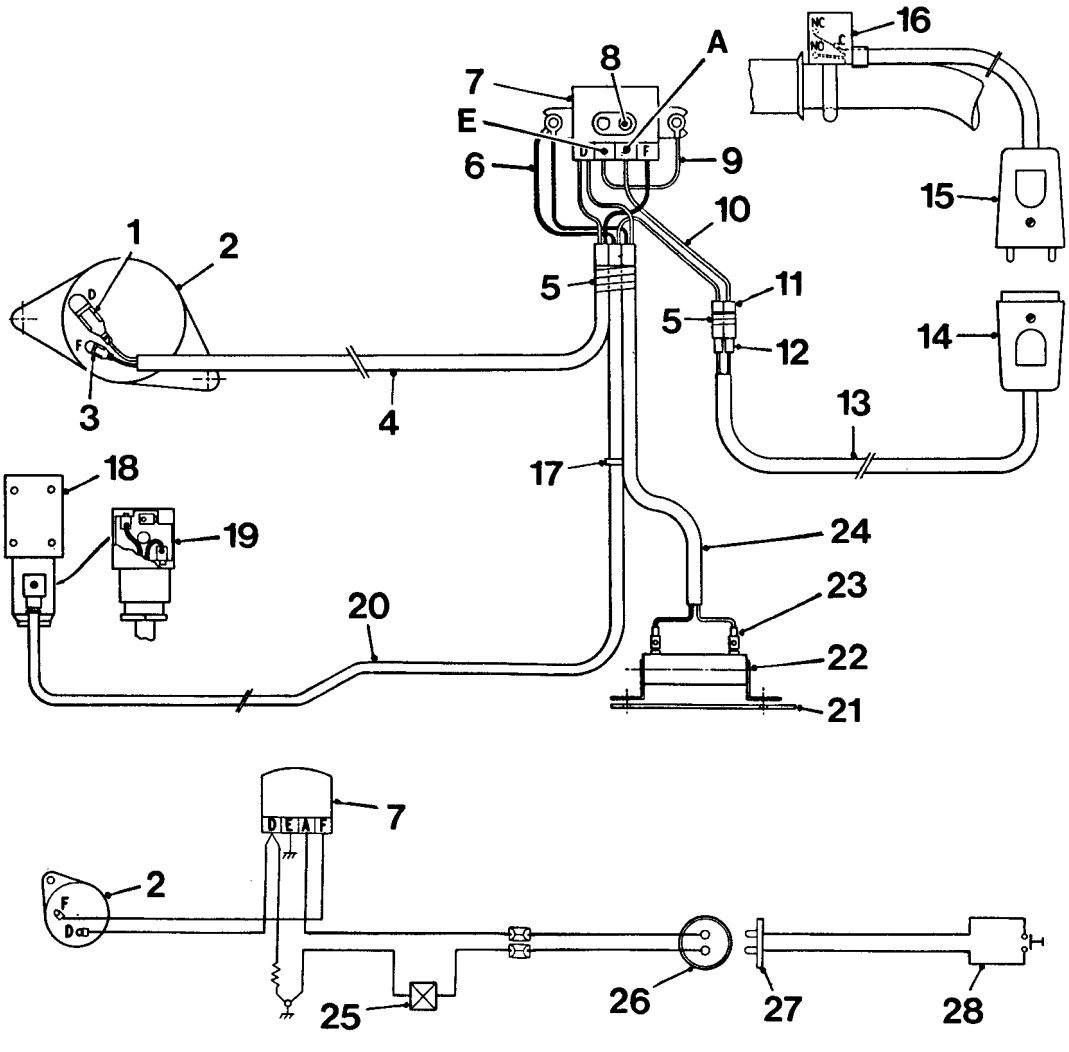
After adjustment, replace valve cover and regulator plug.

Note: Do not interfere with adjusting screw above connection point **'E'.**

ELECTRICAL WIRING LAYOUT

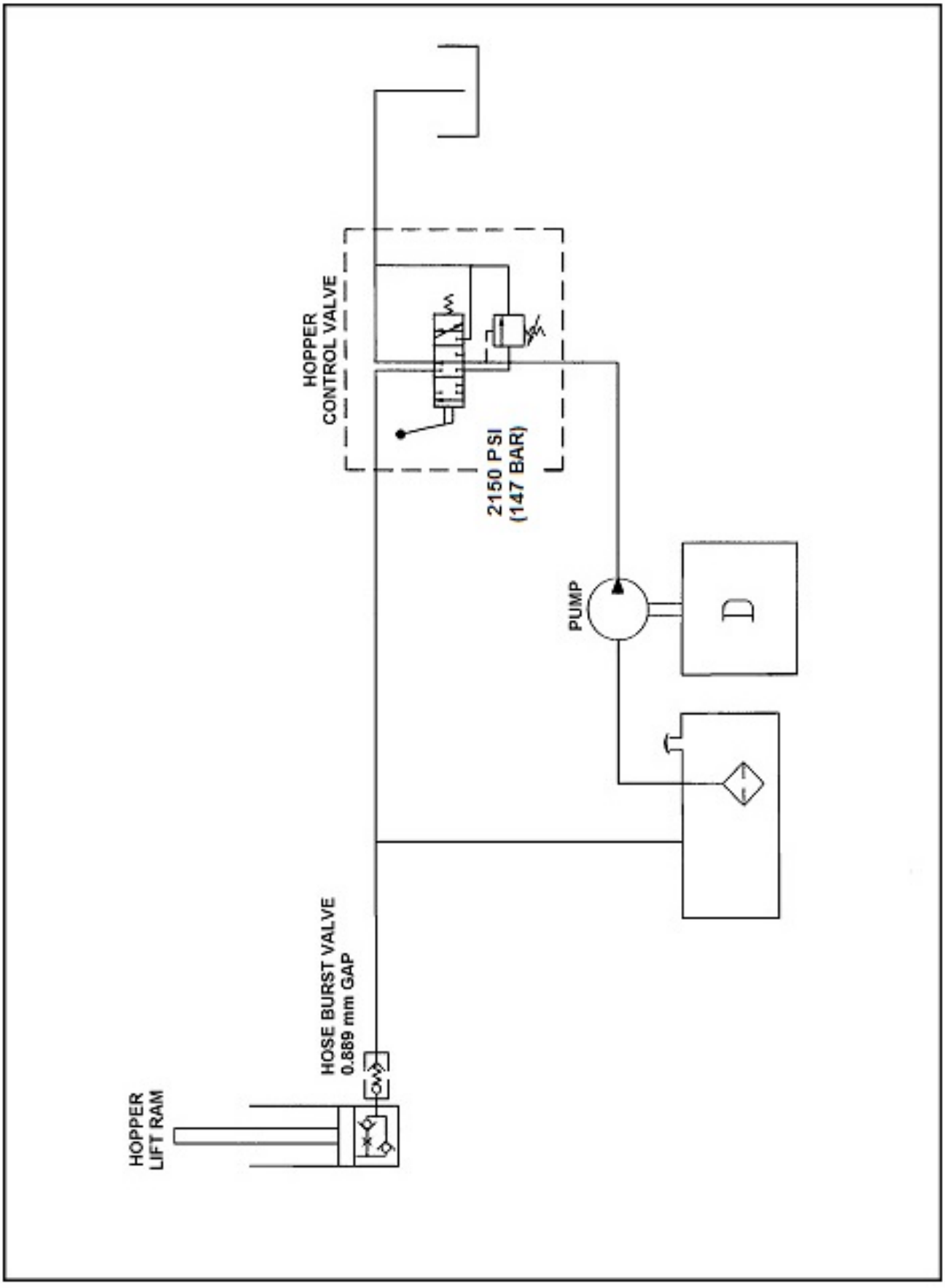
1 Terminal with insulator
2 Generator
3 Terminal with insulator
4 Cable, twin core brown & blue
5 Tape
6 Cable, blue
7 Regulator
8 Screw, voltage adjusting
9 Cable, green
10 Cable, red
11 Connector
12 Nipples
13 Cable, twin core, brown & blue
14 Socket, shovel unit
15 Plug, shovel unit
16 Control, shovel unit
17 Clips, brass
18 Solenoid valve
19 Connect cable to solenoid valve plug as shown, so that the cable falls away from the valve, not over it.
20 Cable, twin core, brown & blue
21 Board, insulating
22 Resistor
23 Connector
24 Cable, twin core, brown & blue
25 Dragline solenoid valve
26 Socket, dragline
27 Plug, dragline
28 Button, dragline operating

Hand start & electric motor driven mixers



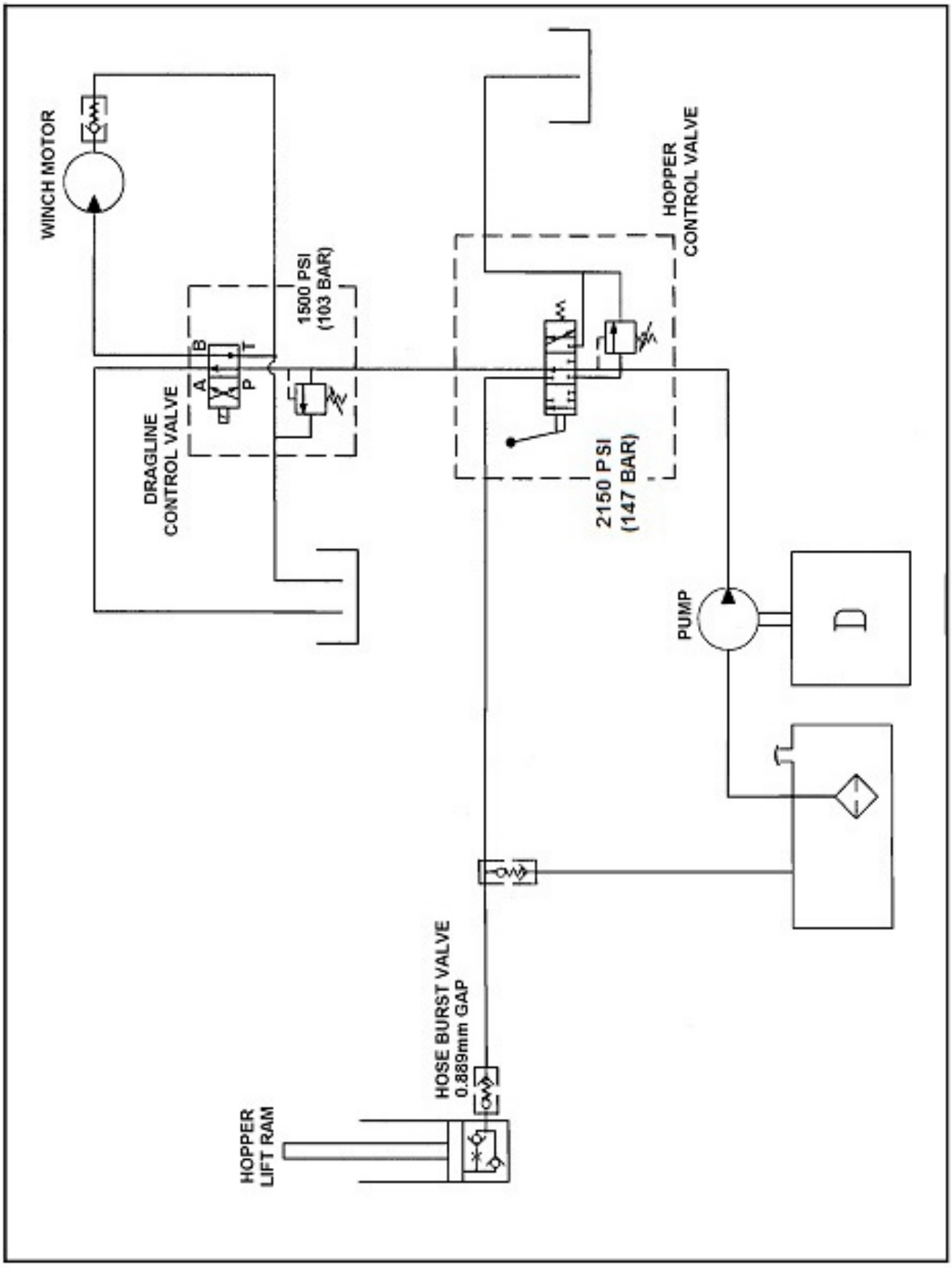
HYDRAULIC CIRCUIT, basic mixer

Up to mixer serial number 0800



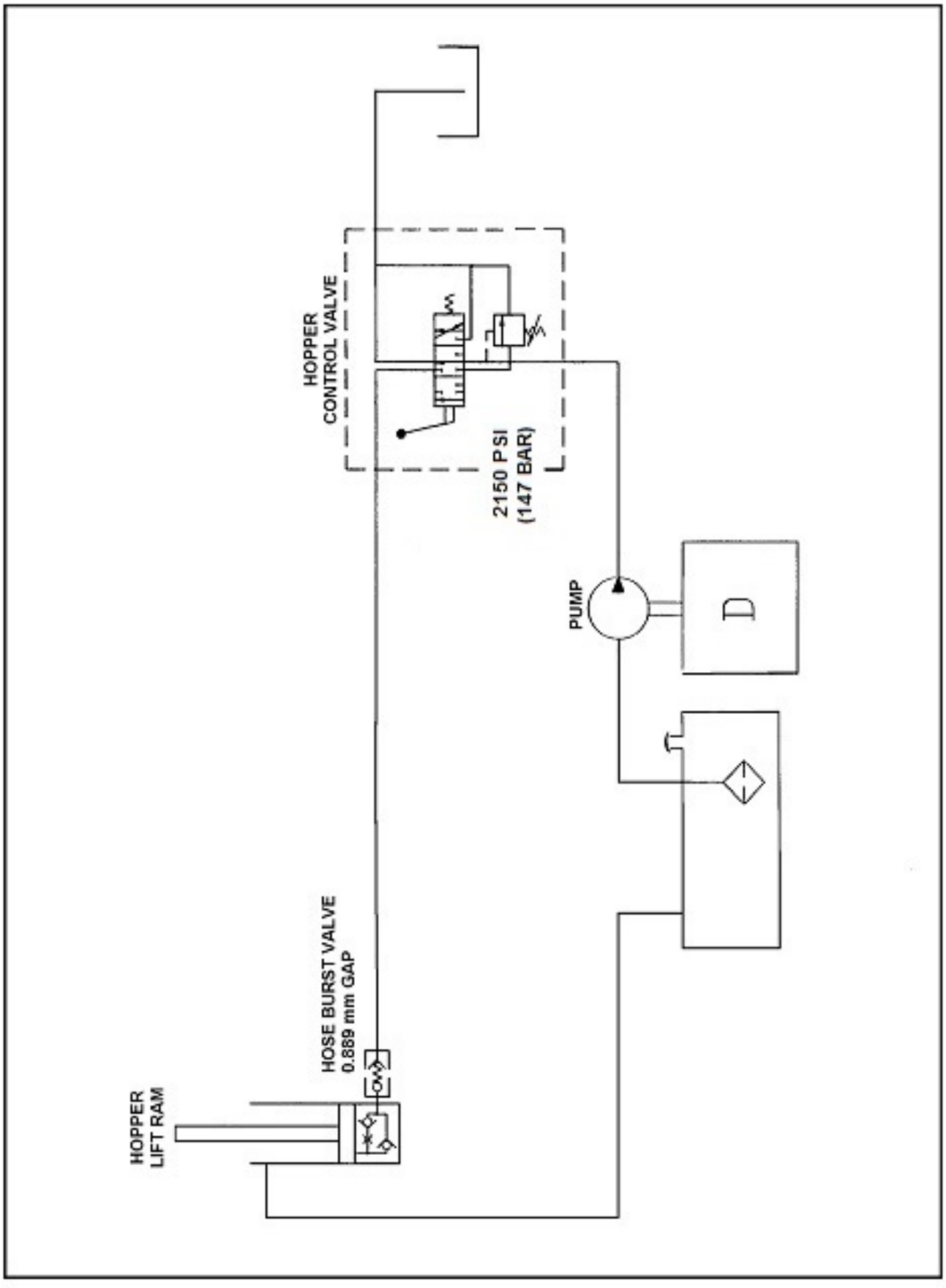
HYDRAULIC CIRCUIT, mixer with batch weigher and dragline

Up to mixer serial number 0800



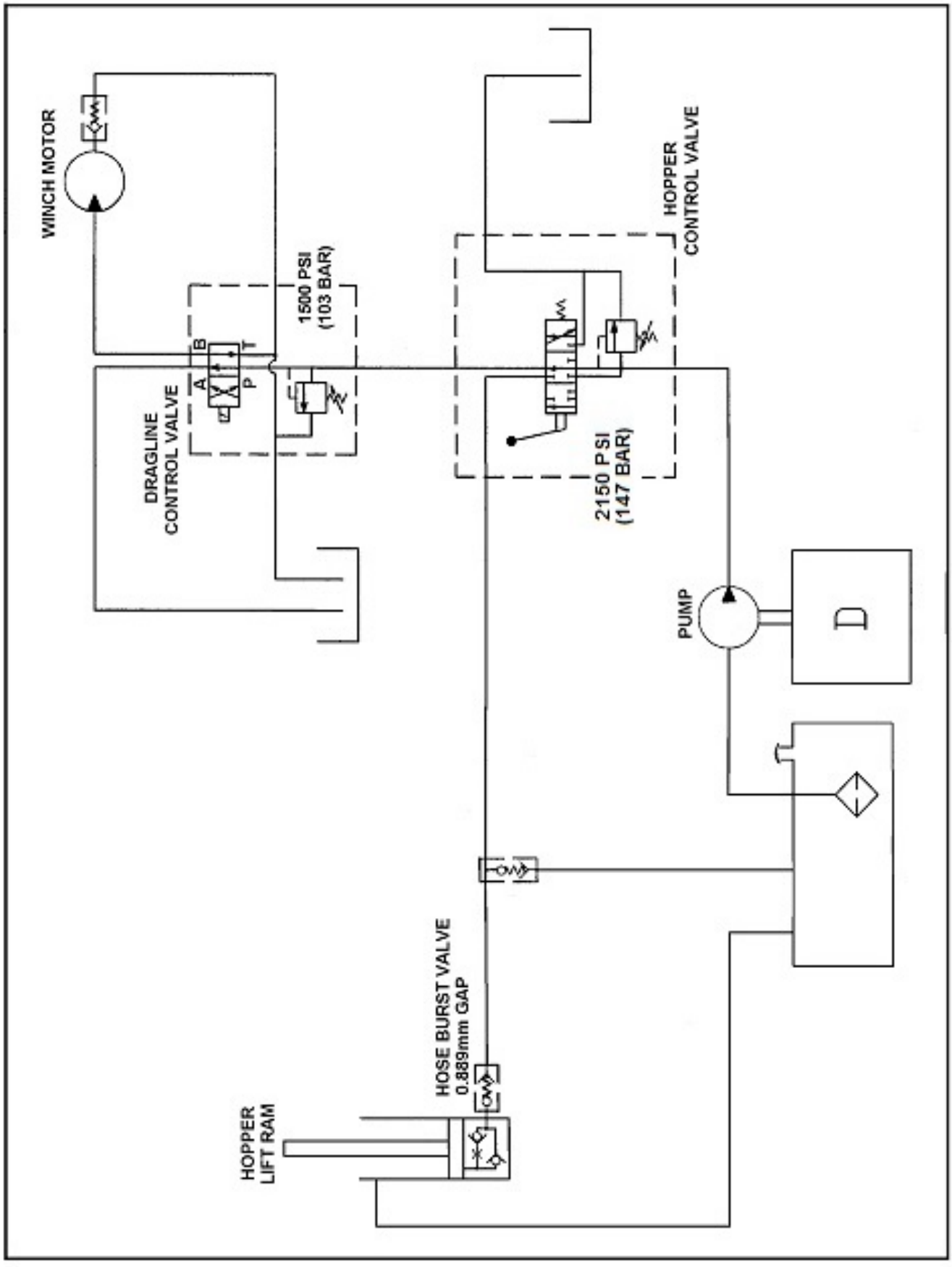
HYDRAULIC CIRCUIT, basic mixer

From mixer serial number 0801



HYDRAULIC CIRCUIT, mixer with batch weigher and dragline

From mixer serial number 0801



SPECIFICATIONS 5.1

Lubricants

Mixers are factory filled with the following TOTAL oils.

Lister-Petter TS/TR	Lubricating oil	Rubia B 10W/30	2.7 litres
	Fuel		8.25 litres

Hydraulic oil	Equivis ZS 46 SAE 10 oil for temperatures up to 60 deg. F (15 deg. C) SAE 20 oil for temperatures between 60 & 90 deg. F (15 & 32 deg. C) SAE 30 oil for temperatures above 90 deg. F (32 deg. C)
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

Tested in accordance with EC Directive 2000/14/EC		
LPA 85	LWA 105	Lister-Petter TS1
LPA 67	LWA 88	Electric motor

Tested in accordance with 79/113 EEC		
LPA 85	LWA 104	Lister-Petter TS1
LPA 67	LWA 88	Electric motor

Drum speed

22 rpm *(approximately)*

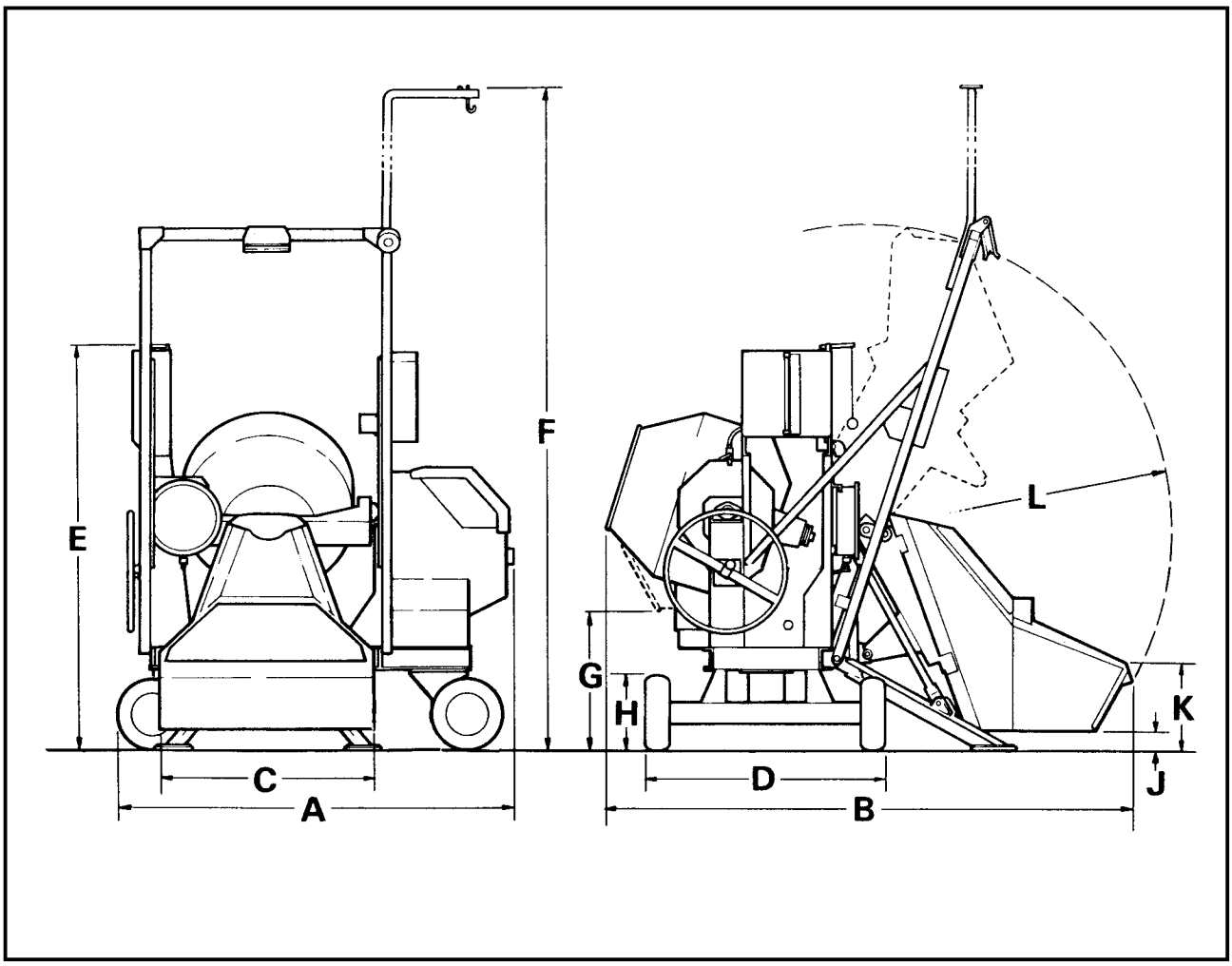
Mixer drum sealant

Silicone sealant *(part number V2000772)*

Engine and motor outputs

Lister-Petter TS/TR1 *(Standard)*	**Electric motors 415v 3ph** *(Option)*
4.5 kW (6 bhp) @ 1500 rpm	4 kW (5.5 bhp) @ 1440 rpm

DIMENSIONS



A	2320 mm
B	2920 mm
C	1210 mm
D	1630 mm
E	2200 mm
F	2980 mm
G	756 mm
H	451 mm
J	105 mm
K	470 mm
L	1710 mm

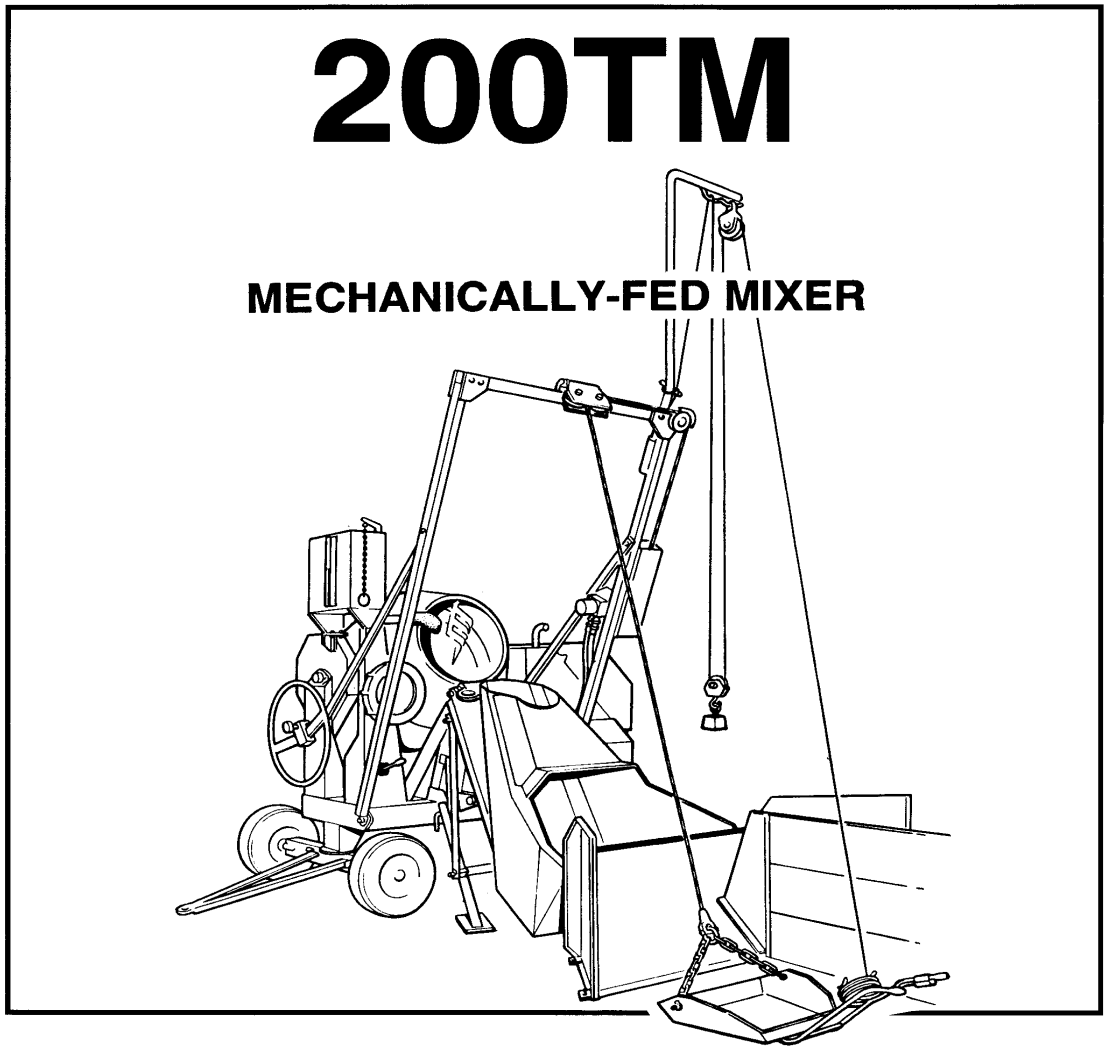
PARTS

Mixers manfactured
up to
serial number TM200DA0523
(January 1993)

Mixers manfactured
from
serial number TM200DA0524
(January 1993)

<< To beginning of book

200TM



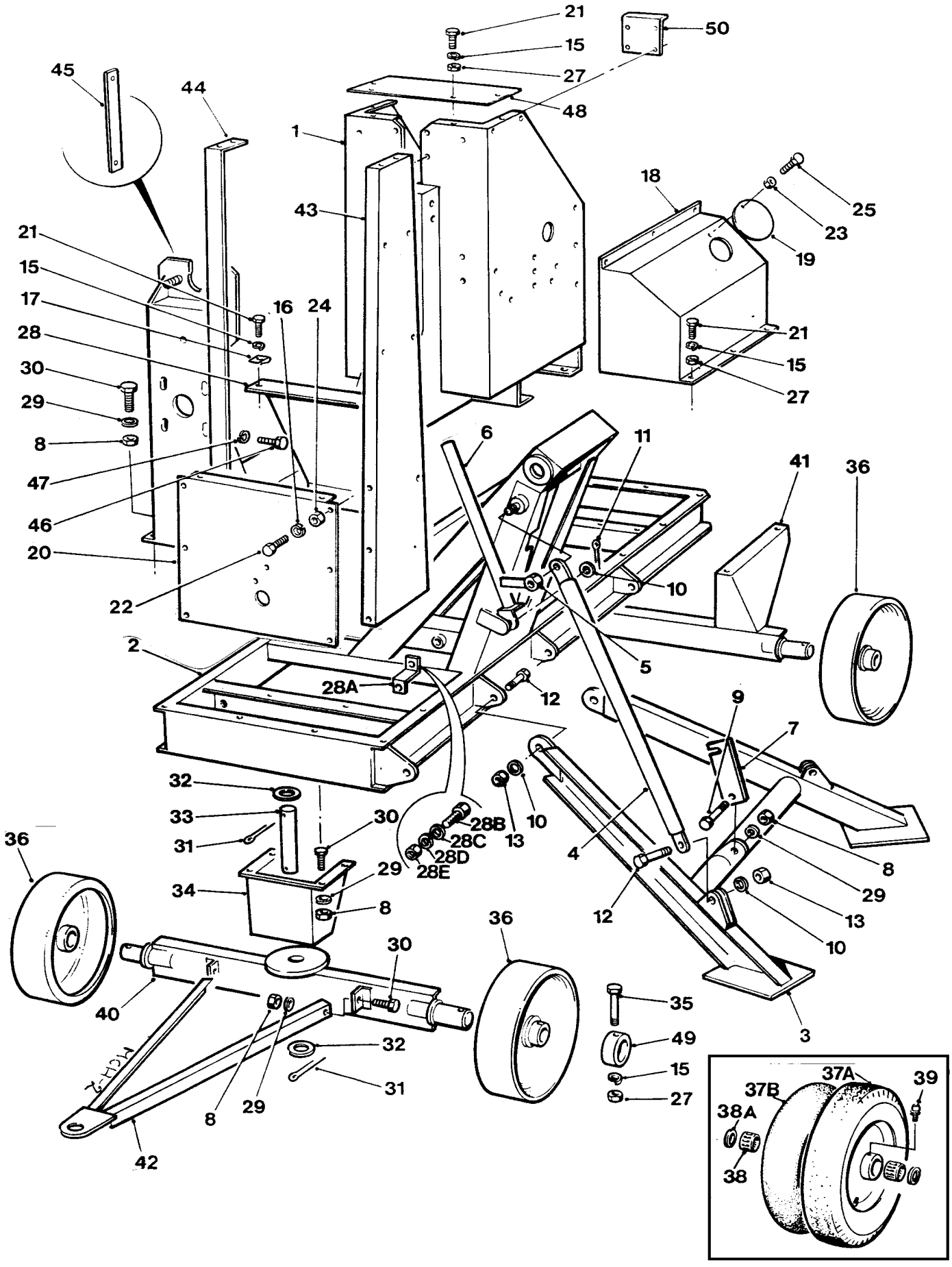
Mixers manfactured
up to
serial number TM200DA0523
(January 1993)

<< To beginning of Parts

Contents

A - 1

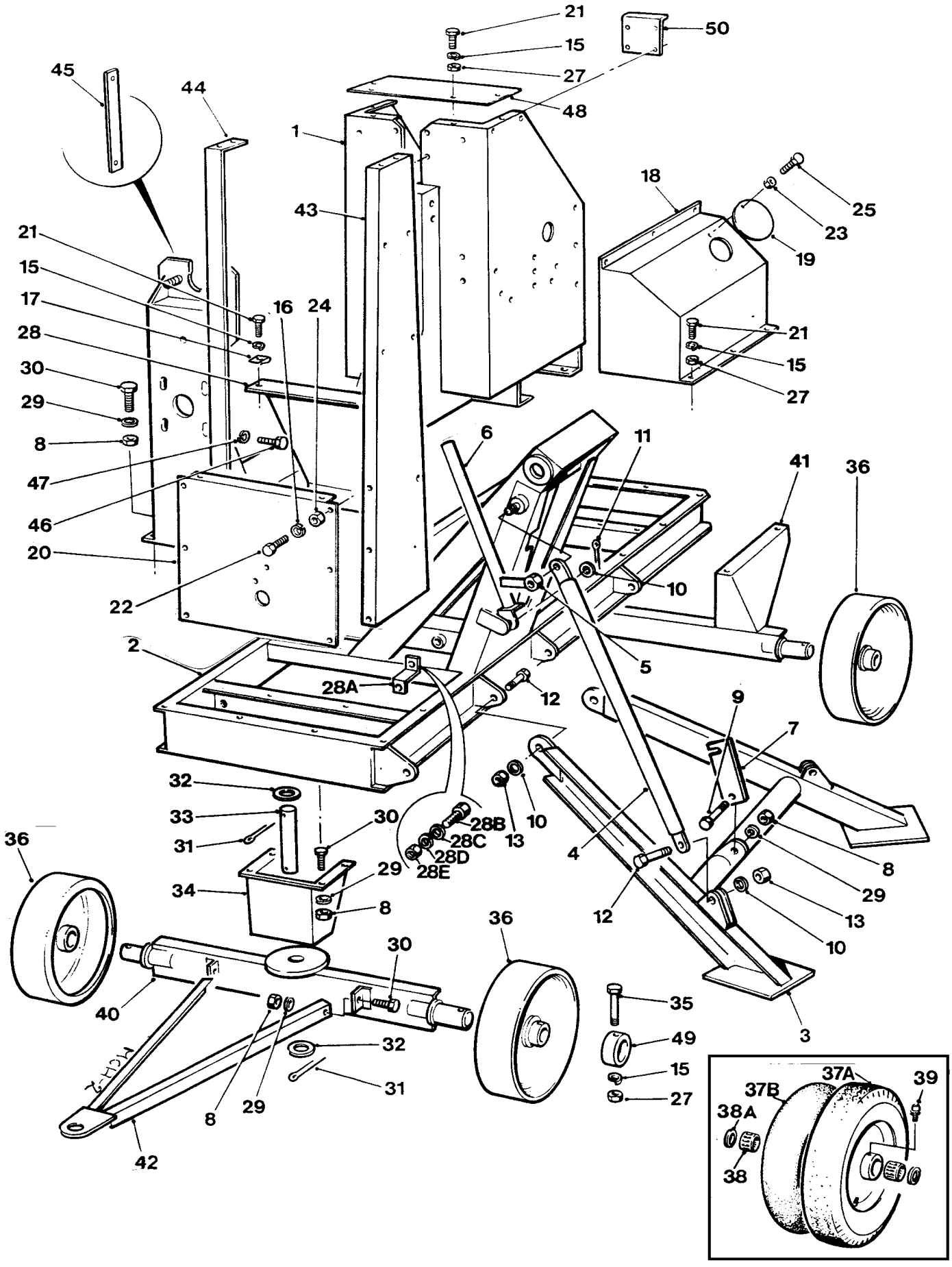
200TM Mixer *(up to serial number 0523)*



Item	Part no	Serial no	Description	Qty
1	513313100		MAINFRAME, Electric Drive	1
1	513313100	/ Feb-90	MAINFRAME, Petter PH1 engine	1
1	513347000	Feb-90 /	MAINFRAME, Lister-PetterTS1 engine	1
2	513318900		SUBFRAME, Electric Drive	1
2	513318900	/ Feb-90	SUBFRAME, Petter PH1	1
2	513345900	Feb-90 /	SUBFRAME, Lister-PetterTS1	1
3	513317700		STABILISER, leg	1
4	513318300		STABILISER, strut, L.H. (illustrated)	1
-	513318301		STABILISER, strut, R.H. (not illustrated)	1
5	513318800		NUT, clamp	2
6	513320300		PROP, hopper	1
7	513328600		HOOK, stowage	1
8	61S05		NUT, self-locking	28
9	8S05D		BOLT	1
10	12S54		WASHER, flat	5
11	353325040		PIN, split	1
12	8S07K		BOLT	4
13	61S07		NUT, self-locking	4
15	17S03	/ Feb-90	WASHER, spring	14
15	17S03	Feb-90 /	WASHER, spring	12
16	17S04		WASHER, spring	16
17	332719000		NUT, spire, captive	8
18	513307000		TANK, oil housing	1
19	513307100		FLAP	1
20	513327500		PLATE, control valve	1
21	11S03A	/ Feb-90	SCREW, set	16
21	11S03A	Feb-90 /	SCREW, set	14
22	11S03A		SCREW, set	10
23	61S02		NUT, self-locking	1
24	7S03		NUT	8
25	11 S02AA		SCREW, set	1
27	7S02	/ Feb-90	NUT	6
27	7S02	Feb-90 /	NUT	4
28	513342400		COVER, control valve	1
28A	C163B	Jan-88 /	BRACKET	2
28B	11 SO2A	Jan-88 /	SCREW, set	2
28C	267S04	Jan-88 /	WASHER, flat	2
28D	17S03	Jan-88 /	WASHER, spring	2
28E	7S02	Jan-88 /	NUT	2
29	12S23		WASHER, flat	8
30	11S05D		SCREW, set	18
31	353308200		PIN, split	2
32	10S31		WASHER, flat	2
33	513315100		PIN, swivel	1
34	513314700		BRACKET, swivel	1
35	8S02H		BOLT	4

A - 1

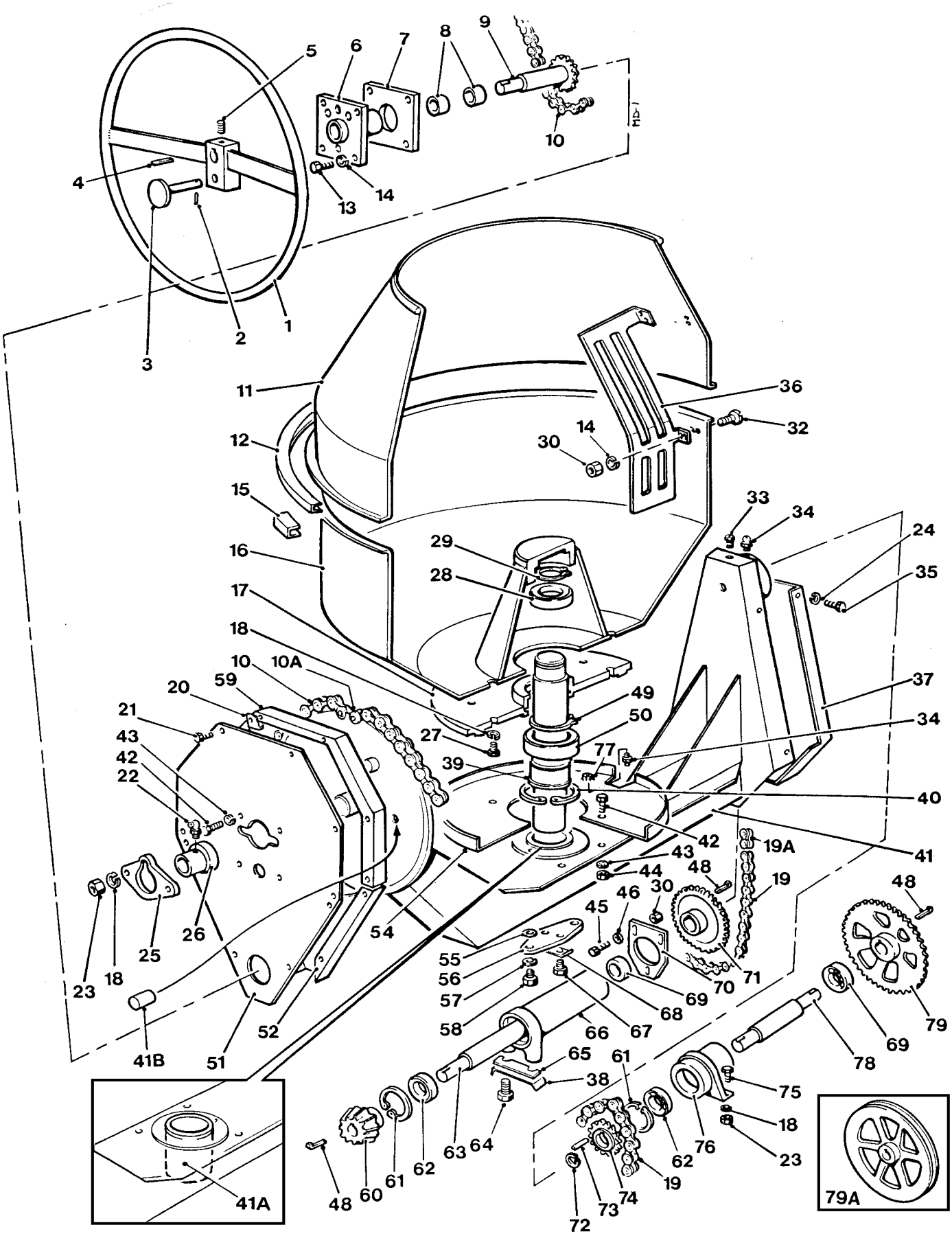
200TM Mixer *(up to serial number 0523)*



Item	Part no	Serial no	Description	Qty
36	513198500		ROAD WHEEL, pressed steel	4
			or	
37	475122000		WHEEL, pneumatic, assembly	4
37A	475122001		TYRE	1
37B	475122002		TUBE	1
38	475121001		BEARING, roller	1
38A	475122003		RETAINER, roller bearing	2
39	131S04		NIPPLE, grease	1
40	513340000		AXLE, front	1
41	513340100		AXLE, rear	1
42	513315200		TOWBAR	1
43	513327300		SUPPORT, outer	1
44	513327400		SUPPORT, inner	1
45	513329500		PLATE, strip	1
46	11S05C		SCREW, set	2
47	17S06		WASHER, spring	2
48	513326000	/ Feb-90	PLATE, top	1
48	513347100	Feb-90 /	PLATE, top	1
49	513324700		COLLAR, axle	4
50	513325900		PLATE, cover	1

B - 1

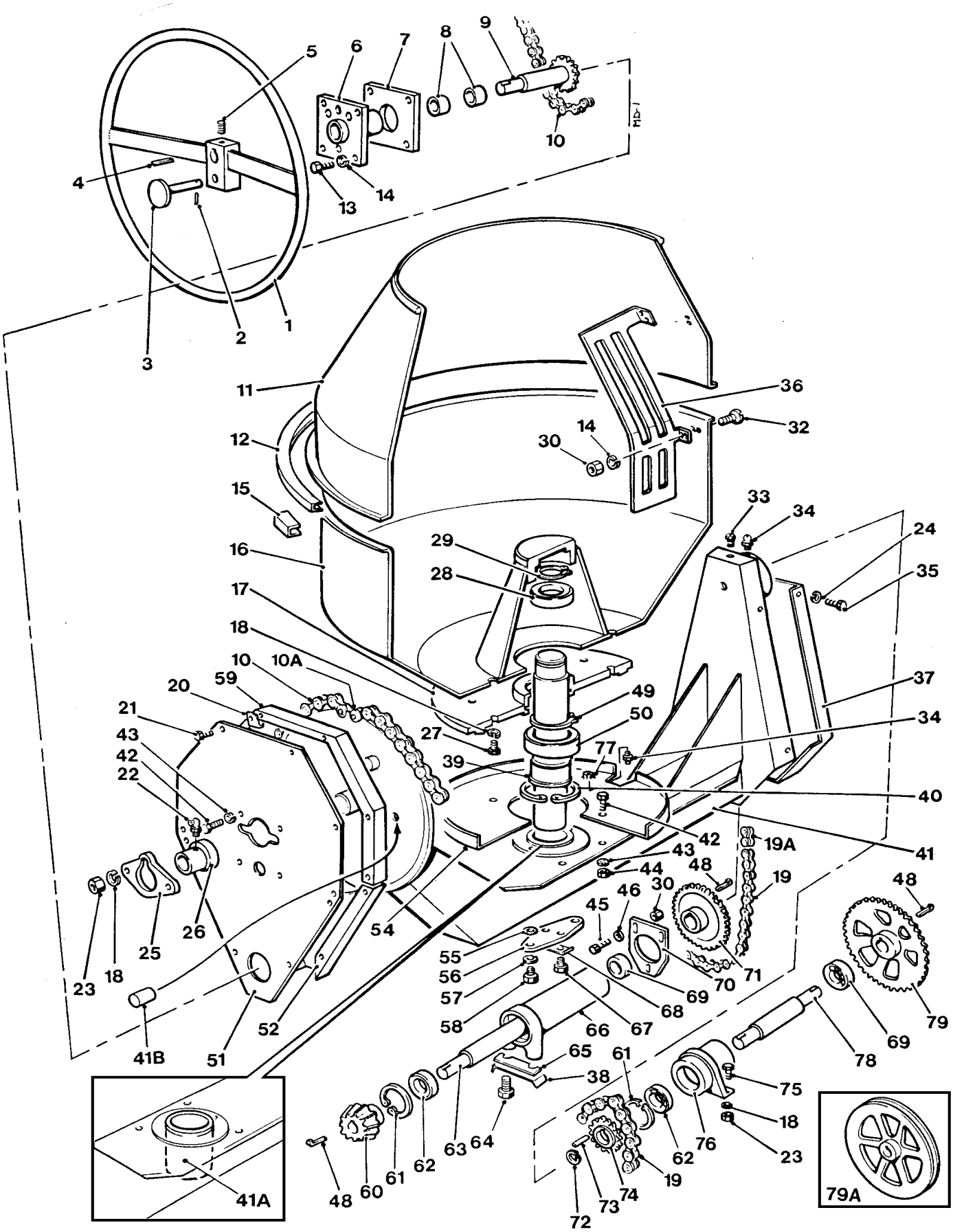
200TM Mixer *(up to serial number 0523)*



Item	Part no	Serial no	Description	Qty
1	513315400		HANDWHEEL	1
2	352806100		PIN, mills	1
3	513194400		PLUNGER	1
4	304708040		KEY, feather	1
5	57SO6F1		SCREW, grub	1
6	513315600		BEARING, handwheel	1
7	513315900		PLATE, backing	1
8	112803400		BUSH	2
9	513316000		SHAFT, tilting pinion	1
10	134105107		CHAIN	1
10A	134105002		LINK, connecting	1
---	134105001		LINK, half	AR
11	513323902		DRUM TOP	1
12	513324100		DRUM CLIP	1
13	11S04E		SCREW, set	4
14	17S05		WASHER, spring	14
15	513324200		BRIDGE PIECE	1
16	513324000		BASE, drum	1
17	513305200		GEAR, drum drive	1
18	17S06		WASHER, spring	10
19	134105070		CHAIN	1
19A	134105002		LINK, connecting	1
---	134105001		LINK, half	AR
20	332719000		NUT, captive	10
21	405100616		SCREW, set	10
22	335010200		NIPPLE, grease, 90 degree	1
---	176S01		CAP, grease nipple	1
23	7S05		NUT	4
24	17S03		WASHER, spring	4
25	513323800		PLATE, retaining	1
26	513323700		INSERT	1
27	11SO5D		SCREW, set	6
28	88S42D		BEARING	1
29	132760000		CIRCLIP	1
30	7S04		NUT	10
32	16SO9D		SCREW	8
33	315803100		PLUG, grease	1
34	333102020		NIPPLE, grease, straight	2
---	176S01		CAP, grease nipple	1
35	11 S02AA		SCREW, set	4

B - 1

200TM Mixer *(up to serial number 0523)*

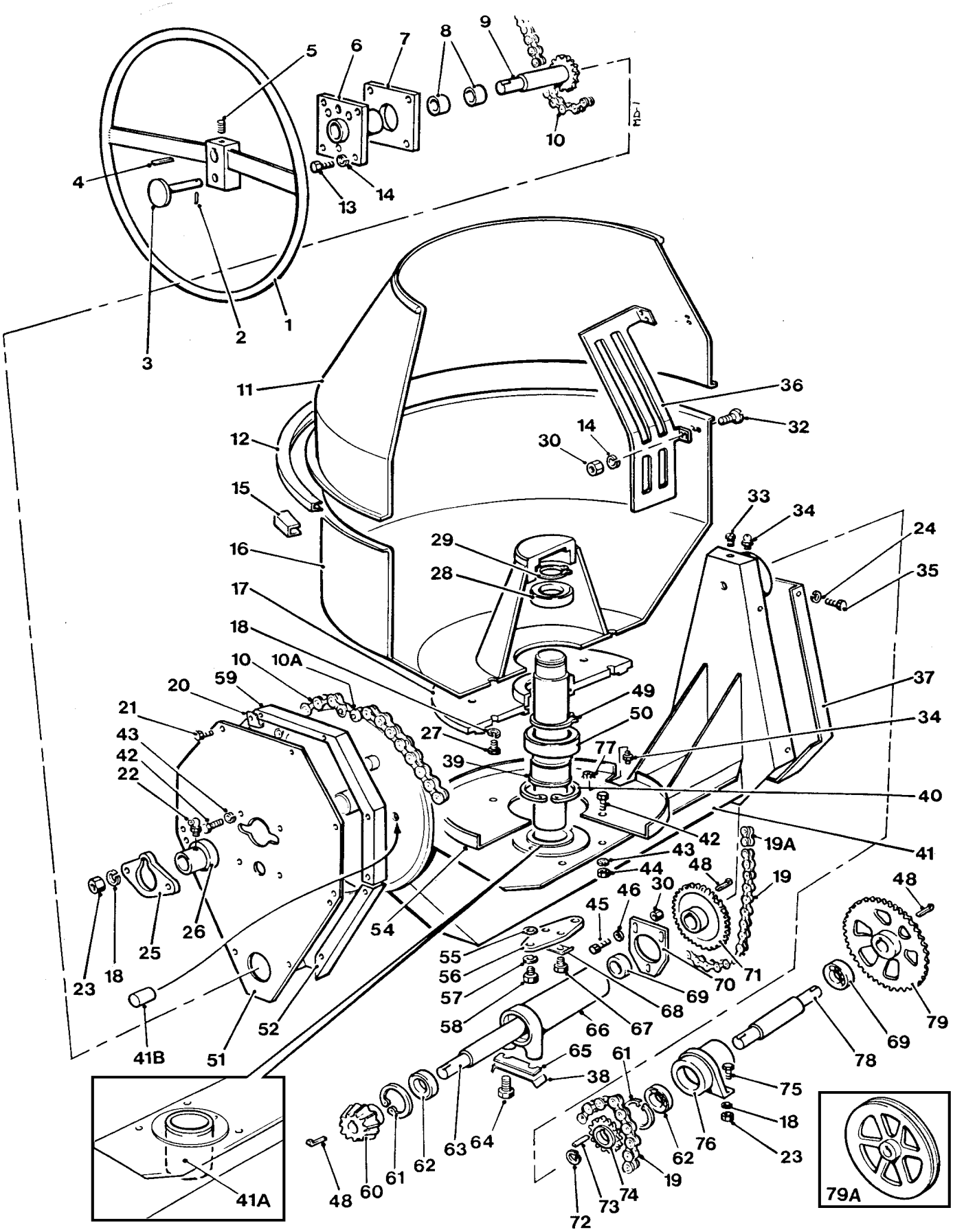


Item	Part no	Serial no	Description	Qty
36	513324300		BLADE, Electric Drive	2
36	513324300	/ Feb-90	BLADE, Petter PH1 engine	2
36	513348200	Feb-90 /	BLADE, Lister-PetterTS1 engine	2
37	513316600		GUARD, chain, trunnion	1
38	513324400		WASHER, tab	1
39	513310100		SHAFT, drum	1
40	132313000		CIRCLIP	1
41	513324500	/ Dec-92	TRUNNION (OBSOLETE: use trunnion 513354000 and dowel 513310000)	1
41A	513309300	Dec-92 /	BOSS, drum shaft support (Fits trunnion 513324500 only.)	1
41	513354000	Jan-93 /	# TRUNNION	
41B	513310000	Jan-93 /	# DOWEL	
			# When ordering trunnion 513354000 it is necessary to order dowel 513310000. (The dowel will need to be welded to the trunnion)	
42	11S03B		SCREW, set	8
43	17S04		WASHER, spring	8
44	7S03		NUT	4
45	11SO4B		SCREW, set	2
46	17S05		WASHER, spring	2
48	300110845		KEY, taper, gib head	3
49	132775000		CIRCLIP	1
50	88S45D		BEARING	1
51	513313900		BACK PLATE, chain guard	1
52	513316400		GUARD, chain	1
54	513316500		GUARD, drum gear	1
55	12S26		WASHER, flat	AR
56	513310600		FLANGE, drum shaft	1
57	17S08		WASHER, spring	2
58	11 SO6H		SCREW, set	2
59	513316300		GUARD, chain, tilt, upper	1
60	513310700		BEVEL PINION	1
61	132362000		CIRCLIP	1
62	88S05D		BEARING	2
63	513310300		SHAFT, bevel pinion	1
64	11S05H		SCREW, set	2
65	513152400		PACKING PIECE (set of 2) set	1

continued >

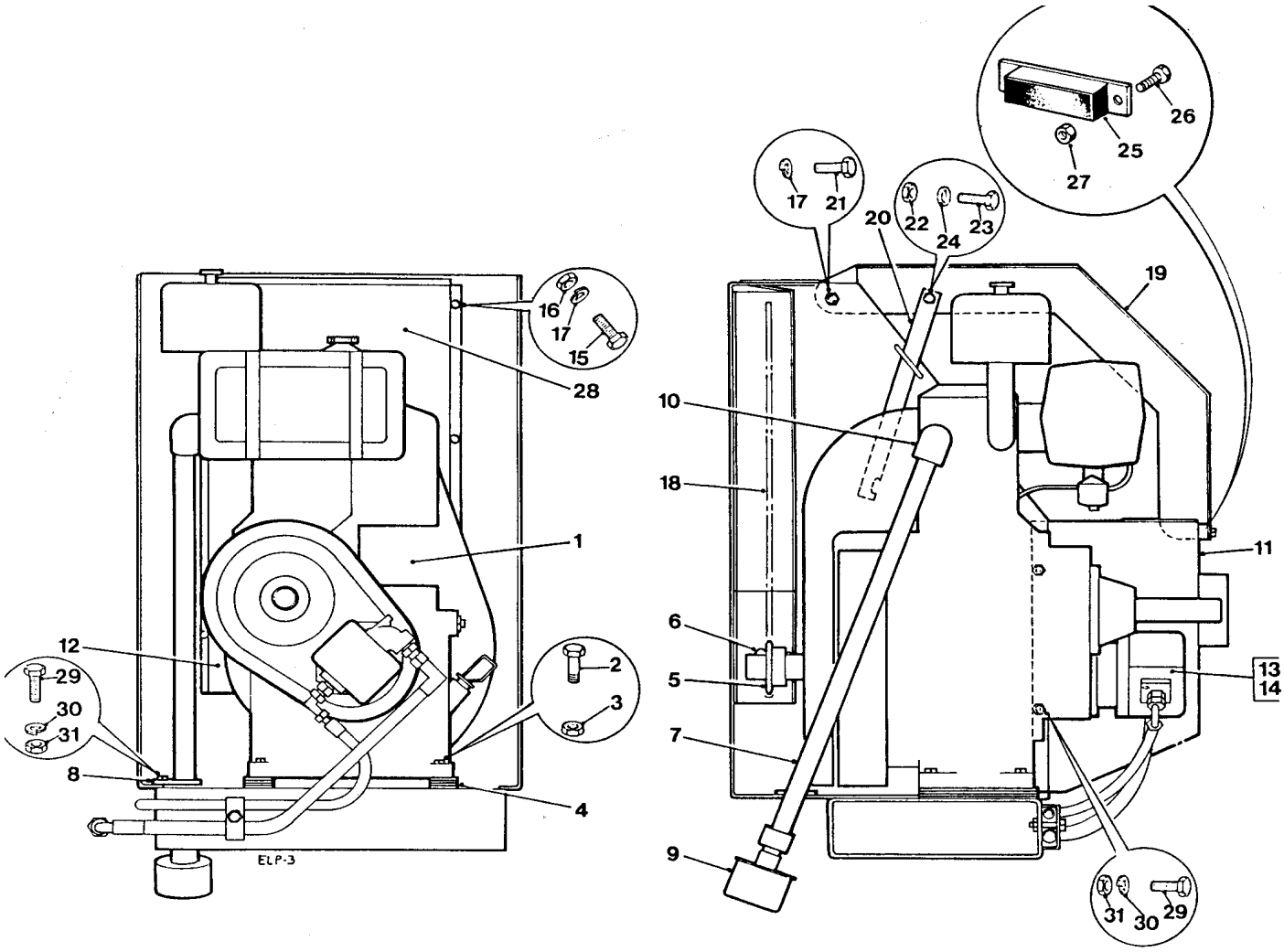
B - 1

200TM Mixer *(up to serial number 0523)*



Item	Part no	Serial no	Description	Qty
66	513305400		HOUSING, shaft, bevel pinion	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	11SO5F		SCREW, set	2
76	513305500		BEARING, trunnion	1
77	72S02		NUT, *(welded to Guard, item 54)*	1
78	513310400		COUNTERSHAFT	1
79	513310800		CHAIN WHEEL, countershaft, Petter PH1 & Lister-Petter TS1	1
79A	513331800		PULLEY, vee, countershaft, electric driv	1
-	V2000772		SEALING COMPOUND, *(Between items 11 & 16 on assembly)*	AR

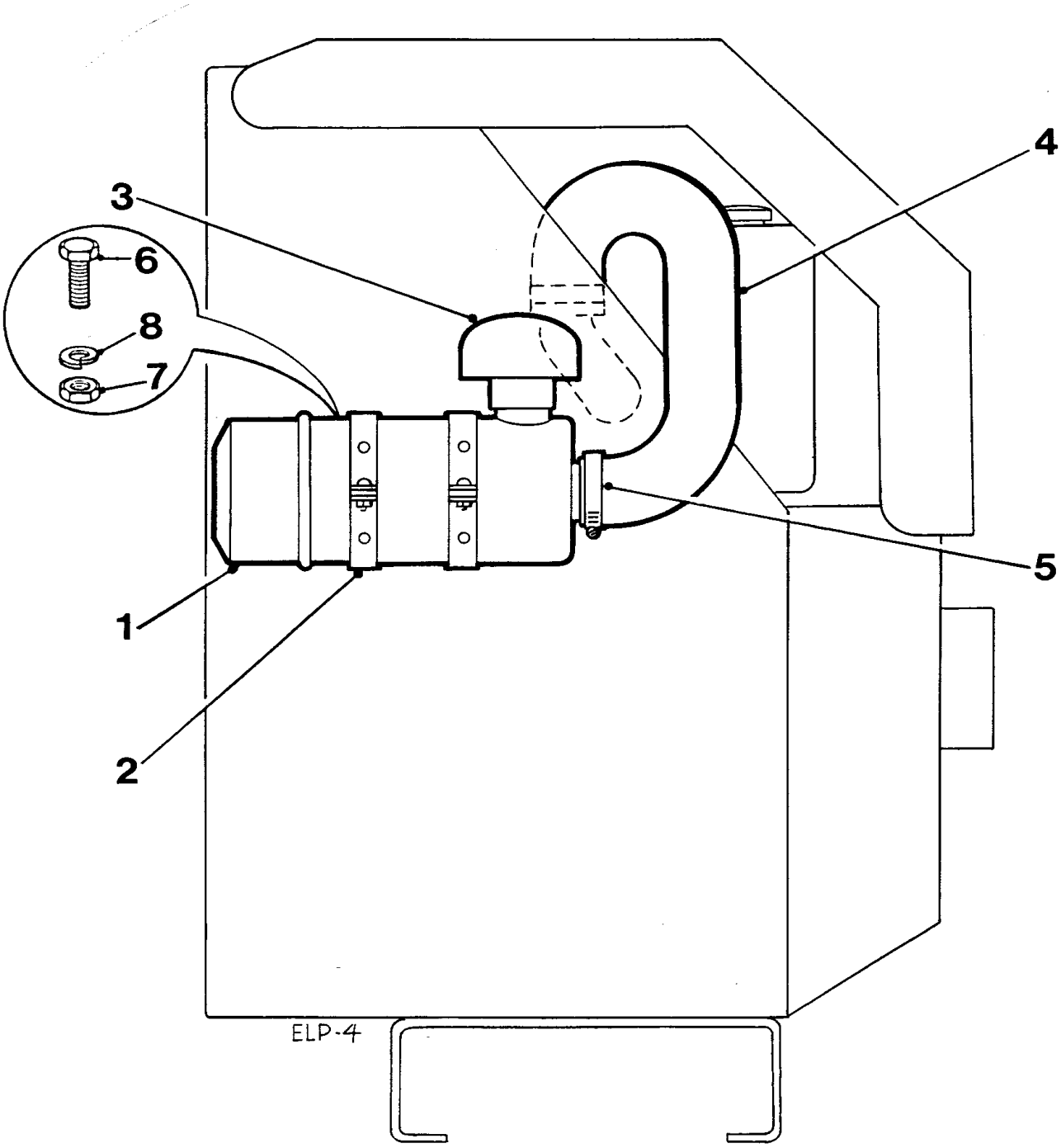
200TM Mixer *(up to serial number 0523)*



DRIVE ASSEMBLY, Petter PH1

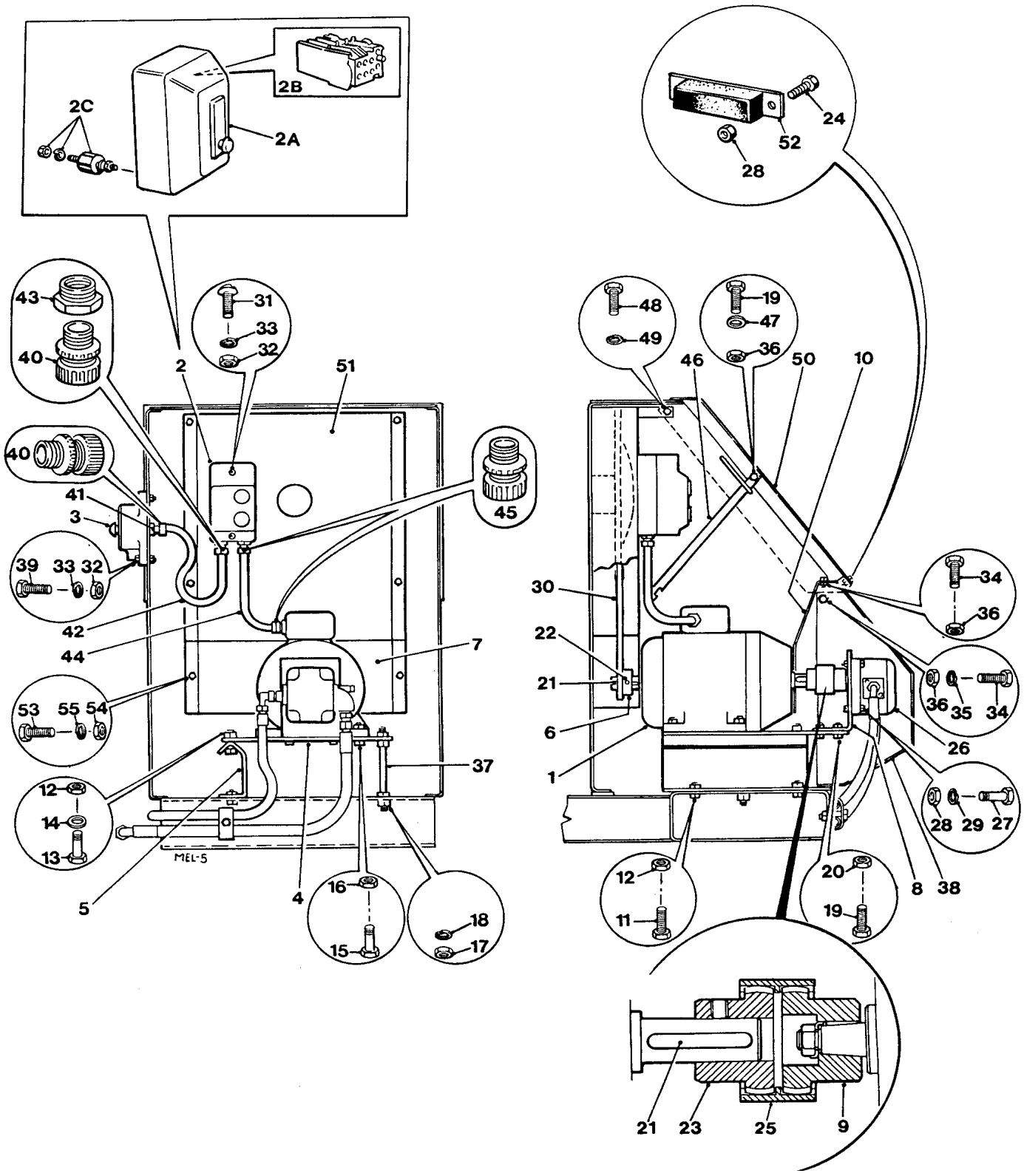
Item	Part no	Serial no	Description	Qty
1	354071250	/ Feb-90	ENGINE, Petter PH1	1
2	8SO5K		BOLT	4
3	59S04		NUT, nylon insert	4
4	513142800		SHIMS (set)	set 1
5	513329000		SPROCKET, engine	1
6	300106160		KEY, gib head	1
7	513335300		PIPE, exhaust	1
8	513335200		BRACKET, exhaust pipe	1
9	241908000		SOCKET	1
10	240708000		ELBOW, 90 degree, m/f	1
11	513333400		PLATE, closing	1
12	513335600		GUARD, sprocket	1
13	---		PUMP, hydraulic *(See page E - 1)*	1
14	3SO3E		SCREW, set	2
15	11S04B		SCREW, set	10
16	7S04		NUT	10
17	17S05		WASHER, spring	10
18	134105102		CHAIN	1
---	134105002		LINK, connecting	1
---	134105001		LINK, half	1
19	513328200		LID, engine housing	1
20	513325800		STAY	1
21	11S04D		SCREW, set	2
22	7S03		NUT	1
23	11S03C		SCREW, set	1
24	12S03		WASHER, flat	1
25	513205300		STOP, lid	2
26	11 SO2A		SCREW, set	4
27	7S02		NUT	4
28	513248700		GUARD, chain	1
29	11S03A		SCREW, set	8
30	17S04		WASHER, spring	8
31	7S02		NUT	8

200TM Mixer *(up to serial number 0523)*



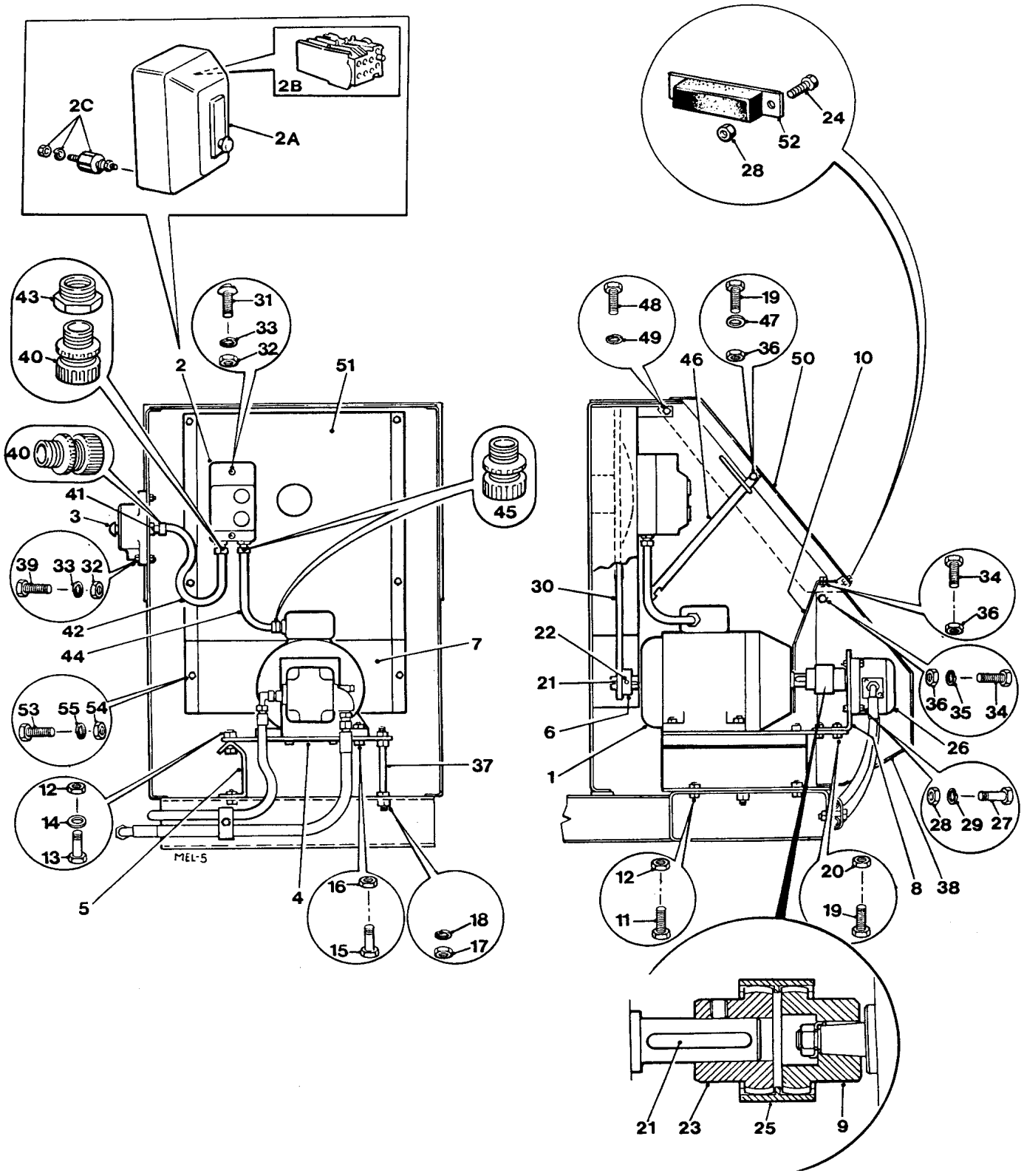
Item	Part no	Serial no	Description	Qty
1	220229000		AIR CLEANER, assembly	1
-	220229001		ELEMENT	1
2	220229002		CLAMP, band	2
3	220229004		CAP, stack	1
4	10840A03		HOSE, air intake, c/w adaptor flange	1
5	97S12		CLIP, worm drive	2
6	11SO3B		SCREW, set	4
7	7S03		NUT	4
8	17S04		WASHER, spring	4

200TM Mixer (up to serial number 0523)



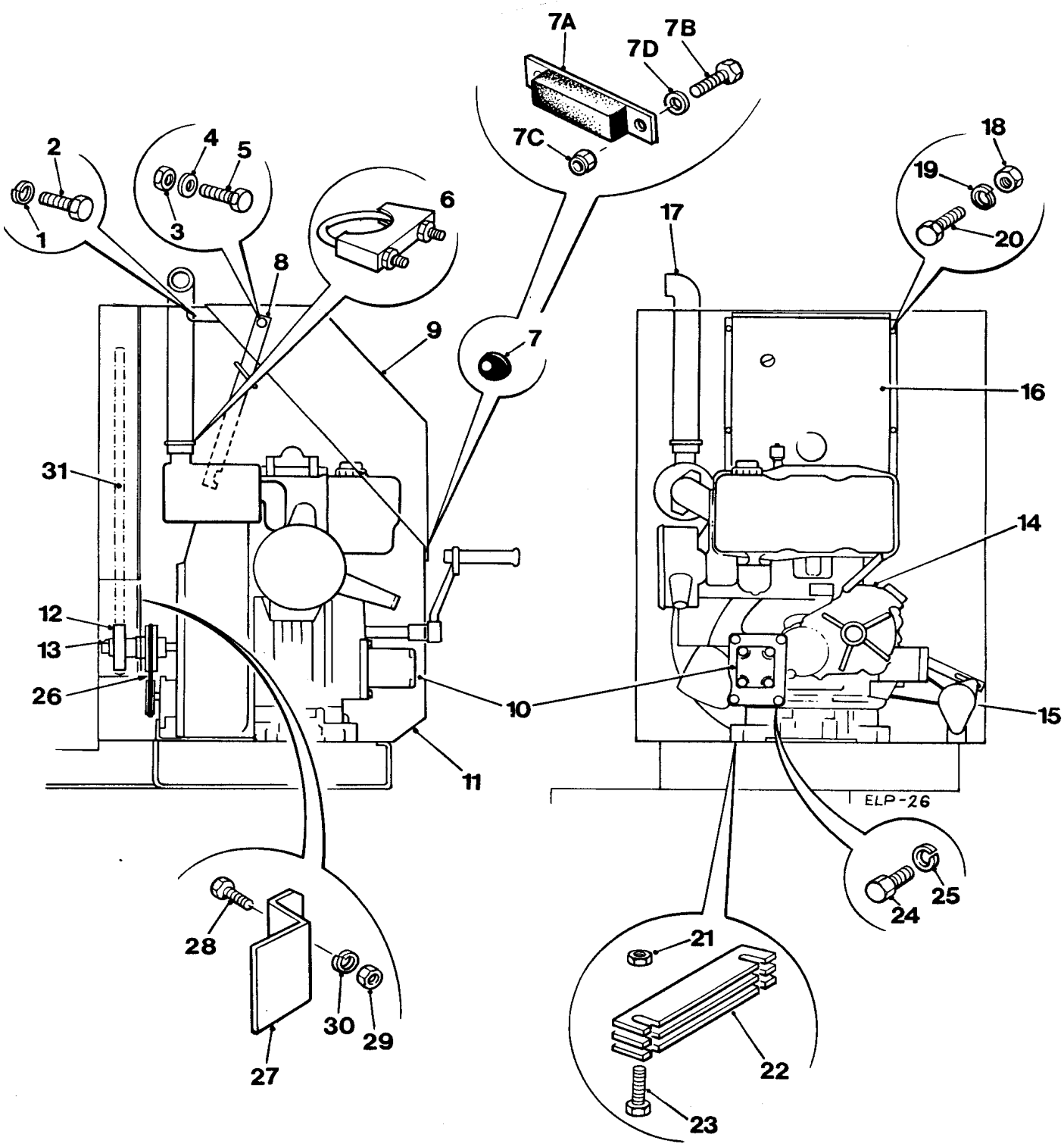
Item	Part no	Date		Description	Qty
1	202439000	/ Apr-87		MOTOR, electric	1
1	202440000	Apr-87 /		MOTOR, electric	1
2	208393500	/ 0507	#	SWITCH, `Start/ stop"	1
2A	208304103	0508 /	#	SWITCH, "Start/ stop"	1
2B	208304104	0508 /	#	RELAY, overload	1
2C	13203000	0508 /	#	MOUNTING, shock absorbing	3
			#	*Machine Serial numbers*	
3	208870000	/ Oct-04	**#**	SWITCH, stop, assembly	1
			#	**OBSOLETE: use 208880000**	
.....	V602651	/ Oct-04		KEY, stop switch	1
3	208880000	Oct-04 /		SWITCH, stop, assembly	1
.....	V603623	Oct-04 /		KEY, stop switch	1
4	513332600			PLATE, motor mounting	1
5	513332700			SUPPORT, motor mounting	1
6	513334700			PULLEY,'V', motor	1
7	513336100			GUARD	1
8	513332800			PLATE, mounting, hydraulic pump	1
9	513332900			COUPLING, pump, half	1
10	513336300			GUARD, internal drive	1
11	11SO5D			SCREW, set	2
12	59S04			NUT, nylon insert	4
13	8SO5E			BOLT	2
14	267S07			WASHER, flat	2
15	8S04D			BOLT	4
16	59S03			NUT, nylon insert	4
17	7S05			NUT	4
18	17S06			WASHER, spring	4
19	11 S03C			SCREW, set	4
20	59S12			NUT, nylon insert	4
21	304710840			KEY, parallel	2
22	57SO4D			SCREW, grub	1
23	147320400	/ Apr-87		COUPLING, drive half, 24mm bore	1
23	147320500	Apr-87 /		COUPLING, drive half, 28mm bore	1
24	11 SO2A			SCREW, set	2
25	147320303			SLEEVE, coupling	1
26	---			PUMP, hydraulic *(See page E - 1)*	1
27	8SO2C			BOLT	4
28	7S02			NUT	5
29	17S03			WASHER, spring	4
30	397400100			BELT,'V`	1
31	16SO6H			SCREW, pan head slotted	2
32	7S01			NUT	8
33	17S02			WASHER, spring	8
34	11S03A			SCREW, set	8

200TM Mixer *(up to serial number 0523)*



Item	Part no	Serial no	Description		Qty
35	17S04		WASHER, spring		8
36	7S03		NUT		6
37	513333100		STUD, motor adjusting		1
38	513333300		PLATE, closing		1
39	11SO1B		SCREW, set		3
40	131270000		COUPLING		1
41	133266050		NUT, locking		1
42	131766010		CONDUIT, pliable	(0.5 metres long)	1
43	131570016		SOCKET, reducing		1
44	131770000		CONDUIT, pliable	(0.75 metres long)	1
45	131271000		COUPLING		2
-	144797000		CABLE, red	(order by metre)	AR
-	144798000		CABLE, black	(order by metre)	AR
-	144799000		CABLE, greenlyellow	(order by metre)	AR
46	813325800		STAY		1
47	267S05		WASHER, flat		1
48	1 1SO4D		SCREW, set		2
49	17S05		WASHER, spring		2
50	513336200		LID, housing		1
51	513248700		GUARD, chain		1
52	513205300		STOP, lid		1
53	11S04B		SCREW, set		6
54	7S04		NUT		6
55	17S05		WASHER, spring		6

200TM Mixer *(up to serial number 0523)*

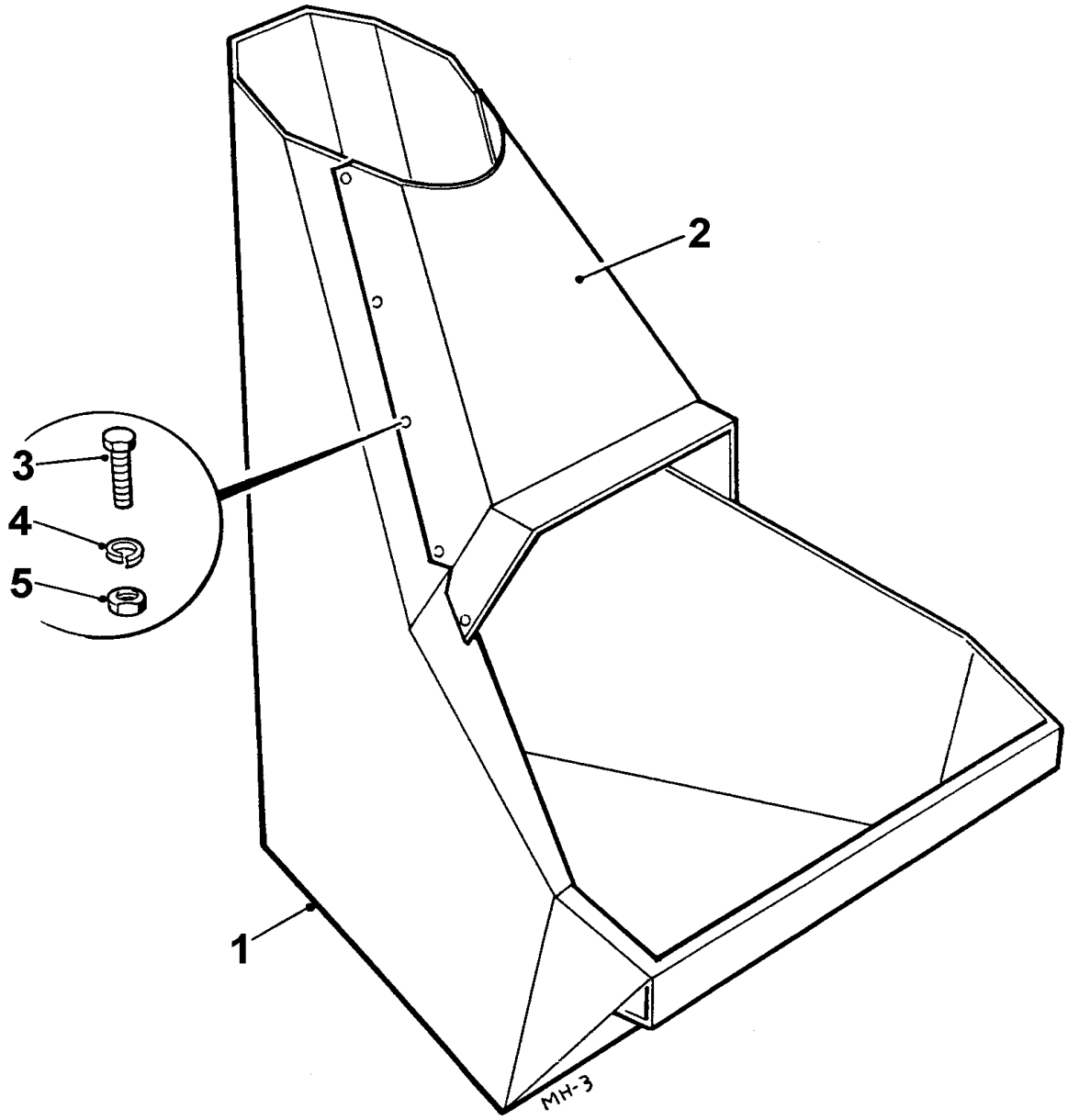


To order engine spares, please click below and refer to the relevant engine parts manual :

LISTER PETTER TR1

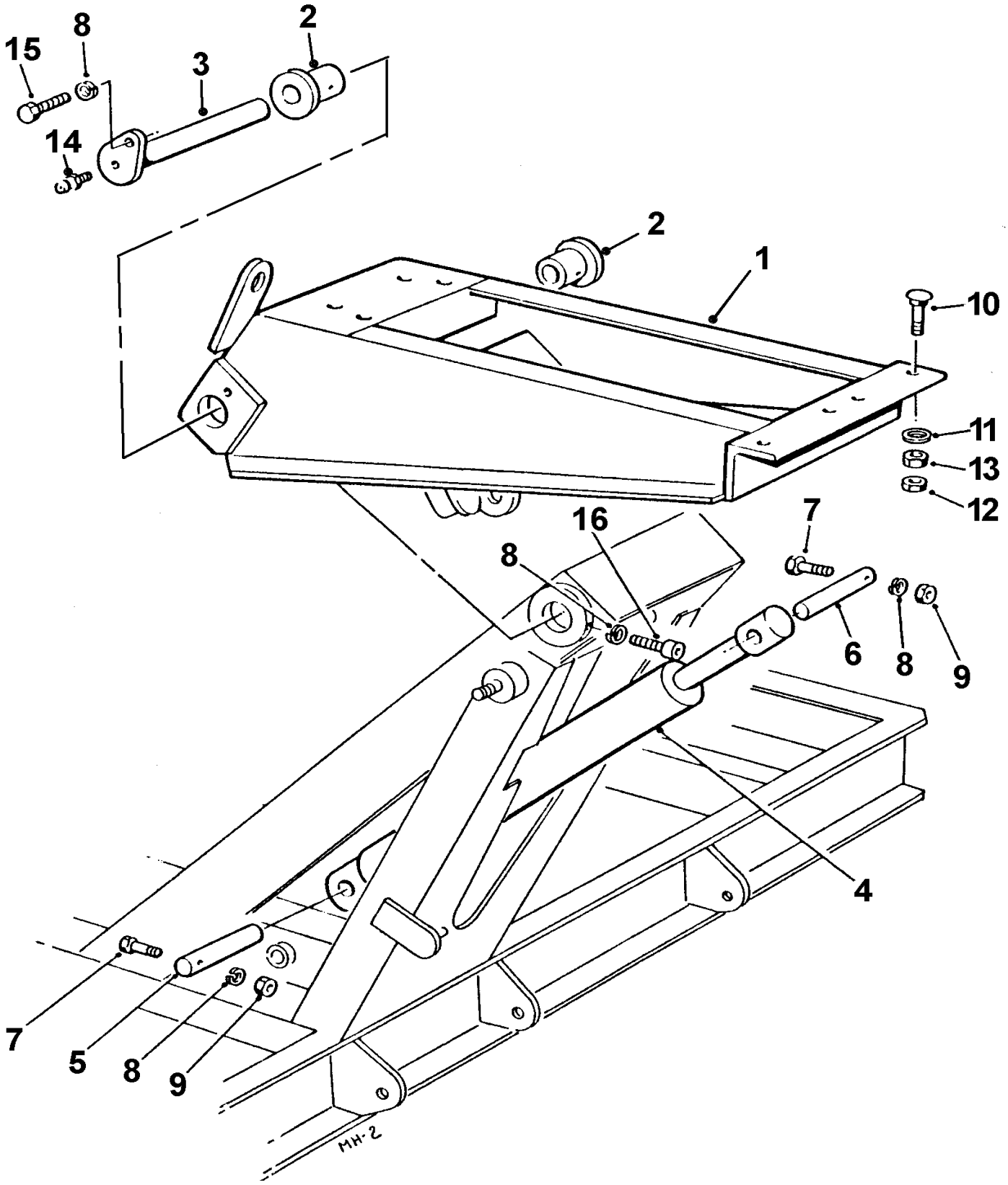
Item	Part no	Serial no		Description	Qty
1	17S05	Feb-90 /		WASHER, spring	2
2	1 1S04D	Feb-90 /		SCREW, set	2
3	7S03	Feb-90 /		NUT	1
4	12S03	Feb-90 /		WASHER, flat	1
5	11 S03C	Feb-90 /		SCREW, set	1
6	153S08	Feb-90 /		CLAMP, exhaust pipe	1
7	13204000	Feb-90 / Apr-91		STOP, bump (OBSOLETE: use 7A to 7D)	
7A	513205300	Apr-91 /		STOP, bump	2
7B	11 S02A	Apr-91 /		SCREW, set	4
7C	61S02	Apr-91 /		NUT, self-locking	4
7D	267S04	Apr-91 /		WASHER, flat	4
8	513325800	Feb-90 /		STAY	1
9	513346700	Feb-90 /		LID, engine housing	1
10	---	Feb-90 /		PUMP, hydraulic *(See page E - 1)*	1
11	513346800	Feb-90 /		PLATE, closing	1
12	513348300	Feb-90 /		SPROCKET	1
13	304312050	Feb-90 /		KEY, gib head	1
14	V2001661	Feb-90 /		ENGINE, TS/TR1	1
15	-	Feb-90 /		DYNAMO *(see Electrics Section)*	
16	513248700	Feb-90 /		GUARD, chain	1
17	513347900	Feb-90 /		PIPE, exhaust	1
18	7S04	Feb-90 /		NUT	6
19	17S05	Feb-90 /		WASHER, spring	6
20	11S04B	Feb-90 /		SCREW, set	6
21	59S04	Feb-90 /		NUT, nylon insert	4
22	513348400	Feb-90 /		SHIMS (set)	1 set
23	8S05K	Feb-90 /		BOLT, engine mounting	4
24	103SO2C	Feb-90 /		SCREW	4
25	41S03	Feb-90 /		WASHER, spring	4
26	397355000	Feb-90 /		BELT, vee	1
27	513335600	Feb-90 / 0479	#	GUARD (OBSOLETE: use 513350500)	1
27	513350500	0480 /	#	GUARD, sprocket	1
			#	*Machine Serial numbers*	
28	11 S04C	Feb-90 /		SCREW, set	1
29	7S04	Feb-90 /		NUT	1
30	17S05	Feb-90 /		WASHER, spring	1
31	134105102	Feb-90 /		CHAIN	1
---	134105002	Feb-90 /		LINK, connecting	1
---	134105001	Feb-90 /		LINK, half	1

200TM Mixer *(up to serial number 0523)*



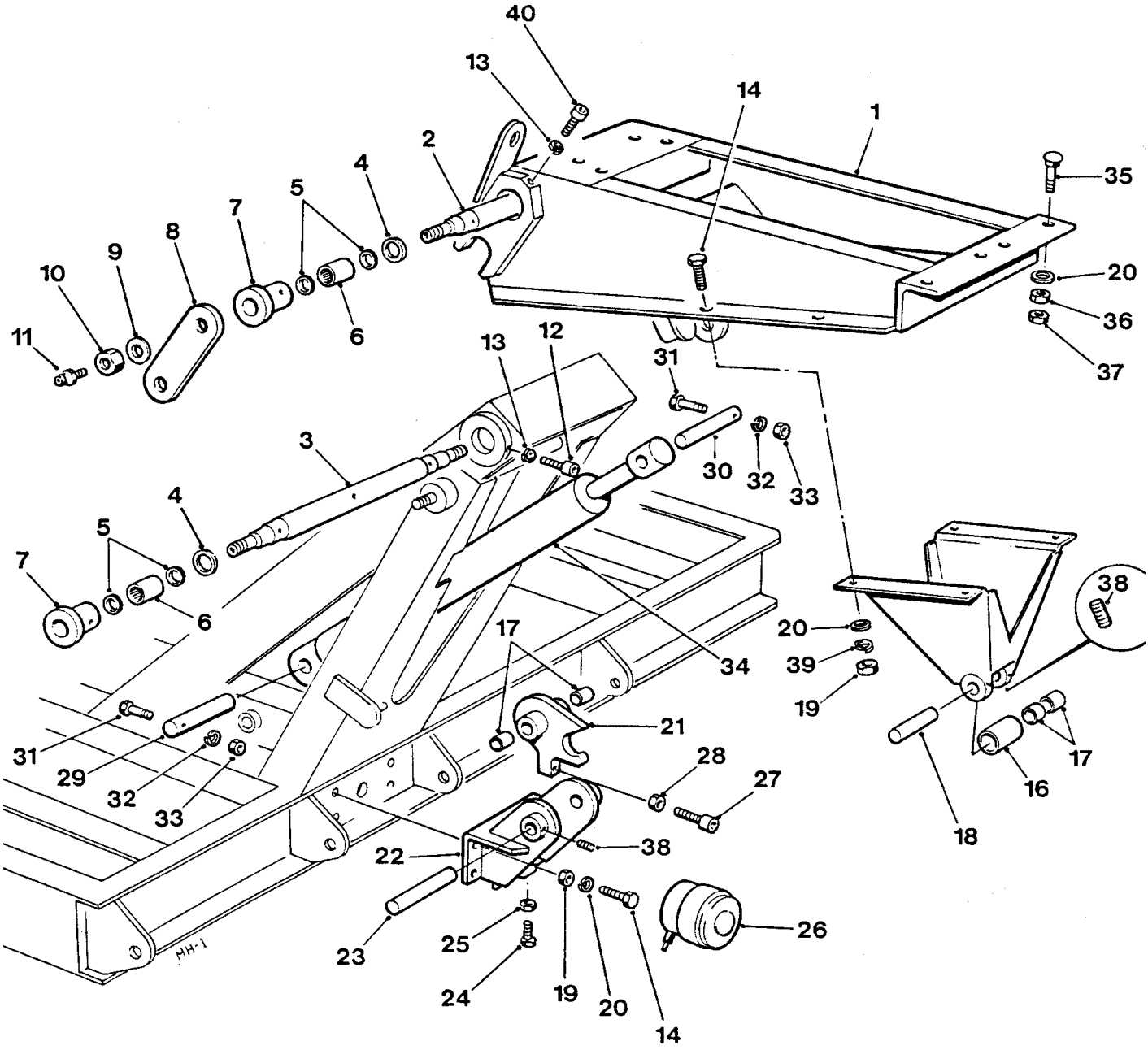
Item	Part no	Serial no	Description	Qty
1	513310900		HOPPER, assembly	1
2	513311400	/ 0533	COVER *(welded to hopper)*	1
3	11SO3A	/ 0533	SCREW, set	10
4	17S04	/ 0533	WASHER, spring	10
5	7S03	/ 0533	NUT	10

200TM Mixer *(up to serial number 0523)*



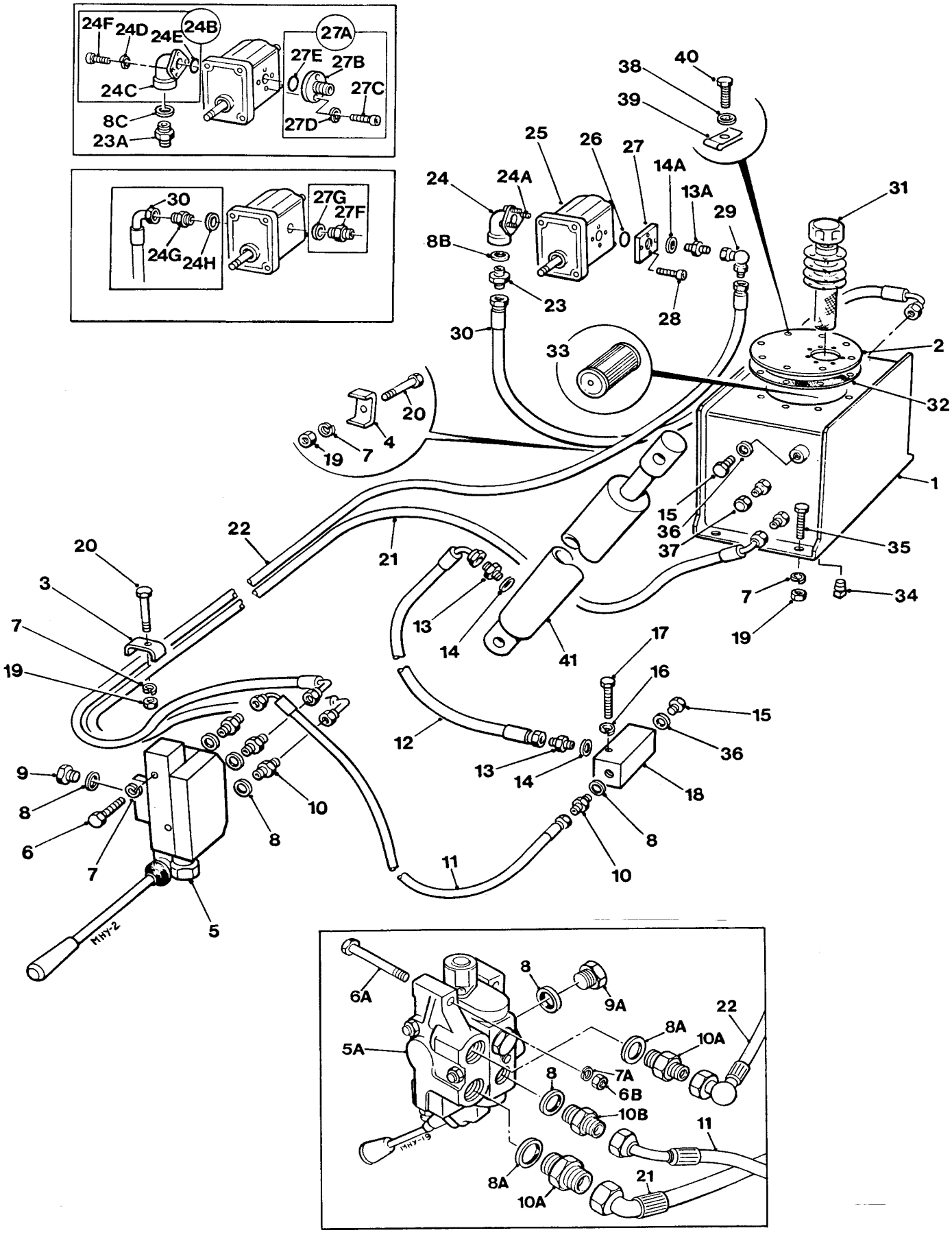
Item	Part no	Serial no	Description	Qty
1	513311800		CRADLE, non weigher	1
2	513312600		BEARING	2
3	513312700		PIN, pivot, hopper	1
4	---		RAM, hopper *(see page E - 5)*	1
5	513312900		PIN, ram, lower	1
6	513313000		PIN, ram, upper	1
7	8S03E		BOLT	2
8	17S04		WASHER, spring	5
9	7S03		NUT	2
10	172SO5D		BOLT, coach	8
11	267S07		WASHER, flat	8
12	56S05		NUT, locking	8
13	7S05		NUT	8
14	131S01		NIPPLE, grease, straight	3
---	131S02		NIPPLE, grease 90 deg.	1
---	176S01		CAP, grease nipple	4
15	11S03A		SCREW, set	1
16	68SO4D		SCREW, socket head cap	2

200TM Mixer *(up to serial number 0523)*



Item	Part no	Serial no	Description	Qty
1	513317500		CRADLE, weigher	1
2	513316700		SHAFT, cradle	1
3	513316800		SHAFT, hopper	1
4	513328800		WASHER	4
5	417705600		SEALS	8
6	113179100		BEARING, needle	4
7	513317100		CARRIER	4
8	513316900		LINK, weigher	2
9	267S12		WASHER, flat	4
10	7S08		NUT	4
11	131S01		NIPPLE, grease straight	5
---	131S02		NI PPLE, grease, 90 deg.	1
---	176S01		CAP, grease nipple	4
12	68SO4C		SCREW, socket head cap	4
13	17S04		WASHER, spring	2
14	11S05C		SCREW, set	8
15	513322200		BRACKET, cradle	1
16	513317200		ROLLER, cradle	1
17	112753000		BUSH	4
18	513317400		PIN	1
19	61S05		NUT, self-locking	8
20	267S07		WASHER, flat	9
21	513321000		PIVOT	1
22	513321700		BRACKET	1
23	513317300		PIN, loadcell bracket	1
24	1 1SO3E		SCREW, set	1
25	7S03		NUT	2
26	---		LOADCELL & GAUGE *(see page E - 3)*	1
27	513329200		STRIKER	1
28	56S06		NUT, locking	1
29	513312900		PIN, ram, lower	1
30	513313000		PIN, ram, upper	
31	8S03E		BOLT	2
32	17S04		WASHER, spring	4
33	7S03		NUT	2
34	---		RAM, hopper *(see page E - 5)*	1
35	172SO5D		BOLT, coach	8
36	7S05		NUT	8
37	56S05		NUT, locking	8
38	57SO5E2		SCREW, grub	2
39	17S04		WASHER, spring	4
40	68SO4D		SCREW, socket head cap	2

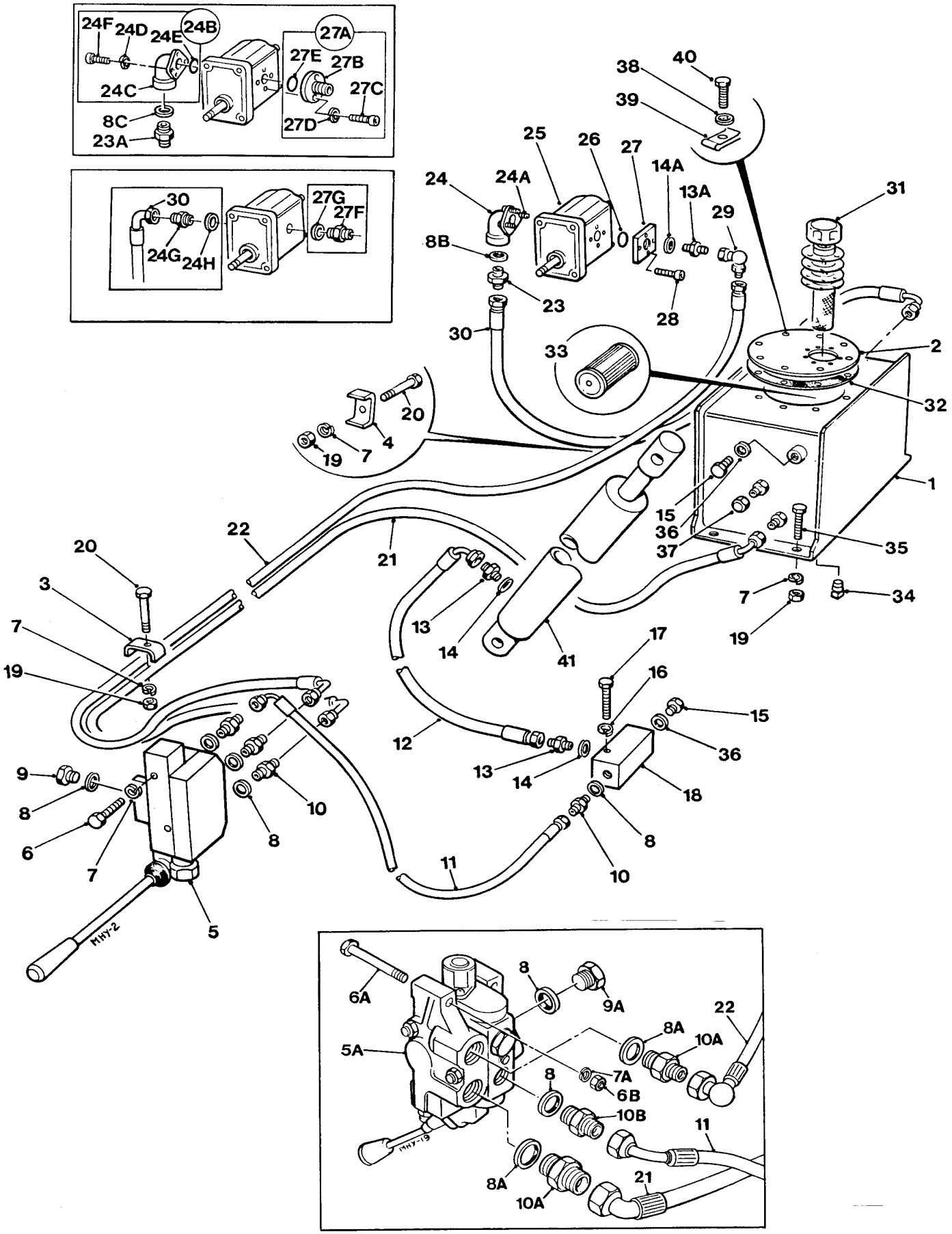
200TM Mixer *(up to serial number 0523)*



Item	Part no	Serial no	Description	Qty
1	513305800		TANK, oil	1
2	513306400		LID, tank	1
3	513328000		CLAMP, hose	3
4	513329600		CLAMP, hose	1
5	451441500	/ Jan-88	VALVE, control	1
5A	---	Jan-88 /	VALVE, control *(see page E - 1 A)*	1
6	11S03AA	/ Jan-88	SCREW, set	2
6A	8S04J	Jan-88 /	BOLT	3
6B	7S04	Jan-88 /	NUT	3
7	17S04	/ Jan-88	WASHER, spring	16
7	17S04	Jan-88 /	WASHER, spring	14
7A	17S05	Jan-88 /	WASHER, spring	3
8	100S04	/ Jan-88	SEAL, bonded	4
8	100S04	Jan-88 /	SEAL, bonded	2
8A	100S06	Jan-88 /	SEAL, bonded	2
8B	100S04	/ Sep-87	SEAL, bonded	1
BC	100S06	Sep-87/ Feb-90	SEAL, bonded	1
9	360400400	/ Jan-88	PLUG	1
9A	127S04	Jan-88 /	PLUG	1
10	119S08	/ Jan-88	ADAPTOR, m/m	4
10	119S08	Jan-88 /	ADAPTOR, m/m	2
10A	119S10	Jan-88 /	ADAPTOR, m/m	2
10B	119S08	Jan-88 /	ADAPTOR, m/m	1
11	513329700		HOSE	1
12	31SO2EE		HOSE	1
13	122S03		ADAPTOR, m/m	2
13A	122S03	/ Sep-87	ADAPTOR, m/m	1
14	100S03		SEAL, bonded	2
14A	100S03	/ Sep-87	SEAL, bonded	1
15	360400200		PLUG	2
16	41S05		WASHER, spring	1
17	66SO3CC		SCREW, set	1
18	503139400		MANIFOLD	1
19	7S03		NUT	14
20	8S03E		BOLT	4
21	513329800		HOSE	1
22	31SO2D		HOSE	1
23	122S04	/ Sep-87	ADAPTOR, m/m	1
23A	119S13	Sep-87 / Feb-90	ADAPTOR, m/m	1

continued >

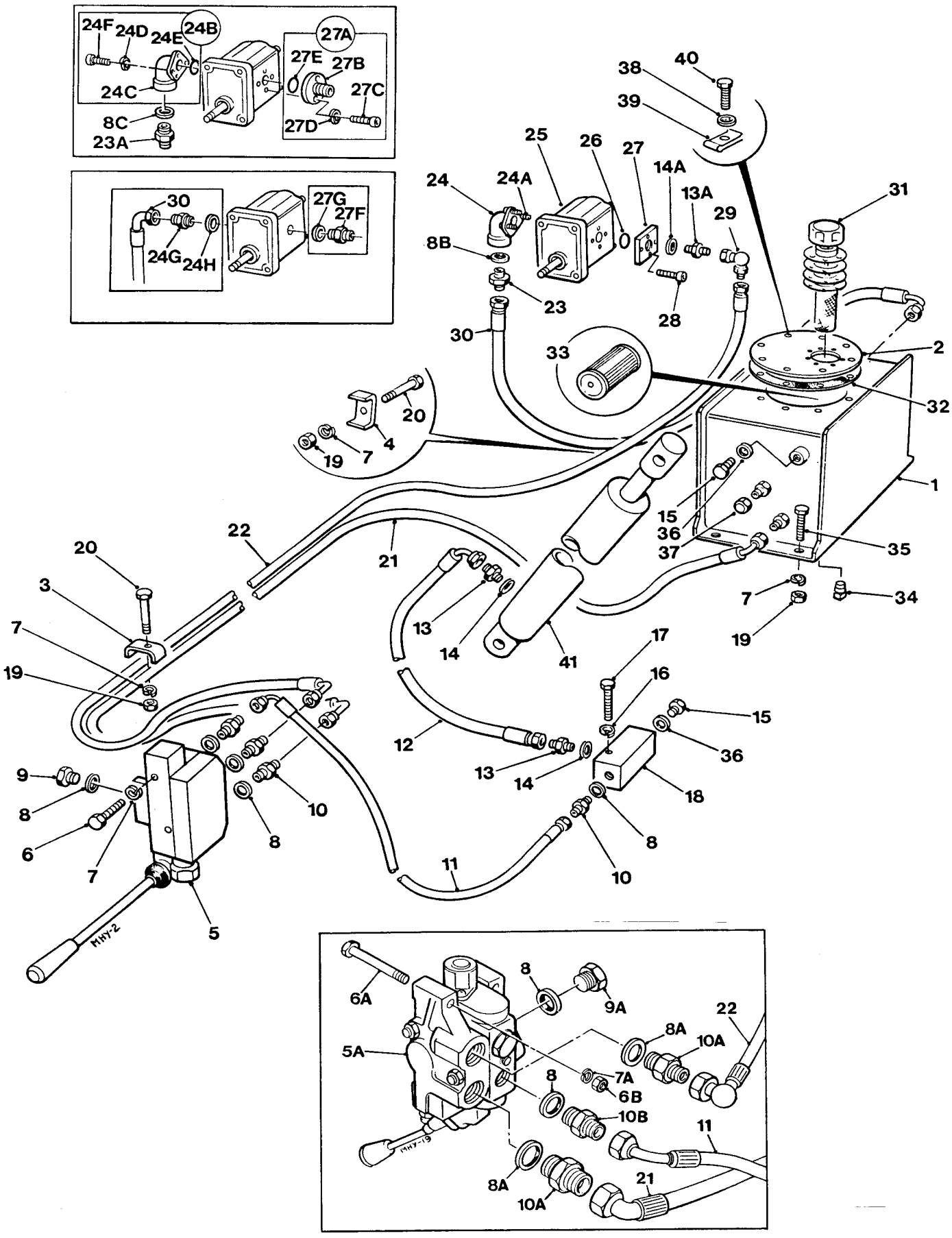
200TM Mixer *(up to serial number 0523)*



Item	Part no	Date		Description	Qty
24	365866100	/ Sep-87		FITTING, elbow	1
24A	103S03J	/ Sep-87		SCREW, socket	2
24B	V2002309	Sep-87 / Feb-90		KIT, elbow, assembly	1
24C	-	Sep-87 / Feb-90		ELBOW (order assembly)	1
24D	41S03	Sep-87 / Feb-90		WASHER, spring	2
24E	391832000	Sep-87 / Feb-90		SEAL, 'O' ring	1
24F	103SO2F	Sep-87 / Feb-90		SCREW, socket	2
24G	119S13	Feb-90 / 0524	#	ADAPTOR, m/m	1
24G	122S04	0525 /	#	ADAPTOR, m/m	
24H	100S06	Feb-90 / 0524	#	SEAL, bonded	
24H	100S04	0525 /	#	SEAL, bonded	
			#	*Machine Serial numbers*	
		Petter PH1 engined mixers			
25	365867000	Sep-87		PUMP, hydraulic ("Dowty/Ultra")	1
25	365869000	Sep-87 / Feb-90		PUMP, hydraulic ("Sunstrand")	1
		Lister- Petter TS1 engined mixers			
25	11040A03	Feb-90 / 0524	#	PUMP, hydraulic ('Sunstrand")	1
25	10977A03	0525 /	#	PUMP, hydraulic ("Ultra")	1
			#	*Machine Serial numbers*	
		Electrically driven mixers			
25	365866000	/ Sep-87		PUMP, hydraulic ("Dowty/Ultra")	1
25	365868000	Sep-87 / 0524	#	PUMP, hydraulic ("Sunstrand")	1
25	10977A03	0525 /	#	PUMP, hydraulic ("Ultra")	1
			#	*Machine Serial numbers*	
26	391832000	/ Sep-87		'O' RING	1
26	391109000	Sep-87 / Feb-90		'O' RING	1
27	555136400	/ Sep-87		CONNECTOR, pump	1
27A	V2002321	Sep-87 / Feb-90		KIT, adaptor plate, assembly	1
27B	-	Sep-87 / Feb-90		PLATE, adaptor *(order assembly)*	1
27C	103S02B	Sep-87 / Feb-90		SCREW, socket	2
27D	41S03	Sep-87 / Feb-90		WASHER, spring	2
27	391832000	Sep-87 / Feb-90		SEAL, 'O' ring	1
27F	119S08	Feb-90 /		FITTING, adaptor, m/m	1
27G	100S04	Feb-90 /		SEAL, bonded	1
28	103S03C	/ Sep-87		SCREW, socket head cap	2
29	96S09			ELBOW	1
30	513335500	/ Sep-87		HOSE, Petter PH1 drive	1
30	31S03Q	/ Sep-87		HOSE, Electric drive	1
30	36SO3EE	Sep-87 / Feb-90		HOSE	1
30	V2003289	Feb-90 /		HOSE, Lister-Petter TS1	1

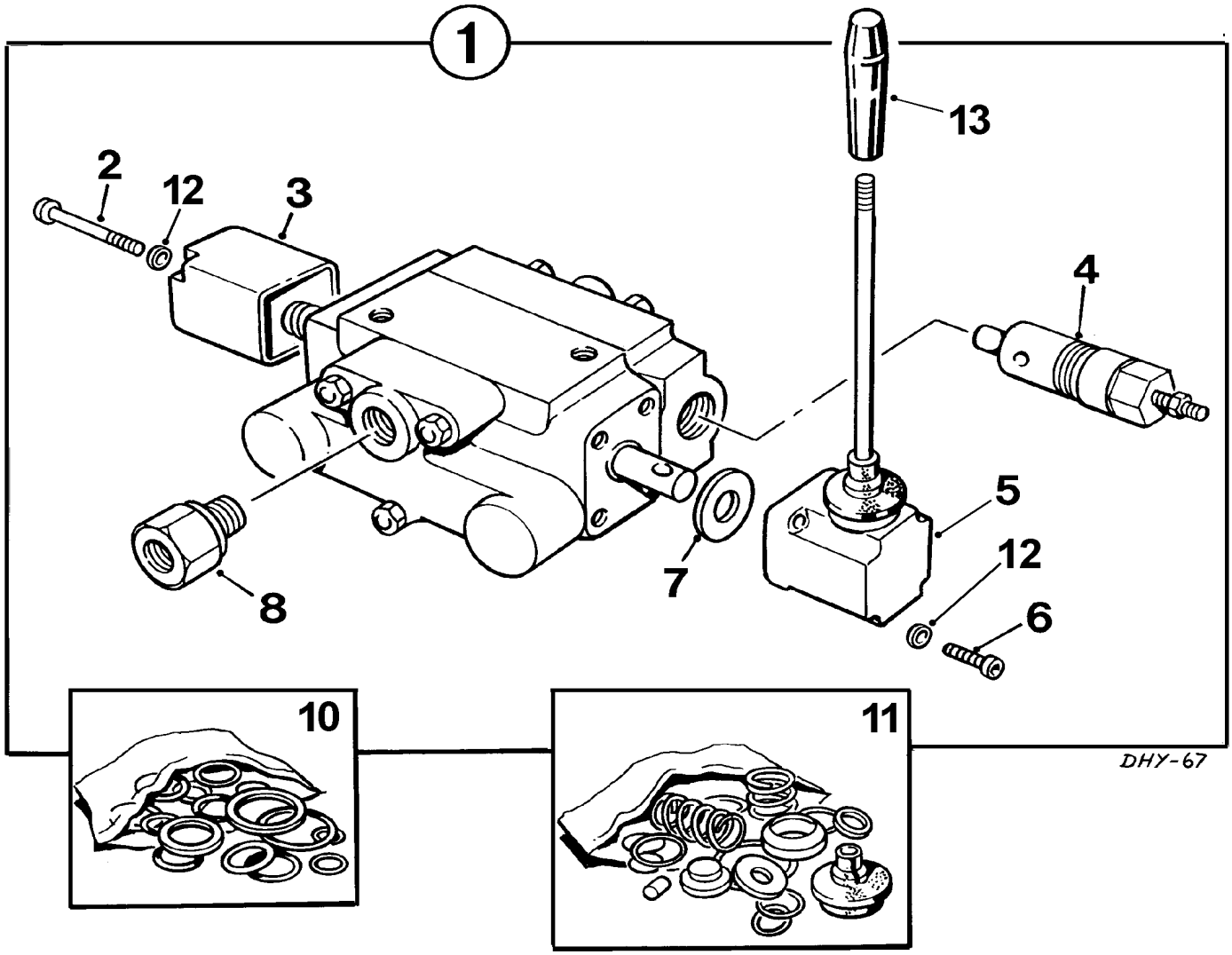
continued >

200TM Mixer *(up to serial number 0523)*



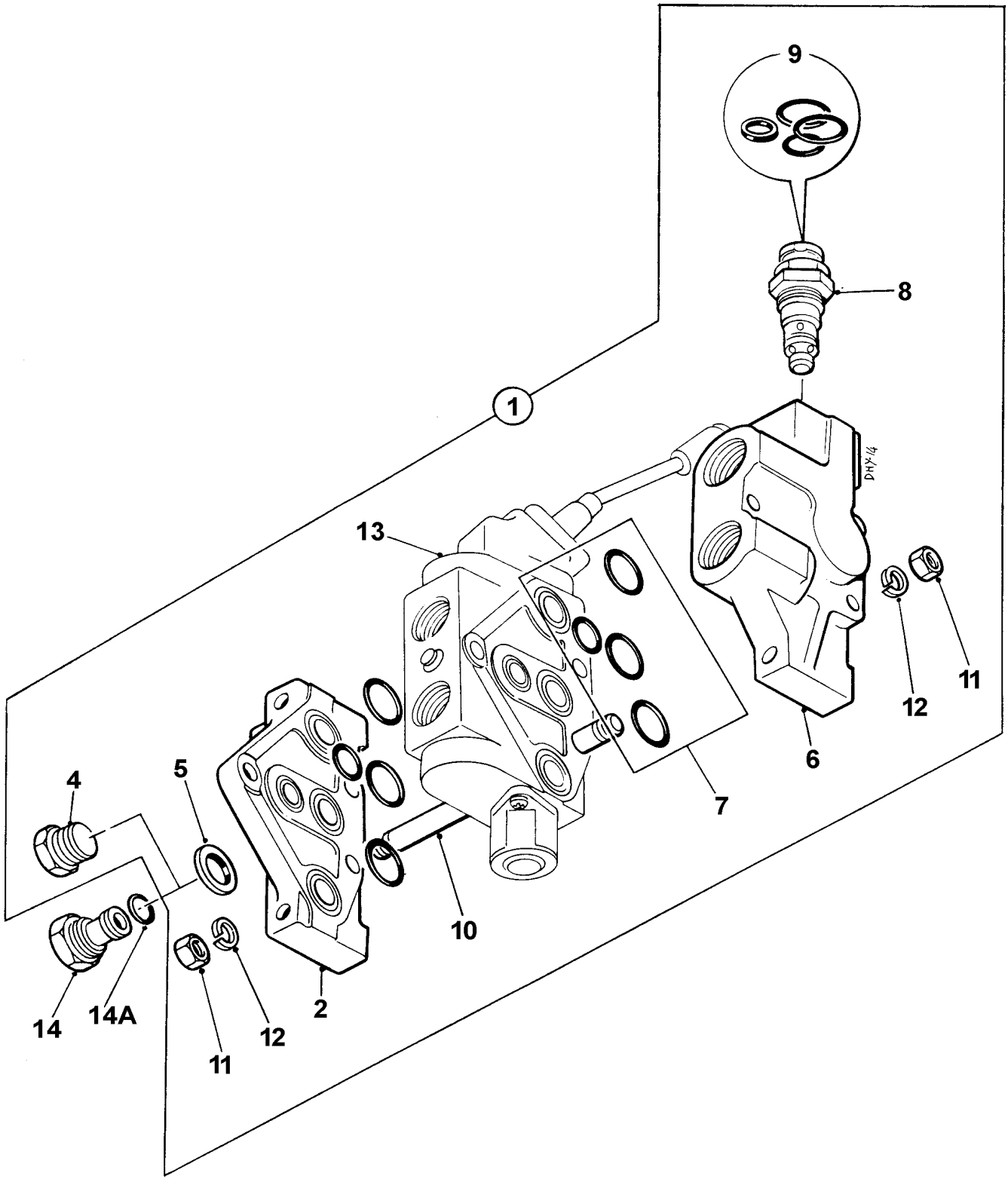
Item	Part no	Serial no	Description	Qty
31	220246000		FILLER/BREATHER	1
32	417735000		GASKET	1
33	220592000		STRAINER	1
34	241702000		PLUG	1
35	11S03A		SCREW, set	10
36	100S02		SEAL, bonded	2
37	120S02		PLUG, blanking, cap	1
38	186S02		WASHER, selon	6
39	332719000		NUT, spire, captive	8
40	11 SO2A		SCREW, set	8
41	---		RAM, hopper *(see page E - 5)*	1

200TM Mixer *(up to serial number 0523)*



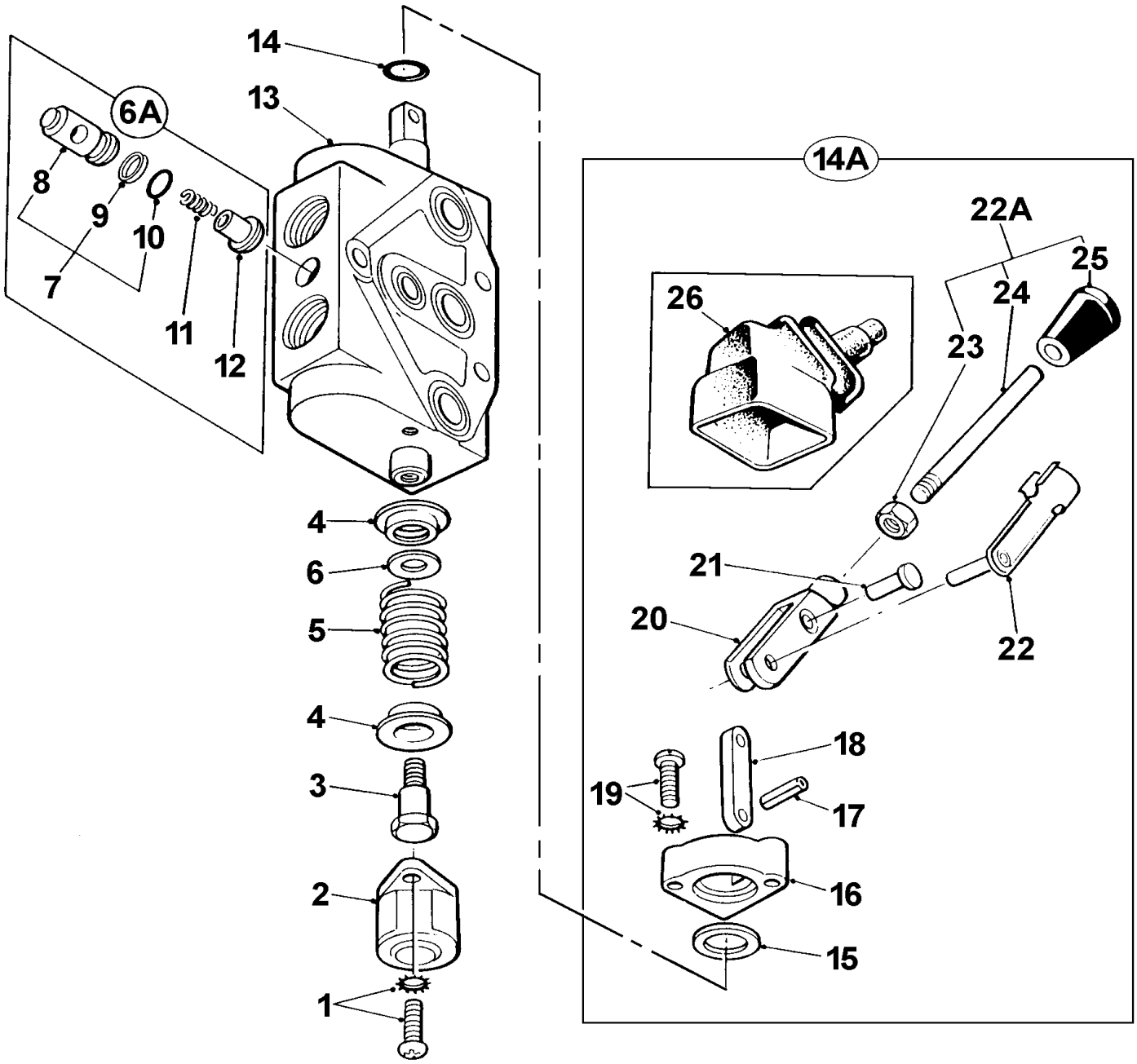
Item	Part no	Serial no	Description	Qty
1	451441600	/ Jan-88	CONTROL VALVE	1
2	30322A0502		SCREW, socket cap head	2
3	30322A0204		CAP, end	1
4	30322A0102		VALVE, relief	1
5	30322A0503		HANDLE, assembly	1
6	68S02B		SCREW, socket cap head	4
7	10S05		SPACER, washer	1
8	451441501		ADAPTOR	1
10	451441502		KIT, seals	1
11	30322A0203		KIT, repair	1
12	13S01		WASHER	8
13	30322A0505		KNOB	1

200TM Mixer *(up to serial number 0523)*



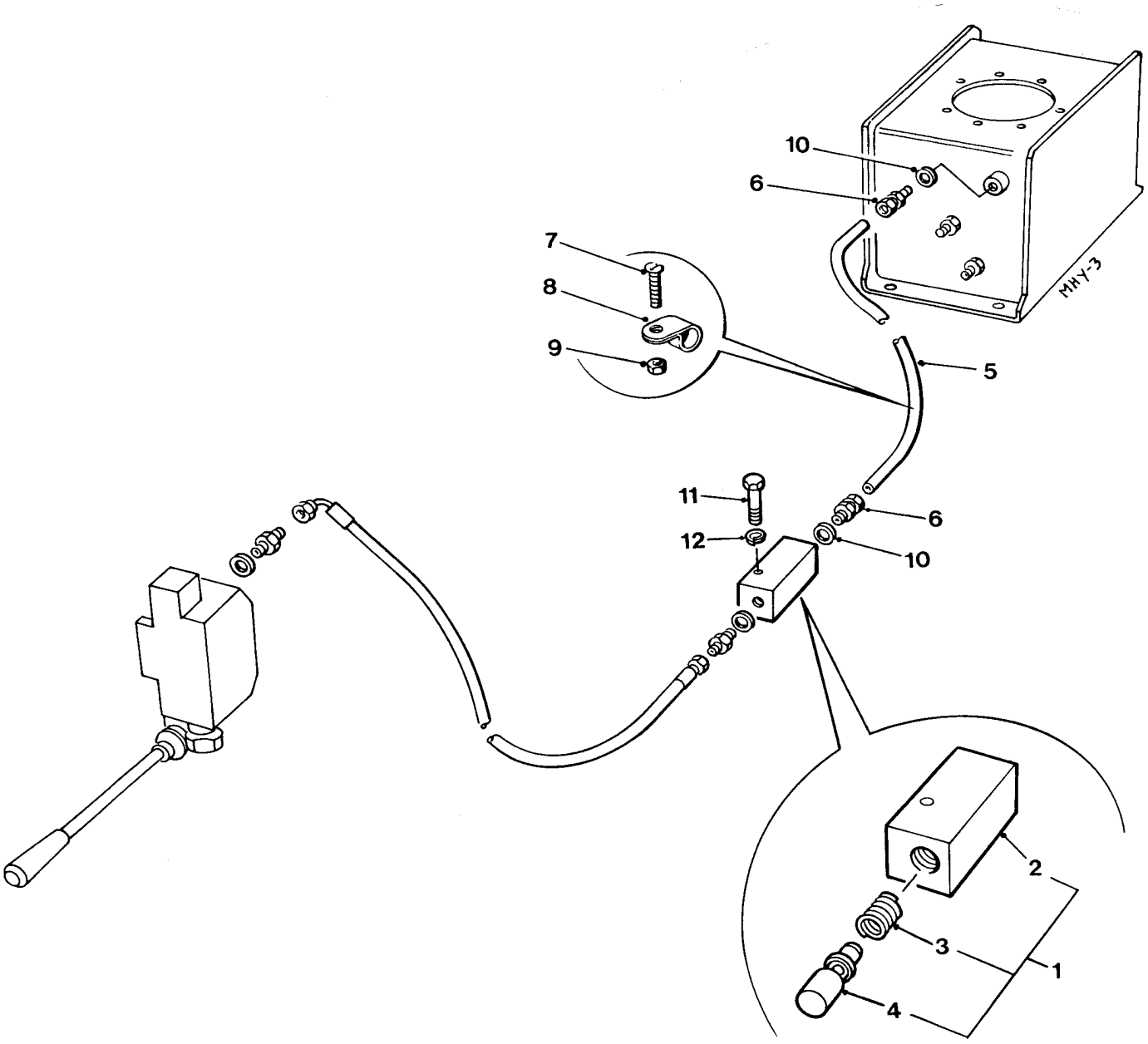
Item	Part no	Serial no	Description	Qty
1	V2000399	Feb-88 /	CONTROL VALVE, assembly	1
2	V600017		COVER, inlet	1
4	127S04		PLUG	1
5	100S06		SEAL, bonded	1
6	V2003112		COVER, end	1
7	V600178		KIT, seals	1
8	V600184		VALVE, relief, 2000psi	1
9	V600023		KIT, seals	1
10	V600024		STUD	3
11	9S03		NUT	3
12	41S05		WASHER, spring	3
13	---		SECTION, control valve *(see page E-1B)*	
14	451431029		FITTING, carryover, assembly	1
14A	451431005		SEAL,'O' ring	1

200TM Mixer *(up to serial number 0523)*



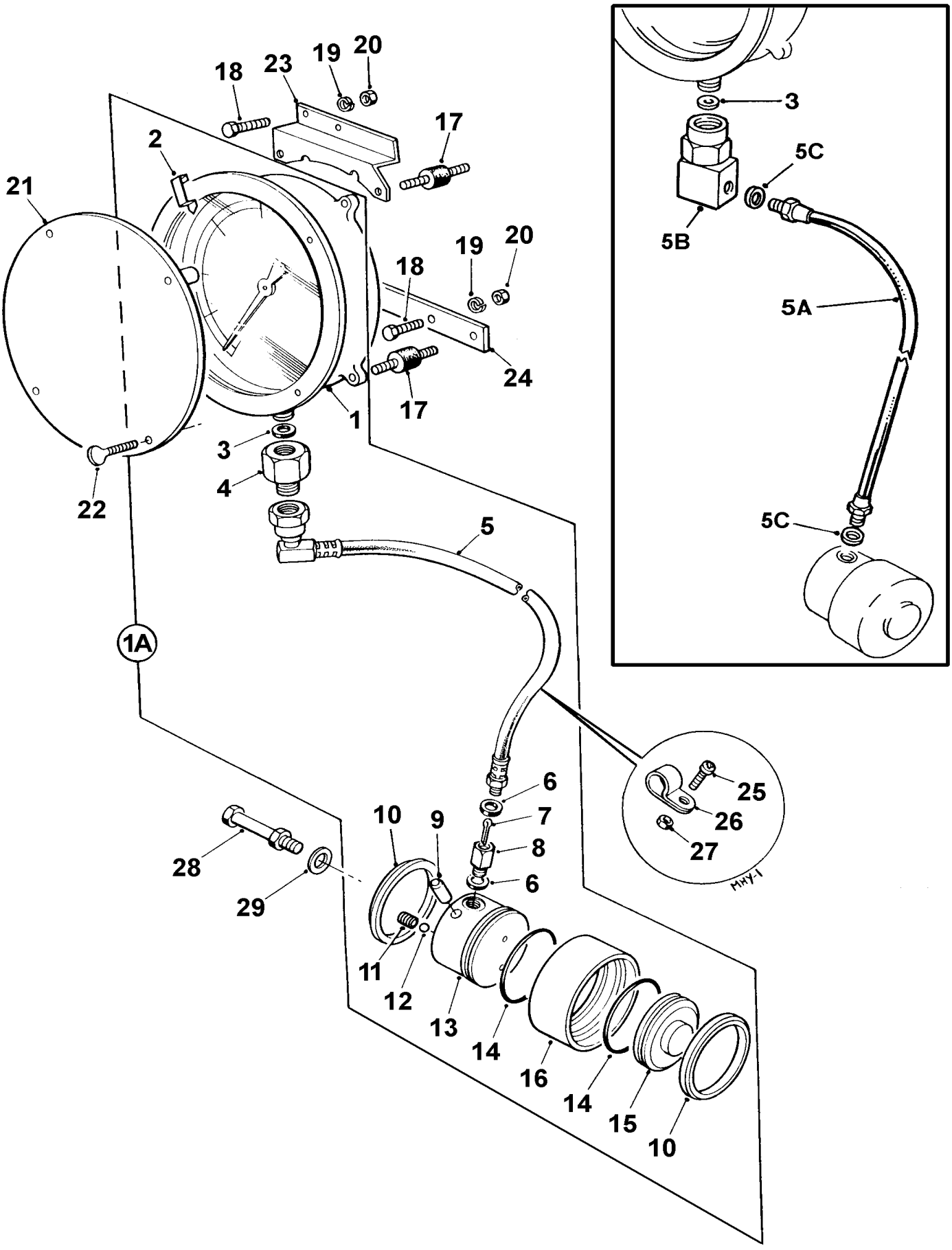
Item	Part no	Serial no	Description	Qty
1	V600026	Feb-88 /	SCREW, c/w washer	2
2	V2003116		CAP, end	1
3	V2003115		SCREW, shoulder	1
4	V2003117		SEAT, spring	2
5	V2003114		SPRING	1
6	V600179		SPACER	1
6A	V600180		CHECK VALVE, assembly	1
7	V600181		KIT, repair	1
8	V2003118		GUIDE, check valve	1
9	V600182		RING, back up	1
10	V600183		O' RING	1
11	V2003119		SPRING	1
12	V2003120		POPPET	1
13	V600185		BODY, c/w spool	1
14	V2003113		O' RING	2
14A	V601259		LEVER, assembly	1
15	V2003122		SEAL, wiper	1
16	V600059		BRACKET, handle	1
17	V600060		PIN, roll	1
18	V600061		LINK	1
19	V600062		SCREW, c/w washer	2
20	V600063		CLEVIS	1
21	V600064		PIN	1
22	V600065		PIN, clip	1
22A	V600159		HANDLE, assembly	1
23	V600066		NUT	1
24	---		HANDLE, *(order assembly)*	1
25	V600068		KNOB	1
26	V600069		GAITER	1

200TM Mixer *(up to serial number 0523)*



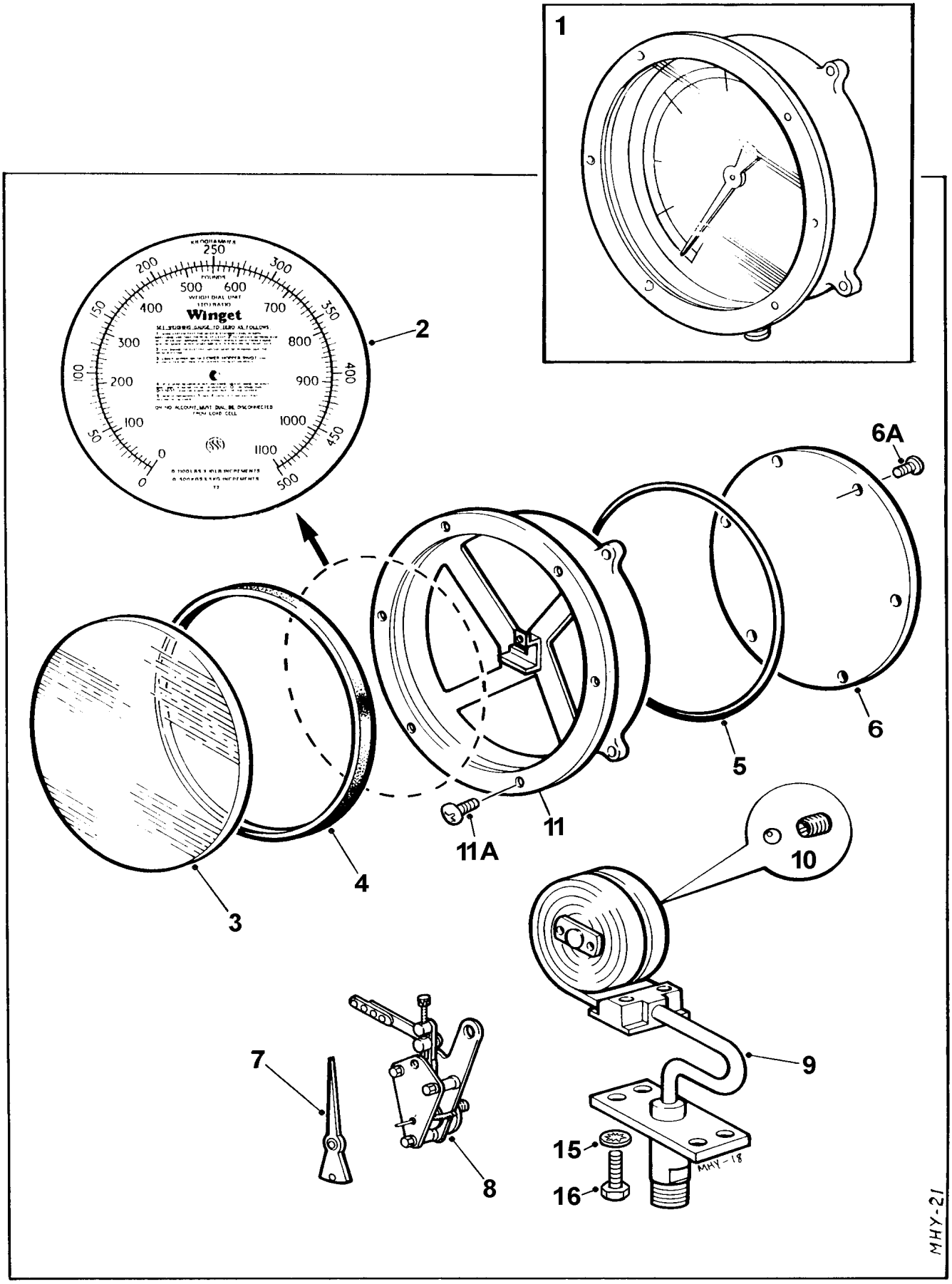
Item	Part no	Serial no	Description	Qty
			Additional fittings for weigher.	
			For basic hydraulic circuit, see page E - 1	
1	503139300		VALVE, bleed, assembly	1
2	503139400		BODY, bleed valve	1
3	423208280		SPRING	1
4	503139500		PLUNGER, bleed valve	1
5	110959000		TUBE, nylon	1
6	139210063		COUPLING	2
7	70SO4E		SCREW, pan head	2
8	143200900		CLIP, nylon	2
9	7S01		NUT	2
10	100S02		SEAL, bonded	2
11	66SO3CC		SCREW, set	1
12	41S05		WASHER, spring	1

200TM Mixer *(up to serial number 0523)*



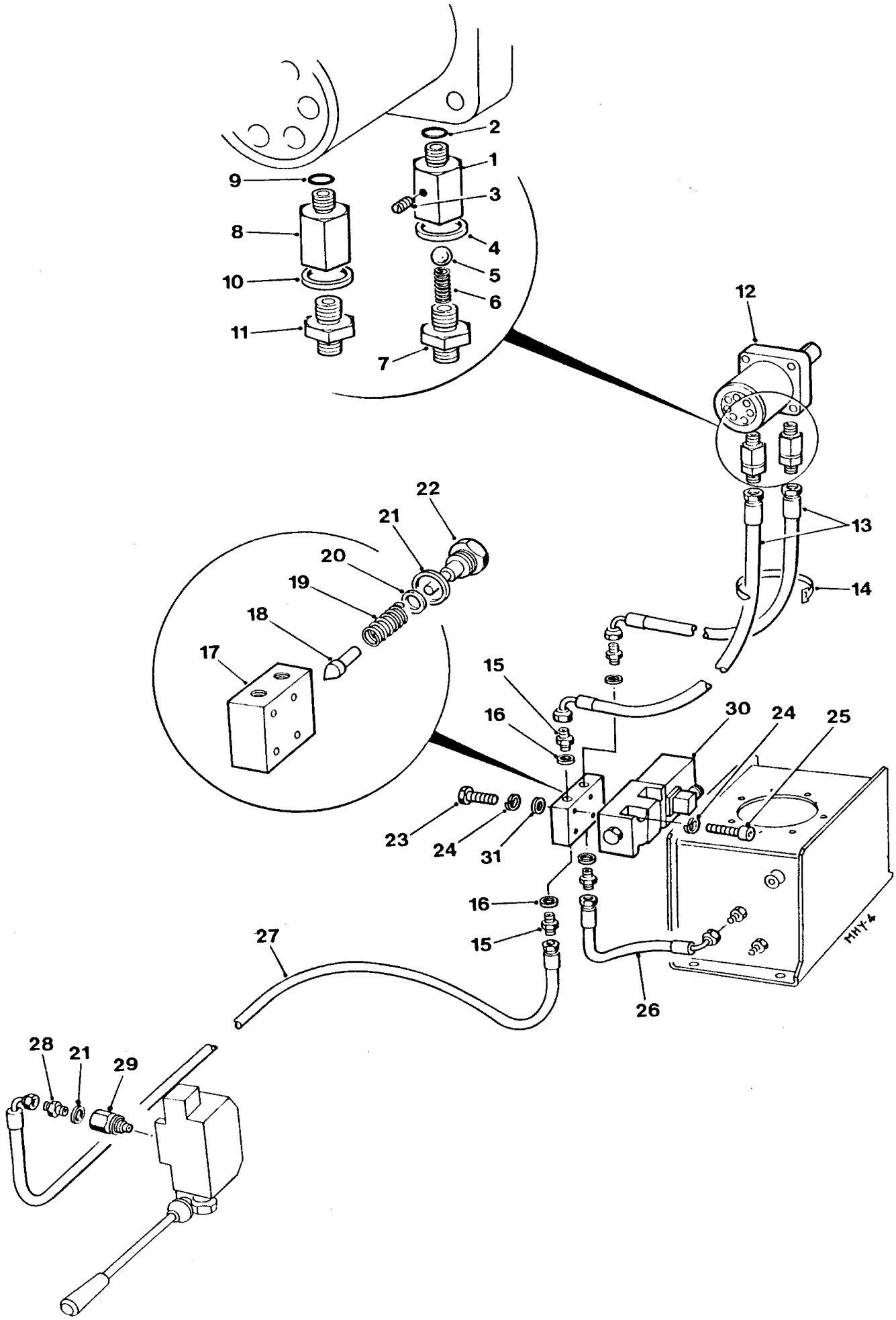
Item	Part no	Serial no	Description	Qty
1A	513338440		LOADCELL & GAUGE, assembly	1
1	-		WEIGH GAUGE *(see page E - 3A)*	1
2	253817055		POINTERS, load indicating	set 1
3	417858000		SEAL, bonded	1
4	555182800		ADAPTOR	1
5	513331700		HOSE	1
5A	513331700		*$* HOSE	1
5B	V601532		*$* ADAPTOR & BLOCK	1
5C	116S06		*$* WASHER, copper	2
			$ Alternative hose arrangement	
6	100S02		# SEAL, bonded	2
7	353304070		# PIN, split	1
8	555182700		# ADAPTOR	1
			# *Not fitted from circa 1990*	
9	513265700		PIN, locking	1
10	513265500		RING, sealing	2
11	403760610		SCREW, grub	1
12	101104001		BALL, steel	1
13	513265300		BODY, loadcell	1
14	391350340		SEAL, 'O' ring	2
15	513265400		PLATEN	1
16	513265600		SLEEVE, floating	1
17	13203000		SHOCK ABSORBER, rubber, c\w nuts	4
18	11S03B		SCREW, set	2
19	17S04		WASHER, spring	2
20	7S03		NUT	2
21	555125000		COVER, dial	1
22	261S02M		SCREW, thumb	4
23	513327700		BRACKET	1
24	513327800		BRACKET	1
25	16S05B		SCREW, pan head	2
26	143200900		CLIP, nylon	2
.....	267S02		WASHER, flat *(not illustrated)*	2
.....	17S10		WASHER, spring *(not illustrated)*	2
27	7S09		NUT	2
28	11S05C		SCREW, set	1
29	17S06		WASHER, spring	1
30	267S07		WASHER, flat	1

200TM Mixer *(up to serial number 0523)*



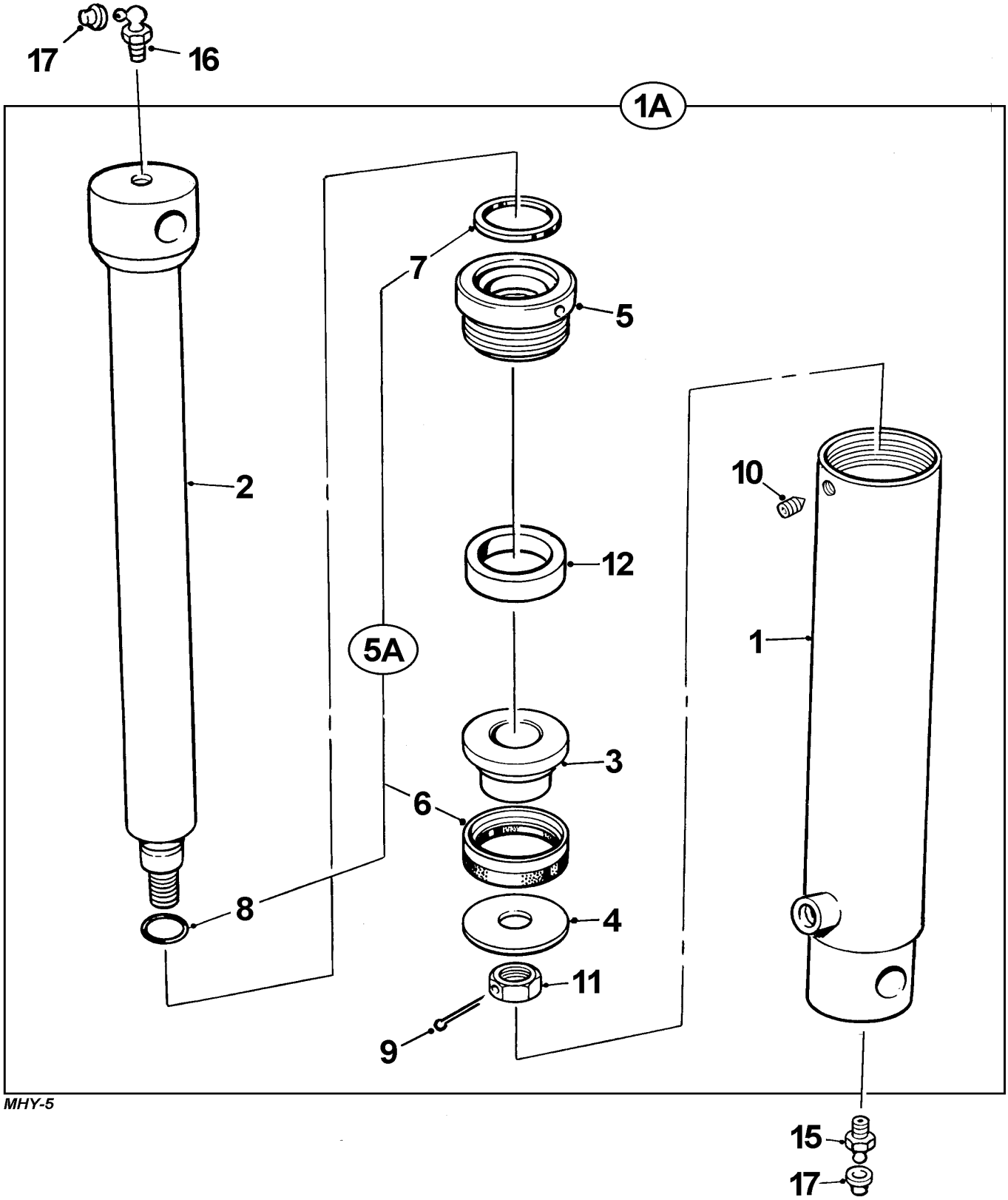
Item	Part no	Serial no	Description	Qty
1	253824000		GAUGE, assy. *(see also page E - 3)*	1
2	253818012		DIAL, 12", 1100 lbs	1
3	253818005		GLASS	1
4	253818006		SEAL, glass	1
5	253818003		SEAL, backplate	1
6	253818002		BACKPLATE	1
6A	253818004		SCREW, round head	6
7	253818000		INDICATOR	1
8	253817001		MOVEMENT	1
9	253824001		TUBE-COIL	1
10	253817005		# BLEED SCREW & BALL (1/8" ball)	1
10	253817006		# BLEED SCREW & BALL (2.5mm ball)	
			# *Before ordering check size of the ball as they are not interchangeable*	
11	—----------		BODY c/w front plate *(order assy.)*	1
11A	253818001		SCREW, round head	6
—-	—----------		NUT, gauge zeroing *(order assy.)*	1
15	67S01		WASHER, shakeproof	4
16	253817045		SCREW, set	4

200TM Mixer *(up to serial number 0523)*



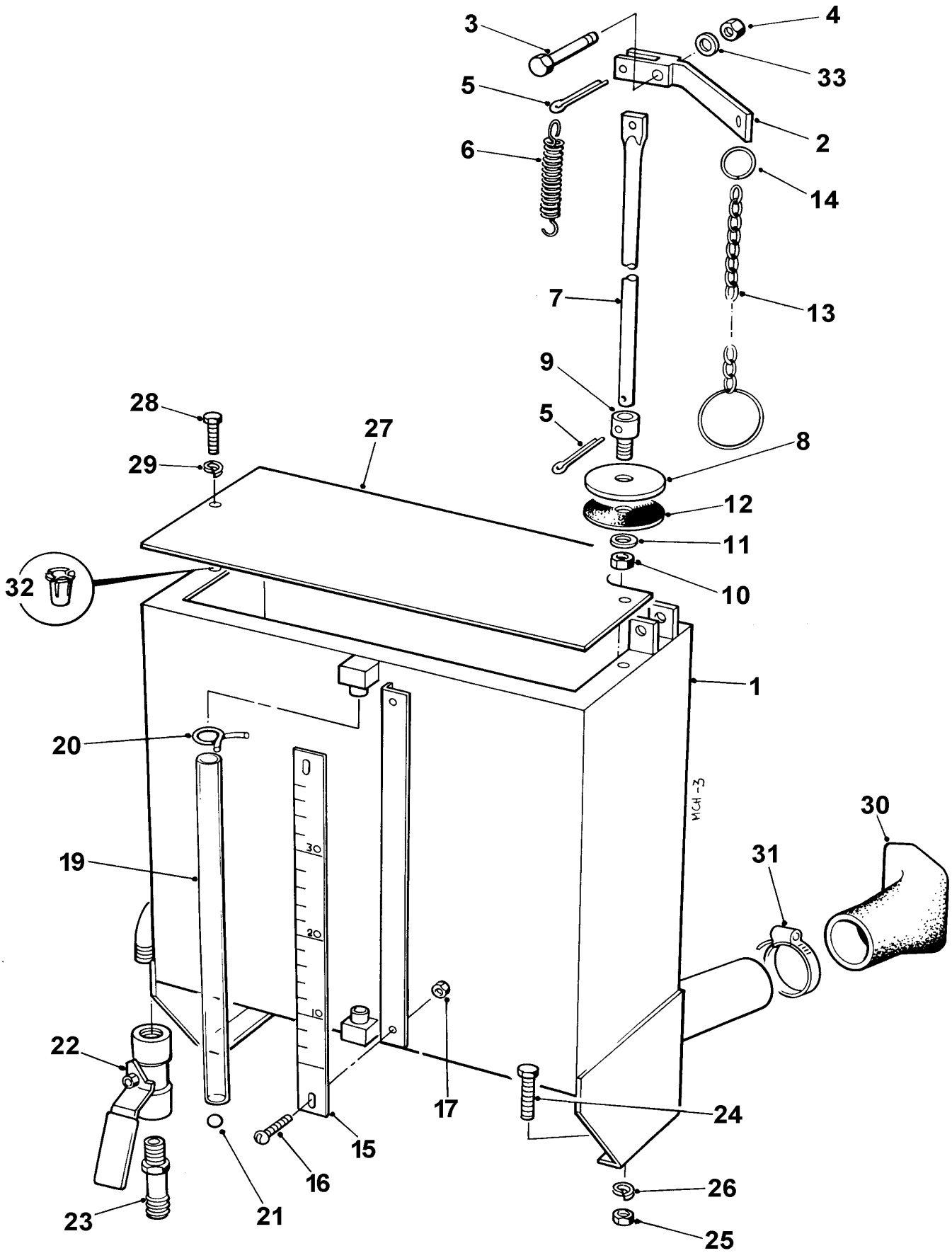
Item	Part no	Serial no	Description	Qty
			Additional fittings for dragline.	
			For basic hydraulic circuit, see page E - 1	
			ADAPTOR, motor supply ports	
1	555276700		ADAPTOR, winch motor	
2	391111000		SEAL,'O' ring	1
3	404921000		SCREW, grub	2
4	417804000		SEAL bonded	2
5	101120000		BALL, steel	1
6	555267100		SPRING, bleed valve	1
7	142515000		ADAPTOR, m/m	1
			ADAPTOR, motor supply port	
8	555276600		ADAPTOR, winch motor	1
9	391111000		SEAL,'O' ring	1
10	417804000		SEAL, bonded	1
11	142515000		ADAPTOR, m/m	1
12	267115000		MOTOR, hydraulic	1
13	31S02M		HOSE	2
14	V2003111		STRAP, nylon	2
15	446110000		ADAPTOR, m/m	4
16	100S03		SEAL, bonded	4
17	555137900		MANIFOLD, dragline control	1
18	555138300		VALVE, relief	1
19	555556100		SPRING	1
20	10S02		WASHER, flat	1
21	100S04		SEAL, bonded	2
22	555138200		VALVE, guide	1
23	66SO1AA		SCREW, set	2
24	41S03		WASHER, spring	4
25	103SO2H		SCREW, socket head	4
26	31SO2FF		HOSE	1
27	513330800		HOSE	1
28	119S08		ADAPTOR, m/m	1
29	451441501	/ Jan-88	ADAPTOR, carry over, used with control valve 451441500	1
29	V2000401	Jan-88 /	ADAPTOR, carry over, used with control valve V2000399	1
			Note: For control valve, see page E - 1	
30	211158000		VALVE, solenoid	1
31	10S01		WASHER, flat	2

200TM Mixer *(up to serial number 0523)*



Item	Part no	Serial no	Description	Qty
1A	513305700		RAM, hopper, assembly	1
1	272137501		CYLINDER, ram	1
2	272137502		ROD, ram	1
3	272137503		PISTON, ram	1
4	272137504		PLATE, back up	1
5	272137505		CAP, screwed	1
5A	513305701		KIT, seals, assembly	1
6	---		SEAL, piston *(order assembly)*	1
7	---		SEAL, wiper *(order assembly)*	1
8	---		SEAL,'O' ring *(order assembly)*	1
9	272137509		PIN, split	1
10	272137510		SCREW	1
11	272137511		NUT	1
12	513350400	Nov-90 /	RESTRICTOR	1
15	131S01	0478 /	NIPPLE grease, straight	
16	131S02	0478 /	NIPPLE: grease, 90 deg.	
17	176S01	0478 /	CAP, grease nipple	2

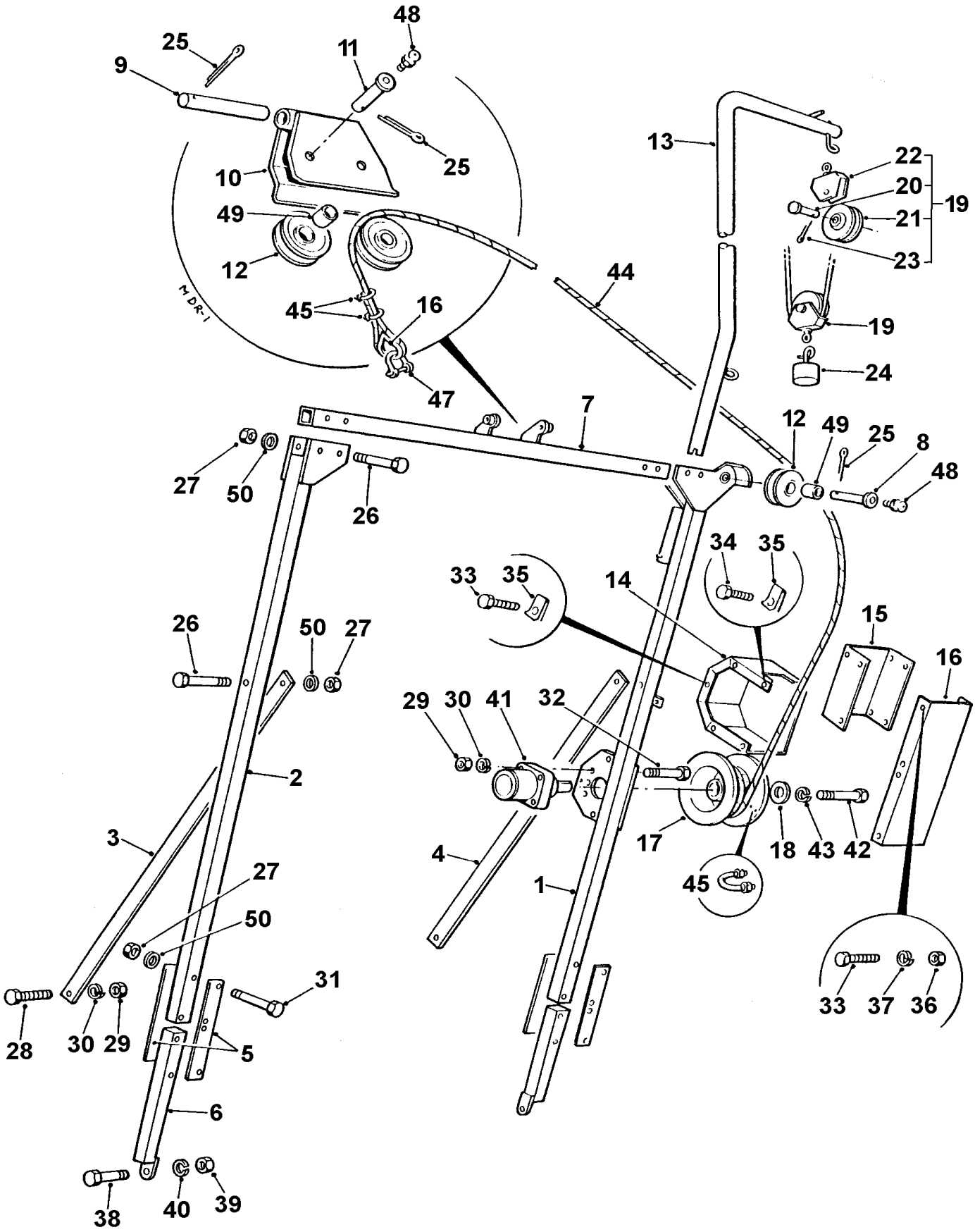
200TM Mixer *(up to serial number 0523)*



WATER TANK

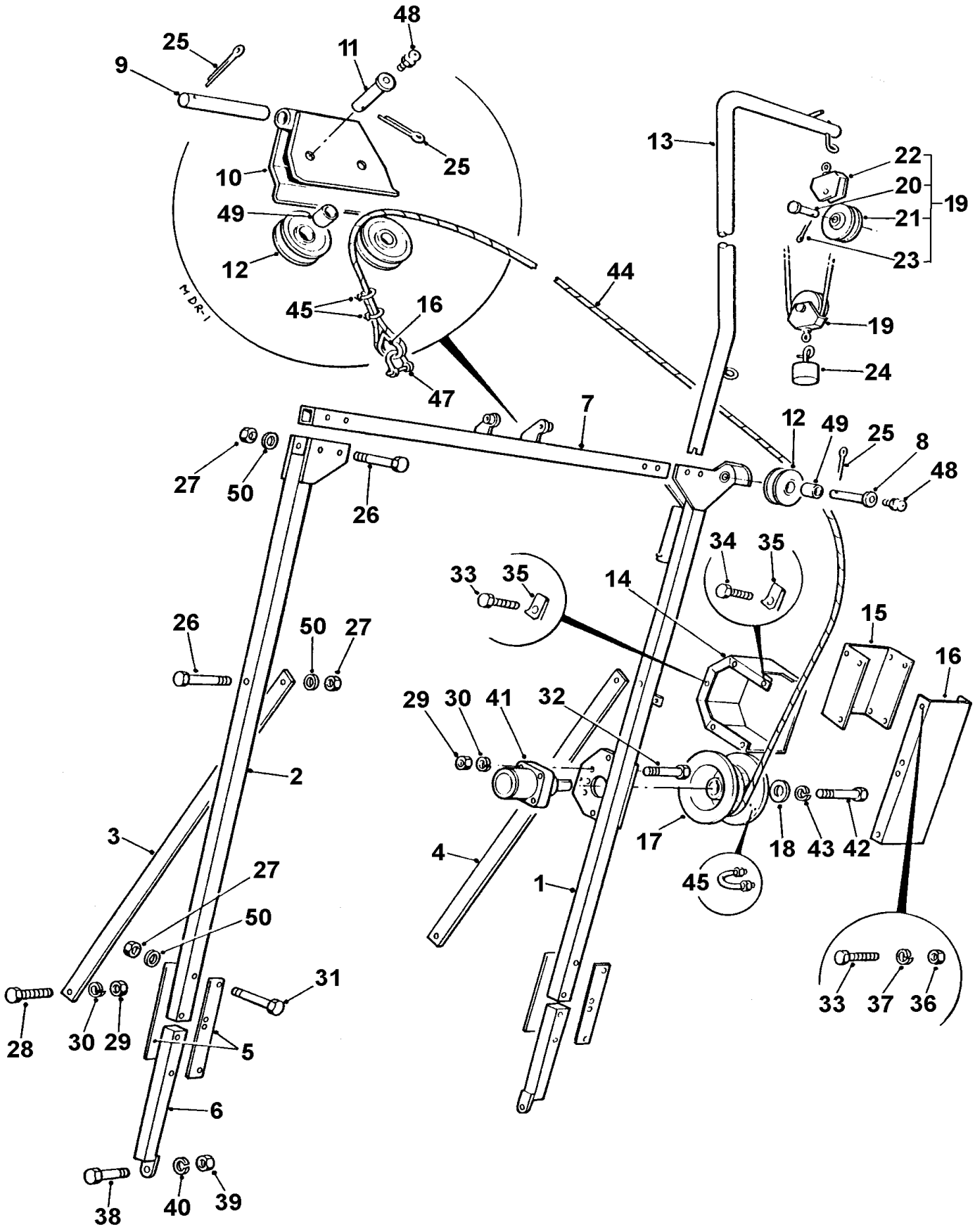
Item	Part no	Serial no	Description	Qty
1	513327100		BODY, water tank	1
2	513327000		STAY	1
3	8S03E		BOLT	1
4	61S03		NUT, binx	1
5	44S17J		PIN, split	2
6	425435000		SPRING	1
7	513326600		ROD	1
8	513326700		PLATE	1
9	513326800		CONNECTOR	1
10	7S04		NUT	1
11	267S06		WASHER, flat	1
12	513286200		VALVE, rubber	1
13	513286400		CHAIN & RING	1
14	383106000		PIN, split	1
15	513324600		SCALE	1
16	70SO4D		SCREW, pan head	2
17	59S13		NUT, self-locking	2
18	12S48		WASHER, flat	2
19	430904001		TUBE	1
20	132111200		CLIP, hose	2
21	101256000		BALL	1
22	450150000		VALVE	1
23	130354000		CONNECTOR, hose	1
24	11SO5C		SCREW, set	4
25	7S05		NUT	4
26	17S06		WASHER, spring	4
27	513337800		LID, tank	1
28	11 S02C		SCREW, set	2
29	17S03		WASHER, spring	2
30	504531500		NOZZLE, rubber	1
31	97S13		CLIP, hose	1
32	236S04		NUT, blind	2
33	267S05		WASHER, flat	1

200TM Mixer *(up to serial number 0523)*



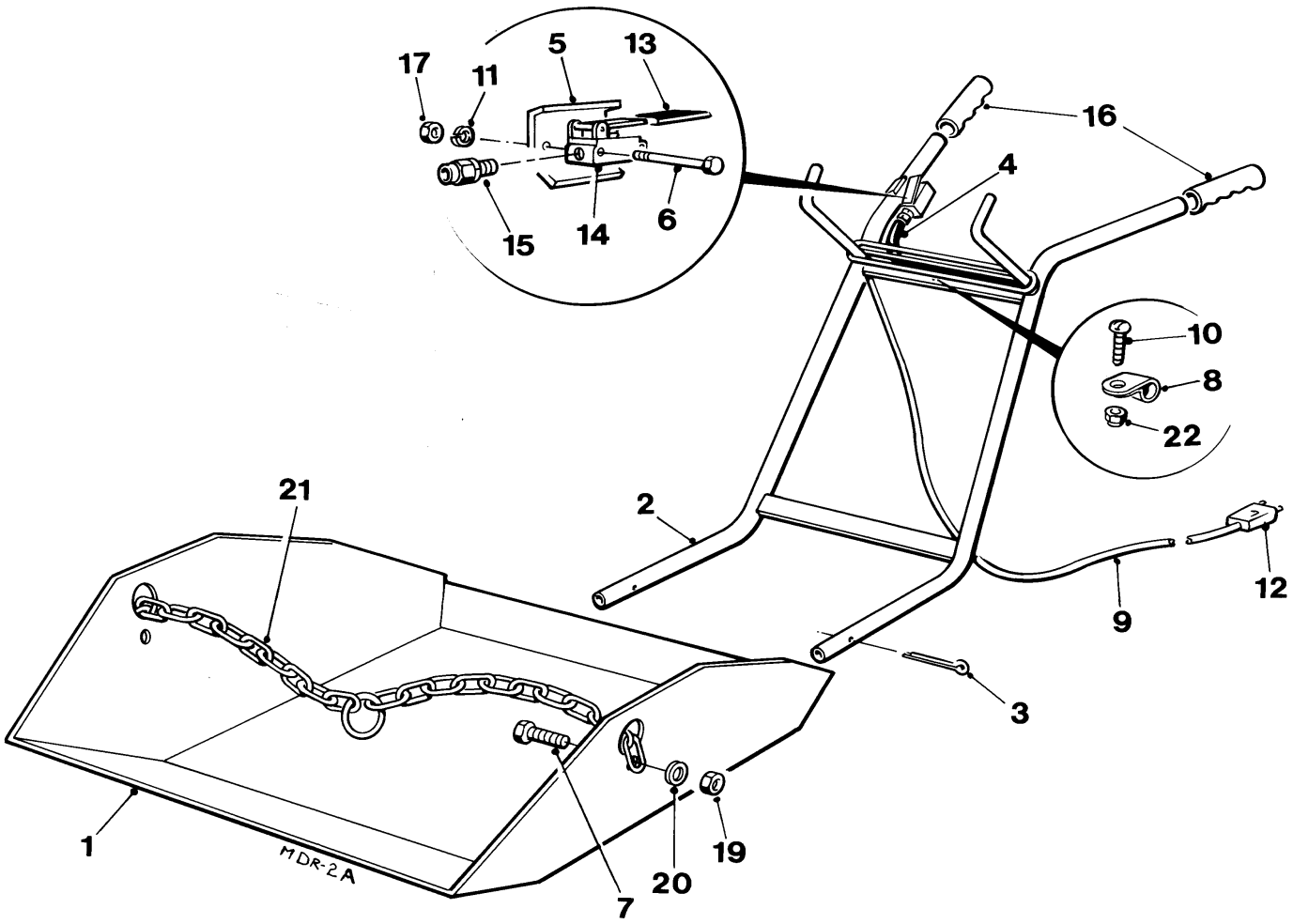
Item	Part no	Serial no	Description	Qty
1	513322400		JIB, leg, R.H.	1
2	513322500		JIB, leg, L.H.	1
3	513322700		TIE BAR, tilt end	1
4	513323400		TIE BAR, engine end	1
5	513338100		PLATE	4
6	513338000		JIB, leg	2
7	513322600		BEAM, top	1
8	513323500		PIN, pulley	2
9	513330000		PIN, pivot	1
10	555228100		BRACKET, pulley	1
11	555265000		PIN, pulley	2
12	555265200	/ Jan-93	PULLEY, (cast iron)	3
12	555285500	Jan 93 /	PULLEY, (nylon)	3
13	513330300		MAST, cable	1
14	513330200		GUARD, winch	1
15	513330400		GUARD, rope	1
16	513330500		PLATE, rope guard	1
17	513330100		DRUM, winding	1
18	555266300		WASHER	1
19	555208500		PULLEY, block, assembly	2
20	555208300		PIN, pulley	1
21	555208100		PULLEY	1
22	555208400		BLOCK, pulley	1
23	44S14F		PIN, split	1
24	555204800		WEIGHT, sheave	1
25	353325050		PIN, split	4
26	8S05L		BOLT	6
27	61S05		NUT, binx	14
28	11SO5C		SCREW, set	2
29	7S05		NUT	6
30	17S06		WASHER, spring	6
31	8SO5M		BOLT	8
32	8S05H		BOLT	4
33	11S02A		SCREW, set	9
34	11S02AA		SCREW, set	8
35	332719000		NUT, spire, captive	9
36	7S02		NUT	2
37	17S03		WASHER, spring	2
38	8S07G		BOLT	2
39	7S07		NUT	2
40	17S09		WASHER, spring	2

200TM Mixer *(up to serial number 0523)*



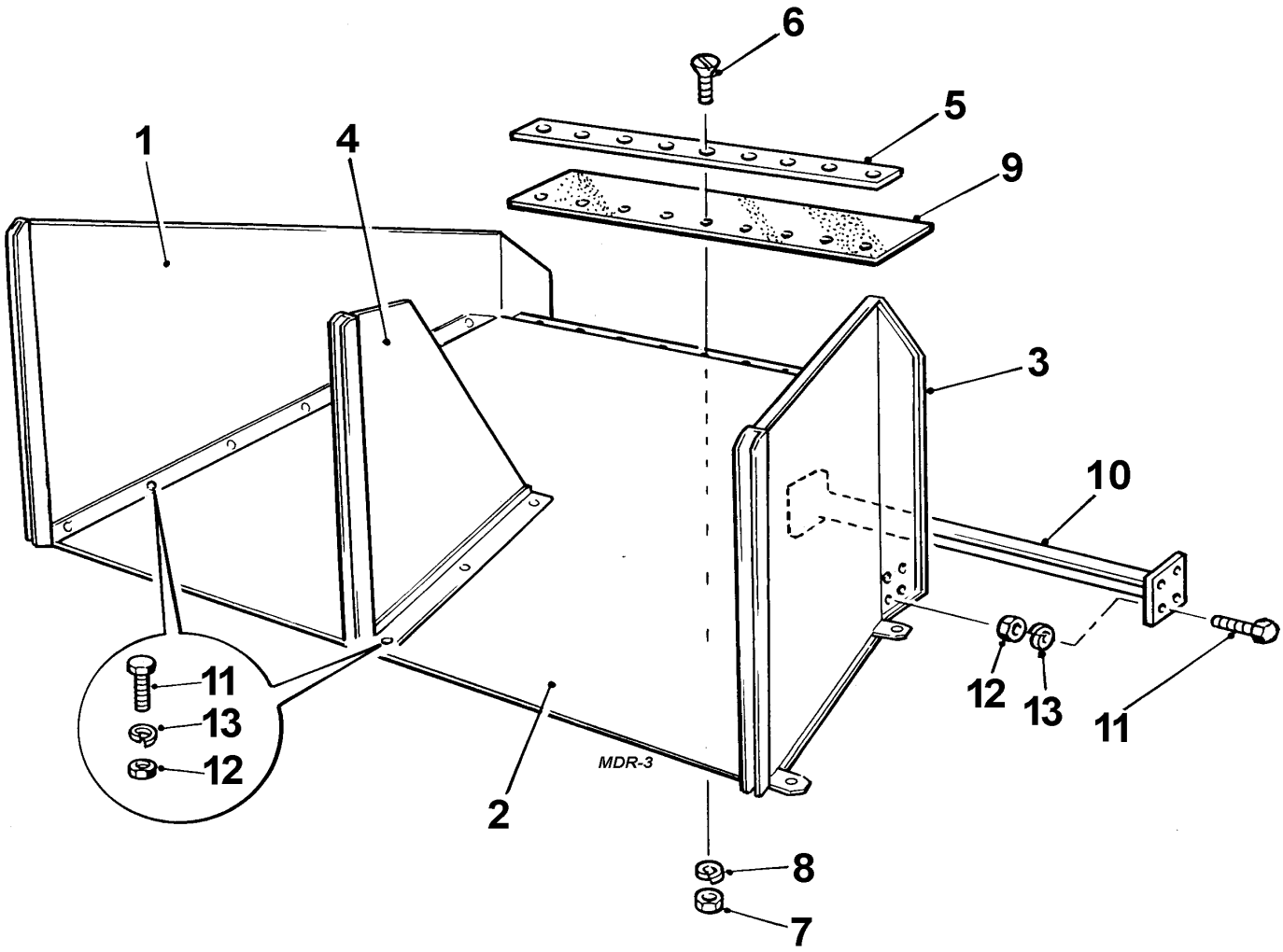
Item	Part no	Serial no	Description	Qty
41	-		MOTOR, hydraulic *(see page E - 4)*	1
42	6SO6H		BOLT	1
43	41S09		WASHER, spring	1
44	477502000		ROPE, wire	1
45	132204000		CLIP, rope	3
46	443105010		THIMBLE	1
47	412606000		SHACKLE	1
48	330102020		NIPPLE, grease	3
49	112805300	/ Jan-93	BUSH	6
50	12S23		WASHER, flat	14

200TM Mixer *(up to serial number 0523)*



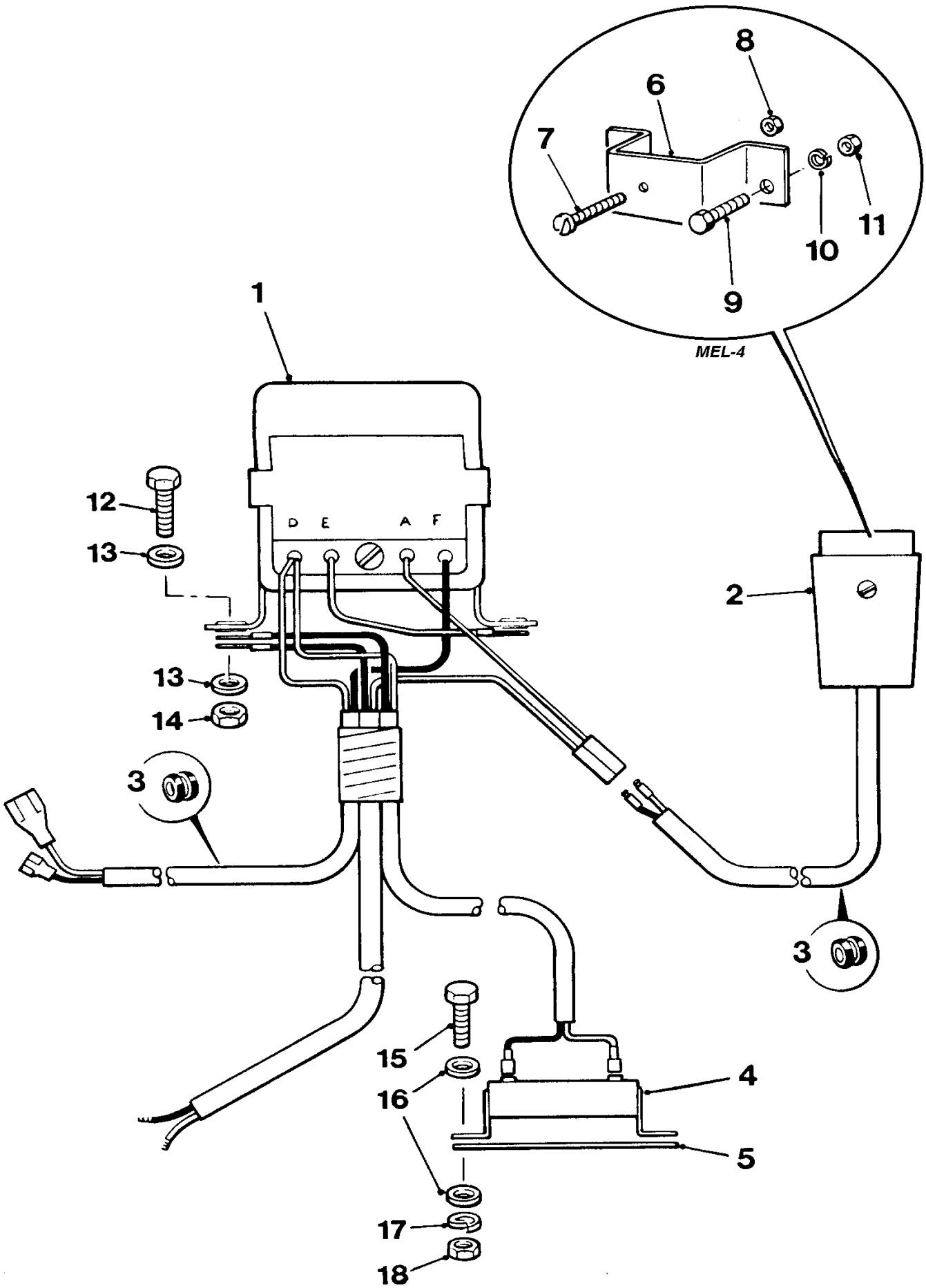
Item	Part no	Serial no	Description	Qty
1	513331300		SHOVEL	1
2	555209100		HANDLE, shovel	1
3	44S17K		PIN, split	2
4	369200000		TUBE, rubber	1
5	555214800		CLAMP, switch	1
6	8SO1F		BOLT	2
7	11S05D		SCREW, set	2
8	143200300		CLIP, cable	1
9	144734000		CABLE	1
10	16S05B		SCREW, pan head	1
11	17S02		WASHER, spring	1
12	205304600		PLUG	1
13	208143000		SLEEVING	1
14	208561000		SWITCH	1
15	250166010		GLAND, cable	1
16	264705000		HANDLE, grip	2
17	7S01		NUT	4
18	463504000		WASHER, rubber	1
19	59S04		NUT, self-locking	2
20	267S07		WASHER, flat	2
21	135905000		CHAIN & RING	1
22	59S02		NUT, nylon insert	1

200TM Mixer *(up to serial number 0523)*



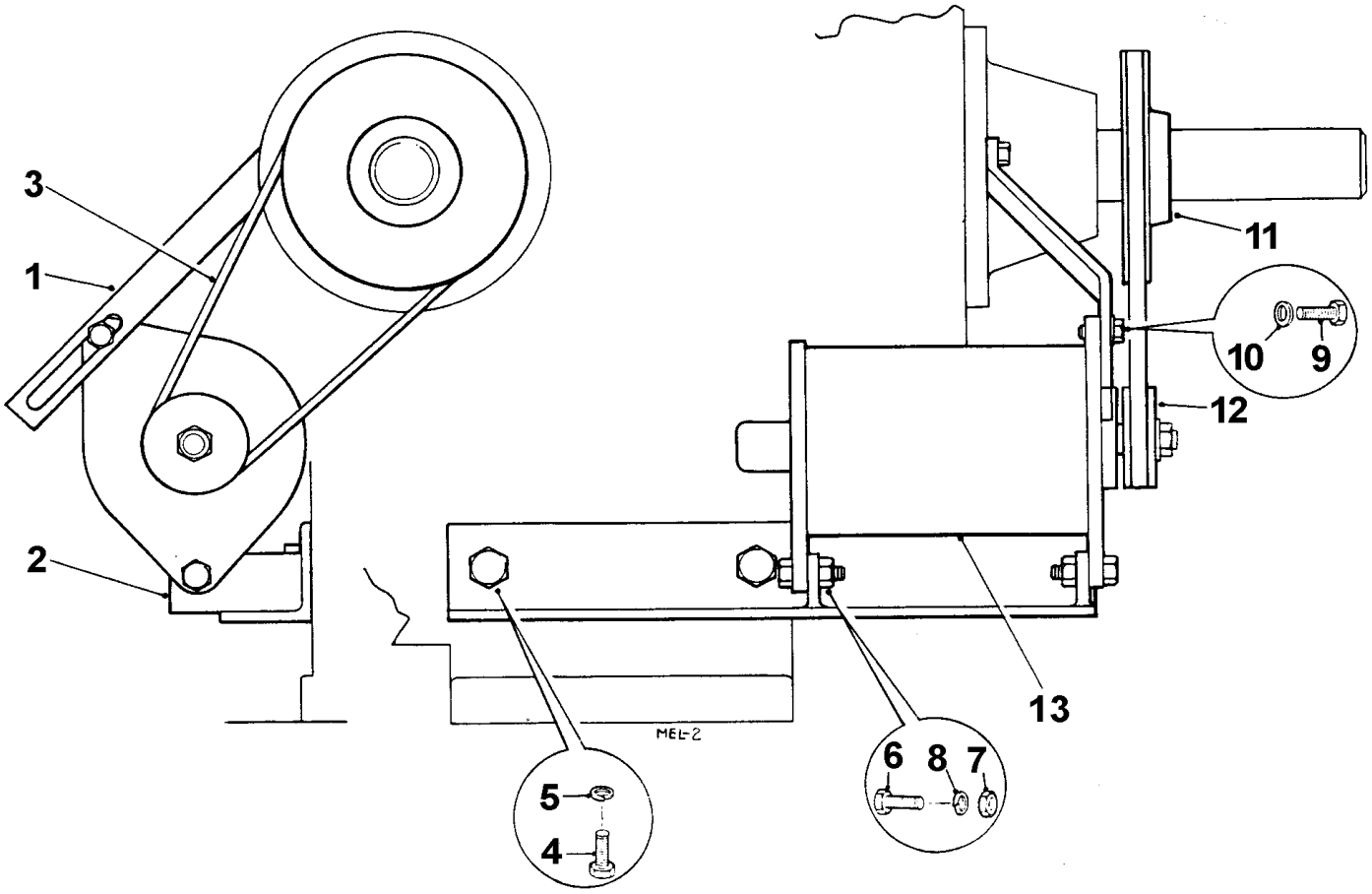
Item	Part no	Serial no	Description	Qty
1	513336900		PANEL, side, L.H.	1
2	513332000		PLATE, floor	1
3	513336901		PANEL, side, R.H.	1
4	513337000		PARTITION	1
5	513332300		STRIP, countersunk	1
6	52S04G		SCREW, countersunk	9
7	7S04		NUT	9
8	17S05		WASHER, spring	9
9	513332500		FLAP, rubber	1
10	513336700		SUPPORT, angle	1
11	11S05C		SCREW, set	26
12	7S05		NUT	26
13	17S06		WASHER, spring	26

200TM Mixer *(up to serial number 0523)*



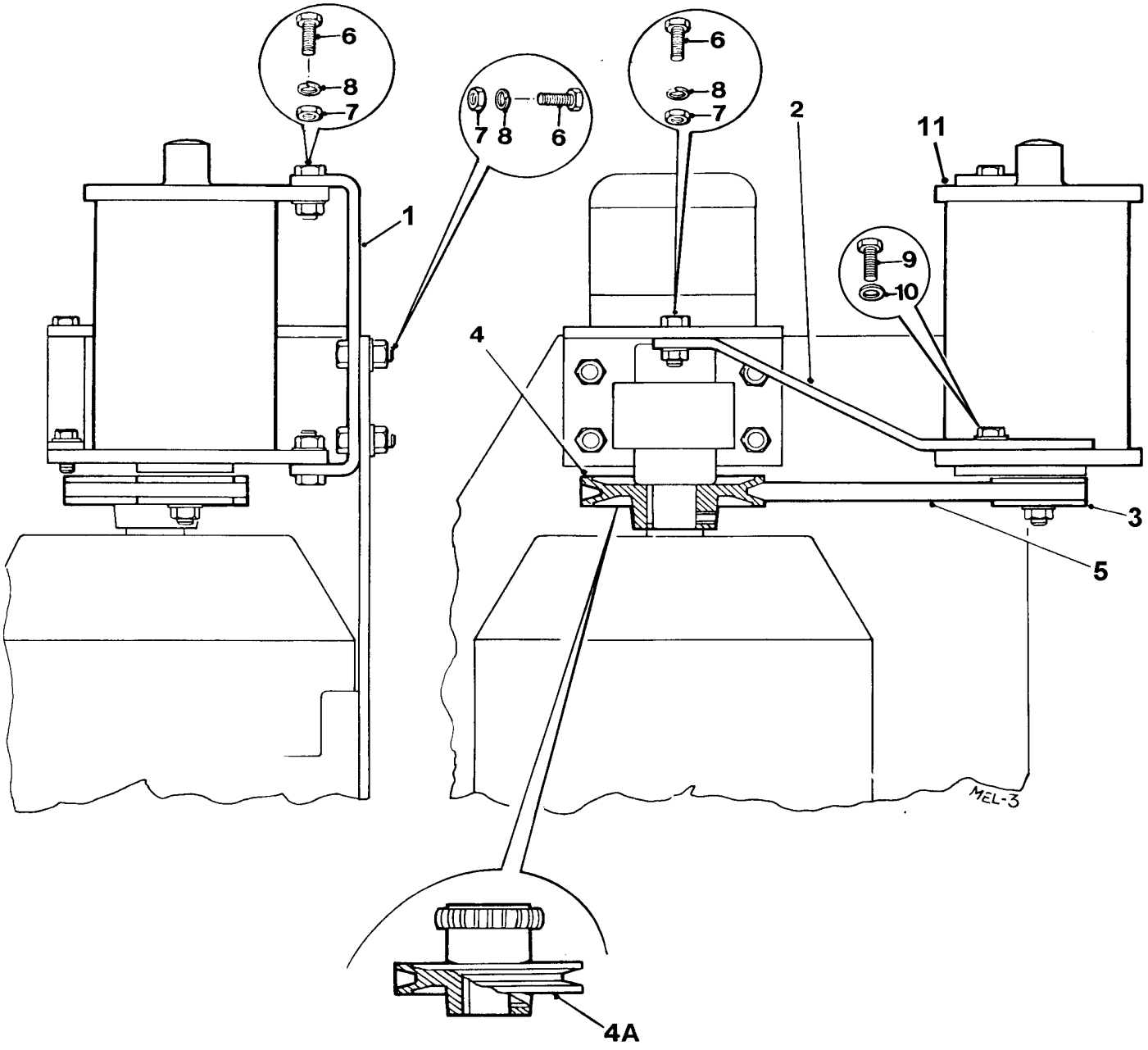
Item	Part no	Serial no	Description	Qty
-	513340300		LOOM assembly, dragline	1
1	20203000		REGULATOR	1
2	205304600		PLUG, socket	1
3	V2003252		GROMMET	2
4	207652000		RESISTOR, wire wound	1
5	555213700		BOARD, insulating	1
6	555253800		CLAMP, socket cable	1
7	82SO7F		SCREW, round head	1
8	83S07		NUT	1
9	11SO1A		SCREW, set	2
10	17S02		WASHER, spring	2
11	7S01		NUT	2
12	11SO2B		SCREW, set	2
13	267S04		WASHER, flat	4
14	61S02		NUT, self -locking	2
15	11SO1A		SCREW, set	2
16	267S03		WASHER, flat	4
17	17S03		WASHER, spring	2
18	7S01		NUT	

200TM Mixer *(up to serial number 0523)*



Item	Part no	Serial no	Description	Qty
1	513334200		BRACKET, dynamo adjuster	1
2	513334600		BRACKET	1
3	397463000		BELT, vee	1
4	418200808		SCREW, set	2
5	41S07		WASHER, spring	2
6	66SO2A		SCREW, set	2
7	104S02		NUT	2
8	41S04		WASHER, spring	2
9	66S02CC		SCREW, set	1
10	10S02		WASHER, flat	1
11	513335100		PULLEY	1
12	513334300		PULLEY, dynamo	1
13	205501000		DYNAMO	1

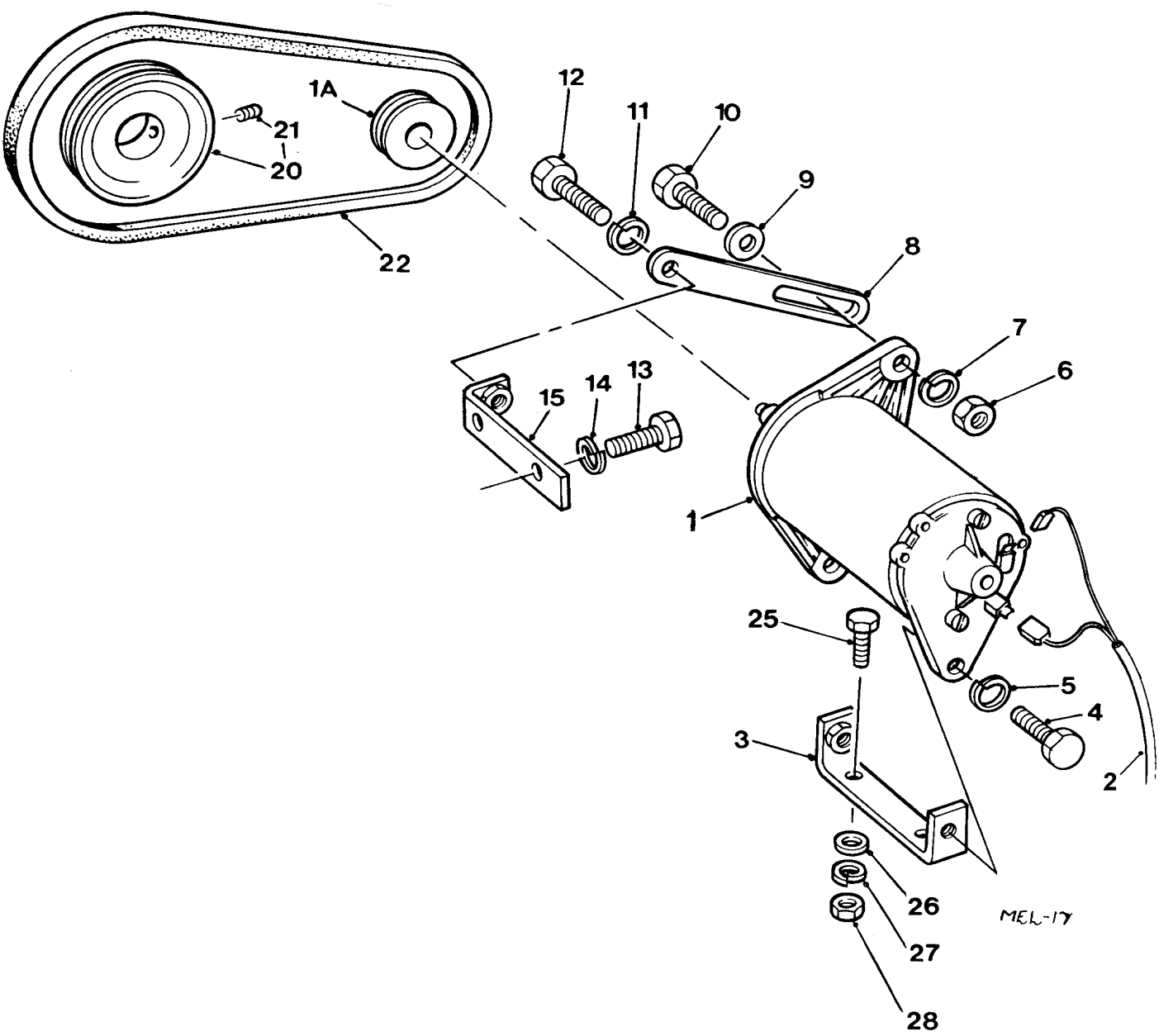
200TM Mixer *(up to serial number 0523)*



Dragline mixer with Electric drive

Item	Part no	Date		Description	Qty
1	513333000			BRACKET, dynamo	1
2	513333200			BRACKET, dynamo adjuster	1
3	513334300			PULLEY, dynamo	1
4	513334900	/ Apr-87		PULLEY, dynamo drive, 24mm bore	1
4	513350600	Apr-87 / 0507	#	PULLEY, dynamo drive, 28mm bore	1
4A	513349900	0508 /	#	PULLEY/HALF COUPLING, (welded) ***Note:*** 513349900 consists of pulley 513350600 and half coupling 147320500 welded together.	1
			#	*machine serial numbers*	
5	397436000			BELT, vee	1
6	66SO2A			SCREW, set	5
7	104S02			NUT	5
8	41S04			WASHER, spring	5
9	66SO2CC			SCREW, set	1
10	10S02			WASHER, flat	1
11	205501000			DYNAMO	1

200TM Mixer *(up to serial number 0523)*



DYNAMO & MOUNTING
Dragline mixer with Lister-Petter TS/TR1 engine

Item	Part no	Serial no	Description	Qty
1	205501100	Feb 90 /	DYNAMO	1
1A	513334300		PULLEY,dynamo	1
2	---		CABLE, electric *(see page H - 1)*	
3	513347300		BRACKET, dynamo	1
4	11 S03C		SCREW, set	2
5	17S04		WASHER, spring	2
6	7S03		NUT	1
7	17S04		WASHER, spring	1
8	513347400		STAY, dynamo	1
9	267S05		WASHER, flat	1
10	11S03D		SCREW, set	1
11	17S04		WASHER, spring	1
12	11S03B		SCREW, set	1
13	66SO3CC		SCREW, set	2
14	41S05		WASHER, spring	2
15	513347700		BRACKET, stay, dynamo	1
20	513348500		PULLEY, assembly, engine	1
21	57SO5E1		SCREW, grub	1
22	189S02A		BELT, 850mm long	1
25	11 S03B		SCREW, set	2
26	267S05		WASHER, flat	2
27	17S04		WASHER, spring	2
28	7S03		NUT	2

200TM Mixer *(up to serial number 0523)*

1

200 TM

2

WINGET

WINGET LIMITED
P.O. Box 89, Smethurst Lane, Bolton Lancs BL4 0WW
Tel: (0204) 665165 Fax: (0204) 665206

Model			
Serial no.			
Engine no.		Power output	
Capacity		Weight kg.	
SRO		Year of man.	

A Seddon Group Company

3

DANGER

KEEP ENGINE HOUSING LID CLOSED WHEN ENGINE IS RUNNING

4

SAFETY WARNING

1 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.

5

WATER TANK OPERATION

FILL	OPEN INLET VALVE UNTIL DESIRED QUANTITY SHOWS IN GAUGE GLASS
DISCHARGE	PULL AND HOLD CHAIN DOWN UNTIL DISCHARGE IS COMPLETE

6

DANGER

DO NOT WALK, STAND OR LEAN UNDER RAISED HOPPER UNLESS IT IS SECURELY PROPPED

7

-HOPPER CONTROL-

TO RAISE HOPPER:- PULL CONTROL LEVER UPWARDS.
TO LOWER HOPPER:- PUSH CONTROL LEVER DOWNWARDS.

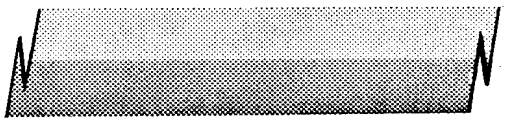
RELEASING THE LEVER WILL HALT THE HOPPER WHEN IT IS MOVING UP OR DOWN.

DO NOT HOLD CONTROL IN 'RAISE' POSITION WHEN HOPPER IS FULLY UP.

8

WINGET

9



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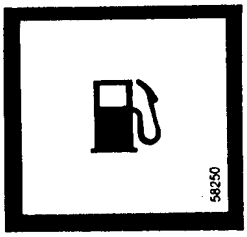

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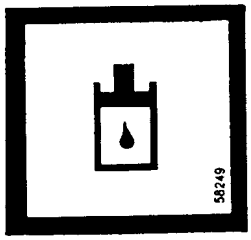

12

WARNING

DO NOT TAMPER WITH THE PIPE CONNECTION ON THE LOAD CELL OR GAUGE.
THIS IS A SEALED CIRCUIT AND MUST NOT BE INTERFERED WITH.

13

14

15

50p.s.i.

16

NEGATIVE EARTH

Item	Part no	Serial no	Description	Qty
1	V2003108		“200TM”	1
2	V2003037		PLATE, serial number	1
-	15S01A		SCREW	4
3	504600900		WARNING, engine housing	1
4	504694600		WARNING, safety	1
5	513331500		WATER TANK OPERATION	1
6	513331600		DANGER, hopper	2
7	555153600		HOPPER CONTROL	1
8	V2003039		LOGO, "WINGET"	4
9	V2003038		STRIPE, bodywork	4
10	V2003101		DIESEL FUEL	1
11	V2003100		HYDRAULIC OIL	1
12	515175000		WARNING, loadcell	1
-	101S05D		RIVET, pop	4
13	V2003665		SLING POINTS	2
14	V2003598		BRITISH MADE	1
15	10166A02		TYRE PRESSURE	4
16	4602331		NEGATIVE	1

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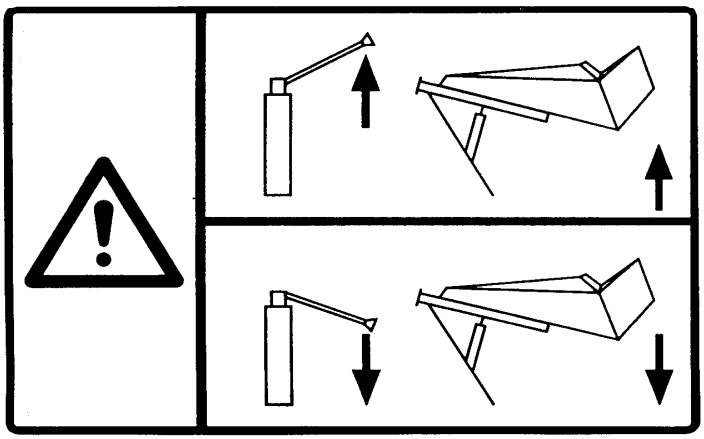

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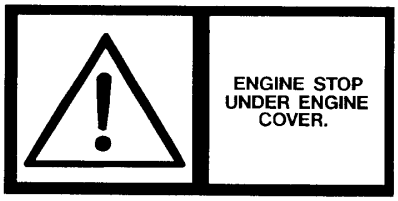

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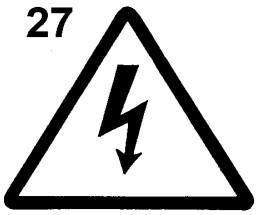

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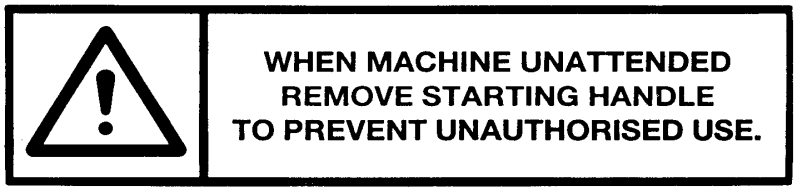

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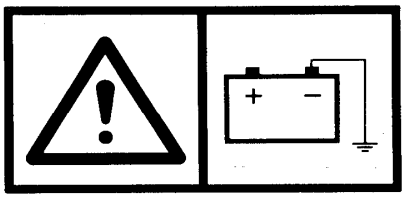

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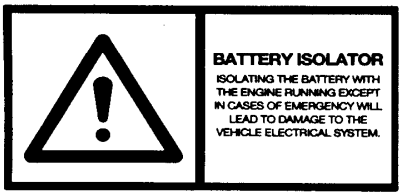

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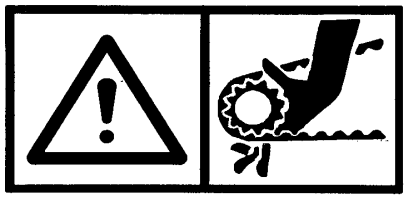

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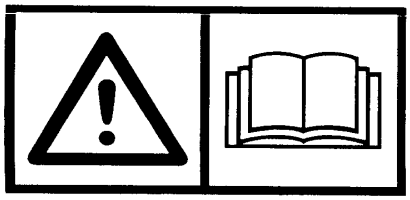

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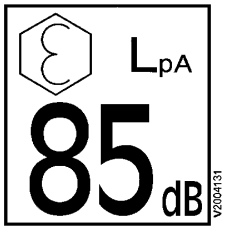

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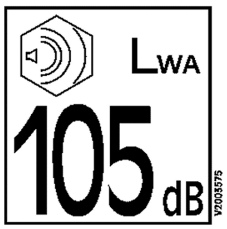

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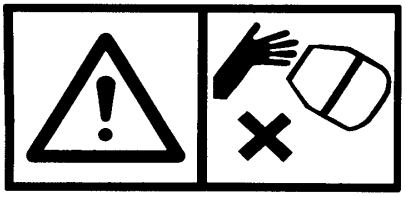

Item	Part no	Serial no	Description	Qty
20	V2004259		HOPPER CONTROLS	1
21	V2004137		EAR PROTECTION	2
22	V2004227		BATTERY ISOLATOR	1
23	V2004229		OPERATORS HANDBOOK	2
24	V2004282		HOT SURFACES	1
25	V2004289		HANDS CLEAR	2
26	V2004302		ENGINE STOP	1
27	V2004307		ELECTRICAL HAZARD	2
28	V2004288		REMOVE STARTING HANDLE	1
29	V2004235		NEGATIVE EARTH	1
30	V2004281		ENTRAPMENT	1
31	V2004131		85 LpA	1
32	V2003575		105 LWA	1

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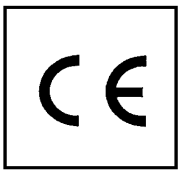

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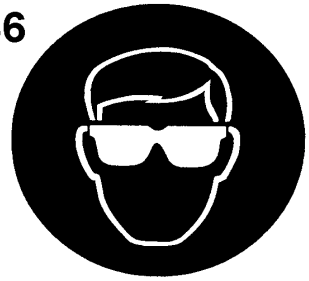

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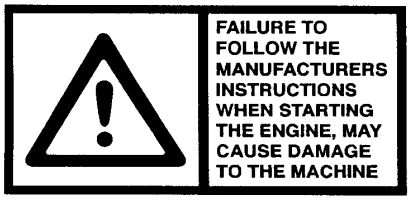
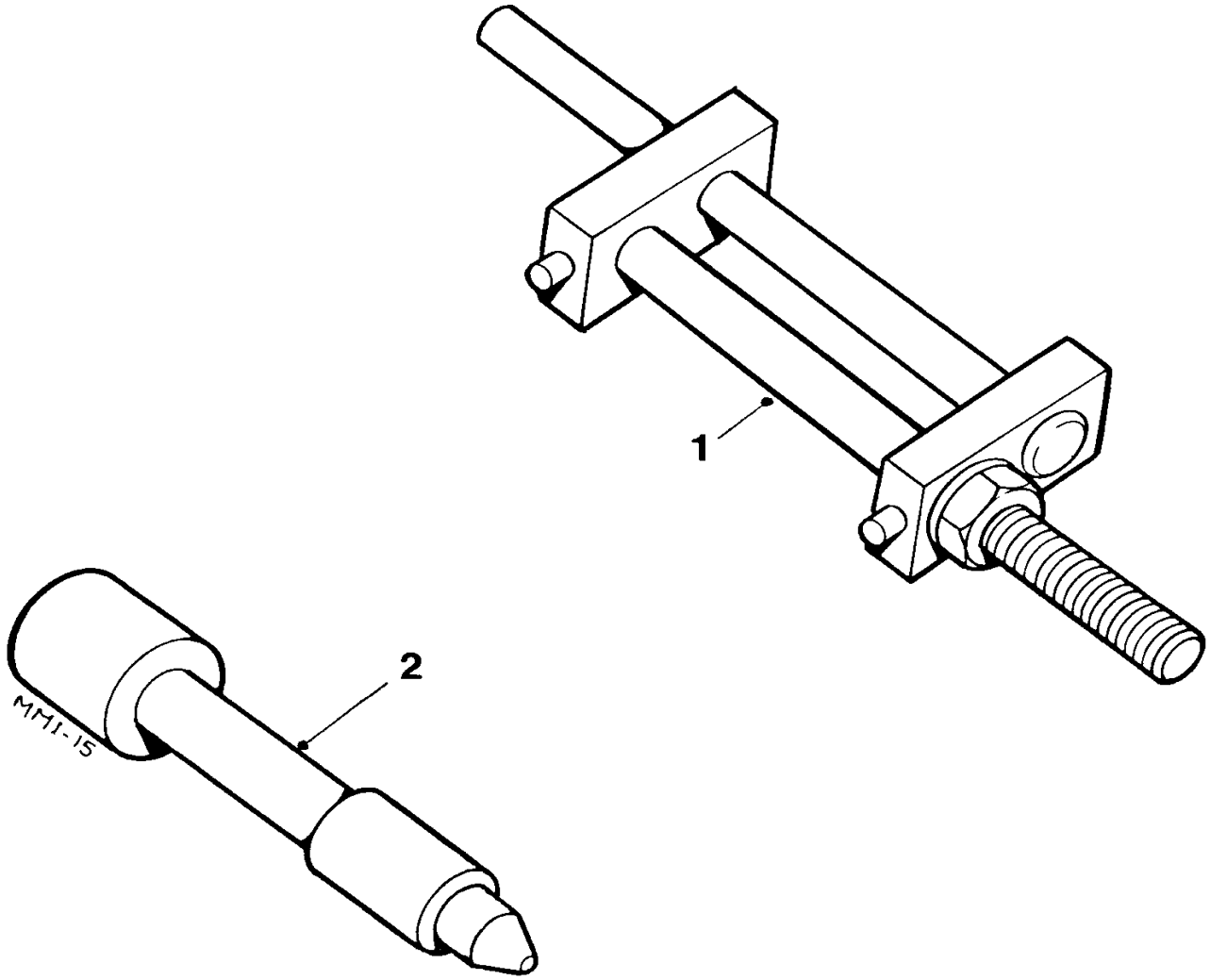

FAILURE TO
FOLLOW THE
MANUFACTURERS
INSTRUCTIONS
WHEN STARTING
THE ENGINE, MAY
CAUSE DAMAGE
TO THE MACHINE

Item	Part no	Serial no	Description	Qty
35	V2004223		“CE” MARK *(Only applied to EC specification machines)*	1
36	V2004744		EYE PROTECTION	2
37	V2005208		ENGINE STARTING PROCEDURE	1

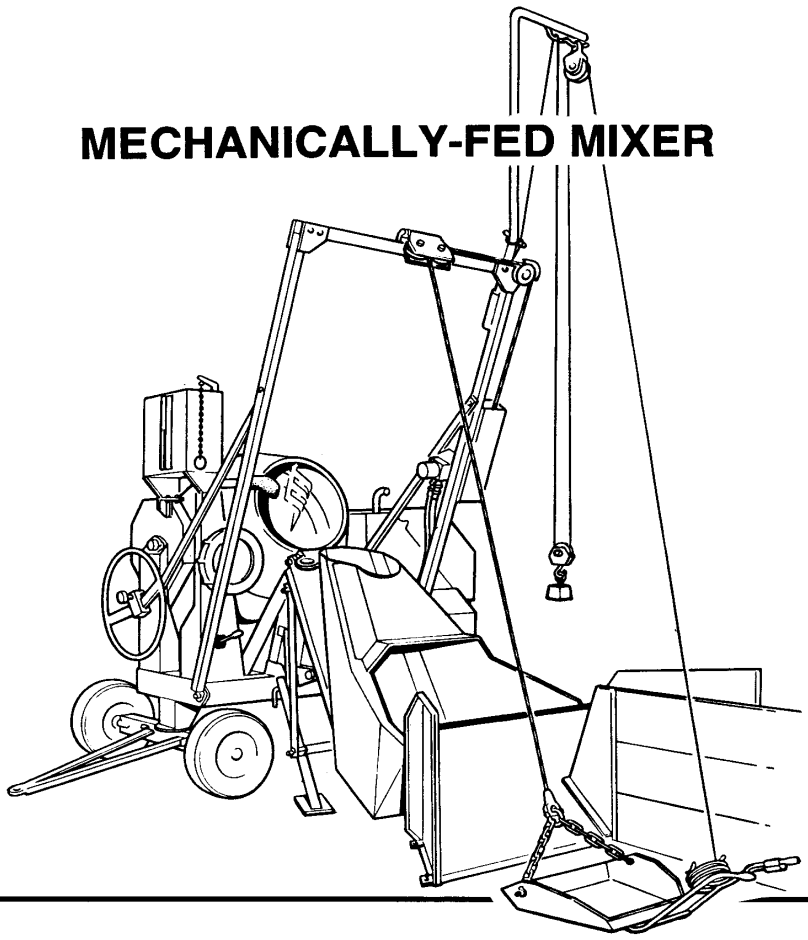
200TM Mixer *(up to serial number 0523)*



Item	Part no	Serial no	Description	Qty
1	513204000		CLAMP, drum clip	1
2	V2003698		PUNCH, bleed valve seat	1

200TM

MECHANICALLY-FED MIXER



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513312600	D - 2
513312700	D - 2
513312900	D - 2
513312900	D - 3
513313000	D - 2
513313000	D - 3
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513315100	A - 1
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513327500	A - 1
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513329200	D - 3
513329500	A - 1
513329600	E - 1
513329700	E - 1
513329800	E - 1
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513331600	J - 1
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513332000	G - 3
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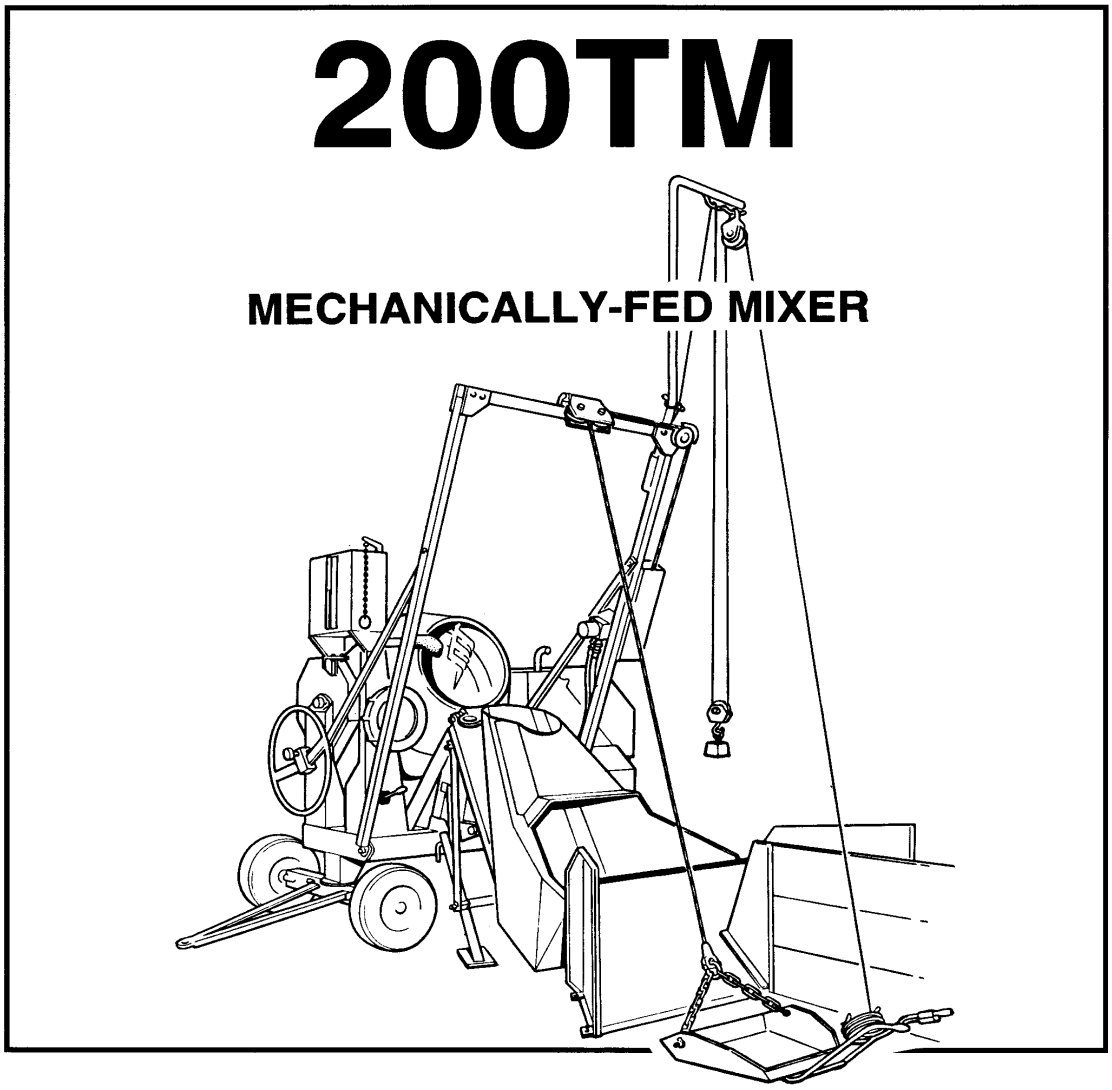
200TM



Mixers manfactured
from
serial number TM200DA0524
(January 1993)

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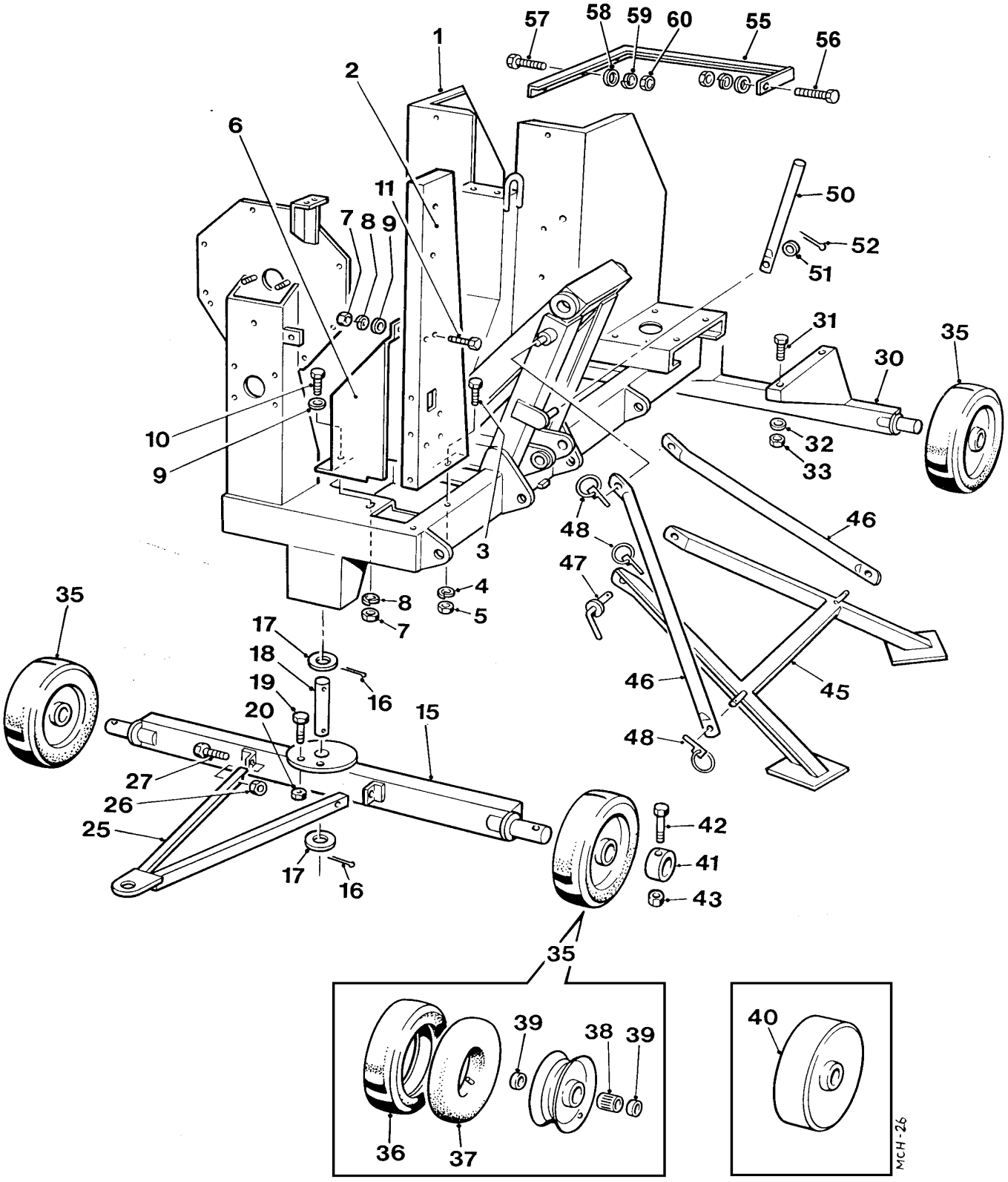
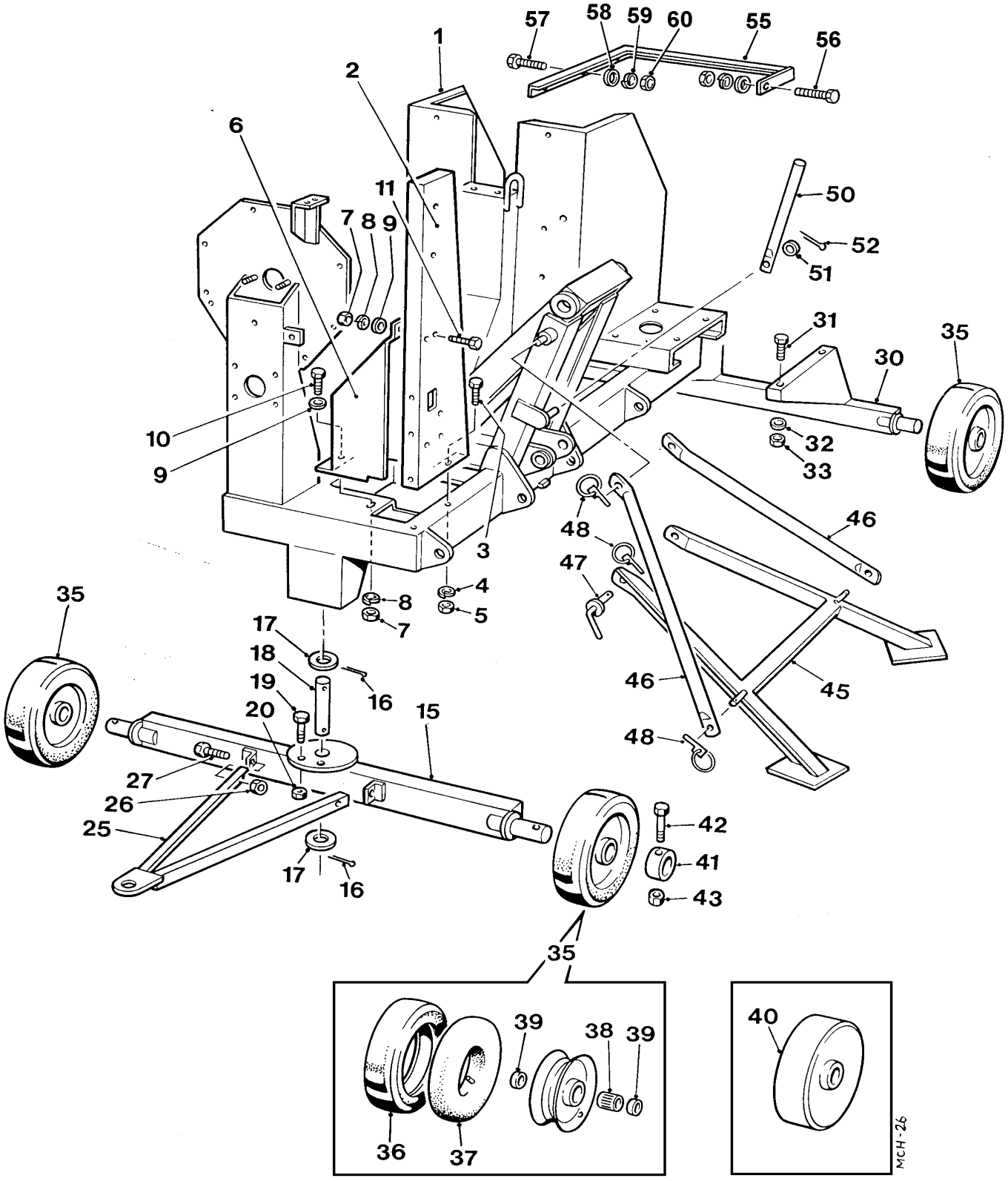


Item	Part no	Serial no	Description	Qty
1	513350700		MAINFRAME	1
2	513327300		SUPPORT tank	1
3	11S05E		SCREW, set	2
4	17S06		WASHER, spring	2
5	7S05		NUT	2
6	513355700		COVER, hydraulic control valve	1
7	7S03		NUT	3
8	17S04		WASHER, spring	3
9	267S05		WASHER, flat	3
10	11S03C		SCREW, set	1
11	11S03C		SCREW, set	2
15	513340000		AXLE, front	1
16	353308200		PIN, split	2
17	10S31		WASHER, flat	2
18	513315100		PIN, swivel	1
19	11S05C		SCREW, set	2
20	61S05		NUT, self-locking	2
25	513315200		BAR, towing	1
26	61S05		NUT, self-locking	2
27	11S05D		SCREW, set	2
30	513340100		AXLE, rear	1
31	11S05D		SCREW, set	4
32	267S07		WASHER, flat	4
33	61S05		NUT, self-locking	4
35	475122000		WHEEL, pneumatic, assembly	4
36	475122001		TYRE	1
37	475122002		TUBE	1
38	475121001		BEARING	1
39	475122003		RETAINER	2
40	513198500		WHEEL, steel	4
41	513324700		COLLAR	4
42	8S02H		BOLT	4
43	61S02		NUT, self-locking	4
45	513353100		STABILISER	1
46	513353000		STRUT	2
47	513354800		PIN, stabiliser	2
48	902S02		PIN, lynch	6

A - 1

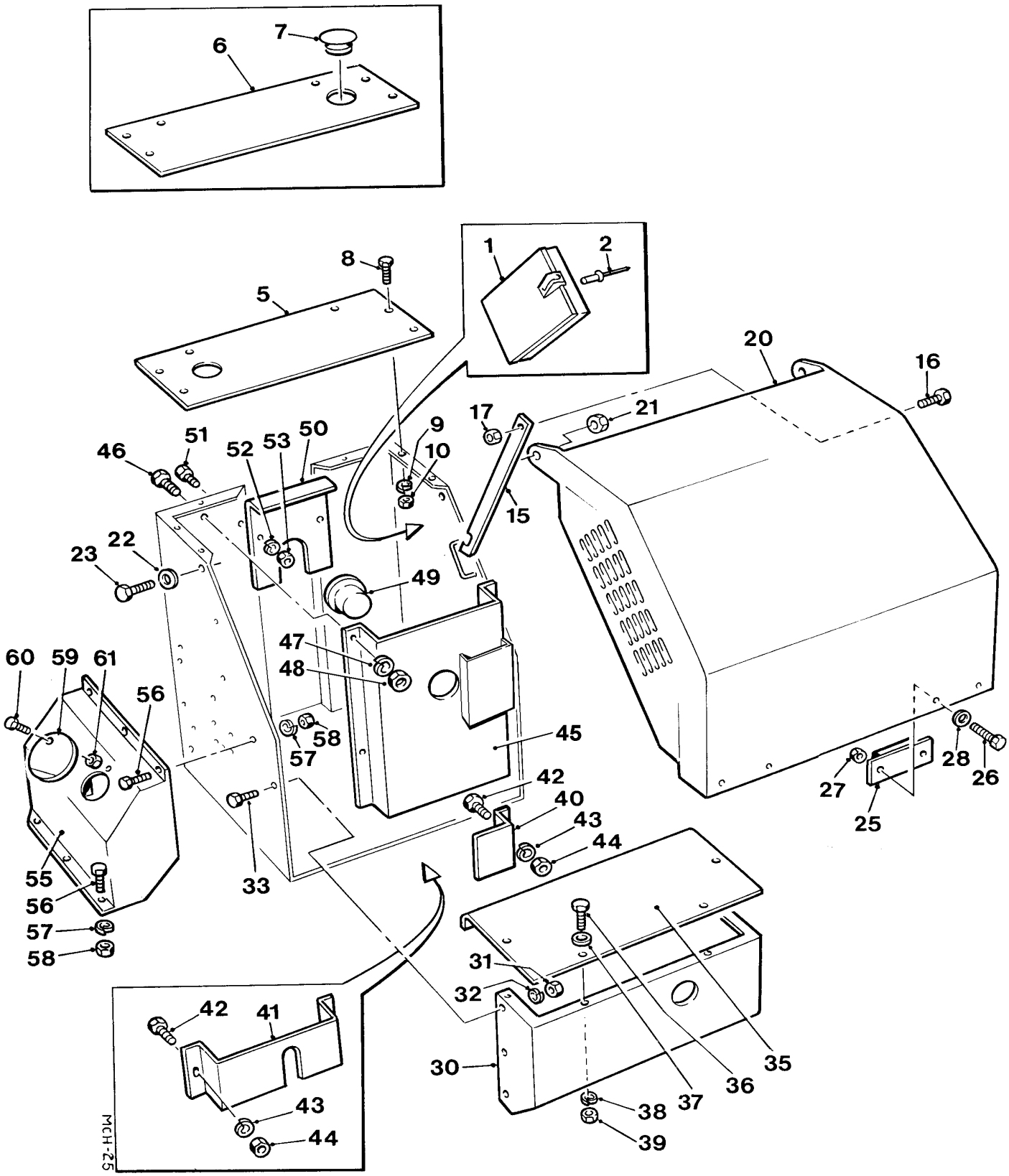
200TM Mixer *(from serial number 0524)*



Item	Part no	Serial no	Description	Qty
50	513354100		STRUT, hopper support	1
51	267S10		WASHER, flat	1
52	44S17J		PIN, split	1
55	V2004201		BRACKET, housing support	1
56	11S03C		SCREW, set	1
57	11S03B		SCREW, set	3
58	267S05		WASHER, flat	4
59	17S04		WASHER, spring	4
60	7S03		NUT	4

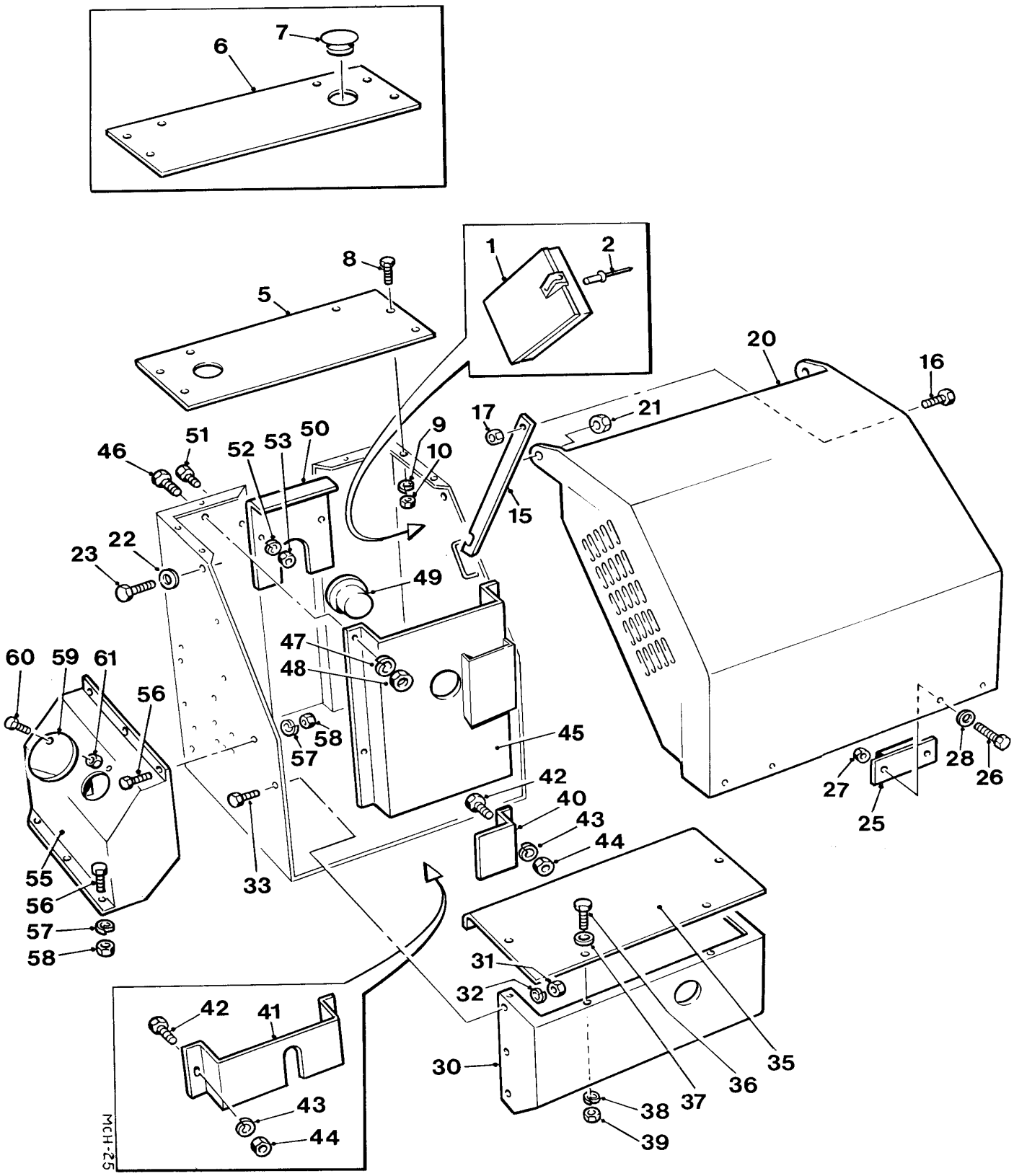
A - 2

200TM Mixer *(from serial number 0524)*



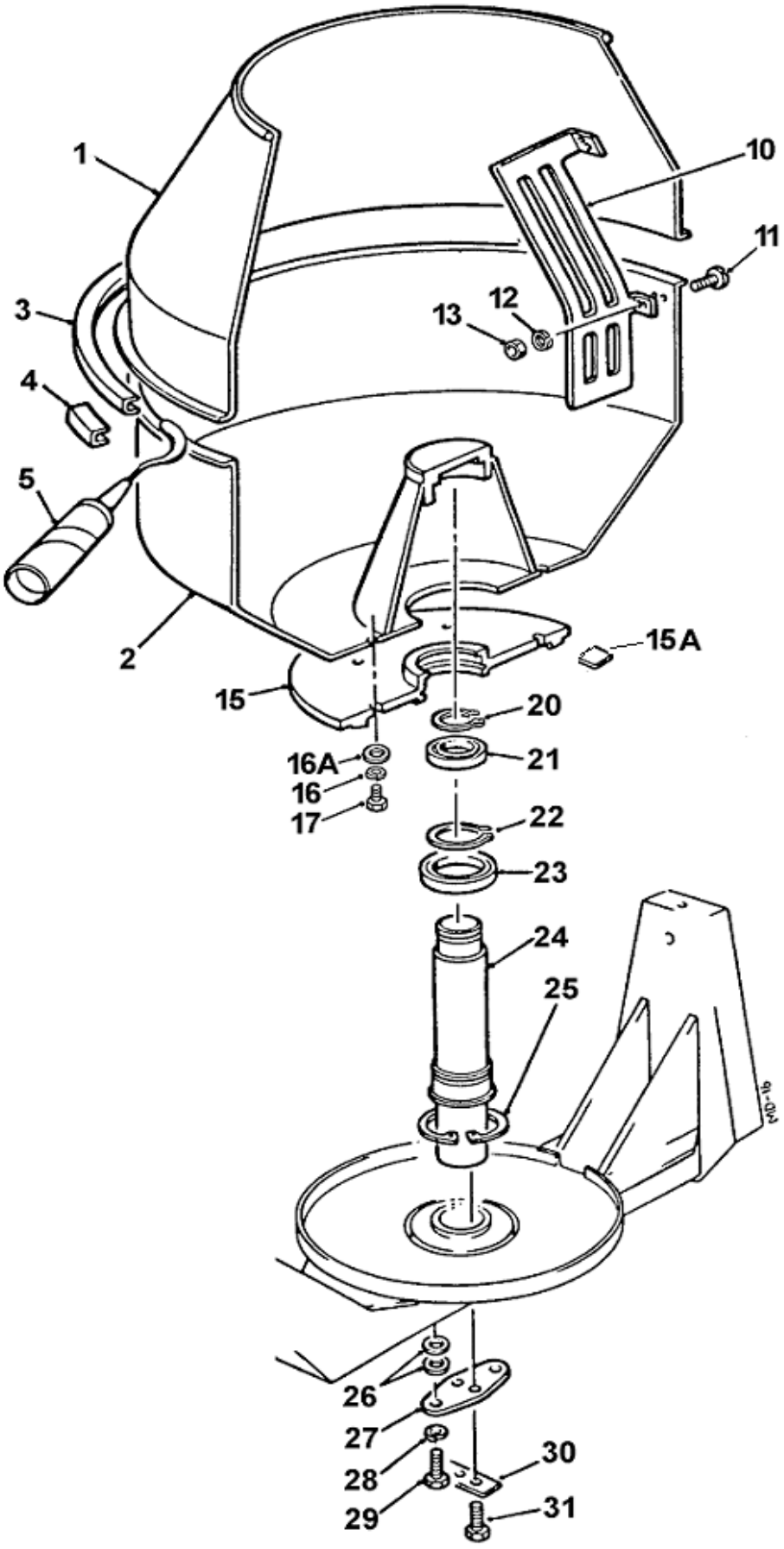
Item	Part no	Serial no	Description	Qty
1	V2003568	(year) / 1993	BOX, document *(document box now welded to item 45)*	1
2	101S07E	(year) / 1993	RIVET	2
5	513347100		PLATE (diesel engines)	1
6	513347100	/ 0596	PLATE (electric motors)	1
6	513360000	0597 /	PLATE (electric motors)	
7	513357600	/ 0596	PLUG, (electric motors)	6
8	11S03A		SCREW, set	6
9	17S04		WASHER, spring	
10	7S03		NUT	6
15	513325800		STRUT, cover support	1
16	11S03D		SCREW, set	1
17	61S03		NUT, self-locking	1
20	513346700		COVER, engine/electric motor	1
21	59S03		NUT, nyloc	2
22	267S06		WASHER, flat	2
23	11S04G		SCREW, set	2
23A	V2004220		WASHER, flat, not illustrated or	A/R
23B	555170000		SPACER, not illustrated	2
25	513205300		STOP, lid	2
26	11S02A		SCREW, lid	4
27	61S02		NUT, self-locking	4
28	267S04		WASHER, flat	4
30	513346800		PLATE	1
31	7S03		NUT	4
32	17S04		WASHER, spring	4
33	11S03A		SCREW, set	4
35	513356000		COVER (electric motors)	1
36	11S03B		SCREW, set	4
37	267S05		WASHER, flat	4
38	17S04		WASHER, spring	4
39	7S03		NUT	4
40	513350500		GUARD, sprocket (diesel engines)	1
41	513336100		GUARD, sprocket (electric motors)	1
42	11S04B		SCREW, set	1/2
43	17S05		WASHER, spring	1/2
44	7S04		NUT	1/2
45	513248700		GUARD chain/belt	1
46	11S04B		SCREW, set	4
47	17S05		WASHER, spring	4
48	7S04		NUT	1
49	241859000		PLUG	

200TM Mixer *(from serial number 0524)*



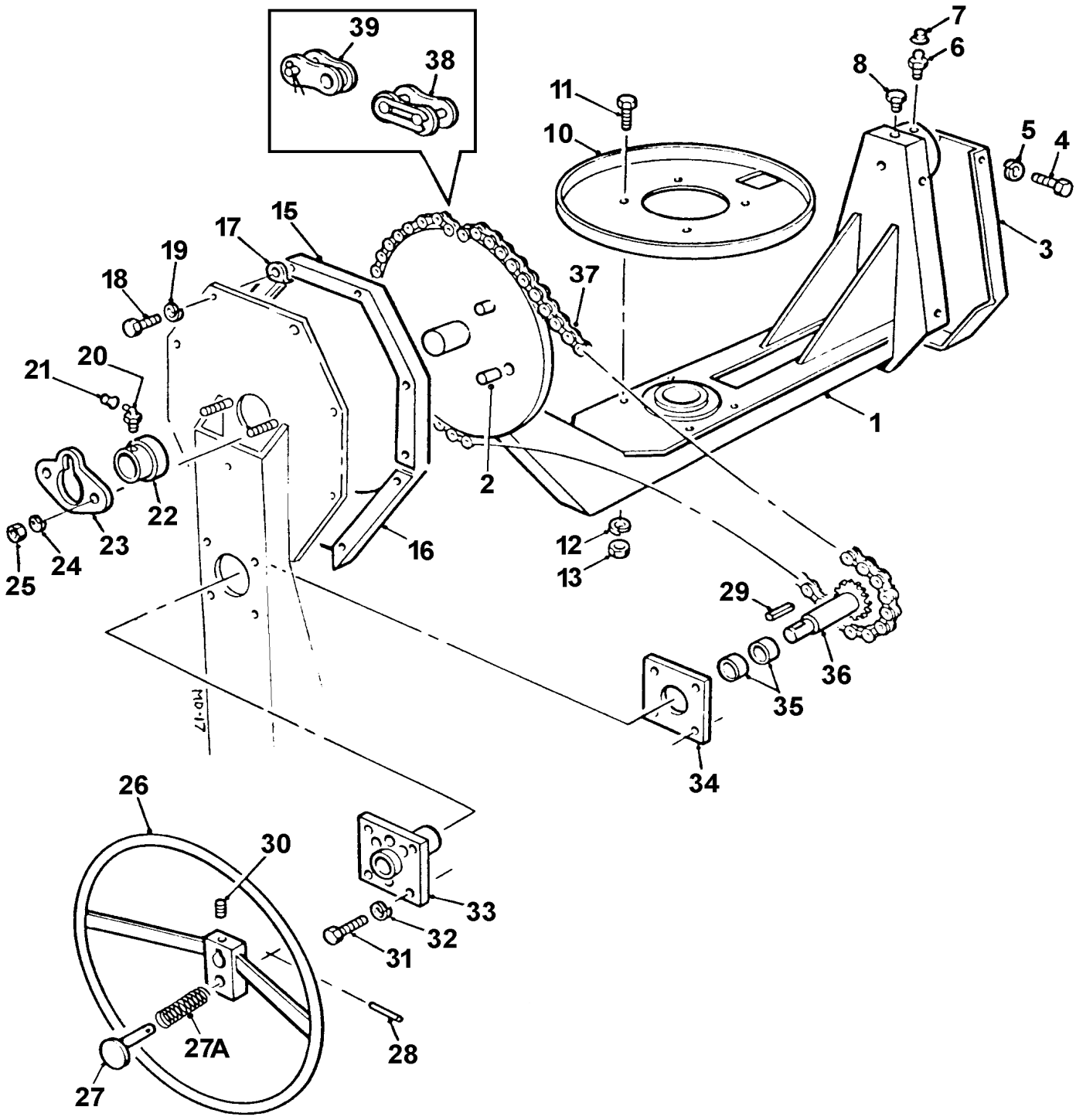
Item	Part no	Serial no	Description	Qty
50	513354600		PLATE	1
51	11S02A		SCREW, set	2
52	17S03		WASHER, spring	2
53	7S02		NUT	2
55	513307000		COVER, hydraulic tank	1
56	11S03A		SCREW, set	6
57	17S04		WASHER, spring	6
58	7S03		NUT	6
59	513307100		COVER, hydraulic filler	1
60	11S02A		SCREW, set	1
61	61S02		NUT, self-locking	1
62	10537A02		CATCH, engine cover, not illustrated	2
63	10538A02		CATCH, plate, not illustrated	2
64	11S01AA		SCREW, set, not illustrated	8
65	267S03		WASHER, flat, not illustrated	8
66	59S13		Nut, nyloc, not illustrated	8

200TM Mixer *(from serial number 0524)*



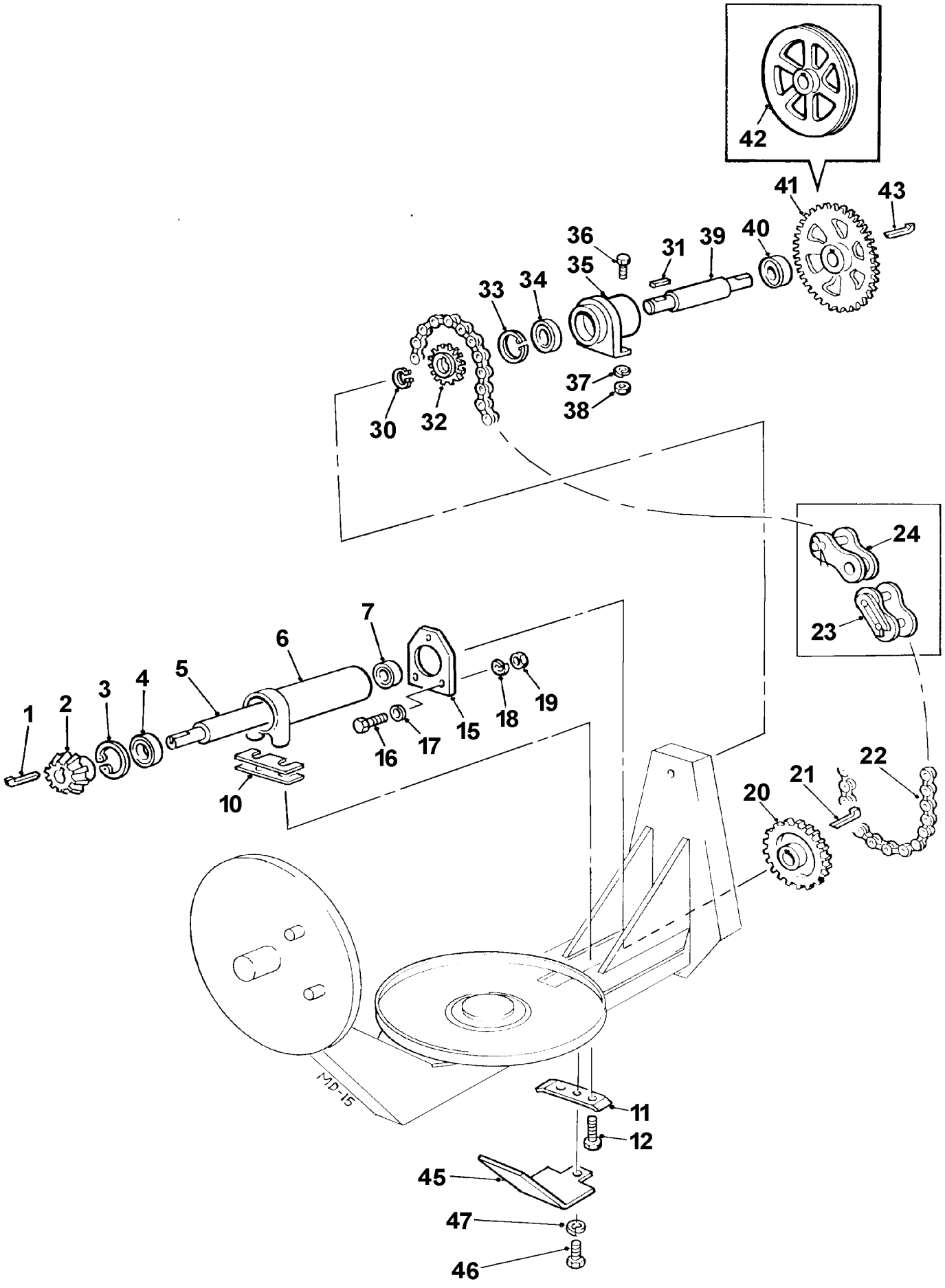
Item	Part no	Serial no	Description	Qty
1	513323902		DRUM, top	1
2	513324000		DRUM, base	1
3	513324100		CLIP, drum	1
4	513324200		BRIDGE PIECE	1
5	V2000772		ADHESIVE, flexible	tube 1
10	513348200		BLADE (diesel motors) illustrated	2
10	513324300		BLADE, (electric motors) not illustrated	2
11	16S09D		SCREW, slottted panhead	8
12	17S05		WASHER, spring	8
13	7S04		NUT	8
15	513305200		GEAR, drum drive	1
15A	513371201		PACKER, shim, 0.5mm	A/R
15B	513371202		PACKER, shim, 1.0mm	A/R
15C	513371203		PACKER, shim, 2.0mm	A/R
16	17S06		WASHER, spring	6
16A	267S07		WASHER, flat	6
17	11S05D		SCREW, set	6
20	132760000		CIRCLIP	1
21	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	A/R
26A	267S20		WASHER, flat, thick, 2mm	A/R
26B			WASHER, shim, 0.5mm	A/R
26C			WASHER, shim, 1.0mm	A/R
27	513310600		PLATE, retaining	1
28	17S08		WASHER, spring	2
29	11S06H		SCREW, set	2
30	513326300		WASHER, locking strip	1
31	11S06E		SCREW, set	2

200TM Mixer *(from serial number 0524)*



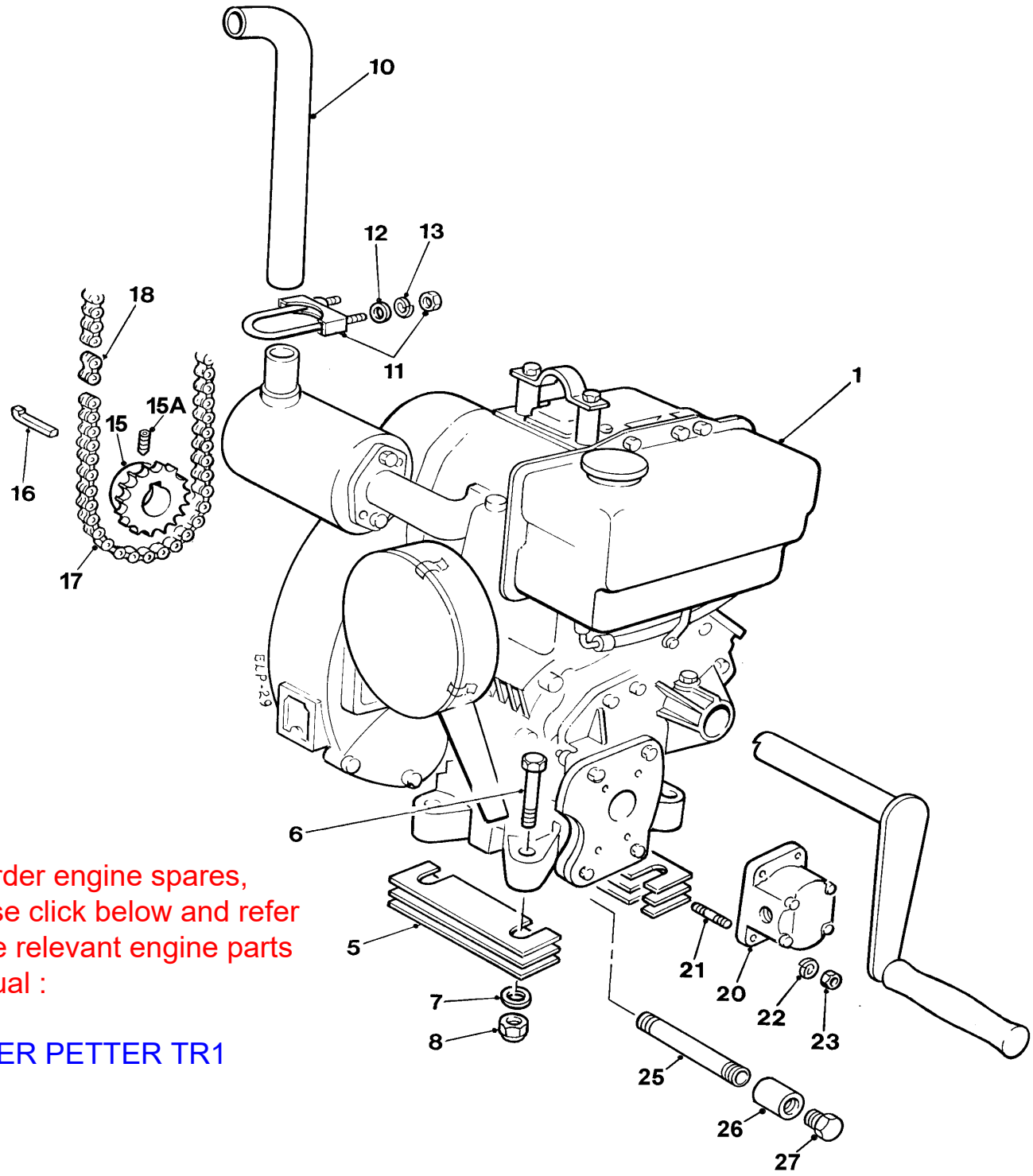
Item	Part no	Serial no		Description	Qty
1	513354000		#	TRUNNION	1
2	513310000		#	DOWEL	1
			#	When ordering Trunnion 513354000 it is necessary to order dowel 513310000. (The dowel will need to be welded to the trunnion.)	
3	513316600			COVER, rear	1
4	11S02AA			SCREW, set	4
5	17S03			WASHER, spring	4
6	131S01			NIPPLE, grease	1
7	176S01			CAP, nipple	1
8	315803100			NIPPLE, grease	1
10	513316500			GUARD, drum gear	1
11	11S03B			SCREW, set	4
12	17S04			WASHER, spring	4
13	7S03			NUT	4
15	513316300			GUARD, upper	1
16	513316400			GUARD, lower	1
17	332719000			NUT, captive	10
18	11S02C			SCREW, set	10
19	17S03			WASHER, spring	10
20	131S02			NIPPLE, grease, 900	1
21	176S01			CAP, nipple	1
22	513323700			INSERT	1
23	513323800			PLATE	1
24	17S06			WASHER, spring	2
25	7S05			NUT	2
26	513315400			WHEEL, tilt	1
27	513194400			PLUNGER, locking	1
27A	513345300	July-03 /		SPRING	1
28	54S01A			PIN, roll	1
29	304710840			KEY, rectangular feather	1
30	57S06F1			SCREW, grub	1
31	11S04E			SCREW, set	4
32	17S05			WASHER, spring	4
33	513315600			BEARING, tilt wheel	1
34	513315900			PLATE	1
35	112803400			BUSH	2
36	513316000			SHAFT, tilt wheel	1
37	134105107			CHAIN, tilt wheel	1
38	134105002			LINK, connecting	2
39	134105001			LINK, half	1

200TM Mixer *(from serial number 0524)*



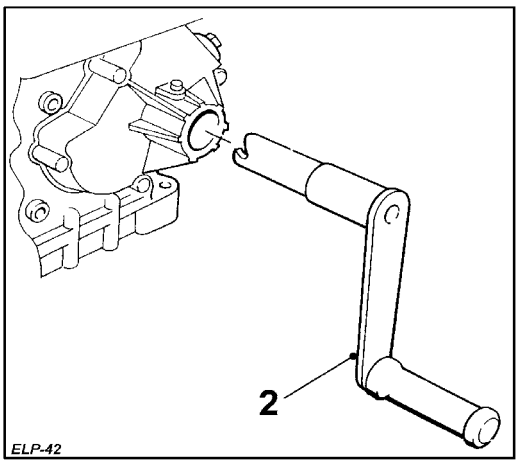
Item	Part no	Serial no	Description	Qty
1	300110845		KEY, taper gib	1
2	513310700		PINION	1
3	132362000		CIRCLIP	1
4	88S05D		BEARING	1
5	513310300		SHAFT	1
6	513305400		HOUSING	1
7	88S15D		BEARING	1
10	513152400		SHIM, pack	set 1
11	513324400		WASHER, locking strip	1
12	11S05H		SCREW, set	2
15	513298900		PLATE	1
16	11S04C		SCREW, set	2
17	267S06		WASHER, flat	2
18	17S05		WASHER, spring	2
19	7S04		NUT	2
20	513305300		SPROCKET	1
21	300110845		KEY, taber gib	1
22	134105070		CHAIN	1
23	134105002		LINK, connecting	1
24	134105001		LINK, half	1
30	132725000		CIRCLIP	1
31	304708035		KEY, rectangular feather	1
32	513310500		SPROCKET	1
33	132362000		CIRCLIP	1
34	88S05D		BEARING	1
35	513305500		HOUSING	1
36	11S05F		SCREW, set	2
37	17S06		WASHER, spring	2
38	7S05		NUT	2
39	513310400		SHAFT, counter	1
40	88S15D		BEARING	1
41	513310800		SPROCKET (diesel engines)	1
			or	
42	513331800		PULLEY, (electric motors)	1
43	300110845		KEY, gib head	1
45	513211800		GUARD, bevel pinion	1
46	66S03AA		SCREW, set	1
47	41S05		WASHER, spring	1

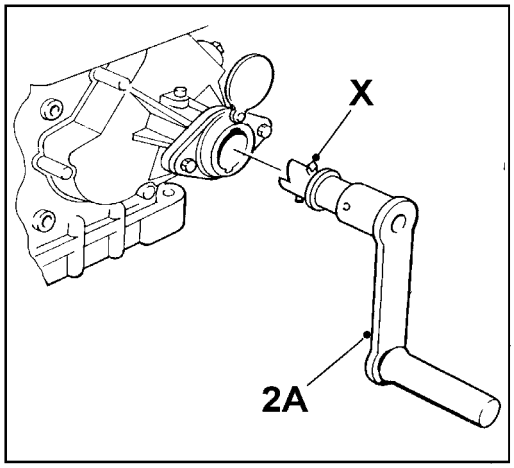
200TM Mixer *(from serial number 0524)*



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

LISTER PETTER TR1





Item	Part no	Date		Description	Qty

IMPORTANT Engine change

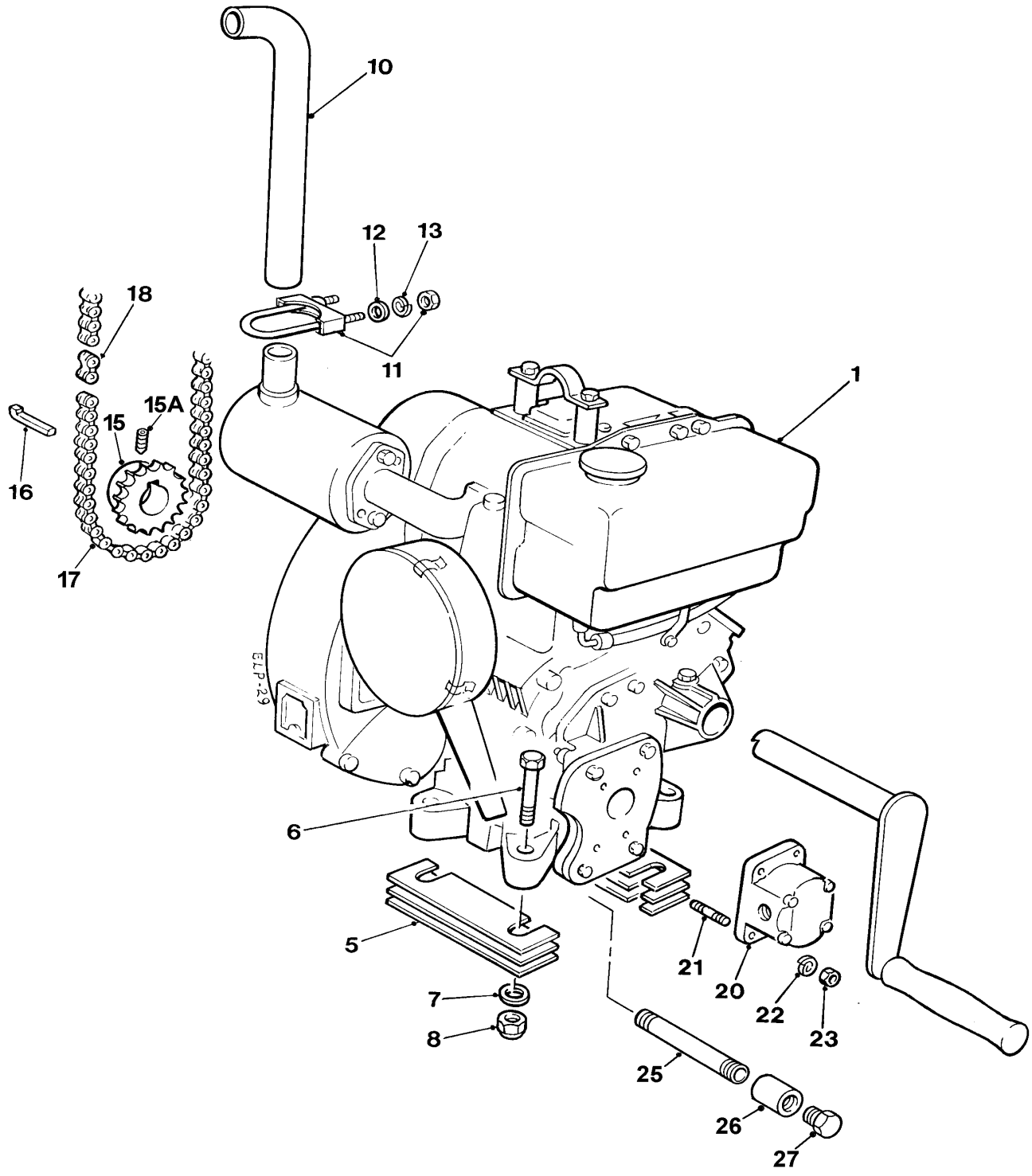
From mixer serial number 1110 (June 2005) the Lister-Petter TS1 engine was replaced by the Lister-Petter TR1 engine.

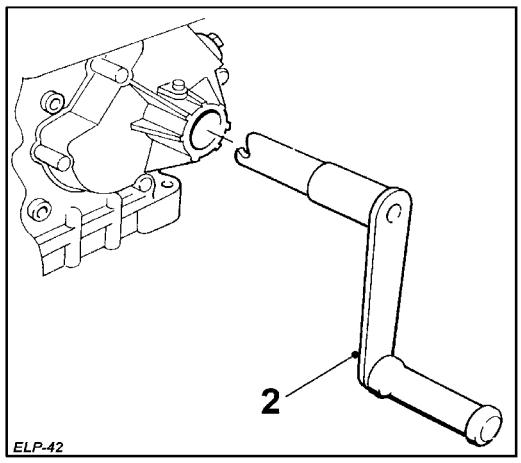
The TR1 engine is completely interchangeable with the TS1 engine and consumable items such as filter elements are identical. there are some internal component differences and when ordering spares it is important to state whether it is a TS1 or TR1 engine.

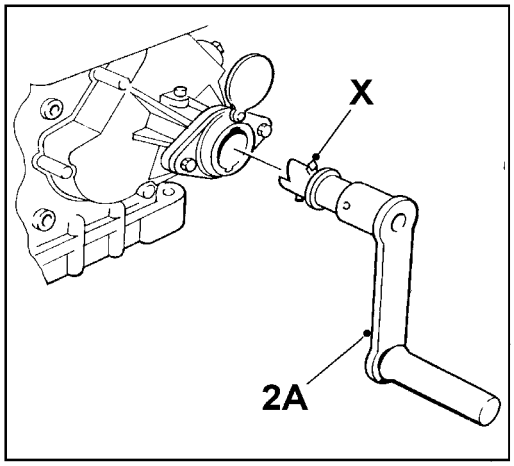
As the engines are interchangeable, part numbers will not change.

1	V2001661	/ 1995		ENGINE, hand start	1
1	V2003660	/ 1995		ENGINE, electric start	1
2	20354A01	/ 1995		HANDLE,starting	1
1	V2001661	1995 /		ENGINE, hand start, ***NOT*** *UK/EEC*	
1	V2003660	1995 /		ENGINE, electric start, ***NOT*** *UK/EEC*	
2	20354A01	1995 /		HANDLE,starting	1
1	V2004279	1995 /		ENGINE, hand start, *UK/EEC*	1
1	V2004394	1995 /		ENGINE, electric start, *UK/EEC*	1
2A	20147701	1995 /	**X**	HANDLE, starting. 'Round pin **X**'	1
2A	20147700	1995 /	**X**	HANDLE, starting. 'Diamond pin **X**'	1
			X	*The 'round pin' handle is inter-changeable with the 'diamond pin' handle, but the diamond pin' handle is NOT inter-changeable with the 'round pin' handle.*	
5	513348400			SHIMS *(set)*	set 1
6	8S05L			BOLT	4
7	267S07			WASHER, flat	4
8	59S04			NUT, nylon insert	4
10	513347900			PIPE, exhaust	1
11	153S08			CLAMP, exhaust pipe	1
12	267S05			WASHER, flat	2
13	17S04			WASHER, spring	2
15	513348300			SPROCKET	1
15A	57S05D2	June 2001 /		SCREW, grub	1
16	304312050			KEY, gib head	1
17	134105102			CHAIN	1
18	134105002			LINK, connecting	1
—-	134105001			LINK, half	AR

200TM Mixer *(from serial number 0524)*

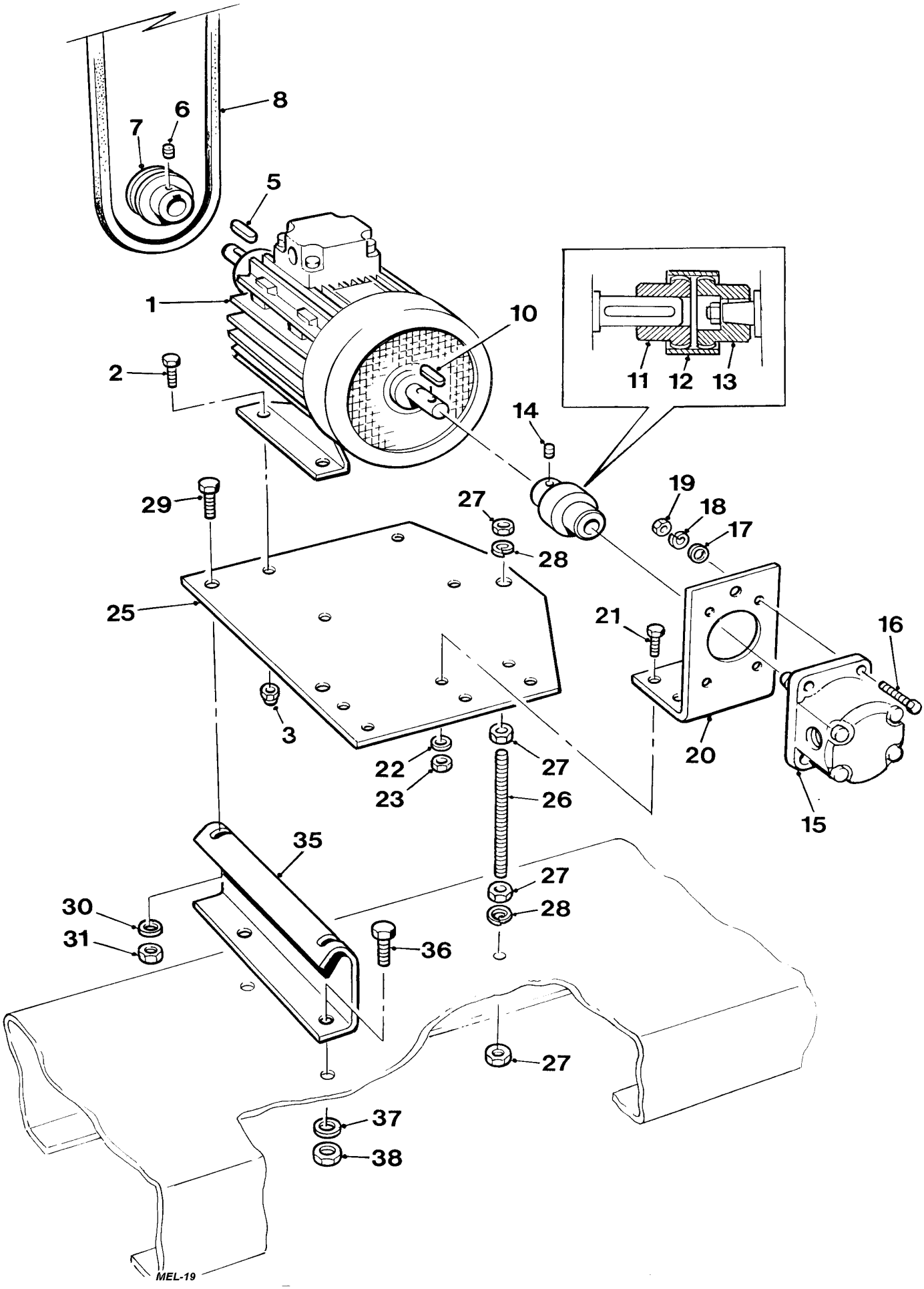






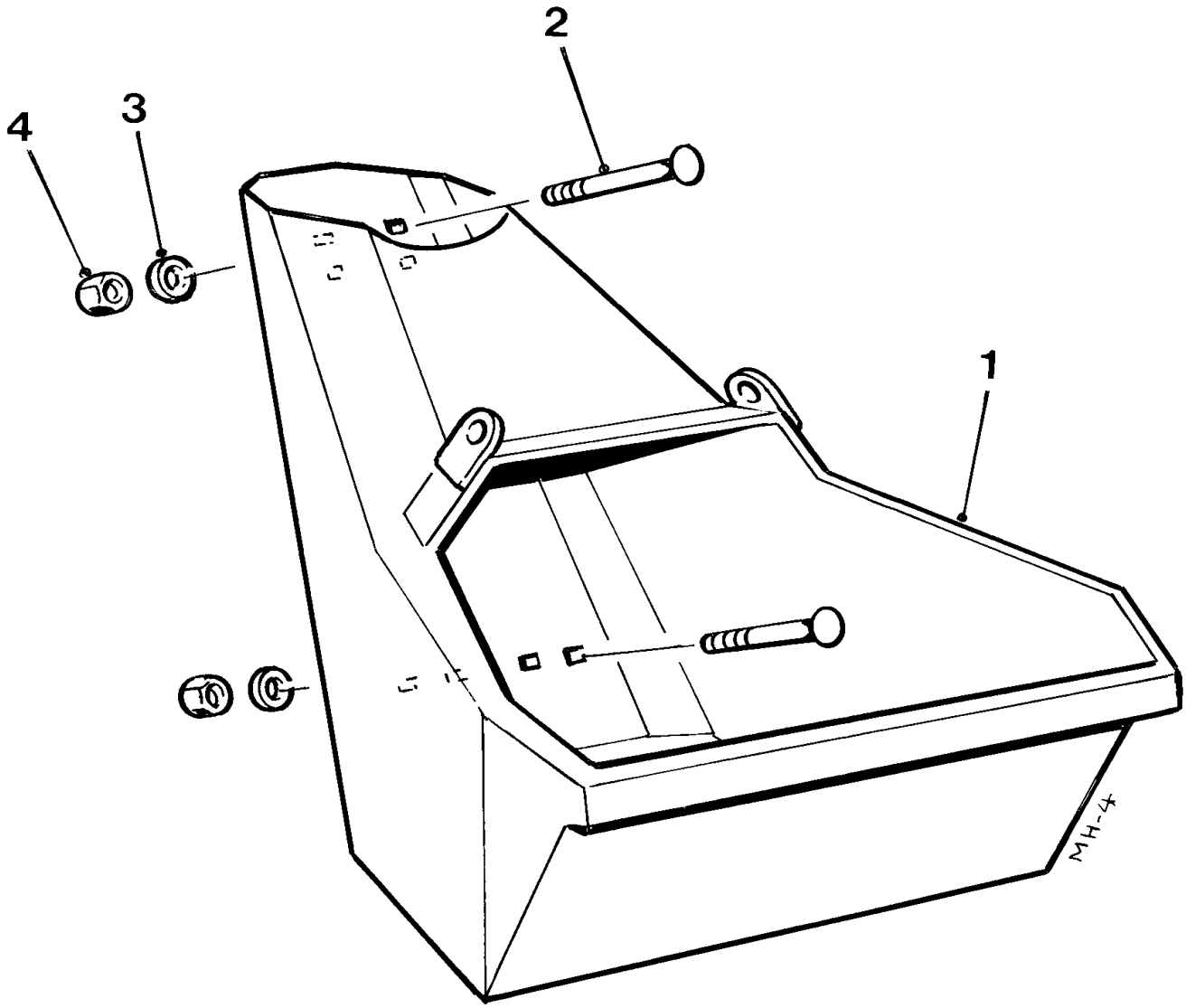
Item	Part no	Date	Description	Qty
	–			
20	—-		PUMP, hydraulic *(see Hydraulic Sec.)*	1
21	—-		STUD, *(see Engine Parts Catalogue)*	4
22	17S04		WASHER, spring	4
23	7S03		NUT	4
25	513359800		PIPE, oil drain	1
26	241904000		SOCKET	1
27	—-		PLUG, *(see Engine Parts Catalogue)*	1
—-	—-		DYNAMO *(see Electrics Section)*	

200TM Mixer *(from serial number 0524)*



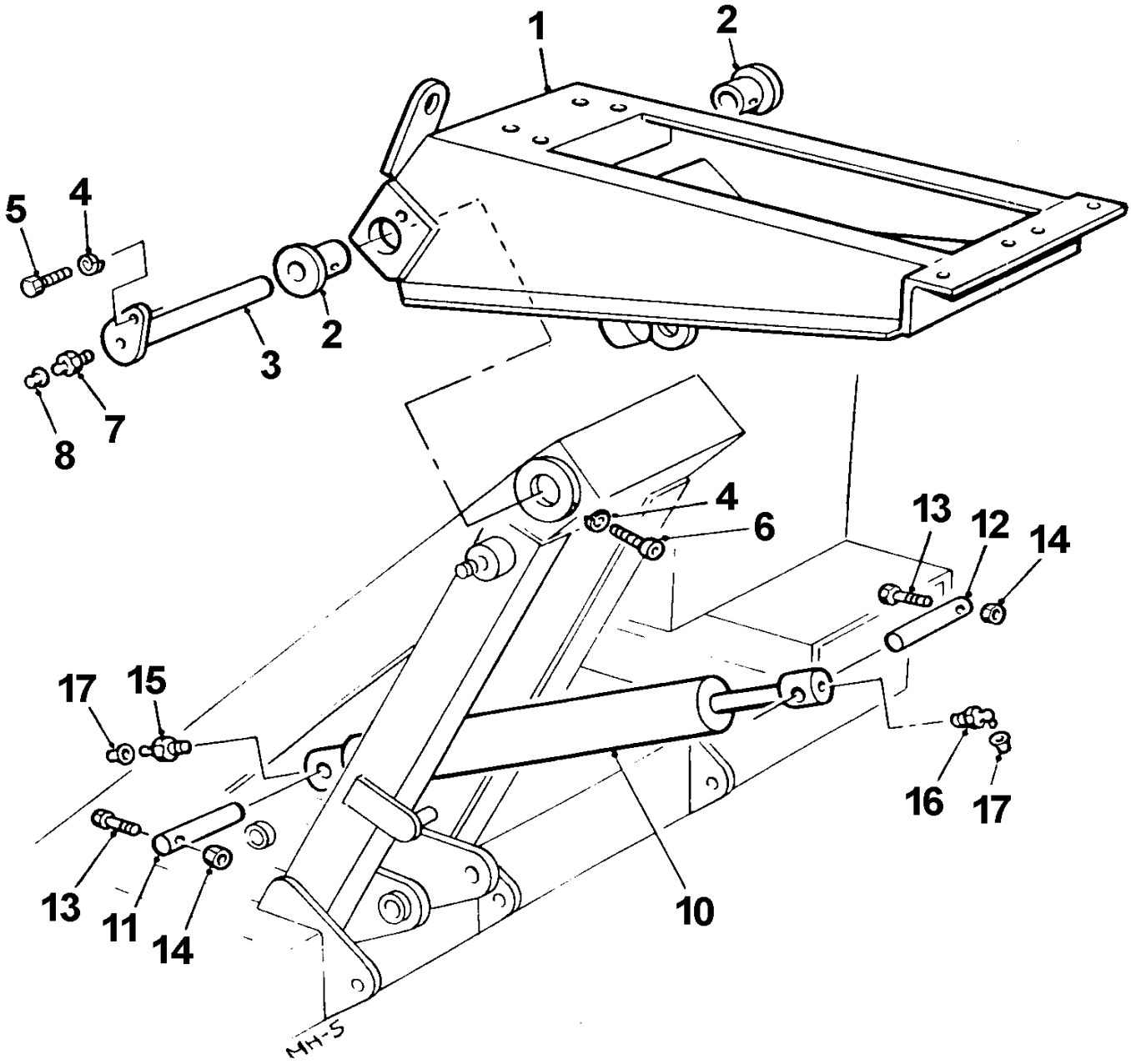
Item	Part no	Serial no	Description	Qty
1	202440000	/ 0892	MOTOR, electric, **"Star Delta"**	1
1	202450000	0893 /	MOTOR, electric, **"Direct On Line"**	1
2	8S04D		BOLT	4
3	59S03		NUT, nylon insert	4
5	304710840		KEY, parallel	1
6	57S04D2		SCREW, grub	1
7	513334700		PULLEY, vee	1
8	397400100		BELT, vee	1
10	304710840		KEY, parallel	1
11	147320500		COUPLING, drive half,	1
12	147320303		SLEEVE, coupling	1
13	513332900		COUPLING, pump, half	1
14	57S05C1		SCREW, grub	1
15	—-		PUMP, hydraulic, (see page E-1)	1
—-	555107700		SHIM, kit, *for insertion between pump and its mounting bracket, item 20.*	1 set
16	8S02C		BOLT	4
17	267S04		WASHER, flat	4
18	17S03		WASHER, spring	4
19	7S02		NUT	4
20	513332800		PLATE, pump mounting	1
21	11S03C		SCREW, set	4
22	267S05		WASHER, flat	4
23	61S03		NUT, self-locking	4
25	513332600		PLATE, motor mounting	1
26	513333100		STUD	1
27	7S05		NUT	4
28	17S06		WASHER, spring	2
29	8S05E		BOLT	2
30	267S07		WASHER, flat	2
31	59S04		NUT, nylon insert	2
35	513332700		SUPPORT, motor mounting	1
36	11S05D		SCREW, set	2
37	267S07		WASHER, flat	2
38	59S04		NUT, nylon insert	2

200TM Mixer *(from serial number 0524)*



Item	Part no	Serial no	Description	Qty
1	513310900		HOPPER, assembly	1
2	172S05D		BOLT, coach	8
3	267S07		WASHER, flat	8
4	61S05		NUT, self-locking	8

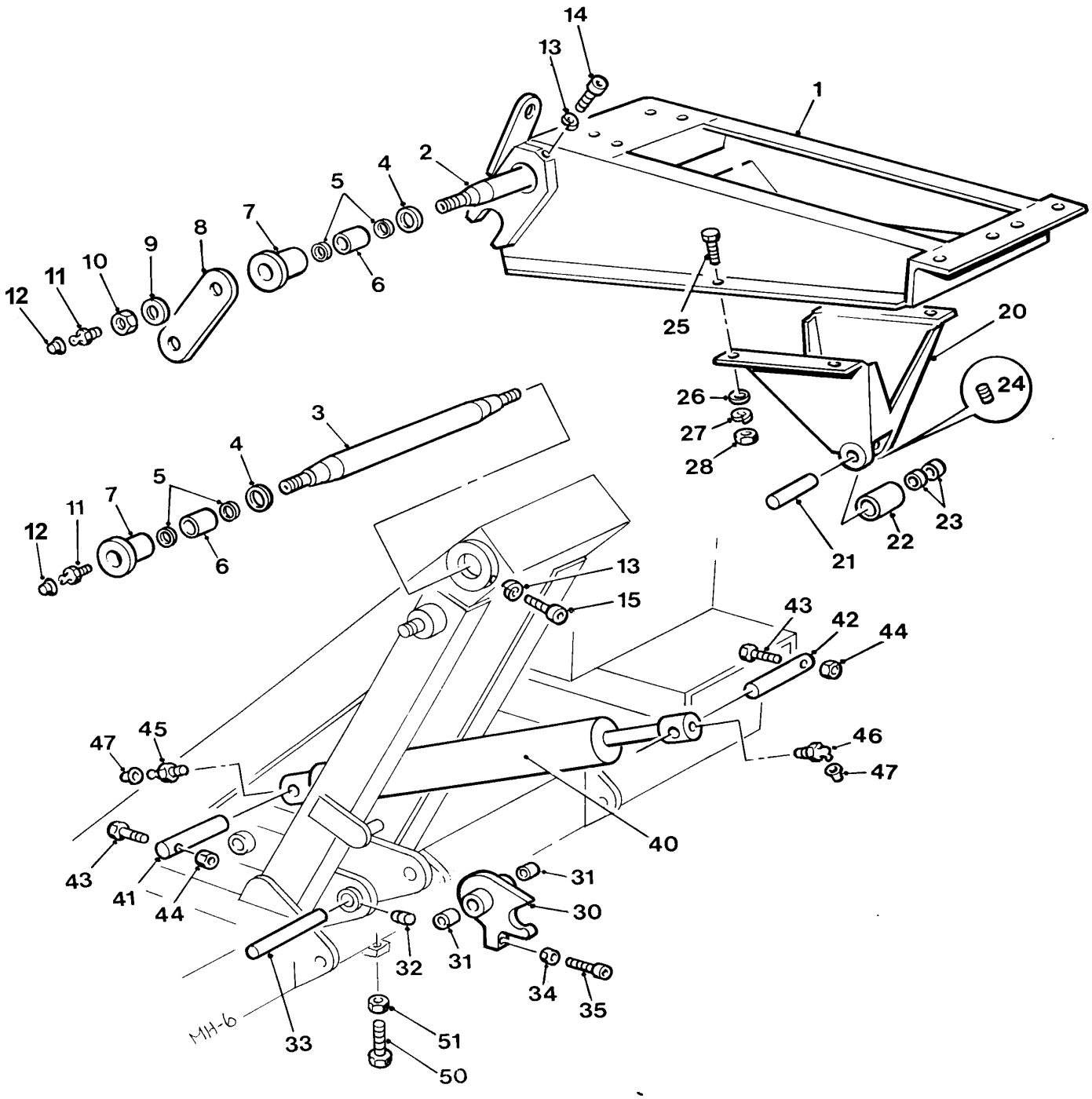
200TM Mixer *(from serial number 0524)*



HOPPER CRADLE, non weigher

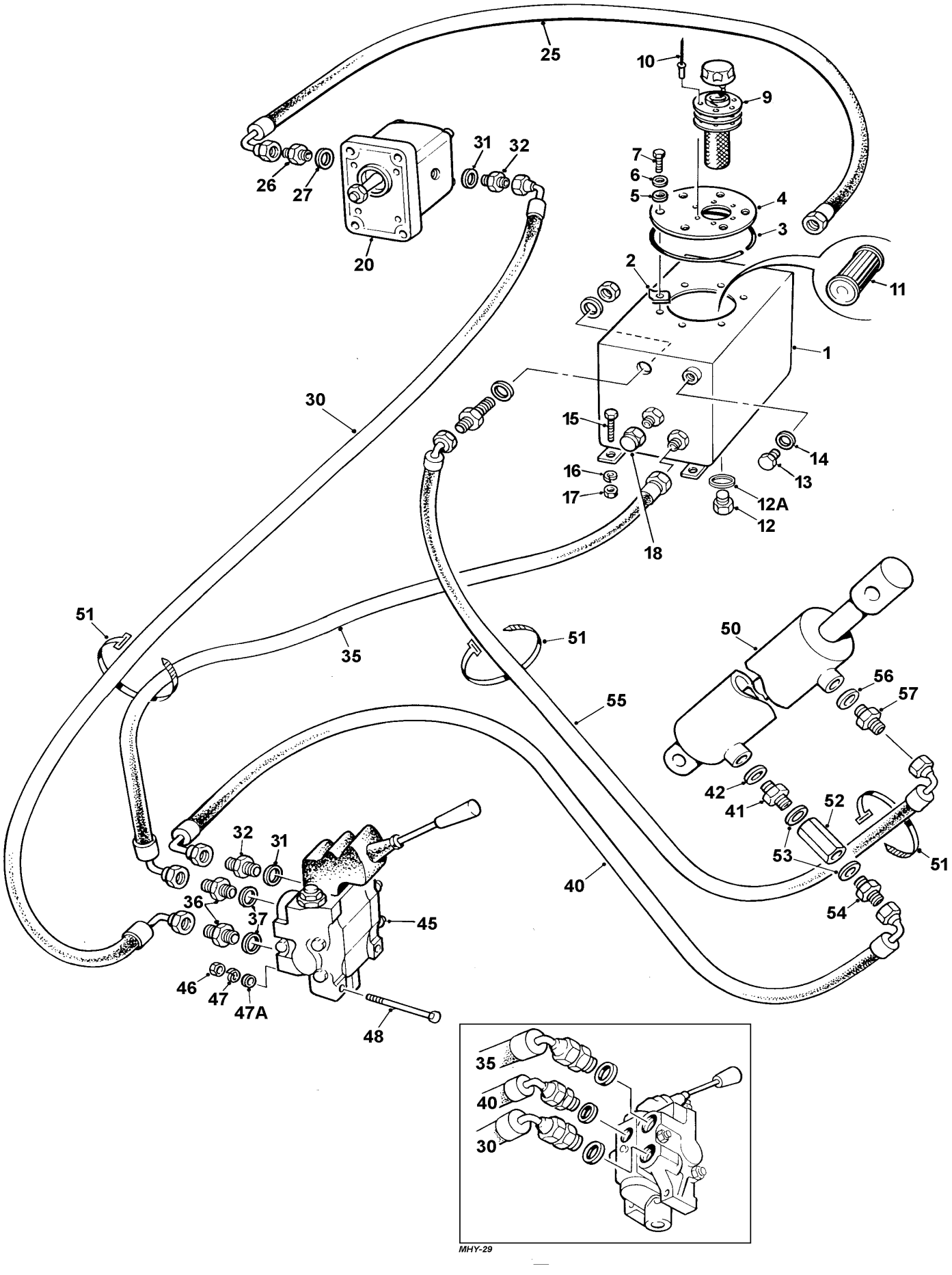
Item	Part no	Serial no	Description	Qty
1	513311800		CRADLE, non weigher	1
2	513312600		BEARING	2
3	513312700		PIN, pivot, hopper	1
4	17S04		WASHER, spring	3
5	11S03A		SCREW, set	1
6	68S04D		SCREW, socket head cap	2
7	131S01		NIPPLE, grease, straight	2
8	176S01		CAP, grease nipple	2
10	—-		RAM, hopper (see page E - 8)	1
11	513312900		PIN, ram, lower	1
12	513313000		PIN, ram, upper	1
13	8S03E		BOLT	2
14	61S03		NUT, self-locking	2
15	131S01		NIPPLE, grease, straight	1
16	131S02		NIPPLE, grease, 90^{O}	1
17	176S01		CAP, grease nipple	2

200TM Mixer *(from serial number 0524)*



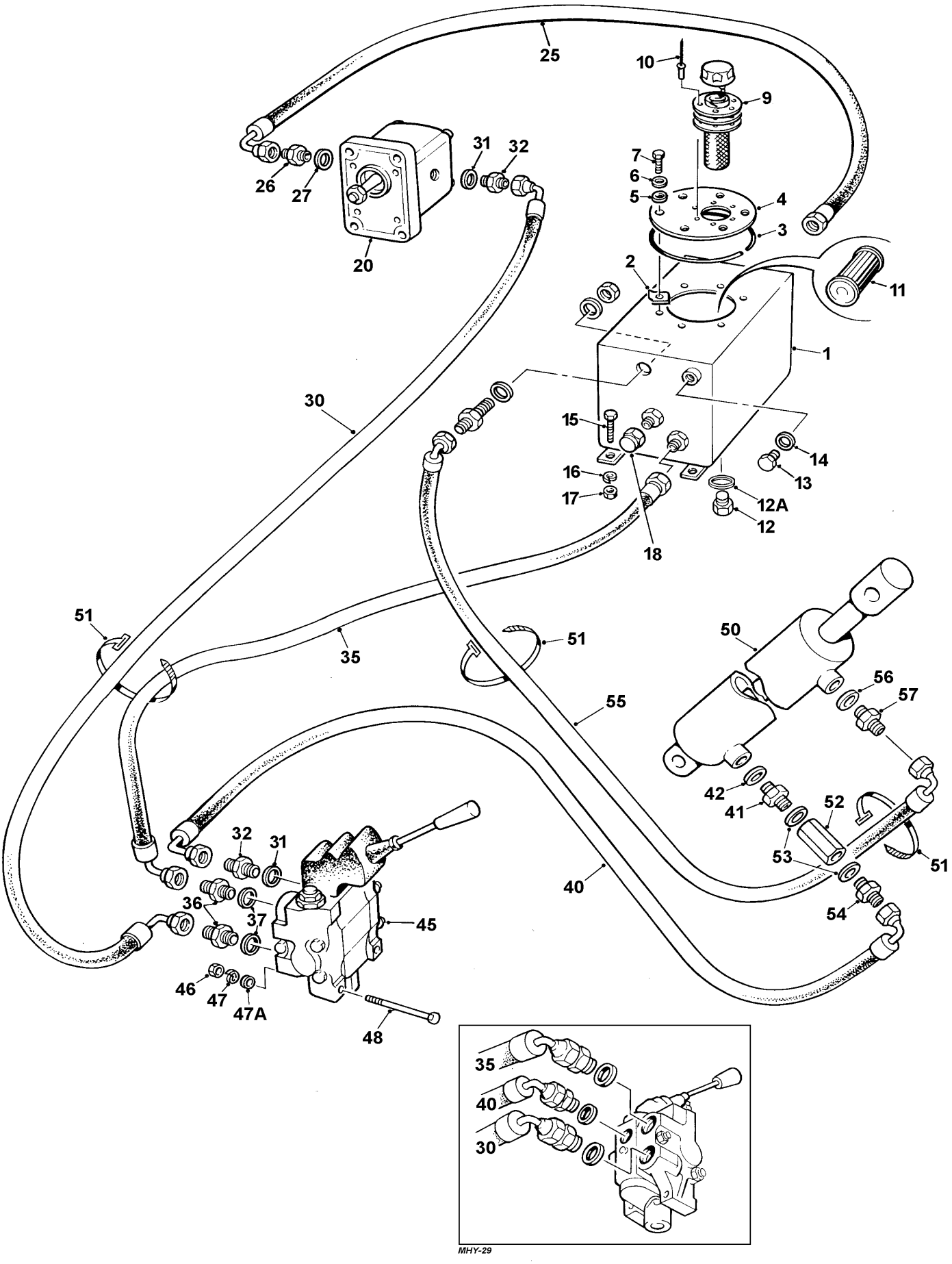
Item	Part no	Serial no	Description	Qty
1	513317500		CRADLE, weigher	1
2	513316700		SHAFT, cradle	1
3	513316800		SHAFT, hopper	1
4	513328800		WASHER	4
5	417705600		SEAL	8
6	113179100		BEARING, needle	4
7	513317100		CARRIER	4
8	513316900		LINK, weigher	2
9	267S12		WASHER, flat	4
10	7S08		NUT	4
11	131S01		NIPPLE, grease, straight	4
12	176S01		CAP, grease nipple	4
13	17S04		WASHER, spring	4
14	68S04C		SCREW, socket head cap	2
15	68S04D		SCREW, socket head cap	2
20	513322200		BRACKET, cradle	1
21	513317400		PIN	1
22	513317200		ROLLER	1
23	112753000		BUSH	2
24	57S05E2		SCREW, grub	1
25	11S05C		SCREW, set	4
26	267S07		WASHER, flat	4
27	61S05		NUT, self-locking	4
30	513321000		PIVOT	1
31	112753000		BUSH	2
32	57S05E2		SCREW, grub	1
33	513317300		PIN,	1
34	56S06		NUT, locking	1
35	68S08M		SCREW, socket head cap	1
40	—-		RAM, hopper (see page E - 8)	1
41	513312900		PIN, ram, lower	1
42	513313000		PIN, ram, upper	1
43	8S03E		BOLT	2
44	61S03		NUT	2
45	131S01		NIPPLE, grease, straight	1
46	131S02		NIPPLE, grease, 90O	1
47	176S01		CAP, grease nipple	2
50	11S03E		SCREW, set	1
51	7S03		NUT	2

200TM Mixer *(from serial number 0524)*



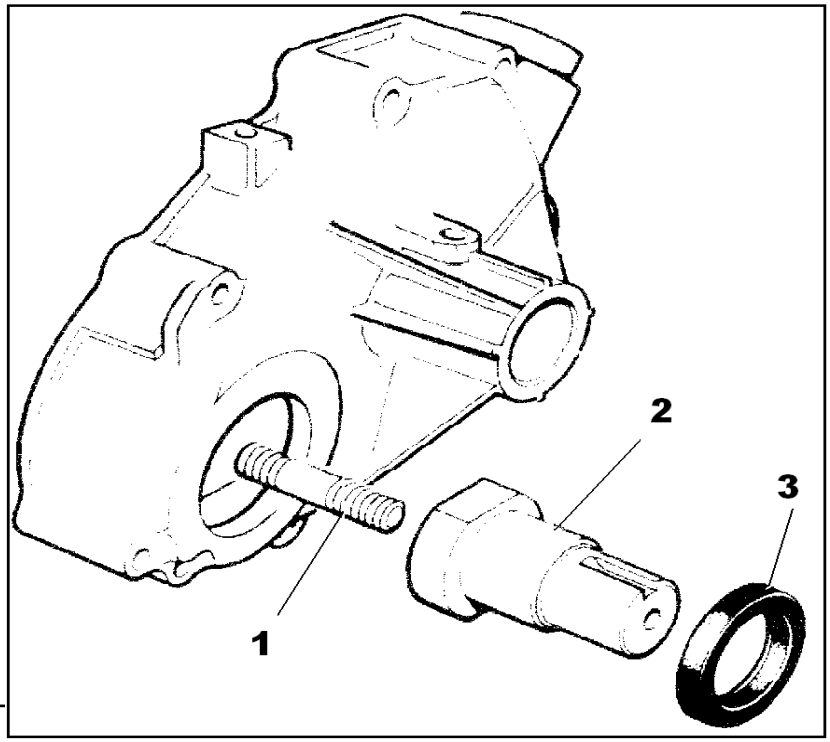
Item	Part no	Serial no	Description	Qty
1	513305800		TANK, oil	1
2	332719000		NUT, spire, captive	6
3	417735000		GASKET, strip	1metre
4	513306400		LID, tank	1
5	186S02		WASHER, selon	6
6	267S04		WASHER, flat	6
7	11S02A		SCREW, set	6
9	10565A01		FILLER / BREATHER	1
10	101S07E		RIVET	6
11	220592000		STRAINER	1
12	127S02		PLUG	1
12A	100S02		SEAL, bonded	1
13	127S02		PLUG (Non weigher)	1
14	100S02		SEAL, bonded	1
15	11S03A		SCREW, set	4
16	17S04		WASHER, spring	4
17	7S03		NUT	4
18	120S02		CAP, blanking,	1
20	11040A03	/ 0524	PUMP, hydraulic ***"Sunstrand"***	1
.....	11046A01		KIT, seals ***"Sunstrand"***	AR
			Sunstrand pump is obsolete and is replaced by kit 10977A04 that contains an Ultra pump plus fittings.	
20	10977A03	0525 /	PUMP, hydraulic ***"Ultra/Dowty"*** C/R	1
.....	10190A01		KIT, seals ***"Ultra/Dowty"***	AR
20	10977A05		PUMP, hydraulic ***"Bosch"*** C/R	1
.....	.....		KIT, seals ***"Bosch"***	
20	10977A06	1391 /	PUMP, hydraulic ***"Dowty"*** AC/R	1
			(refer to page E-1A)	
25	V2003289		HOSE, tank to pump (diesel engines)	1
25	31S03Q		HOSE, tank to pump (electric motors)	1
26	122S04		ADAPTOR	1
27	100S04		SEAL, bonded	1
30	513329800		HOSE, pump to control valve	1

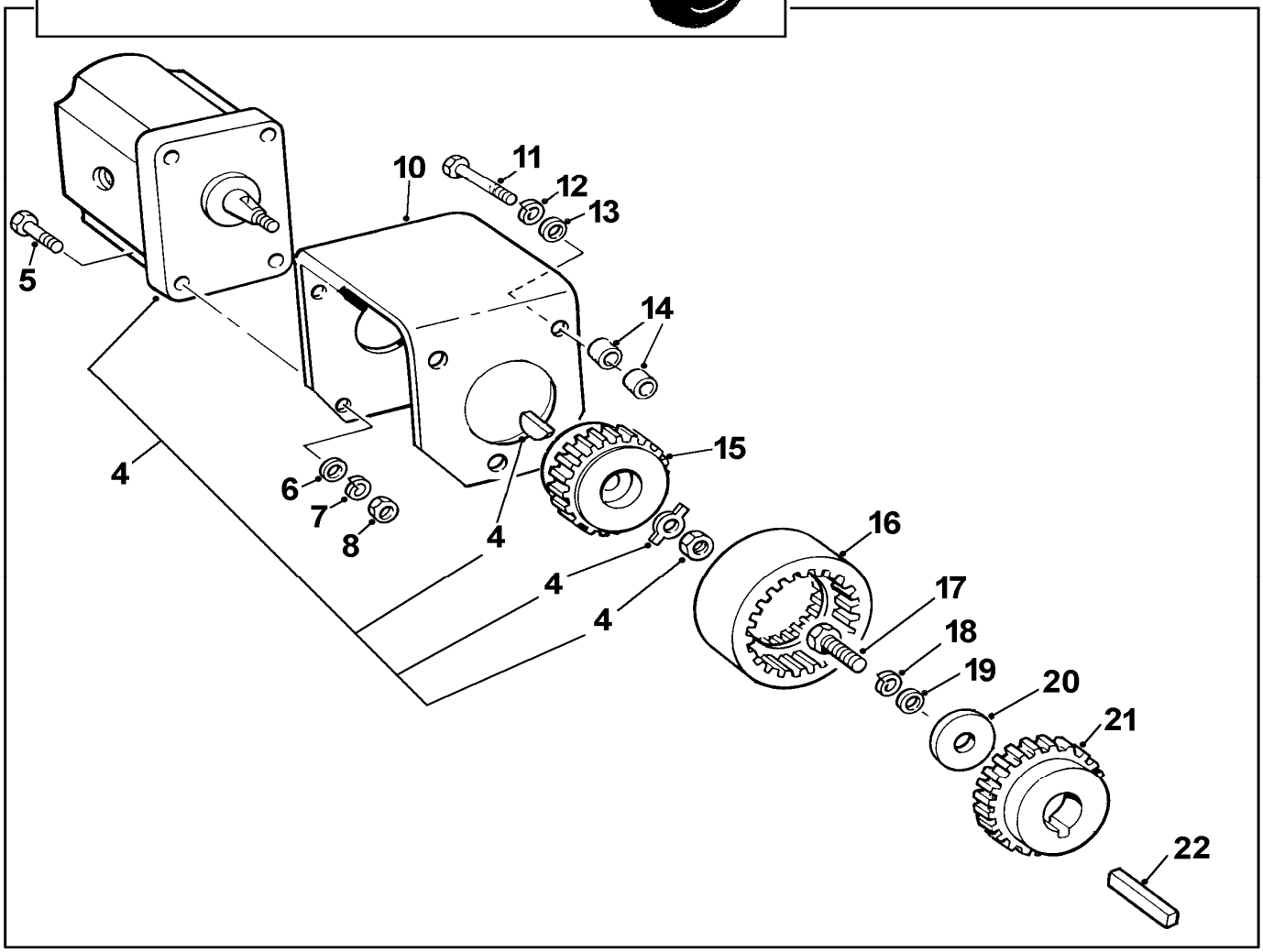
200TM Mixer *(from serial number 0524)*



Item	Part no	Serial no		Description	Qty
31	100S04	/ 0658	#	SEAL, bonded	1
32	119S08	/ 0658	#	ADAPTOR, m/m	1
35	31S02G			HOSE, control valve to tank	1
36	119S10	/ 0658	#	ADAPTOR, m/m	2
37	100S06	/ 0658	#	SEAL, bonded	2
40	36S02Z			HOSE, control valve to ram	1
41	122S03			ADAPTOR, m/m	1
42	100S03			SEAL, bonded	1
45	—-	/ 0658	#	VALVE, control *(see pages E-2 & E-3A)*	
46	7S04	/ 0658	#	NUT	3
47	17S05	/ 0658	#	WASHER, spring	3
48	8S04J	/ 0658	#	BOLT	3
		Note	#	*Valve and fittings were changed at serial number 0658. See page E-3A for later valve and fittings.*	
50	—-			RAM, hopper *(see pages E-8, E-9 & E9A)*	1
51	V2003253			STRAP	1
52	V2004171		$	VALVE, hose failure	1
53	100S03		$	SEAL, bonded	2
54	122S03		$	ADAPTOR	1
		Note	$	*EC spec. models only*	
55	53S01D			HOSE, return to tank	1
56	100S03			SEAL, bonded	1
57	119S03			ADAPTOR	1
58	100S02			SEAL, bonded	1
59	122S02			ADAPTOR	1

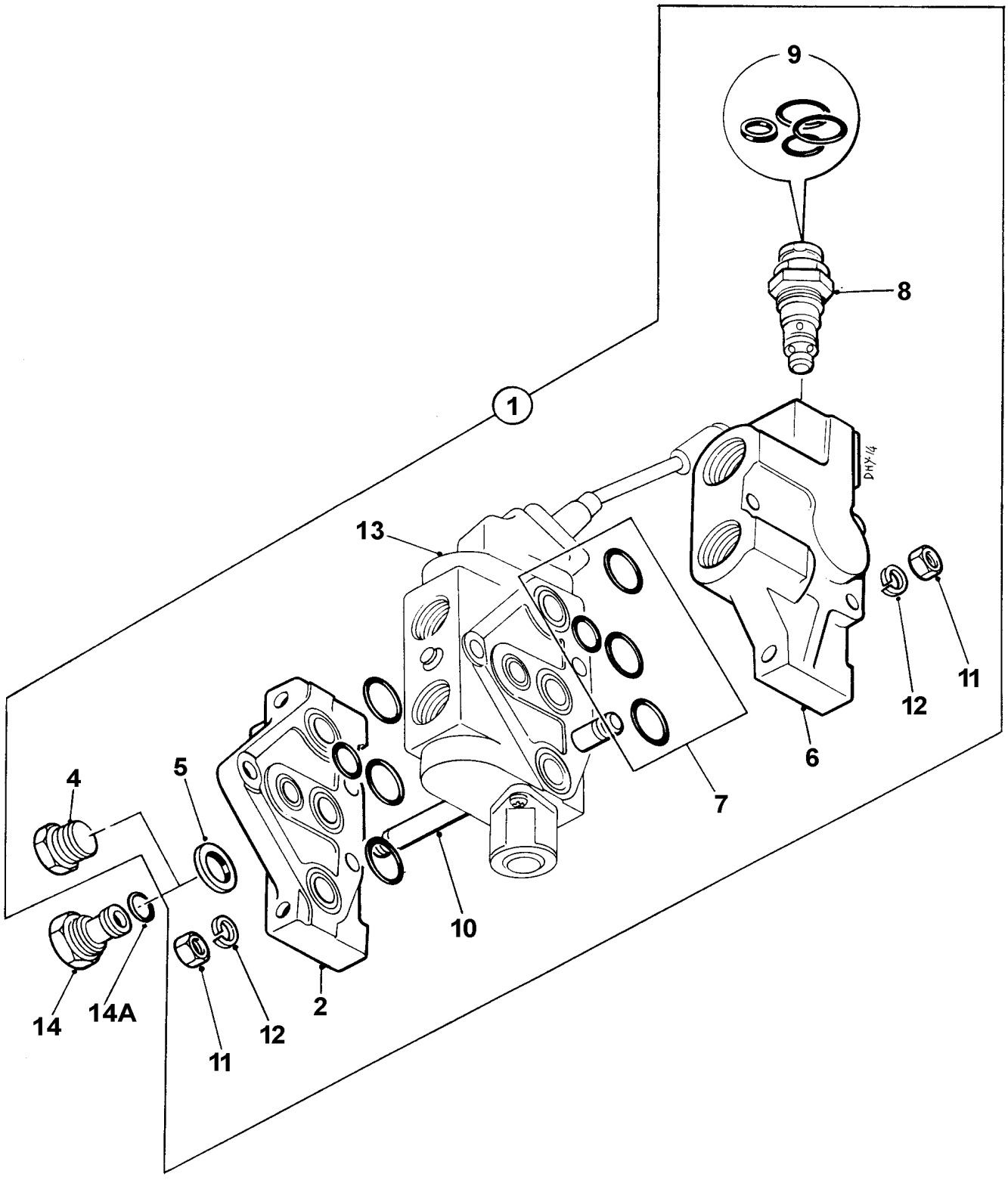
200TM Mixer *(from serial number 1391)*





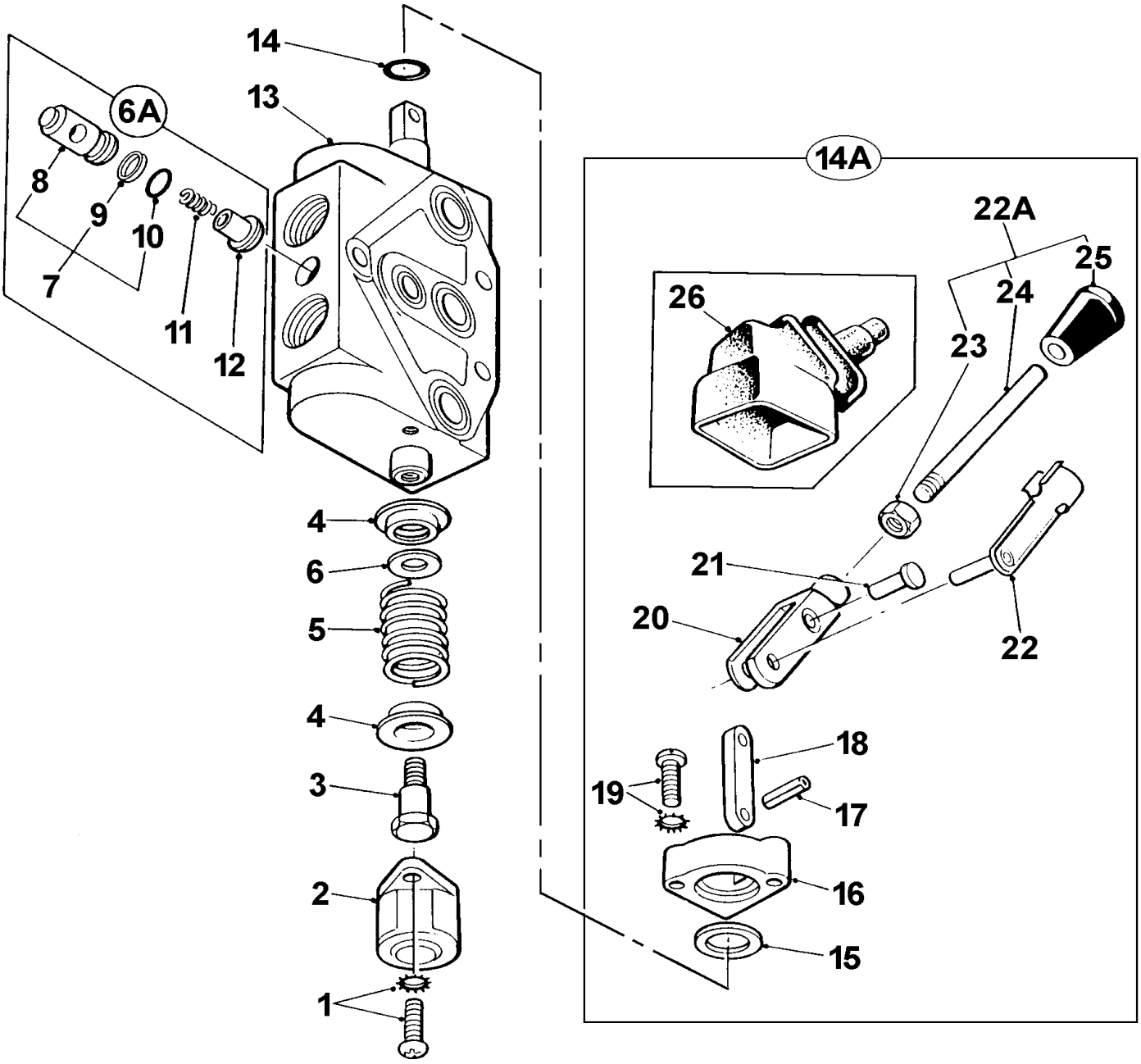
Item	Part no	Serial no	Description	Qty
1	V2006390	1391 /	STUD	1
2	V2006381	1391 /	SHAFT, extension	1
3	417732500	1391 /	SEAL, oil, gear cover	1
4	10977A06	1391 /	PUMP. Hydraulic **"Dowty"** Anti-Clock	1
.....	10190A01	1391 /	KIT, seals ***"Dowty"***	1
5	8S02C	1391 /	BOLT	4
6	267S04	1391 /	WASHER, flat	4
7	17S03	1391 /	WASHER, spring	4
8	7S02	1391 /	NUT	4
10	V2006385	1391 /	BRACKET, pump mounting	1
11	8S03N	1391 /	BOLT	3
12	17S04	1391 /	WASHER, spring	3
13	267S05	1391 /	WASHER, flat	3
14	513340800	1391 /	SPACER	6
15	V2006389	1391 /	COUPLING, assembly, pump *consists of items 15, 16 & 21*	1
17	11S03B	1391 /	SCREW, set	1
18	17S04	1391 /	WASHER, spring	1
19	267S05	1391 /	WASHER, flat	1
20	V2004220	1391 /	WASHER, flat, special	1
22	305110550	1391 /	KEY, parallel, (cut to length)	1
			The following parts are not illustrated	
23	V2006388	1391 /	GUARD, coupling	1
24	11S03B	1391 /	SCREW, set	1
25	17S04	1391 /	WASHER, spring	1
26	267S05	1391 /	WASHER, flat	1

200TM Mixer *(from serial number 0524)*



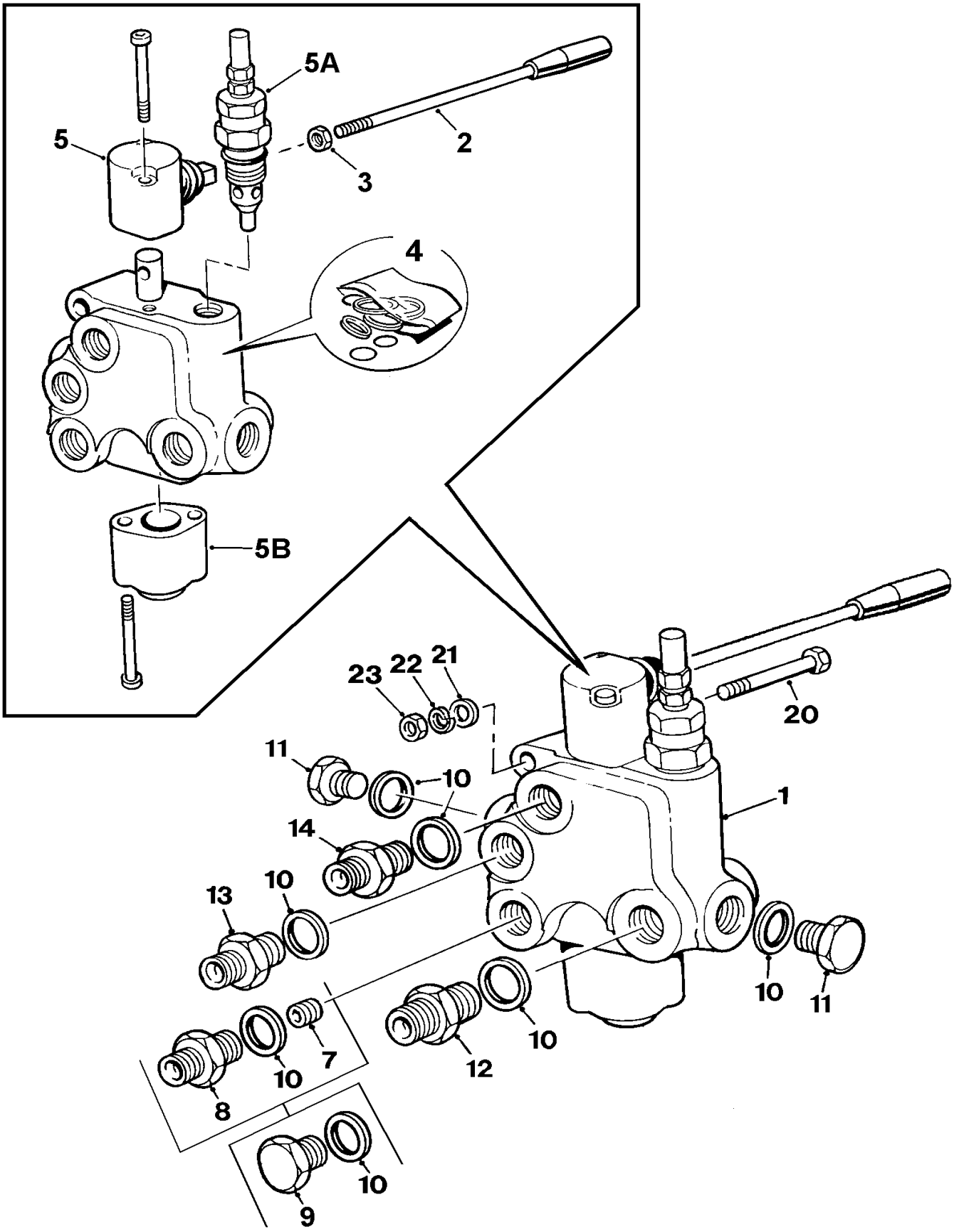
Item	Part no	Serial no	Description	Qty
1	V2000399	Feb-88 / 0658	CONTROL VALVE, assembly	1
2	V600017		COVER, inlet	1
4	127S04		PLUG	1
5	100S06		SEAL, bonded	1
6	V2003112		COVER, end	1
7	V600178		KIT, seals	1
8	V600184		VALVE, relief, 2000psi	1
9	V600023		KIT, seals	1
10	V600024		STUD	3
11	9S03		NUT	3
12	41S05		WASHER, spring	3
13	----------		SECTION, control valve (see page E - 3)	
14	451431029		FITTING, carryover, assembly	1
14A	451431005		SEAL, ‘O’ ring	1

200TM Mixer *(from serial number 0524)*



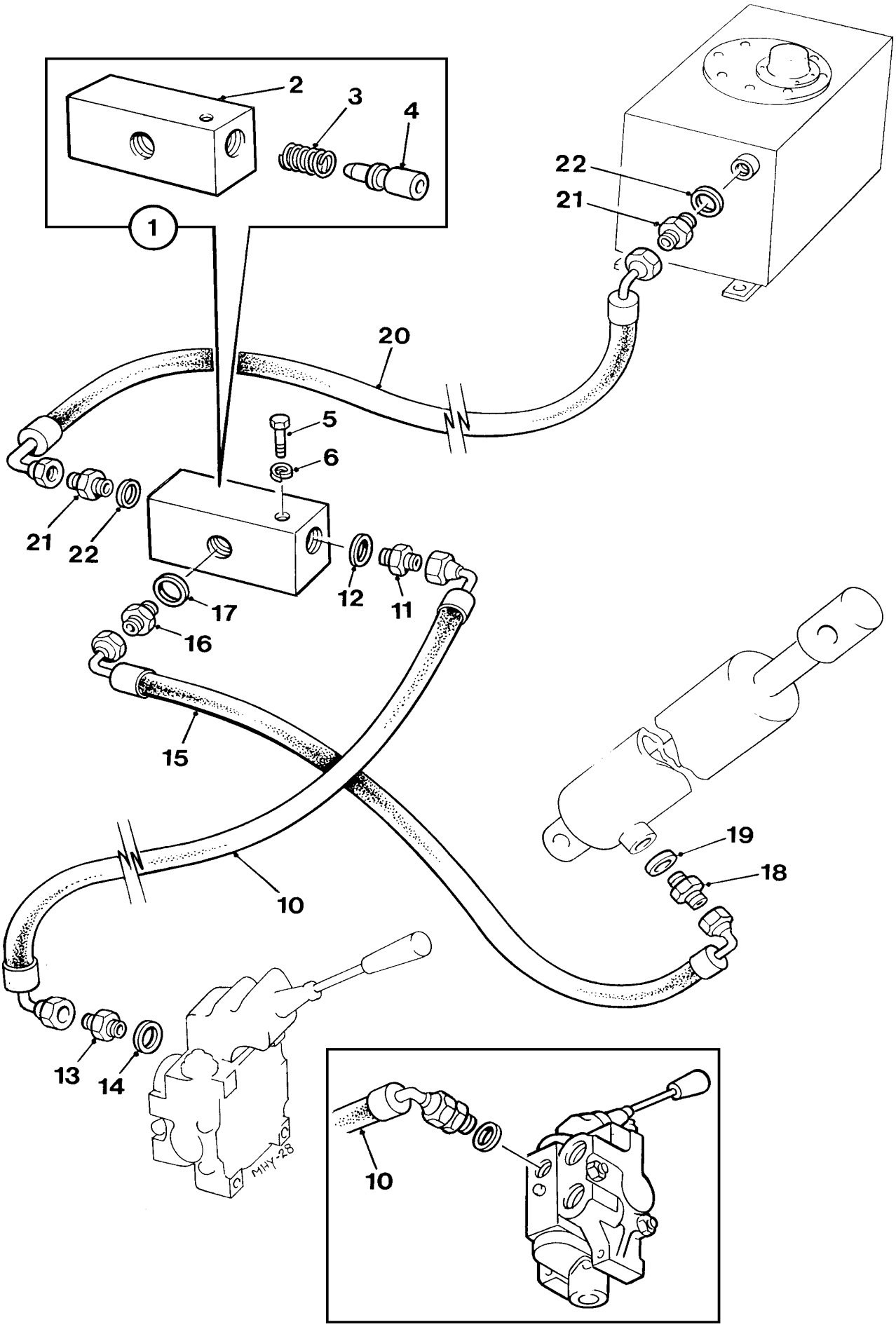
Item	Part no	Serial no	Description	Qty
1	V600026	Feb-88 / 0658	SCREW, c/w washer	2
2	V2003116		CAP, end	1
3	V2003115		SCREW, shoulder	1
4	V2003117		SEAT, spring	2
5	V2003114		SPRING	1
6	V600179		SPACER	1
6A	V600180		CHECK VALVE, assembly	1
7	V600181		KIT, repair	1
8	V2003118		GUIDE, check valve	1
9	V600182		RING, back up	1
10	V600183		'O' RING	1
11	V2003119		SPRING	1
12	V2003120		POPPET	1
13	V600185		BODY, c/w spool	1
14	V2003113		'O' RING	2
14A	V601259		LEVER, assembly	1
15	V2003122		SEAL, wiper	1
16	V600059		BRACKET, handle	1
17	V600060		PIN, roll	1
18	V600061		LINK	1
19	V600062		SCREW, c/w washer	2
20	V600063		CLEVIS	1
21	V600064		PIN	1
22	V600065		PIN, clip	1
22A	V600159		HANDLE, assembly	1
23	V600066		NUT	1
24	—-		HANDLE, (order assembly)	1
25	V600068		KNOB	1
26	V600069		GAITER	1

200TM Mixer *(from serial number 0524)*



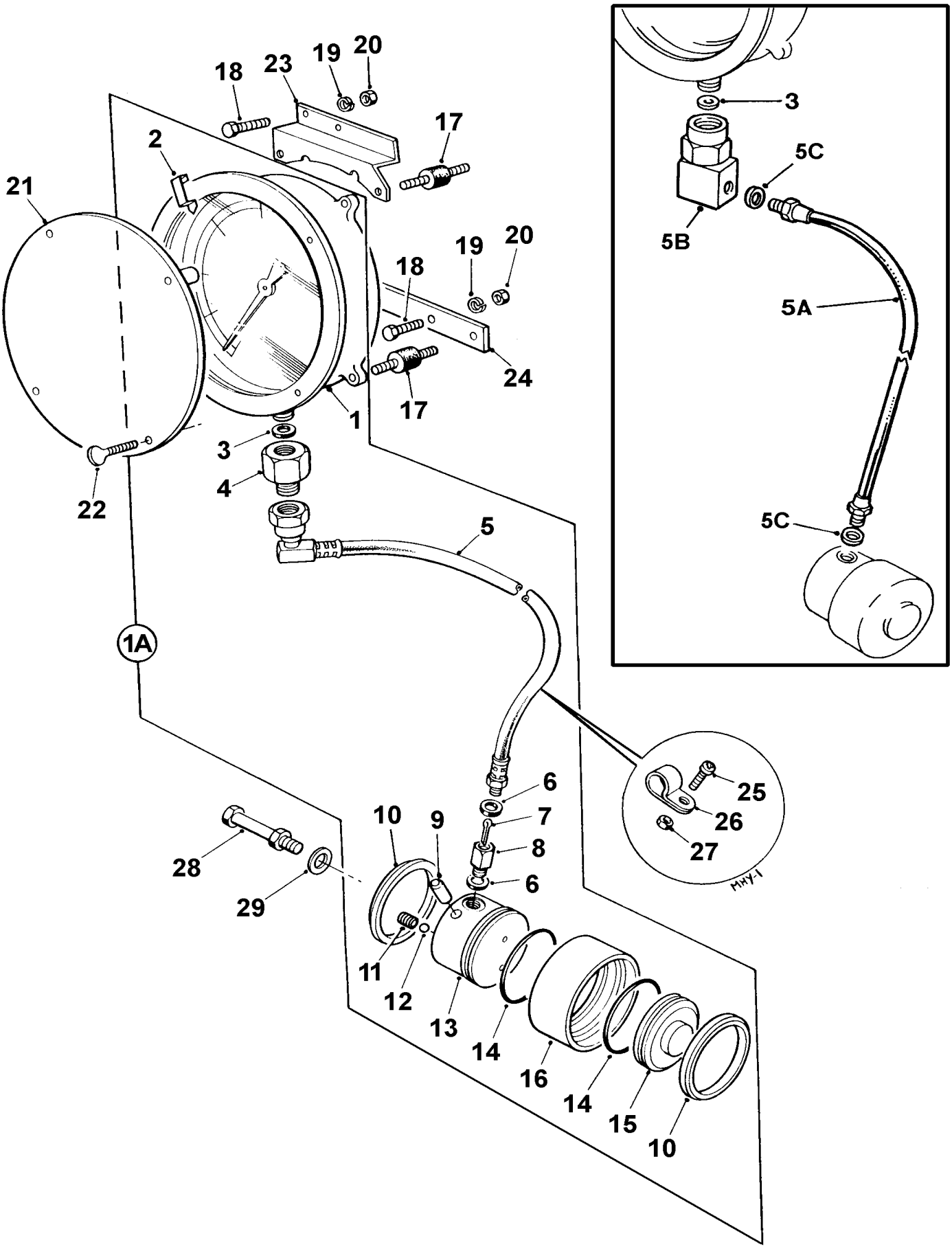
Item	Part no	Serial no	Description	Qty
1	V2004605	0659 /	VALVE, control, assembly	1
2	V602630		LEVER	1
3	7S04		NUT	1
4	V602629		SEALS, repair kit	AR
5	V603565		END CAP, lever	1
5A	V603605		VALVE, relief	1
5B	V603606		END CAP, spring base	1
7	V2004607		**#** SCREW, socket head, H.P.C. *(fitted inside valve)*	1
8	93S01		**#** ADAPTOR, m/m **# *High pressure carryover to dragline***	1
9	127S03		**$** PLUG, male **$ *When no dragline is fitted***	1
10	100S03		SEAL, bonded	6
11	127S03		PLUG, male	1
12	122S03		ADAPTOR, m/m, inlet from pump	1
13	122S03		ADAPTOR, m/m, return to tank	1
14	122S03		ADAPTOR, m/m, to hopper ram	1
20	8S03H		BOLT	2
21	267S05		WASHER, flat	2
22	17S04		WASHER, spring	2
23	7S03		NUT	2

200TM Mixer *(from serial number 0524)*



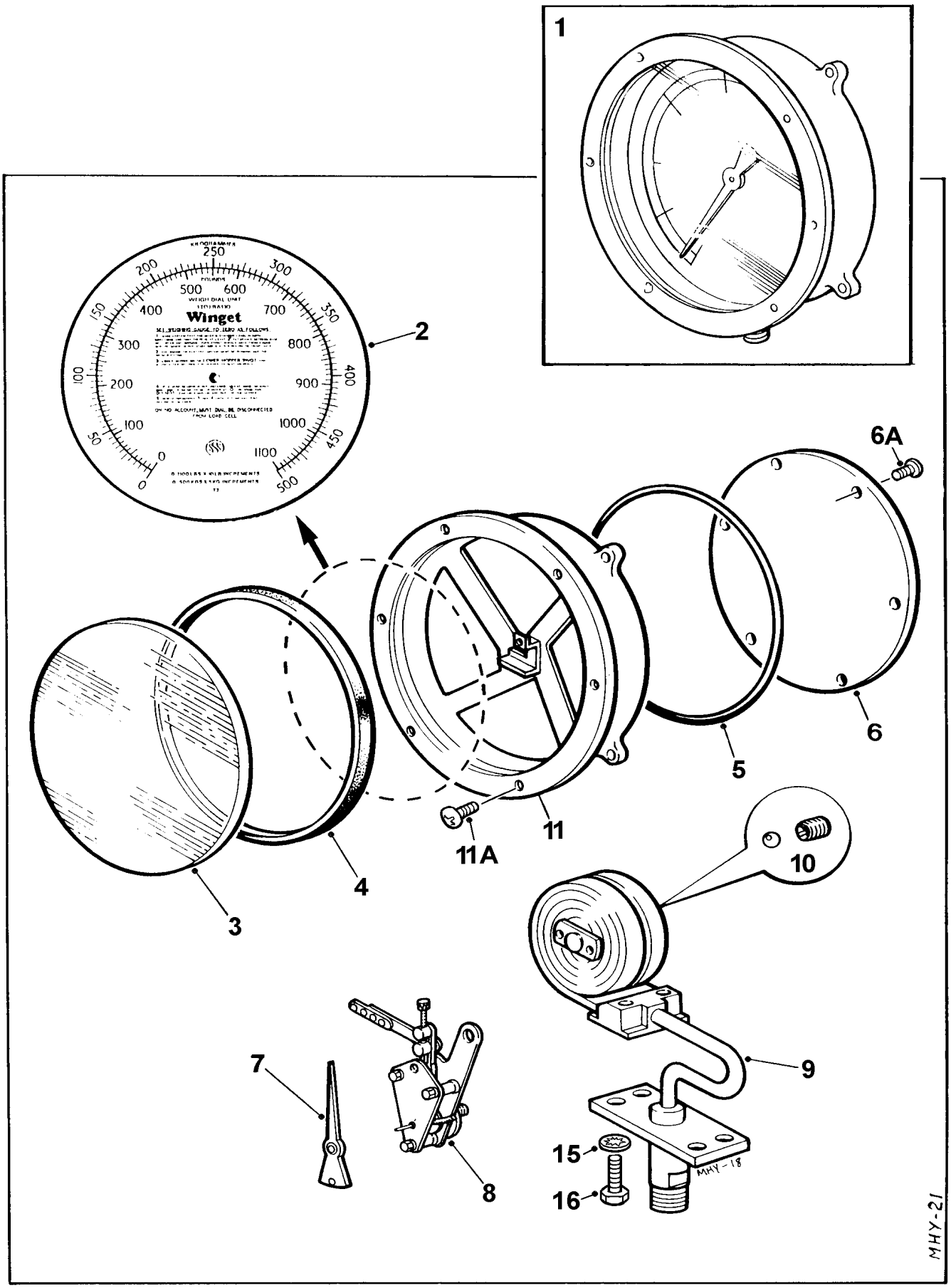
Item	Part no	Serial no	Description	Qty
			For basic hydraulic circuit and hose failure valve, *see page E - 1*	
1	503139300		VALVE, bleed, assembly	1
2	503139400		BODY, bleed valve	1
3	423208280		SPRING	1
4	503139500		PLUNGER, bleed valve	1
5	66S03CC		SCREW, set	1
6	41S05		WASHER, spring	1
10	36S02Z		HOSE	1
11	119S08		ADAPTOR	1
12	100S04		SEAL, bonded	1
13	—-		ADAPTOR (see page E-1)	
14	—-		SEAL, bonded (see page E-1)	
15	36S02UU		HOSE	1
16	122S03		ADAPTOR	1
17	100S03		SEAL, bonded	1
18	—-		ADAPTOR (see page E-1)	
19	—-		SEAL, bonded (see page E-1)	
20	36S02TT		HOSE	1
21	119S03		ADAPTOR	2
22	100S02		SEAL, bonded	2

200TM Mixer *(from serial number 0524)*



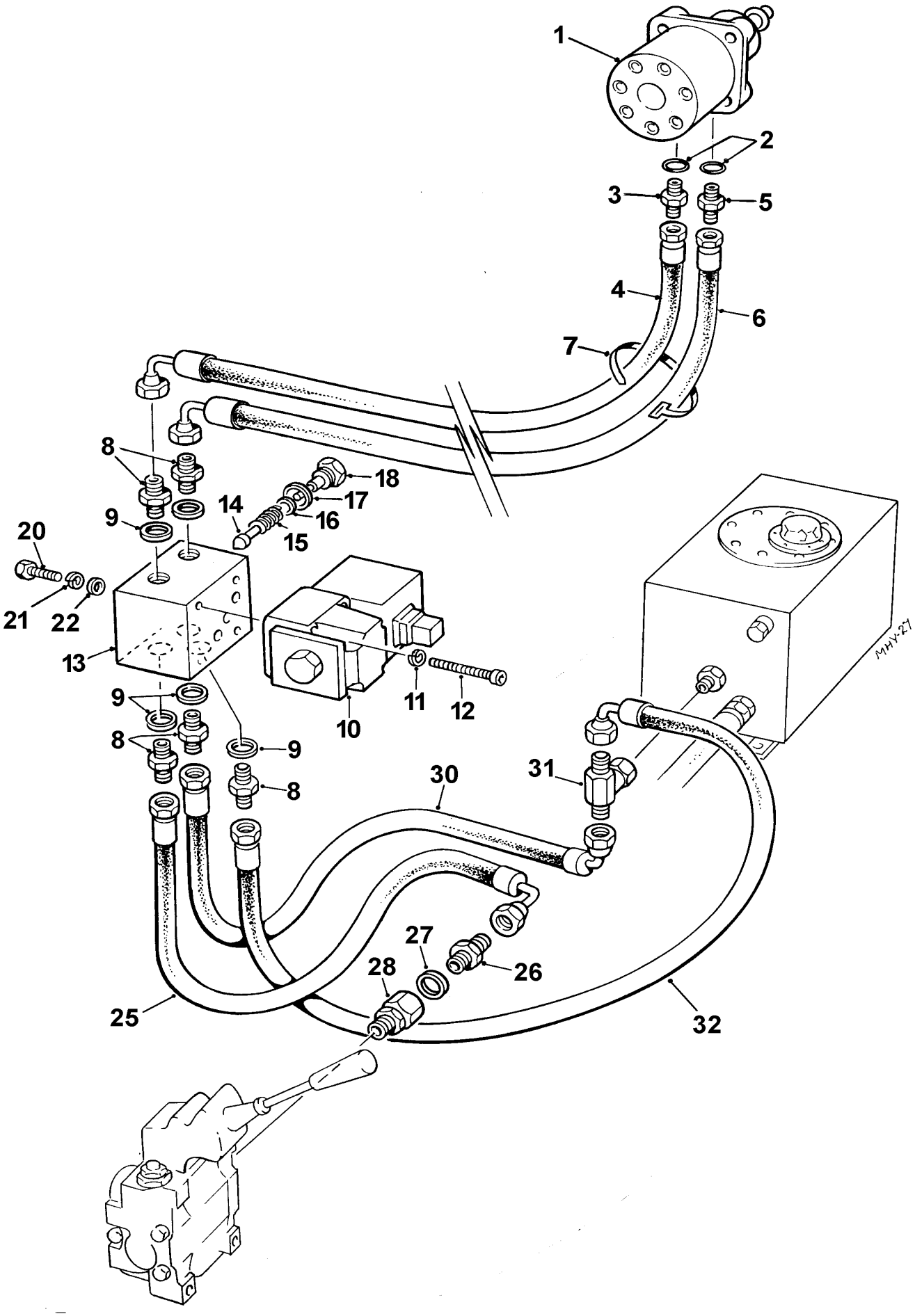
Item	Part no	Serial no	Description	Qty
1A	513338440		LOADCELL & GAUGE, assembly	1
1	-		WEIGH GAUGE *(see page E - 6)*	1
2	253817055		POINTERS, load indicating	set 1
3	417858000		SEAL, bonded	1
4	555182800		ADAPTOR	1
5	513331700		HOSE	1
5A	513331700		*$* HOSE	1
5B	V601532		*$* ADAPTOR & BLOCK	1
5C	116S06		*$* WASHER, copper	2
			$ Alternative hose arrangement	
6	100S02		# SEAL, bonded	2
7	353304070		# PIN, split	1
8	555182700		# ADAPTOR	1
			# *Not fitted from circa 1990*	
9	513265700		PIN, locking	1
10	513265500		RING, sealing	2
11	403760610		SCREW, grub	1
12	101104001		BALL, steel	1
13	513265300		BODY, loadcell	1
14	391350340		SEAL, ‘O’ ring	2
15	513265400		PLATEN	1
16	513265600		SLEEVE, floating	1
17	13203000		SHOCK ABSORBER, rubber, c\w nuts	4
18	11S03B		SCREW, set	2
19	17S04		WASHER, spring	2
20	7S03		NUT	2
21	555125000		COVER, dial	1
22	261S02M		SCREW, thumb	4
23	513327700		BRACKET	1
24	513327800		BRACKET	1
25	16S05B		SCREW, pan head	2
26	143200900		CLIP, nylon	2
.....	267S02		WASHER, flat *(not illustrated)*	2
.....	17S10		WASHER, spring *(not illustrated)*	2
27	7S09		NUT	2
28	11S05C		SCREW, set	1
29	17S06		WASHER, spring	1
30	267S07		WASHER, flat	1

200TM Mixer *(from serial number 0524)*



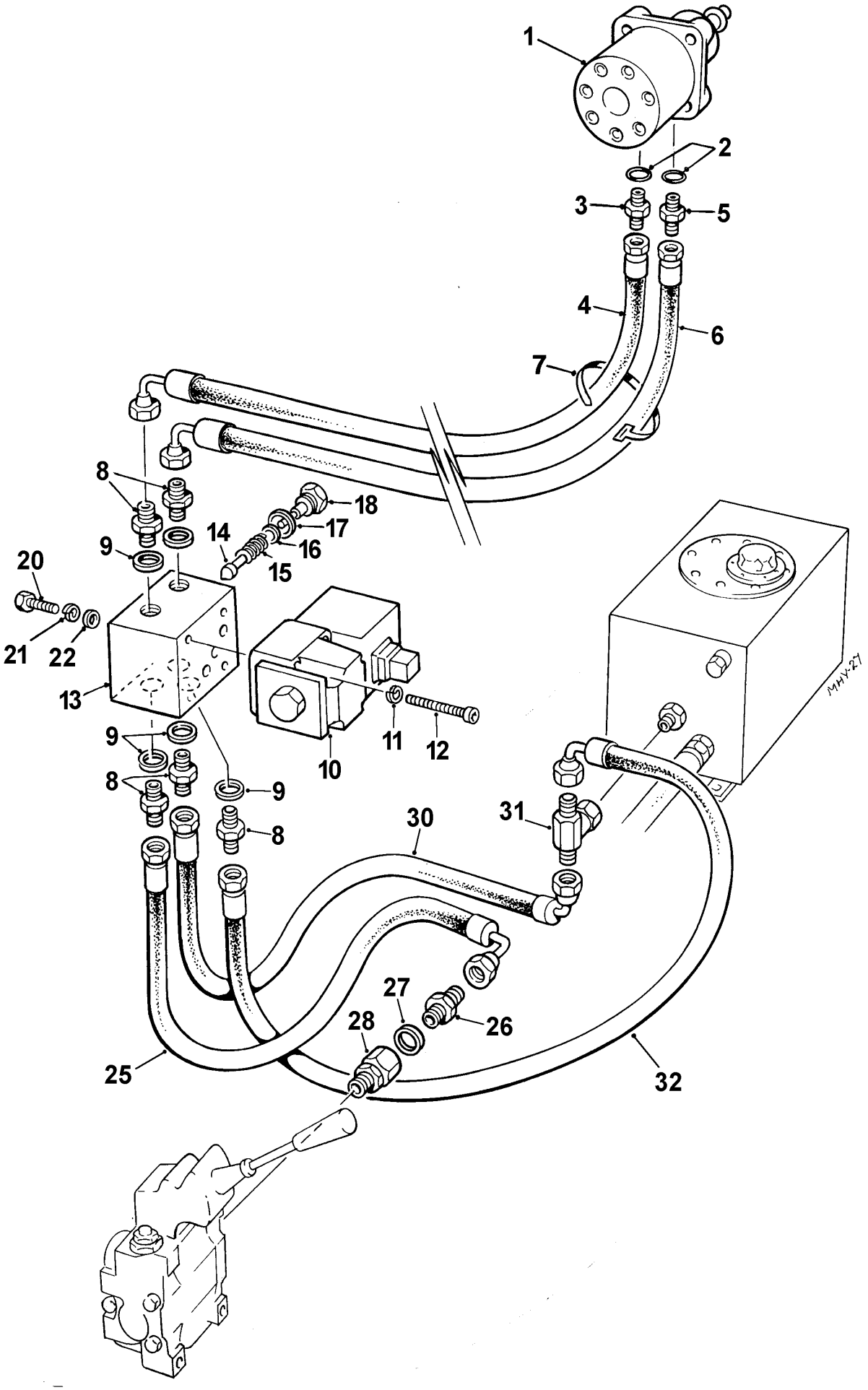
Item	Part no	Serial no	Description	Qty
1	253824000		GAUGE, assy. *(see also page E - 5)*	1
2	253818012		DIAL, 12", 1100 lbs	1
3	253818005		GLASS	1
4	253818006		SEAL, glass	1
5	253818003		SEAL, backplate	1
6	253818002		BACKPLATE	1
6A	253818004		SCREW, round head	6
7	253818000		INDICATOR	1
8	253817001		MOVEMENT	1
9	253824001		TUBE-COIL	1
10	253817005		# BLEED SCREW & BALL (1/8" ball)	1
10	253817006		# BLEED SCREW & BALL (2.5mm ball)	
			# *Before ordering check size of the ball as they are not interchangeable*	
11	—----------		BODY c/w front plate *(order assy.)*	1
11A	253818001		SCREW, round head	6
—-	—----------		NUT, gauge zeroing *(order assy.)*	1
15	67S01		WASHER, shakeproof	4
16	253817045		SCREW, set	4

200TM Mixer *(from serial number 0524)*



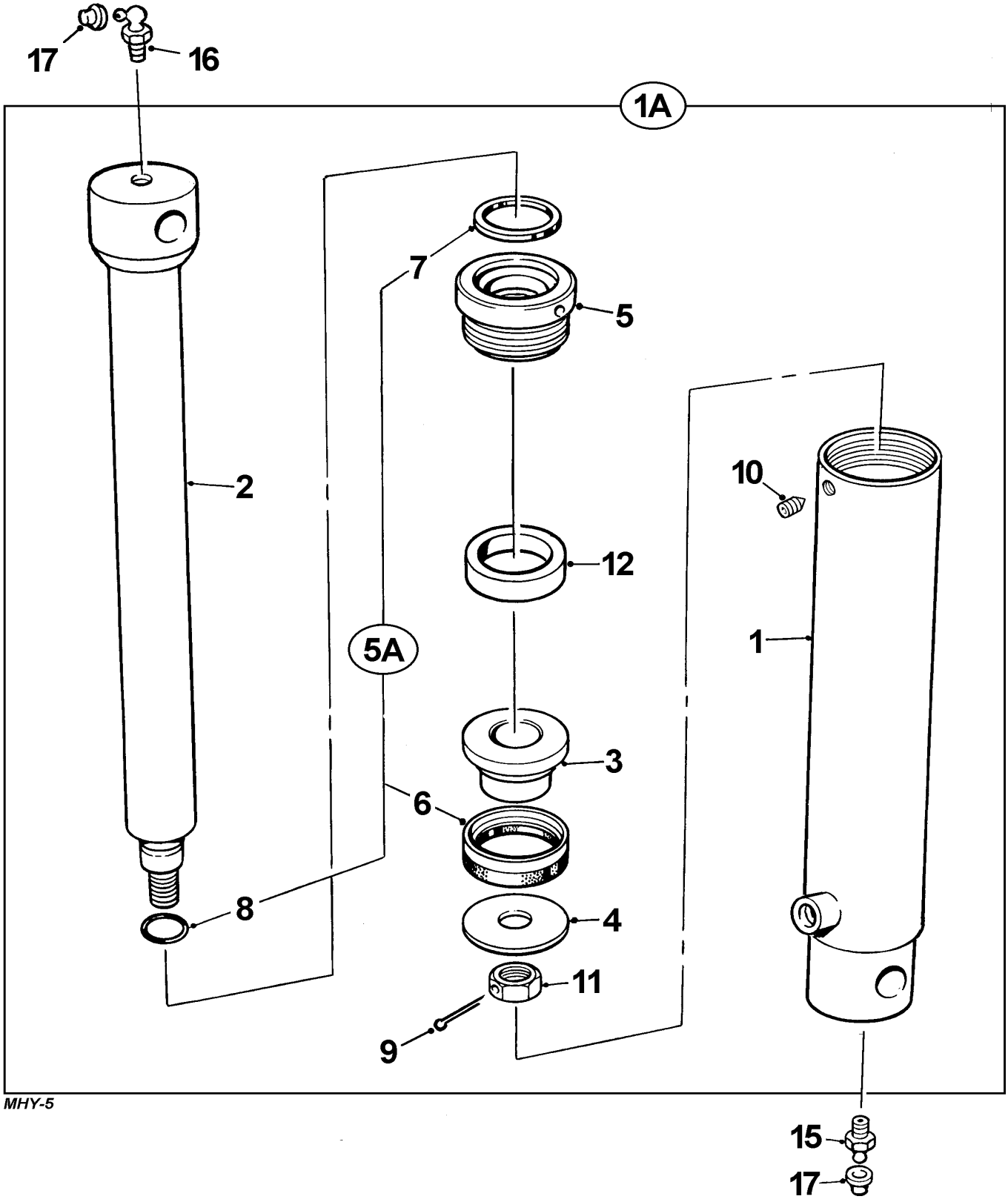
Item	Part no	Serial no		Description	Qty
		For basic hydraulic circuit, see page E - 1			
1	267115000	/ 0730		MOTOR, hydraulic *"Lucas"*	1
.....	.....	/ 0730		KIT, seals	AR
1	267118000	0731 /		MOTOR, hydraulic *"White"*	1
.....	267117001	0731 /		KIT, seals	AR
2	391111000			SEAL, 'O' ring	2
3	126S09		#	ADAPTOR	1
4	31S02M		#	HOSE, pressure, (to motor port "B")	1
			#	**The Pressure Hose (4) and its Adaptor (3) are marked with RED.**	
5	126S09			ADAPTOR	1
6	31S02M			HOSE, return, (to motor port "A")	1
7	V2003253			STRAP, nylon	2
8	122S03			ADAPTOR, m/m	5
9	100S03			SEAL, bonded	5
10	211158000		$	VALVE, solenoid	1
			$	*Valve marked either "Atos" or "Johnston Fluid Power"*	
11	41S03			WASHER, spring	4
12	103S02G		$	SCREW, socket head *"Atos"*	4
12	103S02H		$	SCREW, skt hd. *"Johnston Fluid Power"*	4
13	555137900	/ 0590		MANIFOLD, dragline control	1
	555284600	0591 /		MANIFOLD, dragline control	
14	555138300			VALVE, relief	1
15	555556100			SPRING	1
16	10S02			WASHER, flat	AR
17	100S04			SEAL, bonded	1
18	555138200			VALVE, guide	1
20	66S01AA			SCREW, set	2
21	41S03			WASHER, spring	2
22	10S01			WASHER, flat	2
	Sectional Control Valve, (refer to page E2 & E3)				
25	31S02G			HOSE, manifold to control valve	1
26	119S08	/ 0658		ADAPTOR, m/m	1
27	100S04	/ 0658		SEAL, bonded	1
28	451431029	/ 0658		ADAPTOR, f/m	1

200TM Mixer *(from serial number 0524)*



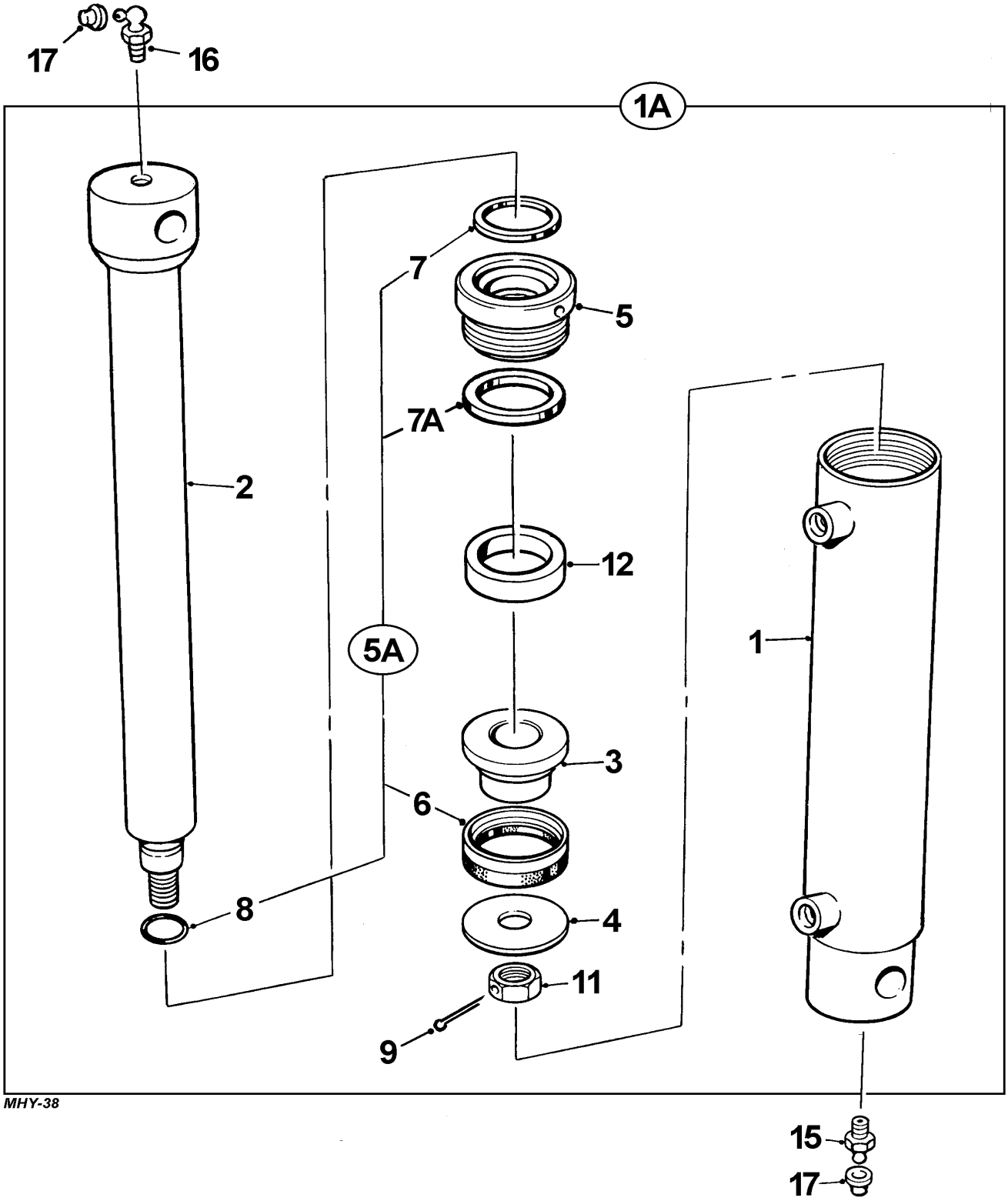
Item	Part no	Serial no	Description	Qty
			For basic hydraulic circuit, see page E - 1	
	Monoblock Control Valve, (refer to page E3A)			
25	31S02G		HOSE, manifold to control valve	1
26	93S01	0659/	ADAPTOR, bulkhead m/m	1
27	100S03	0659/	SEAL, bonded	1
28	V2004607	0659/	ADAPTOR, plug, HPCO	1
30	31S02LL		HOSE, manifold to tee	1
31	154S09	0591 /	FITTING, tee, m/m/f	1
32	31S02GG	0591 /	HOSE, manifold to tee	1

200TM Mixer *(from serial number 0524)*



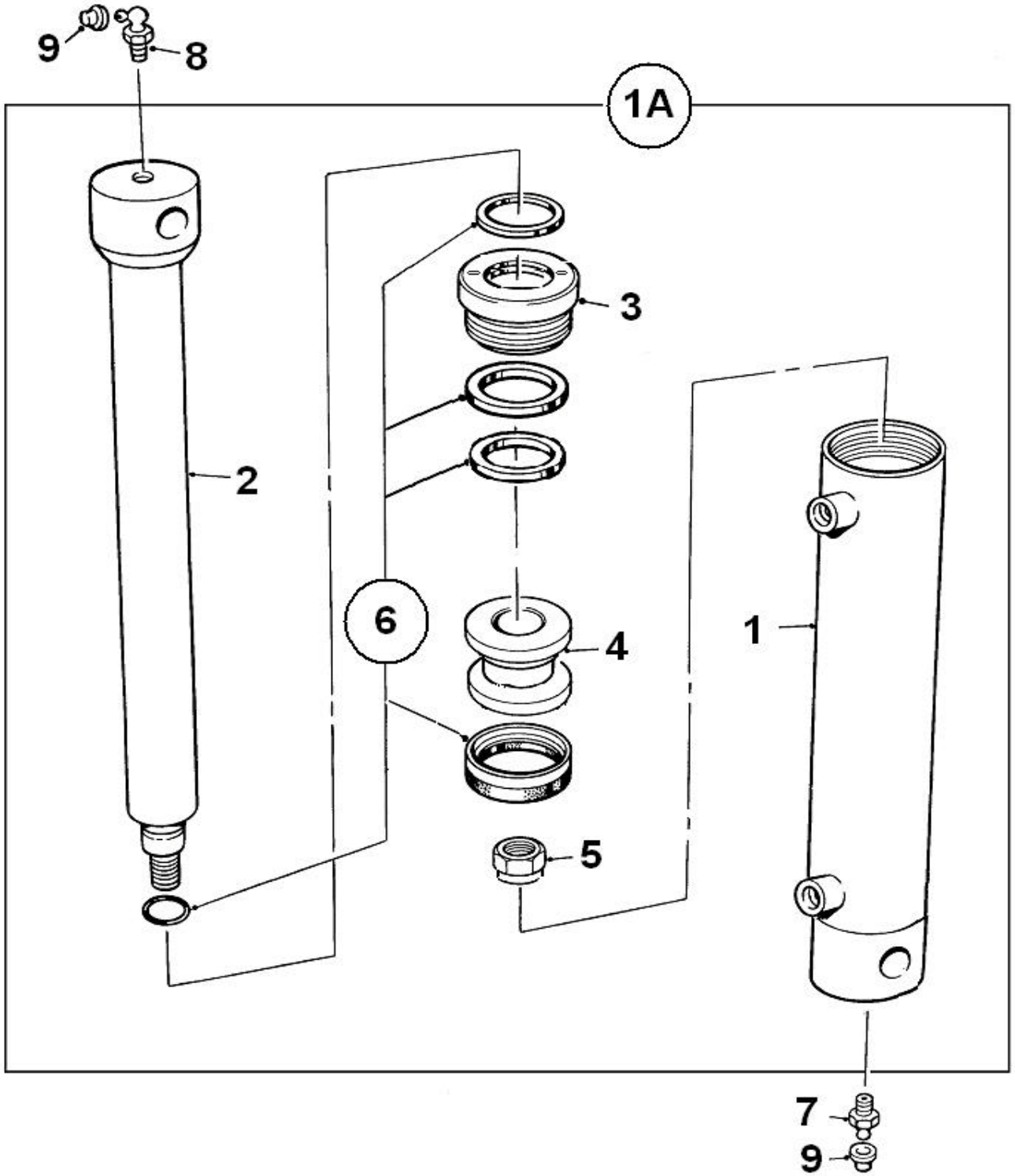
Item	Part no	Serial no	Description	Qty
1A	513305700	/ 0800	RAM, hopper, assembly	1
1	272137501		CYLINDER, ram	1
2	272137502		ROD, ram	1
3	272137503		PISTON, ram	1
4	272137504		PLATE, back up	1
5	272137505		CAP, screwed	1
5A	513305701		KIT, seals, assembly	1
6	-		SEAL, piston (order assembly)	1
7	-		SEAL, wiper (order assembly)	1
8	-		SEAL, ‘O’ ring (order assembly)	1
9	272137509		PIN, split	1
10	272137510		SCREW	1
11	272137511		NUT	1
12	513350400		RESTRICTOR	1
15	131S01		NIPPLE, grease, straight	1
16	131S02		NIPPLE, grease, 90^{O}	1
17	176S01		COVER, grease nipple	2

200TM Mixer *(from serial number 0524)*



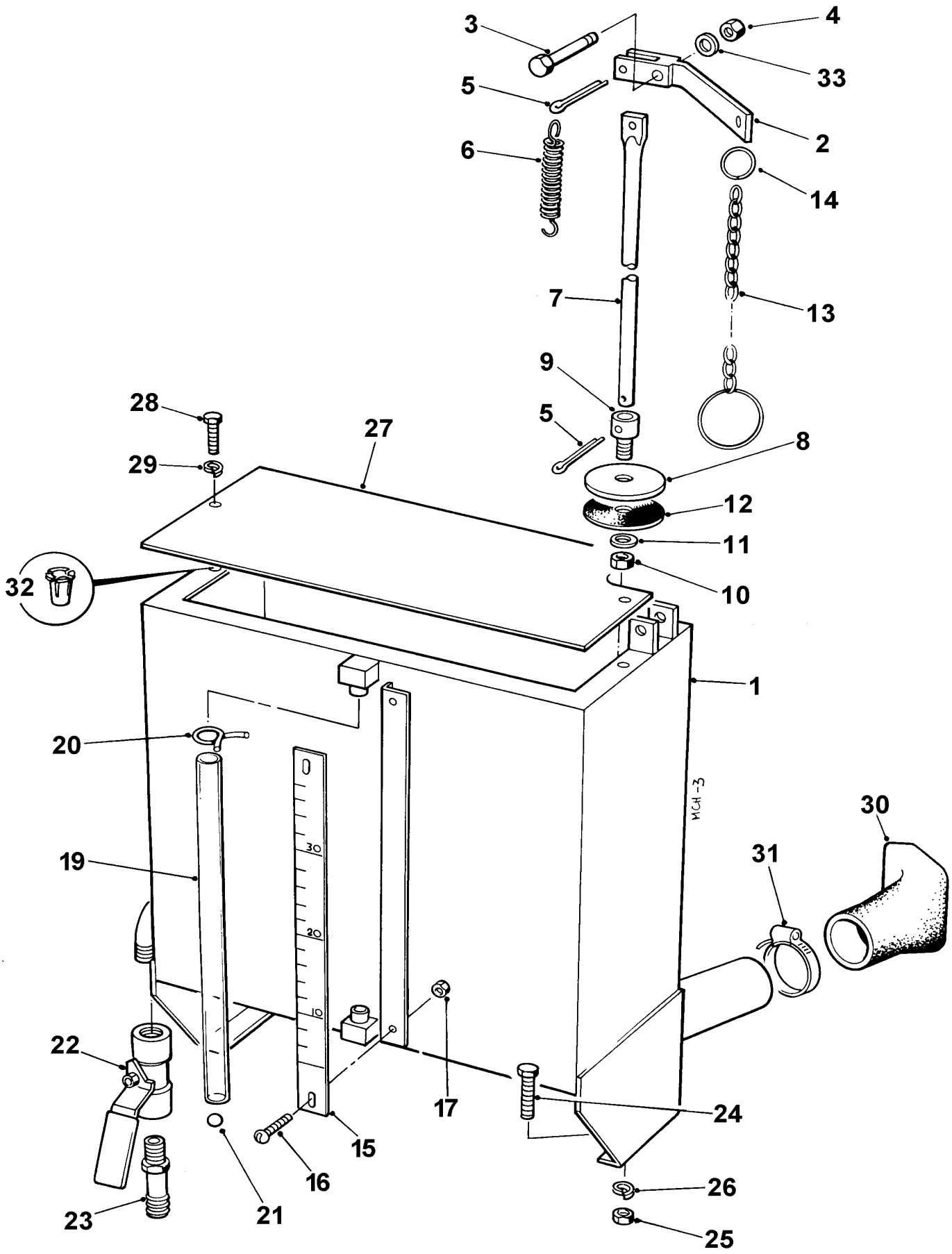
Item	Part no	Serial no	Description	Qty
1A	513361300	0801 /1317	RAM, hopper, assembly	1
1	272137517		CYLINDER, ram	1
2	272137502		ROD, ram	1
3	272137503		PISTON, ram	1
4	272137504		PLATE, back up	1
5	272137518		RETAINER	1
5A	513305701		KIT, seals, assembly	1
6	----------		SEAL, piston (order 5A)	1
7	----------		SEAL, wiper (order 5A)	1
7A	----------		SEAL, pressure (order 5A)	1
8	----------		SEAL, ‘O’ ring (order 5A)	1
9	272137509		PIN, split	1
11	272137511		NUT	1
12	513350400		RESTRICTOR	1
15	131S01		NIPPLE, grease, straight	1
16	131S02		NIPPLE, grease, 90^{O}	1
17	176S01		COVER, grease nipple	2

200TM Mixer *(from serial number 1318)*



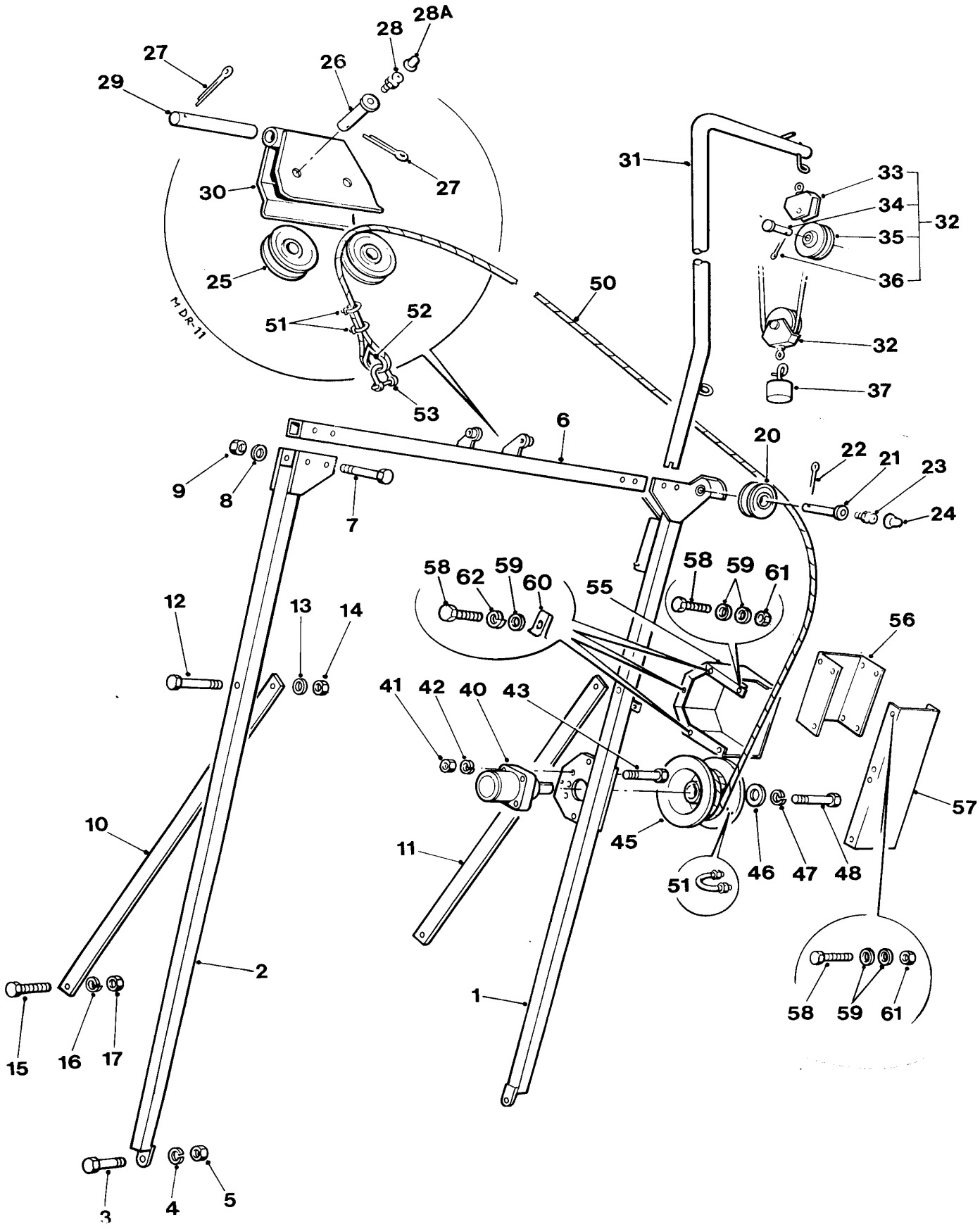
Item	Part no	Serial no	Description	Qty
1A	513369100	1318 /	RAM, hopper, assembly	1
1	272137520		CYLINDER, ram	1
2	272137521		ROD, ram	1
3	272137522		RETAINER	1
4	272137523		PISTON, ram	1
5	59S20		NUT, nyloc	1
6	513369200		KIT, seals, assembly	1
	----------		SEAL, piston	1
	----------		SEAL, wiper	1
	----------		SEAL, pressure	1
	----------		SEAL, ‘O’ ring	1
	----------		SEAL, ‘O’ ring	1
7	131S01		NIPPLE, grease, straight	1
8	131S02		NIPPLE, grease, 90^{O}	1
9	176S01		COVER, grease nipple	2

200TM Mixer *(from serial number 0524)*



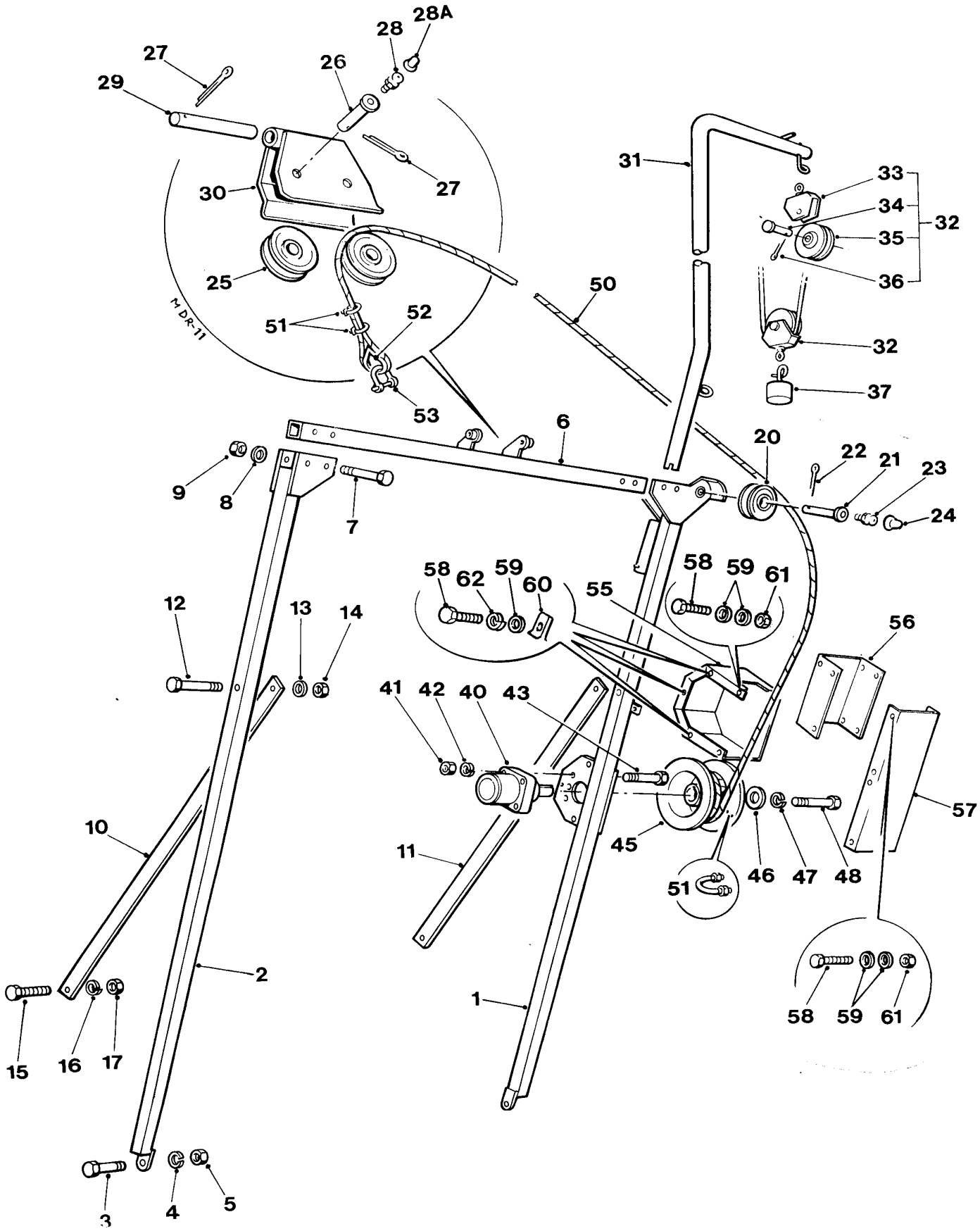
Item	Part no	Serial no	Description	Qty
1	513327100		BODY, water tank	1
2	513327000		STRUT	1
3	8S03E		BOLT	1
4	61S03		NUT, self-locking	1
5	44S17J		PIN, split	2
6	425435000		SPRING	1
7	513326600		ROD	1
8	513326700		PLATE	1
9	513326800		CONNECTOR	1
10	61S04		NUT, self-locking	1
11	267S06		WASHER, flat	1
12	513286200		VALVE, rubber	1
13	513286400		CHAIN & RING	1
14	383106000		RING, split	1
15	513324600		SCALE	1
16	70S04D		SCREW, pan head	2
17	59S13		NUT, self-locking	2
19	430904001		TUBE	1
20	132111200		CLIP, hose	2
21	101256000		BALL	1
22	450150000		VALVE	1
23	130354000		CONNECTOR, hose	1
24	11S05C		SCREW, set	4
25	7S05		NUT	4
26	17S06		WASHER, spring	4
27	513337800		LID, tank	1
28	11S02C		SCREW, set	2
29	17S03		WASHER, spring	2
30	504531500		NOZZLE, rubber	1
31	97S13		CLIP, hose	1
32	236S04		NUT, blind	2
33	267S05		WASHER, flat	1

200TM Mixer *(from serial number 0524)*



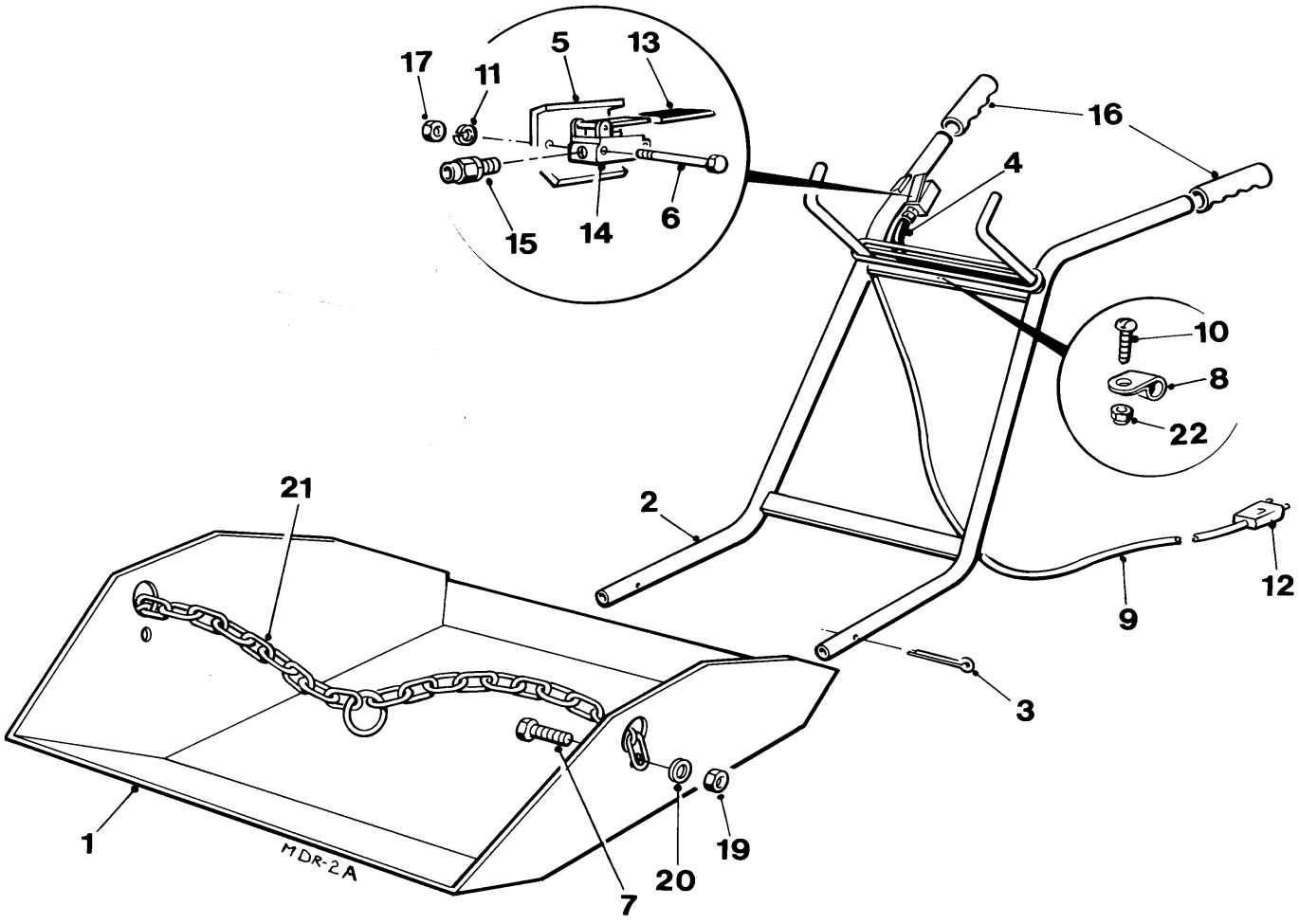
Item	Part no	Serial no	Description	Qty
1	513355100		JIB, leg, R.H.	1
2	513355000		JIB, leg, L.H.	1
3	8S07G		BOLT	2
4	17S09		WASHER, spring	2
5	7S07		NUT	2
6	513322600		BEAM, top	1
7	8S05L		BOLT	4
8	267S07		WASHER, flat	4
9	61S05		NUT, self-locking	4
10	513322700		TIE BAR, 1570mm long (tilt wheel end)	1
11	513323400		TIE BAR, 1390mm long (engine end)	1
12	8S05L		BOLT	2
13	267S07		WASHER, flat	2
14	61S05		NUT, self-locking	2
15	11S05C		SCREW, set	2
16	17S06		WASHER, spring	2
17	7S05		NUT	2
20	555285500		PULLEY (R.H. jib leg)	1
21	513323500		PIN, pulley	1
22	44S17K		PIN, split	1
23	131S01		NIPPLE, grease	1
24	176S01		CAP, grease nipple	1
25	555285500		PULLEY (top beam)	2
26	555265000		PIN, pulley	2
27	44S17K		PIN, split	3
28	131S01		NIPPLE, grease	2
28A	176S01		CAP, grease nipple	2
29	513330000		PIN, pivot	1
30	555228100		BRACKET, pulley	1
31	513330300		MAST, electric cable	1
32	555208500		PULLEY, block, assembly	2
33	555208400		BLOCK, pulley	1
34	555208300		PIN, pulley	1
35	555208100		PULLEY	1
36	44S03C		PIN, split	1
37	555204800		WEIGHT	1
40	——		MOTOR, hydraulic (see page E - 7)	1
41	7S05		NUT	4
42	17S06		WASHER, spring	4
43	8S05H		BOLT	4

200TM Mixer *(from serial number 0524)*



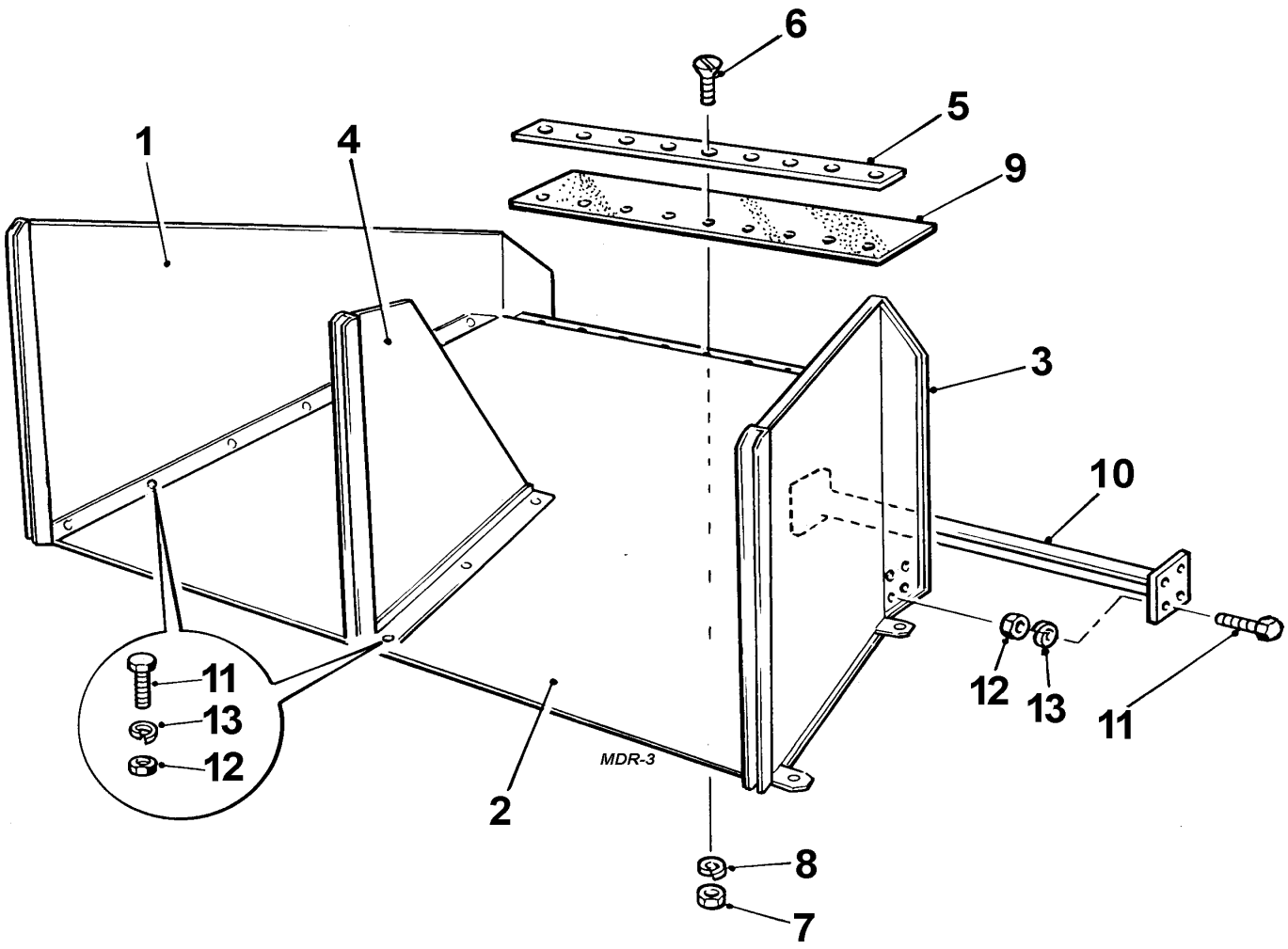
Item	Part no	Serial no	Description	Qty
45	513330100		DRUM, winding	1
46	267S07	/ 0730	WASHER, flat	
46	10S05	0731 /	WASHER, flat	1
47	17S06	/ 0730	WASHER, spring	
47	41S09	0731 /	WASHER, spring	1
48	11S05M	/ 0730	SCREW, set, M12	1
48	6S06H	0731 /	BOLT, 5/8" UNF	1
50	477502000		ROPE, wire	1
51	132204000		CLIP, rope	3
52	443105010		THIMBLE	1
53	412606000		SHACKLE	1
55	513330200		GUARD, winch	1
56	513330400		GUARD, rope	1
57	513330500		PLATE, rope guard	1
58	11S02A		SCREW, set	12
59	267S04		WASHER, flat	21
60	332719000		NUT, spire, captive	3
61	61S02		NUT, self-locking	9
62	17S03		WASHER, spring	3

200TM Mixer *(from serial number 0524)*



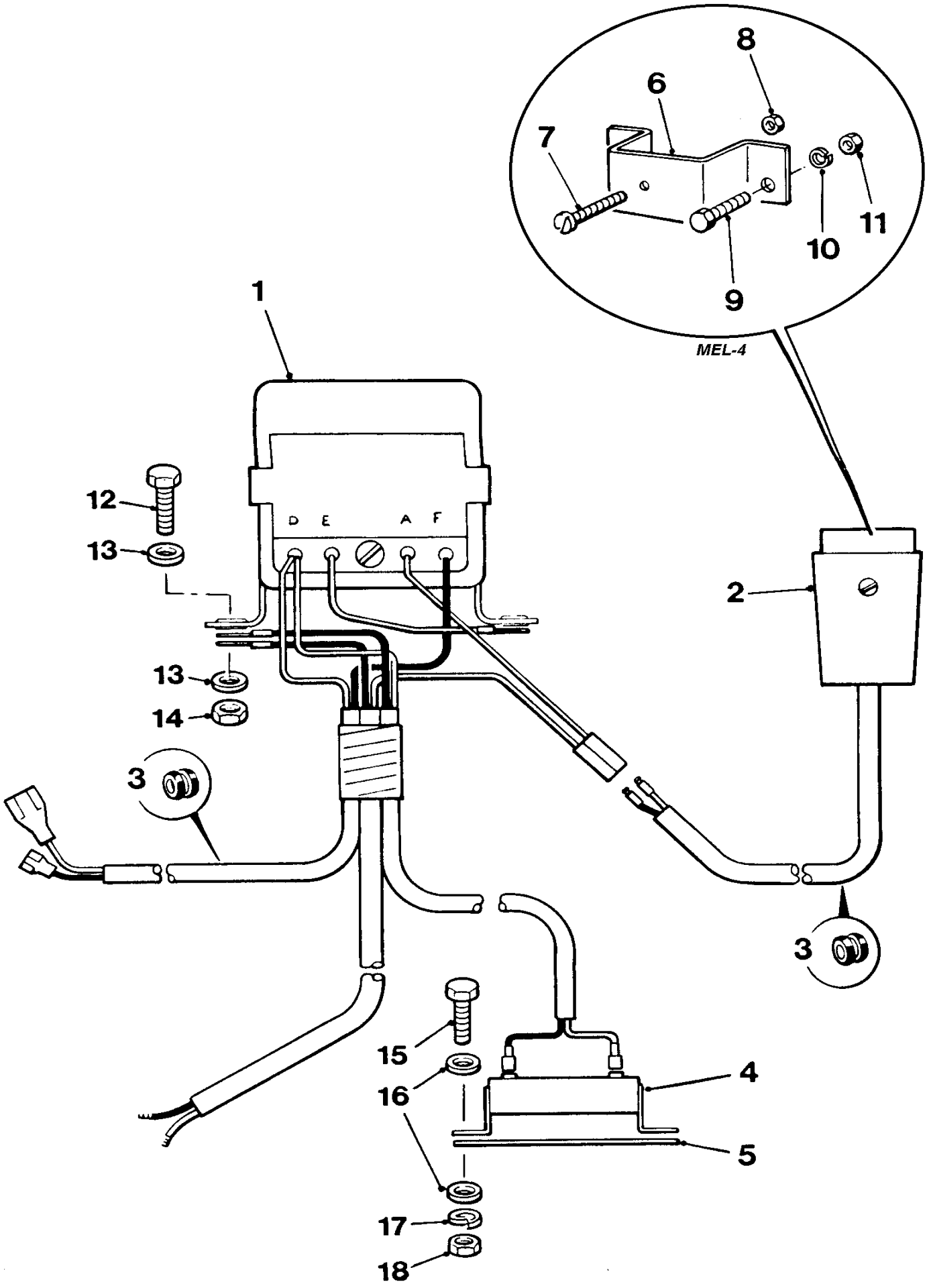
Item	Part no	Serial no	Description	Qty
1	513331300		SHOVEL	1
2	555209100		HANDLE, shovel	1
3	44S17K		PIN, split	2
4	369200000		TUBE, rubber (300mm long)	1
5	555214800		CLAMP, switch	1
6	8S01F		BOLT	2
7	11S05D		SCREW, set	2
8	143200300		CLIP, cable	1
9	144734000		CABLE	1
10	16S05B		SCREW, pan head	1
11	17S02		WASHER, spring	2
12	205304600		PLUG	1
13	208143000		SLEEVING	1
14	208561000		SWITCH	1
15	250166010		GLAND, cable	1
16	264705000		HANDLE, grip	2
17	7S01		NUT	2
19	59S04		NUT, self-locking	2
20	267S07		WASHER, flat	2
21	135905000		CHAIN & RING	1
22	59S02		NUT, nylon insert	1

200TM Mixer *(from serial number 0524)*



Item	Part no	Serial no	Description	Qty
1	513336900		PANEL, side, L.H.	1
2	513332000		PLATE, floor	1
3	513336901		PANEL, side, R.H.	1
4	513337000		PANEL, partition	1
5	513332300		RETAINER, countersunk	1
6	52S04G		SCREW, countersunk	9
7	7S04		NUT	9
8	17S05		WASHER, spring	9
9	513332500		TRIM, rubber	1
10	513336700		ANGLE, tie	1
11	11S05C		SCREW, set	26
12	7S05		NUT	26
13	17S06		WASHER, spring	26

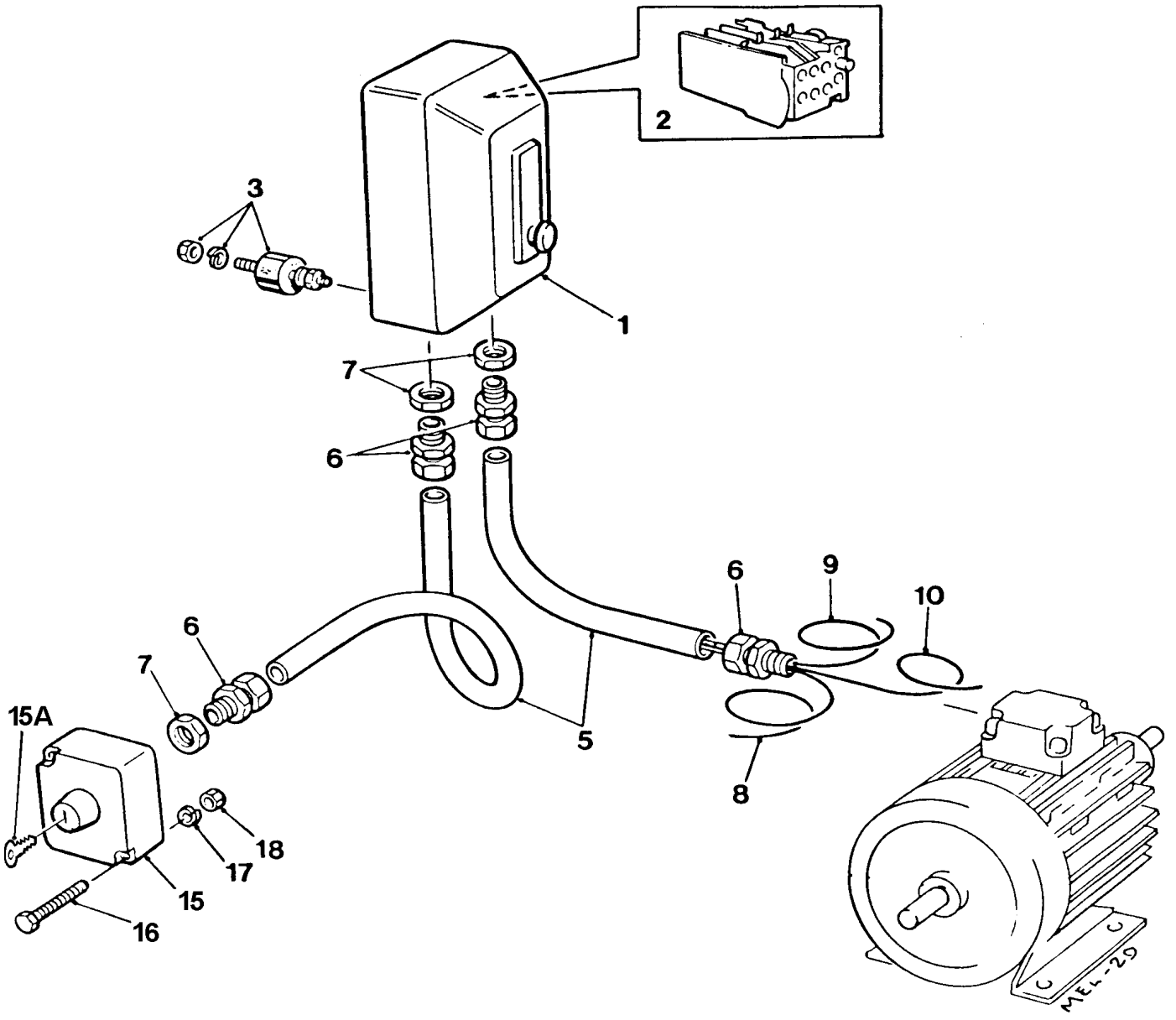
200TM Mixer *(from serial number 0524)*



WIRING LOOM, dragline

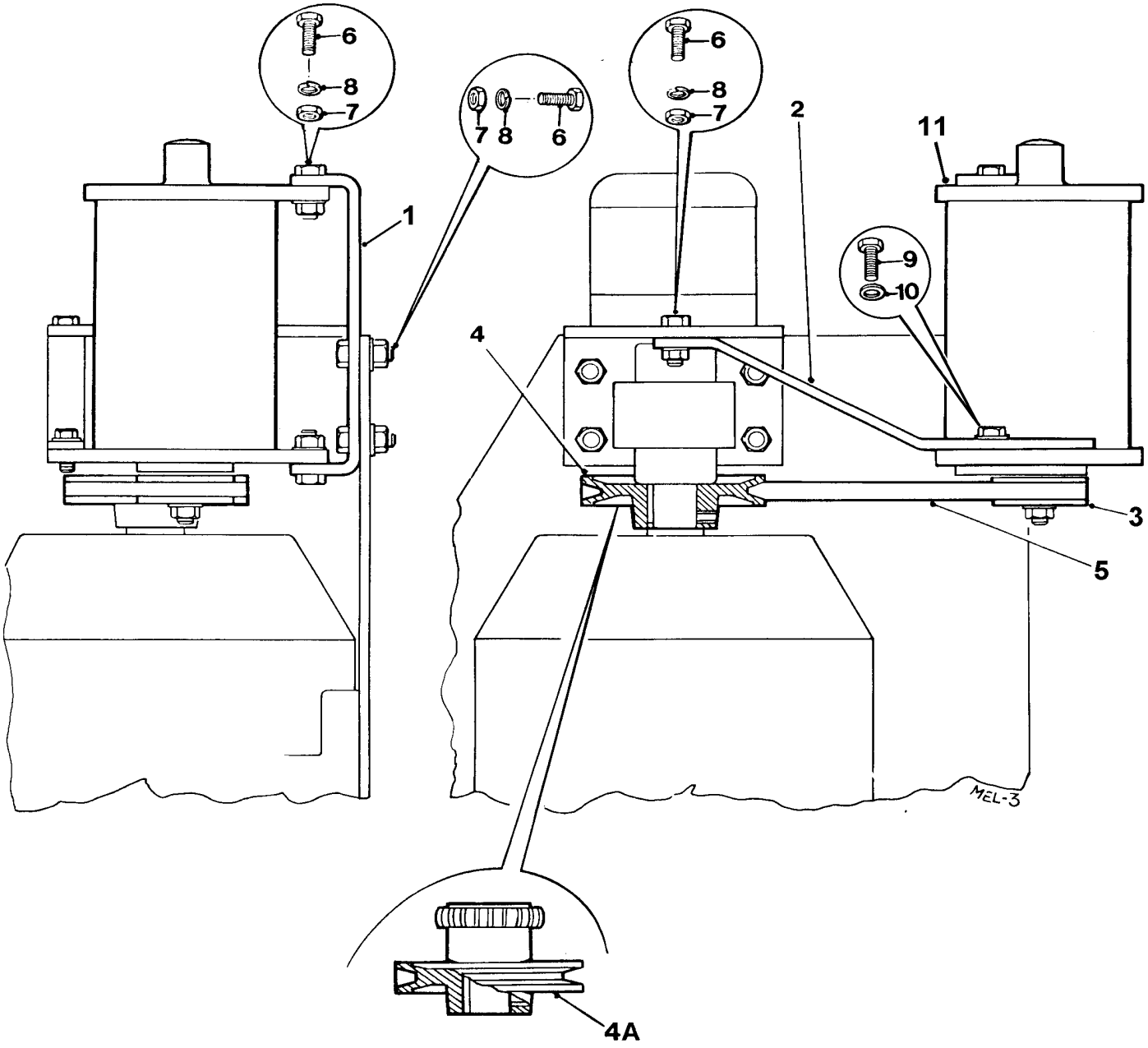
Item	Part no	Serial no	Description	Qty
-	513340300		LOOM assembly, dragline	1
1	20203000		REGULATOR	1
2	205304600		PLUG, socket	1
3	V2003252		GROMMET	2
4	207652000		RESISTOR, wire wound	1
5	555213700		BOARD, insulating	1
6	555253800		CLAMP, socket cable	1
7	82S07F		SCREW, round head	1
8	83S07		NUT	1
9	11S01A		SCREW, set	2
10	17S02		WASHER, spring	2
11	7S01		NUT	2
12	11S02B		SCREW,set	2
13	267S04		WASHER, flat	4
14	61S02		NUT, self-locking	2
15	11S01A		SCREW, set	2
16	267S03		WASHER, flat	4
17	17S03		WASHER,spring	2
18	7S01		NUT	2

200TM Mixer *(from serial number 0524)*



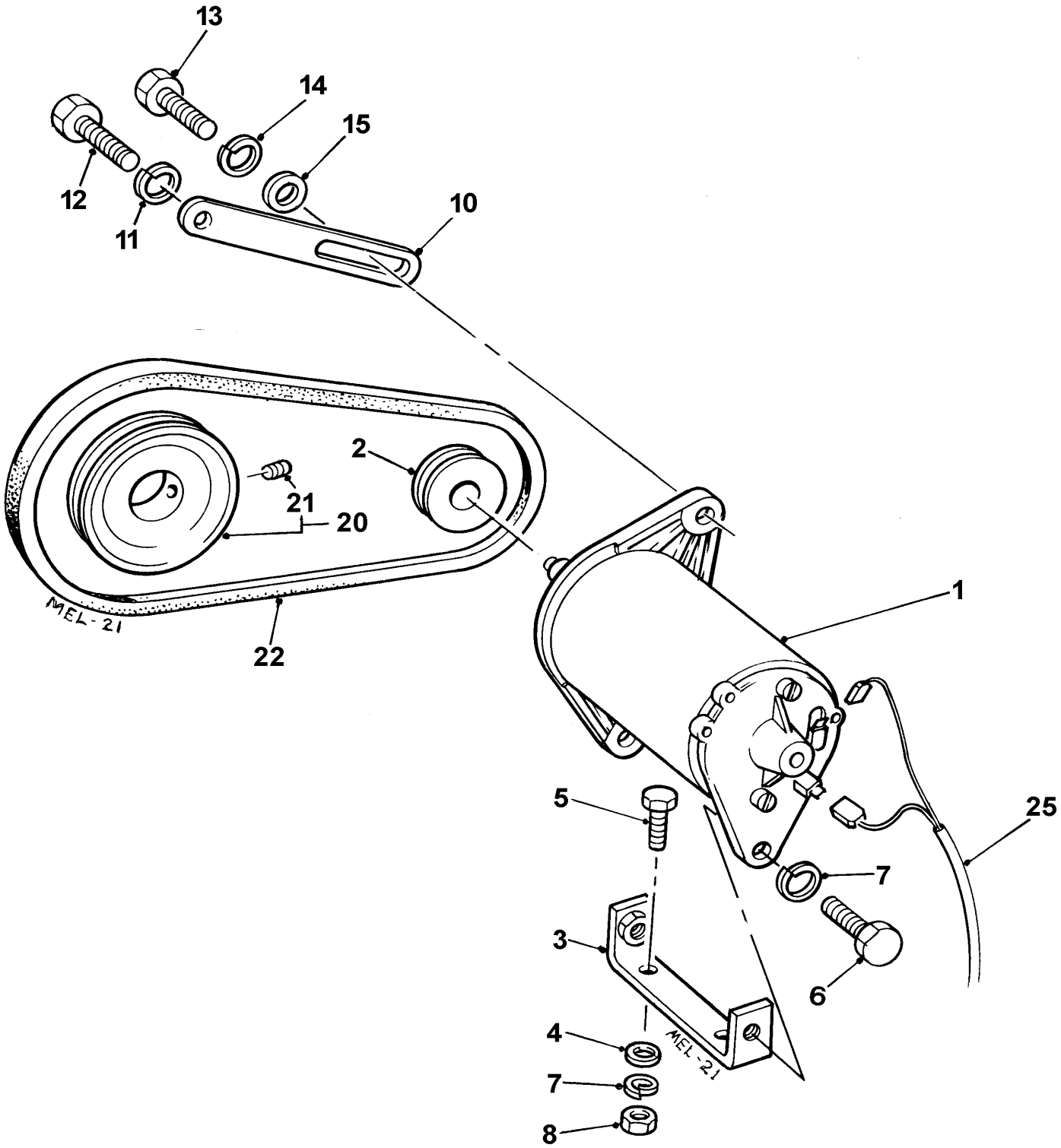
Item	Part no	Serial no		Description	Qty
				When ordering please state whether the Start/Stop switch is ……	
				# "Star Delta"	
				or	
				x "Direct On Line"	
1	208304103	/ 0892	#	SWITCH, " Start / Stop "	1
1	208304109	0893 /	x	SWITCH, " Start / Stop "	1
2	208304104	/ 0892	#	RELAY, overload	1
2	208304108	0893 /	x	RELAY, overload	1
3	13203000			MOUNTING, shock absorbing	3
5	131736000	/ 0892	#	TUBE, conduit, 25mm	.75 meter
5	131770010	0893 /	x	TUBE, conduit, 20mm	.75 meter
·····	131575020			SOCKET, reducer, 25x20 mm *(if required)*	AR
6	131272000	/ 0892	#	COUPLING, 25mm	4
6	131271000	0893 /	x	COUPLING, 20mm	4
7	133275050	/ 0892	#	NUT, locking	3
7	133272000	0893 /	x	NUT, locking	3
8	144797000			CABLE, red *(order by meter)*	
9	144798000			CABLE, black *(order by meter)*	
10	144799000			CABLE, green/yellow *(order by meter)*	
15	208870000	/ Oct-04	#	SWITCH, stop, assembly	1
				# OBSOLETE: use 208880000	
15A	V602651	/ Oct-04		KEY, stop switch	1
15	208880000	Oct-04 /		SWITCH, stop, assembly	1
·····	208880000A	Oct-04 /		MUSHROOM key reset, c/w keys	1
·····	208880000B	Oct-04 /		CONTACTOR	1
·····	208880000C	Oct-04 /		ENCLOSURE	1
15A	V603623	Oct-04 /		KEY, stop switch	2
·····	133470000			PLUG, stop switch casing	1
16	16S06H	/ Oct-04		SCREW, set	2
16	11S01D	Oct-04 /		SCREW, set	
17	17S02			WASHER, spring	2
·····	267S03			WASHER, flat	2
18	7S01			NUT	2

200TM Mixer *(from serial number 0524)*



Item	Part no	Serial no		Description	Qty
1	513333000			BRACKET, dynamo	1
2	513333200			BRACKET, dynamo adjuster	1
3	513334300			PULLEY, dynamo	1
4	513350600		#	PULLEY, dynamo drive, 28mm bore	1
4A	513349900		#	PULLEY/HALF COUPLING (welded)	
			#	513349900 consists of pulley 513350600 and half coupling 147320500 welded together.	
5	397436000			BELT, vee	1
6	11S03C			SCREW, set	5
7	7S03			NUT	5
8	17S04			WASHER, spring	5
9	66S02CC			SCREW, set	1
10	41S04			WASHER, flat	1
11	205501000			DYNAMO, clockwise rotation	1

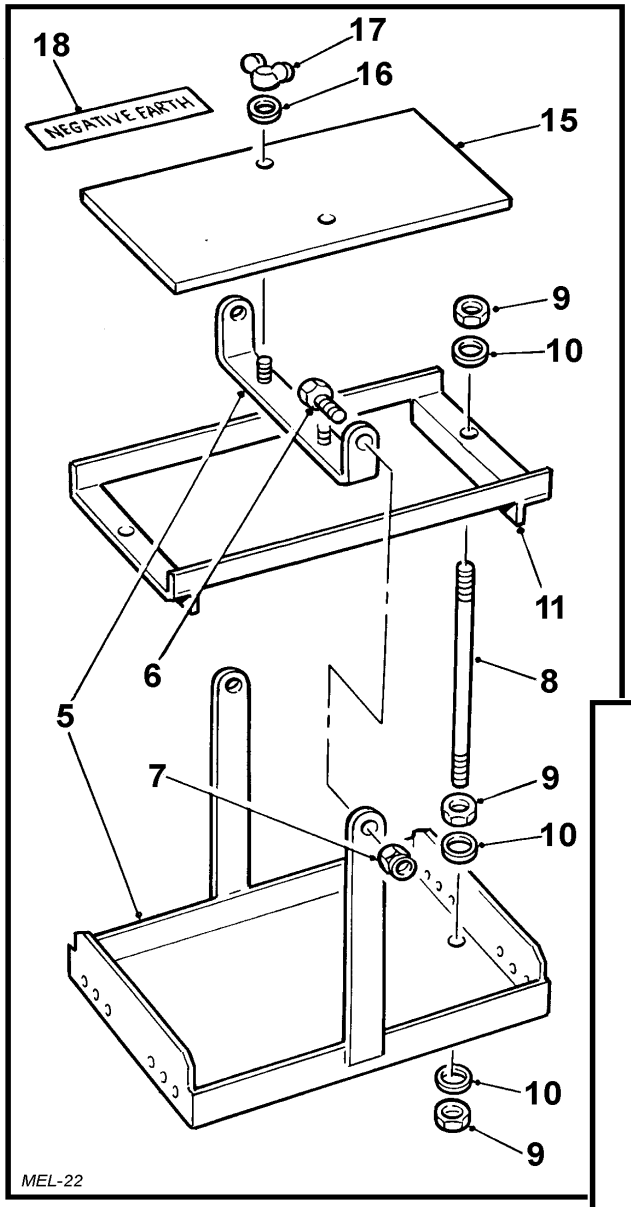
200TM Mixer *(from serial number 0524)*

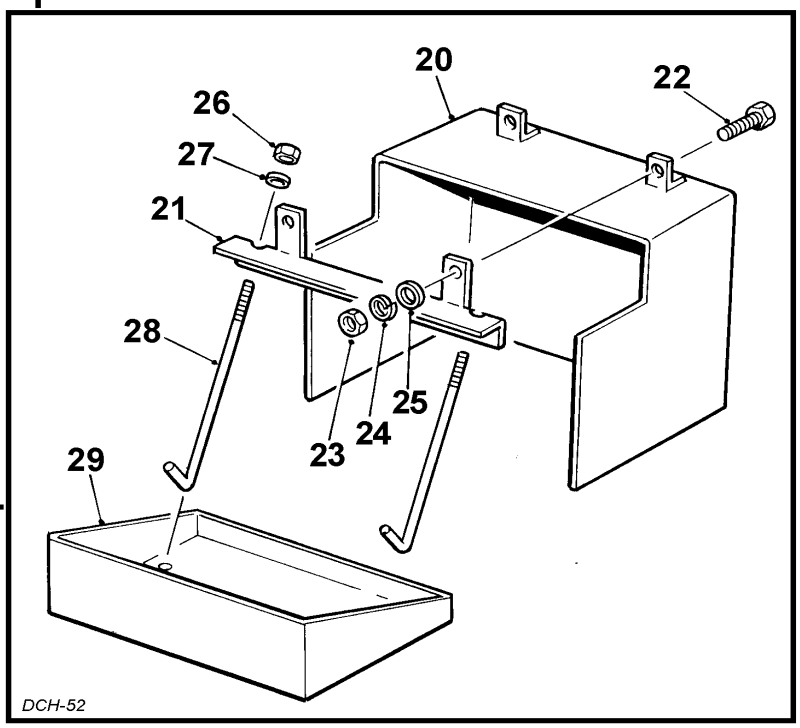


DYNAMO & MOUNTING - Dragline mixer
Lister-Petter TS1 (hand start) engine

Item	Part no	Serial no	Description	Qty
1	205501100		DYNAMO	1
2	513334300		PULLEY, dynamo	1
3	513347300		BRACKET, dynamo	1
4	267S05		WASHER, flat	2
5	11S03B		SCREW, set	2
6	11S03C		SCREW, set	2
7	17S04		WASHER, spring	4
8	7S03		NUT	2
10	513347400		STAY, dynamo	1
11	66S03A		SCREW, set	1
12	41S05		WASHER, spring	1
13	66S02CC		SCREW, set	1
14	41S04		WASHER, spring	1
15	10S02		WASHER, flat	1
20	513348500		PULLEY, assembly, engine	1
21	57S05E1		SCREW, grub	1
22	189S02A		BELT, 850mm long	1
25	—-		CABLE, electric *(see page H - 1)*	

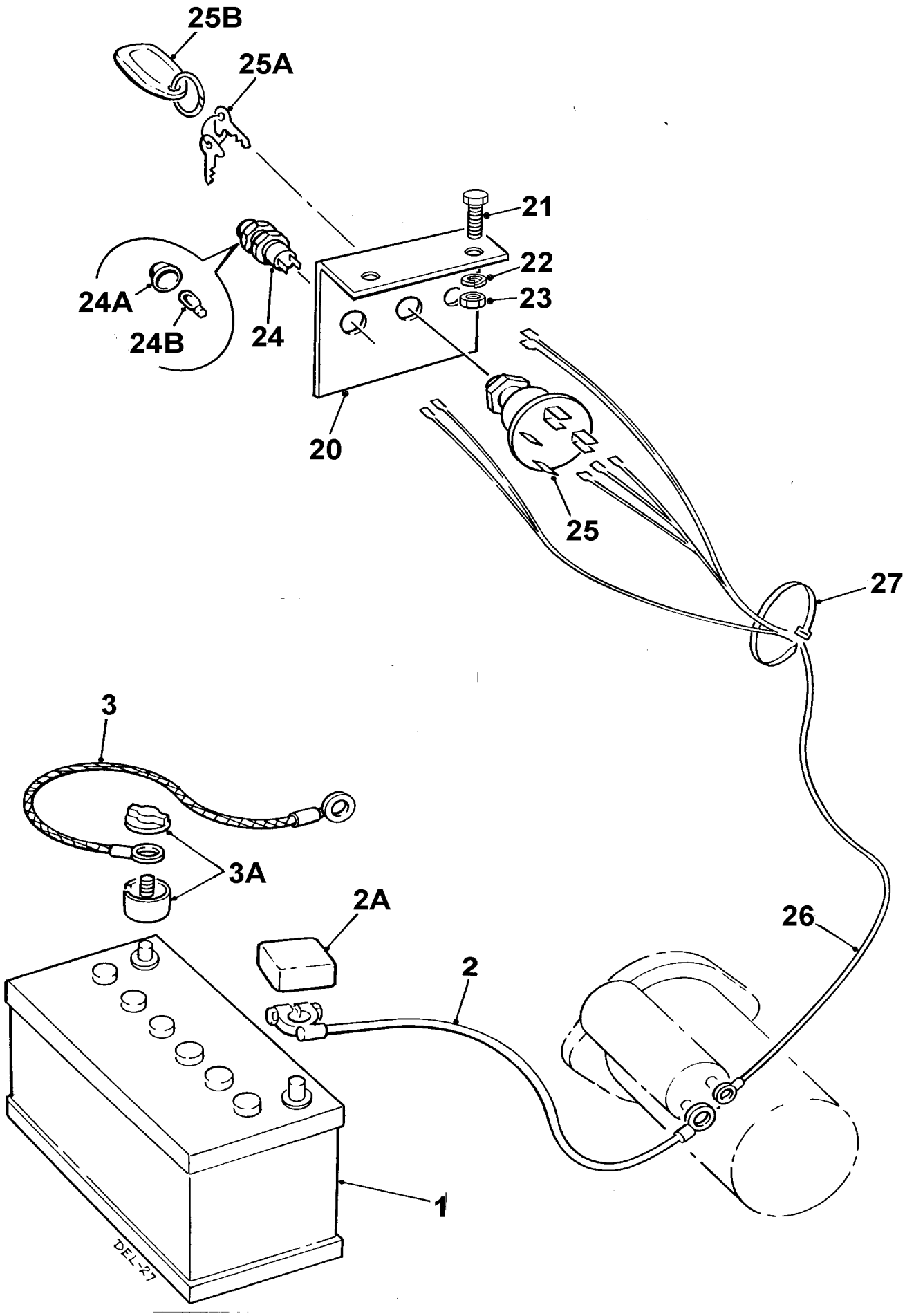
200TM Mixer *(from serial number 0524)*





Item	Part no	Serial no	Description	Qty
5	30080A03		CARRIER, battery	1
6	11S04C		SCREW, set	2
7	59S03		NUT, nylon insert	2
8	40SA17		ROD, tie	2
9	9S01		NUT	6
10	267S04		WASHER, flat	6
11	10559A01		CLAMP, battery	1
15	10742A05		COVER, battery	1
16	267S04		WASHER, flat	2
17	177S03		NUT, wing	2
18	—-		DECAL, Neg. Earth (see Decal Sec.)	1
20	513358600		COVER, battery	1
21	V2004055		CLAMP, battery	1
22	11S04B		SCREW, set	2
23	7S04		NUT	2
24	17S05		WASHER, spring	2
25	267S06		WASHER, flat	2
26	61S02		NUT, "Binx", self locking	2
27	267S04		WASHER, flat	2
28	V2004120		ROD, clamp	2
29	513358500		TRAY, battery	1

200TM Mixer *(from serial number 0524)*



Item	Part no	Serial no	Description	Qty
1	109S08		BATTERY	1
2	10989A10		CABLE, battery, "Positive"	1
2A	V2004204		INSULATOR, positive cable	
3	V2003510		CABLE, battery “Negative”	1
3A	V2004214		ISOLATOR, negative cable	
20	20313A05		PANEL, instruments	1
21	11S04B		SCREW, set	2
22	17S05		WASHER, spring	2
23	7S04		NUT	2
24	V602634		LIGHT, “Warning”	1
24A	V602635		LENS	1
24B	V602636		BULB	1
25	V2004189		SWITCH, engine starting	1
25A	V601179		KEY	2
25B	V2003540		RING, key	1
26	30231A11		LOOM	1
27	V2003111		TIE, cable, nylon, 200mm long	AR
27	V2003253		TIE, cable, nylon, 380mm long	AR

200TM Mixer *(from serial number 0524)*

1

200 TM

2

WINGET

WINGET LIMITED
P.O. Box 89, Smethurst Lane, Bolton Lancs BL4 0WW
Tel: (0204) 665165 Fax: (0204) 665206

Model			
Serial no.			
Engine no.		Power output	
Capacity		Weight kg.	
SRO		Year of man.	

A Seddon Group Company

3

DANGER

KEEP ENGINE HOUSING LID CLOSED WHEN ENGINE IS RUNNING

4

SAFETY WARNING

1 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.

5

WATER TANK OPERATION

FILL	OPEN INLET VALVE UNTIL DESIRED QUANTITY SHOWS IN GAUGE GLASS
DISCHARGE	PULL AND HOLD CHAIN DOWN UNTIL DISCHARGE IS COMPLETE

6

DANGER

DO NOT WALK, STAND OR LEAN UNDER RAISED HOPPER UNLESS IT IS SECURELY PROPPED

7

-HOPPER CONTROL-

TO RAISE HOPPER:- PULL CONTROL LEVER UPWARDS.
TO LOWER HOPPER:- PUSH CONTROL LEVER DOWNWARDS.

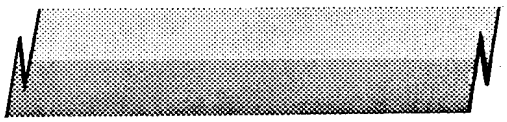
RELEASING THE LEVER WILL HALT THE HOPPER WHEN IT IS MOVING UP OR DOWN.

DO NOT HOLD CONTROL IN 'RAISE' POSITION WHEN HOPPER IS FULLY UP.

8

WINGET

9



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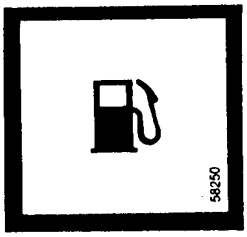

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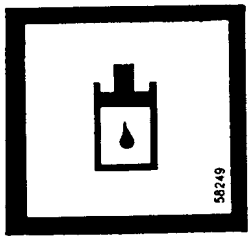


12

WARNING

DO NOT TAMPER WITH THE PIPE CONNECTION ON THE LOAD CELL OR GAUGE.
THIS IS A SEALED CIRCUIT AND MUST NOT BE INTERFERED WITH.

13

14

15

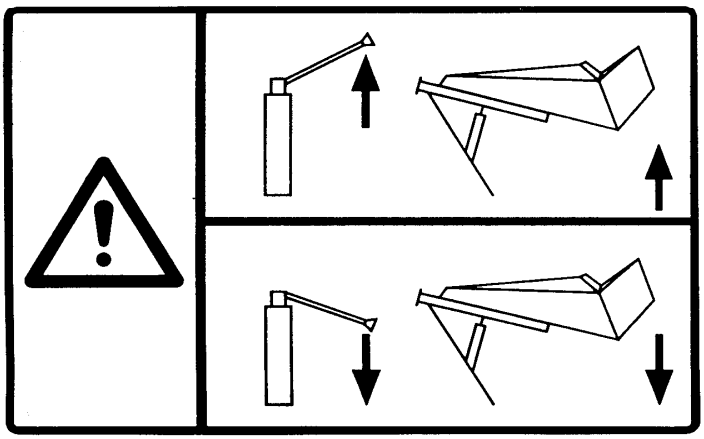
50p.s.i.

16

NEGATIVE EARTH

Item	Part no	Serial no	Description	Qty
1	V2003108		“200TM”	1
2	V2003037		PLATE, serial number	1
-	15S01A		SCREW	4
3	504600900		WARNING, engine housing	1
4	504694600		WARNING, safety	1
5	513331500		WATER TANK OPERATION	1
6	513331600		DANGER, hopper	2
7	555153600		HOPPER CONTROL	1
8	V2003039		LOGO, "WINGET"	4
9	V2003038		STRIPE, bodywork	4
10	V2003101		DIESEL FUEL	1
11	V2003100		HYDRAULIC OIL	1
12	515175000		WARNING, loadcell	1
-	101S05D		RIVET, pop	4
13	V2003665		SLING POINTS	2
14	V2003598		BRITISH MADE	1
15	10166A02		TYRE PRESSURE	4
16	4602331		NEGATIVE	1

20



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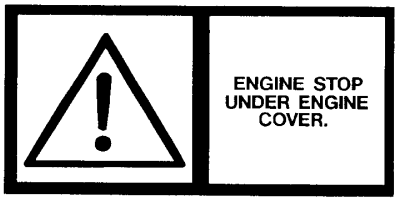

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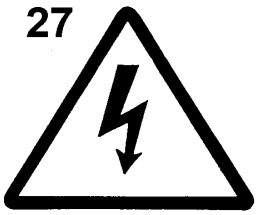

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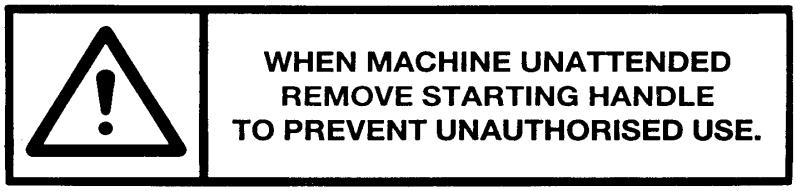

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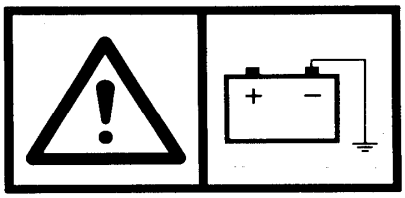

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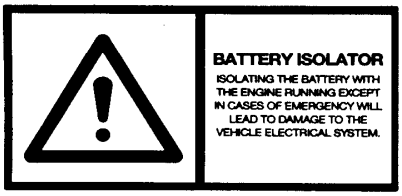

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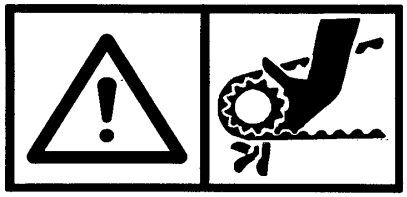

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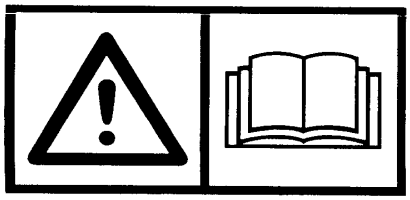

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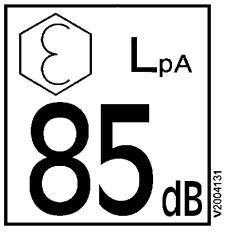

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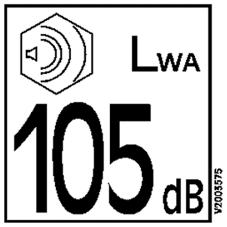

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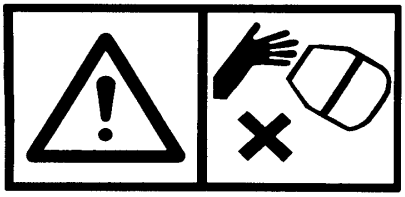
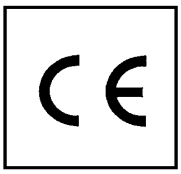
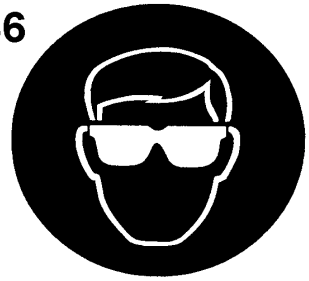


Item	Part no	Serial no	Description	Qty
20	V2004259		HOPPER CONTROLS	1
21	V2004137		EAR PROTECTION	2
22	V2004227		BATTERY ISOLATOR	1
23	V2004229		OPERATORS HANDBOOK	2
24	V2004282		HOT SURFACES	1
25	V2004289		HANDS CLEAR	2
26	V2004302		ENGINE STOP	1
27	V2004307		ELECTRICAL HAZARD	2
28	V2004288		REMOVE STARTING HANDLE	1
29	V2004235		NEGATIVE EARTH	1
30	V2004281		ENTRAPMENT	1
31	V2004131		85 LpA	1
32	V2003575		105 LWA	1

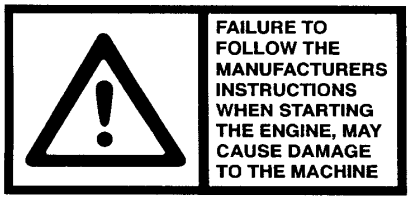
35



36

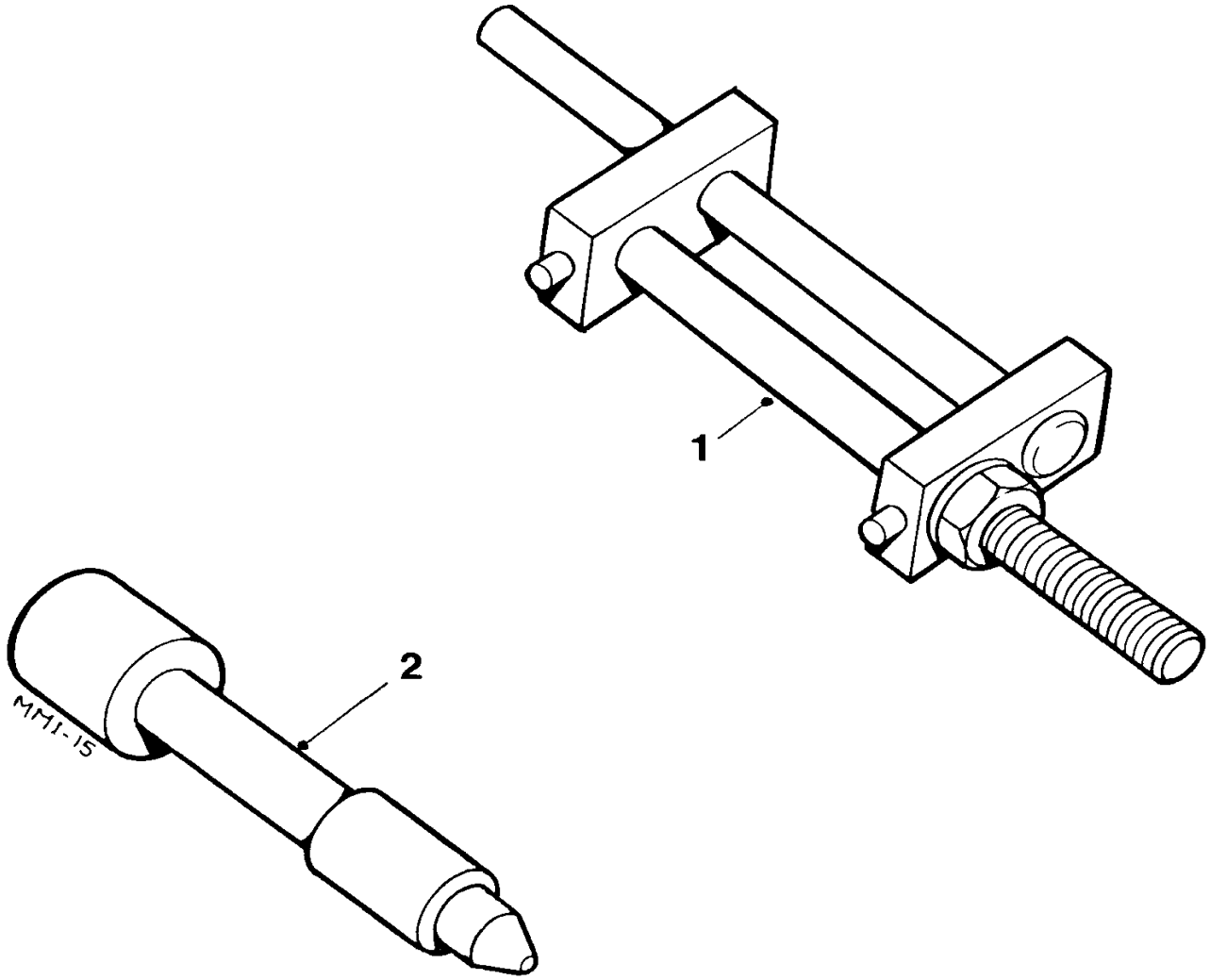


37


FAILURE TO
FOLLOW THE
MANUFACTURERS
INSTRUCTIONS
WHEN STARTING
THE ENGINE, MAY
CAUSE DAMAGE
TO THE MACHINE

Item	Part no	Serial no	Description	Qty
35	V2004223		“CE” MARK *(Only applied to EC specification machines)*	1
36	V2004744		EYE PROTECTION	2
37	V2005208		ENGINE STARTING PROCEDURE	1

200TM Mixer *(from serial number 0524)*



Item	Part no	Serial no	Description	Qty
1	513204000		CLAMP, drum clip	1
2	V2003698		PUNCH, bleed valve seat	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.