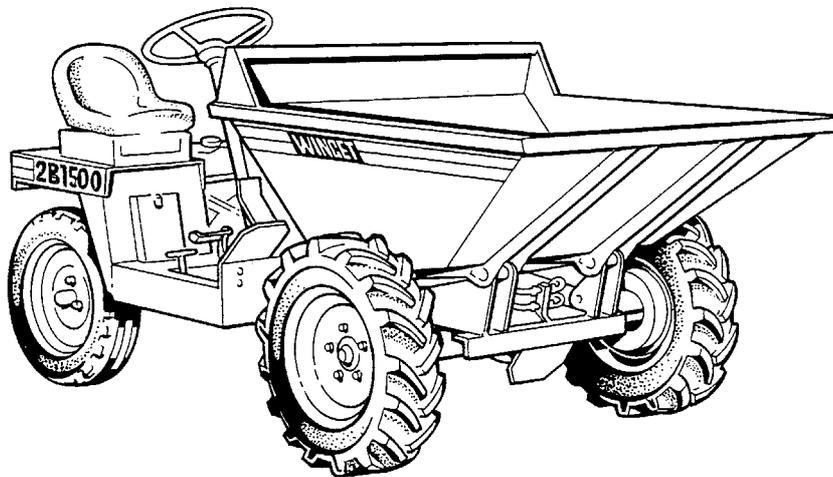


DUMPERS

2B1000

2B1500



OPERATORS HANDBOOK

&

PARTS

Manual MAN523 *April 2019*

Up to Serial Nos 2B1000 - 0646
2B1500 - 1213

WINGET

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DUMPERS

2B1000

2B1500



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.

CONTENTS

| Section | Page | Section | Page |
|------------------------------|------|--|------|
| INTRODUCTION | | SERVICE | |
| Contents | II | Service Safe Working | 3.1 |
| Introduction to the Handbook | III | Safety Skip Supports | 3.2 |
| Machine identification | III | Service schedule chart | 3.3 |
| Warranty Terms & Conditions | IV | Engine | 3.5 |
| | | Lubrication oil and filter | 3.5 |
| | | Fuel System | 3.7 |
| | | Air Cleaner | 3.8 |
| | | Gearbox | 3.9 |
| | | Front axle | 3.10 |
| | | Wheels & Tyres | 3.11 |
| | | Battery | 3.17 |
| | | Steering box | 3.13 |
| | | Hydraulic system | 3.14 |
| | | Braking systems | 3.18 |
| | | Greasing | 3.20 |
| SAFE WORKING | | TECHNICAL INFORMATION | |
| Machine modification | 1.1 | Dimensions | 4.1 |
| Training | 1.1 | Specifications | 4.3 |
| Running-in | 1.1 | <i>Road speeds</i> | |
| Driving | 1.1 | <i>Lubricants & fluids</i> | |
| Skips and loading | 1.3 | <i>General dumper specifications</i> | |
| Towing | 1.3 | <i>Capacities - fluids</i> | |
| Gradients | 1.3 | <i>Adjustments</i> | |
| Hydraulics | 1.4 | <i>Pressures</i> | |
| Servicing | 1.4 | <i>Noise levels</i> | |
| Decal identification | 1.6 | <i>Drawbar loads</i> | |
| | | <i>Load capacities</i> | |
| | | <i>Vibration declaration</i> | |
| | | Main electrical circuit | 4.6 |
| | | Road lights electrical circuit | 4.7 |
| OPERATION | | PARTS | |
| Dumper controls | 2.1 | This section, at the rear of the book, is a pictorial parts catalogue. | |
| Running-in a new engine | 2.3 | | |
| Pre-start checks | 2.3 | | |
| Petter PH1 engine | 2.4 | | |
| Lister ST1 engine | 2.5 | | |
| Lister-Petter TR1 engine | 2.7 | | |
| Engage gear lever | 2.10 | | |
| Gradients | 2.10 | | |
| Braking | 2.10 | | |
| Stopping the dumper | 2.10 | | |
| Leaving the dumper | 2.10 | | |
| Skip operation | 2.11 | | |
| Towing with the dumper | 2.12 | | |
| Towing the dumper | 2.12 | | |

THE HANDBOOK

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

The contents of this Operators 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. Consult your Distributor for details of authorised training courses.

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



WARNING *These notes are used to indicate that the procedure being described in the Handbook must be followed to avoid serious injury or death to yourself or 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.

MACHINE IDENTIFICATION

Please record the model and serial numbers of your machine in the spaces provided and quote them when ordering parts.

Model - Year

Front axle serial no.

Dumper serial no.

Ram, tipping, L.H.

Key, start

Ram, tipping, R.H.

Engine serial no.

Front tyre size

Gearbox serial no.

Rear tyre size

WARRANTY TERMS & CONDITIONS

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

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

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

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

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

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

Tyres and tubes are not covered by Warranty, but are covered by the tyre manufacturer's own warranty system which provides against defects in material or workmanship.

Engines are covered separately by the engine manufacturers, and engine warranty repairs must be handled by the relevant engine manufacturers' distributors.

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

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

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

Safety is the responsibility of all persons working with this machine. Think “safety” at all times. ***Read and remember the contents of this handbook.***

The safe working recommendations for specific tasks are found with the instructions for the relevant operation in 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.

TRAINING

WARNING Only trained operators should use this machine.



Operators should hold an appropriate full motor vehicle driving licence and undergo both a safety awareness course and a driver training course for Site dumpers run by the C.ITB or equivalent body leading to the award of a CTA.

It is strongly recommended that operators read the H.S.E. publication “Safe Working with Small Dumpers” which is available from government bookshops (HMSO) or from other bookshops quoting the following number ISBN O11 8836935. Another useful publication is British Standard number BS 6264, “Procedure for Operator Training For Earth Moving Machinery” available from the British Standard Institution.

RUNNING-IN

WARNING While a gradual ‘running-in’ of a new engine is not necessary, it is extremely important that the instructions given in *Section 2 “Operation”* on “Running-in a new engine” should be followed very closely during the first fifty hours of operation.



DRIVING

WARNING **NEVER** use the machine for purposes other than those for which it was designed. This machine was designed to carry loads such as soil, clay, sand, wet concrete, stone or other similar materials. It was not designed to carry loads which may move around in the skip uncontrollably, nor to carry any loads or materials which overhang the skip in any way. If in any doubt as to the suitability of this machine for a particular task, contact your nearest Distributor or the Manufacturer for advice.



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

NEVER commence work with the machine until the “Daily (or every ten hours)” service checks have been made. (See *Service Section* for details)

ALWAYS check wheel nut tightness daily.

NEVER carry passengers.

Ensure that the seat is securely fixed to the machine. Where seat belt restraints are fitted as part of Rops/Fops protection they must be worn. Check that the seat belt is in good condition, free from cuts and frayed edges.

ALWAYS remain in the driving seat whenever the engine is running. Never attempt to operate any controls unless seated.

ALWAYS apply the parking brake before leaving the driver’s seat.

NEVER dismount with the engine running, and never leave the machine unattended with the key in the starter switch.

When Battery Isolators are fitted they must be activated only when the engine is turned off except in cases of emergency.

Activating a Battery Isolator when the engine is running can result in damage to the electrical components and circuits.

NEVER fill the fuel or hydraulic tanks with the engine running.

ALWAYS drive only on surfaces that are known to be stable.

ALWAYS keep the floor plates and walkways clean.

NEVER drive the machine close to the edge of any excavation. Always use effective wheel stops to prevent the machine running close to the edge. Make sure that the stops are in proportion to the size of the wheels and are set sufficiently far enough back from the edge of any excavation to prevent the weight of the load causing a collapse.

NEVER adjust the tyre pressures in an attempt to improve traction on soft ground or obtain a softer ride on hard ground. Incorrectly adjusted tyres can affect the steering and handling characteristics.

NEVER attempt to free a machine which is ‘bogged down’ by pushing with the bucket of a backhoe loader, tracked excavator or other similar machine.

NEVER make unnecessary “crash stops” when travelling at speed, especially in forward direction.

NEVER work under an unpropped skip. If the dumper was supplied with a special skip support always ensure that it is used.

SKIPS AND LOADING

WARNING NEVER exceed the rated payload. The weights of all loads above skip water level must be checked.



NEVER remain on the machine when loading the skip with excavators or loaders. Stop the engine, apply the parking brake, dismount, and stand well clear.

ALWAYS ensure that the load is evenly distributed in the skip.

NEVER carry loads or heap materials in such a manner as to affect the forward vision.

ALWAYS take extra care when tipping non free running loads.

NEVER use the skip in a tipped position to bulldoze heaped materials level or to backfill material into excavations.

TOWING

WARNING NEVER attempt to start the engine of a dumper by towing or pushing.



Dumpers are not designed as towing vehicles. However, trailers may be towed provided that:

- 1 The combined weight of the trailer and its load does not exceed the dumper “drawbar pull of 250kg (2500N)” and dumper “drawbar load of 50kg (500N)”.
- 2 Trailers may be towed in first gear on level dry ground, provided a purpose made towing pin is used.
- 3 The dumper skip must be loaded with half the rated payload to ensure tyre adhesion when braking.

NEVER tow loads up, down or across gradients.

GRADIENTS

WARNING NEVER operate **Two Wheel Drive rigid chassis dumpers** on gradients that exceed 10% (1 in 10), or across gradients that exceed 10% (1 in 10).



ALWAYS remember that slippery or loose surface conditions can adversely affect safe machine operation, including braking, particularly on gradients.

ALWAYS choose routes that avoid steep, slippery or loose gradients.

NEVER coast down gradients. Always negotiate gradients in first gear.

ALWAYS drive forwards up gradients when loaded.

ALWAYS reverse down gradients when loaded.

ALWAYS keep the load facing uphill.

NEVER park on a gradient. If this is unavoidable, *ALWAYS* chock the wheels.

NEVER attempt to turn on a gradient

NEVER tow up, down or across a gradient.

NEVER operate high discharge or rotating skips on gradients.

HYDRAULICS

WARNING *ALWAYS* “Dump” residual pressure from the system before leaving the machine or before carrying out any maintenance or adjustments.



If maintenance work requires the skip to be in the raised position, then it must be raised and supported before dumping the pressure.

Dump pressure by switching off the engine, then moving the hydraulic control lever several times in each direction.

NEVER leave the machine unattended with pressure in the system.

ALWAYS purge hydraulic rams before commencing work. With the engine running operate the hydraulic control to fully extend and retract the rams.

ALWAYS practise the greatest cleanliness in maintaining hydraulic components.

SERVICING

WARNING *ALWAYS* report any defect at once, before an accident or consequential damage can occur.



ALWAYS conform to service schedules except where:

- 1 Warning lights or warning indicators call for immediate attention.
- 2 Adverse conditions necessitate more frequent servicing.

ALWAYS wear correctly fitting protective clothing. Loose or baggy clothing can be extremely dangerous when working on running engines or machinery.

ALWAYS, where possible, work on or close to engines or machinery only when they are stopped. If this is not practical, remember to keep tools, test equipment and all parts of your body well away from the moving parts.

ALWAYS “Dump” pressure from the hydraulic system before carrying out any kind of maintenance or adjustment. (**see Service - Hydraulic system**).

ALWAYS avoid contact with exhaust pipes, exhaust manifolds and silencers when the engine is running; these can be very hot.

ALWAYS work out of doors, or in a well-ventilated area.

NEVER run an engine in an enclosed space. Exhaust fumes in enclosed areas can kill.

ALWAYS disconnect battery cables and remove battery before using an external charger, carrying out welding repairs or to prevent unauthorised usage when unattended or during a repair.

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

NEVER attempt to modify or repair Rops Frames or Fops Canopies by welding, drilling or any other means. Attempts to do so will invalidate Rops/Fops Certification.

ALWAYS obtain advice before mixing oils; some are incompatible. If in doubt drain and refill.

NEVER allow oils and fuels to come into regular contact with skin. This can lead to serious skin diseases including, medical evidence suggests, skin cancer. *ALWAYS* wear protective gloves when handling oils and fuels whether topping up, draining or refilling. *ALWAYS* wash hands if oils or fuels come into contact with the skin.

Many liquids used in this machine are harmful if taken internally or splashed into the eyes. In the event of accidentally swallowing oils, fuels, anti-freeze, battery acid etc, *DO NOT* encourage vomiting, seek qualified medical assistance immediately.

ALWAYS dispose of waste oils and fuels 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.

Equipment which includes friction materials will sometimes contain asbestos. When removing friction material dust from components, such as when servicing brakes or clutches, do not blow out with an airline; it could be harmful to inhale the dust. Remove the dust with a vacuum cleaner or wipe clean with a damp rag. Waste should be placed in a sealed container, marked, and disposed of in accordance with local or national regulations.

The accumulated dust found in clutch housings may contain lead/antimony. No food should be eaten at a work place contaminated by this dust. Hands must be washed before eating. Do not blow out dust with an airline.

NEVER work under an unpropped skip. ***If the dumper was supplied with a special Skip Support always ensure that it is used.***

ALWAYS ensure that when using a starting handle that it is clean and in good condition. Keep the engine starting dog and the part of the starting handle that mates with it lightly lubricated (*Refer to the Engine Handbook*).

DECALS

Attached to the dumper are several pictorial warning decals

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

For detailed information on how to safely use the items described by the decals, see the "Safe working, Operation and Servicing" sections of this Handbook.

Brief descriptions of the decals are as follows:

Fuel tank filling point.



Wear ear protection.



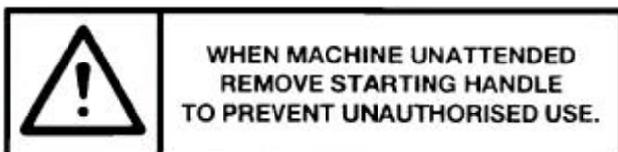
Hydraulic oil filling point.



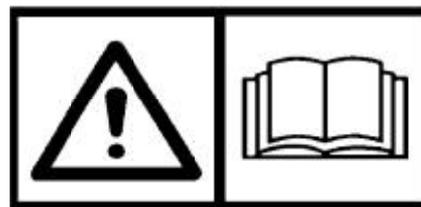
The Battery Isolator is situated close to this decal.



Remove starting handle.



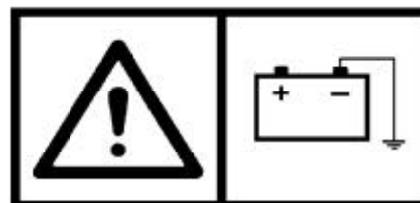
Read Operators Handbook, or Operators Handbook storage place.



Attach lifting hooks to this eye.



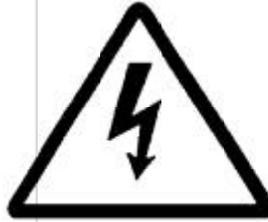
The battery negative terminal is connected to earth.



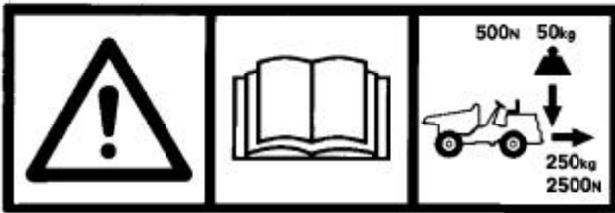
CE (EEC machines only).



Beware of electrical hazards.



Decal indicates the maximum loads that the dumper towbar can carry and pull.



These surfaces may be hot.



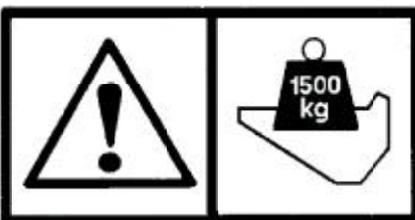
Forks and buckets are not to be used to push or lift the dumper.



When loaded, always REVERSE down gradients.



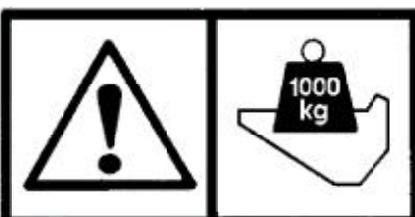
The figure shown on this decal is the maximum load for the skip onto which this decal is fastened.



ISO Skip Support, when used, is pinned around the tipping ram rod to prevent the ram from closing.



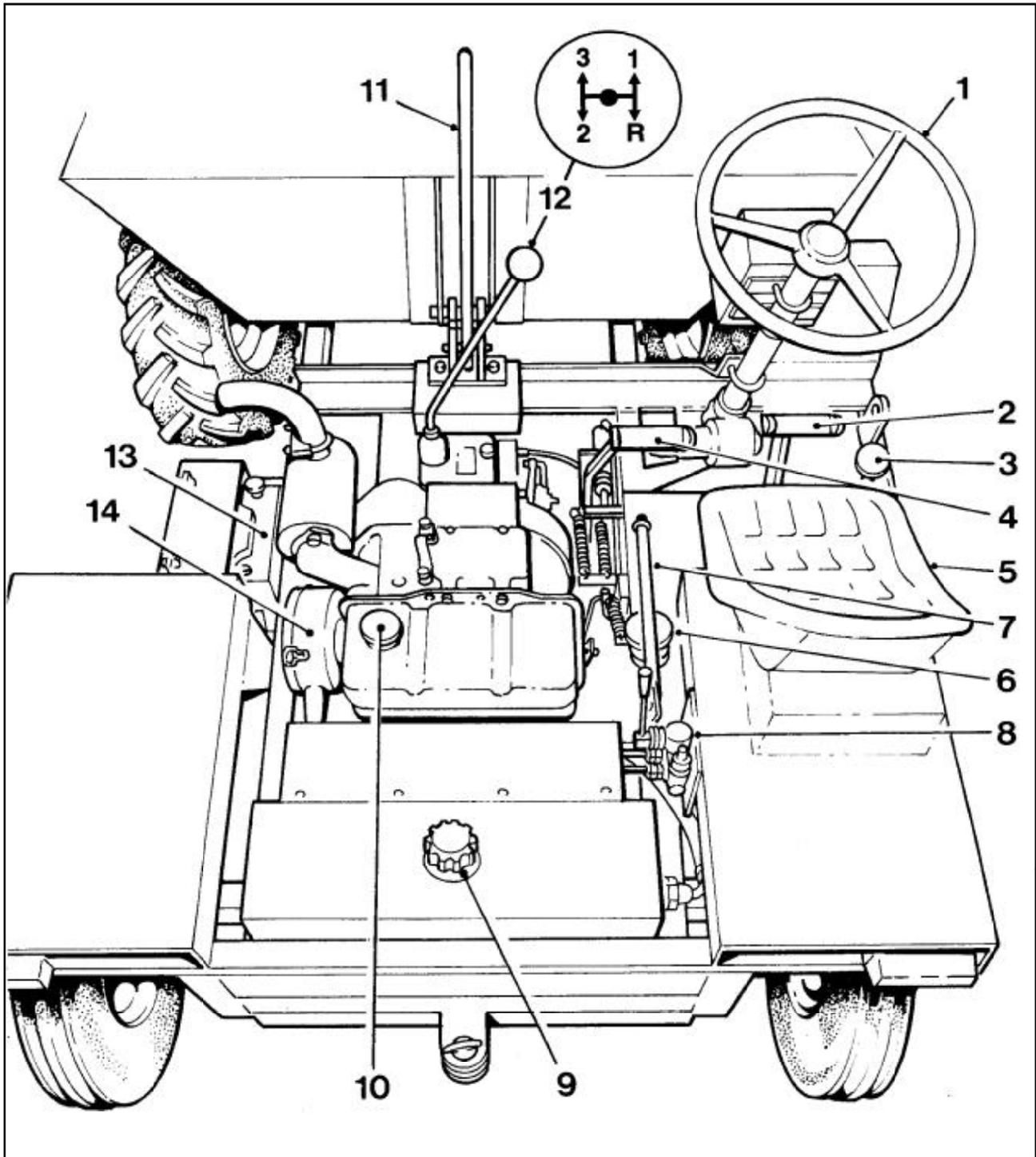
The figure shown on this decal is the maximum load for the skip onto which this decal is fastened.



Wear eye protection.

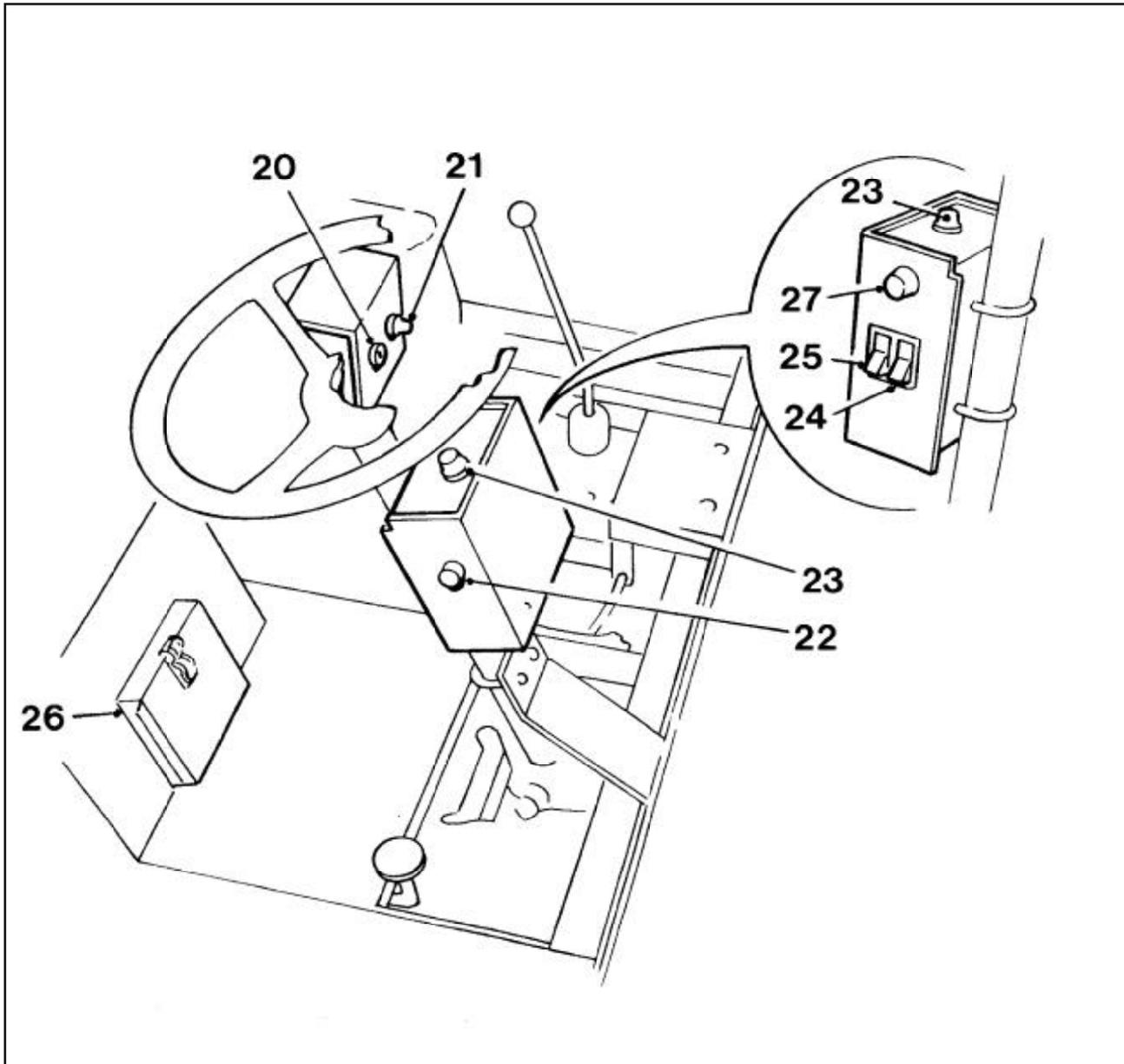


CONTROLS AND SERVICE POINTS



- | | |
|--|---|
| 1 Steering wheel | 8 Skip control, tip/return (hydraulic tipping) |
| 2 Brake | 9 Hydraulic oil filler cap |
| 3 Accelerator | 10 Fuel filler cap |
| 4 Clutch | 11 Skip release lever (manual tipping) |
| 5 Seat | 12 Gear lever |
| 6 Brake oil reservoir (Hydraulic brakes only) | 13 Battery |
| 7 Parking brake | 14 Engine air cleaner |

ELECTRICAL CONTROLS



20 Key start switch

21 Warning light: battery charging

22 Switch: direction indicators

23 Warning light: direction indicators

24 Switch: hazard warning lights

25 Switch: Side and head lights

26 Document case

27 Horn

DRIVING THE DUMPER**Safety warnings**

Read also the “*Safe Working*” Section before operating the dumper.

WARNING ALWAYS wear correctly fitting protective clothing. Loose or baggy clothing can be extremely dangerous when operating or servicing machinery.



Only skilled personnel are permitted to work with this machine.

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

Starting the engine

WARNING NEVER use ether type starting aids.



ALWAYS stop the engine if the battery charge warning light (where fitted) fails to cancel.

ALWAYS stop the engine if warning lights illuminate. Detect the fault before continuing.

DO NOT PROCEED IF A FAULT IS EVIDENT

NEVER attempt to start the dumper by pushing or towing.

NEVER operate controls unless you are seated on the machine, and ALWAYS remain in the driving seat whenever the engine is running.

Running-in a new engine

While a gradual ‘running-in’ of a new engine is not necessary, it is **EXTREMELY IMPORTANT** that the following instructions should be followed very closely during the first fifty hours of operation.

- 1 Avoid overloading the engine.
- 2 Use the lower gears when operating with heavy loads, and avoid continuous operation at constant engine speeds.
- 3 Check the instruments frequently, and keep the oil compartments and the hydraulic reservoirs filled to their recommended levels.
- 4 Do not operate the engine at high speeds without a load.
- 5 Do not allow the engine to run at idle speeds for long periods; this may cause bore glazing and an increase in oil consumption.

Operating in this way throughout the machine’s life will prove beneficial to its overall performance and efficiency.

Pre-start Checks

WARNING NEVER commence work with the machine until the checks detailed in “Every 10 operating hours, or daily” have been carried out. (See Service Schedule).



Check that all controls are clean and not slippery, and that they all function correctly.

Check that the areas around pivot points, rams and linkages are all free from mud, ice and debris.

Check that all grab handles, steps and platforms are clean and dry.

Check the machine for any obvious damage or faults.

Check that all decals can be clearly read.

DRIVING THE DUMPER

Petter PH1 engines (UP TO 1988)

To start Petter PH1 engines:

Ensure the parking brake is in the raised "ON" position.

Ensure gear lever is in the neutral position.

WARNING If a starting handle is to be used, see that the shaft is greased. Make sure the starting handle can be freely withdrawn.



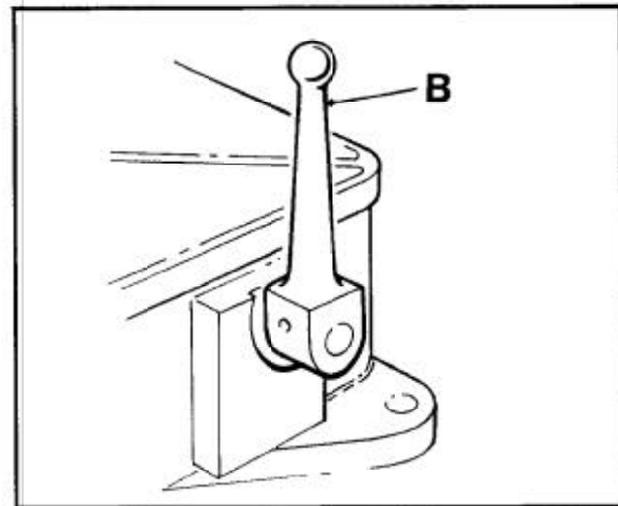
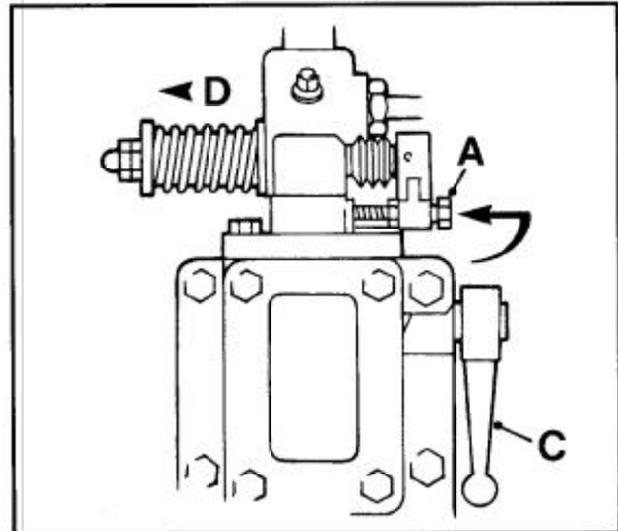
On the engine, lift the overload stop (A) and move the fuel pump rack (D) in the direction of the arrow to the fully open position.

Operate the fuel pump priming lever (C) approximately six times. (This is unnecessary with a warm engine.)

Lift the decompression lever (B) to the vertical position. Crank the engine as fast as possible or use the starter motor. When the engine is turning at a good speed, knock down the lever (B). The engine should now fire.

If the engine does not fire, lift the decompressor lever (B) and slowly turn the engine a few times before attempting to start again. Do not operate the starter motor for more than 20 seconds at a time.

Note: If it is necessary to bleed and prime the fuel system, consult the *PH1 Engine Operators Handbook*.



To stop PH1 engines:

WARNING NEVER stop the engine by using the decompressor lever. This will lead to damaged valve seats and cylinder head joints.



DO NOT stop the engine by allowing the tank to run dry. This will make it necessary to bleed and prime the system.

DO NOT remove or alter the setting of the overload stop.

It is advisable to run on light load for a few minutes before stopping.

Raise the priming lever (C) to the vertical position, or move and hold the fuel pump rack (D) away from the fly wheel until the engine stops.

DRIVING THE DUMPER

Lister ST1 engines (UP TO 1988)

To hand start Lister ST1 engines:

Ensure the parking brake is in the raised "ON" position.

Ensure gear lever is in the neutral position.

Move the decompressor lever over towards the flywheel (F).

Pull the control lever outwards and allow it to rotate anticlockwise so that it abuts against the top stop and is in a vertical position (G).

IMPORTANT: Ensure that the starting handle is of the correct type and is fully servicable. Lightly oil the end of the starting shaft and the starting handle.

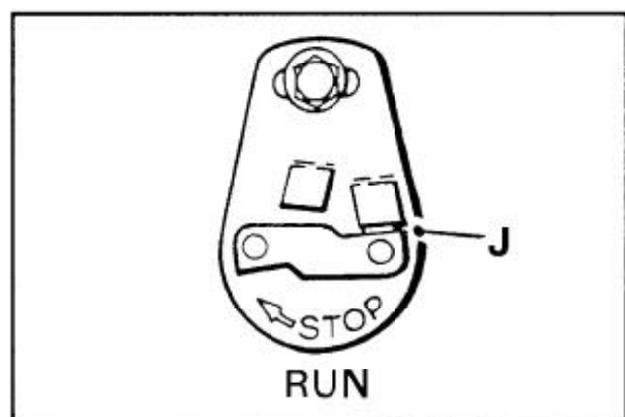
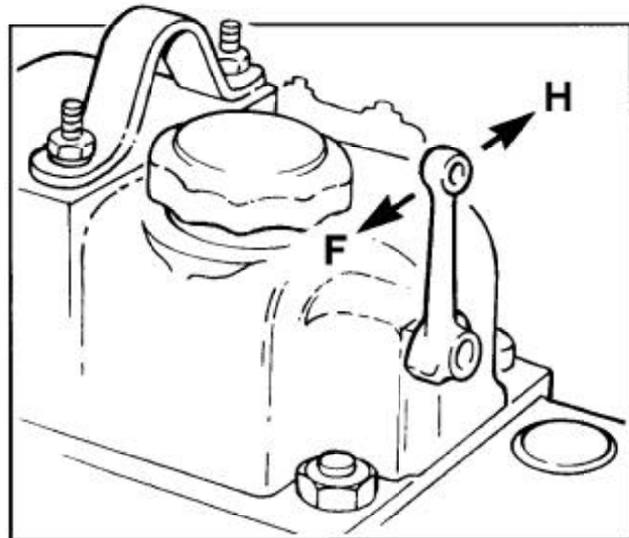
Check the arrow on the handle for correct rotation, then turn the handle in the opposite direction to that required to start engine. This is done in order to check that the clutch pin will disengage from the keyway, and does not bind on the starting shaft.

ENSURE THERE ARE NO BURRS ON THE SHAFT.

IMPORTANT: With the starting handle, turn the engine slowly from 3 to 20 turns according to the temperature and period of standing unused, in order to prime the combustion chamber and the lubricating oil system.

Turning the starting handle in the correct rotation, crank the engine really fast and when maximum cranking speed is reached move the decompressor lever away from the flywheel (H). Retain a firm grip on the starting handle and continue to crank until the engine fires. Remove the starting handle from the shaft.

WARNING It is dangerous to allow the handle to rotate on the running shaft.



IMPORTANT: As soon as the engine reaches normal speed, turn the control lever clockwise to the horizontal position so that it abuts the horizontal stop (J).

DRIVING THE DUMPER

To key (Electric) start Lister ST1 engines:

Ensure the parking brake is in the raised "ON" position.

Ensure gear lever is in the neutral position.

Depress and hold down the accelerator.

Pull the control lever outwards and allow it to rotate anticlockwise so that it abuts against the top stop and is in a vertical position (**G**).

Turn the starter key and release immediately the engine fires. Do not motor the engine continuously for more than 20 seconds

Release the accelerator pedal.

IMPORTANT: As soon as the engine reaches normal speed, turn the control lever clockwise to the horizontal position so that it abuts the horizontal stop (**J**).

Cold Starting Below -10°C (14°F)

A cup and plunger is fitted to the combustion air intake port on ST engines. Operate as follows:

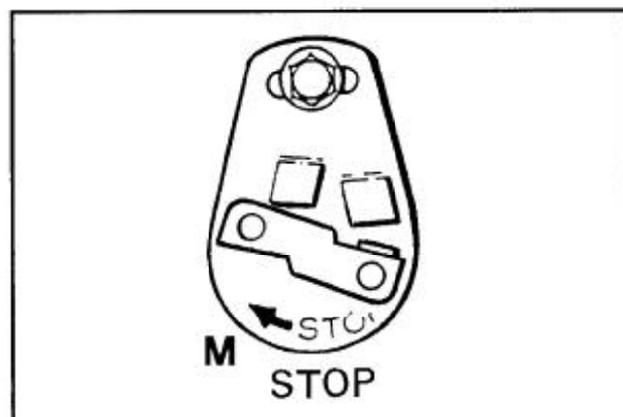
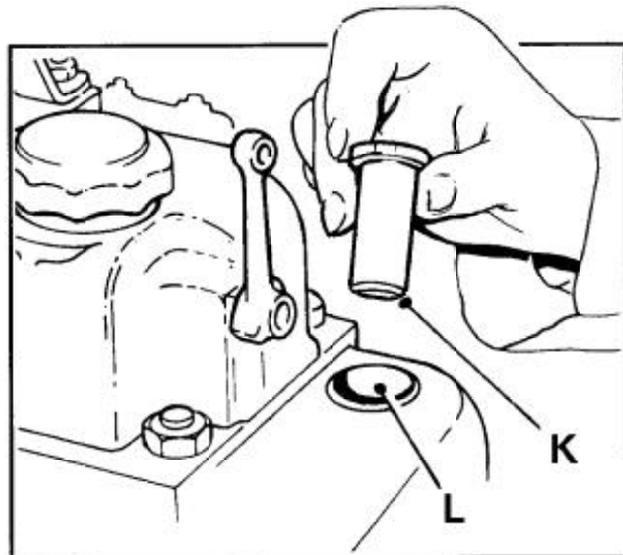
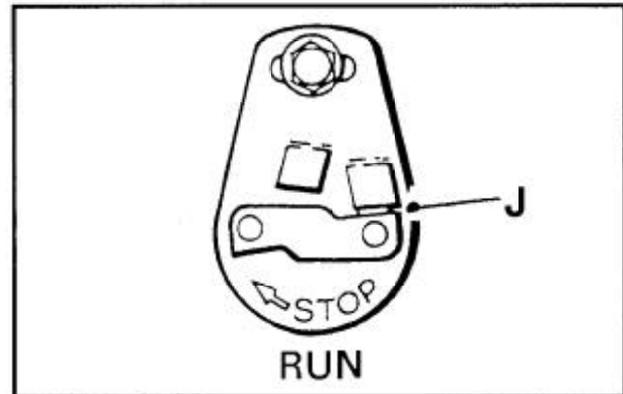
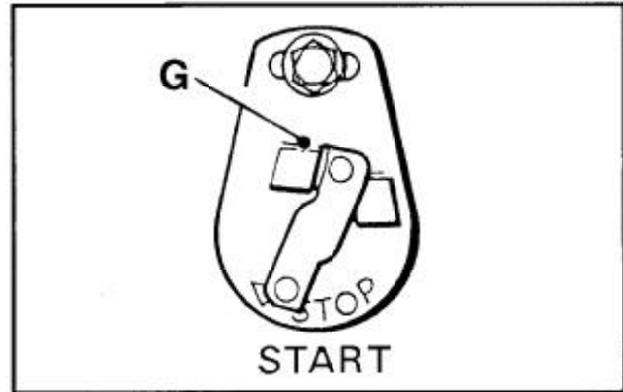
Withdraw the plunger (**K**) and fill one third of the cup (**L**) with the same type of lubricating oil as used in the engine.

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

The device must not be used more than three times in succession. When hand starting, turn the engine 20 revolutions with the fuel on after injecting the oil, before attempting to start.

To stop engine

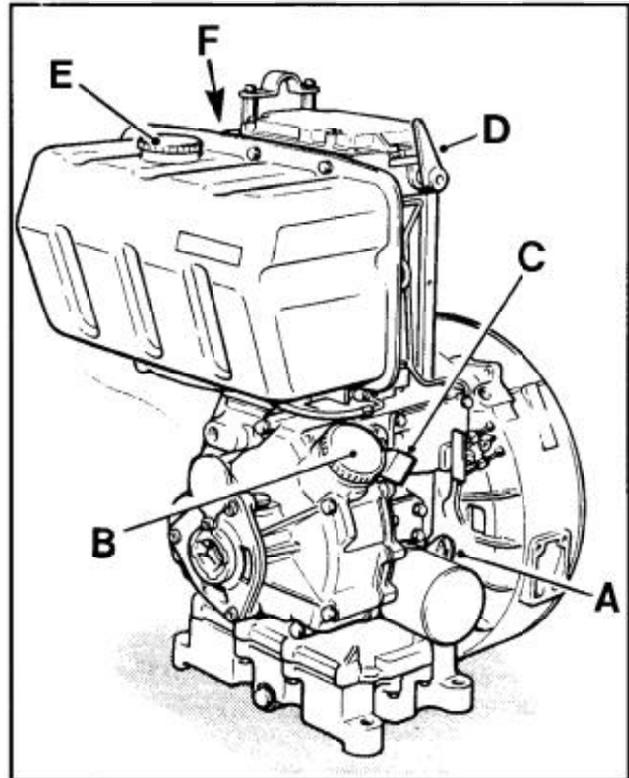
Turn the control lever clockwise in the direction of the arrow (**M**) and hold it until the engine stops.



TS/TR1 engines

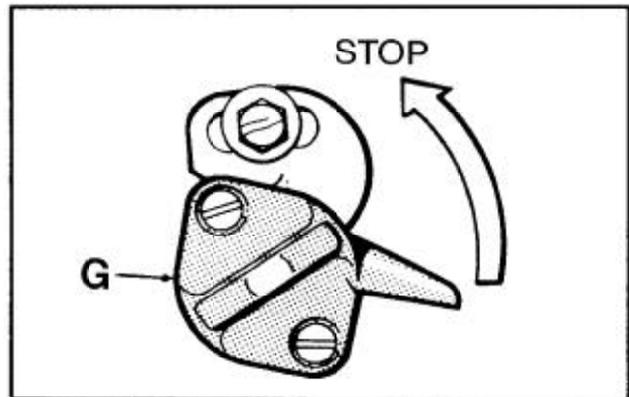
Description

- A Dipstick
- B Lubricating oil filler
- C Engine control
- D Decompressor lever
- E Fuel tank
- F Cold start oil cup



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.



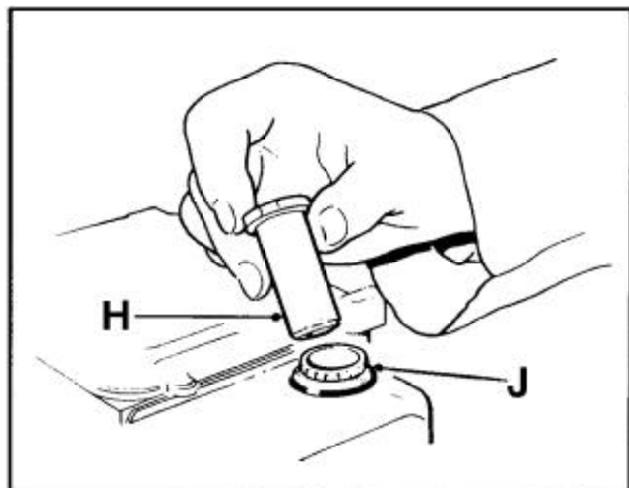
Cold Starting Below -10°C (14°F)

A cup and plunger is normally fitted to the combustion air intake port on TR and TS engines.

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.*



DRIVING THE DUMPER

Hand starting TS/TR1 engines

Ensure the parking brake is in the raised “ON” position.

Ensure gear lever is in the neutral position.

Always use the correct starting handle which 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.*



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

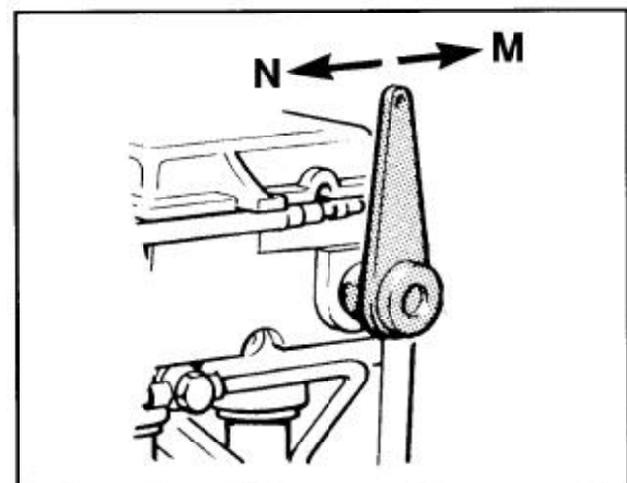
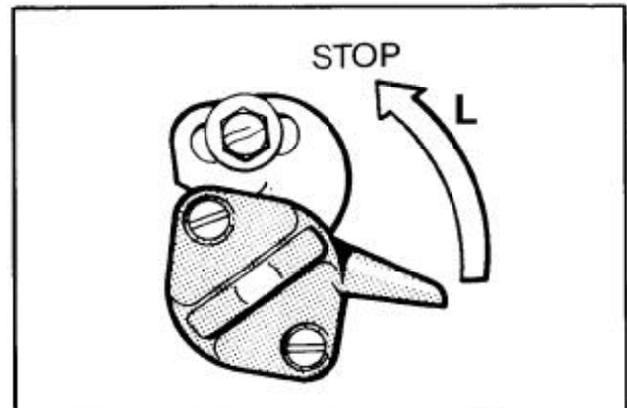
Move the decompressor lever towards the flywheel (**M**).

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 lever 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 TS/TR1 engines

Ensure the parking brake is in the raised "ON" position.

Ensure the gear lever is in the neutral position.

Fully depress and hold down both clutch and accelerator pedals.

Note: (From January 1995 on UK/EEC specification dumpers) A starter inhibitor switch has been fitted to the clutch pedal. This causes the starter to be 'dead' until the clutch pedal is fully depressed.

Dumpers that are not to UK/EEC specification do not have this feature.

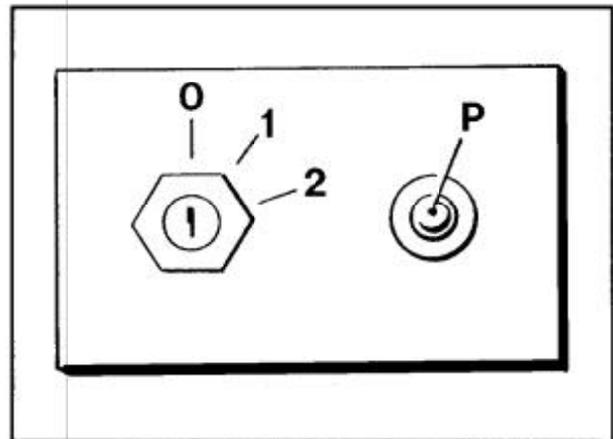
Check that the decompressor lever, (if fitted) is away (N) from the flywheel.

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

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



Key start engines: Turning the starter key to the "OFF" (0) position will not stop the engine unless an optional fuel control solenoid is fitted.

It is advisable to run on light load for a few minutes before stopping

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

Key start engines: After the engine has stopped, turn the starter key to the "OFF" (0) position.

DRIVING THE DUMPER

Gradients

IMPORTANT: *Read the notes in “Safe Working” and also remember the following:*

Slippery or loose surface conditions can adversely affect safe machine operation, particularly on gradients.

ALWAYS choose routes that avoid steep, slippery or loose gradients.

NEVER park the machine on a gradient.

NEVER attempt to turn on, or drive across, a gradient.

ALWAYS drive forwards up gradients when loaded.

ALWAYS reverse down gradients when loaded.

NEVER tow up or down gradients.

NEVER operate on a gradient which exceeds 10% (1 in 10), or across gradients which exceed 10% (1 in 10). This should be reduced where surfaces are wet or unstable.

NEVER operate high discharge or rotating skip options on gradients.

Braking

Dumpers with hydraulically operated brakes

The brake pedal operates a hydraulic master cylinder that supplies oil to brakes within the front axle. There are no brakes on the rear axle.

The handbrake operates a caliper that acts upon a disc mounted on the transmission.

Dumpers with rod operated drum brakes

The brake pedal and handbrake both operate expanding drum brakes within the front axle through a system of rods and linkages.

There are no brakes on the rear axle.

Engaging gear lever

When changing gear, always depress the clutch pedal before moving the gear lever from one gear to another.

Stopping the dumper

IMPORTANT: Never make unnecessary ‘crash’ stops when travelling at speed, especially in forward direction.

Release accelerator and brake to a halt progressively.

Select neutral gear.

Apply parking brake when stationary.

Stop the engine. Turn the starter key to the ‘OFF’ position, and remove the key.

Leaving the dumper

Ensure the machine is parked on firm, level ground. Do not park on a gradient.

Check that the parking brake is applied.

Ensure that the skip is fully lowered.

With the engine stopped, operate the hydraulic lever (where fitted) fully in each direction several times to ‘dump’ hydraulic pressure from the system.

Remove starter key (where fitted) from switch.

Electric start dumpers: If unattended for some time, remove earth cable from battery, or activate the Battery Isolator, (where fitted).

Skip operation

Loading

Never remain on the dumper when using excavators or loaders to load the skip. Stop the engine, apply the parking brake, dismount, and stand well clear.

Ensure that the load is evenly distributed in the skip. Never carry loads in such a manner as to affect the forward vision.

Never exceed the rated payload. The weights of all loads above skip water level must be checked.

Tipping

Only discharge on level ground.

It is recommended that only free flowing materials be tipped. *Take extra care when tipping non free running loads.*

Release lever (Gravity tipping)

To tip the skip:

Pull back the Release Lever. The skip will tilt forwards under its own weight.

To return the skip:

Pull the skip back manually into the carrying position. Ensure that it is locked into the skip catch.

Skip control lever (Hydraulic tipping)

The control lever has three positions; they are, Tip(or Dump), Hold and Return

To tip the skip:

Move the lever to DUMP.

To return the skip:

Move the lever to RETURN.

If the lever is released when in the DUMP or RETURN position, it will automatically return to the central HOLD position and movement of the skip will stop. In this way, the speed at which the skip is tipped can be finely controlled.

Rotating skips (where fitted)

After releasing the turntable locking catch, rotate the skip manually, then tip by using the hydraulic control lever.

When returned to the carrying position, ensure that the turntable catch is locked.

DRIVING THE DUMPER

Towing with the dumper

Dumpers are not designed as towing vehicles, however, trailers may be towed providing that:

- 1 The combined weight of the trailer and its load does not exceed the specified maximum dumper drawbar pull and dumper drawbar load (see *specifications*).
- 2 Trailers may be towed in first gear on level dry ground, provided a purpose made towing pin is used.
- 3 The dumper skip must be loaded with half the rated payload to ensure tyre adhesion when braking.

Never tow loads up, down or across gradients.

Towing the dumper

The dumper should only be towed if recovery is needed of a broken-down unit, or to free a “bogged down” machine.

Always ensure that ropes, chains, etc. used to tow the dumper have sufficient safe working load capability.

When towing the dumper, always ensure that the speed is kept to an absolute minimum.

Always tow the dumper with the gear lever in neutral.

Never attempt to start the dumper by pushing or towing.

WARNING *Read the safety notes in “Safe Working”, Section 1 of this book.*



Also note the following:

Safe handling of oils, filters and filter elements

WARNING *Do not allow oils to come into regular contact with skin. This can lead to serious skin diseases. Medical evidence suggests they may include skin cancer.*



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

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.

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.

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

Used filter elements contain some of the filtered oil and should be handled and disposed of with care.

SAFE WORKING**Rotary skip support bracket**

(WHERE FITTED)

The “Rotary skip support Bracket” **MUST** ONLY be used when the tipping ram is to be removed.

To install the “Skip support bracket”:

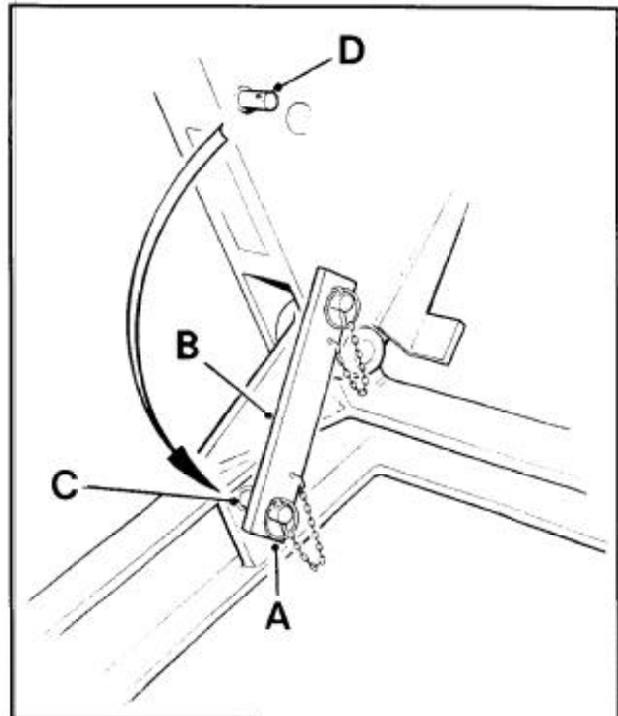
Raise the skip using the hydraulic control lever.

Remove clip/pin (A) from pin (D).

Swing down the bracket (B) and locate it on pin (C). (It may be necessary to adjust the height of the skip before the hole will align with the pin.)

Re-install clip/pin (A) on pin (C).

Do not operate the hydraulic control lever with the Skip Support Bracket in place.

**ISO Skip Support**

(WHERE SUPPLIED)

The “ISO Skip Support” **MUST** be used whenever working under a raised skip.

To install the “ISO Skip Support”:

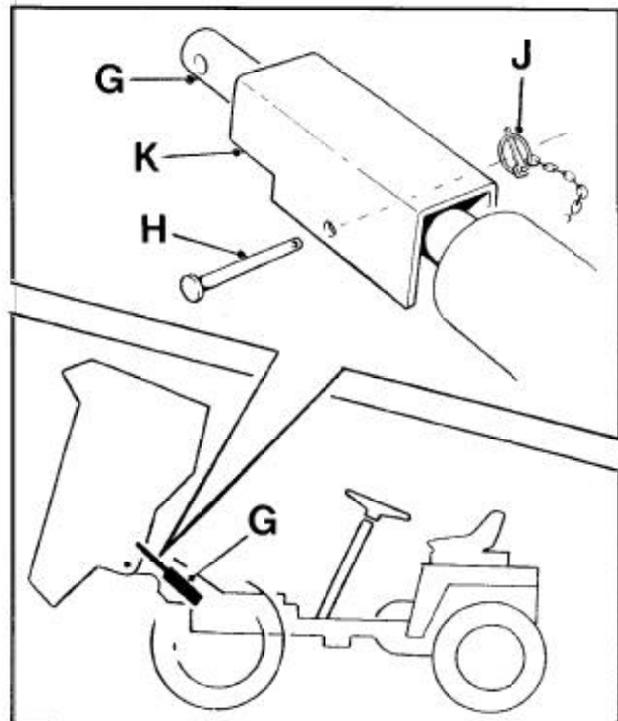
Release the “Support” (K) from its storage position on the rotary frame.

Raise the skip fully using the hydraulic control lever.

Place the “Support” (K) around the rod of the tipping ram (G).

Insert the pin (H) and secure it with clip/pin (J).

Do not operate the hydraulic control lever with the “ISO Skip Support” in place.



SERVICE SCHEDULE

IMPORTANT: The engine will require additional services or adjustments in addition to those listed below (See the appropriate Engine Operator's handbook or Workshop Manual).

WARNING *Warning lights and indicators
REQUIRE IMMEDIATE ACTION.*



| SERVICE OPERATION | REFERENCE | PAGE |
|--------------------------|------------------|-------------|
|--------------------------|------------------|-------------|

Every 10 operating hours, or daily, the above and the following

| | | |
|--------------------------------------|------------------|------|
| Engine oil level | Engine | 3.5 |
| Fuel tank level | Engine | 3.8 |
| Air cleanere | Engine | 3.8 |
| Wheel nut tightness | Wheels & tyres | 3.11 |
| Axle oil seals | Front axle | 3.10 |
| Brake oil reservoir | Brake system | 3.18 |
| Hydraulic oil level & hose condition | Hydraulic system | 3.16 |

Every 50 operating hours, or weekly, the above and the following

| | | |
|---|----------------|------|
| Axle nuts | Front axle | 3.10 |
| Front axle oil level | Front axle | 3.10 |
| Tyre pressures & condition | Wheels & tyres | 3.11 |
| Battery electrolyte level | Battery | 3.12 |
| Grease nipples | Greasing | 3.20 |
| Gearbox oil levels | Gearbox | 3.9 |
| Steering box oil level | Steering box | 3.13 |
| Parking brake Check function of the parking brake and adjust if necessary. | | |
| Propeller shaft Tighten securing nuts. | | |
| Brake pedal travel Check the action of the brake pedal; it should have a short travel and firm action. If travel is excessive, or the action spongy, have the brakes serviced by your distributor. | | |

First 100 operating hours

| | | |
|----------------------|------------------|------|
| Hydraulic oil filter | Hydraulic system | 3.17 |
|----------------------|------------------|------|

Continued >

SERVICE SCHEDULE

| <i>SERVICE OPERATION</i> | <i>REFERENCE</i> | <i>PAGE</i> |
|--|--|-------------|
| <i>Every 125 operating hours, the above and the following</i> | | |
| Air cleaner element | Engine | 3.8 |
| <i>Every 250 operating hours, the above and the following</i> | | |
| Engine oil and filter | Engine | 3.6 |
| Fuel filter | Engine | 3.7 |
| <i>Every 500 operating hours, the above and the following</i> | | |
| Air cleaner element | Engine | 3.8 |
| Fuel filter | Engine | 3.7 |
| Frame assembly bolts | Check all structural nuts & bolts for tightness. | |
| <i>Every 1000 operating hours, the above and the following</i> | | |
| Hydraulic oil & filter | Hydraulic system | 3.17 |
| Gearbox oil change | Gearbox | 3.9 |
| Front axle oil change | Front axle | 3.10 |
| <i>Every 2000 operating hours, or 2 years, the above and the following</i> | | |
| Brake system overhaul | Braking system | 3.18 |
| <p>Extra services</p> <p>Dirty working conditions Increase the frequency of all services during extremes of dirt, heat and cold, especially those relating to clean air, cooling efficiency, lubrication and machine cleanliness.</p> <p>Laying-up protection When a machine is to remain idle, remove the battery to the workshop. Seal all openings: air intake, exhaust breathers. Grease bright parts and protect rubber components from direct sunlight. Fill the fuel tank, check the tyre pressures and exhaust any pressure from the hydraulic system.</p> | | |

Engines fitted in dumpers

Up to 1985: Lister ST1 and Petter PH1

1985 to 1989: Lister-Petter PH1

1985 to 1989: Lister-Petter TS1

Note: from 1989 the TS1 has been offered as an option

1989 to date: Lister-Petter TR1

IMPORTANT

To service the following engines,

**Lister ST1,
Petter PH1**

Please refer to relevant Engine Operator's Handbook or Workshop Manual.

Lister-Petter TS/TR1

These engines will require additional services and adjustments in addition to those quoted in this handbook. Please refer also to the relevant Engine Operator's Handbook or Workshop Manual.

Engine lubrication oil

For engine oil grades and oil change periods when operating in temperatures above 30°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.

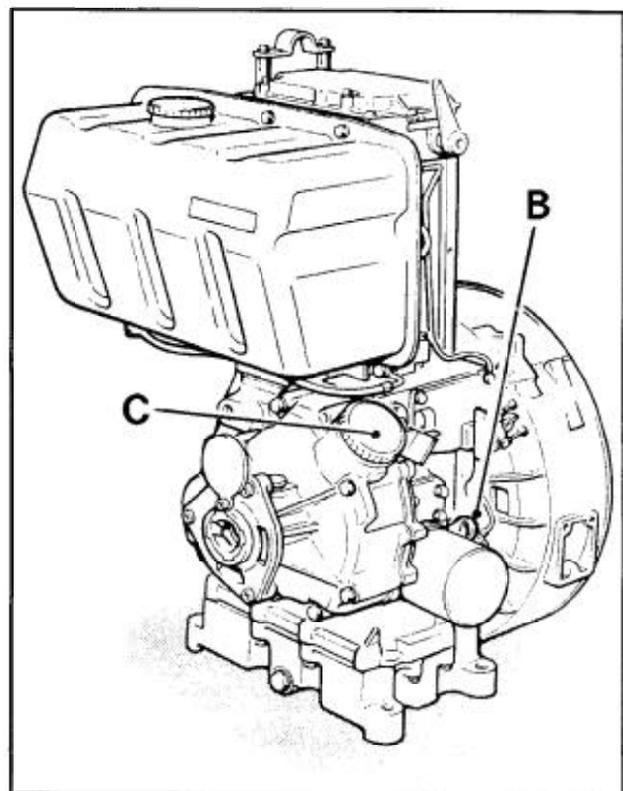
Oils and fuels can cause skin irritation. Wear suitable protective clothing to prevent skin contact.

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

Every 10 operating hours, or daily

Check lubrication oil level

Check the oil level with the dipstick **(B)**. Top up through filler **(C)** if necessary.



ENGINE

Every 250 hours

Drain and refill the oil 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 (**D**) and drain oil.

Clean and coat the threads of the drain plug with an appropriate sealant.

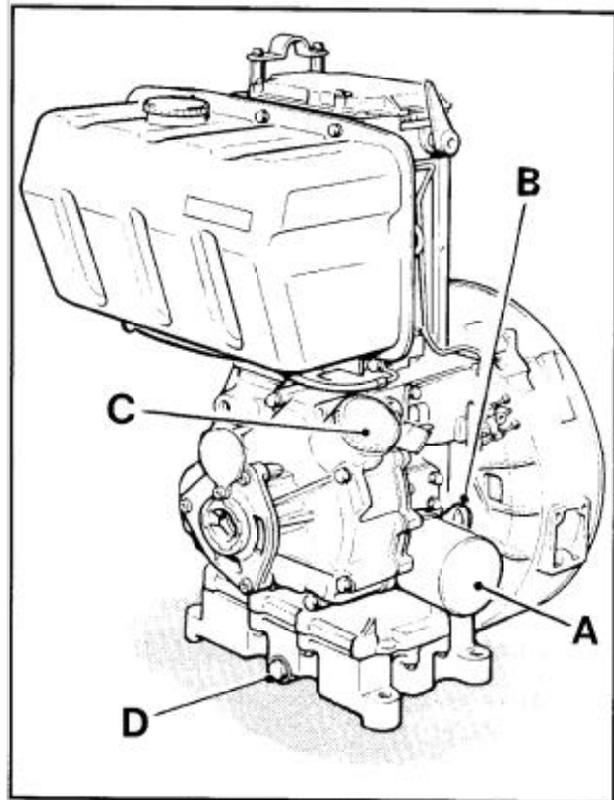
Replace the drain plug (**D**) taking care not to overtighten it.

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

Start the engine, run it for a few minutes and check the drain plug does not leak.

Stop the engine, allow the oil to settle and check the level on the dipstick.

Add more oil if necessary.



Every 250 hours

Oil filter

Change oil filter element as follows:

Using a suitable strap wrench, unscrew and remove the old filter (**A**).

Do not attempt to clean the old filter! Dispose of it safely.

Thoroughly clean the crankcase filter housing face.

Apply a small amount of clean engine oil to the filter sealing joint.

Do not use a strap wrench to fit the new element.

Screw on the new filter by hand, until the sealing joint is just touching the crankcase and then tighten a further half turn.

Run the engine and check for any oil leaks.

Stop the engine, allow the oil to settle and check the level on the dipstick (**B**).

Add more oil if necessary.

Do not check oil level until the engine has been stopped for 2 minutes.

Remove and clean dipstick then check that the oil is at the full mark. If level is low, top up through the filler 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**Fuel filter**

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:

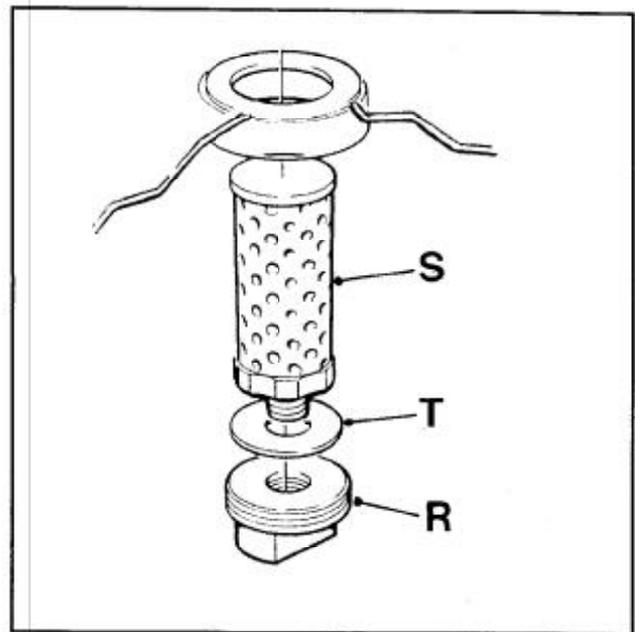
Remove the retaining plug **(R)**.

Remove the old element **(S)** and joint **(T)**.

Fit new element and new joint.

Replace and tighten the retaining plug **(R)**.

Prime the system.

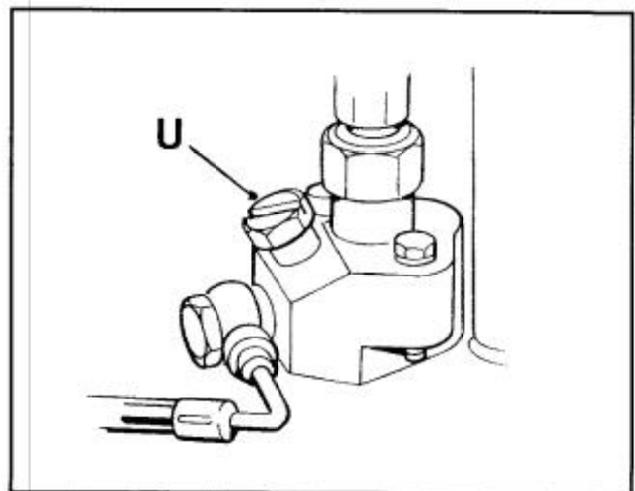
**Priming the fuel system**

Prime the system as follows:

Fill the fuel tank

Move the engine control lever to the RUN position.

Vent fuel at each pump in turn through the bleed screw **(U)** until a full air free flow of fuel is obtained.



ENGINE

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 (Y).

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 10 operating hours, or daily

Air cleaner: clean/replace

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

Access the element by unclipping the plastic cover .

Every 125 operating hours

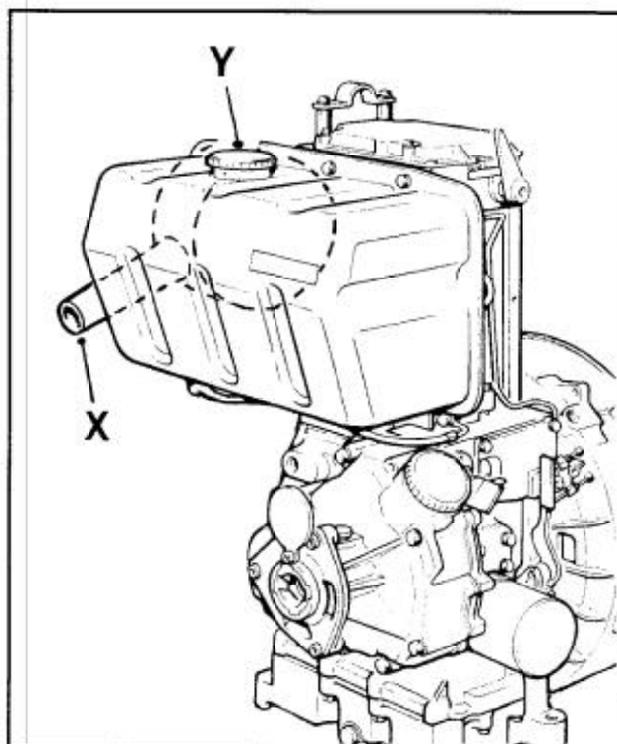
Air cleaner: check

Check air cleaner element. Replace if necessary.

Every 500 operating hours

Air cleaner: replace

Fit new air cleaner element



Safe handling of oils

WARNING *Do not allow oils to come into regular contact with skin. This can lead to serious skin diseases. Medical evidence suggests they may include skin cancer.*



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

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.

Every 50 operating hours, or weekly

Check gearbox oil level

Check the gearbox oil level when the machine has stood for 2 minutes.

Clean the area around the dipstick/filler (V) before removing.

Remove the dipstick and check the oil level. Top-up between the two marks (W). *It is most important not to overfill.*

For the correct type and grade of oil, see "Specifications".

Every 1000 operating hours

Change gearbox oil

Clean the areas surrounding the dipstick (V) and drain plugs (X).

Place a suitable container beneath the drain plug.

CAUTION: Before removing the drain plug be sure to stand to one side to avoid the oil that will spill from the hole.

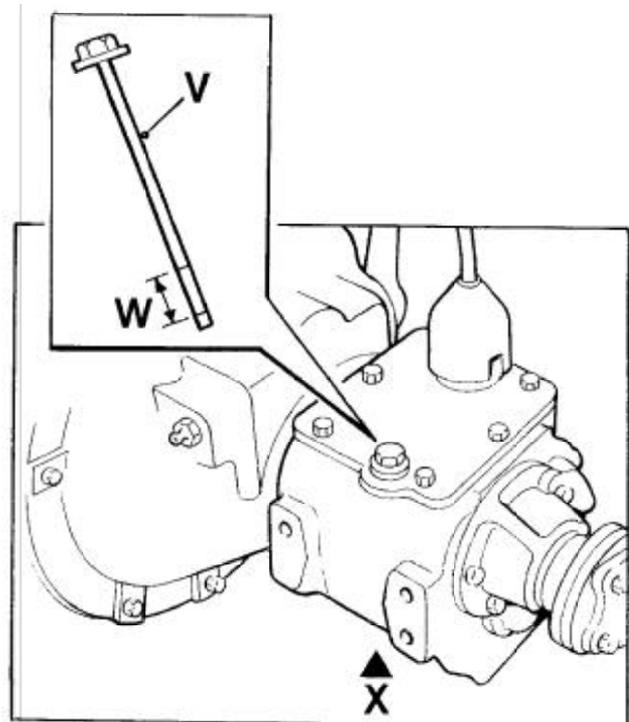
Remove the drain plug (X) and drain the gearbox. *(Do not lose its sealing washer)*

Replace drain plug with its sealing washer.

Remove the dipstick (V) from the filler hole.

Fill with oil. Check that the final level is between the two marks on the dipstick. *It is most important not to overfill.*

For the correct type and grade of oil, see "Specifications".



FRONT AXLE

Every 10 operating hours, or daily

Check for leaks

Check for oil leaks around joints and seals.

Every 50 operating hours, or weekly

Tighten securing nuts

Tighten axle arm/main case joint securing nuts and half shaft nuts.

Axle oil level

Do not check the oil level until the machine has stood for 2 minutes.

Clean the area surrounding level plug (**E**) before removing it.

The oil is correct when level with the bottom of the level plug hole.

If the level is low, top-up with clean oil of the correct grade through the filler (**D**).

Replace plugs.

For the correct type and grade of oil, see "Specifications".

Every 1000 operating hours

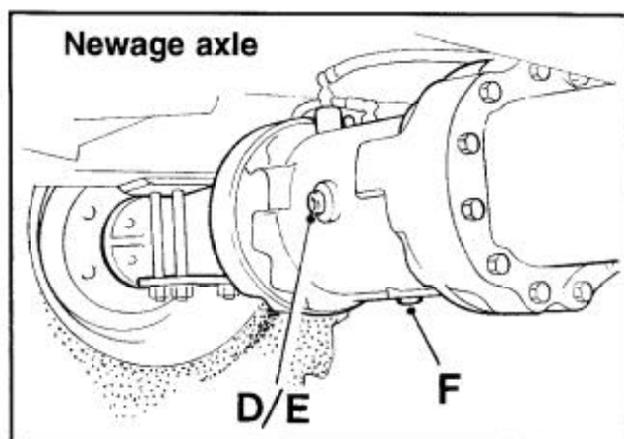
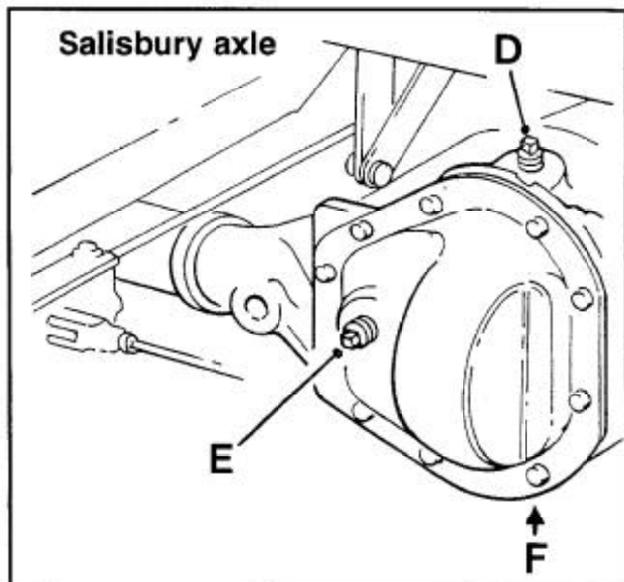
Axle oil change

Change the lubrication oil in the front axle as follows:

Clean the area surrounding the filler (**D**), level (**E**) and drain (**F**) plugs.

Place a suitable container beneath the drain plug.

CAUTION: Before removing the plugs be sure to stand to one side to avoid the oil that will spill from the drain hole.



Remove drain plug (**F**) and drain oil from the casing. Replace drain plug.

Refill at the filler plug (**D**) with clean oil of the correct grade.

The level is correct when oil reaches the bottom of the level plug hole (**E**).

Replace all plugs.

For the correct type and grade of oil, see "Specifications".

Every 10 operating hours, or daily

Wheel nuts

Tighten wheel nuts whenever necessary, every ten hours or daily.

After a wheel change, the nuts should be checked several times a day until they maintain their correct setting.

For wheel nut tightening torque, see "Specifications".

Every 50 operating hours, or weekly

Tyre pressures

WARNING *ALWAYS ensure that when adding air to a tyre the area is clear of personnel,*



NEVER over-inflate a tyre beyond its specified pressure.

NEVER adjust the tyre pressure in an attempt to improve traction on soft ground or obtain a softer ride on hard ground. Incorrectly adjusted tyres can affect the steering and handling characteristics.

Check the tyre pressures only when the tyres are cold.

For correct pressures see "Specifications".

Tyre condition

Check the tyres for damage and deterioration.

BATTERY**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 isolater where fitted, before carrying out any maintenance to the electrical system.

Every 50 hours**Check battery electrolyte level**

The battery is situated beneath a cover on the left-hand side of the dumper.

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.

Ensure all electrical circuits are switched off. Activate the battery isolater, where fitted.

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.*



Every 50 operating hours, or weekly

Steering box oil level

Check the oil level as follows:

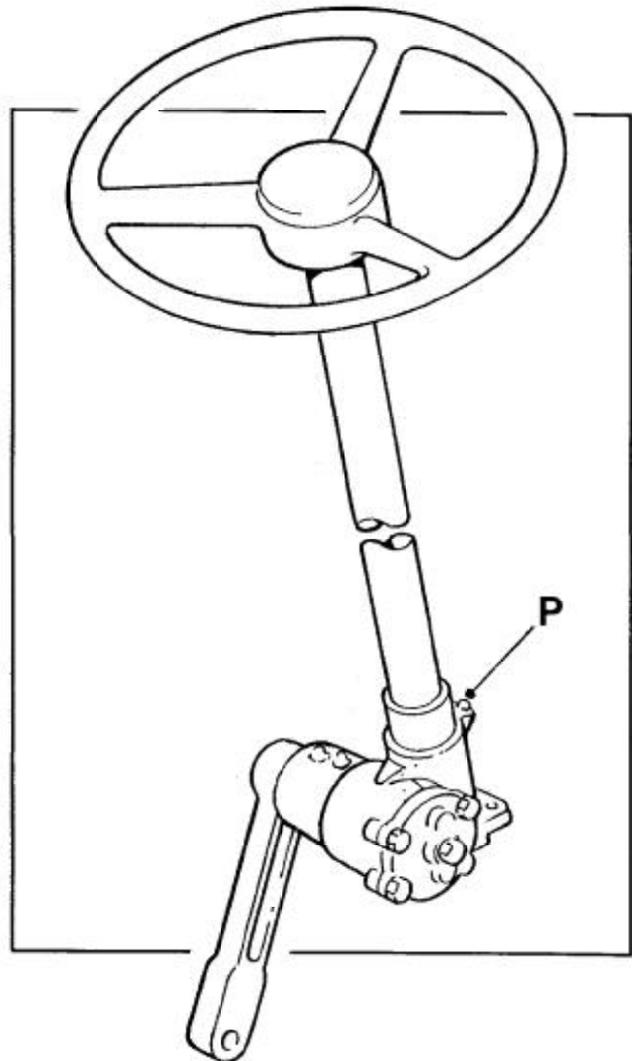
Clean the area around the filler plug **(P)**.

Remove filler plug.

The oil level is correct when it is at the bottom of the hole

Top up if necessary, with the correct grade of oil. (see "Specifications" for oil).

Replace plug **(P)**.



HYDRAULIC SYSTEM

Hydraulic System Safety (see also "Safe Working" section)

WARNING *Do not allow oils to come into regular contact with skin. This can lead to serious skin diseases. Medical evidence suggests they may include skin cancer.*



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

Always practise the greatest cleanliness when servicing hydraulic components.

Always clean the areas surround filler points, filters etc., before and after servicing.

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.

Description of hydraulic system

The hydraulic system provides power for skip tipping.

The main components consist of:

Tank: The tank is filled through a filler/strainer which incorporates an oil level indicator. The filler cap is fitted with a breather. In the bottom of the tank is a suction filter.

Pump: The pump is driven directly from the engine

Filter: The filter is situated in the bottom of the tank. The oil is drawn from the tank, through the filter to the pump.

Tipping control valve: The control valve receives oil from the pump and delivers it to the skip tipping rams. The rate of oil flow to the rams is proportional to the distance that the control valve lever is moved.

If the control lever is held either fully to the left or right after the rams have reached their full stroke, a relief valve opens, allowing the oil to return to the tank.

Dumping hydraulic pressure

WARNING *Always dump all hydraulic pressure from the system before servicing any hydraulic component.*



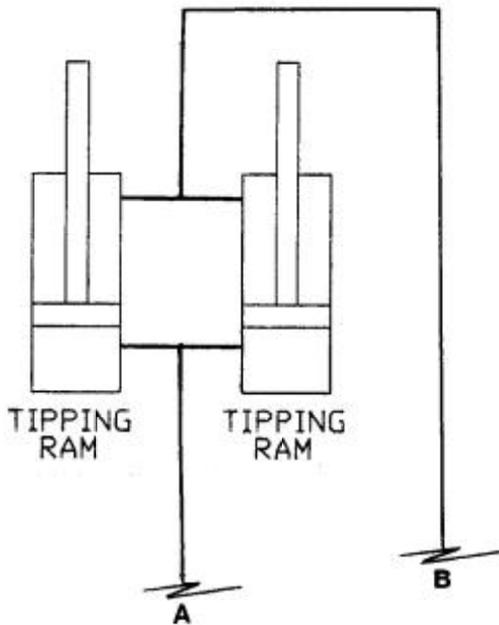
To dump pressure:

Stop the engine.

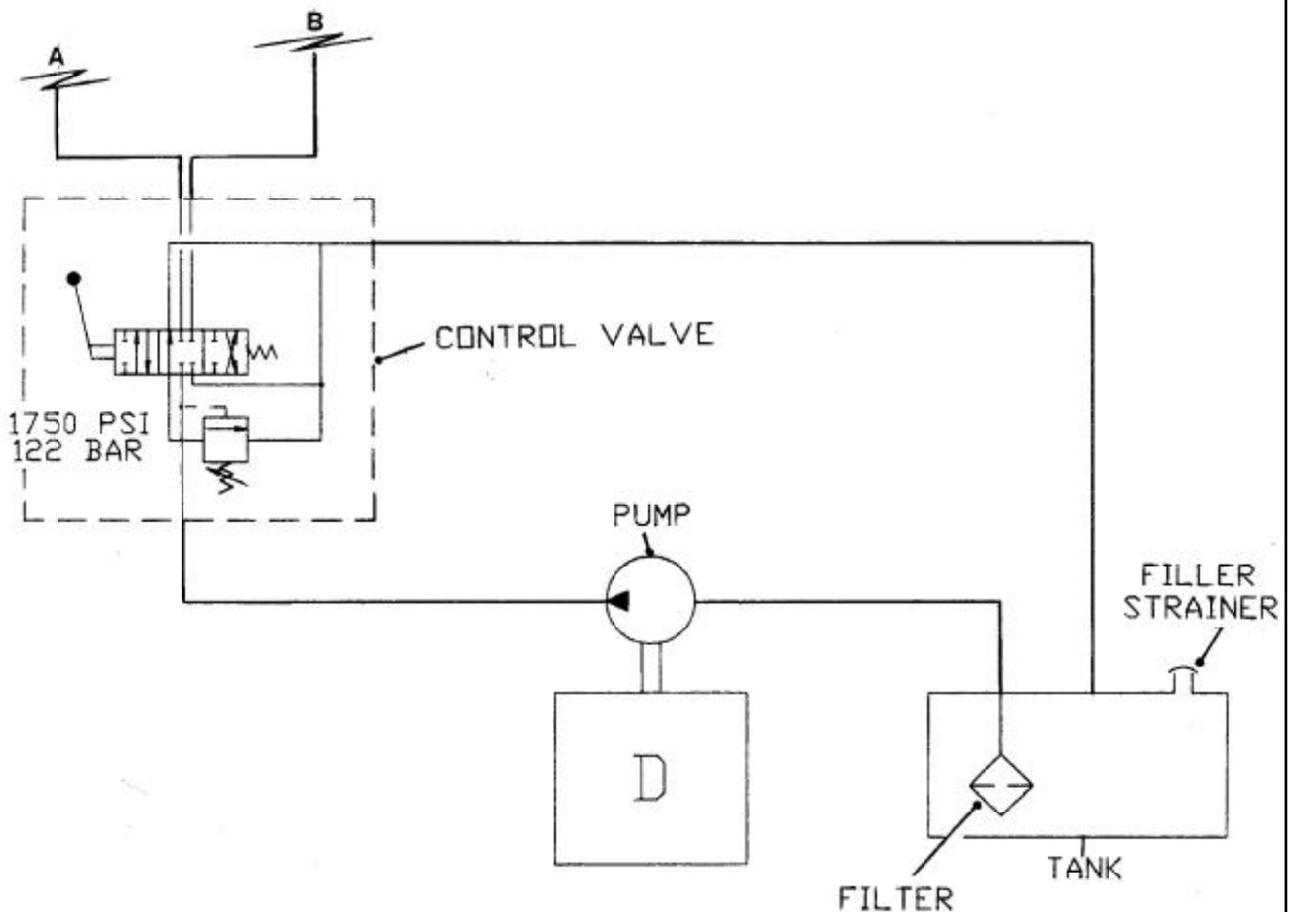
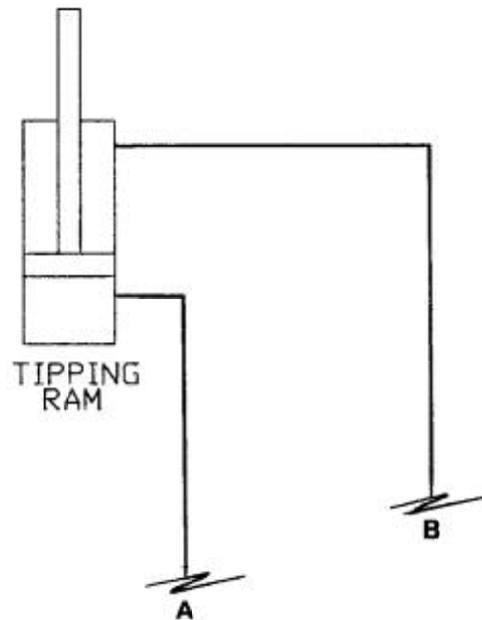
Move the skip control lever several times in each direction.

Hydraulic system

Standard skips are fitted with two rams



High discharge and rotating skips are fitted with one ram



HYDRAULIC SYSTEM

Hydraulic System Checks

If the hydraulic system fails to operate completely, or does so extremely slowly, carry out the following procedure.

Check that the hydraulic tank is full of oil to the correct level. The level is correct when the cone at the base of the filler neck is visible.

Check that the filter has been regularly cleaned in accordance with the maintenance schedule. If not, clean filter.

Check that the hydraulic pressure is correct as follows:

Fit a 2000 lb/in² gauge into the hydraulic system at the base of the skip ram.

Operate control lever to tip skip and check the pressure reading on the gauge when ram is fully extended and relief valve is 'blowing'. See "*Specifications*" for correct pressure

If this procedure does correct the fault, contact your Distributor.

Periodically check the hose between the pump and the hydraulic tank to ensure that it is not deformed. Any deformation in the hose may result in a restricted flow and damage to the pump.

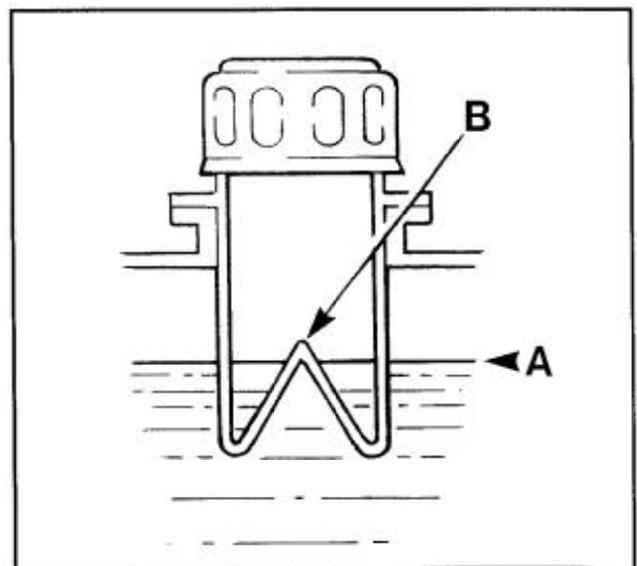
Every 10 operating hours, or daily

Check hydraulic oil level

Do not check oil level before closing the tipping rams, and the engine has been stopped for 2 minutes.

The oil level **(A)** is correct when the cone **(B)** at the base of the filler neck is visible.

Do not overfill; it will cause leakage from the breather!



HYDRAULIC SYSTEM

First 100 operating hours

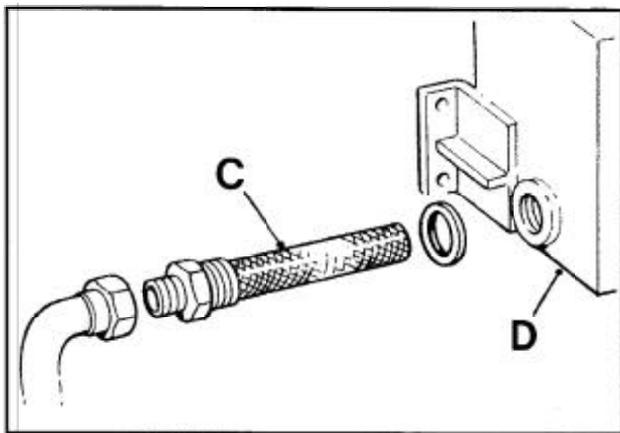
Clean / change hydraulic oil filter

WARNING Before cleaning filter, stop the engine and dump hydraulic pressure.



Place a *clean* suitable container beneath the hydraulic tank filter. Clean the area surrounding the filter.

Carefully unscrew the filter (C) from the tank (D) allowing the oil to drain into the container.



Provided that the oil does not become contaminated it can be used to refill the tank after the filter has been cleaned and replaced

Wash the filter in white spirit and check it for any damage. *If the filter cannot be thoroughly cleaned, fit a new one.*

Screw the filter back into the tank.

Fill tank with oil. (The oil level (A) is correct when the cone (B) at the base of the filler neck is visible.) For the correct type of oil, see "Specifications".

Run the engine to circulate the oil.

Operate the hydraulic control to purge any air from the system.

Stop the engine and top up the tank as required.

Check the areas around the filter for leaks.

Every 1000 operating hours

Clean / change hydraulic oil filter

Clean or change the hydraulic oil filter, using the procedure described in the previous "First 100 operating hours".

Every 1000 operating hours

Change hydraulic oil

Run the engine and operate the hydraulics to warm the oil.

Fully close the tipping rams.

Switch off the engine and dump hydraulic pressure.

Clean the area surrounding the hydraulic tank filter and filler cap.

Place a suitable container on the ground beneath the filter to catch oil.

CAUTION: Before removing the filter be sure to stand to one side to avoid the oil that will spill from the hole.

Carefully remove the filter and drain the oil from the tank.

Flush out the tank with clean hydraulic oil, taking extreme care to remove all dirt and foreign matter.

Refit the filter.

Clean the filler cap breather.

Refill the tank with clean oil of the correct type and grade. For the correct type of oil, see "Specifications".

Run the engine to circulate the oil.

Operate the hydraulic control to purge any air from the system.

Stop the engine and top up the tank as required.

Check the area around the filter for leaks.

BRAKING SYSTEM (Hydraulic)**Daily or every 10 hours****Brake oil reservoir**

Check oil level. Never allow the oil to fall more than 10 mm below top level mark.

Brake System

The service brakes consist of totally sealed oil immersed multi-plate discs fitted within the front axle. (The rear axle is not fitted with brakes.)

The brake system is designed to require the minimum of maintenance, and no defects should normally occur.

If air is present in the system, it will be indicated by sluggish response and by spongy action of the brake pedal.

To bleed the system, proceed as follows:

- A** Check that all connections are tight and the bleed screws are closed.
- B** Check that there is sufficient oil in the brake reservoir.

WARNING *Clean the areas surrounding bleed screws and brake reservoir before servicing.*



Do not allow the reservoir to empty during the bleeding procedure.

- C** Attach bleeder tube (1) to the bleed screw (2) on the left hand side of the front axle and immerse the other end of the tube in a small quantity of hydraulic oil contained in a glass jar (3).

Slacken bleed screw and depress the brake pedal to its full extent. Hold the pedal down and tighten bleed screw. Release pedal and wait 5 to 10 seconds. Slacken the bleed screw and repeat process until the oil pumped into the jar contains no air bubbles. Hold

down the pedal and close the bleed screw.

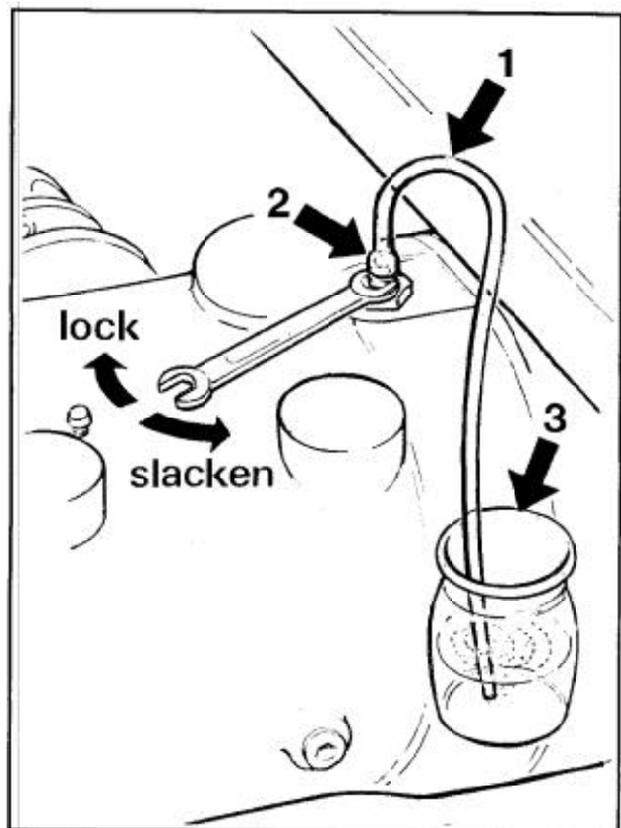
Remove bleeder tube and release pedal.

D Lock the bleed screw.

F Top up brake reservoir.

G Apply normal working load on brake pedal for two or three minutes and examine the entire system for leaks.

Note: Always ensure that free play of 1 to 2 mm exists between the master cylinder push rod and the piston when the brake pedal is released.



BRAKING SYSTEM (mechanical linkage)

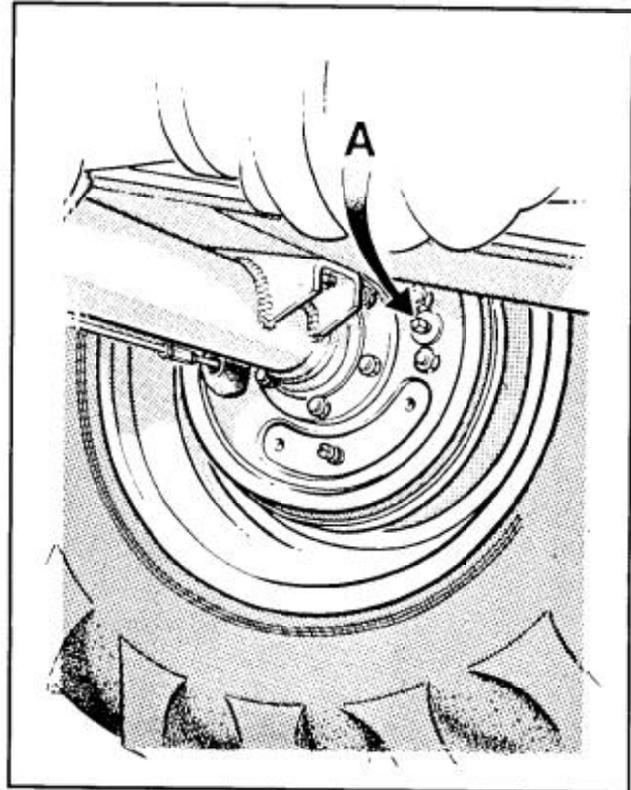
**Brake adjustment
(Drum brakes)**

Ensure the handbrake is fully off.

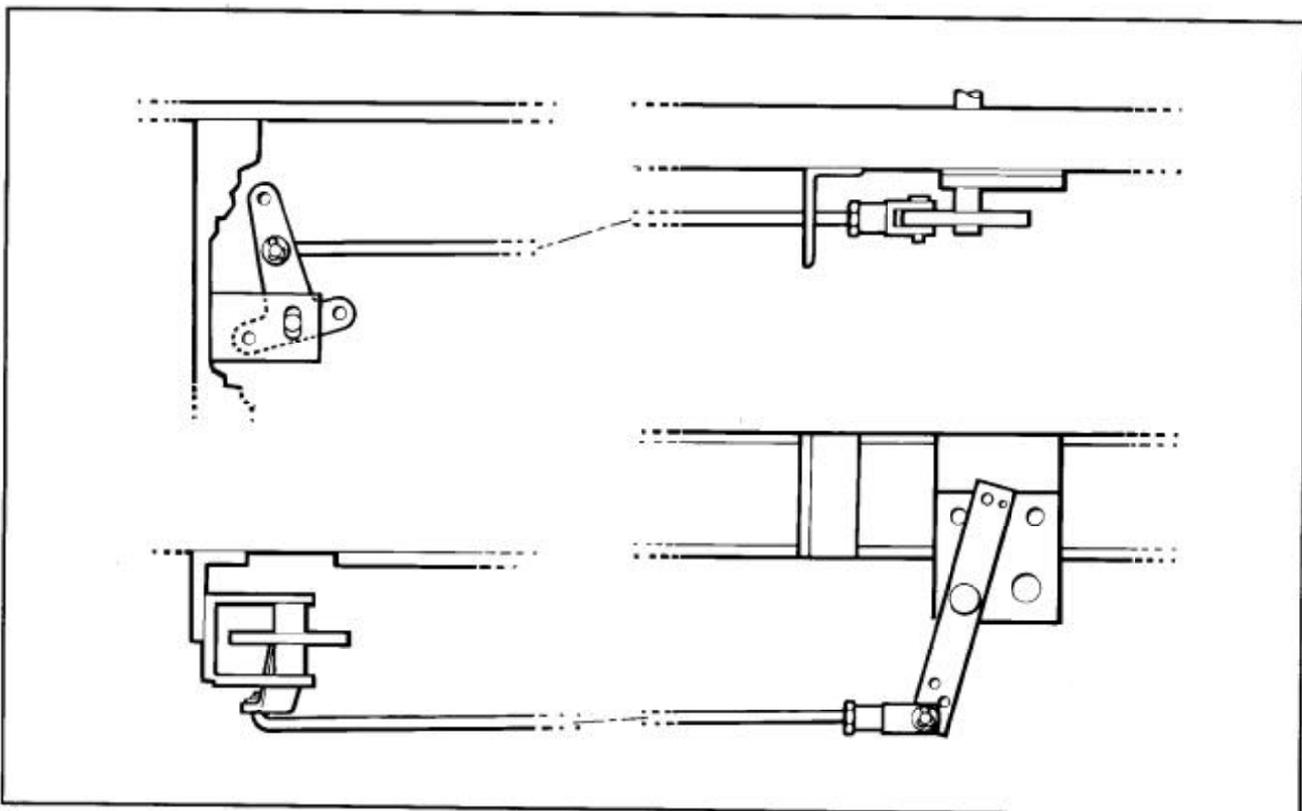
Pull off the rubber cover from the brake adjuster (A).

Screw the adjuster clockwise until the brakes are fully on.

Slacken the adjuster anti-clockwise until the wheels turn freely. This will ensure that the shoes are centralised on the drums and that the whole brake lining is used.

**IMPORTANT**

When servicing the machine or if the brake rods have been disconnected ensure that they are positioned as shown below.



GREASING

Every 50 operating hours, or weekly

WARNING Always use lubricants of the grade specified.



Always lubricate and service BEFORE work commences, and WITHIN the periods specified.

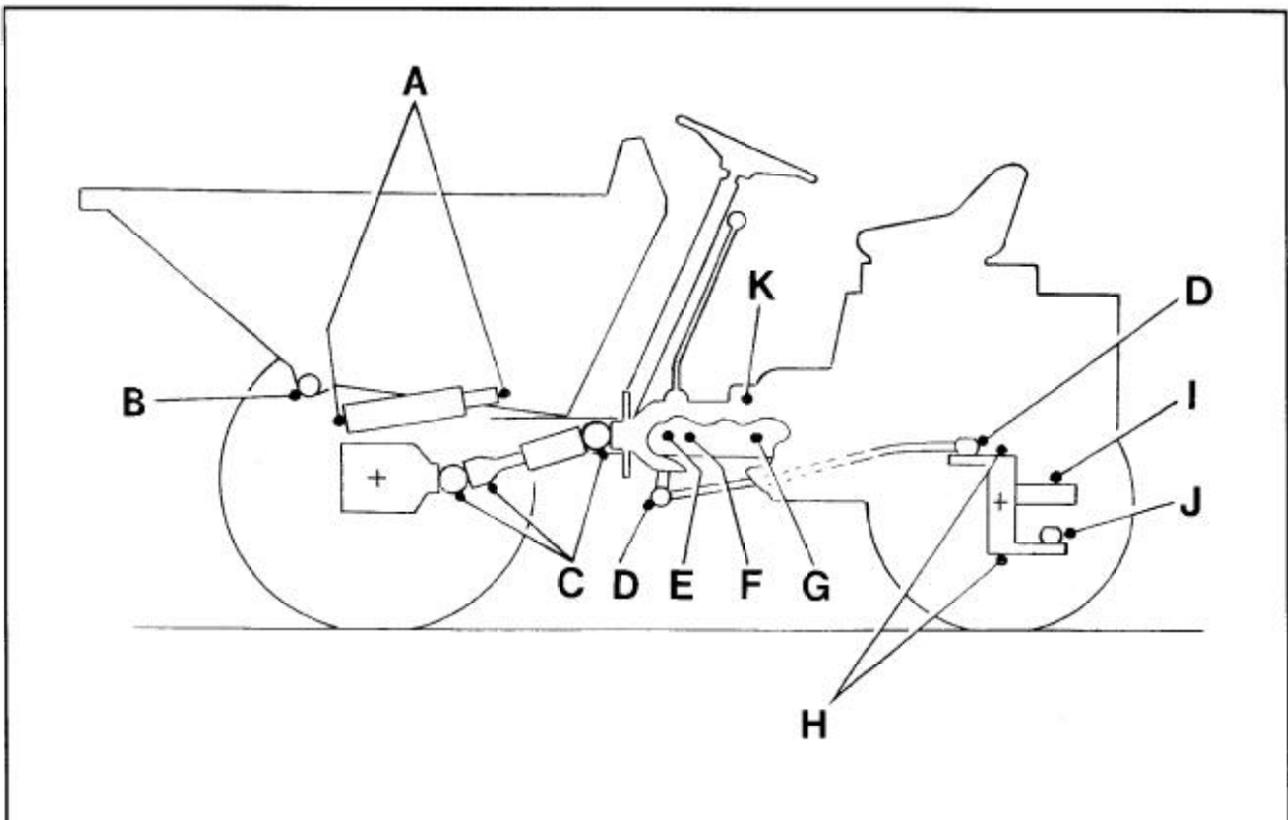
Grease points

Clean nipples BEFORE and AFTER greasing. Apply the grease gun until clean grease appears.

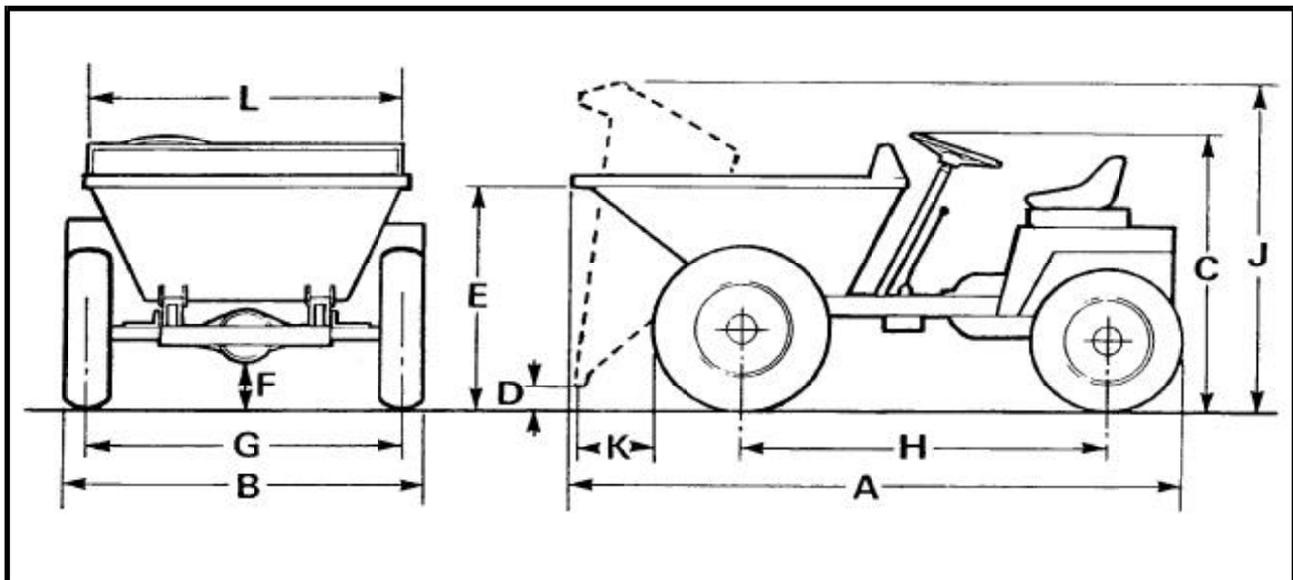
Location of grease points

- A Tipping rams (2 on each ram) [No grease points on Rotating or High discharge skip tipping rams]
- B Skip pivots (2)
- C Propeller shaft (3)
- D Drag link ball joints (2)
- E Brake pedal pivot shaft (2)
- F Clutch pedal pivot shaft (2)
- G Accelerator pivot shaft (2)
- H King pins (2 on each pin)
- I Axle centre pin (1)
- J Track rod end ball joints (2)
- K Gearbox lever pivot (1 each side of gearbox)

Clean and lubricate all linkages not fitted with a grease nipple.



| <i>Earth skips</i> | 2B1000 Gravity tipping | | 2B1500 Gravity & hydraulic tipping | |
|--|-----------------------------------|-------------------------------------|---|-------------------------------------|
| | m | ft in | m | ft in |
| A Overall length | 2.66 | 8' 9" | 2.85 | 9' 4" |
| B Overall width | 1.61 | 5' 3" | 1.64 | 5' 5" |
| C Overall height | 1.34 | 4' 5" | 1.37 | 4' 6" |
| D Skip | 0.16 | 0' 6" | 0.13 | 0' 5" |
| E Skip loading height | 1.00 | 3' 3" | 1.17 | 3' 10" |
| F Ground clearance | 0.28 | 0' 11" | 0.28 | 0' 11" |
| G Track | 1.37 | 4' 6" | 1.37 | 4' 6" |
| H Wheelbase | 1.66 | 5' 5" | 1.66 | 5' 5" |
| J Maximum skip height when tipped | 1.43 | 4' 8" | 1.47 | 4' 10" |
| K Skip discharge forward of tyres | 0.37 | 1' 3" | 0.35 | 1' 2" |
| L Skip discharge width | 1.42 | 4' 8" | 1.42 | 4' 8" |
| Articulation | 0.29 | 0' 11 ¹ / ₂ " | 0.29 | 0' 11 ¹ / ₂ " |
| Turning circle | 7.25 | 23' 9" | 7.35 | 24' 1" |

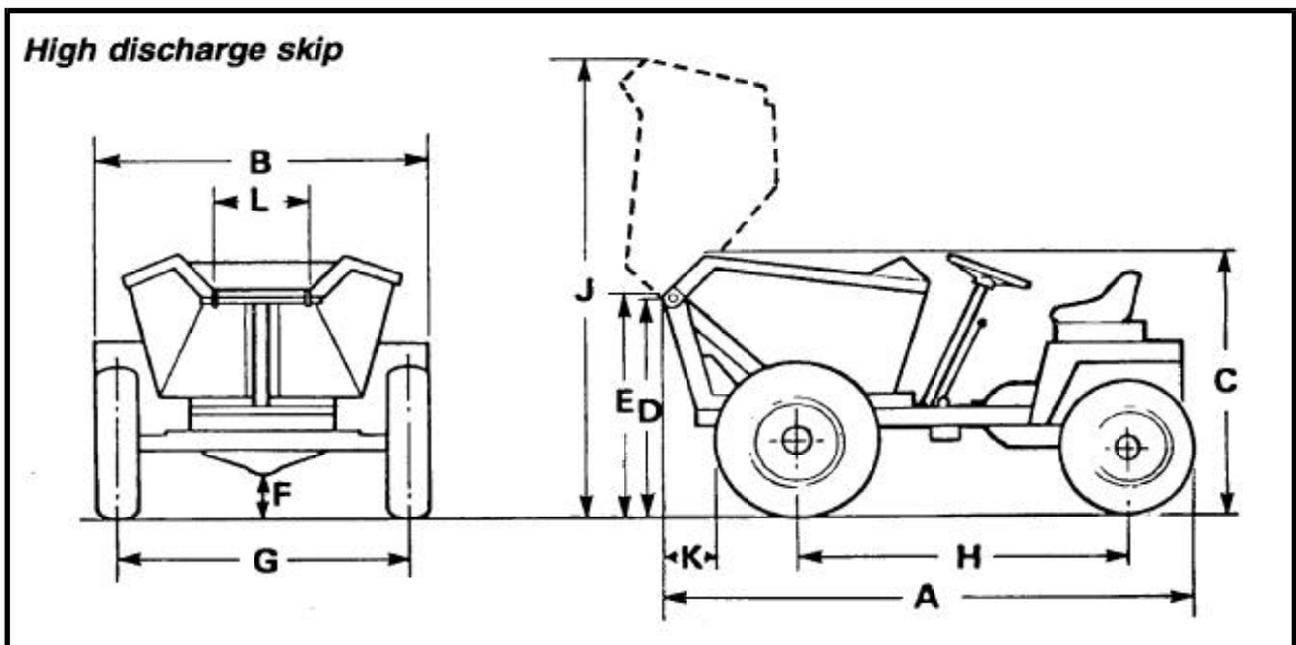
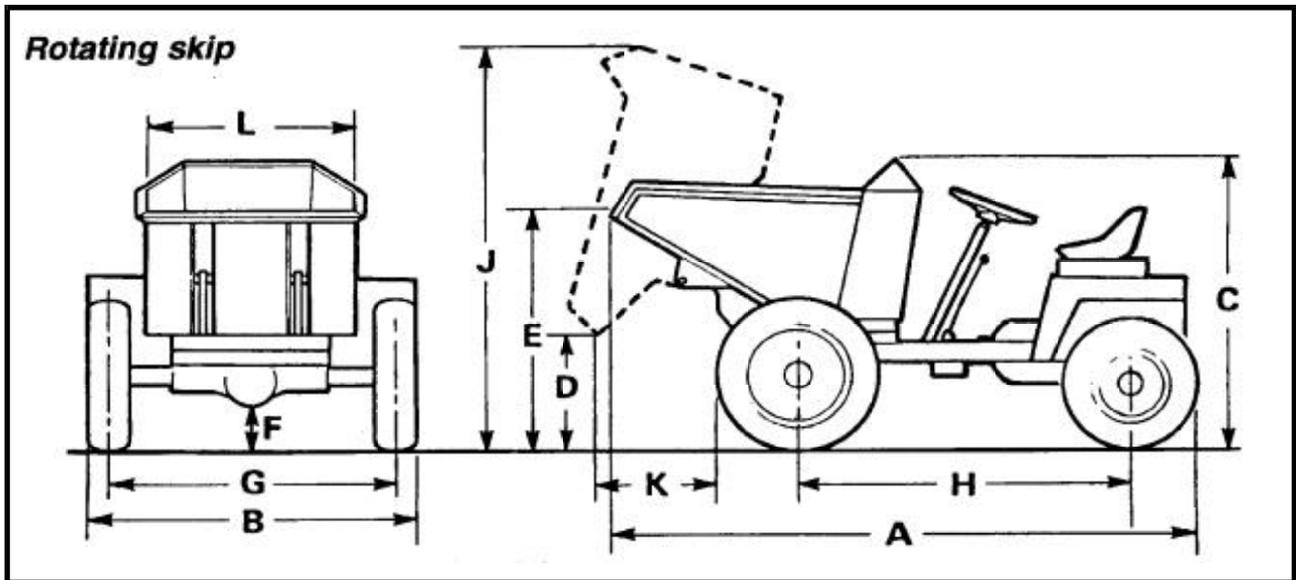


4.2

TECHNICAL INFORMATION

DIMENSIONS

| | 2B1500 <i>Rotating skip</i> | | 2B1500 <i>High discharge skip</i> | |
|--|--------------------------------|--------|--------------------------------------|--------|
| | m | ft in | m | ft in |
| A Overall length | 2.82 | 9' 3" | 2.74 | 9' 0" |
| B Overall width | 1.64 | 5' 5" | 1.64 | 5' 5" |
| C Overall height | 1.41 | 4' 7" | 1.43 | 4' 8" |
| D Skip discharge height | 0.74 | 2' 4" | 1.20 | 4' 0" |
| E Skip loading height | 1.21 | 4' 0" | 1.28 | 4' 2" |
| F Ground clearance | 0.28 | 0'11" | 0.28 | 0'11" |
| G Track | 1.37 | 4' 7" | 1.37 | 4' 7" |
| H Wheel base | 1.66 | 5' 5" | 1.66 | 5' 5" |
| J Maximum skip height when tipped | 2.17 | 7' 1½" | 2.47 | 8' 1" |
| K Skip discharge forward of tyres | 0.53 | 1' 9" | 0.24 | 0' 9½" |
| L Skip discharge width | 1.10 | 3' 6" | 0.51 | 1' 8" |
| Articulation | 0.29 | 0'11½" | 0.29 | 0'11½" |
| Turning circle | 7.35 | 24' 1" | 7.35 | 24' 1" |



ENGINES**up to 1985**

Petter PH1: "See relevant Engine Operator's handbook".

Lister ST: "See relevant Engine Operator's handbook".

1985 to 1989

Lister-Petter PH1: "See relevant Engine Operator's handbook".

1989 to date

Lister-Petter TS/TR1: Single cylinder, direct injection, naturally aspirated, flywheel fan air cooled diesel.

Rotation: Anti-clockwise when looking on the flywheel.

TR1: Power output: 6.7 kW (9 bhp) @ 1800 rev/min.**TS1:** Power output: 5.4 kW (7.3 bhp) @ 1800 rev/min.

Note: From 1989 to date the Lister-Petter TS1 has been offered as an option.

ELECTRICS

(Where fitted)

12 volt negative earth.

FUEL SYSTEM

System: Single element fuel pump.

Fuel specification: BS 2869:1988 Class A2, or BS EN590:1995 Class A1.

Fuel tank capacity: 8.25 litres

Fuel filter: Strainer within fuel tank.

Air cleaner: Renewable element.

AXLES

Front: Heavy duty with fully floating half shafts.

Rear: Centrally pivoted steer axle (without brakes).

BRAKES

Service: Front axle braking. Totally sealed oil immersed multi-plate disc brakes, featuring fully automatic adjustment for wear.

Parking: Hand operated, ratchet type, actuating disc brake on transmission.

TRANSMISSION

Heavy duty constant mesh gearbox, with 3 forward and 1 reverse gear.

HYDRAULICS

Pump: Gear type.

Control valve: Sectional or monobloc with pressure relief valve.

Filter: Suction strainer mounted within the hydraulic tank.

4.4

TECHNICAL INFORMATION

SPECIFICATIONS

ROAD SPEEDS

| Petter PH1 | 1st Gear | 2nd Gear | 3rd Gear | Reverse |
|------------------------------|-------------------|-------------------|-------------------|-------------------|
| | <i>Km/h (mph)</i> | <i>km/h (mph)</i> | <i>km/h (mph)</i> | <i>km/h (mph)</i> |
| 2B1000 @1650 rev/min | 3.55 (2.21) | 8.23 (5.11) | 15.23 (9.46) | 3.96 (2.46) |
| 2B1500 @ 2200 rev/min | 3.60 (2.20) | 8.4 (5.2) | 15.8 (9.7) | 4.0 (2.5) |

| Lister-Petter TS/TR1 | 1st Gear | 2nd Gear | 3rd Gear | Reverse |
|-----------------------------|-------------------|-------------------|-------------------|-------------------|
| | <i>km/h (mph)</i> | <i>km/h (mph)</i> | <i>km/h (mph)</i> | <i>km/h (mph)</i> |
| 2B1000 @1800 rev/min | 3.8 (2.3) | 8.4 (5.2) | 15.0 (9.3) | 4.0 (2.5) |
| 2B1500 @1800 rev/min | 4.1 (2.6) | 9.1 (5.7) | 15.7 (9.8) | 4.3 (2.6) |

LUBRICANTS AND FLUIDS Total oils (factory fill)

Capacities

| | | |
|---|--|---------------------|
| TS/TR1 Engine Lub. Oil | Rubia H 10W/40 | 2.7 litres |
| <i>Note: For engine oils used in temperatures above 30°C consult the Engine Handbook.</i> | | |
| Gearbox | Rubia B 20W/30 | 2.0 litres (approx) |
| Front Axle (Newage) (Salisbury) | Universal plant oil or Transmission MP Gear oil SAE 90 EP | 3.5 litres — |
| Steering box | EP 80W/90 | as required |
| Hydraulic System | Azzola ZS46 | 27.3 litres (tank) |
| Braking System | Azzola ZS22 | 0.3 litres (approx) |
| General Grease | Multis EP 2 | as required |
| General Lubrication Oil | Rubia B 20W/30 | as required |

TYRE PRESSURES

| | |
|-------|-----------------------------------|
| Front | 2.35 bar (35 lb in ²) |
| Rear | 2.35 bar (35 lb in ²) |

ADJUSTMENTS

| | |
|-------------------|------------------------------|
| Wheel nuts torque | 200 lbf ft (271 Nm) |
| Engine | (See Engine Workshop Manual) |

TYRES

| | |
|----------------------|----------------------|
| 2B1000: front | 6.0 x 16 traction |
| Rear | 4.5 x 16 ribbed |
| 2B1500: front | 7.5 x 16 traction |
| Rear | 5.5/6.00 x 16 ribbed |

HYDRAULIC PRESSURES

| |
|---------------------|
| 120.7 bar (1750psi) |
|---------------------|

DRAWBAR LOAD

| | |
|-------------------|-----------------|
| Weight on Drawbar | 500 N (50 kg) |
| Drawbar Pull | 2500 N (250 kg) |

NOISE LEVELS

| | | |
|------------|--------|---------|
| TR1 engine | 88 LPA | 103 LWA |
|------------|--------|---------|

PAYLOAD

| MODEL | SKIP TYPE | | |
|--------|--------------------|--------------------|--------------------|
| | Standard | High discharge | Rotating |
| 2B1000 | 1000 kg (2205 lbs) | N/A | N/A |
| 2B1500 | 1500 kg (3308 lbs) | 1250 kg (2756 lbs) | 1130 kg (2492 lbs) |

CAPACITY, Water level

| MODEL | SKIP TYPE | | |
|--------|-----------------------------------|-----------------------------------|-----------------------------------|
| | Standard | High discharge | Rotating |
| 2B1000 | 490 litre (17.3 ft ³) | N/A | N/A |
| 2B1500 | 700 litre (24.7 ft ³) | 570 litre (20.1 ft ³) | 480 litre (17.0 ft ³) |

CAPACITY, Struck & heaped

| MODEL | STANDARD SKIP | |
|--------|-----------------------------------|-----------------------------------|
| | Struck | Heaped |
| 2B1000 | 490 litre (17.3 ft ³) | 720 litre (25.4 ft ³) |
| 2B1500 | 700 litre (24.7 ft ³) | 973 litre (34.3 ft ³) |

MACHINE WEIGHT, Unladen

| MODEL | SKIP TYPE | | |
|----------------------|-------------------|--------------------|--------------------|
| | Standard | High discharge | Rotating |
| 2B1000 | | | |
| <i>Gravity tip</i> | 800 kg (1764 lbs) | N/A | N/A |
| <i>Hydraulic tip</i> | 925 kg (2040 lbs) | N/A | N/A |
| 2B1500 | | | |
| <i>Gravity tip</i> | 825 kg (1819 lbs) | N/A | N/A |
| <i>Hydraulic tip</i> | 950 kg (2094 lbs) | 1050 kg (2315 lbs) | 1093 kg (2410 lbs) |

VIBRATION DECLARATION

Whole body vibration level a_w (m/s²) :- 0.7 - 0.8 Typical*

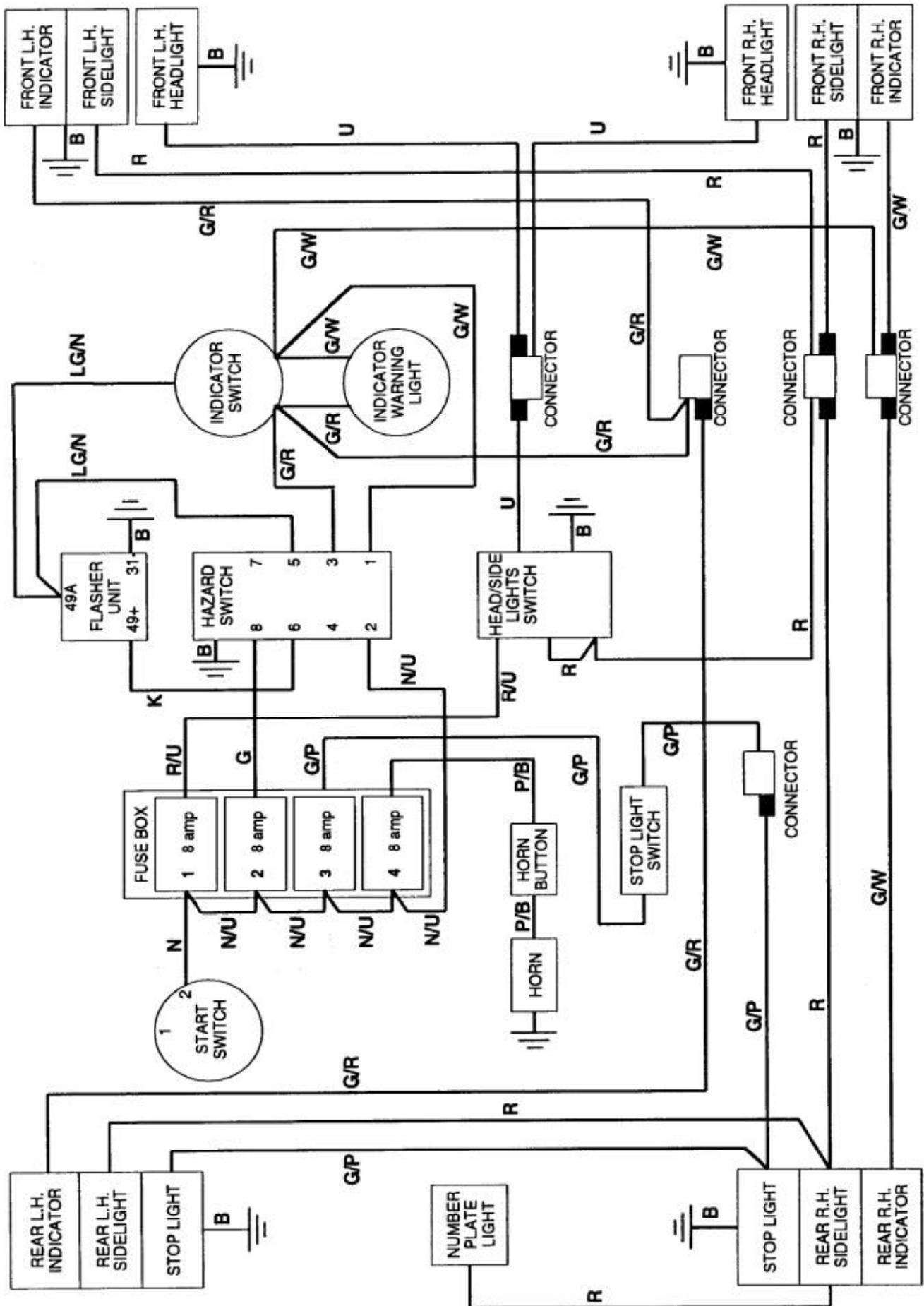
* **Note:** *The absence of a harmonised test code together with the variable conditions under which this equipment may be used allows only representative figures to be quoted.*

Hand/arm vibration level a_{ha} (m/s²) :- Less than 2.5

(Vibration declaration applicable only to EEC models)

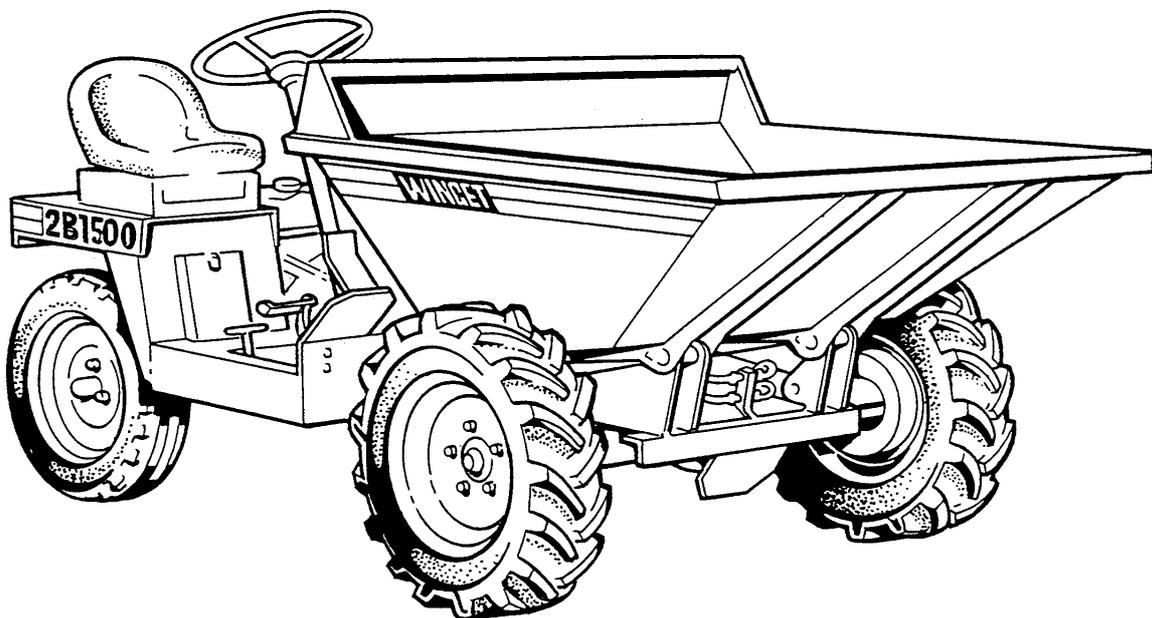
ROAD LIGHTS ELECTRICAL CIRCUIT

Dumpers from 1994



2B1000 & 2B1500 DUMPERS

PARTS



Contents

- A CHASSIS & SKIPS**
- B AXLES & STEERING**
- C TRANSMISSIONS**
- D BRAKES**
- E ENGINES**
- F ELECTRICS**
- H HYDRAULICS**
- J DECALS**
- K NUMERICAL INDEX**

2B1000 & 2B1500 DUMPERS



Chassis, Panels & Skips

CHASSIS

Up to Jan. 1995 all dumpers **A - 1**

From Jan. 1995 Export dumpers (*Not CE marked*)

CHASSIS

From Jan. 1995 CE marked dumpers **A - 1A**

BATTERY TRAY **A - 1B**

SEAT "KAB" (*Not to ISO 6683*) **A - 1C**

SEAT "KAB" (*To ISO 6683*) **A - 1D**

R.O.P.S. FRAME **A - 1E**

R.O.P.S. FRAME, FOLDING **A - 1F**

PLOUGH **A - 3A**

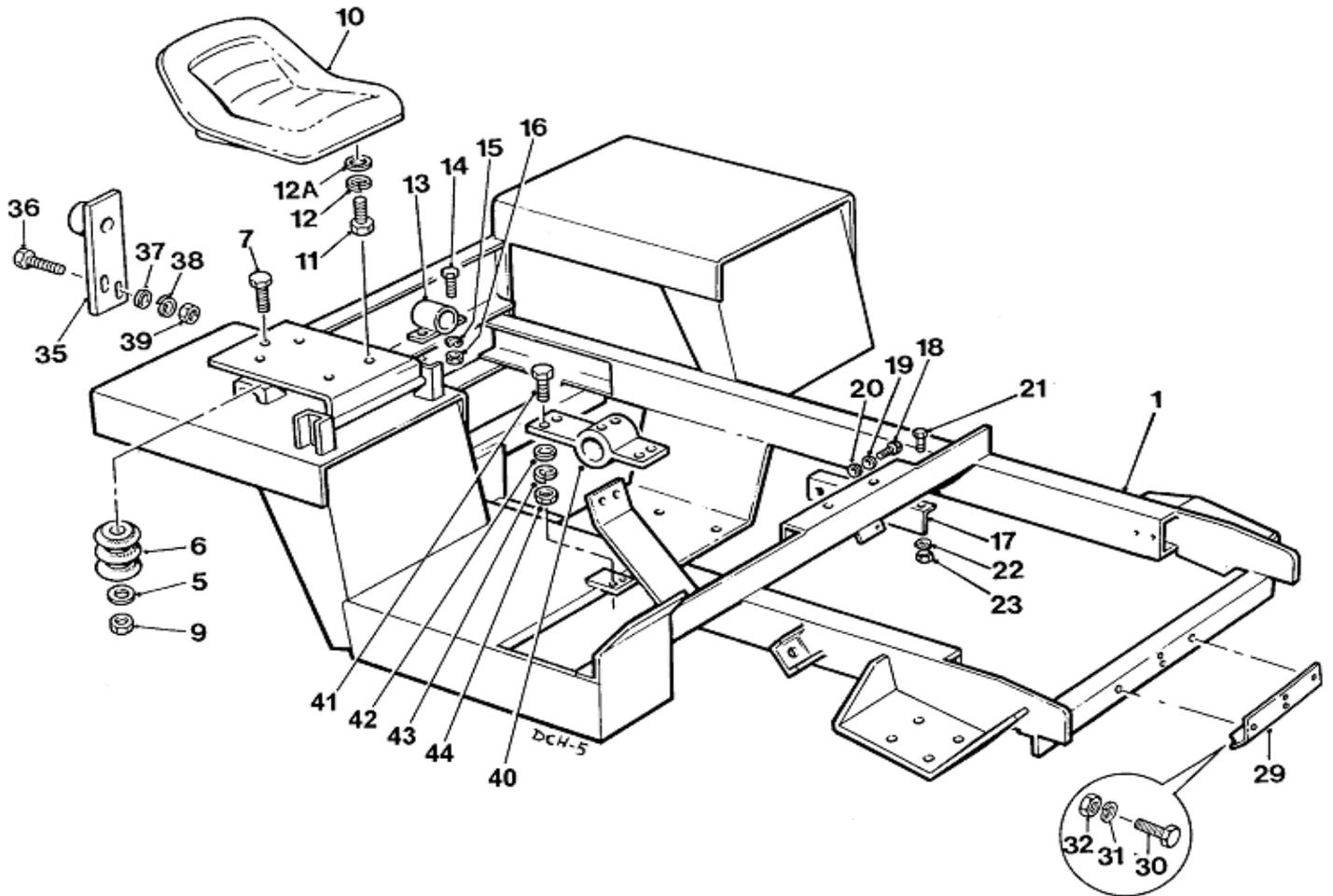
SKIPS

Gravity tip **A - 2**

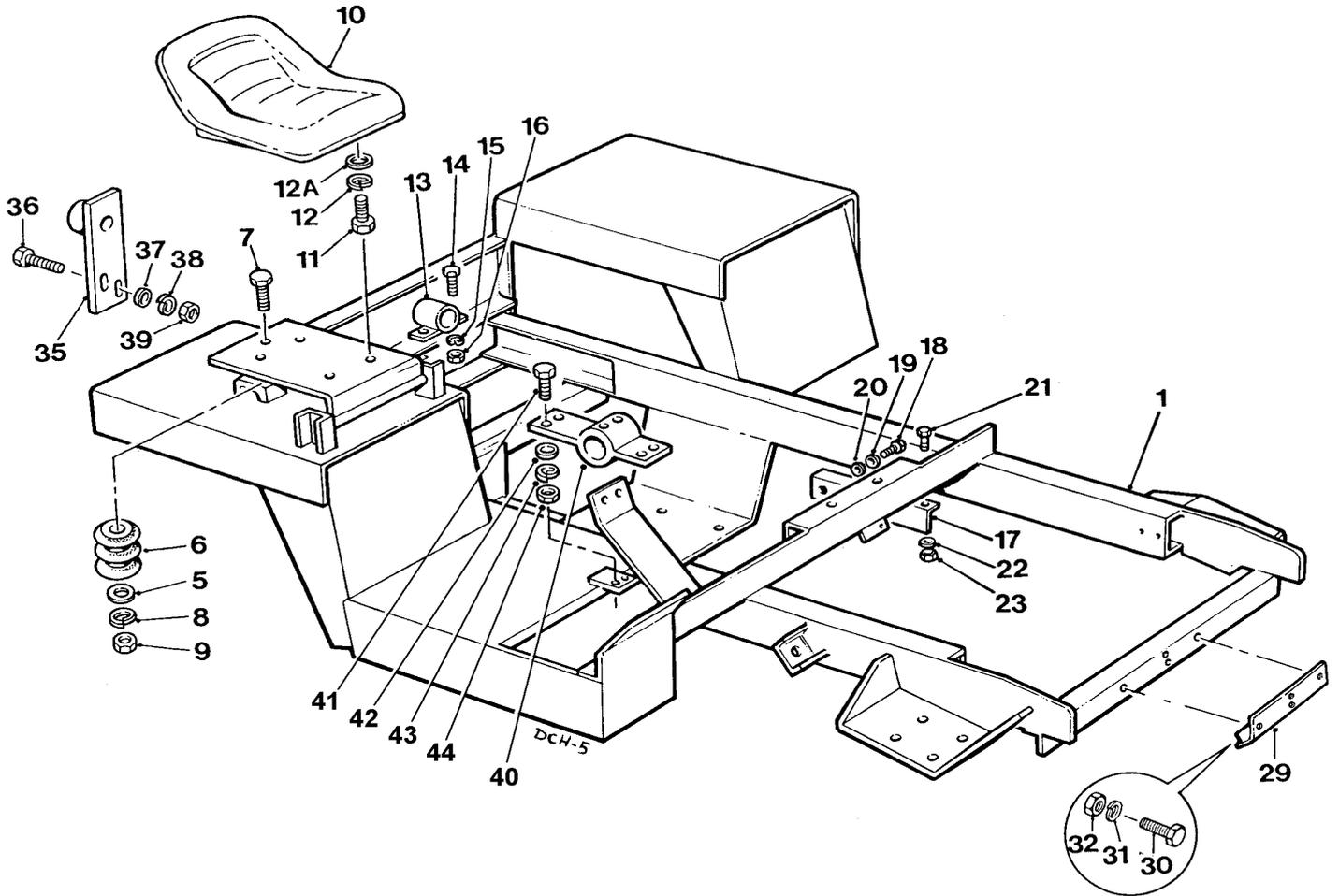
Hydraulic tip **A - 3**

Manual rotation, hydraulic tip **A - 4**

High discharge tip **A - 5**



| Item | Part no | Serial no | Description | Qty |
|---|----------|-----------|---|-----|
| Up to Jan.1995 all dumpers | | | | |
| From Jan.1995 Export dumpers (Not CE marked) | | | | |
| 1 | 40286A01 | | CHASSIS | 1 |
| <p>NOTE: Up to machine serial numbers: 0552 (2B1000) and 0585 (2B1500), the control valve bracket was welded to the hydraulic tank (see page H - 1). From machine serial numbers 0553 (2B1000) and 0586 (2B1500), the control valve bracket is welded to the chassis. When replacing a hydraulic tank on machines prior to these serial numbers, a loose control valve bracket (part number 40220A0810) will also be required to be welded in the correct position. (see Winget Service Bulletin).</p> | | | | |
| 5 | V2004220 | | WASHER, large diameter | 1 |
| 6 | 10519A01 | | SPRING, seat mounting | 1 |
| 7 | 11S04E | | SCREW, set | 1 |
| 9 | 59S03 | | NUT, nyloc | 1 |
| 10 | 20072A01 | / 0552 | # SEAT, 2B1000 (OBSOLETE: use V2000954) | 1 |
| 10 | 20072A01 | / 585 | # SEAT, 2B1500 (OBSOLETE: use V2000954) | 1 |
| 10 | V2000954 | 0553 / | # SEAT, 2B1000 | 1 |
| 10 | V2000954 | 586 / | # SEAT, 2B1500 | 1 |
| <p># NOTE: When replacing 20072A01 with V2000954, refer to Bulletin SB2 (August 1991) for fitting instructions.</p> | | | | |
| 11 | 11S03B | | SCREW, set | 4 |
| 12 | 17S04 | | WASHER, spring | 4 |
| 12A | 267S05 | | WASHER, flat | 4 |
| 13 | 10870A01 | | TUBE, guide | 1 |
| 14 | 11S04 | | SCREW, set | 2 |
| 15 | 17S05 | | WASHER, spring | 2 |
| 16 | 7S04 | | NUT | 2 |
| Machines fitted with Salisbury axles | | | | |
| 17 | 20282A03 | | BRACKET, gearbox | 1 |
| 18 | 28S03D | | SCREW | 2 |
| 19 | 41S05 | | WASHER, spring | 2 |
| 20 | 10S03 | | WASHER | 3 |
| 21 | 6S05C | | SCREW | 1 |
| 23 | 107S16 | | NUT | 1 |
| 29 | 10966A01 | | GUARD, diff., Salisbury axles | 1 |
| 30 | 11S04D | | SCREW | 2 |
| 31 | 17S05 | | WASHER, spring | 2 |
| 32 | 7S04 | | NUT | 2 |



| Item | Part no | Serial no | Description | Qty |
|------|---------|-----------|-------------|-----|
|------|---------|-----------|-------------|-----|

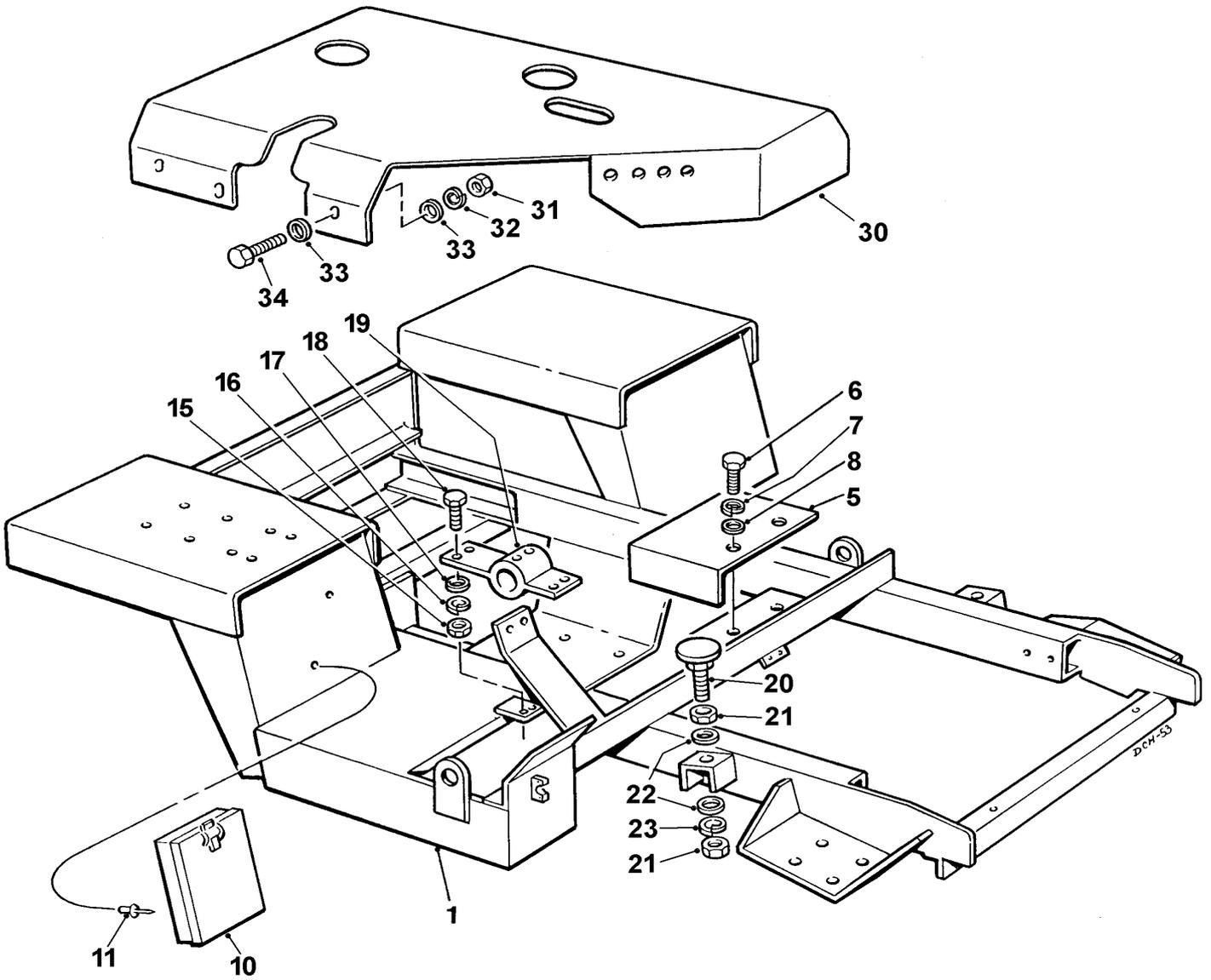
Up to Jan.1995 all dumpers

From Jan.1995 Export dumpers (*Not CE marked*)

| | | | | |
|----|----------|--------|------------------------------------|---|
| | | 0234 / | * 2B1000 | |
| | | 154 / | * 2B1500 | |
| 35 | 20355A04 | | * BRACKET, starting handle support | 1 |
| 36 | 11S04E | | * SCREW | 2 |
| 37 | 267S06 | | * WASHER, flat | 4 |
| 38 | 17S05 | | * WASHER, spring | 2 |
| 39 | 7S04 | | * NUT | 2 |

| | | | | |
|----|----------|--------|--|---|
| | | 0636 / | \$ 2B1000 | |
| | | 853 / | \$ 2B1500 | |
| 40 | 40332A01 | | \$ BRACKET, steering column support | 1 |
| 41 | 11S04C | | \$ SCREW, set | 4 |
| 42 | 267S06 | | \$ WASHER, flat | 4 |
| 43 | 17S05 | | \$ WASHER, spring | 4 |
| 44 | 7S04 | | \$ NUT | 4 |

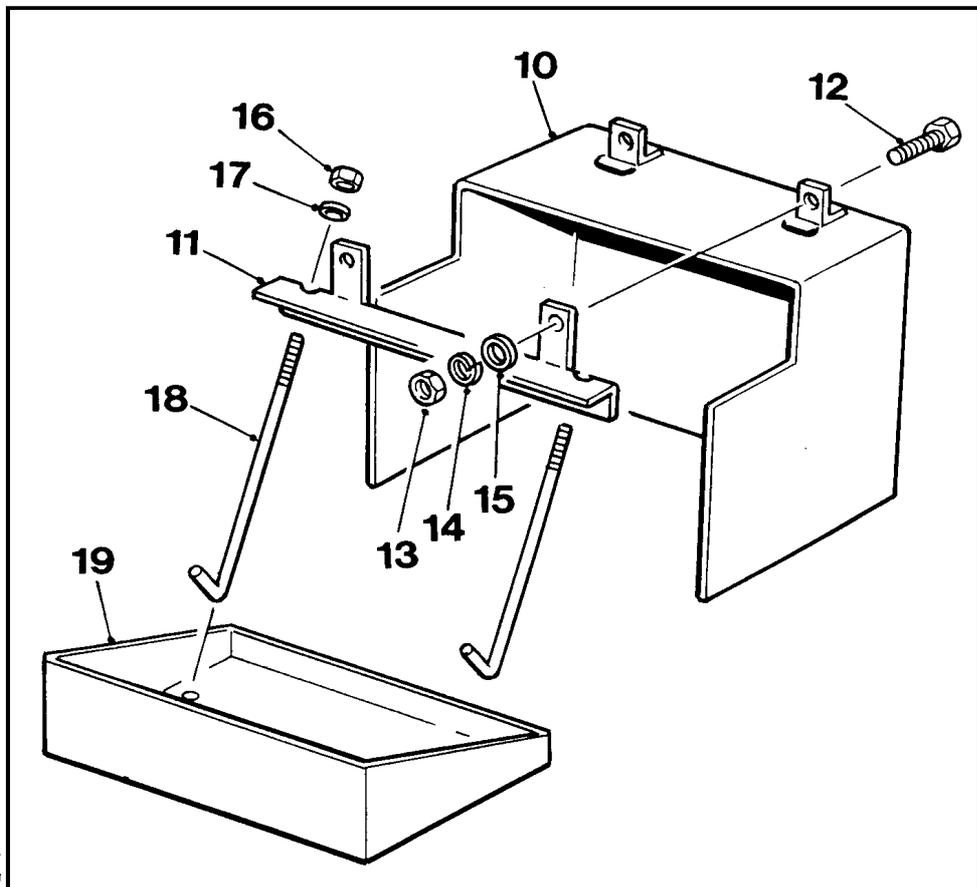
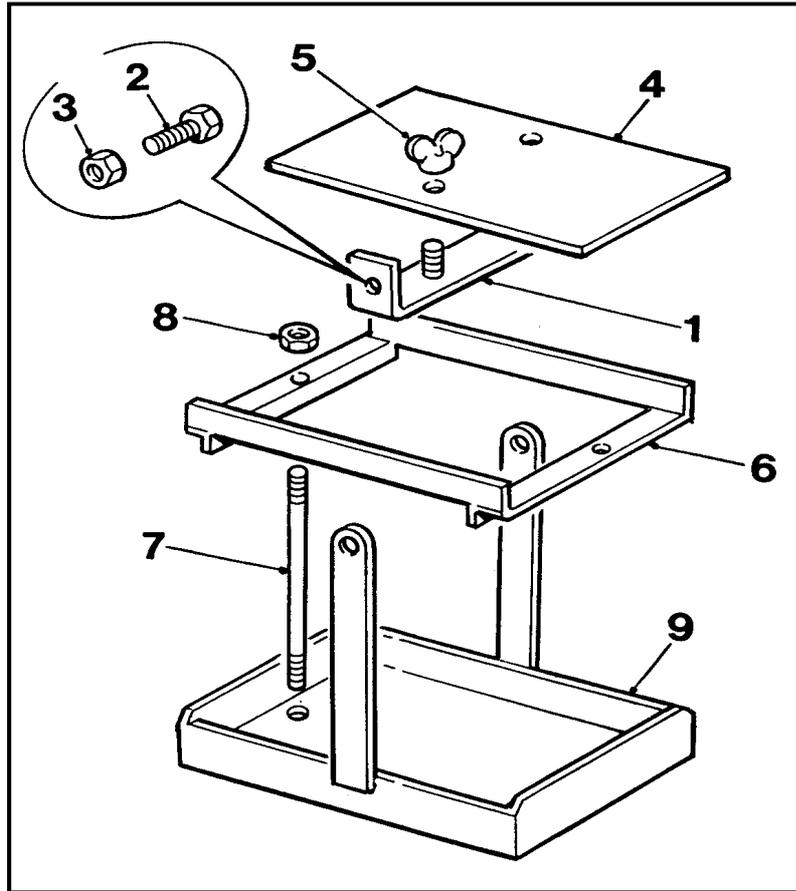
| | | | | |
|---|------------|--|----------------------------|---|
| — | 10203A04 | | MIRROR | 1 |
| — | 20321A02 | | ARM, mirror, Lister engine | 1 |
| — | 20321A04 | | ARM, mirror, Petter engine | 1 |
| — | 20321A0401 | | ARM, mirror | 1 |
| — | 20321A0402 | | BRACKET, mirror | 1 |
| — | 10607A01 | | LICENCE HOLDER | 1 |



CHASSIS & FITTINGS

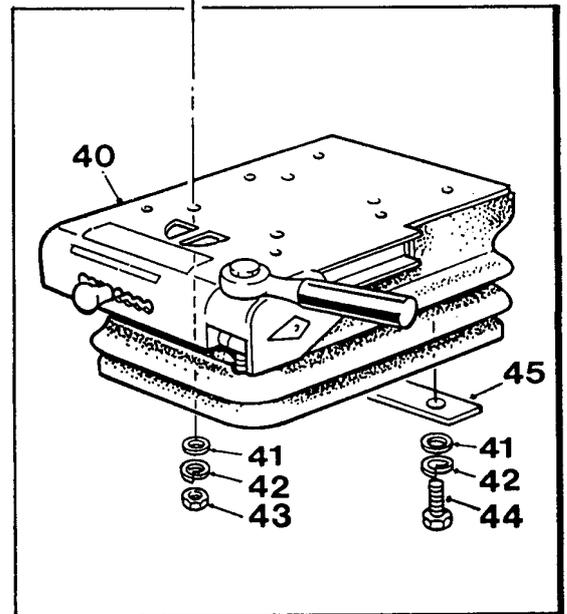
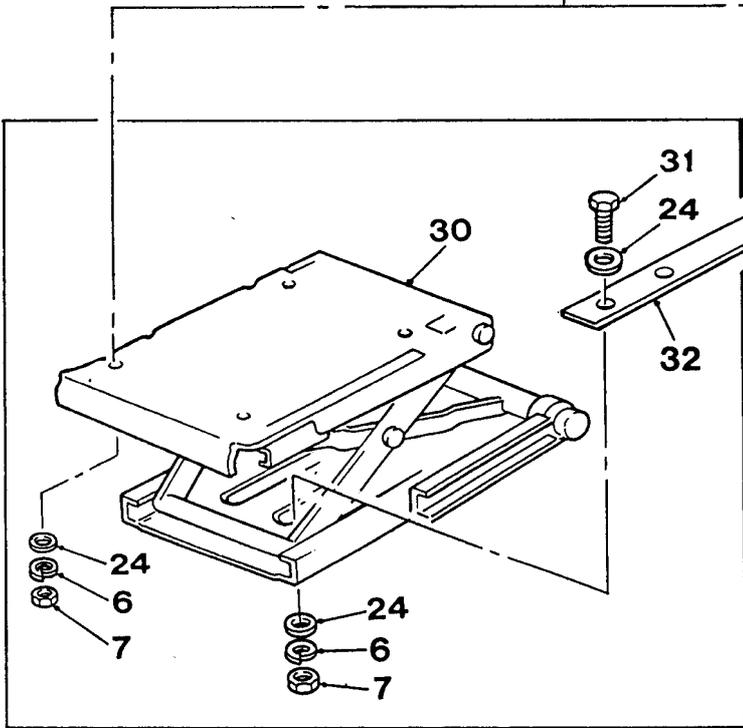
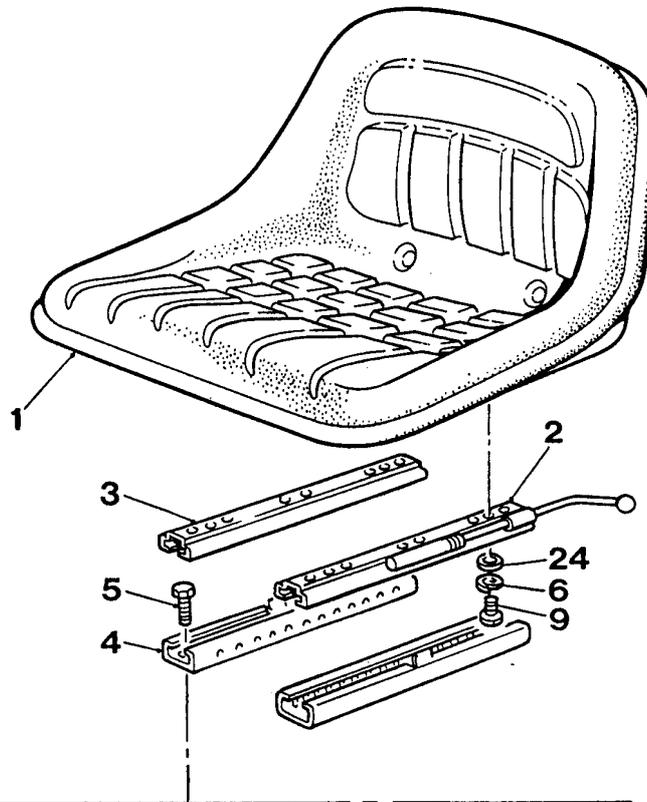
A - 1A

| Item | Part no | Serial no | Description | Qty |
|---|----------|-----------|------------------------------------|-----|
| From Jan. 1995 CE marked dumpers | | | | |
| 1 | 40286A02 | | CHASSIS, CE marked dumpers | 1 |
| 5 | V2004300 | | GUARD, disc brake | 1 |
| 6 | 11S06G | | SCREW, set | 2 |
| 7 | 17S08 | | WASHER, spring | 2 |
| 8 | 267S09 | | WASHER, flat | 2 |
| 10 | V2003568 | | DOCUMENT BOX | 1 |
| 11 | 101S07E | | RIVET | 2 |
| | | 0636 / | * 2B1000 | |
| | | 853 / | * 2B1500 | |
| 15 | 7S04 | | * NUT | 4 |
| 16 | 17S05 | | * WASHER, spring | 4 |
| 17 | 267S06 | | * WASHER, flat | 4 |
| 18 | 11S04C | | * SCREW, set | 4 |
| 19 | 40332A01 | | * BRACKET, steering column support | 1 |
| | | 0638 / | # 2B1000 | |
| | | 860 / | # 2B1500 | |
| 20 | V2004234 | | # SCREW, skip stop | 2 |
| 21 | 7S08 | | # NUT | 4 |
| 22 | 267S12 | | # WASHER, flat | 4 |
| 23 | 17S11 | | # WASHER, spring | 2 |
| | | 0637 / | \$ 2B1000 | |
| | | 853 / | \$ 2B1500 | |
| 30 | V2005388 | | \$ COVER, engine | 1 |
| 31 | 7S03 | | \$ NUT | 6 |
| 32 | 17S04 | | \$ WASHER, spring | 6 |
| 33 | 267S05 | | \$ WASHER, flat | 12 |
| 34 | 11S03C | | \$ SCREW, set | 6 |



BATTERY TRAY**A - 1B**

| Item | Part no | Serial no | Description | Qty |
|-------------|----------------|------------------|------------------------------------|------------|
| | | / 0600 | 2B1000 | |
| | | / 691 | 2B1500 | |
| 1 | 30080A0303 | | BAR, battery | 1 |
| 2 | 11S04C | | SCREW, set | 2 |
| 3 | 59S03 | | NUT, nylon insert | 2 |
| 4 | 10742A05 | | COVER, battery | 1 |
| 5 | 177S03 | | NUT, wing | 2 |
| 6 | 10559A01 | | CLAMP | 1 |
| 7 | 40SA17 | | ROD, clamp | 2 |
| 8 | 9S01 | | NUT, self-locking | 2 |
| 9 | --- | | TRAY, battery. (welded to chassis) | 1 |
| | | 0601 / | 2B1000 | |
| | | 692 / | 2B1500 | |
| 10 | 513358600 | | COVER, battery | 1 |
| 11 | V2004055 | | CLAMP, battery | 1 |
| 12 | 11S04C | | SCREW, set | 2 |
| 13 | 7S04 | | NUT | 2 |
| 14 | 17S05 | | WASHER, spring | 2 |
| 15 | 267S06 | | WASHER, flat | 2 |
| 16 | 61S02 | | NUT | 2 |
| 17 | 267S04 | | WASHER, flat | 2 |
| 18 | V2004120 | | ROD, clamp | 2 |
| 19 | 513358500 | | TRAY, battery. (welded to chassis) | 1 |

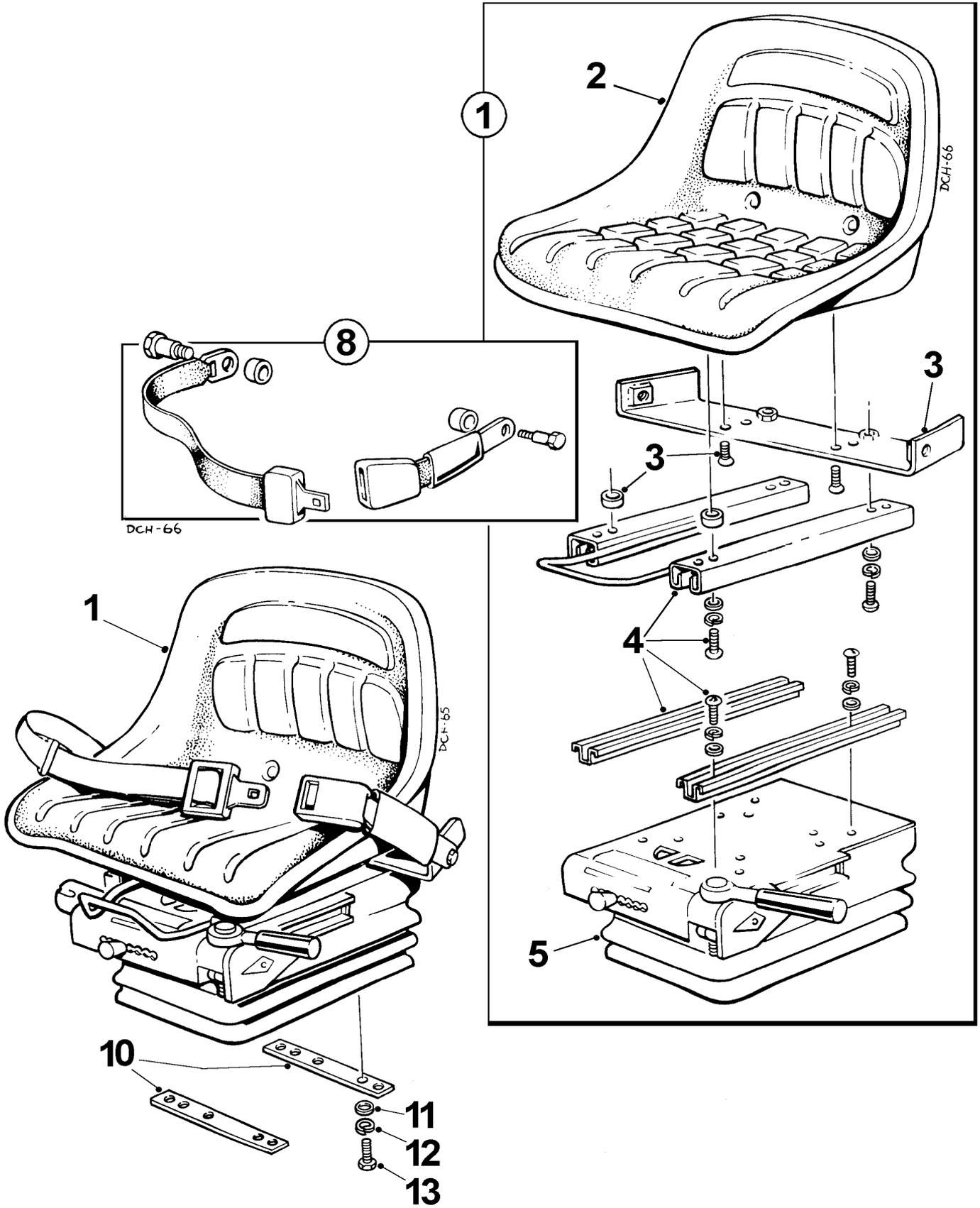


2cH-34A

SEAT, "KAB", with mountings

A - 1C

| Item | Part no | Serial no | Description | Qty |
|--|----------|-------------|-----------------------------------|-----|
| Not to be used with R.O.P.S frame | | | | |
| | | 0598 / 0627 | 2B1000 | |
| | | 688 / 785 | 2B1500 | |
| 1 | V2000954 | | SEAT, "KAB", | 1 |
| - | V2003203 | | SLIDE RAIL, assembly | 1 |
| 2 | --- | | (order assembly) | |
| 3 | --- | | (order assembly) | |
| 4 | --- | | (order assembly) | |
| 5 | 11S03B | | SCREW, set | 4 |
| 6 | 17S04 | | WASHER, spring | 14 |
| 7 | 7S03 | | NUT | 10 |
| 9 | 16S08C | | SCREW, slotted | 4 |
| 24 | 267S05 | | WASHER, flat | 14 |
| 30 | V2003654 | | SUSPENSION UNIT, "XL" | 1 |
| 31 | 11S03C | | SCREW, set | 6 |
| 32 | V2004206 | | PLATE, clamp | 2 |
| 40 | V2004231 | | SUSPENSION UNIT, "XH", c/w shroud | 1 |
| 41 | 267S05 | | WASHER, flat | 4 |
| 42 | 17S04 | | WASHER, spring | 4 |
| 44 | 11S03C | | SCREW, set | 2 |
| 45 | V2004206 | | PLATE, clamp | 2 |



***This seat and belt must be used with R.O.P.S. kits
(see pages A-1E and A-1F)***

| | |
|--------|---------------|
| 0628 / | 2B1000 |
| 786 / | 2B1500 |

*All UK/EC specification 'CE' marked 2B1000/2B1500 are fitted with this seat assembly from the above serial numbers.
(The seatbelt will only be supplied and attached to the anchorage bracket when a R.O.P.S is fitted.)*

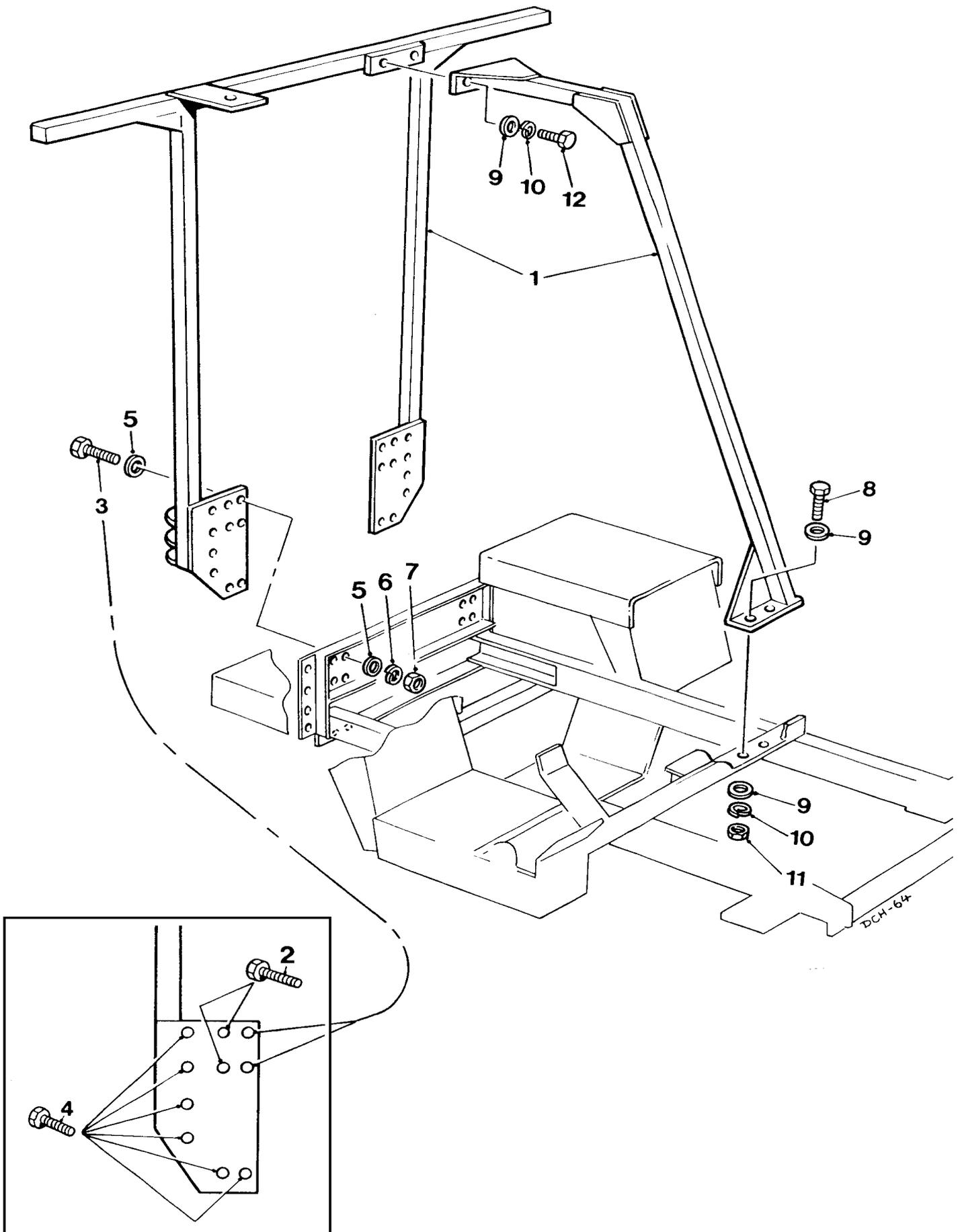
All other 2B1000/2B1500 produced prior to these serial numbers including 'Export' non 'CE' marked models produced from the above serial numbers will require this assembly fitting in place of the existing seat assembly should a R.O.P.S. (Roll Over Protective Structure) be required.

Earlier versions of the KAB seating XL or XH suspension unit do not meet the requirements of the ISO 6683 (Seat Belt Pull Test) and should not be used in conjunction with a R.O.P.S.

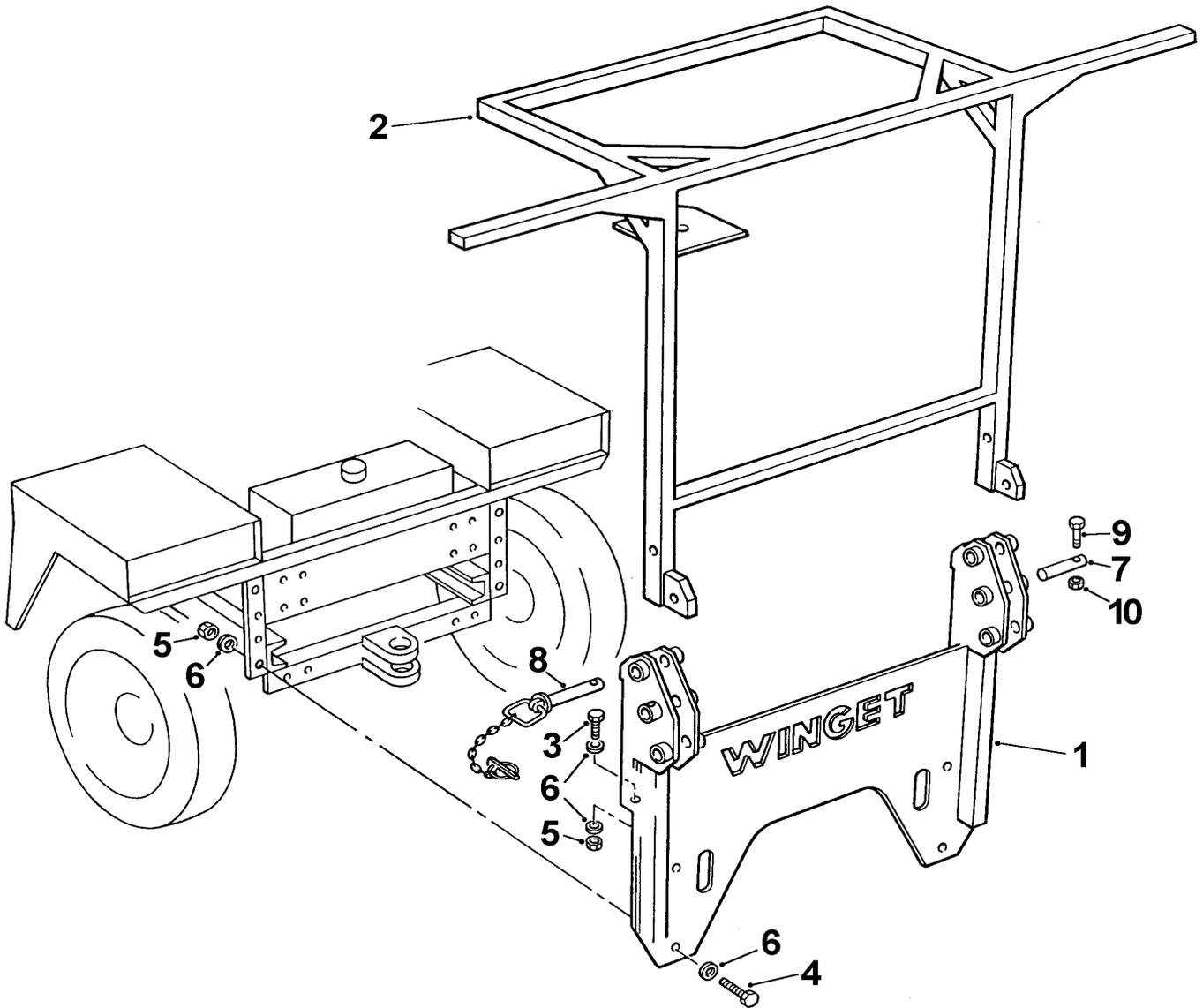
| Item | Part no | Serial no | Description | Qty |
|------|----------|-----------|-----------------------------------|-----|
| 1 | V2005013 | | SEAT, assembly c/w with seat belt | 1 |
| 2 | V2000954 | | SEAT, 'KAB P2N' | |
| 3 | V602750 | | BRACKET, anchorage | 1 |
| 4 | V602752 | | SLIDE RAIL, assembly | 1 |
| 5 | V602751 | | UNIT, suspension 'XH2' (ISO 6683) | 1 |
| 8 | V602749 | | BELT, seat | 1 |
| 10 | V2004206 | | PLATE, clamp | 2 |
| 11 | 267S05 | | WASHER, flat | 4 |
| 12 | 17S04 | | WASHER, spring | 4 |
| 13 | 11S03C | | SCREW, set | 4 |

A - 1E

2B1000 & 2B1500 Dumpers



| Item | Part no | Serial no | Description | Qty |
|-------|----------|-----------|---|-----|
| | | 0628 / | 2B1000 | |
| | | 786 / | 2B1500 | |
| | | | <i>For fitting to dumpers built prior to the above serial numbers.....</i> | |
| ..... | V602747 | | # R.O.P.S. KIT, includes items 1 to 12 below plus KAB XH2/P2N seat assembly with seat belt to ISO 6683. (See page A-1D) | |
| | | | <i>For fitting to dumpers built from the above serial numbers.....</i> | |
| ..... | V602748 | | # R.O.P.S. KIT, includes items 1 to 12 below plus seat belt V602749 for seat V2005013. The kit does not include the seat. (See page A-1D) | |
| 1 | V2004946 | | FRAME, R.O.P.S. | 1 |
| 2 | 11S04G | | SCREW, set | 4 |
| 3 | 11S04E | | SCREW, set | 4 |
| 4 | 11S04F | | SCREW, set | 12 |
| 5 | 267S06 | | WASHER, flat | 40 |
| 6 | 17S05 | | WASHER, spring | 20 |
| 7 | 7S04 | | NUT | 20 |
| 8 | 11S05G | | SCREW, set | 2 |
| 9 | 267S07 | | WASHER, flat | 6 |
| 10 | 17S06 | | WASHER, spring | 4 |
| 11 | 7S05 | | NUT | 2 |
| 12 | 11S05C | | SCREW, set | 2 |
| | | | # To fit kits refer to Service Bulletins SB225 and SB226. | |



| | | |
|---|--|----|
|  | <p>ONLY OPERATE THIS EQUIPMENT WITH THE ROPS FRAME IN THE UPRIGHT POSITION WITH THE LOCKING PINS ENGAGED.</p> | 11 |
|---|--|----|

| | | |
|---|--|----|
|  | <p>ROPS / FOPS STRUCTURE NOT TO BE REPAIRED. IF DAMAGED, A REPLACEMENT STRUCTURE MUST BE INSTALLED. ANY UNAUTHORISED MODIFICATION WILL VOID CERTIFICATION AND RESULT IN INJURY.</p> | 12 |
|---|--|----|

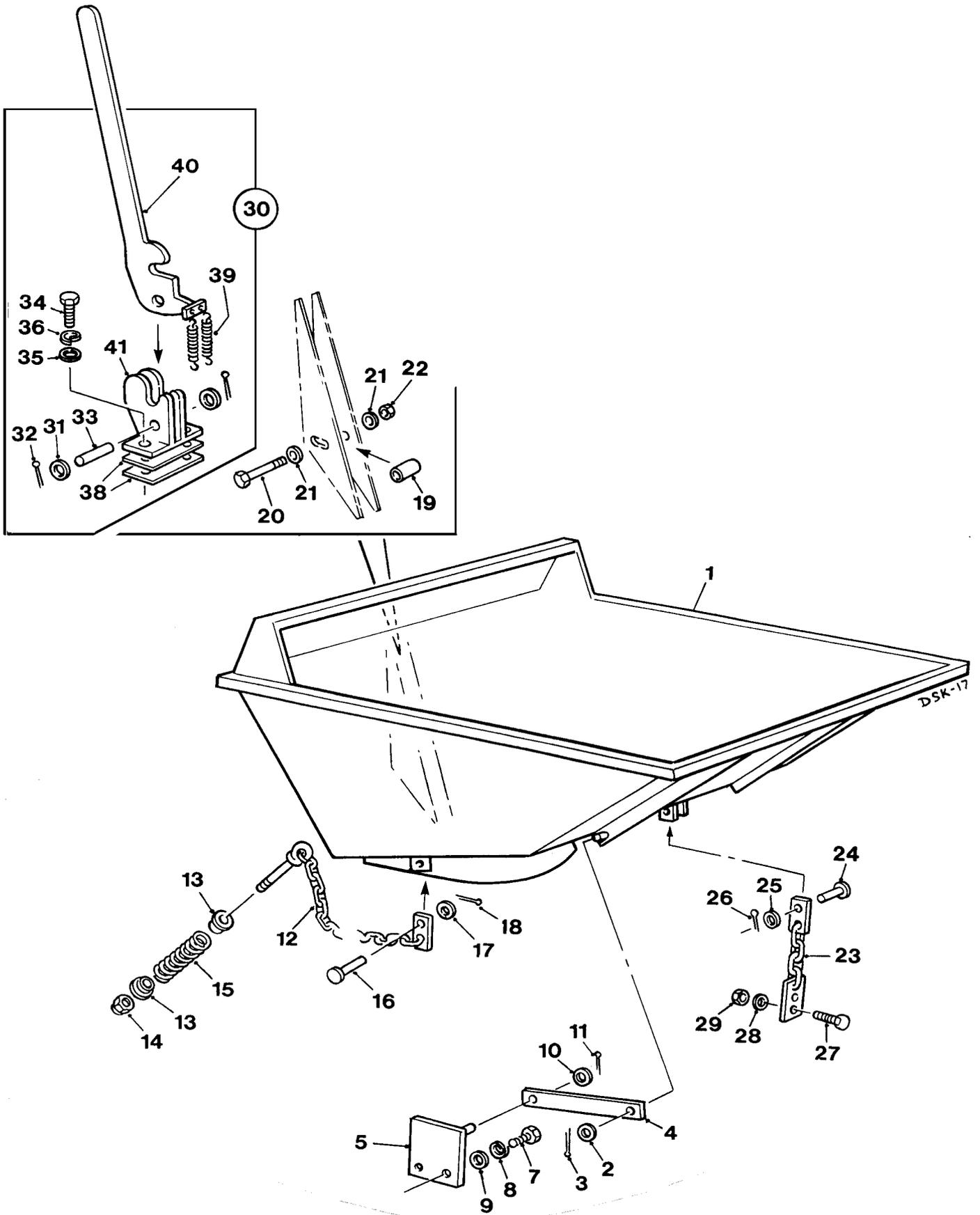
| | | |
|--|--|--|
| <p>TYPE CERTIFICATION FOR ROLL OVER AND FALLING OBJECT PROTECTIVE STRUCTURE</p> | | <p>TESTED TO STANDARDS : ROPS : ISO 2471/1994 SAE J1040/1998</p> |
| <p>MANUFACTURED BY: WINGET LTD, PO BOX 41, BOLTON, BL4 0LS. TEL: 01204 665165 FAX: 01204 665206</p> | <p>FOR APPLICATION ON: WINGET LTD, PO BOX 41, BOLTON, BL4 0LS. VEHICLE MODEL:</p> | <p>CAB FRAME SERIAL No. _____</p> |
| <p>MAXIMUM VEHICLE MASS:</p> | <p>KGS.</p> | 13 |

R.O.P.S. FRAME, FOLDING

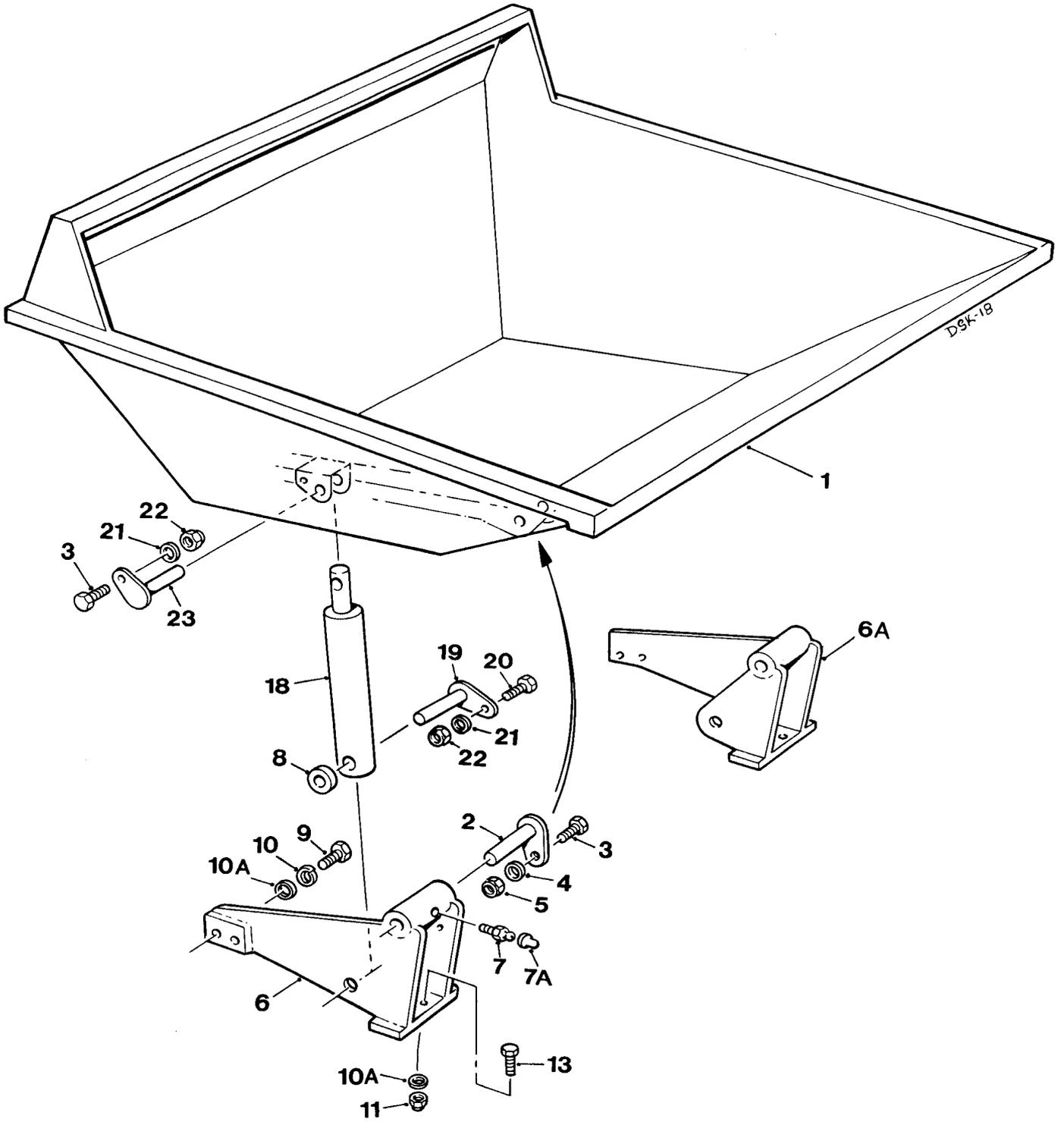
A - 1F

| Item | Part no | Serial no | Description | Qty |
|-------|----------|-----------------|---|-----|
| | | 0635 / 821 / | 2B1000 2B1500 | |
| | | | <i>For fitting to dumpers built prior to....</i> | |
| | | | 0628 2B1000 | |
| | | | 0786 2B1500 | |
| ..... | V602979 | | # R.O.P.S. KIT, includes items 1 to 13 below plus KAB XH2/P2N seat assembly with seat belt to ISO 6683. (See page A-1D) | |
| | | | <i>For fitting to dumpers from....</i> | |
| | | | 0628 2B1000 | |
| | | | 0786 2B1500 | |
| ..... | V602978 | | # R.O.P.S. KIT, includes items 1 to 13 below plus seat belt V602749 for seat V2005013. The kit does not include the seat. (See page A-1D) | |
| 1 | V2005280 | | MOUNTING, R.O.P.S. frame | 1 |
| 2 | V2005295 | | FRAME, R.O.P.S. folding | 1 |
| 3 | 11S05E | | SCREW, set | 2 |
| 4 | 11S05H | | SCREW, set | 4 |
| 5 | 59S04 | | NUT, nyloc | 6 |
| 6 | 267S07 | | WASHER, flat | 12 |
| 7 | V2004926 | | PIN, pivot | 2 |
| 8 | V2005285 | | PIN, locking, c/w chain & clips | 2 |
| 9 | 8S03H | | BOLT | 2 |
| 10 | 59S12 | | NUT, nyloc | 2 |
| 11 | V2005310 | | DECAL, R.O.P.S. folding | 2 |
| 12 | V2004754 | | DECAL, damage to R.O.P.S. frame | 2 |
| 13 | V2005030 | | PLATE, R.O.P.S. identification | 1 |
| ..... | 101S05D | | RIVET, pop (used with item 13) | 4 |

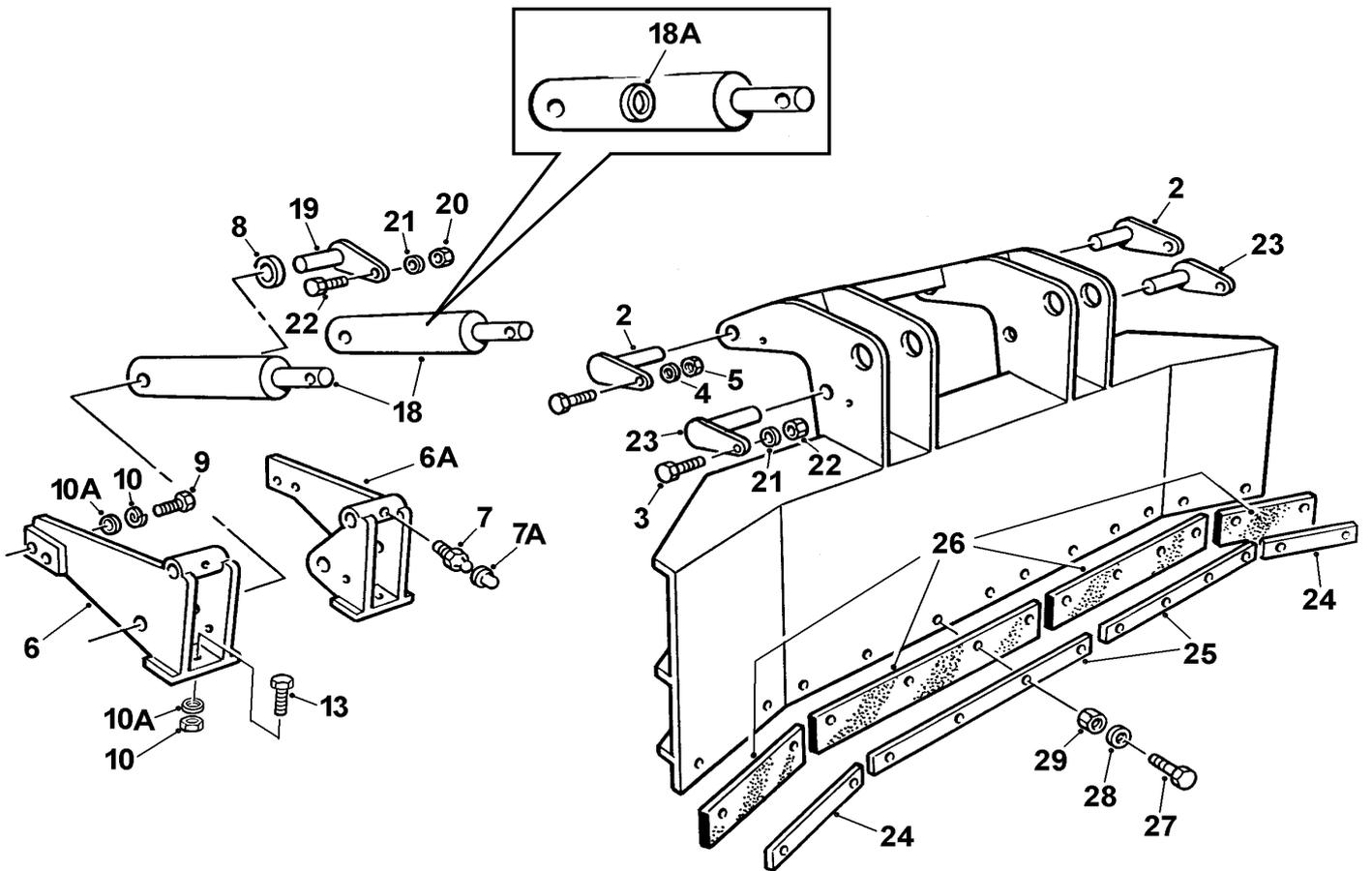
To fit kits refer to Service Bulletins SB269 and SB270.



| Item | Part no | Serial no | Description | Qty |
|-------|------------|-----------|---|-----|
| 1 | 40295A06 | | SKIP, 2B1000 | 1 |
| 1 | 40295A04 | | SKIP, 2B1500 | 1 |
| 2 | 10S06 | | WASHER, flat | 2 |
| 3 | 44S05G | | PIN, split | 2 |
| 4 | 10892A01 | | ARM, radius | 2 |
| 5 | 10893A01 | | BRACKET, mount, R.H. (<i>illustrated</i>) | 1 |
| ..... | 10893A02 | | BRACKET, mount, L.H. (<i>not illustrated</i>) | 1 |
| 7 | 11S05E | | SCREW, set | 4 |
| 8 | 17S06 | | WASHER, spring | 4 |
| 9 | 267S07 | | WASHER, flat | 4 |
| 10 | 10S06 | | WASHER | 2 |
| 11 | 44S05G | | PIN, split | 2 |
| 12 | 20286A07 | / APR 85 | CHAIN, skip check, c/w bolt | 2 |
| 12 | 20286A10 | MAY 85 / | CHAIN, skip check, c/w bolt | 2 |
| 13 | 10894A01 | / APR 85 | COLLAR, spring alignment | 4 |
| 13 | 10894A02 | MAY 85 / | COLLAR, spring alignment | 4 |
| 14 | 59S12 | / APR 85 | NUT, nylon insert | 2 |
| 14 | 59S04 | MAY 85 / | NUT, nylon insert | 2 |
| 15 | C173A | | SPRING, compression | 2 |
| 16 | 10650A04 | | PIN, clevis | 2 |
| 17 | 10S04 | | WASHER | 2 |
| 18 | 44S03C | | PIN, split | 2 |
| 19 | C140A | | TUBE, skip catch | 1 |
| 20 | 8S06R | | BOLT | 1 |
| 21 | 247S09 | | WASHER, flat | 2 |
| 22 | 59S11 | | NUT, nylon insert | 1 |
| 23 | 20286A02 | | CHAIN, front | 1 |
| 24 | 10650A18 | | PIN, clevis | 1 |
| 25 | 10S03 | | WASHER, flat | 1 |
| 26 | 44S02C | | PIN, split | 1 |
| 27 | 11S03C | | SCREW, set | 2 |
| 28 | 17S04 | | WASHER, spring | 2 |
| 29 | 7S03 | | NUT | 2 |
| 30 | 40296A01 | | CATCH, skip, assembly | 1 |
| 31 | 10S06 | | WASHER, flat | 2 |
| 32 | 44S04E | | PIN, split | 2 |
| 33 | 40296A0105 | | PIN, pivot | 1 |
| 34 | 11S06G | | SCREW, set | 2 |
| 35 | 267S09 | | WASHER, flat | 2 |
| 36 | 17S08 | | WASHER, spring | 2 |
| 38 | 10054A04 | | SHIM | AR |
| 39 | C173B | | SPRING | 2 |
| 40 | 10912A03 | | LEVER, catch | 1 |
| 41 | ----- | | BODY, catch (<i>order assembly</i>) | 1 |



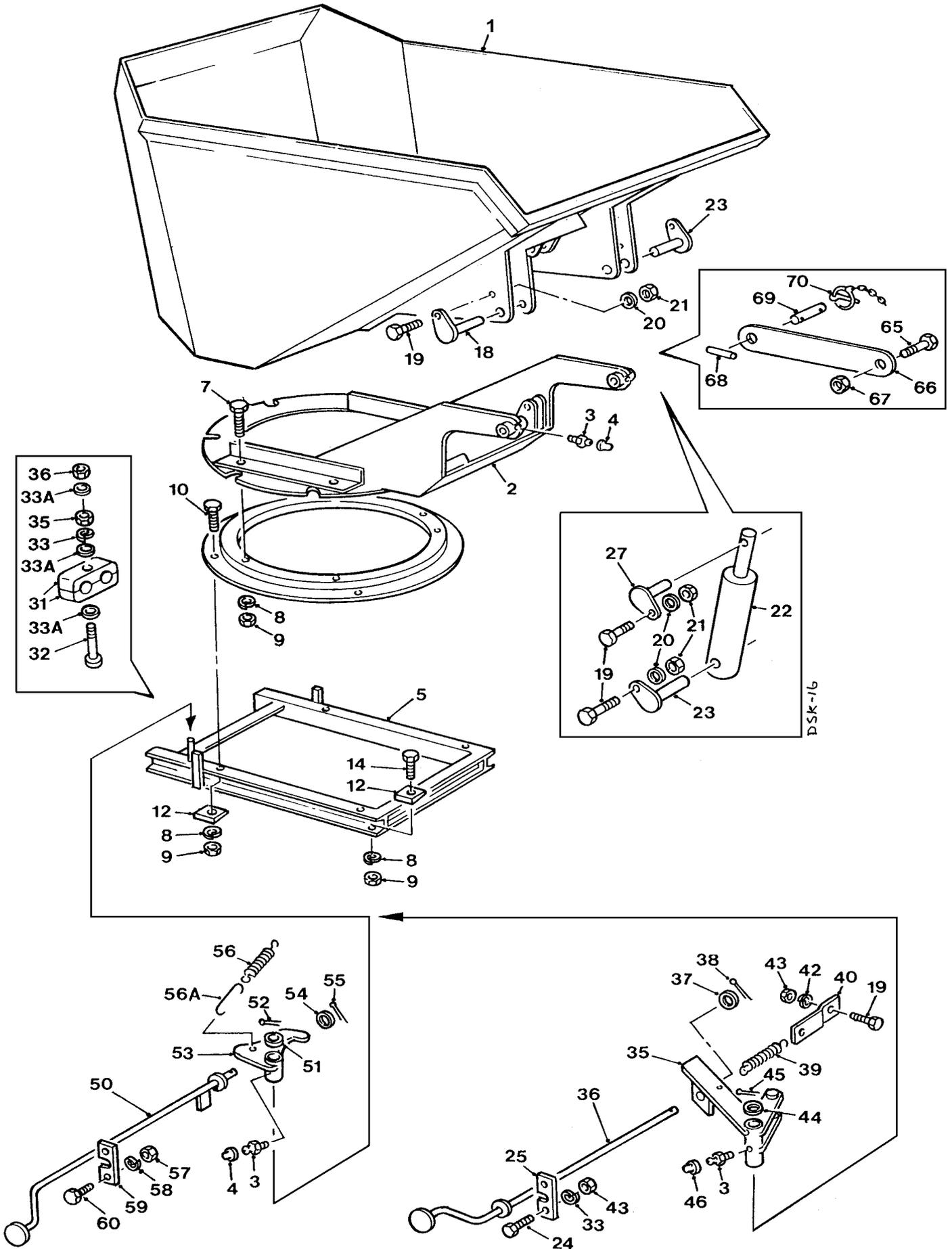
| Item | Part no | Serial no | Description | Qty |
|------|----------|-----------|---|-----|
| 1 | 40295A08 | | SKIP, 2B1000 | 1 |
| 1 | 40295A05 | | SKIP, 2B1500 | 1 |
| 2 | 10470A10 | | PIN, pivot, skip | 2 |
| 3 | 11S04C | | SCREW, set | 4 |
| 4 | 267S06 | | WASHER, flat | 2 |
| 5 | 59S03 | | NUT, nylon insert | 2 |
| 6 | 30126A08 | | BRACKET, pivot, R.H. (<i>illustrated</i>) | 1 |
| 6A | 30126A09 | | BRACKET, pivot, L.H. (<i>not illustrated</i>) | 1 |
| 7 | 131S03 | / 0552 | NIPPLE, grease, push-in, 2B1000 | 2 |
| 7 | 131S03 | / 585 | NIPPLE, grease, push-in, 2B1500 | 2 |
| 7 | 131S01 | 0553 / | NIPPLE, grease, threaded, 2B1000 | 2 |
| 7 | 131S01 | 586 / | NIPPLE, grease, threaded, 2B1500 | 2 |
| 7A | 176S01 | | CAP, grease nipple | 2 |
| 8 | L279/1 | | SPACER | 2 |
| 9 | 8S05E | | BOLT | 4 |
| 10 | 17S06 | | WASHER, spring | 4 |
| 10A | 267S07 | | WASHER, flat | 6 |
| 11 | 59S04 | | NUT, nylon insert | 2 |
| 13 | 11S05E | | SCREW, set | 2 |
| 18 | - | | RAM, hyd (<i>see page H - 6</i>) | 2 |
| 19 | 10470A11 | | PIN, pivot | 2 |
| 20 | 11S04C | | SCREW, set | 2 |
| 21 | 267S06 | | WASHER, flat | 4 |
| 22 | 59S03 | | NUT, nylon insert | 4 |
| 23 | 10470A12 | | PIN, pivot | 2 |



PLOUGH BLADE ASSEMBLY

A - 3A

| Item | Part no | Serial no | Description | Qty |
|---|----------|-----------|---|-------|
| 1 | V2005145 | | PLOUGH | 1 |
| 2 | 10470A18 | | PIN, pivot, plough | 2 |
| 3 | 11S04C | | SCREW, set | 4 |
| 4 | 267S06 | | WASHER, flat | 2 |
| 5 | 59S03 | | NUT, nylon insert | 2 |
| 6 | 30126A08 | | BRACKET, pivot, R.H. | 1 |
| 6A | 30126A09 | | BRACKET, pivot, L.H. | 1 |
| 7 | 131S03 | / 585 | NIPPLE, grease, push-in | 2 |
| 7 | 131S01 | 586 / | NIPPLE, grease, threaded | 2 |
| 7A | 176S01 | | CAP, grease nipple | 2 |
| 8 | L2791 | | SPACER | 2 |
| 9 | 8S05E | | BOLT | 4 |
| 10 | 17S06 | | WASHER, spring | 4 |
| 10A | 267S07 | | WASHER, flat | 6 |
| 11 | 59S04 | | NUT, nylon insert | 2 |
| 13 | 11S05E | | SCREW, set | 2 |
| 18 | ..... |  | # RAM, lift, (see page H-6) | 2 |
| 18A | V2005147 | | # SPACER, restrictor (inside ram) # The ram is identical to the tip ram shown on page H-6, except for the addition of the Restrictor Spacer, item 18A) | 1 |
| Note: Hydraulic hoses and fittings to the lift ram are identical to those shown on page H-1A | | | | |
| 19 | 10470A11 | | PIN, pivot, ram base | 2 |
| 20 | 11S04C | | SCREW, set | 2 |
| 21 | 267S06 | | WASHER, flat | 4 |
| 22 | 59S03 | | NUT, nylon insert | 4 |
| 23 | 10470A12 | | PIN, pivot, ram top | 2 |
| 24 | V2005149 | | CLAMP, short | 2 |
| 25 | V2005148 | | CLAMP, long | 2 |
| 26 | V2005150 | | STRIP, rubber | 1 set |
| 27 | 8S03D | | BOLT | 12 |
| 28 | 267S05 | | WASHER, flat | 24 |
| 29 | 61S03 | | NUT, "Binx" self locking | 12 |

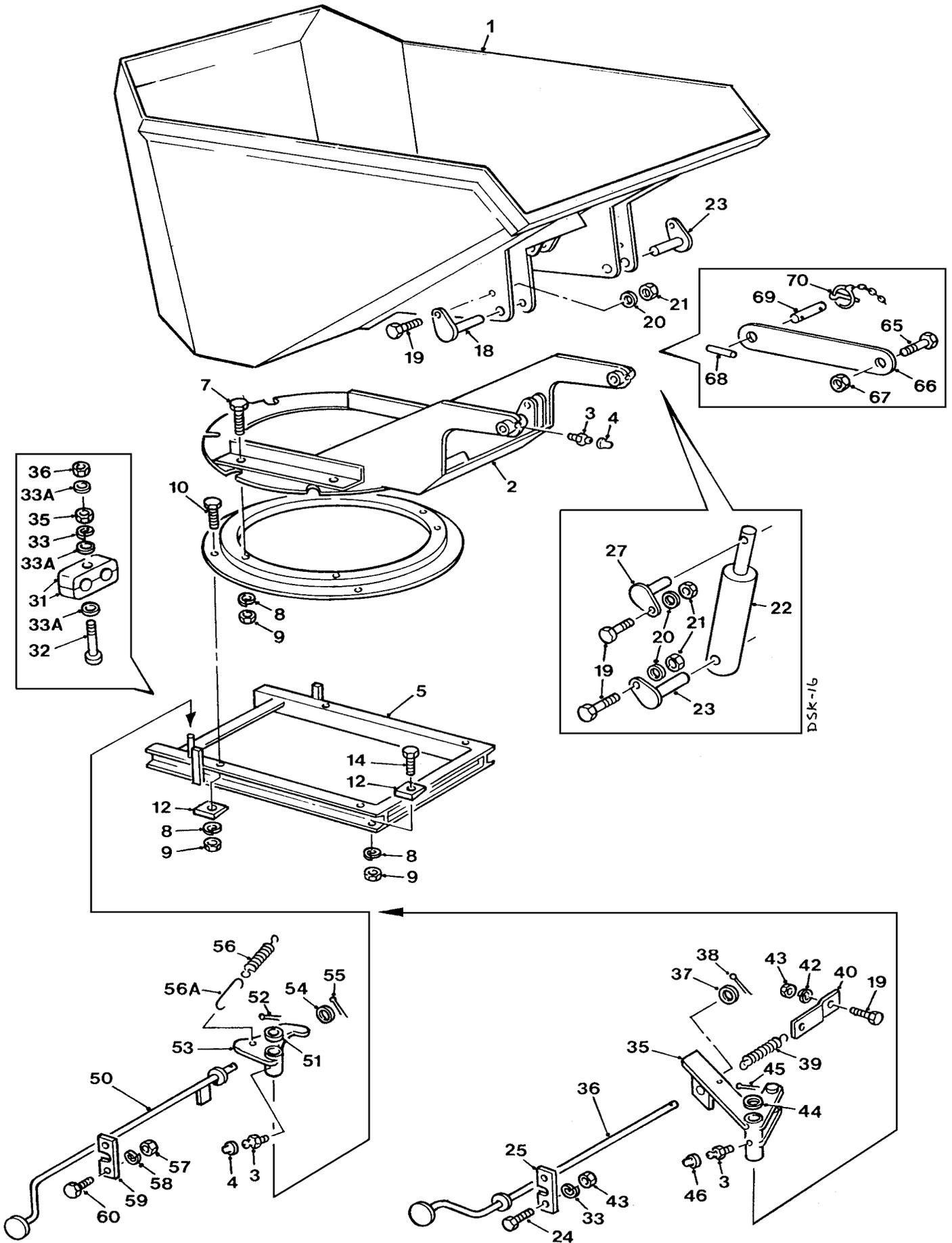


SKIP, rotating

| Item | Part no | Serial no | Description | Qty |
|------|------------|-----------|---|-----|
| 1 | 40115A07 | | SKIP | 1 |
| 2 | 40116A02 | | FRAME, upper | 1 |
| 3 | 131S03 | / 0552 | NIPPLE, grease, push-in, 2B1000 | 3 |
| 3 | 131S03 | / 585 | NIPPLE, grease, push-in, 2B1500 | 3 |
| 3 | 5ST100 | / 0552 | NIPPLE, grease, threaded, 2B1000 | 3 |
| 3 | 5ST100 | / 585 | NIPPLE, grease, threaded, 2B1500 | 3 |
| 3 | 131S01 | 0553 / | NIPPLE, grease, threaded, 2B1000 | 3 |
| 3 | 131S01 | 586 / | NIPPLE, grease, threaded, 2B1500 | 3 |
| 4 | 176S01 | | CAP, grease nipple | 3 |
| 5 | 40116A04 | | FRAME, lower | 1 |
| 6 | 10640A02 | | TURNTABLE, ball bearing | 1 |
| 7 | 11S05F | | SCREW, set | 4 |
| 8 | 17S06 | | WASHER, spring | 12 |
| 9 | 7S05 | | NUT | 12 |
| 10 | 11S05E | | SCREW, set | 4 |
| 12 | 105S05 | | WASHER, taper | 8 |
| 14 | 11S05E | | SCREW, set | 4 |
| 18 | 10470A05 | | PIN, pivot | 2 |
| 19 | 11S04D | | SCREW, set | 4 |
| 20 | 267S06 | | WASHER, flat | 4 |
| 21 | 59S03 | | NUT, nylon insert | 4 |
| 22 | - | | RAM, hyd (see page H - 8) | 1 |
| 23 | 10470A06 | | PIN, pivot | 1 |
| 24 | 11S02B | | SCREW, set | 2 |
| 25 | 40286A0135 | | RETAINER | 1 |
| 27 | 10470A07 | | PIN, pivot | 1 |
| 31 | 187S08JJ | | CLAMP, (two halves) | 6 |
| 32 | 103S02H | | BOLT, skt. cap hd. | 3 |
| 33 | 41S03 | | WASHER, spring | 3 |
| 33A | 267S04 | | WASHER, flat | 7 |
| 34 | 104S01 | | NUT | 3 |
| 34A | 192S01 | | NUT, self-locking 'Binx' | 1 |

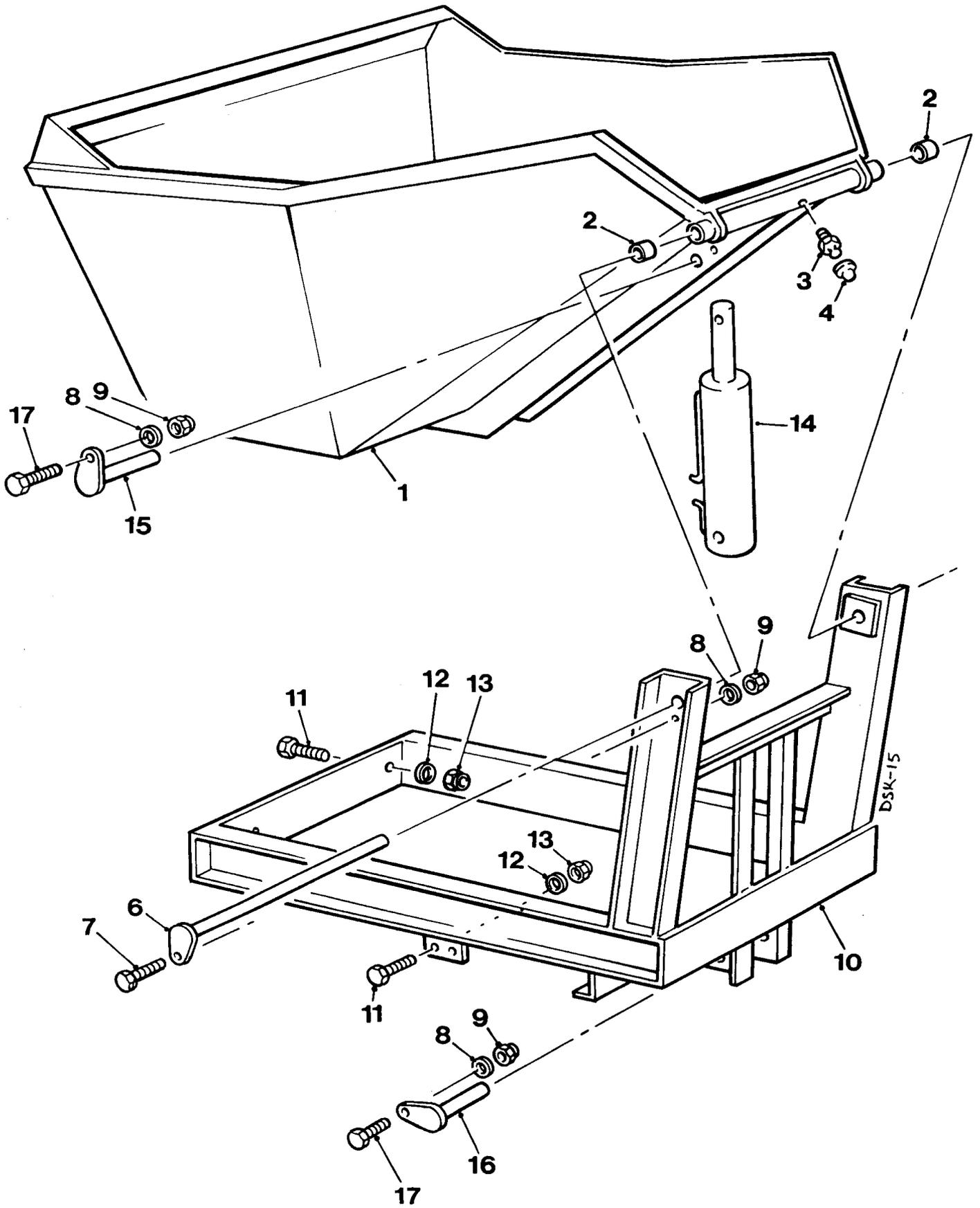
Two skip catch assemblies have been fitted. Either item 35 below, or alternative assembly on next page.

| | | | | |
|----|----------|--|-----------------------------|---|
| 35 | 40296A02 | | CATCH, skip, assembly | 1 |
| 36 | ..... |  | ROD, catch (order assembly) | 1 |
| 37 | 267S07 | | WASHER, flat | 1 |



SKIP, rotating

| Item | Part no | Serial no | Description | Qty |
|------|------------|-----------|---|-----|
| 38 | 44S03C | | PIN, split | 1 |
| 39 | C173B | | SPRING,return | 1 |
| 40 | 10869A04 | | RETAINER, spring | 1 |
| 41 | 11S04D | | SCREW, set | 1 |
| 42 | 17S05 | | WASHER, spring | 1 |
| 43 | 7S04 | | NUT | 3 |
| 44 | 10S06 | | WASHER, flat | 1 |
| 45 | 44S05E | | PIN, split | 1 |
| 46 | 131S03 | / 0552 | NIPPLE, grease, push-in, 2B1000 | 1 |
| 46 | 131S03 | / 585 | NIPPLE, grease, push-in, 2B1500 | 1 |
| 46 | 131S01 | 0553 / | NIPPLE, grease, threaded, 2B1000 | 1 |
| 46 | 131S01 | 586 / | NIPPLE, grease, threaded, 2B1500 | 1 |
| - | 40296A04 | | CATCH, skip, assembly | 1 |
| 50 | 10912A06 | | ROD | 1 |
| 51 | 10S06 | | WASHER | 1 |
| 52 | 44S05E | | PIN, split | 1 |
| 53 | 10912A05 | | PLATE | 1 |
| 54 | 267S07 | | WASHER, flat | 1 |
| 55 | 44S03C | | PIN, split | 1 |
| 56 | C173B | | SPRING | 1 |
| 56A | 10869A04 | | RETAINER, spring | 1 |
| 57 | 7S02 | | NUT | 2 |
| 58 | 17S03 | | WASHER, spring | 2 |
| 59 | 40286A0135 | | BRACKET | 1 |
| 60 | 11S02B | | SCREW, set | 2 |
| 65 | 8S07K | | BOLT | 1 |
| 66 | V2004004 | | SUPPORT, skip | 1 |
| 67 | 61S07 | | NUT, 'Binx' self-locking | 1 |
| 68 | 55S02D | | PIN, roll | 1 |
| 69 | V2003851 | | PIN | 1 |
| 70 | 902S02 | | PIN,lynch & chain | 1 |

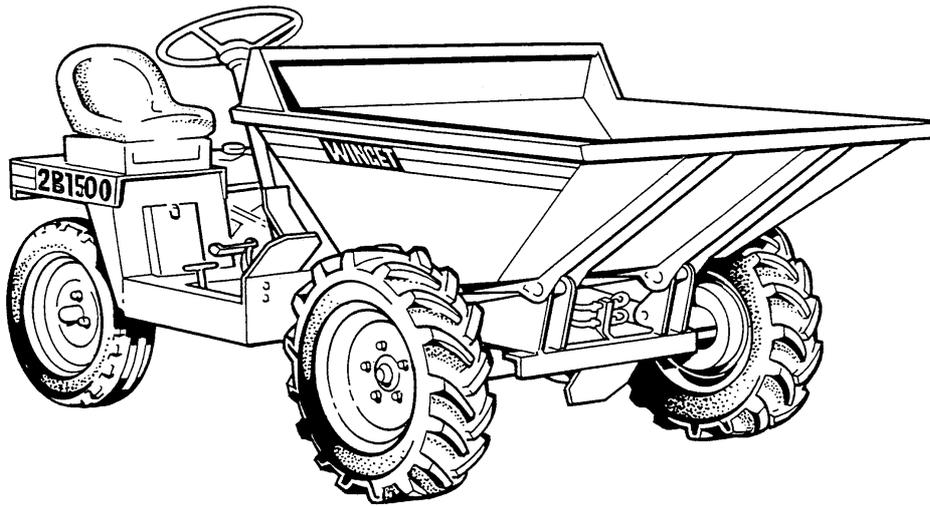


SKIP, high discharge

A - 5

| Item | Part no | Serial no | Description | Qty |
|------|----------|-----------|---|-----|
| 1 | 40288A01 | | SKIP | 1 |
| 2 | 4SHL91 | | BUSH, pivot tube | 2 |
| 3 | 131S03 | / 0552 | NIPPLE, grease, push-in, 2B1000 | 1 |
| 3 | 131S03 | / 585 | NIPPLE, grease, push-in, 2B1500 | 1 |
| 3 | 131S01 | 0553 / | NIPPLE, grease, threaded, 2B1000 | 1 |
| 3 | 131S01 | 586 / | NIPPLE, grease, threaded, 2B1500 | 1 |
| 4 | 176S01 | | CAP, grease nipple (<i>not illustrated</i>) | 1 |
| 6 | 10470A09 | | PIN, pivot, skip | 1 |
| 7 | 11S04C | | SCREW, set | 1 |
| 8 | 267S06 | | WASHER, flat | 3 |
| 9 | 59S03 | | NUT, nylon insert | 3 |
| 10 | 40245A02 | | FRAME | 1 |
| 11 | 11S05E | | SCREW, set | 6 |
| 12 | 267S07 | | WASHER, flat | 6 |
| 13 | 59S04 | | NUT, "Nyloc" | 6 |
| 14 | - | | RAM, hyd (<i>see page H - 7</i>) | 1 |
| 15 | 10470A07 | | PIN, pivot | 1 |
| 16 | 10470A08 | | PIN, pivot | 1 |
| 17 | 11S04C | | SCREW, set | 2 |

2B1000 & 2B1500 DUMPERS



Axles & Wheels

WHEELS & TYRES

B - 1

DRIVE AXLE, Salisbury, 2B1000

B - 5

DRIVE AXLE, Salisbury, 2B1500

B - 6

DRIVE AXLE, Newage & fittings

B - 7

DRIVE AXLE, Newage, 200RF

B - 8

DRIVE AXLE, Newage, 215 series

Input pinion & differential

B - 8A

Planet carrier & axle casing

B - 8B

Hub & axle shaft

B - 8C

Brakes

B - 8D

STEERING AXLE & STEERING COLUMN

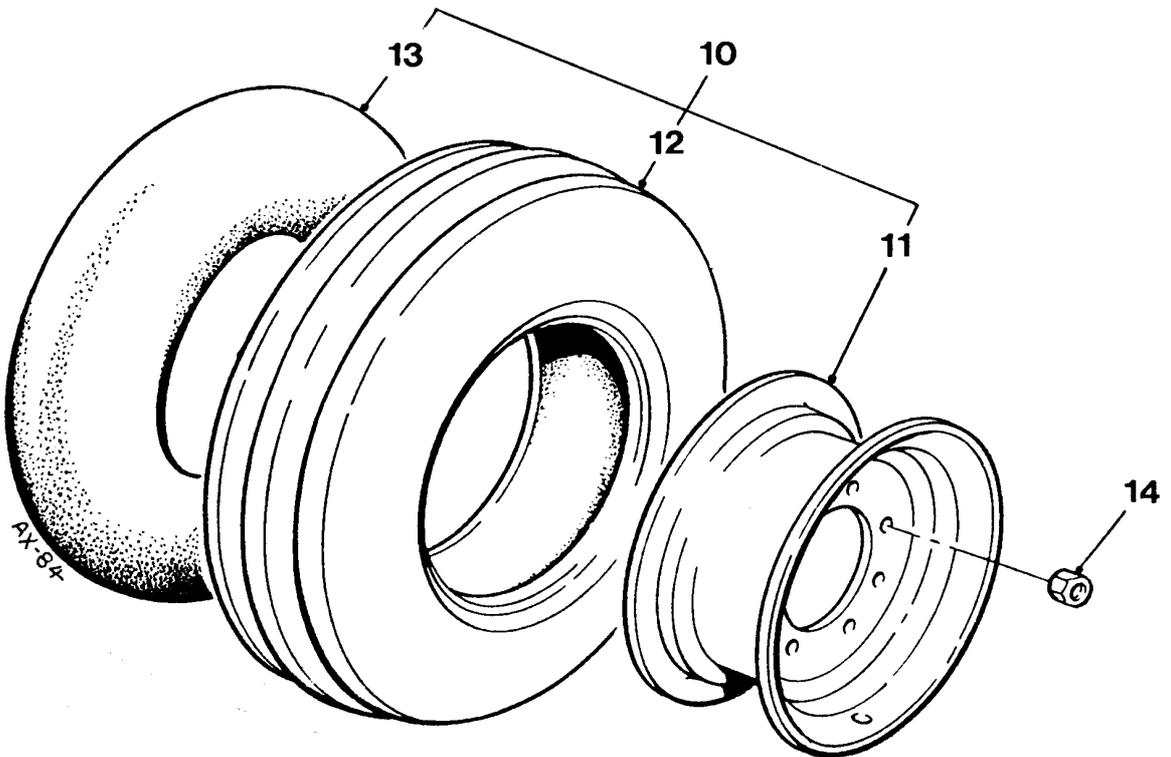
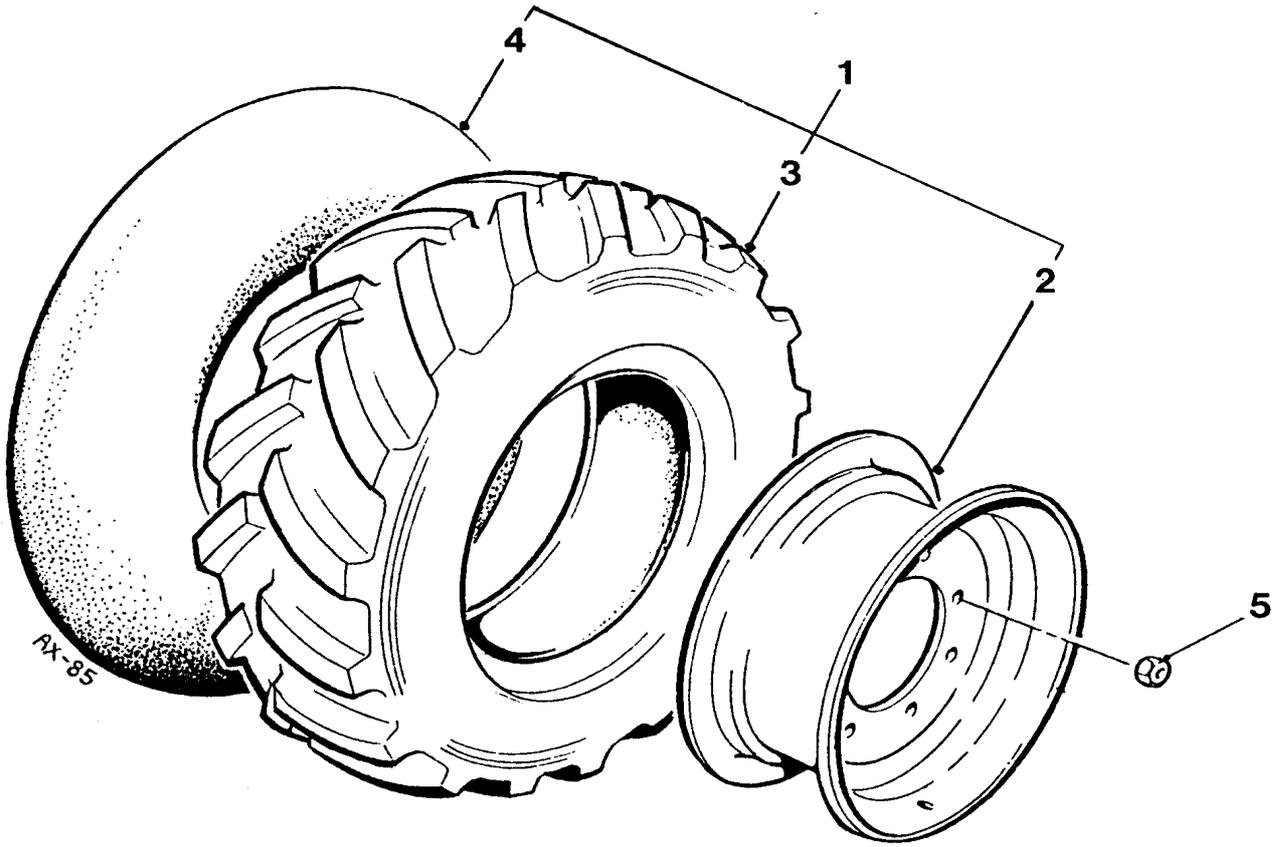
B - 9

STEERING COLUMN, L.H. type

B - 9A

STEERING COLUMN, R.H. type

B - 9B



| Item | Part no | Serial no | Description | Qty |
|------|---------|-----------|-------------|-----|
|------|---------|-----------|-------------|-----|

Check rim & tyre size before ordering.

2B1000

| | | | | |
|---|----------|--|------------------------------|---|
| 1 | 24S19 | | WHEEL, front, L.H., assembly | 1 |
| 1 | 24S20 | | WHEEL, front, R.H., assembly | 1 |
| 2 | 20158A03 | | RIM, wheel | 1 |
| 3 | 20S09 | | TYRE, 6 x 16 | 1 |
| 4 | 23S02 | | TUBE, 6 x 16 | 1 |

2B1500

| | | | | |
|---|----------|--|------------------------------|---|
| 1 | 24S57 | | WHEEL, front, L.H., assembly | 1 |
| 1 | 24S58 | | WHEEL, front, R.H., assembly | 1 |
| 2 | 30192A03 | | RIM, wheel, 5.5 x 16 | 1 |
| 3 | 22S09 | | TYRE, 7.50 x 16 | 1 |
| 4 | 23S03 | | TUBE, 7.50 x 16 | 1 |

| | | | | |
|---|----------|--|------------|----|
| 5 | 10668A01 | | NUT, wheel | 10 |
|---|----------|--|------------|----|

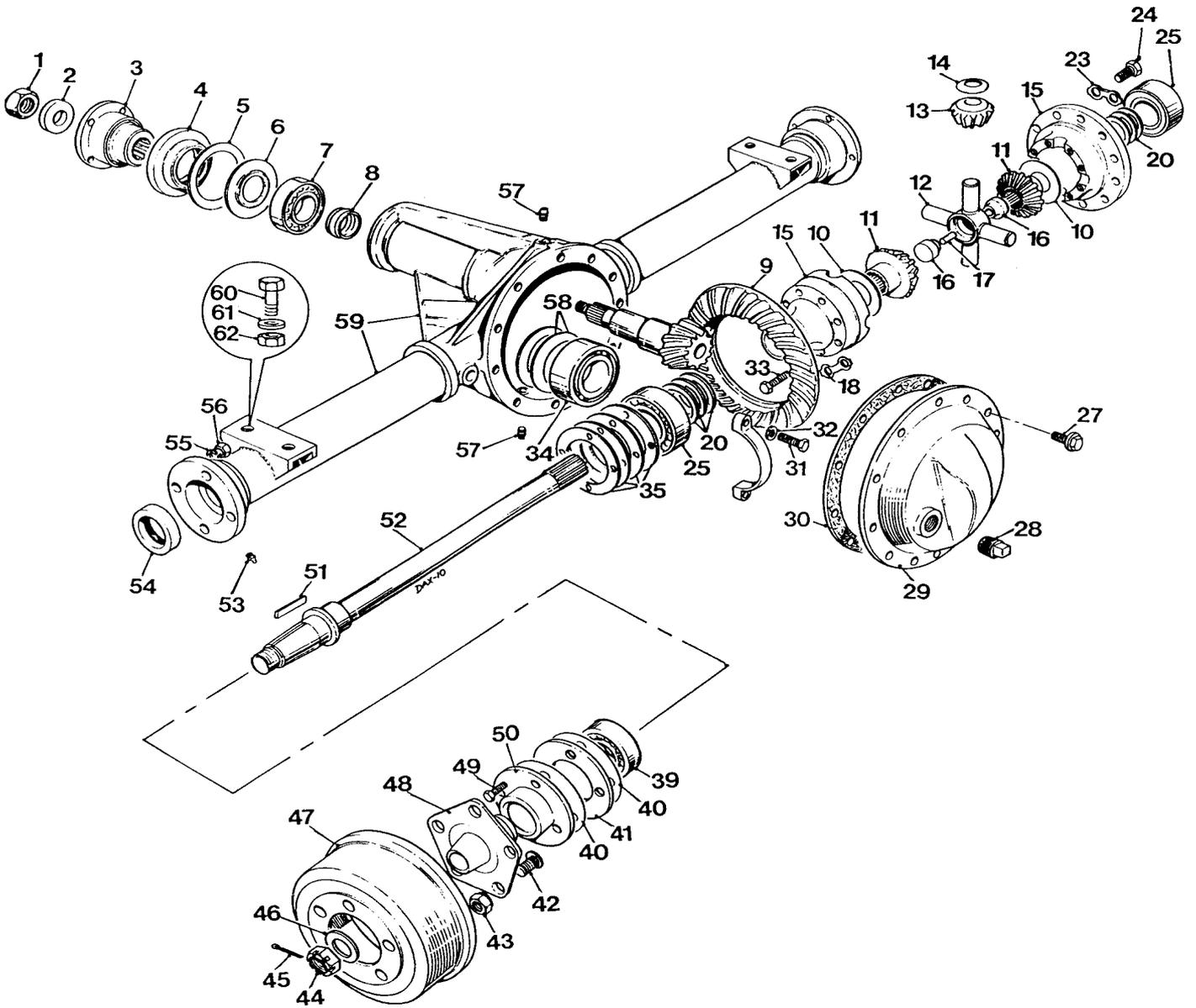
2B1000

| | | | | |
|----|----------|--|------------------------|---|
| 10 | 24S39 | | WHEEL, rear, assembly | 2 |
| 11 | 20129A03 | | RIM, wheel, 16" 3 stud | 1 |
| 12 | 21S08 | | TYRE, 4.5 x 16 | 1 |
| 13 | 23S22 | | TUBE, 4.5 x 16 | 1 |

| | | | | |
|----|----------|--|------------|---|
| 14 | 10668A01 | | NUT, wheel | 6 |
|----|----------|--|------------|---|

2B1500

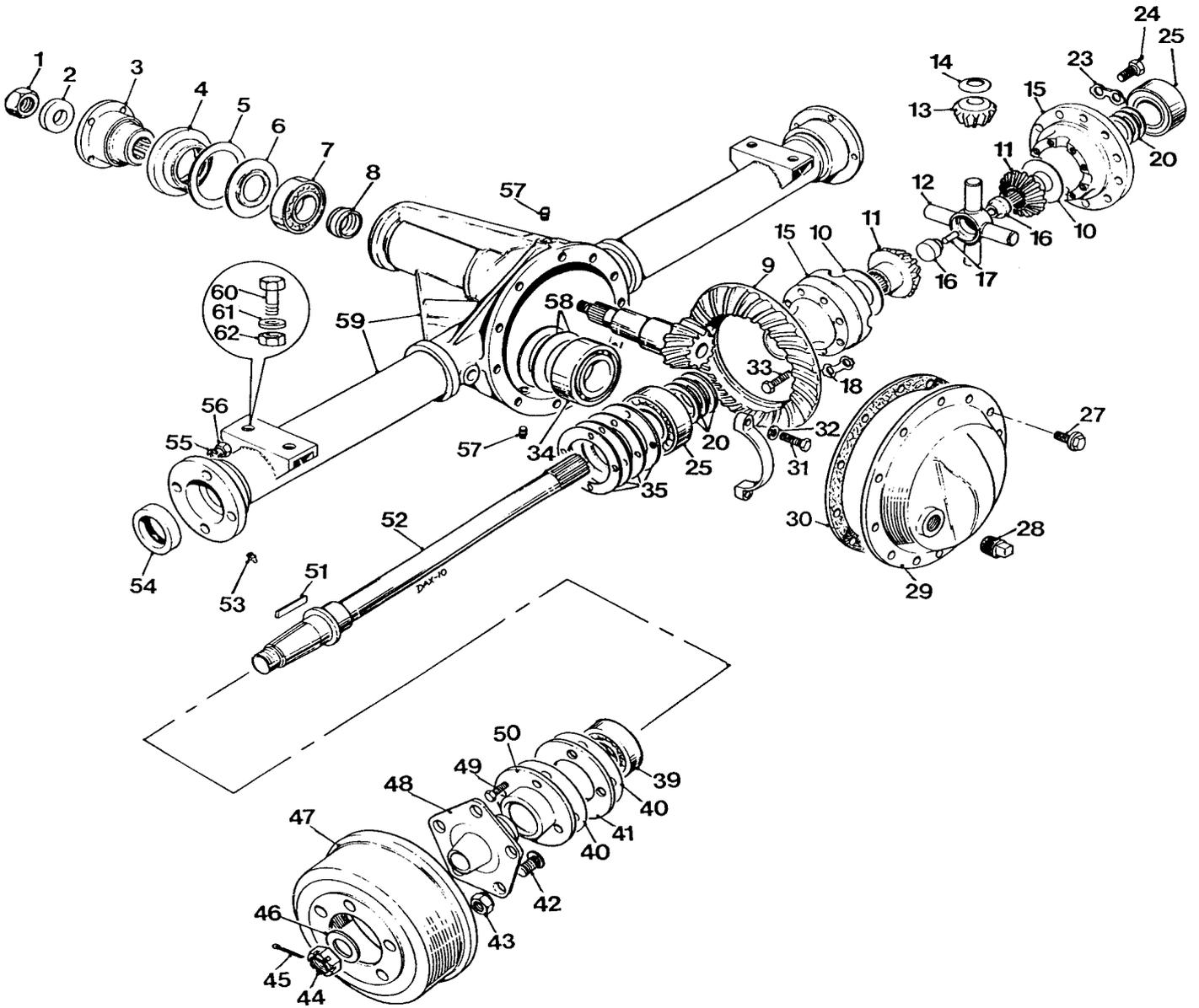
| | | | | |
|-----|-----------|-------|----------------------------------|----|
| 10 | 24S37 | /1164 | WHEEL, rear, assembly, 5.50 X 16 | 2 |
| 10 | 475600019 | 1165/ | WHEEL, rear, assembly, 6.00 X 16 | 2 |
| 11 | 20129A03 | /1164 | RIM, wheel, 16" 3 stud | 1 |
| 11 | V602680 | 1165/ | RIM, wheel, 16" 5 stud | 1 |
| 12 | 21S02 | /1164 | TYRE, 5.50 x 16 | 1 |
| 12 | 475600017 | 1165/ | TYRE, 6.00 x 16 | 1 |
| 13 | 23S01 | /1164 | TUBE, 5.50 x 16 | 1 |
| 13 | 475600018 | 1165/ | TUBE, 6.00 x 16 | 1 |
| 14 | 10668A01 | /1164 | NUT, wheel | 6 |
| 14A | V602678 | 1165/ | NUT, wheel, M16 | 10 |



DRIVE AXLE, Salisbury

B - 5

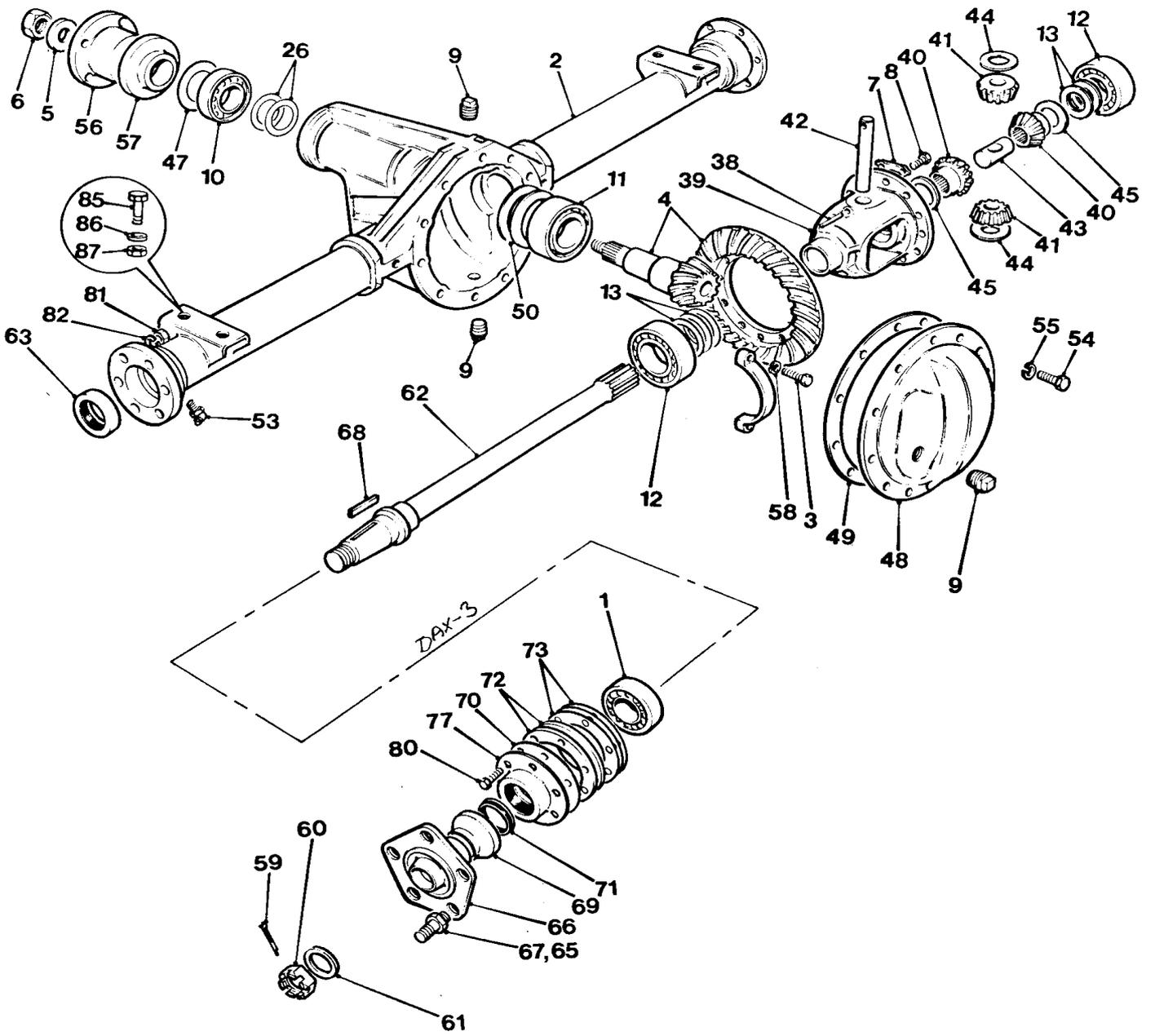
| Item | Part no | Serial no | Description | Qty |
|------|------------|-----------|-----------------------------------|-----|
| - | 30085A03 | | DRIVE AXLE, assembly | 1 |
| 1 | 30166A0106 | | NUT | 1 |
| 2 | 30088A010 | | WASHER | 1 |
| 3 | 30085A0301 | | FLANGE, companion | 1 |
| 4 | 30166A0156 | | SEAL, oil | 1 |
| 5 | 30166A0146 | | GASKET | 1 |
| 6 | 30085A0102 | | SLINGER | 1 |
| 7 | 30085A0103 | | BEARING, pinion | 1 |
| 8 | 30085A0104 | | SPACER, collapsible | 2 |
| 9 | 30085A0105 | | GEAR, service drive | 1 |
| - | 30085A0167 | | DIFFERENTIAL, assembly | 1 |
| 10 | 30085A0106 | | WASHER, thrust, diff. side gear | 4 |
| 11 | 30085A0107 | | GEAR, diff. side | 2 |
| 12 | 30085A0108 | | SHAFT, diff. pinion mate | 1 |
| 13 | 30085A0109 | | MATE, diff. pinion | 4 |
| 14 | 30085A0110 | | WASHER, thrust, diff. pinion mate | 4 |
| 15 | 30085A0111 | | CASE, differential | 1 |
| 16 | 30085A0119 | | SPACER, axle shaft | 2 |
| 17 | 30242A0144 | | PIN, roll | 1 |
| 18 | 30085A0120 | | STRAP, diff. case locking | 4 |
| 19 | 30085A0125 | | BOLT | 8 |
| 20 | 30085A0115 | | SHIM, diff. bearing, .003" | AR |
| 20 | 30085A0116 | | SHIM, diff. bearing, .005" | AR |
| 20 | 30085A0117 | | SHIM, diff. bearing, .010" | AR |
| 20 | 30085A0118 | | SHIM, diff. bearing, .030" | AR |
| 23 | 30085A0112 | | STRAP, drive gear locking | 5 |
| 24 | 30085A0113 | | BOLT | 10 |
| 25 | 30085A0114 | | BEARING, diff. | 2 |
| 27 | 30085A0121 | | BOLT | 10 |
| 28 | 30085A0122 | | PLUG, oil level | 1 |
| 29 | 30085A0123 | | COVER, diff. | 1 |
| 30 | 30085A0124 | | GASKET | 1 |
| 31 | 30166A0103 | | BOLT | 4 |
| 32 | 30166A0157 | | WASHER, locking | 4 |
| 34 | 30085A0126 | | BEARING, pinion, inner | 1 |
| 35 | 30085A0127 | | SHIM, wheel bearing, .003" | AR |
| 35 | 30085A0128 | | SHIM, wheel bearing, .005" | AR |
| 35 | 30085A0129 | | SHIM, wheel bearing, .010" | AR |
| 35 | 30085A0130 | | SHIM, wheel bearing, .030" | AR |
| 39 | 30085A0131 | | BEARING, hub | 2 |
| 40 | 30085A0132 | | GASKET | 4 |
| 41 | 30085A0133 | | PLATE, bearing retaining | 2 |
| 42 | 30085A0134 | | STUD, wheel | 10 |
| 44 | 30085A0135 | | NUT, shaft | 2 |



| Item | Part no | Serial no | Description | Qty |
|------|------------|-----------|--|-----|
| 45 | 30085A0136 | | PIN, split | 2 |
| 46 | 30085A0137 | | WASHER, shaft | 2 |
| 47 | 30085A0138 | | DRUM, brake | 2 |
| 48 | 30085A0139 | | HUB, wheel | 2 |
| 49 | 30085A0140 | | SCREW, set | 8 |
| 50 | 30085A0141 | | SEAL, oil, hub | 2 |
| - | 30085A0142 | | SEAL, oil (not illustrated) | 2 |
| 51 | 30085A0143 | | KEY, shaft | 2 |
| 52 | 30085A0144 | | SHAFT, axle | 2 |
| 53 | 30085A0145 | | NIPPLE, grease | 2 |
| 54 | 30085A0146 | | SEAL, oil | 1 |
| 55 | 30170A0110 | | WASHER, locking | 8 |
| 56 | 30171A0109 | | NUT | 8 |
| 57 | 30085A0147 | | PLUG, drain & filler | 2 |
| 58 | 30085A0148 | | SHIM, pinion bearing, .003" | AR |
| 58 | 30085A0149 | | SHIM, pinion bearing, .005" | AR |
| 58 | 30085A0150 | | SHIM, pinion bearing, .010" | AR |
| - | - | | BRAKE, assembly, R.H. (see page D - 5) | |
| - | - | | BRAKE, assembly, L.H. (see page D - 5) | |
| 59 | 30085A0166 | | SERVICE CARRIER & TUBE | 1 |

Axle fixings

| | | | | |
|----|--------|--|-------------------|---|
| 60 | 6S05C | | BOLT | 4 |
| 61 | 10S04 | | WASHER | 4 |
| 62 | 107S16 | | NUT, nylon insert | 4 |



DRIVE AXLE, Salisbury

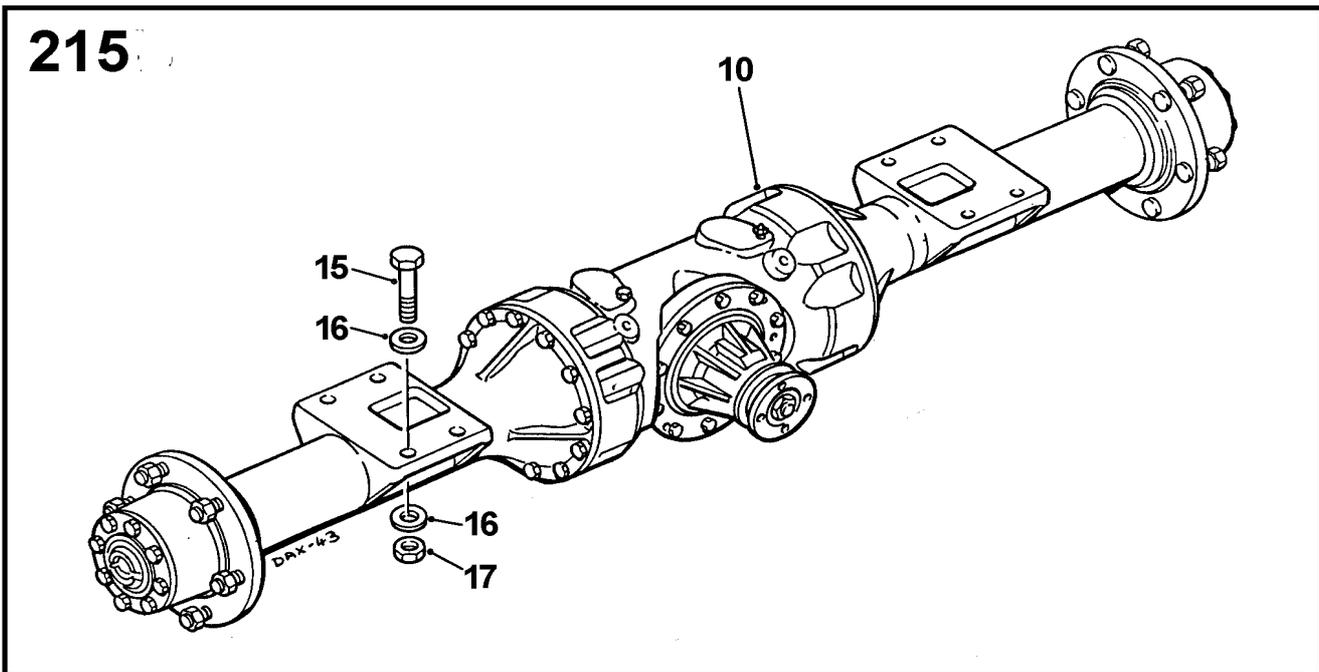
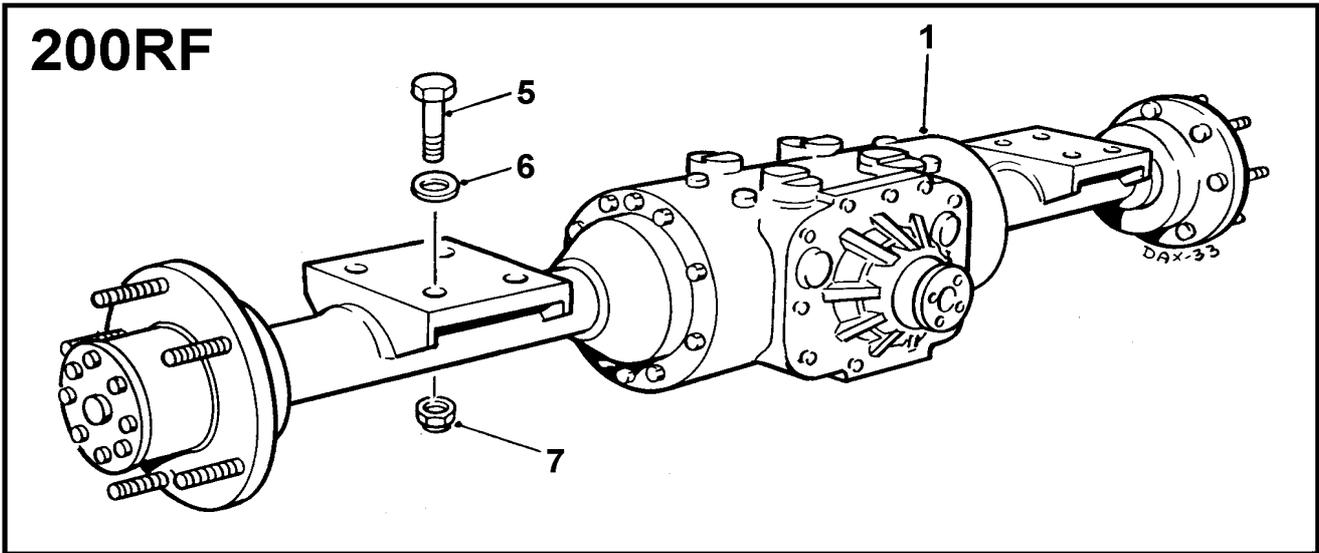
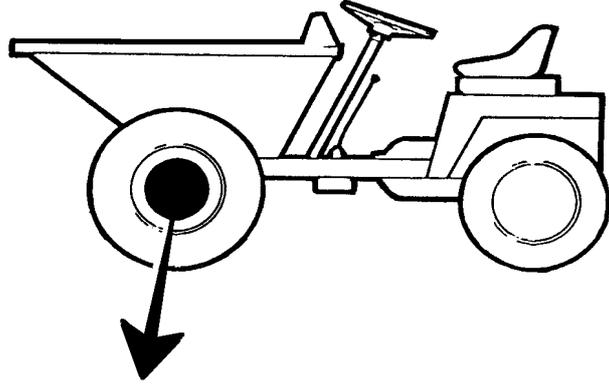
B - 6

| Item | Part no | Serial no | Description | Qty |
|------|------------|-----------|-----------------------------------|-----|
| - | 30088A02 | | DRIVE AXLE, assembly | 1 |
| 1 | 30166A0101 | | BEARING | 2 |
| 2 | 30088A0123 | | CARRIER & TUBE, assembly | 1 |
| 3 | 30166A0103 | | BOLT | 4 |
| 4 | 30166A0104 | | GEAR, assembly | 1 |
| 5 | 30166A0105 | | WASHER | 1 |
| 6 | 30166A0106 | | NUT, locking | 1 |
| 7 | 30166A0107 | | STRAP, 'L' | 6 |
| 8 | 30166A0108 | | BOLT | 12 |
| 9 | 30166A0109 | | PLUG, level filler | 3 |
| 10 | 30166A0110 | | BEARING | 1 |
| 11 | 30166A0111 | | BEARING | 1 |
| 12 | 30166A0112 | | BEARING | 2 |
| 13 | 30166A0113 | | SHIM, diff. bearing, .028" | AR |
| 13 | 30166A0114 | | SHIM, diff. bearing, .030" | AR |
| 13 | 30166A0115 | | SHIM, diff. bearing, .031" | AR |
| 13 | 30166A0116 | | SHIM, diff. bearing, .032" | AR |
| 13 | 30166A0117 | | SHIM, diff. bearing, .033" | AR |
| 13 | 30166A0118 | | SHIM, diff. bearing, .034" | AR |
| 13 | 30166A0119 | | SHIM, diff. bearing, .035" | AR |
| 13 | 30166A0120 | | SHIM, diff. bearing, .036" | AR |
| 13 | 30166A0121 | | SHIM, diff. bearing, .037" | AR |
| 13 | 30166A0122 | | SHIM, diff. bearing, .038" | AR |
| 13 | 30166A0123 | | SHIM, diff. bearing, .039" | AR |
| 13 | 30166A0124 | | SHIM, diff. bearing, .040" | AR |
| 13 | 30166A0125 | | SHIM, diff. bearing, .045" | AR |
| 26 | 30166A0126 | | SHIM, outer pinion bearing, .030" | AR |
| 26 | 30166A0127 | | SHIM, outer pinion bearing, .031" | AR |
| 26 | 30166A0128 | | SHIM, outer pinion bearing, .032" | AR |
| 26 | 30166A0129 | | SHIM, outer pinion bearing, .033" | AR |
| 26 | 30166A0130 | | SHIM, outer pinion bearing, .034" | AR |
| 26 | 30166A0131 | | SHIM, outer pinion bearing, .035" | AR |
| 26 | 30166A0132 | | SHIM, outer pinion bearing, .036" | AR |
| 26 | 30166A0133 | | SHIM, outer pinion bearing, .037" | AR |
| 26 | 30166A0134 | | SHIM, outer pinion bearing, .038" | AR |
| 26 | 30166A0135 | | SHIM, outer pinion bearing, .039" | AR |
| 26 | 30166A0136 | | SHIM, outer pinion bearing, .040" | AR |
| - | 30166A0137 | | DIFFERENTIAL, assembly | 1 |
| 38 | 30166A0138 | | PIN, roll | 1 |
| 39 | 30166A0139 | | CASE, differential | 1 |
| 40 | 30166A0140 | | GEAR, diff. side | 2 |
| 41 | 30166A0141 | | MATE, diff. pinion | 2 |
| 42 | 30166A0142 | | SHAFT, diff. pinion mate | 1 |
| 43 | 30166A0143 | | SPACER, axle shaft | 1 |
| 44 | 30166A0144 | | WASHER, thrust | 2 |
| 45 | 30166A0145 | | WASHER, thrust | 2 |

| Item | Part no | Serial no | Description | Qty |
|------|------------|-----------|-----------------------------------|-----|
| 47 | 30166A0147 | | SLINGER, oil | 1 |
| 48 | 30166A0148 | | COVER, gear carrier | 1 |
| 49 | 30166A0149 | | GASKET | 1 |
| 50 | 30166A0150 | | SHIM, inner pinion bearing, .003" | AR |
| 50 | 30166A0151 | | SHIM, inner pinion bearing, .005" | AR |
| 50 | 30166A0152 | | SHIM, inner pinion bearing, .010" | AR |
| 53 | 30166A0176 | | NIPPLE, grease | 2 |
| 54 | 30166A0153 | | BOLT | 10 |
| 55 | 30166A0154 | | WASHER, locking | 10 |
| 56 | 30088A0124 | | FLANGE, two bolt fitting | 1 |
| 56 | 30309A0114 | | FLANGE, four bolt fitting | 1 |
| 57 | 30088A0125 | | SEAL, oil | 1 |
| 58 | 30088A0126 | | WASHER, locking | 4 |
| 59 | 30166A0158 | | PIN, split | 2 |
| 60 | 30166A0159 | | NUT | 2 |
| 61 | 30166A0160 | | WASHER | 2 |
| 62 | 30166A0180 | | SHAFT, axle | 2 |
| 63 | 30166A0161 | | SEAL, oil | 2 |
| 64 | 30171A0102 | | HUB, wheel, assembly | 2 |
| 65 | 30171A0103 | | DOWEL, stud locking | 10 |
| 66 | 30171A0104 | | HUB, wheel | 2 |
| 67 | 30171A0105 | | STUD, wheel | 10 |
| 68 | 30166A0169 | | KEY, axle shaft | 2 |
| 69 | 30171A0106 | | HOUSING, 'V' ring | 2 |
| 70 | 30166A0170 | | GASKET | 2 |
| 71 | 30171A0107 | | 'V' RING | 2 |
| 72 | 30166A0171 | | PLATE, retainer | 4 |
| 73 | 30166A0172 | | SHIM, wheel bearing, .003" | AR |
| 73 | 30166A0173 | | SHIM, wheel bearing, .005" | AR |
| 73 | 30166A0174 | | SHIM, wheel bearing, .010" | AR |
| 73 | 30166A0175 | | SHIM, wheel bearing, .030" | AR |
| 77 | 30166A0177 | | SEAL, oil | 2 |
| 80 | 30166A0167 | | BOLT, brake backplate | 12 |
| 81 | 30171A0109 | | NUT, locking | 12 |
| 82 | 30171A0110 | | WASHER | 12 |

Axle fixings

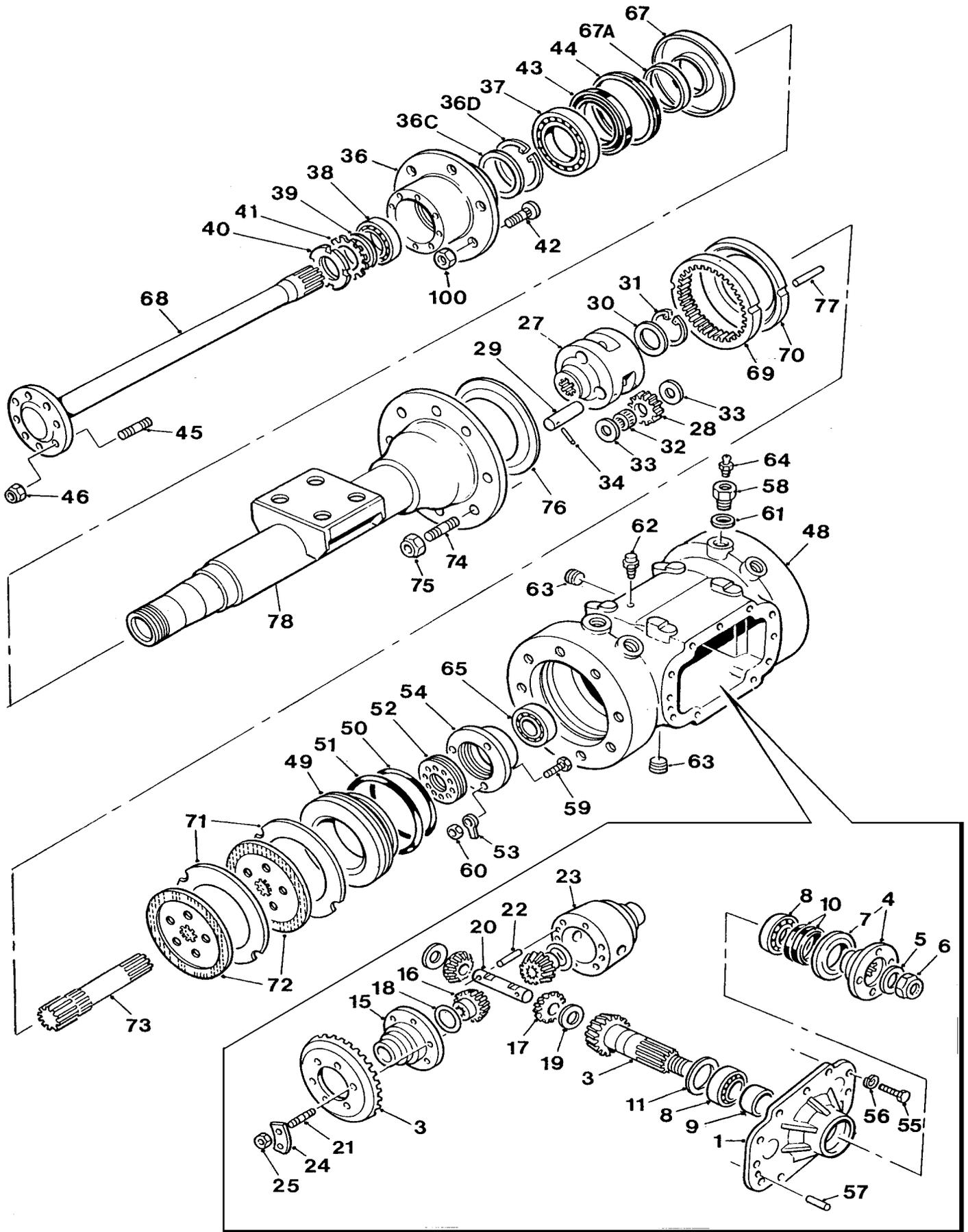
| | | | | |
|----|--------|--|--------|---|
| 85 | 6S05F | | BOLT | 4 |
| 86 | 10S04 | | WASHER | 4 |
| 87 | 107S16 | | NUT | 4 |



FRONT DRIVE AXLE (Newage) & FIXINGS

B - 7

| Item | Part no | Serial no | Description | Qty |
|------|----------|-----------|---|-----|
| | | / 0634 | 2B1000 | |
| | | / 835 | 2B1500 | |
| 1 | 30156A10 | | AXLE, 200RF | 1 |
| | | | <i>(See page B-8 for internal parts)</i> | |
| 5 | 6S05C | | BOLT | 8 |
| 6 | 10S04 | | WASHER, flat | 8 |
| 7 | 107S16 | | NUT, "Nyloc" | 8 |
| | | 0635 / | 2B1000 | |
| | | 836 / | 2B1500 | |
| 10 | 30156A13 | | AXLE, 215 | 1 |
| | | | <i>(See page B-8A for Input pinion & differential)</i> | |
| | | | <i>(See page B-8B for planet carrier & axle casing)</i> | |
| | | | <i>(See page B-8C for hub & axle shaft)</i> | |
| | | | <i>(See page B-8D for brakes)</i> | |
| 15 | 8S06G | | BOLT | 8 |
| 16 | 267S09 | | WASHER, flat | 16 |
| 17 | 59S11 | | NUT, "Nyloc" | 8 |

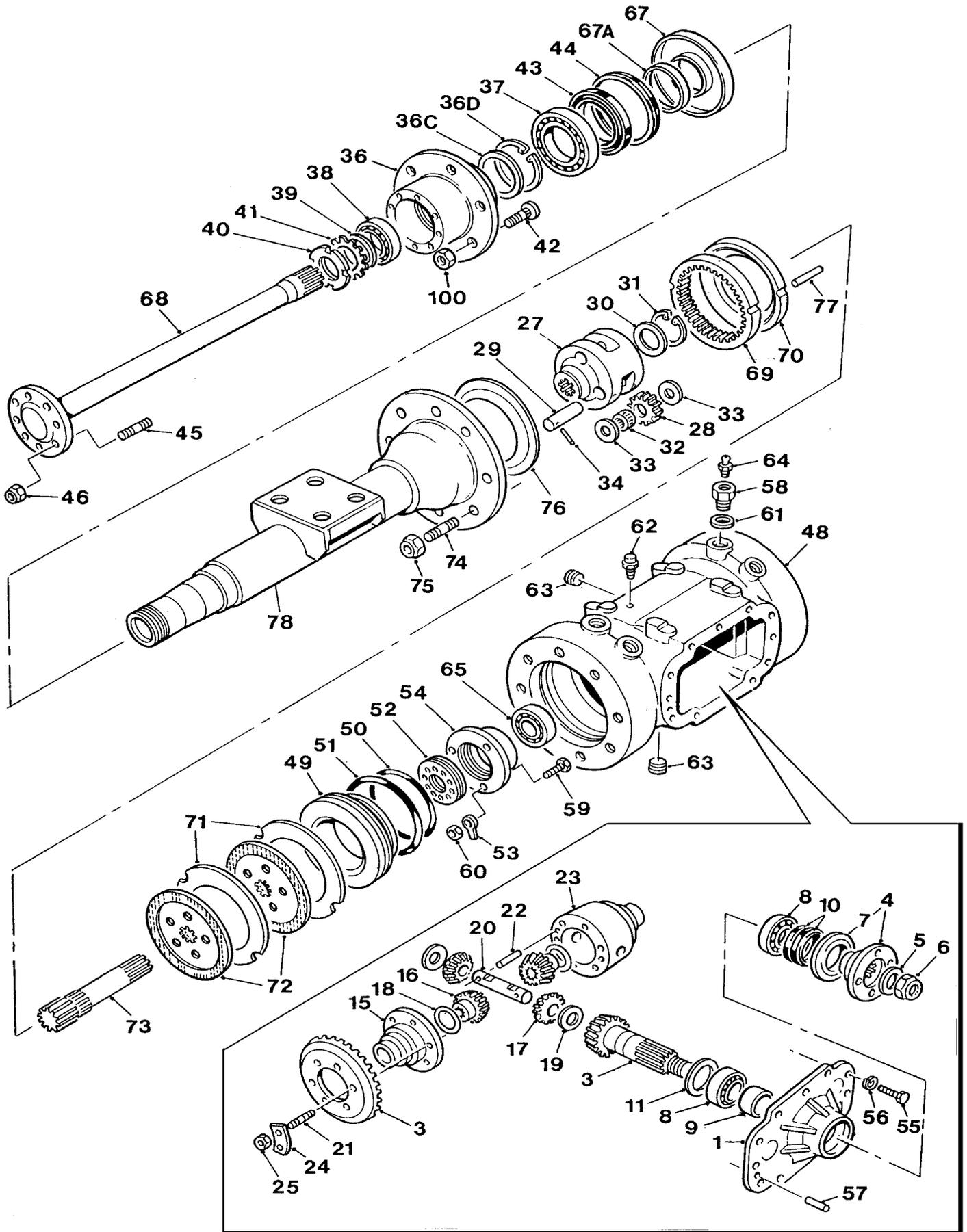


DRIVE AXLE, Newage 200RF

B - 8

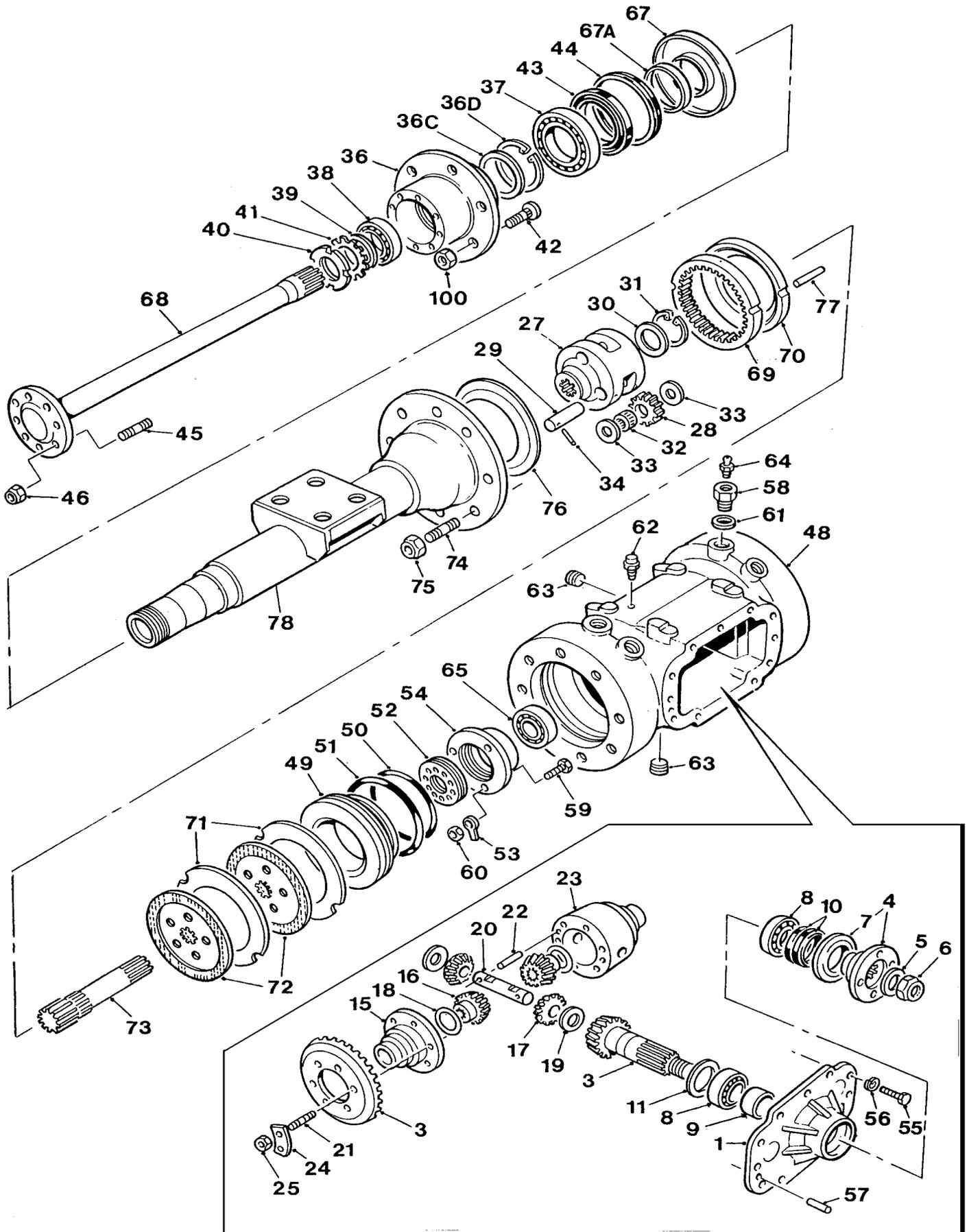
Up to dumper serial numbers: 0634 **2B1000**
0835 **2B1500**

| Item | Part no | Axle serial no | Description | Qty |
|---|------------|----------------|--|-----|
| - | 30156A06 | | \$ AXLE assy. (stamped 200RF14S129L on axle casing) | 1 |
| - | 30156A06 | | + AXLE, assy. (stamped 200RFD14S129L on axle casing) | 1 |
| - | 30156A10 | | + AXLE, assy. (stamped 200RF14S3213 on axle casing) | 1 |
| <p>Note: Items marked \$ should only be used on axles marked 200RF14S129L on axle casing. Items marked + should only be used on axles marked 200RFD14S129L or 200RF14S3213 on axle casing. All other items are common.</p> | | | | |
| - | 30156A0601 | | BEVEL WHEEL & PINION assy. | 1 |
| 1 | 30156A0129 | | HOUSING, pinion | 1 |
| 3 | 30156A0163 | | BEVEL WHEEL & PINION, (set) | 1 |
| 4 | 30156A0131 | | FLANGE, input, assy. (with item 6) | 1 |
| 5 | 30082A0231 | | WASHER | 1 |
| 6 | 30082A0232 | | NUT | 1 |
| 7 | 30156A0134 | | COVER, seal (part of item 3) | 1 |
| 8 | 30156A0135 | | BEARING | 2 |
| 9 | 30156A0136 | | SPACER | 1 |
| 10 | 30156A0137 | | SEAL, oil | 2 |
| 11 | 30156A0138 | | SHIM, 0.30mm | AR |
| 11 | 30156A0139 | | SHIM, 0.25mm | AR |
| 11 | 30156A0140 | | SHIM, 0.40mm | AR |
| - | 30156A0602 | | DIFFERENTIAL, assembly | 1 |
| 15 | 30156A0171 | / 1504166 | * \$ CASE, differential, L.H. | 1 |
| 15 | 30082A0301 | 1504167/ | * + CASE, differential, L.H. | 1 |
| 16 | 30156A0143 | / 1504166 | \$ WHEEL, differential | 2 |
| 16 | 30082A0283 | 1504167/ | + WHEEL, differential | 2 |
| 17 | 30082A0284 | | PINION, differential | 2 |
| 18 | 30156A0144 | / 1504166 | \$ WASHER, thrust, wheel side | 2 |
| 18 | 30082A0241 | 1504167/ | + WASHER, thrust, wheel side | 2 |
| 19 | 30082A0242 | | WASHER, thrust, pinion side | 2 |
| 20 | 30082A0303 | | SPIDER | 1 |
| 21 | 30082A0304 | | STUD | 8 |
| 22 | 30082A0306 | | PIN, spirol | 1 |
| 23 | 30156A0173 | / 1504166 | * \$ CASE, differential, R.H. | 1 |
| 23 | 30082A0302 | 1504167/ | * + CASE, differential, R.H. | 1 |
| <p>* L.H. & R.H. casings only supplied as matched pair.</p> | | | | |



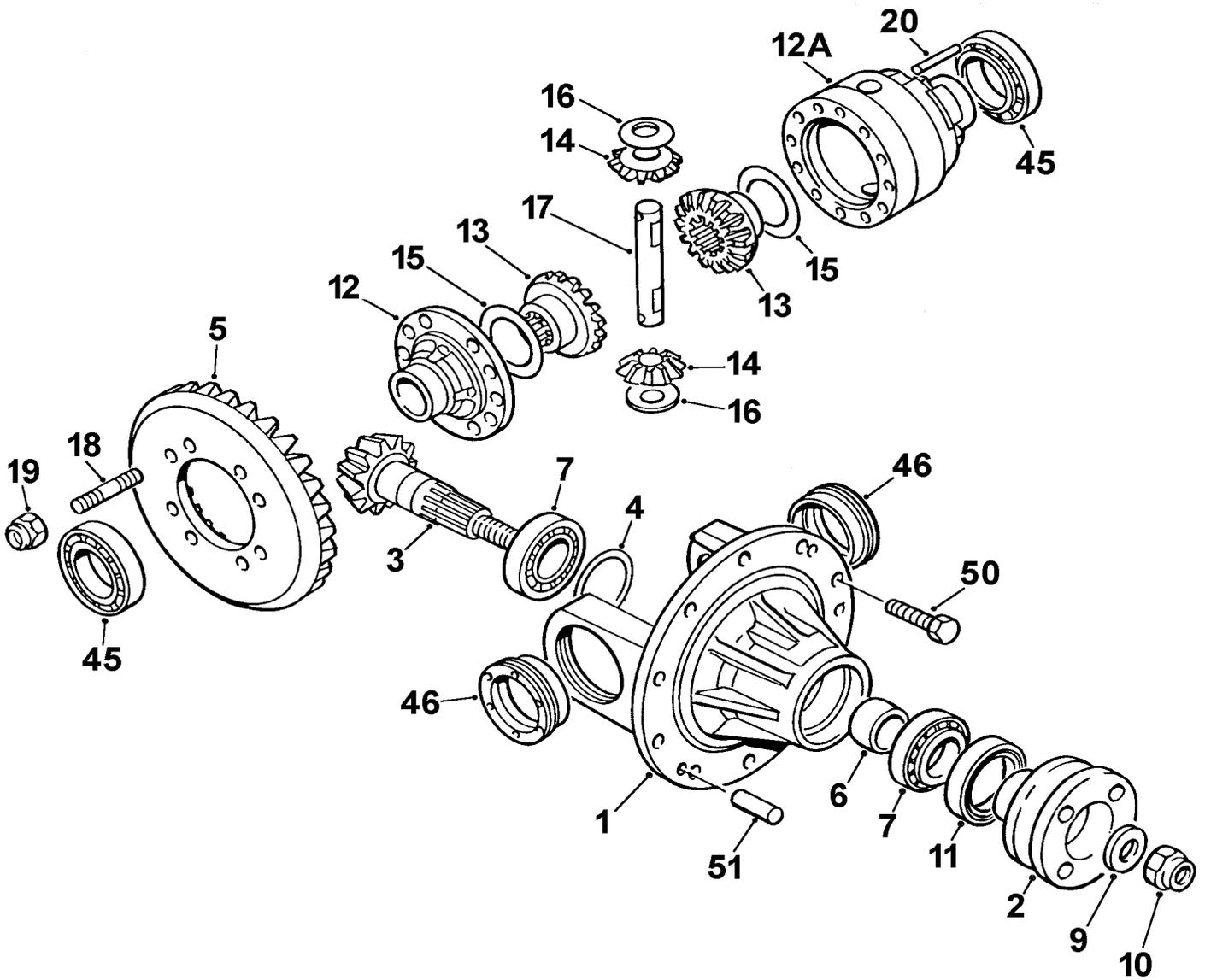
DRIVE AXLE, Newage 200RF

| Item | Part no | Axle serial no | Description | Qty |
|------|------------|------------------|------------------------------------|-----|
| 24 | 30082A0305 | | WASHER, tab | 4 |
| 25 | 7S04 | | NUT | 8 |
| - | 30156A0604 | / April 87 | \$ PLANET CAR., assy., 21 T spline | 2 |
| | V601154 | May 87 / 1530214 | + PLANET CAR., assy., 22 T spline | 2 |
| | 30156A0801 | 1530215 / | + PLANET CAR., assy. | 2 |
| 27 | 30156A0152 | April 87 | \$ CARRIER, planet, 21 T spline | 1 |
| 27 | 30156A0901 | May 87 / 1530214 | + CARRIER, planet, 22 T spline | 1 |
| 27 | 30156A0802 | 1530215 / | + CARRIER, planet | 1 |
| 28 | 30156A0153 | / 1530214 | GEAR, planet | 3 |
| 28 | 30156A0803 | 1530215 / | GEAR, planet | 3 |
| 29 | 30156A0154 | / 1530214 | PIN, planet | 3 |
| 29 | 30156A0804 | 1530215 / | PIN, planet | 3 |
| 30 | 30156A0157 | / 1530214 | SPACER, axle shaft | 1 |
| 30 | 30156A0805 | 1530215 / | SPACER, axle shaft | 1 |
| 31 | 30082A0265 | | CIRCLIP | 1 |
| 32 | 30156A0178 | / 1530214 | NEEDLE BEARING, (imperial) | 3 |
| 32 | 30082A0289 | 1530215 / | NEEDLE BEARING, (metric) | 3 |
| 33 | 30082A0249 | | WASHER, thrust, planet | 6 |
| 34 | 30156A0162 | | DOWEL, spring, 3x20mm | 3 |
| - | 30156A0605 | | HUB, assembly | 2 |
| 36 | 30156A0115 | / 1507133 | \$ HUB | 1 |
| 36 | 30156A0903 | 1507134/ | + HUB | 1 |
| 36C | 30156A0186 | 1507134/ | SPACER | 1 |
| 36D | 30156A0185 | 1507134/ | CIRCLIP | 1 |
| 37 | 30082A0221 | | BEARING, hub, inner | 1 |
| 38 | 30156A0118 | / 1507133 | BEARING, hub, outer | 1 |
| 38 | 30156A0180 | 1507134/ | BEARING, hub, outer | 1 |
| 39 | 30156A0119 | / 1507133 | SPACER | 1 |
| 39 | 30156A0181 | 1507134/ | SPACER | 1 |
| 40 | 30156A0120 | / 1507133 | NUT, locking | 1 |
| 40 | 30156A0182 | 1507134/ | NUT, locking | 1 |
| 41 | 30156A0121 | / 1507133 | WASHER, tab | 1 |
| 41 | 30156A0183 | 1507134/ | WASHER, tab | 1 |
| 42 | 30156A0122 | | STUD, wheel | 5 |
| 43 | 30156A0123 | / 1507133 | SEAL, oil | 1 |
| 43 | 30156A0184 | 1507134/ | SEAL, oil | 1 |



| Item | Part no | Axle serial no | Description | Qty |
|------|--------------|----------------|---------------------------------|-----|
| 44 | 30156A0124 | | SEAL, 'V' ring | 1 |
| 45 | 30156A0126 | | STUD | 8 |
| 46 | 59S03 | | NUT, nylon insert | 8 |
| - | 30156A0606 | | MAIN CASE, assembly | 1 |
| 48 | 30156A0101 | | CASING, axle | 1 |
| 49 | 30156A0107 | | PISTON, brake | 2 |
| 50 | 30156A0197 | | 'O' RING | 2 |
| 51 | 30156A0198 | | 'O' RING | 2 |
| 52 | 30156A0109 | | NUT | 2 |
| 53 | 30156A0110 | | LOCK PLATE | 2 |
| 54 | 30156A0111 | | HOUSING, bearing | 2 |
| 55 | 11S03C | | SCREW, set | 12 |
| 56 | 17S04 | | WASHER, spring | 12 |
| 57 | 30156A0112 | | PIN, dowel | 2 |
| 58 | 30156A0199 | | ADAPTOR | 4 |
| 59 | 11S04D | | SCREW | 6 |
| 60 | 59S03 | | NUT | 6 |
| 61 | 30156A0155 | | SEAL, bonded | 4 |
| 62 | 10305A01 | | VALVE, breather | 1 |
| 63 | 30156A0127 | | PLUG, socket | 2 |
| 64 | 30347A0211 | | VALVE, brake bleeding | 2 |
| 65 | 119325000 | | BEARING, cup & cone kit | 2 |
| 67 | 30156A0116 | | HOUSING, oil seal | 2 |
| 67A | 30156A0193 | 1507134/ | SLEEVE | 1 |
| 68 | 30156A0125 | / APRIL 87 | \$ SHAFT, axle, 21 teeth spline | 2 |
| 68 | 30156A0201 | MAY 87/ | + SHAFT, axle, 22 teeth spline | 2 |
| 69 | 30156A0103 | / 1530214 | ANNULUS | 2 |
| 69 | 30156A0202 | 1530215 / | ANNULUS | 2 |
| 70 | 30156A0194 | / 1530214 | PLATE, spacer | 2 |
| 70 | 30156A0206 | 1530215 / | PLATE, spacer | 2 |
| 71 | 30156A0105 | | PLATE, brake | 4 |
| 72 | 30156A0106 | | DISC, brake | 4 |
| 73 | 30156A0114 | / MAR 86 | \$ GEAR, sun | 2 |
| 73 | 30156A0907 | MAR 86/ | + GEAR, sun | 2 |
| 74 | 30156A0126 | | STUD | 20 |
| 75 | 59S03 | | NUT, nylon insert | 20 |
| 76 | 30156A0156 | | SHIELD | 2 |
| 77 | 30156A0102 | | DOWEL | 4 |
| 78 | 30156A0172 | | \$ CASING, axle arm | 2 |
| 78 | 30156A0195 | | + CASING, axle arm, R.H. | 1 |
| 78 | 30156A0195LH | | + CASING, axle arm, L.H. | 1 |
| 100 | ————— | | NUT, wheel (see page B - 1) | 10 |

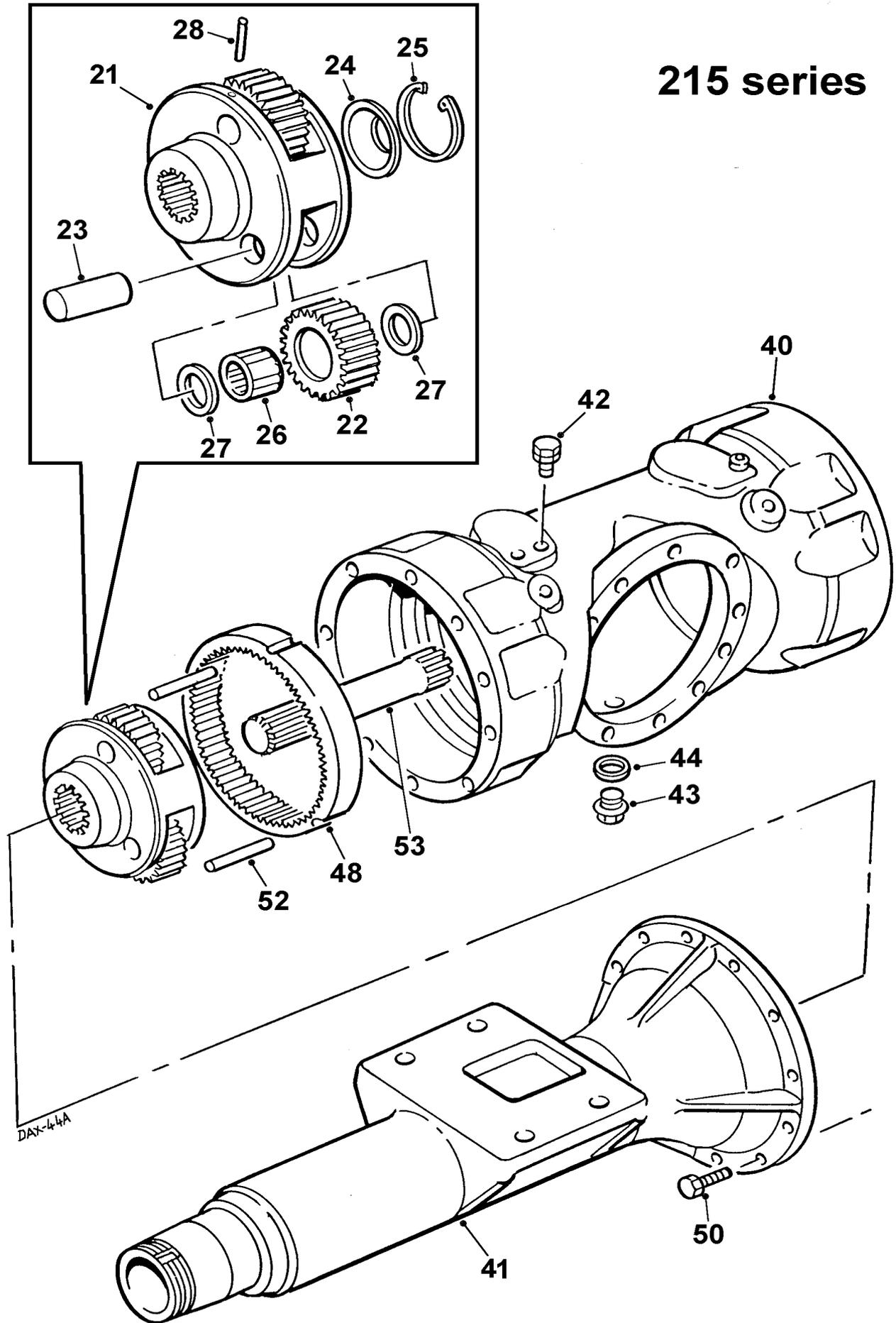
215 series



INPUT PINION & DIFFERENTIAL**B - 8A****Newage 215 series drive axle**

| Item | Part no | Serial no | Description | Qty |
|------|------------|-----------|--------------------------------------|-----|
| | | 0635 / | 2B1000 | |
| | | 836 / | 2B1500 | |
| 1 | 30082A0401 | | PINION, input cartridge | 1 |
| 2 | 30082A0402 | | FLANGE, input drive, c/w seal shield | 1 |
| 3 | 30082A0403 | | PINION, supplied with item 5 | 1 |
| 4 | 30082A0282 | | SHIM, 0.25mm | 2 |
| .... | 30082A0280 | | SHIM, 0.3mm | 2 |
| .... | 30082A0281 | | SHIM, 0.4mm | 2 |
| 5 | 30082A0403 | | CROWN WHEEL & PINION SET | 1 |
| 6 | 30082A0235 | | SPACER | 1 |
| 7 | 30082A0234 | | BEARING, cup & cone assembly | 2 |
| .... | 30082A0274 | | BEARING, cup | 1 |
| .... | 30082A0273 | | BEARING, cone | 1 |
| 9 | 30082A0231 | | WASHER, plain | 1 |
| 10 | 30082A0232 | | NUT | 1 |
| 11 | 30082A0236 | | SEAL, oil | 2 |
| 12 | 30082A0404 | | COVER, differential | 1 |
| 12A | 30082A0405 | | CASING, differential | 1 |
| 13 | 30082A0283 | | WHEEL, differential | 2 |
| 14 | 30082A0284 | | PINION, differential | 2 |
| 15 | 30082A0241 | | WASHER, thrust | 2 |
| 16 | 30082A0242 | | WASHER, thrust | 2 |
| 17 | 30082A0303 | | SPIDER, differential, (half) | 1 |
| 18 | 30082A0406 | | STUD | 8 |
| 19 | 59S03 | | NUT, 'Nyloc' | 8 |
| 20 | 30082A0306 | | PIN, Spirol | 2 |
| 45 | 119325000 | | BEARING, cup & cone assy. | 2 |
| 46 | 30082A0416 | | NUT, bearing adjustment | 2 |
| 50 | 8S04B | | BOLT | 34 |
| 51 | 30156A0112 | | DOWEL, 10dia x 20mm | 2 |

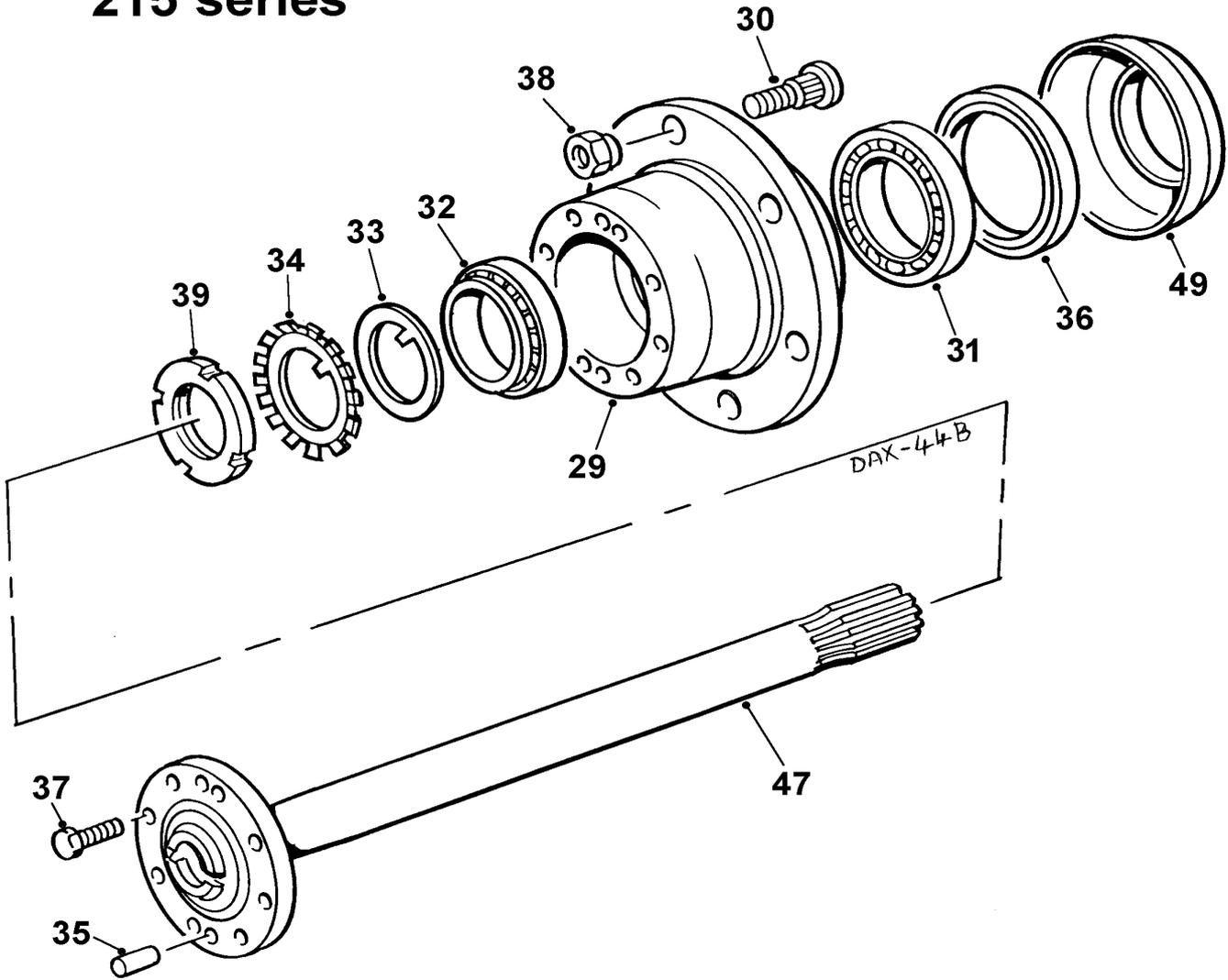
215 series



PLANET CARRIER & AXLE CASING**B - 8B****Newage 215 series drive axle**

| Item | Part no | Serial no | Description | Qty |
|-------------|----------------|------------------|--------------------|------------|
| | | 0635 / | 2B1000 | |
| | | 836 / | 2B1500 | |
| 21 | 30156A0802 | | CARRIER, planet | 1 |
| 22 | 30156A0803 | | GEAR, planet | 3 |
| 23 | 30156A0804 | | PIN, planet | 3 |
| 24 | 30156A0805 | | SPACER | 1 |
| 25 | 30082A0265 | | CIRCLIP | 1 |
| 26 | 30082A0289 | | BEARING, needle | 3 |
| 27 | 30082A0249 | | WASHER, thrust | 6 |
| 28 | 30156A0162 | | DOWEL, spring | 3 |
| 40 | 30082A0413 | | CASING, main | 1 |
| 41 | 30082A0414 | | ARM, axle (1475mm) | 2 |
| 42 | 30082A0415 | | BREATHER | 1 |
| 43 | 30097A0163 | | PLUG, drain | 2 |
| 44 | 100S04 | | SEAL, bonded | 2 |
| 48 | 30156A0202 | | ANNULUS | 2 |
| 50 | 8S04B | | BOLT | 34 |
| 52 | 30156A0102 | | DOWEL, 8dia x 60mm | 4 |
| 53 | 30082A0418 | | GEAR, sun | 2 |

215 series

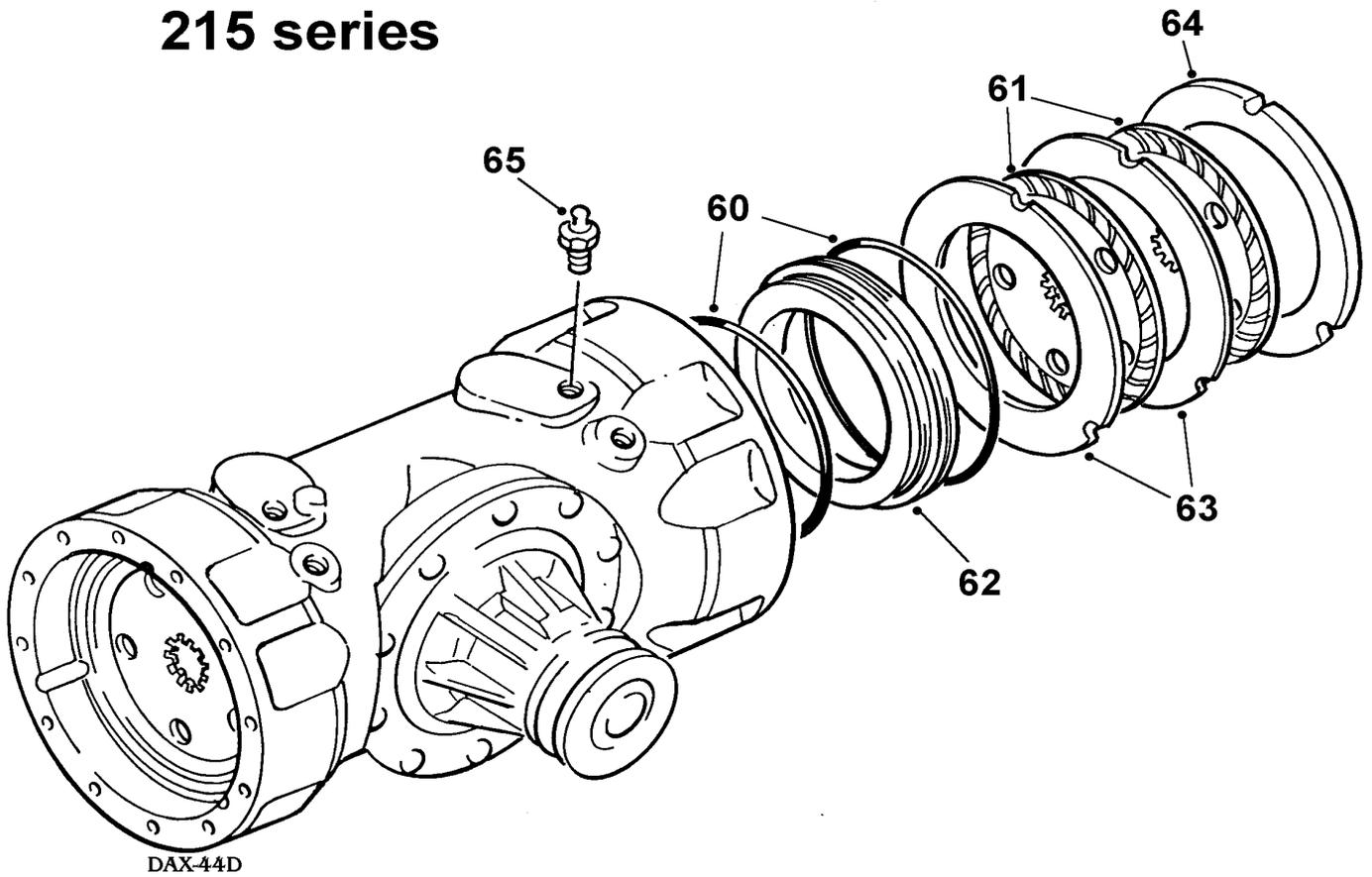


HUB & AXLE SHAFT
Newage 215 series drive axle

B - 8C

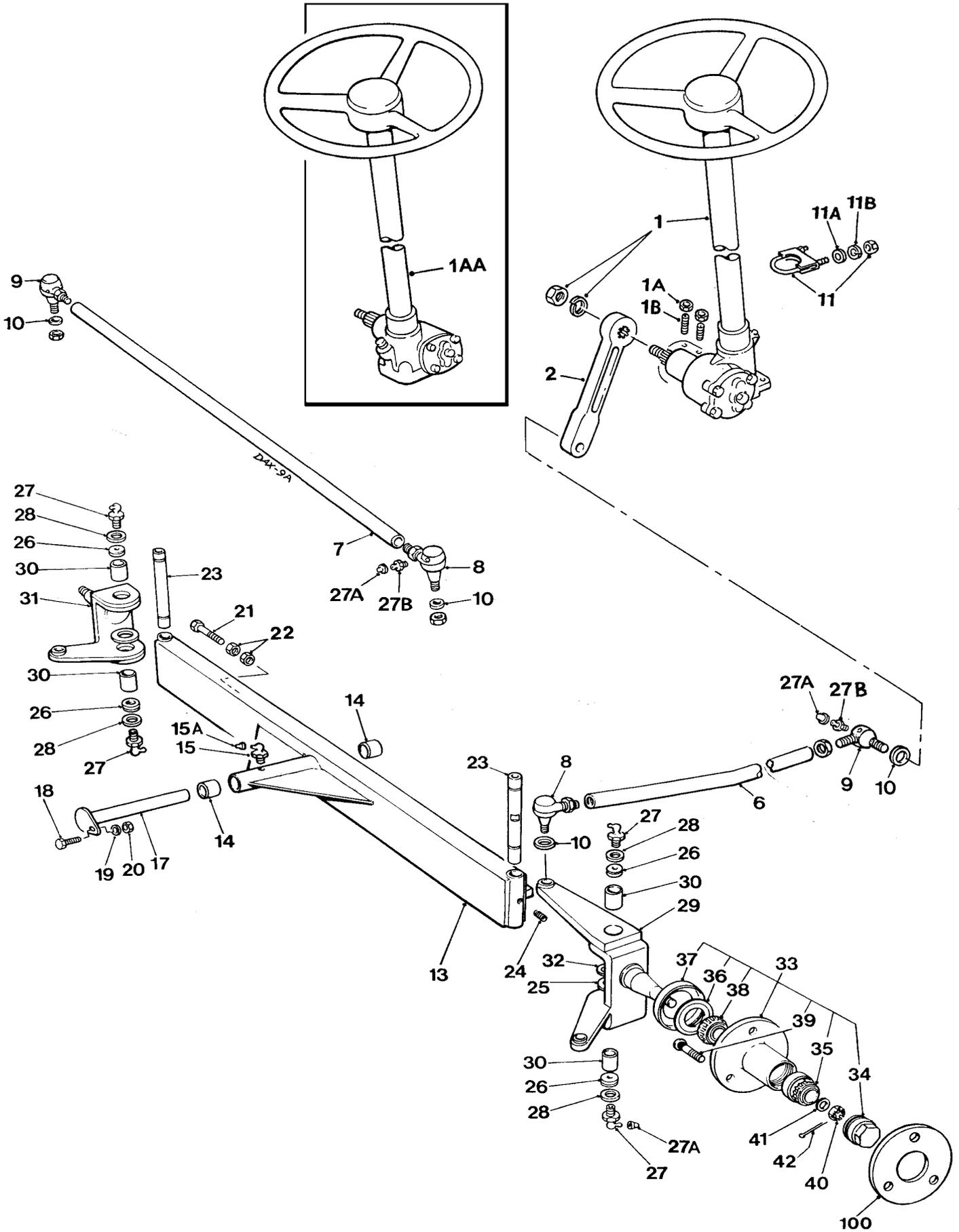
| Item | Part no | Serial no | Description | Qty |
|------|------------|-----------|--|------|
| | | 0635 / | 2B1000 | |
| | | 836 / | 2B1500 | |
| 29 | 30082A0407 | | HUB | 1 |
| 30 | 30156A0122 | | STUD, wheel | 5 |
| 31 | 30082A0408 | | BEARING | 1 |
| 32 | 30082A0409 | | BEARING | 1 |
| 33 | 30082A0222 | | SPACER | 1 |
| 34 | 30347A0201 | | LOCKWASHER | 1 |
| 35 | 30156A0112 | | DOWEL, spring | 2 |
| 36 | 30082A0410 | | SEAL, oil | 1 |
| 37 | 8S04B | | BOLT | 8 |
| 38 | ..... |  | NUT, wheel (see " <i>Wheels</i> ", page B-1) | .... |
| 39 | 30082A0411 | | LOCKNUT | 1 |
| 47 | 30082A0417 | | SHAFT, axle (1475mm) | 2 |
| 49 | 30082A0422 | | COVER, seal, wheel hub | 2 |

215 series



BRAKES**B - 8D****Newage 215 series drive axle**

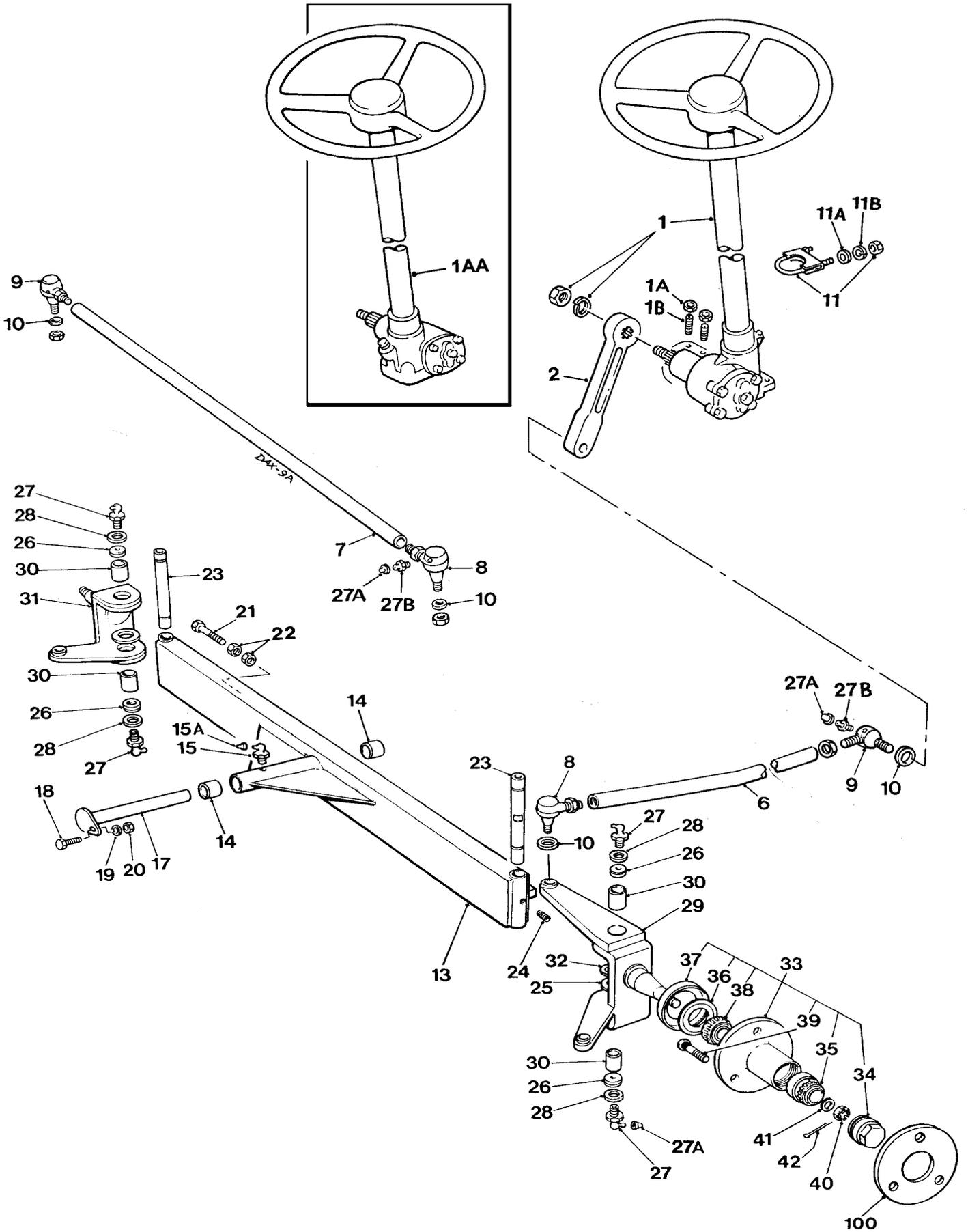
| Item | Part no | Serial no | Description | Qty |
|-------------|----------------|------------------|---|------------|
| | | 0635 / | 2B1000 | |
| | | 836 / | 2B1500 | |
| 60 | 30156A0108 | | KIT, 'O' ring seals, brake piston | 1 |
| *61 | 30156A0908 | | DISC, brake, sintered | 4 |
| 62 | 30156A0107 | | PISTON, brake | 2 |
| *63 | 30156A0909 | | PLATE, brake, fixed | 4 |
| *64 | 30156A0910 | | SPACER, brake | 2 |
| 65 | 30082A0419 | | VALVE, brake bleeding | 1 |
| | *30156A0911 | | Kit, brake plates, consisting of items marked * | |



STEERING AXLE & STEERING COLUMN

B - 9

| Item | Part no | Serial no | Description | Qty |
|------|-------------------------|------------|---|-----|
| | 0604-0646 2B1000 | | 0575-1152-1153-2B1500 | |
| 1 | — | | STEERING COLUMN, L.H. type (see page. B - 9A) | 1 |
| 1AA | — | | STEERING COLUMN, R.H. type (see page. B - 9B) | 1 |
| 1A | 56S05 | | NUT, locking | 2 |
| 1B | 57S07H1 | | SCREW, socket head | 2 |
| 2 | 40294A0101 | | # DROP ARM | 1 |
| | | | # Refer to note on steering box assembly. (see item 42A on page. B - 9A) | |
| 6 | 10868A01 | /0646/1151 | DRAG LINK, 3/4" UNF thread | 1 |
| 6 | V2006343 | 1152/ | DRAG LINK, 11/16" UNF thread | 1 |
| 7 | L308T | /0646/1151 | TRACK ROD, 3/4" UNF thread | 1 |
| 7 | V2006336 | 1152/ | TRACK ROD, 11/16" UNF thread | 1 |
| 8 | C159RH | /0646/1151 | BALL JOINT, RH 3/4" UNF c/w nuts | 2 |
| 8 | V2006335 | 1152/ | BALL JOINT, RH 11/16" UNF c/w nut | 2 |
| 8A | 95S13 | 1152/ | NUT THIN, lock RH 11/16" UNF | 2 |
| | | | <i>order one 95S13 with each R.H. 11/16" UNF ball joint</i> | |
| 9 | C159LH | /0646/1151 | BALL JOINT, LH 3/4" UNF c/w nuts | 2 |
| 9 | V2006334 | 1152/ | BALL JOINT, LH 11/16" UNF c/w nut | 2 |
| 9A | 272S17 | 1152/ | NUT THIN, lock LH 11/16" UNF | 2 |
| | | | <i>order one 272S17 with each L.H. 11/16" UNF ball joint</i> | |
| 10 | 10S04 | /0646/1151 | WASHER, flat 1/2" | 4 |
| 10 | 267S07 | 1152/ | WASHER, flat M12 | 4 |
| 11 | 153S05 | | 'U' BOLT, c/w nuts, (discard clamp) | 1 |
| 11A | 10S02 | | WASHER, flat | 2 |
| 11B | 41S04 | | WASHER, spring | 2 |
| 13 | 30298A01 | | AXLE, steering | 1 |
| 14 | 4SHL91 | | BUSH, axle pivot | 2 |
| 15 | 131S02 | | NIPPLE, grease, 90 deg | 1 |
| 15A | 176S01 | | CAP, grease nipple | 8 |
| 17 | 20161A05 | | PIN, axle pivot | 1 |
| 18 | 8S04C | | BOLT | 1 |
| 19 | 267S06 | | WASHER | 2 |
| 20 | 59S03 | | NUT, nylon insert | 2 |



STEERING AXLE & STEERING COLUMN

B - 9

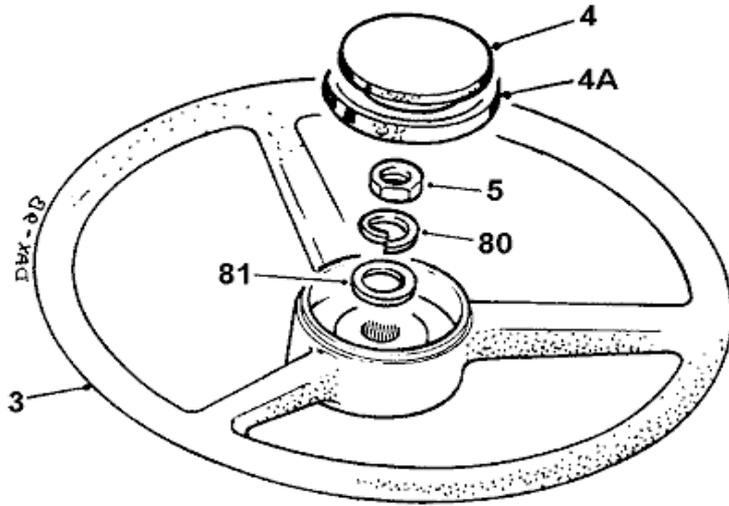
| Item | Part no | Serial no | Description | Qty |
|--|---|--------------------|--|-----|
| | | 0604-2B1000 | 0575-2B1500 | |
| 21 | 11S06K | /0604/0575 | SCREW, set | 2 |
| 22 | 56S06 | /0604/0575 | NUT, locking | 4 |
| 23 | L264 | | KING PIN | 2 |
| 24 | 185S05D4 | | SCREW, grub | 2 |
| 25 | C175 | | WASHER, thrust | 2 |
| 26 | C180A | | WASHER, felt | 4 |
| 27 | 131S02 | | NIPPLE, grease, 90 deg | 4 |
| 27A | 176S01 | | CAP, grease nipple | 8 |
| 27B | 131S01 | | NIPPLE, grease, straight | 4 |
| 28 | C180B | | WASHER | 4 |
| 29 | L267RH | /1164 | STUB AXLE, R.H. (3 Stud Hub) | 1 |
| | from 2B1500 S/No 1165 L267RH replaced by item 29 below | | | |
| 29 | V2006347 | 1165/ | STUB AXLE, R.H. (5 Stud Hub) | |
| 30 | C190 | | BUSH, king pin | 4 |
| 31 | L267LH | /1164 | STUB AXLE, L.H. (3 Stud Hub) | 1 |
| | from 2B1500 S/No 1165 L267LH replaced by item 31 below | | | |
| 31 | V2006346 | 1165/ | STUB AXLE, L.H. (5 Stud Hub) | |
| 32 | C175 | | WASHER, thrust | 4 |
| from 2B1500 S/No 1165 3 stud hub items 33 to 42 below replaced by | | | | |
| 5 stud hubs items 33 to 42 on page B9-3 overleaf | | | | |
| - | C186 | /1164 | HUB, assembly (3 Stud) | 2 |
| 33 | - | | HUB (<i>order assembly</i>) | 1 |
| 34 | C186-A | | HUB CAP | 1 |
| 35 | C186-B | | BEARING, hub, outer | 1 |
| 36 | C186-C | | SEAL, oil, hub bearing | 1 |
| 37 | C186-D | /June 99 | COVER, dust (<i>The dust cover is no longer required</i>) | 1 |
| 38 | C186-E | | BEARING, hub, inner | 1 |
| 39 | C186-F | | STUD, wheel | 3 |
| 40 | 92S07 | /1164 | NUT | 1 |
| 41 | 10S05 | /1164 | WASHER | 1 |
| 42 | 44S03C | /1164 | PIN, split | 1 |
| 100 | V2004647 | Oct 96 / /1164 | SPACER, (<i>Fitted where needed</i>) | 2 |

STEERING AXLE & STEERING COLUMN**B - 9**

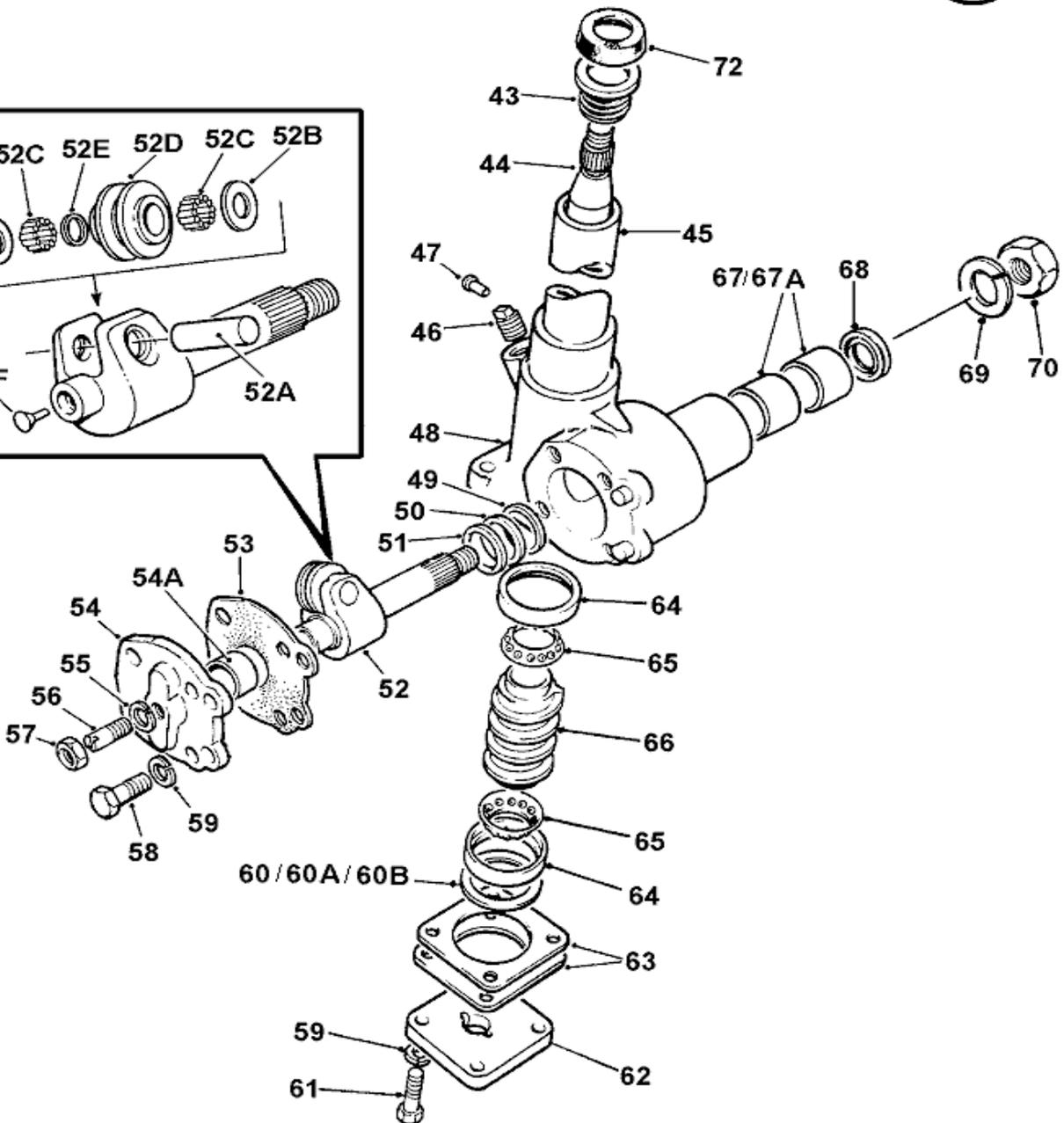
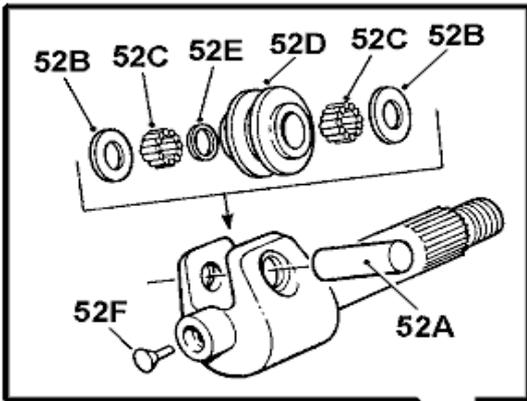
| Item | Part no | Serial no | Description | Qty |
|-------------|----------------|------------------|---------------------------------------|------------|
| 33 | V602679 | 1165/ | HUB, assembly (5 Stud) | 2 |
| | ----- | | HUB (<i>order V602679 assembly</i>) | 1 |
| 34 | V602676 | 1165/ | HUB CAP | 1 |
| 35 | V602666 | 1165/ | BEARING, hub, outer | 1 |
| 36 | V602668 | 1165/ | SEAL, oil, hub bearing | 1 |
| 38 | V602667 | 1165/ | BEARING, hub, inner | 1 |
| 39 | V602677 | 1165/ | STUD, wheel | 5 |
| 40 | V603755 | 1165/ | NUT, slotted, 40mm across flats | 1 |
| 42 | 44S04E | 1165/ | PIN, split | 1 |

| Item | Part no | Serial no | Description | Qty |
|---|------------|--------------|--|-----|
| 3 | 40064A01 | / (year)1989 | WHEEL, steering, 400mm dia (OBSOLETE: use V2002350) | 1 |
| 4 | 10314A01 | / (year)1989 | CAP, (Used only with wheel 40064A01) | 1 |
| 3 | V2002350 | (year)1989 / | WHEEL, steering, 400mm dia., assy. | 1 |
| 4 | V2003160 | (year)1989 / | CAP | 1 |
| 4A | V601233 | (year)1989 / | REDUCER | 1 |
| 5 | 9S05 | | NUT | 1 |
| | | / 0635 | 2B1000 | |
| | | / 852 | 2B1500 | |
| 42A | 40294A01 | | # STEERING BOX, 30" shaft, assembly | 1 |
| 42A | 40294A02 | | # STEERING BOX, 33" shaft, assembly | 1 |
| <i># Between Sept and Dec 1990, some dumpers were fitted with steering box Type 11077. The drop arm connection shaft for this assembly is tapered with a keyway, not splined.</i> | | | | |
| <i>Replacement parts for this assembly are not available. Steering box 40294A02 and drop arm 40294A0101 (see page B - 9) must be ordered.</i> | | | | |
| 43 | 40294A0102 | | BUSH, column, top | 1 |
| 44 | 40294A0103 | | SHAFT, inner | 1 |
| 45 | 40294A0104 | | TUBE, outer | 1 |
| 46 | 40294A0105 | | PLUG, oil | 1 |
| 47 | 40294A0106 | | PIN | 1 |
| 48 | 40294A0107 | | STEERING BOX | 1 |
| 49 | 40294A0108 | | WASHER, thrust | 2 |
| 50 | 40294A0109 | | SHIM | AR |
| 51 | 40294A0110 | | WASHER, thrust | 2 |
| 52 | 40294A0111 | | ROCKER SHAFT, assembly | 1 |
| 52A | 40294A0140 | | PIN | 1 |
| 52B | 40294A0142 | | WASHER, thrust | 2 |
| 52C | 40294A0143 | | BEARING, needle | 42 |
| 52D | 40294A0141 | | ROLLER | 1 |
| 52E | 40294A0144 | | SPACER, bearings | 1 |
| 52F | 40294A0145 | | PLUG | 1 |

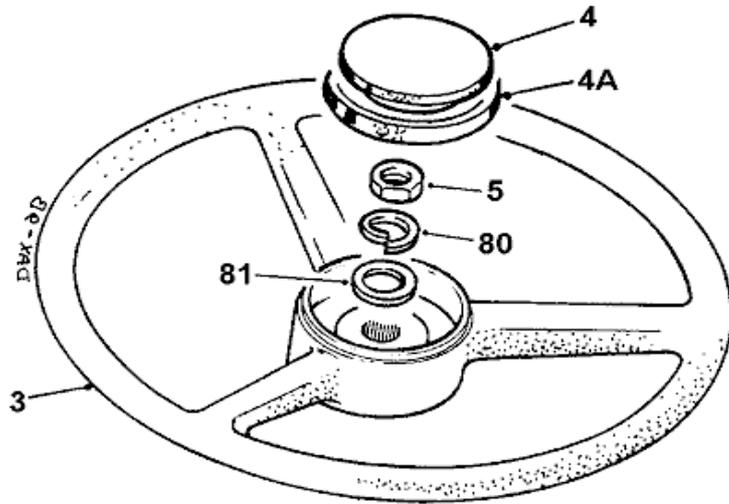
| Item | Part no | Serial no | Description | Qty |
|------|------------|-----------|------------------------|-----|
| | | / 0636 | 2B1000 | |
| | | / 853 | 2B1500 | |
| 53 | 40294A0112 | | GASKET | AR |
| 54 | 40294A0113 | | PLATE, cover, c/w bush | 1 |
| 54A | 40294A0138 | | BUSH | 1 |
| 55 | 41S08 | | WASHER, spring | 1 |
| 56 | 40294A0115 | | SCREW, adjuster | 1 |
| 57 | 40294A0116 | | NUT, locking | 1 |
| 58 | 28S02C | | SCREW, set | 4 |
| 59 | 41S04 | | WASHER, spring | 8 |
| 60 | 40294A0119 | | WASHER | 1 |
| 61 | 28S02D | | SCREW, set | 1 |
| 62 | 40294A0121 | | CAP, bottom | 1 |
| 63 | 40294A0122 | | SHIM, set | AR |
| 64 | 40294A0123 | | RACE, outer | 2 |
| 65 | 40294A0124 | | CAGE & BALLS | 2 |
| 66 | 40294A0125 | | CAM | 1 |
| 67 | 40294A0126 | | BUSH | 2 |
| 68 | 40294A0127 | | SEAL, oil | 1 |
| 69 | 41S13 | | WASHER, spring | 1 |
| 70 | 40294A0129 | | NUT | 1 |
| 71 | 40294A0130 | | LINER, bottom cap | 2 |
| 72 | 40294A0131 | | SHROUD, column, inner | 1 |
| 80 | 17S08 | | WASHER, spring | 1 |
| 81 | 10S06 | | WASHER, flat | 1 |



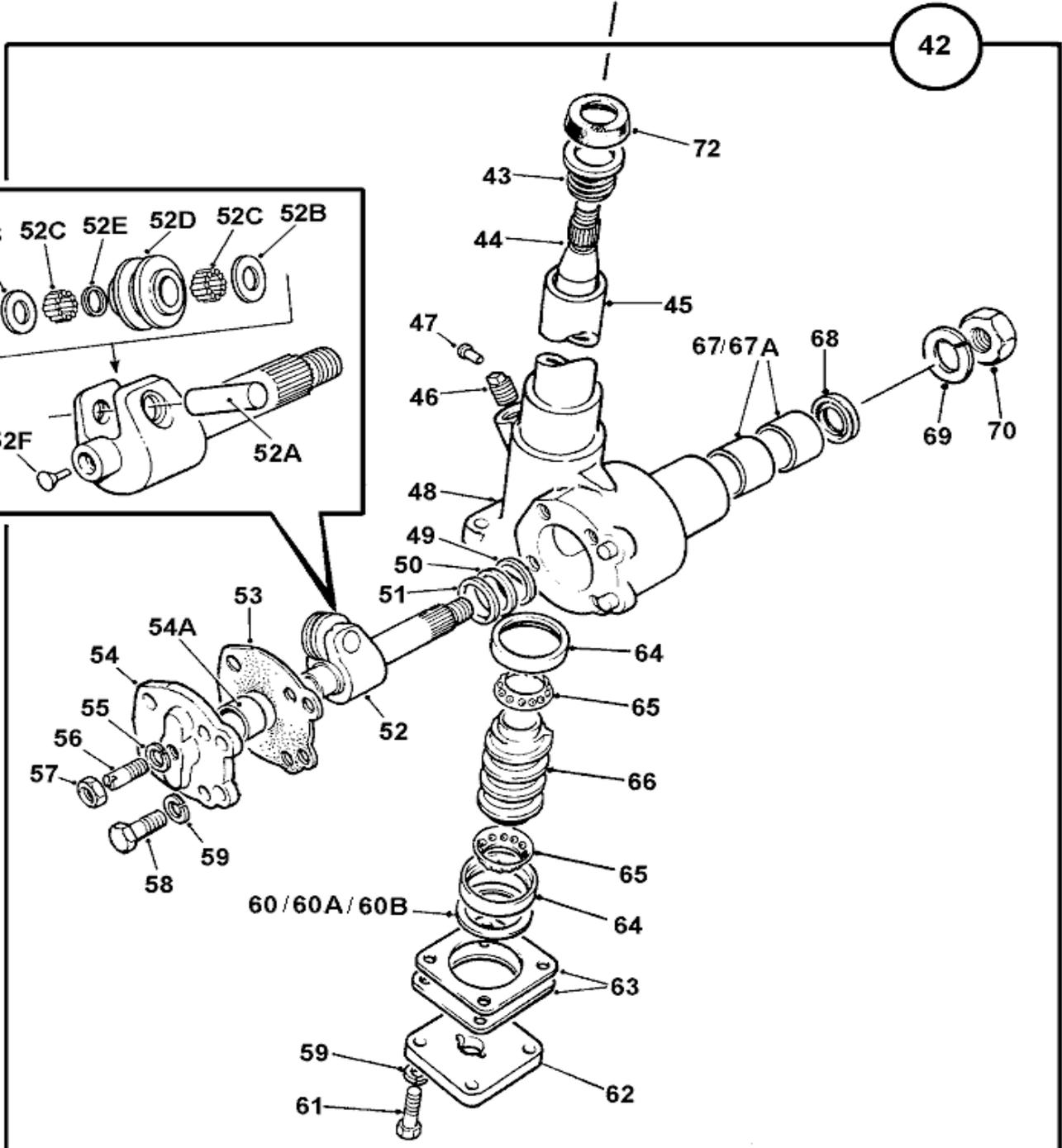
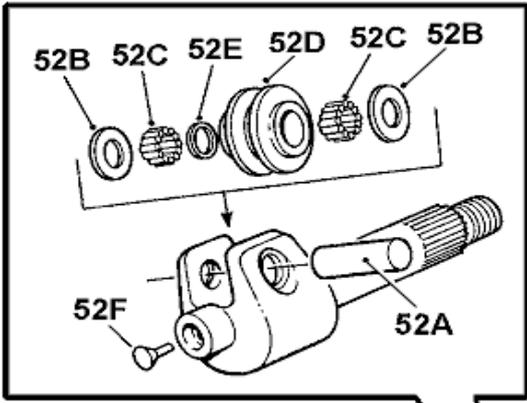
42



| Item | Part no | Serial no | Description | Qty |
|------|------------|-----------|------------------------------------|-----|
| | | 0636 / | 2B1000 | |
| | | 853 / | 2B1500 | |
| 3 | V2002350 | | WHEEL, steering, 400mm dia., assy. | 1 |
| 4 | V2003160 | | CAP | 1 |
| 4A | V601233 | | REDUCER | 1 |
| 5 | 9S05 | | NUT | 1 |
| 42 | 40294A03 | | STEERING BOX, and shaft, assembly | 1 |
| 43 | 40294A0102 | | BUSH, column, top | 1 |
| 44 | 40294A0134 | | SHAFT, inner | 1 |
| 45 | 40294A0132 | | TUBE, outer | 1 |
| 47 | 40294A0106 | | PIN | 1 |
| 48 | 40294A0133 | | STEERING BOX, R.H. | 1 |
| 49 | 40294A0108 | | WASHER, thrust | 1 |
| 49 | 40294A0139 | | WASHER, thrust | 1 |
| 50 | 40294A0109 | | SHIM, set | AR |
| 51 | 40294A0110 | | WASHER, thrust | 2 |
| 52 | 40294A0136 | | ROCKER SHAFT, assembly, R.H. | 1 |
| 52A | 40294A0140 | | PIN | 1 |
| 52B | 40294A0142 | | WASHER, thrust | 2 |
| 52C | 40294A0143 | | BEARING, needle | 42 |
| 52D | 40294A0141 | | ROLLER | 1 |
| 52E | 40294A0144 | | SPACER, bearings | 1 |
| 52F | 40294A0145 | | PLUG | 1 |
| 53 | 40294A0112 | | GASKET | AR |
| 54 | 40294A0137 | | PLATE, cover, c/w bush | 1 |
| 54A | 40294A0138 | | BUSH, <i>for cover plate</i> | 1 |
| 55 | 41S08 | | WASHER, spring | 1 |
| 56 | 40294A0115 | | SCREW, adjuster | 1 |
| 57 | 40294A0116 | | NUT, locking | 1 |
| 58 | 28S02C | | SCREW, set | 4 |
| 59 | 41S04 | | WASHER, spring | 8 |
| 60 | 40294A0119 | | WASHER | 1 |
| 60A | 40294A0146 | | SHIM, .005 | A/R |
| 60B | 40294A0147 | | SHIM, .010 | A/R |
| 61 | 28S02D | | SCREW, set | 1 |
| 62 | 40294A0121 | | CAP, bottom | 1 |
| 63 | 40294A0122 | | SHIM, set | AR |
| 64 | 40294A0123 | | RACE, outer | 2 |



42



| Item | Part no | Serial no | Description | Qty |
|------|---------|-----------|---------------|-----|
| | | 0636 / | 2B1000 | |
| | | 853 / | 2B1500 | |

continued >

| | | | | |
|-----|-------------|--|-----------------------|---|
| 65 | 40294A0124 | | CAGE & BALLS | 2 |
| 66 | 40294A0135 | | CAM, R.H. | 1 |
| 67 | 40294A0126 | | BUSH, solid | 2 |
| 67A | 40294A0126A | | BUSH, split | 2 |
| 68 | 40294A0127 | | SEAL, oil | 1 |
| 69 | 41S13 | | WASHER, spring | 1 |
| 42 | 40294A0129 | | NUT | 1 |
| 72 | 40294A0131 | | SHROUD, column, inner | 1 |
| 80 | 17S08 | | WASHER, spring | 1 |
| 81 | 10S06 | | WASHER, flat | 1 |

2B1000 & 2B1500 DUMPERS



Transmission

GEARBOX

Used with Newage axle

C - 1

GEARBOX

Used on 2B1000 with Salisbury axle

C - 2

GEARBOX

Used on 2B1500 with Salisbury axle

C - 2A

FLYWHEEL & CLUTCH

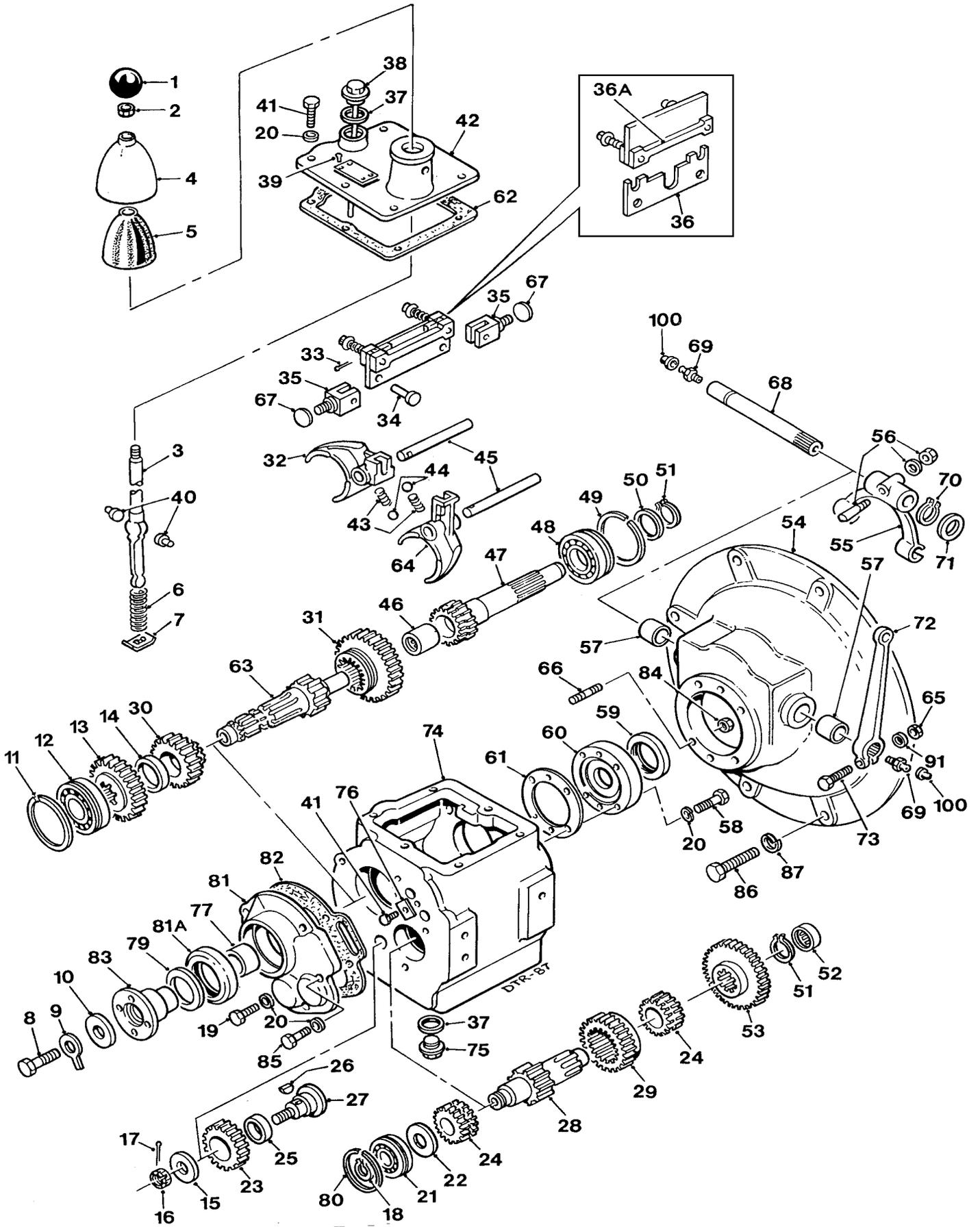
C - 3

CLUTCH PEDAL

C - 4

PROPELLER SHAFT

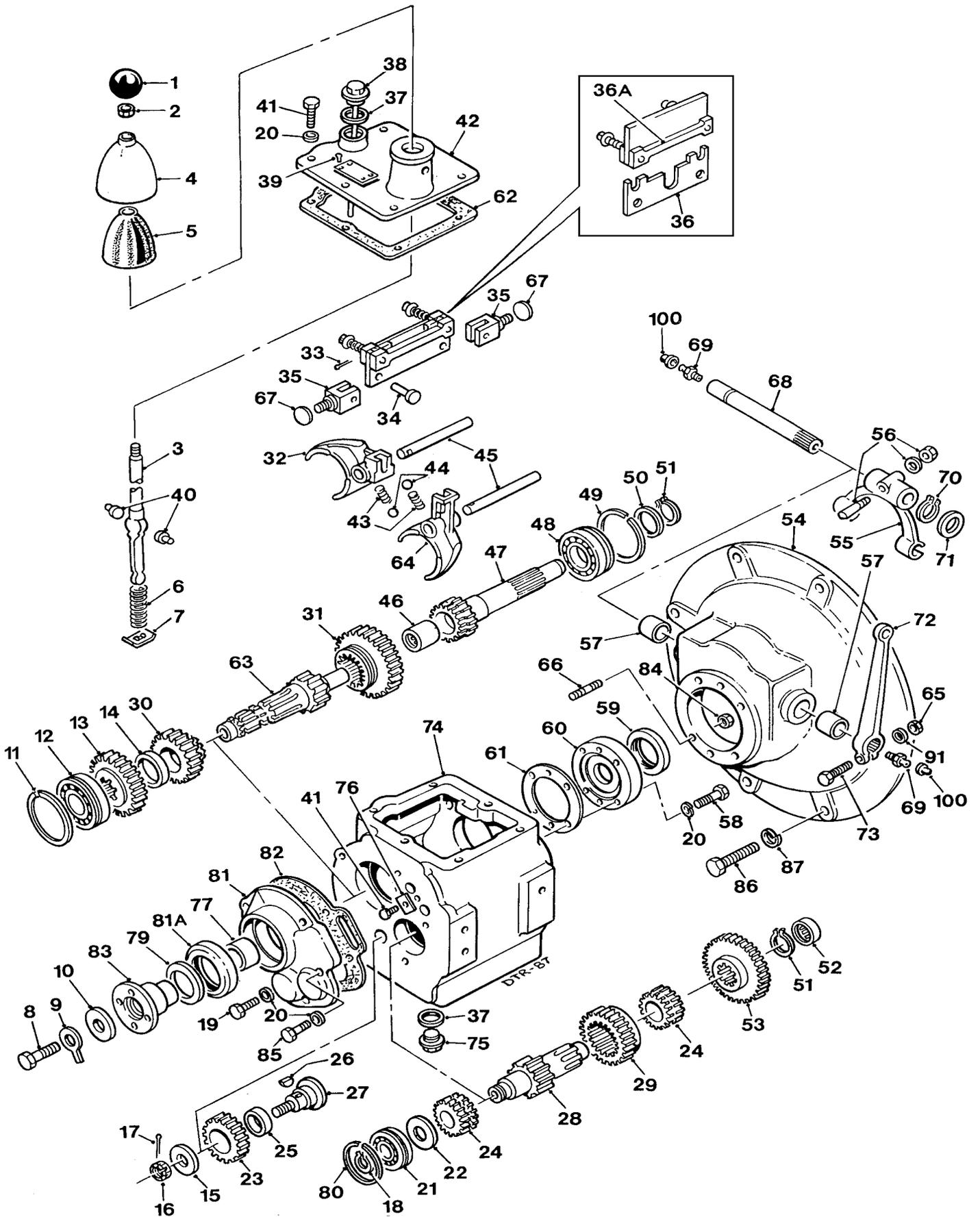
C - 5



GEARBOX (Used with Newage axles)

C - 1

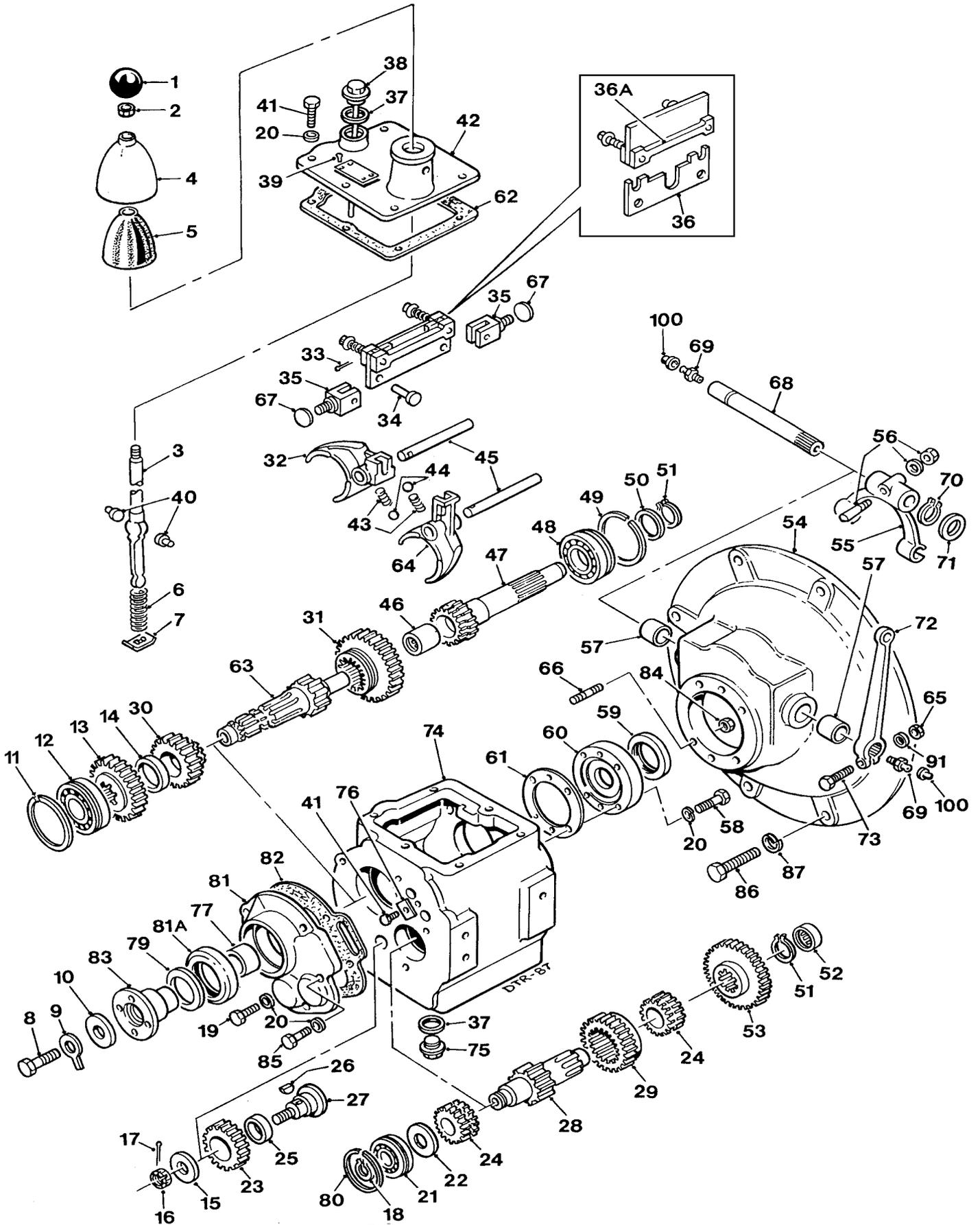
| Item | Part no | Serial no | Description | Qty |
|--|------------|-----------|---|-----|
| \$ From gearbox batch no. B1238. | | | | |
| When replacing Layshaft 30101A0223 (item 28) on gearboxes prior to batch no B1238, a Layshaft kit 30101A0268 must be ordered. | | | | |
| This kit consists of Layshaft 30101A0266 (item 28), Bearing 30101A0267 (item52) and Dipstick 30218A0248 (item 38). | | | | |
| The kit replaces the previous assembly of Layshaft 30101A0223 with Bush 30101A0244, and also Dipstick 30101A0232. | | | | |
| The two Layshaft assemblies are interchangeable. | | | | |
| When the Layshaft kit has been fitted it is necessary to increase the gearbox oil capacity from .85 litres to 2 litres, hence the inclusion of a shorter dipstick in the kit. | | | | |
| # From gearbox serial number 0155335 (April 1993) | | | | |
| Needle roller bearing (item 52) changed from an imperial to to a metric dimension. This change also affected the Layshaft (item 28) and Casing (item 74). See Layshaft Kit (item 28) | | | | |
| - | 30101A04 | | GEARBOX, (40M2S322), assembly, | 1 |
| 1 | 30101A0201 | | KNOB, gear lever | 1 |
| 2 | 95S03 | | NUT, locking | 1 |
| 3 | 20097A05 | | LEVER, gear | 1 |
| 4 | 30101A0203 | | CAP, gear lever | 1 |
| 5 | 30101A0204 | | GAITER, gear lever | 1 |
| 6 | 30101A0205 | | SPRING, gear lever | 1 |
| 7 | 30101A0206 | | PLATE, gear lever retaining | 1 |
| 8 | 28S05E | | BOLT | 1 |
| 9 | 30101A0207 | | WASHER, tab | 1 |
| 10 | 30101A0208 | | WASHER | 1 |
| 11 | 30101A0209 | | RING, snap | 1 |
| 12 | 88S06E | | BEARING, mainshaft, rear | 1 |
| 13 | 30101A0211 | | GEAR, output | 1 |
| 14 | 30101A0212 | | SPACER, output gear | 1 |
| 15 | 30101A0213 | | WASHER, reverse pinion shaft | 1 |
| 16 | 102S04 | | NUT, slotted | 1 |
| 17 | 44S02C | | PIN, split | 1 |
| 18 | 30218A0206 | | CIRCLIP | 1 |
| 19 | 28S01D | | BOLT | 3 |
| 20 | 13S02 | | WASHER, OBSOLETE: use 30039A0169 | |
| 20 | 30039A0169 | | WASHER, nylon | 9 |
| 21 | 88S04E | | BEARING, layshaft | 1 |
| 22 | 30101A0217 | | SPACER, bearing | 1 |
| 23 | 30101A0218 | | PINION, reverse | 2 |
| 24 | 30101A0219 | | GEAR, reverse | 2 |



GEARBOX (Used with Newage axles)

C - 1

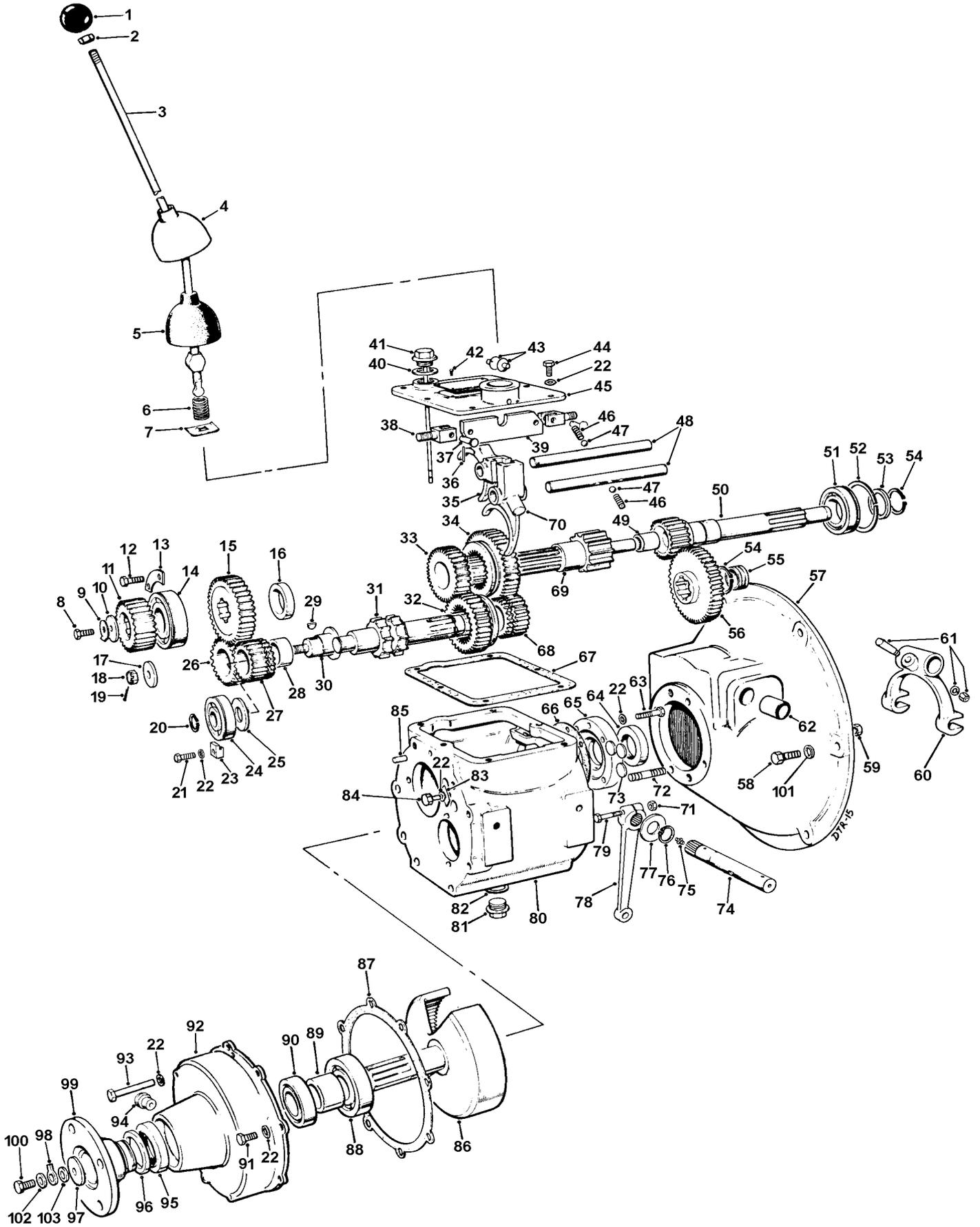
| Item | Part no | Serial no | Description | Qty |
|------|-------------|-------------|--|-----|
| 25 | 30101A0220 | | BUSH, reverse pinion | 1 |
| 26 | 30101A0221 | | KEY | 1 |
| 27 | 30101A0222 | | SHAFT, reverse pinion | 1 |
| 28 | 30101A0223 | / \$ | LAYSHAFT | 1 |
| 28 | 30101A0266 | \$/ | LAYSHAFT, OBSOLETE: use kit 30101A0268 | |
| 28 | 30101A0268 | \$/ 0155334 | # LAYSHAFT, Kit (Imperial) (Kit includes items: 28, 52, 37, 38) | 1 |
| 28 | 30101A0280 | 0155335 / | # LAYSHAFT (Metric) | 1 |
| 29 | 30101A0224 | | GEAR, 2nd speed, sliding | 1 |
| 30 | 30101A0225 | | GEAR, 2nd speed | 1 |
| 31 | 30101A0226 | | GEAR, 1st speed | 1 |
| 32 | 30101A0227 | | FORK, 2nd & 3rd selector | 1 |
| 33 | 44S01C | | PIN, split | 2 |
| 34 | 30101A0228 | | PIN, clevis | 2 |
| 35 | 30101A0229 | | CLEVIS, interlock plate | 2 |
| 36 | 30101A0230 | / OCT 91 | PLATE, non-interlock, OBSOLETE | 1 |
| 36 | 30101A0276 | OCT 91 / | PLATE, interlock | 1 |
| 36A | 30101A0275 | OCT 91 / | SPRUNG INTERLOCK, c/w installation tool | 1 |
| 37 | 42S05 | | WASHER, sealing | 2 |
| 38 | 30101A0232 | / \$ | DIPSTICK, (flange to bottom =7") | 1 |
| 38 | 30218A0248 | \$/ | DIPSTICK, (flange to bottom =6") | 1 |
| 39 | — | | SCREW, drive (for serial no. plate) | 4 |
| 40 | 30101A0234 | | PAD, gear lever | 2 |
| 41 | 28S01C | | BOLT | 7 |
| 42 | 30101A0235 | | COVER, top | 1 |
| 43 | 30097A0185 | | SPRING, detent | 2 |
| 44 | 30097A0199 | | BALL, detent | 2 |
| 45 | 30101A0237 | | SHAFT, selector | 2 |
| 46 | 30101A0238 | | BEARING, needle (part of item 47) | 1 |
| 47 | 30101A0239 | | SHAFT, primary, assy. (with item46) | 1 |
| 48 | 88S16F | | BEARING, input | 1 |
| 49 | 30101A0241 | | RING, snap | 1 |
| 50 | 30101A0242 | | SPACER, bearing | 1 |
| 51 | 30101A0243 | | CIRCLIP | 2 |
| 52 | 30101A0244/ | / \$ | BUSH, layshaft | 1 |
| 52 | 30101A0267 | \$/ 0155334 | # BEARING (Imperial), layshaft | 1 |
| 52 | 30101A0279 | 0155335 / | # BEARING (Metric), layshaft | 1 |
| 53 | 30101A0245 | | GEAR, 1st reduction | 1 |
| 54 | 30101A0246 | | HOUSING, clutch | 1 |
| 55 | 30097A0110 | | FORK, clutch release | 1 |
| 56 | 30097A0111 | | COTTER, NUT & WASHER | 1 |



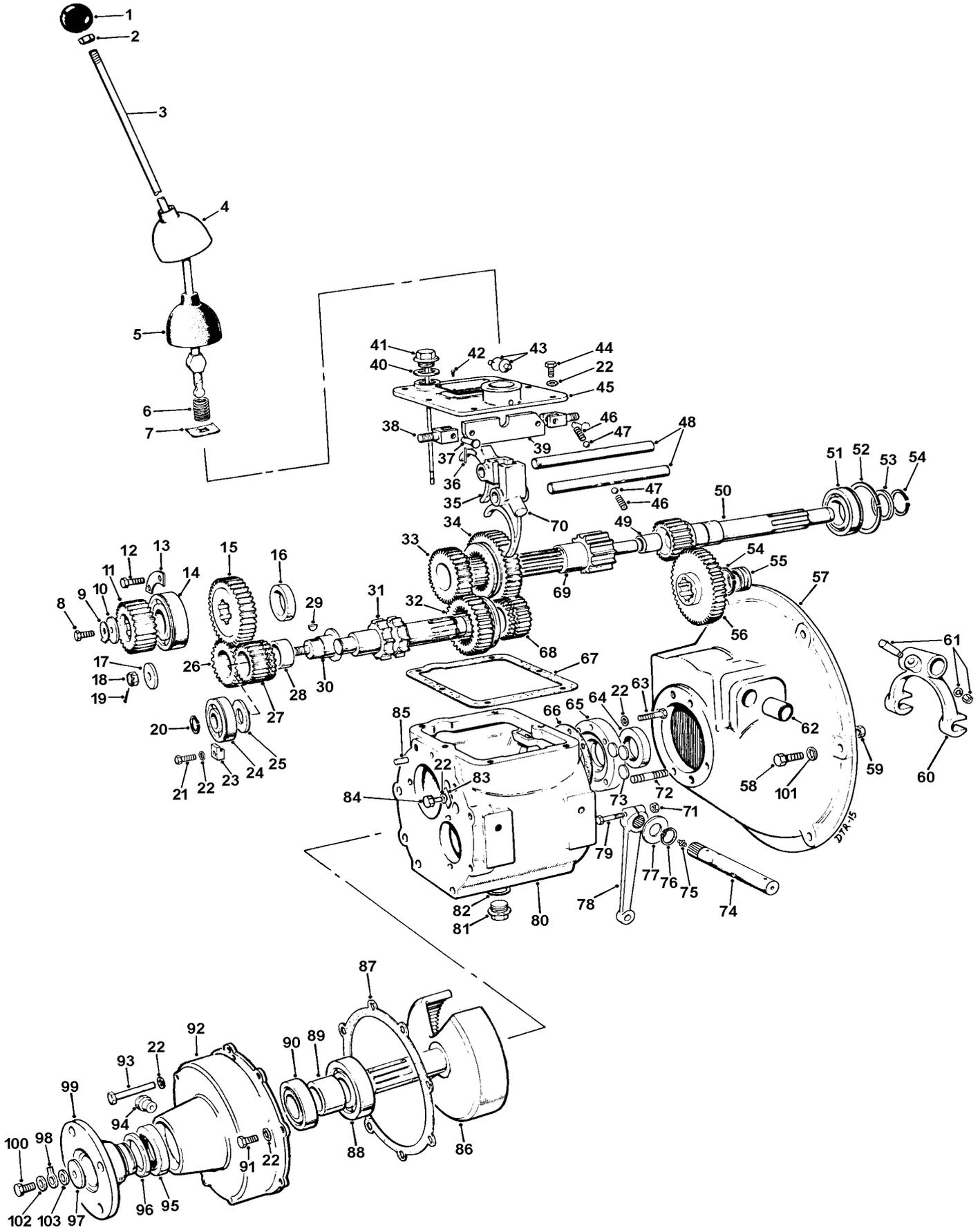
GEARBOX (Used with Newage axles)

C - 1

| Item | Part no | Serial no | Description | Qty |
|------|------------|-------------|---|-----|
| 57 | 30097A0114 | | BUSH, cross shaft | 2 |
| 58 | 6S01A | | BOLT | 4 |
| 59 | 30101A0247 | | SEAL, (part of item 60) | 1 |
| 60 | 30101A0248 | | COVER, front assy. (with item 59) | 1 |
| 61 | 30101A0249 | | GASKET, front cover | 1 |
| 62 | 30101A0250 | | GASKET, top cover | 1 |
| 63 | 30101A0251 | | OUTPUT SHAFT | 1 |
| 64 | 30101A0252 | | FORK, selector, 1st & reverse | 1 |
| 65 | 9S01 | | NUT | 1 |
| 66 | 30101A0253 | | STUD | 6 |
| 67 | 30101A0254 | | PLUG | 3 |
| 68 | 30101A0255 | | SHAFT, clutch cross | 1 |
| 69 | 131S06 | | NIPPLE, grease | 2 |
| 70 | 30101A0256 | | CIRCLIP | 1 |
| 71 | 30097A0133 | | WASHER, cross shaft | 1 |
| 72 | 30097A0109 | | LEVER, clutch release | 1 |
| 73 | 6S01C | | BOLT | 1 |
| 74 | 30101A0258 | / 0155334 # | CASE, gearbox | 1 |
| 74 | 30101A0281 | 0155335 / # | CASE, gearbox | 1 |
| 75 | 30097A0163 | | PLUG, drain | 1 |
| 76 | 30101A0259 | | STRIP, selector locking | 1 |
| 77 | 30101A0260 | | SPACER | 1 |
| 79 | 30101A0265 | | SHIELD, dust | 1 |
| 80 | 30101A0261 | | RING, snap | 1 |
| 81 | 30101A0262 | | COVER, output, assembly | 1 |
| 81A | 89S02 | | SEAL, oil | 1 |
| 82 | 30101A0263 | | GASKET, output cover | 1 |
| 83 | 30218A0203 | | COUPLING | 1 |
| 84 | 107S03 | | NUT | 6 |
| 85 | 6S01B | | BOLT | 2 |
| 86 | 3S03E | | SCREW, Petter PH engine | 8 |
| 86 | 69S03E | | BOLT, Lister ST engine | 8 |
| 86 | 66S03A | | SCREW, Lister-Petter TR & TS eng. | 8 |
| 87 | 41S05 | | WASHER, spring | 8 |
| 88 | 30143A0111 | | * WASHER, fibre | 1 |
| 89 | 30143A0101 | | * WASHER, fibre | 1 |
| | | | * Fibre washers, items 88 & 89, are now obsolete. They were used to seal the washer item 10. The washer item 10 is now installed with a silicone sealant. | |
| 91 | 67S01 | | WASHER, shake proof | 1 |
| 100 | 176S01 | | CAP, grease nipple | 2 |

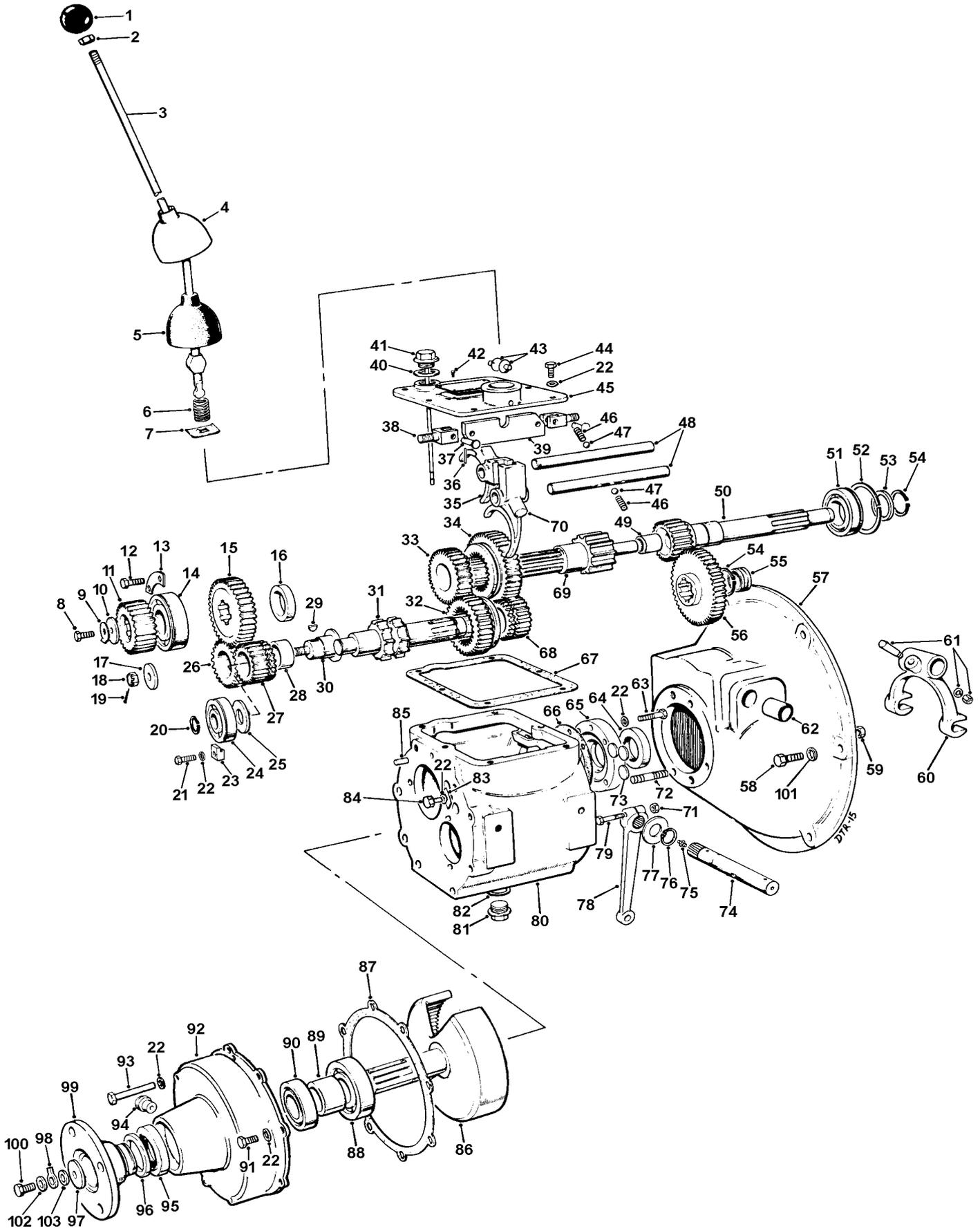


| Item | Part no | Serial no | Description | Qty |
|---|------------|-----------|--------------------------|-----|
| \$ From gearbox batch no. B1238. | | | | |
| When replacing Layshaft 30101A0223 (item 31) on gearboxes prior to batch no B1238, a Layshaft kit 30101A0268 must be ordered. | | | | |
| This kit consists of Layshaft 30101A0266 (item 31), Bearing 30101A0267 (item55) and Dipstick 30218A0248 (item 41). | | | | |
| The kit replaces the previous assembly of Layshaft 30101A0223 with Bush 30101A0244, and also Dipstick 30101A0232. | | | | |
| The two Layshaft assemblies are interchangeable. | | | | |
| When the Layshaft kit has been fitted it is necessary to increase the gearbox oil capacity from .85 litres to 2 litres, hence the inclusion of a shorter dipstick in the kit. | | | | |
| - | 30106A01 | | GEARBOX, assembly | 1 |
| 1 | 30101A0201 | | KNOB, gear lever | 1 |
| 2 | 95S03 | | NUT, locking | 1 |
| 3 | 30106A0102 | | LEVER, gear | 1 |
| 4 | 30101A0203 | | CAP, gear lever | 1 |
| 5 | 30101A0204 | | GAITER, gear lever | 1 |
| 6 | 30101A0205 | | SPRING, gear lever | 1 |
| 7 | 30101A0206 | | PLATE, retaining | 1 |
| 8 | 28S03E | | SCREW | 1 |
| 9 | 30190A0101 | | WASHER, tab | 1 |
| 10 | 30190A0102 | | WASHER | 1 |
| 11 | 30190A0103 | | PINION, reduction | 1 |
| 12 | 28S01B | | SCREW | 2 |
| 13 | 30097A0133 | | RETAINER, bearing, small | 1 |
| 14 | 88S06E | | BEARING, mainshaft, rear | 1 |
| 15 | 30101A0211 | | GEAR, output | 1 |
| 16 | 30101A0212 | | SPACER, output gear | 1 |
| 17 | 30101A0213 | | WASHER | 1 |
| 18 | 102S04 | | NUT, slotted | 1 |
| 19 | 44S02C | | PIN, split | 1 |
| 20 | 30101A0215 | | CIRCLIP | 1 |
| 21 | 28S01D | | SCREW | 2 |
| 22 | 67S01 | | WASHER, shake proof | 12 |
| 23 | 30190A0105 | | CLIP, layshaft bearing | 2 |
| 24 | 88S04E | | BEARING, layshaft | 2 |
| 25 | 30101A0217 | | SPACER, bearing | 1 |
| 26 | 30101A0218 | | PINION, reverse | 1 |
| 27 | 30101A0219 | | GEAR, reverse speed | 1 |
| 28 | 30101A0220 | | BUSH, reverse pinion | 1 |
| 29 | 30101A0221 | | KEY | 1 |
| 30 | 30101A0222 | | SHAFT, reverse pinion | 1 |



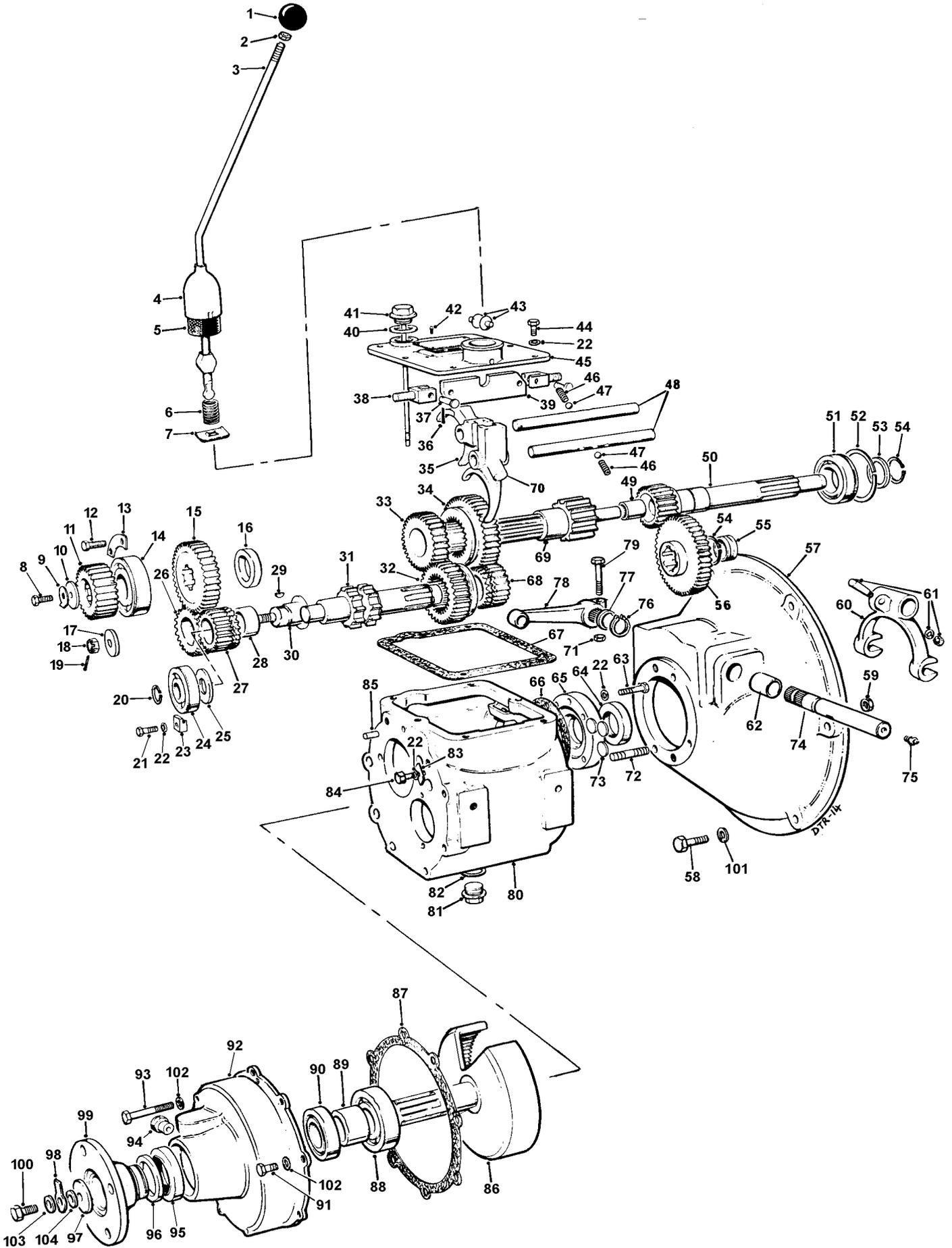
GEARBOX (Used with Salisbury axle)**C - 2**

| Item | Part no | Serial no | Description | Qty |
|------|------------|-----------|--------------------------------------|-----|
| 31 | 30101A0223 | / \$ | LAYSHAFT | 1 |
| 31 | 30101A0266 | \$/ | LAYSHAFT | 1 |
| 32 | 30101A0224 | | GEAR, 2nd speed sliding | 1 |
| 33 | 30101A0225 | | GEAR, 2nd speed | 1 |
| 34 | 30101A0226 | | GEAR, 1st speed | 1 |
| 35 | 30101A0227 | | FORK, selector, 2nd & 3rd | 1 |
| 36 | 44S01C | | PIN, split | 2 |
| 37 | 30101A0228 | | PIN, clevis | 2 |
| 38 | 30101A0229 | | CLEVIS, interlock | 2 |
| 39 | 30101A0230 | | PLATE, interlock | 1 |
| 40 | 42S05 | | SEAL, dipstick | 1 |
| 41 | 30101A0232 | / \$ | DIPSTICK, (flange to bottom =7") | 1 |
| 41 | 30218A0248 | \$/ | DIPSTICK, (flange to bottom =6") | 1 |
| 42 | — | | SCREW, drive (for serial no. plate) | 4 |
| 43 | 30101A0234 | | PAD, gear lever | 2 |
| 44 | 28S01C | | SCREW | 6 |
| 45 | 30101A0235 | | COVER, top | 1 |
| 46 | 30097A0185 | | SPRING, detent | 2 |
| 47 | 30097A0199 | | BALL, detent | 2 |
| 48 | 30101A0237 | | SHAFT, selector | 2 |
| 49 | 30101A0238 | | BEARING, needle (part of item 50) | 1 |
| 50 | 30101A0239 | | SHAFT, primary, assy. (with item 49) | 1 |
| 51 | 88S16F | | BEARING, input | 1 |
| 52 | 30101A0241 | | RING, snap | 1 |
| 53 | 30101A0242 | | SPACER, bearing | 1 |
| 54 | 30101A0243 | | CIRCLIP | 2 |
| 55 | 30101A0244 | / \$ | BUSH, layshaft | 1 |
| 55 | 30101A0267 | \$/ | BEARING, layshaft | 1 |
| 56 | 30101A0245 | | GEAR, reduction, 1st | 1 |
| 57 | 30101A0246 | | HOUSING, clutch | 1 |
| 58 | 3S03E | | SCREW, set, Petter engine | 8 |
| 58 | 69S03E | | SCREW, set, Lister engine | 8 |
| 59 | 9S03 | | NUT | 6 |
| 60 | 30097A0110 | | FORK, clutch release | 1 |
| 61 | 30097A0111 | | COTTER, nut & washer | 1 |
| 62 | 30097A0114 | | BUSH, cross shaft | 2 |
| 63 | 6S01B | | BOLT | 4 |
| 64 | 30101A0247 | | SEAL, (part of item 65) | 1 |
| 65 | 30101A0248 | | COVER, front, assy. (with item 64) | 1 |
| 66 | 30101A0249 | | GASKET, front cover | 1 |
| 67 | 30101A0250 | | GASKET, top cover | 1 |
| 68 | 30101A0219 | | GEAR, reverse speed | 1 |
| 69 | 30190A0106 | | OUTPUT SHAFT | 1 |
| 70 | 30101A0252 | | FORK, selector, 1st & reverse | 1 |
| 71 | 9S01 | | NUT | 1 |



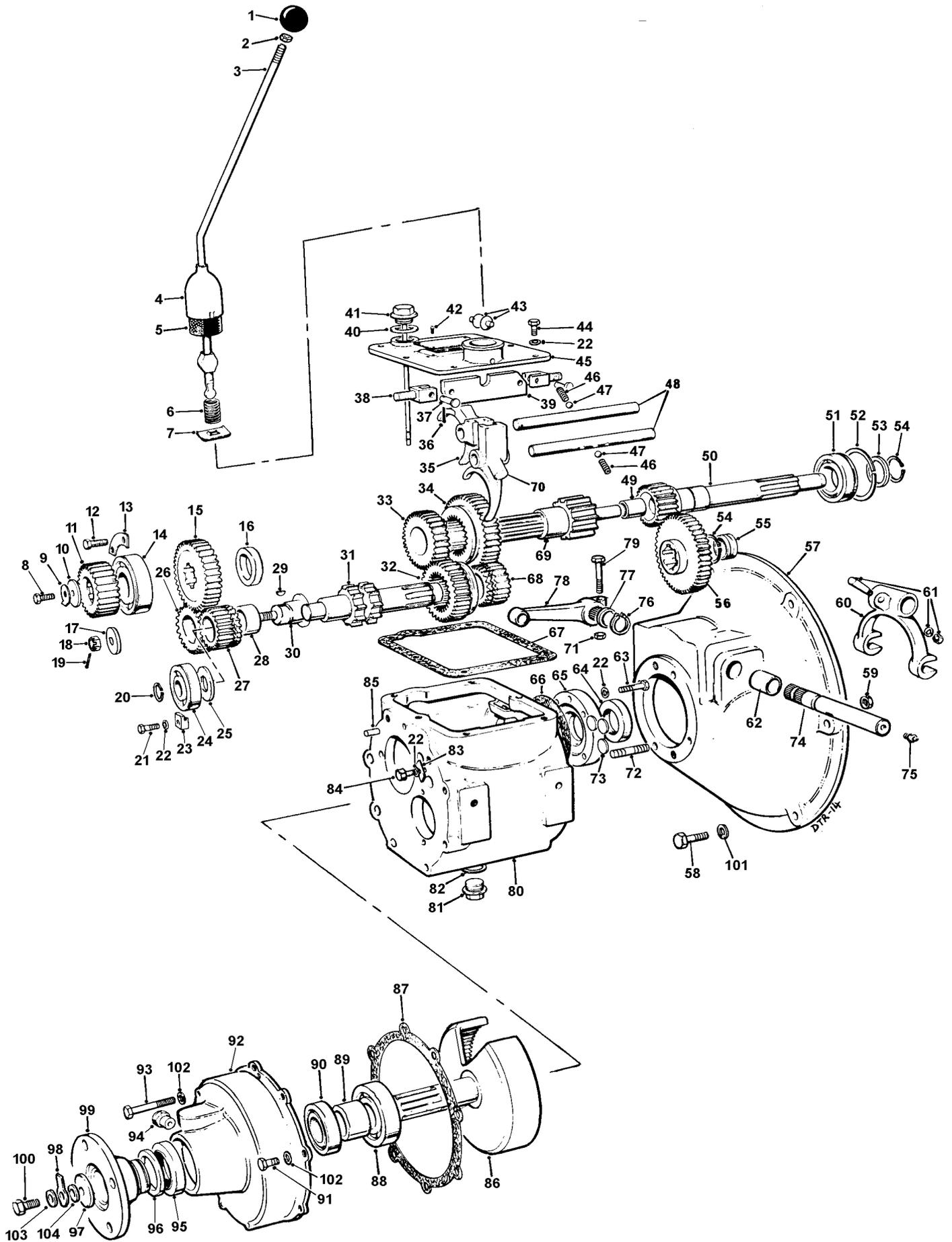
GEARBOX (Used with Salisbury axle)**C - 2**

| Item | Part no | Serial no | Description | Qty |
|-------|------------|-----------|--------------------------------------|-----|
| 72 | 30101A0253 | | STUD | 6 |
| 73 | 30101A0254 | | DISC, sealing, selector shaft | 3 |
| 74 | 30101A0255 | | CROSS SHAFT, clutch | 1 |
| 75 | 131S06 | | NIPPLE, grease | 2 |
| 76 | 30101A0256 | | CIRCLIP | 1 |
| 77 | 30097A0133 | | WASHER, cross shaft | 1 |
| 78 | 30097A0109 | | LEVER, clutch release | 1 |
| 79 | 6S01C | | BOLT | 1 |
| 80 | 30101A0262 | | CASING | 1 |
| 81 | 30097A0163 | | PLUG, drain | 1 |
| 82 | 42S05 | | SEAL, drain plug | 1 |
| 83 | 30101A0259 | | STRIP, selector locking | 1 |
| 84 | 28S01C | | SCREW, set | 2 |
| 85 | 30097A0155 | | DOWEL | 2 |
| 86 | 30190A0110 | | GEAR, internal | 1 |
| 87 | 30190A0112 | | GASKET, reduction housing | 1 |
| 88 | 30190A0111 | | BEARING, internal gear front | 1 |
| 89 | 30101A0260 | | SPACER | 1 |
| 90 | 30190A0113 | | BEARING, internal gear rear | 1 |
| 91 | 28S02D | | SCREW | 4 |
| 92 | 30190A0114 | | HOUSING, reduction | 1 |
| 93 | 6S02J | | BOLT | 4 |
| 94 | 30097A0171 | | BREATHER | 1 |
| 95 | 30097A0132 | | SEAL, oil, rear | 1 |
| 96 | 30101A0265 | | SHIELD, dust | 1 |
| 97 | 30101A0208 | | WASHER, coupling | 1 |
| 98 | 30101A0207 | | WASHER, locking | 1 |
| 99 | 30106A0101 | | COUPLING | 1 |
| 100 | 28S05E | | SCREW | 1 |
| 101 | 41S05 | | WASHER, spring | 8 |
| 102 | 30143A0111 | | WASHER, fibre | 1 |
| 103 | 30143A0101 | | WASHER, fibre | 1 |
| ..... | 176S01 | | CAP, grease nipple (not illustrated) | 2 |



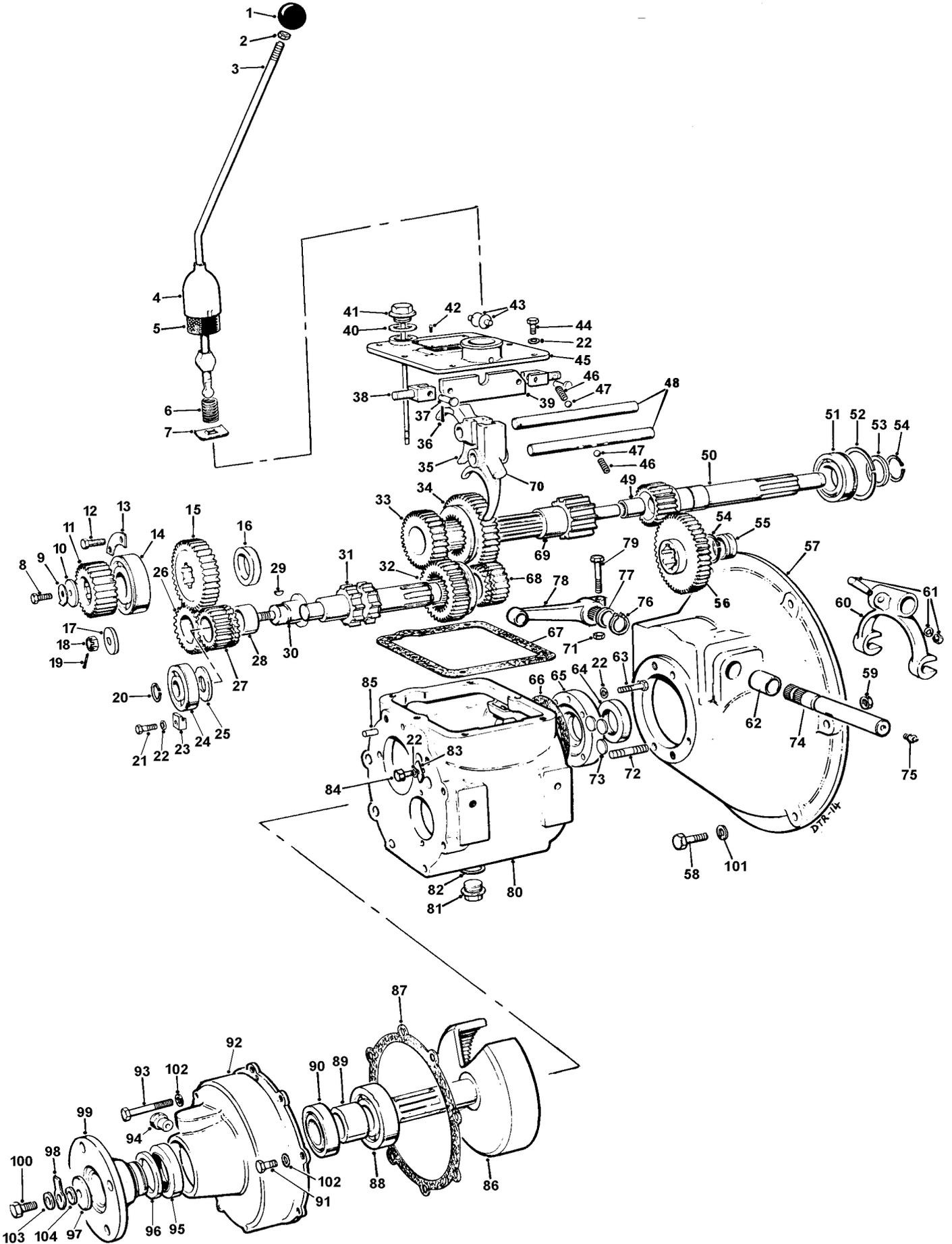
GEARBOX (Used with Salisbury axle)**C - 2A**

| Item | Part no | Serial no | Description | Qty |
|---|------------|-----------|--------------------------|-----|
| \$ From gearbox batch no. B1238. | | | | |
| When replacing Layshaft 30101A0223 (item 31) on gearboxes prior to batch no B1238, a Layshaft kit 30101A0268 must be ordered. | | | | |
| This kit consists of Layshaft 30101A0266 (item 31), Bearing 30101A0267 (item55) and Dipstick 30218A0248 (item 41). | | | | |
| The kit replaces the previous assembly of Layshaft 30101A0223 with Bush 30101A0244, and also Dipstick 30101A0232. | | | | |
| The two Layshaft assemblies are interchangeable. | | | | |
| When the Layshaft kit has been fitted it is necessary to increase the gearbox oil capacity from .85 litres to 2 litres, hence the inclusion of a shorter dipstick in the kit. | | | | |
| - | 30139A02 | | GEARBOX, assembly | 1 |
| 1 | 30101A0201 | | KNOB, gear lever | 1 |
| 2 | 95S03 | | NUT, locking | 1 |
| 3 | 20097A05 | | LEVER, gear | 1 |
| 4 | 30101A0203 | | CAP, gear lever | 1 |
| 5 | 30101A0204 | | GAITER, gear lever | 1 |
| 6 | 30101A0205 | | SPRING, gear lever | 1 |
| 7 | 30101A0206 | | PLATE, retaining | 1 |
| 8 | 28S03E | | SCREW | 1 |
| 9 | 30190A0101 | | WASHER, tab | 1 |
| 10 | 30190A0102 | | WASHER | 1 |
| 11 | 30139A0201 | | PINION, reduction | 1 |
| 12 | 28S01B | | SCREW | 2 |
| 13 | 30190A0104 | | RETAINER, bearing, small | 1 |
| 14 | 88S06E | | BEARING, mainshaft, rear | 1 |
| 15 | 30101A0211 | | GEAR, output | 1 |
| 16 | 30101A0212 | | SPACER, output gear | 1 |
| 17 | 30101A0213 | | WASHER | 1 |
| 18 | 102S04 | | NUT, slotted | 1 |
| 19 | 44S02C | | PIN, split | 1 |
| 20 | 30101A0215 | | CIRCLIP | 1 |
| 21 | 28S01D | | SCREW | 2 |
| 22 | 67S01 | | WASHER, shakeproof | 12 |
| 23 | 30190A0105 | | CLIP, layshaft bearing | 2 |
| 24 | 88S04E | | BEARING, layshaft | 2 |
| 25 | 30101A0217 | | SPACER, bearing | 1 |
| 26 | 30101A0218 | | PINION, reverse | 1 |
| 27 | 30101A0219 | | GEAR, reverse speed | 2 |
| 28 | 30101A0220 | | BUSH, reverse pinion | 1 |
| 29 | 30101A0221 | | KEY | 1 |
| 30 | 30101A0222 | | SHAFT, reverse pinion | 1 |



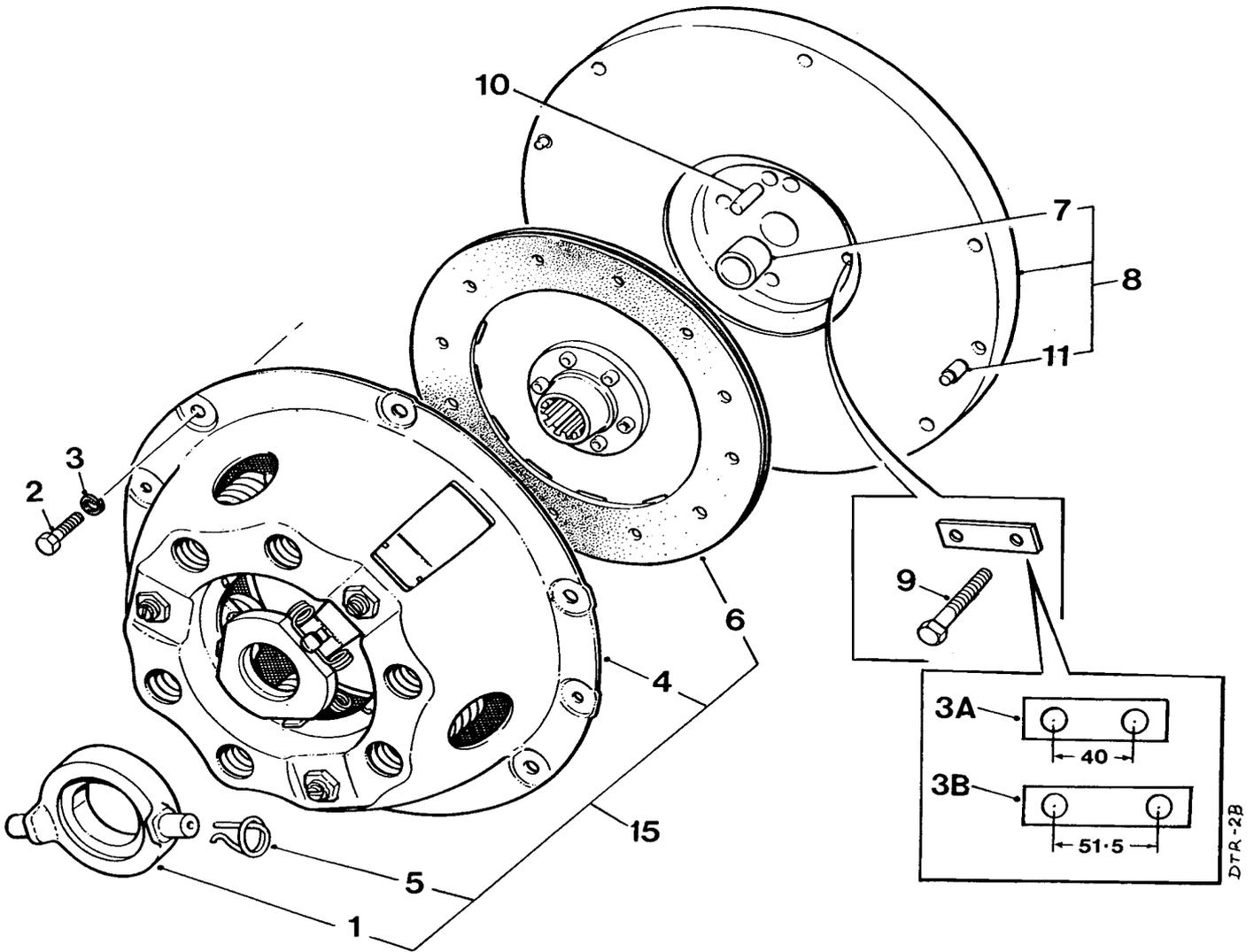
GEARBOX (Used with Salisbury axle)**C - 2A**

| Item | Part no | Serial no | Description | Qty |
|------|------------|-----------|-------------------------------------|-----|
| 31 | 30101A0223 | / \$ | LAYSHAFT | 1 |
| 31 | 30101A0266 | \$/ | LAYSHAFT | 1 |
| 32 | 30101A0224 | | GEAR, 2nd speed sliding | 1 |
| 33 | 30101A0225 | | GEAR, 2nd speed | 1 |
| 34 | 30101A0226 | | GEAR, 1st speed | 1 |
| 35 | 30101A0227 | | FORK, selector, 2nd & 3rd | 1 |
| 36 | 44S01C | | PIN, split | 2 |
| 37 | 30101A0228 | | PIN, clevis | 2 |
| 38 | 30101A0229 | | CLEVIS, interlock | 2 |
| 39 | 30101A0230 | | PLATE, interlock | 1 |
| 40 | 42S05 | | SEAL, dipstick | 1 |
| 41 | 30101A0232 | / \$ | DIPSTICK, (flange to bottom = 7") | 1 |
| 41 | 30218A0248 | \$/ | DIPSTICK, (flange to bottom = 6") | 1 |
| 42 | — | | SCREW, drive (for serial no. plate) | 4 |
| 43 | 30101A0234 | | PAD, gear lever | 2 |
| 44 | 28S01C | | SCREW | 6 |
| 45 | 30101A0235 | | COVER, top | 1 |
| 46 | 30097A0185 | | SPRING, detent | 2 |
| 47 | 30097A0199 | | BALL, detent | 2 |
| 48 | 30101A0237 | | SHAFT, selector | 2 |
| 49 | 30101A0238 | | BEARING, primary shaft | 1 |
| 50 | 30101A0239 | | SHAFT, primary | 1 |
| 57 | 30101A0246 | | HOUSING, clutch | 1 |
| 51 | 88S16F | | BEARING, input | 1 |
| 52 | 30101A0241 | | RING, snap | 1 |
| 53 | 30101A0242 | | SPACER, bearing | 1 |
| 54 | 30101A0243 | | CIRCLIP | 2 |
| 55 | 30101A0244 | / \$ | BUSH, layshaft | 1 |
| 55 | 30101A0267 | \$/ | BEARING, layshaft | 1 |
| 56 | 30101A0245 | | GEAR, reduction, 1st | 1 |
| 58 | 3S03E | | SCREW, set, Petter engine | 8 |
| 58 | 69S03E | | SCREW, set. Lister engine | 8 |
| 59 | 30190A0116 | | NUT, nylon insert | 6 |
| 60 | 30097A0110 | | FORK, clutch release | 1 |
| 61 | 30097A0111 | | COTTER, nut & washer | 1 |
| 62 | 30097A0114 | | BUSH, cross shaft | 2 |
| 63 | 6S01B | | BOLT | 4 |
| 64 | 30101A0247 | | SEAL (part of item 65) | 1 |
| 65 | 30101A0248 | | COVER, assembly. (with item 64) | 1 |
| 66 | 30101A0249 | | GASKET, front cover | 1 |
| 67 | 30101A0250 | | GASKET, top cover | 1 |



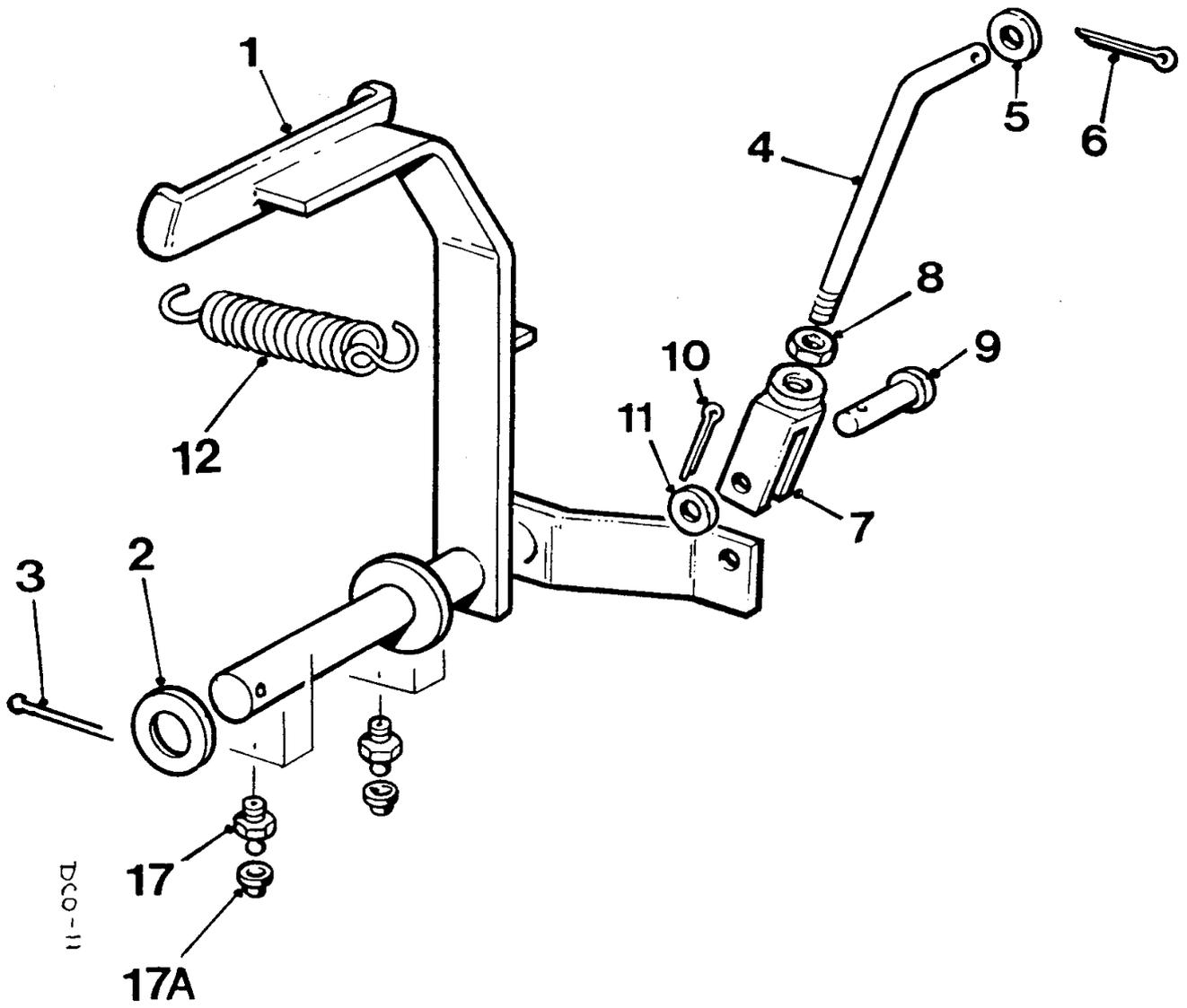
GEARBOX (Used with Salisbury axle)**C - 2A**

| Item | Part no | Serial no | Description | Qty |
|------|------------|-----------|--------------------------------------|-----|
| 68 | 30101A0219 | | GEAR, reverse speed | 1 |
| 69 | 30190A0106 | | OUTPUT SHAFT | 1 |
| 70 | 30101A0252 | | FORK, selector, 1st & reverse | 1 |
| 71 | 9S01 | | NUT | 1 |
| 72 | 30101A0253 | | STUD | 6 |
| 73 | 30101A0254 | | DISC, sealing, selector shaft | 3 |
| 74 | 30101A0255 | | CROSS SHAFT, clutch | 1 |
| 75 | 131S06 | | NIPPLE, grease | 2 |
| 76 | 30101A0256 | | CIRCLIP | 1 |
| 77 | 30101A0257 | | WASHER, cross shaft | 1 |
| 78 | 30097A0109 | | LEVER, clutch release | 1 |
| 79 | 6S01C | | BOLT | 1 |
| 80 | 30190A0107 | | CASING | 1 |
| 81 | 30097A0163 | | PLUG, drain | 1 |
| 82 | 42S05 | | SEAL, drain plug | 1 |
| 83 | 30101A0259 | | STRIP, selector locking | 1 |
| 84 | 28S01C | | SCREW, set | 2 |
| 85 | 30097A0155 | | DOWEL | 2 |
| 86 | 30190A0110 | | GEAR, internal | 1 |
| 87 | 30190A0112 | | GASKET, reduction housing | 1 |
| 88 | 30190A0111 | | BEARING, internal gear front | 1 |
| 89 | 30101A0260 | | SPACER | 1 |
| 90 | 30190A0113 | | BEARING, internal gear rear | 1 |
| 91 | 28S02D | | SCREW | 4 |
| 92 | 30190A0114 | | HOUSING, reduction | 1 |
| 93 | 6S02J | | BOLT | 4 |
| 94 | 30097A0171 | | BREATHER | 1 |
| 95 | 89S02 | | SEAL, oil, rear | 1 |
| 96 | 30101A0265 | | SHIELD, dust | 1 |
| 97 | 30101A0208 | | WASHER, coupling | 1 |
| 98 | 30101A0207 | | WASHER, locking | 1 |
| 99 | 30101A0264 | | COUPLING | 1 |
| 100 | 28S05E | | SCREW | 1 |
| 102 | 41S05 | | WASHER, spring | 8 |
| 103 | 30143A0111 | | WASHER, fibre | 1 |
| 104 | 30143A0101 | | WASHER, fibre | 1 |
| - | 176S01 | | CAP, grease nipple (not illustrated) | 2 |



FLYWHEEL & CLUTCH**C - 3**

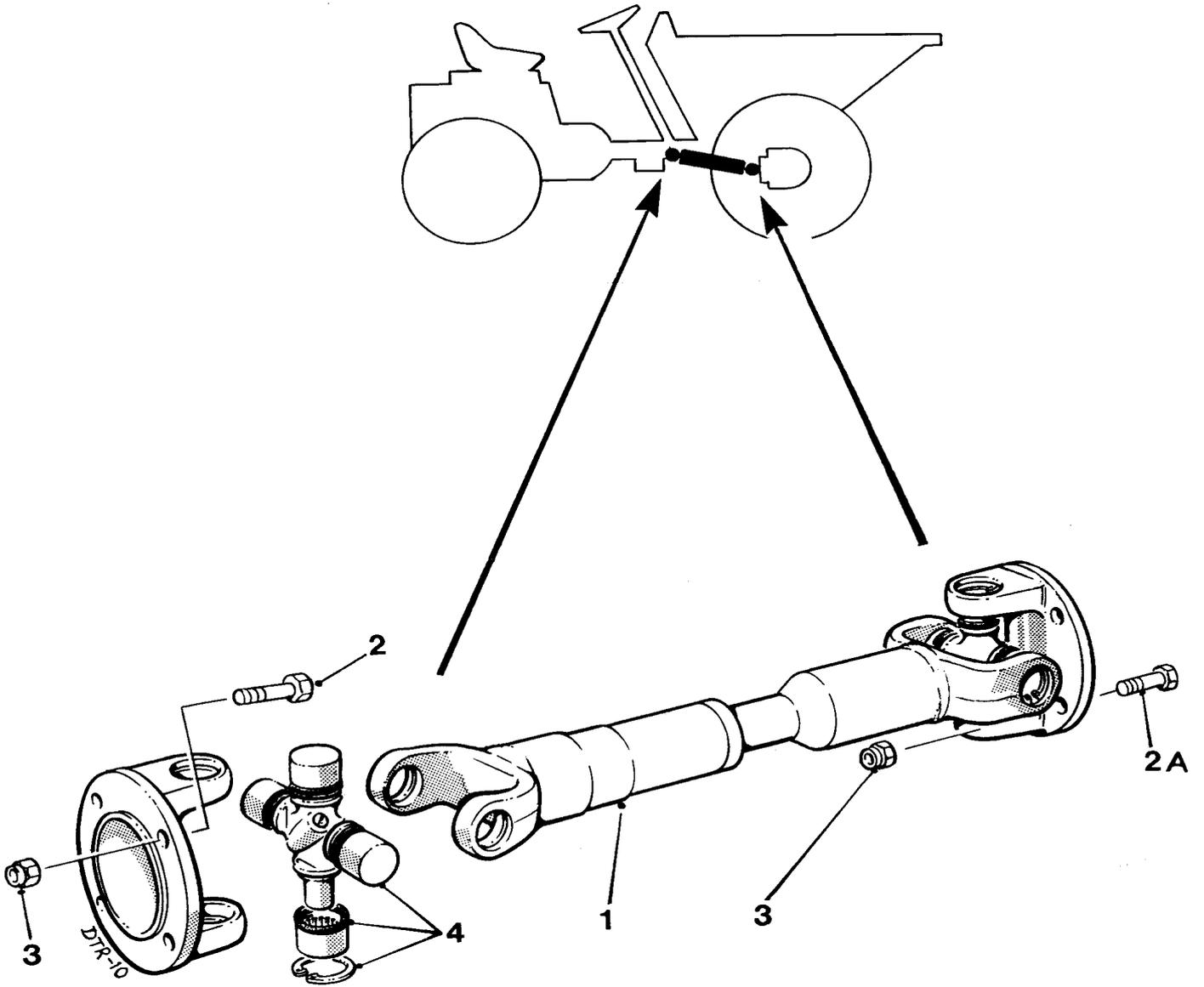
| Item | Part no | Serial no | Description | Qty |
|-------------|----------------|------------------|--|------------|
| 1 | 10579A01 | | BEARING, release | 1 |
| 2 | 28S02D | | SCREW | 6 |
| 3 | 41S04 | | WASHER, spring | 6 |
| 3A | 10531A02 | | WASHER, locking, 60mm long, Lister-Petter TS1 & TR1 engines | 1 |
| 3B | 10531A03 | | WASHER, locking, 70mm long, Lister-Petter TS1 & TR1 engines | 1 |
| 4 | 10597A01 | | COVER | 1 |
| 5 | 10579A0101 | | SPRING, retaining, release bearing | 2 |
| 6 | 10598A01 | | PLATE, drive | 1 |
| 7 | 10580A0101 | | BUSH | 1 |
| 8 | 10580A02 | | FLYWHEEL | 1 |
| 9 | 1S02C | | BOLT, Petter PH engine | 4 |
| 9 | 8S03B | | BOLT, Lister ST and Lister-Petter TS & TR engines | 4 |
| 10 | C321 | | DOWEL | 1 |
| 11 | 10580A0102 | | DOWEL | 2 |
| 15 | 10948A02 | | KIT, Clutch repair Consists of items 1,4,5 &6 | 1 |



CLUTCH PEDAL

C - 4

| Item | Part no | Serial no | Description | Qty |
|------|----------|-----------|---|-----|
| 1 | 20096A07 | | PEDAL, clutch | 1 |
| 2 | 10S08 | | WASHER, flat | 1 |
| 3 | 44S05E | | PIN, split | 1 |
| 4 | 10481A03 | | ROD, clutch | 1 |
| 5 | 10S03 | | WASHER, flat | 1 |
| 6 | 44S03C | | PIN, split | 1 |
| 7 | C174J | | CLEVIS | 1 |
| 8 | 95S03 | | NUT | 1 |
| 9 | 10650A18 | | PIN, clevis | 1 |
| 10 | 44S02C | | PIN, split | 1 |
| 11 | 10S03 | | WASHER, flat | 1 |
| 12 | C173B | | SPRING, return | 1 |
| 17 | 131S03 | / 0552 | NIPPLE, grease, push-in, 2B1000 | 2 |
| 17 | 131S03 | / 585 | NIPPLE, grease, push-in, 2B1500 | 2 |
| 17 | 131S01 | 0553 / | NIPPLE, grease, threaded, 2B1000 | 2 |
| 17 | 131S01 | 586 / | NIPPLE, grease, threaded, 2B1500 | 2 |
| 17A | 176S01 | | CAP, grease nipple | 2 |



| Item | Part no | Serial no | Description | Qty |
|------|---------|-----------|-------------|-----|
|------|---------|-----------|-------------|-----|

Machines with Salisbury axles

2B1000 with axle 4HA

| | | | | |
|-------|----------|--|---|----|
| 1 | 20265A01 | | PROPELLER SHAFT | 1 |
| ..... | 176S01 | | CAP, grease nipple (<i>not illustrated</i>) | 2 |
| 2 | 1S02B | | BOLT | 4 |
| 2A | 1S02B | | BOLT | 4 |
| 3 | 163S02 | | NUT, nylon insert | 8 |
| 4 | 10313A04 | | KIT, U/J, repair | AR |

2B1000 with axle 5HA

| | | | | |
|-------|----------|--|---|----|
| 1 | 20088A01 | | PROPELLER SHAFT | 1 |
| ..... | 176S01 | | CAP, grease nipple (<i>not illustrated</i>) | 2 |
| 2 | 1S02B | | BOLT | 4 |
| 2A | 1S02B | | BOLT | 4 |
| 3 | 163S02 | | NUT, nylon insert | 8 |
| 4 | 10313A04 | | KIT, U/J, repair | AR |

2B1500

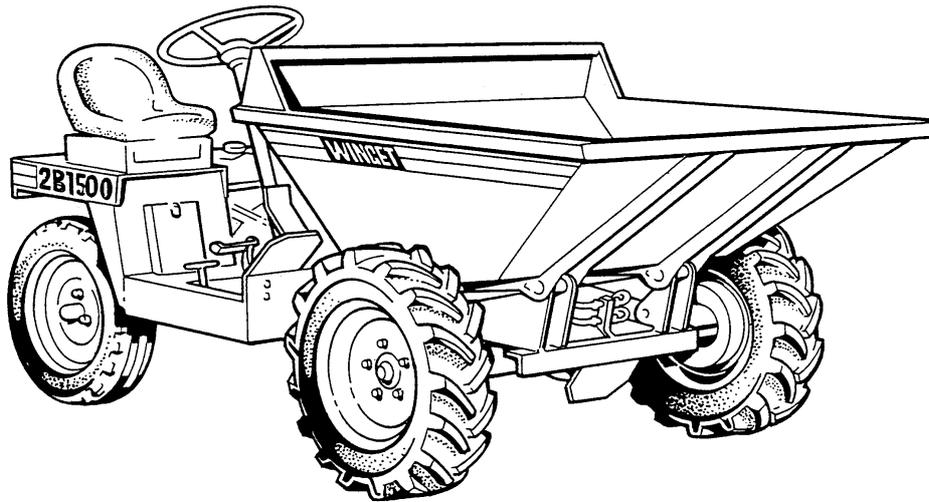
| | | | | |
|-------|----------|--|---|----|
| 1 | 20297A02 | | PROPELLER SHAFT | 1 |
| ..... | 176S01 | | CAP, grease nipple (<i>not illustrated</i>) | 2 |
| 2 | 6S03A | | BOLT | 4 |
| 2A | 6S03A | | BOLT | 4 |
| 3 | 107S03 | | NUT, nylon insert | 8 |
| 4 | 10568A01 | | KIT, U/J, repair | AR |

Machines with Newage axles

2B1000 & 2B1500

| | | | | |
|-------|----------|--|---|----|
| 1 | 20088A01 | | PROPELLER SHAFT | 1 |
| ..... | 176S01 | | CAP, grease nipple (<i>not illustrated</i>) | 3 |
| 2 | 6S03Y | | BOLT, gearbox end, 1 3/8" long | 4 |
| 2A | 6S03A | | BOLT, axle end, 1 1/8" long | 4 |
| 3 | 107S03 | | NUT, nylon insert | 8 |
| 4 | 10568A01 | | KIT, U/J, repair | AR |
| ..... | 131S06 | | NIPPLE, grease (<i>not illustrated</i>) | 3 |

2B1000 & 2B1500 DUMPERS



Brakes

HANDBRAKE & LINKAGE

Used with Salisbury axles

D - 1

HANDBRAKE, CABLE & CALIPER

Used with Newage axles

D - 2

CALIPER

Used with Newage axles

D - 2A

BRAKE PEDAL

D - 2B

BRAKE PIPES & FITTINGS

Up to November 1992

D - 3

BRAKE PIPES & FITTINGS

From November 1992 to March 2002

D - 4

BRAKE HOSES & FITTINGS

From March 2002

D - 4A

BRAKE DRUM

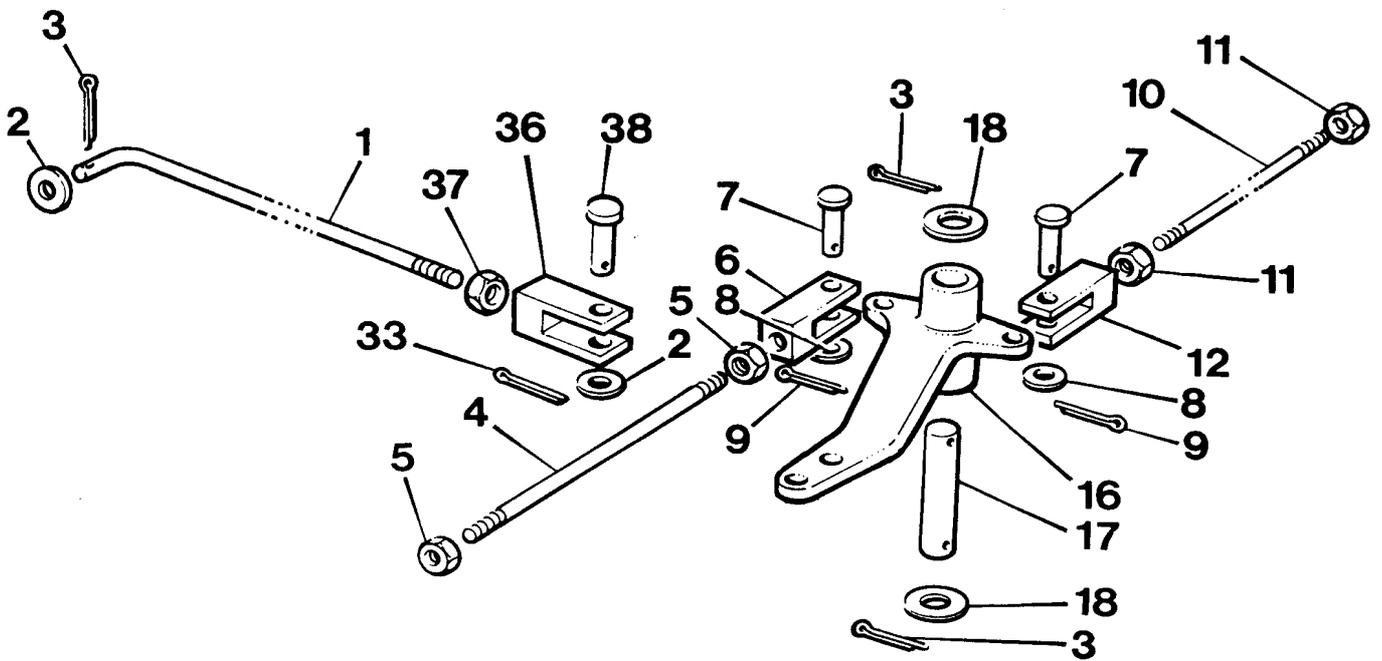
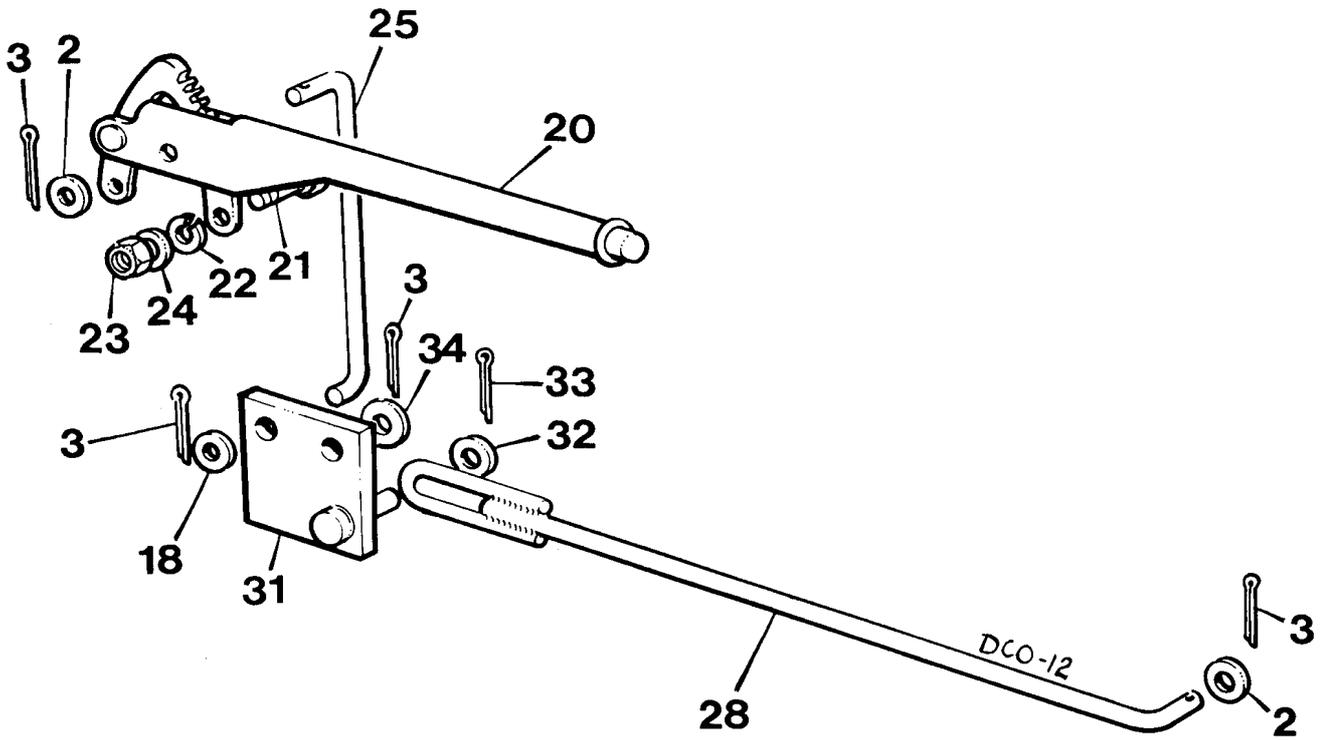
Used on 2B1000 with Salisbury axle

D - 5

BRAKE DRUM

Used on 2B1500 with Salisbury axle

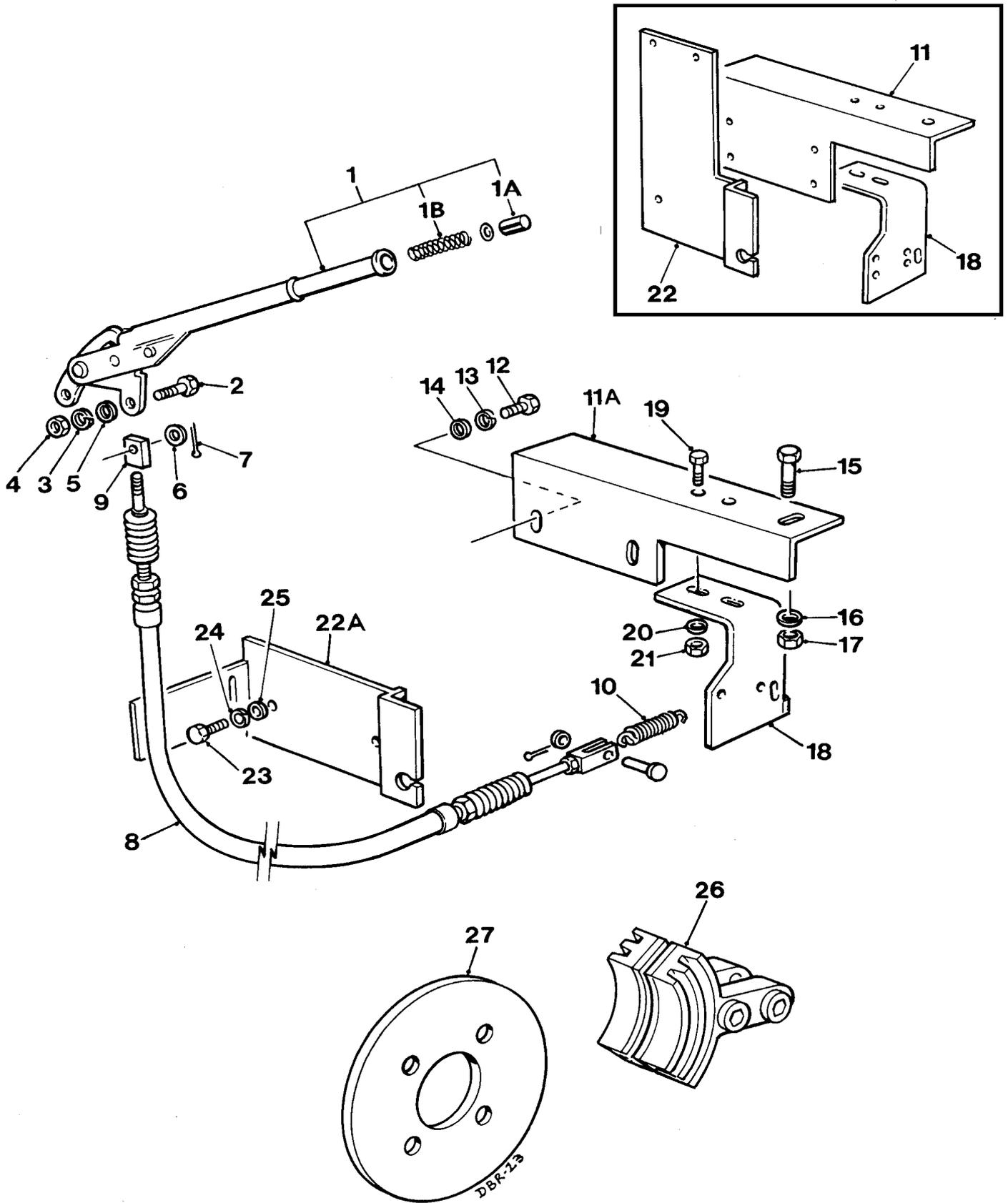
D - 6



BRAKE LINKAGE, Salisbury axles

D - 1

| Item | Part no | Serial no | Description | Qty |
|-------|------------|-----------|--|-----|
| 1 | 10888A08 | | ROD, brake, 2B1000 | 1 |
| 1 | 10888A03 | | ROD, brake, 2B1500 | 1 |
| 2 | 10S03 | | WASHER, flat | 5 |
| 3 | 44S03C | | PIN, split | 7 |
| 4 | 40SB26 | | ROD, 2B1000 , 5/16" thread | 1 |
| 4 | 40SA14 | | ROD, 2B1500 , 1/4" thread | 1 |
| 5 | 9S01 | | NUT, 2B1500 | 2 |
| 5 | 9S02 | | NUT, 2B1000 | 2 |
| 6 | C174E | | CLEVIS, 2B1000 5/16" thread | 1 |
| 6 | C174C | | CLEVIS, 2B1500 , 1/4" thread | 1 |
| 7 | 10650A14 | | PIN, clevis | 2 |
| 8 | 10S02 | | WASHER | 2 |
| 9 | 44S02B | | PIN, split | 2 |
| 10 | 40SB28 | | ROD, 2B1000 , 5/16" thread | 1 |
| 11 | 9S02 | | NUT, 2B1000 | 2 |
| 12 | C174E | | CLEVIS, 2B1000 , 5/16" thread | 1 |
| 10 | 40SA08 | | ROD, 2B1500 , 1/4" thread | 1 |
| 11 | 9S01 | | NUT, 2B1500 | 1 |
| 12 | C174C | | CLEVIS, 2B1500 , 1/4" thread | 1 |
| 16 | C272 | | COMPENSATOR | 1 |
| 17 | 10908A01 | | PIN, pivot | 1 |
| 18 | 10S04 | | WASHER | 2 |
| ..... | 131S03 | / 0552 | # NIPPLE, grease, push-in, 2B1000 | 1 |
| ..... | 131S03 | / 585 | # NIPPLE, grease, push-in, 2B1500 | 1 |
| ..... | 131S01 | 0553 / | # NIPPLE, grease, threaded, 2B1000 | 1 |
| ..... | 131S01 | 586 / | # NIPPLE, grease, threaded, 2B1500 | 1 |
| ..... | 176S01 | | # CAP, grease nipple # <i>not illustrated</i> | 1 |
| 20 | 10596A01 | | LEVER, handbrake, assembly | 1 |
| 20A | 20208A0101 | | BUTTON | 1 |
| 20B | 20208A0102 | | SPRING | 1 |
| 21 | 11S04D | | BOLT | 2 |
| 22 | 17S05 | | WASHER, spring | 2 |
| 23 | 7S04 | | NUT | 2 |
| 24 | 12S19 | | WASHER | 2 |
| 25 | 10888A01 | | ROD | 1 |
| 28 | 10888A07 | | ROD, 2B1000 | 1 |
| 28 | 10888A02 | | ROD, 2B1500 | 1 |
| 31 | 10889A01 | | QUADRANT | 1 |
| 32 | C180B | | WASHER | 1 |
| 33 | 44S02C | | PIN, split | 2 |
| 34 | 12S22 | | WASHER | 1 |
| 36 | C174J | | CLEVIS | 1 |
| 37 | 95S03 | | NUT | 1 |
| 38 | 10650A18 | | PIN, clevis | 1 |

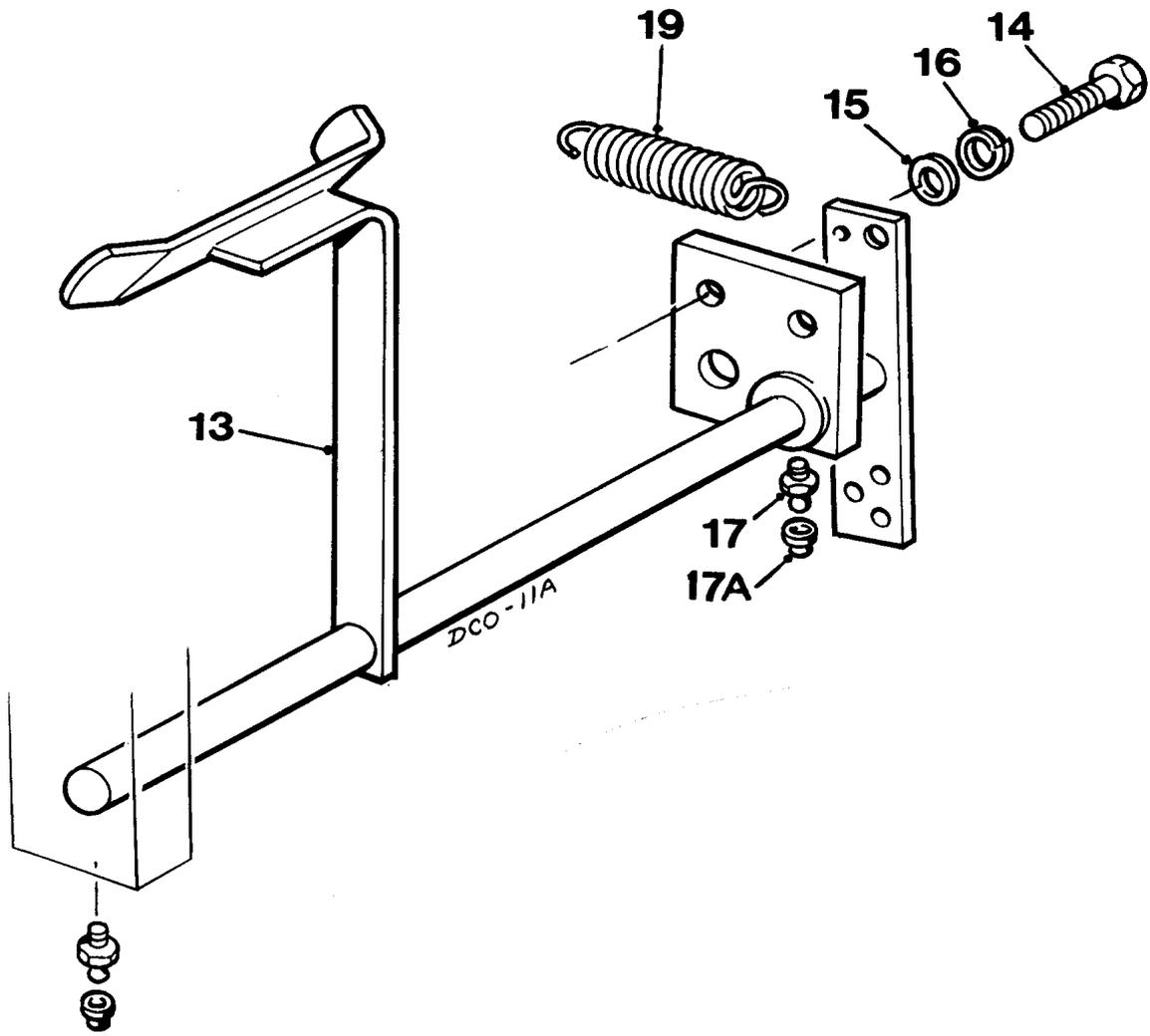


HANDBRAKE, (Newage axles only)**D - 2**

| Item | Part no | Serial no | Description | Qty |
|-------------|----------------|------------------|---|------------|
| 1 | 20208A01 | | LEVER, handbrake assembly | 1 |
| 1A | 20208A0101 | | BUTTON, handbrake | 1 |
| 1B | 20208A0102 | | SPRING, handbrake | 1 |
| 2 | 11S04C | | SCREW | 2 |
| 3 | 17S05 | | WASHER, spring | 2 |
| 4 | 7S04 | | NUT | 2 |
| 5 | 267S06 | | WASHER, flat | 2 |
| 6 | 10S03 | | WASHER, flat | 1 |
| 7 | 44S02B | | PIN, split | 1 |
| 8 | 20273A02 | | CABLE, handbrake | 1 |
| 9 | L309 | | BLOCK | 1 |
| 10 | C173D | | SPRING, return | 1 |
| 11 | 20282A04 | | BRACKET, gearbox <i>OBSOLETE: use bracket 20282A11</i> | 1 |
| 11A | 20282A11 | | BRACKET, gearbox mounting | 1 |
| 12 | 28S03D | | SCREW, set | 2 |
| 13 | 41S05 | | WASHER, spring | 4 |
| 14 | 10S03 | | WASHER, flat | 2 |
| 15 | 6S05C | | SCREW | 1 |
| 16 | 10S04 | | WASHER, flat | 1 |
| 17 | 107S16 | | NUT, nylon insert | 1 |
| 18 | 20282A07 | | BRACKET, caliper mounting | 1 |
| 19 | 11S03C | | SCREW, set | 2 |
| 20 | 267S05 | | WASHER, flat | 2 |
| 21 | 59S12 | | NUT, nylon insert | 2 |
| 22 | ..... |  | BRACKET <i>OBSOLETE: use bracket 20282A08</i> | 1 |
| 22A | 20282A08 | | BRACKET | 1 |
| 23 | 28S03D | | SCREW, set | 2 |
| 24 | 41S05 | | WASHER, spring | 2 |
| 25 | 10S03 | | WASHER, flat | 2 |
| 26 | 10578A01 | | CALIPER, disc brake | 1 |
| 27 | 10385A02 | | DISC, handbrake | 1 |

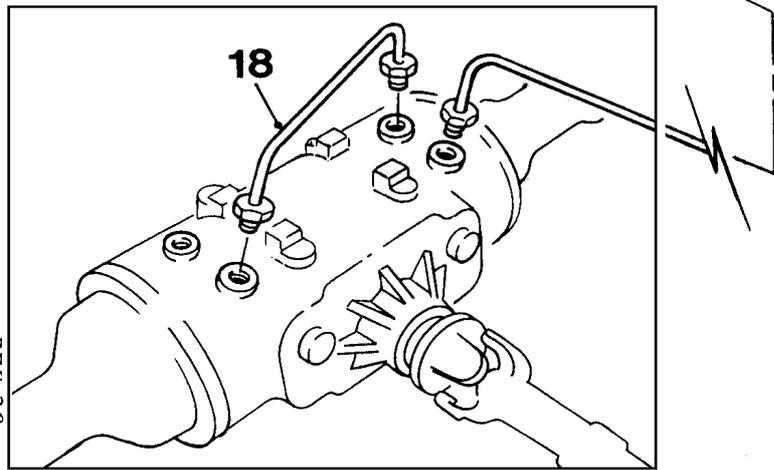
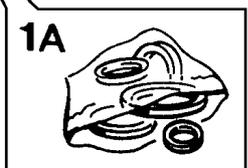
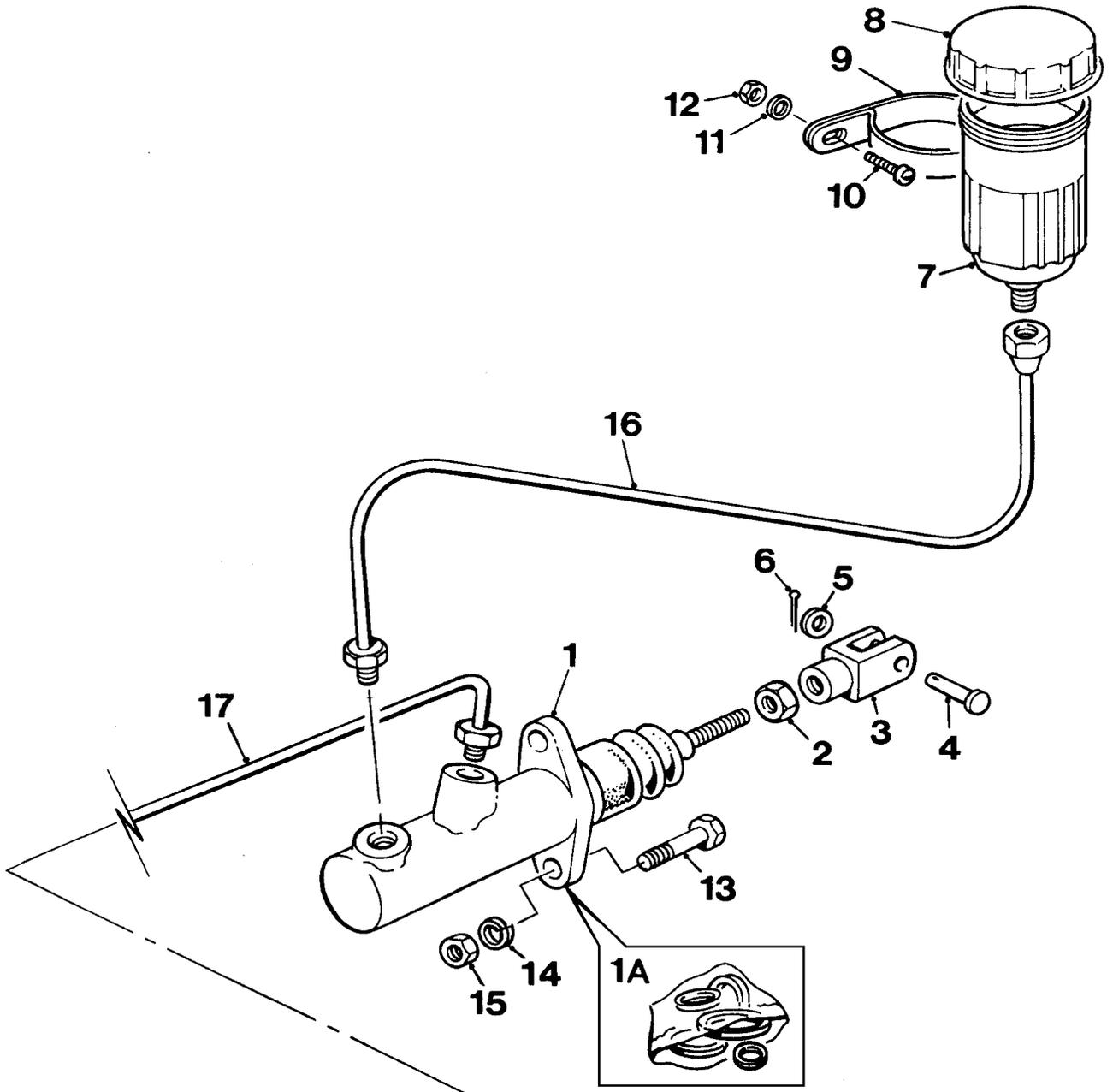
CALIPER, parking brake (Newage axles only)**D - 2A**

| Item | Part no | Serial no | Description | Qty |
|-----------------------|------------|-----------|--|-----|
| ALLOY CALIPERS | | | | |
| 1A | 10578A01 | | CALIPER, one pair, assembly | 1 |
| 1 | 11116 | | SCREW, with hole for pin, item 12 | 1 |
| 2 | 28S02P | | SCREW | 1 |
| 3 | 10578A0101 | | SPRING, centring | 4 |
| 4 | | | TENSION WASHER (obsolete) <i>use item 3 above</i> | |
| 6 | 9S02 | | NUT | 1 |
| 7 | 10578A0104 | | CAM | 1 |
| 8 | 230S01 | | NUT, locking | 1 |
| 9 | 10578A0105 | | WASHER | 1 |
| 10 | 66S01H | | SCREW, set | 1 |
| 11 | 227S02 | | NUT, castle | 1 |
| 12 | 44S01C | | PIN, cotter | 1 |
| 13 | 1072A4 | | PAD c/w rivets | 2 |
| STEEL CALIPERS | | | | |
| 1A | 10578A01 | | CALIPER, one pair, assembly | 1 |
| 1 | 8S03M | | BOLT | 1 |
| 2 | 8S03J | | BOLT | 1 |
| 3 | 10578A0101 | | SPRING, centring | 4 |
| 6 | 59S12 | | NUT, nyloc | 1 |
| 7 | 10578A0104 | | CAM | 1 |
| 8 | 7S02 | | NUT | 1 |
| 9 | 10578A0105 | | WASHER | 1 |
| 10 | 11S02H | | SCREW, set | 1 |
| 11 | 59S12 | | NUT, nyloc | 1 |
| 13 | 1072A4 | | PAD c/w rivets | 2 |



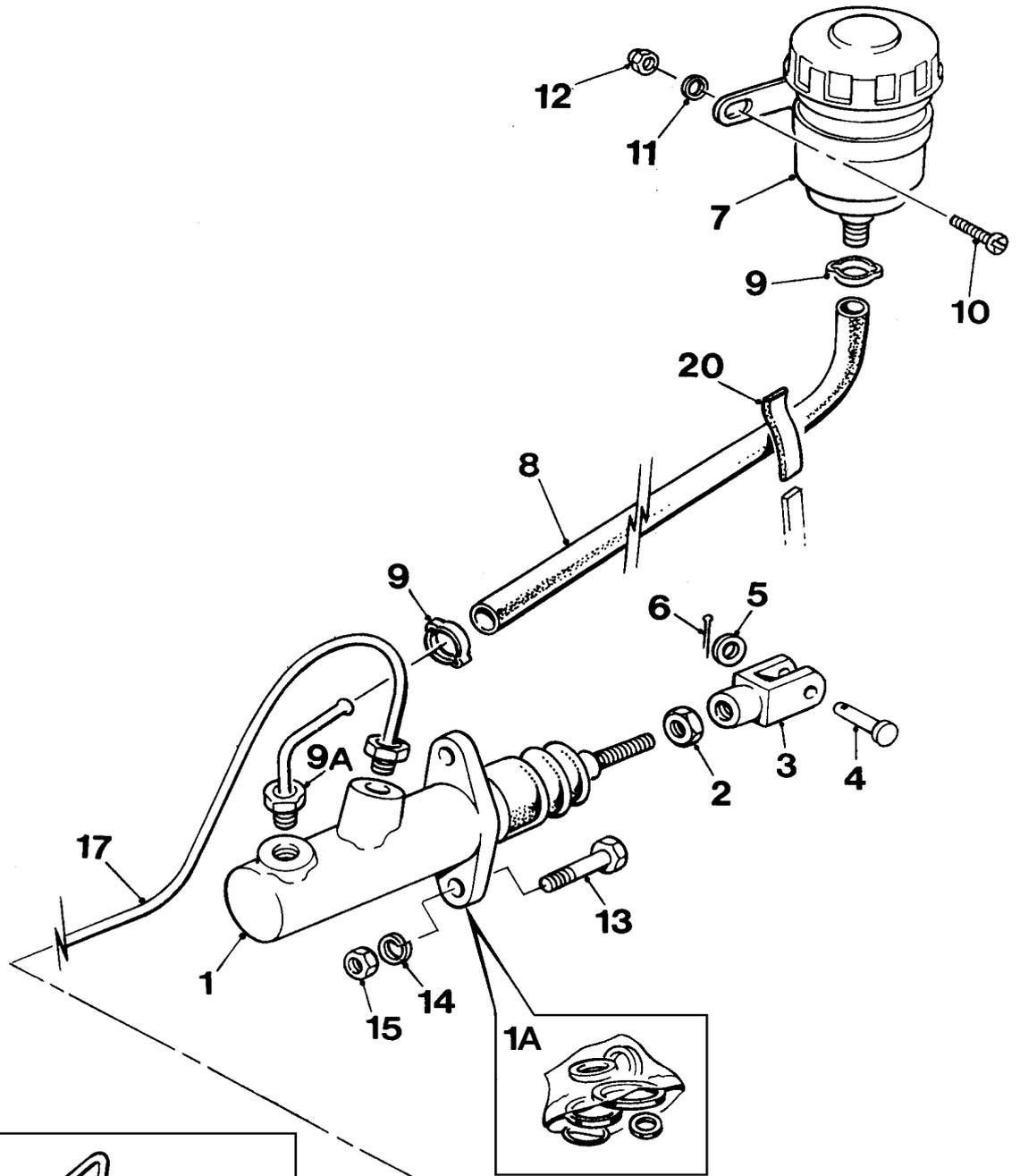
BRAKE PEDAL**D - 2B**

| Item | Part no | Serial no | Description | Qty |
|-------------|----------------|------------------|---|------------|
| 13 | 20232A02 | | PEDAL, brake | 1 |
| 14 | 8S04C | | BOLT | 2 |
| 15 | 267S06 | | WASHER, flat | 2 |
| 16 | 17S05 | | WASHER, spring | 2 |
| 17 | 131S03 | / 0552 | NIPPLE, grease, push-in, 2B1000 | 2 |
| 17 | 131S03 | / 585 | NIPPLE, grease, push-in, 2B1500 | 2 |
| 17 | 131S01 | 0553 / | NIPPLE, grease, threaded, 2B1000 | 2 |
| 17 | 131S01 | 586 / | NIPPLE, grease, threaded, 2B1500 | 2 |
| 17A | 176S01 | | CAP, grease nipple | 2 |
| 19 | C173B | | SPRING | 1 |



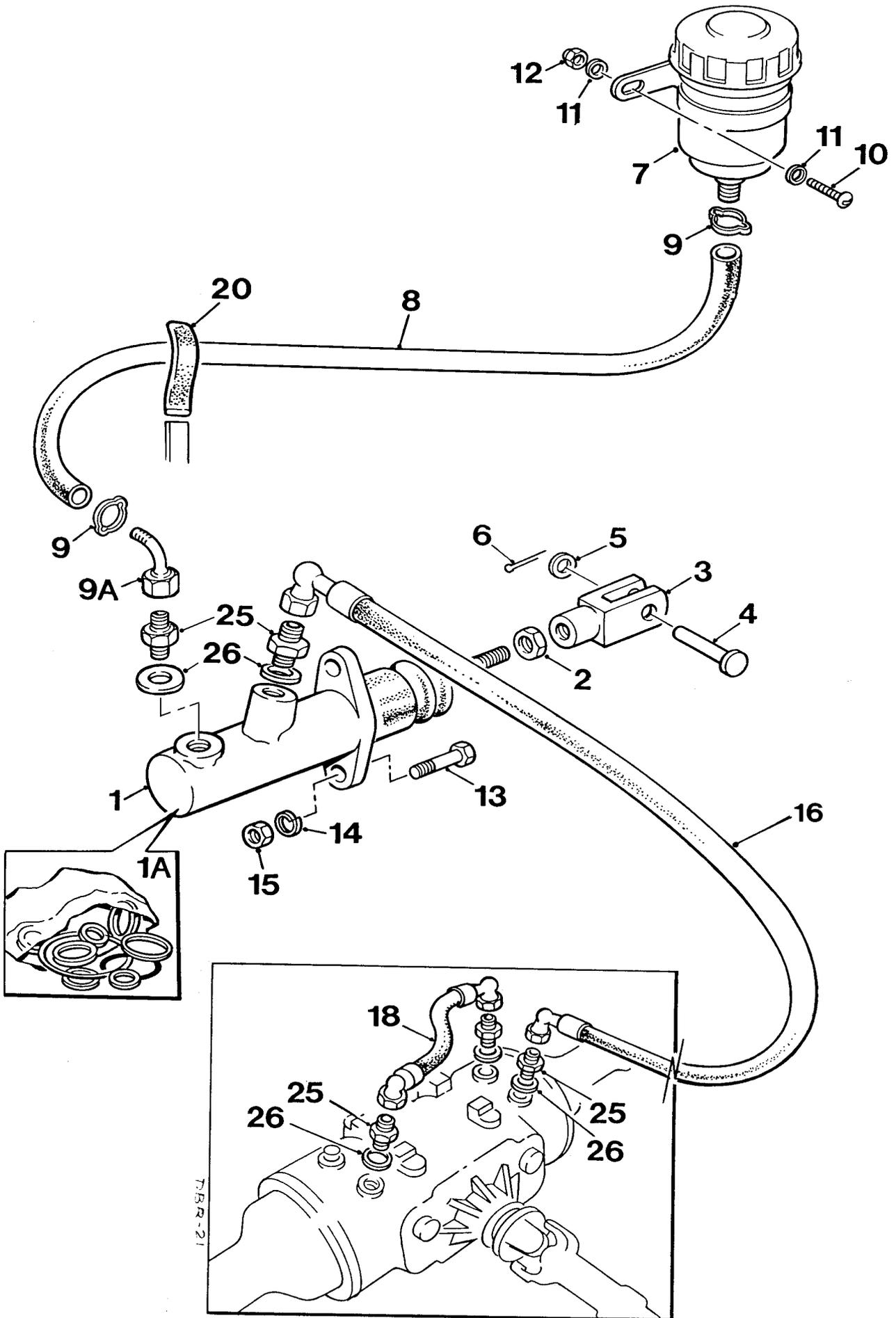
DBK-32

| Item | Part no | Serial no | Description | Qty |
|---|------------|-----------|---|-----|
| <p>Dumpers are fitted with either GIRLING or FRENOS IRUNA master cylinders.</p> <p>Be sure to quote the name marked on the master cylinder before ordering parts.</p> | | | | |
| 1 | 20102A02 | | MASTER CYL. 3/8" UNF rod, GIRLING | |
| 1 | V2003671 | | MASTER CYL. 3/8" UNF rod, FRENOS IRUNA | |
| 1 | V2004651 | | MASTER CYL. M10 rod, GIRLING | |
| 1A | 10570A01 | | REPAIR KIT, m/cyl. GIRLING | |
| 1A | V601697 | | REPAIR KIT, m/cyl. FRENOS IRUNA | |
| 2 | 95S03 | | NUT, 3/8" UNF | 1 |
| 2 | 7S04 | | NUT, 10mm | 1 |
| 3 | C174J | | CLEVIS, 3/8" UNF | 1 |
| 3 | V2004648 | | CLEVIS, 10mm | 1 |
| 4 | 10650A18 | | PIN, clevis | 1 |
| 5 | 10S03 | | WASHER | 1 |
| 6 | 44S02C | | PIN, split | 1 |
| 7 | 10659A02 | | RESERVOIR | 1 |
| 8 | 10659A0201 | | CAP, reservoir | 1 |
| 9 | 10659A0102 | | CLIP, reservoir | 1 |
| 10 | 82S03C | | SCREW | 2 |
| 11 | 10S73 | | WASHER | 2 |
| 12 | 85S01 | | NUT, nylon insert | 2 |
| 13 | 8S03B | | BOLT | 2 |
| 14 | 17S04 | | WASHER | 2 |
| 15 | 7S03 | | NUT | 2 |
| 16 | 10967A10 | | PIPE, reservoir to master cylinder | 1 |
| 17 | 10968A04 | | PIPE, master cylinder to axle | 1 |
| 18 | 10577A0201 | / 0574 | PIPE, axle bridge, 2B1000 , | 1 |
| 18 | 10577A0213 | 0575 / | PIPE, axle bridge, 2B1000 | 1 |
| 18 | 10577A0201 | / 602 | PIPE, axle bridge, 2B1500 | 1 |
| 18 | 10577A0213 | 603 / | PIPE, axle bridge, 2B1500 | 1 |
| ..... | 182S20 | | SCREW, bleed (<i>not illustrated</i>) | 1 |

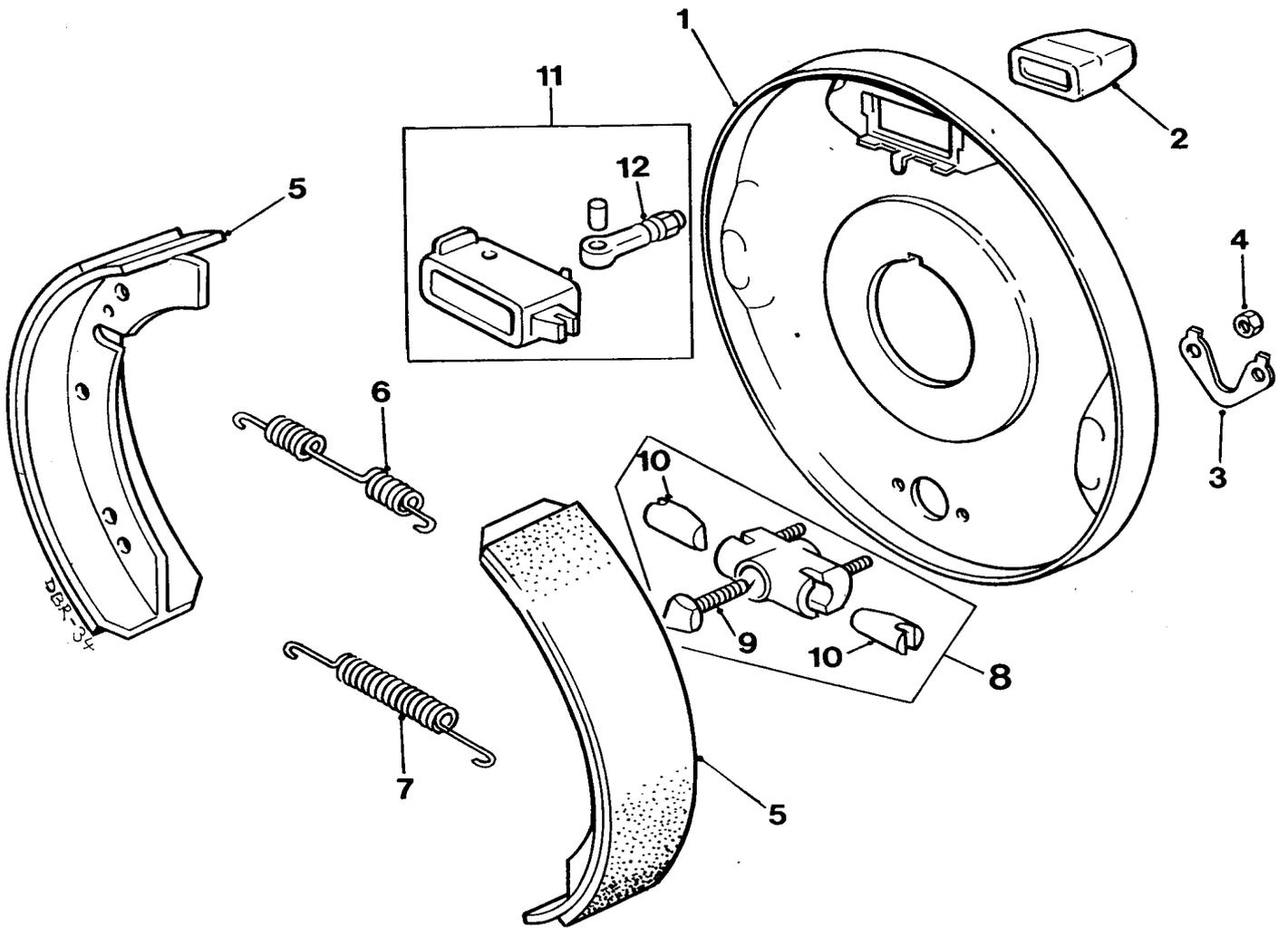


DBR-33

| Item | Part no | Serial no | Description | Qty |
|---|------------|---------------|---|-----|
| | | NOV 92 / 0634 | 2B1000 | |
| | | NOV 92 / 834 | 2B1500 | |
| <p>Dumpers are fitted with either GIRLING or FRENOS IRUNA master cylinders. Be sure to quote the name marked on the master cylinder before ordering parts.</p> | | | | |
| 1 | 20102A02 | | MASTER CYL. 3/8" UNF rod, GIRLING | |
| 1 | V2003671 | | MASTER CYL. 3/8" UNF rod, FRENOS IRUNA | |
| 1 | V2004651 | | MASTER CYL. M10 rod, GIRLING | |
| 1A | 10570A01 | | REPAIR KIT, m/cyl. GIRLING | |
| 1A | V601697 | | REPAIR KIT, m/cyl. FRENOS IRUNA | |
| 2 | 95S03 | | NUT, 3/8" UNF | 1 |
| 2 | 7S04 | | NUT, 10mm | 1 |
| 3 | C174J | | CLEVIS, 3/8" UNF | 1 |
| 3 | V2004648 | | CLEVIS, 10mm | 1 |
| 4 | 10650A18 | | PIN, clevis | 1 |
| 5 | 10S03 | | WASHER, flat | 1 |
| 6 | 44S02C | | PIN, split | 1 |
| 7 | V2003030 | | RESERVOIR c/w clip | 1 |
| 8 | V2002991 | | HOSE, (res.to m/cyl.) <i>order by meter</i> | |
| 9 | V2003029 | | CLIP, hose | 2 |
| 9A | 10542A01 | | PIPE, stub | 1 |
| 10 | 82S03E | | SCREW, set | 2 |
| 11 | 10S73 | | WASHER, flat | 4 |
| 12 | 85S01 | | NUT, "Nyloc" | 2 |
| 13 | 8S03C | | BOLT | 2 |
| 14 | 17S04 | | WASHER, spring | 2 |
| 15 | 7S03 | | NUT | 2 |
| 17 | V2000305 | | PIPE, brake, (master cylinder to axle) | 1 |
| 18 | 10577A0213 | | PIPE, brake, (axle bridge) | 1 |
| 20 | 208143000 | | SLEEVE, P.V.C., black | 3 |

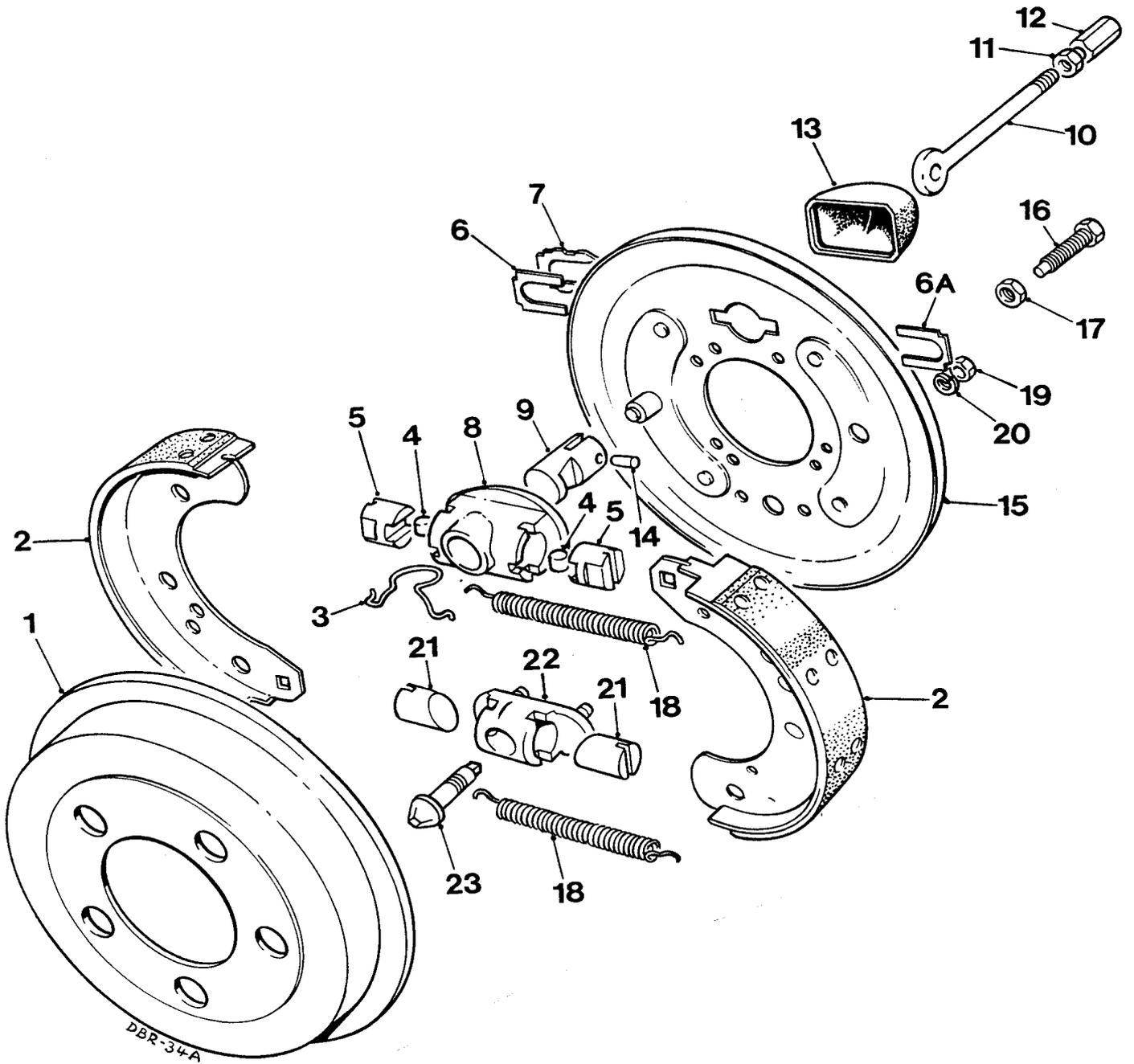


| Item | Part no | Serial no | Description | Qty |
|---|-----------|-----------|---|-----|
| | | 0635 / | 2B1000 | |
| | | 835 / | 2B1500 | |
| <p>Dumpers are fitted with either GIRLING or FRENOS IRUNA master cylinders. Be sure to quote the name marked on the master cylinder before ordering parts.</p> | | | | |
| 1 | 20102A02 | | MASTER CYL. 3/8" UNF rod, GIRLING | |
| 1 | V2003671 | | MASTER CYL. 3/8" UNF rod, FRENOS IRUNA | |
| 1 | V2004651 | | MASTER CYL. M10 rod, GIRLING | |
| 1A | 10570A01 | | REPAIR KIT, m/cyl. GIRLING | |
| 1A | V601697 | | REPAIR KIT, m/cyl. FRENOS IRUNA | |
| 2 | 95S03 | | NUT, 3/8" UNF | 1 |
| 2 | 7S04 | | NUT, 10mm | 1 |
| 3 | C174J | | CLEVIS, 3/8" UNF | 1 |
| 3 | V2004648 | | CLEVIS, 10mm | 1 |
| 4 | 10650A18 | | PIN, clevis | 1 |
| 5 | 10S03 | | WASHER, flat | 1 |
| 6 | 44S02C | | PIN, split | 1 |
| 7 | V2003030 | | RESERVOIR c/w clip | 1 |
| 8 | V2002991 | | HOSE, (res.to m/cyl.) <i>order by meter</i> | |
| 9 | V2003029 | | CLIP, hose | 2 |
| 9A | 129S01A | | ADAPTOR, elbow 90 deg. | 1 |
| 10 | 82S03E | | SCREW, set | 2 |
| 11 | 10S73 | | WASHER, flat | 4 |
| 12 | 85S01 | | NUT, "Nyloc" | 2 |
| 13 | 8S03C | | BOLT | 2 |
| 14 | 17S04 | | WASHER, spring | 2 |
| 15 | 7S03 | | NUT | 2 |
| 16 | 53S01P | | HOSE, brake (master cylinder to axle) | 1 |
| 18 | 53S01W | | HOSE, brake, (axle bridge) | 1 |
| 20 | 208143000 | | SLEEVE, P.V.C., black | 2 |
| 25 | V2003515 | | ADAPTOR, male/male | 5 |
| 26 | 298S03 | | SEAL, bonded | 5 |



BRAKE, drum, Salisbury axles**D - 5**

| Item | Part no | Serial no | Description | Qty |
|-------------|----------------|------------------|--|------------|
| 1 | 30085A0153 | | BACKPLATE, R.H. (<i>illustrated</i>) | 1 |
| - | 30085A0154 | | BACKPLATE, L.H. (<i>not illustrated</i>) | 1 |
| 2 | 30085A0155 | | COVER, rubber | 2 |
| 3 | 30088A0156 | | PLATE, locking | 2 |
| 4 | 30085A0157 | | NUT | 4 |
| 5 | LB203 | | SHOE, brake (pairs) | 2 |
| 6 | 30085A0159 | | SPRING | 2 |
| 7 | 30085A0160 | | SPRING | 2 |
| 8 | 30085A0161 | | ADJUSTER, assembly | 2 |
| 9 | 30085A0162 | | SCREW, adjuster | 2 |
| 10 | 30085A0163 | | TAPPET | 4 |
| 11 | 30085A0165 | | EXPANDER, assembly | 2 |
| 12 | 30085A0164 | | PULL ROD & PIN | 2 |

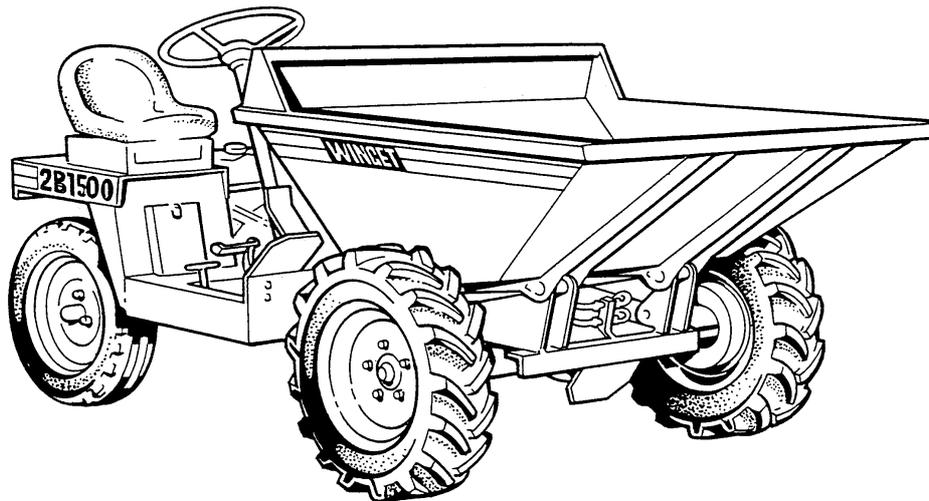


BRAKE, drum, Salisbury axles

D - 6

| Item | Part no | Serial no | Description | Qty |
|-------|------------|-----------|---|-----|
| 1 | 30088A0128 | | DRUM, brake | 1 |
| 2 | 20298A0101 | | SHOE, lined | 2 |
| 3 | 20298A0102 | | # SPRING | 1 |
| 4 | 20298A0103 | | # ROLLER | 2 |
| 5 | 20298A0104 | | # TAPPET, expander | 2 |
| 6 | 20298A0105 | | PLATE | 1 |
| 6A | 20298A0106 | | PLATE | 1 |
| 7 | 20298A0107 | | PLATE, locking | 1 |
| 8 | 20298A0108 | | # HOUSING, expander | 1 |
| 9 | 20298A0109 | | # PLUNGER | 1 |
| 10 | 20298A0110 | | # DRAWLINK | 1 |
| 11 | 20298A0111 | | # NUT, locking | 1 |
| 12 | 20298A0112 | | # NUT, barrel | 1 |
| 13 | 20298A0113 | | COVER, dust | 1 |
| 14 | 20298A0114 | | # PIN | 1 |
| 15 | 20298A0115 | | BACKPLATE, brake | 1 |
| 16 | 20298A0205 | | SCREW, "special", c/w nut assembly | 2 |
| 17 | 2S03 | | NUT | 2 |
| 18 | 20298A0116 | | SPRING | 2 |
| ..... | 20298A0123 | | ADJUSTER, assembly | 1 |
| 19 | 20298A0117 | | NUT | 2 |
| 20 | 20298A0118 | | WASHER | 2 |
| 21 | 20298A0119 | | TAPPET, adjuster | 2 |
| 22 | 20298A0120 | | HOUSING, adjuster | 1 |
| 23 | 20298A0121 | | SCREW, adjuster | 1 |
| ..... | 20298A0122 | | KIT, service, adjuster | AR |
| ..... | 20298A0124 | | # EXPANDER, assembly, <i>consists of items # 3, 4, 5, 8, 9, 10, 11, 12 & 14</i> | 1 |

2B1000 & 2B1500 DUMPERS



Engine & Controls

LISTER-PETTER ENGINES

PH1, ST1 & TS1

E - 1

TR1

E - 2

EXHAUST SYSTEMS

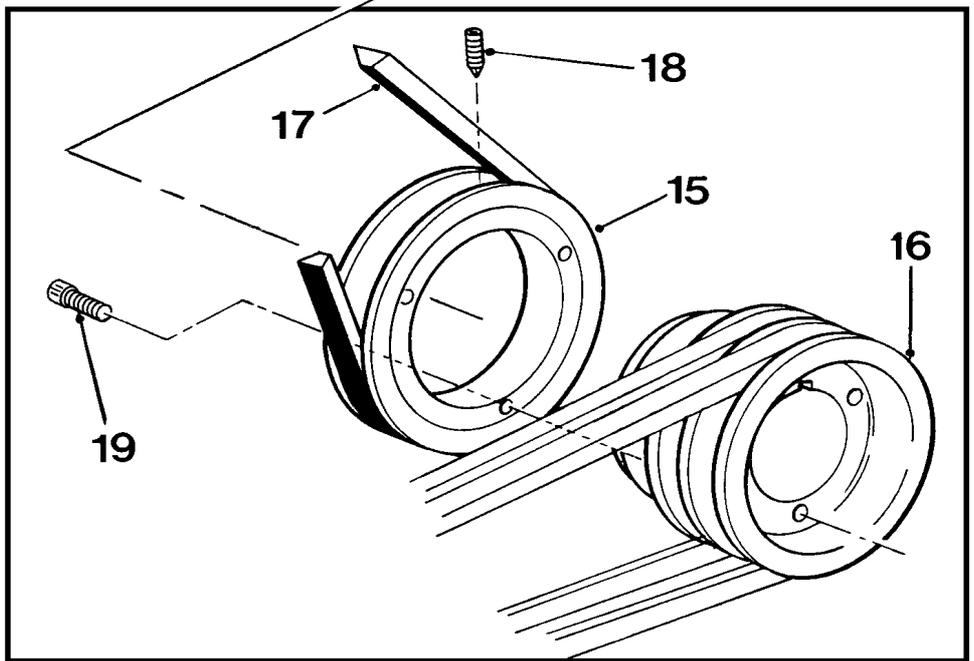
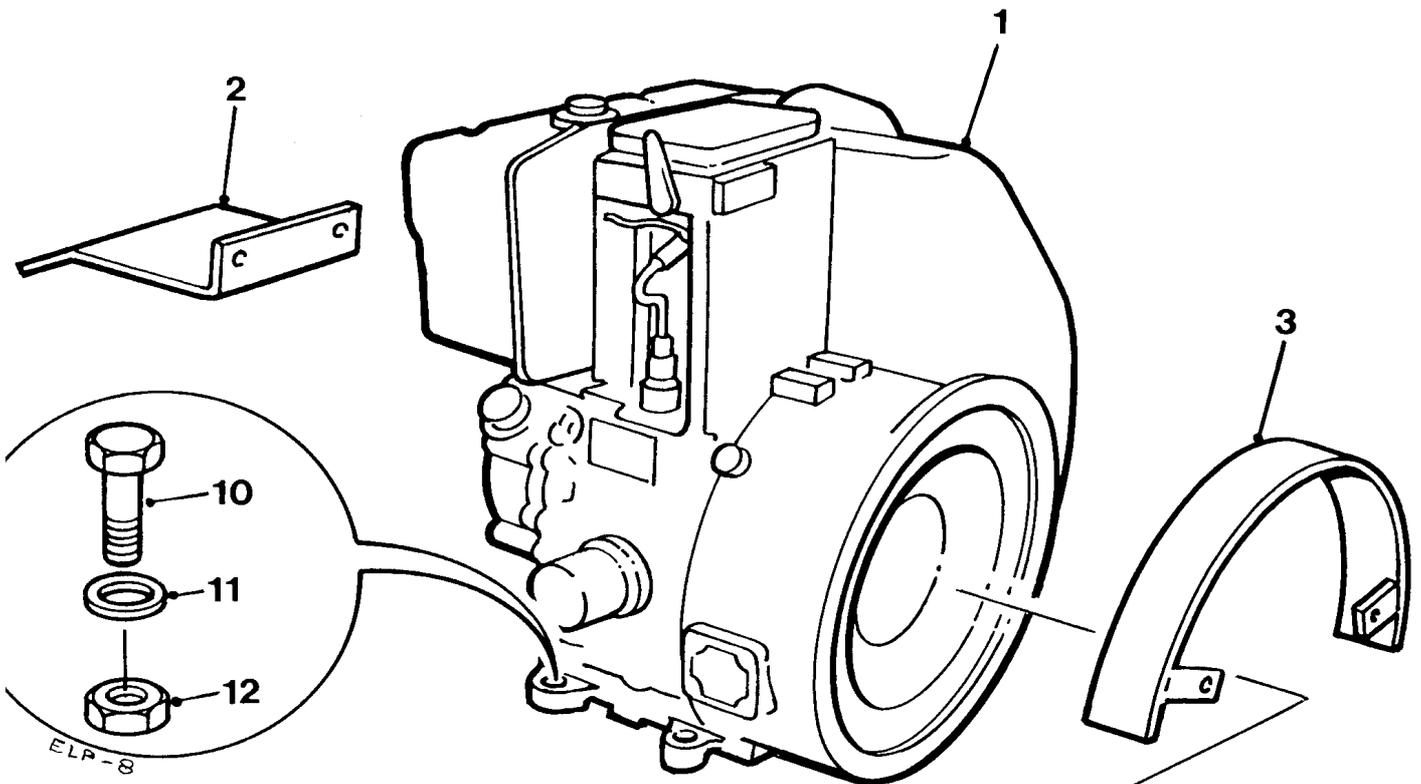
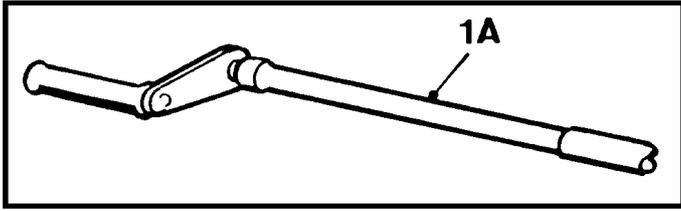
E - 3

ACCELERATOR PEDAL & LINKAGE

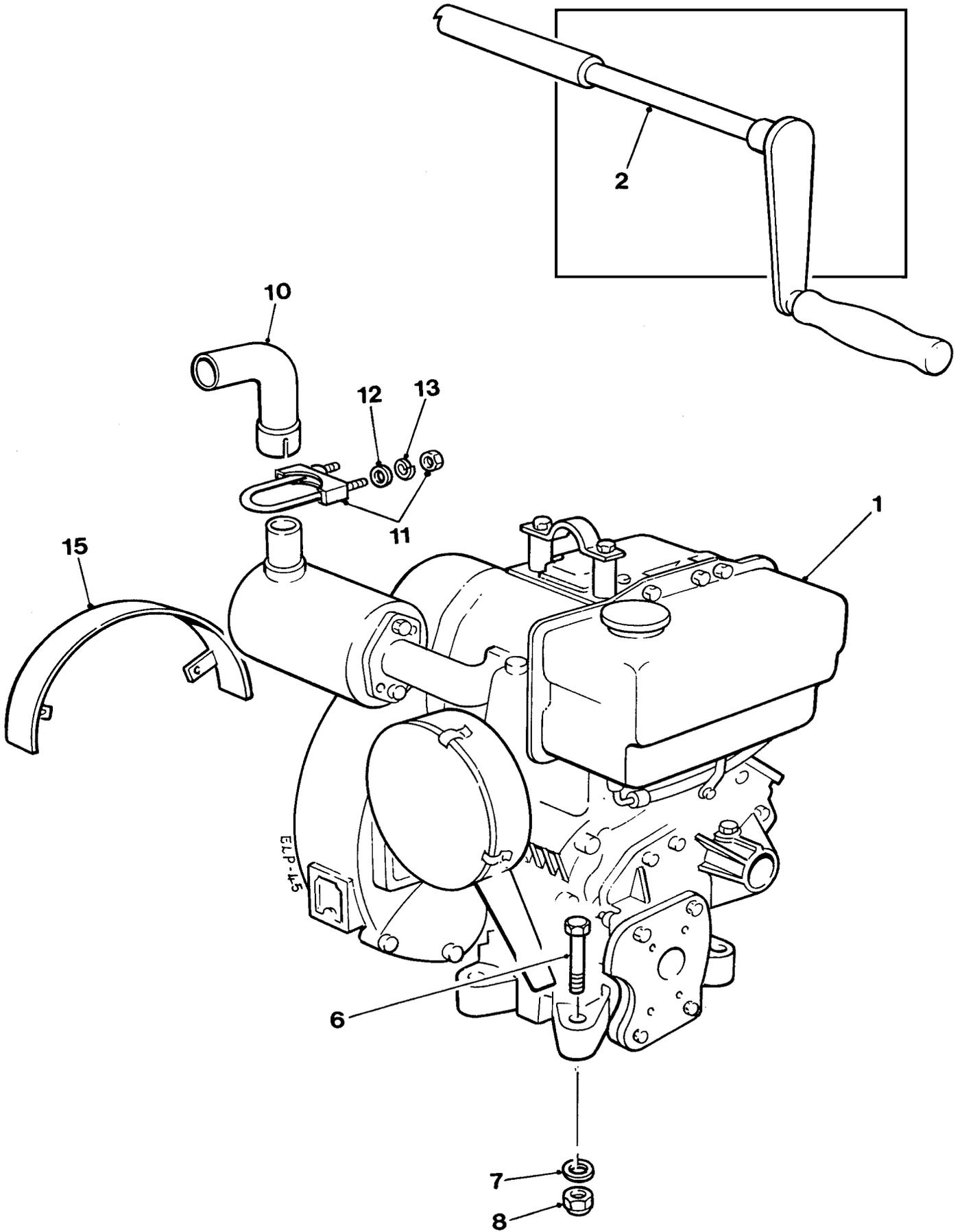
E - 5

E - 1

2B1000 & 2B1500 Dumpers



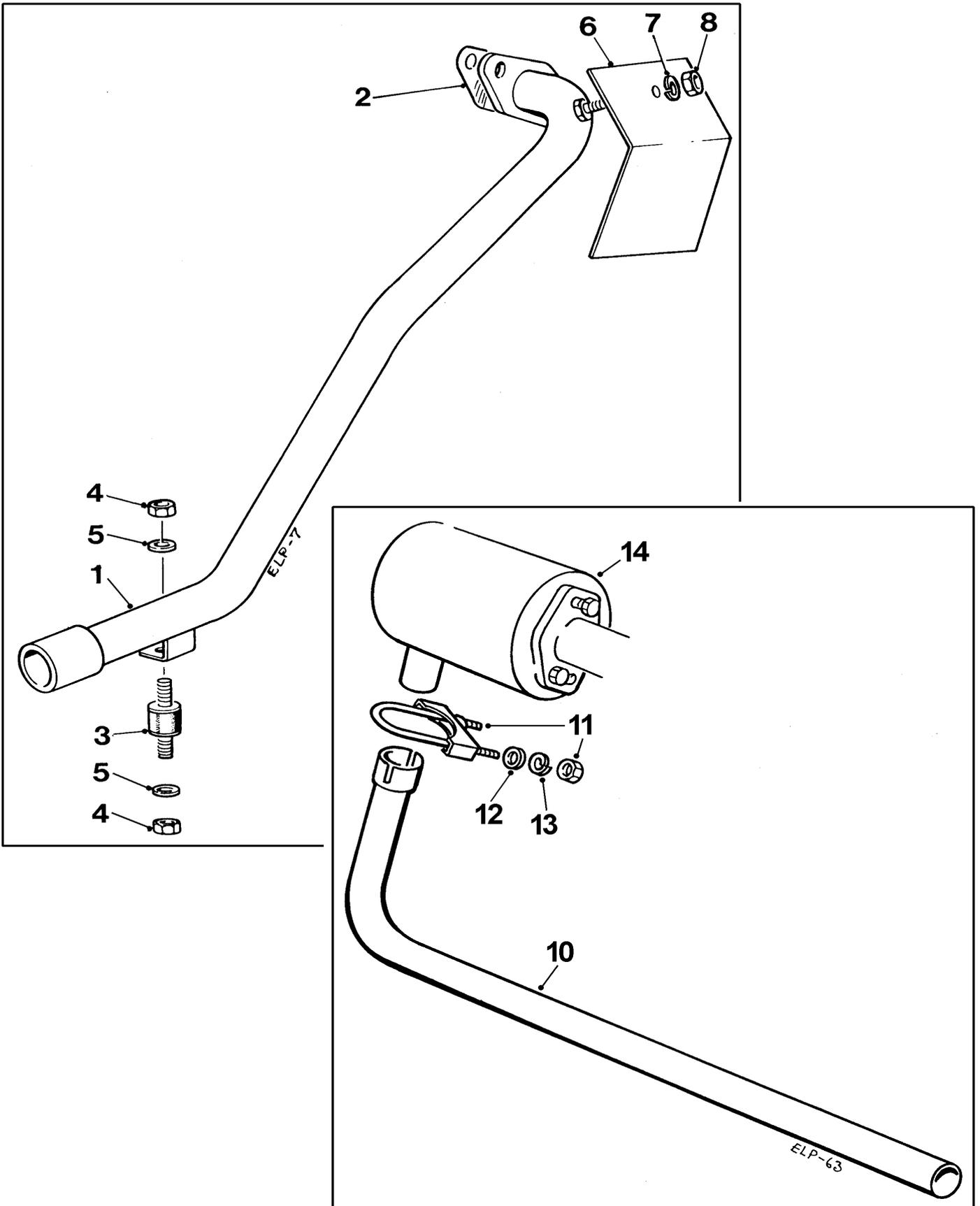
| Item | Part no | Serial no | Description | Qty |
|-------------------------------|-----------|-----------|---------------------------------------|-----|
| ELECTRIC START ENGINES | | | | |
| 1 | 20328A02 | | Engine, Petter PH1, 2B1000 | 1 |
| 1 | 20328A04 | | Engine, Petter PH1, 2B1500 | 1 |
| 1 | 20330A02 | | Engine, Lister ST1 | 1 |
| 1 | 20349A02 | JUN 86 / | Engine, Lister TS1 | 1 |
| HAND START ENGINES | | | | |
| 1 | 20328A01 | | Engine, Petter PH1, 2B1000 | 1 |
| 1 | 20328A03 | | Engine, Petter PH1, 2B1500 | 1 |
| 1 | 20330A01 | | Engine, Lister ST1 | 1 |
| 1 | 20349A01 | JUN 86 / | Engine, Lister TS1 | 1 |
| — | L259RH | | DOG, starter, Petter | 1 |
| — | L259LH | | DOG, starter, Lister ST1 | 1 |
| — | 185S05D4 | | SCREW, grub | 2 |
| 1A | 20155A03 | | HANDLE, starting, ST1, PH1 | 1 |
| 1A | 20354A03 | 0234 / | HANDLE, starting, TS1, 2B1000 | 1 |
| 1A | 20354A03 | 154 / | HANDLE, starting, TS1, 2B1500 | 1 |
| — | 10766A02 | / 0233 | CLIP, handle retaining, 2B1000 | 1 |
| — | 10766A02 | / 153 | CLIP, handle retaining, 2B1500 | 1 |
| 2 | 10672A02 | | GUARD, starter dog, Petter PH1 | 1 |
| 2 | 10672A03 | | GUARD, starter dog, Lister ST1 | 1 |
| 3 | 10987A02 | | COVER, clutch housing, Lister | 1 |
| 10 | 6S05K | | BOLT | 4 |
| 11 | 10S04 | | WASHER, flat | 4 |
| 12 | 107S16 | | NUT, nylon insert | 4 |
| — | 11036A01 | JUN 86 / | PLATE, cover, Lister TS1 & TR1 | 1 |
| — | 10293A06 | JUN 86 / | GASKET, Lister TS1 & TR1 | 1 |
| 2B1000 | | | | |
| 15 | 20307A07 | 0354 / | PULLEY | 1 |
| 16 | 20307A04 | 0354 / | PULLEY | 1 |
| 17 | 397242000 | 0354 / | BELT | 1 |
| 18 | 57S05E2 | 0354 / | SCREW, cone point | 1 |
| 19 | 68S04D | 0354 / | SCREW, cap head | 3 |
| 2B1500 | | | | |
| 15 | 20307A07 | 278 / | PULLEY | 1 |
| 16 | 20307A04 | 278 / | PULLEY | 1 |
| 17 | 397242000 | 278 / | BELT | 1 |
| 18 | 57S05E2 | 278 / | SCREW, cone point | 1 |
| 19 | 68S04D | 278 / | SCREW, cap head | 3 |



ENGINE, (TR1)

E - 2

| Item | Part no | Serial no | Description | Qty |
|------|----------|-----------|--|-----|
| 1 | V2000757 | JAN 89/ | Engine, TR1, hand start <i>(not for hydraulic pump)</i> | 1 |
| 1 | V2000759 | JAN 89/ | Engine, TR1, hand start <i>(for hydraulic pump)</i> | 1 |
| 1 | V2000758 | JAN 89/ | Engine, TR1, electric start <i>(not for hydraulic pump)</i> | 1 |
| 1 | V2000760 | JAN 89/ | Engine, TR1, electric start <i>(for hydraulic pump)</i> | 1 |
| 2 | 20354A03 | | HANDLE, starting | 1 |
| 6 | 6S05K | | BOLT | 4 |
| 7 | 10S04 | | WASHER, flat | 4 |
| 8 | 107S16 | | NUT, nylon insert | 4 |
| 10 | — | | PIPE, exhaust | |
| 10 | — | / 0635 | \$ # PIPE, exhaust 2B1000 | 1 |
| 10 | — | / 852 | \$ # PIPE, exhaust 2B1500 | 1 |
| | | | \$ <i>CE marked dumpers only.</i> | |
| | | | <i>See page E-3 for later exhaust.</i> | |
| 11 | — | | # CLAMP | 1 |
| 12 | — | | # WASHER, flat | 2 |
| 13 | — | | # WASHER, spring | 2 |
| | | | # <i>Supplied with engine</i> | |
| 15 | 10987A02 | | HOUSING, clutch | 1 |



| Item | Part no | Serial no | Description | Qty |
|------|---------|-----------|-------------|-----|
|------|---------|-----------|-------------|-----|

Petter engines

| | | | | |
|---|-----------|--|----------------------------------|---|
| 1 | 20295A07 | | PIPE, exhaust | 1 |
| 2 | 10293A04 | | GASKET | 1 |
| 3 | 013203000 | | MOUNTING, rubber, assembly | 1 |
| 4 | ..... |  | NUT (<i>order assembly</i>) | 2 |
| 5 | ..... |  | WASHER (<i>order assembly</i>) | 2 |
| 6 | 20247A02 | | HEAT SHIELD | 1 |
| 7 | 17S05 | | WASHER, spring | 1 |
| 8 | 7S04 | | NUT | 1 |

Lister ST1 engines

Silencer supplied with engine

| | | | | |
|-------|--------|--|---|---|
| ..... | 191S06 | | NIPPLE (<i>not illustrated</i>) | 1 |
| ..... | 181S04 | | ELBOW, f/f (<i>not illustrated</i>) | 1 |
| ..... | 3SHD70 | | BEND, exhaust, m/f (<i>not illustrated</i>) | 1 |

Lister-Petter TS1

Silencer supplied with engine

Lister-Petter TR1 engine

(CE marked dumpers only)

| | | | | |
|----|----------|--------|---|---|
| 10 | 20295A08 | 0636 / | \$ PIPE, exhaust, 2B1000 | 1 |
| 10 | 20295A08 | 853 / | \$ PIPE, exhaust, 2B1500 | 1 |
| | | | \$ <i>see page E-2 for earlier CE and non CE marked dumper exhausts</i> | |
| 11 | ——— | | # CLAMP | 1 |
| 12 | ——— | | # WASHER, flat | 2 |
| 13 | ——— | | # WASHER, spring | 2 |
| 14 | ——— | | # Silencer | 1 |

Supplied with engine

ACCELERATOR PEDAL & LINKAGE

E - 5

| Item | Part no | Serial no | Description | Qty |
|------|----------|-----------|---|-----|
| 1 | 20231A03 | | PEDAL, accelerator | 1 |
| 2 | 8S04C | | BOLT | 2 |
| 3 | 17S05 | | WASHER | 2 |
| — | 7S04 | | NUT (OBSOLETE: was used with item 2) | |
| 5 | 10362A06 | | ROD, Petter PH1 engines | 1 |
| 5A | 10362A05 | | ROD, Lister ST1 engines | 1 |
| 5B | 10362A17 | 0234 / | ROD, 2B1000 with TS1 or TR1 eng. | 1 |
| 5B | 10362A17 | 154 / | ROD, 2B1500 with TS1 or TR1 eng. | 1 |
| 6 | C160B | | BALL END | 1 |
| 7 | 2S02 | | NUT | 2 |
| 8 | 41S03 | | WASHER, spring | 1 |
| 9 | C173D | | SPRING, return | 1 |
| 10 | 267S04 | | WASHER, flat | 2 |
| 11 | 44S02C | | PIN, split | 2 |
| 12 | C163 | | RETAINER, PH1 & ST1 engines | 1 |
| 13 | 17S03 | | WASHER, spring | 1 |
| 14 | 11S02A | | SCREW, set | 1 |
| 15 | 11031A03 | 0234 / | LEVER, 2B1000 with TS1 or TR1 eng. | 1 |
| 15 | 11031A03 | 154 / | LEVER, 2B1500 with TS1 or TR1 eng. | 1 |
| 16 | 7S03 | 0553 / | NUT, 2B1000 | 2 |
| 16 | 7S03 | 586 / | NUT, 2B1500 | 2 |
| 17 | 17S04 | | WASHER, spring | 1 |
| 18 | 11S03J | 0553 / | SCREW, set, 2B1000 | 1 |
| 18 | 11S03J | 586 / | SCREW, set, 2B1500 | 1 |
| 19 | 131S01 | | NIPPLE, grease | 1 |
| 20 | 176S01 | | CAP, grease nipple | 1 |

2B1000 & 2B1500 DUMPERS



Electrics

CHARGING & STARTING CIRCUIT

PH1 electric start engine **F - 1**

CHARGING CIRCUIT

PH1 hand start engine **F - 2**

CHARGING & STARTING CIRCUIT

ST1 electric start engine **F - 3**

CHARGING CIRCUIT

ST1 hand start engine **F - 4**

CHARGING & STARTING CIRCUIT

TS1 & TR1 electric start engine **F - 5**

ROAD LIGHTS CIRCUIT. *Up to 1994* **F - 6**

ROAD LIGHTS. *Up to 1994* **F - 7**

CONSOLE, road lights. *Up to 1994* **F - 8**

MAIN ELECTRICAL CIRCUIT. *From Jan 1995* **F - 9**

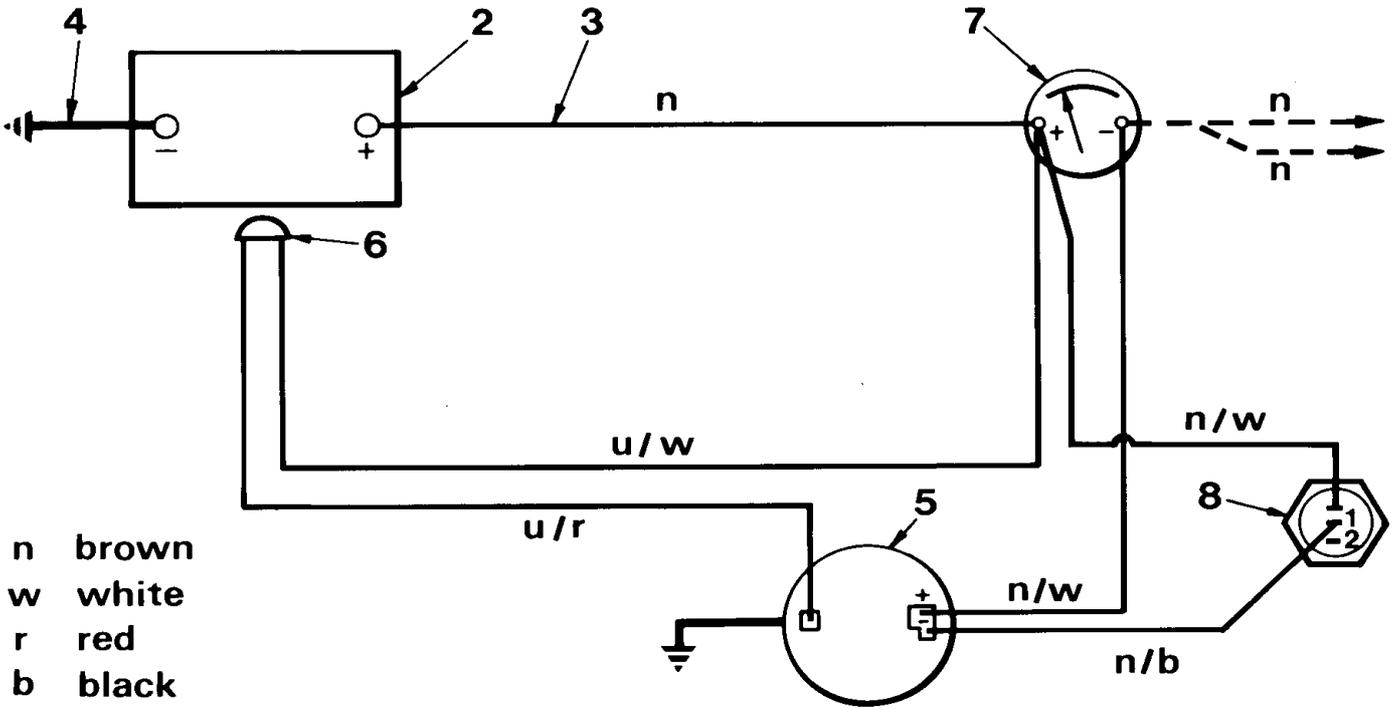
ROAD LIGHTS. *From 1994* **F - 10**

CONSOLE, road lights. *From 1994* **F - 11**

CHARGING & STARTING CIRCUIT
Petter PH1 electric start engine

F - 1

| Item | Part no | Serial no | Description | Qty |
|------|----------|-----------|--|-----|
| - | 30231A03 | | LOOM, wiring | 1 |
| 2 | 109S08 | | BATTERY, 65Ahr | 1 |
| 3 | 10989A06 | | CABLE, positive | 1 |
| 4 | 10990A06 | | CABLE, negative | 1 |
| 5 | - | | # SWITCH, key-start | 1 |
| 6 | - | | # STARTER, c/w solenoid | 1 |
| 7 | - | | # AMMETER | 1 |
| 8 | - | | # SENDER, temperature | 1 |
| 9 | - | | # SWITCH, pressure | 1 |
| 10 | - | | # ALTERNATOR | 1 |
| - | - | | # PULLEY, engine shaft (<i>not illustrated</i>) | 1 |
| - | - | | # BELT, drive (<i>not illustrated</i>) | 1 |
| - | - | | # BOX, instrument panel (<i>not illustrated</i>) | 1 |
| | | | # <i>Items supplied with engine</i> | |
| - | 11S02B | | SCREW, set (<i>not illustrated</i>) | 2 |
| - | 59S14 | | NUT (<i>not illustrated</i>) | 2 |
| - | 12S02 | | WASHER (<i>not illustrated</i>) | 2 |
| - | 20307A07 | | PULLEY (<i>bolted to item 11 - not illustrated</i>) | 1 |
| - | 68S04D | | SCREW, cap (<i>not illustrated</i>) | 3 |
| - | 10672A01 | | GUARD, starter ring (<i>not illustrated</i>) | 1 |
| - | 7S02 | | NUT (<i>not illustrated</i>) | 2 |
| - | 17S03 | | WASHER, spring (<i>not illustrated</i>) | 2 |
| - | 30178A06 | | GUARD, belt (hyd. machines only - <i>not illustrated</i>) | 1 |
| - | 30178A08 | | GUARD, belt (non hyd. machines - <i>not illustrated</i>) | 1 |
| - | 11S02A | | SCREW, set (<i>not illustrated</i>) | 2 |
| - | 59S14 | | NUT (<i>not illustrated</i>) | 2 |
| - | 12S02 | | WASHER (<i>not illustrated</i>) | 2 |



n brown
w white
r red
b black

638

CHARGING CIRCUIT, Petter PH1 handstart engine

F - 2

| Item | Part no | Serial no | Description | Qty |
|-------|----------|-----------|---|-----|
| ..... | 30231A04 | | LOOM, wiring (<i>supplied with engine</i>) | 1 |
| 1 | 109S08 | | BATTERY, 65Ahr | 1 |
| 3 | 10227A05 | | CABLE, positive | 1 |
| 4 | 10990A06 | | CABLE, negative | 1 |
| 5 | ..... |  | # ALTERNATOR | 1 |
| 6 | ..... |  | # SENDER, temperature | 1 |
| 7 | ..... |  | # AMMETER | 1 |
| 8 | ..... |  | # SWITCH, pressure | 1 |
| 9 | ..... |  | # PULLEY (<i>not illustrated</i>) | 1 |
| 10 | ..... |  | # BELT, drive (<i>not illustrated</i>) | 1 |
| | | | # <i>Items supplied with engine</i> | |
| ..... | 30178A06 | | GUARD, drive belt (hyd. machines - <i>not illustrated</i>) | 1 |
| ..... | 30178A08 | | GUARD, drive belt (non-hyd. machines - <i>not illustrated</i>) | 1 |
| ..... | 11S02A | | SCREW (<i>not illustrated</i>) | 2 |
| ..... | 59S14 | | NUT (<i>not illustrated</i>) | 2 |
| ..... | 12S02 | | WASHER (<i>not illustrated</i>) | 2 |

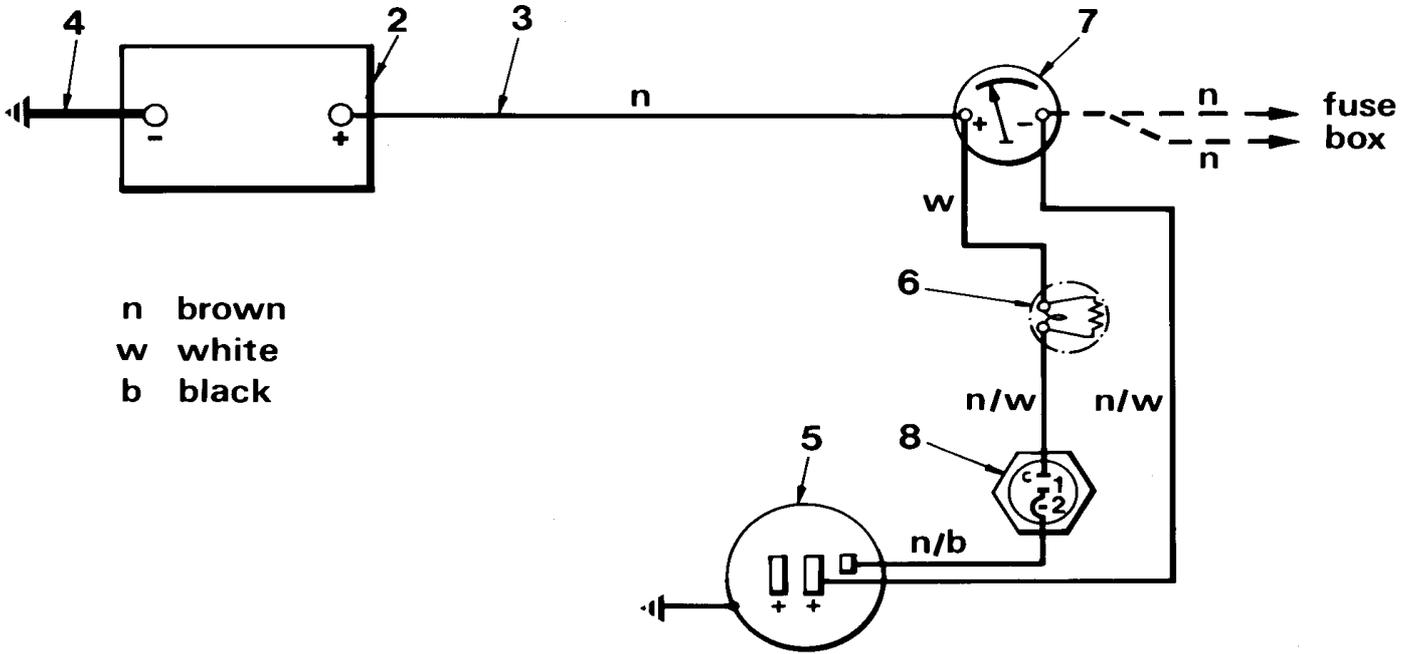
CHARGING & STARTING CIRCUIT
Lister ST1 electric start engine

F - 3

| Item | Part no | Serial no | Description | Qty |
|------------------------------------|----------|-----------|--|-----|
| 1 | 30231A05 | | LOOM, wiring | 1 |
| 2 | 109S08 | | BATTERY 65AHr | 1 |
| 3 | 10989A07 | | CABLE, positive | 1 |
| 4 | 10990A06 | | CABLE, negative | 1 |
| 5 | ----- | | # SWITCH, key-start | 1 |
| 6 | ----- | | # STARTER, c/w solenoid | 1 |
| 7 | ----- | | # WARNING LIGHT, c/w exciter | 1 |
| 8 | ----- | | # ALTERNATOR | 1 |
| --- | ----- | | # PANEL BOX <i>(not illustrated)</i> | 1 |
| --- | ----- | | # PULLEY, drive <i>(not illustrated)</i> | 1 |
| --- | ----- | | # BELT, drive <i>(not illustrated)</i> | 1 |
| --- | ----- | | # SWITCH, pressure <i>(optional - not ill)</i> | 1 |
| | | | <i># Items supplied with engine</i> | |
| --- | 11S02B | | SCREW, panel box fixing <i>(not ill)</i> | 4 |
| --- | 59S14 | | NUT <i>(not illustrated)</i> | 4 |
| --- | 12S02 | | WASHER <i>(not illustrated)</i> | 4 |
| Non hydraulic machines only | | | | |
| --- | 30178A07 | | GUARD, drive belt <i>(not illustrated)</i> | 1 |
| --- | 10986A01 | | TUBE, distance <i>(not illustrated)</i> | 2 |
| --- | 8S02J | | BOLT <i>(not illustrated)</i> | 2 |
| --- | 59S14 | | NUT <i>(not illustrated)</i> | 2 |
| --- | 12S02 | | WASHER <i>(not illustrated)</i> | 2 |
| --- | 11S04D | | SCREW <i>(not illustrated)</i> | 2 |
| --- | 59S03 | | NUT <i>(not illustrated)</i> | 2 |
| --- | 12S19 | | WASHER <i>(not illustrated)</i> | 2 |

F - 4

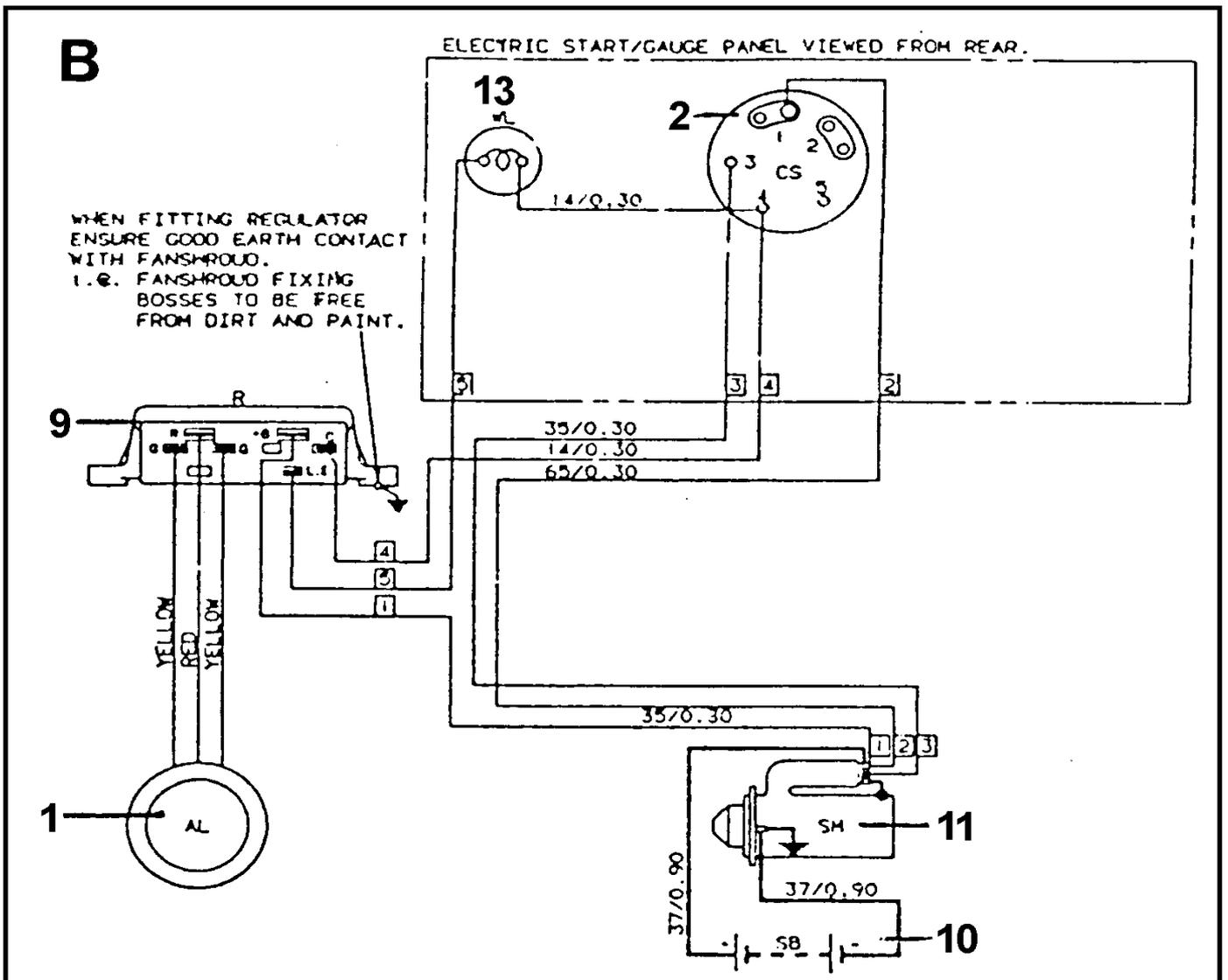
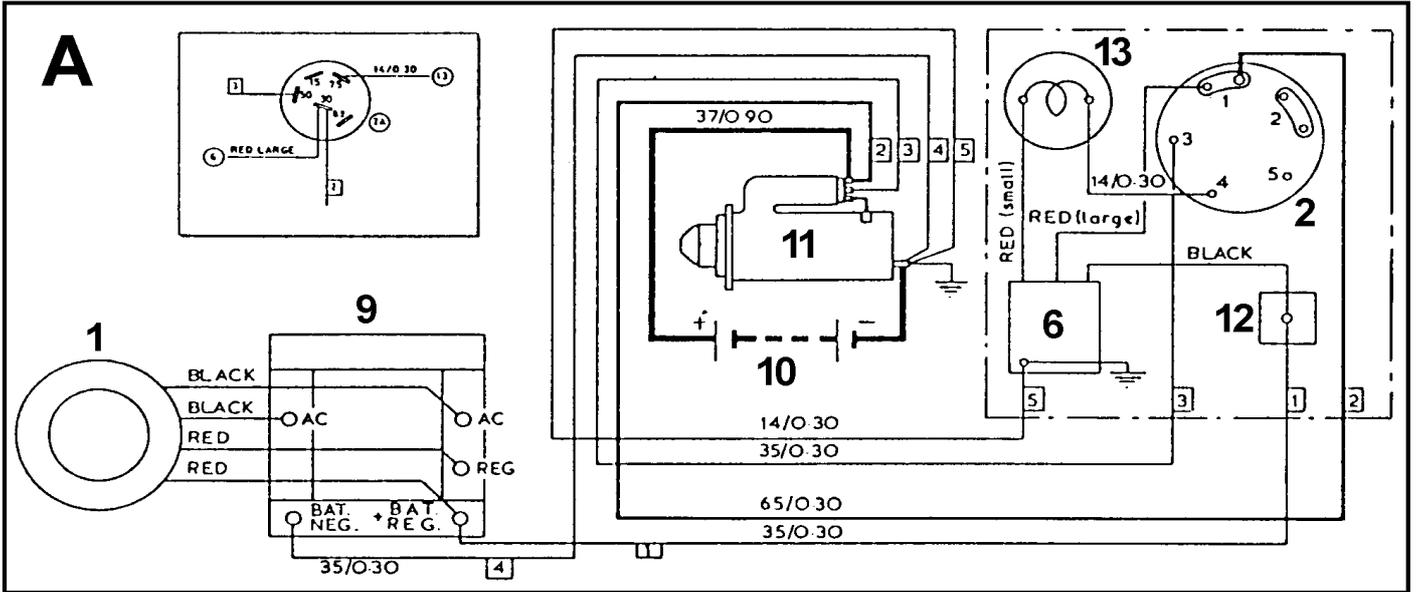
2B1000 & 2B1500 Dumpers



| Item | Part no | Serial no | Description | Qty |
|------|----------|-----------|--|-----|
| - | 30231A06 | | LOOM, wiring | 1 |
| 2 | 109S08 | | BATTERY, 65Ahr | 1 |
| 3 | 10227A05 | | CABLE, positive | 1 |
| 4 | 10990A06 | | CABLE, negative | 1 |
| 5 | - | | # ALTERNATOR | 1 |
| 6 | - | | # WARNING LIGHT, c/w excitor | 1 |
| 7 | - | | # AMMETER | 1 |
| 8 | - | | # SWITCH, pressure | 1 |
| - | - | | # PULLEY (<i>not illustrated</i>) | 1 |
| - | - | | # BELT, drive (<i>not illustrated</i>) | 1 |
| | | | # Items supplied with engine | |

Non hydraulic machines only

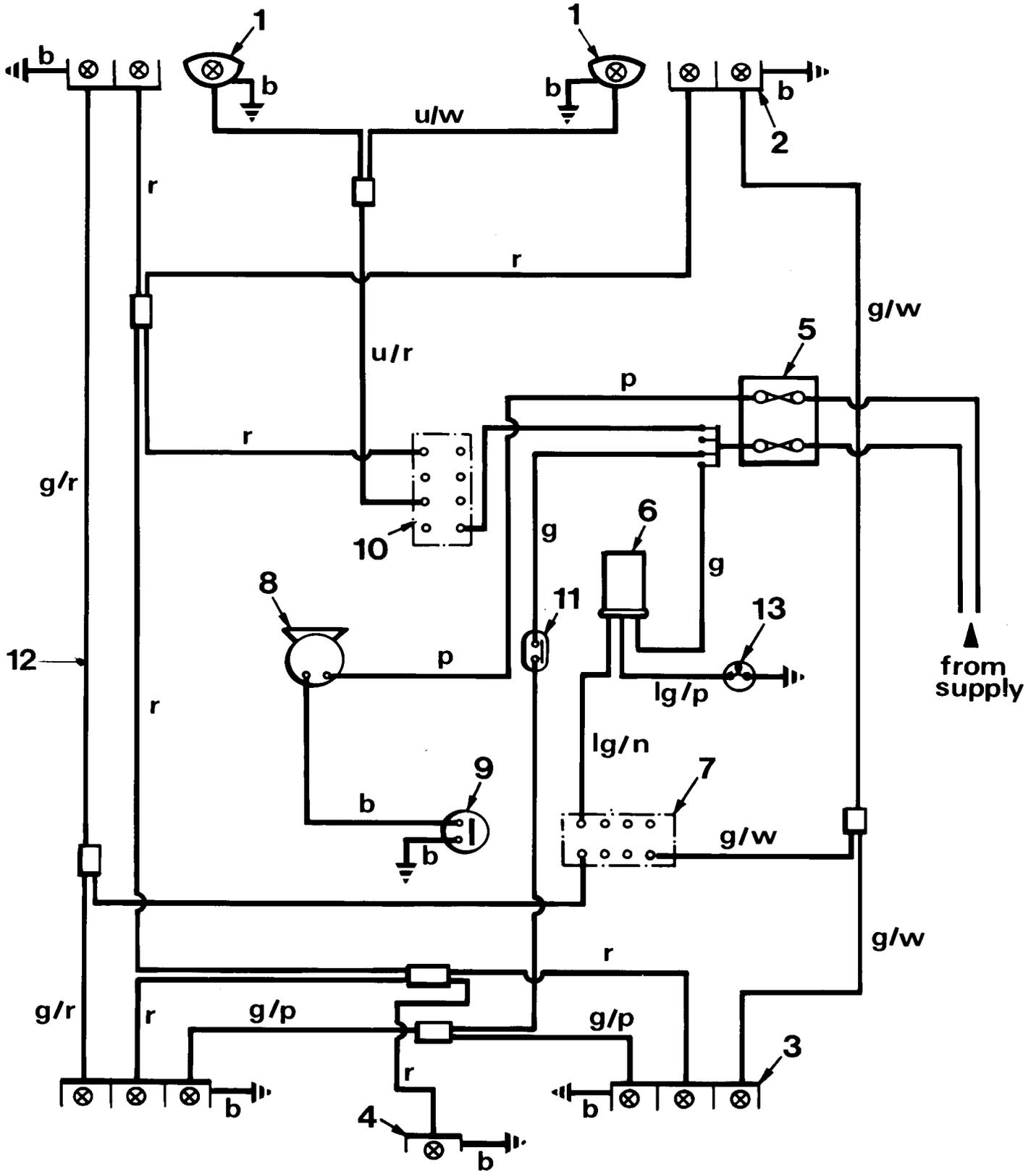
| | | | | |
|---|----------|--|--|---|
| - | 30178A07 | | GUARD, drive belt (<i>not illustrated</i>) | 1 |
| - | 10986A01 | | TUBE, distance (<i>not illustrated</i>) | 2 |
| - | 8S02J | | BOLT (<i>not illustrated</i>) | 2 |
| - | 59S14 | | NUT (<i>not illustrated</i>) | 2 |
| - | 12S02 | | WASHER (<i>not illustrated</i>) | 2 |
| - | 11S04D | | SCREW (<i>not illustrated</i>) | 2 |
| - | 59S03 | | NUT (<i>not illustrated</i>) | 2 |
| - | 12S19 | | WASHER (<i>not illustrated</i>) | 2 |



CHARGING & STARTING CIRCUIT
Lister TS1 & TR1 electric start engine

F - 5

| Item | Part no | Serial no | Description | Qty |
|--|----------|-----------|--|-----|
| <p>NOTE: Up to February 1991, engines were fitted with 'Syncro' charging systems (see illustration A). From February 1991, engines were fitted with 'Nicsa' charging systems (see illustration B). The two systems are not interchangeable. Ascertain whether the engine is fitted with 'Syncro' or 'Nicsa' charging system before ordering parts.</p> | | | | |
| <p>Engines fitted with 'Syncro' charging system (illustration A)</p> | | | | |
| 1 | - | | + STATOR, flywheel alternator | 1 |
| 2 | - | | + SWITCH, key start | 1 |
| 6 | - | | + INDICATOR, battery charge | 1 |
| 9 | - | | + RECTIFIER / REGULATOR | 1 |
| 10 | 109S08 | | BATTERY | 1 |
| 11 | - | | + STARTER MOTOR | 1 |
| 13 | - | | + LIGHT, warning | 1 |
| | | | + <i>Items supplied with engine.</i> <i>For engine parts, see "Engine Parts Cat."</i> | |
| - | 30231A09 | | LOOM | 1 |
| <p>Engines fitted with 'Nicsa' charging system (illustration B)</p> | | | | |
| 1 | - | | + STATOR, flywheel alternator | 1 |
| 2 | - | | + SWITCH, key start | 1 |
| 9 | - | | + REGULATOR | 1 |
| 10 | 109S08 | | BATTERY | 1 |
| 11 | - | | + STARTER MOTOR | 1 |
| 13 | - | | + LIGHT, warning | 1 |
| | | | + <i>Items supplied with engine.</i> <i>For engine parts, see "Engine Parts Cat."</i> | |
| - | 30231A11 | / Jan-95 | LOOM (<i>All machines</i>) | 1 |
| | 30231A11 | Jan-95 / | LOOM, (<i>Not UK or CE machines</i>) | 1 |
| - | 30231A12 | Jan-95 / | LOOM, (<i>UK and CE machines only</i>) | 1 |
| <p>All machines</p> | | | | |
| - | 20313A06 | | PANEL (<i>not illustrated</i>) | 1 |
| - | 11S02C | | SCREW, set, panel fixing (<i>not illustrated</i>) | 2 |
| - | 17S03 | | WASHER, spring (<i>not illustrated</i>) | 2 |
| - | 7S02 | | NUT (<i>not illustrated</i>) | 2 |



- | | | | |
|---|-------|----|-------------|
| b | black | r | red |
| n | brown | y | yellow |
| w | white | g | green |
| u | blue | lg | light green |

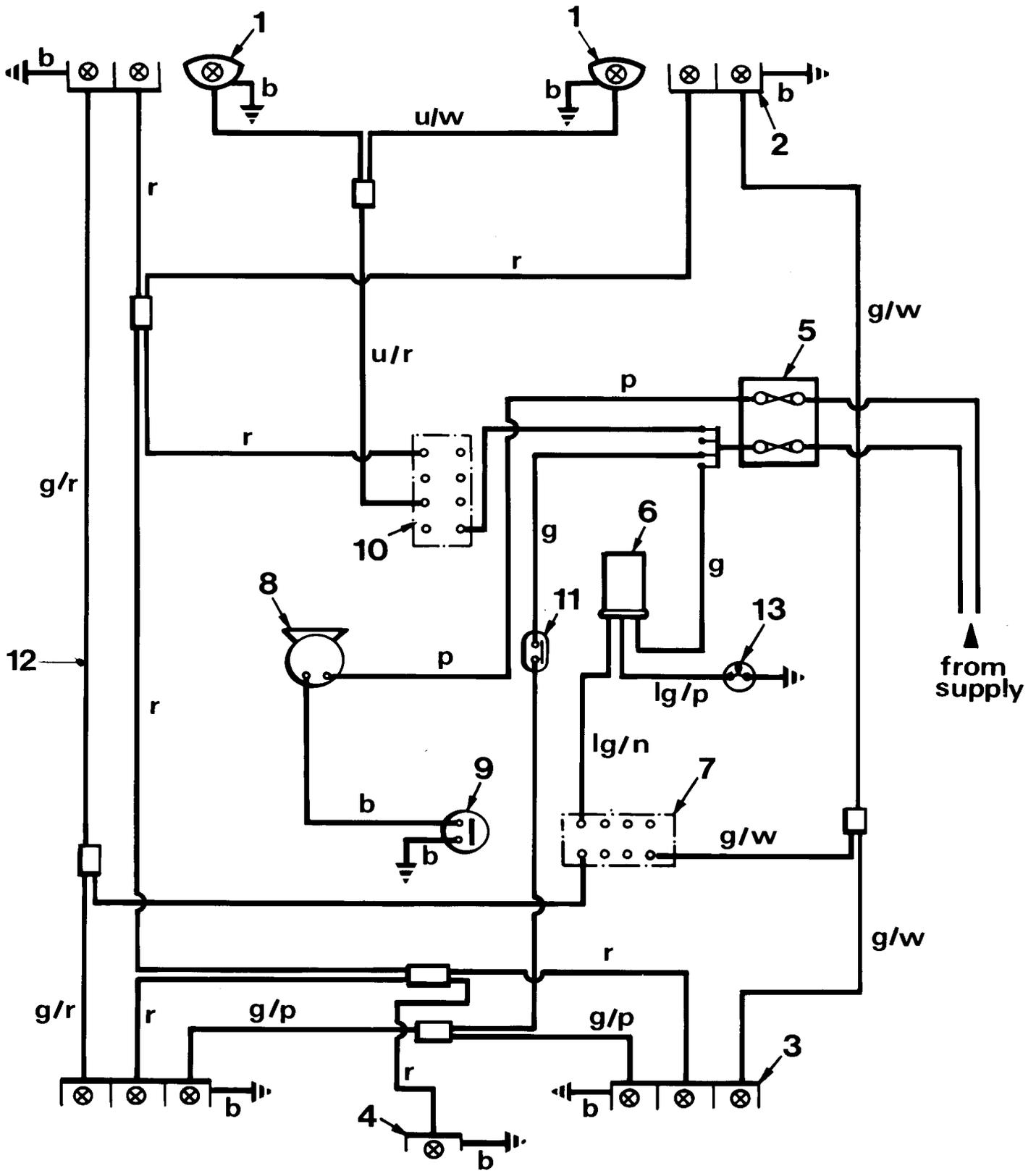
ROAD LIGHTING & HORN CIRCUIT (up to 1994)

F - 6

| Item | Part no | Serial no | Description | Qty |
|------|----------|------------|---|-----|
| 1 | 10740A01 | / APRIL 94 | HEADLIGHT | 2 |
| 1A | 10973A02 | | BRACKET, headlight | 2 |
| 2 | 10462A02 | | SIDELIGHT/INDICATOR | 2 |
| 3 | 10512A02 | | REAR/STOP/INDICATOR | 2 |
| 3A | 82S03E | | SCREW | 16 |
| 3B | 85S01 | | NUT | 16 |
| 3C | 12S01 | | WASHER | 16 |
| 4 | 10615A01 | | LIGHT, number plate | 1 |
| 4A | 10982A01 | | BRACKET, number plate light | 1 |
| 4B | 11S02B | | SCREW | 2 |
| 4C | 59S14 | | NUT | 2 |
| 5 | 10644A01 | | FUSE BOX | 1 |
| 5A | 82S03E | | SCREW | 1 |
| 5B | 85S01 | | NUT | 1 |
| 6 | 10616A01 | | FLASHER UNIT | 1 |
| 7 | 10620A02 | | SWITCH, indicator | 1 |
| 7A | 82S03C | | SCREW | 1 |
| 7B | 12S01 | | WASHER | 1 |
| 7C | 85S01 | | NL | 1 |
| 8 | 10618A01 | | HORN | 1 |
| 8A | 11S02B | | SCREW | 2 |
| 8B | 59S14 | | NUT | 2 |
| 8C | 12S02 | | WASHER | 2 |
| 9 | 10619A01 | | BUTTON, horn | 1 |
| 9A | 82S07E | | SCREW | 2 |
| 9B | 85S03 | | NUT | 2 |
| 10 | 10620A01 | | SWITCH, lights | 1 |
| 11 | 10939A02 | | SWITCH, brake, c/w spring | 1 |
| 11A | 10972A01 | | BRACKET | 1 |
| 11B | 11S03A | | SCREW | 1 |
| 11C | 59S02 | | NUT | 1 |
| 11D | 11S04A | | SCREW | 1 |
| 11E | 59S03 | | NUT | 1 |
| 11F | 12S05 | | WASHER | 1 |
| 12 | 20105A07 | | LOOM (OBSOLETE: use 20105A13 & 20105A14) | 1 |

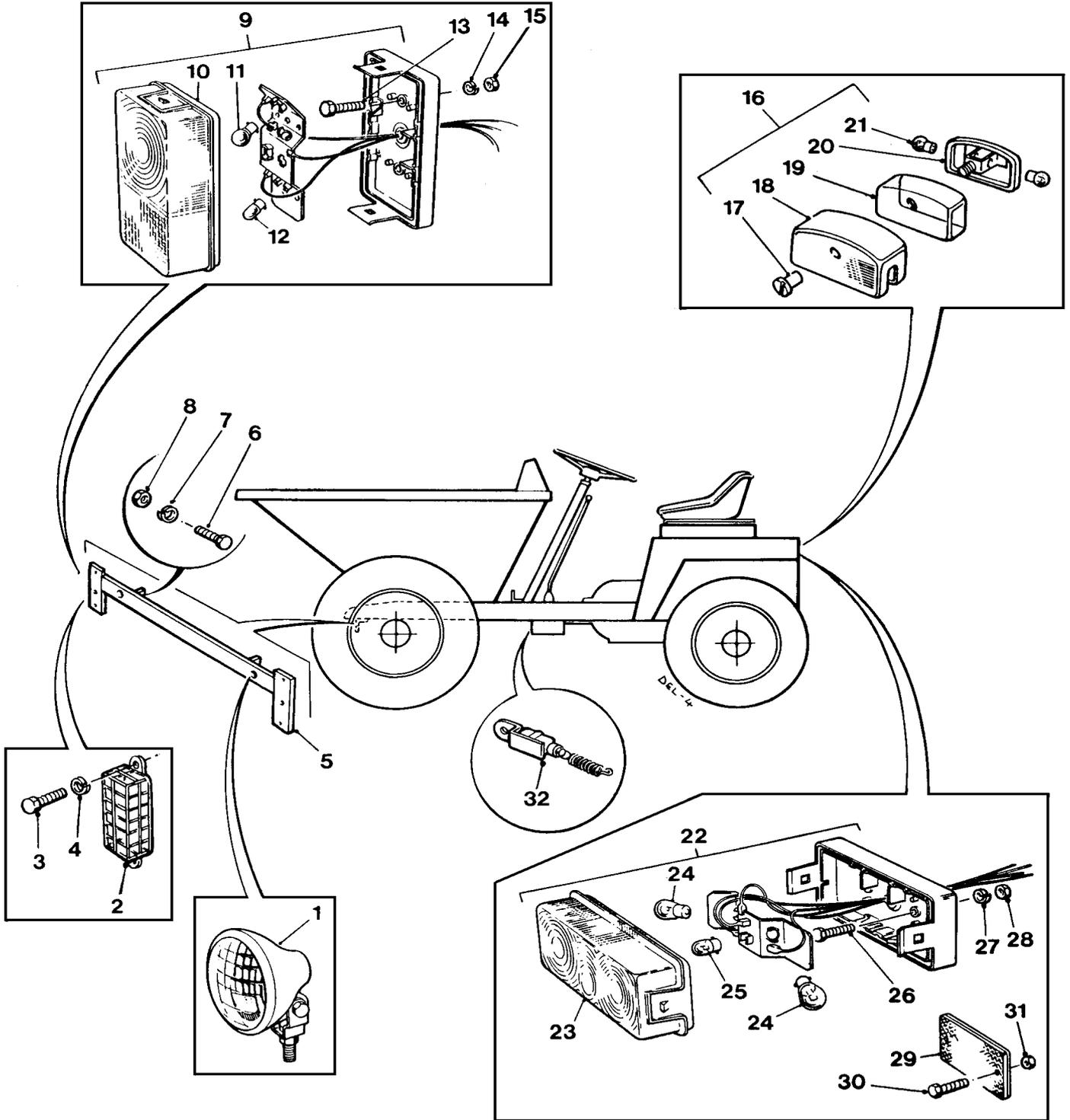
F - 6

2B1000 & 2B1500 Dumpers



- | | | | |
|---|-------|----|-------------|
| b | black | r | red |
| n | brown | y | yellow |
| w | white | g | green |
| u | blue | lg | light green |

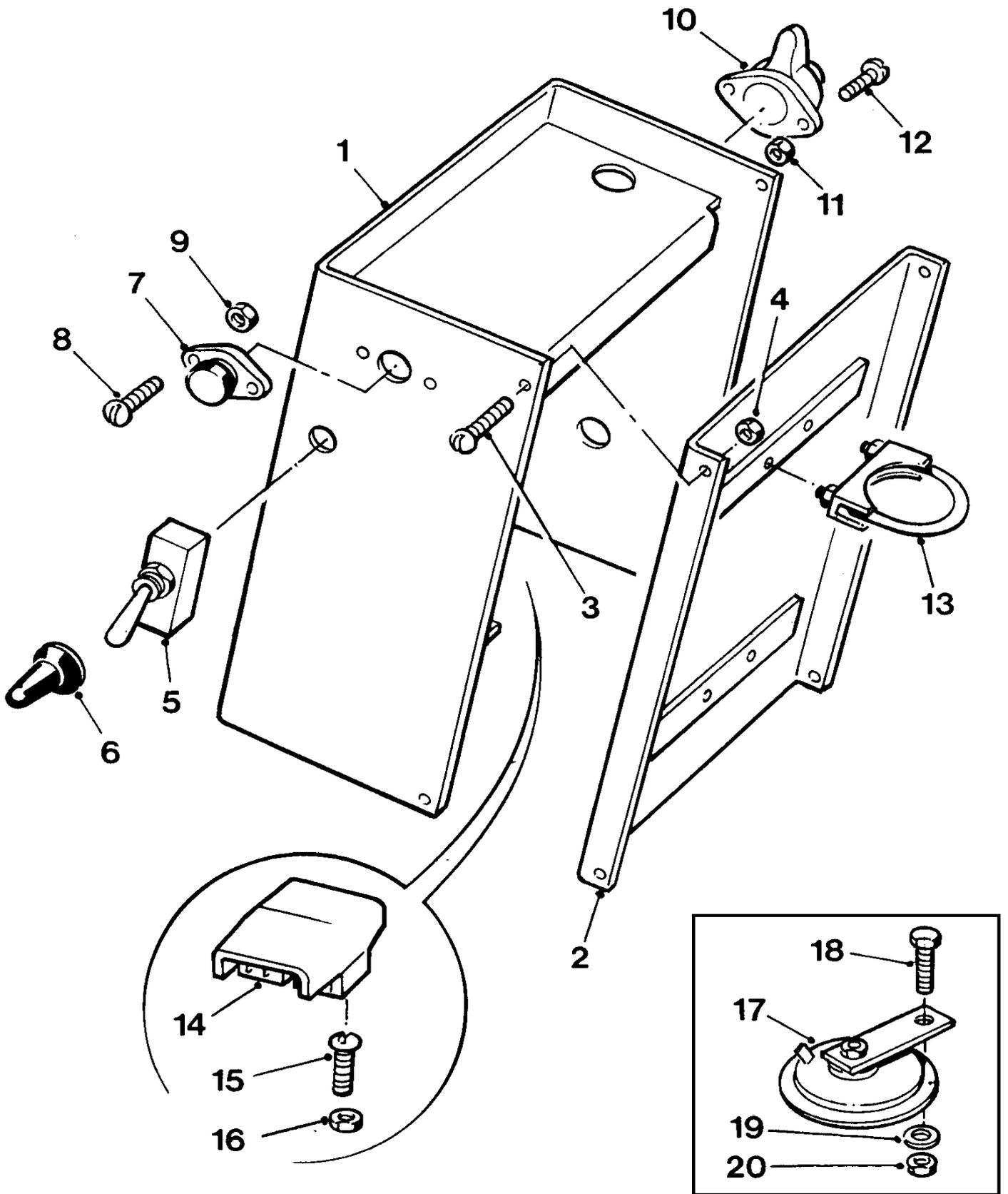
| Item | Part no | Serial no | Description | Qty |
|-------------------------------|----------|-----------|--------------------------|-----|
| - | 20105A13 | | LOOM, front lights | 1 |
| - | 20105A14 | | LOOM, rear lights | 1 |
| - | 180S01 | | TIE, cable | AR |
| 13 | 10593A01 | | WARNING LIGHT, indicator | 1 |
| 14 | 30267A03 | | CONSOLE | 1 |
| 15 | 20318A01 | | BACKPLATE | 1 |
| 15A | 82S03C | | SCREW | 2 |
| 15B | 83S03 | | NUT | 2 |
| 15C | 153S07 | | CLAMP | 2 |
| 16 | 10983A01 | | ADAPTOR | 1 |
| 17 | 10984A01 | | RING, locking | 1 |
| 18 | 10985A01 | | CONDUIT | 1 |
| 19 | A25328 | | PLUG, blanking | AR |
| Daytime road equipment | | | | |
| 20 | CSE200 | | HORN | 1 |
| 21 | 101S07 | | RIVET | 1 |



ROAD LIGHTS (up to 1994)

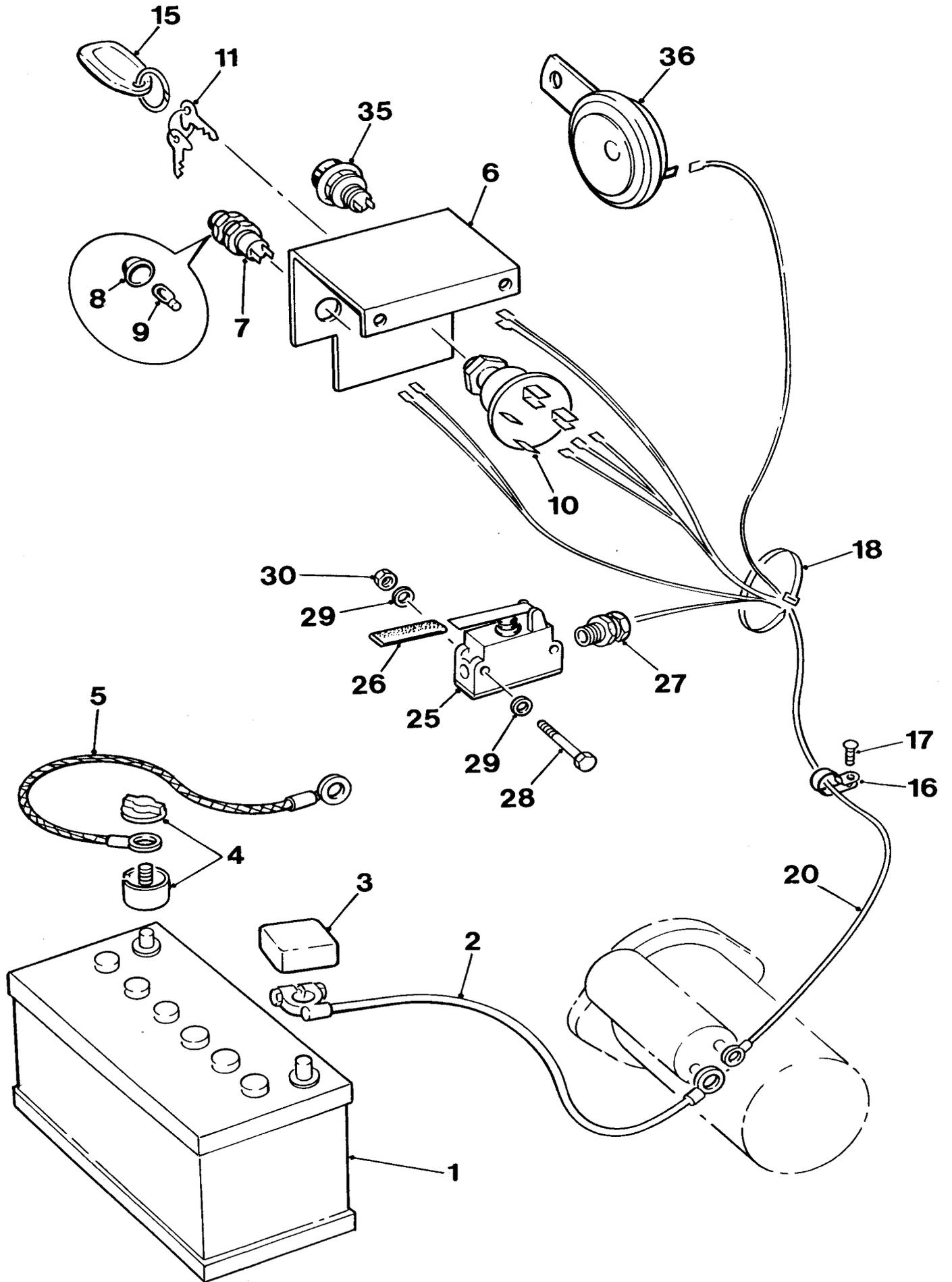
F - 7

| Item | Part no | Serial no | Description | Qty |
|---------------|----------|------------|--|-----|
| 1 | V2003138 | / April 94 | WORKING LIGHT, assembly | 2 |
| - | V2003139 | | SEALED BEAM | 1 |
| 2 | V2003158 | | GUARD | 2 |
| 3 | 11S03B | | SCREW, set | 2 |
| 4 | 17S04 | | WASHER, spring | 2 |
| 2B1000 | | | | |
| 5 | 10973A03 | / 0568 | BRACKET, lights | 1 |
| 5 | 10973A03 | 0569 / | BRACKET, lights, hydraulic tipping | 1 |
| 5 | 10973A04 | 0569 / | BRACKET, lights, gravity tipping | 1 |
| 2B1500 | | | | |
| 5 | 10973A03 | / 598 | BRACKET, lights | 1 |
| 5 | 10973A03 | 599 / | BRACKET, lights, hydraulic tipping | 1 |
| 5 | 10973A04 | 599 / | BRACKET, lights, gravity tipping | 1 |
| 6 | 11S05D | | SCREW, set | 2 |
| 7 | 17S06 | | WASHER, spring | 4 |
| 8 | 7S05 | | NUT | 2 |
| 9 | V2003146 | | SIDELIGHT/INDICATOR, assembly | 2 |
| 10 | V2003149 | | LENS | 1 |
| 11 | V2003130 | | BULB | 1 |
| 12 | V2003137 | | BULB | 1 |
| 13 | 11S01B | | SCREW, set | 2 |
| 14 | 17S02 | | WASHER, spring | 2 |
| 15 | 7S01 | | NUT | 2 |
| 16 | V2003136 | | LIGHT, number plate, assembly | 1 |
| 17 | V2003135 | | SCREW, cover to body | 1 |
| 18 | V2003134 | | COVER, number plate light | 1 |
| 19 | V2003133 | | LENS, number plate light | 1 |
| 20 | V2003132 | | BODY & SEAL, number plate light | 1 |
| 21 | V2003131 | | BULB, 12 volt, 5 watt | 2 |
| 22 | V2003148 | | LIGHT, assy, R.,H. (<i>illustrated</i>) | 1 |
| - | V2003147 | | LIGHT, assy, L.H. (<i>not illustrated</i>) | 1 |
| 23 | V2003151 | | LENS, R.H. (<i>illustrated</i>) | 1 |
| - | V2003150 | | LENS, L.H. (<i>not illustrated</i>) | 1 |
| 24 | V2003145 | | BULB | 2 |
| 25 | V2003137 | | BULB | 1 |
| 26 | 11S01A | | SCREW, set | 2 |
| 27 | 17S02 | | WASHER, spring | 2 |
| 28 | 7S01 | | NUT | 2 |
| 29 | V2003159 | | REFLECTOR | 2 |
| 30 | 11S11A | | SCREW, set | 2 |
| 31 | 7S09 | | NUT | 2 |
| 32 | 10939A02 | | SWITCH, brake | 1 |



CONSOLE, road lighting (up to 1994)**F - 8**

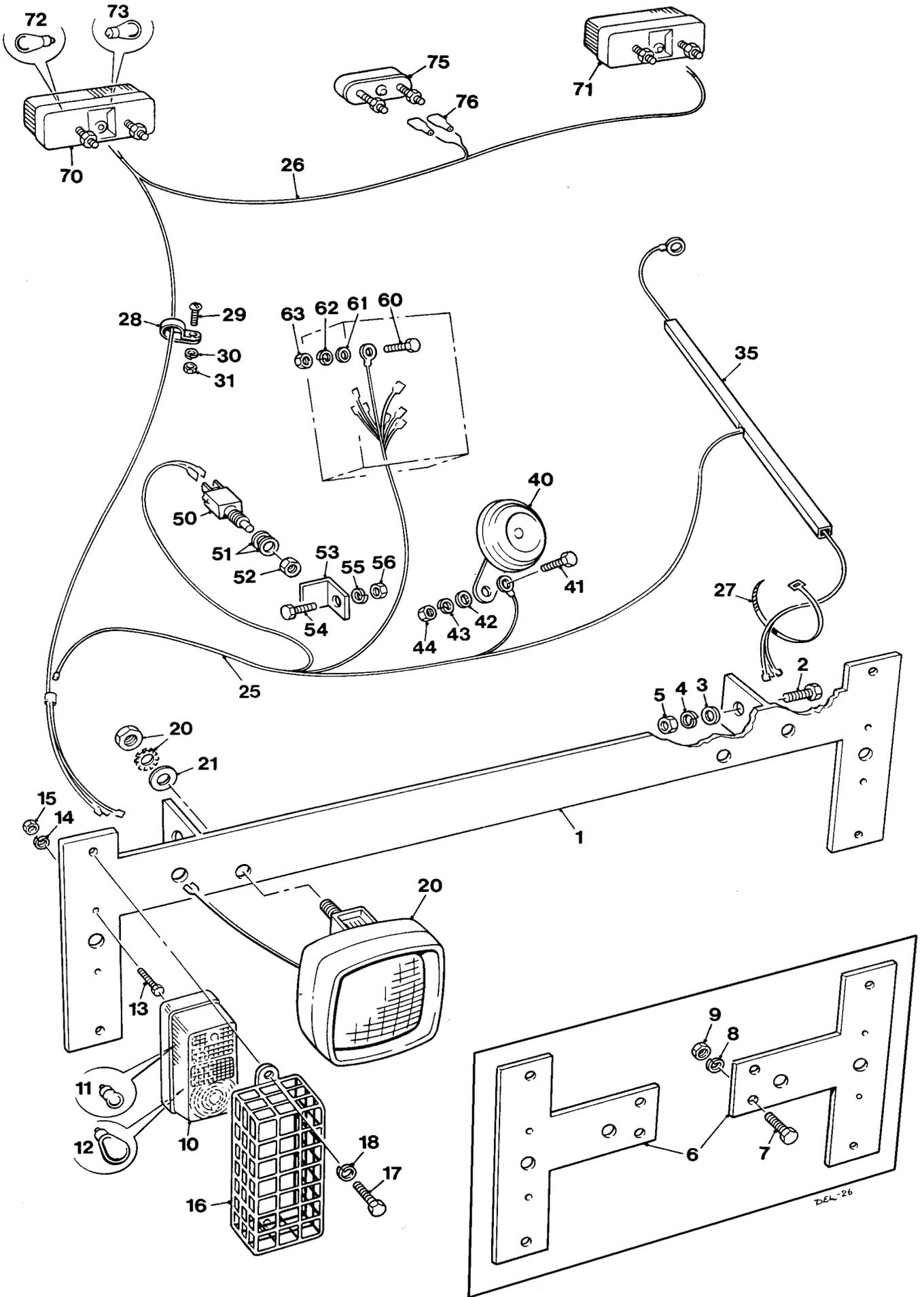
| Item | Part no | Serial no | Description | Qty |
|-------------|----------------|------------------|----------------------|------------|
| 1 | 30267A03 | | CONSOLE | 1 |
| 2 | 20318A01 | | BACKPLATE, console | 1 |
| 3 | 82S03C | | SCREW | 4 |
| 4 | 83S03 | | NUT | 4 |
| 5 | V2003128 | | SWITCH, light | 1 |
| 6 | V2003140 | | GAITER, switch light | 1 |
| 7 | 10619A01 | | HORN, button | 1 |
| 8 | 82S07E | | SCREW | 2 |
| 9 | 85S03 | | NUT | 2 |
| 10 | 10617A01 | | SWITCH, indicator | 1 |
| 11 | 85S03 | | NUT | 2 |
| 12 | 82S07E | | SCREW | 2 |
| 13 | 153S07 | | CLAMP | 2 |
| 14 | 10644A01 | | FUSE BOX | 1 |
| 15 | 82S03E | | SCREW | 1 |
| 16 | 85S01 | | NUT | 1 |
| 17 | V2003144 | | HORN | 1 |
| 18 | 11S02B | | SCREW, set | 1 |
| 19 | 267S04 | | WASHER, flat | 1 |
| 20 | 7S02 | | NUT | 1 |



| Item | Part no | Serial no | Description | Qty |
|------|-----------|-----------|--|-----|
| 1 | 109S08 | | BATTERY | 1 |
| 2 | 10989A06 | | CABLE, positive | 1 |
| 3 | V2004204 | | INSULATOR, battery positive terminal | 1 |
| 4 | V2004214 | | ISOLATOR, battery negative terminal | 1 |
| 5 | V2003510 | | CABLE, earth | 1 |
| 6 | 20313A06 | | # PANEL, instruments # Panel replaced by an engine cover on CE marked dumpers from Nov. 2002. See page A-1A for engine cover. | 1 |
| 7 | V602634 | | LIGHT, battery charging | 1 |
| 8 | V602635 | | LENS | 1 |
| 9 | V602636 | | BULB | 1 |
| 10 | V2004189 | | SWITCH, key start | 1 |
| 11 | V601179 | | KEY, start switch | 1 |
| 15 | V2003540 | | RING, key | 1 |
| 16 | 143200900 | | CLIP, cable | 2 |
| 17 | 178SPS04C | | SCREW, self-tapping | 2 |
| 18 | V2003111 | | TIE, cable | 3 |
| 20 | 30231A11 | | LOOM, NOT CE marked dumpers | 1 |
| 20 | 30231A12 | | LOOM, CE marked dumpers ONLY | 1 |
| 25 | 208561000 | | SWITCH, start inhibitor | 1 |
| 26 | 208143000 | | SLEEVE, black plastic | 1 |
| 27 | 250166010 | | GLAND, cable | 1 |
| 28 | 8S01F | | BOLT | 2 |
| 29 | 267S03 | | WASHER, flat | 2 |
| 30 | 59S13 | | NUT, "Nyloc" | 2 |
| 35 | V2003570 | | BUTTON, horn | 1 |
| 36 | V2003144 | | HORN | 1 |

F - 10

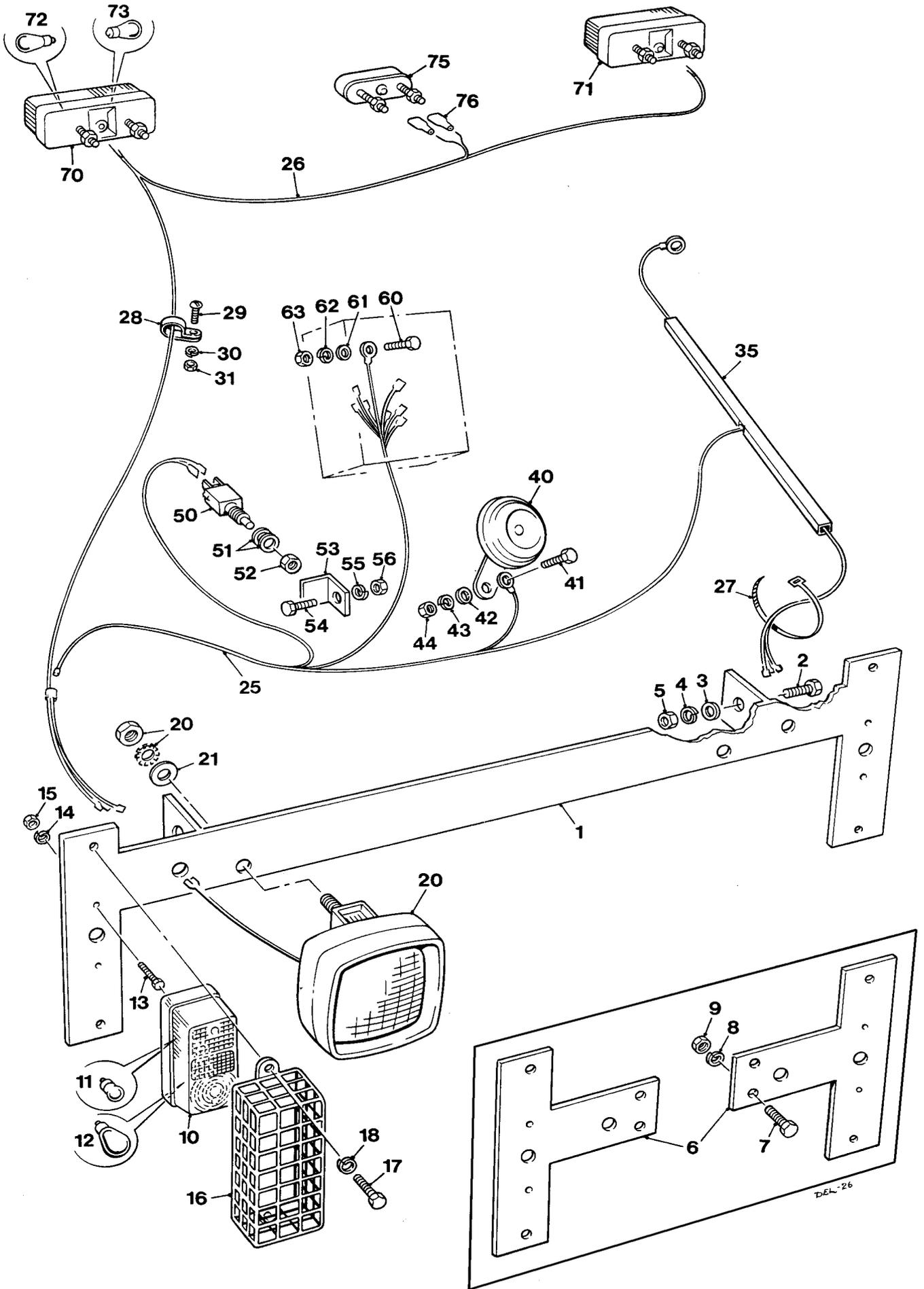
2B1000 & 2B1500 Dumpers



| Item | Part no | Serial no | Description | Qty |
|------|-----------|-----------|---|-----|
| 1 | 10973A03 | | BRACKET, front lights (rotating & hyd. tipping earth skips) | 1 |
| 2 | 11S05F | | SCREW, set | 2 |
| 3 | 267S07 | | WASHER, flat | 2 |
| 4 | 17S06 | | WASHER, spring | 2 |
| 5 | 7S05 | | NUT | 2 |
| 6 | 10973A04 | | BRACKET, front lights (high discharge & gravity tip earth skips) | 2 |
| 7 | 11S03E | | SCREW, set | 2 |
| 8 | 17S04 | | WASHER, spring | 2 |
| 9 | 7S03 | | NUT | 2 |
| 10 | V2003652 | | LIGHTS, R.H. front, assembly | 1 |
| — | V2003637 | | LIGHTS, L.H. front, assembly (<i>not ill.</i>) | 1 |
| 11 | — | | BULB, sidelight 12V 5W | 1 |
| 12 | — | | BULB, indicator 12V 21W | 1 |
| 13 | 11S01C | | SCREW, set | 4 |
| 14 | 17S02 | | WASHER, spring | 4 |
| 15 | 7S01 | | NUT | 4 |
| 16 | V2003158 | | GUARD | 2 |
| 17 | 11S03AA | | SCREW, set | 4 |
| 18 | 17S04 | | WASHER, spring | 4 |
| 20 | V2003638 | | LIGHT, head, c/w nut & washer | 2 |
| 21 | V2004220 | | WASHER, Special | 2 |
| 25 | 20105A15 | | LOOM, front | 1 |
| 26 | 20105A14 | | LOOM, rear | 1 |
| 27 | V2003111 | | TIE, cable, 200mm long | 8 |
| 27 | V2003253 | | TIE, cable, 390mm long | 4 |
| 28 | 143200900 | | CLIP, nylon | 7 |
| 29 | 16S05B | | SCREW | 7 |
| 30 | 17S10 | | WASHER, spring | 7 |
| 31 | 7S09 | | NUT | 7 |
| 35 | V2004043 | | CONDUIT | AR |
| 40 | V2003144 | | HORN | 1 |
| 41 | 11S03B | | SCREW, set | 1 |
| 42 | 267S05 | | WASHER, flat | 1 |
| 43 | 17S04 | | WASHER, spring | 1 |
| 44 | 7S03 | | NUT | 1 |
| 50 | V2003168 | | SWITCH, brake lights | 1 |
| 51 | 267S07 | | WASHER, flat | AR |
| 52 | 95S05 | | NUT | 1 |

F - 10

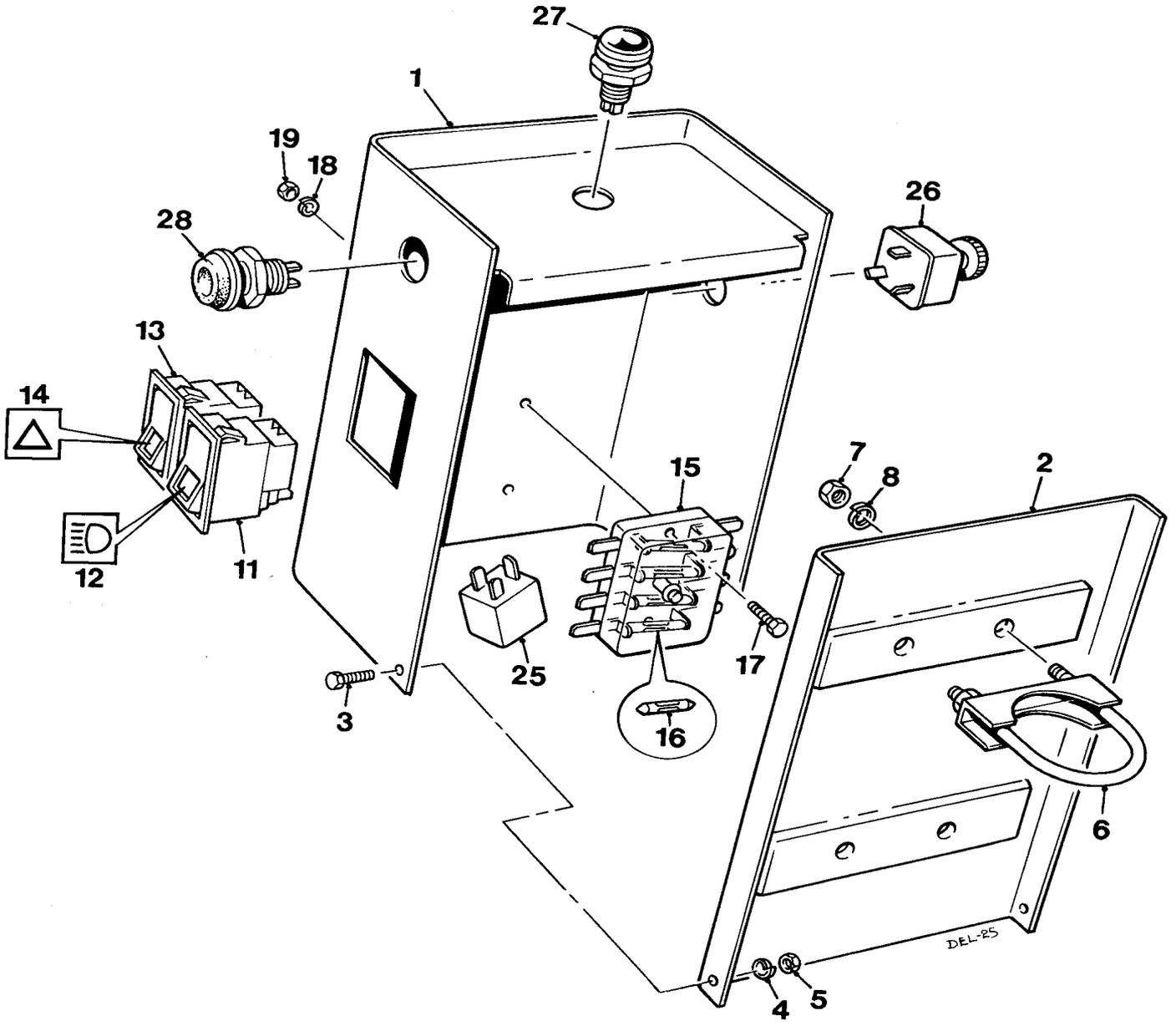
2B1000 & 2B1500 Dumpers



ROAD LIGHTS (from 1994)

F - 10

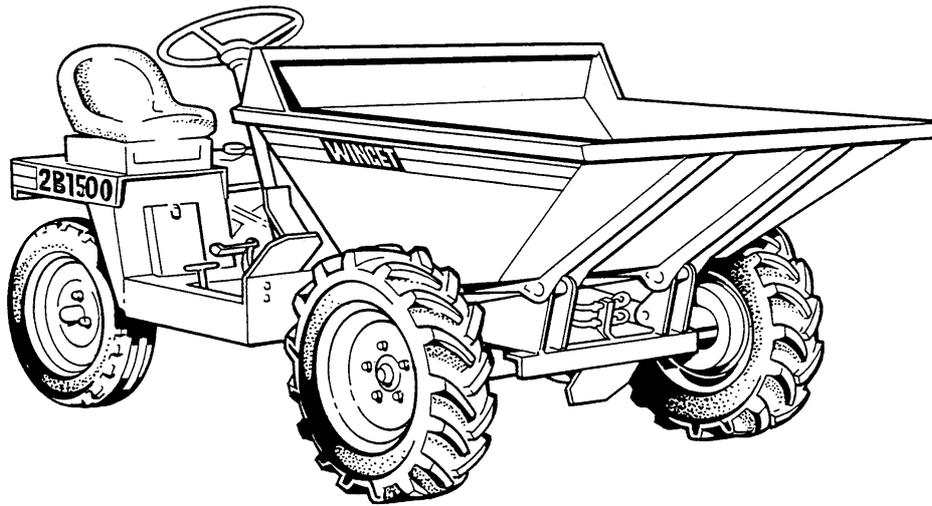
| Item | Part no | Serial no | Description | Qty |
|------|-----------|-----------|---|-----|
| 53 | _____ | | BRACKET | 1 |
| 54 | 11S03C | | SCREW, set | 1 |
| 55 | 17S04 | | WASHER, spring | 1 |
| 56 | 7S03 | | NUT | 1 |
| 60 | 11S03B | | SCREW, set (<i>console earth terminal</i>) | 1 |
| 61 | 267S05 | | WASHER, flat | 1 |
| 62 | 17S04 | | WASHER, spring | 1 |
| 63 | 7S03 | | NUT | 1 |
| 70 | V2003651 | | LIGHT, R.H. rear, assembly | 1 |
| 71 | V2003636 | | LIGHT, L.H. rear, assembly | 1 |
| 72 | _____ | | BULB, indicator, 12V 21W | 1 |
| 73 | _____ | | BULB, brake/rear sidelight, 12V 21/5W | 1 |
| 75 | V2003639 | | LIGHT, number plate | 1 |
| 76 | 191906000 | | CONNECTOR, 1/4" female Lucar | 2 |
| — | 191901900 | | Four-way common contact connector (<i>not illustrated</i>) | 1 |



CONSOLE, road lights (from 1994)**F - 11**

| Item | Part no | Serial no | Description | Qty |
|------|----------|-----------|--|-----|
| 1 | 30267A04 | | CONSOLE | 1 |
| 2 | 20318A01 | | BACKPLATE, console | 1 |
| 3 | 11S01AA | | SCREW, set | 2 |
| 4 | 17S02 | | WASHER, spring | 2 |
| 5 | 7S01 | | NUT | 2 |
| 6 | 153S05 | | CLAMP, (<i>discard bracket</i>) assembly | 1 |
| 7 | 7S03 | | NUT | 2 |
| 8 | 17S04 | | WASHER, spring | 2 |
| 11 | V2003644 | | SWITCH, lights | 1 |
| 12 | V2003646 | | INSERT, mainbeam | 1 |
| 13 | V2003641 | | SWITCH, hazard lights | 1 |
| 14 | V2003647 | | INSERT, hazard lights | 1 |
| 15 | V2003176 | 1020/ | FUSE BOX, obsolete use item 15A | 1 |
| 15A | V601177 | /1021 | FUSE BOX, | 1 |
| 16 | V2003177 | | FUSE, bullet, use with item 15 | AR |
| 16A | V601173 | | FUSE, blade, use with item 15A | AR |
| 17 | 11S01A | | SCREW, set | 2 |
| 18 | 17S02 | | WASHER, spring | 2 |
| 19 | 7S01 | | NUT | 2 |
| 25 | V2003640 | | UNIT, flasher | 2 |
| 26 | V2003642 | | SWITCH, indicators | 1 |
| 27 | V2000326 | | LIGHT, indicator warning | 1 |
| 28 | V2003570 | | BUTTON, horn | 1 |

2B1000 & 2B1500 DUMPERS



Hydraulics

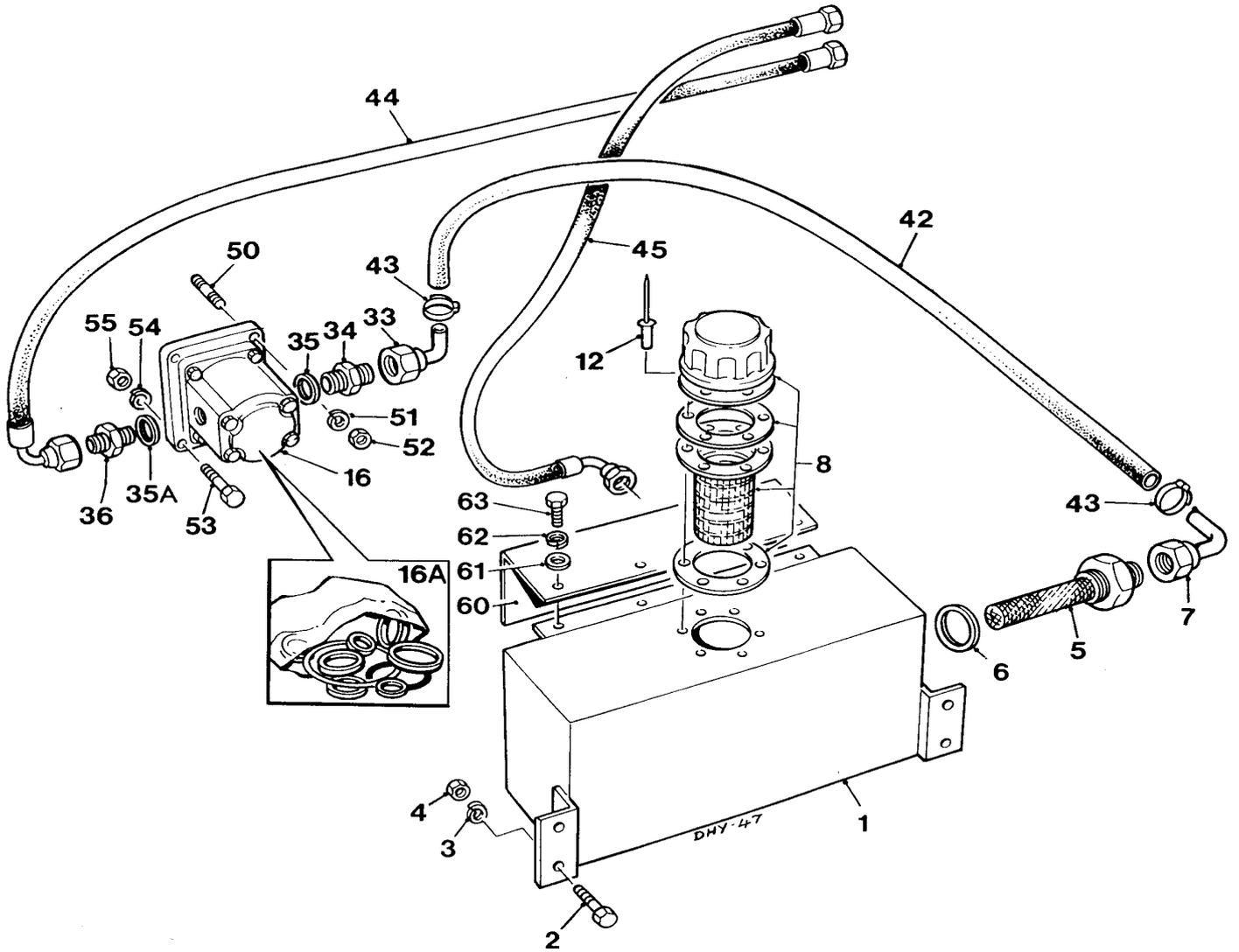
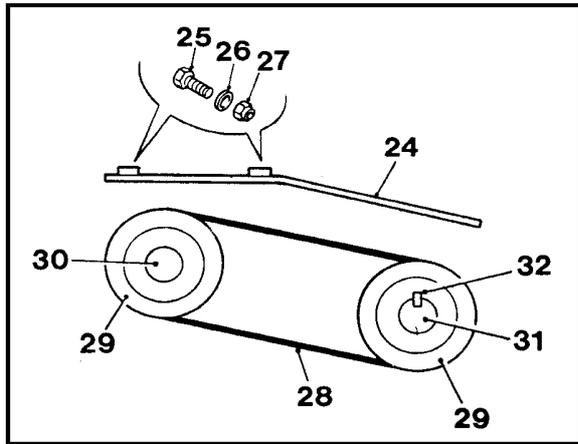
| | |
|---|---------------|
| HYDRAULIC PUMP & TANK | H - 1 |
| SKIP TIPPING HYDRAULIC CIRCUIT | H - 1A |
| CONTROL VALVE. <i>Up to January 1988</i> | H - 1B |
| CONTROL VALVE. | H - 2 |
| SECTION of control valve | H - 3 |
| <i>From January 1988 to April 1996</i> | |
| CONTROL VALVE. <i>From April 1996</i> | H - 4 |
| RAM, STANDARD SKIP TIPPING, IMPERIAL | H - 6 |
| RAM, STANDARD SKIP TIPPING, METRIC | H - 6A |
| RAM, HIGH DISCHARGE SKIP TIPPING | H - 7 |
| RAM, ROTATING SKIP TIPPING | H - 8 |

HYDRAULIC PUMP & TANK

H - 1

| Item | Part no | Serial no | Description | Qty |
|---|----------|-----------------|---|-----|
| 1 | 30286A08 | | TANK, hydraulic (<i>see following note</i>) | 1 |
| <p>Hydraulic tank: Up to machine serial numbers:0552 (2B1000) and 0585 (2B1500), the control valve mounting bracket was welded to the tank.</p> <p>When replacing a hydraulic tank on machines prior to these serial numbers, a loose control valve bracket (part number 40220A0810) will also be required to be welded in the correct position. (Refer to Winget Service Bulletin).</p> | | | | |
| 2 | 11S04C | | SCREW | 4 |
| 3 | 17S05 | | WASHER | 4 |
| 4 | 7S04 | | NUT | 4 |
| 5 | 901S02 | | FILTER | 1 |
| 6 | 186S14 | / Apr 96 | WASHER, nylon (OBSOLETE: use 100S08) | 1 |
| 6 | 100S08 | Apr 96 / | SEAL, bonded | 1 |
| 7 | 129S05E | | ELBOW | 2 |
| 8 | 10565A01 | | CAP, filler, complete | |
| 12 | 101S07E | | RIVET | |
| Machines fitted with Petter engines | | | | |
| 16 | 10977A01 | / Nov 88 | # PUMP, "Dowty" | 1 |
| 16 | 11040A01 | Nov 88 / | # PUMP, "Sundstrand" | 1 |
| Machines fitted with Lister ST engines | | | | |
| 16 | 10977A02 | / Nov 88 | # PUMP, "Ultra", | 1 |
| 16 | 11040A02 | Nov 88 / | # PUMP, "Sundstrand" | 1 |
| Machines fitted with Lister-Petter TS1 & TR1 engines | | | | |
| 16 | 10977A03 | Jun 86 / Nov 88 | # PUMP, "Ultra/Dowty" | 1 |
| 16 | 11040A03 | Nov 88 / 0589 | # PUMP, "Sundstrand", 2B1000 | 1 |
| 16 | 11040A03 | Nov 88 / 616 | # PUMP, "Sundstrand", 2B1500 | 1 |
| 16 | 10977A03 | 0590 / | # PUMP, "Ultra/Dowty", 2B1000 | 1 |
| 16 | 10977A03 | 617 / | # PUMP, "Ultra/Dowty", 2B1500 | 1 |
| Lister-Petter TR1 Engines fitted with Bosch Hydraulic Pumps | | | | |
| 16 | 10977A05 | | # PUMP, "Bosch", 2B1000 | 1 |
| 16 | 10977A05 | | # PUMP, "Bosch", 2B1500 | 1 |
| <p>#NOTE: When ordering replacement pumps, state whether "Dowty", "Sundstrand", "Ultra" or "Bosch" (on serial plate on pump)</p> | | | | |
| 16A | 10190A01 | | KIT, pump repair, "Dowty" & "Ultra" | AR |
| 16A | 11046A01 | | KIT, pump repair, "Sundstrand" | AR |

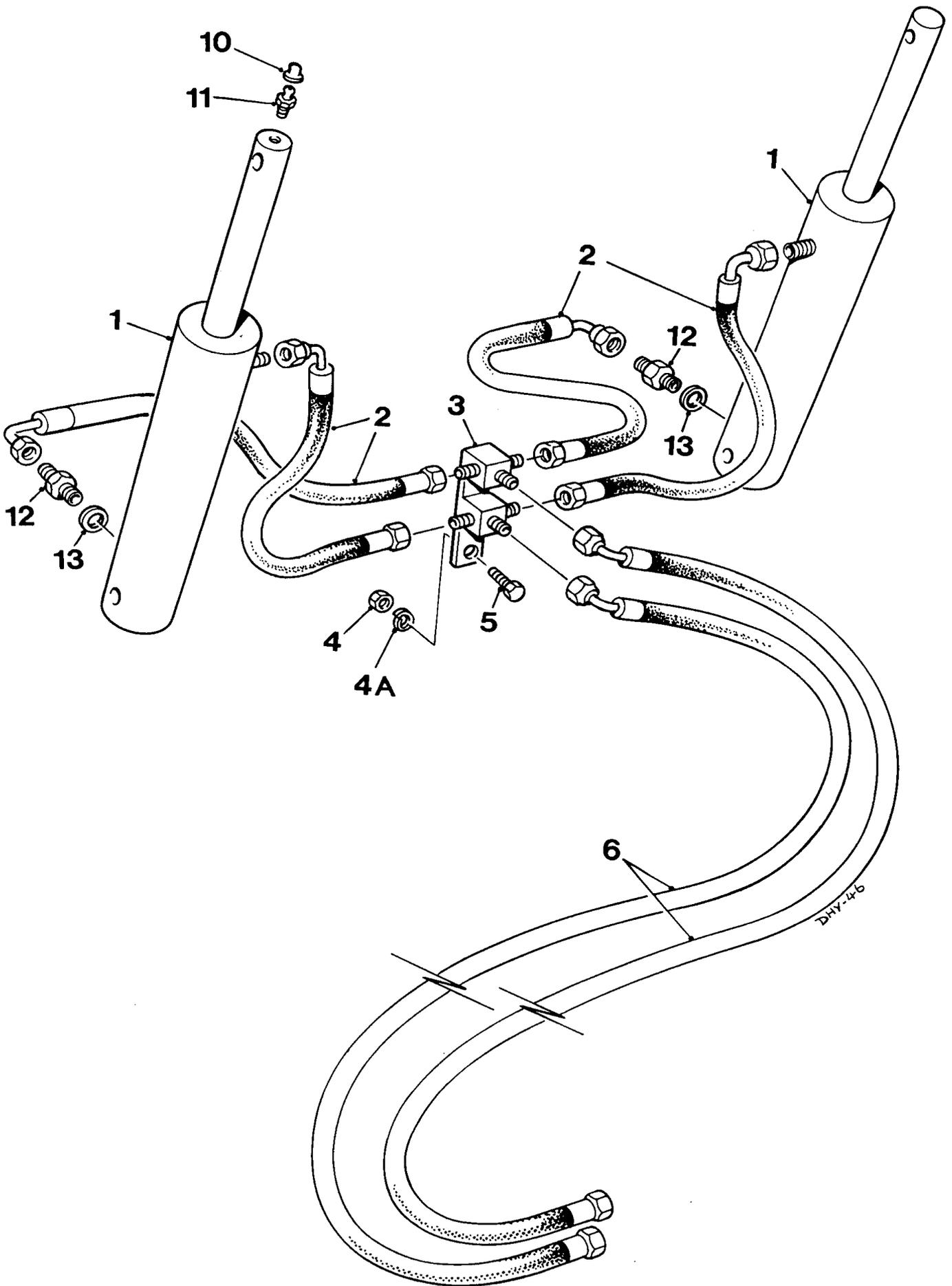
| Item | Part no | Serial no | Description | Qty |
|---|----------|---------------|---|-----|
| Bracket fittings for belt driven pumps | | | | |
| ..... | 30314A03 | / Jun 86 | BRACKET, pump mounting | 1 |
| ..... | 30314A04 | Jun 86 / | BRACKET, pump mounting | 1 |
| ..... | 52S02H | | SCREW, pump to bracket | 4 |
| ..... | 12S02 | | WASHER, pump to bracket | 4 |
| ..... | 59S14 | | NUT, pump to bracket | 4 |
| ..... | 11S04E | | SCREW, bracket to chassis | 2 |
| ..... | 12S05 | | WASHER, flat, bracket to chassis | 2 |
| ..... | 59S03 | | NUT, nylon insert, bracket to chassis | 2 |
| Machines fitted with Petter engines | | | | |
| 24 | 10944A03 | | GUARD,belt, hand start only | 1 |
| Machines fitted with Lister ST engines | | | | |
| 24 | 10944A04 | | GUARD,belt, hand start only | |
| 25 | 11S02B | | SCREW, guard to pump bracket | 2 |
| 26 | 12S02 | | WASHER, guard to pump bracket | 2 |
| 27 | 59S14 | | NUT, nylon insert, guard to pump bkt. | 2 |
| 28 | 2ST121 | | BELT, wedge | 2 |
| 29 | ASE154 | | PULLEY | 2 |
| 30 | 10978S01 | | BUSH, taper lock, pump | 1 |
| 31 | 2ST123 | | BUSH, taper lock, engine | 1 |
| 32 | ASE159 | | KEY, engine start | 1 |
| 33 | 156S06 | Jun 86 / | ADAPTOR, straight | 1 |
| 33 | 123S01 | / Apr 90 | ELBOW | 1 |
| 33 | 129S05E | May 90 / | ELBOW | 1 |
| 34 | 119S13 | / Nov 88 | ADAPTOR ("Ultra/Dowty") | 1 |
| 34 | 122S06 | Nov 88 / 0589 | ADAPTOR ("Sundstrand") 2B1000 | 1 |
| 34 | 122S06 | Nov 88 / 616 | ADAPTOR ("Sundstrand") 2B1500 | 1 |
| 34 | 119S13 | 0590 / | ADAPTOR ("Ultra/Dowty") 2B1000 | 1 |
| 34 | 119S13 | 617 / | ADAPTOR ("Ultra/Dowty") 2B1500 | 1 |
| 34 | 122S06 | | ADAPTOR ("Bosch") 2B1000 | 1 |
| 34 | 122S06 | | ADAPTOR ("Bosch") 2B1500 | 1 |
| 35 | 100S04 | | SEAL, bonded, ("Ultra/Dowty") | 1 |
| 35 | 100S06 | Nov 88 / 0589 | SEAL, bonded, ("Sundstrand") 2B1000 | 1 |
| 35 | 100S06 | Nov 88 / 0616 | SEAL, bonded, ("Sundstrand") 2B1500 | 1 |
| 35 | 100S04 | 0590 / | SEAL, bonded, ("Ultra/Dowty") 2B1000 | 1 |
| 35 | 100S04 | 617 / | SEAL, bonded, ("Ultra/Dowty") 2B1500 | 1 |
| 35 | 100S06 | | SEAL, bonded, ("Bosch") 2B1000 | 1 |
| 35 | 100S06 | | SEAL, bonded, ("Bosch") 2B1500 | 1 |



HYDRAULIC PUMP & TANK

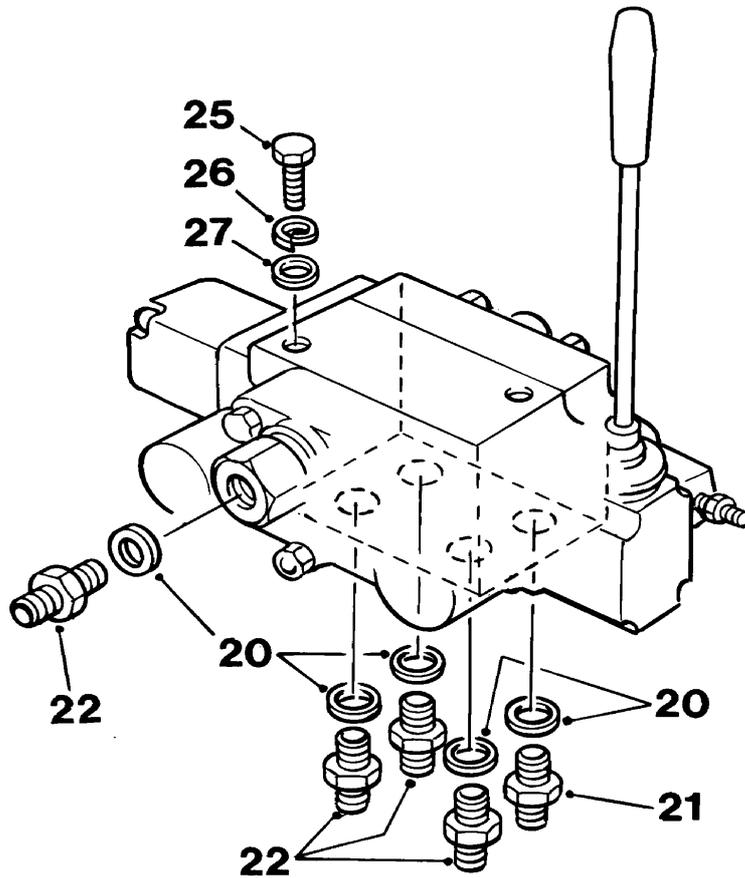
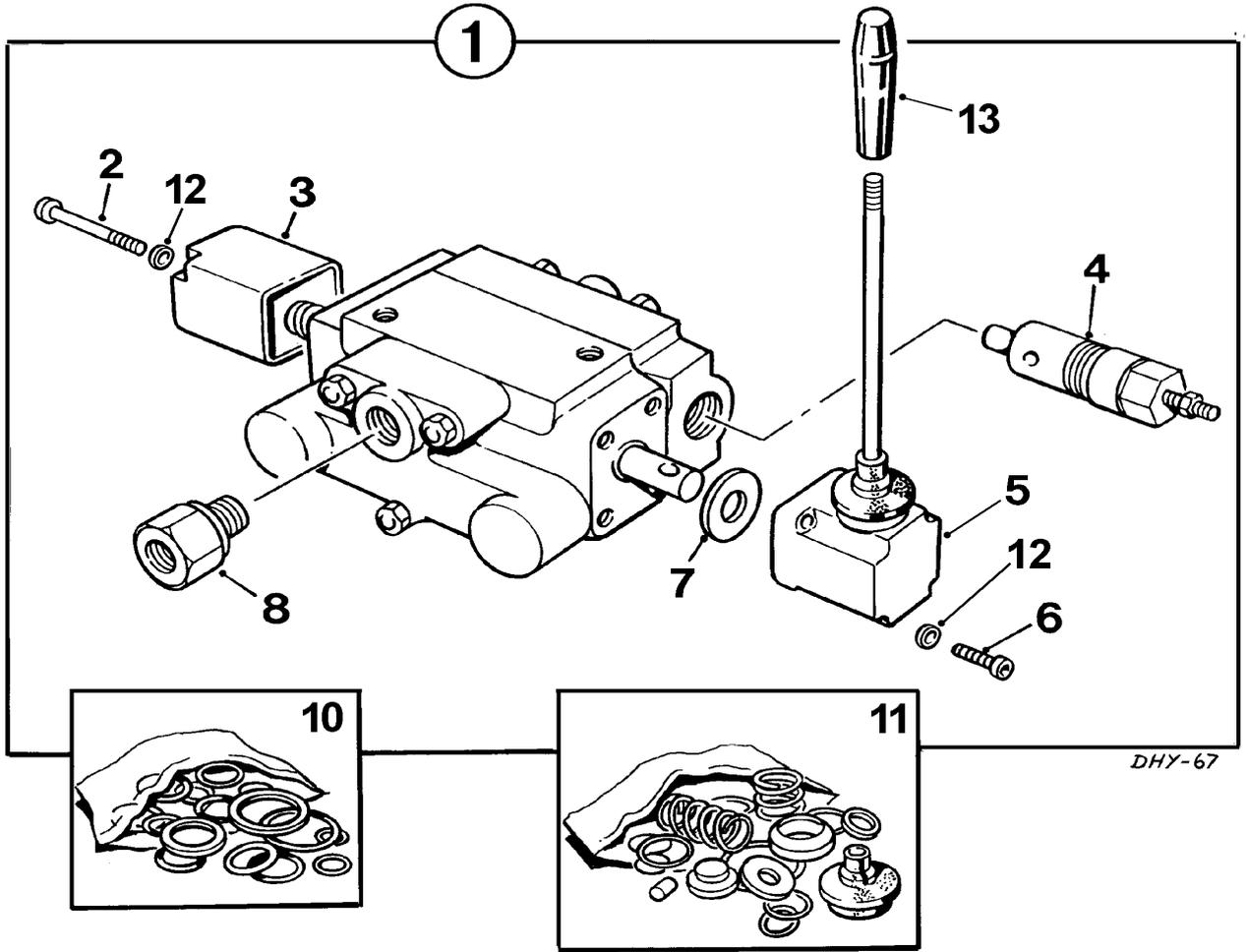
H - 1

| Item | Part no | Serial no | Description | Qty |
|---|----------|-------------|-----------------------------|-----|
| 35A | 100S04 | | SEAL, bonded | 1 |
| 36 | 119S08 | | ADAPTOR | 1 |
| Machines fitted with Petter engines | | | | |
| 42 | 37S01W | | HOSE | 1 |
| Machines fitted with Lister ST engines | | | | |
| 42 | 37S01X | | HOSE | 1 |
| Machines fitted with Lister-Petter TS1 & TR1 engines | | | | |
| 42 | 37S01K | Jun 86 / | HOSE, 600mm long | 1 |
| 43 | V2003232 | | CLIP, hose | 2 |
| 44 | 31S02V | | HOSE | 1 |
| 45 | 31S02AA | | HOSE | 1 |
| Parts of engine (see engine catalogue) | | | | |
| 50 | — | | STUD | |
| 51 | — | | WASHER | |
| 52 | — | | NUT | |
| 53 | — | | SCREW | |
| 54 | — | | WASHER | |
| 55 | — | | NUT | |
| 60 | V2004392 | 0602 / 0636 | GUARD, hoses, 2B1000 | |
| 60 | V2004392 | 696 / 852 | GUARD, hoses, 2B1500 | 1 |
| <i>Guard replaced by an engine cover on CE marked dumpers from Nov. 2002. See page A-1A for engine cover.</i> | | | | |
| 61 | 267S05 | | WASHER, flat | 4 |
| 62 | 17S04 | | WASHER, spring | 4 |
| 63 | 11S03B | | SCREW | 4 |



SKIP TIPPING HYDRAULIC CIRCUIT**H - 1A**

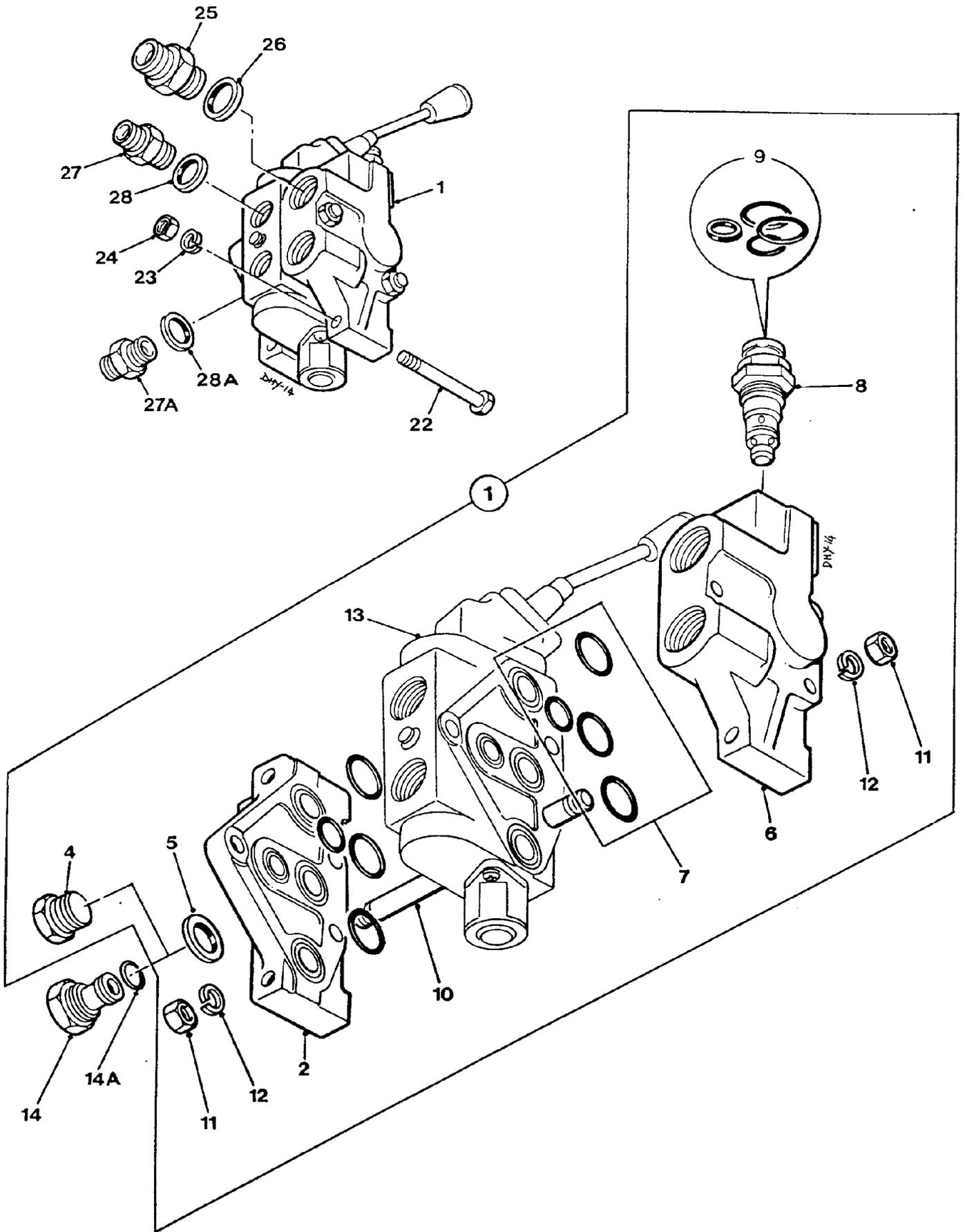
| Item | Part no | Serial no | Description | Qty |
|-------------|----------------|------------------|-----------------------------|------------|
| 1 | 30287A02 | | RAM (see page H-5) | 2 |
| 2 | 31S02GG | | HOSE | 4 |
| 3 | 10464A02 | | FITTING, double tee bracket | 1 |
| 4 | 7S03 | | NUT | 1 |
| 4A | 17S04 | | WASHER, spring | 1 |
| 5 | 11S03E | | SCREW, set | 1 |
| 6 | 31S02YY | | HOSE | 2 |
| 10 | 176S01 | | CAP, grease nipple | 4 |
| 11 | 131S01 | | NIPPLE, grease, straight | 2 |
| — | 131S02 | | NIPPLE, grease, 90 deg. | 2 |
| 12 | 122S03 | | ADAPTOR, m/m | 2 |
| 13 | 100S03 | | SEAL, bonded | 2 |



CONTROL VALVE, (up to January 1988)

H - 1B

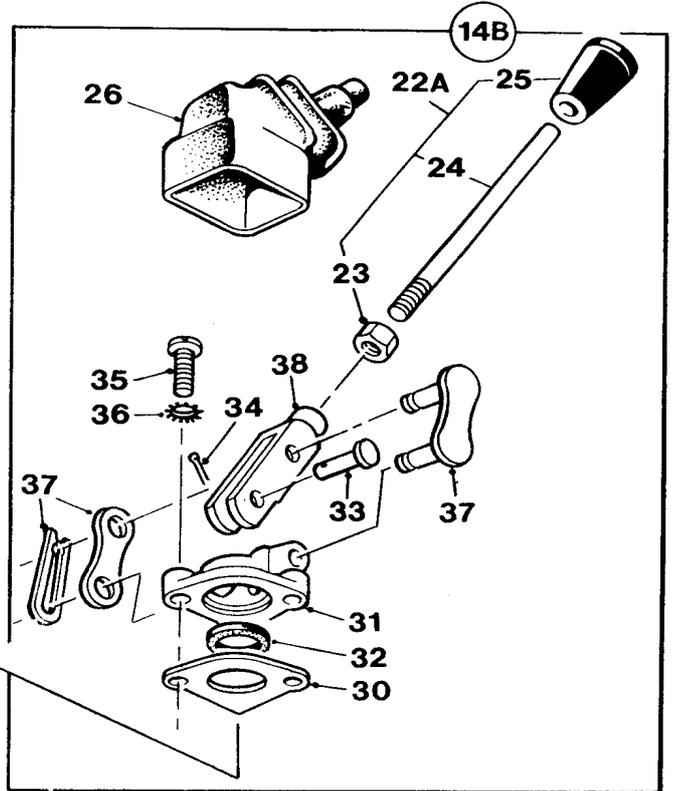
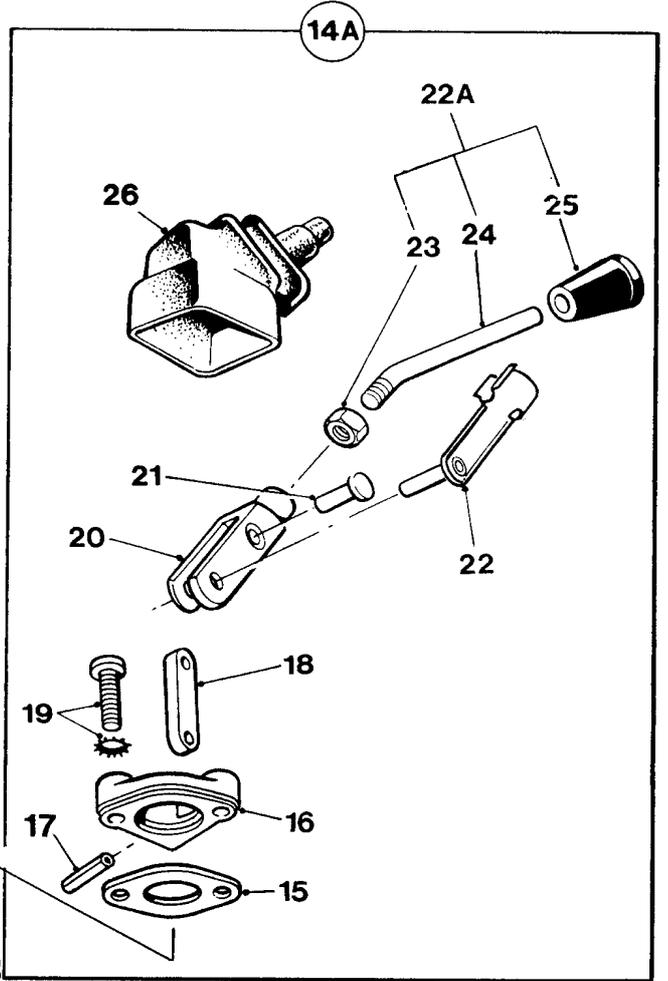
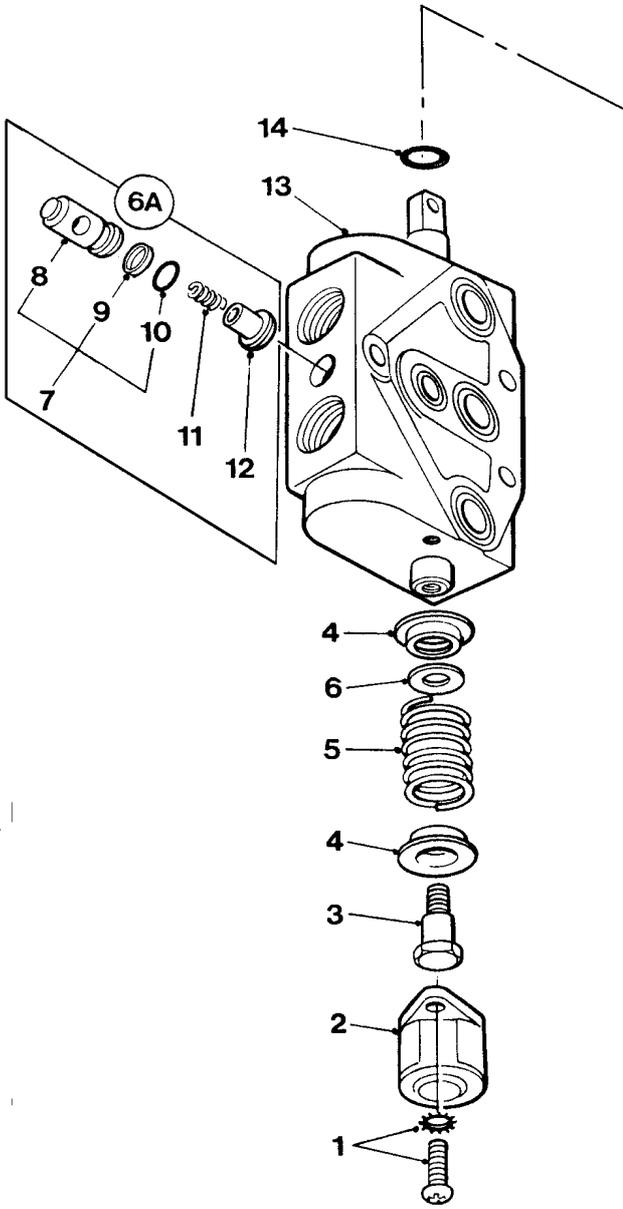
| Item | Part no | Serial no | Description | Qty |
|------|------------|-----------|------------------------|-----|
| 1 | 30322A04 | / Jan-88 | CONTROL VALVE | 1 |
| 2 | 30322A0502 | | SCREW, socket cap head | 2 |
| 3 | 30322A0204 | | CAP, end | 1 |
| 4 | 30322A0102 | | VALVE, relief | 1 |
| 5 | 30322A0503 | | HANDLE, assembly | 1 |
| 6 | 68S02B | | SCREW, socket cap head | 4 |
| 7 | 10S05 | | SPACER, washer | 1 |
| 8 | ..... |  | <i>NOT USED</i> | 1 |
| 10 | 451441502 | | KIT, seals | 1 |
| 11 | 30322A0203 | | KIT, repair | 1 |
| 12 | 13S01 | | WASHER | 8 |
| 13 | 30322A0505 | | KNOB | 1 |
| 20 | 100S04 | | WASHER, bonded | 5 |
| 21 | 122S04 | | ADAPTOR | 1 |
| 22 | 119S08 | | ADAPTOR | 4 |
| 25 | 11S03AA | | SCREW, set | 2 |
| 26 | 267S05 | | WASHER, flat | 2 |
| 27 | 17S04 | | WASHER, spring | 2 |



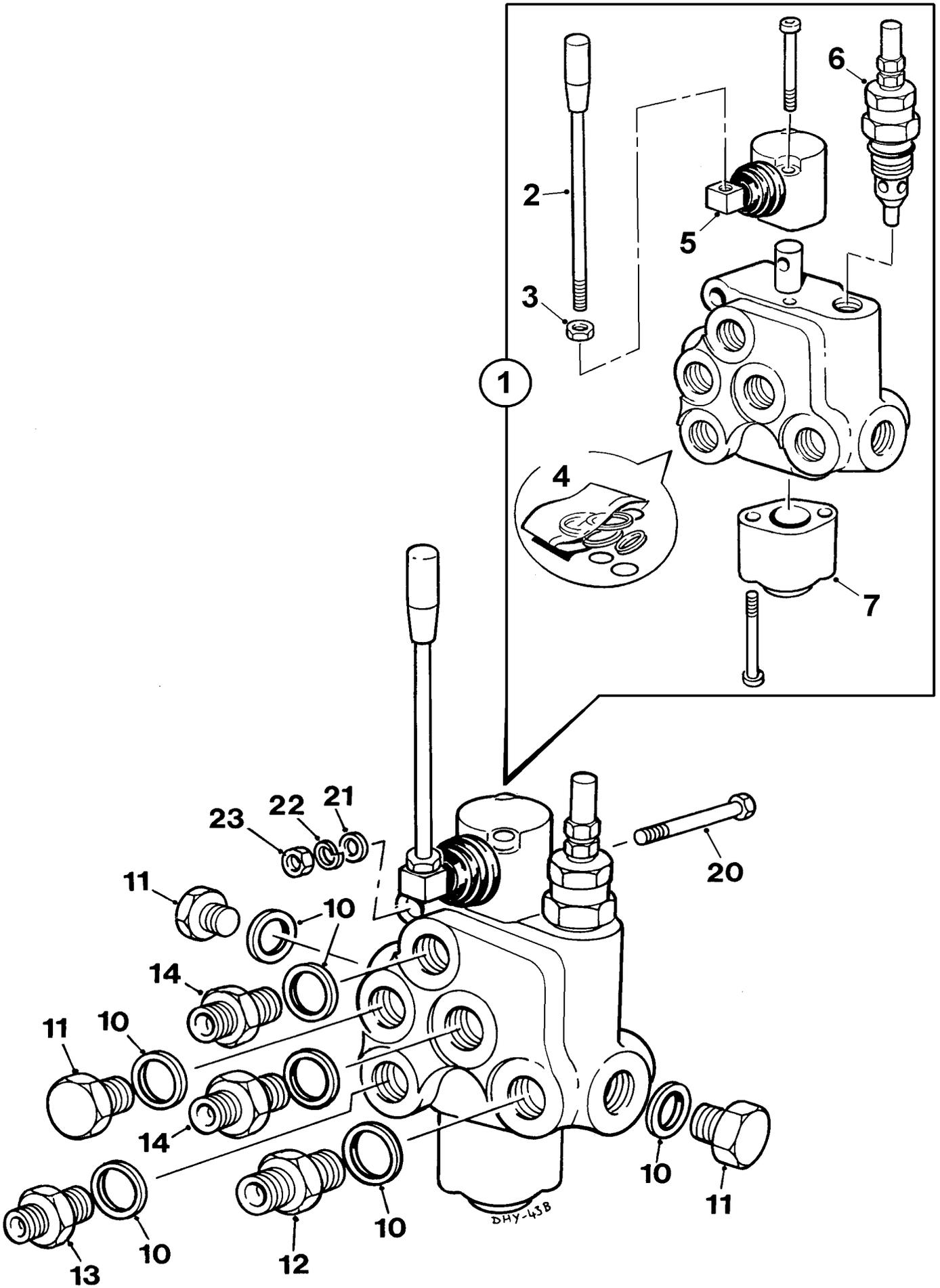
CONTROL VALVE, (from Jan. 1988 to April 1996)

H - 2

| Item | Part no | Serial no | Description | Qty |
|------|----------|---------------|---|-----|
| | | JAN 88 / 0719 | 2B1000 | |
| | | JAN 88 / 616 | 2B1500 | |
| 1 | V2000398 | | CONTROL VALVE, assembly | 1 |
| 2 | V600017 | | COVER, inlet | 1 |
| 4 | 127S04 | | PLUG, blanking | 1 |
| 5 | 100S06 | | SEAL, bonded | 1 |
| 6 | V2003124 | | COVER, end | 1 |
| 7 | V600178 | | KIT, seals | 1 |
| 8 | V600022 | | VALVE, relief | 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 H - 3) | |
| 14 | - | | <i>NOT USED</i> | |
| 14A | - | | <i>NOT USED</i> | |
| 22 | 8S04J | | BOLT | 3 |
| 23 | 17S05 | | WASHER, spring | 3 |
| 24 | 7S04 | | NUT | 3 |
| 25 | 119S10 | | ADAPTOR | 2 |
| 26 | 100S06 | | SEAL, bonded | 2 |
| 27 | 119S08 | | ADAPTOR | 2 |
| 27A | - | | <i>NOT USED</i> | |
| 28 | 100S04 | | SEAL, bonded | 2 |
| 28A | - | | <i>NOT USED</i> | |

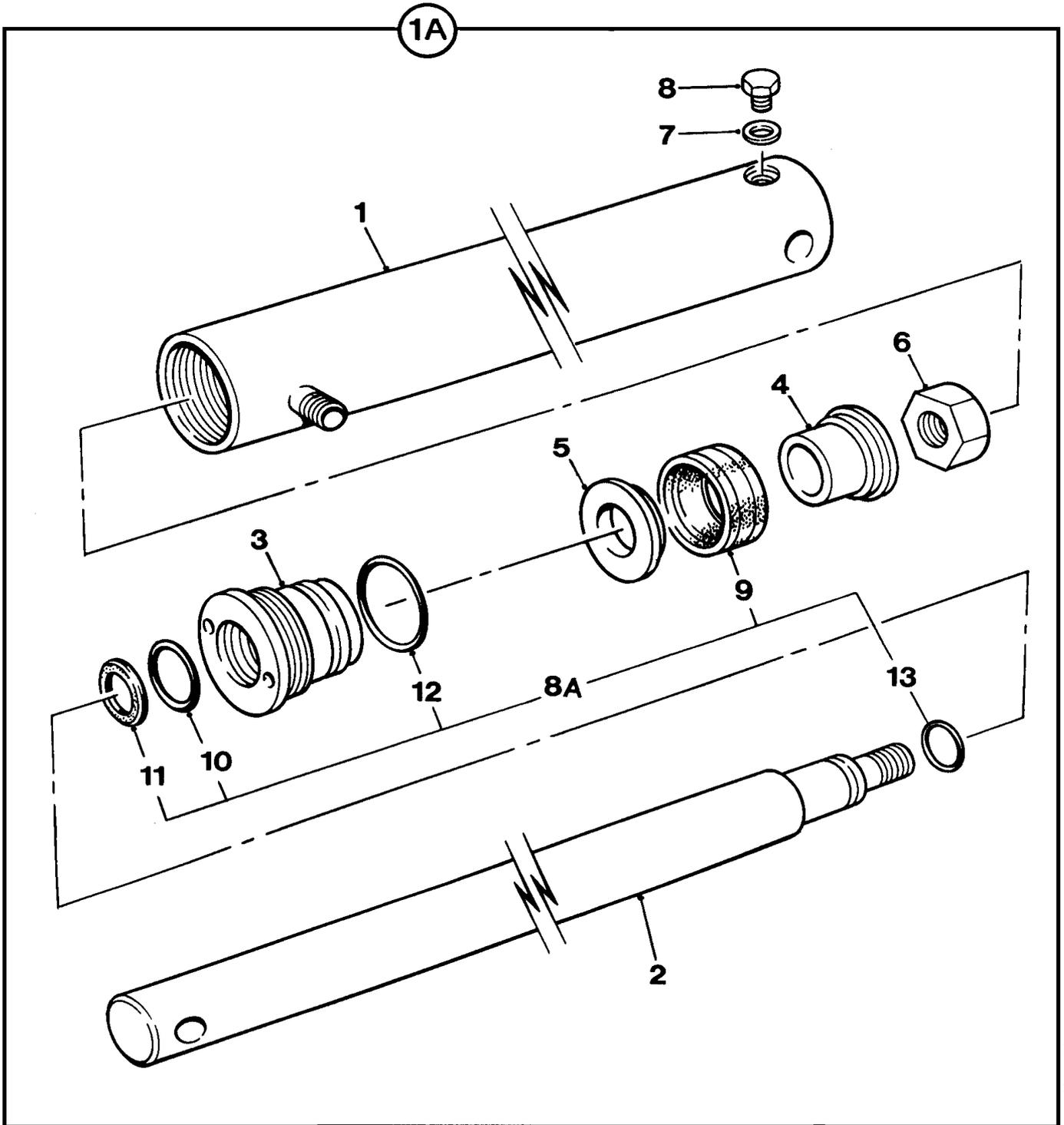


| Item | Part no | Serial no | Description | Qty |
|------|----------|-----------------|--------------------------------|-----|
| | | JAN 88 / 0719 | 2B1000 | |
| | | JAN 88 / 616 | 2B1500 | |
| 1 | V600026 | | SCREW, c/w washer | 2 |
| 2 | V600190 | | CAP, end | 1 |
| 3 | V2003115 | | SCREW, shoulder | 1 |
| 4 | V2003117 | | SEAT, spring | 2 |
| 5 | V2003114 | | SPRING | 1 |
| 6 | V600179 | | SPACER | 1 |
| 6A | V600180 | | CHECK VALVE, assembly | 1 |
| 7 | V600181 | | KIT, REPAIR, check valve | 1 |
| 8 | V2003118 | | GUIDE, check valve | 1 |
| 9 | V600182 | | RING, back up | 1 |
| 10 | V600183 | | SEAL, 'O' ring | 1 |
| 11 | V2003119 | | SPRING | 1 |
| 12 | V2003120 | | POPPET | 1 |
| 13 | V600176 | | BODY, c/w spool | 1 |
| 14 | V2003113 | | SEAL, 'O' ring | 2 |
| 14A | V600057 | JAN 88 / OCT 93 | LEVER, control valve, assembly | 1 |
| 14B | V602166 | OCT 93 / | LEVER, control valve, assembly | 1 |
| 15 | V2003122 | JAN 88 / OCT 93 | SEAL, wiper | 1 |
| 16 | V600059 | JAN 88 / OCT 93 | BRACKET, handle | 1 |
| 17 | V600060 | JAN 88 / OCT 93 | PIN, roll | 1 |
| 18 | V600061 | JAN 88 / OCT 93 | LINK | 1 |
| 19 | V600062 | JAN 88 / OCT 93 | SCREW, c/w washer | 2 |
| 20 | V600063 | JAN 88 / OCT 93 | CLEVIS | 1 |
| 21 | V600064 | JAN 88 / OCT 93 | PIN | 1 |
| 22 | V600065 | JAN 88 / OCT 93 | PIN, clip | 1 |
| 22A | V600159 | | LEVER, assembly | 1 |
| 23 | V600066 | | NUT | 1 |
| 24 | V602478 | | HANDLE | 1 |
| 25 | V600068 | | KNOB | 1 |
| 26 | V600069 | | GAITER | 1 |
| 30 | V602448 | OCT 93 / | PLATE, seal | 1 |
| 31 | V602449 | OCT 93 / | BRACKET | 1 |
| 32 | V2003122 | OCT 93 / | SEAL, wiper | 1 |
| 33 | V602476 | OCT 93 / | PIN, clevis | 1 |
| 34 | V602475 | OCT 93 / | PIN, split | 1 |
| 35 | V602447 | OCT 93 / | SCREW | 2 |
| 36 | V602446 | OCT 93 / | WASHER | 2 |
| 37 | 81S02 | OCT 93 / | LINK | 1 |
| 38 | V602477 | OCT 93 / | CLEVIS | 1 |



CONTROL VALVE, (from April 1996)**H - 4**

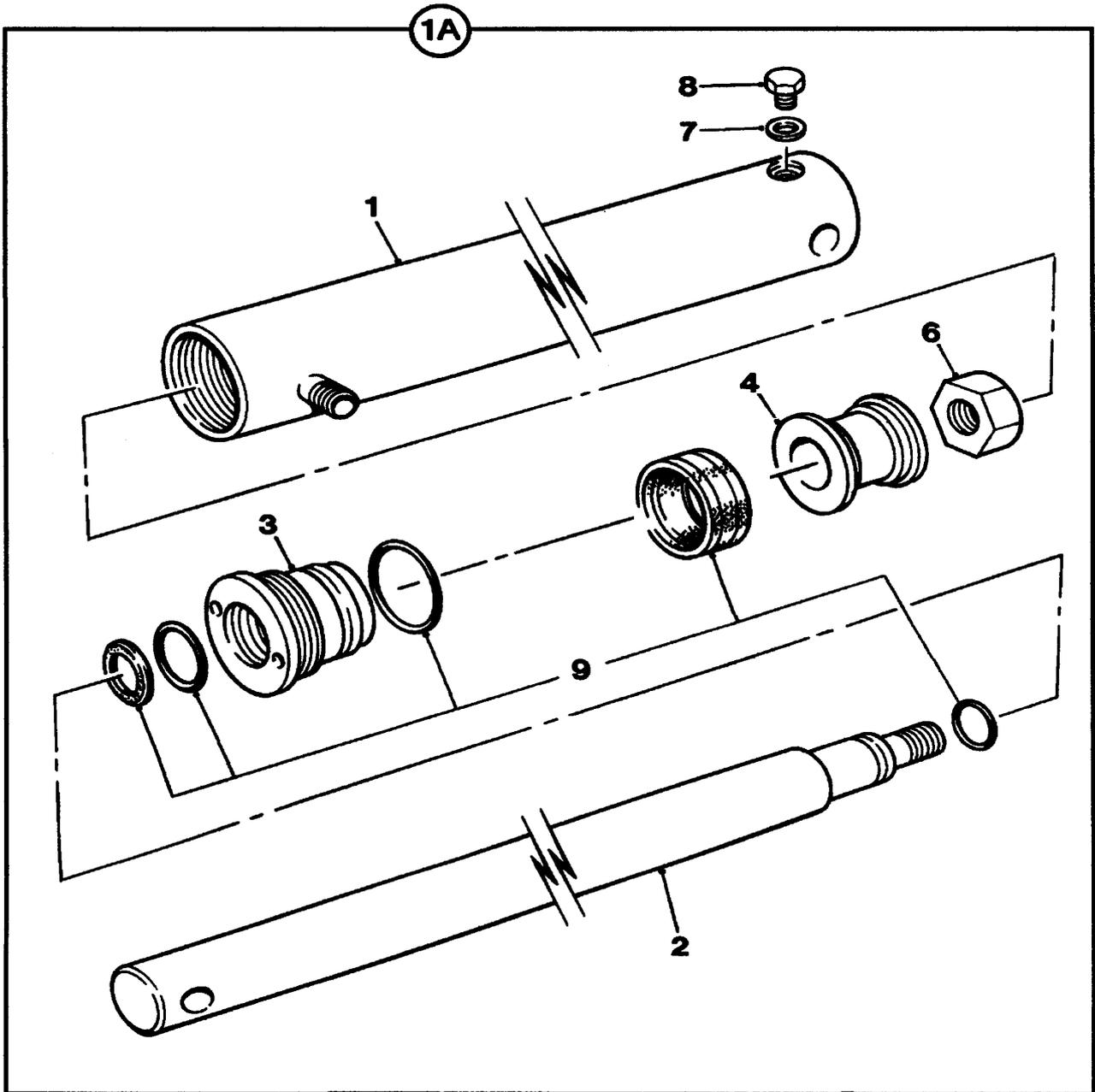
| Item | Part no | Serial no | Description | Qty |
|-------------|----------------|------------------|--------------------------------|------------|
| | | 0719 / 616 / | 2B1000 2B1500 | |
| 1 | V2004106 | | VALVE, control, assembly | |
| 2 | V602630 | | LEVER, knob & nut, assembly | 1 |
| 3 | 7S04 | | NUT | 1 |
| 4 | V602629 | | KIT, control valve repair | AR |
| 5 | V603565 | | END CAP, lever | 1 |
| 6 | V603605 | | VALVE, relief | 1 |
| 7 | V603606 | | END CAP, spring base | 1 |
| 10 | 100S03 | | SEAL, bonded | 7 |
| 11 | 127S03 | | PLUG, male | 2 |
| 12 | 122S03 | | ADAPTOR, m/m, from pump | 1 |
| 13 | 122S03 | | ADAPTOR, m/m, to tank | 1 |
| 14 | 122S03 | | ADAPTOR, m/m, to rams | 2 |
| 20 | 8S03H | | BOLT | 2 |
| 21 | 267S05 | | WASHER, flat | 2 |
| 22 | 17S04 | | WASHER, spring | 2 |
| 23 | 7S03 | | NUT | 2 |



RAM (Imperial), tipping, hydraulic skip**H - 6**

| Item | Part no | Serial no | Description | Qty |
|-------------|----------------|------------------|---|------------|
| 1A | 30287A02 | | RAM, hyd, assembly Obsolete, see page H-6A | 1 |
| 1 | 30287A0201 | | CYLINDER, ram | 1 |
| 2 | 30287A0202 | | ROD, piston | 1 |
| 3 | 30287A0203 | | NUT, gland ring | 1 |
| 4 | 30287A0204 | | PISTON, rear | 1 |
| 5 | 30287A0205 | | PISTON, front | 1 |
| 6 | 163S08 | | NUT, nylon insert | 1 |
| 7 | 100S03 | | SEAL, bonded | 1 |
| 8 | 127S03 | | PLUG, blanking | 1 |
| 8A | 10558A08 | | KIT, seals | 1 |
| 9 | 30287A0206 | | SEAL | 1 |
| 10 | 30287A0207 | | SEAL | 1 |
| 11 | 30287A0208 | | SEAL, wiper | 1 |
| 12 | 30287A0209 | | SEAL, 'O' ring | 1 |
| 13 | 30287A0210 | | SEAL, 'O' ring | 1 |

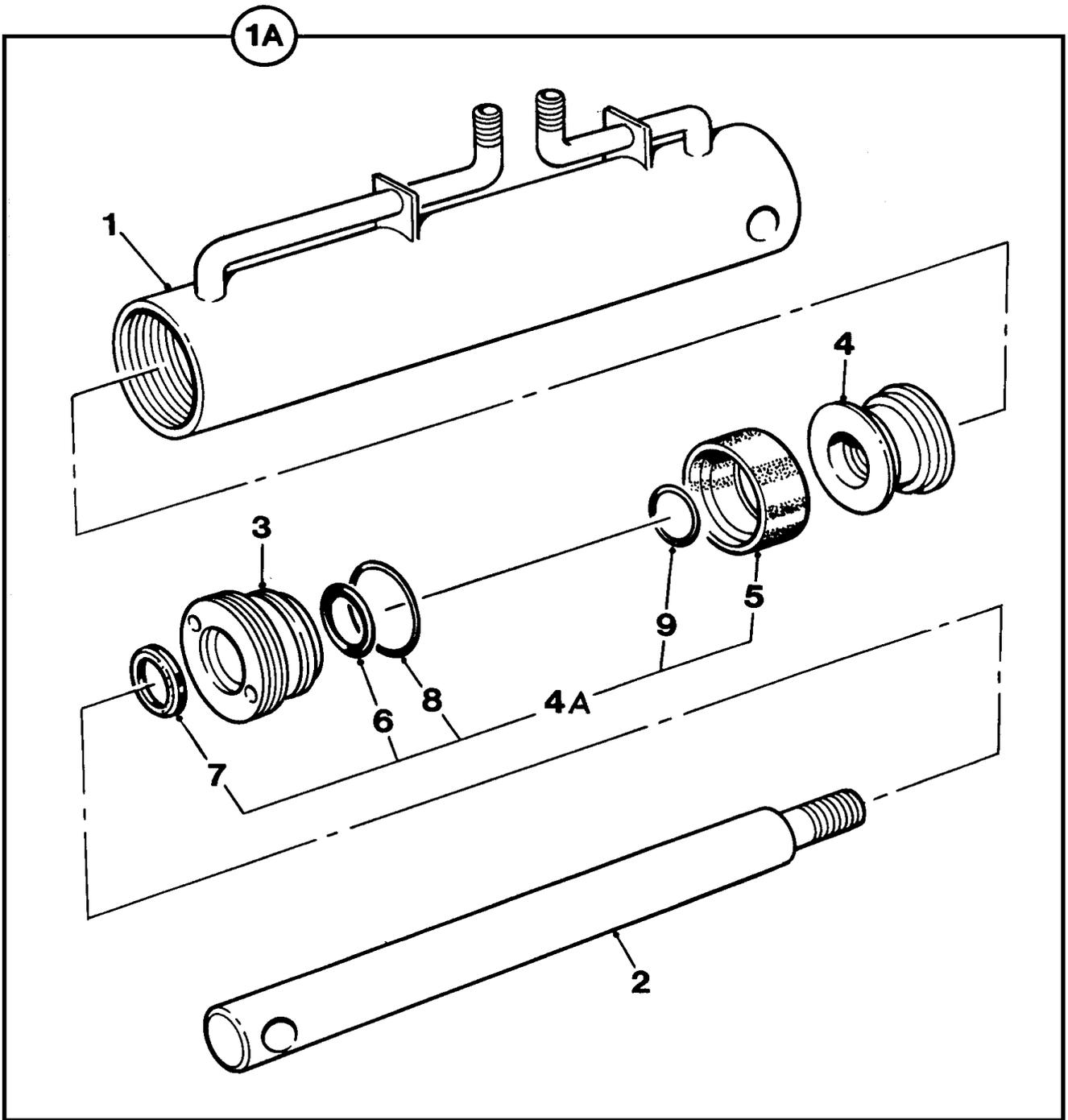
The imperial ram assembly part no 30287A02 was rendered obsolete at the end of 2008 and replaced by a metric ram assembly part no 30287A06, refer to page H-6A. Seal kits part no 10558A08 are still available to service existing imperial rams.



RAM (Metric), tipping, hydraulic skip**H - 6A**

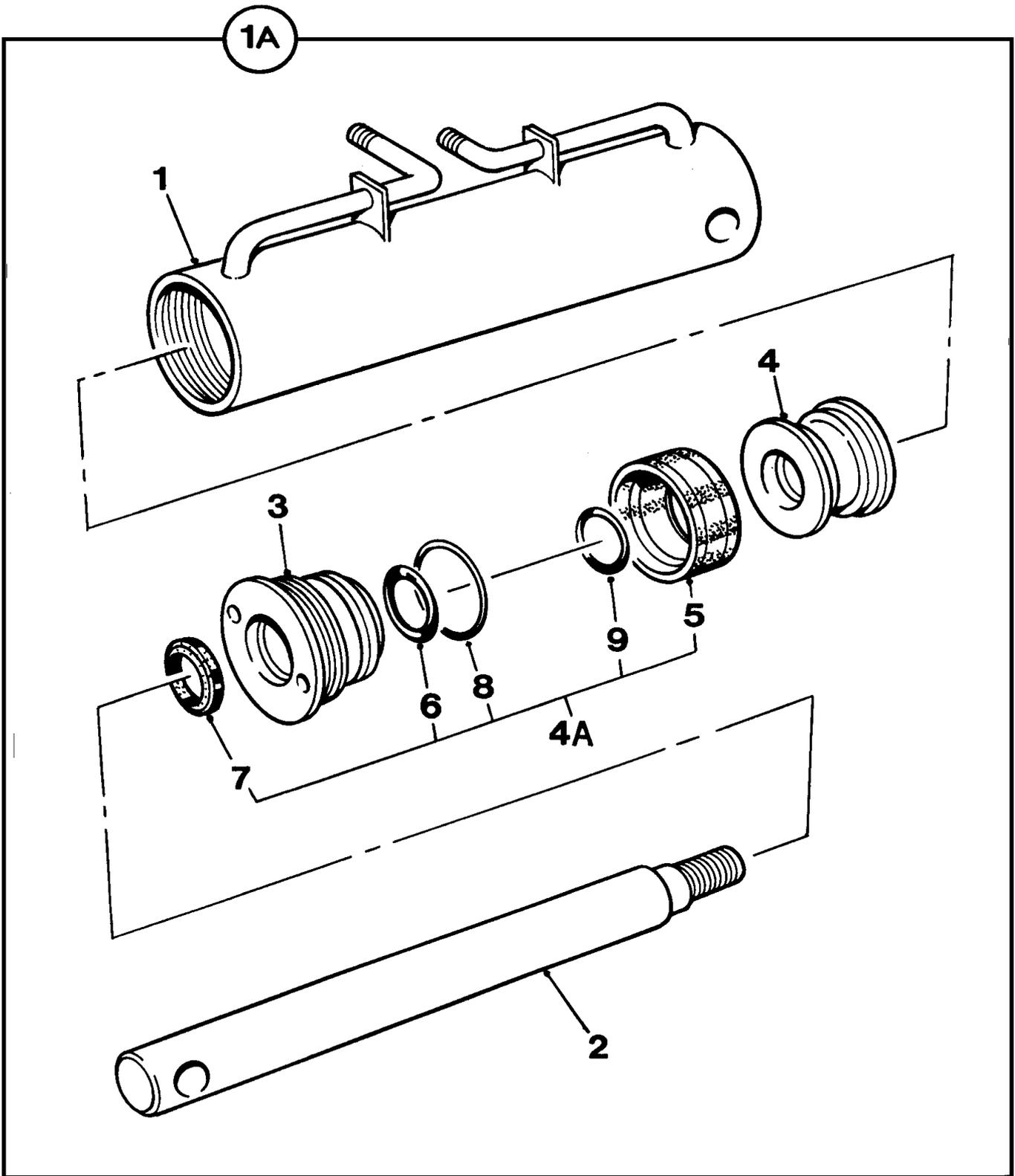
| Item | Part no | Serial no | Description | Qty |
|-------------|----------------|------------------|-------------------------------------|------------|
| 1A | 30287A06 | | RAM, hyd, assembly, metric rod & cy | 1 |
| 1 | 30287A0601 | | CYLINDER, ram (metric) | 1 |
| 2 | 30287A0602 | | ROD, piston (metric) | 1 |
| 3 | 30287A0603 | | NUT, gland ring | 1 |
| 4 | 30287A0604 | | PISTON, one piece | 1 |
| 5 | 30287A0605 | | Spacer, rod, not illustrated | 1 |
| 6 | | | NUT, nylon insert M20x1.5 | 1 |
| 6A | 54S04K | | Pin, tension M5x30 | 1 |
| 7 | 100S03 | | SEAL, bonded | 1 |
| 8 | 127S03 | | PLUG, blanking | 1 |
| 9 | 10558A11 | | KIT, seals | 1 |

Introduced January 2009 to replace imperial ram part number 30287A02. First used on 2B1500 machine serial no L2B15VA1058



RAM, tipping, high discharge skip**H - 7**

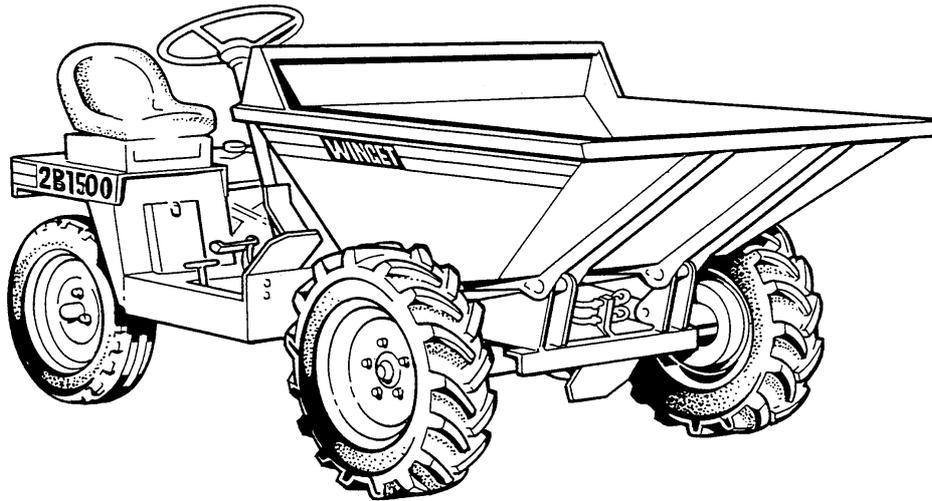
| Item | Part no | Serial no | Description | Qty |
|-------------|----------------|------------------|--------------------|------------|
| 1A | 30113A03 | | RAM, assembly | 1 |
| 1 | 30113A0301 | | CYLINDER, ram | 1 |
| 2 | 30113A0302 | | ROD, piston | 1 |
| 3 | 30113A0303 | | RING NUT, gland | 1 |
| 4 | 30113A0304 | | HEAD, piston | 1 |
| 4A | 10558A07 | | KIT, seals | 1 |
| 5 | 30113A0305 | | SEAL | 1 |
| 6 | 30113A0306 | | SEAL | 1 |
| 7 | 30287A0208 | | SEAL, wiper | 1 |
| 8 | 30113A0307 | | SEAL, 'O' ring | 1 |
| 9 | 30113A0308 | | SEAL, 'O' ring | 1 |



RAM, tipping, rotating skip**H - 8**

| Item | Part no | Serial no | Description | Qty |
|-------------|----------------|------------------|--------------------|------------|
| 1A | 30113A02 | | RAM, assembly | 1 |
| 1 | 30113A0201 | | CYLINDER, ram | 1 |
| 2 | 30113A0202 | | ROD, piston | 1 |
| 3 | 30113A0203 | | RING NUT, gland | 1 |
| 4 | 30113A0304 | | HEAD, piston | 1 |
| 4A | 10558A09 | | KIT, seals | 1 |
| 5 | 30113A0305 | | SEAL | 1 |
| 6 | 30113A0204 | | SEAL | 1 |
| 7 | 30287A0208 | | SEAL, wiper | 1 |
| 8 | 30113A0307 | | SEAL, 'O' ring | 1 |
| 9 | 30113A0308 | | SEAL, 'O' ring | 1 |

2B1000 & 2B1500 DUMPERS



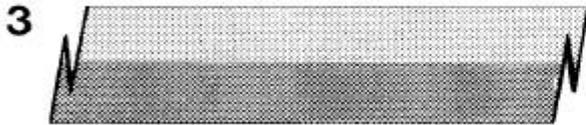
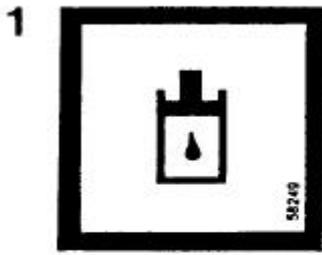
Miscellaneous

DECALS & PLATES

J - 1 to J - 3

SPECIAL TOOLS

J - 10



11

| | | | |
|----------------|------------|---|-------|
| WINGET | | WINGET LIMITED P.O. Box 41, Strathguslaw Lane, Bolton, Lancs. BL4 0LW Tel: 01204 881165 Fax: 01204 881166 | |
| Model | _____ | | |
| Serial No. | _____ | | |
| Engine No. | _____ | | |
| Capacity | Mass (kg) | _____ | |
| SRO No. | Power (kW) | _____ | |
| Year Of Manuf. | Eng. (rpm) | Drum (rpm) | _____ |

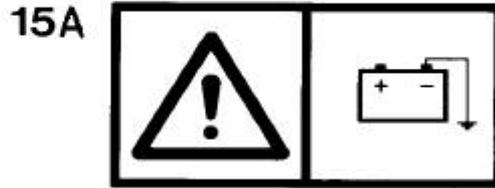
A Sessler Group Company

12

**TAKE EXTRA CARE WHEN TIPPING
NON FREE RUNNING LOADS**

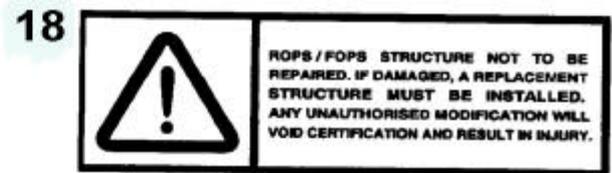
15

NEGATIVE EARTH



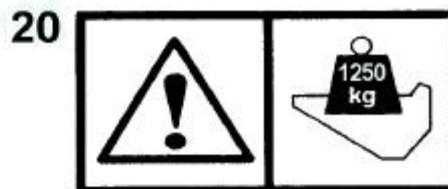
16

**WARNING
DO NOT WORK UNDER
UNPROPPED SKIP**



19

| | | |
|---|--|---|
| TYPE CERTIFICATION FOR ROLL OVER AND FALLING OBJECT PROTECTIVE STRUCTURE | | TESTED TO STANDARDS: ROPS: ISO 3471/1984 SAE J1044/1988 |
| MANUFACTURED BY: WINGET LTD, PO BOX 41, BOLTON, BL4 0LS. TEL: 01204 881165 FAX: 01204 881166 | FOR APPLICATION ON: WINGET LTD, PO BOX 41, BOLTON, BL4 0LS. VEHICLE MODEL: | CAR FRAME SERIAL No. |
| MAXIMUM VEHICLE MASS: | KGS. | |



| Item | Part no | Serial no | Description | Qty |
|-------|----------|--|---|-------|
| — | V601778 | # KIT, decals, 2B1000 | | 1 kit |
| — | V601779 | # KIT, decals, 2B1500 | | 1 kit |
| | | # Each kit contains all decals required for one dumper | | |
| 1 | V2003100 | | DECAL, Hydraulic oil | |
| 2 | V2003101 | | DECAL, Diesel fuel | |
| 3 | V2003038 | | DECAL, Stripe, bodywork, | |
| 4 | V2003039 | | DECAL, Winget logo | |
| 10 | 10284A01 | | DECAL, Dump/return | |
| 11 | V2003037 | | PLATE , Serial Number | |
| 12 | 10536A02 | | DECAL, Non free running loads | |
| 15 | 4602331 | | DECAL, Negative earth (obsolete: use V2004235) | |
| 15A | V2004235 | | DECAL, Negative earth | |
| 16 | DM157 | | DECAL, Skip warning | |
| 17 | V2005310 | | DECAL, R.O.P.S. folding | |
| 18 | V2004754 | | DECAL, Damage to R.O.P.S. frame | |
| 19 | V2005030 | | PLATE, R.O.P.S. identification | |
| ..... | 101S05D | | RIVET, used with plate item 19. | |
| 20 | V2004791 | | DECAL, Max. payload 1250kgs | |
| 21 | V2004680 | | DECAL, Tighten slew ring bolts | |

| Item | Part no | Serial no | Description | Qty |
|------|-----------|-----------|-----------------------------|-----|
| 1 | V2003152 | | DECAL, 2B1000 | |
| 2 | V2003153 | | DECAL, 2B1500 | |
| 3 | DM197 | | DECAL, Lubrication oils | |
| 7 | V2003142 | | DECAL, Warning - wheel nuts | |
| 9 | 10540A02 | | DECAL, 35psi tyre pressure | |
| 15 | 10848A01 | | DECAL, Brake fluid | |
| 16 | V2004652 | | DECAL, Max. payload 1000kgs | |
| 17 | V2004472 | | DECAL, Max. payload 1500kgs | |
| 18 | V2003575 | | DECAL, LWA 105 | |
| 18A | V2005317 | | DECAL, LWA 104 | |
| 19 | 504694600 | | DECAL, Safety warning | |
| 20 | V2003598 | | DECAL, British made | |
| 21 | V2004223 | | DECAL, CE | |
| 22 | V2003665 | | DECAL, Lift here | |
| 23 | V2004225 | | DECAL, ISO skip support | |

J - 3

2B1000 & 2B1500 Dumpers

1

| | |
|--|---|
| | BATTERY ISOLATOR ISOLATING THE BATTERY WITH THE ENGINE RUNNING EXCEPT IN CASES OF EMERGENCY WILL LEAD TO DAMAGE TO THE VEHICLE ELECTRICAL SYSTEM. |
|--|---|

2

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| | |
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3

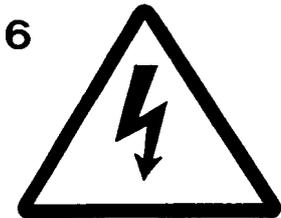
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4

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7

| | |
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| | WHEN MACHINE UNATTENDED REMOVE STARTING HANDLE TO PREVENT UNAUTHORISED USE. |
|--|--|

8

| | | |
|--|--|--|
| | | |
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9

| | |
|--|--|
| | ONLY DISCHARGE ON LEVEL GROUND. ONLY USE FREE FLOWING MATERIALS. ONLY ROTATE WHEN FRONT CHASSIS IS STRAIGHT AHEAD AND ON LEVEL GROUND. ENGAGE SKIP LOCK WHEN TRAVELLING. LIFT SKIP TO DISENGAGE LOCK BEFORE ROTATING. |
|--|--|

10 **maximum payload 1130 kgs**

11 **maximum payload 1250kgs**



14

| | |
|--|---|
| | DO NOT LEAVE THIS MACHINE WITH THE SKIP RAISED. BE AWARE THAT THE SKIP WILL LOWER QUICKLY TO THE CHASSIS IF THE TIPPING LEVER IS OPERATED WHEN THE ENGINE IS SWITCHED OFF. |
|--|---|

15

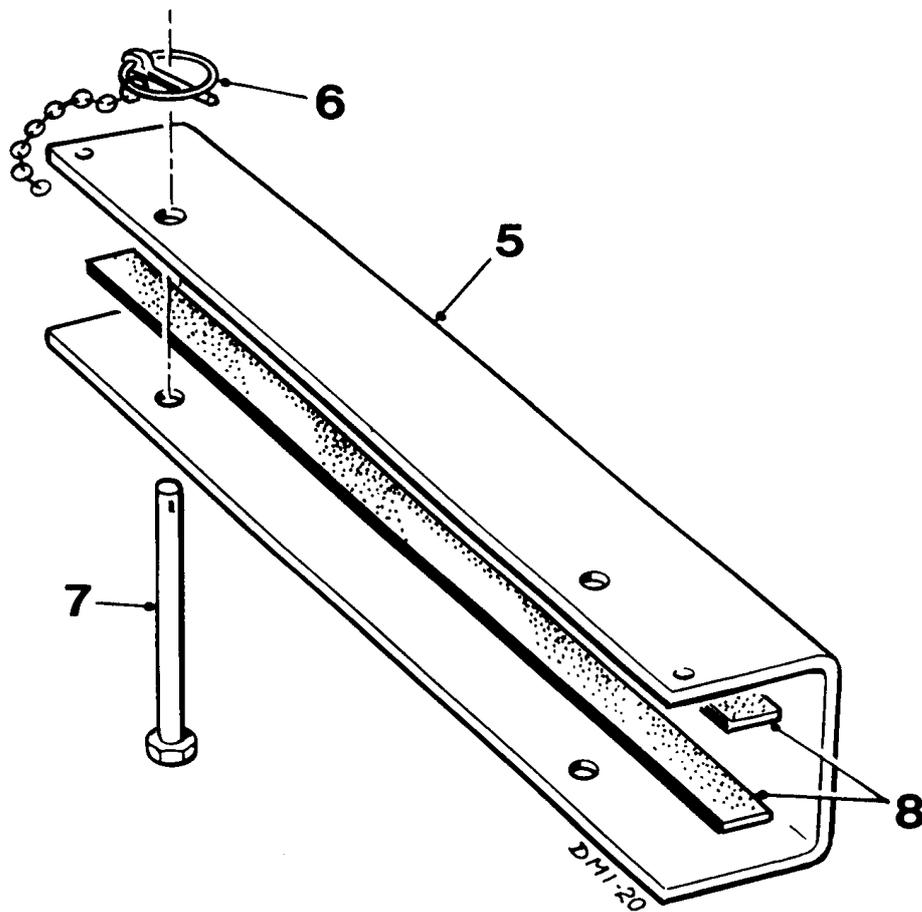
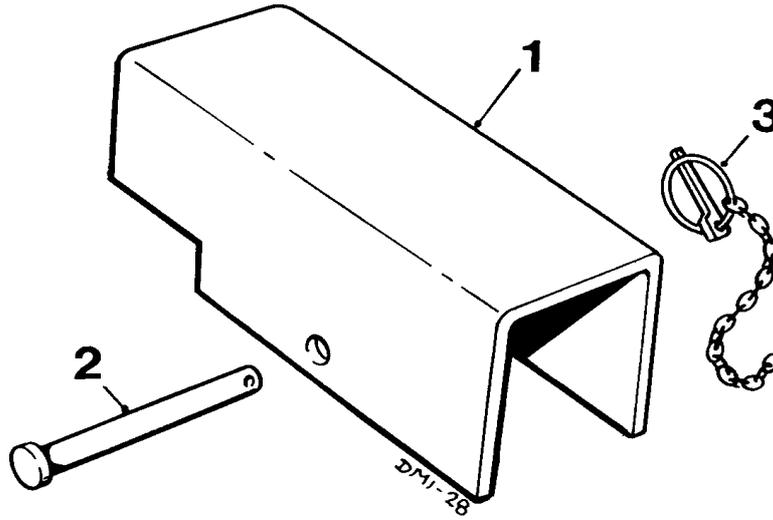
| | |
|--|--|
| | ENSURE HEAPED LOAD DOES NOT RESTRICT FORWARD VISIBILITY |
|--|--|

16

| | |
|--|--|
| | WARNING DO NOT USE THIS EQUIPMENT WITHOUT A ROPS FRAME UNLESS A RISK ASSESSMENT IS CARRIED OUT BY A COMPETENT PERSON AS REQUIRED BY THE POWER REGULATIONS. |
|--|--|

V2005318

| Item | Part no | Serial no | Description | Qty |
|------|----------|-----------|-----------------------------|-----|
| 1 | V2004227 | | DECAL, Battery isolator | |
| 2 | V2004229 | | DECAL, Operators handbook | |
| 3 | V2004245 | | DECAL, No buckets, No forks | |
| 4 | V2004244 | | DECAL, Towbar loadings | |
| 5 | V2004282 | | DECAL, Hot surfaces | |
| 6 | V2004307 | | DECAL, Electrical hazard | |
| 7 | V2004288 | | DECAL, Starting handle | |
| 8 | V2004450 | | DECAL, Gradients | |
| 9 | V2004642 | | DECAL, Skip operation | |
| 10 | 10541A30 | | DECAL, Max. payload 1130kgs | |
| 11 | 10541A31 | | DECAL, Max. payload 1250kgs | |
| 12 | V2004137 | | DECAL, Ear defenders | |
| 13 | V2004744 | | DECAL, Eye protection | |
| 14 | V2004798 | | DECAL, Skip raised | |
| 15 | V2005126 | | DECAL, Heaped load | |
| 16 | V2005318 | | DECAL, ROPS risk assessment | |



| Item | Part no | Serial no | Description | Qty |
|------|---------|-----------|-------------|-----|
|------|---------|-----------|-------------|-----|

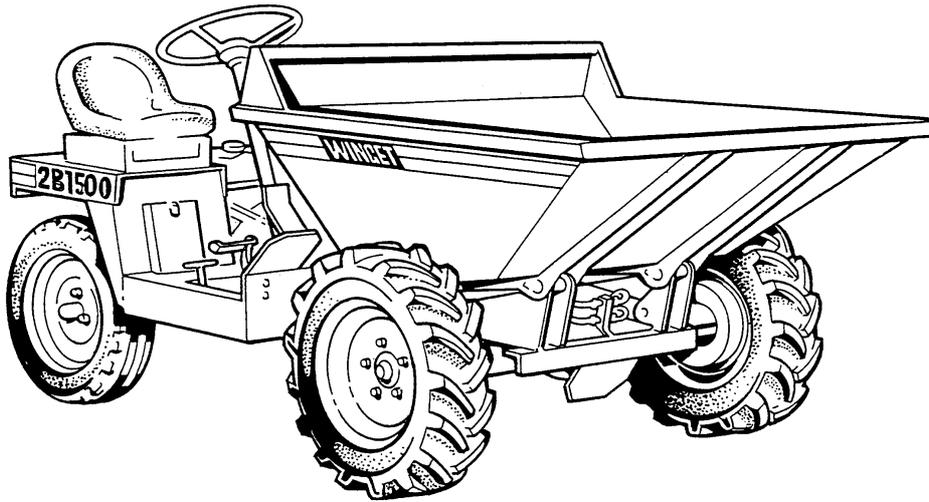
Rotating Skip

| | | | | |
|---|----------|----------|----------------------|---|
| 1 | V2004359 | Jan 95 / | SUPPORT, skip | 1 |
| 2 | V2004217 | | PIN | 1 |
| 3 | 902S02 | | PIN, lynch c/w chain | 1 |

High Discharge Skip

| | | | | |
|---|-----------|--|-------------------------|---|
| 5 | V2004688 | | SUPPORT, skip, | 1 |
| 6 | 902S02 | | PIN, lynch c/w chain | 2 |
| 7 | V2004217 | | PIN | 2 |
| 8 | 106209000 | | SEAL, strip, (2 meters) | 1 |

2B1000 & 2B1500 DUMPERS



Numerical Index

| Part no | Page no |
|----------------|----------------|
| 013203000 | E - 3 |
| 11116 | D - 2A |
| 4602331 | J - 1 |
| 42004244 | J - 3 |
| 106209000 | K - 1 |
| 119325000 | B - 8A |
| 143200900 | F - 9 |
| 143200900 | F - 10 |
| 191901900 | F - 10 |
| 191906000 | F - 10 |
| 208143000 | D - 4 |
| 208143000 | D - 4A |
| 208143000 | F - 9 |
| 208561000 | F - 9 |
| 250166010 | F - 9 |
| 397242000 | E - 1 |
| 451441502 | H - 1B |
| 504694600 | J - 2 |
| 513358500 | A - 1B |
| 513358600 | A - 1B |
| 10054A04 | A - 2 |
| 100S03 | H - 1A |
| 100S03 | H - 4 |
| 100S03 | H - 6 |
| 100S04 | B - 8B |
| 100S04 | H - 1 |
| 100S04 | H - 1B |
| 100S04 | H - 2 |
| 100S06 | H - 1 |
| 100S06 | H - 2 |
| 100S08 | H - 1 |
| 10190A01 | H - 1 |
| 101S05D | A - 1F |
| 101S05D | J - 1 |
| 101S07 | F - 6 |
| 101S07E | A - 1A |
| 101S07E | H - 1 |
| 10203A04 | A - 1 |

| Part no | Page no |
|----------------|----------------|
| 10227A05 | F - 2 |
| 10227A05 | F - 4 |
| 10284A01 | J - 1 |
| 10293A04 | E - 3 |
| 10293A06 | E - 1 |
| 102S04 | C - 1 |
| 102S04 | C - 2 |
| 102S04 | C - 2A |
| 10305A01 | B - 8 |
| 10313A04 | C - 5 |
| 10314A01 | B - 9A |
| 10362A05 | E - 5 |
| 10362A06 | E - 5 |
| 10362A17 | E - 5 |
| 10385A02 | D - 2 |
| 103S02H | A - 4 |
| 10462A02 | F - 6 |
| 10464A02 | H - 1A |
| 10470A05 | A - 4 |
| 10470A06 | A - 4 |
| 10470A07 | A - 4 |
| 10470A07 | A - 5 |
| 10470A08 | A - 5 |
| 10470A09 | A - 5 |
| 10470A10 | A - 3 |
| 10470A11 | A - 3 |
| 10470A12 | A - 3 |
| 10481A03 | C - 4 |
| 104S01 | A - 4 |
| 10512A02 | F - 6 |
| 10519A01 | A - 1 |
| 10531A02 | C - 3 |
| 10531A03 | C - 3 |
| 10536A02 | J - 1 |
| 10540A02 | J - 2 |
| 10541A30 | J - 3 |
| 10541A31 | J - 3 |
| 10542A01 | D - 4 |

| Part no | Page no |
|----------------|----------------|
| 10558A07 | H - 7 |
| 10558A08 | H - 6 |
| 10558A09 | H - 8 |
| 10559A01 | A - 1B |
| 10565A01 | H - 1 |
| 10568A01 | C - 5 |
| 10570A01 | D - 3 |
| 10570A01 | D - 4 |
| 10570A01 | D - 4A |
| 10577A0201 | D - 3 |
| 10577A0213 | D - 3 |
| 10577A0213 | D - 4 |
| 10578A01 | D - 2 |
| 10578A01 | D - 2A |
| 10578A0101 | D - 2A |
| 10578A0102 | D - 2A |
| 10578A0104 | D - 2A |
| 10578A0105 | D - 2A |
| 10579A01 | C - 3 |
| 10579A0101 | C - 3 |
| 10580A0101 | C - 3 |
| 10580A0102 | C - 3 |
| 10580A02 | C - 3 |
| 10593A01 | F - 6 |
| 10596A01 | D - 1 |
| 10597A01 | C - 3 |
| 10598A01 | C - 3 |
| 105S05 | A - 4 |
| 10607A01 | A - 1 |
| 10615A01 | F - 6 |
| 10616A01 | F - 6 |
| 10617A01 | F - 8 |
| 10618A01 | F - 6 |
| 10619A01 | F - 6 |
| 10619A01 | F - 8 |
| 10620A01 | F - 6 |
| 10620A02 | F - 6 |
| 10640A02 | A - 4 |

| Part no | Page no |
|----------------|----------------|
| 10644A01 | F - 6 |
| 10644A01 | F - 8 |
| 10650A04 | A - 2 |
| 10650A14 | D - 1 |
| 10650A18 | A - 2 |
| 10650A18 | C - 4 |
| 10650A18 | D - 1 |
| 10650A18 | D - 3 |
| 10650A18 | D - 4 |
| 10650A18 | D - 4A |
| 10659A0102 | D - 3 |
| 10659A02 | D - 3 |
| 10659A0201 | D - 3 |
| 10668A01 | B - 1 |
| 10672A01 | F - 1 |
| 10672A02 | E - 1 |
| 10672A03 | E - 1 |
| 1072A4 | D - 2A |
| 10740A01 | F - 6 |
| 10742A05 | A - 1B |
| 10766A02 | E - 1 |
| 107S03 | C - 1 |
| 107S03 | C - 5 |
| 107S16 | A - 1 |
| 107S16 | B - 5 |
| 107S16 | B - 6 |
| 107S16 | B - 7 |
| 107S16 | D - 2 |
| 107S16 | E - 1 |
| 107S16 | E - 2 |
| 10848A01 | J - 2 |
| 10868A01 | B - 9 |
| 10869A04 | A - 4 |
| 10869A04 | A - 4 |
| 10870A01 | A - 1 |
| 10888A01 | D - 1 |
| 10888A02 | D - 1 |
| 10888A03 | D - 1 |

| Part no | Page no |
|----------------|----------------|
| 10888A07 | D - 1 |
| 10888A08 | D - 1 |
| 10889A01 | D - 1 |
| 10892A01 | A - 2 |
| 10893A01 | A - 2 |
| 10893A02 | A - 2 |
| 10894A01 | A - 2 |
| 10894A02 | A - 2 |
| 10908A01 | D - 1 |
| 10912A03 | A - 2 |
| 10912A05 | A - 4 |
| 10912A06 | A - 4 |
| 10939A02 | F - 6 |
| 10939A02 | F - 7 |
| 10944A03 | H - 1 |
| 10944A04 | H - 1 |
| 10948A02 | C - 3 |
| 10966A01 | A - 1 |
| 10967A10 | D - 3 |
| 10968A04 | D - 3 |
| 10972A01 | F - 6 |
| 10973A02 | F - 6 |
| 10973A03 | F - 7 |
| 10973A03 | F - 10 |
| 10973A04 | F - 7 |
| 10973A04 | F - 10 |
| 10977A01 | H - 1 |
| 10977A02 | H - 1 |
| 10977A03 | H - 1 |
| 10978S01 | H - 1 |
| 10982A01 | F - 6 |
| 10983A01 | F - 6 |
| 10984A01 | F - 6 |
| 10985A01 | F - 6 |
| 10986A01 | F - 3 |
| 10986A01 | F - 4 |
| 10987A02 | E - 1 |
| 10987A02 | E - 2 |

| Part no | Page no |
|----------------|----------------|
| 10989A06 | F - 1 |
| 10989A06 | F - 9 |
| 10989A07 | F - 3 |
| 10990A06 | F - 1 |
| 10990A06 | F - 2 |
| 10990A06 | F - 3 |
| 10990A06 | F - 4 |
| 109S08 | F - 1 |
| 109S08 | F - 2 |
| 109S08 | F - 3 |
| 109S08 | F - 4 |
| 109S08 | F - 5 |
| 109S08 | F - 5 |
| 109S08 | F - 9 |
| 10S01 | E - 5 |
| 10S02 | B - 9 |
| 10S02 | D - 1 |
| 10S03 | A - 1 |
| 10S03 | A - 2 |
| 10S03 | C - 4 |
| 10S03 | C - 4 |
| 10S03 | D - 1 |
| 10S03 | D - 2 |
| 10S03 | D - 2 |
| 10S03 | D - 2 |
| 10S03 | D - 3 |
| 10S03 | D - 4 |
| 10S03 | D - 4A |
| 10S04 | A - 2 |
| 10S04 | B - 5 |
| 10S04 | B - 6 |
| 10S04 | B - 7 |
| 10S04 | B - 9 |
| 10S04 | D - 1 |
| 10S04 | D - 2 |
| 10S04 | E - 1 |
| 10S04 | E - 2 |
| 10S05 | B - 9 |

| Part no | Page no |
|----------------|----------------|
| 10S05 | H - 1B |
| 10S06 | A - 2 |
| 10S06 | A - 2 |
| 10S06 | A - 2 |
| 10S06 | A - 4 |
| 10S06 | A - 4 |
| 10S06 | B - 9A |
| 10S06 | B - 9B |
| 10S08 | C - 4 |
| 10S73 | D - 3 |
| 10S73 | D - 4 |
| 10S73 | D - 4A |
| 11031A03 | E - 5 |
| 11036A01 | E - 1 |
| 11040A01 | H - 1 |
| 11040A02 | H - 1 |
| 11040A03 | H - 1 |
| 11046A01 | H - 1 |
| 119325000 | B - 8 |
| 119S08 | H - 1 |
| 119S08 | H - 1B |
| 119S08 | H - 2 |
| 119S10 | H - 2 |
| 119S13 | H - 1 |
| 119S13 | H - 1 |
| 11S01A | F - 7 |
| 11S01A | F - 11 |
| 11S01AA | F - 11 |
| 11S01B | F - 7 |
| 11S01C | F - 10 |
| 11S02A | E - 5 |
| 11S02A | F - 1 |
| 11S02A | F - 2 |
| 11S02B | A - 4 |
| 11S02B | A - 4 |
| 11S02B | F - 1 |
| 11S02B | F - 3 |
| 11S02B | F - 6 |

| Part no | Page no |
|----------------|----------------|
| 11S02B | F - 6 |
| 11S02B | F - 8 |
| 11S02B | H - 1 |
| 11S02C | F - 5 |
| 11S03A | F - 6 |
| 11S03AA | F - 10 |
| 11S03AA | H - 1B |
| 11S03B | A - 1 |
| 11S03B | A - 1C |
| 11S03B | F - 7 |
| 11S03B | F - 10 |
| 11S03B | H - 1 |
| 11S03C | A - 1A |
| 11S03C | A - 1C |
| 11S03C | A - 1C |
| 11S03C | A - 1D |
| 11S03C | A - 2 |
| 11S03C | B - 8 |
| 11S03C | D - 2 |
| 11S03C | F - 10 |
| 11S03C | F - 10 |
| 11S03E | F - 10 |
| 11S03E | H - 1A |
| 11S03J | E - 5 |
| 11S04 | A - 1 |
| 11S04A | F - 6 |
| 11S04C | A - 1 |
| 11S04C | A - 1A |
| 11S04C | A - 1B |
| 11S04C | A - 1B |
| 11S04C | A - 3 |
| 11S04C | A - 3 |
| 11S04C | A - 5 |
| 11S04C | A - 5 |
| 11S04C | D - 2 |
| 11S04C | H - 1 |
| 11S04D | A - 1 |
| 11S04D | A - 4 |

| Part no | Page no |
|----------------|----------------|
| 11S04D | A - 4 |
| 11S04D | B - 8 |
| 11S04D | D - 1 |
| 11S04D | F - 3 |
| 11S04D | F - 4 |
| 11S04E | A - 1 |
| 11S04E | A - 1 |
| 11S04E | A - 1 |
| 11S04E | A - 1E |
| 11S04E | H - 1 |
| 11S04F | A - 1E |
| 11S04G | A - 1E |
| 11S05C | A - 1E |
| 11S05D | F - 7 |
| 11S05E | A - 1F |
| 11S05E | A - 2 |
| 11S05E | A - 3 |
| 11S05E | A - 4 |
| 11S05E | A - 4 |
| 11S05E | A - 4 |
| 11S05E | A - 5 |
| 11S05F | A - 4 |
| 11S05F | F - 10 |
| 11S05G | A - 1E |
| 11S05H | A - 1F |
| 11S06G | A - 1A |
| 11S06G | A - 2 |
| 11S06K | B - 9 |
| 11S11A | F - 7 |
| 122S03 | H - 1A |
| 122S03 | H - 4 |
| 122S04 | H - 1B |
| 122S06 | H - 1 |
| 122S06 | H - 1 |
| 123S01 | H - 1 |
| 127S03 | H - 4 |
| 127S03 | H - 6 |
| 127S04 | H - 2 |
| 129S01A | D - 4A |

| Part no | Page no |
|----------------|----------------|
| 129S05E | H - 1 |
| 129S05E | H - 1 |
| 12S01 | F - 6 |
| 12S01 | F - 6 |
| 12S02 | F - 1 |
| 12S02 | F - 1 |
| 12S02 | F - 2 |
| 12S02 | F - 3 |
| 12S02 | F - 4 |
| 12S02 | F - 6 |
| 12S02 | H - 1 |
| 12S02 | H - 1 |
| 12S05 | F - 6 |
| 12S05 | H - 1 |
| 12S19 | D - 1 |
| 12S19 | F - 3 |
| 12S19 | F - 4 |
| 12S22 | D - 1 |
| 131S01 | A - 3 |
| 131S01 | A - 4 |
| 131S01 | A - 4 |
| 131S01 | A - 5 |
| 131S01 | B - 9 |
| 131S01 | C - 1 |
| 131S01 | C - 4 |
| 131S01 | D - 1 |
| 131S01 | D - 2B |
| 131S01 | E - 5 |
| 131S01 | H - 1A |
| 131S02 | B - 9 |
| 131S02 | B - 9 |
| 131S02 | H - 1A |
| 131S03 | A - 3 |
| 131S03 | A - 4 |
| 131S03 | A - 4 |
| 131S03 | A - 5 |
| 131S03 | C - 4 |
| 131S03 | D - 1 |

| Part no | Page no |
|----------------|----------------|
| 131S03 | D - 2B |
| 131S06 | C - 2 |
| 131S06 | C - 2A |
| 13S02 | C - 1 |
| 153S05 | B - 9 |
| 153S05 | F - 11 |
| 153S07 | F - 6 |
| 153S07 | F - 8 |
| 156S06 | H - 1 |
| 163S02 | C - 5 |
| 163S08 | H - 6 |
| 16S05B | F - 10 |
| 16S08C | A - 1C |
| 176S01 | A - 3 |
| 176S01 | A - 4 |
| 176S01 | A - 5 |
| 176S01 | B - 9 |
| 176S01 | B - 9 |
| 176S01 | C - 1 |
| 176S01 | C - 2 |
| 176S01 | C - 2A |
| 176S01 | C - 4 |
| 176S01 | C - 5 |
| 176S01 | D - 1 |
| 176S01 | D - 2B |
| 176S01 | E - 5 |
| 176S01 | H - 1A |
| 177S03 | A - 1B |
| 178SPS04C | F - 9 |
| 17S02 | F - 7 |
| 17S02 | F - 7 |
| 17S02 | F - 10 |
| 17S02 | F - 11 |
| 17S02 | F - 11 |
| 17S03 | A - 4 |
| 17S03 | E - 5 |
| 17S03 | F - 1 |
| 17S03 | F - 5 |

| Part no | Page no |
|----------------|----------------|
| 17S04 | A - 1 |
| 17S04 | A - 1A |
| 17S04 | A - 1C |
| 17S04 | A - 1C |
| 17S04 | A - 1D |
| 17S04 | A - 2 |
| 17S04 | B - 8 |
| 17S04 | D - 3 |
| 17S04 | D - 4 |
| 17S04 | D - 4A |
| 17S04 | E - 5 |
| 17S04 | F - 7 |
| 17S04 | F - 10 |
| 17S04 | F - 11 |
| 17S04 | H - 1 |
| 17S04 | H - 1A |
| 17S04 | H - 1B |
| 17S04 | H - 4 |
| 17S05 | A - 1 |
| 17S05 | A - 1A |
| 17S05 | A - 1B |
| 17S05 | A - 1E |
| 17S05 | A - 4 |
| 17S05 | D - 1 |
| 17S05 | D - 2 |
| 17S05 | D - 2B |
| 17S05 | E - 3 |
| 17S05 | E - 5 |
| 17S05 | H - 1 |

| Part no | Page no |
|----------------|----------------|
| 17S05 | H - 2 |
| 17S06 | A - 1E |
| 17S06 | A - 2 |
| 17S06 | A - 3 |
| 17S06 | A - 4 |
| 17S06 | F - 7 |
| 17S06 | F - 10 |
| 17S08 | A - 1A |
| 17S08 | A - 2 |
| 17S08 | B - 9A |
| 17S08 | B - 9B |
| 17S10 | F - 10 |
| 17S11 | A - 1A |
| 180S01 | F - 6 |
| 181S04 | E - 3 |
| 182S20 | D - 3 |
| 185S05D4 | B - 9 |
| 185S05D4 | E - 1 |
| 186S14 | H - 1 |
| 187S08JJ | A - 4 |
| 191S06 | E - 3 |
| 192S01 | A - 4 |
| 1S02B | C - 5 |
| 1S02C | C - 3 |
| 1S02C | D - 6 |
| 20072A01 | A - 1 |
| 20088A01 | C - 5 |
| 20096A07 | C - 4 |
| 20097A05 | C - 1 |
| 20097A05 | C - 2A |
| 20102A02 | D - 3 |
| 20102A02 | D - 4 |
| 20102A02 | D - 4A |
| 20105A07 | F - 6 |
| 20105A13 | F - 6 |
| 20105A14 | F - 6 |
| 20105A14 | F - 10 |
| 20105A15 | F - 10 |

| Part no | Page no |
|----------------|----------------|
| 20129A03 | B - 1 |
| 20155A03 | E - 1 |
| 20158A03 | B - 1 |
| 20161A05 | B - 9 |
| 202082A04 | D - 2 |
| 20208A01 | D - 2 |
| 20208A0101 | D - 1 |
| 20208A0101 | D - 2 |
| 20208A0102 | D - 1 |
| 20208A0102 | D - 2 |
| 20231A03 | E - 5 |
| 20232A02 | D - 2B |
| 20247A02 | E - 3 |
| 20265A01 | C - 5 |
| 20273A02 | D - 2 |
| 20282A03 | A - 1 |
| 20282A07 | D - 2 |
| 20282A08 | D - 2 |
| 20282A11 | D - 2 |
| 20286A02 | A - 2 |
| 20286A07 | A - 2 |
| 20286A10 | A - 2 |
| 20295A07 | E - 3 |
| 20295A08 | E - 3 |
| 20297A02 | C - 5 |
| 20298A0101 | D - 6 |
| 20298A0102 | D - 6 |
| 20298A0103 | D - 6 |
| 20298A0104 | D - 6 |
| 20298A0105 | D - 6 |
| 20298A0106 | D - 6 |
| 20298A0107 | D - 6 |
| 20298A0108 | D - 6 |
| 20298A0109 | D - 6 |
| 20298A0110 | D - 6 |
| 20298A0111 | D - 6 |
| 20298A0112 | D - 6 |
| 20298A0113 | D - 6 |

| Part no | Page no |
|----------------|----------------|
| 20298A0114 | D - 6 |
| 20298A0115 | D - 6 |
| 20298A0116 | D - 6 |
| 20298A0117 | D - 6 |
| 20298A0118 | D - 6 |
| 20298A0119 | D - 6 |
| 20298A0120 | D - 6 |
| 20298A0121 | D - 6 |
| 20298A0122 | D - 6 |
| 20298A0123 | D - 6 |
| 20298A0124 | D - 6 |
| 20307A04 | E - 1 |
| 20307A07 | E - 1 |
| 20307A07 | F - 1 |
| 20313A06 | F - 5 |
| 20313A06 | F - 9 |
| 20318A01 | F - 6 |
| 20318A01 | F - 8 |
| 20318A01 | F - 11 |
| 20321A02 | A - 1 |
| 20321A04 | A - 1 |
| 20321A0401 | A - 1 |
| 20321A0402 | A - 1 |
| 20328A01 | E - 1 |
| 20328A02 | E - 1 |
| 20328A03 | E - 1 |
| 20328A04 | E - 1 |
| 20330A01 | E - 1 |
| 20330A02 | E - 1 |
| 20349A01 | E - 1 |
| 20349A02 | E - 1 |
| 20354A03 | E - 1 |
| 20354A03 | E - 1 |
| 20354A03 | E - 2 |
| 20355A04 | A - 1 |
| 20355A04 | A - 1 |
| 20S09 | B - 1 |
| 21S02 | B - 1 |

| Part no | Page no |
|----------------|----------------|
| 21S08 | B - 1 |
| 227S02 | D - 2A |
| 22S09 | B - 1 |
| 230S01 | D - 2A |
| 23S01 | B - 1 |
| 23S02 | B - 1 |
| 23S03 | B - 1 |
| 23S22 | B - 1 |
| 247S09 | A - 2 |
| 24S19 | B - 1 |
| 24S20 | B - 1 |
| 24S37 | B - 1 |
| 24S39 | B - 1 |
| 24S57 | B - 1 |
| 24S58 | B - 1 |
| 267S03 | F - 9 |
| 267S04 | A - 1B |
| 267S04 | A - 4 |
| 267S04 | E - 5 |
| 267S04 | F - 8 |
| 267S05 | A - 1 |
| 267S05 | A - 1A |
| 267S05 | A - 1C |
| 267S05 | A - 1C |
| 267S05 | A - 1D |
| 267S05 | D - 2 |
| 267S05 | F - 10 |
| 267S05 | F - 10 |
| 267S05 | H - 1 |
| 267S05 | H - 1B |
| 267S05 | H - 4 |
| 267S06 | A - 1 |
| 267S06 | A - 1 |
| 267S06 | A - 1 |
| 267S06 | A - 1A |
| 267S06 | A - 1B |
| 267S06 | A - 1E |
| 267S06 | A - 3 |

| Part no | Page no |
|----------------|----------------|
| 267S06 | A - 3 |
| 267S06 | A - 4 |
| 267S06 | A - 5 |
| 267S06 | B - 9 |
| 267S06 | D - 2 |
| 267S07 | A - 1E |
| 267S07 | A - 1F |
| 267S07 | A - 2 |
| 267S07 | A - 3 |
| 267S07 | A - 4 |
| 267S07 | A - 4 |
| 267S07 | A - 5 |
| 267S07 | F - 10 |
| 267S07 | F - 10 |
| 267S09 | A - 1A |
| 267S09 | A - 2 |
| 267S09 | B - 7 |
| 267S12 | A - 1A |
| 28S01B | C - 2 |
| 28S01B | C - 2A |
| 28S01C | C - 1 |
| 28S01C | C - 2 |
| 28S01C | C - 2 |
| 28S01C | C - 2A |
| 28S01C | C - 2A |
| 28S01D | C - 1 |
| 28S01D | C - 2 |
| 28S01D | C - 2A |
| 28S02C | B - 9A |
| 28S02C | B - 9B |
| 28S02D | B - 9A |
| 28S02D | B - 9B |
| 28S02D | C - 2 |
| 28S02D | C - 2A |
| 28S02D | C - 3 |
| 28S02P | D - 2A |
| 28S03D | A - 1 |
| 28S03D | D - 2 |

| Part no | Page no |
|----------------|----------------|
| 28S03D | D - 2 |
| 28S03E | C - 2 |
| 28S03E | C - 2A |
| 28S05E | C - 1 |
| 28S05E | C - 2 |
| 28S05E | C - 2A |
| 298S03 | D - 4A |
| 2S02 | E - 5 |
| 2ST121 | H - 1 |
| 2ST123 | H - 1 |
| 30039A0169 | C - 1 |
| 30080A0303 | A - 1B |
| 30082A0221 | B - 8 |
| 30082A0222 | B - 8C |
| 30082A0231 | B - 8 |
| 30082A0231 | B - 8A |
| 30082A0232 | B - 8 |
| 30082A0232 | B - 8A |
| 30082A0234 | B - 8A |
| 30082A0235 | B - 8A |
| 30082A0236 | B - 8A |
| 30082A0241 | B - 8 |
| 30082A0241 | B - 8A |
| 30082A0242 | B - 8 |
| 30082A0242 | B - 8A |
| 30082A0249 | B - 8 |
| 30082A0249 | B - 8B |
| 30082A0265 | B - 8 |
| 30082A0265 | B - 8B |
| 30082A0273 | B - 8A |
| 30082A0274 | B - 8A |
| 30082A0280 | B - 8A |
| 30082A0281 | B - 8A |
| 30082A0282 | B - 8A |
| 30082A0283 | B - 8 |
| 30082A0283 | B - 8A |
| 30082A0284 | B - 8 |
| 30082A0284 | B - 8A |

| Part no | Page no |
|----------------|----------------|
| 30082A0289 | B - 8 |
| 30082A0289 | B - 8B |
| 30082A0301 | B - 8 |
| 30082A0302 | B - 8 |
| 30082A0303 | B - 8 |
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| 30082A0305 | B - 8 |
| 30082A0306 | B - 8 |
| 30082A0306 | B - 8A |
| 30082A0401 | B - 8A |
| 30082A0402 | B - 8A |
| 30082A0403 | B - 8A |
| 30082A0404 | B - 8A |
| 30082A0405 | B - 8A |
| 30082A0406 | B - 8A |
| 30082A0407 | B - 8C |
| 30082A0408 | B - 8C |
| 30082A0409 | B - 8C |
| 30082A0410 | B - 8C |
| 30082A0411 | B - 8C |
| 30082A0413 | B - 8B |
| 30082A0414 | B - 8B |
| 30082A0415 | B - 8B |
| 30082A0416 | B - 8A |
| 30082A0417 | B - 8C |
| 30082A0418 | B - 8B |
| 30082A0419 | B - 8D |
| 30082A0422 | B - 8C |
| 30085A0102 | B - 5 |
| 30085A0103 | B - 5 |
| 30085A0104 | B - 5 |
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| 30085A0108 | B - 5 |
| 30085A0109 | B - 5 |
| 30085A0110 | B - 5 |

| Part no | Page no |
|----------------|----------------|
| 30085A0111 | B - 5 |
| 30085A0112 | B - 5 |
| 30085A0113 | B - 5 |
| 30085A0114 | B - 5 |
| 30085A0115 | B - 5 |
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| 30085A0125 | B - 5 |
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| 30085A0146 | B - 5 |
| 30085A0147 | B - 5 |
| 30085A0148 | B - 5 |

| Part no | Page no |
|----------------|----------------|
| 30085A0149 | B - 5 |
| 30085A0150 | B - 5 |
| 30085A0153 | D - 5 |
| 30085A0154 | D - 5 |
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| 30085A0165 | D - 5 |
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| 30085A0301 | B - 5 |
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| 30088A0123 | B - 6 |
| 30088A0124 | B - 6 |
| 30088A0125 | B - 6 |
| 30088A0126 | B - 6 |
| 30088A0128 | D - 6 |
| 30088A02 | B - 6 |
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| 30097A0111 | C - 1 |
| 30097A0111 | C - 2 |
| 30097A0111 | C - 2A |
| 30097A0114 | C - 1 |
| 30097A0114 | C - 2 |
| 30097A0114 | C - 2A |
| 30097A0132 | C - 2 |

| Part no | Page no |
|----------------|----------------|
| 30097A0133 | C - 1 |
| 30097A0133 | C - 2 |
| 30097A0133 | C - 2 |
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| 30097A0155 | C - 2A |
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| 30097A0171 | C - 2 |
| 30097A0171 | C - 2A |
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| 30097A0199 | C - 2A |
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| 30101A0201 | C - 2A |
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| 30101A0203 | C - 2A |
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| 30101A0204 | C - 2A |
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| 30101A0205 | C - 2A |
| 30101A0206 | C - 1 |
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| 30101A0206 | C - 2A |
| 30101A0207 | C - 1 |
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| 30101A0207 | C - 2A |
| 30101A0208 | C - 1 |
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| 30101A0208 | C - 2A |

| Part no | Page no |
|----------------|----------------|
| 30101A0209 | C - 1 |
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| 30101A0212 | C - 2A |
| 30101A0213 | C - 1 |
| 30101A0213 | C - 2 |
| 30101A0213 | C - 2A |
| 30101A0215 | C - 1 |
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| 30101A0217 | C - 2A |
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| 30101A0219 | C - 2 |
| 30101A0219 | C - 2A |
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| 30101A0221 | C - 2 |
| 30101A0221 | C - 2A |
| 30101A0222 | C - 1 |
| 30101A0222 | C - 2 |
| 30101A0222 | C - 2A |
| 30101A0223 | C - 1 |
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| 30101A0223 | C - 2A |
| 30101A0224 | C - 1 |
| 30101A0224 | C - 2 |

| Part no | Page no |
|----------------|----------------|
| 30101A0224 | C - 2A |
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| 30101A0235 | C - 1 |
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| 30101A0239 | C - 1 |
| 30101A0239 | C - 2 |
| 30101A0239 | C - 2A |
| 30101A0241 | C - 1 |

| Part no | Page no |
|----------------|----------------|
| 30101A0241 | C - 2 |
| 30101A0241 | C - 2A |
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| 30101A0242 | C - 2A |
| 30101A0243 | C - 1 |
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| 30101A0245 | C - 1 |
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| 30101A0245 | C - 2A |
| 30101A0246 | C - 1 |
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| 30101A0248 | C - 1 |
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| 30101A0253 | C - 2A |
| 30101A0254 | C - 1 |

| Part no | Page no |
|----------------|----------------|
| 30101A0254 | C - 2 |
| 30101A0254 | C - 2A |
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| 30101A0263 | C - 1 |
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| 30101A0280 | C - 1 |
| 30101A0281 | C - 1 |
| 30101A04 | C - 1 |
| 30106A01 | C - 2 |

| Part no | Page no |
|----------------|----------------|
| 30106A0101 | C - 2 |
| 30106A0102 | C - 2 |
| 30113A02 | H - 8 |
| 30113A0201 | H - 8 |
| 30113A0202 | H - 8 |
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| 30113A0204 | H - 8 |
| 30113A03 | H - 7 |
| 30113A0301 | H - 7 |
| 30113A0302 | H - 7 |
| 30113A0303 | H - 7 |
| 30113A0304 | H - 7 |
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| 30113A0307 | H - 7 |
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| 30113A0308 | H - 7 |
| 30113A0308 | H - 8 |
| 30126A08 | A - 3 |
| 30126A09 | A - 3 |
| 30139A02 | C - 2A |
| 30139A0201 | C - 2A |
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| 30143A0101 | C - 2 |
| 30143A0101 | C - 2A |
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| 30156A0105 | B - 8 |
| 30156A0105 | B - 8D |
| 30156A0106 | B - 8 |
| 30156A0106 | B - 8D |

| Part no | Page no |
|----------------|----------------|
| 30156A0107 | B - 8 |
| 30156A0107 | B - 8D |
| 30156A0108 | B - 8D |
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| 30156A0112 | B - 8 |
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| 30156A0112 | B - 8C |
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| 30156A0115 | B - 8 |
| 30156A0116 | B - 8 |
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| 30156A0152 | B - 8 |
| 30156A0153 | B - 8 |
| 30156A0154 | B - 8 |

| Part no | Page no |
|----------------|----------------|
| 30156A0155 | B - 8 |
| 30156A0156 | B - 8 |
| 30156A0157 | B - 8 |
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| 30156A0162 | B - 8B |
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| 30156A0206 | B - 8D |
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| 30156A0604 | B - 8 |
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| 30156A0606 | B - 8 |
| 30156A0801 | B - 8 |
| 30156A0802 | B - 8 |
| 30156A0802 | B - 8B |

| Part no | Page no |
|----------------|----------------|
| 30156A0803 | B - 8 |
| 30156A0803 | B - 8B |
| 30156A0804 | B - 8 |
| 30156A0804 | B - 8B |
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| 30156A10 | B - 8 |
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| 30166A0123 | B - 6 |
| 30166A0124 | B - 6 |
| 30166A0125 | B - 6 |

| Part no | Page no |
|----------------|----------------|
| 30166A0126 | B - 6 |
| 30166A0127 | B - 6 |
| 30166A0128 | B - 6 |
| 30166A0129 | B - 6 |
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| 30166A0167 | B - 6 |
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| 30166A0170 | B - 6 |

| Part no | Page no |
|----------------|----------------|
| 30166A0171 | B - 6 |
| 30166A0172 | B - 6 |
| 30166A0173 | B - 6 |
| 30166A0174 | B - 6 |
| 30166A0175 | B - 6 |
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| 30171A0110 | B - 6 |
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| 30178A07 | F - 3 |
| 30178A07 | F - 4 |
| 30178A08 | F - 1 |
| 30178A08 | F - 2 |
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| 30190A0101 | C - 2A |
| 30190A0102 | C - 2 |
| 30190A0102 | C - 2A |
| 30190A0103 | C - 2 |
| 30190A0104 | C - 2A |
| 30190A0105 | C - 2 |
| 30190A0105 | C - 2A |
| 30190A0106 | C - 2 |
| 30190A0106 | C - 2A |
| 30190A0107 | C - 2A |
| 30190A0110 | C - 2 |
| 30190A0110 | C - 2A |
| 30190A0111 | C - 2 |

| Part no | Page no |
|----------------|----------------|
| 30190A0111 | C - 2A |
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| 30190A0112 | C - 2A |
| 30190A0113 | C - 2 |
| 30190A0113 | C - 2A |
| 30190A0114 | C - 2 |
| 30190A0114 | C - 2A |
| 30190A0116 | C - 2A |
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| 30218A0203 | C - 1 |
| 30218A0248 | C - 1 |
| 30218A0248 | C - 2 |
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| 30231A04 | F - 2 |
| 30231A05 | F - 3 |
| 30231A06 | F - 4 |
| 30231A09 | F - 5 |
| 30231A11 | F - 5 |
| 30231A11 | F - 9 |
| 30231A12 | F - 5 |
| 30231A12 | F - 9 |
| 30242A0144 | B - 5 |
| 30267A03 | F - 6 |
| 30267A03 | F - 8 |
| 30267A04 | F - 11 |
| 30286A08 | H - 1 |
| 30287A02 | H - 1A |
| 30287A02 | H - 6 |
| 30287A0201 | H - 6 |
| 30287A0202 | H - 6 |
| 30287A0203 | H - 6 |
| 30287A0204 | H - 6 |
| 30287A0205 | H - 6 |
| 30287A0206 | H - 6 |
| 30287A0207 | H - 6 |
| 30287A0208 | H - 6 |
| 30287A0208 | H - 7 |
| 30287A0208 | H - 8 |

| Part no | Page no |
|----------------|----------------|
| 30287A0209 | H - 6 |
| 30287A0210 | H - 6 |
| 30298A01 | B - 9 |
| 30309A0114 | B - 6 |
| 30314A03 | H - 1 |
| 30314A04 | H - 1 |
| 30322A0102 | H - 1B |
| 30322A0203 | H - 1B |
| 30322A0204 | H - 1B |
| 30322A04 | H - 1B |
| 30322A0502 | H - 1B |
| 30322A0503 | H - 1B |
| 30347A0201 | B - 8C |
| 30347A0211 | B - 8 |
| 31S02AA | H - 1 |
| 31S02GG | H - 1A |
| 31S02V | H - 1 |
| 31S02YY | H - 1A |
| 37S01K | H - 1 |
| 37S01W | H - 1 |
| 37S01X | H - 1 |
| 3S03E | C - 1 |
| 3S03E | C - 2 |
| 3S03E | C - 2A |
| 3SHD70 | E - 3 |
| 40064A01 | B - 9A |
| 40115A07 | A - 4 |
| 40116A02 | A - 4 |
| 40116A04 | A - 4 |
| 40220A0810 | A - 1 |
| 40245A02 | A - 5 |
| 40286A01 | A - 1 |
| 40286A0135 | A - 4 |
| 40286A0135 | A - 4 |
| 40286A02 | A - 1A |
| 40288A01 | A - 5 |
| 40294A01 | B - 9A |
| 40294A0101 | B - 9 |

| Part no | Page no |
|----------------|----------------|
| 40294A0102 | B - 9A |
| 40294A0102 | B - 9B |
| 40294A0103 | B - 9A |
| 40294A0104 | B - 9A |
| 40294A0105 | B - 9A |
| 40294A0105 | B - 9B |
| 40294A0106 | B - 9A |
| 40294A0106 | B - 9B |
| 40294A0107 | B - 9A |
| 40294A0108 | B - 9A |
| 40294A0108 | B - 9B |
| 40294A0109 | B - 9A |
| 40294A0109 | B - 9B |
| 40294A0110 | B - 9A |
| 40294A0110 | B - 9B |
| 40294A0111 | B - 9A |
| 40294A0112 | B - 9A |
| 40294A0112 | B - 9B |
| 40294A0113 | B - 9A |
| 40294A0115 | B - 9A |
| 40294A0115 | B - 9B |
| 40294A0116 | B - 9A |
| 40294A0116 | B - 9B |
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| 40294A0119 | B - 9B |
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| 40294A0121 | B - 9B |
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| 40294A0122 | B - 9B |
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| 40294A0123 | B - 9B |
| 40294A0124 | B - 9A |
| 40294A0124 | B - 9B |
| 40294A0125 | B - 9A |
| 40294A0126 | B - 9A |
| 40294A0126 | B - 9B |
| 40294A0127 | B - 9A |
| 40294A0127 | B - 9B |

| Part no | Page no |
|----------------|----------------|
| 40294A0129 | B - 9A |
| 40294A0129 | B - 9B |
| 40294A0130 | B - 9A |
| 40294A0131 | B - 9A |
| 40294A0131 | B - 9B |
| 40294A0132 | B - 9B |
| 40294A0133 | B - 9B |
| 40294A0134 | B - 9B |
| 40294A0135 | B - 9B |
| 40294A0136 | B - 9B |
| 40294A0137 | B - 9B |
| 40294A0138 | B - 9B |
| 40294A0139 | B - 9B |
| 40294A02 | B - 9A |
| 40294A03 | B - 9B |
| 40295A04 | A - 2 |
| 40295A05 | A - 3 |
| 40295A06 | A - 2 |
| 40295A08 | A - 3 |
| 40296A01 | A - 2 |
| 40296A0105 | A - 2 |
| 40296A02 | A - 4 |
| 40296A04 | A - 4 |
| 40332A01 | A - 1 |
| 40332A01 | A - 1A |
| 40SA08 | D - 1 |
| 40SA17 | A - 1B |
| 40SB14 | D - 1 |
| 40SB28 | D - 1 |
| 41S03 | A - 4 |
| 41S04 | B - 9 |
| 41S04 | B - 9A |
| 41S04 | B - 9B |
| 41S04 | C - 3 |
| 41S05 | A - 1 |
| 41S05 | C - 1 |
| 41S05 | C - 2 |
| 41S05 | C - 2A |

| Part no | Page no |
|----------------|----------------|
| 41S05 | D - 2 |
| 41S05 | D - 2 |
| 41S05 | H - 2 |
| 41S08 | B - 9A |
| 41S08 | B - 9B |
| 41S13 | B - 9A |
| 41S13 | B - 9B |
| 42S05 | C - 1 |
| 42S05 | C - 2 |
| 42S05 | C - 2 |
| 42S05 | C - 2A |
| 42S05 | C - 2A |
| 44S01C | C - 1 |
| 44S01C | C - 2 |
| 44S01C | C - 2A |
| 44S01C | D - 2A |
| 44S02B | D - 1 |
| 44S02B | D - 2 |
| 44S02C | A - 2 |
| 44S02C | C - 1 |
| 44S02C | C - 2 |
| 44S02C | C - 2A |
| 44S02C | C - 4 |
| 44S02C | D - 1 |
| 44S02C | D - 3 |
| 44S02C | D - 4 |
| 44S02C | D - 4A |
| 44S02C | E - 5 |
| 44S03C | A - 2 |
| 44S03C | A - 4 |
| 44S03C | A - 4 |
| 44S03C | B - 9 |
| 44S03C | C - 4 |
| 44S03C | D - 1 |
| 44S04E | A - 2 |
| 44S05E | A - 4 |
| 44S05E | A - 4 |
| 44S05E | C - 4 |

| Part no | Page no |
|----------------|----------------|
| 44S05G | A - 2 |
| 44S05G | A - 2 |
| 4SHL91 | A - 5 |
| 4SHL91 | B - 9 |
| 52S02H | H - 1 |
| 53S01P | D - 4A |
| 53S01W | D - 4A |
| 55S02D | A - 4 |
| 56S05 | B - 9 |
| 56S06 | B - 9 |
| 57S05E2 | E - 1 |
| 57S07H1 | B - 9 |
| 59S02 | F - 6 |
| 59S03 | A - 1B |
| 59S03 | A - 3 |
| 59S03 | A - 3 |
| 59S03 | A - 4 |
| 59S03 | A - 5 |
| 59S03 | B - 8 |
| 59S03 | B - 8 |
| 59S03 | B - 8 |
| 59S03 | B - 8A |
| 59S03 | B - 9 |
| 59S03 | F - 3 |
| 59S03 | F - 4 |
| 59S03 | F - 6 |
| 59S03 | H - 1 |
| 59S04 | A - 1F |
| 59S04 | A - 2 |
| 59S04 | A - 3 |
| 59S04 | A - 5 |
| 59S11 | A - 2 |
| 59S11 | B - 7 |
| 59S12 | A - 1F |
| 59S12 | A - 2 |
| 59S12 | D - 2 |
| 59S13 | F - 9 |
| 59S14 | F - 1 |

| Part no | Page no |
|----------------|----------------|
| 59S14 | F - 1 |
| 59S14 | F - 2 |
| 59S14 | F - 3 |
| 59S14 | F - 4 |
| 59S14 | F - 6 |
| 59S14 | F - 6 |
| 59S14 | H - 1 |
| 59S14 | H - 1 |
| 5ST100 | A - 4 |
| 61S02 | A - 1B |
| 61S07 | A - 4 |
| 66S01H | D - 2A |
| 66S03A | C - 1 |
| 67S01 | C - 1 |
| 67S01 | C - 2 |
| 67S01 | C - 2A |
| 68S02B | H - 1B |
| 68S04D | E - 1 |
| 68S04D | F - 1 |
| 69S03E | C - 1 |
| 69S03E | C - 2 |
| 69S03E | C - 2A |
| 6S01A | C - 1 |
| 6S01B | C - 1 |
| 6S01B | C - 2 |
| 6S01B | C - 2A |
| 6S01C | C - 1 |
| 6S01C | C - 2 |
| 6S01C | C - 2A |
| 6S02J | C - 2 |
| 6S02J | C - 2A |
| 6S03A | C - 5 |
| 6S03Y | C - 5 |
| 6S05C | A - 1 |
| 6S05C | B - 5 |
| 6S05C | B - 7 |
| 6S05C | D - 2 |
| 6S05F | B - 6 |

| Part no | Page no |
|----------------|----------------|
| 6S05K | E - 1 |
| 6S05K | E - 2 |
| 7S01 | F - 7 |
| 7S01 | F - 7 |
| 7S01 | F - 10 |
| 7S01 | F - 11 |
| 7S01 | F - 11 |
| 7S02 | A - 4 |
| 7S02 | F - 1 |
| 7S02 | F - 5 |
| 7S02 | F - 8 |
| 7S03 | A - 1A |
| 7S03 | A - 1C |
| 7S03 | A - 1C |
| 7S03 | A - 2 |
| 7S03 | D - 3 |
| 7S03 | D - 4 |
| 7S03 | D - 4A |
| 7S03 | D - 6 |
| 7S03 | E - 5 |
| 7S03 | F - 10 |
| 7S03 | F - 11 |
| 7S03 | H - 1A |
| 7S03 | H - 4 |
| 7S04 | A - 1 |
| 7S04 | A - 1A |
| 7S04 | A - 1B |
| 7S04 | A - 1E |
| 7S04 | A - 4 |
| 7S04 | B - 8 |

| Part no | Page no |
|----------------|----------------|
| 7S04 | D - 1 |
| 7S04 | D - 2 |
| 7S04 | D - 2B |
| 7S04 | D - 3 |
| 7S04 | D - 4 |
| 7S04 | D - 4A |
| 7S04 | E - 3 |
| 7S04 | E - 5 |
| 7S04 | H - 1 |
| 7S04 | H - 2 |
| 7S04 | H - 4 |
| 7S05 | A - 1E |
| 7S05 | A - 4 |
| 7S05 | F - 7 |
| 7S05 | F - 10 |
| 7S08 | A - 1A |
| 7S09 | F - 7 |
| 7S09 | F - 10 |
| 81S02 | H - 3 |
| 82S03C | D - 3 |
| 82S03C | F - 6 |
| 82S03C | F - 6 |
| 82S03C | F - 8 |
| 82S03E | D - 4 |
| 82S03E | D - 4A |
| 82S03E | F - 6 |
| 82S03E | F - 6 |
| 82S03E | F - 8 |
| 82S07E | F - 6 |
| 82S07E | F - 8 |
| 82S07E | F - 8 |
| 83S03 | F - 6 |
| 83S03 | F - 8 |
| 85S01 | D - 3 |
| 85S01 | D - 4 |
| 85S01 | D - 4A |
| 85S01 | F - 6 |
| 85S01 | F - 6 |

| Part no | Page no |
|----------------|----------------|
| 85S01 | F - 6 |
| 85S01 | F - 8 |
| 85S03 | F - 6 |
| 85S03 | F - 8 |
| 85S03 | F - 8 |
| 88S04E | C - 1 |
| 88S04E | C - 2 |
| 88S04E | C - 2A |
| 88S06E | C - 1 |
| 88S06E | C - 2 |
| 88S06E | C - 2A |
| 88S16F | C - 1 |
| 88S16F | C - 2 |
| 88S16F | C - 2A |
| 89S02 | C - 1 |
| 89S02 | C - 2A |
| 8S01F | F - 9 |
| 8S02J | F - 3 |
| 8S02J | F - 4 |
| 8S03B | C - 3 |
| 8S03B | D - 3 |
| 8S03C | D - 4 |
| 8S03C | D - 4A |
| 8S03H | A - 1F |
| 8S03H | H - 4 |
| 8S04B | B - 8A |
| 8S04B | B - 8B |
| 8S04B | B - 8C |
| 8S04C | B - 9 |
| 8S04C | D - 2B |
| 8S04C | E - 5 |
| 8S04J | H - 2 |
| 8S05E | A - 3 |
| 8S06G | B - 7 |
| 8S06R | A - 2 |
| 8S07K | A - 4 |
| 901S02 | H - 1 |
| 902S02 | A - 4 |

| Part no | Page no |
|----------------|----------------|
| 902S02 | K - 1 |
| 92S07 | B - 9 |
| 95S03 | C - 1 |
| 95S03 | C - 2 |
| 95S03 | C - 2A |
| 95S03 | C - 4 |
| 95S03 | D - 1 |
| 95S03 | D - 3 |
| 95S03 | D - 4 |
| 95S03 | D - 4A |
| 95S05 | F - 10 |
| 9S01 | A - 1B |
| 9S01 | C - 1 |
| 9S01 | C - 2 |
| 9S01 | C - 2A |
| 9S01 | D - 1 |
| 9S02 | D - 1 |
| 9S02 | D - 1 |
| 9S02 | D - 2A |
| 9S03 | C - 2 |
| 9S03 | H - 2 |
| 9S05 | B - 9A |
| 9S05 | B - 9B |
| A25328 | F - 6 |
| ASE154 | H - 1 |
| ASE159 | H - 1 |
| C140A | A - 2 |
| C159LH | B - 9 |
| C159RH | B - 9 |
| C160B | E - 5 |
| C163 | E - 5 |
| C173A | A - 2 |
| C173B | A - 2 |
| C173B | A - 4 |
| C173B | A - 4 |
| C173B | C - 4 |
| C173B | D - 2B |
| C173D | D - 2 |

| Part no | Page no |
|----------------|----------------|
| C173D | E - 5 |
| C174C | D - 1 |
| C174E | D - 1 |
| C174E | D - 1 |
| C174J | C - 4 |
| C174J | D - 1 |
| C174J | D - 3 |
| C174J | D - 4 |
| C174J | D - 4A |
| C175 | B - 9 |
| C175 | B - 9 |
| C180A | B - 9 |
| C180B | A - 1 |
| C180B | B - 9 |
| C180B | D - 1 |
| C186 | B - 9 |
| C186-A | B - 9 |
| C186-B | B - 9 |
| C186-C | B - 9 |
| C186-D | B - 9 |
| C186-E | B - 9 |
| C186-F | B - 9 |
| C190 | B - 9 |
| C272 | D - 1 |
| C321 | C - 3 |
| CSE200 | F - 6 |
| DM157 | J - 1 |
| DM197 | J - 2 |
| L259LH | E - 1 |
| L259RH | E - 1 |
| L264 | B - 9 |
| L267LH | B - 9 |
| L267RH | B - 9 |
| L279/1 | A - 3 |
| L308T | B - 9 |
| L309 | D - 2 |
| LB203 | D - 5 |
| V2000305 | D - 4 |

| Part no | Page no |
|----------------|----------------|
| V2000326 | F - 11 |
| V2000398 | H - 2 |
| V2000757 | E - 2 |
| V2000758 | E - 2 |
| V2000759 | E - 2 |
| V2000760 | E - 2 |
| V2000954 | A - 1 |
| V2000954 | A - 1C |
| V2000954 | A - 1D |
| V2002350 | B - 9A |
| V2002350 | B - 9B |
| V2002991 | D - 4 |
| V2002991 | D - 4A |
| V2003029 | D - 4 |
| V2003029 | D - 4A |
| V2003030 | D - 4 |
| V2003030 | D - 4A |
| V2003037 | J - 1 |
| V2003038 | J - 1 |
| V2003039 | J - 1 |
| V2003100 | J - 1 |
| V2003101 | J - 1 |
| V2003111 | F - 9 |
| V2003111 | F - 10 |
| V2003113 | H - 3 |
| V2003114 | H - 3 |
| V2003115 | H - 3 |
| V2003117 | H - 3 |
| V2003118 | H - 3 |
| V2003119 | H - 3 |
| V2003120 | H - 3 |
| V2003122 | H - 3 |
| V2003122 | H - 3 |
| V2003124 | H - 2 |
| V2003128 | F - 8 |
| V2003130 | F - 7 |
| V2003131 | F - 7 |
| V2003132 | F - 7 |

| Part no | Page no |
|----------------|----------------|
| V2003133 | F - 7 |
| V2003134 | F - 7 |
| V2003135 | F - 7 |
| V2003136 | F - 7 |
| V2003137 | F - 7 |
| V2003137 | F - 7 |
| V2003138 | F - 7 |
| V2003139 | F - 7 |
| V2003140 | F - 8 |
| V2003142 | J - 2 |
| V2003144 | F - 8 |
| V2003144 | F - 9 |
| V2003144 | F - 10 |
| V2003145 | F - 7 |
| V2003146 | F - 7 |
| V2003147 | F - 7 |
| V2003148 | F - 7 |
| V2003149 | F - 7 |
| V2003150 | F - 7 |
| V2003151 | F - 7 |
| V2003152 | J - 2 |
| V2003153 | J - 2 |
| V2003158 | F - 7 |
| V2003158 | F - 10 |
| V2003159 | F - 7 |
| V2003160 | B - 9A |
| V2003160 | B - 9B |
| V2003168 | F - 10 |
| V2003176 | F - 11 |
| V2003177 | F - 11 |
| V2003203 | A - 1C |
| V2003232 | H - 1 |
| V2003253 | F - 10 |
| V2003510 | F - 9 |
| V2003515 | D - 4A |
| V2003540 | F - 9 |
| V2003568 | A - 1A |
| V2003570 | F - 9 |

| Part no | Page no |
|----------------|----------------|
| V2003570 | F - 11 |
| V2003575 | J - 2 |
| V2003598 | J - 2 |
| V2003636 | F - 10 |
| V2003637 | F - 10 |
| V2003638 | F - 10 |
| V2003639 | F - 10 |
| V2003640 | F - 11 |
| V2003641 | F - 11 |
| V2003642 | F - 11 |
| V2003644 | F - 11 |
| V2003646 | F - 11 |
| V2003647 | F - 11 |
| V2003651 | F - 10 |
| V2003652 | F - 10 |
| V2003654 | A - 1C |
| V2003665 | J - 2 |
| V2003671 | D - 3 |
| V2003671 | D - 4 |
| V2003671 | D - 4A |
| V2003851 | A - 4 |
| V2004004 | A - 4 |
| V2004043 | F - 10 |
| V2004055 | A - 1B |
| V2004106 | H - 4 |
| V2004120 | A - 1B |
| V2004137 | J - 3 |
| V2004189 | F - 9 |
| V2004204 | F - 9 |
| V2004206 | A - 1C |
| V2004206 | A - 1C |
| V2004206 | A - 1D |
| V2004214 | F - 9 |
| V2004217 | K - 1 |
| V2004220 | F - 10 |
| V2004223 | J - 2 |
| V2004225 | J - 2 |
| V2004227 | J - 3 |

| Part no | Page no |
|----------------|----------------|
| V2004229 | J - 3 |
| V2004231 | A - 1C |
| V2004234 | A - 1A |
| V2004235 | J - 1 |
| V2004245 | J - 3 |
| V2004282 | J - 3 |
| V2004288 | J - 3 |
| V2004300 | A - 1A |
| V2004307 | J - 3 |
| V2004359 | K - 1 |
| V2004392 | H - 1 |
| V2004392 | H - 1 |
| V2004450 | J - 3 |
| V2004472 | J - 2 |
| V2004642 | J - 3 |
| V2004647 | B - 9 |
| V2004648 | D - 3 |
| V2004648 | D - 4 |
| V2004648 | D - 4A |
| V2004651 | D - 3 |
| V2004651 | D - 4 |
| V2004651 | D - 4A |
| V2004652 | J - 2 |
| V2004680 | J - 1 |
| V2004688 | K - 1 |
| V2004744 | J - 3 |
| V2004754 | A - 1F |
| V2004754 | J - 1 |
| V2004791 | J - 1 |
| V2004798 | J - 3 |
| V2004926 | A - 1F |
| V2004946 | A - 1E |
| V2005013 | A - 1D |
| V2005013 | A - 1E |
| V2005030 | A - 1F |
| V2005030 | J - 1 |
| V2005126 | J - 3 |
| V2005280 | A - 1F |

| Part no | Page no |
|----------------|----------------|
| V2005285 | A - 1F |
| V2005295 | A - 1F |
| V2005310 | A - 1F |
| V2005310 | J - 1 |
| V2005388 | A - 1A |
| V600017 | H - 2 |
| V600022 | H - 2 |
| V600023 | H - 2 |
| V600024 | H - 2 |
| V600026 | H - 3 |
| V600057 | H - 3 |
| V600059 | H - 3 |
| V600060 | H - 3 |
| V600061 | H - 3 |
| V600062 | H - 3 |
| V600063 | H - 3 |
| V600064 | H - 3 |
| V600065 | H - 3 |
| V600066 | H - 3 |
| V600068 | H - 3 |
| V600069 | H - 3 |
| V600159 | H - 3 |
| V600176 | H - 3 |
| V600178 | H - 2 |
| V600179 | H - 3 |
| V600180 | H - 3 |
| V600181 | H - 3 |
| V600182 | H - 3 |
| V600183 | H - 3 |
| V600190 | H - 3 |
| V601154 | B - 8 |
| V601179 | F - 9 |
| V601233 | B - 9A |
| V601233 | B - 9B |
| V601697 | D - 3 |
| V601697 | D - 4 |
| V601697 | D - 4A |
| V601778 | J - 1 |

| Part no | Page no |
|----------------|----------------|
| V601779 | J - 1 |
| V602166 | H - 3 |
| V602446 | H - 3 |
| V602447 | H - 3 |
| V602448 | H - 3 |
| V602449 | H - 3 |
| V602475 | H - 3 |
| V602476 | H - 3 |
| V602477 | H - 3 |
| V602478 | H - 3 |
| V602629 | H - 4 |
| V602630 | H - 4 |
| V602634 | F - 9 |
| V602635 | F - 9 |
| V602636 | F - 9 |
| V602747 | A - 1E |
| V602748 | A - 1E |
| V602749 | A - 1D |
| V602749 | A - 1E |
| V602750 | A - 1D |
| V602751 | A - 1D |
| V602752 | A - 1D |
| V602978 | A - 1F |
| V602979 | A - 1F |

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