

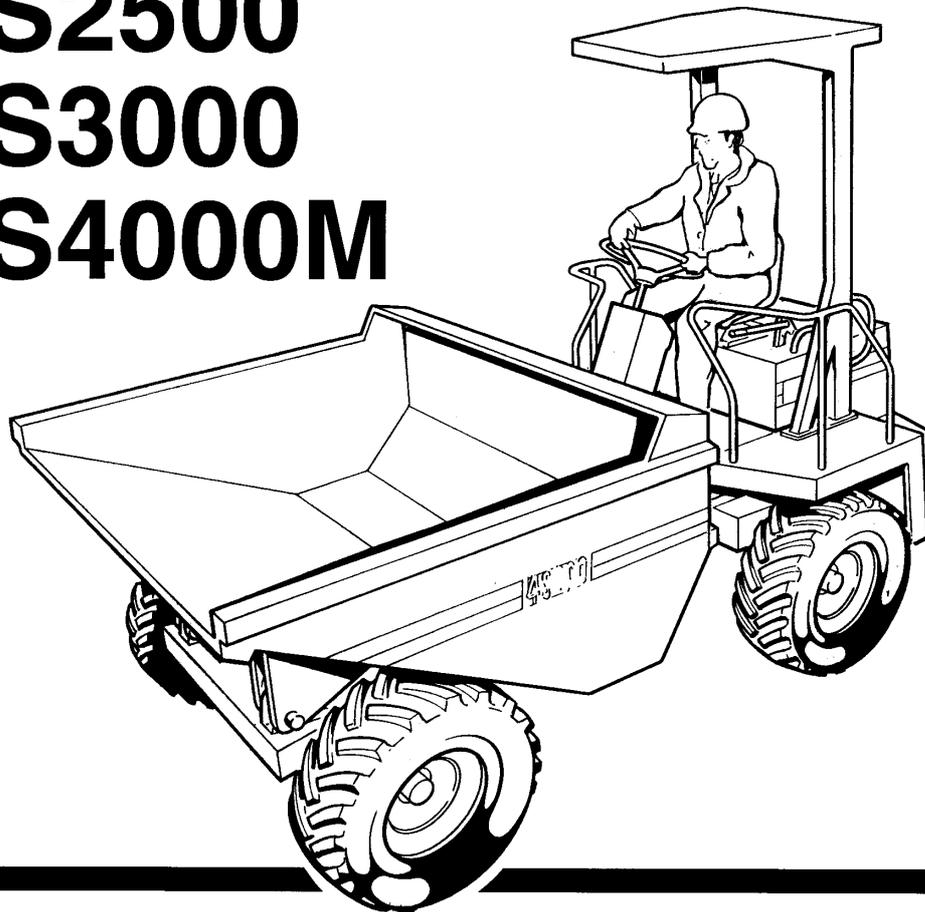
# 'S' Series Dumpers

**4S2000**

**4S2500**

**4S3000**

**4S4000M**



## **OPERATORS HANDBOOK & PARTS**

Manual V600177 *September 2007*

# **WINGET**

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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.

## 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 notes accompanied by a warning triangle.



*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
Dumper serial no.	Rear axle
Key, start	Ram steering
Engine	Ram, tipping, L.H.
Transmission	Ram, tipping, R.H.
Transfer gearbox	Tyre make & 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 plates, clutch plates 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 reserves 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 articulated dump truck. 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 articulated dump trucks run by the C.I.T.B. or equivalent body leading to the award of a C.T.A. or equivalent

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 011 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, or 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* attempt to lift the machine unless the articulation lock is engaged .

When working within the articulation point crush zone always fit the articulation lock.

*NEVER* work under an unpropped skip. Always use the skip support provided.

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

**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, particularly with Rotary Skips and High Discharge machines.

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

*NEVER* leave the machine with the skip raised or rotated.

**TOWING**

**WARNING** *NEVER* attempt to tow a dumper before first reading 'Towing the dumper' (see *Contents page*).



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

*Dump trucks 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 drawbar pull and drawbar load of the dumper (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.

**GRADIENTS**

**WARNING** *NEVER* operate on any gradients which exceed 25% (1 in 4), or across gradients which exceed 16% (1 in 6).



*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 rotary skips on gradients.

## HYDRAULICS

**WARNING** *ALWAYS* “Dump” pressure from the system before carrying out any maintenance or adjustments. (**see Service - Hydraulic system**).



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

*NEVER* leave the machine unattended with pressure in the system.

*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 the 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, always fit the special Skip Support that has been supplied with the dumper.

*ALWAYS* fit the articulation lock when servicing or working on the machine.

**DECALS**

*Attached to the dumper are several pictorial warning decals.*

*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.*

*Descriptions of the decals are as follows:*

Fuel tank filling point.



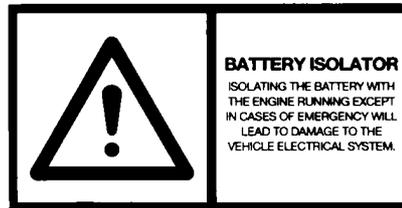
Before lifting the engine cover, ensure the seat has been moved fully forward.



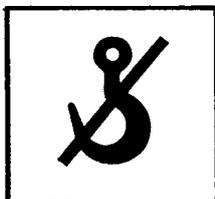
Hydraulic oil filling point.



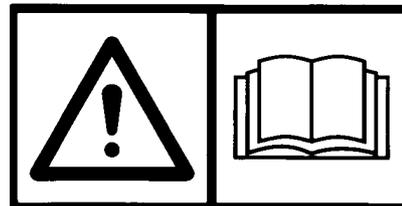
The Battery Isolator is situated close to this decal.



Do not attach lifting hooks to this part of the dumper.



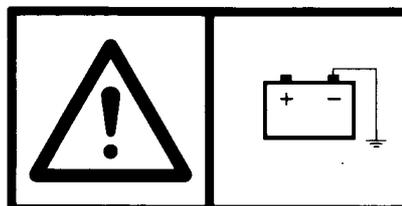
Read Operators Handbook, or Operators Handbook storage place.



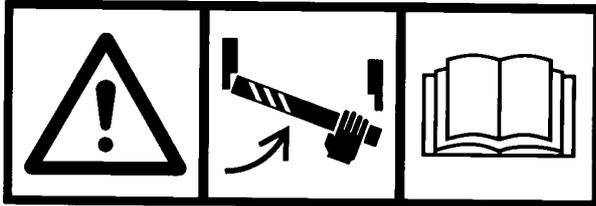
Attach lifting hooks to this eye.



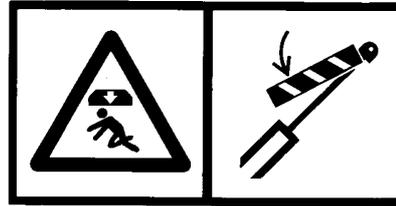
The battery negative terminal is connected to earth.



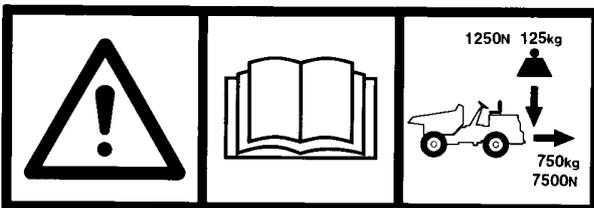
The Articulation Lock, when used, prevents the front and rear chassis from articulating.



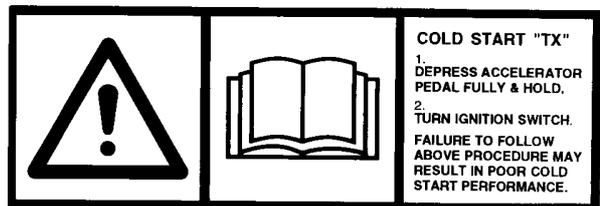
ISO Skip Support, when used, is pinned around the tipping ram rod to prevent the ram from closing.



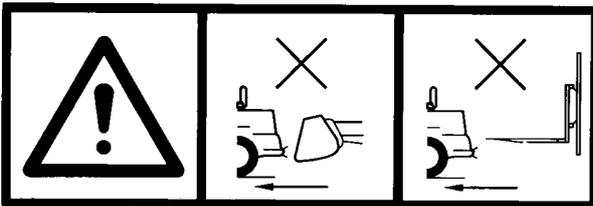
This decal indicates the maximum loads that the dumper towbar can carry and pull.



Cold starting "TX" engines



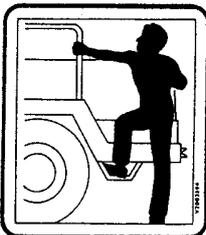
Forks and buckets are not to be used to push or lift the dumper.



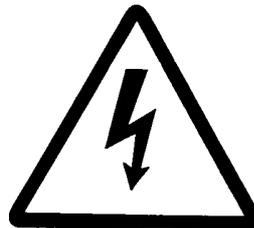
These surfaces may be hot.



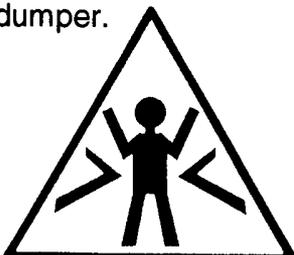
Only mount the dumper from the rear using the steps and handles.



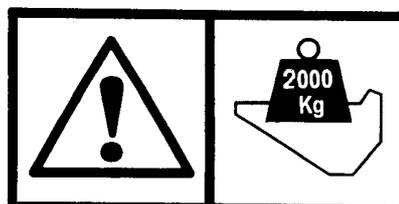
Beware of electrical hazards.



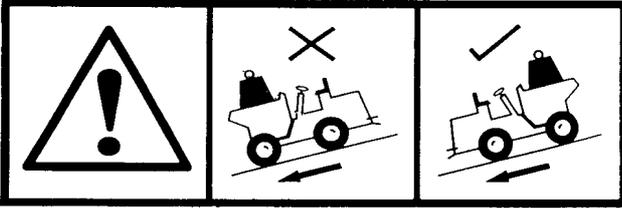
Keep clear of this "Crush area" between the front and rear articulating chassis of the dumper.



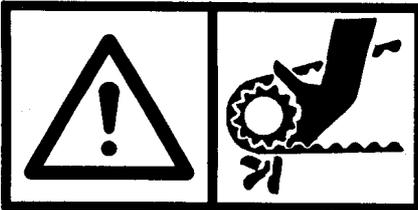
The maximum permitted skip load.



Always reverse down gradients when loaded.



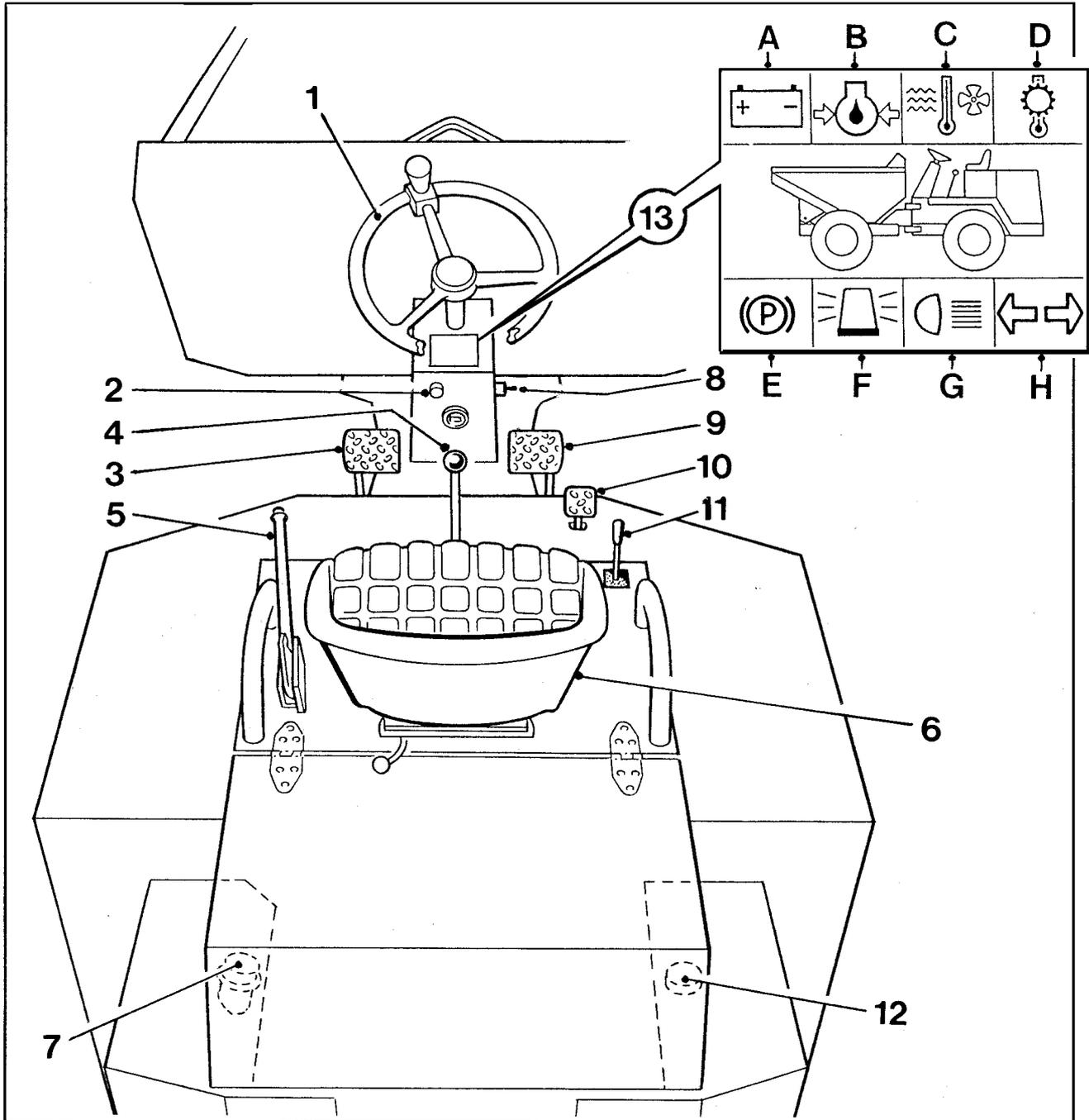
Keep hands away from moving parts.



Always wear eye protection.



## DUMPER LAYOUT



- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>1 Steering wheel</li> <li>2 Horn</li> <li>3 Clutch</li> <li>4 Gear lever</li> <li>5 Parking brake</li> <li>6 Seat</li> <li>7 Hydraulic oil filler (<i>under engine cover</i>)</li> <li>8 Key start switch</li> <li>9 Brake</li> <li>10 Accelerator</li> <li>11 Skip control, tip/return<br/>(<i>plus, swivel on rotating skips</i>)</li> </ul> | <ul style="list-style-type: none"> <li>12 Fuel filler (<i>under engine cover</i>)</li> <li>15 Warning lights panel</li> <li>A Battery charging</li> <li>B Engine oil pressure (<i>not used</i>)</li> <li>C Engine coolant temperature</li> <li>D Transmission oil temperature (<i>not used</i>)</li> <li>E Parking brake (<i>not used</i>)</li> <li>F Beacon ON (<i>where fitted</i>)</li> <li>G Headlights ON (<i>where fitted</i>)</li> <li>H Direction indicator (<i>where fitted</i>)</li> <li># Alarm buzzer, engine temperature</li> </ul> |
|---|--|

## 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.*



*Always mount the dumper using the steps and handles at the rear. NEVER attempt to mount the dumper from any other position.*

*Only skilled personnel are permitted to work with this dumper.*

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

### 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 dumper 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 dumper for any obvious damage or faults.

Check that all decals can be clearly read.

## Audible Alarm

The dumper is fitted with an audible alarm. This has two modes of operation:

### 1 Start-up alarm

As soon as the ignition key is turned from the OFF position, the alarm sounds for seven seconds as a warning of imminent start up.

### 2 Reverse Alarm (*where fitted*)

When the gear lever is moved into the reverse gear position with the ignition ON, the alarm will sound. It will continue to sound until the gear lever is returned to the neutral position.

The bleeping of the start-up alarm is faster than that of the reverse alarm; this is to avoid confusing the two.

With the ignition ON, and the start up alarm sounding, selecting reverse will automatically override the ‘start-up’ alarm and allow the reverse alarm to sound in its normal manner.

## Starting the engine

**WARNING** *NEVER use ether type starting aids.*



*ALWAYS stop the engine if the battery charge warning light fails to cancel.*

*ALWAYS stop the engine if the engine coolant or engine temperature warning lights illuminate, or the alarm buzzer sounds. Detect the fault before continuing. DO NOT PROCEED IF A FAULT IS EVIDENT.*

*NEVER attempt to start the dumper by pushing or towing. This would result in extensive internal damage to the transmission.*

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

Before starting the dumper:

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

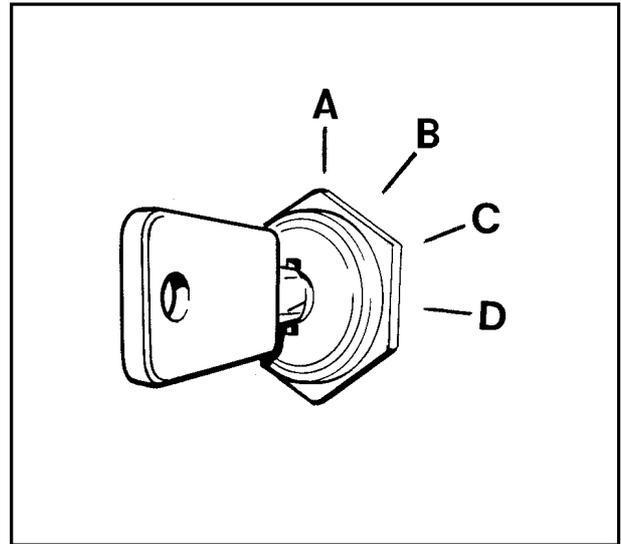
Ensure gear lever is in the neutral position.

**Note:** A starter inhibitor switch is fitted to the clutch pedal and the starter will be ‘dead’ until the clutch pedal is fully depressed.

Fully depress and hold down both clutch and accelerator pedals. **(This is particularly important when starting a cold TX engine).**

## Starter Key Positions

- A Off
- B Warning lights; Audible alarms;  
Fuel control solenoid, **TX engines only**  
(If the Fuel Control Solenoid overheats, the 6 amp circuit breaker will disengage. Should this happen, allow the solenoid to cool, then reset the circuit breaker.)
- C Heater thermostart (Heater thermostart is standard on water cooled, and an option with air cooled engines.)
- D Starter



Turn the starter key to 'B' for:

Battery charge warning light.

Fuel control solenoid.

Audible alarm (see *Audible alarm on previous page*).

Turn the starter key to 'C' for heater thermostart (where fitted) and hold it there for 20 seconds.

Turn the starter key to 'D' to engage starter motor and start engine.

Allow the key to return to 'B' as soon as the engine starts and release the accelerator and clutch pedals.

If the engine does not start in 20 seconds, turn the key to position 'C' (thermostart engines only) and hold it there for 20 seconds, then turn to 'D' to engage starter motor and start engine.

Check that warning lights have gone out.

When starting a warm engine, follow all the above procedure but omit the heater thermostart.

**If the engine still does not start consult your distributor.**

### Engaging gear lever

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

### Steering

Never hold the steering on full lock for more than a few seconds because the excessive use of the relief valve will cause overheating of the components.

### 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 25% (1 in 4). This should be reduced where surfaces are wet or unstable.

*NEVER* operate high discharge or rotating skip options on gradients.

### Braking

The brake pedal operates the brakes in the conventional manner.

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



### Stopping the dumper

Release accelerator and brake to a halt progressively.

Select neutral gear.

Apply parking brake when stationary.

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 fully in each direction several times to ‘dump’ hydraulic pressure from the system.

Remove starter key from switch.

If unattended for some time, remove earth cable from battery, or activate the Battery Isolator, where fitted.

### Skip tipping

The skip tipping rams are dual acting. They have to be “Powered” up and “Powered” down.

However .....

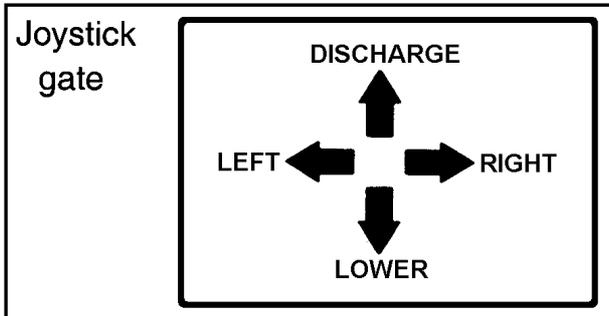
If the skip is raised and the engine is switched off, DO NOT operate the control valve as the skip will rapidly lower to the chassis.

**WARNING** *Never venture under a raised skip unless it is fitted with an “ISO Skip Support”*  
(See page 3.1)



### Rotating skip operation

The skip is operated by a joystick control valve, the lever of which is moved through a gate.



Because of the gate it is not possible to move the lever diagonally, therefore it is not possible to tip and slew the skip simultaneously.

### Slewing the skip

**WARNING** *Before attempting to slew the skip; the dumper must be stationary, on level ground, with the front and rear chassis in-line (not articulated) and with the parking brake applied.*



When the skip is fully lowered, the rear of the skip locates into a recess in the chassis. This is to ensure that there is no rotary movement of the skip while the dumper is travelling.

#### To slew the skip:

Look at the rear of the skip where it is recessed into the chassis.

With the joystick lever, gently tip the skip forward just sufficiently to raise the rear of the skip clear of the recess.

Allow the lever to “self-centre”.

Move the lever in the direction that you wish to turn the skip.

Allow the lever to “self-centre”.

Move the lever forwards to tip the skip.

Reverse the procedure to return the skip to the travelling position.

**WARNING** *Be sure that the rear of the skip has fully seated in its recess in the chassis before travelling.*



### 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 as the lack of power assistance makes manual steering very slow and strenuous.

Always tow the dumper with the gear lever in neutral.

Never attempt to start the dumper by pushing or towing.

**SAFETY**

**WARNING** *Read the safety notes in the “Safe Working” section of this book.*



*Also note the following:*

**SKIP SUPPORT BRACKET**

The “Skip Support Bracket” **MUST ONLY** be used when the tipping ram(s) are to be removed.

**To install the “Skip support bracket”:**

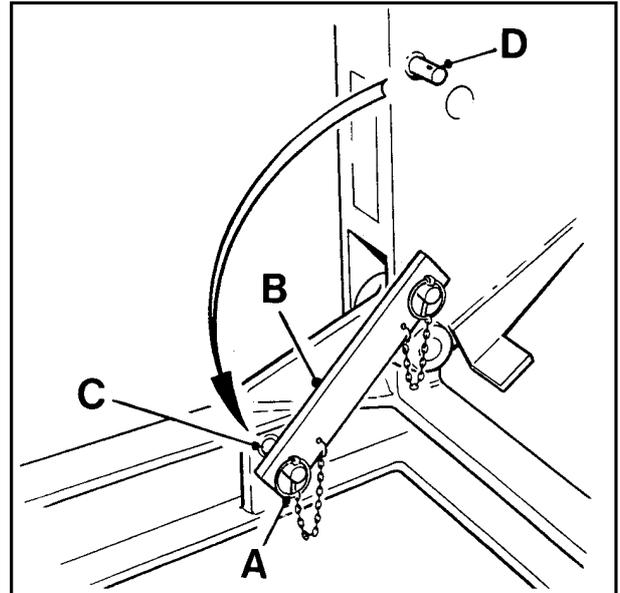
Raise the skip using the hydraulic control lever.

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**

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

**To install the “ISO Skip Support”:**

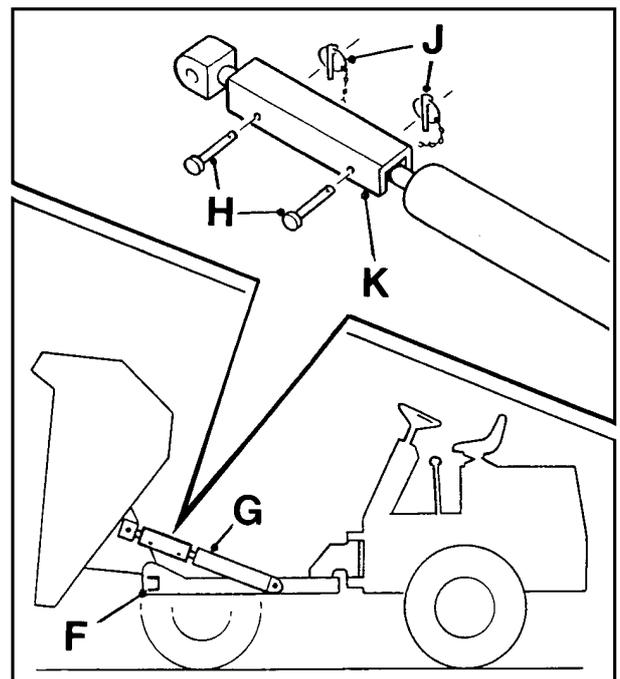
Release the “Support” (K) from its storage position at the front of the chassis (F).

Raise the skip fully using the hydraulic control lever.

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

Insert the pins (H) and secure them with clip/pins (J).

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



## ARTICULATION LOCK

The Articulation Lock is provided to lock the front and rear chassis together, making the dumper a rigid unit.

The Articulation Lock **MUST** be in position before attempting to lift the dumper, or before commencing any maintenance work.

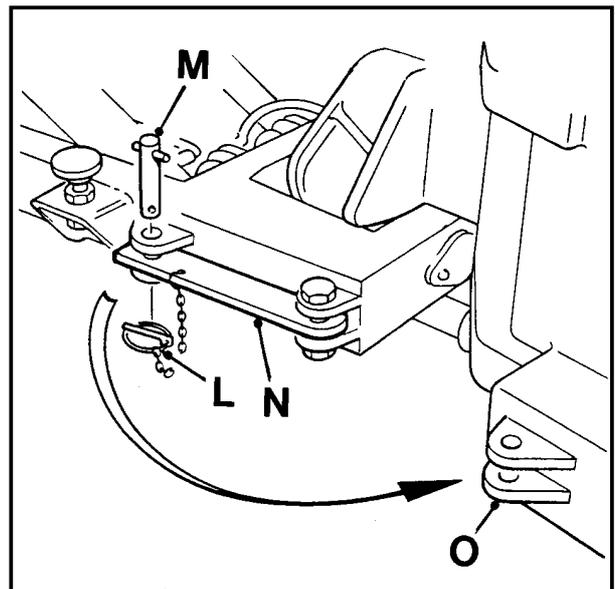
### To install the “Articulation Lock”:

Turn the steering wheel until the front and rear chassis are in a straight line.

Remove clip/pin (**L**) and extract pin (**M**).

Swing the locking bracket (**N**) backward to the rear chassis and into clevis (**O**). (It may be necessary to turn the steering wheel to align the bracket and clevis holes.)

Fit pin (**M**) through the clevis (**O**) and bracket, and secure with clip/pin (**L**).



**ACCESS TO SERVICE CHECK POINTS****To open rear cover:**

Stop the engine. Release the catches on each side of the engine cover. Lift the cover to open. Engage the support.

***This will give access to:***

- Fuel tank filler
- Hydraulic tank filler
- Brake fluid reservoirs
- Hydraulic filter
- Air filter
- Engine oil filter
- Engine oil dipstick
- Radiator (for water cooled engines)

***For engine details consult "Engine Operation Manual."***

The gearbox oil dipstick/filler plug can be reached through the gear lever aperture in the floor plate.

**SERVICE SCHEDULE**

<b>Service Operation</b>	<b>Reference</b>	<b>Page</b>
--------------------------	------------------	-------------

**!!!! Warning lights and indicators require IMMEDIATE action !!!!**

***Every 10 operating hours, or daily***

Engine oil level	Engine	3.7
Radiator coolant level (water cooled engines)	Cooling system	3.8
Fuel tank level	Fuel system	3.10
Air cleaner	Air cleaner	3.11
Hydraulic oil level	Hydraulic system	3.20
Hydraulic filter element	Hydraulic system	3.20
Wheel nut tightness	Wheels and tyres	3.16
Axle oil seals	Axles	3.14
Brake oil reservoirs	Braking system	3.22

***Every 50 operating hours, or weekly.***

Cooling system airways (air cooled engines)	Cooling system	3.8
Axle nuts	Axles	3.14
Front & rear axle oil levels	Axles	3.14
Tyre pressures	Wheels & tyres	3.16
Tyre condition	Wheels & tyres	3.16
Battery electrolyte level	Battery	3.17
Grease nipples	Grease points	3.6
Gearbox oil levels	Transmission	3.12
Transfer gearbox oil levels	Transmission	3.12

**Parking brake**

Check function of the parking brake and adjust if necessary.

**Propeller shafts**

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	3.19
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<b>Service Operation</b>	<b>Reference</b>	<b>Page</b>
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**Every 125 operating hours**

Engine oil filter (LPWS engines only)	<i>See Engine Handbook</i>	
Air cleaner element (s)	Air cleaner	3.11

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**Every 250 operating hours**

Engine oil and filter (TX, TR, LPW & Yanmar engines only)	<i>See Engine Handbook</i>	
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**Every 500 operating hours**

Air cleaner element (s)	Air cleaner	3.11
Hydraulic oil filter	Hydraulic system	3.19
Check all structural nuts & bolts for tightness.		
Check slew ring fixing bolts for tightness.		

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**Every 1000 operating hours**

Hydraulic oil tank & filter	Hydraulic system	3.19
Gearbox oil change	Transmission	3.12
Transfer gearbox oil change	Transmission	3.12
Front and rear axle oil change	Axles	3.14

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**Every 2000 operating hours, or 2 years**

Change coolant system fan belts on water cooled and air cooled engines  
*See Engine Handbook*

Radiator coolant (water cooled engines)	Cooling system	3.8
Coolant hoses (water cooled engines)	Cooling system	3.8
Brake system overhaul	Braking system	3.22
Centre yoke		3.23

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**Extra services****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.

**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.

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## GREASING

**Every 50 operating hours, or weekly**

**WARNING** Always use lubricants of the grade specified.



Always fit skip safety support and articulation lock before commencing work.

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

## Grease points

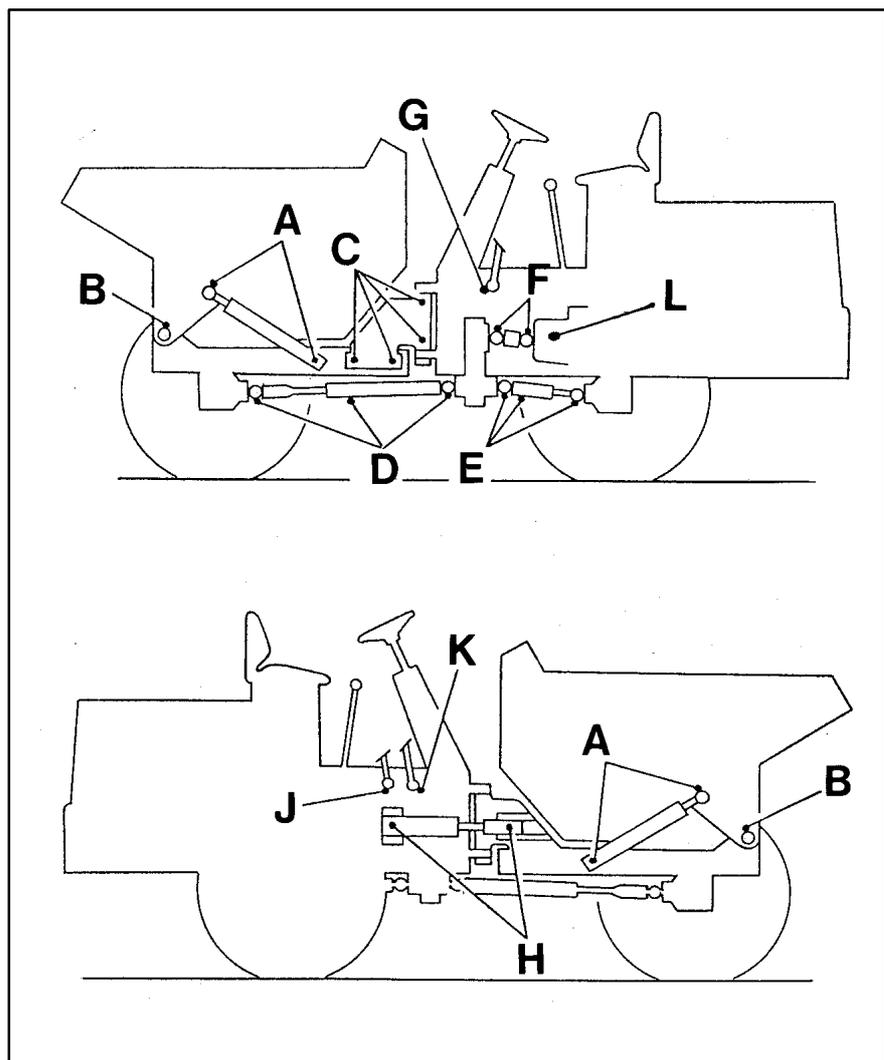
Clean nipples before and after greasing. Apply the grease gun until clean grease appears.

## Location of grease points

- A Tipping ram
- B Skip pivots
- C Centre pivot
- D Front propeller shaft
- E Rear propeller shaft
- F Top propeller shaft
- G Clutch pedal
- H Steer ram
- J Accelerator
- K Brake pedal
- L Gearbox lever pivot  
(one nipple each side of gearbox)

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

# **Rotating skips:**  
additional greasing points  
Slew ring  
Slewing rams



**FOR ENGINE SERVICING, see:**

**“ENGINE OPERATORS HANDBOOK”.**

For engine oil grades and oil change periods when operating in temperatures above 30°C, see “Engine Handbook”.

**Every 10 operating hours, or daily**

### **Check engine lubrication oil level**

**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.*

*Do not allow the oil to come into contact with the rubber hoses on the engine.*

*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.*

*Do not overfill with oil. If a cylinder head oil filler is fitted the oil must only be poured into the filler at a rate which enables it to drain into the crankcase. If the oil is poured in too quickly it can flood the crankcase breather holes and escape into the inlet manifold and cylinders.*

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”.*

## COOLING SYSTEM

### Water cooled engines

#### Safe handling of engine coolant

**WARNING** *Never start the engine without liquid in the cooling system.*



*Antifreeze is corrosive to the skin. If it is spilled onto the skin accidentally, it should be washed off immediately. If accidentally swallowed, medical advice should be sought immediately. It is advisable to wear protective clothing and eye protection when handling antifreeze.*

*Keep antifreeze out of the reach of children.*

*Never remove the radiator cap with the engine running.*

*The cooling system is pressurised, and care should be taken when removing the radiator cap, especially if the engine is hot.*

**If the engine overheats the temperature warning light will illuminate and a warning buzzer will sound.**

***Every 10 operating hours, or daily***

#### Check coolant level

Check and, if necessary, top-up the cooling system.

If the machine is working continuously in hot weather, check the level several times a day.

**CAUTION:** Remove the filler cap *slowly*. If there is liquid in the header tank, the system may be refilled with safety. If not, allow the engine to cool completely before topping-up.

Top-up with coolant to between 13 & 25 mm (0.5 - 1in) below the filler neck with the correct mixture.

If the cooling system has leaked due to hose failure or similar, it is extremely important that any lost coolant is replaced by a pre-mixed solution of antifreeze and water. DO NOT use anti-leak additives.

***Yanmar, every 1 year  
or  
Lister-Petter every 2000 operating  
hours, or 2 years.***

#### Change engine coolant

Ensure a suitable container is placed on the ground beneath the drain tap to catch spilling coolant.

Before opening drain taps, remember to stand to one side to avoid the coolant that will spill from the drain tap.

Drain off the coolant by removing the radiator cap and opening the radiator and engine drain taps, or removing coolant hose. Flush the system with water, and refill with coolant.

It is preferable to use a coolant mixture of 50% antifreeze and 50% water, as this will give greater protection against freezing and engine corrosion.

Always use antifreeze of the correct type and grade. *For correct type and grade see "Specifications".*

#### Check hoses

During the renewal of coolant, carefully examine the radiator hoses for cracks, cuts or damage.

***Every 2000 operating hours, or 2 years.***

#### Fan Belt

Change the fan belt as instructed by the engine Manufacturer (see *Engine Handbook*).

**COOLING SYSTEM****Air cooled engines**

If the Air Cooled Engine overheats the temperature warning light will illuminate and a warning buzzer will sound.

***Every 50 operating hours, or weekly.***

**Cooling system****WARNING**

*Clean air is essential for the safe and reliable operation of the engine.*

*When working in conditions of extreme dirt or dust, check and clean air passages more frequently.*

Check air passages to ensure free flow of air, and clean as necessary.

Check axial fan belt for correct adjustment and signs of fraying wear.

***Every 2000 operating hours, or 2 years.***

**Axial Fan Belt**

Change axial fan belt as instructed by the engine Manufacturer.  
(see “*Engine Handbook*”).

**FUEL SYSTEM**

*For servicing of FUEL SYSTEM, see:*

**“ENGINE OPERATORS HANDBOOK”.**

***Every 10 operating hours, or daily***

**Check fuel tank level**

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. Always keep control of the filler pump nozzle.*

**To 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.

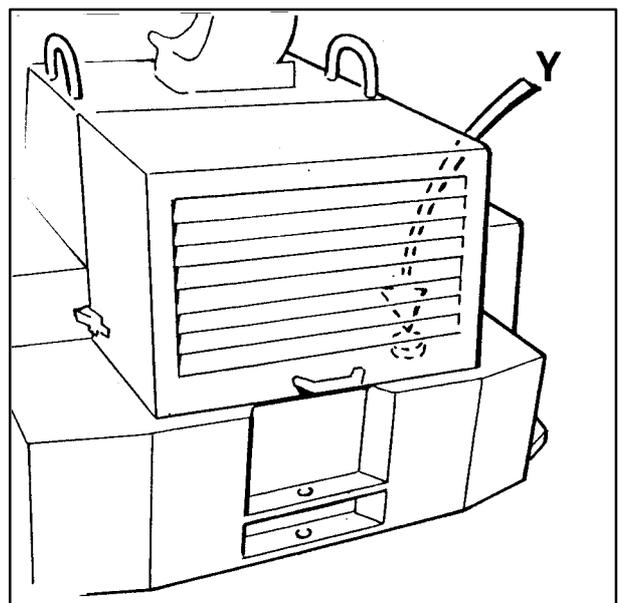
Stop the engine and open the engine cover.

Clean the area around the filler cap (Y).

Remove the cap.

Fill the tank with diesel fuel.

Replace the filler cap, close and secure the engine cover.



**AIR CLEANER**

*For servicing of AIR CLEANER see:*

**“ENGINE OPERATORS HANDBOOK”.**

**Every 10 operating hours, or daily**

**Air cleaner**

With the engine stopped, pinch the rubber dust collector **(S)** to release the dust. In dirty conditions, remove the filter element(s) **(T)** from inside the cleaner and tap it on the palm of the hand to release dust.

**Every 125 operating hours**

**Check air cleaner element(s)**

Remove the element(s) **(T)** of the air cleaner.

Discard the element(s) if it is distorted or the bonded gasket is loose.

Hold the element(s) up to the light to check for damage to the paper. The element(s) should be discarded if pin pricks of light can be seen, or if there are areas of paper that appear thin.

Refit new or existing element(s) as required.

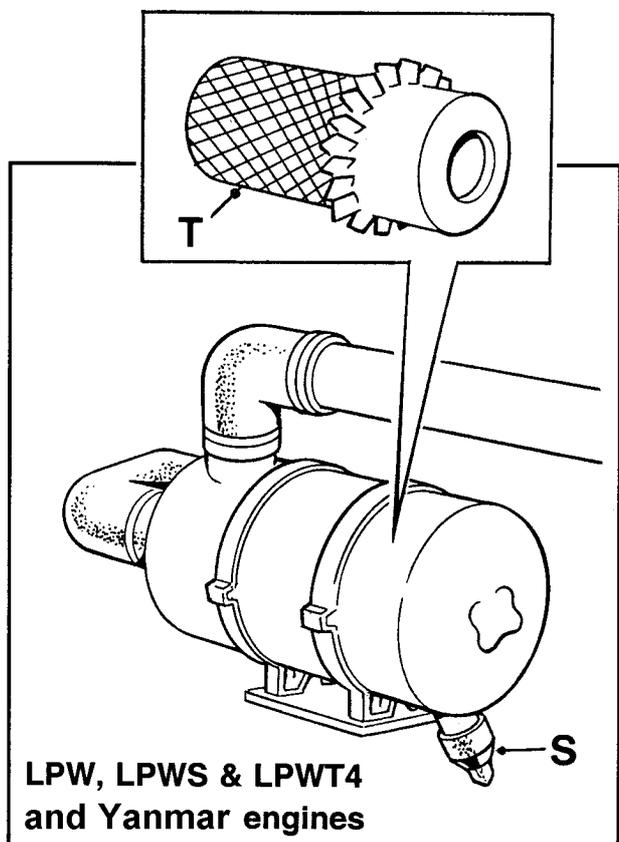
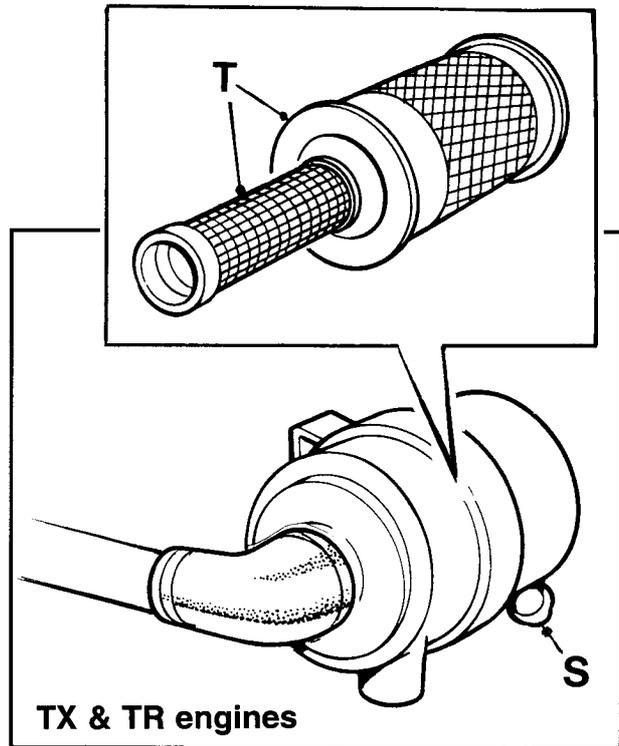
**Every 500 operating hours**

**Change air cleaner element(s)**

Remove the element(s) **(T)** and replace with new element(s).



**WARNING** *If the element(s) has not been changed for 500 operating hours, a leak in the induction system must be suspected. Check that the air cleaner casing and the pipes to the engine are not damaged. Check that all pipe connections are airtight.*



## TRANSMISSION

### Safe handling of oil

**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.

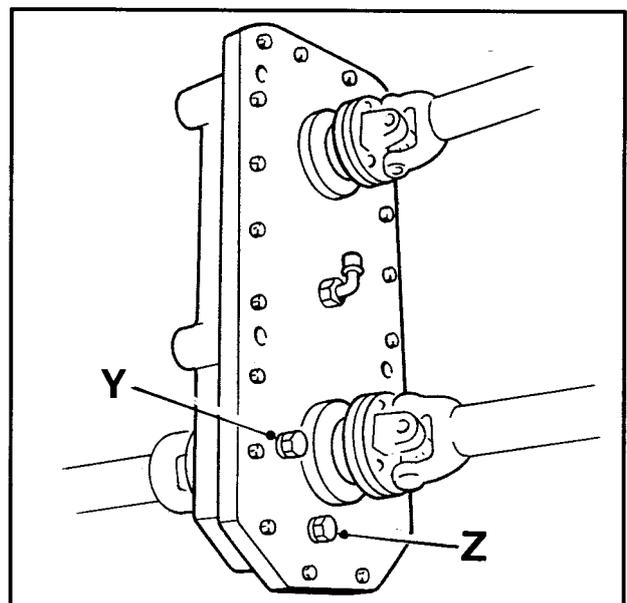
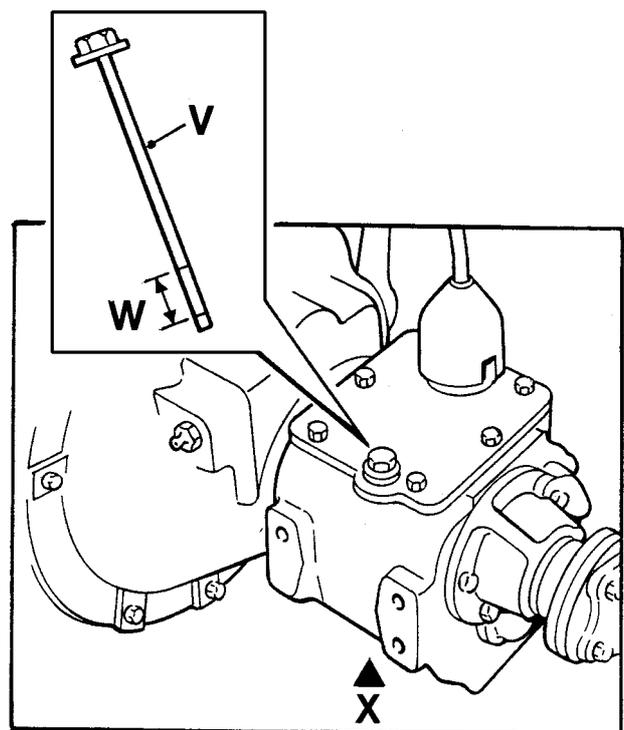
For the correct type and grade of oil, see "Specifications".

### Check transfer gearbox oil level

Clean the area surrounding the filler/level plug (Y) before removing it.

Check and top-up through the filler/level plug hole (Y) until the oil is level with the bottom of that hole.

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".

### **Change transfer gearbox oil**

Place a suitable container beneath the drain plug **(Z)**.

Drain oil by removing the plug **(Z)**. *(Do not lose its sealing washer.)*

Replace drain plug with its sealing washer.

Fill with oil at filler/level plug **(Y)** to the correct level. Replace filler/level plug with its sealing washer.

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

## AXLES

### Safe handling of oil

**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 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.

### Check front and rear axle oil levels

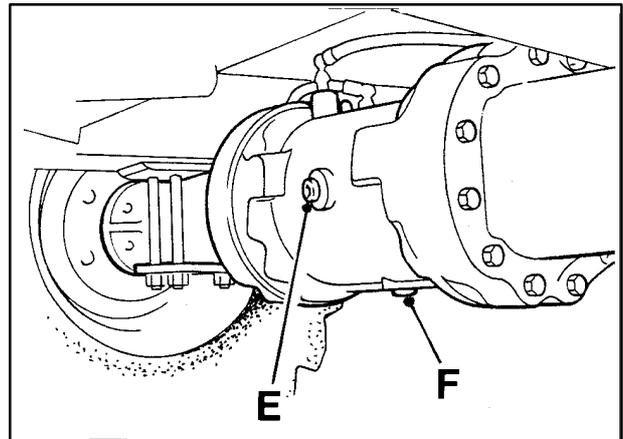
Do not check the oil levels until the machine has stood for 2 minutes.

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

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

If the level is low, top-up with clean oil of the correct grade.

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



***Every 1000 operating hours***

### **Change front and rear axle oil**

Change the lubrication oils in both the front and rear axle as follows:

Clean the areas surrounding the level plug **(E)** and drain plug **(F)**.

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 hole.

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

Refill at the level/filler plug **(E)** with clean oil of the correct grade.

Replace filler plug.

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

## WHEELS & TYRES

***Every 10 operating hours, or daily***

### Check wheel nuts

Tighten these 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***

### Check 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 isolator 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 isolator, 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.*

## HYDRAULIC SYSTEM

### Dumpers with forward tipping skips

The hydraulic system provides power for both steering and skip tipping. It is a split system which gives priority flow to the steering in preference to skip tipping.

#### Main components

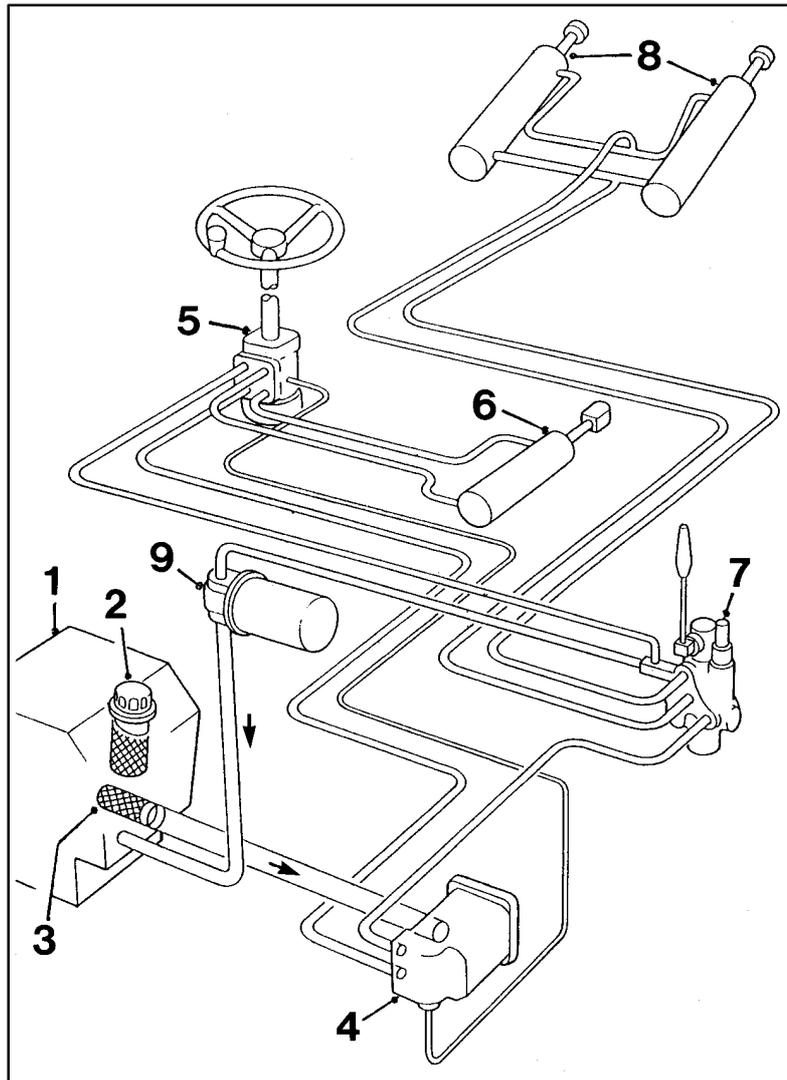
- 1 Tank
- 2 Filler/Strainer
- 3 Tank strainer (suction)
- 4 Pump
- 5 Steer unit
- 6 Steer ram
- 7 Tipping control valve
- 8 Tipping ram(s)
- 9 Filter (return)

**Tank:** The tank (1) is filled through a filler / strainer (2) which incorporates an oil level indicator. The filler cap is fitted with a breather. In the bottom of the tank is a suction strainer (3).

**Pump:** From the pump (4) there are two delivery hoses. One hose supplies the steering unit (5) while the other supplies the skip tip control valve (7). A valve within the pump (4) gives priority flow to the steering unit (5). This priority valve is activated by a pressure sensing hose from the steering unit.

**Filter:** Oil flows to the tank via the in-line return filter (9). The filter is fitted with a "spin-off" cartridge element.

**Steering unit:** The steering unit (5) consists of a distributor valve and a rotary meter. When the steering wheel is turned, the distributor valve directs oil from the pump, via the rotary meter, to one or other of the steering ram ports (6), depending on the direction in which the steering wheel is turned. The rotary meter ensures that the oil volume supplied to the ram (6) is proportional to the distance that the



steering wheel is turned. If the oil flow from the pump (4) fails, the steering unit can function as a handpump; this will allow the machine to be steered, but without power assistance.

**WARNING** *Steering WITHOUT power assistance is slow and strenuous for the driver. It should only be used in emergencies.*



**Tipping control valve:** The control valve (7) receives oil from the pump (4) and delivers it to the skip tipping rams (8). 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 backwards or forwards after the rams have reached their full stroke, a relief valve opens, allowing the oil to return to the tank.

**Dumpers with rotating skips**

The tank, filter, pump and steering circuit operate in the same manner as for the conventional forward tipping skip. (See the previous page)

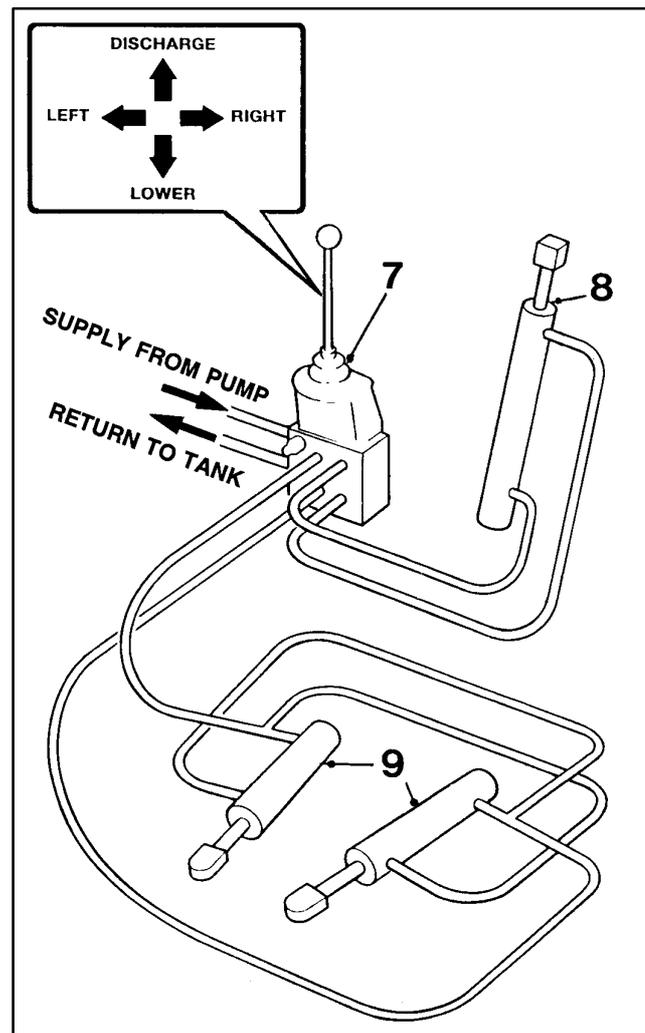
**Rotating skip operation**

The skip is operated by a four-way joystick control valve.

**Joystick control valve:** The control valve (7) receives oil from the pump and delivers it to either the tipping rams (8), or the swivel rams (9). The rate of oil flow to the rams is proportional to the distance that the control valve lever is moved.

If the lever is held in one of its most extreme positions (either left/right or forwards/backwards), after any of the rams have reached their full stroke, a relief valve opens, allowing the oil to return to the tank.

Because the joystick is fitted with a gate, it is not possible to move the lever diagonally, therefore it is not possible to tip and swivel simultaneously.



**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.*



**WARNING** 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.*

## 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 Checks

The single hydraulic pump provides power for both the skip operation and steering. The hydraulic pump splits the output into two circuits with controlled rate priority flow to steering circuit.

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 return line filter element has been regularly changed in accordance with the maintenance schedule. If not, change the filter element.

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

Check that the hydraulic pressures are correct as follows:

### Tip Circuit

Fit a 3000 lb/in<sup>2</sup> gauge into the hydraulic system at the base of the skip ram. With the engine running at full rpm, operate the tipping control lever until the rams are fully extended and the relief valve is 'blowing'.

With the relief valve blowing, read the pressure shown on the gauge. See "Specifications" for correct pressure

### Steering Circuit

Fit a 3000 lb/in<sup>2</sup> gauge into the hydraulic system at the base of the steering ram.

With the engine running at full rpm, turn steering wheel to 'full lock' and check that the reading on the gauge is showing 175 bar (2500 lb/in<sup>2</sup>).

**If none of these procedures correct the fault contact your Distributor.**

## HYDRAULIC SERVICING

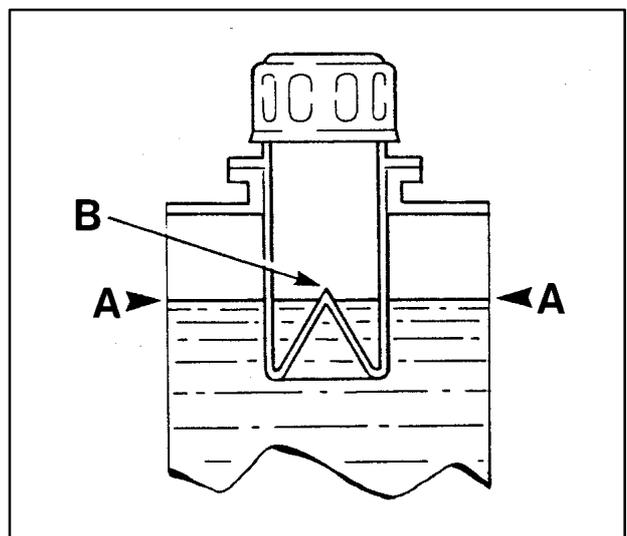
**Every 10 operating hours, or daily**

### 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!



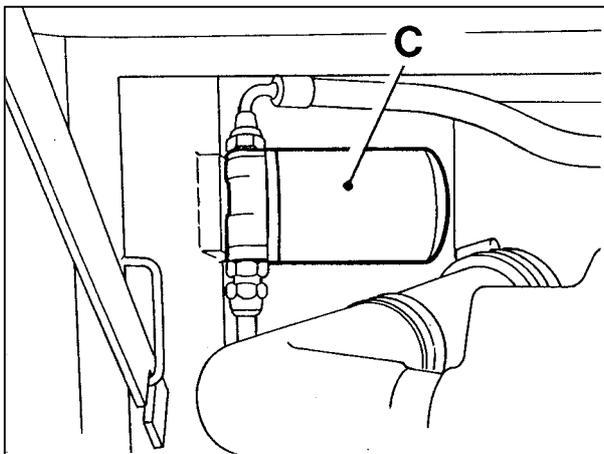
**First 100 operating hours****Change hydraulic oil filter element**

**WARNING** Before changing filter element, stop the engine and dump hydraulic pressure.



Clean the area surrounding the filter before removing it.

Remove and discard filter cartridge **(C)**.



Clean joint area, wipe with hydraulic oil, and fit new cartridge.

Do not overtighten.

Run the engine to circulate the oil.

Operate the hydraulic control to purge any air.

Stop the engine and top up the tank as required with clean hydraulic oil of the correct type and grade.

*For correct type and grade of oil see "Specifications".*

**Every 500 operating hours****Change hydraulic oil filter element**

Change the hydraulic oil filter element, using the procedure described in "First 100 operating hours" above.

**Every 1000 operating hours****Change hydraulic oil**

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

Fully close the tipping ram(s).

Switch off the engine and dump hydraulic pressure.

Disconnect the battery earth cable.

Clean the area surrounding the hydraulic tank drain plug and filler cap.

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

**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 and drain the oil from the hydraulic tank.

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

Refit the drain plug.

Clean the filler cap breather.

Refill the tank with clean oil of the correct type and grade.

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

Run the engine to circulate the oil.

Operate the hydraulic control to purge any air.

Stop the engine and top up the tank as required.

## BRAKING SYSTEM

*Daily or every 10 hours*

## Brake oil reservoirs

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

## Brake System

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 reservoirs.

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



*Do not allow the reservoirs 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.

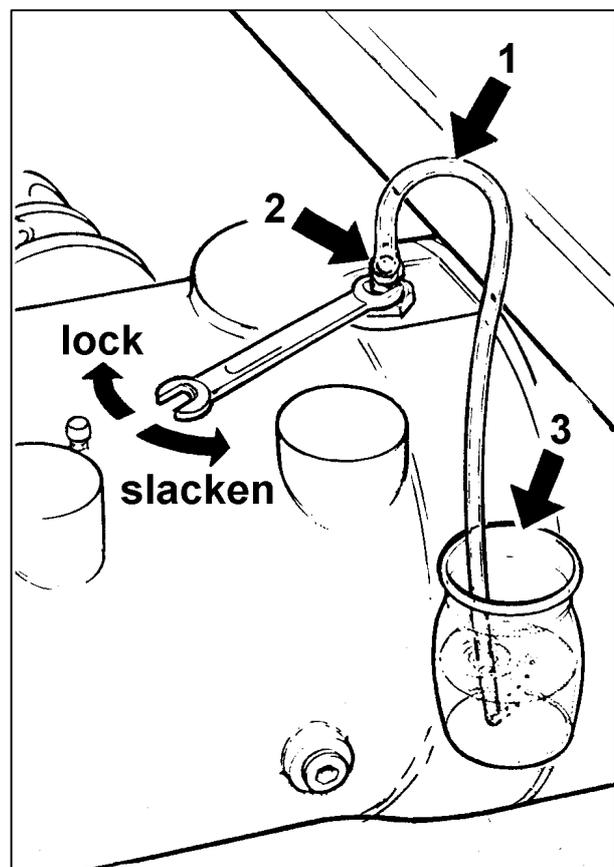
**D** Lock the bleed screw.

**E Note:** If the dumper has a twin braking system, repeat bleeding procedure on the rear axle.

**F** Top up brake reservoir(s).

**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 rods and the pistons when the brake pedal is released. Unless the pistons in both master cylinders are allowed to fully return, brake pressure will build up and the brakes will remain on.



**CENTRE YOKE INSTALLATION (pivot pins guide tool)**

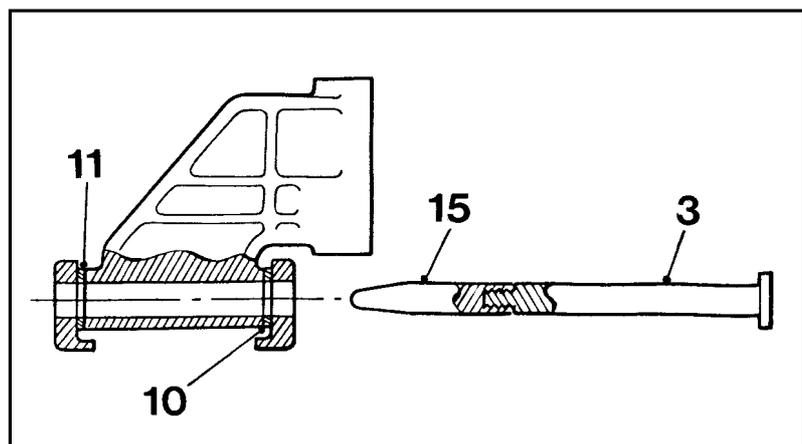
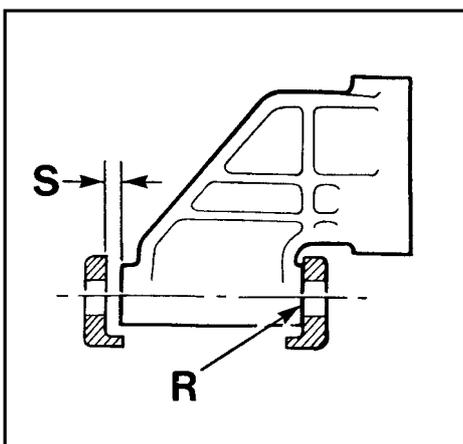
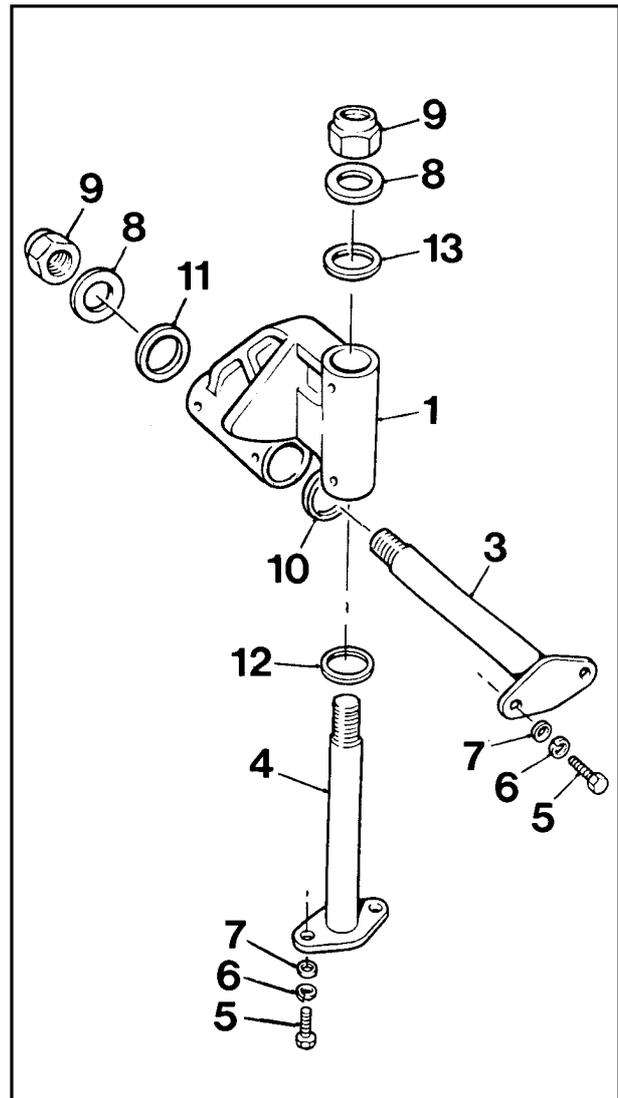
**Installing horizontal pivot pins**

- 1 Position the yoke (1) within the front chassis.
- 2 Thrust washers (10 & 11) are to be fitted at each end of the yoke. To calculate the thickness of the thrust washers proceed as follows:

Push the yoke backwards until it touches the rear member of the chassis (R).

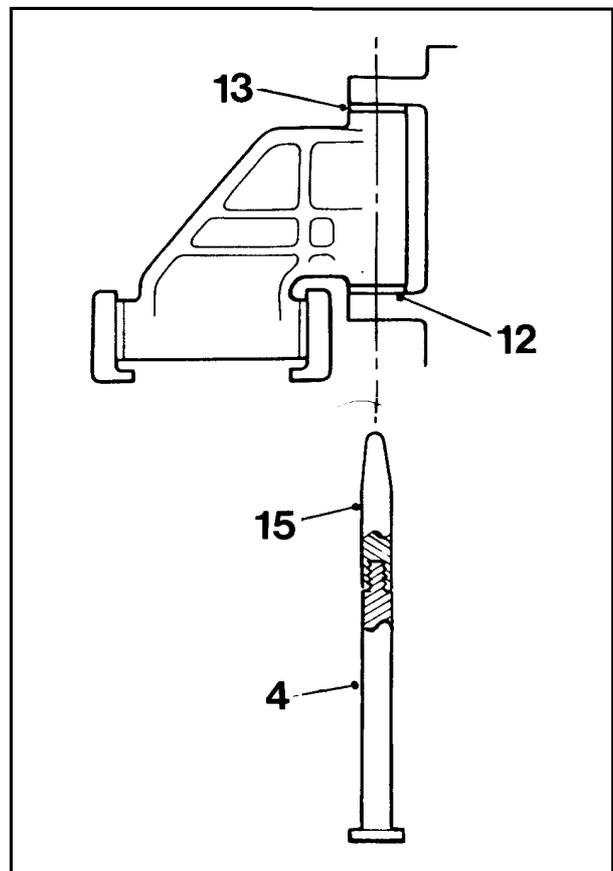
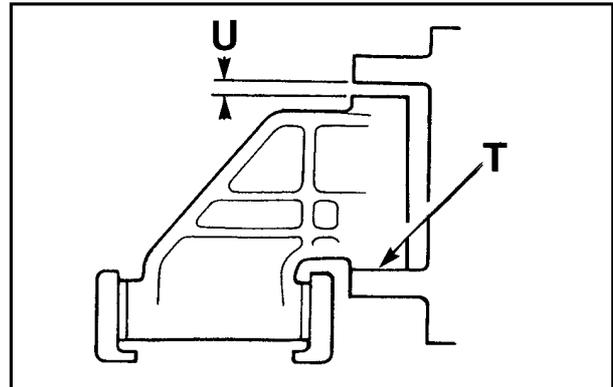
Measure the distance between the front of the yoke and the chassis (S). Halve this dimension (to the nearest millimetre). The resulting figure is to be the thickness of the rear thrust washer (10).

- 3 Using grease to hold it in place, position thrust washer (10) onto the chassis.
- 4 Insert thrust washer (11) in front of the yoke.
- IMPORTANT:** Thrust washer (11) must be of sufficient thickness to eliminate all horizontal float from the yoke.
- 5 Screw the guide (15) onto the pin (3).
- 6 From the rear of the chassis, insert the guide/pin through the chassis, thrust washers and yoke.
- 7 Secure the pin with screws (5), and washers (6 & 7).
- 8 Unscrew the guide from the pin and fit washer (8), nut (9).



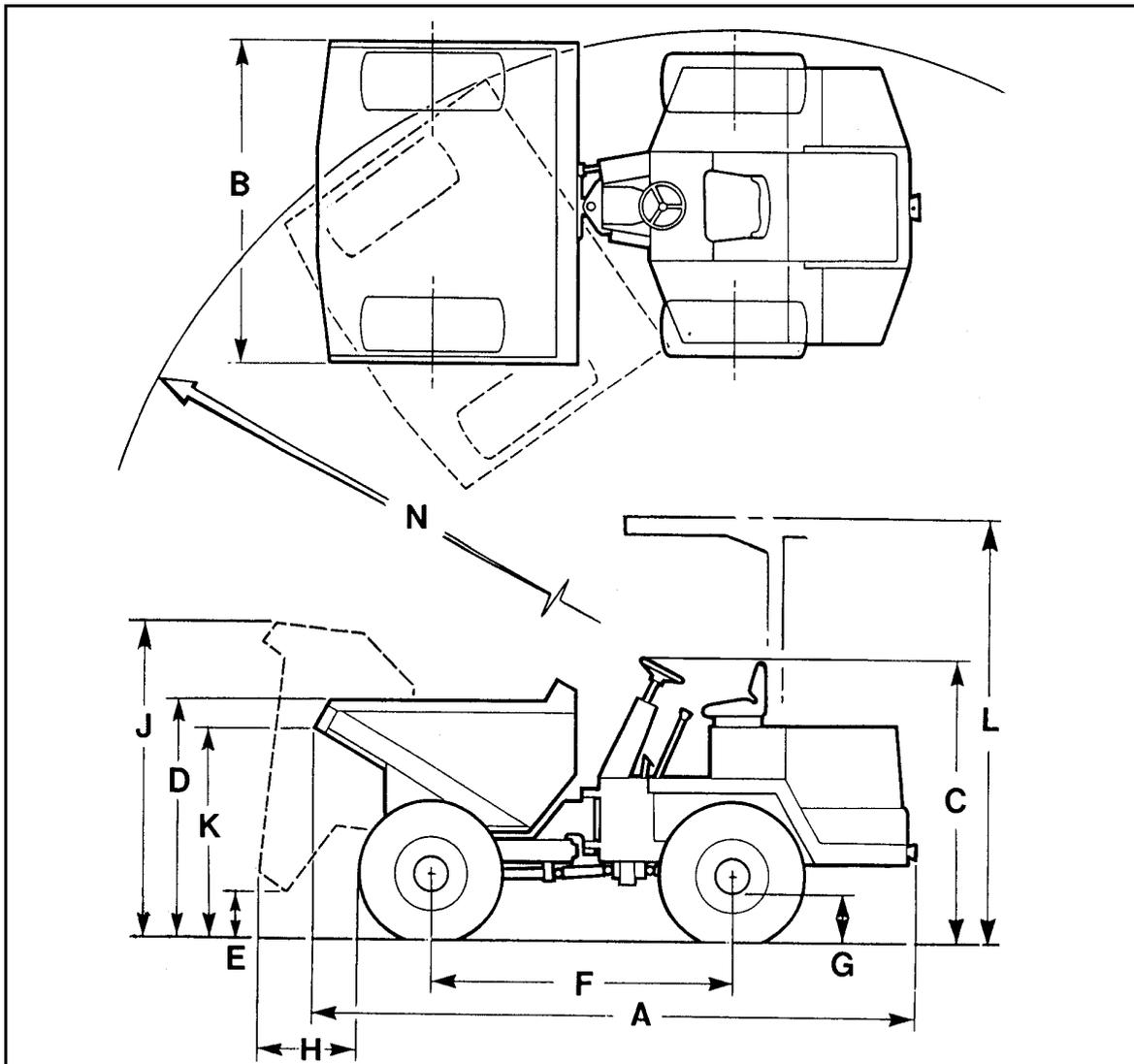
### Installing vertical pivot pin

- 10 Bring the front and rear chassis together, so that the yoke sits on the pivot mount (T) of the rear chassis.
- 11 Measure the distance between the top of the yoke and the upper pivot mount (U). Halve this dimension (to the nearest millimetre). The resulting figure is to be the thickness of the lower thrust washer (12).
- 12 Insert thrust washer (12) beneath the yoke.
- 13 Insert thrust washer (13) above the yoke.  
**IMPORTANT:** Thrust washer (13) must be of sufficient thickness to eliminate all vertical float from the yoke.
- 14 Screw the guide (15) onto the pivot pin (4) and insert upwards through the chassis, thrust washers and yoke.
- 15 Secure the pin in the same manner as horizontal pivot pin (3).



## DIMENSIONS

<i>Dimensions in metres</i>	<b>4S2000</b>	<b>4S2500</b>	<b>4S2500RS</b>	<b>4S3000</b>	<b>4S4000M</b>
A Overall length	3.43	3.53	3.78	3.63	3.89
B Overall width	1.77	1.92	1.79	1.92	1.95
C Overall height	1.93	1.99	1.99	1.99	2.00
D Loading height	1.33	1.40	1.45	1.45	1.65
E Discharge height	0.58	0.54	1.33	0.45	0.37
F Wheel base	1.99	1.99	1.99	1.99	1.99
G Ground clearance	0.26	0.31	0.26	0.29	0.34
H Forward discharge distance	0.66	0.69	0.30	0.71	0.67
J Max. skip height at discharge	2.16	2.18	2.77	2.18	2.29
K Front lip to ground	1.25	1.33	1.35	1.37	1.52
L Height with ROPS/FOPS canopy	2.62	2.68	2.67	2.68	2.69
N Turning circle	8.20	8.36	8.20	8.36	8.36
... Side discharge distance	.....	.....	0.10	.....	.....
... Width of skip discharge lip	.....	.....	1.40	.....	.....



**SPECIFICATIONS: 4S2000 & 4S2000E Dumpers**

<b>ENGINES</b> <i>Lister-Petter</i>	<b>LPW3:</b>	Direct injection.
	<b>LPWS3:</b>	Indirect injection. 3 cylinder diesel engine. Naturally aspirated.
	<b>Power</b>	18.6 kW (24.9 bhp) @ 2750 rev/min.
	<b>Cooling:</b>	Liquid; 50% water, 50% anti-freeze mixture.
	<b>TX2:</b>	Direct injection. 2 cyl. diesel engine. Naturally aspirated.
	<b>Power:</b>	21 kW (28 bhp) @ 2300 rev/min.
	<b>Cooling:</b>	Air cooled.

**4S2000E only**

<b>TR2:</b>	Direct injection. 2 cyl. diesel engine. Naturally aspirated.
<b>Power</b>	19 kW (25.4 bhp) @ 2500 rev/min.
<b>Cooling:</b>	Air cooled.

<b>Yanmar</b>	<b>3TNE 82A</b>	Direct injection. 3 cyl. diesel engine. Naturally aspirated.
	<b>Power:</b>	20.5 kW (27.5 bhp) @ 2800 rev/min.
	<b>Cooling:</b>	Liquid; 50% water, 50% anti-freeze mixture.

**AXLES** Heavy duty double reduction rigid drive axles, with fully floating halfshafts. Six stud hubs on opposed taper roller bearings.

<b>BRAKES</b>	<b>Service:</b>	Totally enclosed, long life multiplate oil immersed brakes, featuring fully automatic adjustment for wear. Single (front) axle braking as standard. <i>Dual braking as an option.</i>
	<b>Parking:</b>	Hand operated, ratchet type, actuating disc brake on transmission.

**TRANSMISSION** Heavy duty constant mesh gearbox, 3 forward and 1 reverse gear.  
Ratios 1<sup>st</sup> 4.29:1, 2<sup>nd</sup> 1.85:1, 3<sup>rd</sup> 1.00:1, reverse 3.85:1

<b>HYDRAULICS</b>	<b>Pump</b>	Gear type pump (47 litre/min.) with integral priority valve for <i>Lister-Petter</i> steering system.
	<b>Pump</b>	Gear type pump (47 litre/min.) with remote mounted priority valve for steering system.
		Skip operating control valve with pressure relief valve.

<b>ROAD SPEEDS</b>	1 <sup>st</sup> Gear	2 <sup>nd</sup> Gear	3 <sup>rd</sup> Gear	Reverse
	km/h (mph)	km/h (mph)	km/h (mph)	km/h (mph)
<b>TX2</b>	3.88 (2.41)	8.67 (5.39)	15.18 (9.43)	4.27 (2.65)
<b>LPW3, LPWS3</b>	3.56 (2.21)	8.01 (4.98)	14.66 (9.11)	3.96 (2.46)
<b>TR2</b>	4.60 (2.80)	10.30 (6.40)	18.60 (11.50)	4.00 (2.50)
<b>3TNE 82A</b>	3.56 (2.21)	8.01 (4.98)	14.66 (9.11)	3.96 (2.46)

## SPECIFICATIONS: 4S2000 & 4S2000E Dumpers

### VIBRATION DECLARATION

Whole body vibration level  $a_w$  (m/s<sup>2</sup>): 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/s<sup>2</sup>): Less than 2.5

### LUBRICANTS AND FLUIDS (Factory filled with Total oils)

# Engine oil TR2	Rubia H 10W/30	4.00 litres
# Engine oil TX2	Rubia H 15W/40	4.00 litres
# Engine oil LPW, LPWS 3	Rubia H 10W/30	3.75 litres (approx)
# Engine oil 3TNE 82A	Rubia H 10W/30	5.00 litres (approx)
Gearbox	Rubia B 20W/30	2.00 litres (approx)
Transfer gearbox	Gearoil EP80W/90	1.00 litre
Axles, braked	Universal plant oil or Transmission MP	3.50 litres
Axles, unbraked	Universal plant oil or Transmission MP	2.50 litres
Hydraulic system	Azzola ZS46	36.00 litres (tank)
Braking system	Azzola ZS22	0.60
General grease	Multis EP 2	As required

# For engine oils used in temperatures above 30°C consult the engine handbook.

### LOAD CAPACITIES

Max. payload	2000 kg (4410 lbs)
Heaped	1550 litres (55 ft <sup>3</sup> )
Struck	1120 litres (40 ft <sup>3</sup> )
Water	915 litres (32 ft <sup>3</sup> )
Unladen weight (nominal)	1930 kg (4255 lbs)

### COOLING SYSTEM

LPW3, LPWS3	6.79 litres (11.95 pints)
3TNE 82A (engine only)	1.8 litres (3.18 pints)

### TANK CAPACITIES

Fuel	40 litres (8.8 gallons)
Hydraulic	36 litres (7.9 gallons)

### HYDRAULIC PRESSURES

TX2, TR2 Earth skip	106 bar (1550 lb in <sup>2</sup> )
LPW3, LPWS3 & 3TNE 82A	
Earth skip	106 bar (1550 lb in <sup>2</sup> )
Rotary skip	126 bar (1850 lb in <sup>2</sup> )
High discharge	.....

### NOISE LEVELS

TX2	85 LPA, 105 LWA
LPW3, LPWS3	85 LPA, 102 LWA
3TNE 82A	85 LPA, 105 LWA

### DRAWBAR LOAD

Weight on drawbar	1250 N (125 kg)
Drawbar pull	7500 N (750 kg)

**SPECIFICATIONS: 4S2000 & 4S2000E Dumpers*****TYRE PRESSURES******10.0/75 x 15.3 tyres***

Front	3.45 bar (50 lb in <sup>2</sup> )
Rear	2.07 bar (30 lb in <sup>2</sup> )

***11.5/80 x 15.3 tyres***

Front	3.10 bar (45 lb in <sup>2</sup> )
Rear	1.38 bar (20 lb in <sup>2</sup> )

***TYRES***

Traction	10.0/75 x 15.3
Optional tyre	11.5/80 x 15.3

***ADJUSTMENTS***

Wheel nut torque	200 lbf ft (271 Nm)
Engine (see Engine Handbook)	

## SPECIFICATIONS: 4S2500, 4S2500E & 4S2500RS Dumpers

<b>ENGINES</b> <i>Lister-Petter</i>	<b>LPW3:</b>	Direct injection.
	<b>LPWS3:</b>	Indirect injection. 3 cylinder diesel engine. Naturally aspirated.
	<b>Power</b>	18.6 kW (24.9 bhp) @ 2750 rev/min.
	<b>Cooling:</b>	Liquid; 50% water, 50% anti-freeze mixture.
	<b>TX2:</b>	Direct injection. 2 cyl. diesel engine. Naturally aspirated.
	<b>Power:</b>	21 kW (28 bhp) @ 2300 rev/min.
	<b>Cooling:</b>	Air cooled.
	<b>4S2500E only</b>	
	<b>TR2:</b>	Direct injection. 2 cyl. diesel engine. Naturally aspirated.
	<b>Power</b>	19 kW (25.4 bhp) @ 2500 rev/min.
	<b>Cooling:</b>	Air cooled.
<b>Yanmar</b>	<b>3TNE 82A</b>	Direct injection. 3 cyl. diesel engine. Naturally aspirated.
	<b>Power:</b>	20.5 kW (27.5 bhp) @ 2800 rev/min.
	<b>Cooling:</b>	Liquid; 50% water, 50% anti-freeze mixture.

**AXLES** Heavy duty double reduction rigid drive axles, with fully floating halfshafts. Six stud hubs on opposed taper roller bearings.

**BRAKES**

*Service:* Hydraulically actuated, totally enclosed, long life multiplate oil immersed brakes, featuring fully automatic adjustment for wear.

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

**TRANSMISSION** Heavy duty constant mesh gearbox, 3 forward and 1 reverse gear.  
Ratios 1<sup>st</sup> 4.29:1, 2<sup>nd</sup> 1.85:1, 3<sup>rd</sup> 1.00:1, reverse 3.85:1

**HYDRAULICS**

*Pump* Gear type pump (47 litre/min.) with integral priority valve for *Lister-Petter* steering system.

*Pump* Gear type pump (47 litre/min.) with remote mounted priority  
*Yanmar* valve for steering system.

Skip operating control valve with pressure relief valve.

<b>ROAD SPEEDS</b>	1 <sup>st</sup> Gear	2 <sup>nd</sup> Gear	3 <sup>rd</sup> Gear	Reverse
	km/h (mph)	km/h (mph)	km/h (mph)	km/h (mph)
<b>TX2</b>	4.28 (2.66)	9.67 (6.01)	17.82 (11.07)	4.68 (2.91)
<b>LPW3, LPWS3</b>	4.01 (2.49)	8.79 (5.46)	15.66 (9.73)	4.38 (2.72)
<b>TR2</b>	4.60 (2.80)	10.30 (6.40)	18.60 (11.50)	4.00 (2.50)
<b>3TNE 82A</b>	4.01 (2.49)	8.79 (5.46)	15.66 (9.73)	4.38 (2.72)

## 4.6

## TECHNICAL INFORMATION

### SPECIFICATIONS: 4S2500, 4S2500E & 4S2500RS Dumpers

#### VIBRATION DECLARATION

Whole body vibration level  $a_w$  ( $m/s^2$ ): 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  $a_{ha}$  ( $m/s^2$ ): Less than 2.5

#### LUBRICANTS AND FLUIDS (Factory filled with Total oils)

# Engine oil TR2	Rubia H 10W/30	4.00 litres
# Engine oil TX2	Rubia H 15W/40	4.00 litres
# Engine oil LPW, LPWS 3	Rubia H 10W/30	3.75 litres (approx)
# Engine oil 3TNE 82A	Rubia H 10W/30	5.00 litres (approx)
Gearbox	Rubia B 20W/30	2.00 litres (approx)
Transfer gearbox	Gearoil EP80W/90	1.00 litre
Axles, braked	Universal plant oil or Transmission MP	3.50 litres
Axles, unbraked	Universal plant oil or Transmission MP	2.50 litres
Hydraulic system	Azzola ZS46	36.00 litres (tank)
Braking system	Azzola ZS22	0.60 litres
General grease	Multis EP 2	As required

# For engine oils used in temperatures above 30°C consult the engine handbook.

#### LOAD CAPACITIES

##### Earth skip

Max. payload	2500 kg (5510 lbs)
Heaped	1850 litres (64 ft <sup>3</sup> )
Struck	1355 litres (48 ft <sup>3</sup> )
Water	1100 litres (39 ft <sup>3</sup> )
Unladen weight (nominal)	2010 kg (4422 lbs)

##### Rotating skip

Max. payload	2500 kg (5510 lbs)
Heaped	1405 litres (50 ft <sup>3</sup> )
Struck	1230 litres (43 ft <sup>3</sup> )
Water	940 litres (33 ft <sup>3</sup> )
Unladen weight (nominal)	2340 kg (5148 lbs)

#### COOLING SYSTEM

LPW3, LPWS3	6.79 litres (11.95 pints)
3TNE 82A (engine only)	1.8 litres (3.18 pints)

#### HYDRAULIC PRESSURES

TX2, TR2 Earth skip	126 bar (1850 lb in <sup>2</sup> )
LPW3, LPWS3 & 3TNE 82A	
Earth skip	126 bar (1850 lb in <sup>2</sup> )
Rotary skip	126 bar (1850 lb in <sup>2</sup> )
High discharge	.....

#### NOISE LEVELS

TX2	85 LPA, 105 LWA
LPW3, LPWS3	85 LPA, 102 LWA
3TNE 82A	85 LPA, 105 LWA

# TECHNICAL INFORMATION

4.7

## SPECIFICATIONS: 4S2500, 4S2500E & 4S2500RS Dumpers

### **TANK CAPACITIES**

Fuel	40 litres (8.8 gallons)
Hydraulic	36 litres (7.9 gallons)

### **DRAWBAR LOAD**

Weight on drawbar	1250 N (125 kg)
Drawbar pull	7500 N (750 kg)

### **TYRE PRESSURES**

Front	3.10 bar (45 lb in <sup>2</sup> )
Rear	1.38 bar (20 lb in <sup>2</sup> )

### **ADJUSTMENTS**

Wheel nut torque	200 lbf ft (271 Nm)
Engine (see Engine Handbook)	

### **TYRES**

Traction	11.5/80 x 15.3
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**SPECIFICATIONS: 4S3000 Dumper**

<b>ENGINES</b> <i>Lister-Petter</i>	<b>LPW4:</b>	Direct injection.
	<b>LPWS4:</b>	Indirect injection. 4 cylinder diesel engine. Naturally aspirated.
	<b>Power</b>	24.8 kW (33.3 bhp) @ 2750 rev/min.
	<b>Cooling:</b>	Liquid; 50% water, 50% anti-freeze mixture.
	<b>TX3:</b>	Direct injection. 3 cyl. diesel engine. Naturally aspirated.
	<b>Power:</b>	31 kW (42 bhp) @ 2300 rev/min.
	<b>Cooling:</b>	Air cooled.
<b>Yanmar</b>	<b>4TNE 88</b>	Direct injection. 4 cyl. diesel engine. Naturally aspirated.
	<b>Power:</b>	33.7 kW (42.5 bhp) @ 2800 rev/min.
	<b>Cooling:</b>	Liquid; 50% water, 50% anti-freeze mixture.

**AXLES** Heavy duty double reduction rigid drive axles, with fully floating halfshafts. Six stud hubs on opposed taper roller bearings.

**BRAKES**

*Service:* Hydraulically actuated, totally enclosed, long life multiplate oil immersed brakes, featuring fully automatic adjustment for wear.

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

**TRANSMISSION** Heavy duty constant mesh gearbox, 3 forward and 1 reverse gear.  
Ratios 1<sup>st</sup> 4.29:1, 2<sup>nd</sup> 1.85:1, 3<sup>rd</sup> 1.00:1, reverse 3.85:1

**HYDRAULICS** Gear type pump (47 litre/min.) with integral priority valve for steering system. Skip operating control valve with pressure relief valve.

<b>ROAD SPEEDS</b>	1 <sup>st</sup> Gear	2 <sup>nd</sup> Gear	3 <sup>rd</sup> Gear	Reverse
	km/h (mph)	km/h (mph)	km/h (mph)	km/h (mph)
<b>TX3</b>	4.28 (2.66)	9.67 (6.01)	17.82 (11.07)	4.68 (2.91)
<b>LPW4, LPWS4</b>	4.18 (2.60)	9.48 (5.89)	17.14 (10.65)	4.62 (2.87)
<b>4TNE 88</b>	4.18 (2.60)	9.48 (5.89)	17.14 (10.65)	4.62 (2.87)

**VIBRATION DECLARATION**

Whole body vibration level  $a_w$  (m/s<sup>2</sup>): 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/s<sup>2</sup>): Less than 2.5

**SPECIFICATIONS: 4S3000 Dumper****LUBRICANTS AND FLUIDS (Factory filled with Total oils)**

# Engine oil TX3	Rubia H 15W/40	6.00 litres
# Engine oil LPW, LPWS 4	Rubia H 10W/30	5.50 litres (approx)
# Engine oil 4TNE 88	Rubia H 10W/30	7.90 litres (approx)
Gearbox	Rubia B 20W/30	2.00 litres (approx)
Transfer gearbox	Gearoil EP80W/90	1.00 litre
Axles, braked, front	Universal plant oil <i>or</i> Transmission MP	6.00 litres
Axles, braked, rear	Universal plant oil <i>or</i> Transmission MP	3.50 litres
Hydraulic system	Azzola ZS46	36.00 litres (tank)
Braking system	Azzola ZS22	0.60 litres
General grease	Multis EP 2	<i>As required</i>

# For engine oils used in temperatures above 30°C consult the engine handbook.

**LOAD CAPACITIES**

Max. payload	3000 kg (6615 lbs)
Heaped	1985 litres (70 ft <sup>3</sup> )
Struck	1505 litres (53 ft <sup>3</sup> )
Water	1255 litres (44 ft <sup>3</sup> )
Unladen weight (nominal)	2045 kg (4509 lbs)

**COOLING SYSTEM**

LPW4, LPWS4	7.60 litres (13.39 pints)
4TNE 88 (engine only)	2.7 litres (4.75 pints)

**TANK CAPACITIES**

Fuel	40 litres (8.8 gallons)
Hydraulic	36 litres (7.9 gallons)

**TYRE PRESSURES**

Front	3.79 bar (55 lb in <sup>2</sup> )
Rear	2.07 bar (30 lb in <sup>2</sup> )

**TYRES**

Traction	11.5/80 x 15.3
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**HYDRAULIC PRESSURES**

TX3 Earth skip	93 bar (1350 lb in <sup>2</sup> )
LPW4, LPWS4 & 4TNE 88	
Earth skip	93 bar (1350 lb in <sup>2</sup> )
Rotary skip	.....
High discharge	.....

**NOISE LEVELS**

TX3	85 LPA, 105 LWA
LPW4, LPWS4	81 LPA, 104 LWA
4TNE 88	85 LPA, 105 LWA

**DRAWBAR LOAD**

Weight on drawbar	1250 N (125 kg)
Drawbar pull	7500 N (750 kg)

**ADJUSTMENTS**

Wheel nut torque	200 lbf ft (271 Nm)
Engine (see Engine Handbook)	

**SPECIFICATIONS: 4S4000M Dumper****ENGINES**  
*Lister-Petter*

**LPWT4:** Direct injection.  
4 cylinder diesel engine. Turbo.  
*Power:* 38 kW (51 bhp) @ 2700 rev/min.  
*Cooling:* Liquid; 50% water, 50% anti-freeze mixture.

**TX3:** Direct injection. 3 cyl. diesel engine. Naturally aspirated.  
*Power:* 31.5 kW (42 bhp) @ 2300 rev/min.  
*Cooling:* Air cooled.

**Yanmar**

**4TNE 88** Direct injection. 4 cyl. diesel engine. Naturally aspirated.  
*Power:* 33.7 kW (42.5 bhp) @ 2800 rev/min.  
*Cooling:* Liquid; 50% water, 50% anti-freeze mixture.

**AXLES**

Heavy duty double reduction rigid drive axles, with fully floating halfshafts.  
Six stud hubs on opposed taper roller bearings.

**BRAKES**

*Service:* Hydraulically actuated, totally enclosed, long life multiplate oil immersed brakes, featuring fully automatic adjustment for wear.

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

**TRANSMISSION**

Heavy duty constant mesh gearbox, 3 forward and 1 reverse gear.  
Ratios 1<sup>st</sup> 4.29:1, 2<sup>nd</sup> 1.85:1, 3<sup>rd</sup> 1.00:1, reverse 3.85:1

**HYDRAULICS**

Gear type pump (47 litre/min.) with integral priority valve for steering system.  
Skip operating control valve with pressure relief valve.

<b>ROAD SPEEDS</b>	1 <sup>st</sup> Gear	2 <sup>nd</sup> Gear	3 <sup>rd</sup> Gear	Reverse
	km/h (mph)	km/h (mph)	km/h (mph)	km/h (mph)
<b>TX3</b>	4.62 (2.89)	10.35 (6.47)	19.49 (12.18)	5.07 (3.17)
<b>LPWT4</b>	4.80 (3.00)	10.60 (6.60)	19.20 (11.90)	5.50 (3.40)
<b>4TNE 88</b>	4.80 (3.00)	10.60 (6.60)	19.20 (11.90)	5.50 (3.40)

**VIBRATION DECLARATION**

Whole body vibration level  $a_w$  (m/s<sup>2</sup>): 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/s<sup>2</sup>): Less than 2.5

**SPECIFICATIONS: 4S4000M Dumper****LUBRICANTS AND FLUIDS (Factory filled with Total oils)**

# Engine oil TX3	Rubia H 15W/40	6.00 litres
# Engine oil LPWT4	Rubia H 15W/30	6.00 litres (approx)
# Engine oil 4TNE 88	Rubia H 10W/30	7.90 litres (approx)
Gearbox	Rubia B 20W/30	2.00 litres (approx)
Transfer gearbox	Gearoil EP80W/90	1.00 litre
Axles, braked, front	Universal plant oil <i>or</i> Transmission MP	6.25 litres
Axles, braked, rear	Universal plant oil <i>or</i> Transmission MP	6.00 litres
Hydraulic system	Azzola ZS46	36.00 litres (tank)
Braking system	Azzola ZS22	0.60 litres
General grease	Multis EP 2	<i>As required</i>

# For engine oils used in temperatures above 30°C consult the engine handbook.

**LOAD CAPACITIES**

Max. payload	4000 kg (8818 lbs)
Heaped	2550 litres (90 ft <sup>3</sup> )
Struck	1890 litres (66.7 ft <sup>3</sup> )
Water	1450 litres (51 ft <sup>3</sup> )
Unladen weight (nominal)	2525 kg (5567 lbs)

**COOLING SYSTEM**

LPWT4	7.60 litres (13.39 pints)
4TNE 88 (engine only)	2.7 litres (4.75 pints)

**TANK CAPACITIES**

Fuel	40 litres (8.8 gallons)
Hydraulic	36 litres (7.9 gallons)

**TYRE PRESSURES**

Front	3.10 bar (45 lb in <sup>2</sup> )
Rear	1.75 bar (25 lb in <sup>2</sup> )

**TYRES**

Traction	12.5/80 x 18
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**HYDRAULIC PRESSURES**

Earth skip	114 bar (1650 lb in <sup>2</sup> )
Rotary skip	.....
High discharge	.....

**NOISE LEVELS**

TX3	85 LPA, 105 LWA
LPWT4	85 LPA, 103 LWA
4TNE 88	85 LPA, 105 LWA

**DRAWBAR LOAD**

Weight on drawbar	1250 N (125 kg)
Drawbar pull	7500 N (750 kg)

**ADJUSTMENTS**

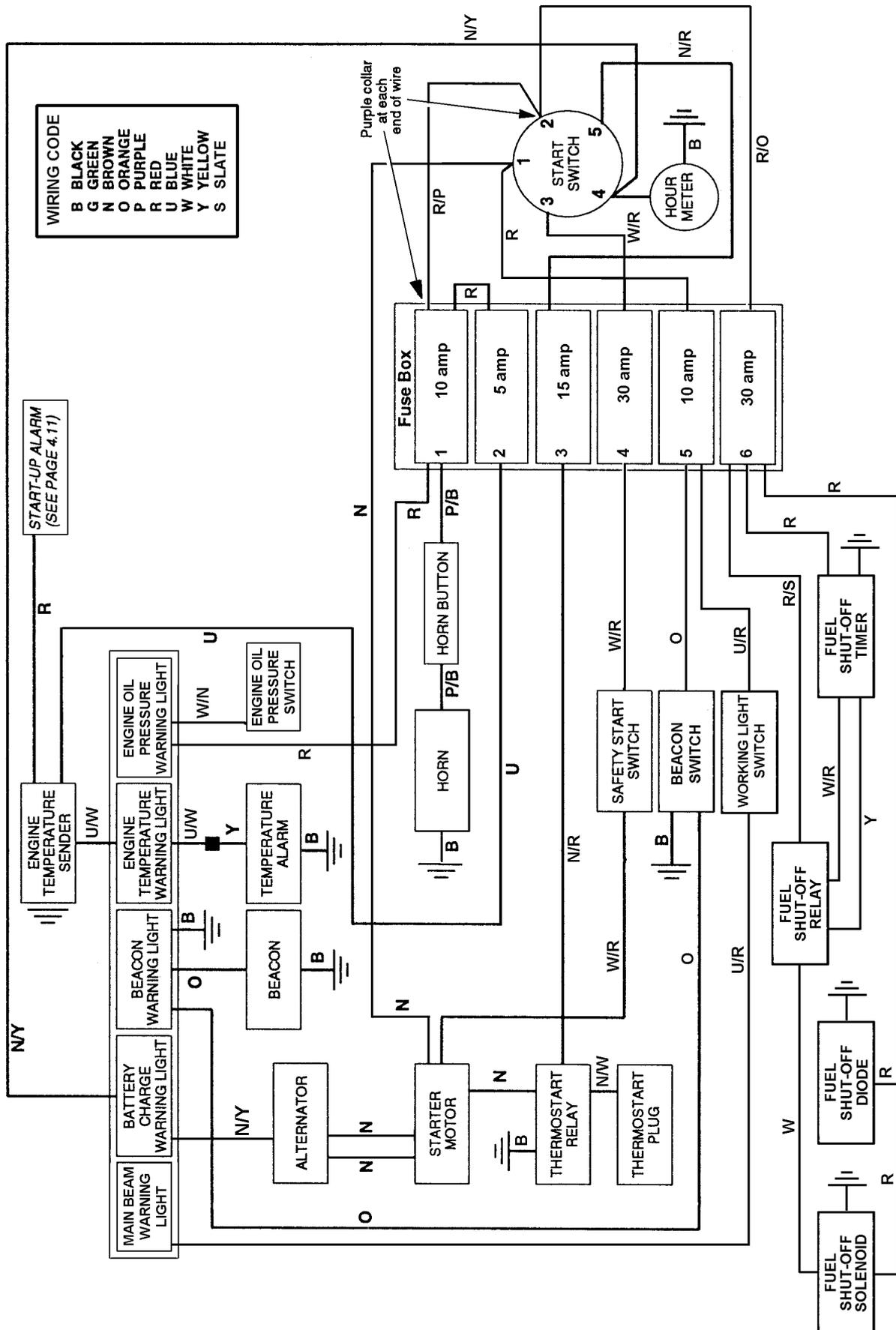
Wheel nut torque	200 lbf ft (271 Nm)
Engine (see Engine Handbook)	





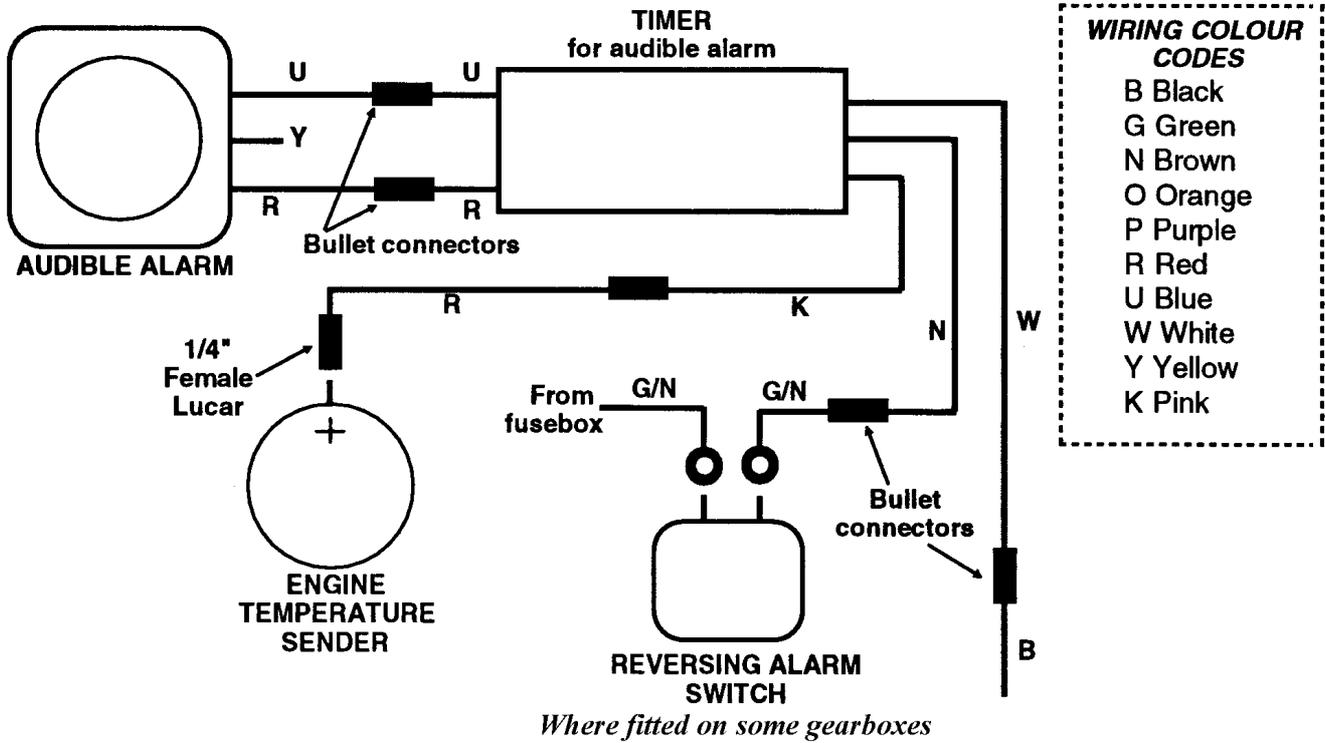
## MAIN ELECTRICAL CIRCUIT

Base dumper with Yanmar engines



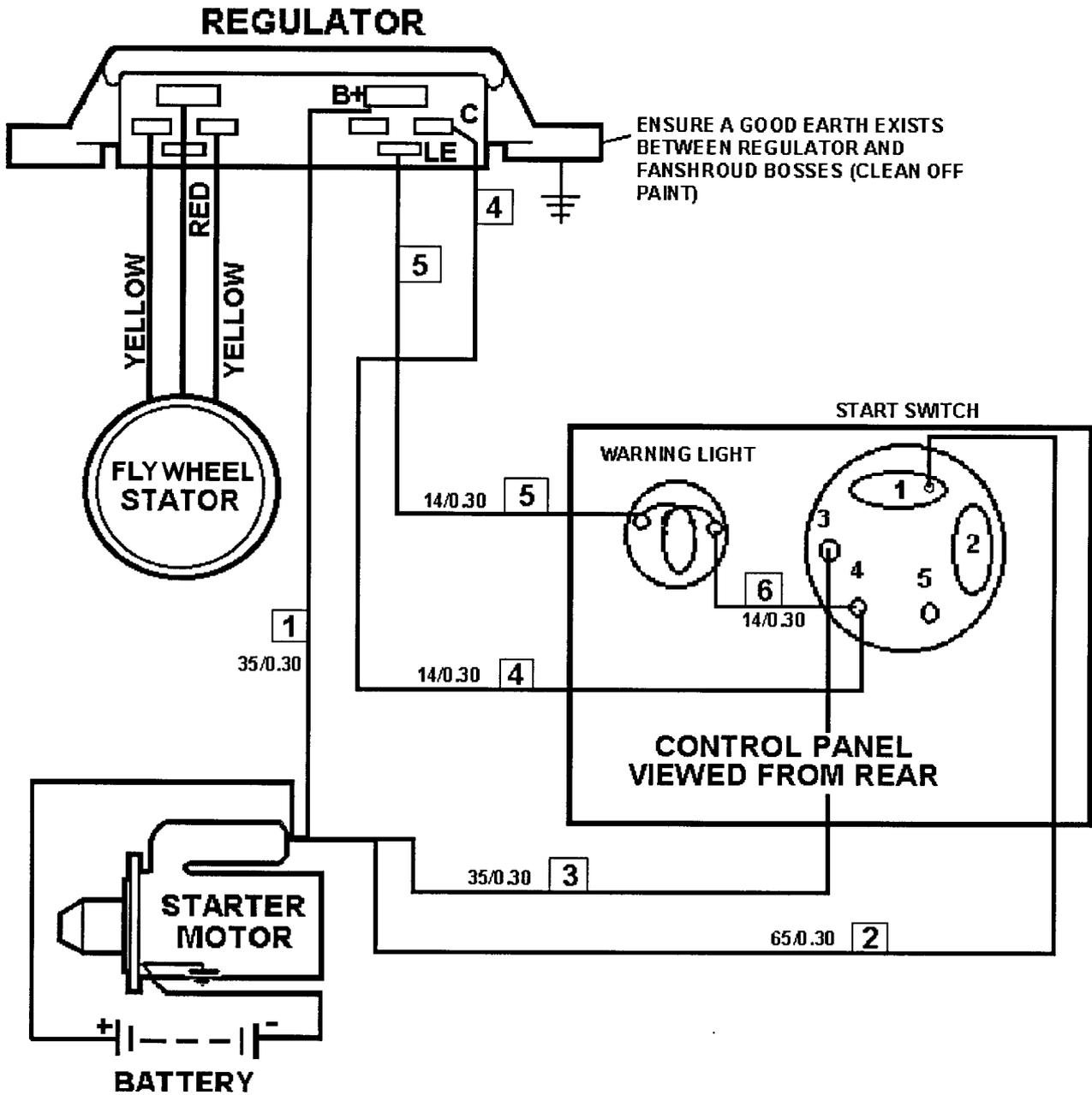


AUDIBLE ALARM ELECTRICAL CIRCUIT

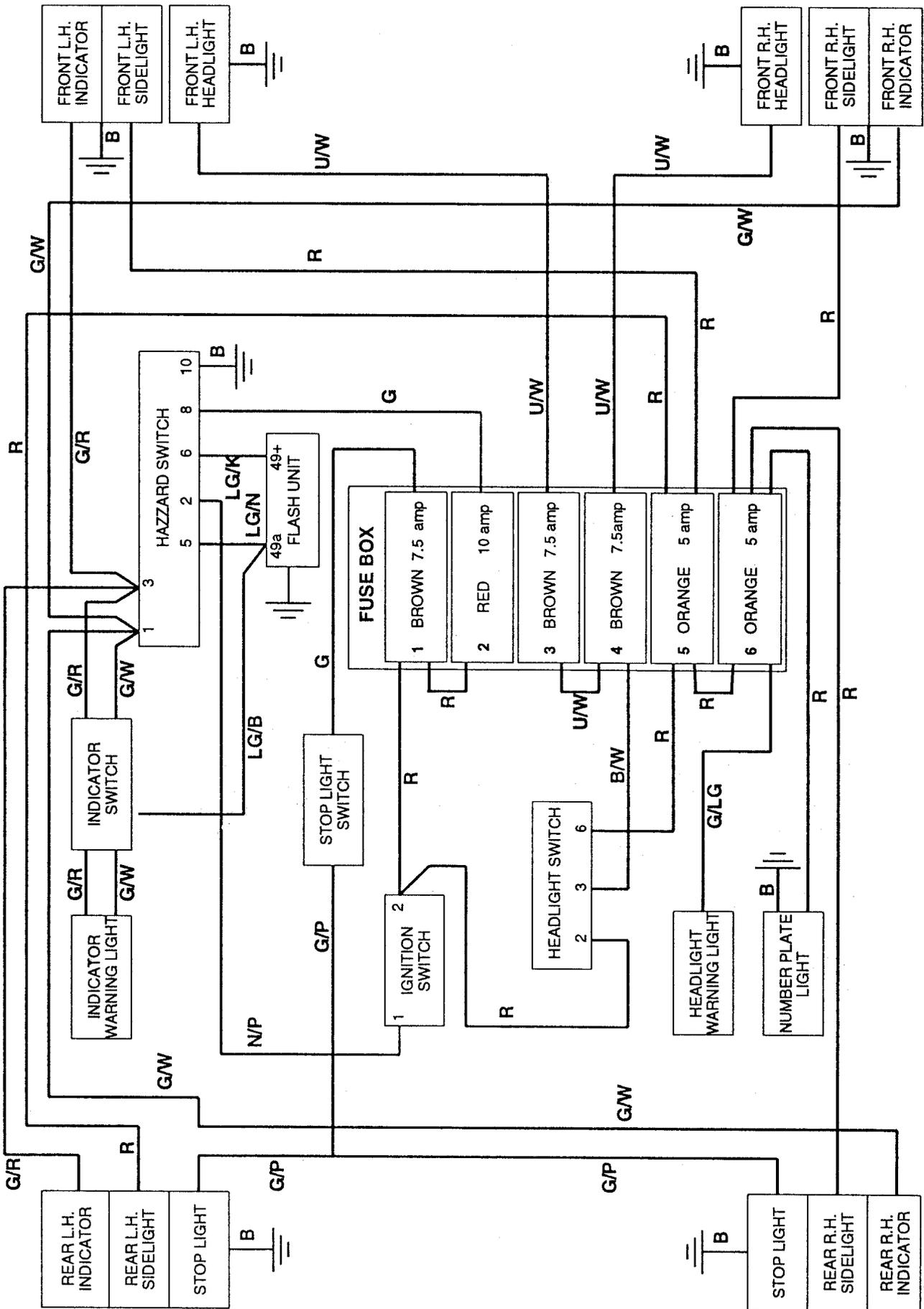


## LISTER-PETTER TR2 ENGINE ELECTRICAL CIRCUIT

WIRING COLOUR CODES		
1	STARTER MOTOR-REG 'B'	RED (THICK)
2	START SWITCH TER 1-STARTER MOTOR	BROWN
3	START SWITCH TER 3 -STARTER SOLENOID	WHITE/RED
4	START SWITCH TER 4-REG 'C'	RED (THIN)
5	REG 'LE'-WARNING LAMP	BLACK
6	START SWITCH TER 4- LAMP	BLACK (BRIDGE WIRE)



ROAD LIGHTS ELECTRICAL CIRCUIT



# ***PARTS***

## ***Sections***

- 1 BRAKES**
- 2 AXLES & WHEELS**
- 3 ENGINE**
- 4 TRANSMISSION**
- 5 ELECTRICS**
- 6 SKIP**
- 7 HYDRAULICS**
- 8 CHASSIS & PANELS**
- 9 DECALS & TOOLS**

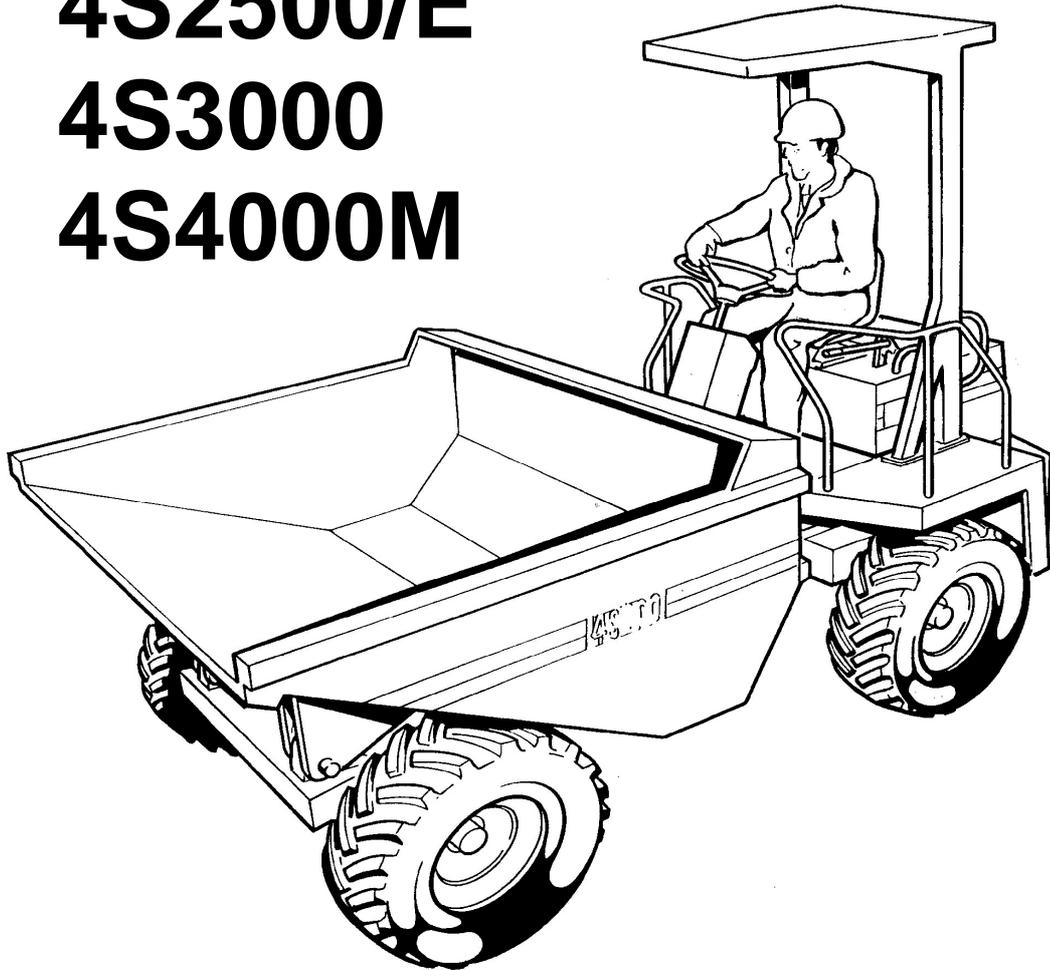
# 'S' Series Dumpers

**4S2000/E**

**4S2500/E**

**4S3000**

**4S4000M**



# ***BRAKES***

***Dumpers 4S2000/2500***

***with front axle braking only***

**BRAKE SYSTEM**

**1 - A - 1**

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***Dumpers 4S2000/2500/3000***

***front & rear braking axles***

**BRAKING SYSTEM**

**1 - A - 2**

---

***Dumper 4S4000M***

***front & rear braking axles***

**BRAKING SYSTEM**

**1 - A - 3**

---

**BRAKE PEDAL**

**1 - B - 1**

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**HANDBRAKE**

***with caliper mounted on chassis***

**1 - D - 1**

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**HANDBRAKE**

***with caliper mounted on gearbox***

**1 - D - 1A**

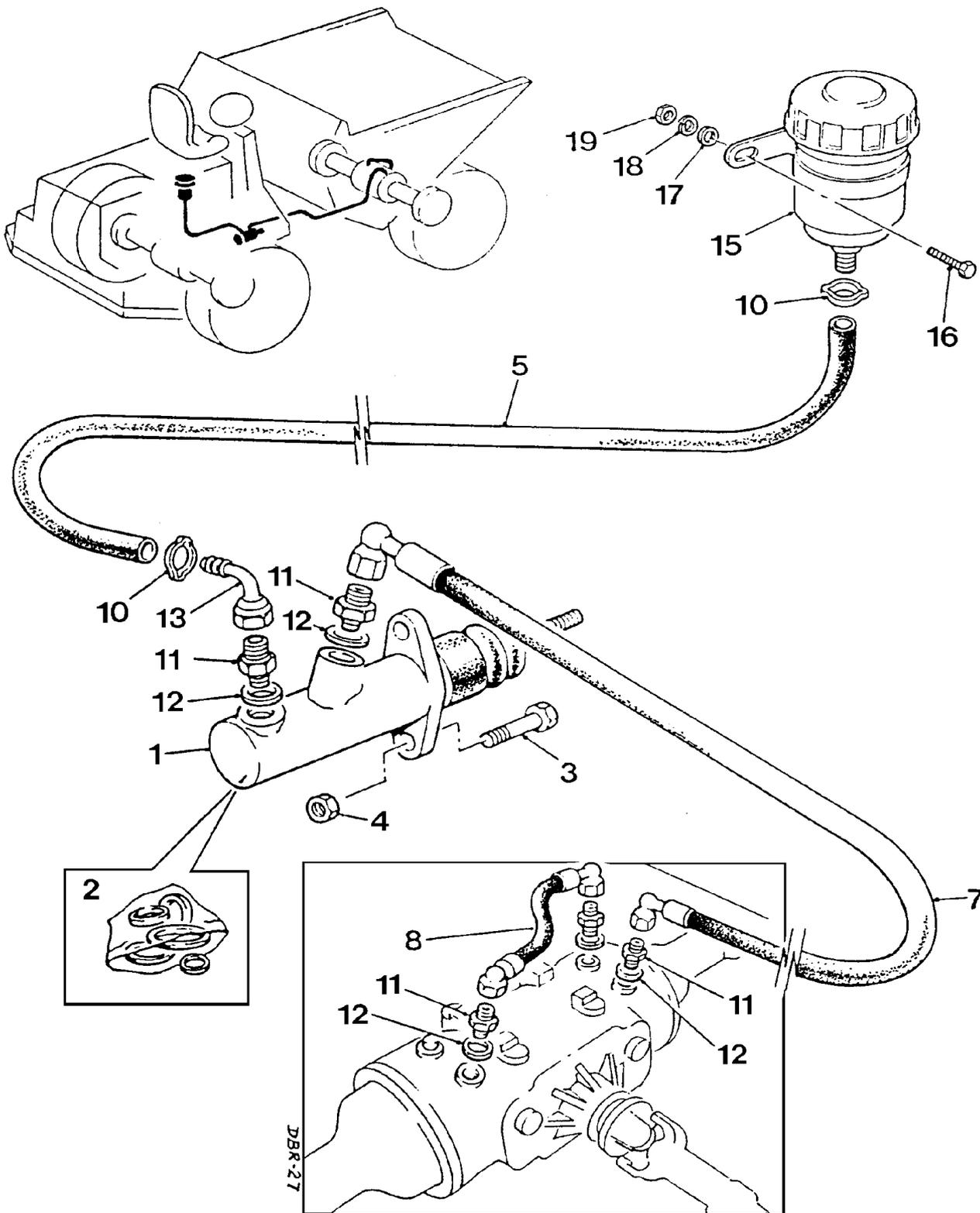
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**CALIPER, handbrake**

**1 - D - 2**

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**[<<< To beginning of Parts](#)**



Item	Part no	Serial no	Description	Qty
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*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.*

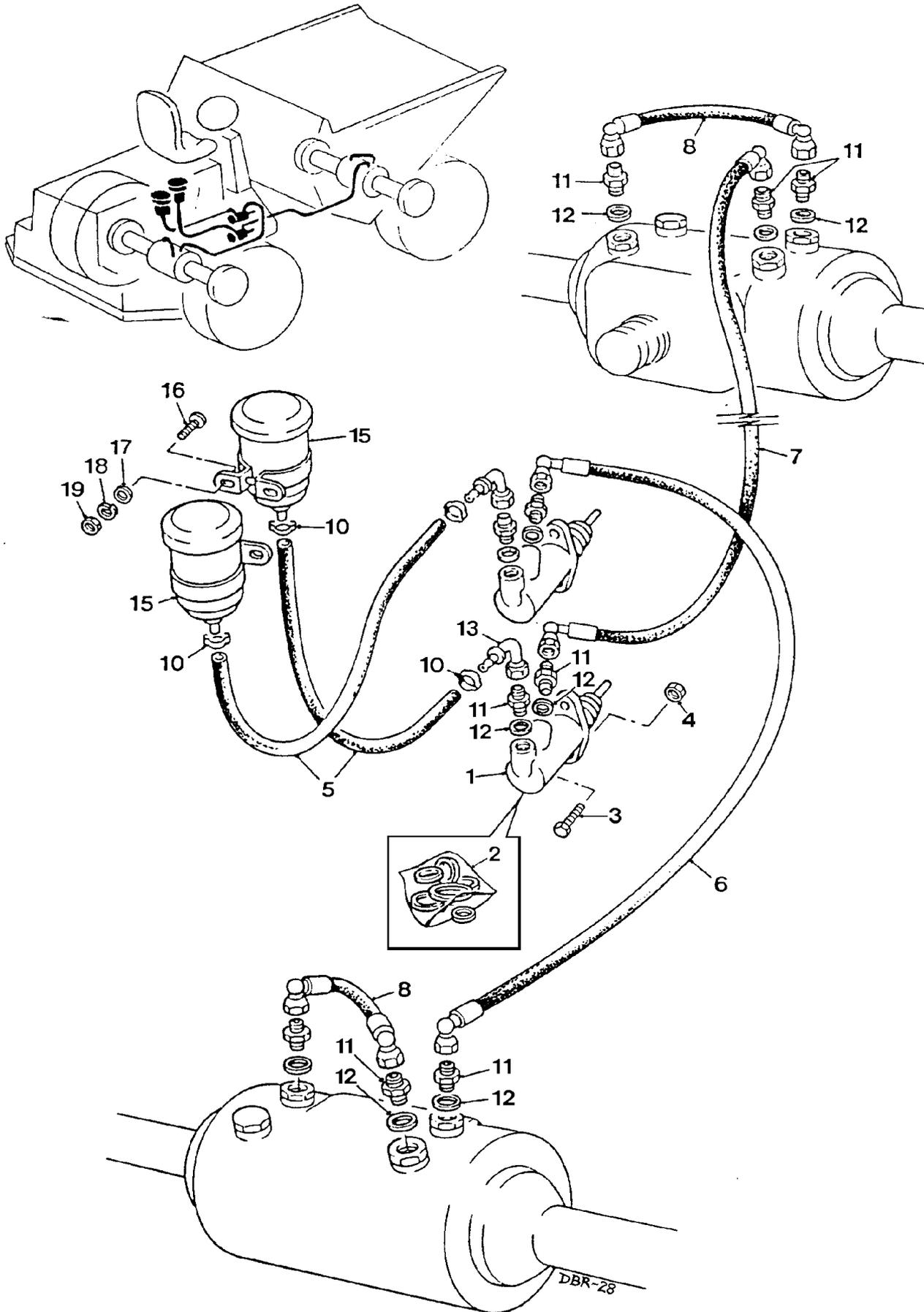
**GIRLING**

1	20102A02		MASTER CYL. with 3/8" UNF rod	1
1	V2004651		MASTER CYL. with M10 rod	1

**FRENOS IRUNA**

1	V2003671		MASTER CYL. with 3/8" UNF rod	1
2	10570A01		REPAIR KIT, m/cyl. <b>GIRLING</b>	
2	V601697		REPAIR KIT, m/cyl. <b>FRENOS IRUNA</b>	

3	8S03C		BOLT	2
4	61S03		NUT, self-locking	2
5	V2002991		HOSE, reservoir to m/cylinder	1 metre
7	319S01C		HOSE, master cylinder to front axle	1
8	53S01W		HOSE, across front axle	1
10	V2003029		CLIP, hose	2
11	V2003515		ADAPTOR, male	4
12	298S03		SEAL, bonded	5
13	129S01A		NOZZLE, 90 <sup>0</sup>	1
15	V2003030		RESERVOIR, assembly	1
16	11S01AA		SCREW, set	2
17	267S03		WASHER, flat	2
18	17S02		WASHER, spring	2
19	7S01		NUT	2



**BRAKING SYSTEM, (front & rear braking axles)****1 - A - 2**

Item	Part no	Serial no	Description	Qty
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*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.*

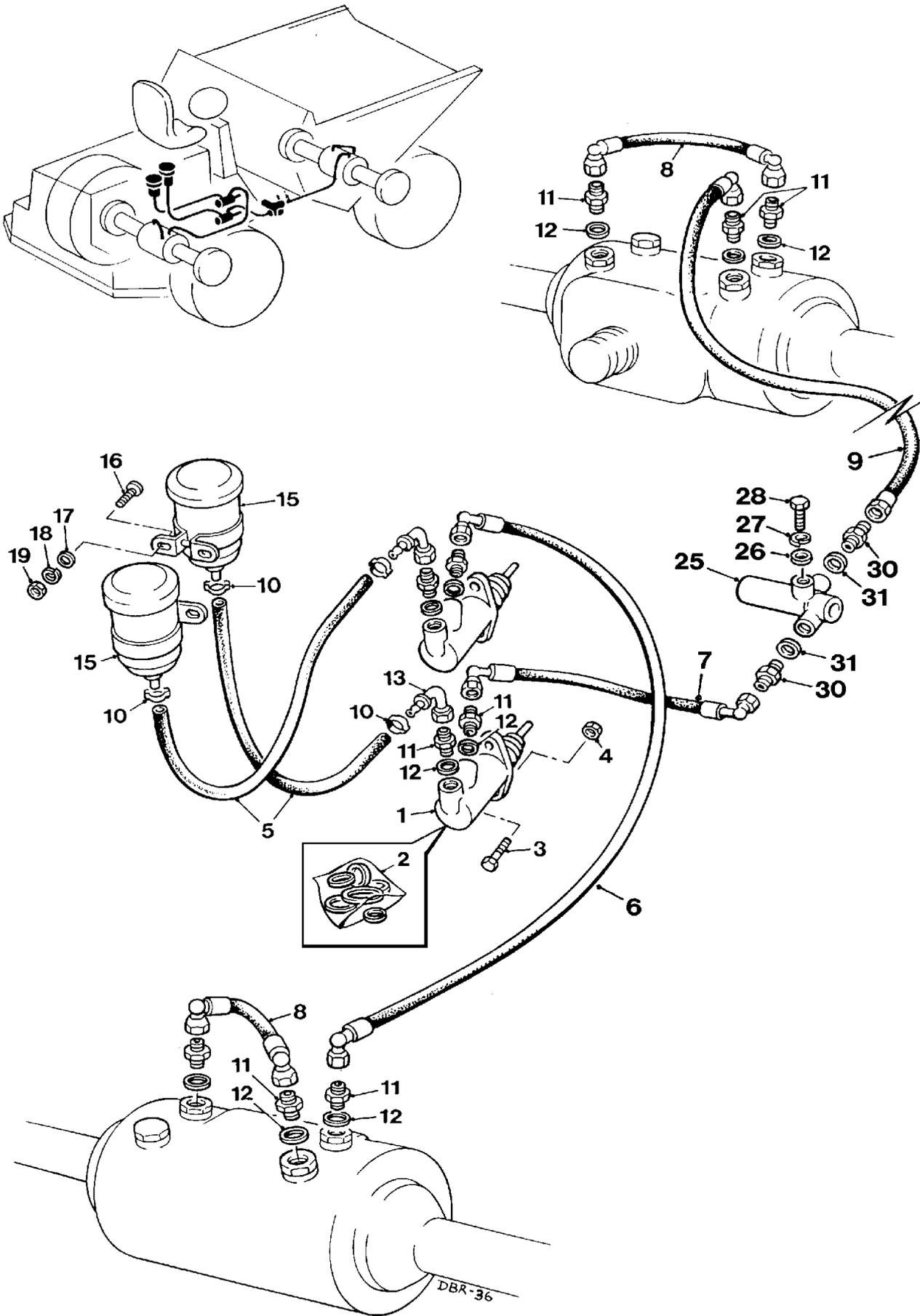
**GIRLING**

1	20102A02		MASTER CYL. with 3/8" UNF rod	2
1	V2004651		MASTER CYL. with M10 rod	2

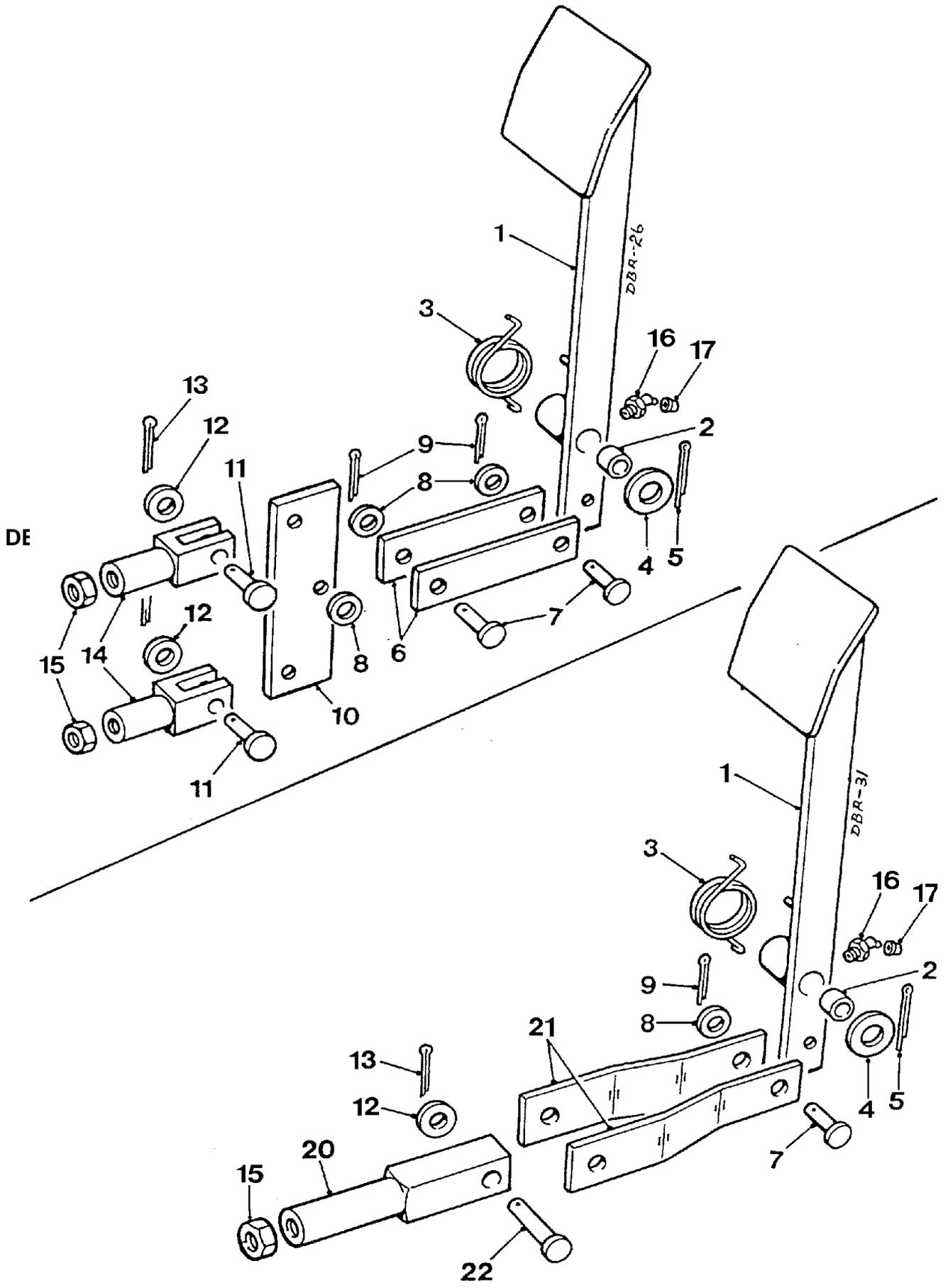
**FRENOS IRUNA**

1	V2003671		MASTER CYL. with 3/8" UNF rod	2
2	10570A01		REPAIR KIT, m/cyl. <b>GIRLING</b>	
2	V601697		REPAIR KIT, m/cyl. <b>FRENOS IRUNA</b>	

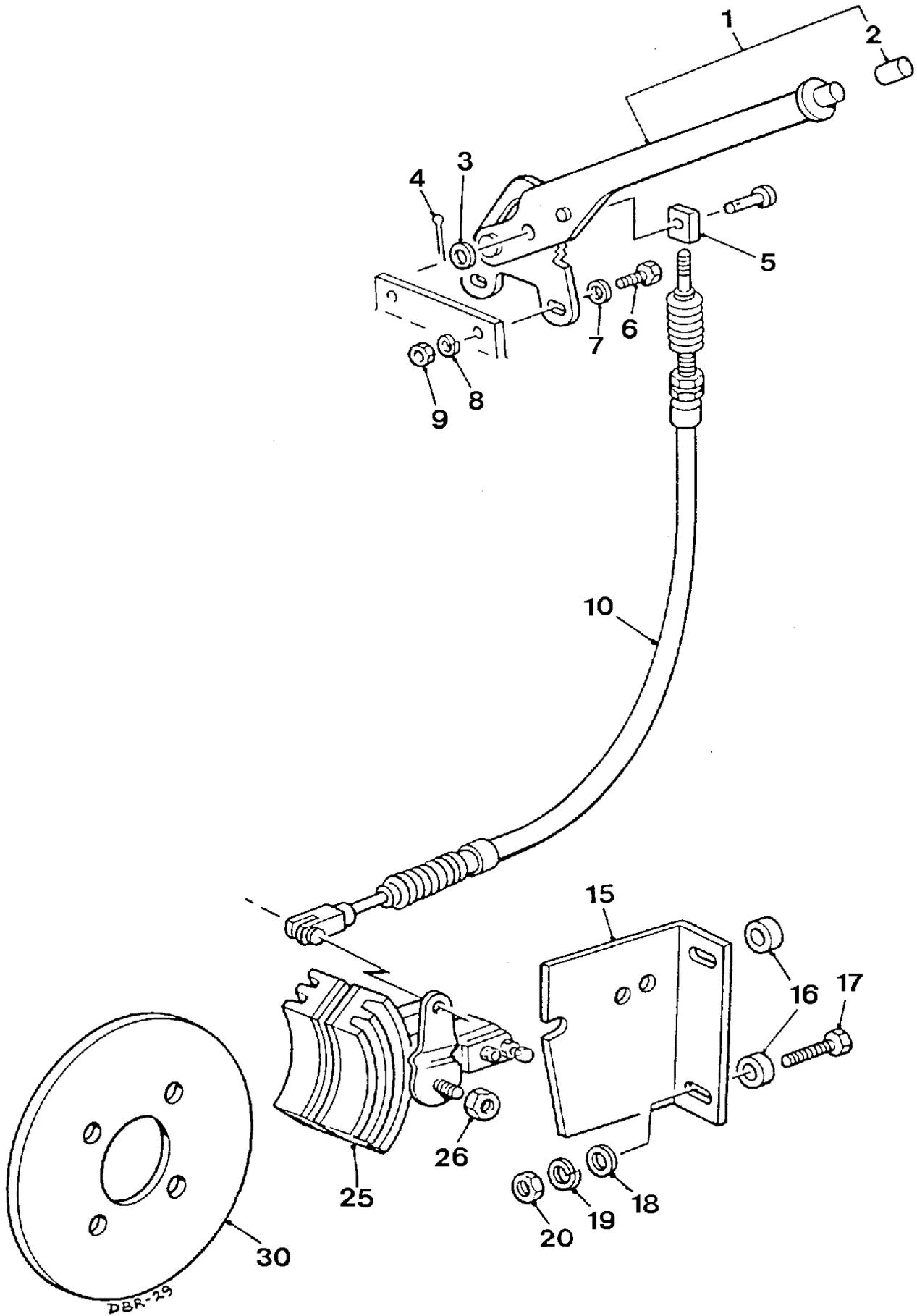
3	8S03C		BOLT	4
4	61S03		NUT, self-locking	4
5	V2002991		HOSE, reservoirs to m/cylinders	2 metres
6	32S01E		HOSE, master cylinder to rear axle	1
7	319S01C		HOSE, master cylinder to front axle	1
8	53S01W		HOSE, across axle	2
10	V2003029		CLIP, hose	4
11	V2003515		ADAPTOR, male	8
12	298S03		SEAL, bonded	10
13	129S01A		NOZZLE, 90 <sup>o</sup>	2
15	V2003030		RESERVIOR, assembly	2
16	11S01AA		SCREW, set	4
17	267S03		WASHER, flat	4
18	17S02		WASHER, spring	4
19	7S01		NUT	4



Item	Part no	Serial no	Description	Qty
<i>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.</i>				
<b>GIRLING</b>				
1	20102A02		MASTER CYL. with 3/8" UNF rod	2
1	V2004651		MASTER CYL. with M10 rod	2
<b>FRENOS IRUNA</b>				
1	V2003671		MASTER CYL. with 3/8" UNF rod	2
2	10570A01		REPAIR KIT, m/cyl. <b>GIRLING</b>	
2	V601697		REPAIR KIT, m/cyl. <b>FRENOS IRUNA</b>	
3	8S03C		BOLT	4
4	61S03		NUT, self-locking	4
5	V2002991		HOSE, reservoirs to m/cylinders	2 metres
6	32S01E		HOSE, master cylinder to rear axle	1
7	53S01W		HOSE, master cyl. to regulator valve	1
8	53S01W		HOSE, across axles	2
9	318S01G		HOSE, regulator valve to front axle	1
10	V2003029		CLIP, hose	4
11	V2003515		ADAPTOR, male	8
12	298S03		SEAL, bonded	10
13	129S01A		NOZZLE, 90 <sup>o</sup>	2
15	V2003030		RESERVIOR, assembly	2
16	11S01AA		SCREW, set	4
17	267S03		WASHER, flat	4
18	17S02		WASHER, spring	4
19	7S01		NUT	4
25	V2004617		VALVE, pressure regulating	1
26	267S05		WASHER, flat	1
27	17S04		WASHER, spring	1
28	11S03C		SCREW, set	1
30	V2003515		ADAPTER	2
31	298S03		SEAL, bonded	2

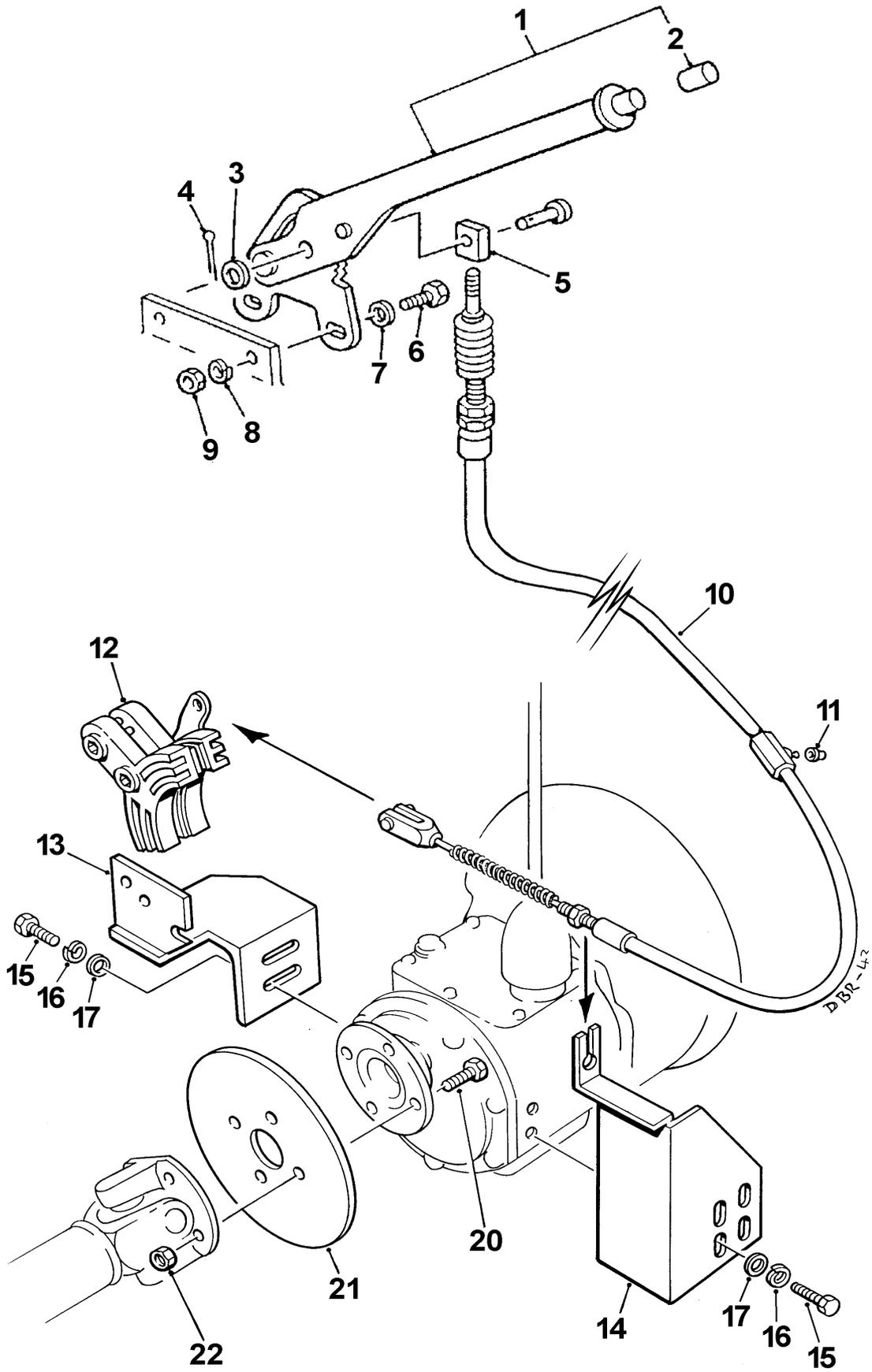


Item	Part no	Serial no	Description	Qty
<b>Linkage For Two Master Cylinders</b>				
1	V2002384		PEDAL, brake	1
2	V2002595		BUSH	2
3	V2003307		SPRING	1
4	267S10		WASHER, flat	1
5	44S03D		PIN, split	1
6	V2002385		BAR, link	2
7	10650A18		PIN, pivot	2
8	267S06		WASHER, flat	2
9	44S02C		PIN, split	2
10	20117A06		LEVER, compensating	1
11	10650A18		PIN, pivot	2
12	267S06		WASHER, flat	2
13	44S02C		PIN, split	2
14	10454A02		CLEVIS, 3/8" UNF	2
14	V2004650		CLEVIS, 10mm thread	2
15	95S03		NUT, 3/8" UNF	1
15	7S04		NUT, 10mm thread	1
16	333702000		NIPPLE, grease, 45 <sup>o</sup>	1
17	176S01		CAP, grease nipple	1
<b>Linkage For Single Master Cylinder</b>				
1	V2002384		PEDAL, brake	1
2	V2002595		BUSH	2
3	V2003307		SPRING	1
4	267S10		WASHER, flat	1
5	44S03D		PIN, split	1
7	10650A18		PIN, pivot	1
8	267S06		WASHER, flat	1
9	44S02C		PIN, split	1
12	267S06		WASHER, flat	1
13	44S02C		PIN, split	1
15	95S03		NUT, 3/8" UNF	1
15	7S04		NUT, 10mm thread	1
16	333702000		NIPPLE, grease, 45 <sup>o</sup>	1
17	176S01		CAP, grease nipple	1
20	V2003855		CLEVIS, 3/8" UNF	1
20	V2004658		CLEVIS, 10mm thread	1
21	V2003854		BAR, link	2
22	10650A19		PIN, pivot	1



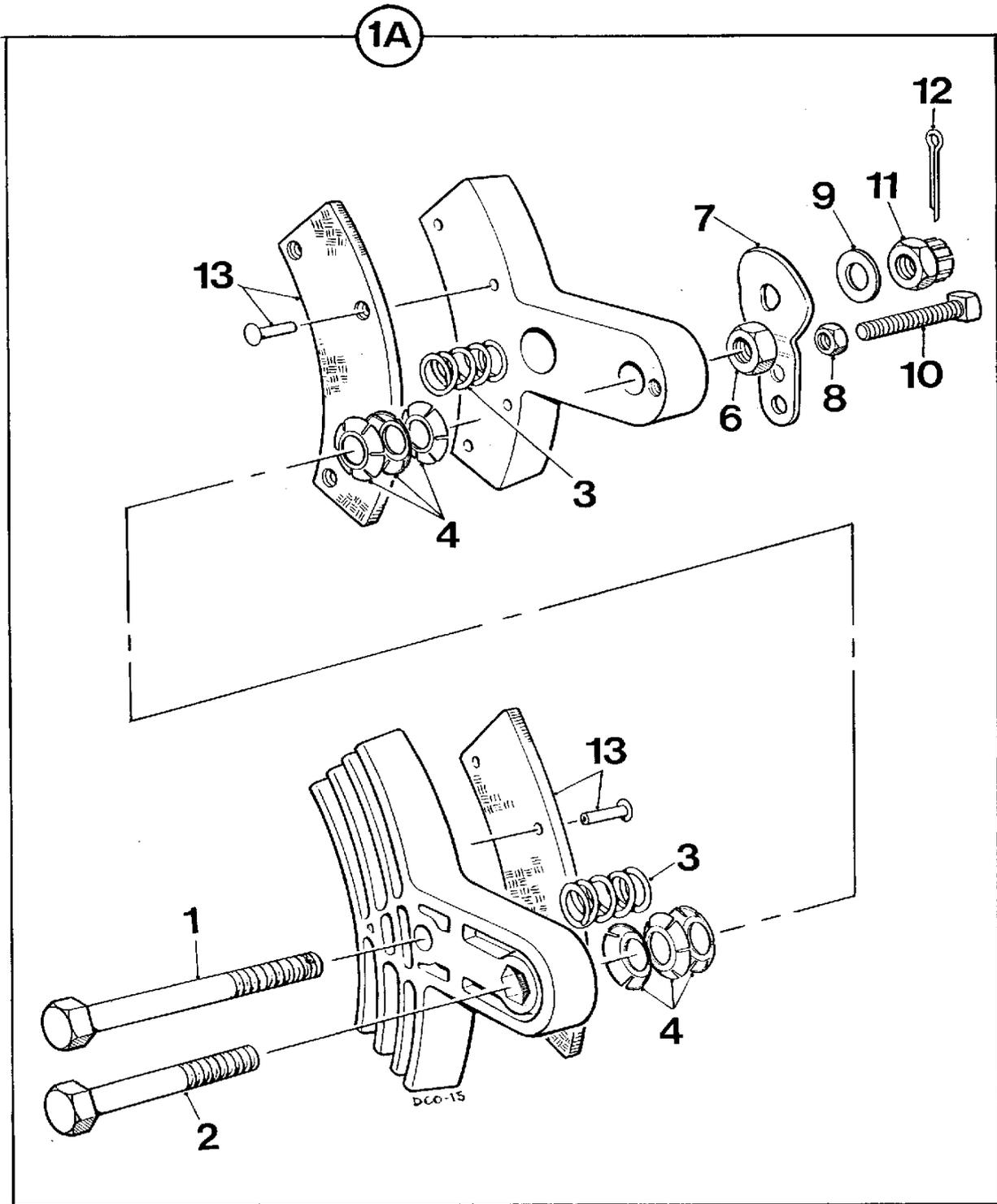
**HANDBRAKE, with chassis mounted caliper****1 - D - 1**

<b>Item</b>	<b>Part no</b>	<b>Description</b>	<b>Qty</b>
		<i>Up to serial numbers</i>	
		/ 20008	<b>4S2000</b>
		/ 25008	<b>4S2500</b>
		/ 30024	<b>4S3000</b>
		/ 40008	<b>4S4000M</b>
1	20208A01	LEVER, handbrake	1
2	20208A0101	KNOB, handbrake	1
3	267S06	WASHER, flat	1
4	44S03D	PIN, split	1
5	L309	BLOCK	1
6	11S03C	SCREW, set	2
7	267S05	WASHER, flat	2
8	17S04	WASHER, spring	2
9	7S03	NUT	2
10	V2004046	CABLE	1
15	20191A04	BRACKET, caliper mounting	1
16	555170000	SPACER	2
17	11S04F	SCREW, set	2
18	267S06	WASHER, flat	2
19	17S05	WASHER, spring	2
20	7S04	NUT	2
25	10578A01	CALIPER, brake (see page 1-D-2)	1
26	87S02	NUT, self-locking	1
30	V2003761	DISC, brake	1



**HANDBRAKE, with gearbox mounted caliper****1 - D - 1A**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
		<i>From serial numbers</i>		
		20009 /	<b>4S2000</b>	
		25009 /	<b>4S2500</b>	
		30025 /	<b>4S3000</b>	
		40009 /	<b>4S4000M</b>	
1	20208A01		LEVER, handbrake	1
2	20208A0101		KNOB, handbrake	1
3	267S06		WASHER, flat	1
4	44S03D		PIN, split	1
5	L309		BLOCK	1
6	11S03C		SCREW, set	2
7	267S05		WASHER, flat	2
8	17S04		WASHER, spring	2
9	7S03		NUT	2
10	V2004046		CABLE	1
11	176S01		CAP, grease nipple	1
12	10578A01		CALIPER, brake ( <i>see page 1-D-2</i> )	1
13	V2005096		BRACKET, caliper	1
14	V2005097		BRACKET, cable	1
15	28S03E		SCREW, set	4
16	41S05		WASHER, spring	4
17	10S03		WASHER, flat	4
21	V2003761		DISC, brake	1
20	6S03C		BOLT	4
22	87S03		NUT, self-locking	4



**CALIPER, handbrake****1 - D - 2**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
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	2
4	10578A0102		WASHER, tension	6
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

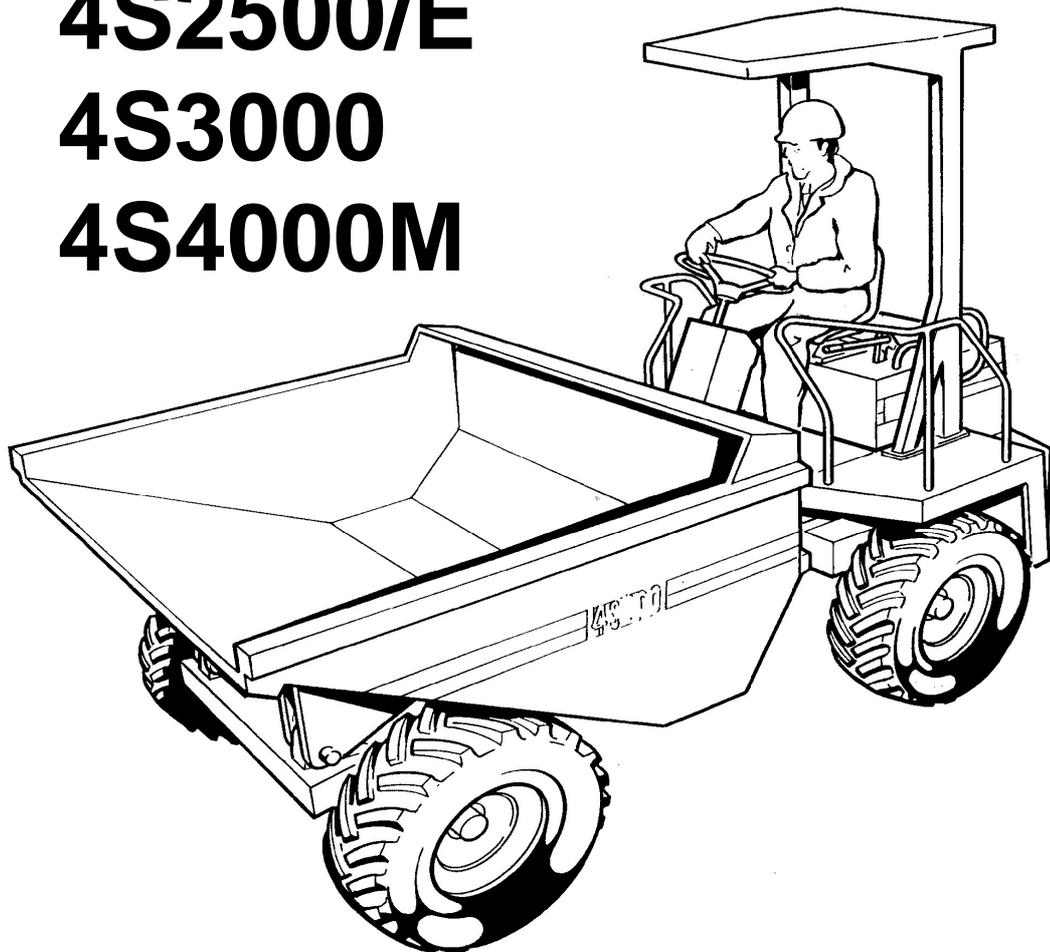
# **'S' Series Dumpers**

**4S2000/E**

**4S2500/E**

**4S3000**

**4S4000M**



# ***AXLES & WHEELS***

**AXLES & MOUNTINGS BOLTS** [2 - A - 1](#)

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**IDENTIFICATION OF AXLES** [2 - A - 2](#)

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**AXLE, 175RF** [2 - B - 1](#)

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**AXLE, 200RF** [2 - B - 2](#)

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**AXLE, 210RF** [2 - B - 3](#)

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**AXLE, 220RF** [2 - B - 4](#)

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**AXLE, 360RF** [2 - B - 5](#)

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**AXLE, 410RF** [2 - B - 6](#)

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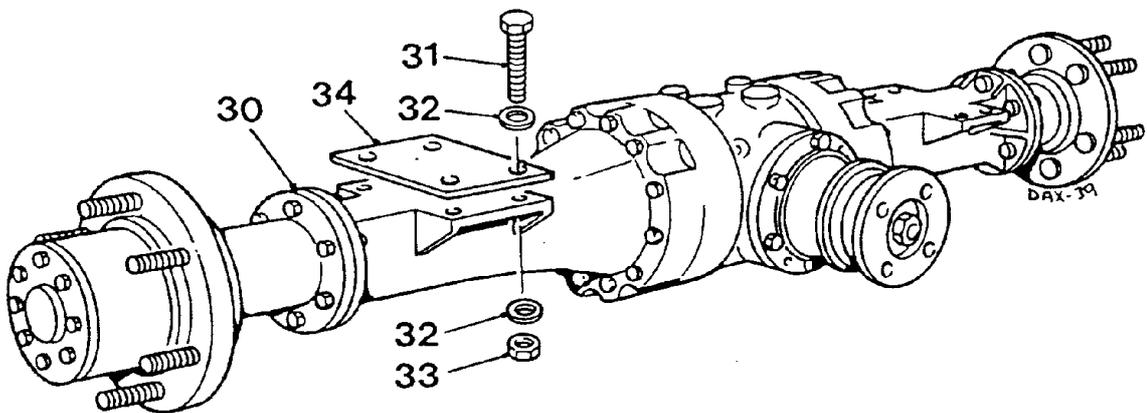
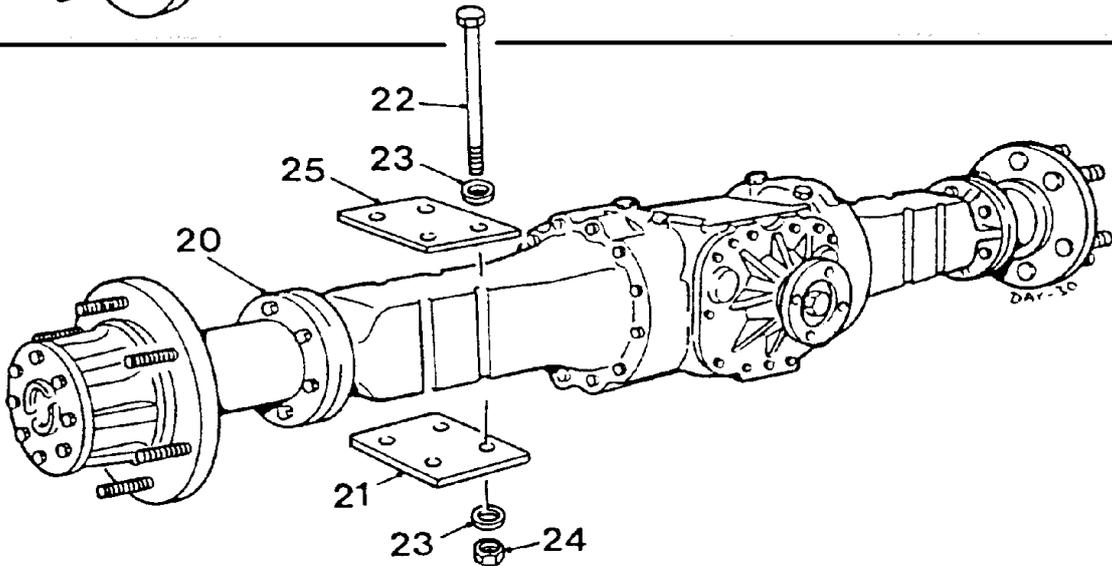
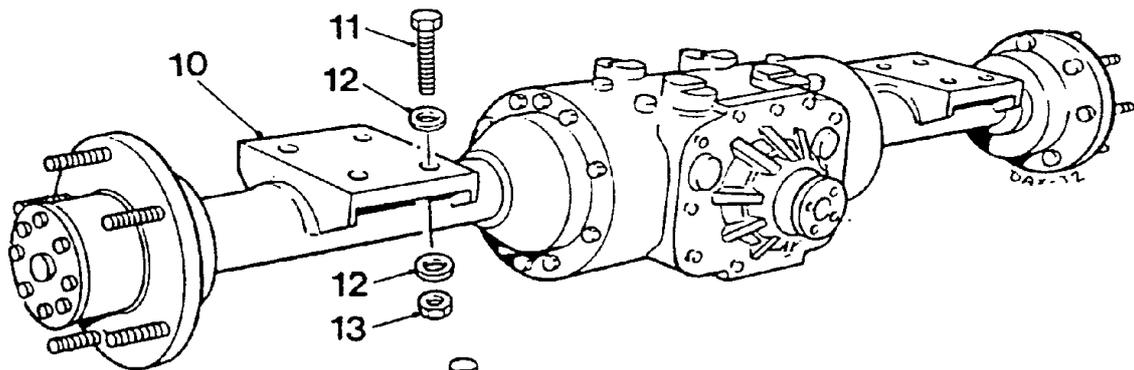
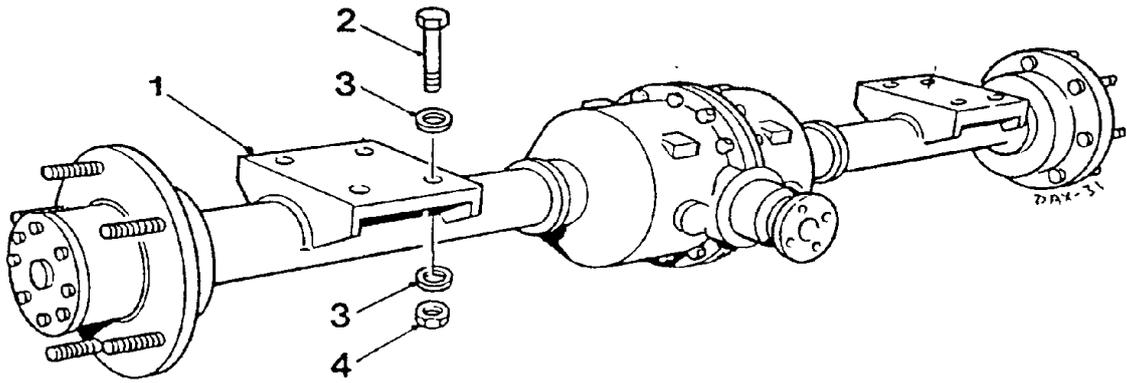
**STEERING COLUMN** [2 - S - 1](#)

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**WHEELS & TYRES** [2 - W - 1](#)

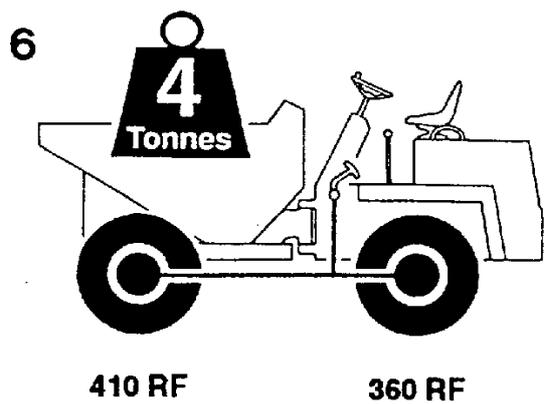
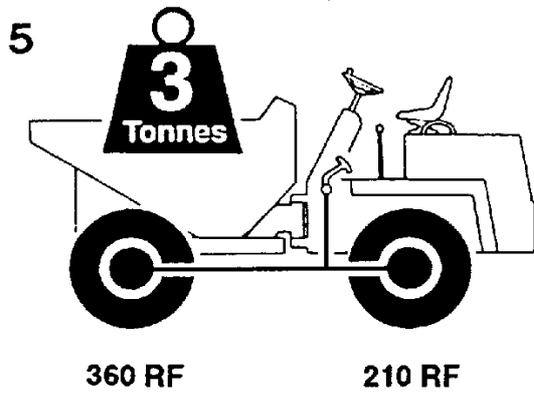
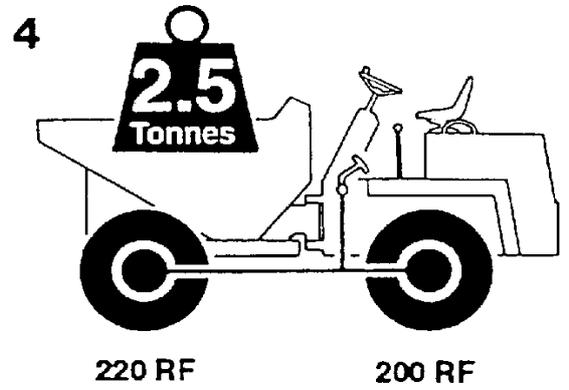
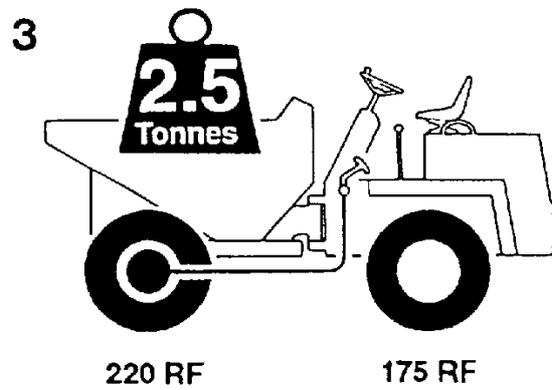
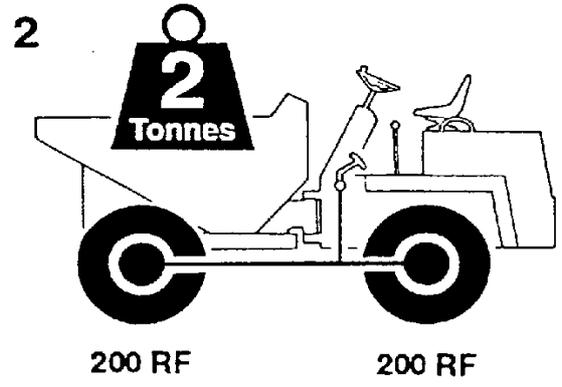
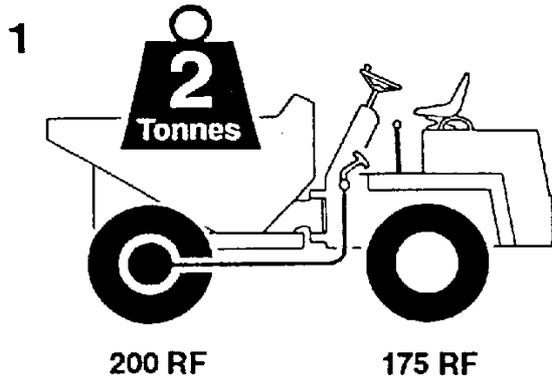
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[<<< To beginning of Parts](#)



**MOUNTING BOLTS & PLATES, axles****2 - A - 1**

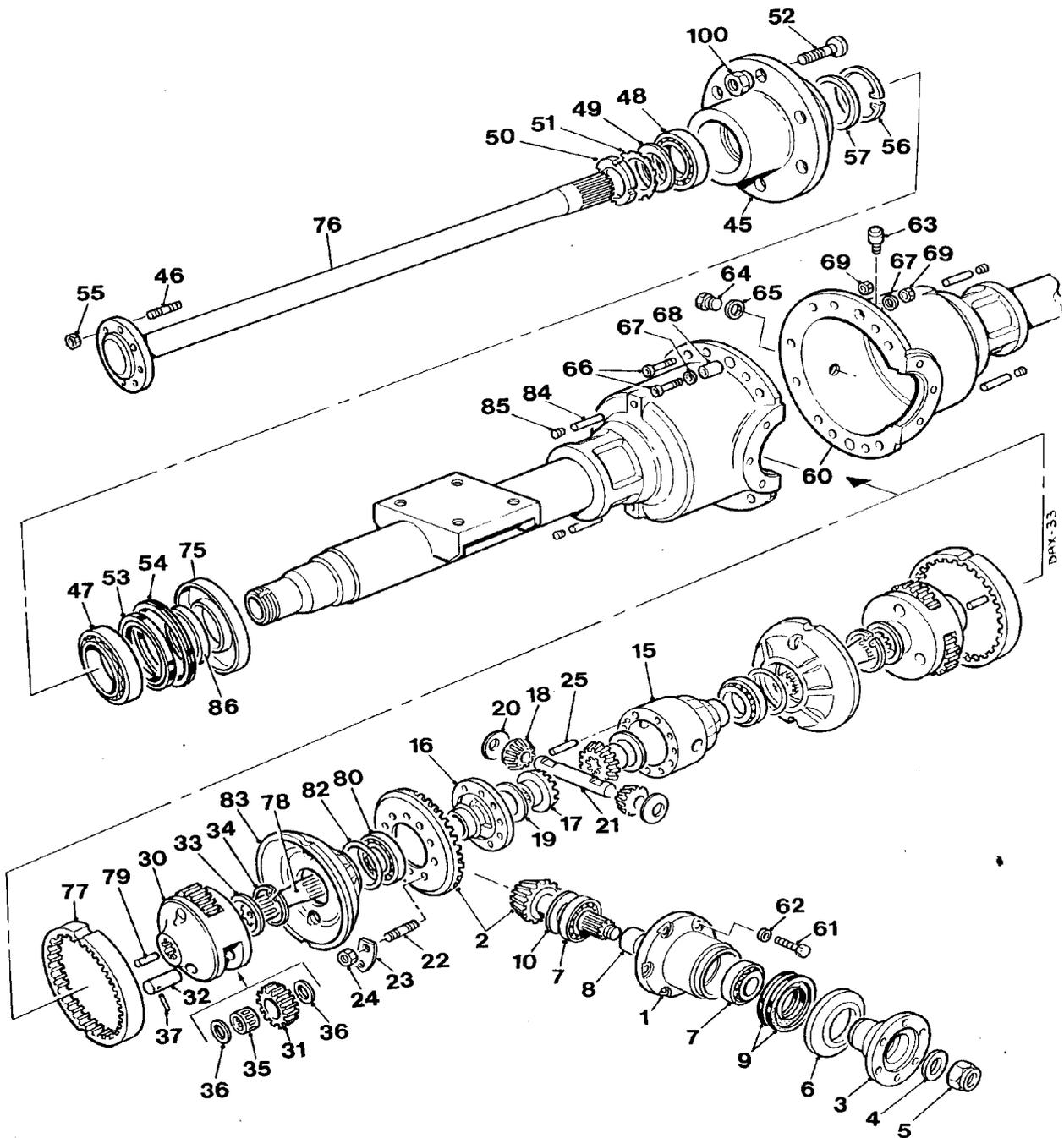
<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	_____		<b>AXLE, 175 RF</b>	1
2	11S13G		SCREW, set	8
3	267S08		WASHER, flat	16
4	61S10		NUT, self-locking	8
10	_____		<b>AXLE, 200 RF</b>	1
11	11S13G		SCREW, set	8
12	267S08		WASHER, flat	16
13	61S10		NUT, self-locking	8
10	_____		<b>AXLE, 210 RF</b>	1
11	11S13G		SCREW, set	8
12	267S08		WASHER, flat	16
13	61S10		NUT, self-locking	8
10	_____		<b>AXLE, 220 RF</b>	1
11	11S13G		SCREW, set	8
12	267S08		WASHER, flat	16
13	61S10		NUT, self-locking	8
20	_____		<b>AXLE, 360 RF</b>	1
21	CSE193		PLATE, axle clamp	2
22	8S06W		BOLT	8
23	267S09		WASHER, flat	16
24	61S06		NUT, self-locking	8
25	V2001279		PLATE, spacer	2
30	_____		<b>AXLE, 410 RF</b>	1
31	8S06J		BOLT	8
32	267S09		WASHER, flat	16
33	61S06		NUT, self-locking	8
34	V2004371		PLATE, spacer	2



# IDENTIFICATION OF AXLES

2 - A - 2

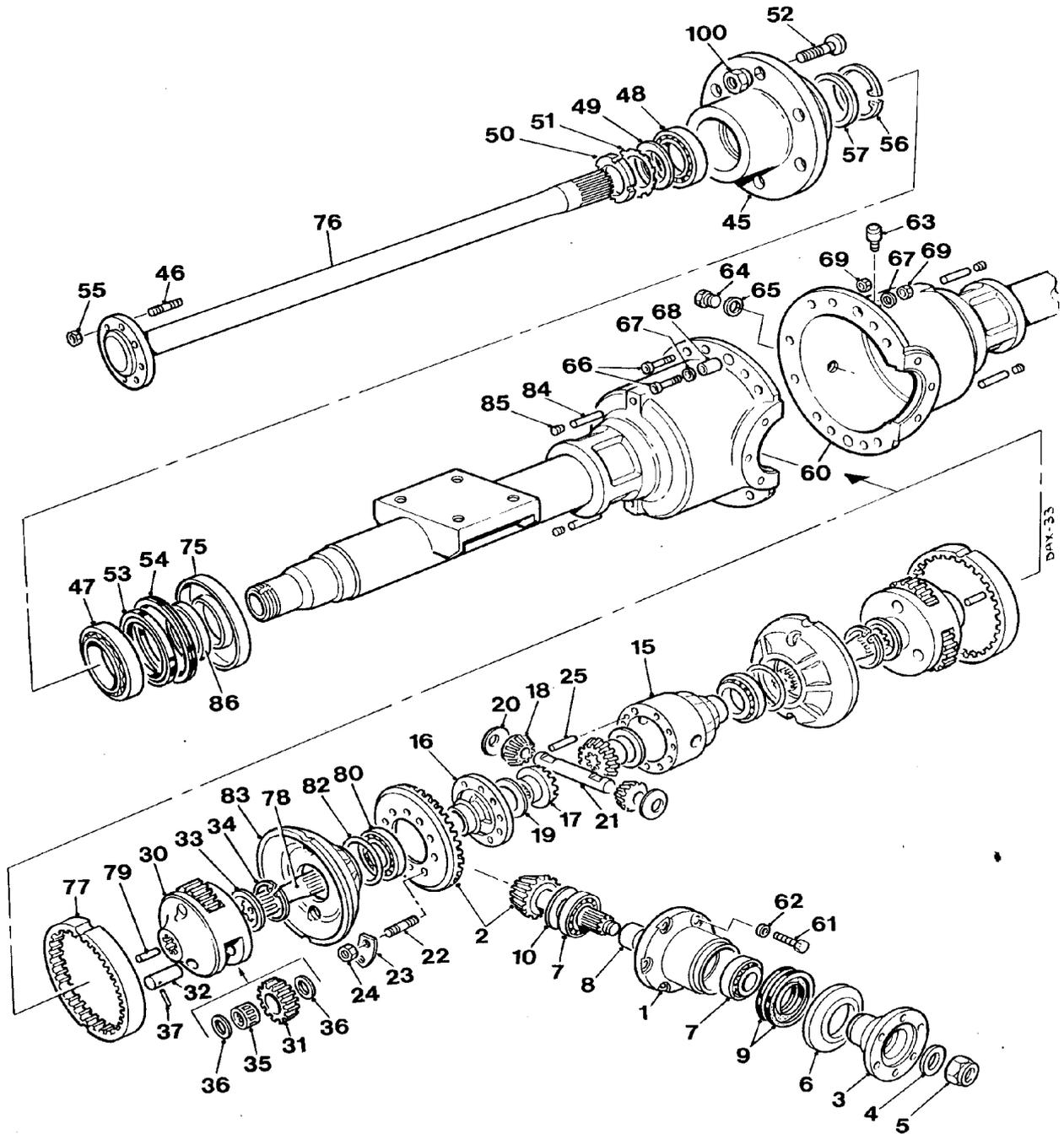
Item	Part no	Serial no	Description	Qty
1			<b>4S2000</b>	
	30156A11		FRONT AXLE, 200 RF (With brakes)	
	30312A05		REAR AXLE, 175 RF (Without brakes)	
2			<b>4S2000</b>	
	30156A11		FRONT AXLE, 200 RF (With brakes)	
	30156A11		REAR AXLE, 200 RF (With brakes)	
			<b>4S2500</b>	
3	V2001017		FRONT AXLE, 220 RF (With brakes)	
	30312A05		REAR AXLE, 175 RF (Without brakes)	
			<b>4S2500</b>	
4	V2001017		FRONT AXLE, 220 RF (With brakes)	
	30156A11		REAR AXLE, 200 RF (With brakes)	
			<b>4S3000</b>	
5	30347A03		FRONT AXLE, 360 RF (With brakes)	
	V2001018		REAR AXLE, 210 RF (With brakes)	
			<b>4S4000</b>	
6	V2004142		FRONT AXLE, 410 RF (With brakes)	
	30347A03		REAR AXLE, 360 RF (With brakes)	



Item	Part no	Serial no	Description	Qty
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*To identify on which dumper(s) this axle is fitted , see page 2-A-2*

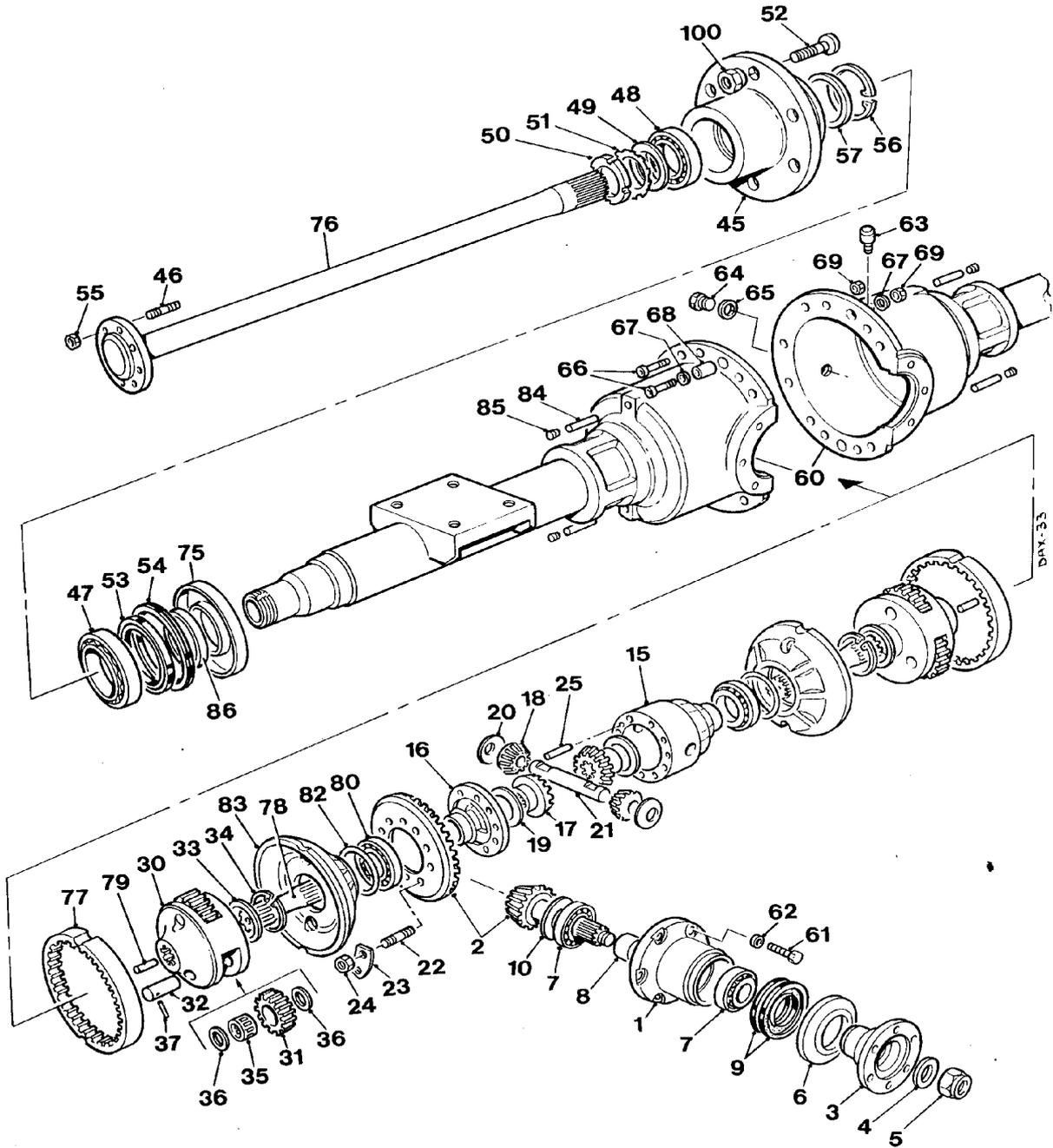
—	30312A05		<b>AXLE, type 175RF 14S 3211</b>	
	eee		<b>Bevel Wheel &amp; Pinion assembly</b>	
1	30156A0176		HOUSING, pinion	1
2	30156A0163		BEVEL WHEEL & PINION	1
3	30156A0131		FLANGE, input drive	1
4	30082A0231		WASHER	1
5	30082A0232		NUT	1
6	30156A0134		COVER, seal	1
7	30156A0135		BEARING	2
8	30156A0136		SPACER	1
9	30156A0137		SEAL, oil	2
10	30156A0139		SHIM, 0.25mm	AR
10	30156A0138		SHIM, 0.30mm	AR
10	30156A0140		SHIM, 0.40mm	AR
			<b>Differential assembly</b>	
15	30082A0302		CASING, R.H., differential	1
16	30156A0906		CASING, L.H., differential	1
17	30082A0283		WHEEL, differential	2
18	30082A0284		PINION, differential	2
19	30082A0241		WASHER, thrust, diff. wheel	2
20	30082A0242		WASHER, thrust, diff. pinion	2
21	30082A0303		SPIDER	1
22	30082A0304		STUD	8
23	30082A0305		STRIP, tab	4
24	7S04		NUT	8
25	30082A0306		PIN, spirol	2
			<b>Planet Carrier assemblies</b>	
30	30312A0401	/1423312	CARRIER, planet gears	2
30	30312A0207	1423313 /	CARRIER, planet gears	2
31	30156A0153	/1423312	GEAR, planet	4
31	30156A0803	1423313 /	GEAR, planet	4
32	30156A0174	/1423312	PIN, planet gears	4
32	30156A0804	1423313 /	PIN, planet gears	4



DIA-33

**AXLE, 175RF (without brakes)****2 - B - 1**

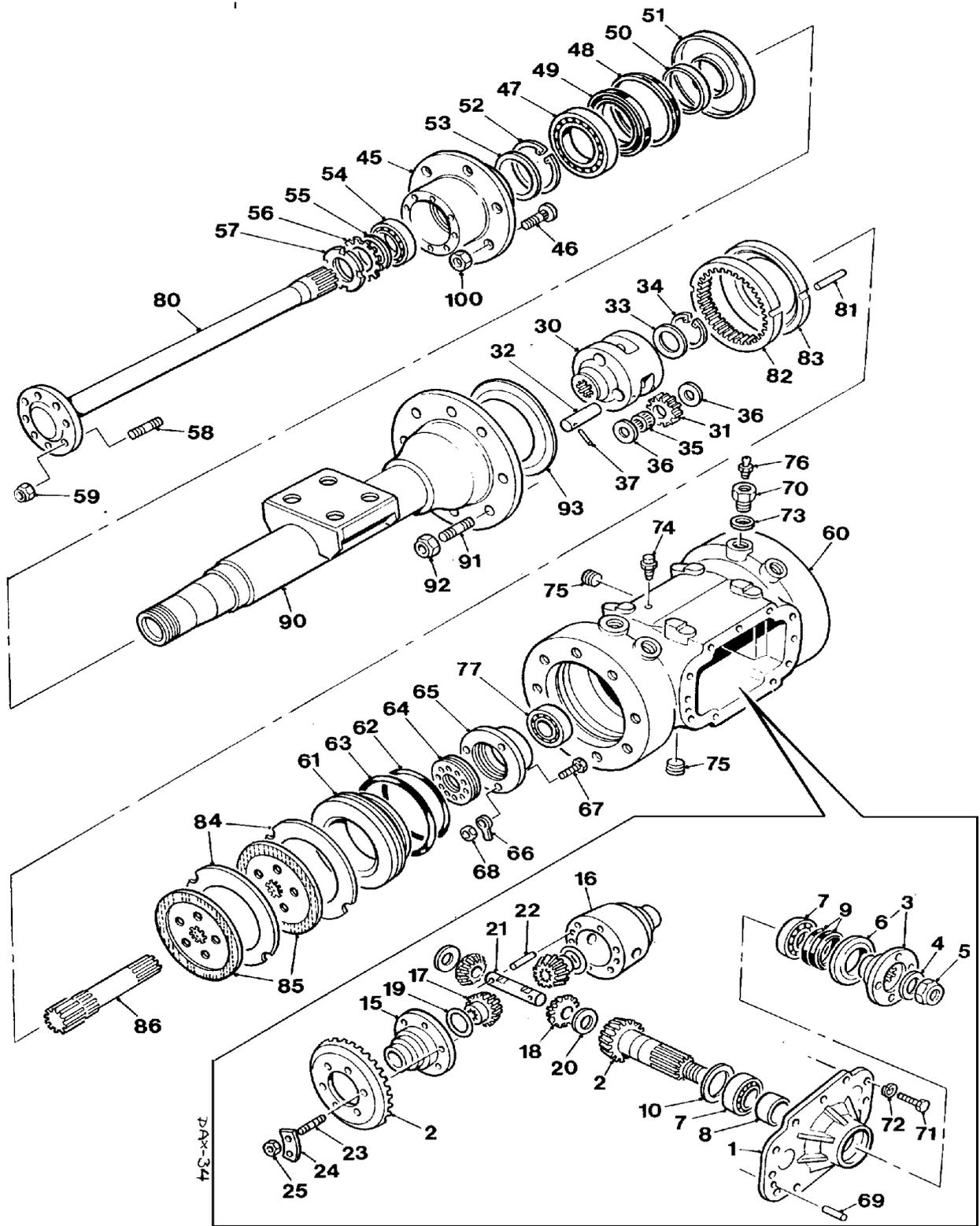
<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
33	30156A0157	/1423312	SPACER, axle shaft	2
33	30156A0805	1423313 /	SPACER, axle shaft	2
34	30082A0265		CIRCLIP	2
35	30082A0252	/1423312	BEARING, needle roller, (Imperial)	4
35	30082A0289	1423313 /	BEARING, needle roller, (Metric)	4
36	30082A0249		WASHER, thrust	8
37	30156A0162		DOWEL	4
<b>Hub assemblies</b>				
45	30156A0179		HUB	2
46	30156A0126		STUD	16
47	30082A0221		BEARING, hub inner	2
48	30156A0180		BEARING, hub outer	2
49	30156A0181		SPACER	2
50	30156A0182		LOCKNUT	2
51	30156A0183		WASHER, locking	2
52	30082A0225		STUD, wheel	12
53	30156A0184		SEAL, oil	2
54	30156A0124		SEAL, 'V' ring	2
55	59S03		NUT	16
56	30156A0185		CIRCLIP	2
57	30156A0186		SPACER	2
<b>Main casing</b>				
60	30156A0187		CASING, main	1
61	30156A0188		SCREW	6
62	30312A0206		WASHER, plastic	6
63	10305A01		VALVE, breather	1
64	30097A0163		PLUG	1
65	100S04		SEAL, bonded	1
66	68S05G		BOLT	12
67	267S06		WASHER	4
68	30156A0189		DOWEL	2
69	59S03		NUT, nylon insert	12
<b>General parts</b>				
75	30156A0116		COVER, oil seal	2
76	30156A0190		SHAFT, axle	2



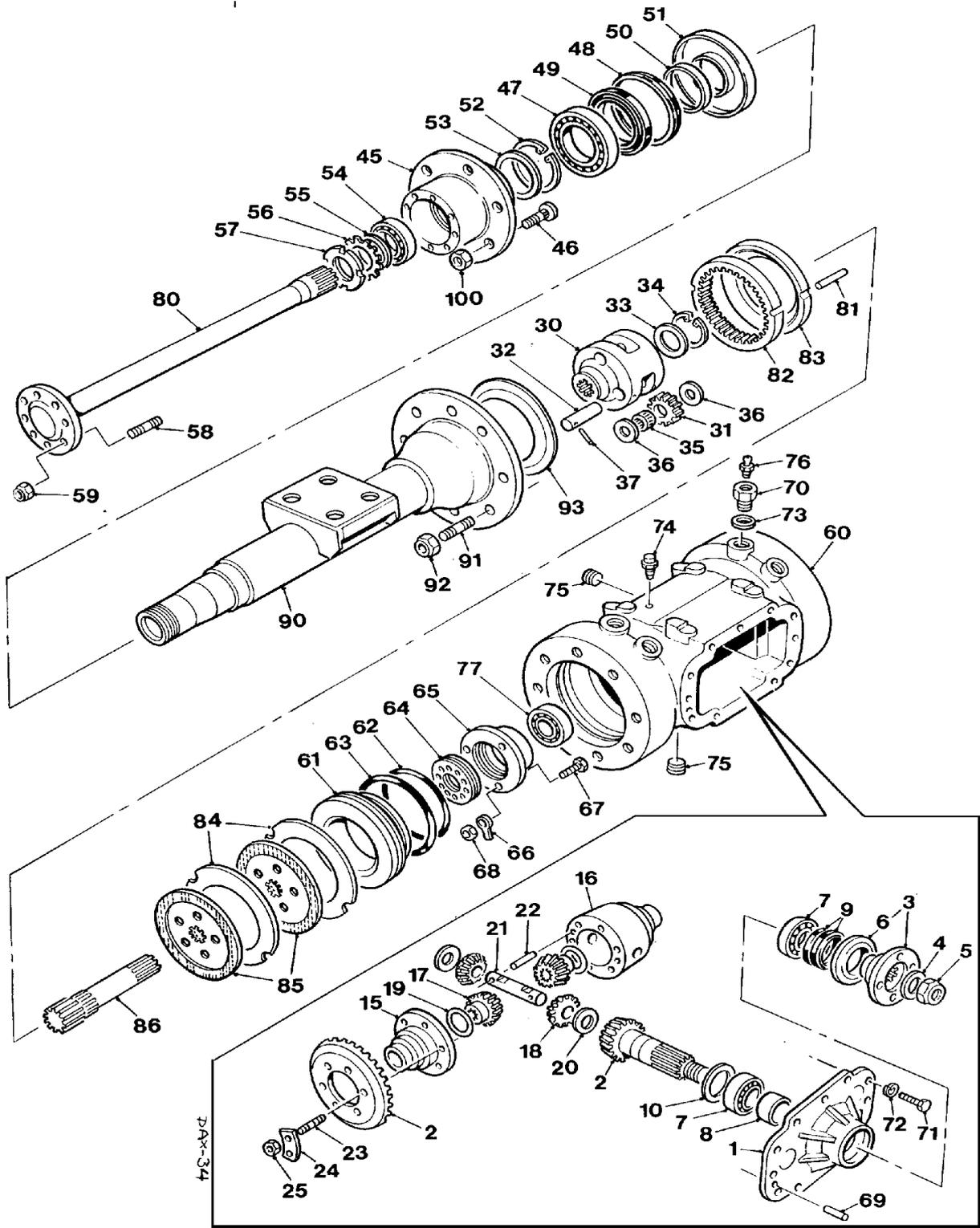
**AXLE, 175RF (without brakes)**

**2 - B - 1**

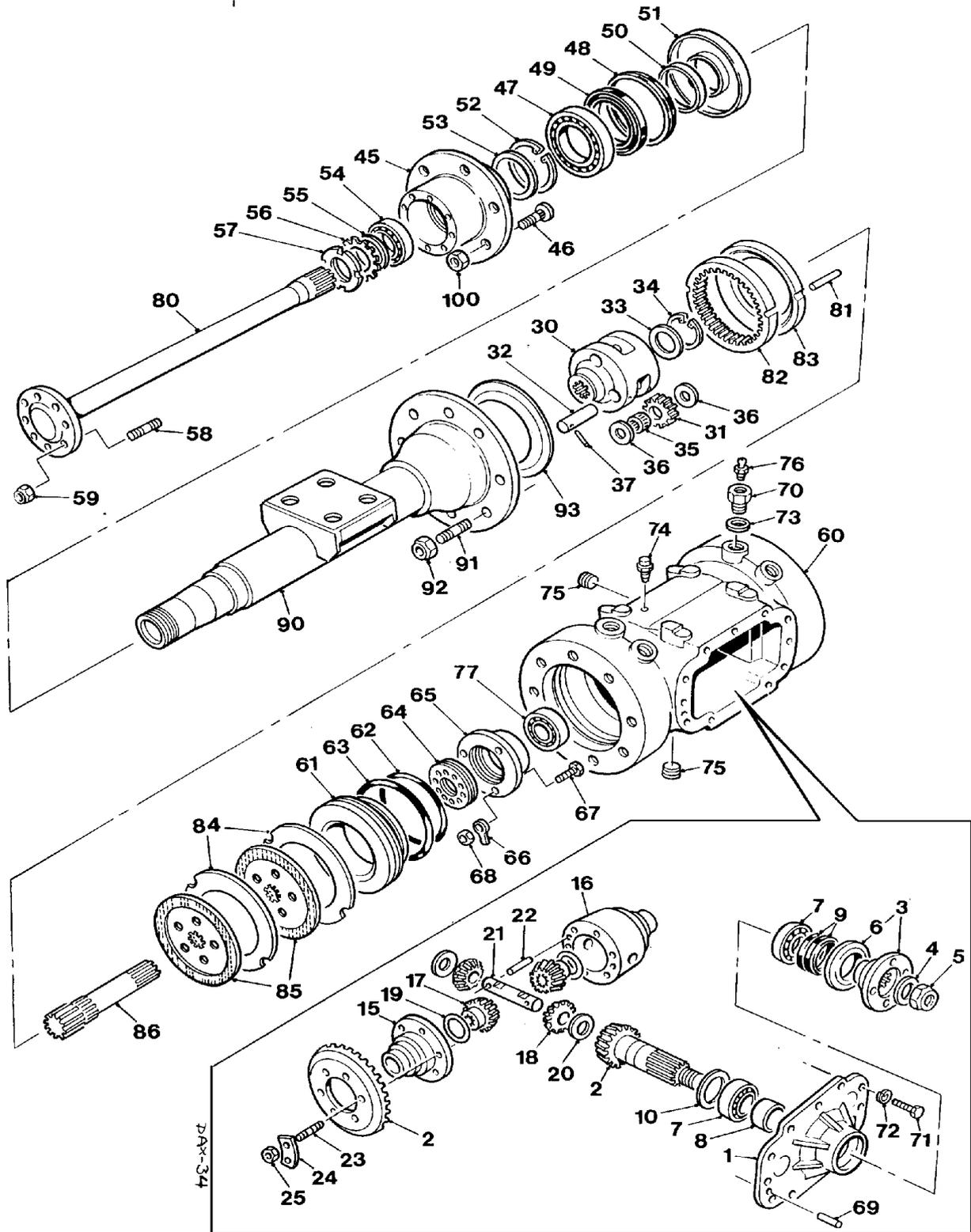
<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
77	30156A0103	/1423312	ANNULUS	2
77	30156A0202	1423313 /	ANNULUS	2
78	30312A0403		GEAR, sun	2
79	30312A0213		DOWEL	2
80	119325000		BEARING, cup & cone kit	2
82	30101A0715		SHIM, 0.002"	AR
82	30101A0716		SHIM, 0.01"	AR
83	30312A0214	/1423312	HOUSING, bearing	2
83	30312A0208	1423313 /	HOUSING, bearing	2
84	30156A0191		DOWEL	4
85	30156A0192		PLUG	4
86	30156A0193		SLEEVE	2
100	-----		NUT, wheel (see page 2 - W - 1)	12



Item	Part no	Serial no	Description	Qty
<b>To identify on which dumper(s) this axle is fitted , see page 2-A-2</b>				
—	30156A11		<b>AXLE, type 200RF 14S 3212</b>	
<b>Bevel Wheel &amp; Pinion assembly</b>				
1	30156A0129		HOUSING, pinion	1
2	30156A0163		BEVEL WHEEL & PINION	1
3	30156A0131		FLANGE, input, assy. <i>(with item 6)</i>	1
4	30082A0231		WASHER	1
5	30082A0232		NUT	1
6	30156A0134		COVER, seal <i>(part of item 3)</i>	1
7	30156A0135		BEARING	2
8	30156A0136		SPACER	1
9	30156A0137		SEAL, oil	2
10	30156A0139		SHIM, 0.25mm	AR
10	30156A0138		SHIM, 0.30mm	AR
10	30156A0140		SHIM, 0.40mm	AR
<b>Differential assembly</b>				
15	30082A0302		CASING, L.H., differential	1
16	30156A0906		CASING, R.H., differential	1
17	30082A0283		WHEEL, differential	2
18	30082A0284		PINION, differential	2
19	30082A0241		WASHER, thrust, diff. wheel	2
20	30082A0242		WASHER, thrust, diff. pinion	2
21	30082A0303		SPIDER	1
22	30082A0306		PIN, spirol	2
23	30082A0304		STUD	8
24	30082A0305		STRIP, locking	4
25	7S04		NUT	8
<b>Planet Carrier assemblies</b>				
....	V601154	/ 1530214	Planet Carrier assembly	2
....	30156A0801	1530215 /	Planet Carrier assembly	2
30	30156A0901	/ 1530214	CARRIER, planet gears	2
30	30156A0802	1530215 /	CARRIER, planet gears	2
31	30156A0153	/ 1530214	GEAR, planet	6
31	30156A0803	1530215 /	GEAR, planet	6
32	30156A0154	/ 1530214	PIN, planet gears	6
32	30156A0804	1530215 /	PIN, planet gears	6

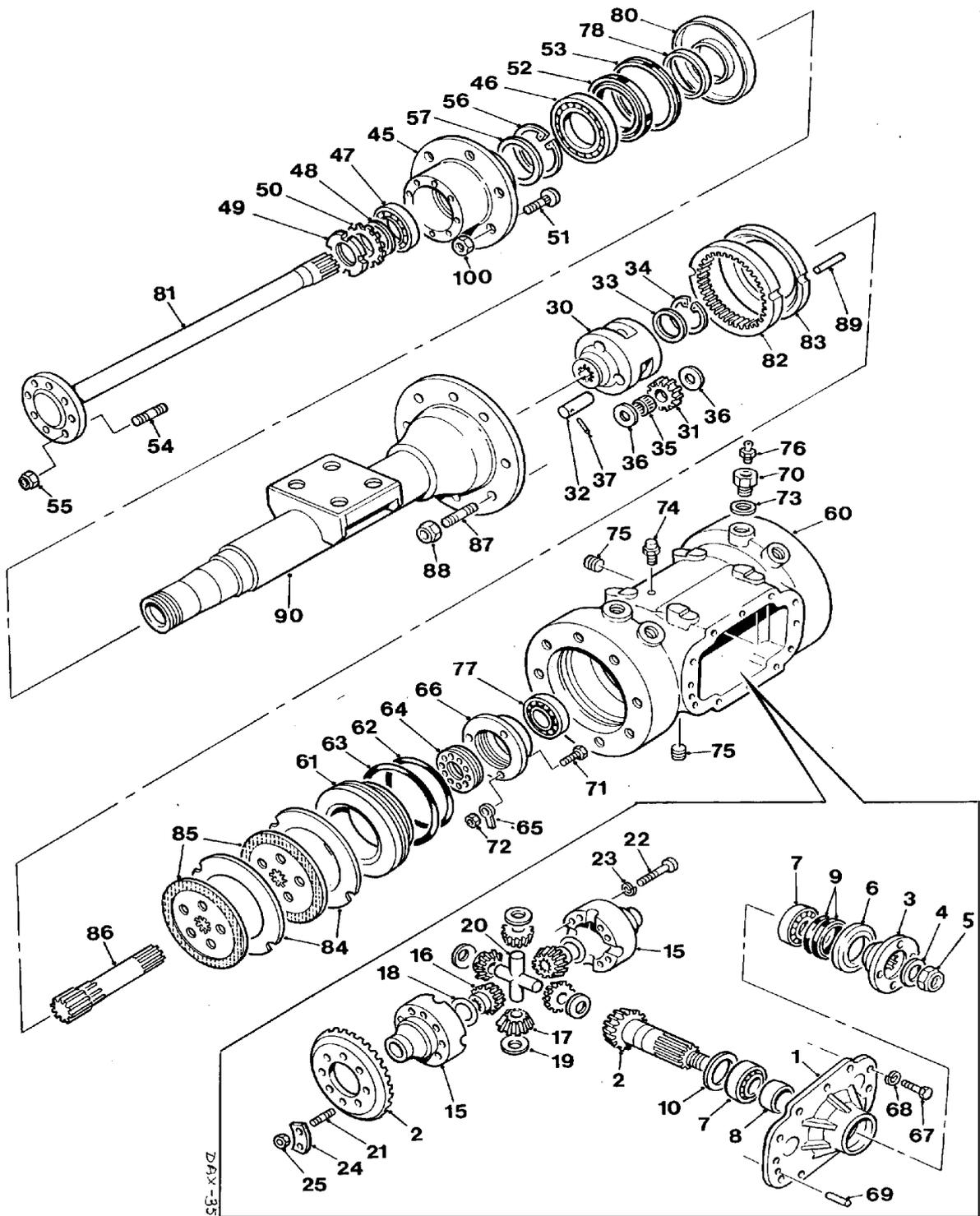


<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
33	30156A0157	1530214	SPACER, axle shaft	2
33	30156A0805	1530215/	SPACER, axle shaft	2
34	30082A0265		CIRCLIP	2
35	30156A0178	1530214	BEARING, needle roller, (Imperial)	6
35	30082A0289	1530215/	BEARING, needle roller, (Metric)	6
36	30082A0249		WASHER, thrust	12
37	30156A0162		DOWEL	6
<b>Hub assemblies</b>				
45	30156A0179		HUB	2
46	30082A0225		STUD, wheel	12
47	30082A0221		BEARING, hub inner	2
48	30156A0124		SEAL, 'V' ring	2
49	30156A0184		SEAL, oil	2
50	30156A0193		SLEEVE	2
51	30156A0116		HOUSING, oil seal	2
52	30156A0185		CIRCLIP	2
53	30156A0186		SPACER	2
54	30156A0180		BEARING, hub outer	2
55	30156A0181		SPACER	2
56	30156A0183		WASHER, locking	2
57	30156A0182		LOCKNUT	2
58	30156A0126		STUD	16
59	59S03		NUT, nylon insert	16
<b>Main casing</b>				
60	30156A0101		CASING, main	1
61	30156A0107		PISTON, brake	2
62	30156A0197		SEAL, 'O' ring	2
63	30156A0198		SEAL, 'O' ring	2
64	30156A0109		NUT	2
65	30156A0111		HOUSING, bearing	2
66	30156A0110		PLATE, locking	2
67	11S04D		SCREW	6
68	59S03		NUT	6
69	30156A0112		DOWEL	2
70	30156A0199		ADAPTOR, brake pipe	4
71	11S03C		SCREW, set	12



**AXLE, 200RF (with brakes)****2 - B - 2**

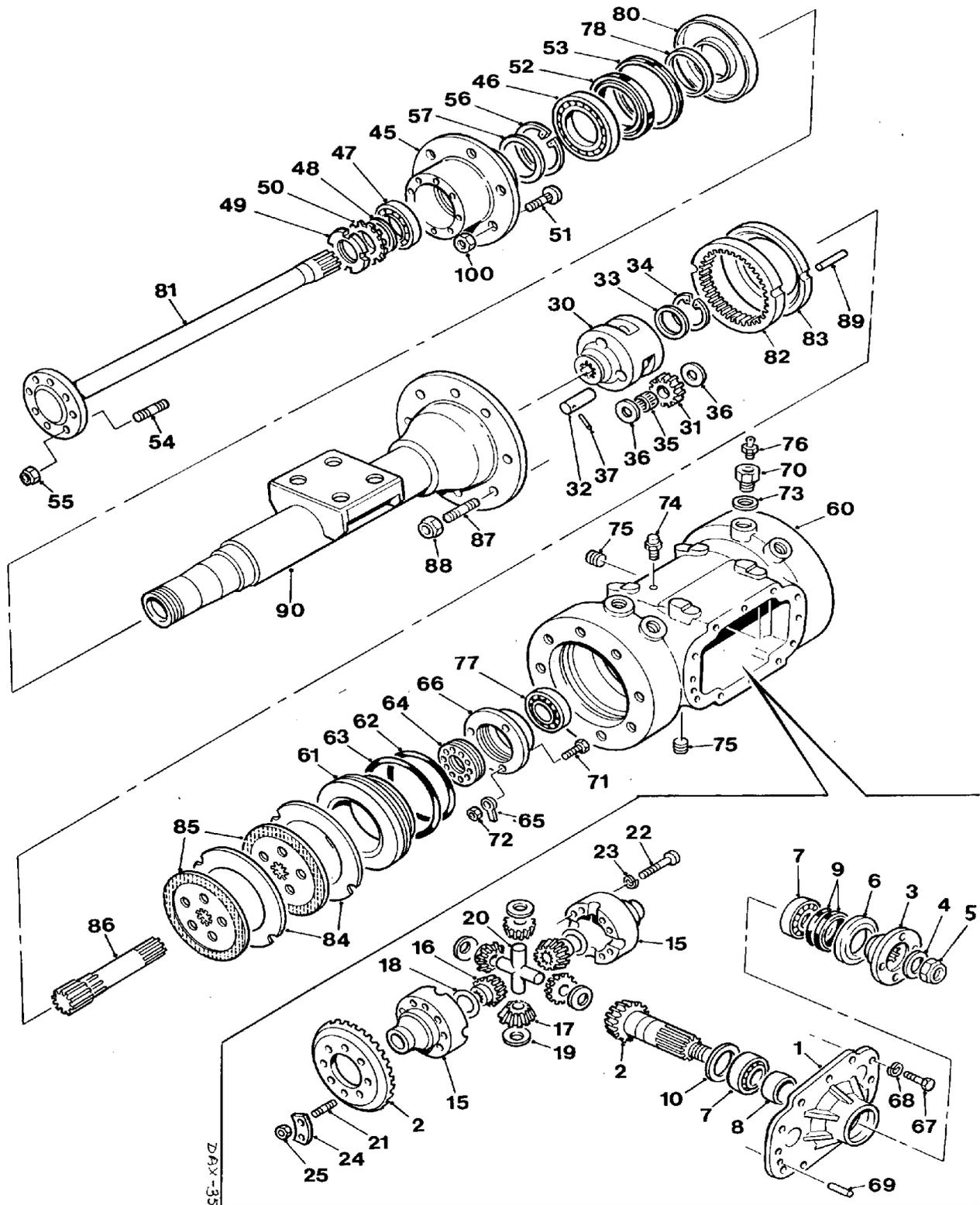
<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
72	17S04		WASHER, spring	12
73	30156A0155		SEAL, bonded	4
74	10305A01		VALVE, breather	1
75	30156A0127		PLUG, socket	2
76	30347A0211		VALVE, brake bleeding	1
77	119325000		BEARING, cup & cone kit	2
<b>General parts</b>				
80	30156A0201		SHAFT, axle	2
81	30156A0102		DOWEL	4
82	30156A0103	/ 1530214	ANNULUS	2
82	30156A0202	1530215 /	ANNULUS	2
83	30156A0194	/ 1530214	SPACER	2
83	30156A0206	1530215 /	SPACER	2
84	30156A0105		PLATE, brake	4
85	30156A0106		PLATE, disc	4
86	30156A0907		GEAR, sun	2
<b>Axle arms</b>				
90	30156A0195		CASING, axle arm	2
91	30156A0126		STUD	20
92	59S03		NUT, nylon insert	26
93	30156A0156		SHIELD	2
100	————		NUT, wheel (see page 2 -W - 1)	12



Item	Part no	Serial no	Description	Qty
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*To identify on which dumper(s) this axle is fitted , see page 2-A-2 .*

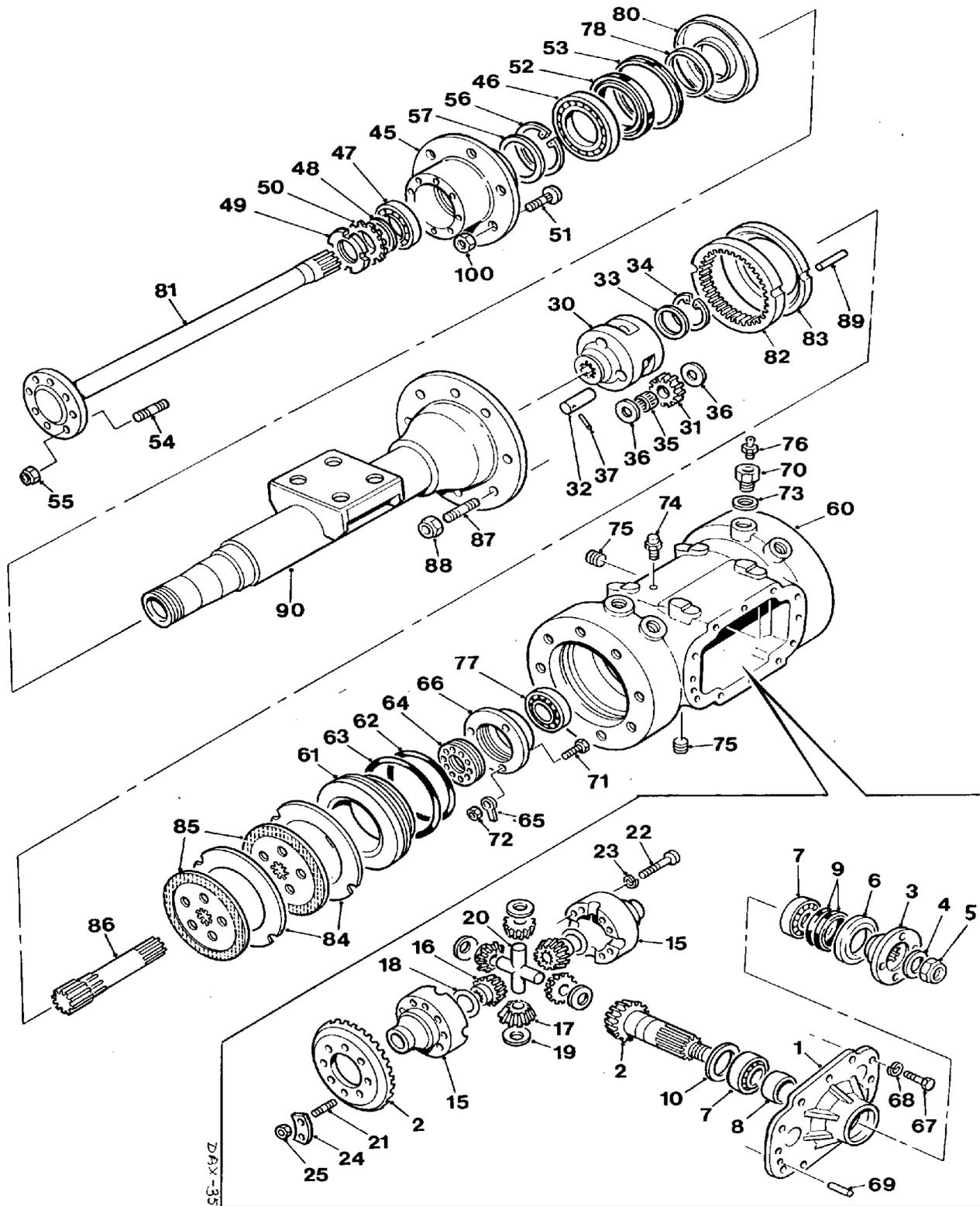
—	V2001018		<b>REAR AXLE, type 210RF 14S 3211</b>	
			<b>Bevel Wheel &amp; Pinion assembly</b>	
1	30156A0129		HOUSING, pinion	1
2	30156A0163		BEVEL WHEEL & PINION	1
3	30156A0131		FLANGE, input drive	1
4	30082A0231		WASHER	1
5	30082A0232		NUT	1
6	30156A0134		COVER, seal	1
7	30156A0135		BEARING	2
8	30156A0136		SPACER	1
9	30156A0137		SEAL, oil	2
10	30156A0139		SHIM, 0.25mm	AR
10	30156A0138		SHIM, 0.30mm	AR
10	30156A0140		SHIM, 0.40mm	AR
			<b>Differential assembly</b>	
15	30082A0307		CASING, diff. matched halves	1
16	30082A0283		WHEEL, differential	2
17	30082A0284		PINION, differential	4
18	30082A0241		WASHER, thrust, diff. wheel	2
19	30082A0242		WASHER, thrust, diff. pinion	4
20	30082A0308		SPIDER	1
21	30082A0304		STUD	8
22	30082A0309		SCREW, cap head	8
23	17S04		WASHER, spring	8
24	30082A0305		STRIP, locking	4
25	7S04		NUT	8
			<b>Planet Carrier assemblies</b>	
30	30156A0901	/ 1531834	CARRIER, planet gears	2
30	30156A0802	1531835 /	CARRIER, planet gears	2
31	30156A0196	/ 1531834	GEAR, planet	6
31	30156A0803	1531835 /	GEAR, planet	6
32	30156A0154	/ 1531834	PIN, planet gears	6
32	30156A0804	1531835 /	PIN, planet gears	6



# AXLE, 210RF (with brakes)

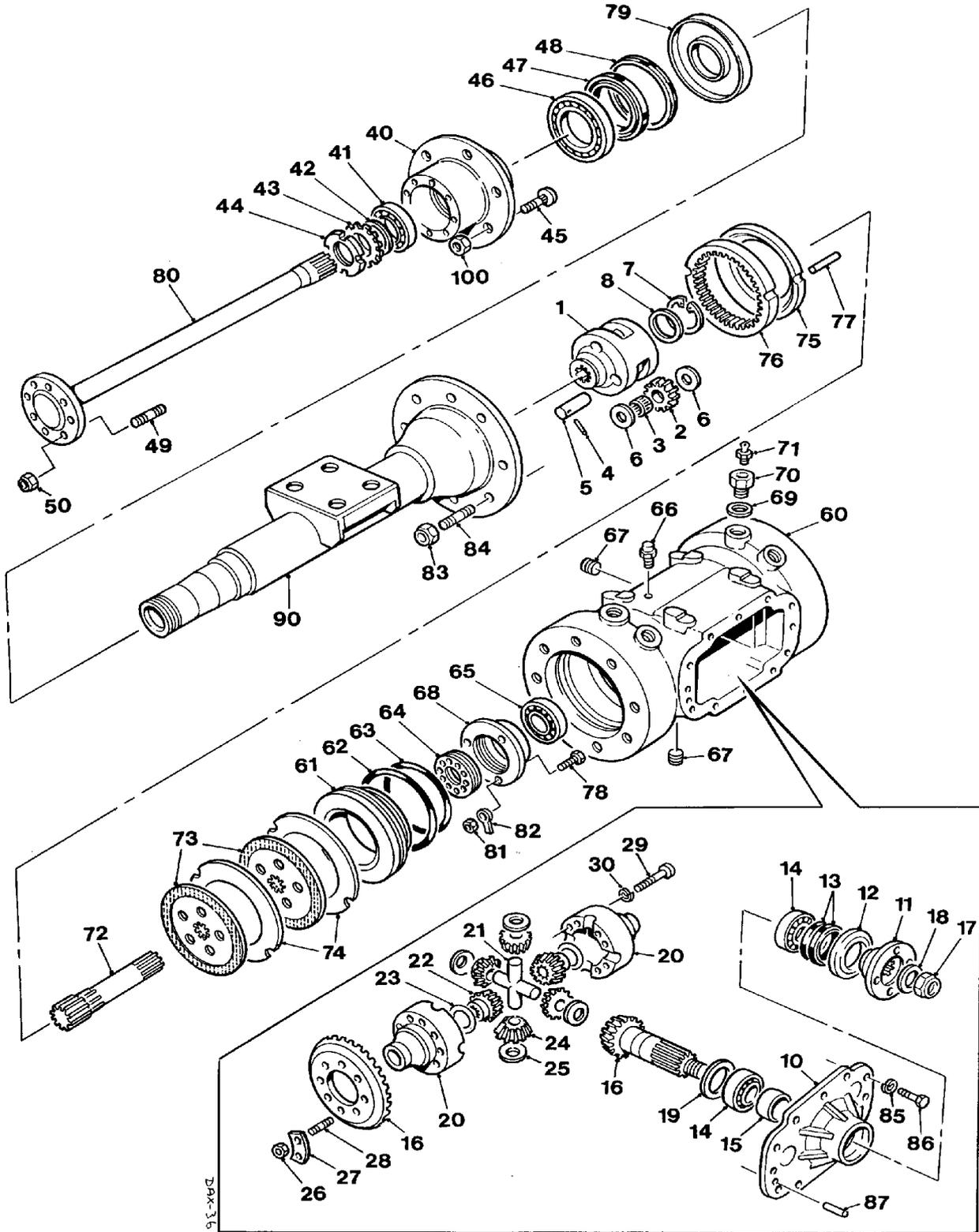
2 - B - 3

Item	Part no	Serial no	Description	Qty
33	30156A0157	/ 1531834	SPACER, axle shaft	2
33	30156A0805	1531835 /	SPACER, axle shaft	2
34	30082A0265		CIRCLIP	2
35	30156A0178	/ 1531834	BEARING, needle roller ( <i>Imperial</i> )	6
35	30082A0289	1531835 /	BEARING, needle roller ( <i>Metric</i> )	6
36	30082A0249		WASHER, thrust	12
37	30156A0162		DOWEL	6
<b>Hub assemblies</b>				
45	30156A0179		HUB	2
46	30082A0221		BEARING, hub inner	2
47	30156A0180		BEARING, hub outer	2
48	30156A0181		SPACER	2
49	30156A0182		LOCKNUT	2
50	30156A0183		WASHER, locking	2
51	30082A0225		STUD, wheel	12
52	30156A0184		SEAL, oil	2
53	30156A0124		SEAL, 'V' ring	2
54	30156A0126		STUD	16
55	59S03		NUT, nylon insert	16
56	30156A0185		CIRCLIP	2
57	30156A0186		SPACER	2
<b>Main casing</b>				
60	30156A0101		CASING, main	1
61	30156A0107		PISTON, brake	2
62	30156A0197		SEAL, 'O' ring	2
63	30156A0198		SEAL, 'O' ring	2
64	30156A0109		NUT	2
65	30156A0110		PLATE, locking	2
66	30156A0111		HOUSING, bearing	2
67	11S03C		SCREW, set	12
68	17S04		WASHER, spring	12
69	30156A0112		DOWEL	2
70	30156A0199		ADAPTOR, brake pipe	4
71	11S04D		SCREW	6
72	59S03		NUT	6
73	30156A0155		SEAL, bonded	4
74	10305A01		VALVE, breather	1



**AXLE, 210RF (with brakes)****2 - B - 3**

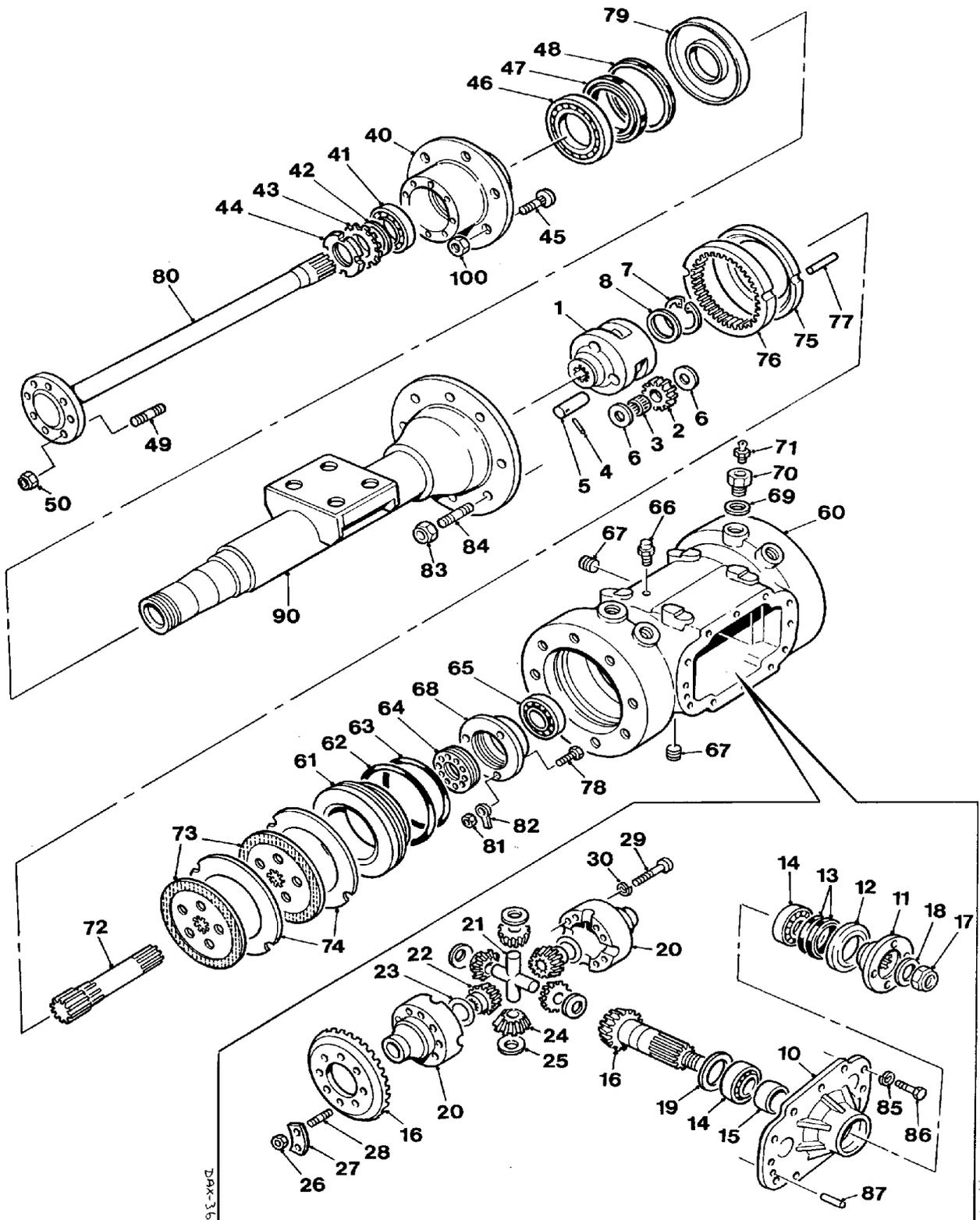
<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
75	30156A0127		PLUG, socket	2
76	30347A0211		VALVE, brake bleeding	1
77	119325000		BEARING	2
78	30156A0193		SLEEVE	2
<b>General parts</b>				
80	30156A0116		COVER, oil seal	2
81	30156A0201		SHAFT, axle	2
82	30156A0202		ANNULUS	2
83	30156A0203		SPACER	2
84	30156A0105		PLATE, brake	4
85	30156A0106		PLATE, disc	4
86	30156A0907		GEAR, sun	2
87	30156A0126		STUD	20
88	59S03		NUT	20
89	30156A0102		DOWEL	4
<b>Axle arms</b>				
90	30156A0195		CASING, axle arm, R.H.	1
—	30156A0195LH		CASING, axle arm, L.H.	1
100	—————		NUT, wheel (see page 2 - W - 1)	12



Item	Part no	Serial no	Description	Qty
<b>To identify on which dumper(s) this axle is fitted , see page 2-A-2 .</b>				
—	V2001017		<b>AXLE, type 220RF 14S 3210</b>	
<b>Planet Carrier assemblies</b>				
1	30156A0901	/1530464	CARRIER, planet gears	2
1	30156A0802	1530465 /	CARRIER, planet gears	2
2	30156A0196	/1530464	GEAR, planet	6
2	30156A0803	1530465 /	GEAR, planet	6
3	30156A0178	/1530464	BEARING, needle roller, ( <i>Imperial</i> )	6
3	30082A0289	1530465 /	BEARING, needle roller, ( <i>Metric</i> )	6
4	30156A0162		DOWEL	6
5	30156A0154	/1530464	PIN, planet gears	6
5	30156A0804	1530465 /	PIN, planet gears	6
6	30082A0249		WASHER, thrust	12
7	30082A0265		CIRCLIP	2
8	30156A0157	/1530464	SPACER, axle shaft	2
8	30156A0805	1530465 /	SPACER, axle shaft	2
<b>Bevel Wheel &amp; Pinion assembly</b>				
10	30156A0129		HOUSING, pinion	1
11	30156A0131		FLANGE, input drive	1
12	30156A0134		COVER, seal	1
13	30156A0137		SEAL, oil	2
14	30156A0135		BEARING	2
15	30156A0136		SPACER	1
16	30156A0163		BEVEL WHEEL & PINION	1
17	30082A0232		NUT	1
18	30082A0231		WASHER	1
19	30156A0139		SHIM, 0.25mm	AR
19	30156A0138		SHIM, 0.30mm	AR
19	30156A0140		SHIM, 0.40mm	AR
<b>Differential assembly</b>				
20	30082A0307		CASING, differential, two halves	1
21	30082A0308		SPIDER	1
22	30082A0283		WHEEL, differential	2

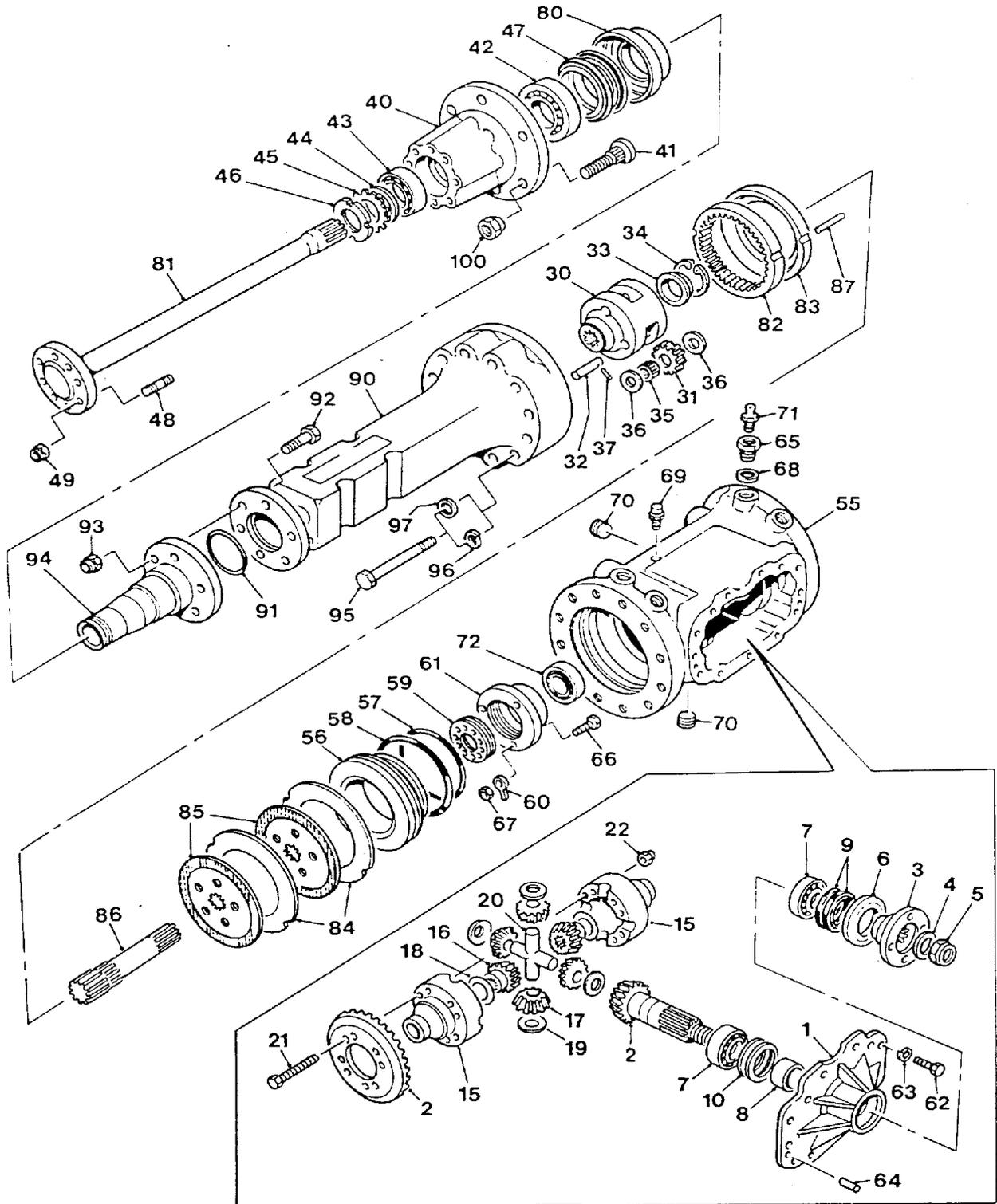


<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
23	30082A0241		WASHER, thrust, diff. wheel	2
24	30082A0284		PINION, differential	4
25	30082A0242		WASHER, thrust, differential	4
26	7S04		NUT	8
27	30082A0305		STRIP, tab	4
28	30082A0304		STUD	8
29	30082A0309		SCREW, cap head	8
30	17S04		WASHER, spring	8
<b>Hub assembly</b>				
40	30156A0205		HUB	2
41	30082A0220		BEARING, cup & cone kit	2
42	30082A0222		SPACER	2
43	30347A0201		WASHER, locking	2
44	30082A0223		LOCKNUT	2
45	30082A0225		STUD, wheel	12
46	30082A0221		BEARING, hub inner	2
47	30082A0310		SEAL, oil	2
48	30082A0311		SEAL, 'V' ring	2
49	30082A0291		STUD	16
50	59S04		NUT, nylon insert	16
<b>General parts</b>				
60	30156A0101		CASING, main	1
61	30156A0107		PISTON, brake	2
62	30156A0198		SEAL, 'O' ring	2
63	30156A0197		SEAL, 'O' ring	2
64	30156A0109		NUT	2
65	119325000		BEARING	2
66	10305A01		VALVE, breather	1
67	30156A0127		PLUG, socket	2
68	30156A0111		HOUSING, bearing	2
69	30156A0155		SEAL, bonded	4
70	30156A0199		ADAPTOR, brake pipe	4
71	30347A0211		VALVE, brake bleeding	1
72	30156A0907		GEAR, sun	2
73	30156A0106		PLATE, disc	4
74	30156A0105		PLATE, brake	4

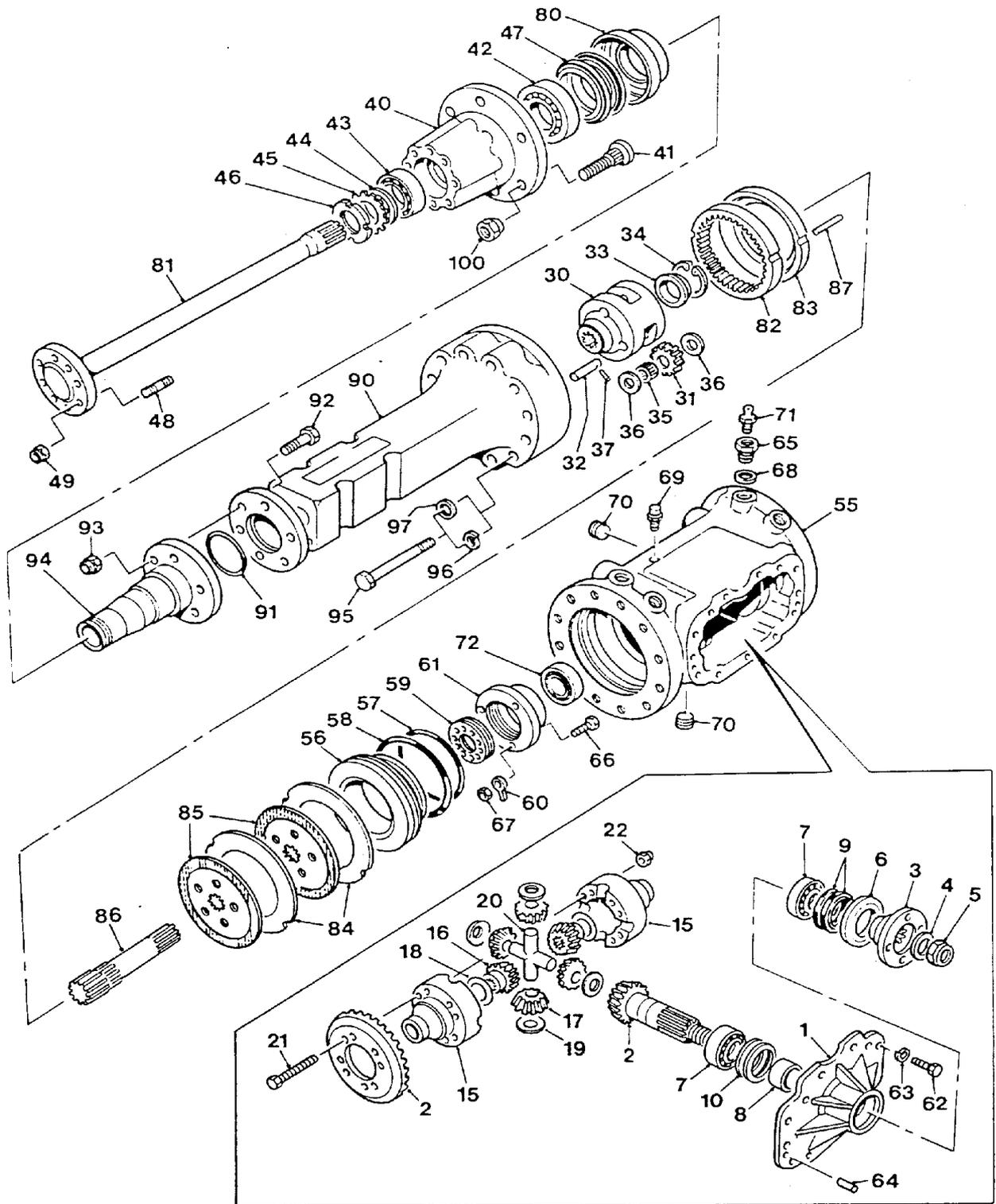


**AXLE, 220RF (with brakes)****2 - B - 4**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
75	30156A0206		SPACER	2
76	30156A0202		ANNULUS	2
77	30156A0102		DOWEL	4
78	11S04D		SCREW	6
79	30156A0210		HOUSING, oil seal	1
80	30156A0207		SHAFT, axle	2
81	59S03		NUT	20
82	30156A0110		PLATE, locking	2
83	59S03		NUT	6
84	30156A0126		STUD	20
85	17S04		WASHER, spring	12
86	11S03C		SCREW, set	12
87	30156A0112		DOWEL	2
			<b>Axle arm</b>	
90	30156A0208		CASING, axle arm	2
100	—		NUT, wheel (see page 2 - W - 1)	12

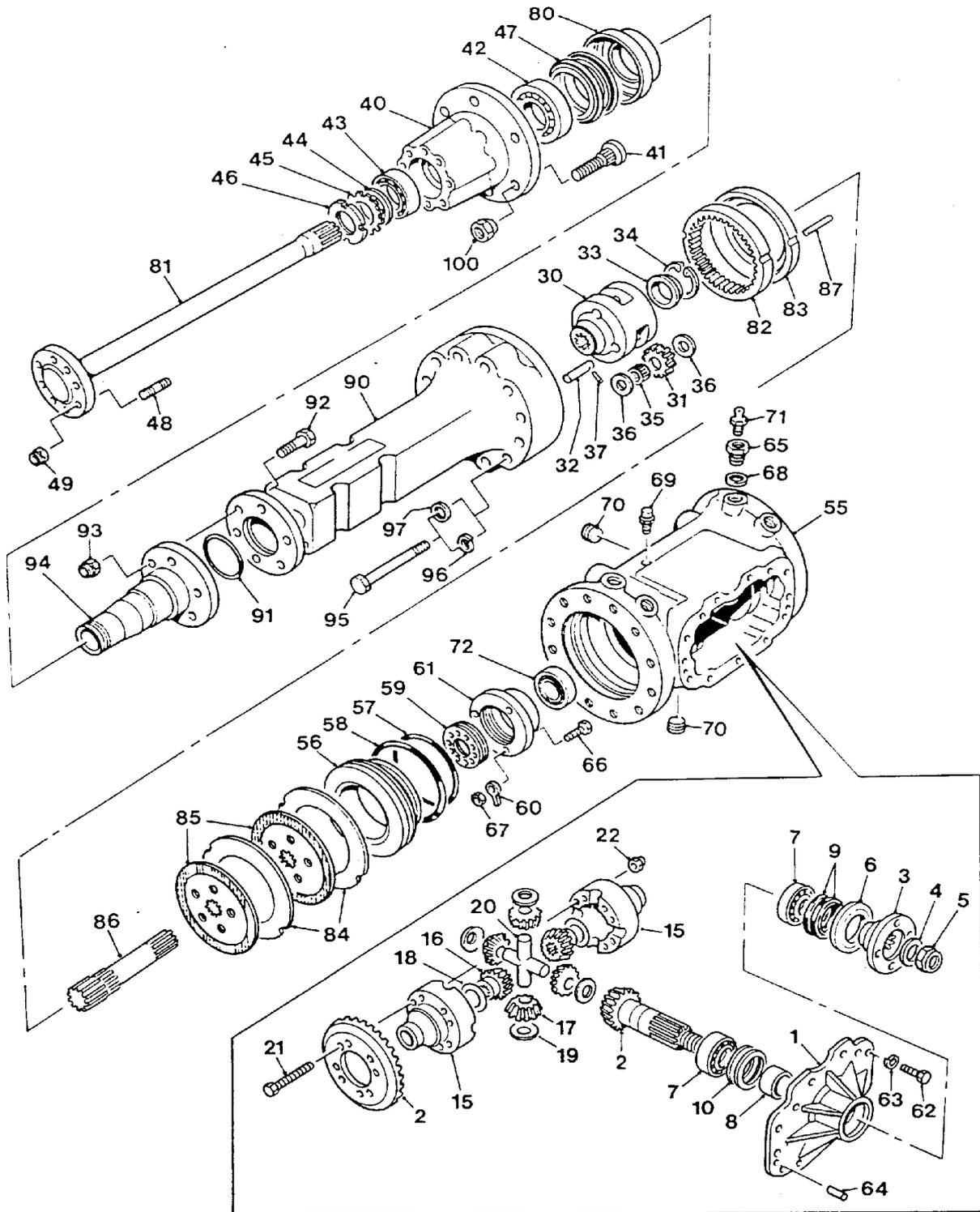


Item	Part no	Serial no	Description	Qty
<i>To identify on which dumper(s) this axle is fitted , see page 2-A-2 .</i>				
—	30347A03		<b>AXLE, type 360RF 14S 323</b>	
<b>Bevel Wheel &amp; Pinion assembly</b>				
1	30347A0212		HOUSING, pinion	1
2	30082A0270		BEVEL WHEEL & PINION	1
3	30082A0290		FLANGE, input	1
4	30082A0231		WASHER	1
5	30082A0232		NUT	1
6	30082A0233		COVER, seal	1
7	30082A0234		BEARING, cup & cone kit	2
8	30082A0235		SPACER	1
9	30082A0236		SEAL, oil	2
10	30082A0282		SHIM, 0.25mm	AR
10	30082A0280		SHIM, 0.30mm	AR
10	30082A0281		SHIM, 0.40mm	AR
<b>Differential assembly</b>				
15	30347A0215		CASING, differential, two halves	1
16	30082A0283		WHEEL, differential	2
17	30082A0284		PINION, differential	4
18	30082A0241		WASHER, thrust, differential wheel	2
19	30082A0242		WASHER, thrust, differential pinion	4
20	30082A0243		SPIDER	1
21	8S04P		BOLT	8
22	59S03		NUT	8
<b>Planet Carrier assemblies</b>				
30	30082A0285		CARRIER, planet gears	2
31	30082A0286		GEAR, planet	6
32	30082A0287		PIN, planet gear	6
33	30082A0288		SPACER	2
34	30082A0265		CIRCLIP	2
35	30082A0289		BEARING, needle roller	6
36	30082A0249		WASHER, thrust	12
37	30082A0253		DOWEL	6



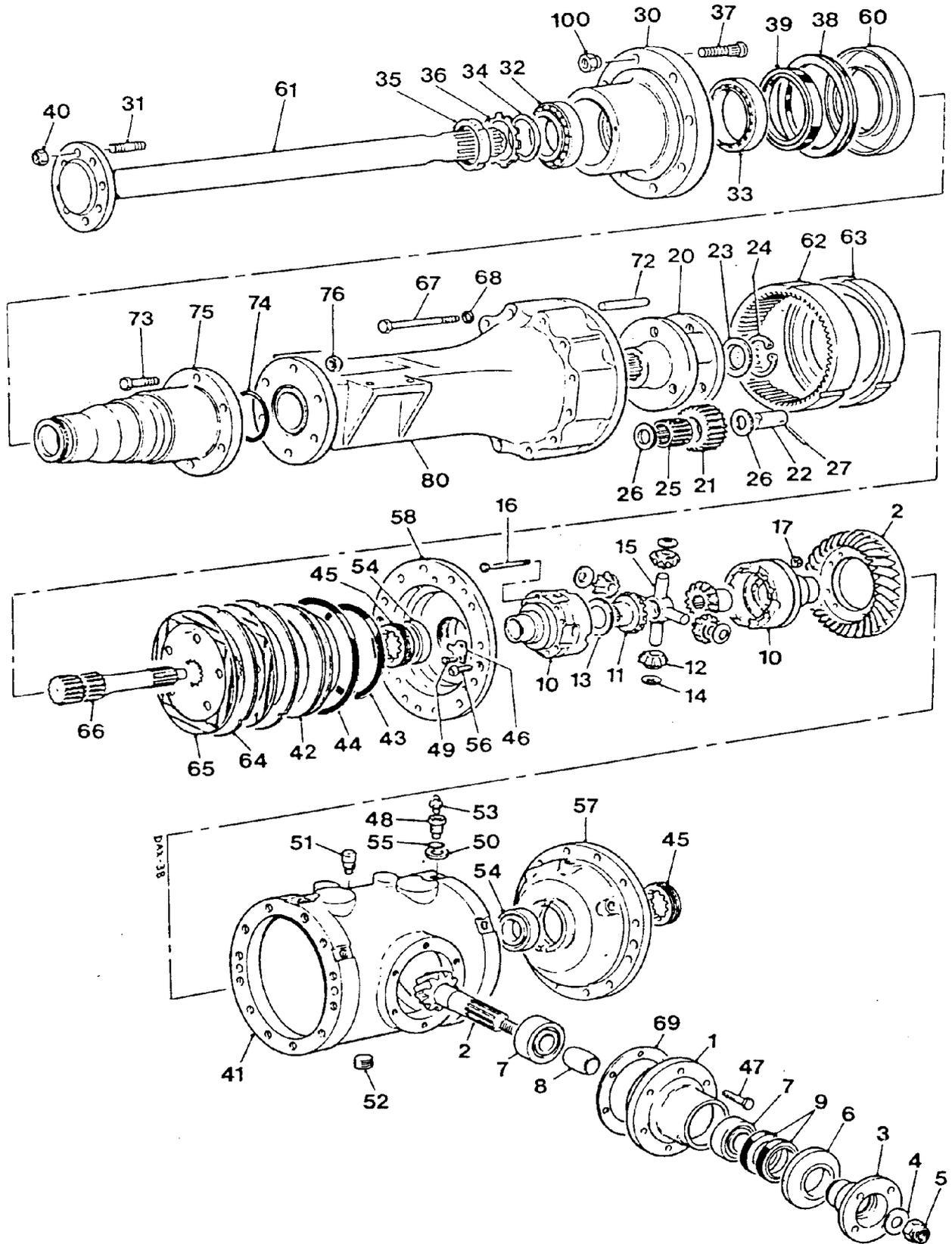
**AXLE, 360RF (with brakes)****2 - B - 5**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
<b>Hub assemblies</b>				
40	30082A0219		HUB	2
41	30082A0225		STUD, wheel	12
42	30082A0220		BEARING, cup & cone kit	2
43	30082A0221		BEARING	2
44	30082A0222		SPACER	2
45	30347A0201		WASHER, tab	2
46	30082A0223		LOCKNUT	2
47	30082A0218		SEAL, oil	2
48	30082A0291		STUD	16
49	59S04		NUT	16
<b>Main casing</b>				
55	30347A0219		CASING, main	1
56	30347A0207		PISTON, brake	2
57	30347A0209		SEAL, 'O' ring	2
58	30347A0208		SEAL, 'O' ring	2
59	30082A0259		NUT	2
60	30156A0110		PLATE, locking	2
61	30347A0210		HOUSING, bearing	2
62	11S04E		SCREW, set	13
63	17S05		WASHER, spring	13
64	30156A0112		DOWEL	2
65	30347A0218		ADAPTOR, brake pipe	4
66	11S04D		SCREW	6
67	59S03		NUT	6
68	30156A0155		SEAL, bonded	4
69	10305A01		VALVE, breather	1
70	30156A0127		PLUG	2
71	30347A0211		VALVE, brake bleeding	1
72	119325000		BEARING	2
<b>General parts</b>				
80	30082A0217		HOUSING, oil seal	2
81	30347A0101		SHAFT	2
82	30082A0292		ANNULUS	2
83	30082A0293		SPACER	2
84	30082A0205		PLATE, brake	4
85	30082A0206		PLATE, disc	4
86	30082A0207		GEAR, sun	2
87	30347A0206		DOWEL	6

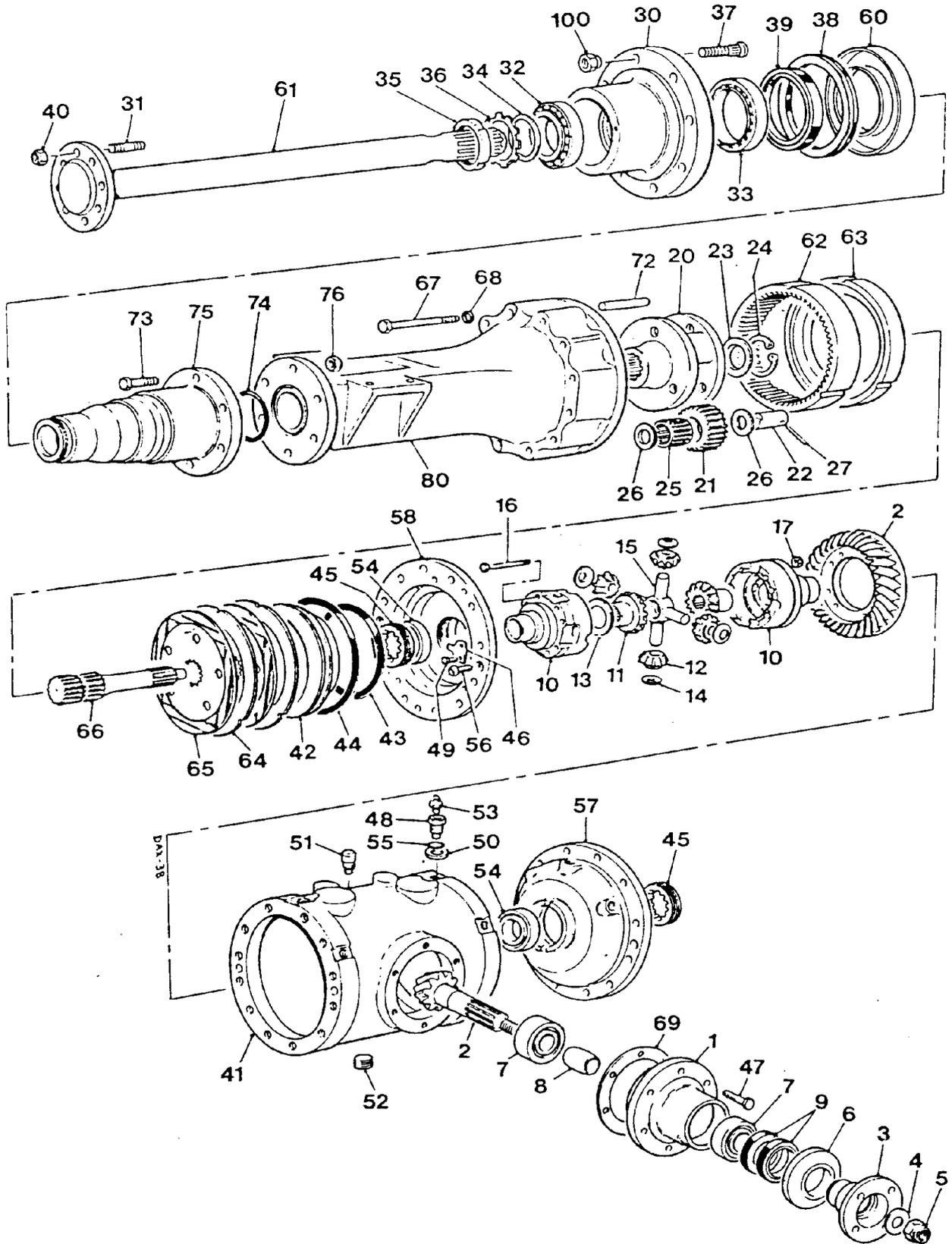


**AXLE, 360RF (with brakes)****2 - B - 5**

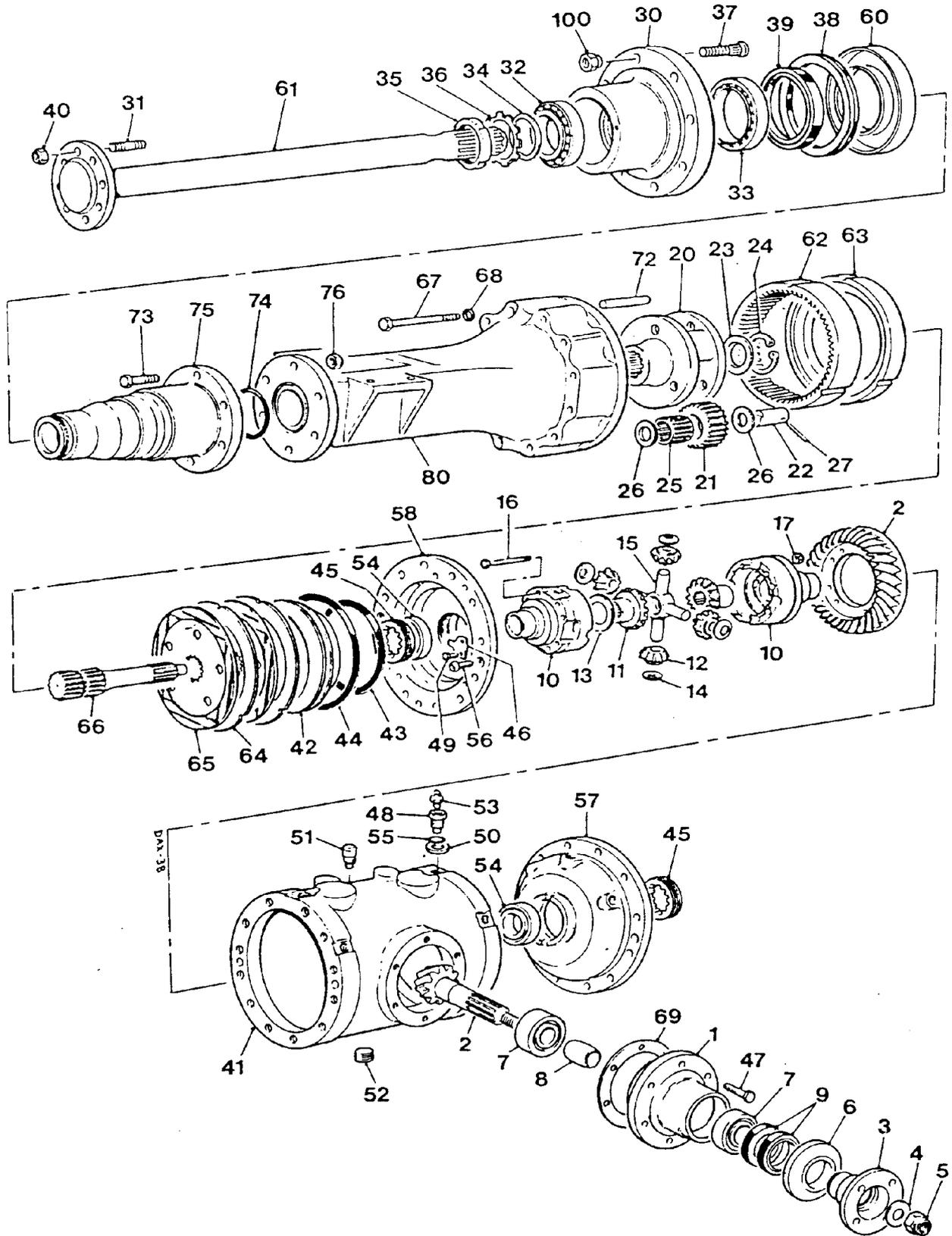
<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
<b>Axle arm assemblies</b>				
90	30347A0220		CASING, axle arm	2
91	30347A0268		SEAL , 'O' ring	2
92	30082A0294		BOLT	12
93	59S04		NUT	12
94	30347A0102		STUB AXLE	2
95	8S04N		BOLT	24
96	17S05		WASHER, spring	22
97	100S01		SEAL, bonded	2
100	-----		NUT, wheel (see page 2 - W - 1)	12



Item	Part no	Axle no	Description	Qty
<i>To identify on which dumper(s) this axle is fitted , see page 2-A-2 .</i>				
—	V2004142		<b>AXLE, type 410RF 14W 131</b>	
<b>Bevel Wheel &amp; Pinion assembly</b>				
1	30045A0268		HOUSING, pinion	1
2	30045A0269		BEVEL WHEEL & PINION	1
3	30045A0203		FLANGE, input	1
4	30045A0204		WASHER	1
5	30045A0205		NUT	1
6	30045A0206		COVER, seal	1
7	30045A0207		BEARING	2
8	30045A0208		SPACER	1
9	30045A0209		SEAL, oil	2
<b>Differential assembly</b>				
10	30045A0270		CASING, differential	1
11	30045A0271		WHEEL, differential	2
12	30045A0272		PINION, differential	4
13	30045A0214		WASHER, thrust, diff. wheel	2
14	30045A0215		WASHER, thrust, diff. pinion	4
15	30045A0216	/ 1648185	SPIDER, ( <i>forged</i> )	1
15	30045A0301	1648186 /	SPIDER, ( <i>machined two piece</i> )	1
16	68S05Y		SCREW, cap head	8
17	59S03		NUT, nylon insert	8
<b>Planet Carrier assemblies</b>				
20	30045A0288		CARRIER, planet gears	1
21	30045A0289		GEAR, planet	3
22	30045A0290		PIN, planet gear	3
23	30045A0291		SPACER	1
24	30082A0299		CIRCLIP	1
25	30082A0312		BEARING, needle roller	3
26	30045A0292		WASHER, thrust	6
27	30082A0253		DOWEL	3
<b>Hub assemblies</b>				
30	30045A0273		HUB	1
31	30045A0274		STUD	8
32	30082A0220		BEARING, cup & cone kit	1
33	30045A0275		BEARING, cup & cone kit	1
34	30045A0276		SPACER	1

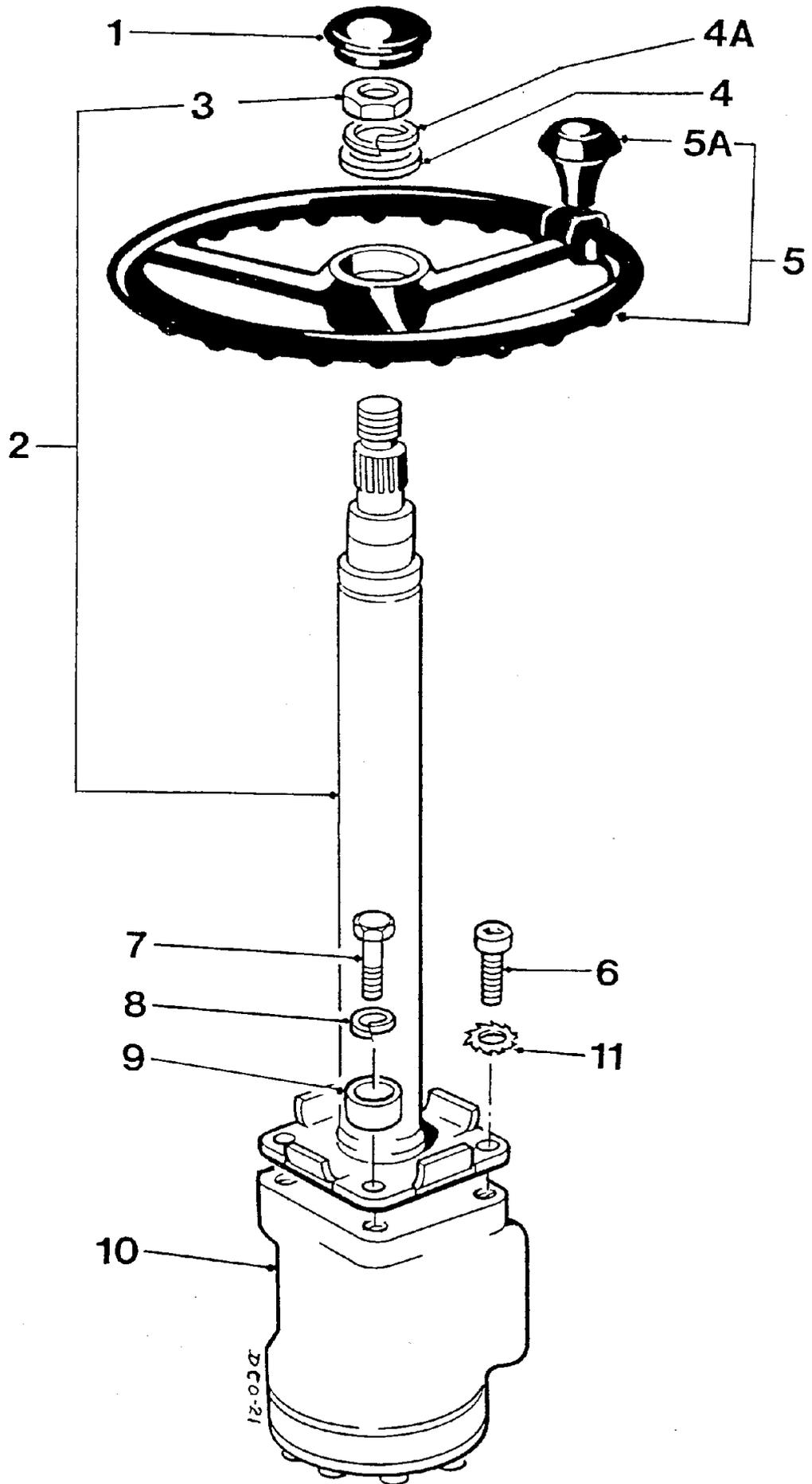


Item	Part no	Axle no	Description	Qty
35	30045A0259		LOCKNUT	1
36	30045A0260		WASHER, tab	1
37	30082A0225		STUD	6
38	30045A0277		SEAL, 'V' ring	1
39	30045A0278		SEAL, oil	1
40	30045A0279		NUT, nylon insert	8
<b>Main casing</b>				
41	30045A0280		CASING, main	1
42	30100A0210		PISTON, brake	2
43	30045A0281		SEAL, 'O' ring	2
44	30045A0282		SEAL, 'O' ring	2
45	30045A0235		NUT	2
46	30082A0260		PLATE, locking	2
47	11S04C		SCREW, set	6
48	30045A0283		ADAPTOR, brake pipe	4
49	30082A0261		SCREW	4
50	100S02		WASHER, seal bonded	4
51	10305A01		VALVE, breather	1
52	30156A0127		PLUG	2
53	30045A0284		VALVE, brake bleeding	2
54	30045A0285		BEARING	2
55	49S02		SEAL, 'O' ring	4
56	30082A0266		SCREW, cap head	4
57	30045A0286		CYLINDER, brake, R.H.	1
58	30045A0287		CYLINDER, brake, L.H.	1
<b>General parts</b>				
60	30045A0293		HOUSING, oil seal ( <i>OBSOLETE</i> ) <i>use the following repair kit.....</i>	2
.....	30045A0303		KIT, hub seal, <i>comprising of.....</i>	1
30	30045A0304		HUB	1
75	30045A0305		STUB AXLE	1
38	30045A0306		SEAL, oil	1
74	30045A0254		O' RING	1
37	30082A0225		STUD, wheel	6
61	30045A0294		SHAFT, axle	2
62	30045A0295		ANNULUS	2
63	30045A0296		SPACER	2
64	30082A0205		PLATE, brake	4
65	30082A0206		DISC, brake	4



**AXLE, 410RF (with brakes)****2 - B - 6**

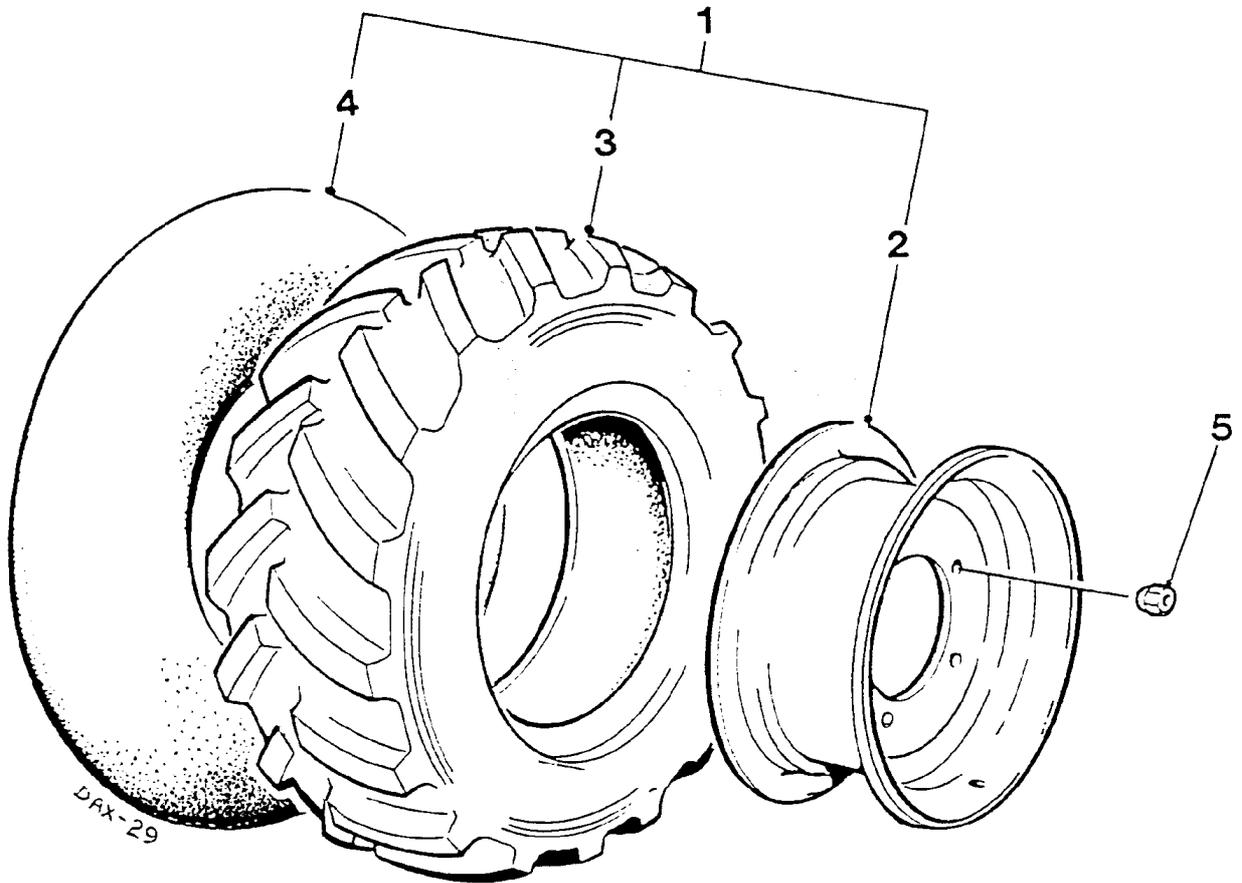
<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
66	30045A0297	/ 1648185	GEAR, sun	2
66	30045A0302	1648186 /	GEAR, sun	2
67	8S04DD		BOLT	24
68	17S05		WASHER, spring	24
69	30082A0211		SHIM, 0.05mm	A/R
69	30082A0210		SHIM, 0.075mm	A/R
69	30082A0209		SHIM, 0.25mm	A/R
72	30082A0319		PIN	6
73	8S06H		BOLT	12
74	30045A0254		SEAL, 'O' ring	2
75	30045A0298		STUB AXLE	2
76	7S06		NUT	12
<b>Axle arm assemblies</b>				
80	30045A0299		CASING, axle arm	2
100	—		NUT, wheel (see page 2 - W - 1)	12



# STEERING COLUMN

2 - S - 1

Item	Part no	Serial no	Description	Qty
1	V2004153		CAP, centre	1
2	V2002872		COLUMN, steering assembly	1
3	95S06		NUT	
4	267S09		WASHER, flat	1
4A	17S08		WASHER, spring	1
5	V2004152		WHEEL, steering	1
5A	V600491		SPINNER, knob	1
<b>DANFOSS \ EM&amp;S steering unit</b>				
6	103S04B		SCREW, socket	2
7	69S03G		BOLT	2
8	41S05		WASHER, spring	2
9	CSE182		SPACER	2
10	V2003312		UNIT, steering, Danfoss \ EM&S	1
10A	V2003362		# KIT, seals, Danfoss	AR
10A	V602682		# KIT, seals, EM&S	AR
			# <i>IMPORTANT: Besure to quote the make of steering unit when ordering seal kit.</i>	
11	67S04		WASHER, shakeproof	2
<b>REXROTH \ ZF steering unit</b>				
--	V602671		KIT, Steering unit & fittings	1
6	-----			
7	11S04F		SCREW, set	4
8	17S05		WASHER, spring	4
9	CSE182		SPACER	4
10	V2004696		UNIT, steering, Rexroth \ ZF	1
10A	V602670		# KIT, seals	AR
11	-----			



Item	Part no	Serial no	Description	Qty
<b># 4S2000</b>				
1	24S82		WHEEL, assembly, L.H.	2
1	24S83		WHEEL, assembly, R.H.	2
2	V2003790		RIM, wheel, 9.00 x 15.3	1
3	20S17		TYRE, 10/75 x 15	1
4	23S11		TUBE, 10 x 15	1
5	10668A02		NUT	24

**# Note:**

*As an option, the **4S2000** may be fitted with the same wheel and tyre assemblies as the **4S2500** and **4S3000**.*

**4S2500 & 4S3000**

1	24S80		WHEEL, assembly, L.H.	2
1	24S81		WHEEL, assembly, R.H.	2
2	V2003790		RIM, wheel, 9.00 x 15.3	1
3	20S13		TYRE, 11.5/80 x 15	1
4	23S08		TUBE, 11.5 x 15	1
5	10668A02		NUT	24

**4S4000M**

1	24S86		WHEEL, assembly, L.H.	2
1	24S87		WHEEL, assembly, R.H.	2
2	30183A01		RIM, wheel, 9 x 18	1
3	20S12		TYRE, 12.5 x 18	1
4	23S05		TUBE, 12.5 x 18	1
5	10668A04		NUT	24

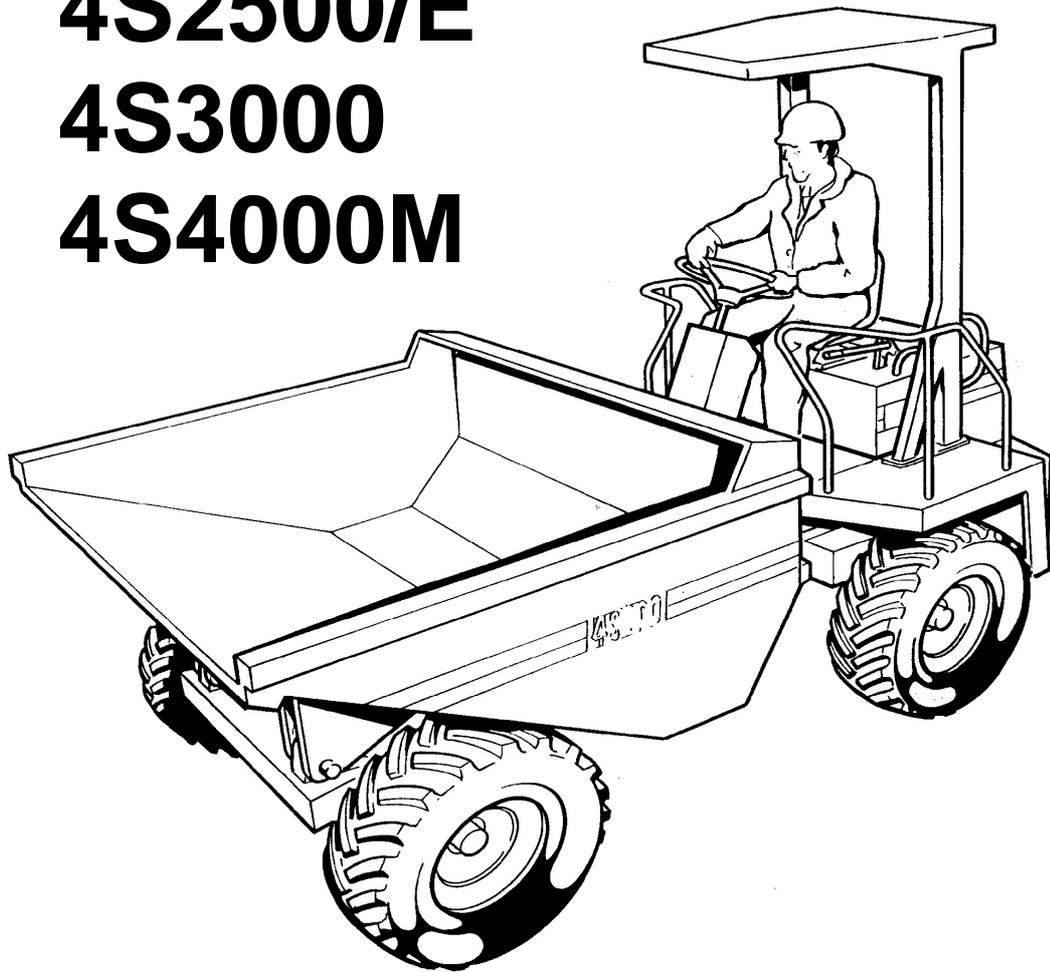
# 'S' Series Dumpers

**4S2000/E**

**4S2500/E**

**4S3000**

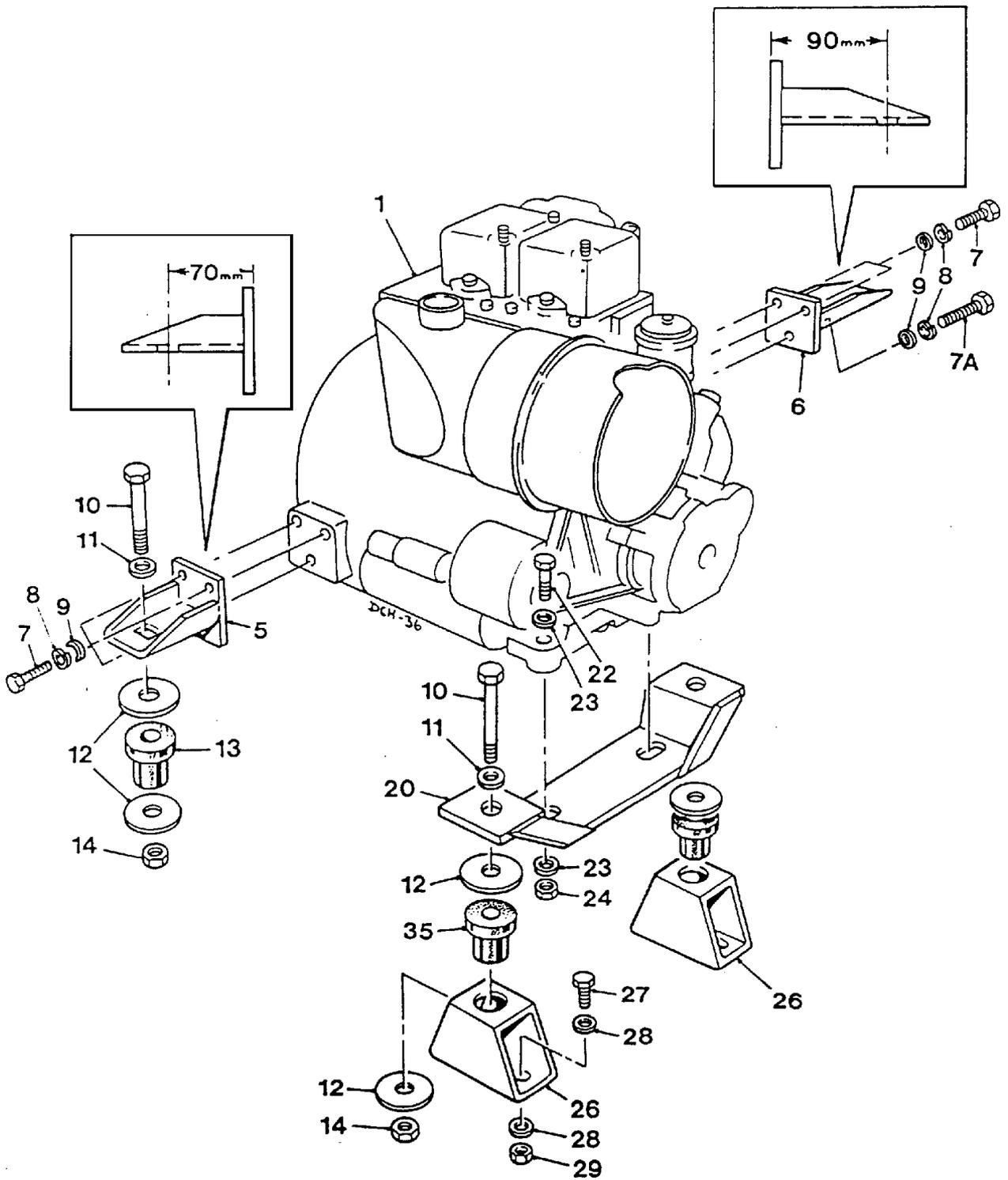
**4S4000M**



# ***ENGINES***

<b>ENGINES</b>	<b>TX2 &amp; TX3</b>	<b>3 - A - 1</b>
	<b>LPW &amp; LPWS</b>	<b>3 - A - 2</b>
	<b>LPWT4 Turbo</b>	<b>3 - A - 3</b>
	<b>TR2</b>	<b>3 - A - 4</b>
	<b>YANMAR</b>	<b>3 - A - 5</b>
<b>BELT GUARD, TX engines</b>		<b>3 - B - 1</b>
<b>SILENCERS</b>	<b>TX, LPW &amp; LPWS engines (up to June 1997)</b>	<b>3 - C - 1</b>
	<b>LPW, LPWS &amp; LPWT4 engines (from June 1997)</b>	<b>3 - C - 2</b>
	<b>TR2 engines</b>	<b>3 - C - 3</b>
	<b>YANMAR engines</b>	<b>3 - C - 4</b>
<b>AIR CLEANER &amp; RECIRCULATION GUARDS</b>		
	<b>TX engines (up to 1997)</b>	<b>3 - D - 1</b>
	<b>LPW &amp; LPWS engines</b>	<b>3 - D - 2</b>
	<b>LPW &amp; LPWS engines</b>	<b>3 - D - 3</b>
	<b>LPWT4 turbo engine</b>	<b>3 - D - 4</b>
	<b>YANMAR engines</b>	<b>3 - D - 5</b>
<b>ACCELERATOR PEDAL and linkage</b>		
<b>Lister-Petter engines</b>		<b>3 - E - 1</b>
<b>ACCELERATOR PEDAL and linkage</b>		
<b>Yanmar engines</b>		<b>3 - E - 1A</b>
<b>FUEL TANK and hoses, Lister Petter engines</b>		<b>3 - E - 2</b>
<b>FUEL TANK and hoses, Yanmar engines</b>		<b>3 - E - 3</b>
<b>ENGINE STOP CABLE, Lister TR2 engines</b>		<b>3 - E - 4</b>

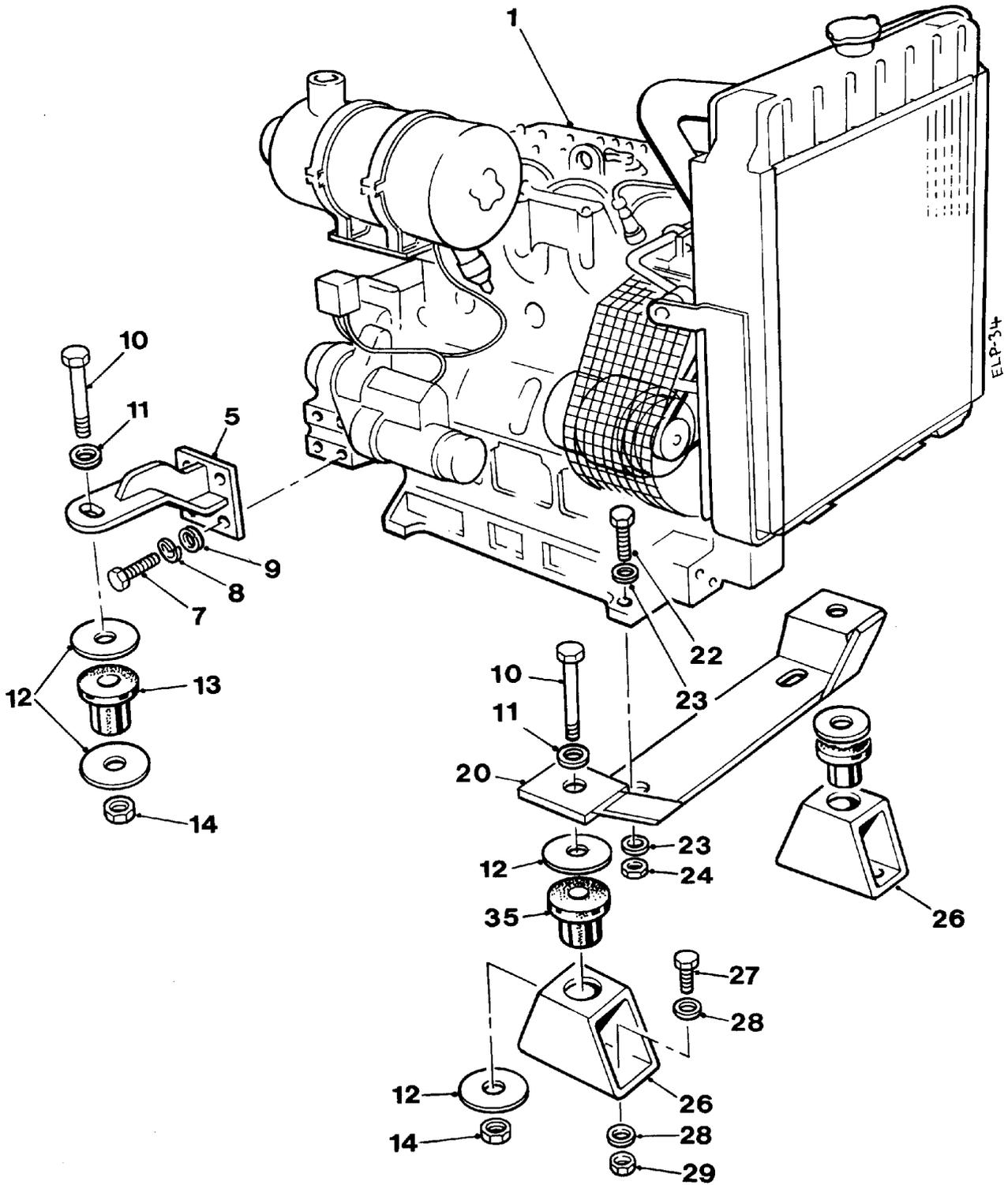
**<<< To beginning of Parts**



**ENGINES and MOUNTS**  
**TX2 and TX3 engines**

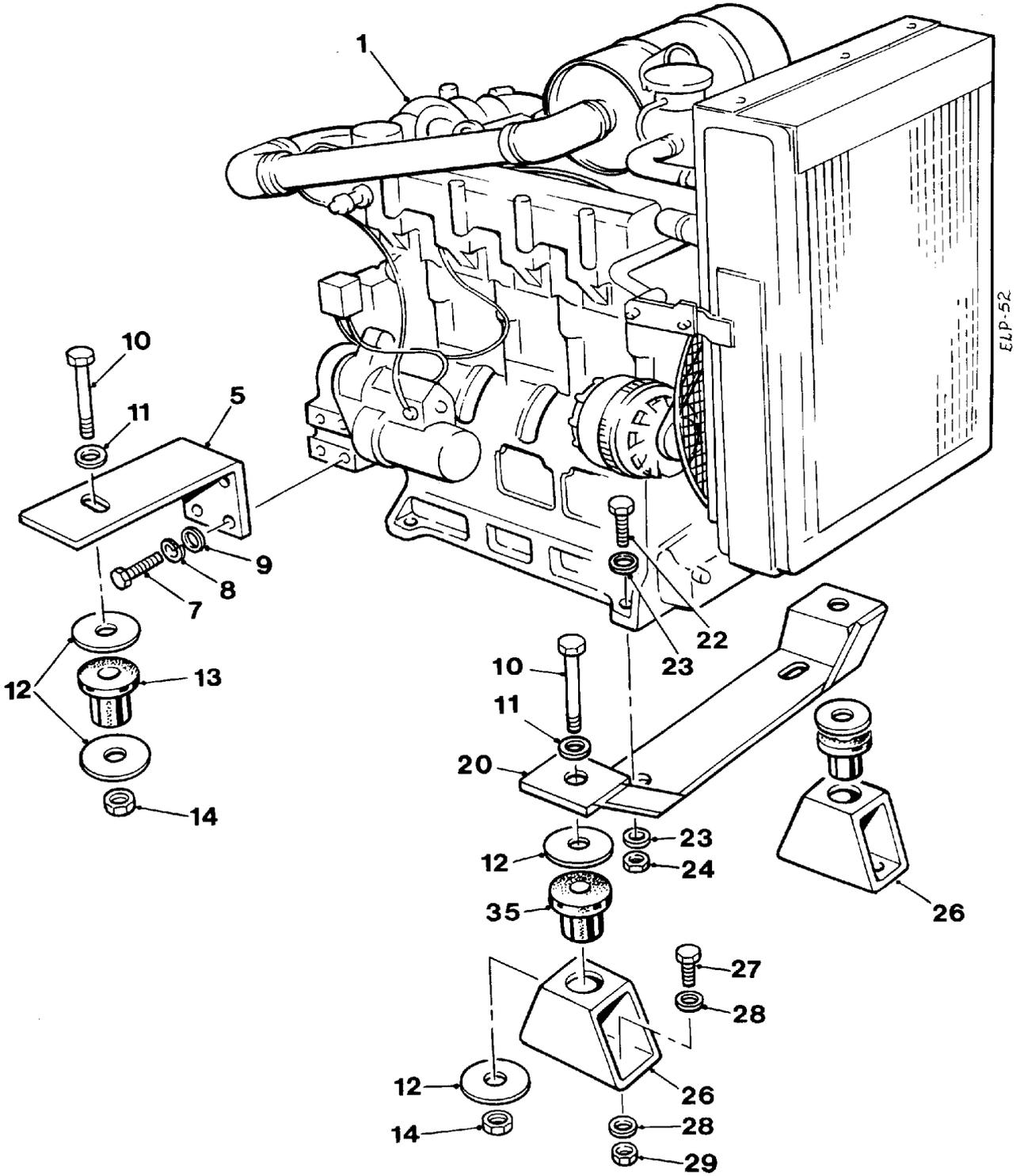
**3 - A - 1**

Item	Part no	Date	Description	Qty
1	V2004104	/ 1997	ENGINE, Lister-petter TX2-02	1
1	V2004105		ENGINE, Lister-petter TX3-01	1
5	V2003805		BRACKET, engine mount, LH	1
6	V2003806		BRACKET, engine mount, RH	1
7	11S04D		SCREW, set	4
7A	11S04E		SCREW, set	2
8	17S05		WASHER, spring	6
9	267S06		WASHER, flat	6
10	8S06N		BOLT	4
11	267S07		WASHER, flat	4
12	V2002148		WASHER, special	8
13	V2004094		MOUNT, rubber (TX2 engine)	2
13	V2001643		MOUNT, rubber (TX3 engine) <i>Marked with "YELLOW"</i>	2
14	61S06		NUT, self-locking	4
20	V2003816		BRACKET, engine mount	1
22	8S05J		SCREW, set	2
23	267S07		WASHER, flat	4
24	61S05		NUT, self-locking	2
26	V2003813		BRACKET, engine support	2
27	11S05F		SCREW, set	4
28	267S07		WASHER, flat	4
29	61S05		NUT, self-locking	4
35	V2001643		MOUNT, rubber (TX2 engine) <i>Marked with "YELLOW"</i>	2
35	V2004094		MOUNT, rubber, (TX3 engine)	2



**ENGINES and MOUNTS****3 - A - 2****LPW3, LPWS3, LPW4 and LPWS4 naturally aspirated**

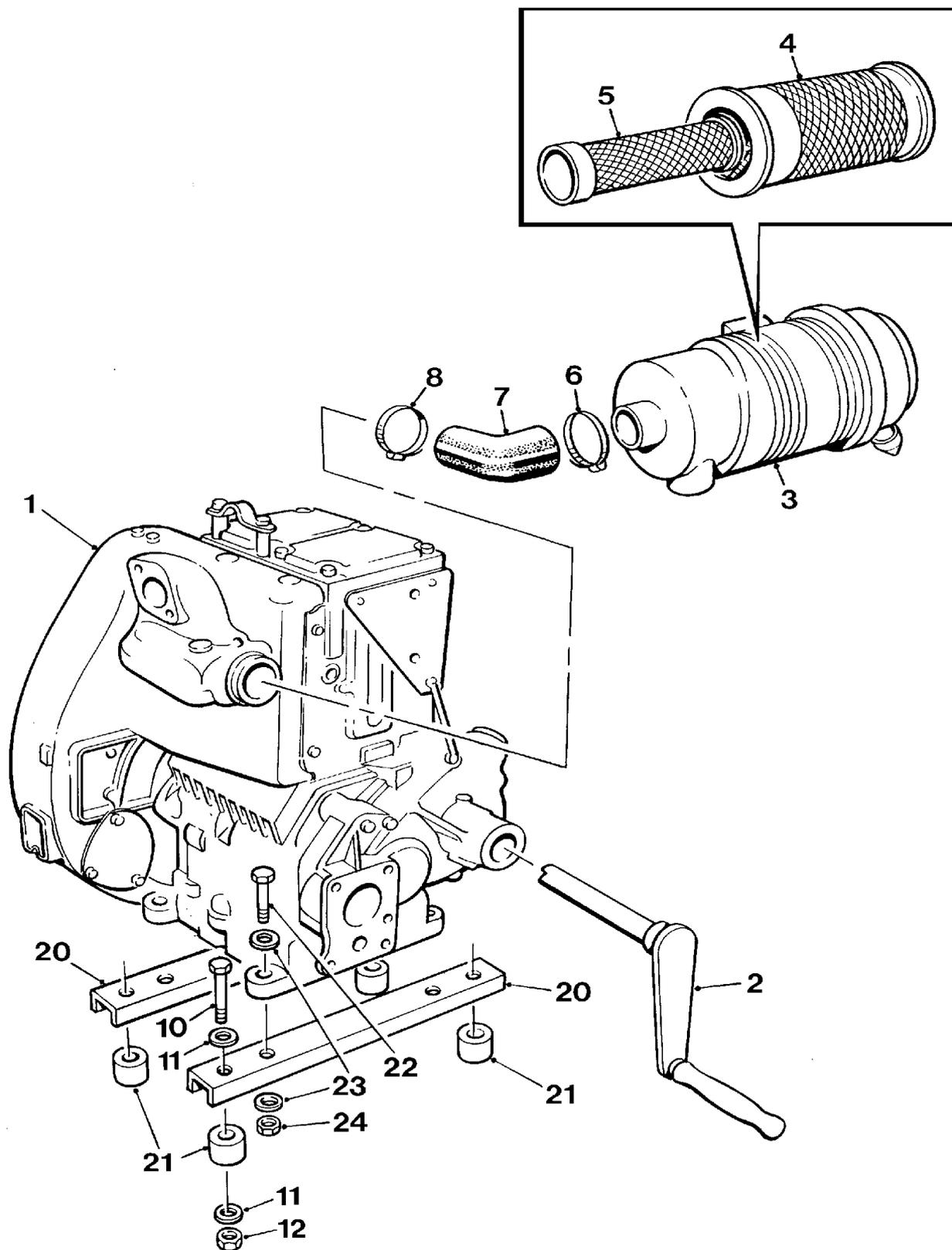
<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2004618		ENGINE, Lister-Petter LPW3	1
1	V2004102		ENGINE, Lister-Petter LPWS3	1
1	V2004619		ENGINE, Lister-Petter LPW4	1
1	V2004103		ENGINE, Lister-Petter LPWS4	1
5	V2003807		BRACKET, engine mount	2
7	11S04D		SCREW, set	8
8	17S05		WASHER, spring	8
9	267S06		WASHER, flat	8
10	8S06N		BOLT	4
11	267S07		WASHER, flat	4
12	V2002148		WASHER, special	8
13	V2004094		MOUNT, rubber	2
14	61S06		NUT, self-locking	4
20	V2003816		BRACKET, engine mount	1
22	8S05E		SCREW, set	2
23	267S07		WASHER, flat	4
24	61S05		NUT, self-locking	2
26	V2003813		BRACKET, engine support	2
27	11S05F		SCREW, set	4
28	267S07		WASHER, flat	4
29	61S05		NUT, self-locking	4
35	V2001643		MOUNT, rubber, "YELLOW mark"	2



**ENGINE and MOUNTS**  
**LPWT4 Turbo engine**

**3 - A - 3**

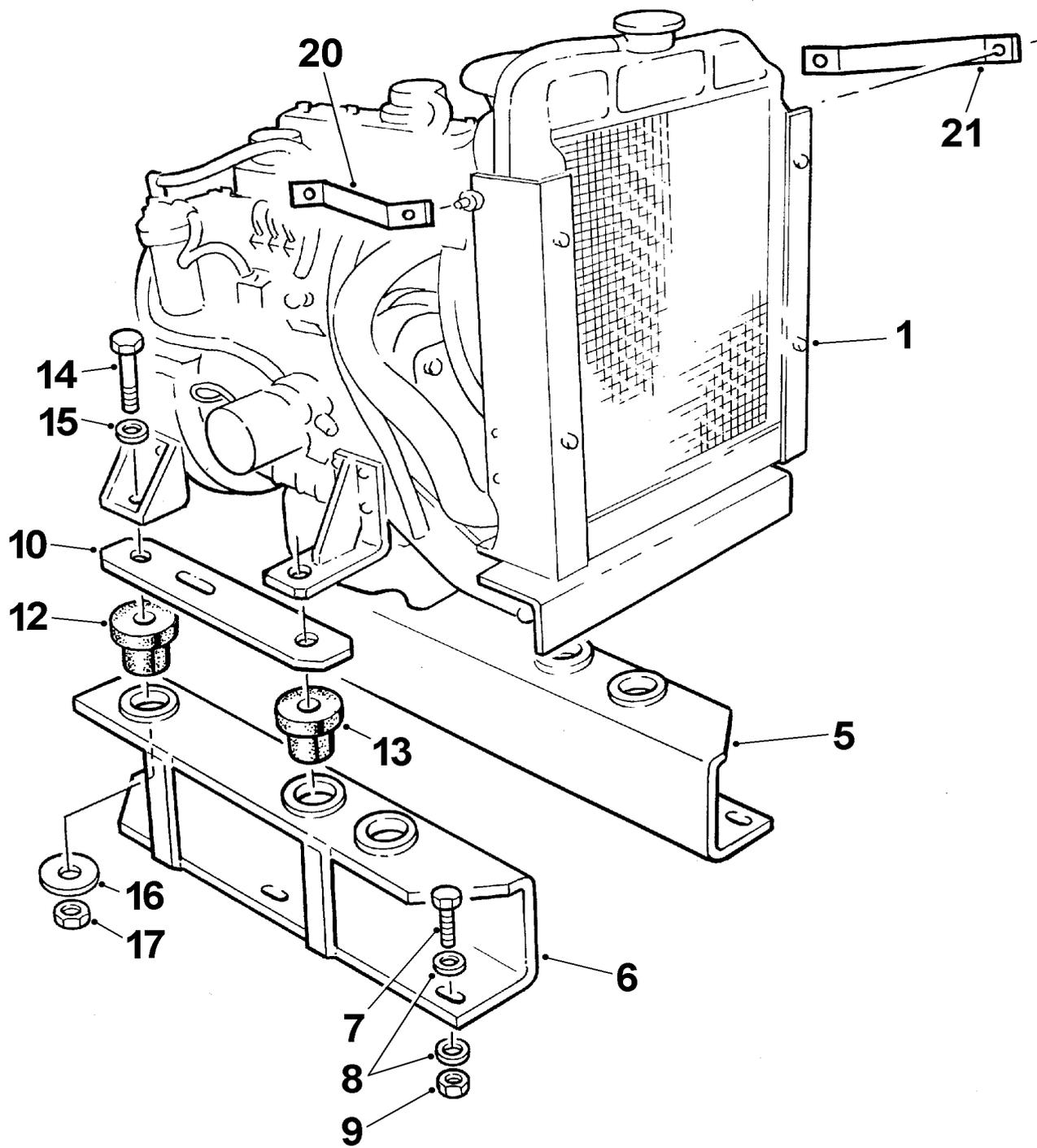
<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2004620	Aug-96 /	ENGINE, Lister-Petter LPWT4	1
5	V2004633		BRACKET, engine mount	2
7	11S04D		SCREW, set	8
8	17S05		WASHER, spring	8
9	267S06		WASHER, flat	8
10	8S06N		BOLT	4
11	267S07		WASHER, flat	4
12	V2002148		WASHER, special	8
13	V2004094		MOUNT, rubber	2
14	61S06		NUT, self-locking	4
20	V2003816		BRACKET, engine mount	1
22	8S05E		SCREW, set	2
23	267S07		WASHER, flat	4
24	61S05		NUT, self-locking	2
26	V2003813		BRACKET, engine support	2
27	11S05F		SCREW, set	4
28	267S07		WASHER, flat	4
29	61S05		NUT, self-locking	4
35	V2001643		MOUNT, rubber, "YELLOW mark"	2



**ENGINE and MOUNTS**  
**TR2 engine**

**3 - A - 4**

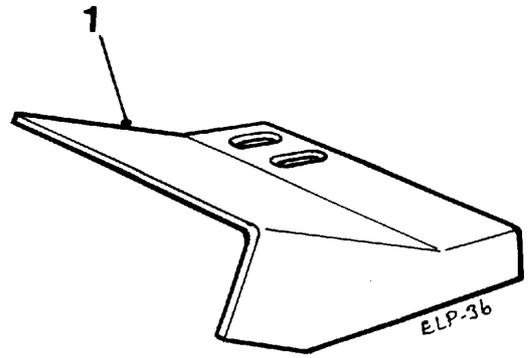
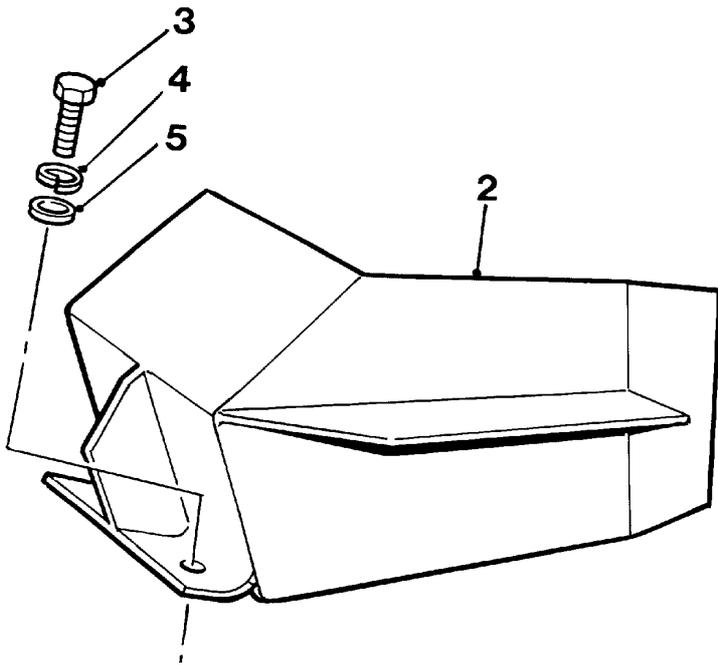
Item	Part no	Serial no	Description	Qty
1	V2000761		ENGINE, Lister-Petter TR2	1
2	V2004876		HANDLE, engine starting	1
3	V2004182		AIR CLEANER, assembly	1
4	V2004185		ELEMENT, main ( <i>outer</i> )	1
5	V2004186		ELEMENT, safety ( <i>inner</i> )	1
6	97S17		CLIP, hose	1
7	V2004183		ELBOW, rubber	1
8	97S13		CLIP, hose	1
10	8S05K		BOLT	4
11	267S07		WASHER, flat	8
12	61S05		NUT, self-locking	4
20	V2003815		BRACKET, engine mount	2
21	.....		SPACER ( <i>Welded to item 20, bracket V2003815</i> )	....
22	8S05K		BOLT	4
23	267S07		WASHER, flat	8
24	61S05		NUT, self-locking	4



**ENGINE and MOUNTS**  
**Yanmar engines**

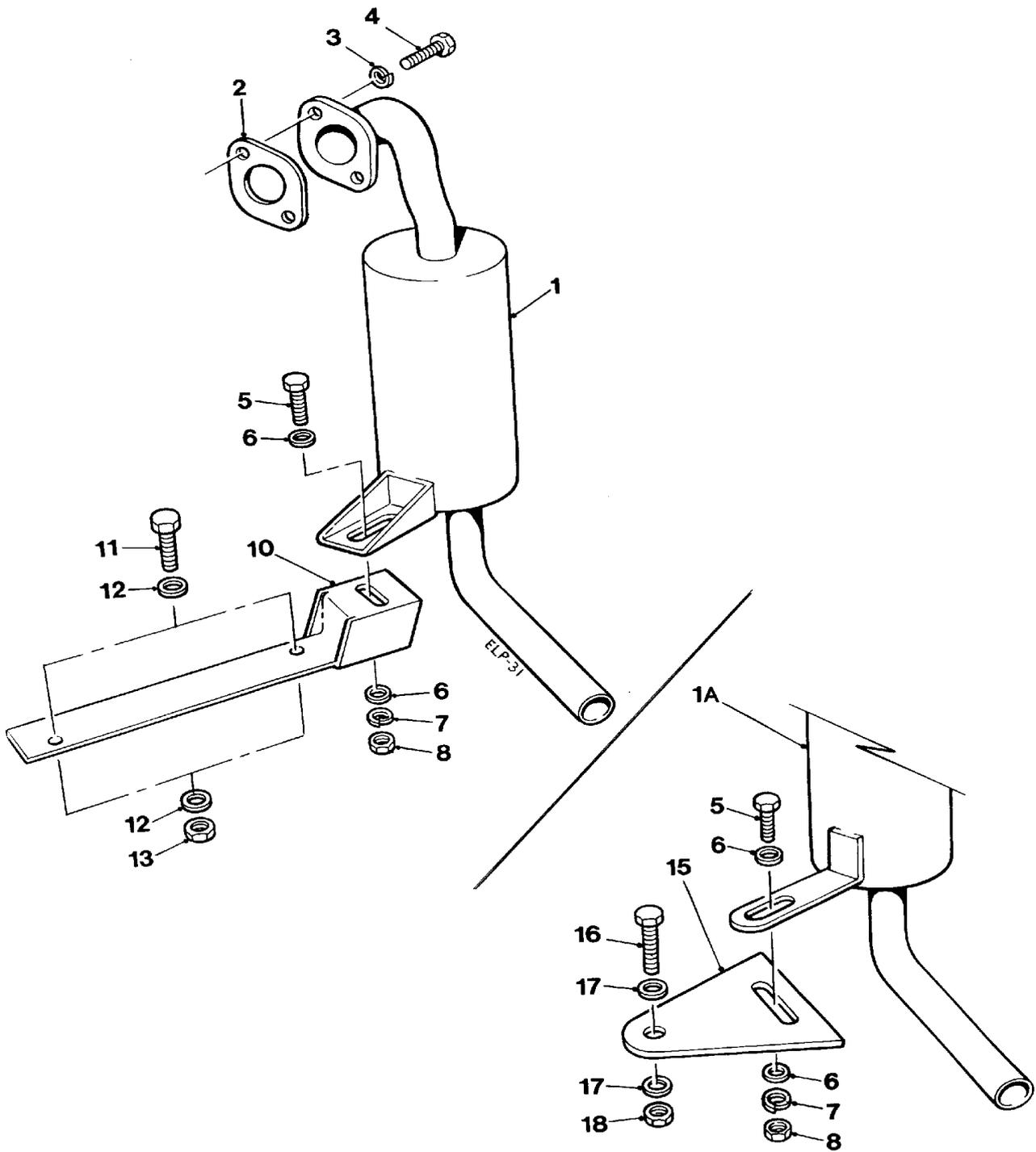
**3 - A - 5**

Item	Part no	Serial no	Description	Qty
<b><i>Illustration shows 3 cylinder engine</i></b>				
1	V2005113		ENGINE, Yanmar 3TNE82A, (3 cyl.)	1
1	V2005098		ENGINE, Yanmar 4TNE88, (4 cyl.)	
5	V2005075		MOUNT, engine, R.H.	1
6	V2005074		MOUNT, engine, L.H.	1
7	11S05D		SCREW, set	4
8	267S07		WASHER, flat	8
9	61S05		NUT, self-locking	4
10	V2005121		SUPPORT, mounts (3 cylinder engine)	2
10	V2005079		SUPPORT, mounts (4 cylinder engine)	2
12	V2001643		MOUNT, rubber, "YELLOW mark"	2
13	V2004094		MOUNT, rubber, "NO mark"	2
14	8S06N		BOLT	4
15	267S09		WASHER, flat	4
16	V2002148		WASHER, flat	4
17	61S06		NUT, self-locking	4
20	V2005082		SUPPORT, radiator, L.H.	1
21	V2005083		SUPPORT, radiator, R.H.	1



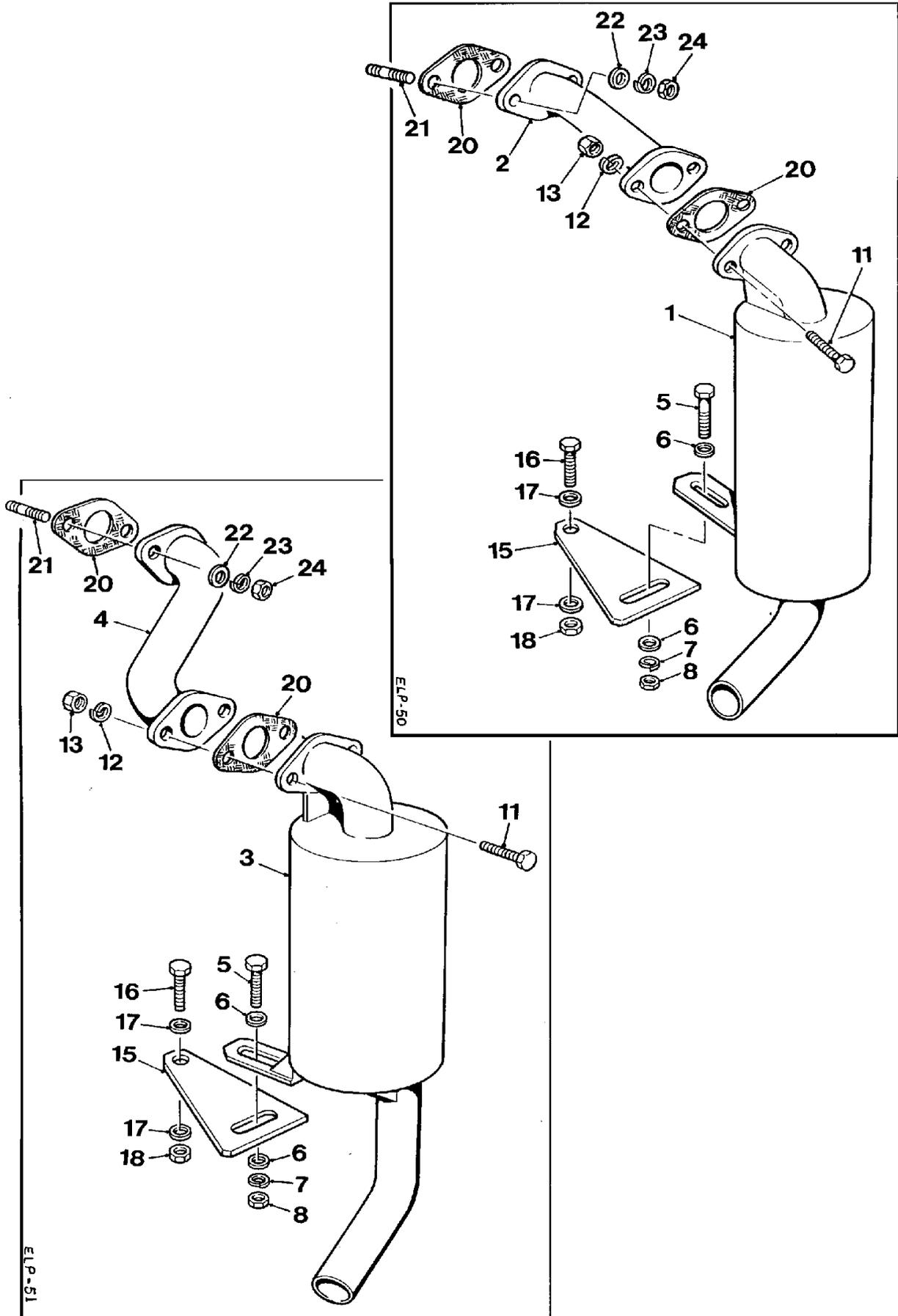
**BELT GUARD, TX2 and TX3 engines****3 - B - 1**

<b>Item</b>	<b>Part no</b>	<b>Date</b>	<b>Description</b>	<b>Qty</b>
1	V2004207	/ 1997	GUARD, engine belt	1
2	V2004208	/ 1997	GUARD, alternator	2
3	11S03AA		SCREW, set	2
4	17S04		WASHER, spring	2
5	267S05		WASHER, flat	2

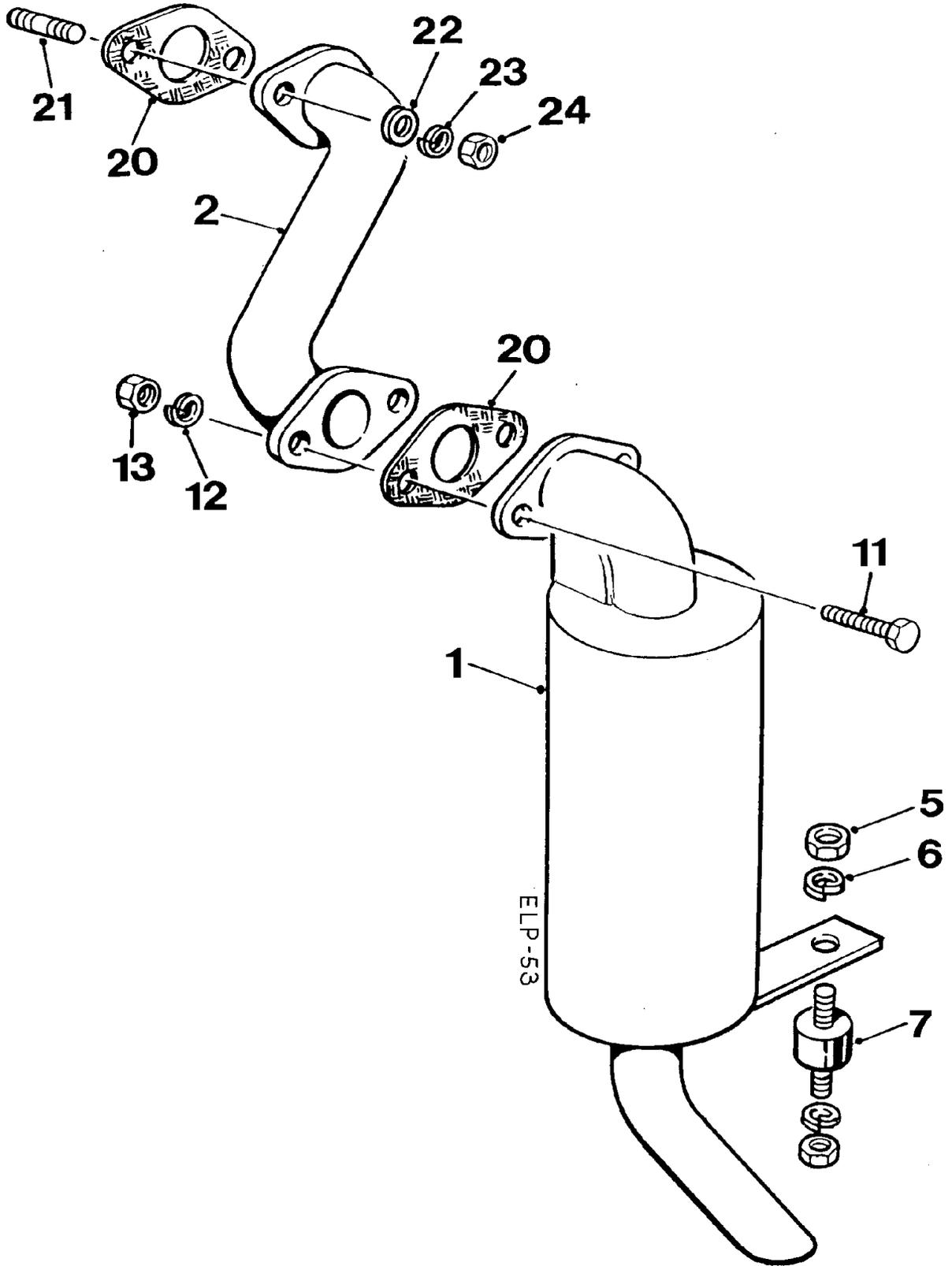


**SILENCER, TX and LPW / LPWS engines****3 - C - 1**

<b>Item</b>	<b>Part no</b>	<b>Date</b>	<b>Description</b>	<b>Qty</b>
1	V2004139	/ 1997	SILENCER, TX engines	1
1A	V2004134	/ June 97	SILENCER, LPW / LPWS engines (V2004134 is obsolete, replace with Silencer V2004693 and Pipe V2004690 see page 3-C-2)	1
2	10293A03		GASKET	1
3	17S05		WASHER, spring	2
4	11S04D		SCREW, set	2
5	8S03C	/ June 97	SCREW, set	1
5	8S04C	June 97 /	SCREW, set	1
6	267S05	/ June 97	WASHER, flat	2
6	267S06	June 97 /	WASHER, flat	2
7	17S04	/ June 97	WASHER, spring	1
7	17S05	June 97 /	WASHER, spring	1
8	7S03	/ June 97	NUT	1
8	7S04	June 97 /	NUT	1
<b>TX engines</b>				
10	V2004205		BRACKET	1
11	8S05J		SCREW, set	2
12	267S07		WASHER, flat	4
13	61S05		NUT, self-locking	2
<b>LPW / LPWS engines</b>				
15	V2004193		BRACKET	1
16	8S05F		SCREW, set	1
17	267S07		WASHER, flat	2
18	61S05		NUT, self-locking	1

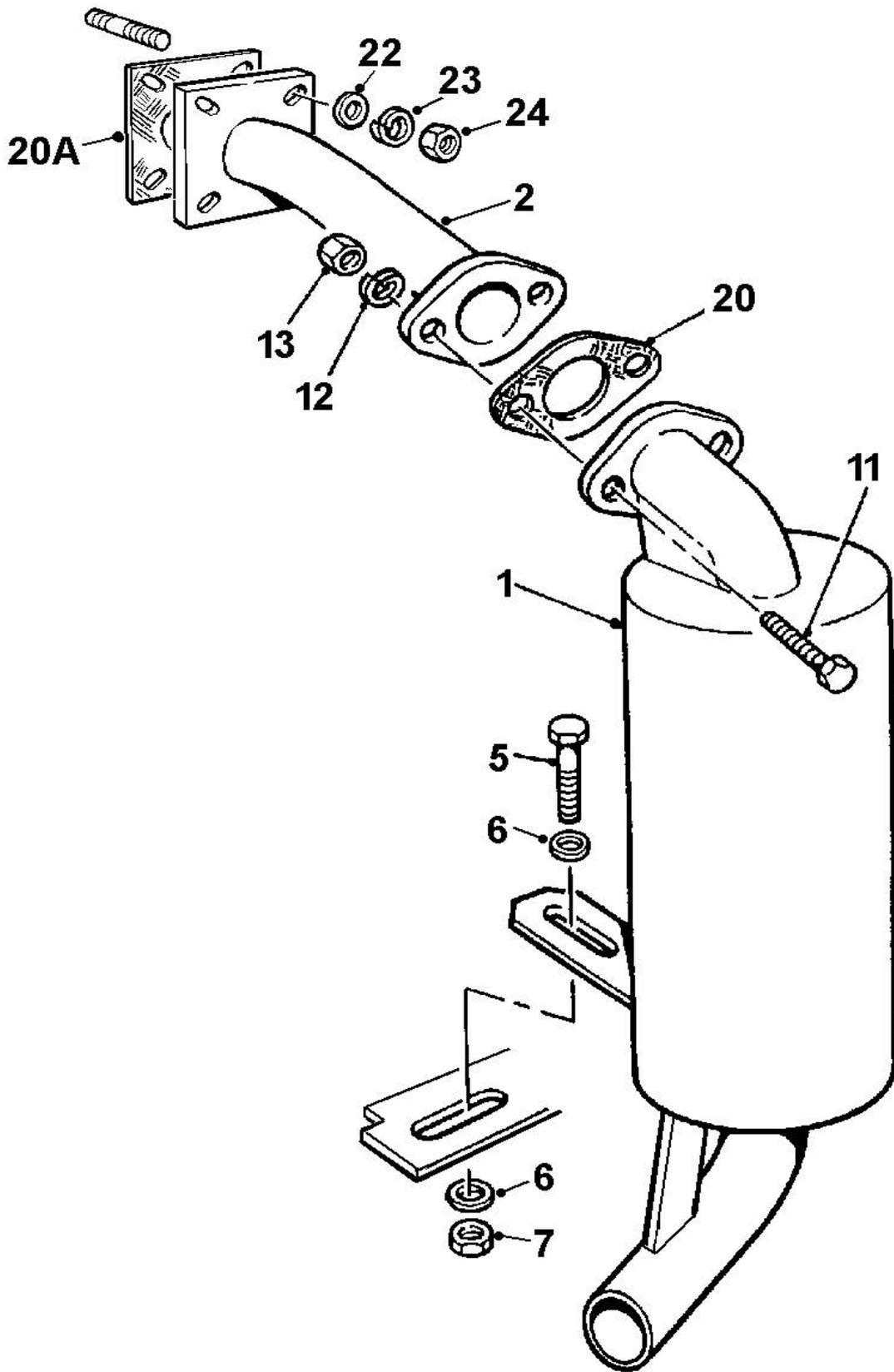


Item	Part no	Date	Description	Qty
<b>LPW / LPWS engines</b>				
1	V2004693	June 97 /	SILENCER	1
2	V2004690	June 97 /	PIPE, silencer	1
<b>LPWT4 engine (turbo)</b>				
3	V2004639	Aug 96 /	SILENCER	1
4	V2004638	Aug 96 /	PIPE, silencer	1
5	8S04C		SCREW, set	1
6	267S5		WASHER, flat	1
7	17S05		WASHER, spring	1
8	7S04		NUT	1
11	11S04D		SCREW, set	2
12	17S05		WASHER, spring	2
13	7S04		NUT	2
15	V2004193		BRACKET	1
16	8S05F		SCREW, set	1
17	267S07		WASHER, flat	1
18	61S05		NUT, self-locking	1
20	10293A03		GASKET	2
21	11S04D	/ Apr 99	SCREW, set	2
21	411411035	Apr 99 /	STUD	2
22	267S06	Apr 99 /	WASHER, flat	2
23	17S05		WASHER, spring	2
24	7S04	Apr 99 /	NUT	2



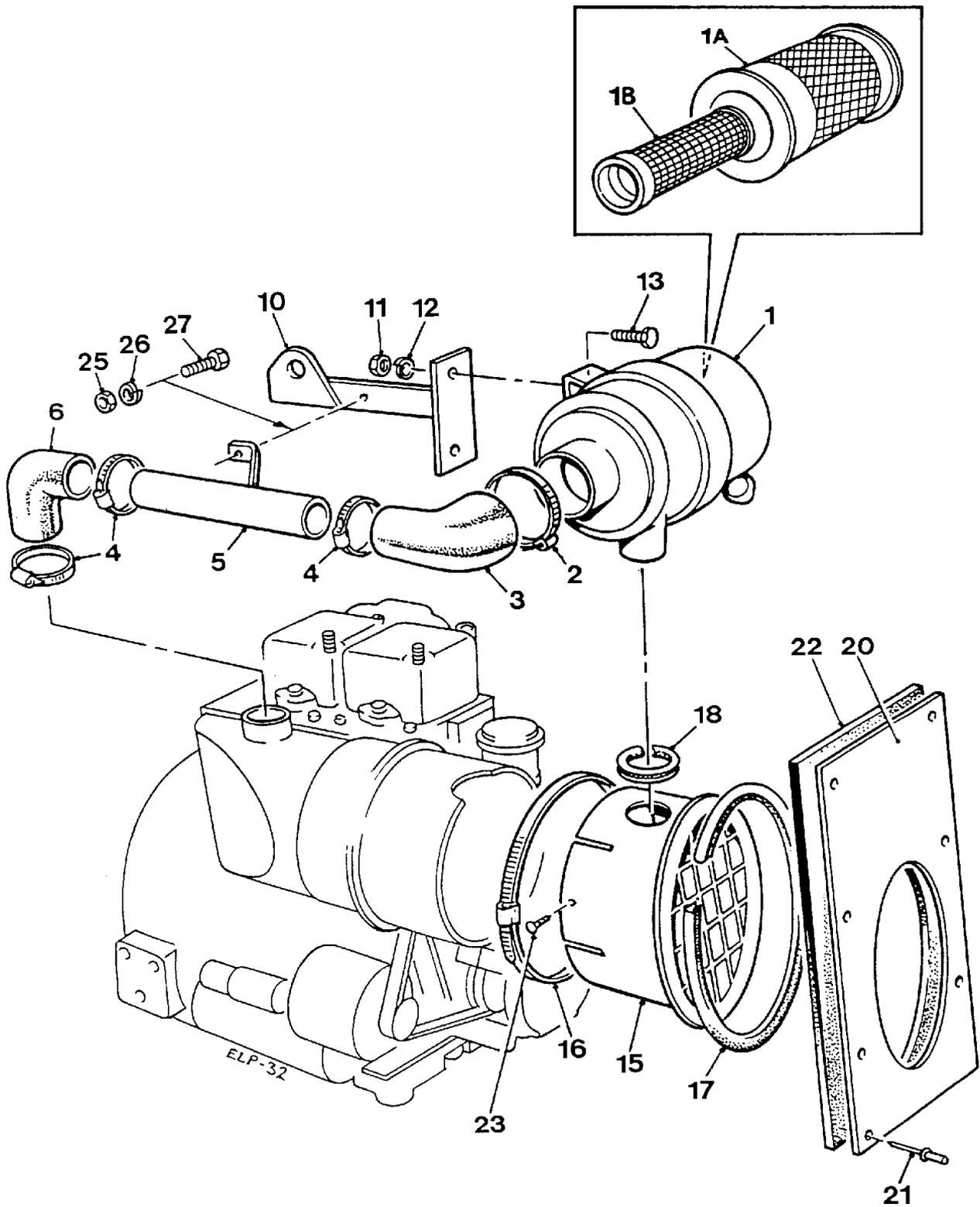
**SILENCER, TR2 engines****3 - C - 3**

<b>Item</b>	<b>Part no</b>	<b>Date</b>	<b>Description</b>	<b>Qty</b>
1	V2004875		SILENCER	1
2	V2004874		PIPE, silencer	1
5	7S04		NUT	2
6	17S05		WASHER, spring	2
7	10371A01		MOUNTING, silencer	1
11	11S04D		SCREW, set	2
12	17S05		WASHER, spring	2
13	7S04		NUT	2
20	10293A03		GASKET	2
21	11S04D	/ Apr 99	SCREW, set	2
21	411411035	Apr 99 /	STUD	2
22	267S06	Apr 99 /	WASHER, flat	2
23	17S05		WASHER, spring	2
24	7S04	Apr 99 /	NUT	2



**SILENCER, Yanmar engines****3 - C - 4**

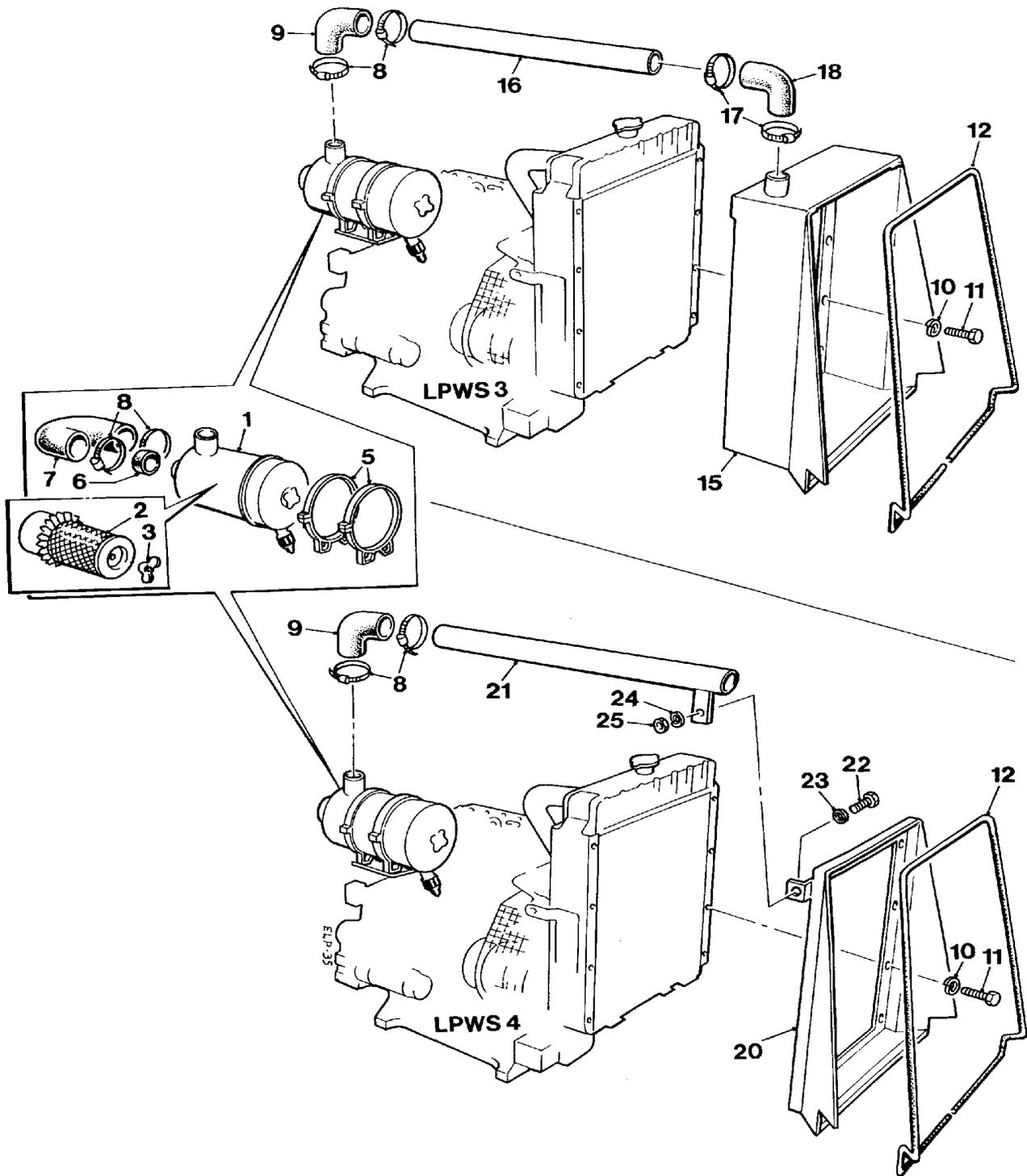
<b>Item</b>	<b>Part no</b>	<b>Date</b>	<b>Description</b>	<b>Qty</b>
1	V2005080		SILENCER	1
2	V2005081		PIPE, silencer	1
5	11S03C		SCREW, set	1
6	267S05		WASHER, flat	2
7	61S03		NUT, self locking	1
11	11S04D		SCREW, set	2
12	17S05		WASHER, spring	2
13	7S04		NUT	2
20	10293A03		GASKET, silencer	1
20A	.....		GASKET, manifold, <i>(supplied with engine)</i>	
22	267S05		WASHER, flat	4
23	17S04		WASHER, spring	4
24	7S03		NUT	4



**AIR CLEANER & RECIRCULATION GUARD**  
**TX2 and TX3 engines**

**3 - D - 1**

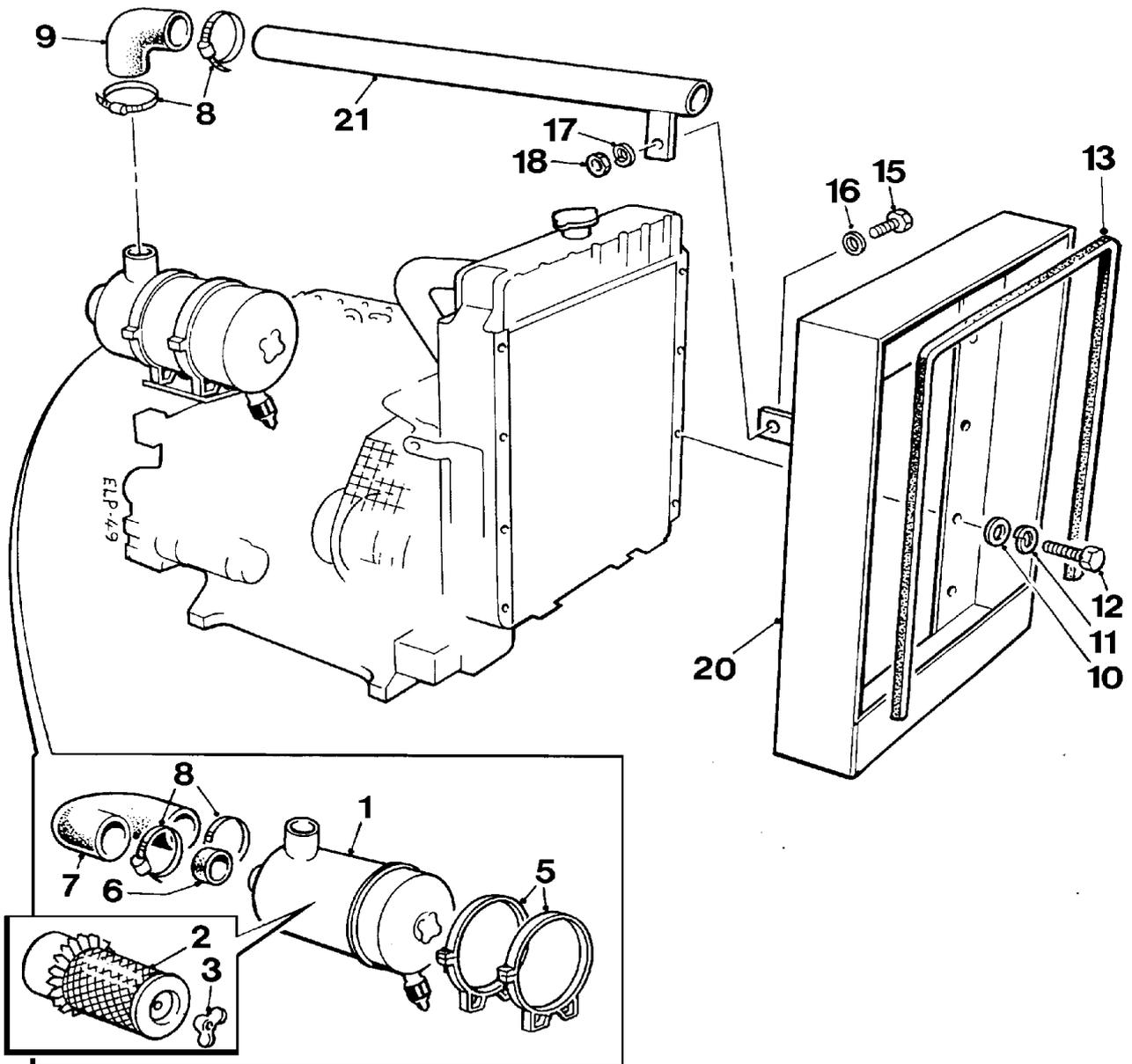
<b>Item</b>	<b>Part no</b>	<b>Date</b>	<b>Description</b>	<b>Qty</b>
1	V2004182	/ 1997	AIR CLEANER, assembly	1
1A	V2004185		ELEMENT, main	1
1B	V2004186		ELEMENT, safety	1
2	97S17		CLIP, hose	1
3	V2004183		ELBOW, rubber	1
4	97S13		CLIP, hose	3
5	V2004109		PIPE, (TX2 engine)	1
5	V2004192		PIPE, c/w welded bracket, (TX3 eng.)	1
6	V2004184		ELBOW, rubber	1
10	V2003847		BRACKET, air cleaner (TX2 engine)	1
10	V2003846		BRACKET, air cleaner (TX3 engine)	1
11	7S03		NUT	2
12	17S04		WASHER, spring	2
13	11S03B		SCREW, set	2
15	V2003848		GUARD, recirculating (TX2 engine)	1
15	V2003839		GUARD, recirculating (TX3 engine)	1
16	97S21		CLIP	1
17	V2003225		SEAL, rubber (order by metre)	AR
18	V2003587		SEAL, rubber (order by metre)	AR
20	V2003840		PLATE, engine cover infill	1
21	101S07E		RIVET	7
22	V2004213		SEAL, insulation	1
23	—		SCREW, self-tapping	2
25	7S02		NUT	1
26	17S03		WASHER, spring	1
27	11S02C		SCREW, set	1



**AIR CLEANER & RECIRCULATION GUARD**  
**LPW3 / LPWS3 and LPW4 / LPWS4 engines**

**3 - D - 2**

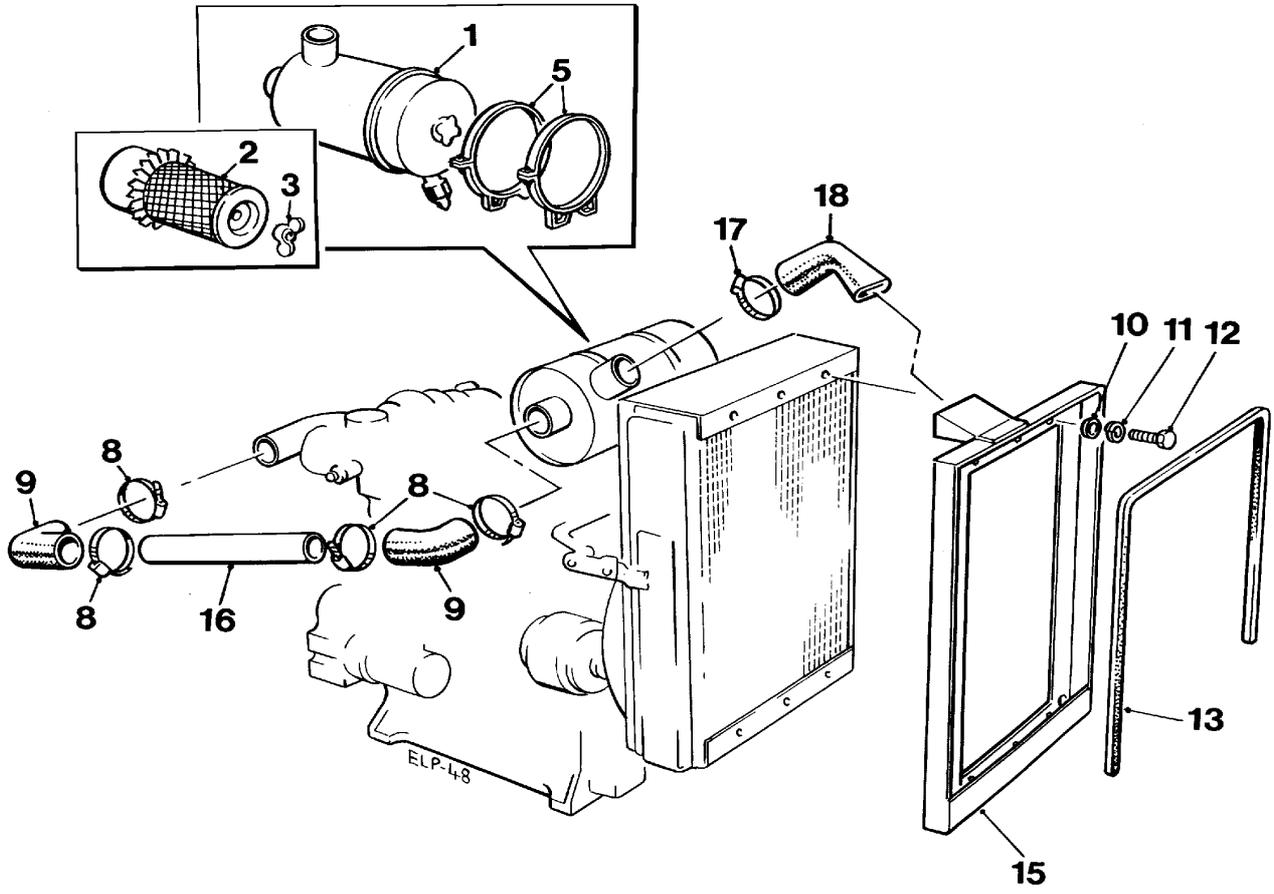
Item	Part no	Serial no	Description	Qty
<b>Up to dumper serial numbers</b>				
		/ 20004	<b>4S2000</b>	
		/ 25005	<b>4S2500</b>	
		/ 30012	<b>4S3000</b>	
		/ 40004	<b>4S4000M</b>	
1	10532A02		AIR CLEANER, assembly	1
2	10532A0101		ELEMENT	1
3	—		NUT, wing ( <i>see Eng. Parts Cat.</i> )	1
5	10533A02		CLAMP	2
6	V2004199		SLEEVE	1
7	V2004195		HOSE, air cleaner to intake manifold	1
8	97S13		CLIP, hose	4
9	V2004178		ELBOW, rubber	1
10	17S03		WASHER, spring	8
11	11S02V		SCREW, set	8
12	V2003587		SEAL, rubber ( <i>order by meter</i> )	AR
<b>LPW3 / LPWS3 engines</b>				
15	V2004079		GUARD, recirculating	1
16	V2004107		PIPE	1
17	97S13		CLIP, hose	2
18	V2004178		ELBOW, rubber	1
<b>LPW4 / LPWS4 engines</b>				
20	V2004050		GUARD, recirculating	1
21	V2004108		PIPE	1
22	11S02A		SCREW, set	1
23	267S04		WASHER, flat	1
24	17S03		WASHER, spring	1
25	7S02		NUT	1



**AIR CLEANER & RECIRCULATION GUARD**  
**LPW3 / LPWS3 and LPW4 / LPWS4 engines**

**3 - D - 3**

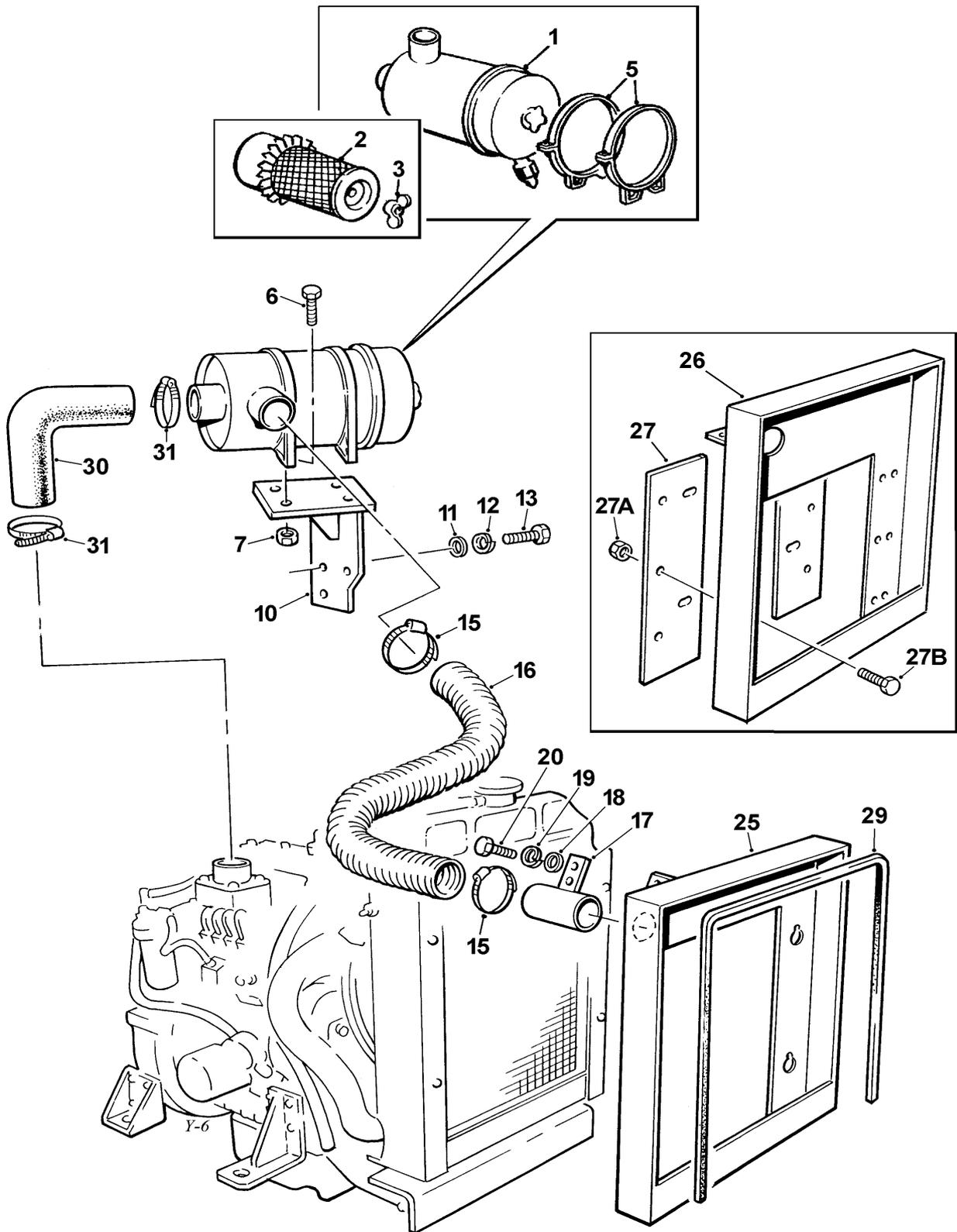
Item	Part no	Serial no	Description	Qty
<b><i>From dumper serial numbers</i></b>				
		20005 /	<b>4S2000</b>	
		25006 /	<b>4S2500</b>	
		30013 /	<b>4S3000</b>	
1	10532A02		AIR CLEANER, assembly	1
2	10532A0101		ELEMENT	1
3	—		NUT, wing (see <i>Eng. Parts Cat.</i> )	1
5	10533A02		CLAMP	2
6	V2004199		SLEEVE	1
7	V2004195		HOSE, air cleaner to intake manifold	1
8	97S13		CLIP, hose	4
9	V2004178		ELBOW, rubber	1
10	267S04		WASHER, flat	8
11	17S03		WASHER, spring	8
12	11S02A		SCREW, set	8
13	V2003587		SEAL, rubber (order by meter)	AR
15	11S02A		SCREW, set	1
16	267S04		WASHER, flat	1
17	17S03		WASHER, spring	1
18	7S02		NUT	1
<b>LPW3 / LPWS3 engines</b>				
20	V2004644		GUARD, recirculating	1
21	V2004646		PIPE	1
<b>LPW4 / LPWS4 engines</b>				
20	V2004632		GUARD, recirculating	1
21	V2004108		PIPE	1



**AIR CLEANER & RECIRCULATION GUARD**  
**LPWT4 engine (turbo)**

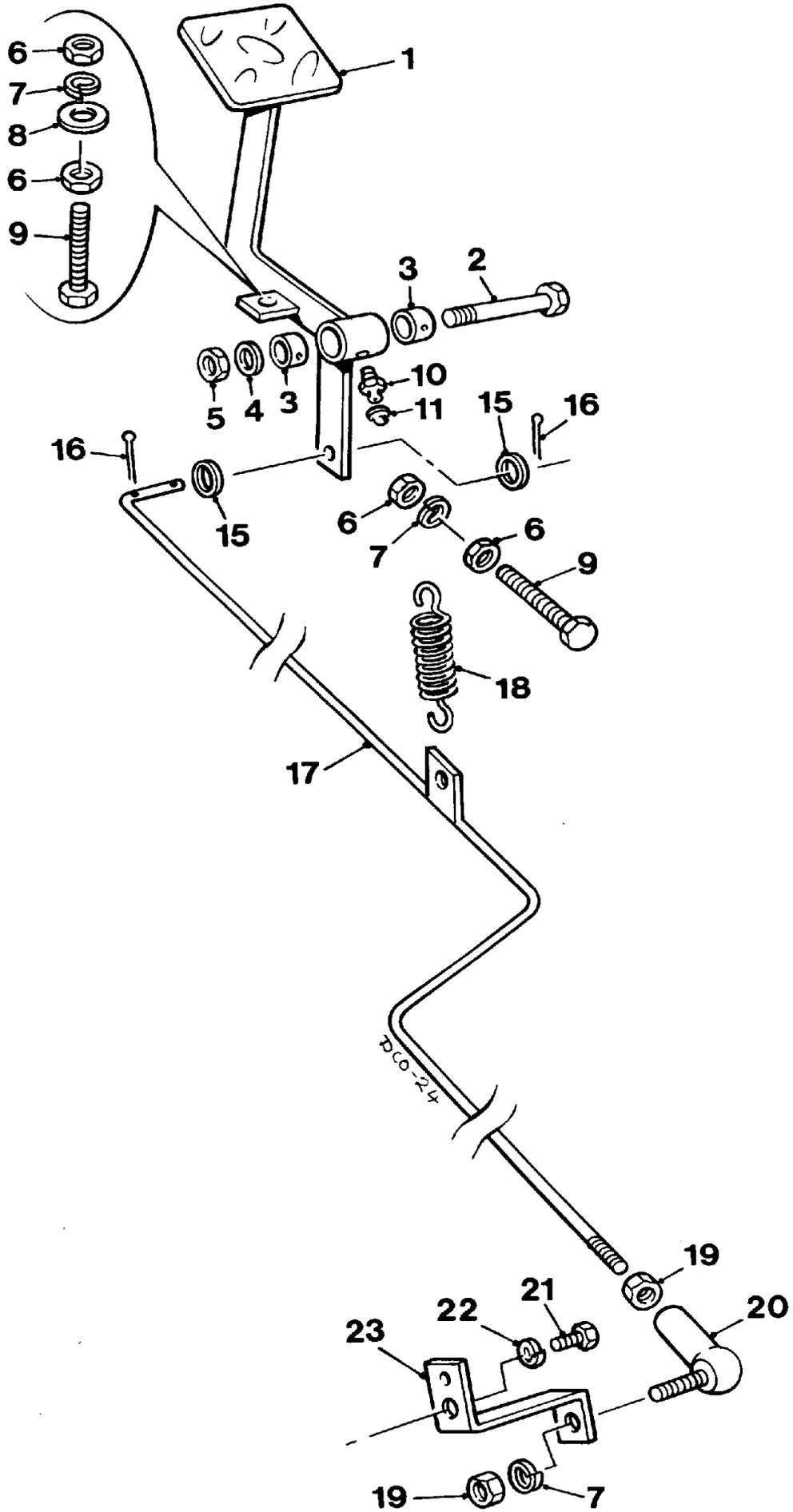
**3 - D - 4**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	10532A02	40005 /	AIR CLEANER, assembly	1
2	10532A0101		ELEMENT	1
3	——		NUT, wing ( <i>see Eng. Parts Cat.</i> )	1
5	10533A02		CLAMP	2
8	97S13		CLIP, hose	4
9	V2004178		ELBOW, rubber	2
10	267S04		WASHER, flat	6
11	17S03		WASHER, spring	6
12	11S02A		SCREW, set	6
13	V2003587		SEAL, rubber ( <i>order by meter</i> )	AR
15	V2004631		GUARD, recirculating	1
16	——		PIPE ( <i>see Engine Parts Catalogue</i> )	1
17	97S13		CLIP, hose	1
18	504531500		NOZZLE, rubber	1



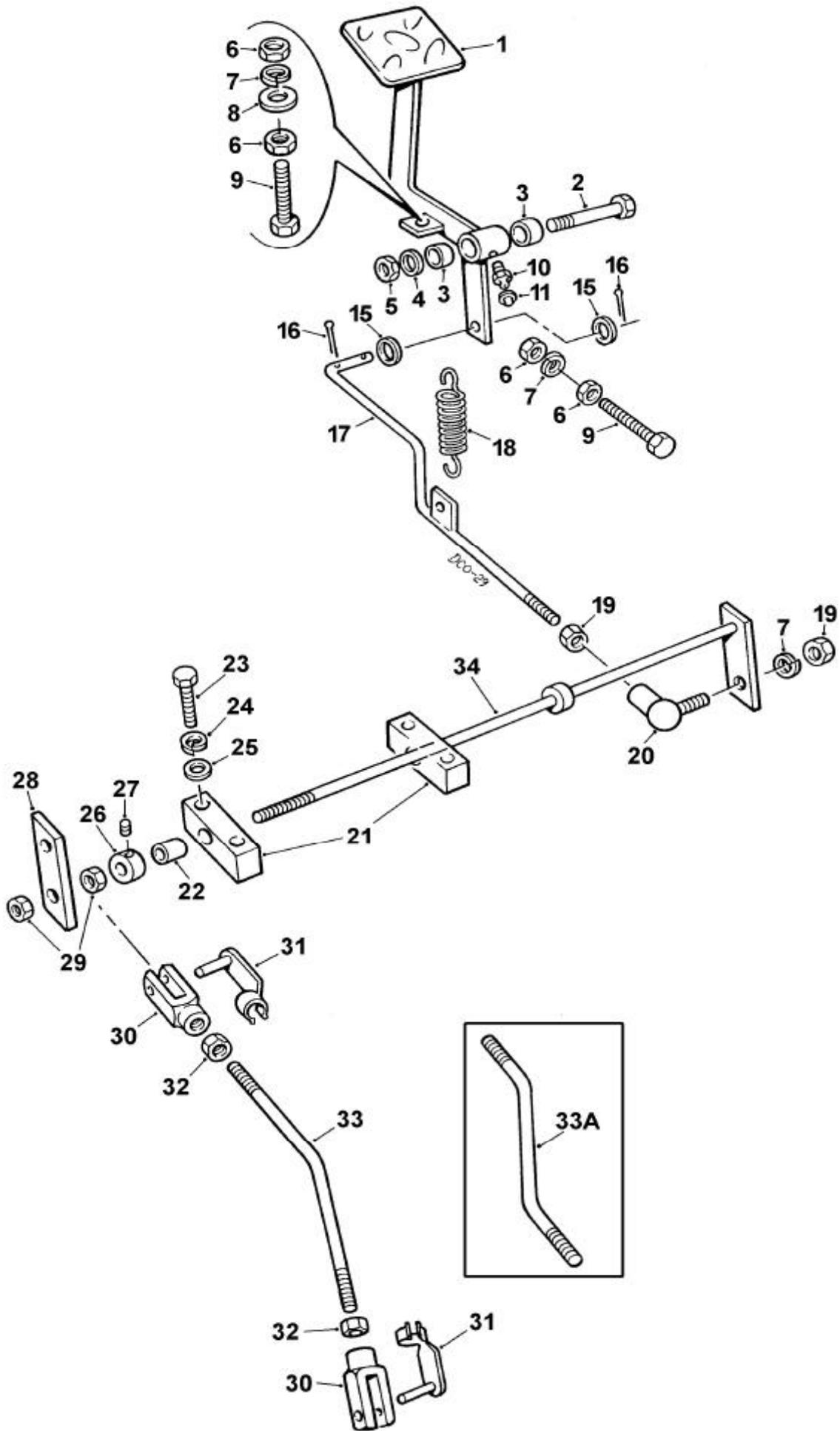
**AIR CLEANER & RECIRCULATION GUARD****3 - D - 5****Yanmar engines 3TNE (3 cylinder) & 4TNE88 (4 cylinder)**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	10532A02		AIR CLEANER, assembly	1
2	10532A0101		ELEMENT	1
3	—		NUT, wing	1
5	10533A02		CLAMP	2
6	11S03A		SCREW, set	4
7	61S03		NUT, self locking	4
10	V2005094		BRACKET, air cleaner	1
11	267S05		WASHER, flat	3
12	17S04		WASHER, spring	3
13	11S03B		SCREW, set	3
15	97S12		CLIP, hose	2
16	10840A0301		HOSE	
17	V2005088		PIPE	1
18	267S04		WASHER, flat	2
19	17S03		WASHER, spring	2
20	11S02B		SCREW, set	2
25	V2004632		GUARD, recirculating, 4 cyl. engine	1
26	V2004644		GUARD, recirculating, 3 cyl. engine	1
27	V2005169		BRACKET, 3 cylinder engine	2
27A	61S02		NUT, self locking	6
27B	11S02A		SCREW, set	6
29	V2003587		SEAL, rubber <i>(order by meter)</i>	AR
30	V2005095		ELBOW, engine air inlet	1
31	97S12		CLIP, hose	2



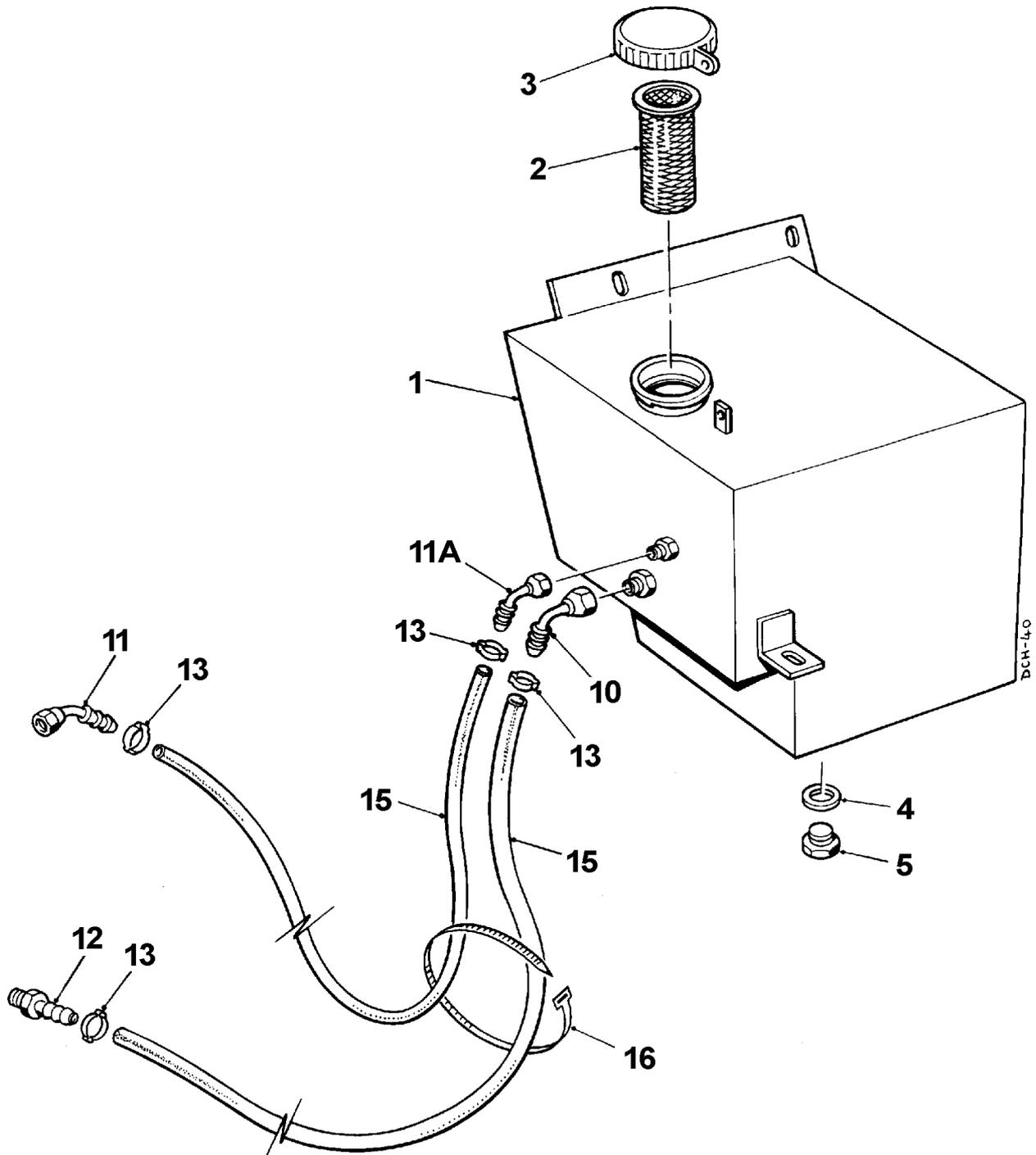
**ACCELERATOR PEDAL & LINKAGE****3 - E - 1****Lister-Petter engines**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2003091		PEDAL, assembly	1
2	6S05M		BOLT	1
3	43S03		BUSH	2
4	10S04		WASHER, flat	2
5	87S05		NUT, self locking	1
6	7S03		NUT	4
7	17S04		WASHER, spring	3
8	267S05		WASHER, flat	1
9	11S03H		SCREW, set	2
10	131S01		NIPPLE, grease	1
11	176S01		CAP, grease nipple	1
15	267S05		WASHER, flat	2
16	44S03D		PIN, split	2
17	V2003861		ROD, TR2 engine	1
17	V2003860		ROD, TX2 engine	1
17	V2003859		ROD, TX3 engine	1
17	V2003861		ROD, LPW3 / LPWS3 engines	1
17	V2003862		ROD, LPW4 / LPWS4 / LPWT4 engines	1
18	C173D		SPRING	1
19	7S03		NUT	2
20	V2003527		JOINT, ball	1
21	11S02V		SCREW, set	1
22	17S03		WASHER, spring	1
23	V2003874		LEVER, TR2 engine	1
23	V2003874		LEVER, TX2 engine	1
23	V2003874		LEVER, TX3 engine	1
23	—		LEVER, LPW / LPWS / LPWT engines (see <i>Engine Parts Catalogue</i> )	1



**ACCELERATOR PEDAL & LINKAGE****3 - E - 1A****Yanmar engines**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2003091		PEDAL, assembly	1
2	6S05M		BOLT	1
3	43S03		BUSH	2
4	10S04		WASHER, flat	2
5	87S05		NUT, self locking	1
6	7S03		NUT	4
7	17S04		WASHER, spring	3
8	267S05		WASHER, flat	1
9	11S03H		SCREW, set	2
10	131S01		NIPPLE, grease	1
11	176S01		CAP, grease nipple	1
15	267S05		WASHER, flat	2
16	44S03D		PIN, split	2
17	V2005091		ROD, pedal to pivot rod	1
18	C173D		SPRING	1
19	7S03		NUT	2
20	V2003527		JOINT, ball	1
21	V2005086		BLOCK, bearing	2
22	V2005087		BEARING	2
23	11S04E		SCREW, set	4
24	17S05		WASHER, spring	4
25	267S06		WASHER, flat	4
26	V2005093		COLLAR	1
27	57S02AB4		SCREW, grub	1
28	V2005090		LEVER	1
29	7S03		NUT	2
30	224410000		CLEVIS	2
31	V2003532		PIN/CLIP	2
32	7S03		NUT	2
33	V2005092		ROD, 4 cylinder engine	1
33A	V2003503		ROD, 3 cylinder engine	1
34	V2005089		ROD, pivot	1

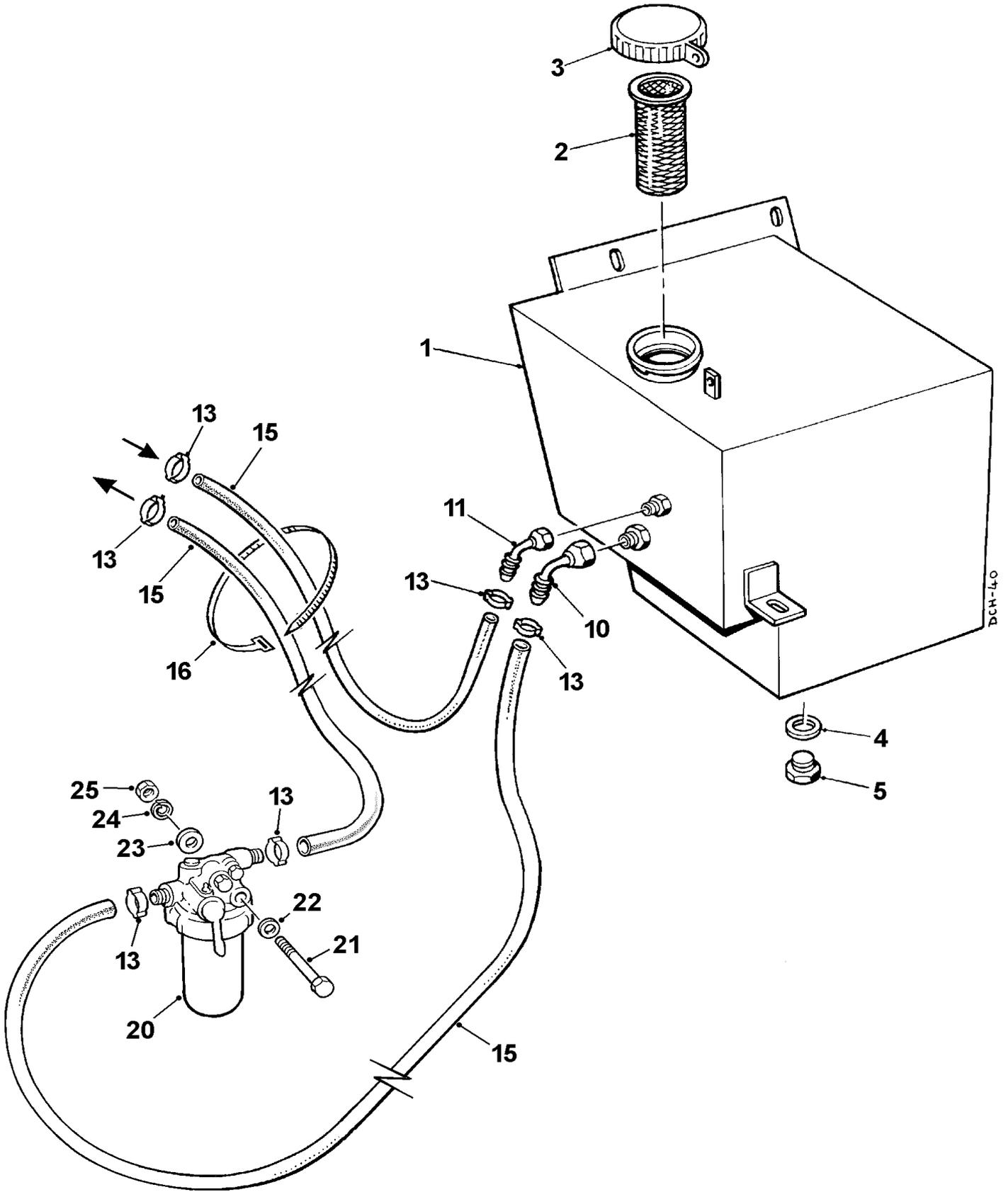


# FUEL TANK & HOSES

## Lister-Petter engines

3 - E - 2

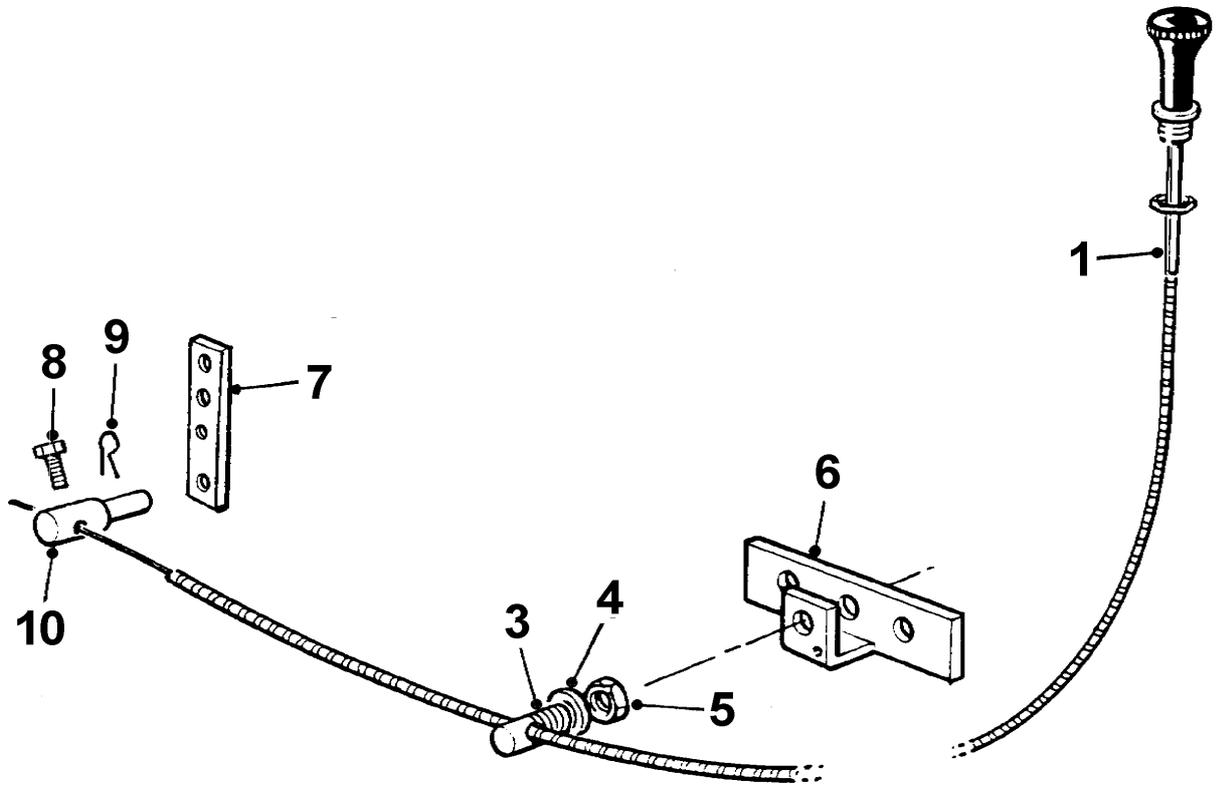
Item	Part no	Serial no	Description	Qty
1	V2003771		FUEL TANK	1
2	10379A03		STRAINER	1
3	10378A03		CAP, filler	1
4	100S02		SEAL, bonded	1
5	127S04		PLUG, drain	1
10	135S01A		NOZZLE, 135 <sup>o</sup>	1
11	135S01G		NOZZLE, 135 <sup>o</sup>	1
11A	136S01G		NOZZLE, 90 <sup>o</sup>	1
12	137S01D		NOZZLE, straight	1
13	V2003029		CLIP, 'O' type	4
15	V2002991		HOSE, fuel line (order by metre)	AR
16	V2003111		TIE	4



**FUEL TANK & HOSES**  
**Yanmar engines**

**3 - E - 3**

Item	Part no	Serial no	Description	Qty
1	V2003771		FUEL TANK	1
2	10379A03		STRAINER	1
3	10378A03		CAP, filler	1
4	100S02		SEAL, bonded	1
5	127S04		PLUG, drain	1
10	135S01A		NOZZLE, 135 <sup>o</sup>	1
11	136S01G		NOZZLE, 90 <sup>o</sup>	1
13	V2003029		CLIP, 'O' type	6
15	V2002991		HOSE, fuel line (order by metre)	AR
16	V2003111		TIE	4
20	.....		WATER TRAP (see Yanmar catalogue)	
21	8S03L		BOLT	1
22	267S05		WASHER, flat	1
23	555170000		SPACER	1
24	17S04		WASHER, spring	1
25	7S03		NUT, self locking	1



**ENGINE STOP CONTROL CABLE, *Lister TR2*****3 - E - 4**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	460239		CABLE, engine stop	1
3	460242		SCREW CLAMP	1
4	67S04		WASHER, shakeproof	1
5	87S03		NUT, "Binx"	1
6	11029A01		BRACKET, retaining	1
7	11030A01		LEVER, pivot	1
8	V600192		SCREW, set	1
9	V600193		'R' CLIP	1
10	V600194		SWIVEL	1

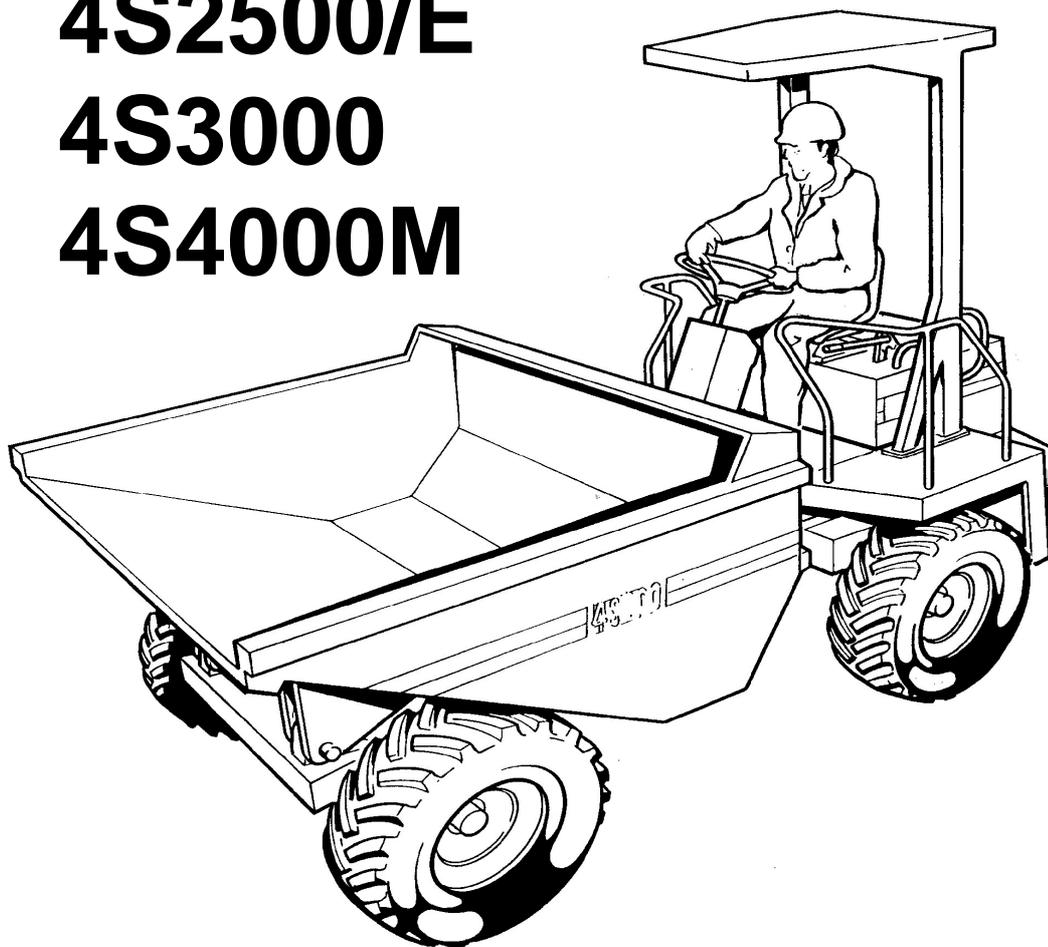
# **'S' Series Dumpers**

**4S2000/E**

**4S2500/E**

**4S3000**

**4S4000M**



# ***TRANSMISSION***

***Dumpers 4S2000, 4S2500***

**GEARBOX, 40M**

**4 - A - 1**

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***Dumpers 4S3000, 4S4000M***

**GEARBOX, 85M**

**4 - A - 2**

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**REVERSE ALARM SWITCH BRACKET**

**4 - B - 1**

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**CLUTCH**

**4 - C - 1**

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**PEDAL, clutch**

**4 - C - 2**

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**TRANSFER GEARBOX**

**4 - D - 1**

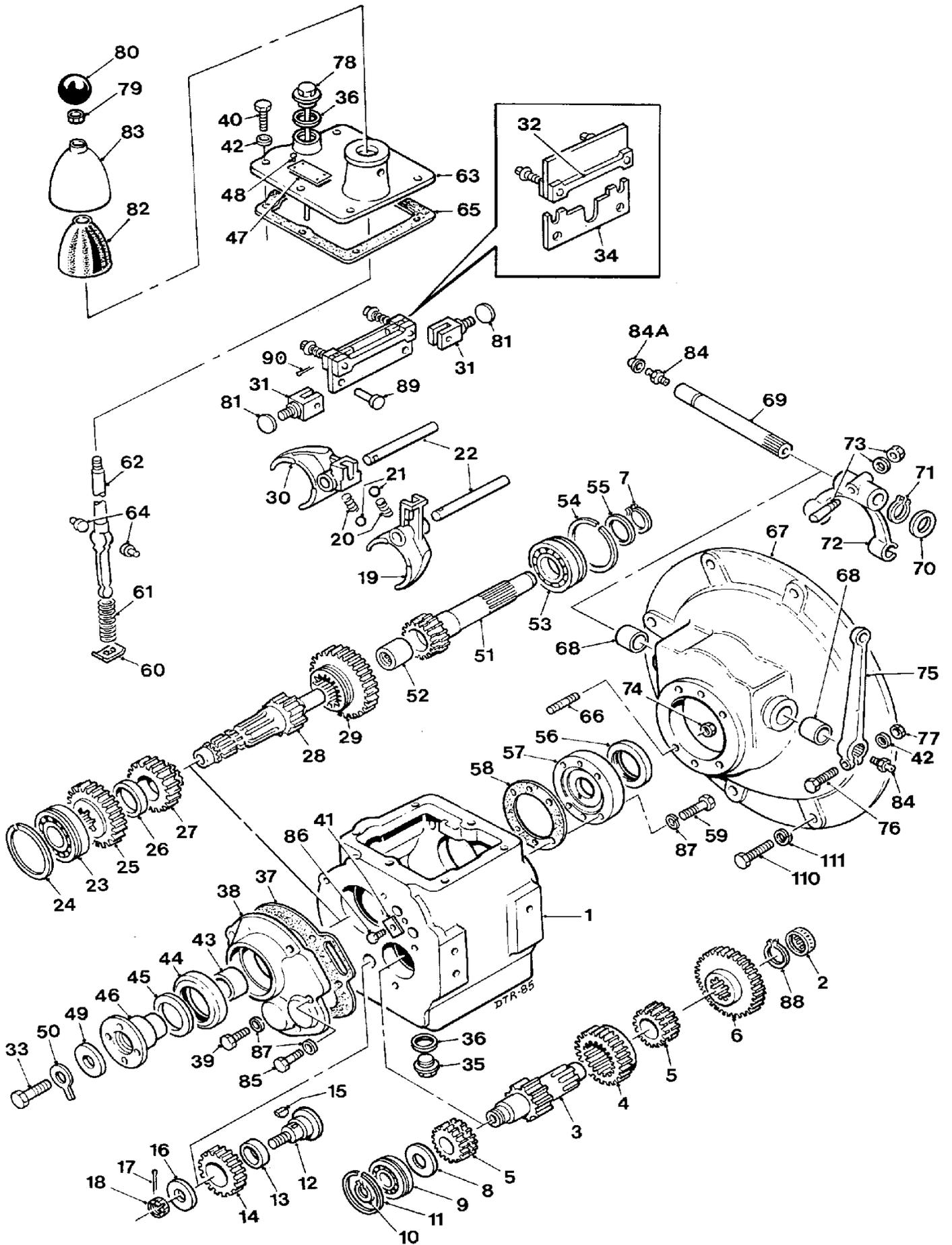
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**PROPELLER SHAFTS**

**4 - E - 1**

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**<<< [To beginning of Parts](#)**



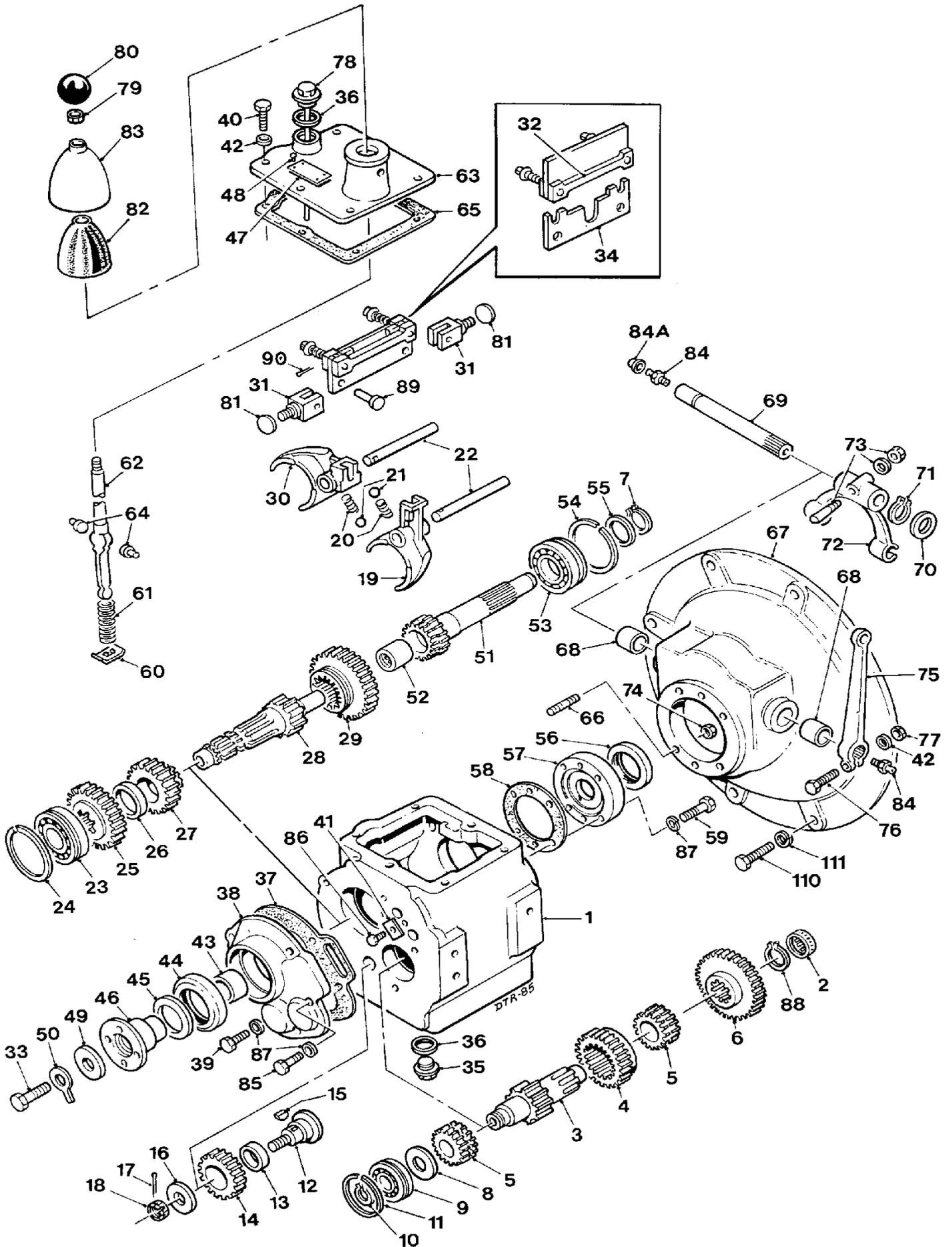
Item	Part no	Serial no	Description	Qty
			<b># From gearbox serial no. 0155335 (Apr 1993)</b> Needle roller bearing (item 2) changed from an imperial to a metric dimension. This change also affected the Layshaft (item 3) and Casing (item 1). <i>See Layshaft Kit (item 3)</i>	
-	30101A09		GEARBOX, 40M2S321, assembly <i>(Used with LPW3, LPWS3 &amp; TR2 engines and Yanmar 3TNE engines)</i>	
-	30101A10		GEARBOX, 40M2S324, assembly <i>(Used with TX2 engines)</i>	
1	30101A0258	/ 0155334	# CASING, gearbox	1
1	30101A0281	0155335 /	# CASING, gearbox	1
2	30101A0267	/ 0155334	# BEARING (Imperial), layshaft	1
2	30101A0279	0155335 /	# BEARING (Metric), layshaft	1
3	30101A0268	/ 0155334	# LAYSHAFT, Kit (Imperial) <i>(Kit includes items: 2, 3, 36, 78)</i>	1
3	30101A0280	0155335 /	# LAYSHAFT, (Metric)	1
4	30101A0224		GEAR, 2nd. speed	1
5	30101A0219		GEAR, reverse	1
6	30101A0245		GEAR, 1st. reduction	1
7	30101A0243		CIRCLIP	1
8	30101A0217		SPACER, bearing	1
9	88S04E		BEARING, layshaft	1
10	30218A0206		CIRCLIP	1
11	30101A0261		RING, snap	1
12	30101A0222		SHAFT, reverse pinion	1
13	30101A0220		BUSH, reverse pinion	1
14	30101A0218		PINION, reverse	1
15	30101A0221		KEY	1
16	30101A0213		WASHER, reverse pinion shaft	1
17	44S02C		PIN, split	1
18	102S04		NUT	1
19	30101A0252		FORK, selector, 1st & reverse	1
20	30097A0185		SPRING, detent	2
21	30097A0199		BALL, detent	2
22	30101A0237		SHAFT, selector	2
23	88S06E		BEARING	1
24	30101A0209		RING, snap	1
25	30101A0211		GEAR, output	1



## GEARBOX, 40M

4 - A - 1

Item	Part no	Serial no	Description	Qty
26	30101A0212		SPACER, output gear	1
27	30101A0225		GEAR, 2nd. speed	1
28	30101A0251		SHAFT, output	1
29	30101A0226		GEAR, 1st. speed	1
30	30101A0227		FORK, selector, 2nd & 3rd	1
31	30101A0229		CLEVIS, interlock plate	2
32	30101A0275		SPRUNG INTERLOCK, c/w tool	1
33	28S05E		SCREW, set	1
34	30101A0276		PLATE, interlock	1
35	30097A0163		PLUG, drain	1
36	42S05		WASHER, sealing	2
37	30101A0263		GASKET	1
38	30101A0262		COVER, rear	1
39	28S01D		BOLT	3
40	28S01C		BOLT	6
41	30101A0259		PLATE, locking	1
42	67S01		WASHER, <b>Obsolete use 30039A0169</b>	
42	30039A0169		WASHER	1
43	30101A0260		SPACER	
44	89S02		SEAL, oil	1
45	30101A0265		SHIELD, dust ( <i>part of item 46</i> )	
46	30101A0264		FLANGE, output, assy ( <i>see item 45</i> )	
47	———		PLATE, serial	1
48	———		SCREW	4
49	30101A0208		WASHER	1
50	30101A0207		WASHER, tab	1
51	30101A0239		SHAFT primary, assy ( <i>with item 52</i> )	1
52	30101A0238		BEARING, needle ( <i>part of item 51</i> )	1
53	88S16F		BEARING, input	1
54	30101A0241		RING, snap	1
55	30101A0242		SPACER	1
56	30101A0247		SEAL, oil ( <i>part of item 57</i> )	1
57	30101A0248		COVER, front ( <i>with item 56</i> )	1
58	30101A0249		GASKET	1
59	6S01A		BOLT	6
60	30101A0206		PLATE, spring retaining	1
61	30101A0205		SPRING	1
62	30101A0901		LEVER, gear select	1
63	30101A0235		COVER, top	1



**GEARBOX, 40M****4 - A - 1**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
64	30101A0234		PAD, gear lever	1
65	30101A0250		GASKET	1
66	30101A0253		STUD	6
67	30101A0246		HOUSING, clutch <i>(Used with LPW3, LPWS3 &amp; TR2 engines and Yanmar 3TNE engines)</i>	1
67	30101A0274		HOUSING, clutch <i>(Used with TX2 engines)</i>	1
68	30097A0114		BUSH	2
69	30101A0255		SHAFT, clutch	1
70	30097A0133		WASHER	1
71	30101A0256		CIRCLIP	1
72	30097A0110		FORK, clutch operation	1
73	30097A0111		COTTER PIN & WASHER, assy	1
74	107S03		NUT	6
75	30097A0109		LEVER, clutch operation	1
76	6S01C		BOLT	1
77	9S01		NUT	1
78	30218A0248		DIPSTICK	1
79	95S03		NUT, locking	1
80	30101A0201		KNOB, gearlever	1
81	30101A0254		PLUG, welch	2
82	30101A0204		COVER, rubber, gear lever	1
83	30101A0203		CAP, gear lever	1
84	131S06		NIPPLE, grease	2
84A	176S01		CAP, grease nipple	2
85	6S01B		BOLT	2
86	28S01C		BOLT	1
87	30039A0169		WASHER, nylon	9
88	30101A0243		CIRCLIP	1
89	30101A0228		PIN, clevis	2
90	44S01C		PIN, split	2

**LPW3 & LPWS3 engines**

110	66S03A	# SCREW, set	8
110	11S04C	\$ SCREW, set	8
111	41S05	# WASHER, spring	8
111	17S05	\$ WASHER, spring	8

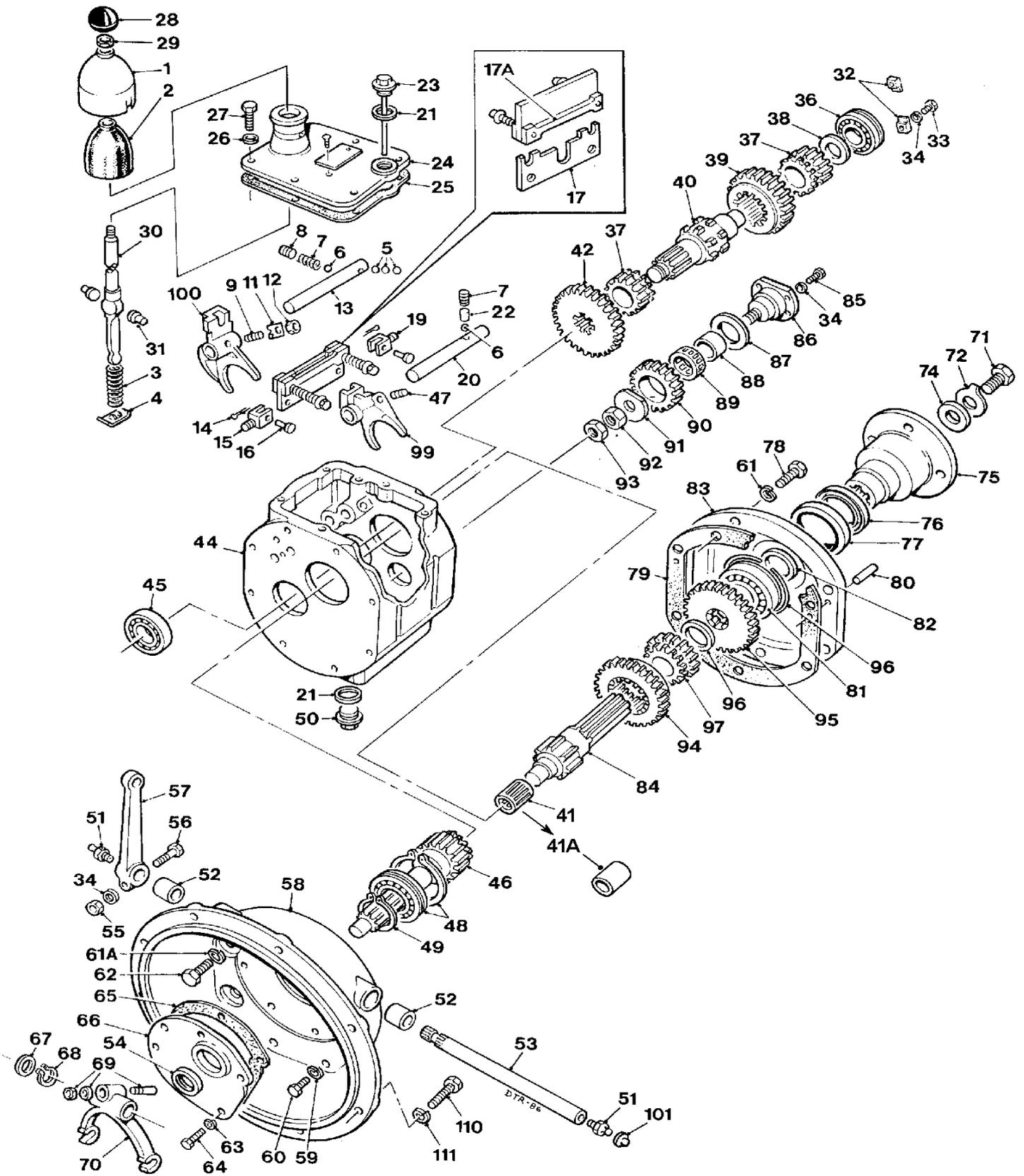
# Engines with Serial No's starting 44.

\$ Engines with Serial No's starting 45.



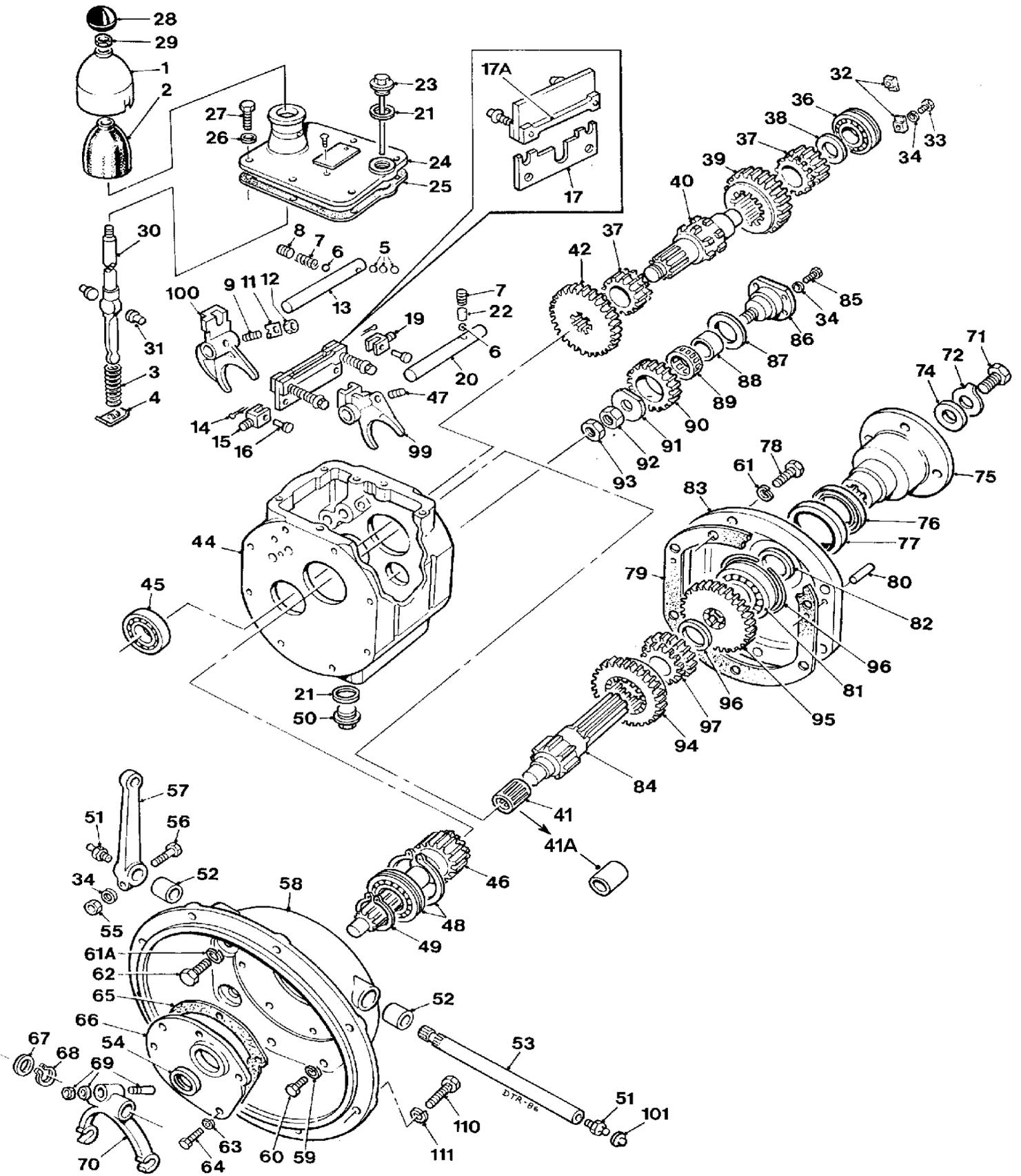
**GEARBOX, 40M****4 - A - 1**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
			<b>TX2 &amp; TR2 engines</b>	
110	66S03A		SCREW, set	12
111	41S05		WASHER, spring	12
			<b>Yanmar 3TNE engine</b>	
110	11S04C		SCREW, set	8
111	17S05		WASHER, spring	8



**GEARBOX, 85M****4 - A - 2**

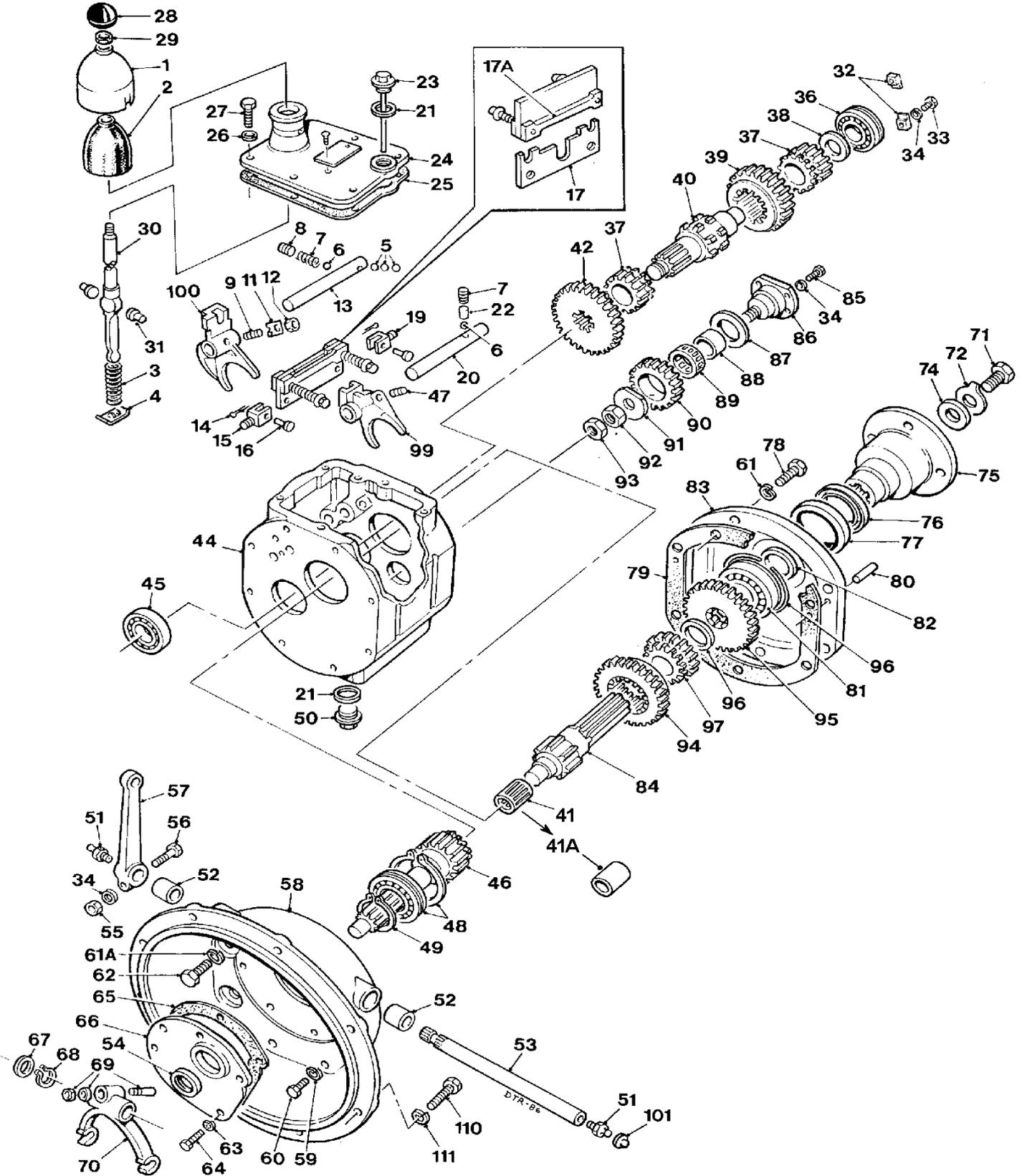
<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
-	30346A03		GEARBOX, 85M2S323, assembly <i>(Used with TX3 engines)</i>	
-	30346A04		GEARBOX, 85M2S324, assembly <i>(Used with LPW4 LPWS4 &amp; LPWT4 engine and Yanmar 4TNE engines)</i>	
1	30101A0203		COVER, protective	1
2	30101A0204		COVER, rubber	1
3	30101A0205		SPRING	1
4	30101A0206		PLATE, retaining	1
5	30218A0229		BALL	3
6	30097A0199		BALL, detent	2
7	30097A0185		SPRING	2
8	30218A0230		SCREW, grub	1
9	30218A0233		SCREW, grub	1
11	30218A0234		WASHER, locking	1
12	7S03		NUT	1
13	30218A0231		SHAFT, selector, 1st & reverse	1
14	44S01C		PIN, split	2
15	30101A0229		CLEVIS, threaded, inter. plate	1
16	30101A0228		PIN, clevis	2
17	30101A0269		PLATE, interlock	1
17A	30101A0272		SPRUNG INTERLOCK c/w tool	1
19	30101A0270		CLEVIS, not threaded, inter. plate	1
20	30218A0225		SHAFT, selector, 2nd & 3rd speeds	1
21	100S04		SEAL, bonded	2
22	30218A0224		SPACER	1
23	30218A0223		DIPSTICK	1
24	30101A0235		COVER, top	1
25	30101A0250		GASKET	1
26	10412A01		WASHER, spring	6
27	11S02A		SCREW, set	6
28	30101A0201		KNOB	1
29	95S03		NUT	1
30	30101A0202		LEVER, gear select	1
31	30101A0234		PAD, gear lever	2
32	30101A0271		CLIP, bearing retainer	2
33	28S01D		SCREW	2
34	67S01		WASHER, flat	2



# GEARBOX, 85M

4 - A - 2

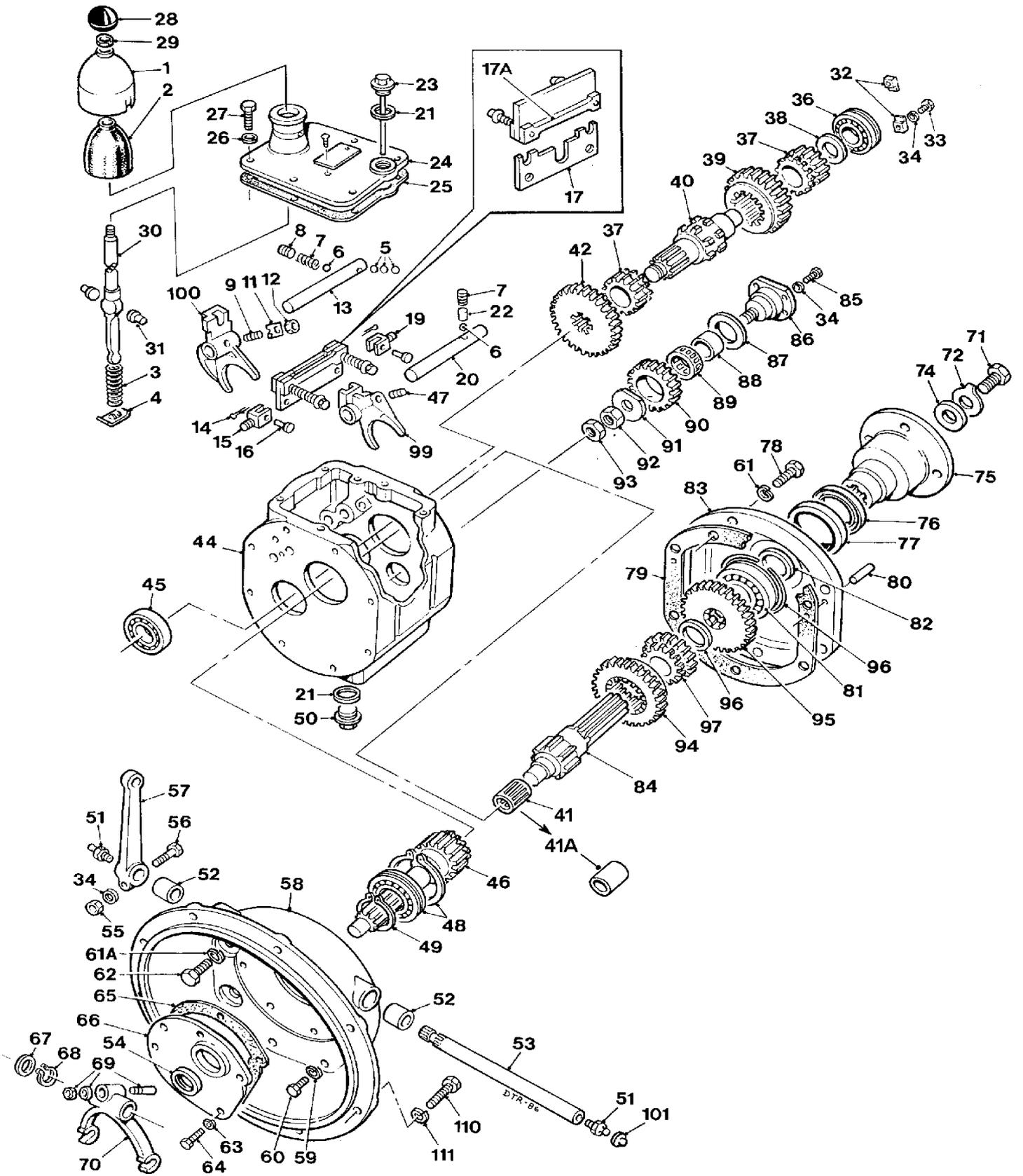
Item	Part no	Gearbox no	Description	Qty
36	30346A0116		BEARING	1
37	30346A0103		GEAR, reverse	2
38	30346A0106		SPACER	1
39	30346A0105		GEAR, 2nd. speed	1
40	30346A0104		SHAFT, lay	1
41	30218A0211	/ 2414596	BEARING, needle roller, ( <i>imperial</i> ) # <b>(OBSOLETE: see Bulletin SB 245)</b> # <i>For gearboxes prior to serial number 2414597, use either Bush V602760 or Kit 30346A0118. See below.....</i>	1
.....	30346A0118	2414597 /	# KIT, comprising of <i>metric</i> items: Input shaft, 30346A0122 Needle roller bearing, 30082A0289 Main Shaft, 30346A0124	
41A	V602760	2414597 /	# BUSH, phosphor bronze, ( <i>imperial</i> )	1
41	30082A0289	2414597 /	BEARING, needle roller, ( <i>metric</i> )	1
42	30346A0102		GEAR, 1st. speed	1
44	30346A0101		GEARCASE	1
45	88S04		BEARING	1
46	30346A0109	/ 2414596	SHAFT, input, ( <i>imperial</i> )	1
46	30346A0122	2414597 /	SHAFT, input, ( <i>metric</i> )	1
47	30218A0226		SCREW, grub	1
48	30218A0213		BEARING, c\w snap ring,	1
49	30218A0214		CIRCLIP	1
50	30097A0163		PLUG, oil drain	1
51	131S06		NIPPLE	2
52	30097A0114		BUSH	2
53	30097A0117		SHAFT, clutch, <i>use with LPW &amp; 4TNE er</i>	1
53A	30097A0198		SHAFT, clutch, <i>use with TX3 engines</i>	1
54	30218A0245		SEAL, oil	1
55	9S01		NUT	1
56	6S01C		BOLT	1
57	30097A0109		LEVER, clutch	1
58	30218A0237		HOUSING, clutch, <i>(Used with LPW4 LPWS4 LPWT4 engines and Yanmar 4TNE engines)</i>	1
58	30218A0247		HOUSING, clutch <i>(Used with TX3 engines)</i>	1



# GEARBOX, 85M

4 - A - 2

Item	Part no	Serial no	Description	Qty
59	17S04		WASHER, spring	2
60	11S03D		SCREW	2
61	17S05		WASHER, spring	6
61A	30312A0206		WASHER	2
62	11S04D		SCREW, set	6
63	30097A0102		WASHER, nylon	6
64	11S02A		SCREW, set	6
65	30218A0238		GASKET, front cover	1
66	30218A0239		COVER, front, assembly	1
67	30097A0133		WASHER	1
68	30101A0256		CIRCLIP	1
69	30097A0111		PIN, NUT & WASHER assembly	1
70	30097A0110		FORK, clutch	1
71	28S05E		SCREW	1
72	30101A0207		WASHER, tab	1
73	30346A0115		SPACER	1
74	30101A0208		WASHER	1
75	30101A264		FLANGE, output	1
76	30101A0265		SHIELD, dust	1
77	89S02		SEAL, oil	1
78	8S04A		BOLT	6
79	30097A0158		GASKET	1
80	30097A0101		DOWEL	2
81	88S06E		BEARING	1
82	30218A0209		SPACER	1
83	30218A0246		END COVER	1
84	30346A0108	/ 2414596	MAIN SHAFT, ( <i>imperial</i> )	1
84	30346A0124	2414597 /	MAIN SHAFT, ( <i>metric</i> )	1
85	28S01C		SCREW	4
86	30218A0222		SHAFT, idler	1
87	30218A0221		WASHER, thrust	1
88	30218A0220		RING, inner	1
89	30218A0219		BEARING, needle	1
90	30346A0110		PINION, reverse	1
91	30218A0217		WASHER, idler	1
92	30218A0216		NUT	1
93	95S05		NUT, locking	1
94	30346A0113		GEAR, 1st. speed	1
95	30346A0111		GEAR, output	1
96	30346A0115		SPACER	1



**GEARBOX, 85M****4 - A - 2**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
97	30101A0225		GEAR, 2nd speed	1
98	-----		<i>(is now item 17A)</i>	
99	30218A0227		FORK, selector, 2nd & 3rd speeds	1
100	30218A0232		FORK, selector, 1st & reverse	1
101	176S01		CAP, grease nipple	2

**LPW4, LPWS4 & LPWT4 engines**

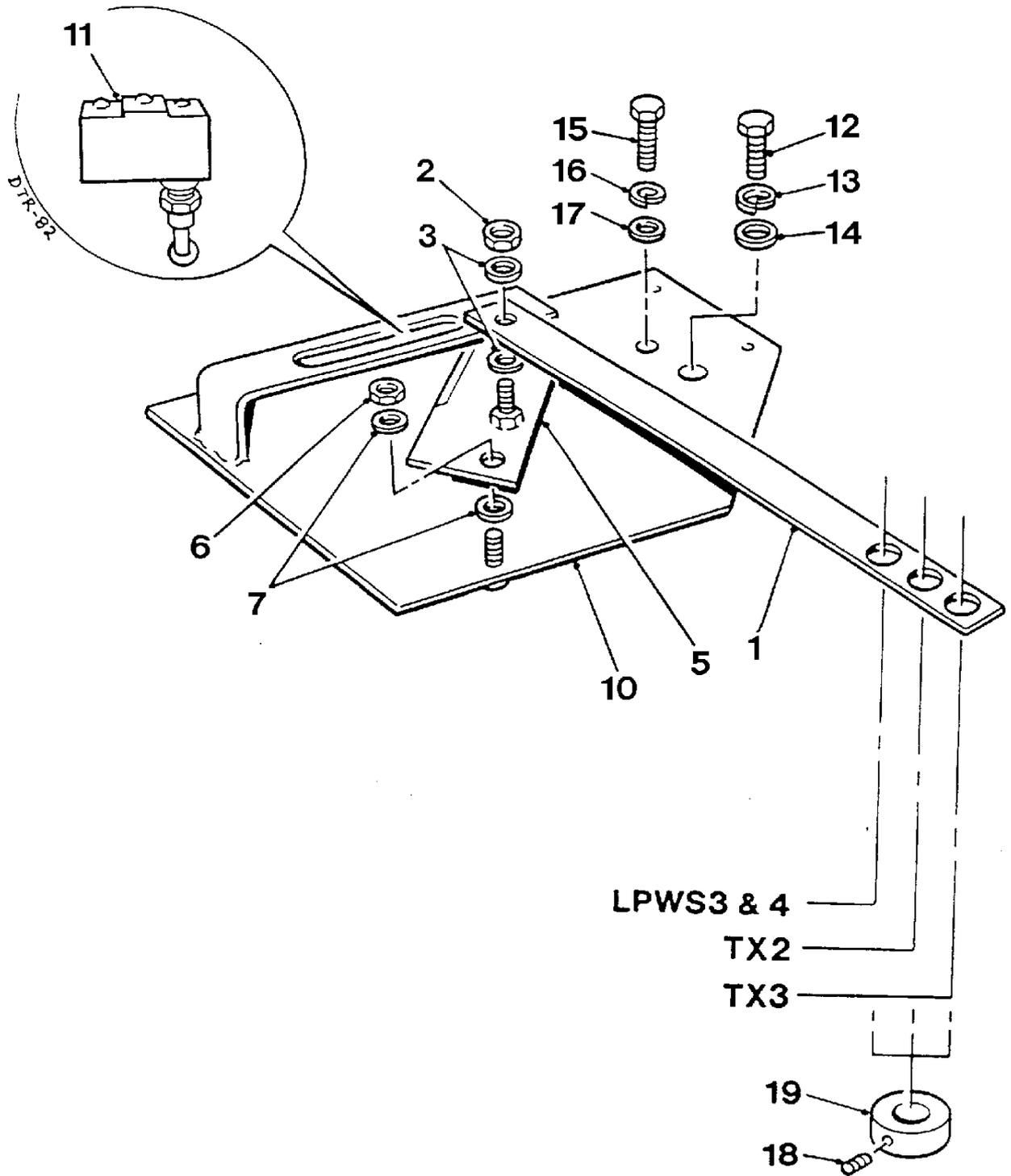
110	66S03A		# SCREW, set	8
110	11S04C		\$ SCREW, set	8
111	41S05		# WASHER, spring	8
111	17S05		\$ WASHER, spring	8

**# Engines with Serial No's starting 44****\$ Engines with Serial No's starting 45****TX3 engines**

110	66S03A		SCREW, set	12
111	41S05		WASHER, spring	12

**Yanmar 4TNE engines**

110	11S04C		SCREW, set	8
111	17S05		WASHER, spring	8



Item	Part no	Serial no	Description	Qty
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**OBSOLETE**

The items on the page became obsolete in June 1996.

No replacement parts are available.

In the event of a parts failure, it is recommended that the complete assembly be removed from the dumper.

**See Service Bulletin SB131**

1	V2004017	Dec 94 / Jun 96	LEVER	1
2	61S03		NUT, self-locking	1
3	267S05		WASHER, flat	2
5	V2004018		PLATE	1
6	61S03		NUT, self-locking	1
7	267S05		WASHER, flat	2
10	V2004016		BRACKET	1
11	—		SWITCH, reverse alarm (see Elec. Sec.)	

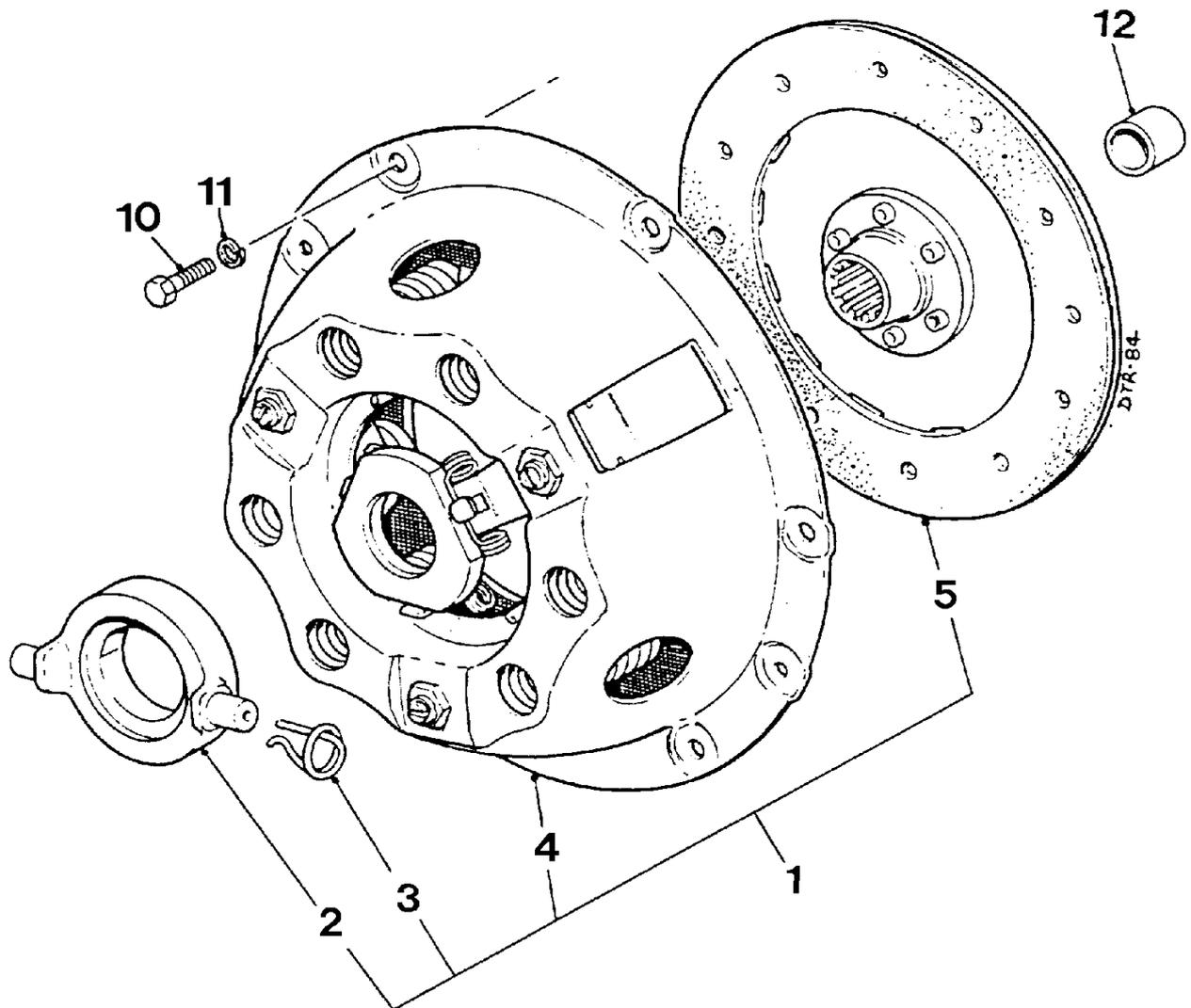
**Dumpers with TX engines**

12	11S04E		SCREW, set	2
13	17S05		WASHER, spring	2
14	267S06		WASHER, flat	2

**Dumpers with LPWS engines**

15	11S03E		SCREW, set	2
16	17S04		WASHER, spring	2
17	267S05		WASHER, flat	2

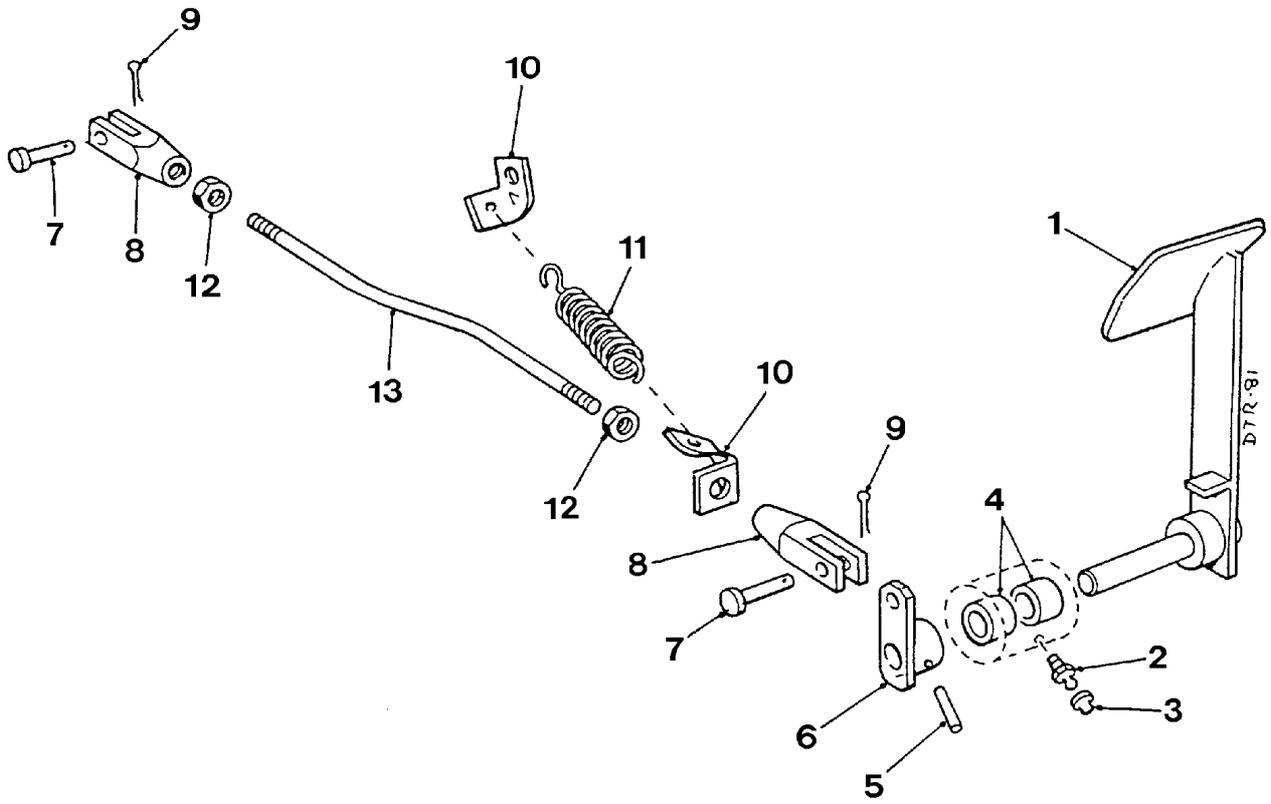
18	57S04D2		SCREW, grub	1
19	V2004365		COLLAR, threaded	1



# CLUTCH

4 - C - 1

Item	Part no	Serial no	Description	Qty
<b>CLUTCH 9"</b> <b>(Not used with LPWT4 engines)</b>				
1	10948A03		CLUTCH KIT, (9"), assembly	1
2	10579A01		BEARING, clutch release	1
3	10579A0101		SPRING, retaining	2
4	10597A02		COVER, clutch	1
5	10598A03		PLATE, clutch	1
<b>CLUTCH 10"</b> <b>(LPWT4 engines only)</b>				
1	10948A07		CLUTCH KIT, (10"), assembly	1
2	V602699		BEARING, clutch release	1
3	10579A0101		SPRING, retaining	2
4	10597A07		COVER, clutch	1
5	10598A09		PLATE, clutch	1
10	11S03B		SCREW, set	6
11	17S04		WASHER, spring	6
12	10580A0101		BUSH	1



**CLUTCH PEDAL****4 - C - 2**

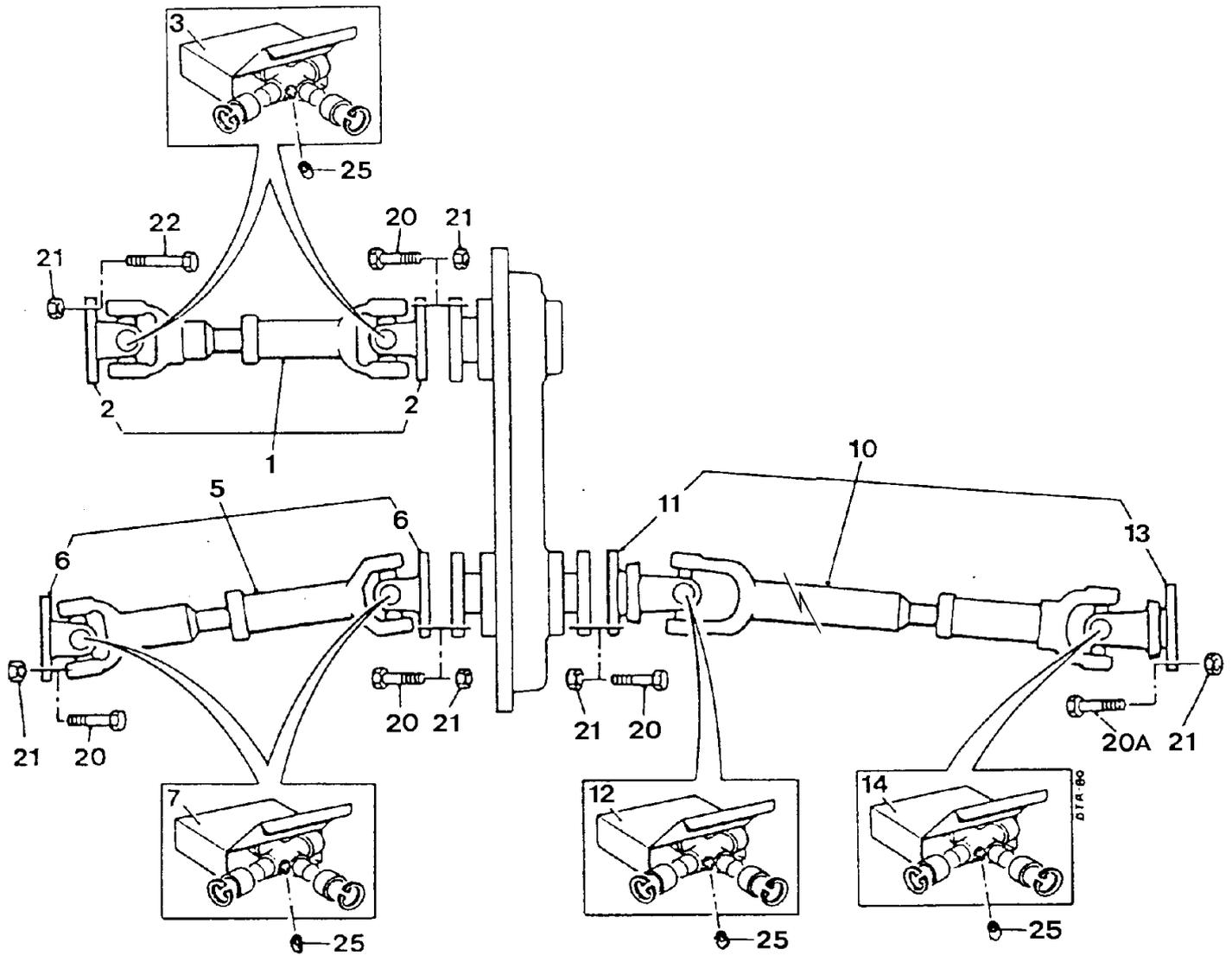
<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2004056		PEDAL, clutch	1
2	131S01		NIPPLE, grease	1
3	176S01		CAP, grease nipple	1
4	V2002595		BUSH	2
5	54S07M		PIN, roll	1
6	V2003864		LEVER, clutch	1
7	10650A18		PIN, clevis	2
8	V2004177		CLEVIS	2
9	44S02C		PIN, split	2
10	C163A		BRACKET, spring	2
11	425434000		SPRING	1
12	7S04		NUT	2
13	V2003857		ROD, clutch	1



# TRANSFER GEARBOX

4 - D - 1

Item	Part no	Serial no	Description	Qty
<b>\$ Used with TX &amp; TR2 engines</b>				
1	V2003762		\$ TRANSFER GEARBOX, assembly	1
2	V602231		\$ CASE & COVER (matched pair)	1
3	10508A01		\$ SPROCKET, 24T, input	1
4	V602233		\$ CHAIN, 5/8" pitch duplex, 70 links	1
<b># Used with LPW, LPWS &amp; LPWT and Yanmar engines</b>				
1	V2004093		# TRANSFER GEARBOX, assembly	1
2	V602232		# CASE & COVER (matched pair)	1
3	10508A02		# SPROCKET, 19T, input	1
4	V602234		# CHAIN, 5/8" pitch duplex, 68 links	1
5	V602230		GASKET, case to cover	1
6	6S01B		BOLT	20
7	10S01		WASHER, flat	20
8	41S03		WASHER, spring	20
9	9S01		NUT	20
10	90S02F		SCREW, socket cap head	16
11	10298A01		COVER, input shaft	1
12	10293A01		GASKET	4
13	88S06		BEARING	4
14	10562A01		HOUSING, oil seal	3
15	89S02		SEAL, oil	3
20	10299A01		SHAFT, input	1
21	10300A01		SHAFT, output	1
22	10508A03		SPROCKET, output, 31T	1
25	10305A01		BREATHER	1
26	V601446		ELBOW	1
27	42S05		WASHER, fibre	2
28	10301A01		PLUG, filler/level	2
30	10384A01		FLANGE, input	1
31	10384A01		FLANGE, output	2
32	10S06		WASHER	3
33	107S07		NUT, (thin) nylon insert	3
40	V2003893		BRACKET	1
41	6S01C		BOLT	2
42	10S01		WASHER, flat	2
43	41S03		WASHER, spring	2
44	9S01		NUT	2
45	8S05P		BOLT	4
46	267S07		WASHER, flat	4
47	61S05		NUT, self-locking	4



Item	Part no	Serial no	Description	Qty
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# **CAUTION** *When installing the front axle prop. shaft (10), ALWAYS ensure that the end with the LARGE angle flange (11) is fitted to the transfer gearbox.*

1	20087A01		PROP. SHAFT, gearbox to trans. box	1
2	V602297		FLANGE, 1310 SAE	2
3	10568A01		KIT, U.J., 1310 SAE (27 x 81.8mm)	AR
5	V2001085		PROP. SHAFT, trans. box to rear axle	1
6	V602297		FLANGE, 1310 SAE	2
7	10568A01		KIT, U.J., 1310 SAE (27 x 81.8mm)	AR

**4S2000, 4S2500 & 4S3000**

10	V2001084		# PROP. SHAFT, 1310/1310 flanges	
11	V602300		FLANGE, 1310 SAE, wide angle	1
12	10568A01		KIT, U.J., 1310 SAE (27 x 81.8mm)	AR
13	V602297		FLANGE, 1310 SAE	1
14	10568A01		KIT, U.J., 1310 SAE (27 x 81.8mm)	AR

**4S4000M**

10	V2004144		# PROP. SHAFT, 1310/1410 flanges	
11	V602300		FLANGE, 1310 SAE, wide angle	1
12	10568A01		KIT, U.J., 1310 SAE (27 x 81.8mm)	AR
13	—		FLANGE, 1410 PCD holes	1
14	10568A01		KIT, U.J., 1310 SAE (27 x 81.8mm)	AR

20	6S03A		BOLT	16
20A	6S03A		BOLT, <b>NOT 4S4000M</b>	4
20A	6S04B		BOLT, <b>ONLY 4S4000M</b>	4
21	87S03		NUT, self-locking	24
22	6S03C		BOLT	4
25	176S01		CAP, grease nipple	9

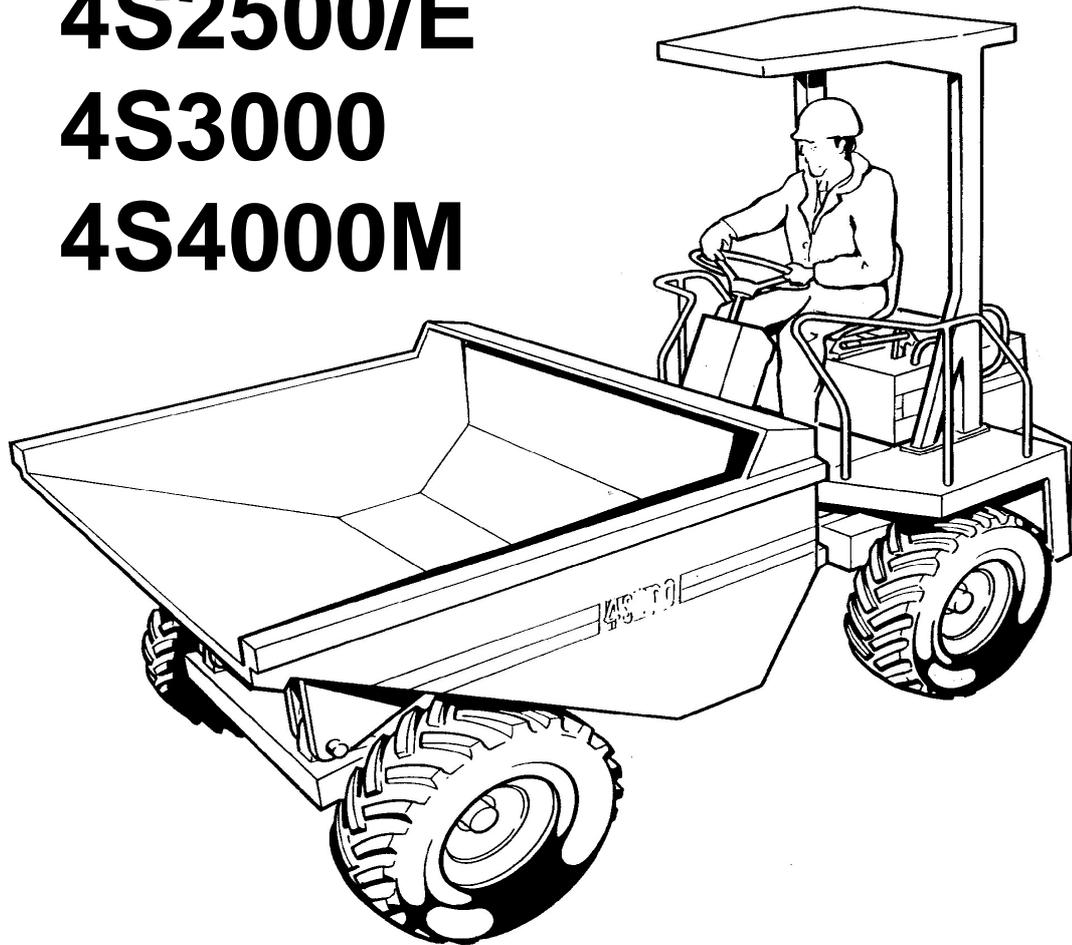
# ***'S' Series Dumpers***

**4S2000/E**

**4S2500/E**

**4S3000**

**4S4000M**



# ***ELECTRICS***

## ***Dumpers 4S2000/2500/3000/4000M***

**ELECTRICS, main**

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**5 - A - 1**

**ELECTRICS, steering column**

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**5 - A - 2**

## ***Dumpers 4S2000E/2500E***

**ELECTRICS, main**

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**5 - A - 2A**

**START-UP ALARM AND TIMER**

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**5 - A - 3**

**BEACON**

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**5 - B - 1**

**WORKING LIGHTS used with FOPS canopy**

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**5 - B - 2**

**WORKING LIGHTS used with ROPS frame**

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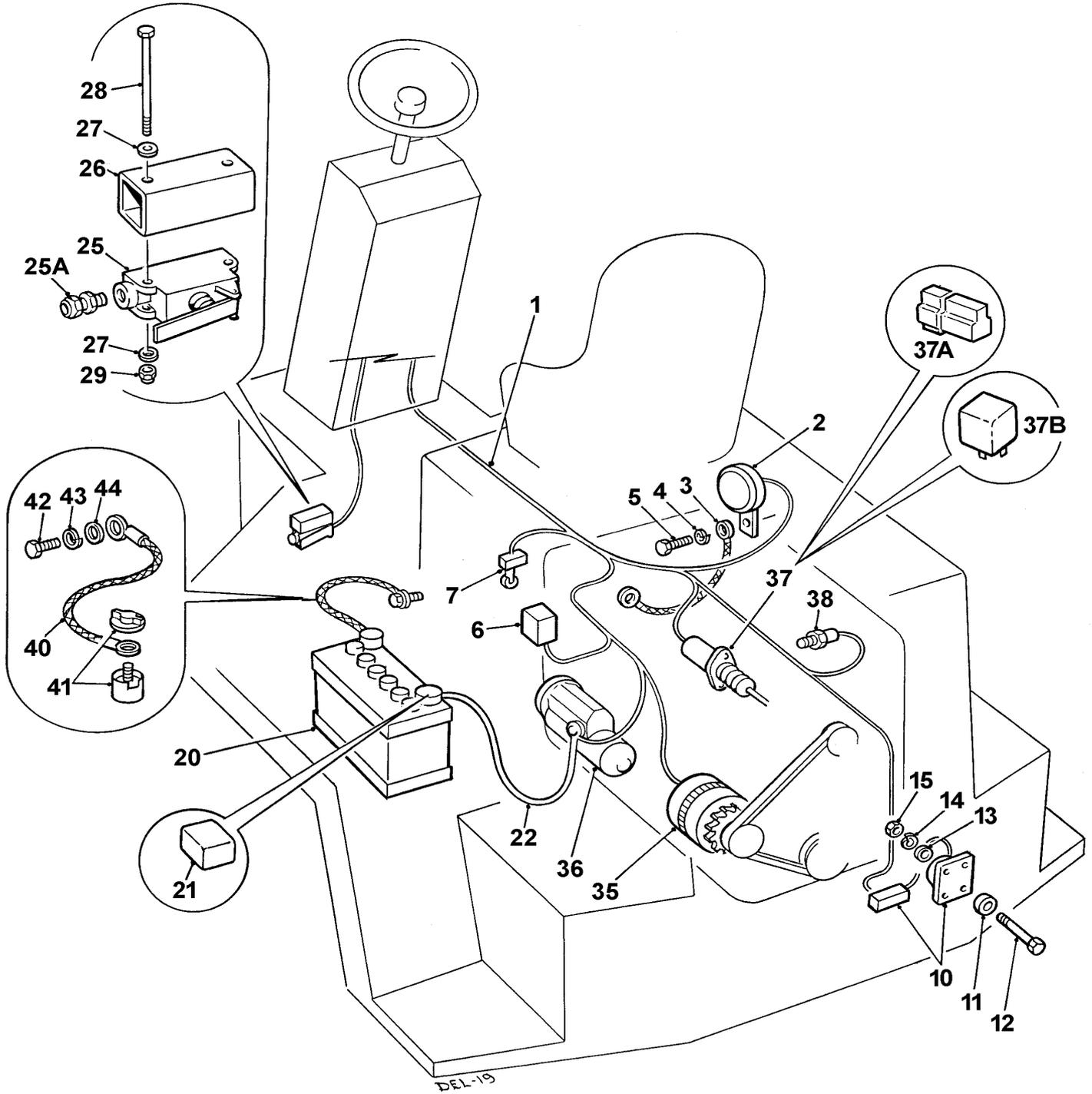
**5 - B - 2A**

**ROAD LIGHTS**

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**5 - B - 3**

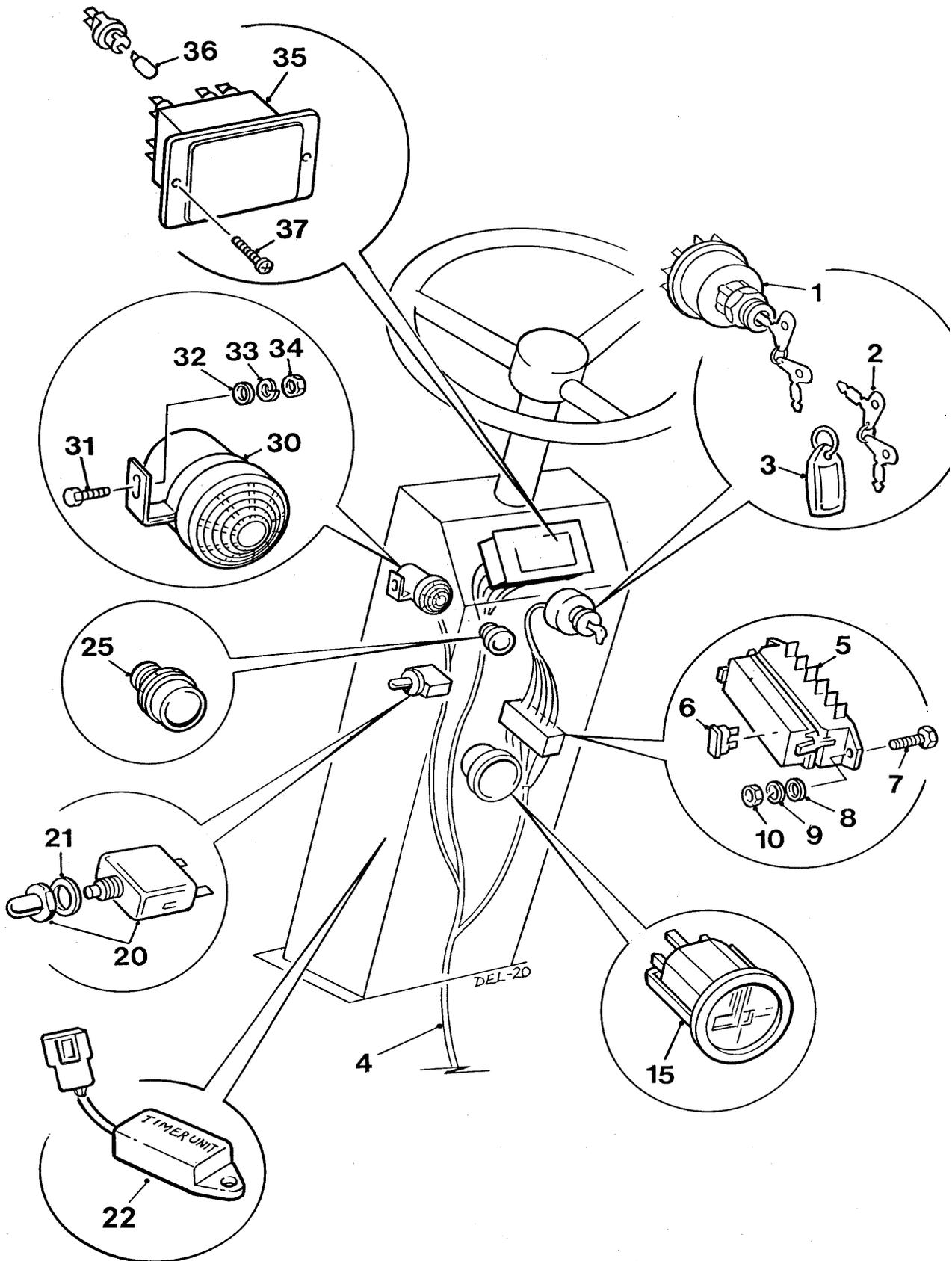
**[<<< To beginning of Parts](#)**



Item	Part no	Serial no	Description	Qty
			<b>Lister-Petter</b>	
1	V2004054		LOOM, c/w fusebox (see page 5-A-2)	
			<b>Yanmar</b>	
1	V2005100		LOOM, c/w fusebox (see page 5-A-2)	
2	V2003144		HORN	1
3	V2003510		CABLE, earth, transmission	1
4	17S04		WASHER, spring	1
5	11S03C		SCREW, set	1
			<b>Lister-Petter</b>	
6	—		RELAY	1
			<b>Yanmar</b>	
6	—		RELAY, thermostart (Yanmar part)	1
7	V2003249		SWITCH, reverse alarm	1
10	—		ALARM, start-up (see page 5-A-3)	1
11	513340800		SPACER	2
12	11S02F		SCREW, set	2
13	267S04		WASHER, flat	2
14	17S03		WASHER, spring	2
15	7S02		NUT	2
20	109S08		BATTERY	1
21	V2004204		COVER, terminal isolator	1
			<b>Lister-Petter</b>	
22	10989A11		CABLE, battery to starter motor	1
			<b>Yanmar</b>	
22	10989A01		CABLE, battery to starter motor	1
25	208561000		SWITCH, inhibitor	1
25A	250166010		GLAND, cable	1
26	V2004111		SPACER	1
27	267S03		WASHER, flat	2
28	8S01N		BOLT	2
29	59S13		NUT, 'Nyloc' self-locking	2
35	—		ALTERNATOR (see Engine Catalogue)	
36	—		MOTOR, starter (see Engine Catalogue)	
37	—		SOLENOID, fuel (see Engine Catalogue)	



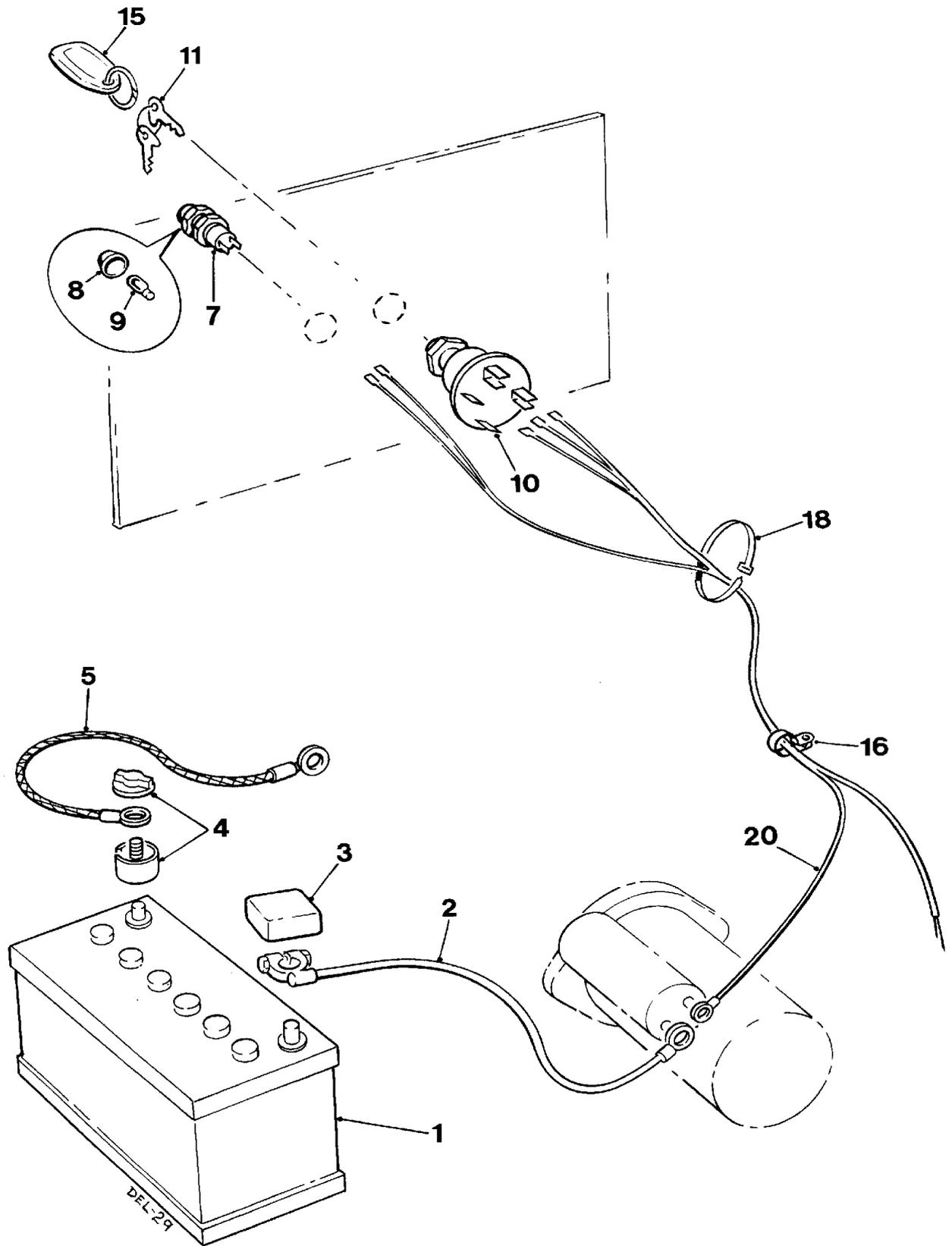
Item	Part no	Serial no	Description	Qty
			<b>Yanmar</b>	
37A	—		DIODE, fuel shut-off ( <i>Yanmar part</i> )	1
37B	—		RELAY, fuel shut-off ( <i>Yanmar part</i> )	1
38	—		SENDER, temp. ( <i>see Engine Catalogue</i> )	1
40	V2004216		CABLE, battery earth	1
41	V2004214		ISOLATOR, battery earth	1
42	28S03C		SCREW, set	1
43	41S05		WASHER, spring	1
44	10S03		WASHER, flat	1



## ELECTRICS, steering column

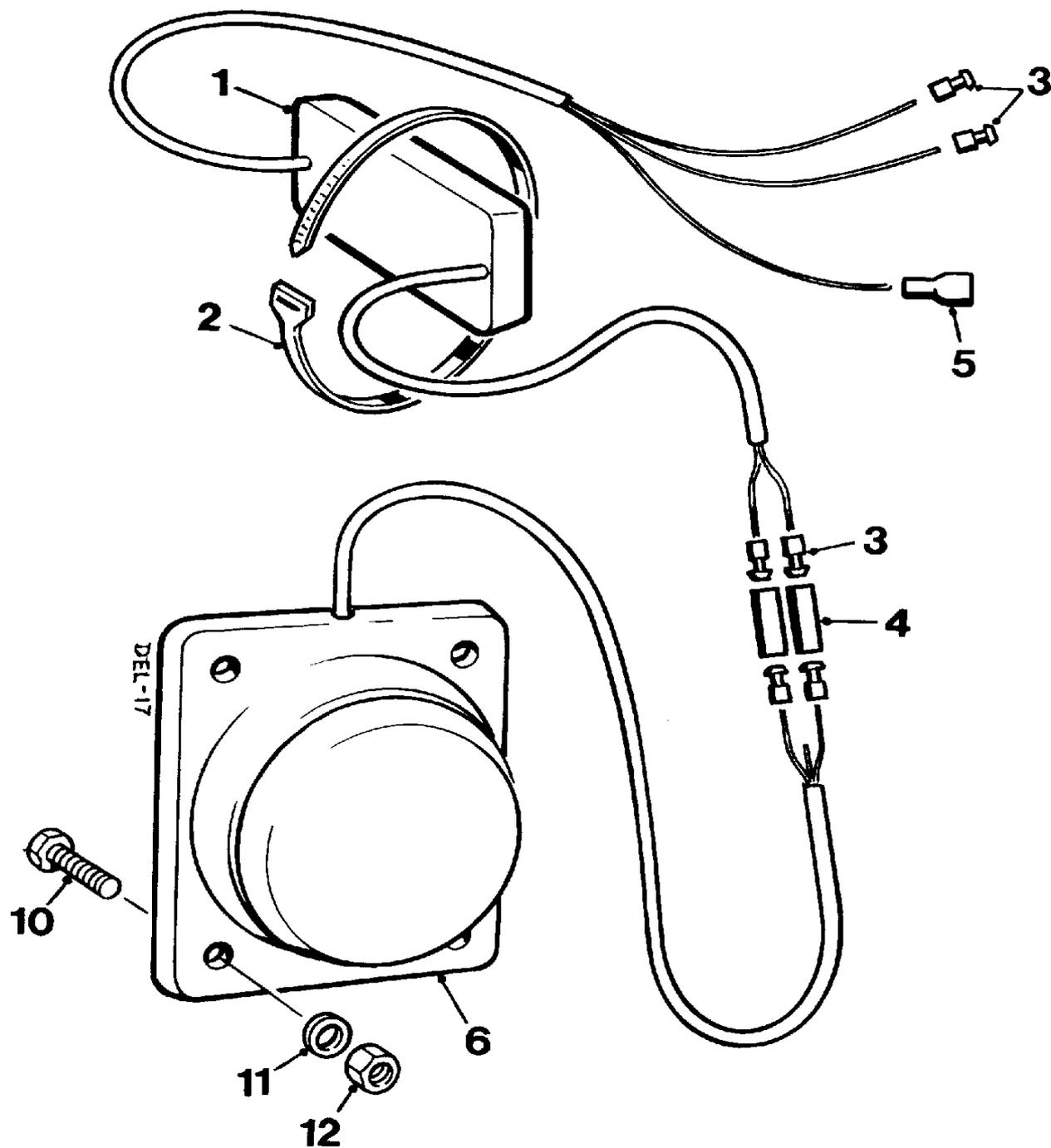
5 - A - 2

Item	Part no	Serial no	Description	Qty
1	V2004189		START SWITCH	1
2	V601179		KEY	1
3	V2003540		RING, key	1
4	—		LOOM, assembly ( <i>see page 5-A-1</i> )	1
5	V601177		FUSEBOX	1
6	V601171		FUSE, 5 amp, light brown	1
6	V601172		FUSE, 7.5 amp, dark brown	1
6	V601173		FUSE, 10 amp, red	1
6	V601174		FUSE, 15 amp, blue	1
6	V601175		FUSE, 20 amp, yellow	1
6	V601176		FUSE, 25 amp, white	1
7	11S11A		SCREW, set	2
8	267S02		WASHER, flat	2
9	17S10		WASHER, spring	2
10	7S09		NUT	2
15	V2003123		GAUGE, hour meter	1
20	V2004187		# CIRCUIT BREAKER	1
21	V2004188		# WASHER, nylon	1
			# <i>Lister-Petter engines with fuel stop solenoid.</i>	
22	.....		\$ FUEL SHUT-OFF TIMER	1
			\$ <i>Yanmar engines (Yanmar part)</i>	1
25	V2003570		BUTTON, horn	1
30	V2003043		ALARM, engine temperature	1
31	11S02B		SCREW, set	1
32	267S04		WASHER, flat	1
33	17S03		WASHER, spring	1
34	7S02		NUT	1
35	V2002661		PANEL, warning lights, assembly	1
36	—		BULB	AR
37	311S03B		SCREW, c/sunk head	2



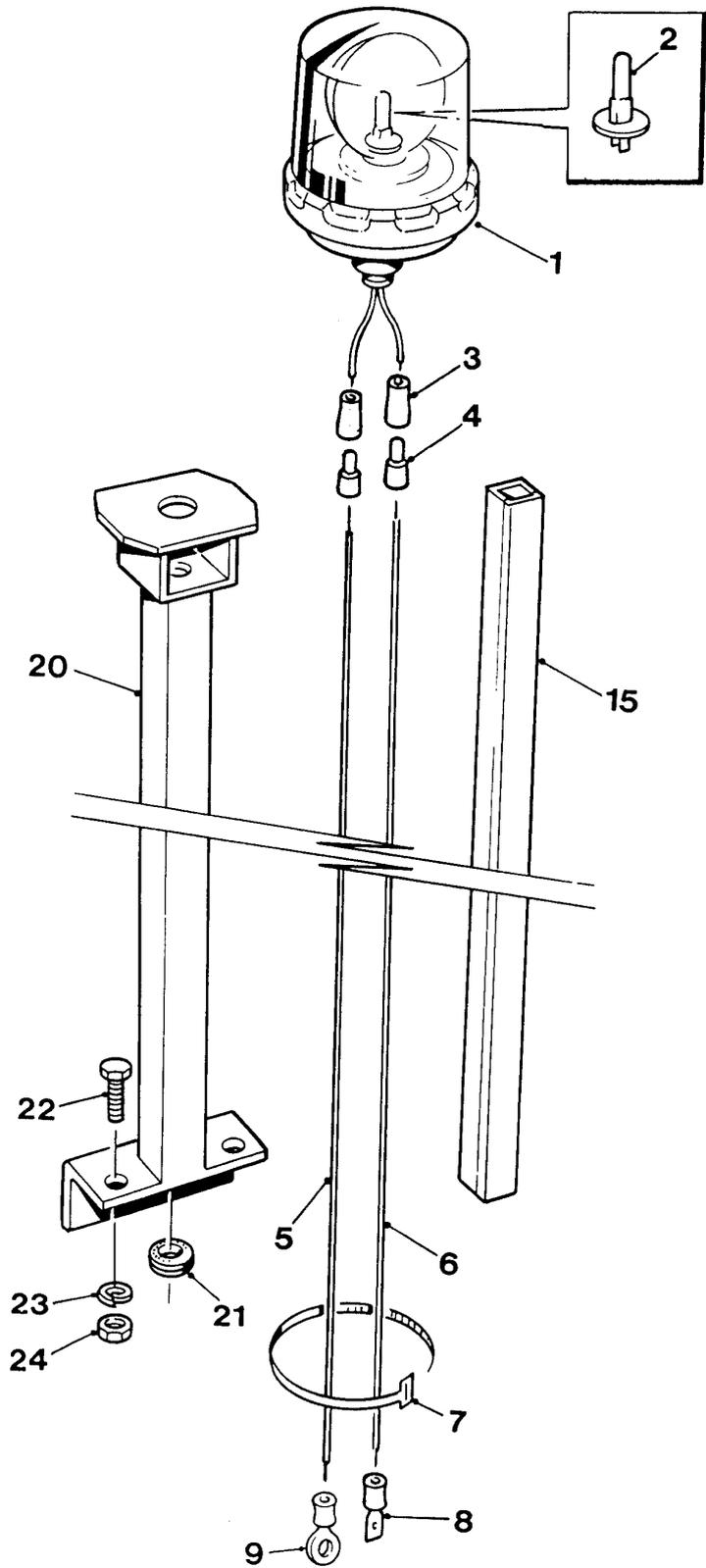
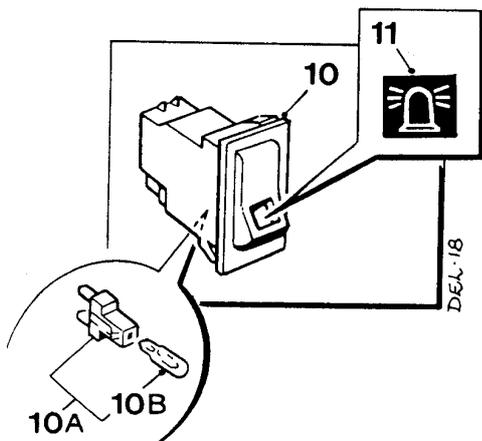
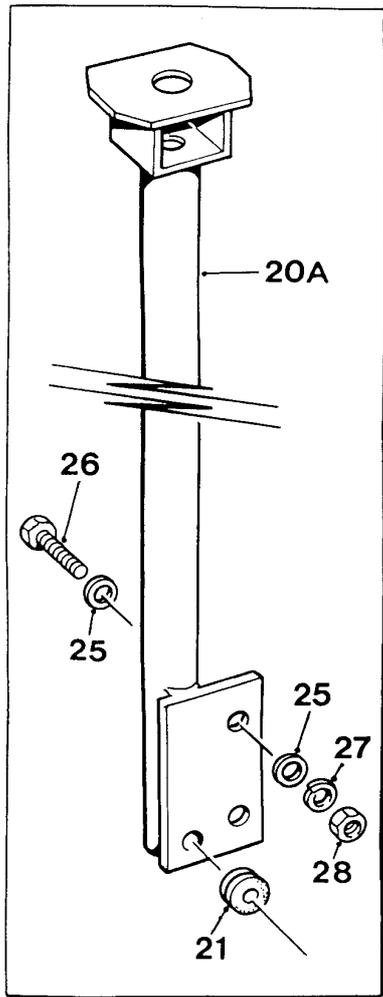
**ELECTRICS, main****5 - A - 2A**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
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, battery earth	1
7	V602634		LIGHT, battery charging	1
8	V602635		LENS	1
9	V602636		BULB	1
10	V2004189		START SWITCH	1
11	V601179		KEY	1
15	V2003540		RING, key	1
16	V2003557		CLIP, cable	2
18	V2003253		TIE, cable	3
20	30231A11		LOOM	1



**START-UP ALARM AND TIMER****5 - A - 3**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2003748		TIMER	1
2	V2003111		TIE	2
3	191901100		BULLET	6
4	191901800		CONNECTOR, female	2
5	191906000		CONNECTOR, Lucar, 1/4", female	1
6	V2003528		ALARM	1
10	11S02B		SCREW, set	2
11	267S04		WASHER, flat	2
12	59S14		NUT, 'Binx' self-locking	2



Item	Part no	Serial no	Description	Qty
1	V2003576		BEACON, assembly	1
2	V600430		BULB, beacon	1
3	191901100		CONNECTOR, 'Bullet' female	2
4	191901800		CONNECTOR, 'Bullet' male	2
5	144776000		WIRE, orange (order by meter)	AR
6	144779000		WIRE, black (order by meter)	AR
7	V2003111		TIE, nylon	2
8	V2003583		CONNECTOR, 'Lucar', male	1
9	191901700		CONNECTOR, ring	1
10	V2003577		SWITCH, off/on, assembly	1
10A	V601800		RETAINER & BULB, assembly	1
10B	V602399		BULB	
11	V2003578		INSERT, beacon switch	1

**ROPS Beacon**

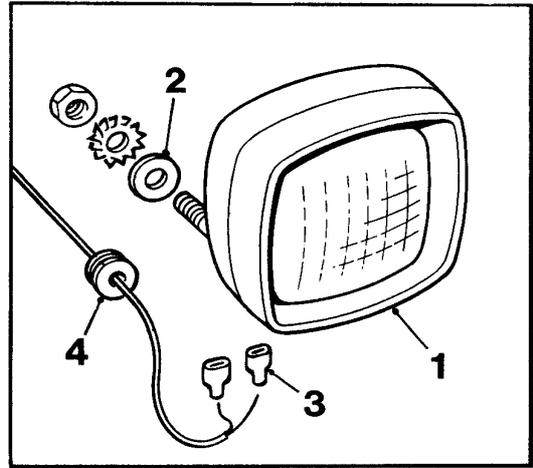
15	V2004043		CONDUIT (order by meter)	AR
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**Non ROPS Beacon**

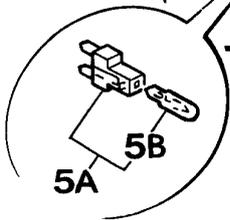
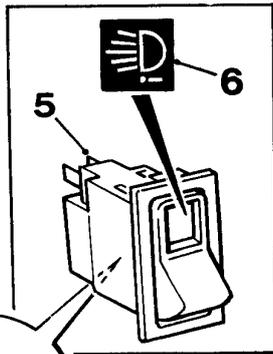
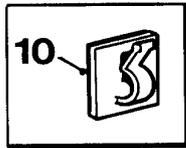
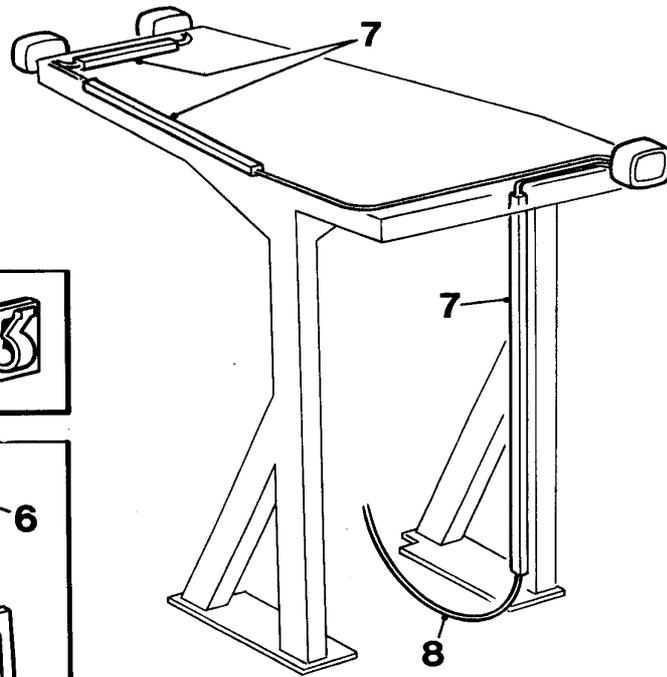
20	V2003567	/ #	SUPPORT, beacon	1
20A	V2004999	# /	SUPPORT, beacon	1
21	V2003573		GROMMET, open	1
22	11S04D	/ #	SCREW, set	3
23	17S05	/ #	WASHER, spring	3
24	7S04	/ #	NUT	3
25	267S06	# /	WASHER, flat	4
26	11S04C	# /	SCREW, set	2
27	17S05	# /	WASHER, spring	2
28	7S04	# /	NUT	2

**# Up to and from serial numbers**

/ 20004	<b>4S2000</b>
20005 /	
/ 25005	<b>4S2500</b>
25006 /	
/ 30012	<b>4S3000</b>
30013 /	
/ 40004	<b>4S4000M</b>
40005 /	

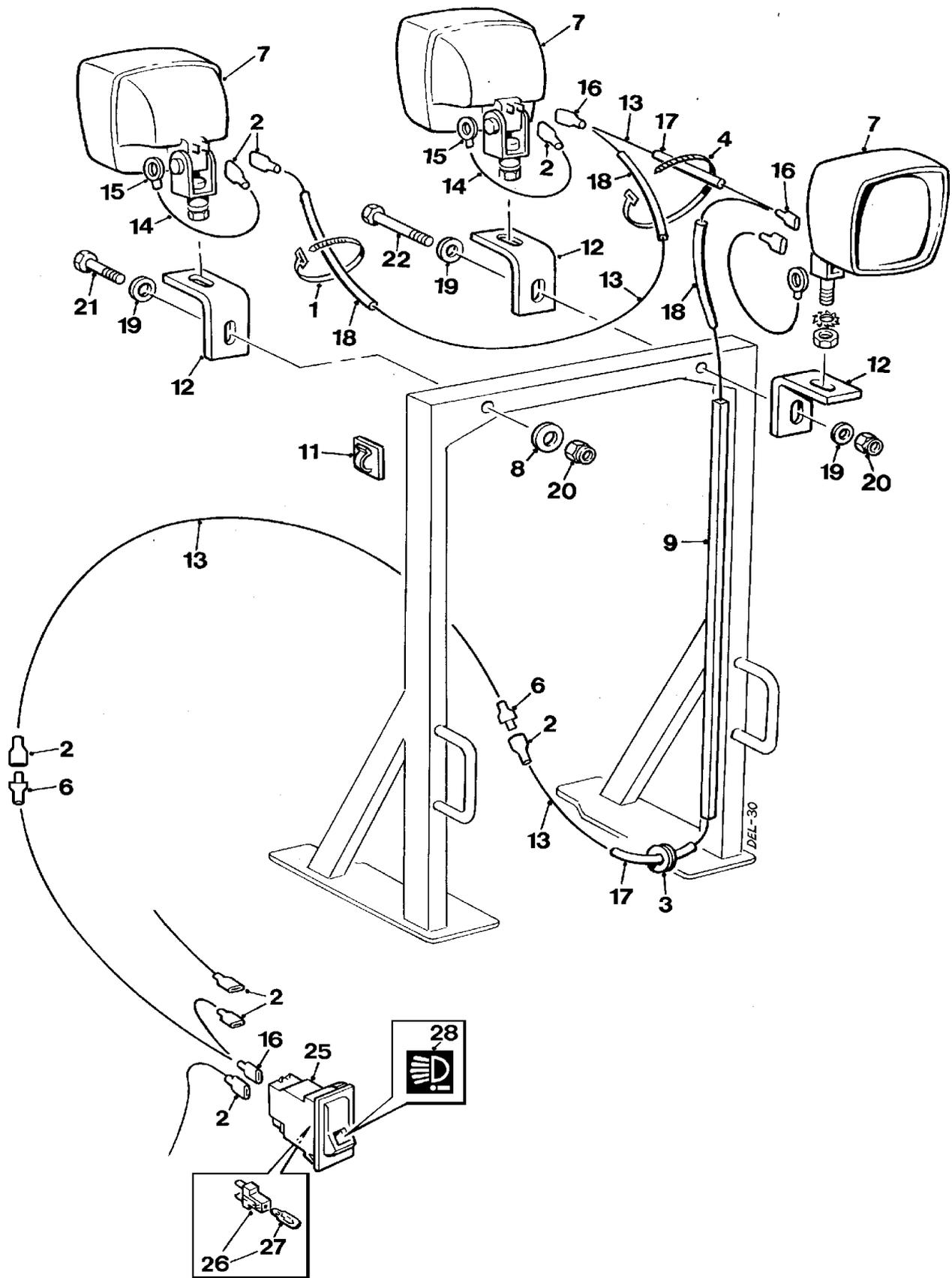


DEL-2



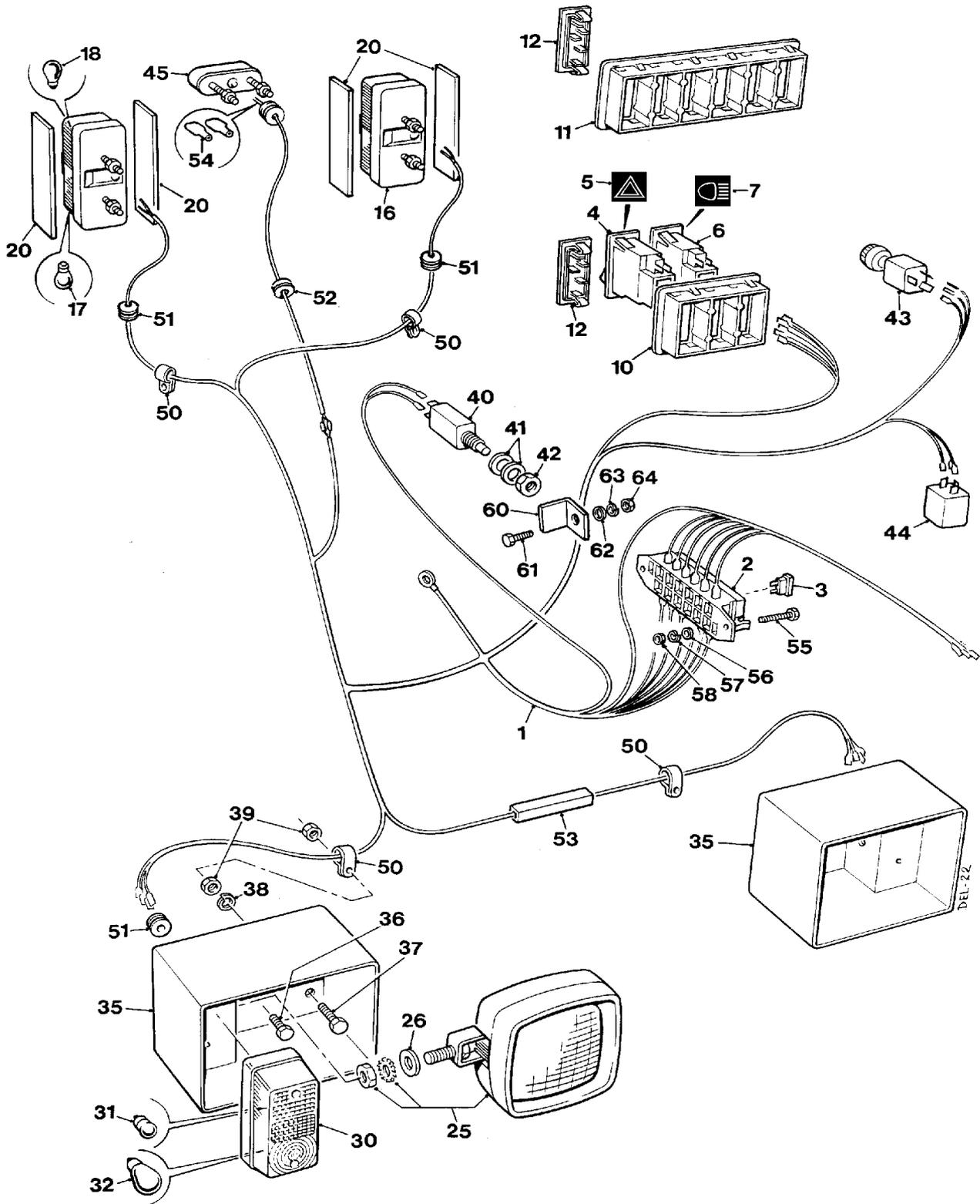
**WORKING LIGHTS, used with FOPS canopy****5 - B - 2**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2003638		LIGHT, working	3
2	V2004220		WASHER, Special ( <i>as required</i> )	3
3	V2003233		CONNECTOR, female Lucar	6
4	V2003252		GROMMET	3
5	V2003577		SWITCH, on/off assembly	1
5A	V601800		RETAINER & BULB, assembly	1
5B	V602399		BULB	1
6	V2004219		INSERT, working light	1
7	V2004043		CONDUIT ( <i>order by meter</i> )	AR
8	144779003		WIRE, black ( <i>order by meter</i> )	5M
8	144772000		WIRE, red / yellow ( <i>order by meter</i> )	10M
			or	
8	144739001		WIRE, blue/red ( <i>order by meter</i> )	10M
10	V2004355		CLIP, self-adhesive	1
.....	2081430001		SLEEVE, black ( <i>not illustrated</i> )	5M



**WORKING LIGHTS, used with ROPS frame****5 - B - 2A**

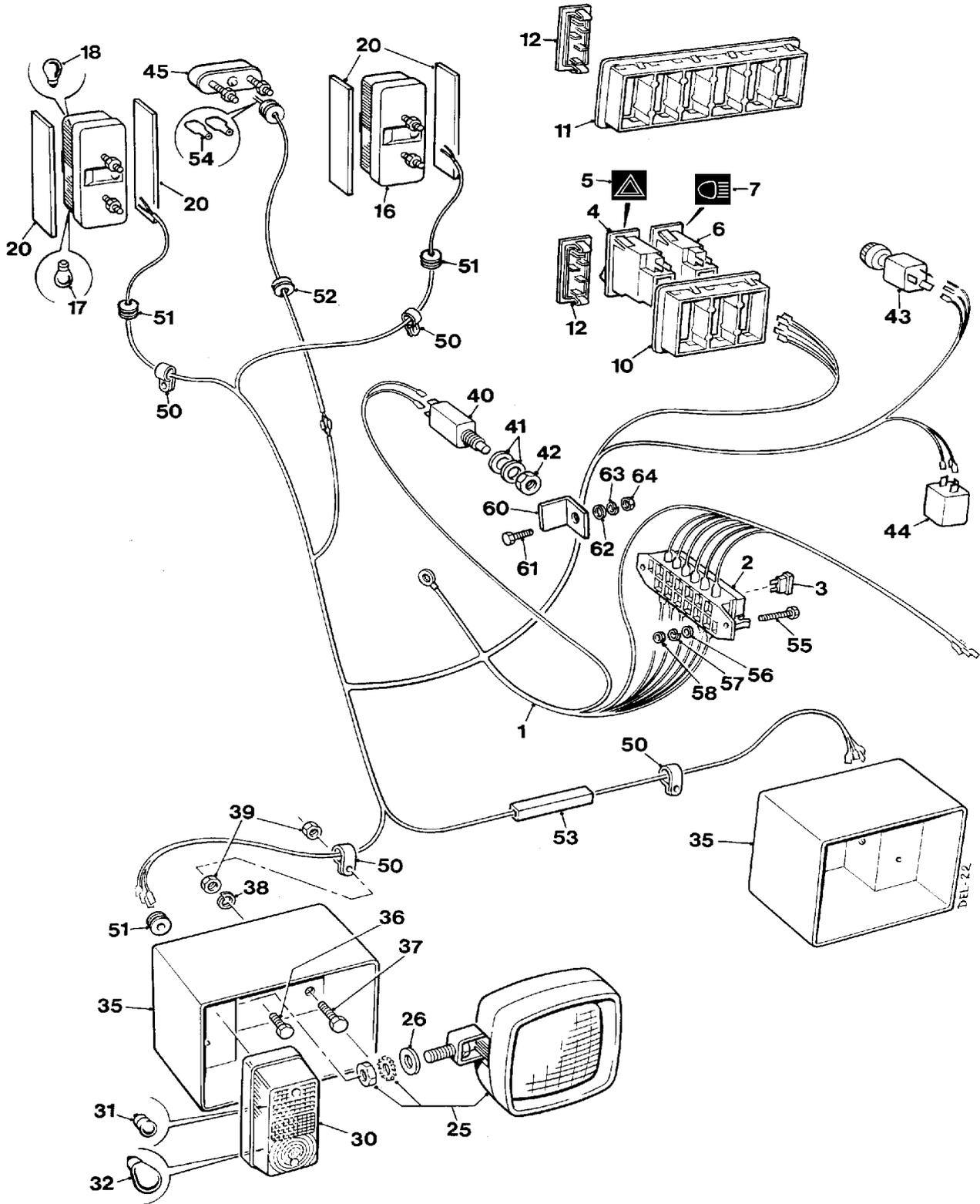
<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2003111		TIE, nylon, cable	10
2	V2003233		TERMINAL, Lucar female	10
3	V2003252		GROMMET, open	1
4	V2003253		TIE, nylon, cable	1
6	V2003583		TERMINAL, Lucar male	2
7	V2003638		LIGHT, working	3
8	V2003892		WASHER, Special	1
9	V2004043		CONDUIT (order by meter)	AR
11	V2004355		CLIP, self-adhesive	2
12	V2005003		BRACKET, working light	3
13	144739001		WIRE, blue/red (order by meter)	AR
14	144779001		WIRE, black (order by meter)	AR
15	191901700		TERMINAL, ring	3
16	191907000		TERMINAL, Lucar female	3
17	208143001		SLEEVE, 100mm long	2
18	208143002		SLEEVE, 400mm long	3
19	267S07		WASHER, flat	3
20	59S04		NUT, 'Nyloc', self-locking	2
21	8S05S		BOLT	1
22	8S05T		BOLT	1
25	V2003577		SWITCH, on/off assembly	1
26	V601800		RETAINER & BULB, assembly	1
27	V602399		BULB	1
28	V2004219		INSERT, working light	1



## ROAD LIGHTS

5 - B- 3

Item	Part no	Serial no	Description	Qty
1	V2003645		LOOM , assembly	1
2	—		FUSEBOX	1
3	—		FUSE	
4	V2003641		SWITCH, hazard lights	1
5	V2003647		INSERT, hazard lights	1
6	V2003644		SWITCH, head lights	1
7	V2003646		INSERT, main beam	1
10	V2003643		PANEL, three switch	1
11	V2004285		PANEL, six switch	1
12	V2003348		BLANK, switch panel	6
15	V2003651		LIGHT, R.H. rear, assembly	1
16	V2003636		LIGHT, L.H. rear, assembly	1
17	—		BULB, indicator, 12V 21W	1
18	—		BULB, brake/rear side, 12V 21/5W	1
20	—		GUARD, ( <i>welded to chassis</i> )	—
25	V2003638		LIGHT, head	2
26	V2004220		WASHER, Special	2
30	V2003652		LIGHTS, R.H. front	1
—	V2003637		LIGHTS, L.H. front ( <i>not illustrated</i> )	1
31	—		BULB, sidelight 12V 5W	1
32	—		BULB, indicator 12V 21W	1
35	V2003634		COWL, head & sidelights	2
36	11S05C		SCREW, set	2
37	11S05E		SCREW, set	2
38	17S06		WASHER, spring	4
39	7S05		NUT	6
40	V2003168		SWITCH, brake	1
41	10S04		WASHER, flat	2
42	95S05		NUT	1
43	V2003642		SWITCH, indicator	1
44	V2003640		UNIT, flasher	1
45	V2003639		LIGHT, number plate	1



**ROAD LIGHTS****5 - B- 3**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
50	V2003557		CLIP, 'P' type	5
51	V2003252		GROMMET	5
52	V2003573		GROMMET	1
53	V2004043		CONDUIT	AR
54	191906000		CONNECTOR, 1/4" female Lucar	2
55	11S11A		SCREW, set	2
56	267S02		WASHER, flat	2
57	17S10		WASHER, spring	2
58	7S09		NUT	2
60	V2003062		BRACKET, brake switch operation	1
61	11S03C		SCREW, set	1
62	267S05		WASHER, flat	1
63	17S04		WASHER, spring	1
64	7S03		NUT	1

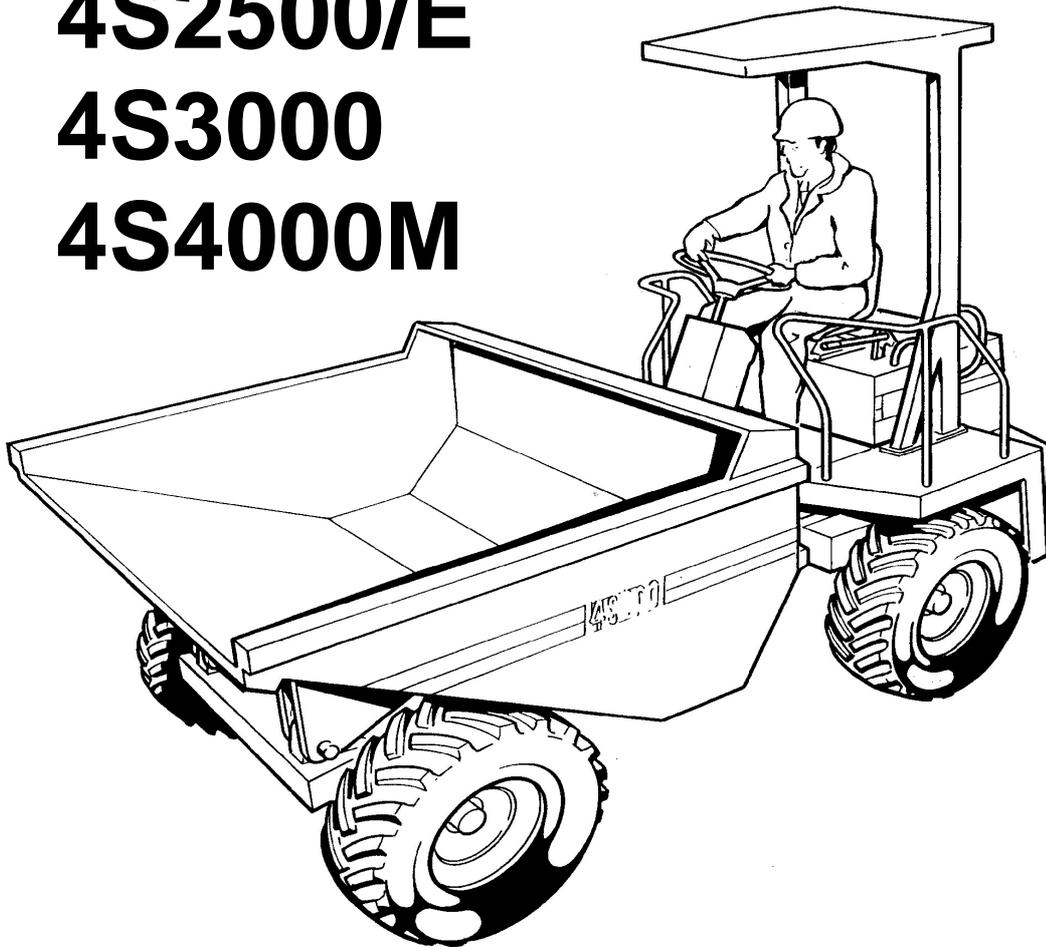
# **'S' Series Dumpers**

**4S2000/E**

**4S2500/E**

**4S3000**

**4S4000M**



# **SKIPS**

***Dumpers 4S2000/4S2500/4S3000***

**SKIP, forward tipping**

**6 - A - 1**

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***Dumper 4S4000M***

**SKIP, forward tipping**

**6 - A - 1A**

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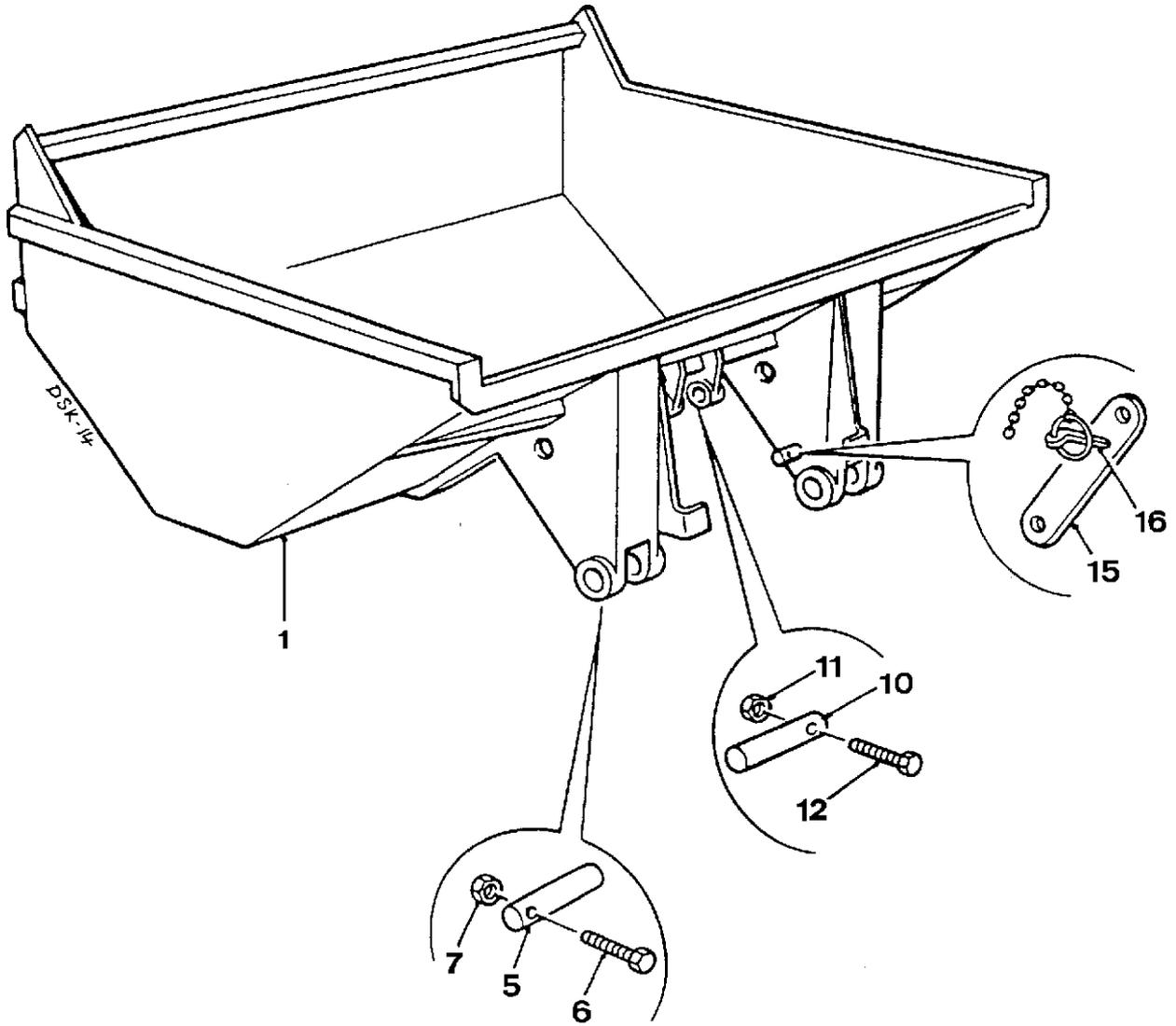
***Dumper 4S2500***

**SKIP, rotating**

**6 - A - 2**

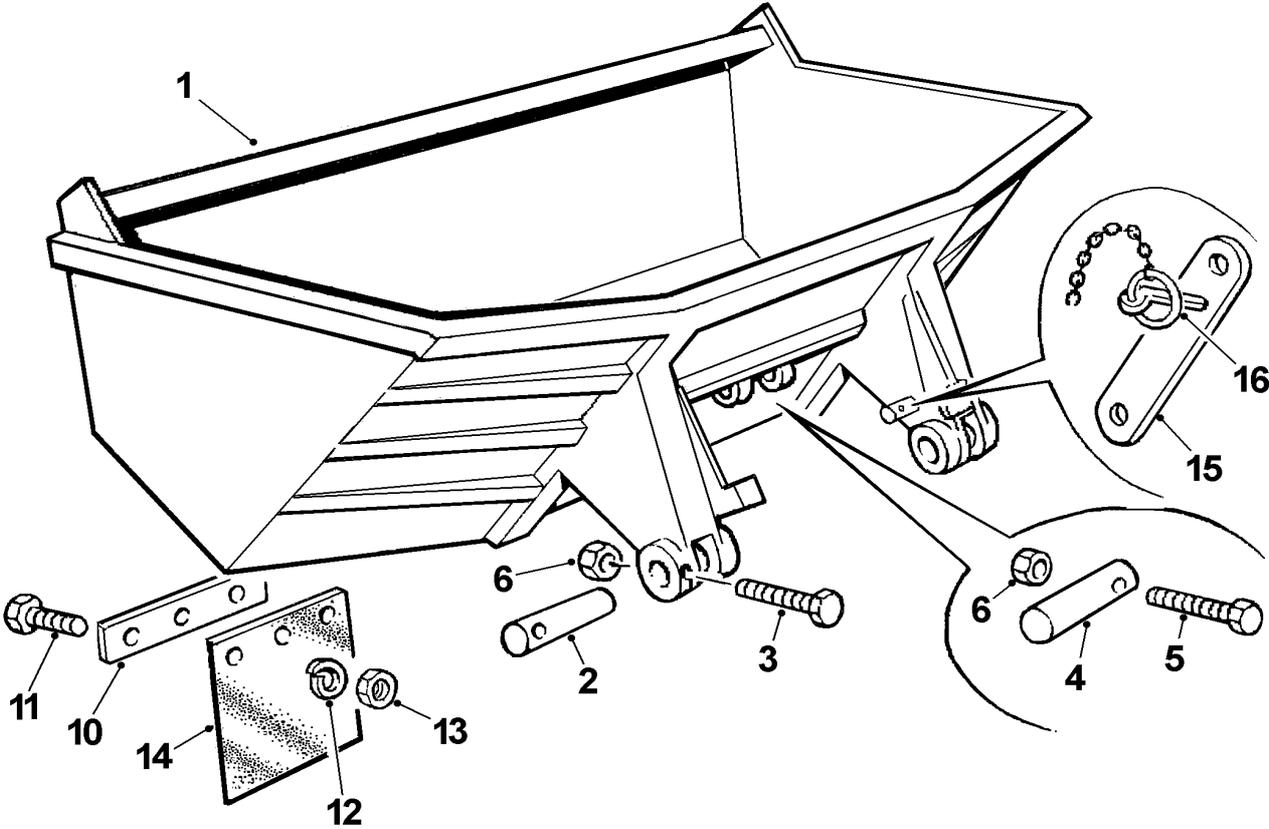
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**<<< [To beginning of Parts](#)**



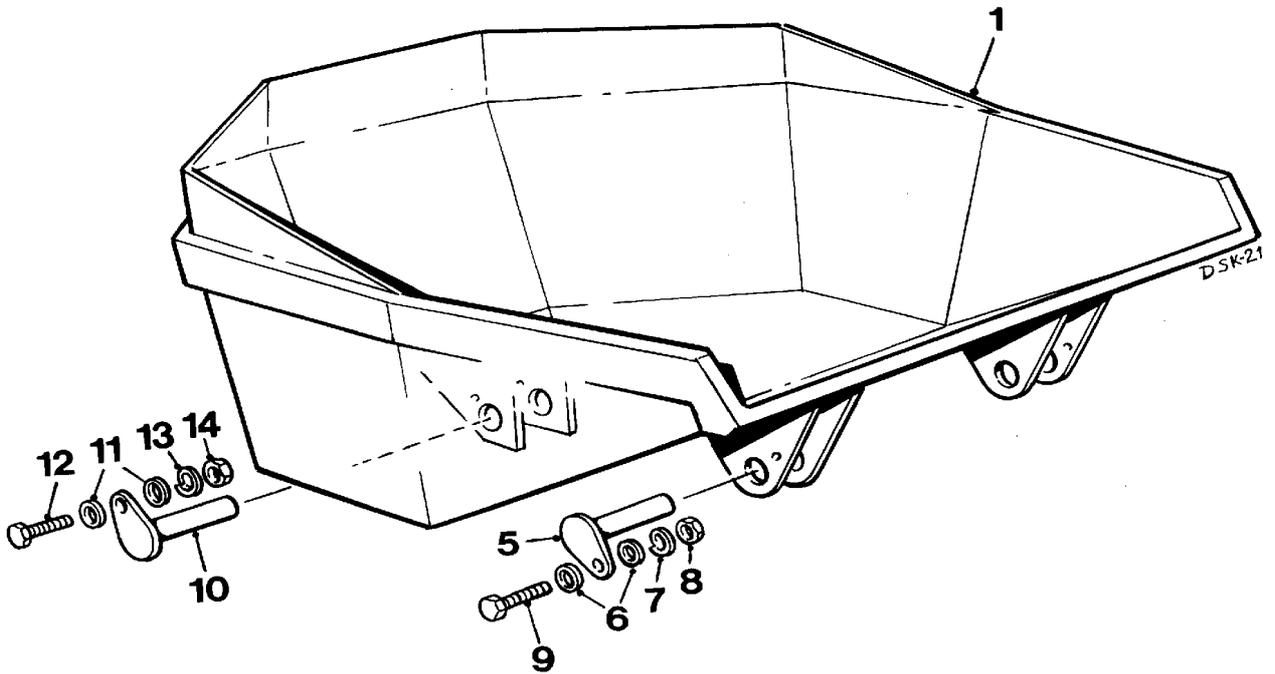
**SKIP, forward tipping****6 - A - 1**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2003718		SKIP, <b>4S2000</b>	1
1	V2003774		SKIP, <b>4S2500</b>	1
1	V2003781		SKIP, <b>4S3000</b>	1
5	V2002619		PIN, skip pivot	2
6	11S03M		SCREW, set	2
7	61S03		NUT, self-locking	2
10	V2002621		PIN, ram pivot	1/2
11	61S03		NUT, self-locking	1/2
12	11S03M		SCREW, set	1/2
15	V2004004		SUPPORT	1
16	902S02		PIN, lynch	2



**SKIP, forward tipping****6 - A - 1A**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2004157		SKIP, <b>4S4000M</b>	1
2	V2002619		PIN, skip pivot	2
3	11S03M		SCREW, set	2
4	V2002621		PIN, ram pivot	2
5	11S03M		SCREW, set	2
6	61S03		NUT, self-locking	2
10	V2003056		RETAINER, mudflap	2
11	11S03C		SCREW, set	6
12	17S04		WASHER, spring	6
13	7S03		NUT	6
14	V2003500		MUDFLAP	2
15	V2004004		SUPPORT	1
16	902S02		PIN, lynch	2



**SKIP, rotating****6 - A - 2**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2004449		SKIP, rotating, <b>4S2500</b>	1
5	10522A04		PIN, skip pivot	2
6	267S06		WASHER, flat	4
7	17S05		WASHER, spring	2
8	7S04		NUT	2
9	11S04C		SCREW, set	2
10	10919A01		PIN, ram pivot	1
11	267S06		WASHER, flat	2
12	11S04C		SCREW, set	1
13	17S05		WASHER, spring	1
14	7S04		NUT	1

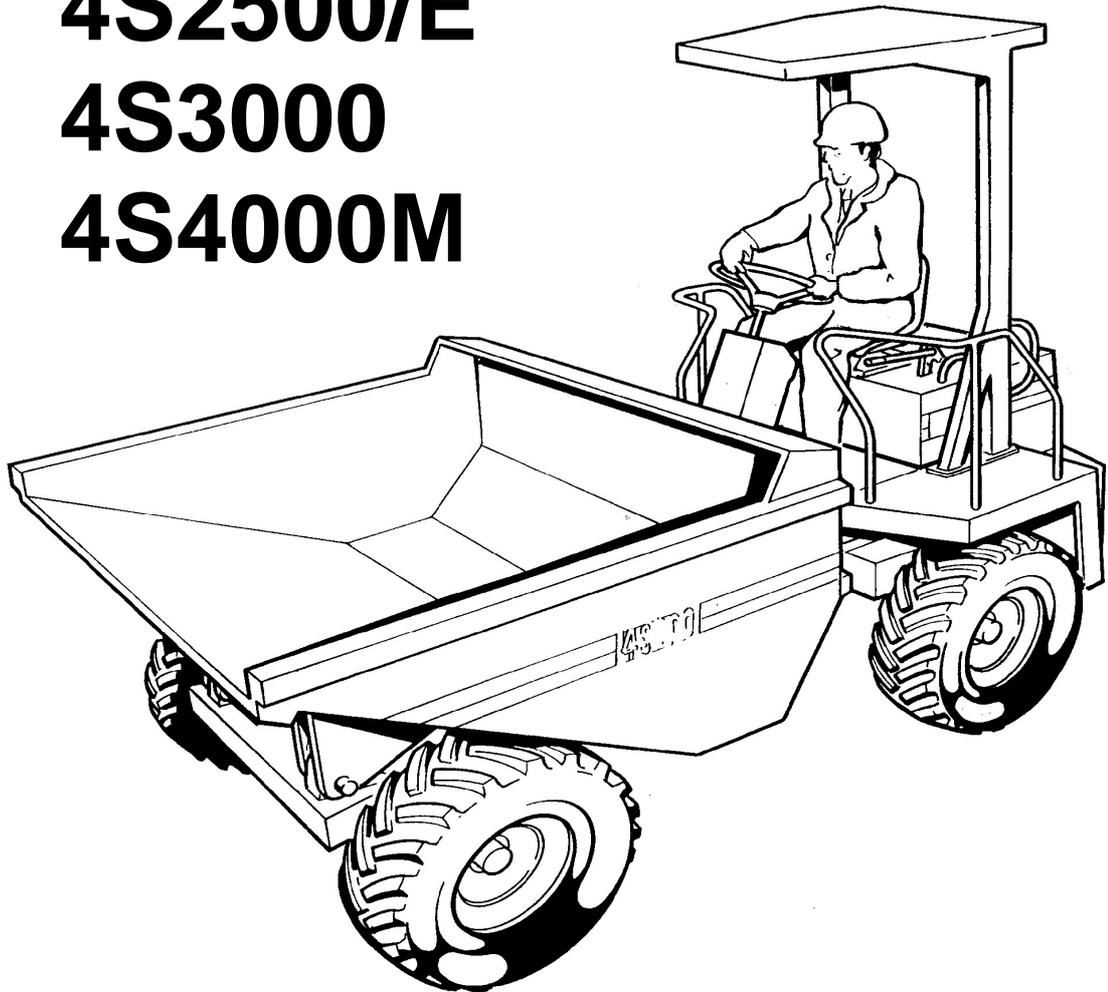
# 'S' Series Dumpers

**4S2000/E**

**4S2500/E**

**4S3000**

**4S4000M**



# HYDRAULICS

## HYDRAULIC PUMP, FILTER & TANK

*Lister-Petter engines*

[7 - A - 1](#)

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## HYDRAULIC PUMP, FILTER & TANK

*Yanmar 3TNE (3 cylinder)*

[7 - A - 1A](#)

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## HYDRAULIC PUMP, FILTER & TANK

*Yanmar 4TNE (4 cylinder)*

[7 - A - 1B](#)

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## STEERING CIRCUIT

*NOT Yanmar 3TNE (3 cylinder)*

[7 - A - 2](#)

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## STEERING CIRCUIT

*Yanmar 3TNE (3 cylinder) ONLY*

[7 - A - 2A](#)

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## CONTROL VALVE, monobloc

[7 - A - 2B](#)

---

## TIPPING CIRCUIT, forward tipping skip

[7 - A - 3](#)

---

## 'JOYSTICK' MONOBLOC CONTROL VALVE

[7 - A - 3A](#)

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## 'JOYSTICK' monobloc control valve, FITTINGS

[7 - A - 3AA](#)

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## 'JOYSTICK' SECTIONAL CONTROL VALVE

[7 - A - 3AB](#)

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## 'JOYSTICK' sectional control valve, FITTINGS

[7 - A - 3AC](#)

---

## TIPPING CIRCUIT, rotating skip

[7 - A - 3B](#)

---

## ROTATING CIRCUIT, rotating skip

[7 - A - 3C](#)

---

## BRACKETS & HOSE CLIPS

[7 - A - 4](#)

---

## RAM, Steering

[7 - R - 1](#)

---

## RAM, Tipping, forward tipping skip

[7 - R - 2](#)

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## RAM, Tipping, rotating skip

[7 - R - 3](#)

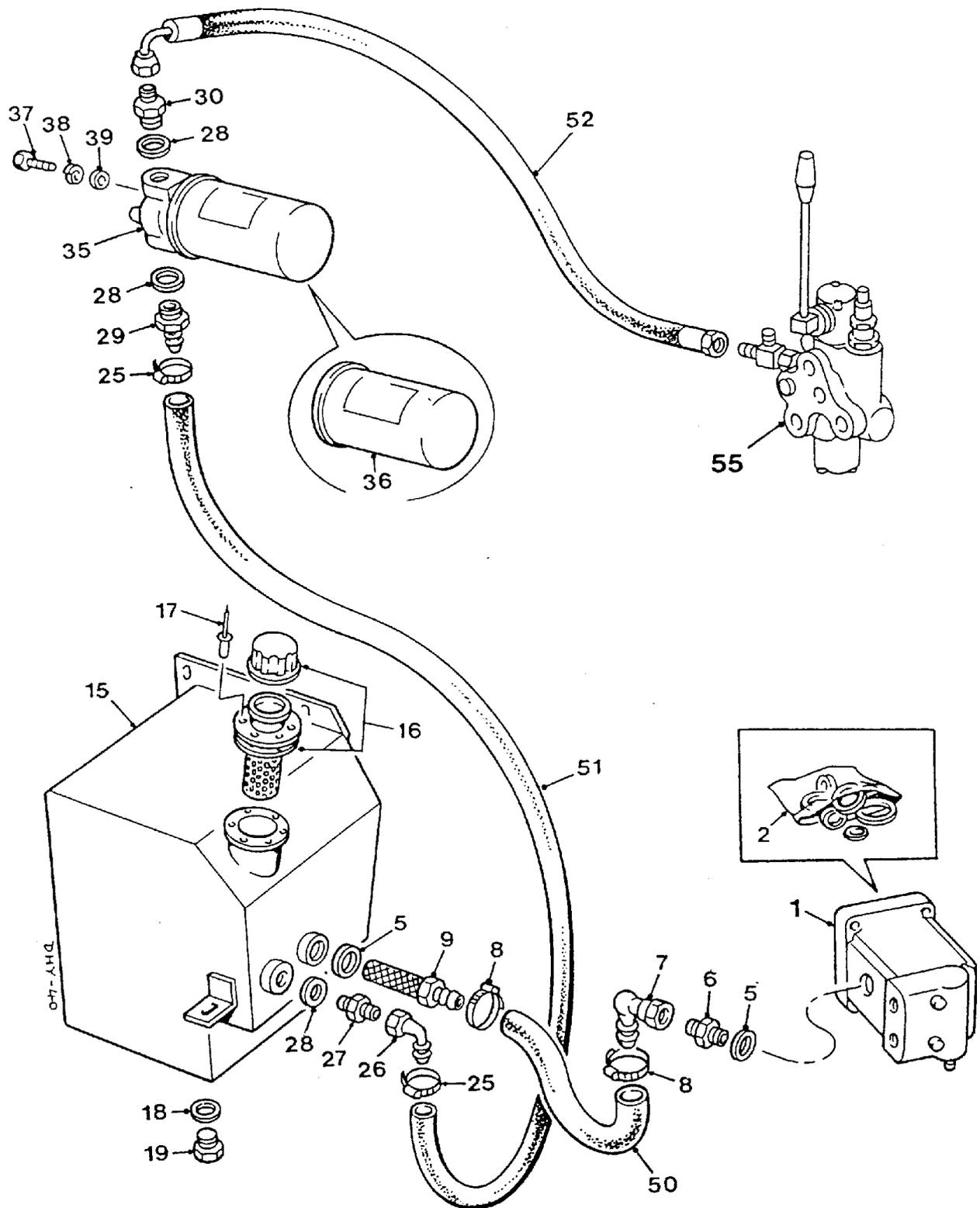
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## RAM, Swivel, rotating skip

[7 - R - 4](#)

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[<<< To beginning of Parts](#)

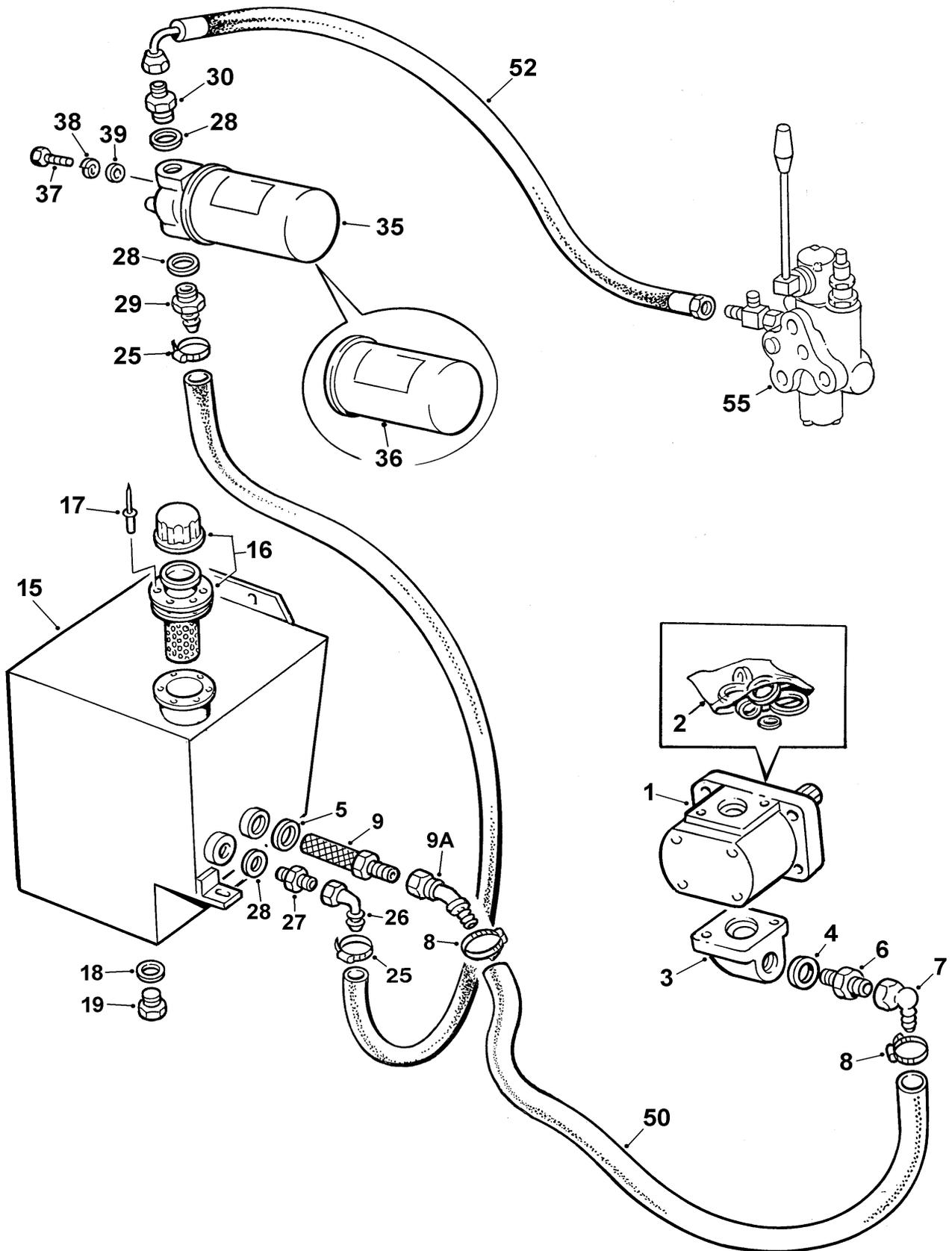


# HYDRAULIC PUMP, FILTER & TANK

## Lister-Petter engines only

7 - A - 1

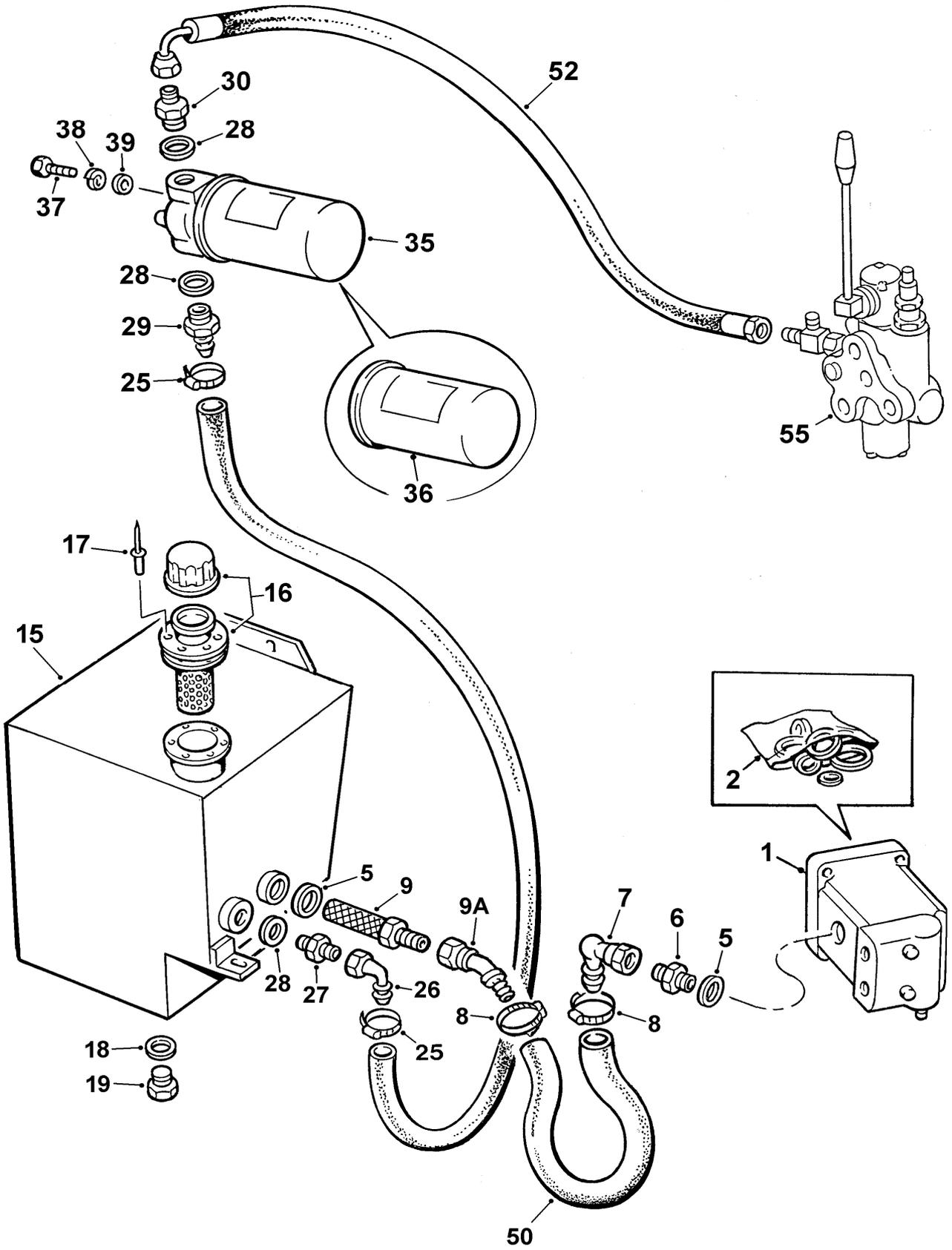
Item	Part no	Serial no	Description	Qty
1	V2003763		PUMP ( <i>Not used with TR2 engines</i> )	1
2	V602746		KIT, pump repair	AR
1	V2003764		PUMP ( <i>Only used with TR2 engines</i> )	1
2	V602746		KIT, pump repair	AR
5	100S08		SEAL, bonded	2
6	122S07		ADAPTER	1
7	V2004179		ELBOW	1
8	97S07		CLIP, hose	2
9	901S01		STRAINER	1
15	V2003772		TANK, hydraulic oil ( <i>Dumpers with TX engines</i> )	1
15	V2004659		TANK, hydraulic oil ( <i>Dumpers with LPW, LPWS, LPWT &amp; TR2 engines</i> )	1
16	V2004291		FILLER CAP / STRAINER	1
17	101S07G		RIVET	6
18	100S04		SEAL, bonded	1
19	127S04		PLUG	1
25	97S07		CLIP, hose	2
26	129S05E		ELBOW	1
27	122S06		ADAPTOR	1
28	100S06		SEAL, bonded	3
29	130S05F		ADAPTOR	1
30	119S13		ADAPTOR	1
35	V2003765		FILTER, return, Assembly	1
36	V2004168		CARTRIDGE	1
37	8S03H		SCREW, set	2
38	17S04		WASHER, spring	2
39	267S05		WASHER, flat	2
50	555258300		HOSE, tank to pump ( <i>cut length to suit</i> )	1
51	37S01P		HOSE, filter to tank	1
52	513336400		HOSE, filter to control valve	1
55	—		CONTROL VALVE ( <i>see page 7 - A - 3</i> )	1



**HYDRAULIC PUMP, FILTER & TANK**  
**Yanmar 3TNE (3 cylinder engines)**

**7 - A - 1A**

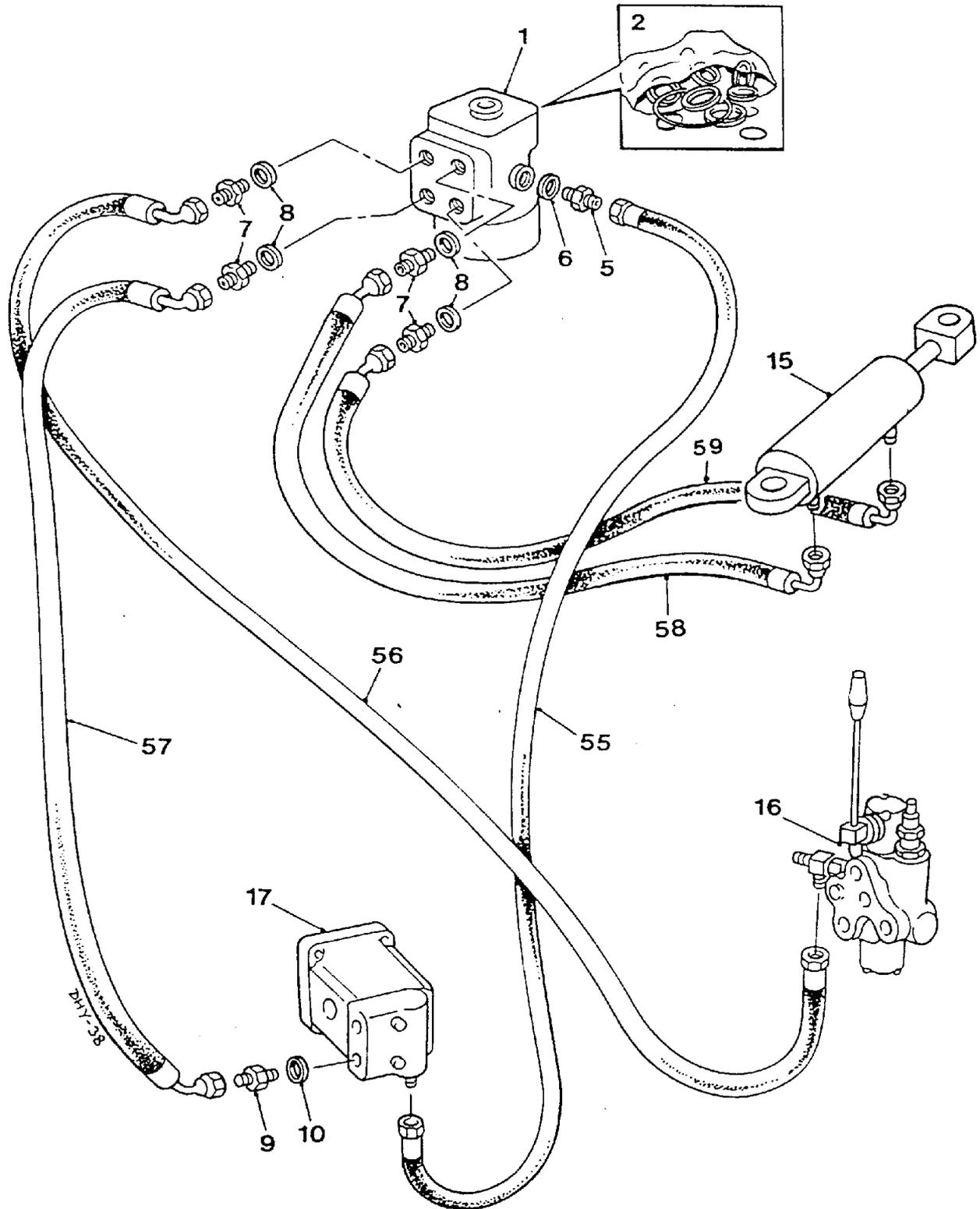
Item	Part no	Serial no	Description	Qty
1	V2005151		PUMP	1
2	V602746		KIT, pump repair	AR
3	V2005152		ADAPTER, block	1
4	100S06		SEAL, bonded	1
5	100S08		SEAL, bonded	1
6	119S15		ADAPTER	1
7	136S06F		ELBOW	1
8	97S07		CLIP, hose	2
9	901S03		STRAINER	1
9A	135S06		ELBOW, swept	1
15	V2004659		TANK, hydraulic oil	1
16	V2004291		FILLER CAP / STRAINER	1
17	101S07G		RIVET	6
18	100S04		SEAL, bonded	1
19	127S04		PLUG	1
25	97S07		CLIP, hose	2
26	136S06F		ELBOW	1
27	122S06		ADAPTOR	1
28	100S06		SEAL, bonded	3
29	130S05F		ADAPTOR	1
30	119S13		ADAPTOR	1
35	V2003765		FILTER, return, Assembly	1
36	V2004168		CARTRIDGE	1
37	8S03H		SCREW, set	2
38	17S04		WASHER, spring	2
39	267S05		WASHER, flat	2
50	37S03BH		HOSE, tank to pump	1
51	37S01P		HOSE, filter to tank	1
52	513336400		HOSE, filter to control valve	1
55	.....		CONTROL VALVE (see page 7 - A - 3)	1



**HYDRAULIC PUMP, FILTER & TANK**  
**Yanmar 4TNE (4 cylinder engines)**

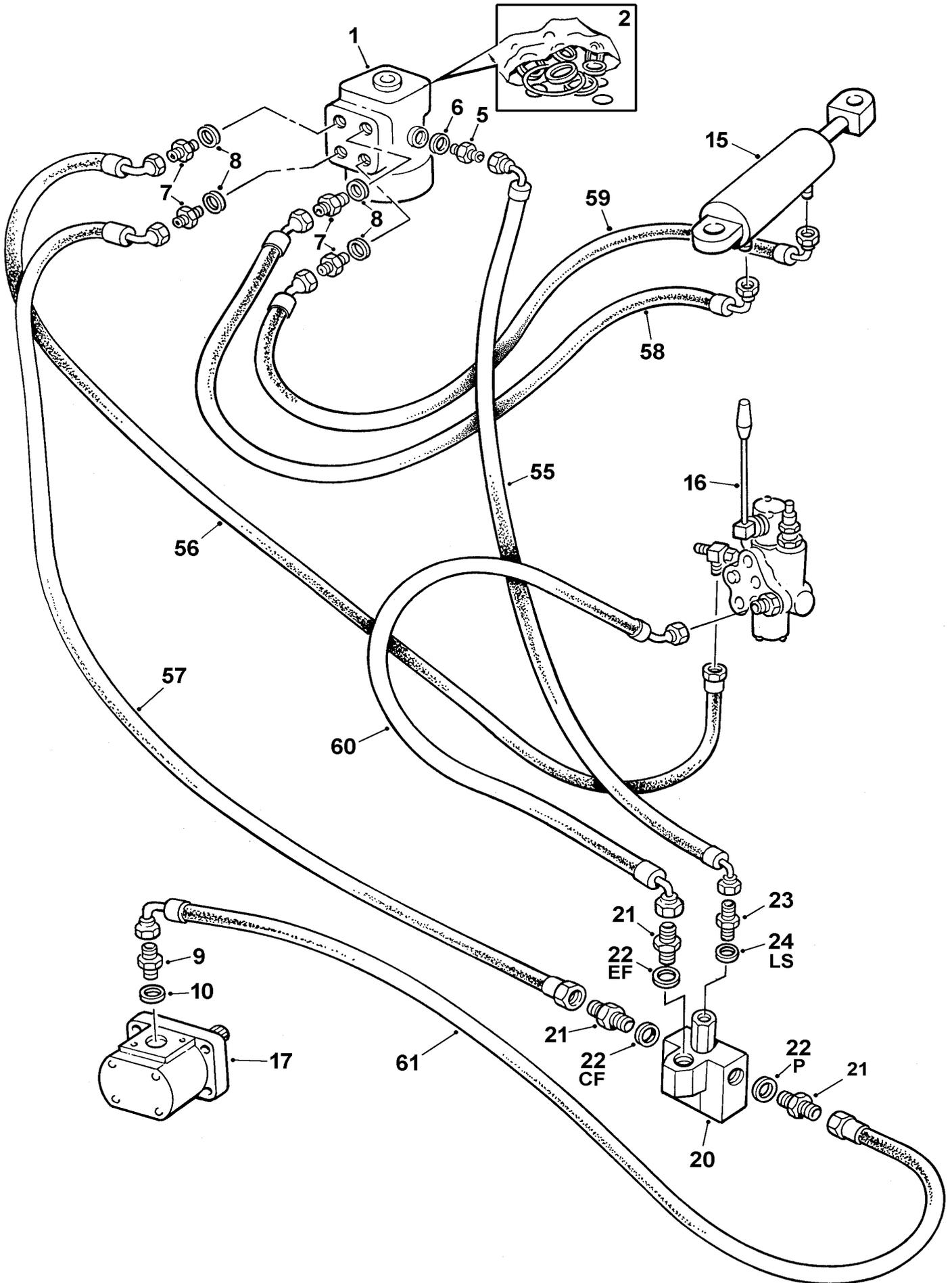
**7 - A - 1B**

Item	Part no	Serial no	Description	Qty
1	V2005099		PUMP	1
2	V603609		KIT, pump repair	AR
5	100S08		SEAL, bonded	2
6	122S07		ADAPTER	1
7	96S13		ELBOW, swivel	1
8	97S07		CLIP, hose	2
9	901S03		STRAINER	1
9A	135S06		ELBOW, swept	1
15	V2004659		TANK, hydraulic oil	1
16	V2004291		FILLER CAP / STRAINER	1
17	101S07G		RIVET	6
18	100S04		SEAL, bonded	1
19	127S04		PLUG	1
25	97S07		CLIP, hose	2
26	136S06F		ELBOW	1
27	122S06		ADAPTOR	1
28	100S06		SEAL, bonded	3
29	130S05F		ADAPTOR	1
30	119S13		ADAPTOR	1
35	V2003765		FILTER, return, Assembly	1
36	V2004168		CARTRIDGE	1
37	8S03H		SCREW, set	2
38	17S04		WASHER, spring	2
39	267S05		WASHER, flat	2
50	37S03BH		HOSE, tank to pump	1
51	37S01P		HOSE, filter to tank	1
52	513336400		HOSE, filter to control valve	1
55	.....		CONTROL VALVE (see page 7 - A - 3)	1



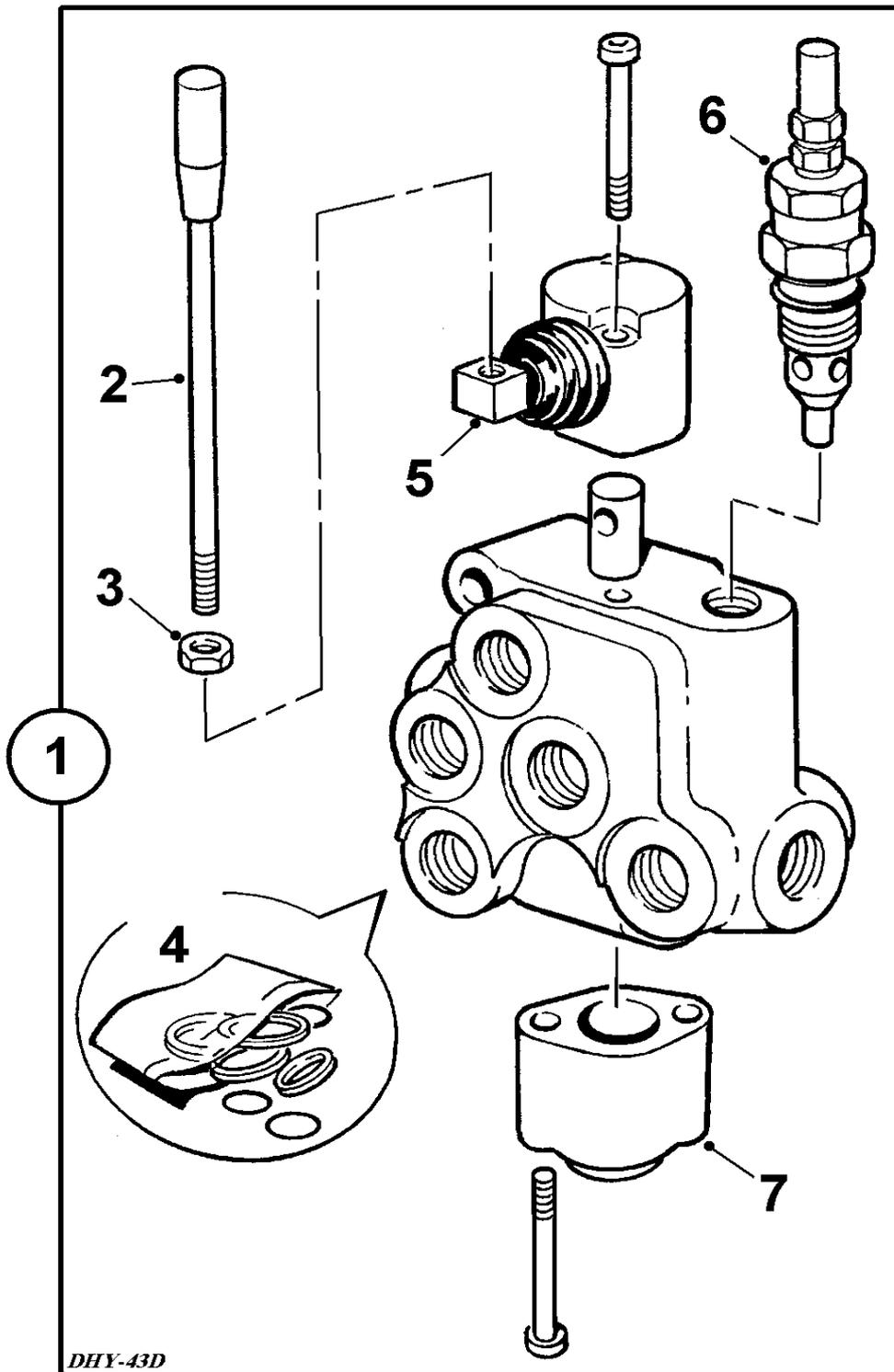
**STEERING CIRCUIT****7 - A - 2****All dumpers except those fitted with Yanmar 3TNE (3 cyl.) engines**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	-----		STEER UNIT (See page 2-S-1)	1
2	-----		KIT, repair (See page 2-S-1)	
5	122S02		ADAPTOR, male	1
6	100S02		SEAL, bonded	1
7	119S08		ADAPTOR, male	4
8	100S04		SEAL, bonded	4
9	122S03		ADAPTOR, male	1
10	100S03		SEAL, bonded	1
15	-----		STEER RAM (See pages 7-R-1)	1
16	-----		CONTROL VALVE (See page 7-A-3)	1
17	-----		PUMP (See page 7-A-1)	1
			<b>Lister-Petter engines</b>	
55	34S01H		HOSE, pump to steer unit (priority)	1
			<b>Yanmar 4TNE (4 cyl.) engines</b>	
55	53S01AA		HOSE, pump to steer unit (priority)	1
56	27S02D		HOSE, steer unit to con. valve "Tee"	1
			<b>Lister-Petter engines</b>	
57	63S02F		HOSE, pump to steer unit	1
			<b>Yanmar 4TNE (4 cyl.) engines</b>	
57	63S02A		HOSE, pump to steer unit	1
58	64S02A		HOSE, steer unit to ram (extend)	1
59	64S02A		HOSE, steer unit to ram (retract)	1



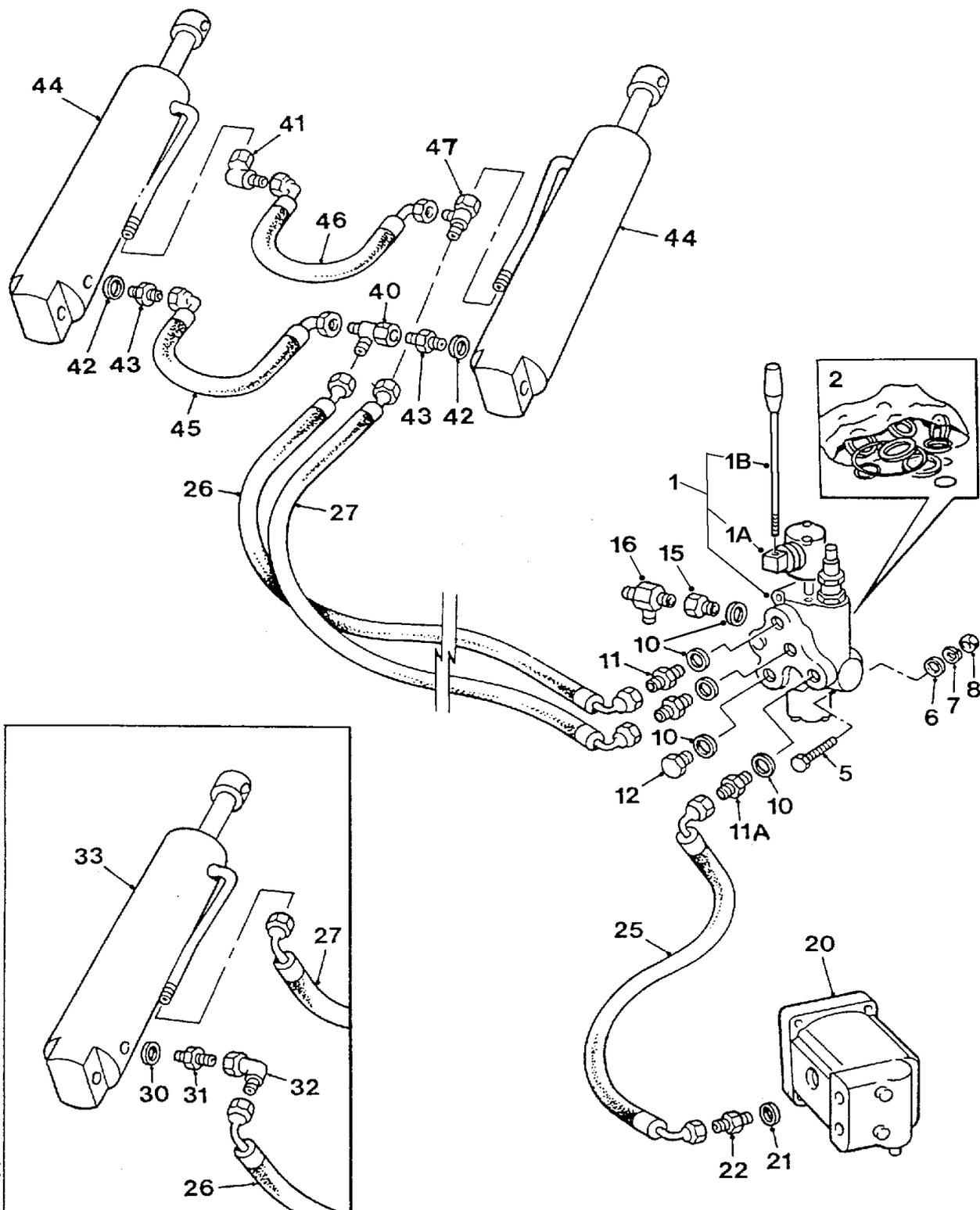
**STEERING CIRCUIT****7 - A - 2A****Dumpers fitted with Yanmar 3TNE (3 cyl.) engines only**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	-----		STEER UNIT (See page 2-S-1)	1
2	-----		KIT, repair (See page 2-S-1)	
5	122S02		ADAPTOR, male	1
6	100S02		SEAL, bonded	1
7	119S08		ADAPTOR, male	4
8	100S04		SEAL, bonded	4
9	122S04		ADAPTOR, male	1
10	100S04		SEAL, bonded	1
15	-----		STEER RAM (See pages 7-R-1)	1
16	-----		CONTROL VALVE (See page 7-A-3)	1
17	-----		PUMP (See page 7-A-1)	1
20	V2005153		VALVE, priority	1
55	53S01W		HOSE, priority valve (LS) to steer unit	1
56	27S02D		HOSE, steer unit to con. valve "Tee"	1
57	27S03J		HOSE, priority valve (CF) to steer unit	1
58	64S02A		HOSE, steer unit to ram (extend)	1
59	64S02A		HOSE, steer unit to ram (retract)	1
60	64S03G		HOSE, priority valve (EF) to con. Valve	1
61	73S03F		HOSE, pump to priority valve (P)	1



**CONTROL VALVE, monobloc****7 - A - 2B**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2004106		VALVE, control, assembly	1
2	V602630		LEVER, knob & nut, assembly	1
3	7S04		NUT	1
4	V602629		KIT, control valve repair	1
5	V603565		END CAP, lever	1
6	V603605		VALVE, relief	1
7	V603606		END CAP, spring base	1



DHY-39

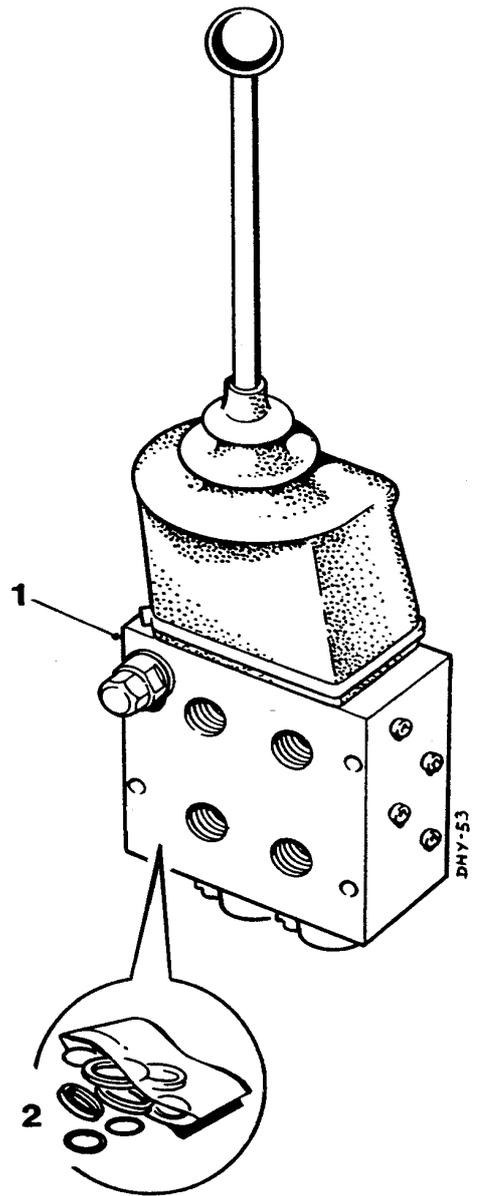
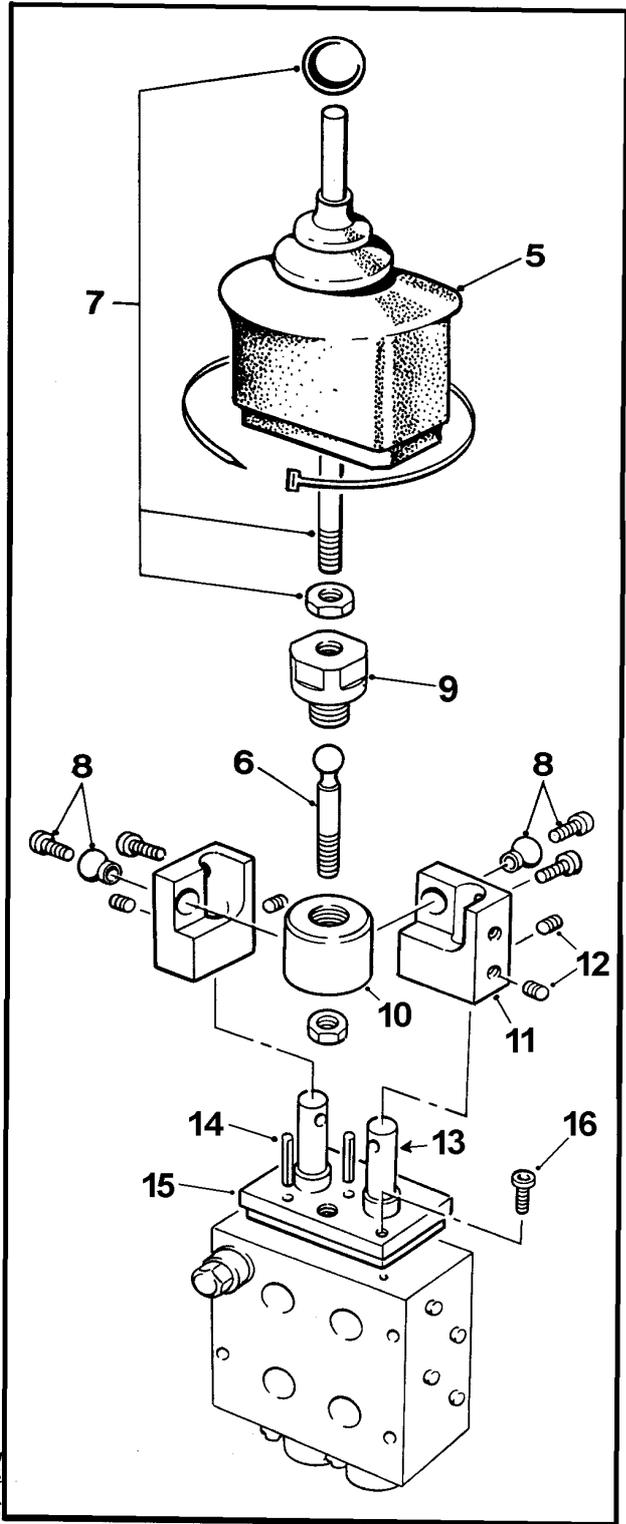
Item	Part no	Serial no	Description	Qty
1	V2004106		VALVE, tipping control, assembly	1
1A	V603565		END CAP & cover	1
1B	V602630		LEVER, knob & nut	1
2	V602629		KIT, control valve repair	1
5	8S03F		BOLT	2
6	267S05		WASHER, flat	2
7	17S04		WASHER, spring	2
8	7S03		NUT	2
10	100S03		SEAL, bonded	5
11	122S03		ADAPTOR, male	2
11A	119S08		ADAPTOR, male	1
12	127S03		PLUG	1
15	112S02		ADAPTOR, male/female	1
16	113S01		TEE, male/male/male	1
20	—		PUMP, hydraulic ( <i>see page 7-A-1</i> )	1
21	100S04		SEAL, bonded	1
22	122S04		ADAPTOR, male	1
25	63S03E		HOSE, pump to control valve	1
26	320S02B		HOSE, control valve to rams ( <i>extend</i> )	1
27	320S02B		HOSE, control valve to rams ( <i>retract</i> )	1

#### 4S2000 & 4S2500 (Single tipping ram)

30	100S03		SEAL, bonded	1
31	122S03		ADAPTOR, male	1
32	96S09		ELBOW, swivel, male/female	1
33	V2002474		RAM, tipping ( <i>see page 7 - R - 2</i> )	1

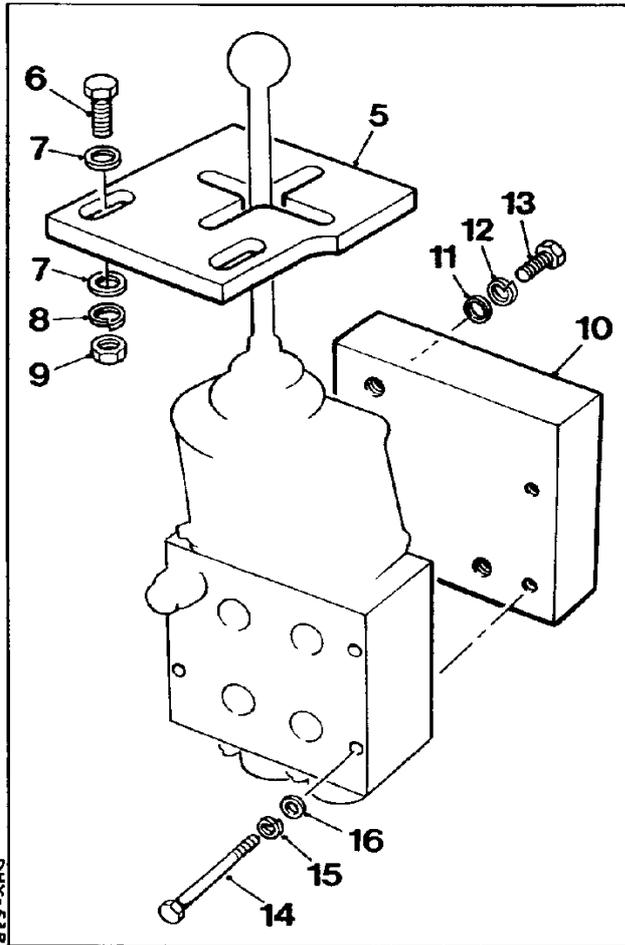
#### 4S3000 & 4S4000M (Twin tipping rams)

40	154S09		TEE, swivel, male/male/female	1
41	96S09		ELBOW, swivel, male/female	1
42	100S03		SEAL, bonded	2
43	122S03		ADAPTOR, male	2
44	V2002474		RAM, tipping ( <i>see page 7 - R - 2</i> )	2
45	36S02UU		HOSE, ram to ram ( <i>extend</i> )	1
46	36S02UU		HOSE, ram to ram ( <i>retract</i> )	1
47	154S02		TEE, swivel, male/male/female	1

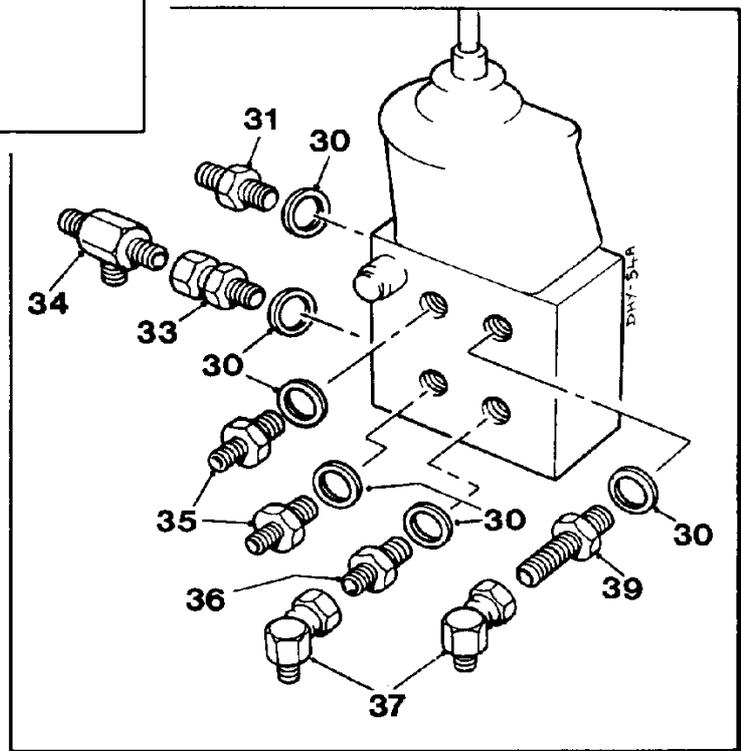


**'JOYSTICK', MONOBLOC CONTROL VALVE****7 - A - 3A**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2004580	/ Feb-02	VALVE, control 'JOYSTICK'	1
2	V602693		KIT, seals	AR
5	V602689		GAITER	1
6	V602690		STEM	1
7	V602691		ROD, c/w lock-nut & knob	1
8	V602692		CUP, c/w screw	2
9	V602773		STUB LEVER	1
10	V603617		HOUSING, pivot	1
11	V603618		BRACKET	2
12	57S05C1		SCREW, grub	4
13	V603619		SPOOL	2
14	V603620		PIN, roll	2
15	V603621		PLATE	1
16	V603622		FIXINGS, for plate	Kit 1



DHY-53B



DHY-53A

Item	Part no	Serial no	Description	Qty
5	V2004761	/ Feb-02	BRACKET, "gate"	1
6	11S04C		SCREW, set	2
7	267S06		WASHER, flat	4
8	17S05		WASHER, spring	2
9	7S04		NUT	2
10	V2004694		SPACER	1
11	267S05		WASHER,flat	2
12	17S04		WASHER, spring	2
13	11S03C		SCREW, set	2
14	11S02M		SCREW, set	3
15	17S03		WASHER, spring	3
16	267S04		WASHER, flat	3
30	100S04		SEAL, bonded	6
31	122S04		ADAPTOR, m/m	1
33	112S01		ADAPTOR, m/f, swivel	1
34	113S01		FITTING, 'T' piece, m/m/m	1
35	119S04		ADAPTOR, m/m	2
36	119S08		ADAPTOR, m/m	1
37	96S09		FITTING, elbow, m/f swivel	2
39	93S10		FITTING, bulkhead	1

**NOTE: *Port designation***

31 = FEED from pump  
 Connected to hose number 25 on page 7-A-2

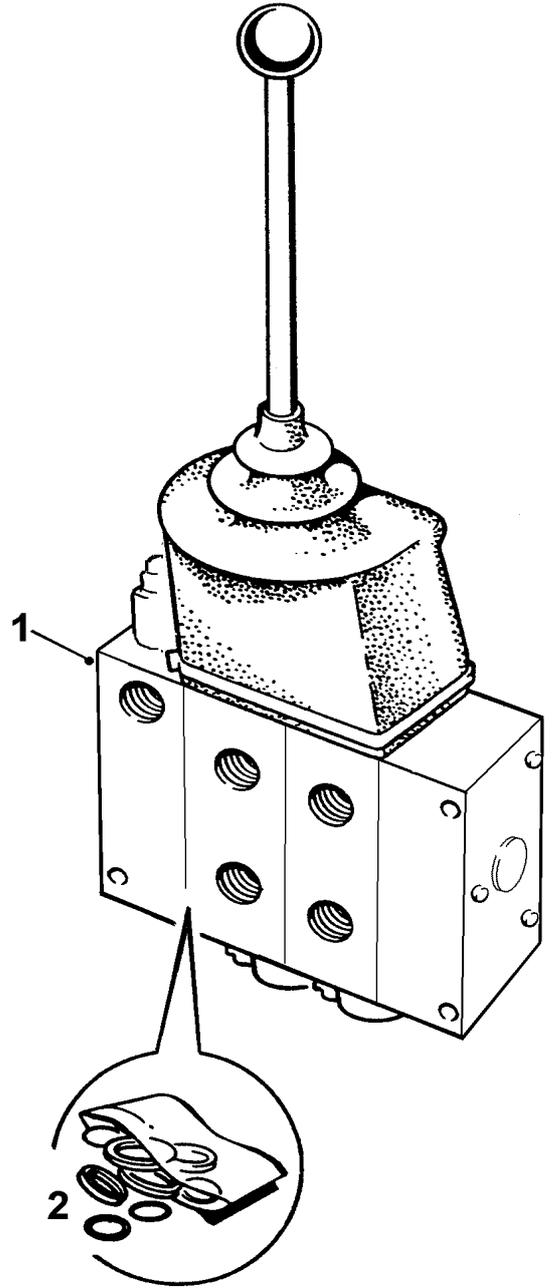
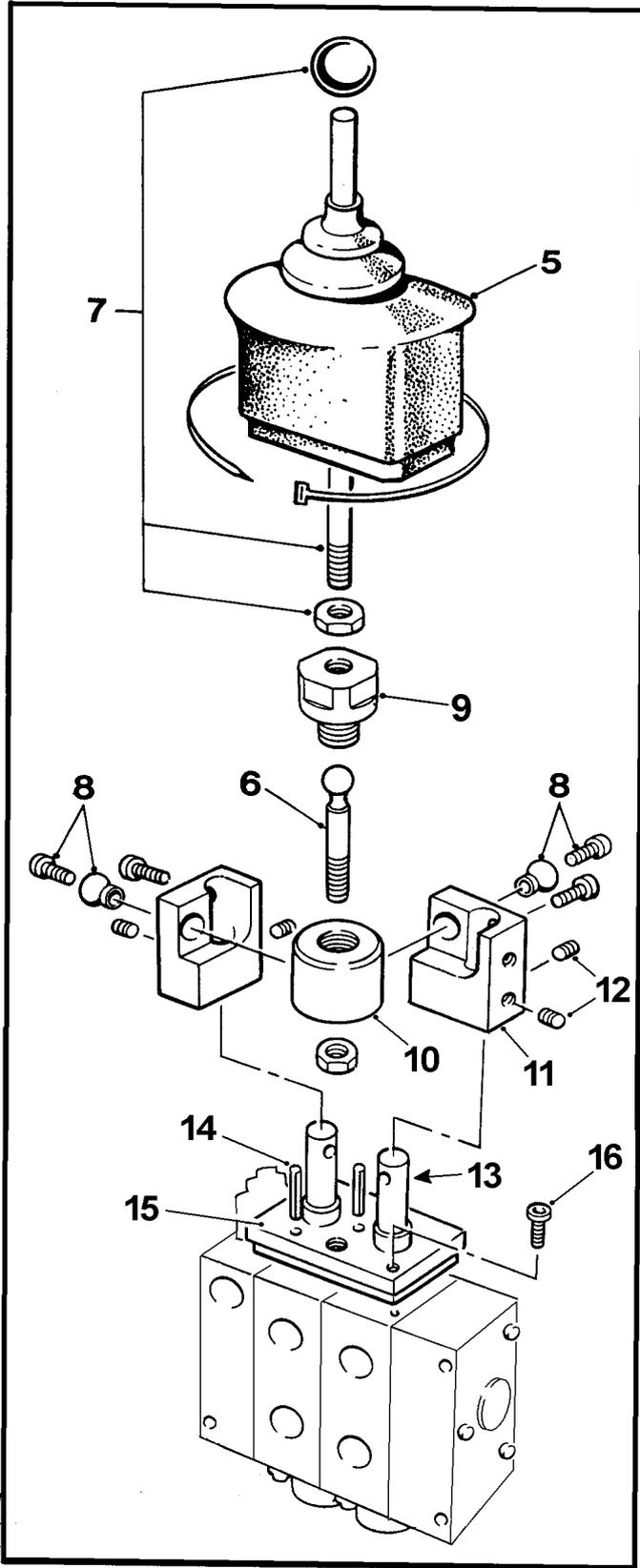
34 = RETURN to tank (via filter)  
 Connected to hose number 52 on page 7-A-1

35 (upper) = Rotate skip to LEFT

35 (lower) = Rotate skip to RIGHT

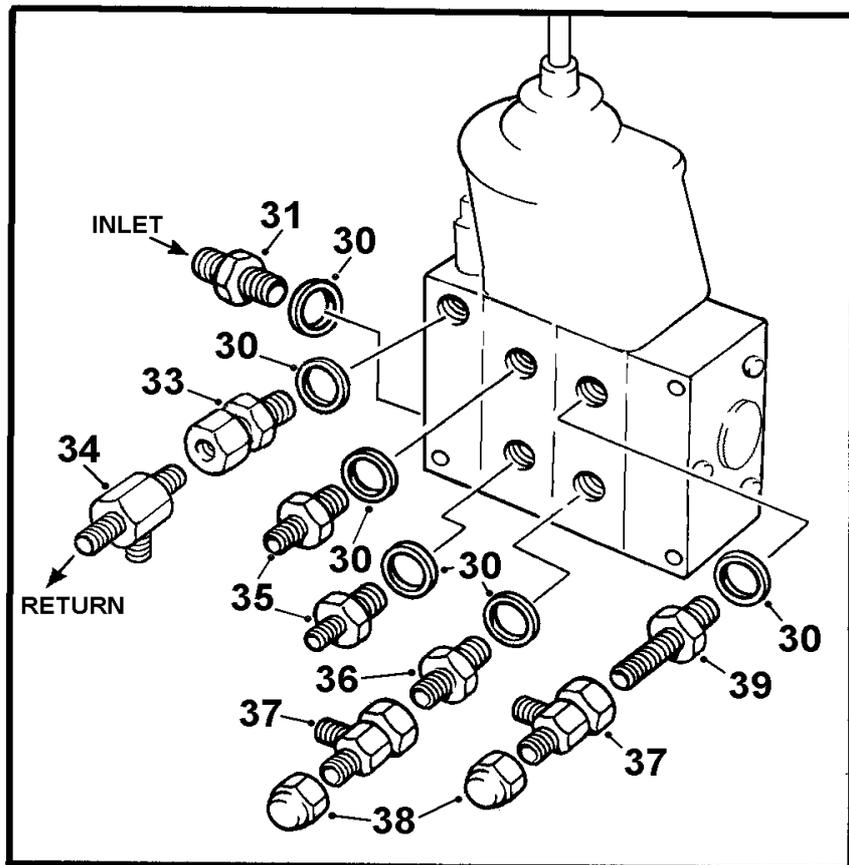
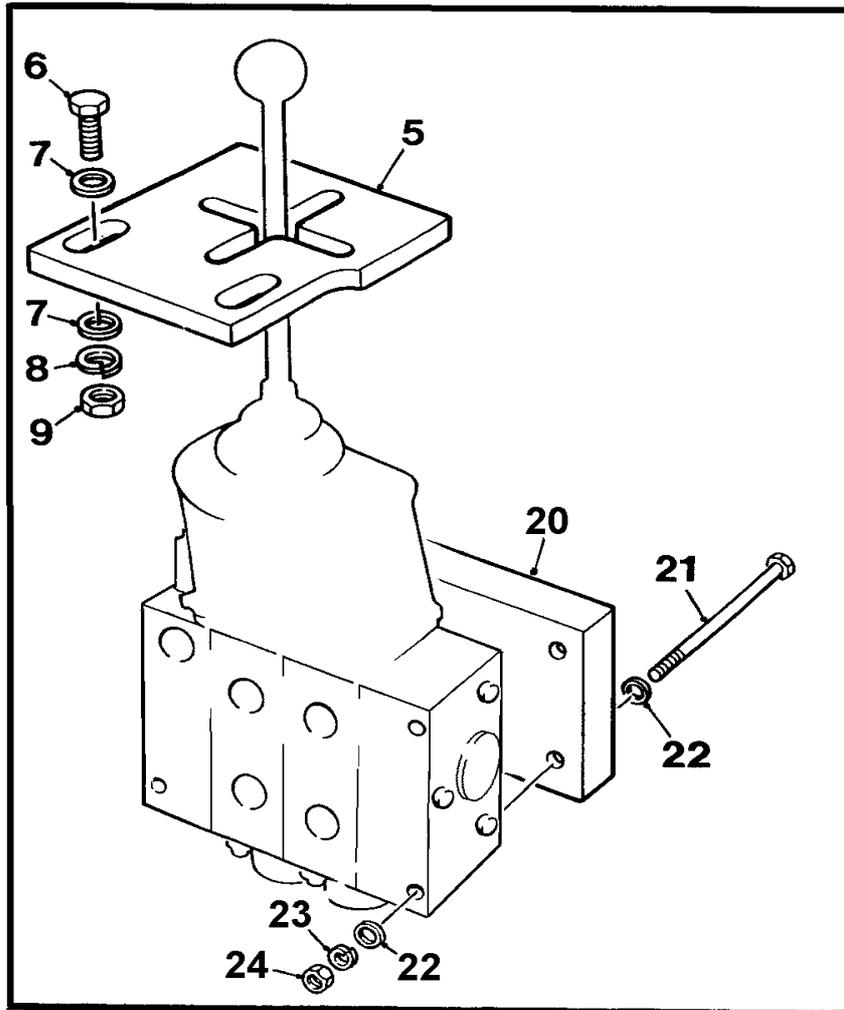
36 = Skip tip DOWN

39 = Skip tip UP



**'JOYSTICK', SECTIONAL CONTROL VALVE****7 - A - 3AB**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2005021	Feb '02 /	VALVE, sectional control 'JOYSTICK'	1
2	V602693		KIT, seals	AR
5	V602689		GAITER	1
6	V602690		STEM	1
7	V602691		ROD, c/w lock-nut & knob	1
8	V602692		CUP, c/w screw	2
9	V602773		STUB LEVER	1
10	V603617		HOUSING, pivot	1
11	V603618		BRACKET	2
12	57S05C1		SCREW, grub	4
13	V603619		SPOOL	2
14	V603620		PIN, roll	2
15	V603621		PLATE	1
16	V603622		FIXINGS, for plate	Kit 1



**'JOYSTICK' sectional control valve, & FITTINGS****7 - A - 3AC**

Item	Part no	Serial no	Description	Qty
5	V2004761	Feb '02 /	BRACKET, "gate"	1
6	11S04C		SCREW, set	2
7	267S06		WASHER, flat	4
8	17S05		WASHER, spring	2
9	7S04		NUT	2
20	V2005024		SPACER	1
21	8S03P		BOLT	3
22	267S05		WASHER, flat	6
23	17S04		WASHER, spring	3
24	7S03		NUT	3
30	100S04		SEAL, bonded	6
31	122S04		ADAPTOR, m/m	1
33	112S01		ADAPTOR, m/f, swivel	1
34	113S01		FITTING, 'T' piece, m/m/m	1
35	119S04		ADAPTOR, m/m	2
36	119S08		ADAPTOR, m/m	1
37	154S02		FITTING, elbow, m/f swivel	2
38	120S02		CAP, blanking	2
39	93S10		FITTING, bulkhead	1

**NOTE: Port designation**

31 = INLET from pump  
Connected to hose number 25 on page 7-A-2

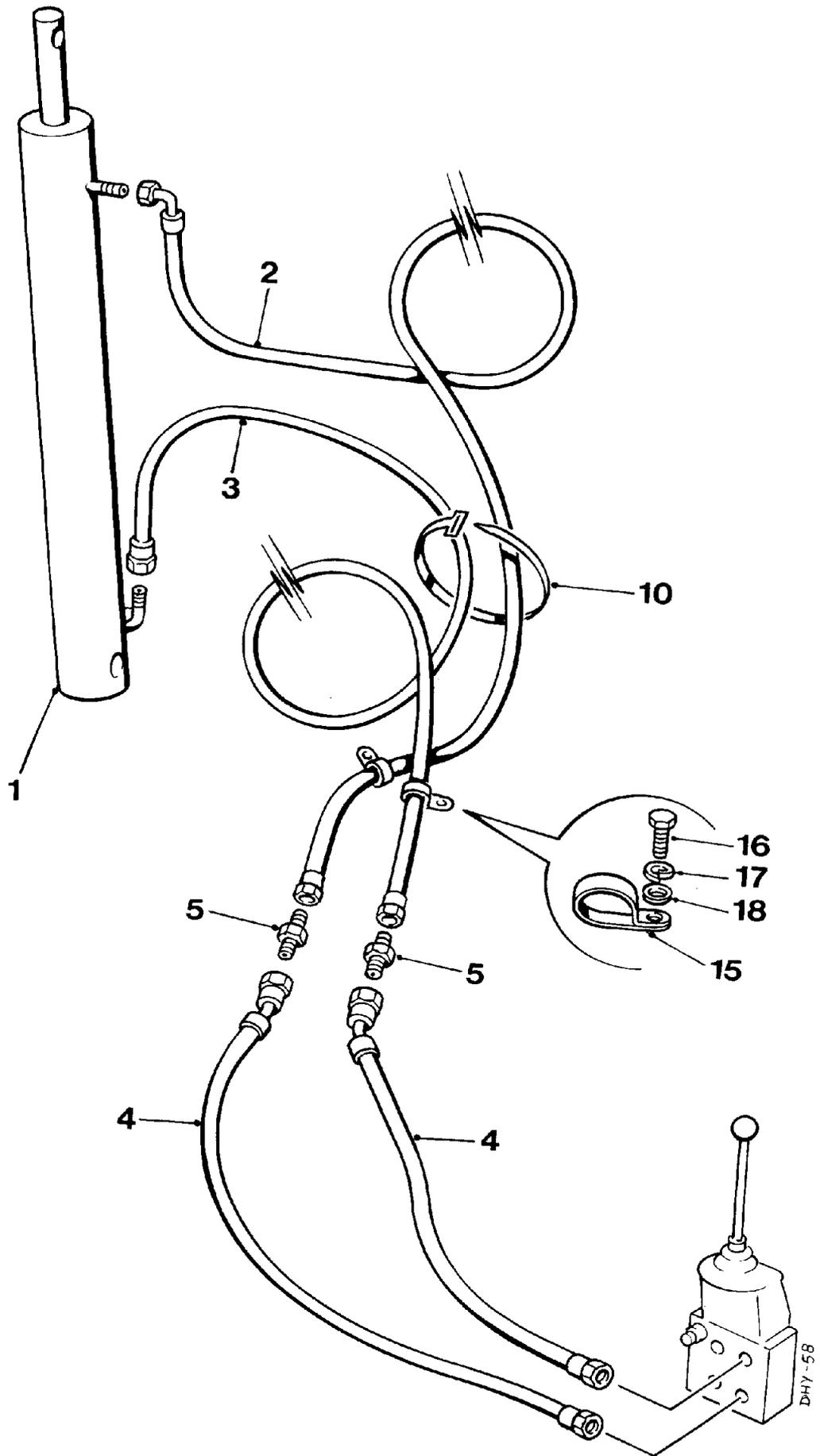
34 = RETURN to tank (via filter)  
Connected to hose number 52 on page 7-A-1

35 (upper) = Rotate skip to LEFT

35 (lower) = Rotate skip to RIGHT

36 = Skip tip DOWN

39 = Skip tip UP

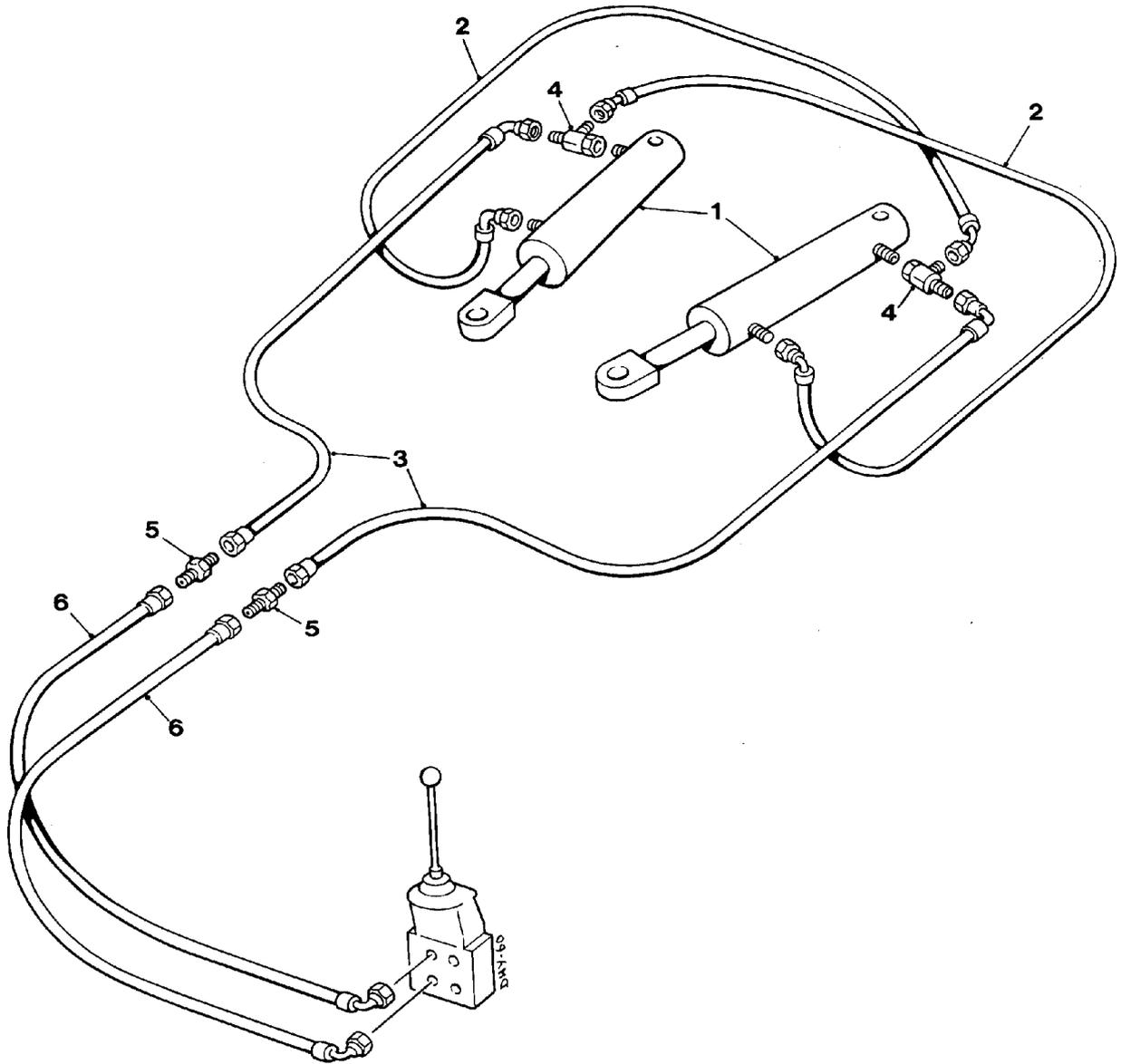


**TIPPING HYDRAULIC CIRCUIT, rotating skip****7 - A - 3B**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	30113A06		RAM, tipping ( <i>see page 7 - R - 3</i> )	1
2	318S02F		HOSE, front chassis, skip DOWN	1
3	321S02A		HOSE, front chassis, skip UP	1
4	317S02B		HOSE, rear chassis	2
5	122S03		ADAPTER	2
10	V2003253		TIE	6
15	V2004537		CLIP, hose	2
16	11S03C		SCREW, set	2
17	17S04		WASHER, spring	2
18	267S05		WASHER, flat	2

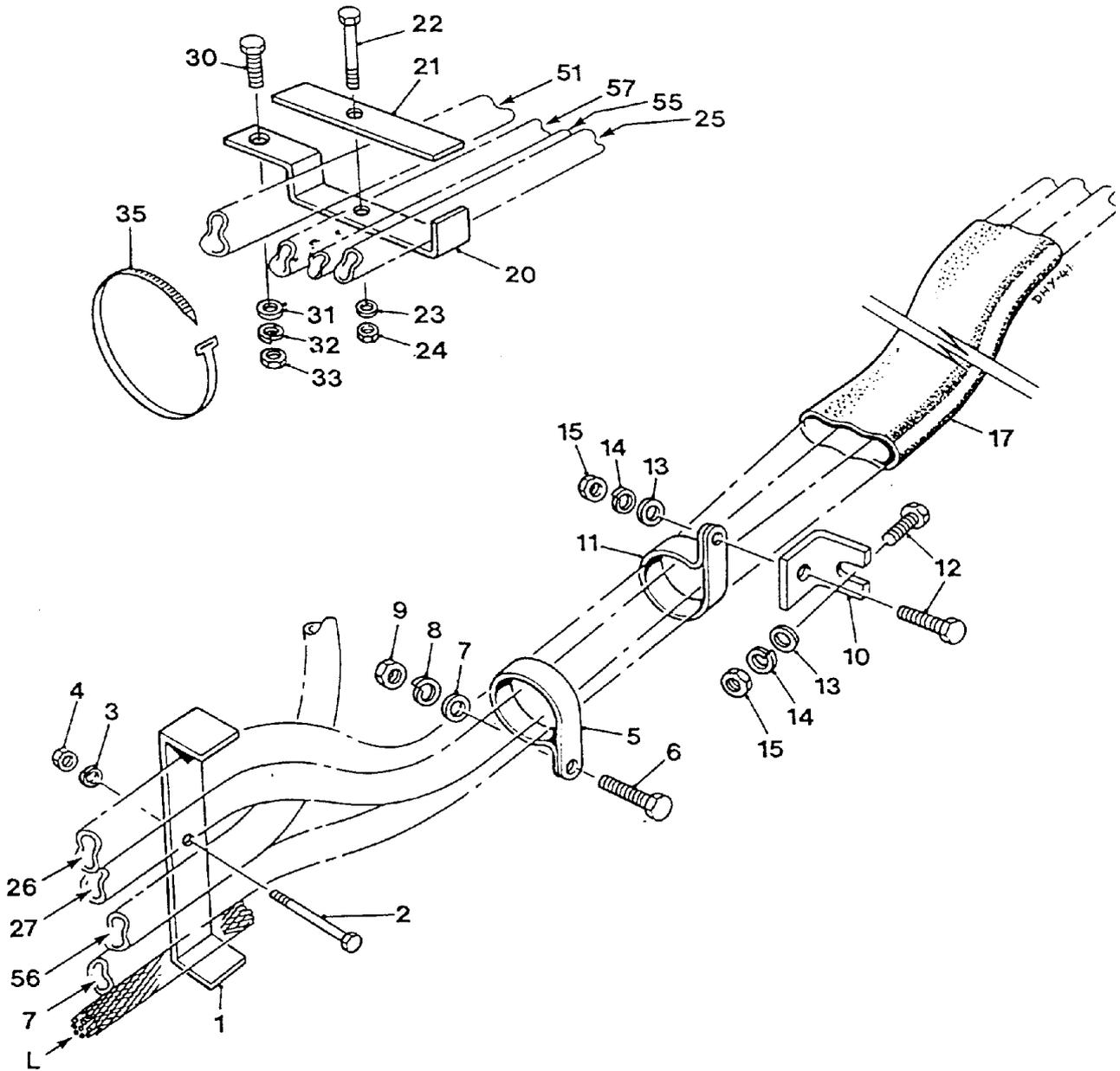
7 - A - 3C

Dumper 4S2500 with rotating skip



**ROTATING HYDRAULIC CIRCUIT, rotating skip****7 - A - 3C**

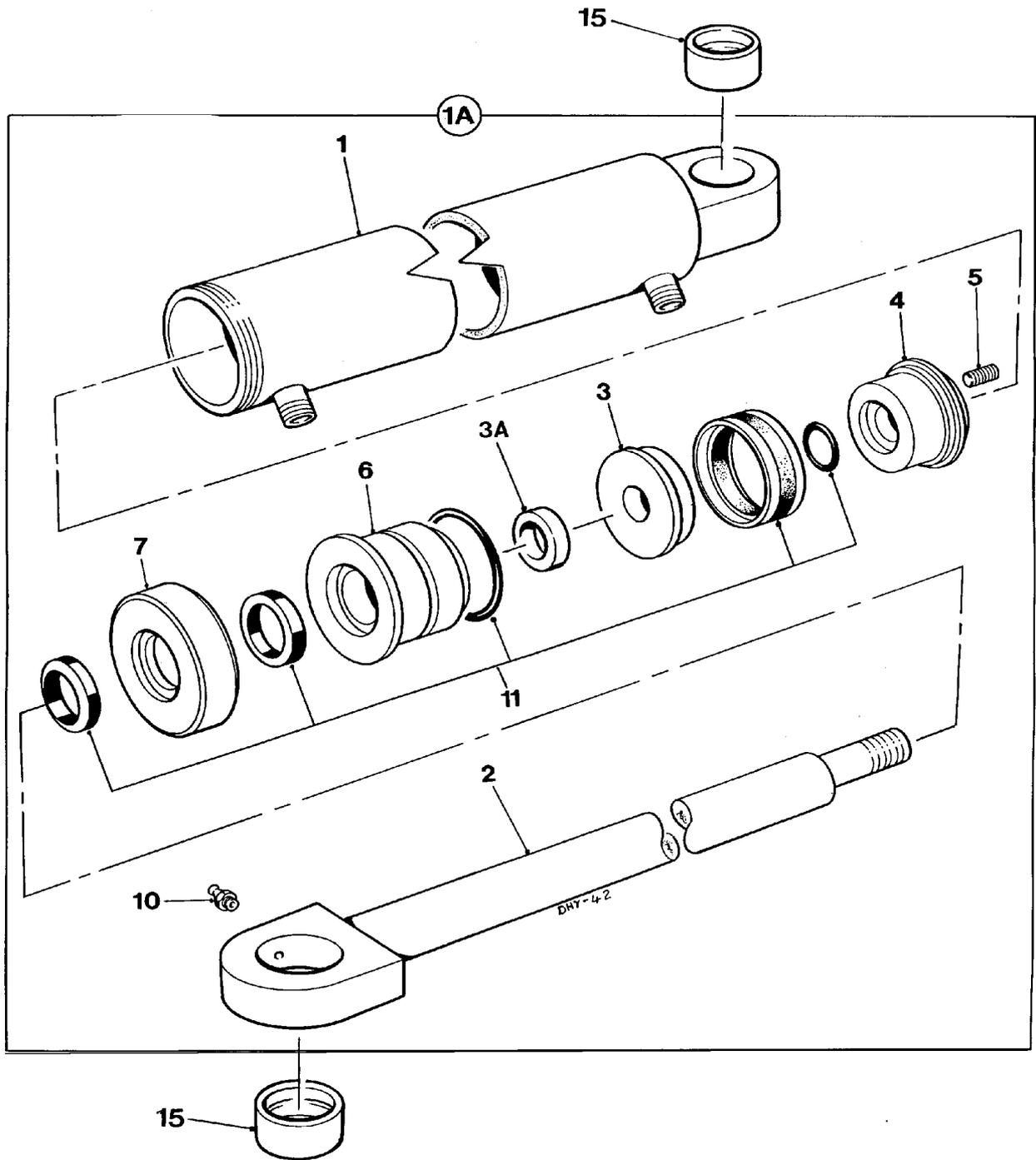
<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	30287A03		RAM, rotating (see page 7 - R - 4)	2
2	320S01C		HOSE, ram to ram	2
3	32S01C		HOSE, front chassis	2
4	154S01		FITTING, 'Tee' piece, m/m/f swivel	2
5	122S02		ADAPTER, m/m	2
6	318S01D		HOSE, rear chassis	2



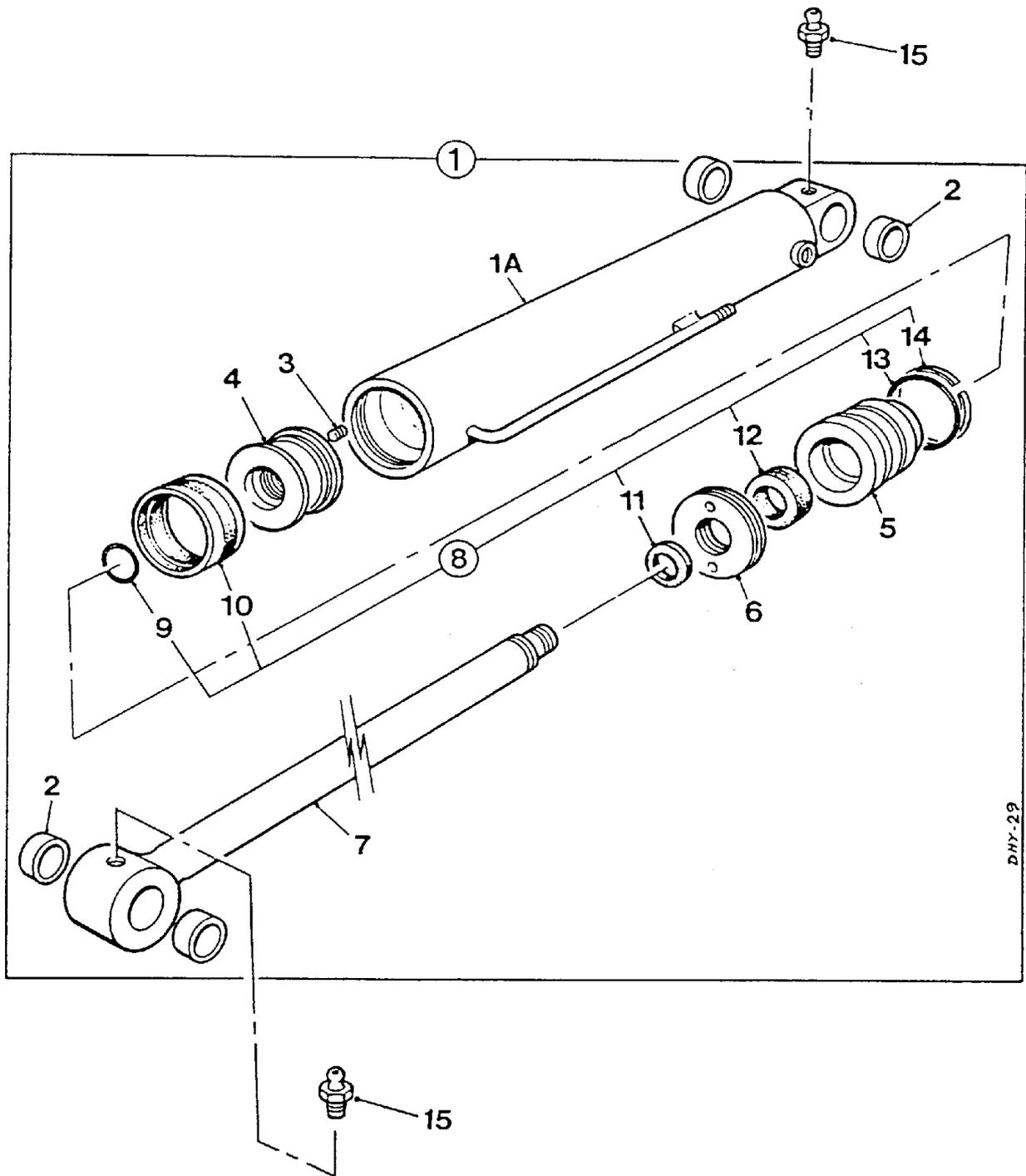
<b>Item</b>	<b>Part no</b>	<b>Date</b>	<b>Description</b>	<b>Qty</b>
1	V2003533		CLAMP, hoses	1
2	11S03H		SCREW, set	1
3	17S04		WASHER, spring	1
4	7S03		NUT	1
5	V2003560		CLIP "P type"	1
6	11S04B		SCREW, set	1
7	267S06		WASHER, flat	1
8	17S05		WASHER, spring	1
9	7S04		NUT	1
10	V2000325		BRACKET	1
11	V2003559		CLIP "P type"	1
12	11S04D		SCREW, set	2
13	267S06		WASHER, flat	2
14	17S05		WASHER, spring	2
15	7S04		NUT	2
17	V2004173		HOSE PROTECTOR	1
20	V2004066	/ 1996	CLAMP, hoses	1
21	V2004067	/ 1996	RETAINER, hoses	1
22	11S02M	/ 1996	SCREW, set	1
23	267S04	/ 1996	WASHER, flat	1
24	61S02	/ 1996	NUT, self-locking	1
30	11S04D	/ 1996	SCREW, set	1
31	267S06	/ 1996	WASHER, flat	1
32	17S05	/ 1996	WASHER, spring	1
33	7S04	/ 1996	NUT	1
35	V2003253		TIE, nylon	4

**HOSE POSITIONS**

<b>Item</b>	<b>Page</b>
26	(7-A-3)
27	(7-A-3)
7	(1-A-1)
7	(1-A-2)
56	(7-A-2)
L	Electrical Loom
51	Bracket (20) now obsolete. Hoses now passed through frame
57	
55	
25	

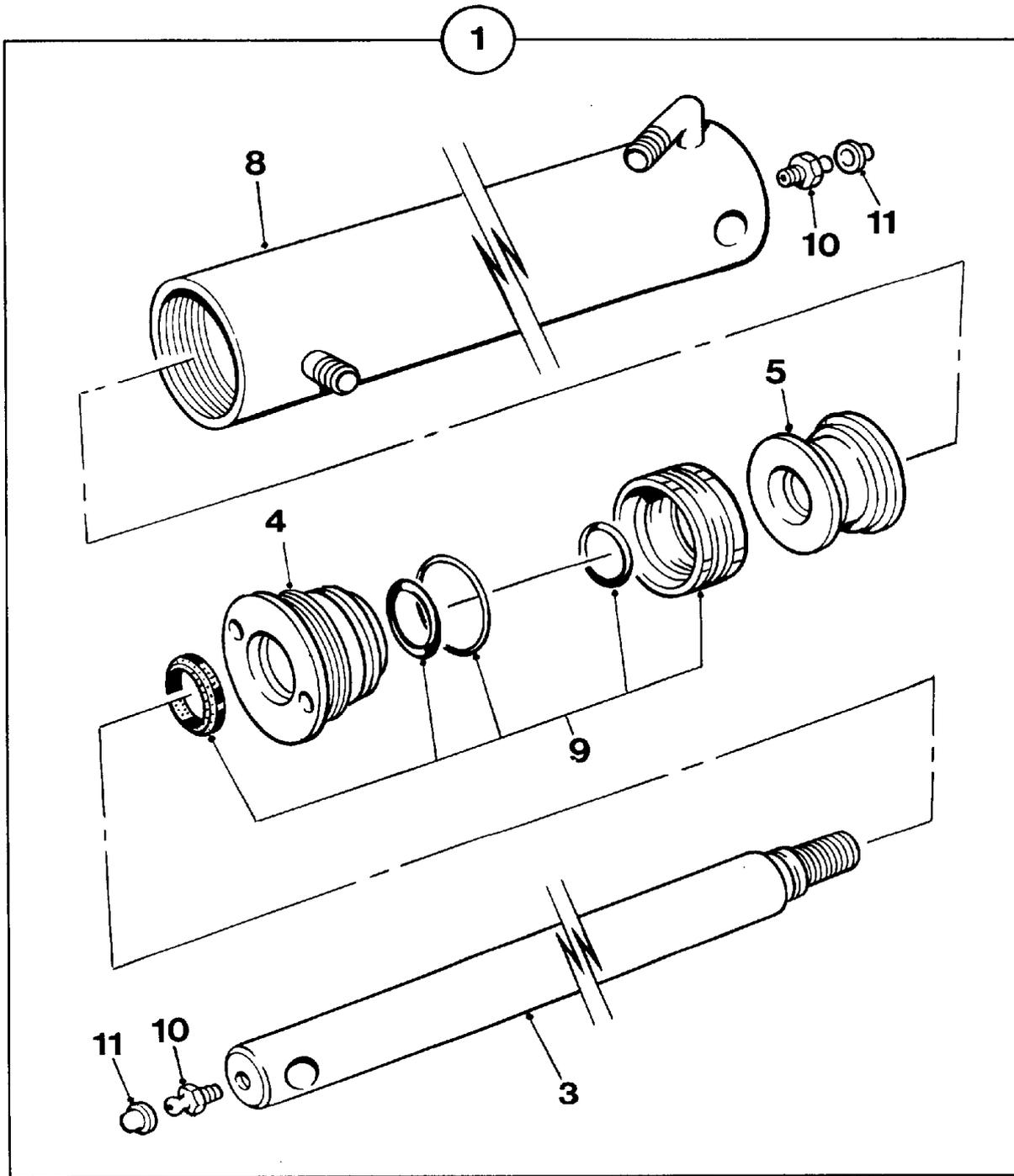


Item	Part no	Serial no	Description	Qty
...	V602700		RAM with BUSHES, assembly	1
1A	V2000952		# RAM, assembly ( <i>without bushes</i> )	1
1	V2004197		CYLINDER	1
2	V2004198		ROD, ram	1
3	30121A0109		PISTON, rear	1
3A	V2005014		RESTRICTOR ( <i>as required</i> )	1
4	30121A0112		PISTON, front	1
5	57S04		SCREW, grub	1
6	30121A0303		RETAINER	1
7	30121A0105		CAP, end	1
10	131S01		NIPPLE, grease	2
11	CSE204		KIT, seals	1
15	—————		# BUSH ( <i>see page 8 - A - 4</i> ) <i>All new rams must be fitted with bushes and then drilled with grease holes before being supplied to the customer.</i>	2



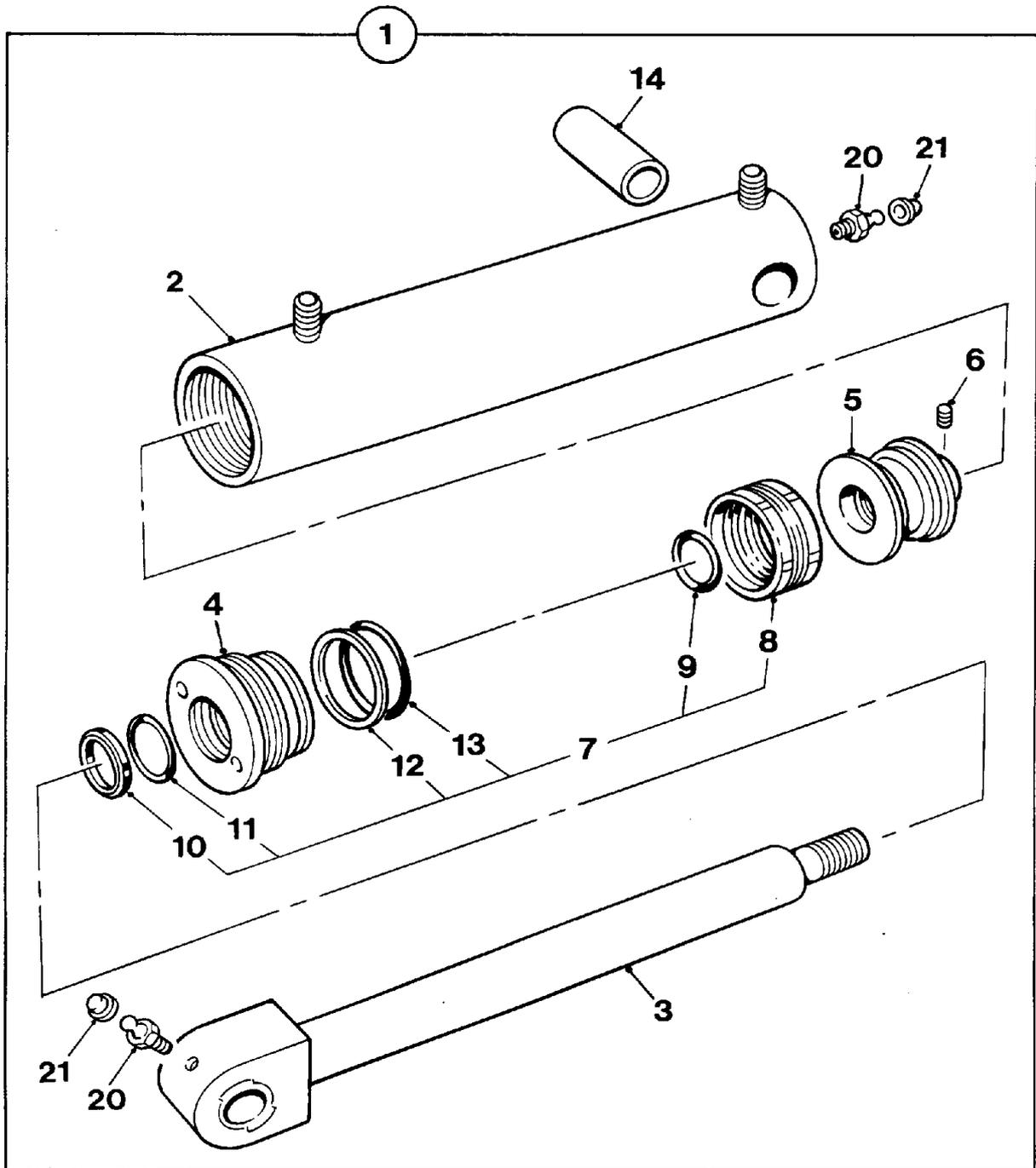
**RAM, Tipping, forward tipping skip****7 - R - 2**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2002474		RAM, tipping, assembly	2
1A	V2002477		CYLINDER, ram	1
2	V2002620		BUSH	4
3	57S03AB2		SCREW, grub	1
4	V2002476		PISTON	1
5	V2003374		RETAINER	1
6	V2003184		CAP, end	1
7	V2000330		ROD, ram	1
8	V2000328		KIT, seals	1
9	—		"O" RING	1
10	—		SEAL	1
11	—		SEAL	1
12	—		SEAL	1
13	—		"O" RING	1
14	—		RING	1
15	131S01		NIPPLE, grease	2



**RAM, Tipping, rotating skip****7 - R - 3**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	30113A06		RAM, tipping, assembly	1
3	30113A0402		ROD, ram	1
4	30113A0403		RETAINER	1
5	30113A0404		PISTON	1
8	30113A0601		CYLINDER, ram	1
9	30113A0406		KIT, seals	1
10	131S01		NIPPLE, grease	2
11	176S01		CAP, grease nipple	2



**RAM, swivel, skip rotation****7 - R - 4**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	30287A03		RAM, skip rotation, assembly	2
2	30287A0304		CYLINDER, ram	1
3	30287A0305		ROD, ram	1
3A	V2004681		EYE, replaceable welded item	1
4	30121A0402		CAP	1
5	30121A0401		PISTON	1
6	57S04D2		SCREW, grub	1
7	CSE204		KIT, seals	1
8	—		SEAL, piston	1
9	—		"O" RING	1
10	—		SEAL, wiper	1
11	—		SEAL	1
12	—		BACKING RING	1
13	—		"O" RING	1
14	V2004682		BUSH	1
20	131S01		NIPPLE, grease	2
21	176S01		CAP, grease nipple,	2

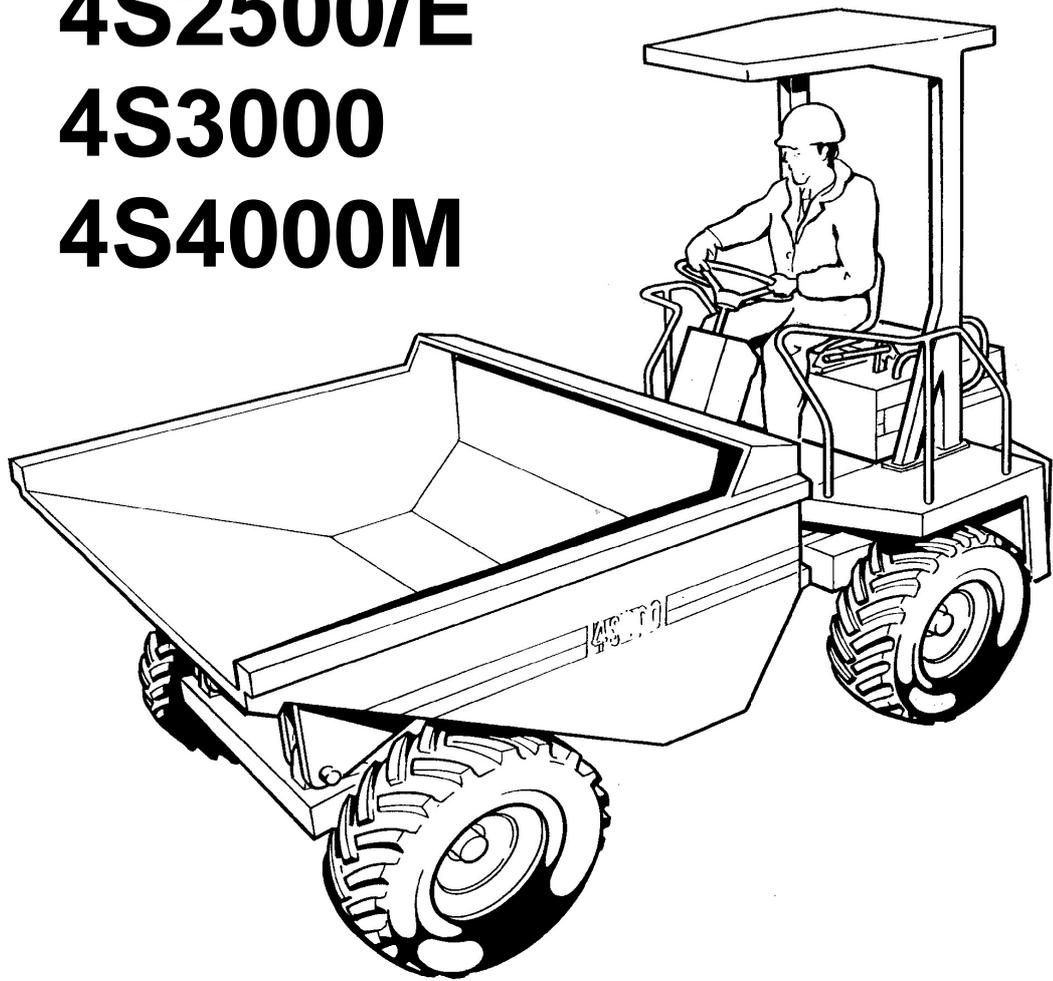
# **'S' Series Dumpers**

**4S2000/E**

**4S2500/E**

**4S3000**

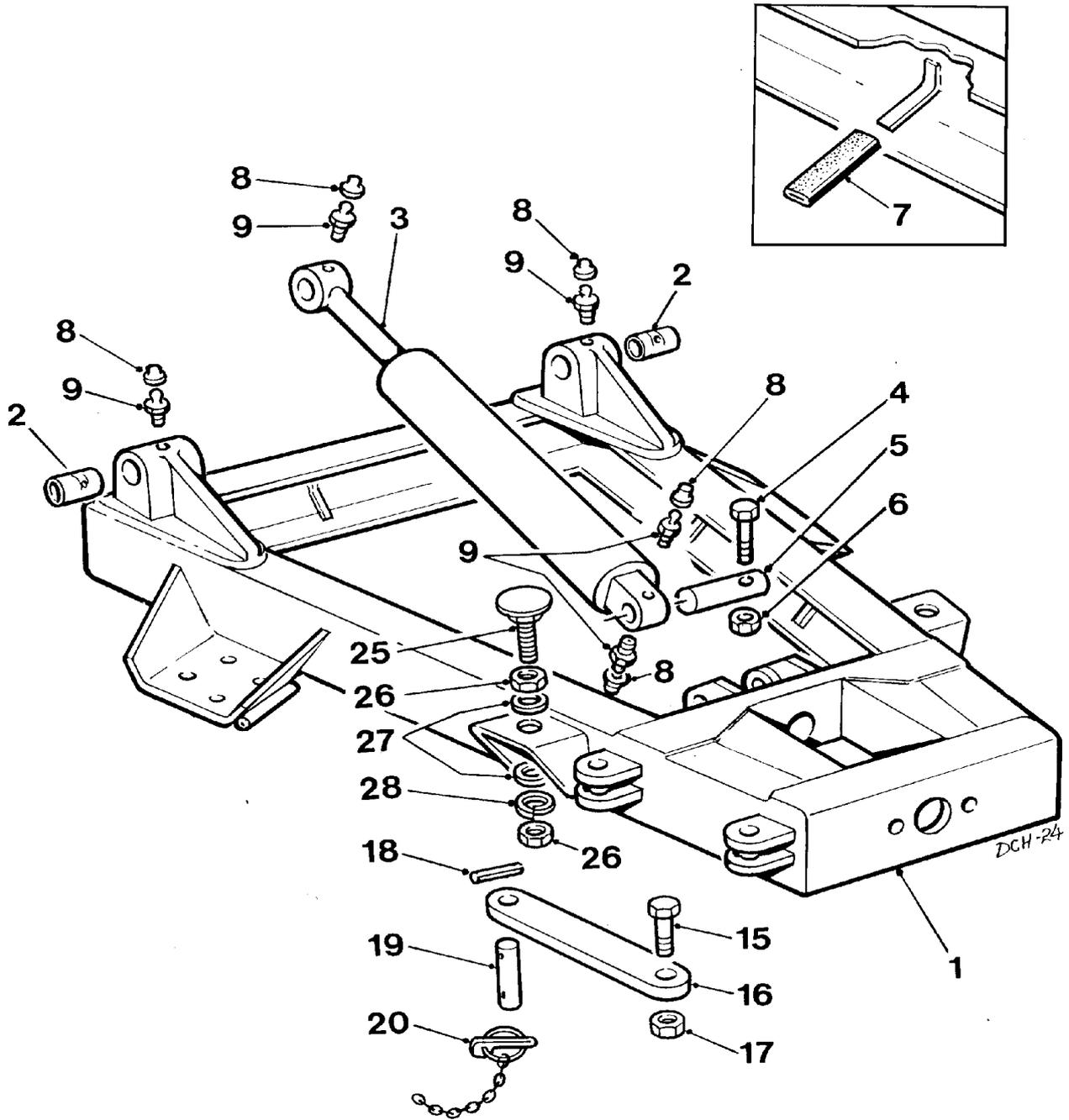
**4S4000M**



# CHASSIS & PANELS

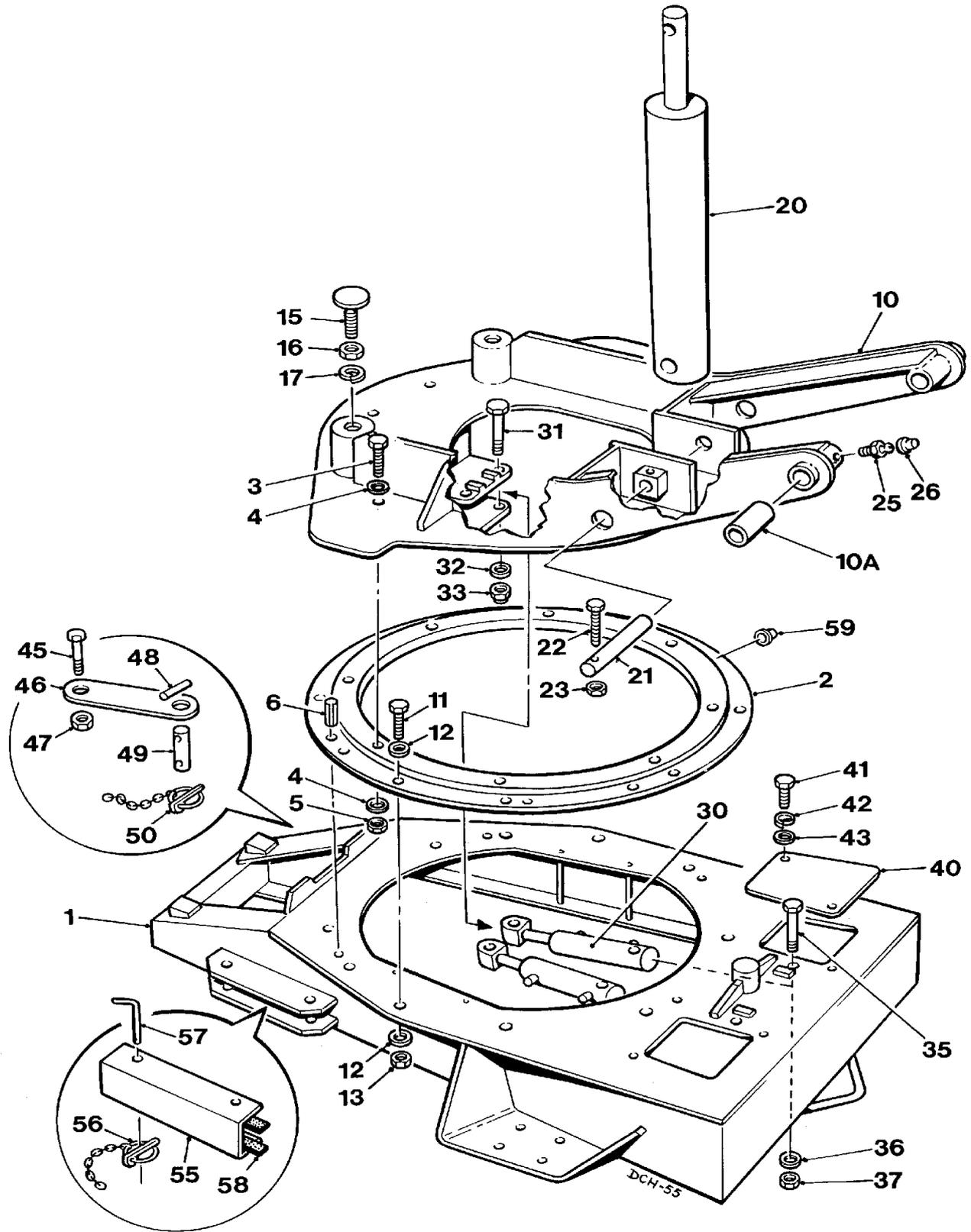
<b>CHASSIS, front, forward tipping skip</b>	<b>8 - A - 1</b>
<b>CHASSIS, front, rotating skip</b>	<b>8 - A - 1A</b>
<b>CHASSIS, rear</b>	<b>8 - A - 2</b>
<b>CENTRE YOKE</b>	<b>8 - A - 3</b>
<b>PINS &amp; GUARD, steering ram</b>	<b>8 - A - 4</b>
<b>PANELS</b>	<b>8 - B - 1</b>
<b>SEATBOX &amp; FLOORPLATE (<i>for turbo eng.</i>)</b>	<b>8 - B - 1A</b>
<b>COVER, engine</b>	<b>8 - B - 2</b>
<b>REAR GUARD &amp; COVER</b>	<b>8 - B - 2A</b>
<b>REAR GUARD (<i>4S2000E/2500E only</i>)</b>	<b>8 - B - 2B</b>
<b>STEERING COLUMN (<i>not 4S2000E/2500E</i>)</b>	<b>8 - B - 3</b>
<b>STEERING COLUMN (<i>4S2000E/2500E only</i>)</b>	<b>8 - B - 3A</b>
<b>FRAME (ROPS) &amp; CANOPY (FOPS)</b>	<b>8 - B - 4</b>
<b>SEAT, "KAB", with fixings</b>	<b>8 - C - 1</b>
<b>SEAT, "Grammer", with fixings</b>	<b>8 - C - 2</b>
<b>SEATS, "Grammer", components (models MGS12 and MGS20)</b>	<b>8 - C - 3</b>

[\*\*<<< To beginning of Parts\*\*](#)



**CHASSIS, front, forward tipping skip****8 - A - 1**

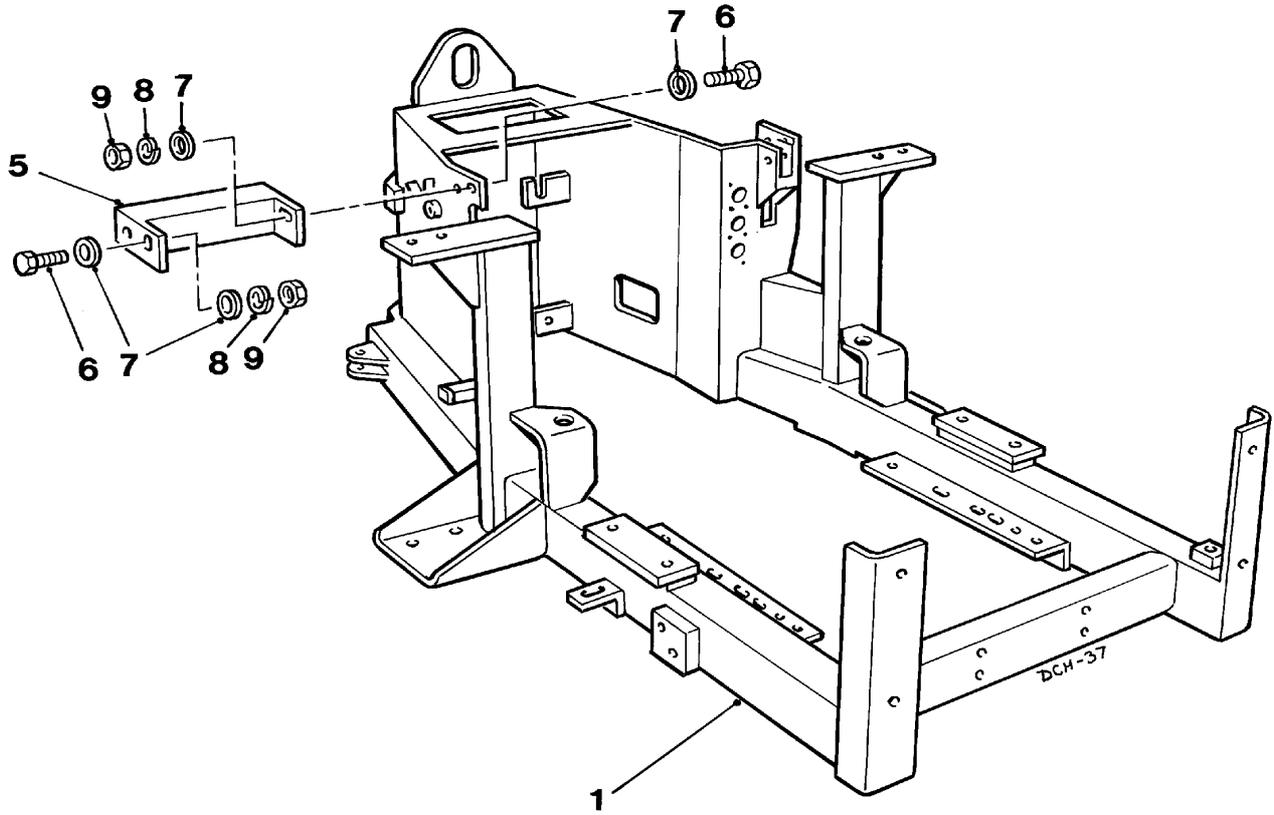
<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2001181		CHASSIS, front	1
2	V2004135		BUSH, skip pivot	2
3	V2002474		RAM, tipping ( <i>see Hydra.Section</i> )	2
4	11S03M		SCREW, set	2
5	V2002621		PIN	2
6	61S03		NUT, self locking	2
7	208143000		SLEEVE, pvc	1
8	176S01		COVER, grease nipple	8
9	131S01		NIPPLE, grease, straight	8
15	8S07K		BOLT	1
16	V2004004		SUPPORT	1
17	61S07		NUT, self-locking	1
18	55S02D		PIN, roll	1
19	V2003851		PIN	1
20	902S02		PIN, lynch	1
25	V2004234		SCREW, skip stop	2
26	7S08		NUT	4
27	267S12		WASHER, flat	4
28	17S11		WASHER, spring	2



# CHASSIS, front, rotating skip

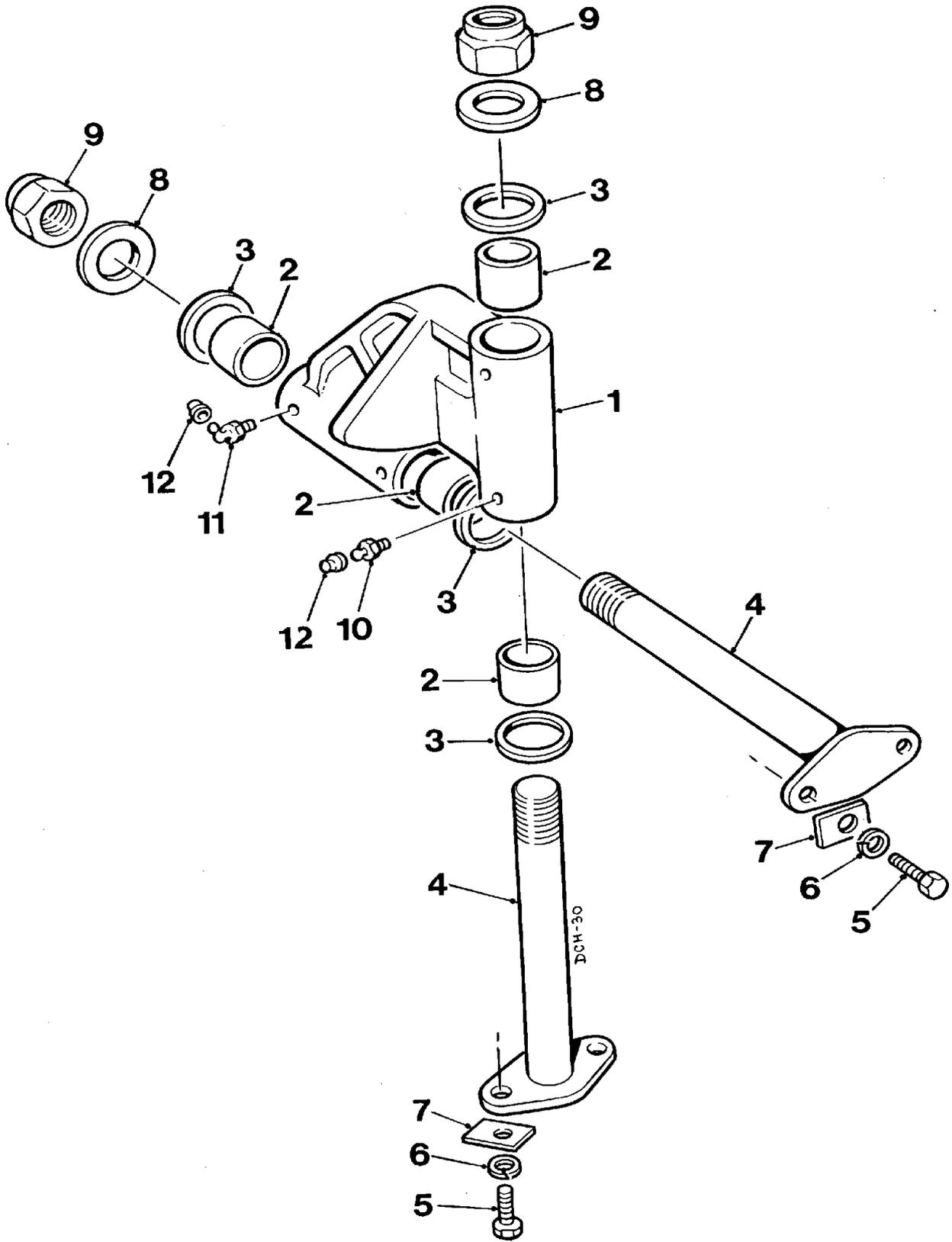
8 - A - 1A

Item	Part no	Serial no	Description	Qty
1	V2004397		CHASSIS, front, rotating skip	1
2	10640A03		RING, bearing	1
3	11S05E		SCREW, set	8
4	267S07		WASHER, flat	16
5	61S05		NUT, "Binx", self-locking	8
6	54S08J		PIN, roll	4
10	V2004145		FRAME, rotating	1
10A	V2004135		BUSH	2
11	11S05E		SCREW, set	6
11A	11S05F		SCREW, set ( <i>not illustrated</i> )	4
12	267S07		WASHER, flat	16
13	61S05		NUT, "Binx", self-locking	10
15	V2004234		SCREW, skip stop	2
16	7S08		NUT	2
17	17S11		WASHER, spring	2
20	30113A06		RAM, tipping (see page 7-R-3)	1
21	10720A02		Pin, ram base pivot	2
22	11S03M		SCREW, set	2
23	61S03		NUT, "Binx", self-locking	2
25	131S01		NIPPLE, grease	2
26	176S01		CAP, grease nipple	2
30	30287A03		RAM, rotating (see page 7-R-4)	2
31	6S07MM		BOLT, (rotating ram eye)	2
32	10S06		WASHER, flat	6
33	107S18		NUT, "Nyloc" self-locking	2
35	6S07V		BOLT, (rotating ram base)	2
36	10S06		WASHER, flat	6
37	107S18		NUT, "Nyloc", self-locking	2
40	V2004494		COVER	2
41	11S03B		SCREW, set	4
42	17S04		WASHER, spring	4
43	267S05		WASHER, flat	4
45	8S07K		BOLT	1
46	V2004004		LINK, articulation lock	1
47	61S07		NUT, "Binx" self-locking	1
48	55S02D		PIN, roll	1
49	V2003851		PIN	1
50	902S02		PIN, lynch	1
55	V2004212		SAFETY SUPPORT, tip ram	1
56	902S02		PIN, lynch, clw chain	2
57	V2004217		PIN	2
58	106209000		SEAL, strip, ( <i>2 meters</i> )	1
59	176S01		CAP, grease nipple	



**CHASSIS, rear****8 - A - 2**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2002486		CHASSIS, rear	1
5	V2004065		BRACKET, L.H. wing	1
6	11S04D		SCREW, set	4
7	267S06		WASHER, flat	8
8	17S05		WASHER, spring	4
9	7S04		NUT	4



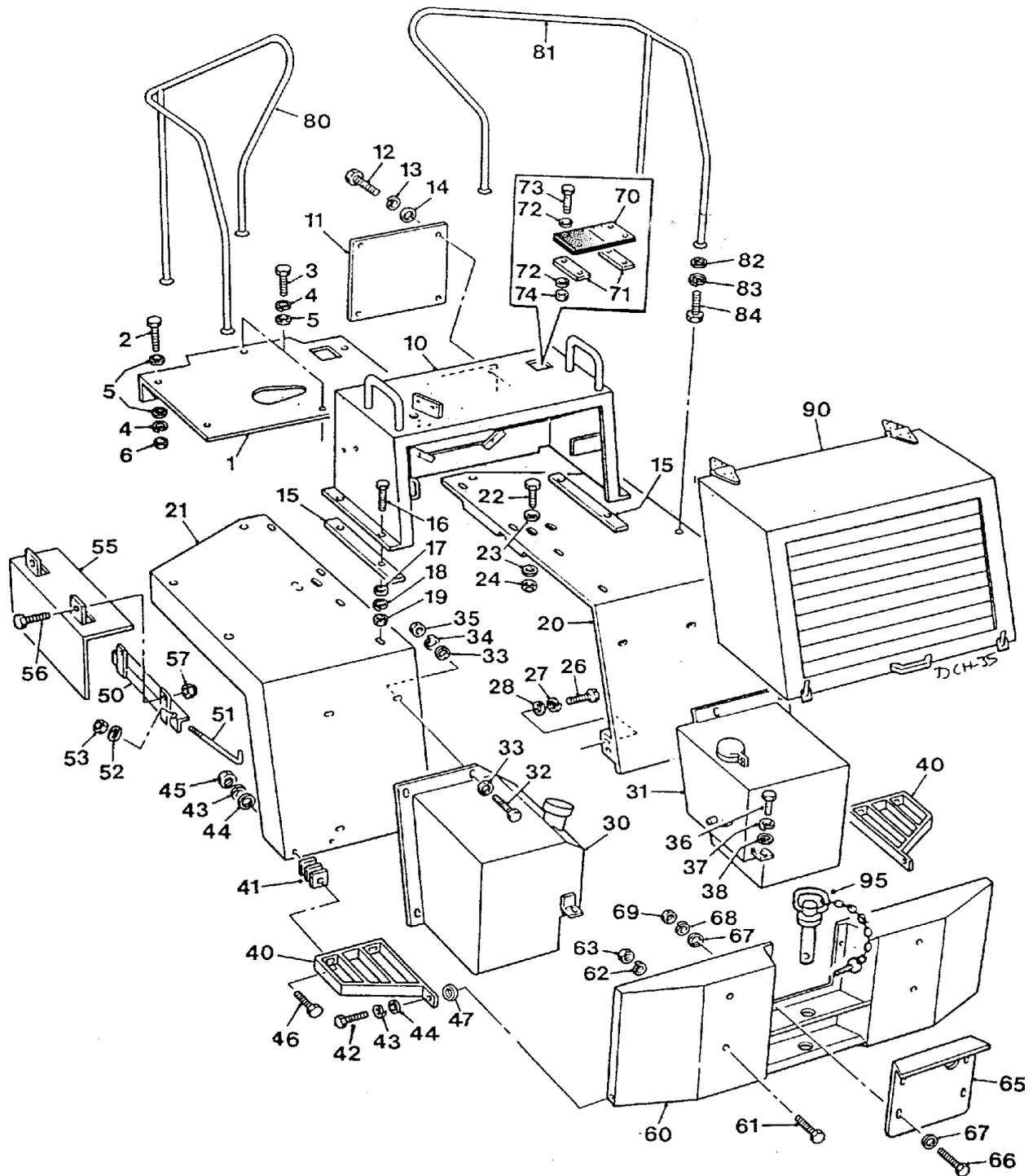
**CENTRE YOKE****8 - A - 3**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2001215		YOKE, centre	1
2	V2001237		BUSH	4
3	V2003694		WASHER, thrust, 4mm	AR
3	V2004442		WASHER, thrust, 4.5mm	AR
3	V2003695		WASHER, thrust, 5mm	AR
3	V2004443		WASHER, thrust, 5.5mm	AR
3	V2003696		WASHER, thrust, 6mm	AR
3	V2003697		WASHER, thrust, 7mm	AR
4	V2003787		PIN, pivot	2
5	11S05D		SCREW, set	4
6	267S07		WASHER, flat	4
7	513211900		WASHER, tab	4
8	10S09		WASHER, flat	2
9	59S09		NUT, nylon insert	2
10	131S01		NIPPLE, grease, straight	2
11	131S02		NIPPLE, grease, 90 <sup>o</sup>	2
12	176S01		COVER, grease nipple	4

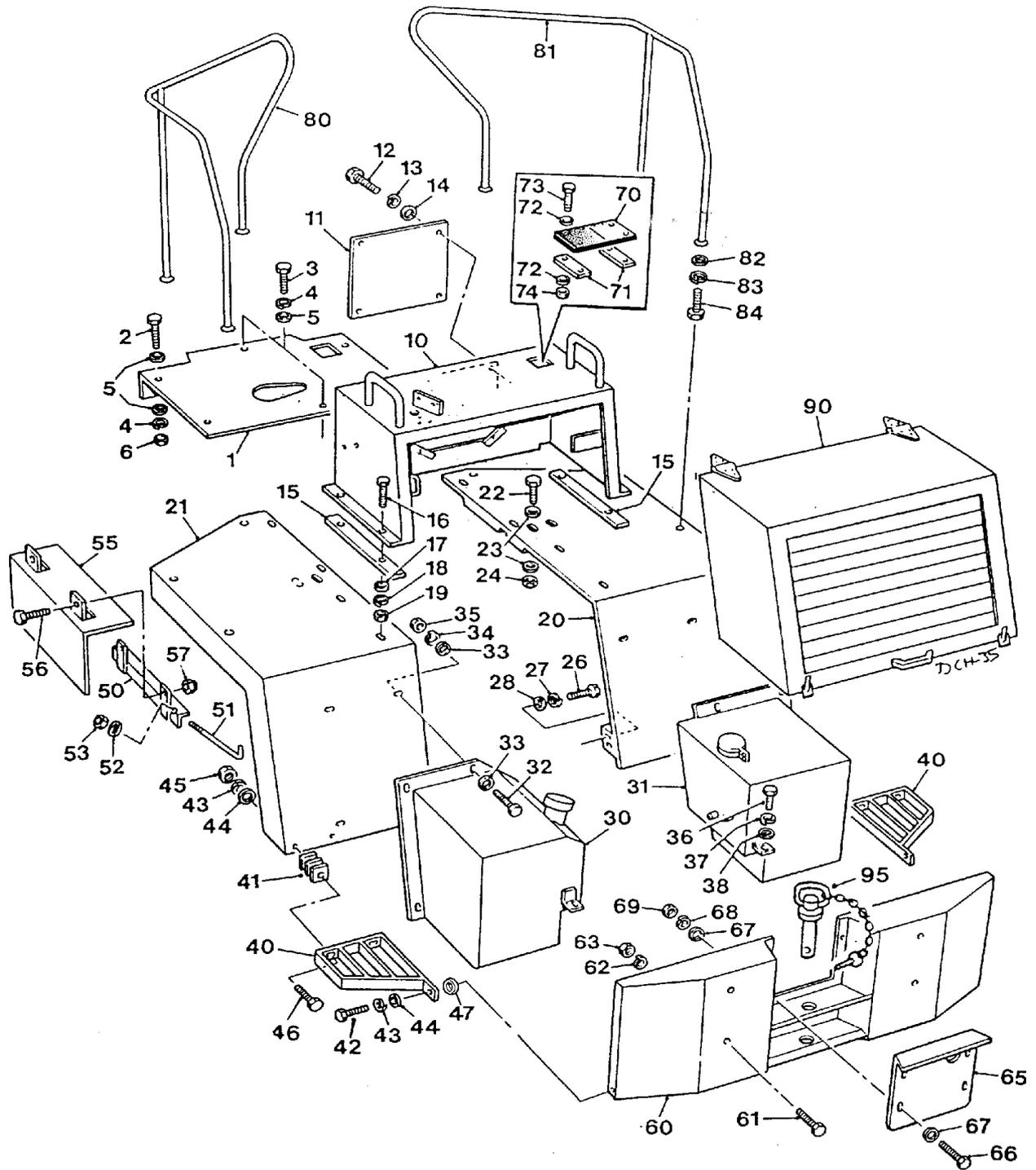


**PINS & GUARDS, steering ram****8 - A - 4**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2000952		RAM, steering (see Hydraulics Section)	1
2	V2003514		PIN, steer ram rear	1
3	V2004064		PIN, steer ram front	1
4	11S04B		SCREW, set	1
5	17S05		WASHER, spring	1
6	267S06		WASHER, flat	1
8	V2004200		BUSH	2
9	V2003097		GUARD, ram	1
14	11S03A		SCREW, set	2
15	17S04		WASHER, spring	2
16	176S01		COVER, grease nipple	3
17	54S04L		PIN, roll	1
18	V2004210		NUT, "special" c/w locking tabs	1
19	56S08		# NUT, locking, thin # <i>Welded to under side of lower steering arm on centre casting.</i>	1
20	10S31		SPACER, front pin	1
21	10S20		SPACER, rear pin	1
22	333113000		NIPPLE, grease	1



Item	Part no	Serial no	Description	Qty
			\$ See page 8-B-1A for <b>4S4000M</b> Seatbox & Floor plate	
1	V2003788		\$ PLATE, floor ( <b>NOT 4S4000M</b> )	1
2	11S04D		SCREW, set	4
3	11S04B		SCREW, set	2
4	17S05		WASHER, spring	6
5	267S06		WASHER, flat	10
6	7S04		NUT	4
10	V2003766		\$ COVER, seat box ( <b>NOT 4S4000M</b> )	1
11	V2001689		\$ PLATE, infill ( <b>NOT 4S4000M</b> )	1
12	11S02A		SCREW, set	4
13	17S03		WASHER, spring	4
14	267S04		WASHER, flat	4
15	V2003018		SPACER	2
16	11S04D		SCREW, set	4
17	267S06		WASHER, flat	4
18	17S05		WASHER spring	4
19	7S04		NUT	4
20	V2003768		WING, R.H.	1
21	V2003769		WING, L.H.	1
22	11S13G		SCREW, set	4
23	267S08		WASHER, flat	8
24	61S10		NUT, self-locking	4
26	11S04C		SCREW, set	4
27	17S05		WASHER, spring	4
28	267S06		WASHER, flat	4
30	—		TANK, hydraulic oil (see Hydra. Sec.)	1
31	—		TANK, fuel (see Engine section)	1
32	11S04C		SCREW, set	4
33	267S06		WASHER, flat	8
34	17S05		WASHER, spring	4
35	7S04		NUT	4
36	11S04B		SCREW, set	2
37	17S05		WASHER, spring	2
38	267S06		WASHER, flat	2
40	V2003808		STEP	2
41	105S03		SHIM, tapered	8
42	11S04D		SCREW, set	2
43	17S05		WASHER, spring	6
44	267S06		WASHER, flat	6
45	7S04		NUT	4



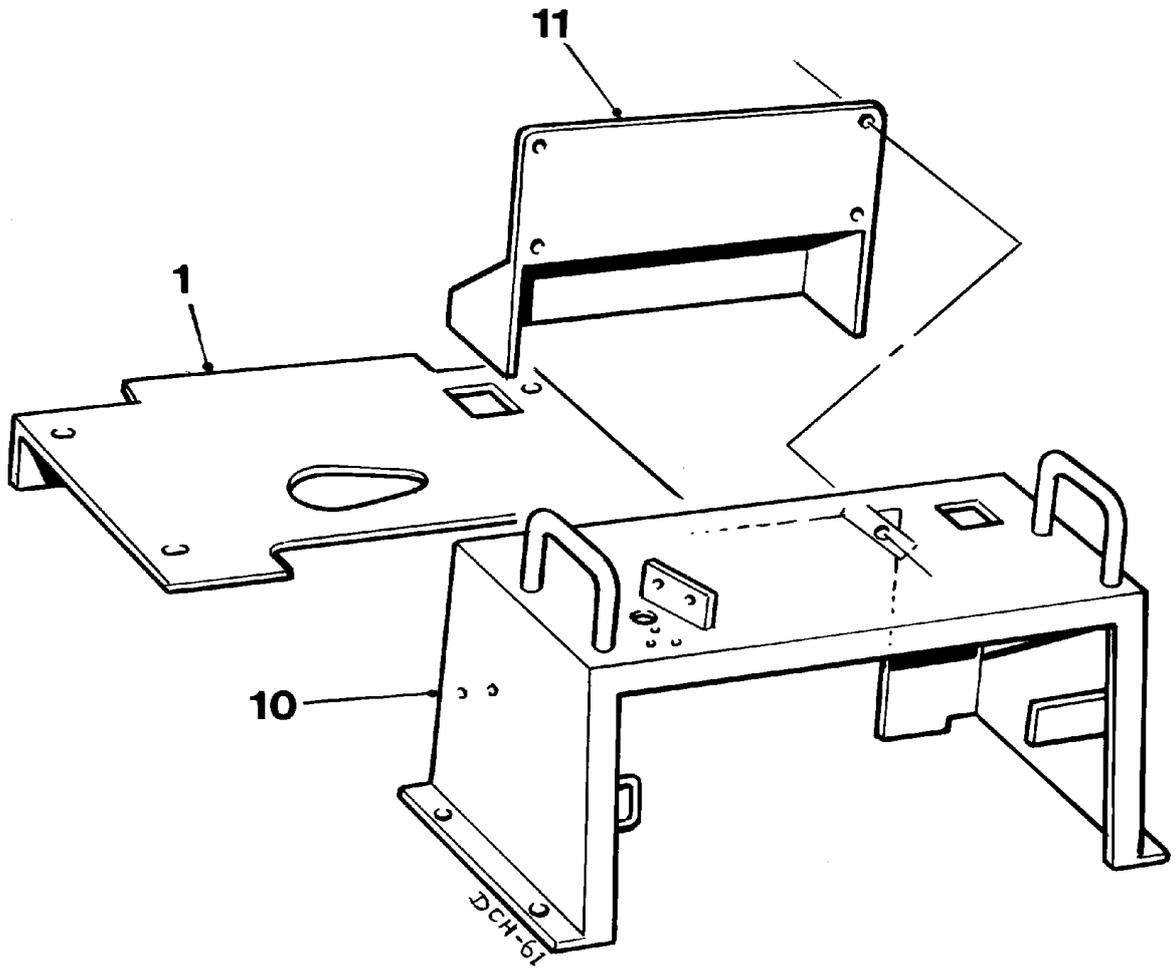
**PANELS**

**8 - B - 1**

Item	Part no	Serial no	Description	Qty
46	11S04G		SCREW	4
47	CSE182		SPACER	2
50	V2004055		CLAMP, battery	1
51	V2002679		ROD, clamp	2
52	267S04		WASHER, flat	2
53	61S02		NUT, self-locking	2
55	V2003841		COVER, battery	1
56	11S04B		SCREW, set	2
57	59S03		NUT, nylon insert	2
60	V2003754	/#	GUARD, chassis rear	1
61	11S06E	/#	SCREW, set	8
62	17S08	/#	WASHER, spring	8
63	7S06	/#	NUT	8
65	V2003789	/#	PLATE, infill	1
66	11S03B	/#	SCREW, set	4
67	267S05	/#	WASHER, flat	8
68	17S04	/#	WASHER, spring	8
69	7S03	/#	NUT	4
70	V2004084		COVER, rubber, (Earth & high dis. skips)	
70	V2004085		COVER, rubber, (Rotating skip)	1
71	V2004083		PLATE	2
72	267S04		WASHER, flat	8
73	11S02A		SCREW, set	4
74	61S02		NUT, nylon insert	4
80	V2004080		HANDLE, grab-rail, L.H.	1
81	V2004081		HANDLE, grab-rail, R.H.	1
82	267S06		WASHER, flat	6
83	17S05		WASHER, spring	6
84	11S04C		SCREW, set	6
90	—	/#	COVER, engine (see page 8 - B - 2)	
95	V2004301	/#	PIN, towing	1

**# Up to dumper serial numbers**

20004 **4S2000**  
 25005 **4S2500**  
 30012 **4S3000**  
 40004 **4S4000M**

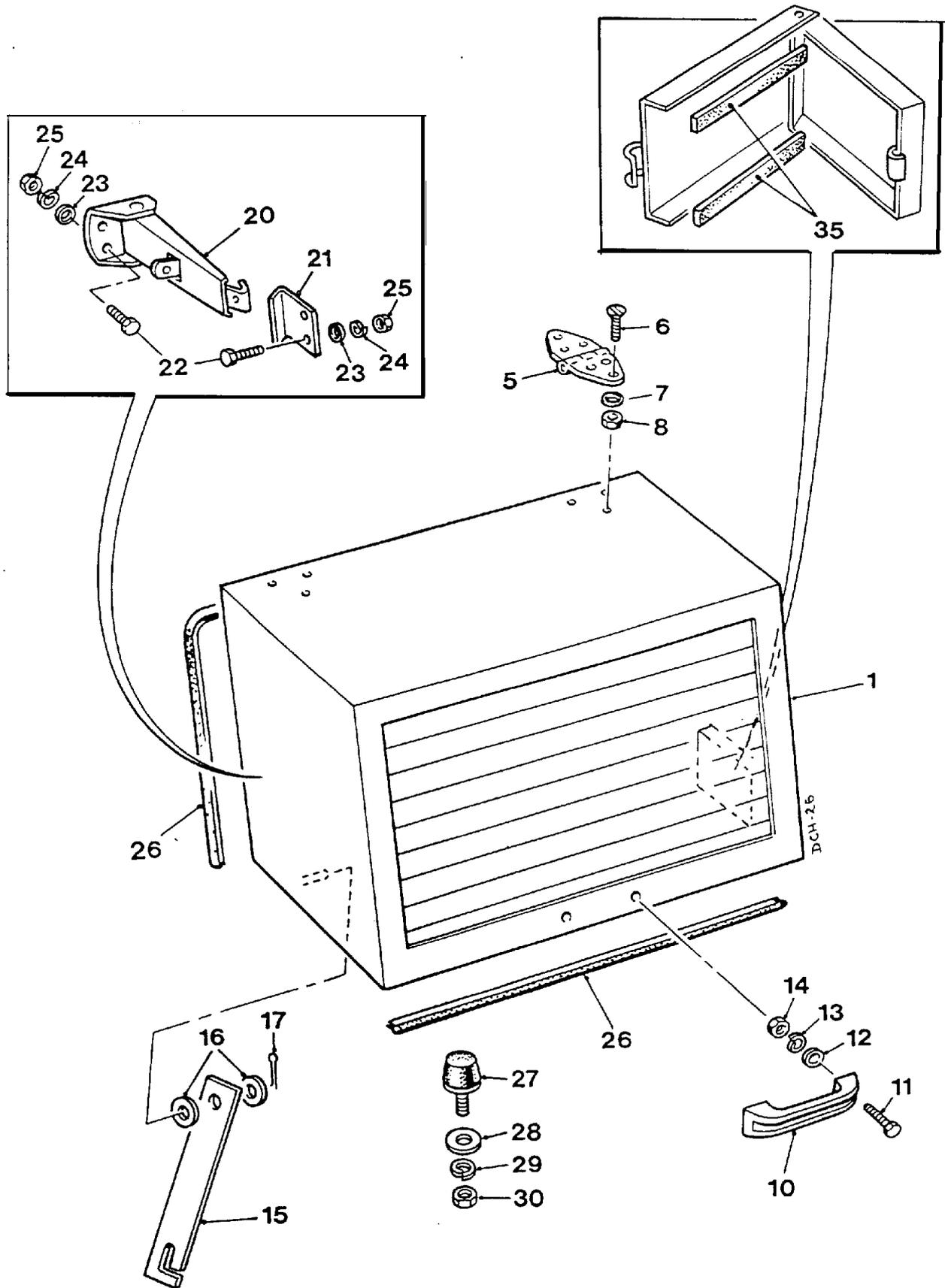


# SEATBOX and FLOOR PLATE

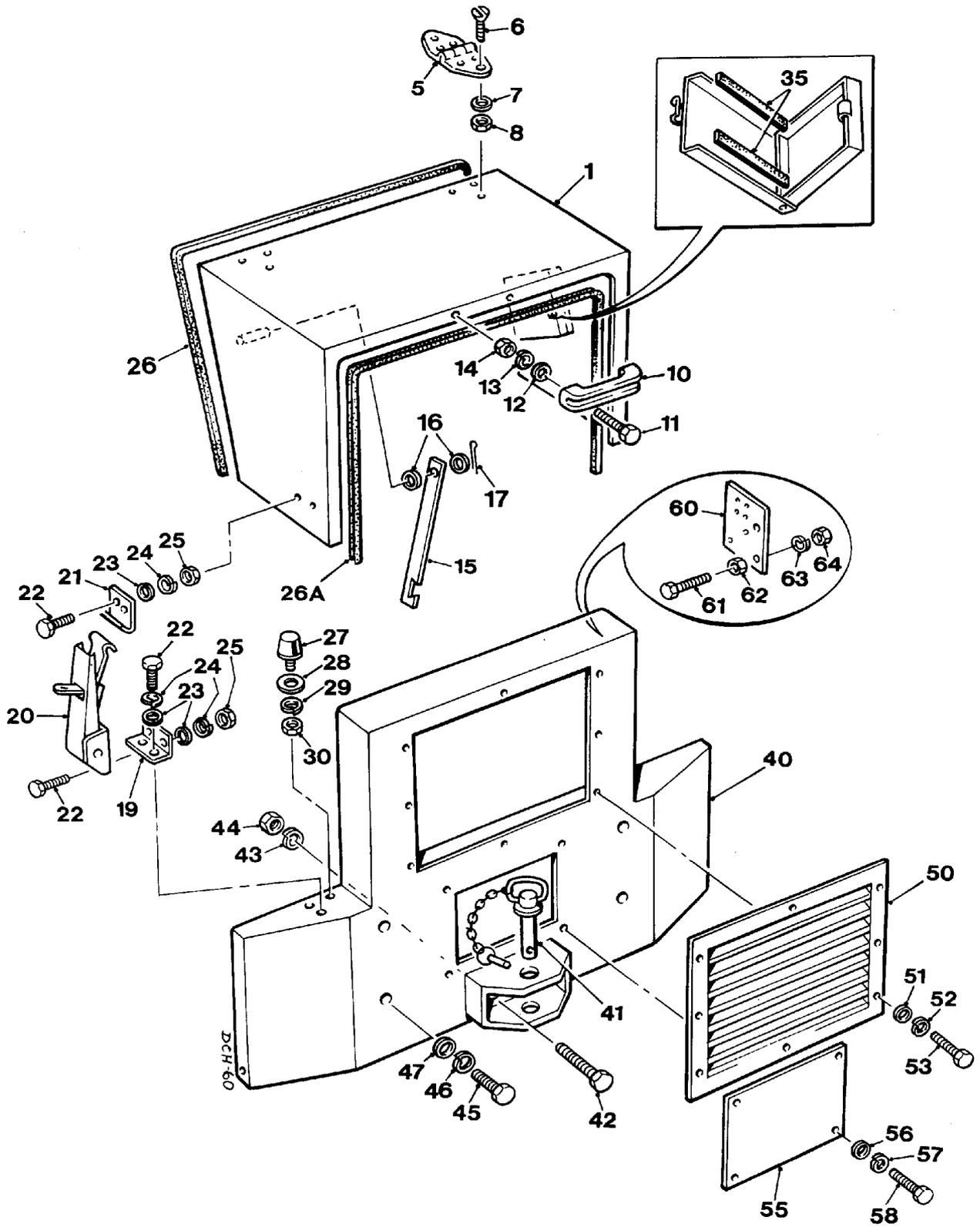
8 - B - 1A

Item	Part no	Date	Description	Qty
<b>For 4S4000M with LPWT4 turbo engine</b>				
1	V2004622	Aug-96 /	PLATE, floor	1
10	V2004621	Aug-96 /	SEATBOX	1
11	V2004637	Aug-96 /	PLATE, infill	1

***See page 8-B-1 for other seatbox fittings***



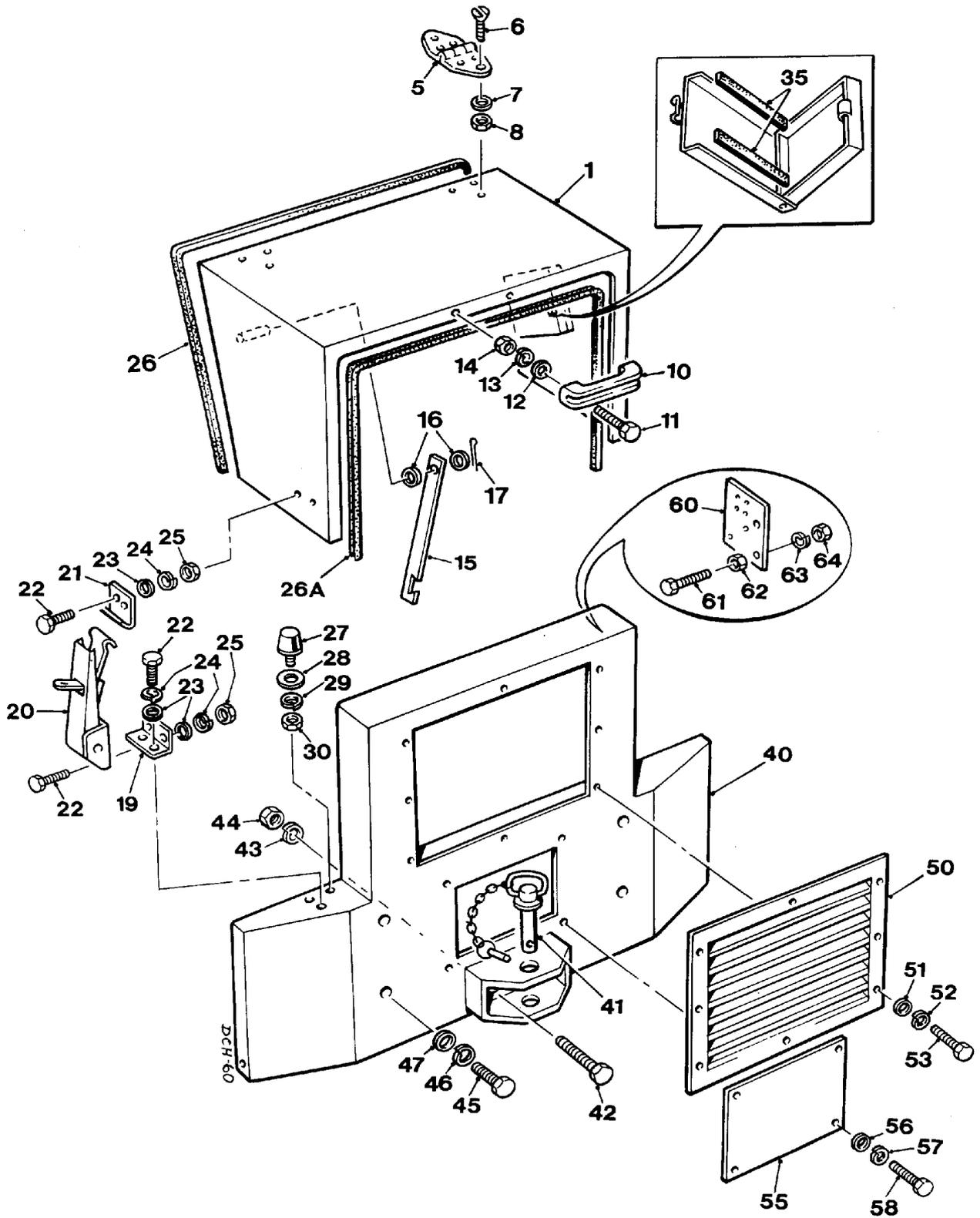
Item	Part no	Serial no	Description	Qty
<i>Up to Dumper serial numbers:</i>				
		/20004	<b>4S2000</b>	
		/25005	<b>4S2500</b>	
		/30012	<b>4S3000</b>	
		/40004	<b>4S4000M</b>	
1	V2003767		COVER, engine	1
5	V2002839		HINGE	2
6	14S04E		SCREW, c/sunk slotted	12
7	267S04		WASHER, flat	12
8	61S02		NUT, Binx	12
10	V2003215		HANDLE	1
11	11S02A		SCREW, set	2
12	267S04		WASHER, flat	2
13	17S03		WASHER, spring	2
14	7S02		NUT	2
15	513325800		SUPPORT, cover	1
16	267S05		WASHER, flat	2
17	44S02B		PIN, split	1
20	10537A02		CATCH, toggle	2
21	10538A02		PLATE, catch	2
22	11S01A		SCREW, set	8
23	267S03		WASHER, flat	8
24	17S02		WASHER, spring	8
25	7S01		NUT	8
26	V2003225		SEAL, rubber (order by metre)	AR
27	V2003109		STOP, rubber	2
28	267S04		WASHER, flat	2
29	17S03		WASHER, spring	2
30	7S02		NUT	2
35	106209000		SEAL, rubber (order by metre)	AR



# REAR GUARD & COVER

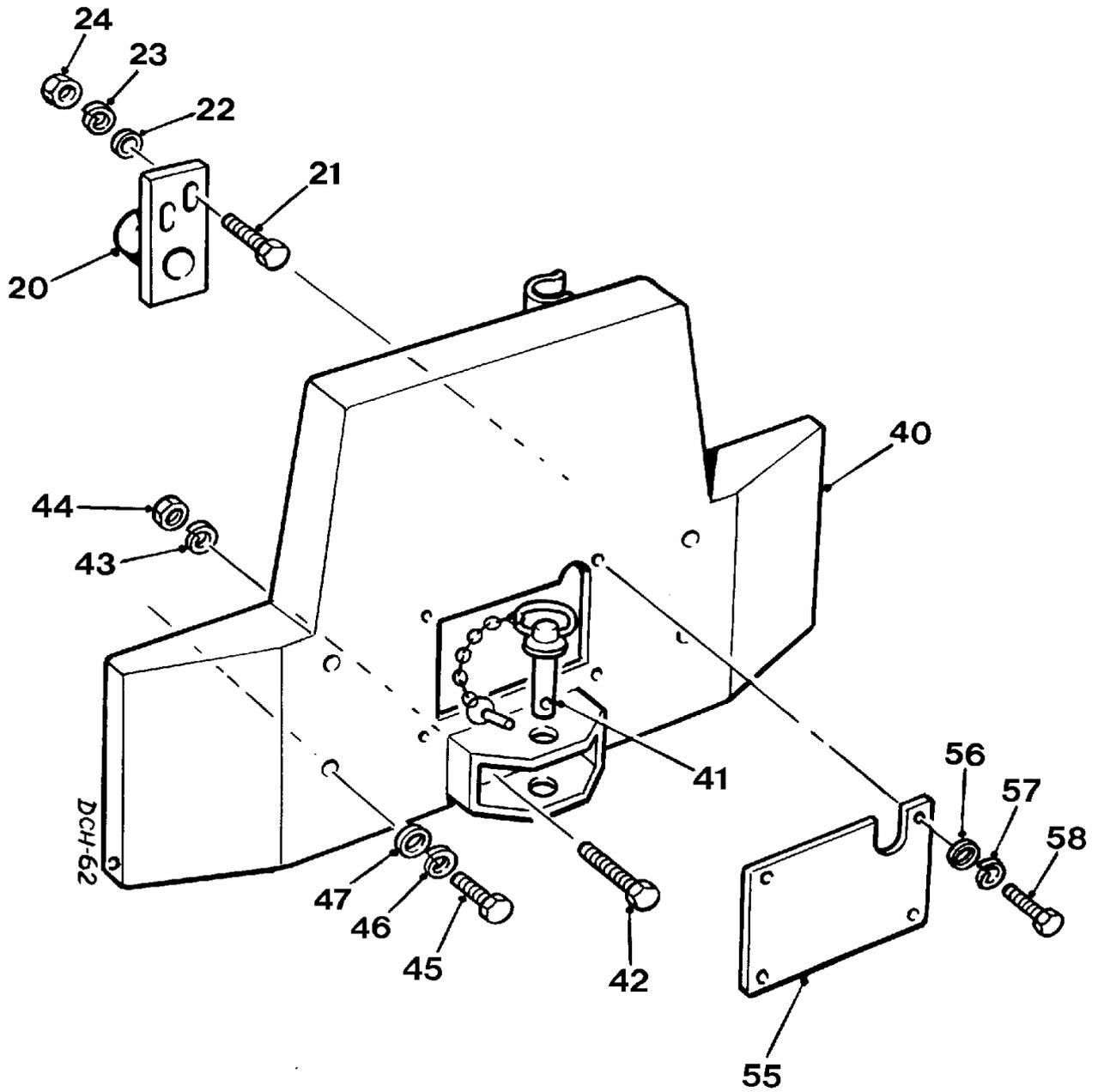
8 - B - 2A

Item	Part no	Serial no	Description	Qty
<i>From dumper serial numbers</i>				
		20005 /	<b>4S2000</b>	
		25006 /	<b>4S2500</b>	
		30013 /	<b>4S3000</b>	
		40005 /	<b>4S4000M</b>	
1	V2004601		COVER, engine	1
5	V2002839		HINGE	2
6	14S04D		SCREW, c/sunk slotted	12
7	267S04		WASHER, flat	12
8	61S02		NUT, locking	12
10	V2003215		HANDLE	1
11	11S02A		SCREW, set	2
12	267S04		WASHER, flat	2
13	17S03		WASHER, spring	2
14	7S02		NUT	2
15	513325800		SUPPORT, cover	1
16	267S05		WASHER, flat	2
17	44S02B		PIN, split	1
19	V2004611		BRACKET	2
20	10537A02		CATCH, toggle	2
21	10538A02		PLATE, catch	2
22	11S01A		SCREW, set	6
23	267S03		WASHER, flat	12
24	17S02		WASHER, spring	12
25	7S01		NUT	8
26	V2003225		SEAL, rubber	AR
26A	V2003587		SEAL, rubber	AR
27	V2003109		STOP, rubber	2
28	267S04		WASHER, flat	2
29	17S03		WASHER, spring	2
30	7S02		NUT	2
35	106209000		SEAL, ( <i>inside document box</i> )	AR
40	V2004603		GUARD, rear	1
41	V2004301		PIN, towing	1
42	8S06Q		SCREW, set	2
43	17S08		WASHER, spring	2
44	7S06		NUT	2



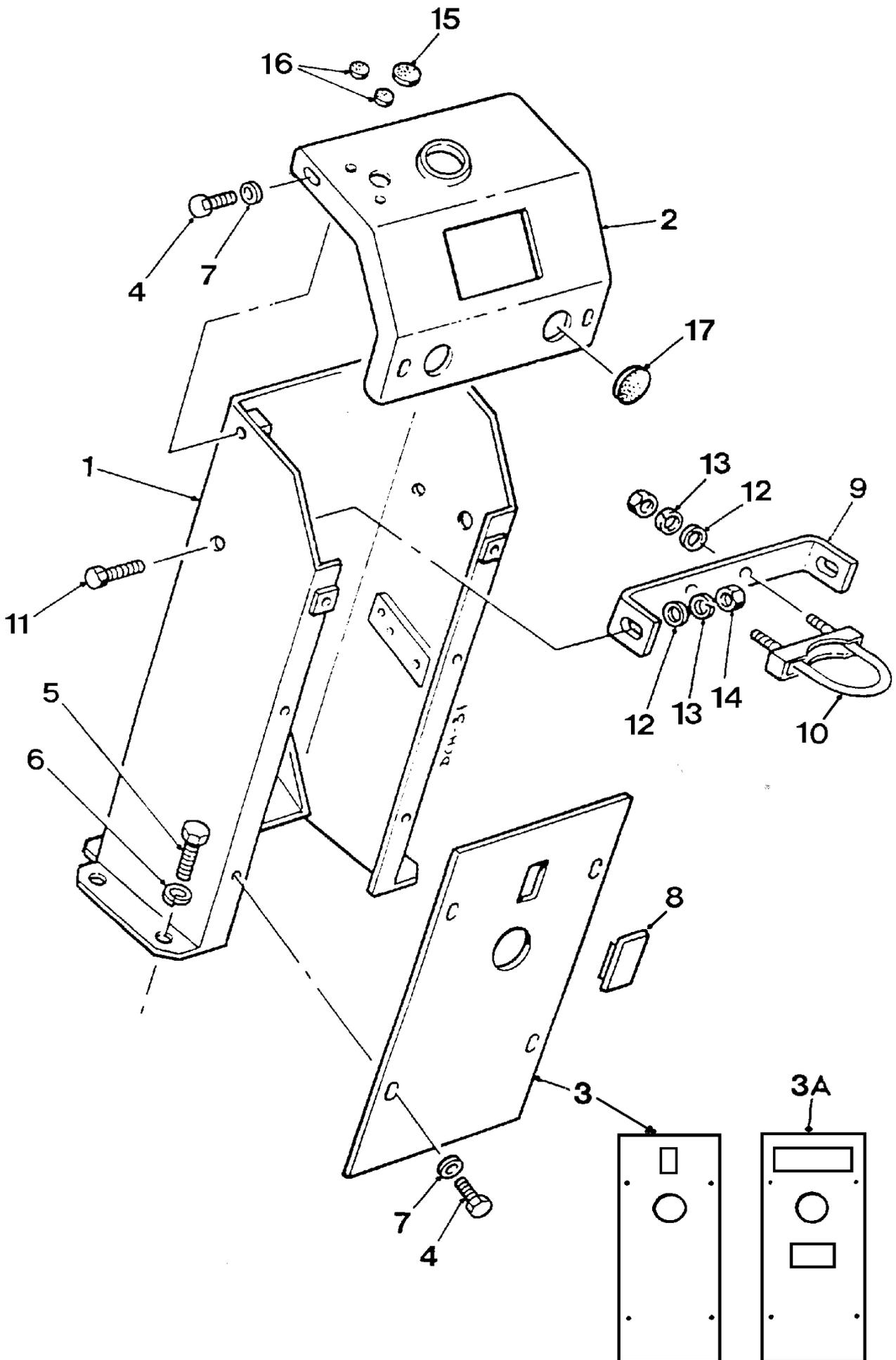
**REAR GUARD & COVER****8 - B - 2A**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
45	11S06E		SCREW, set	2
46	17S08		WASHER, spring	2
47	267S09		WASHER, flat	4
50	V2004604		GRILL, rear guard	1
51	267S05		WASHER, flat	8
52	17S04		WASHER, spring	8
53	11S03B		SCREW, set	8
55	V2004635		COVER, access	1
56	267S05		WASHER, flat	4
57	17S04		WASHER, spring	4
58	11S03B		SCREW, set	4
60	V2004592		BRACKET, alarm	1
61	11S03C		SCREW, set	2
62	7S03		NUT	2
63	17S04		WASHER, spring	2
64	61S03		NUT, 'Nyloc' self-locking	2



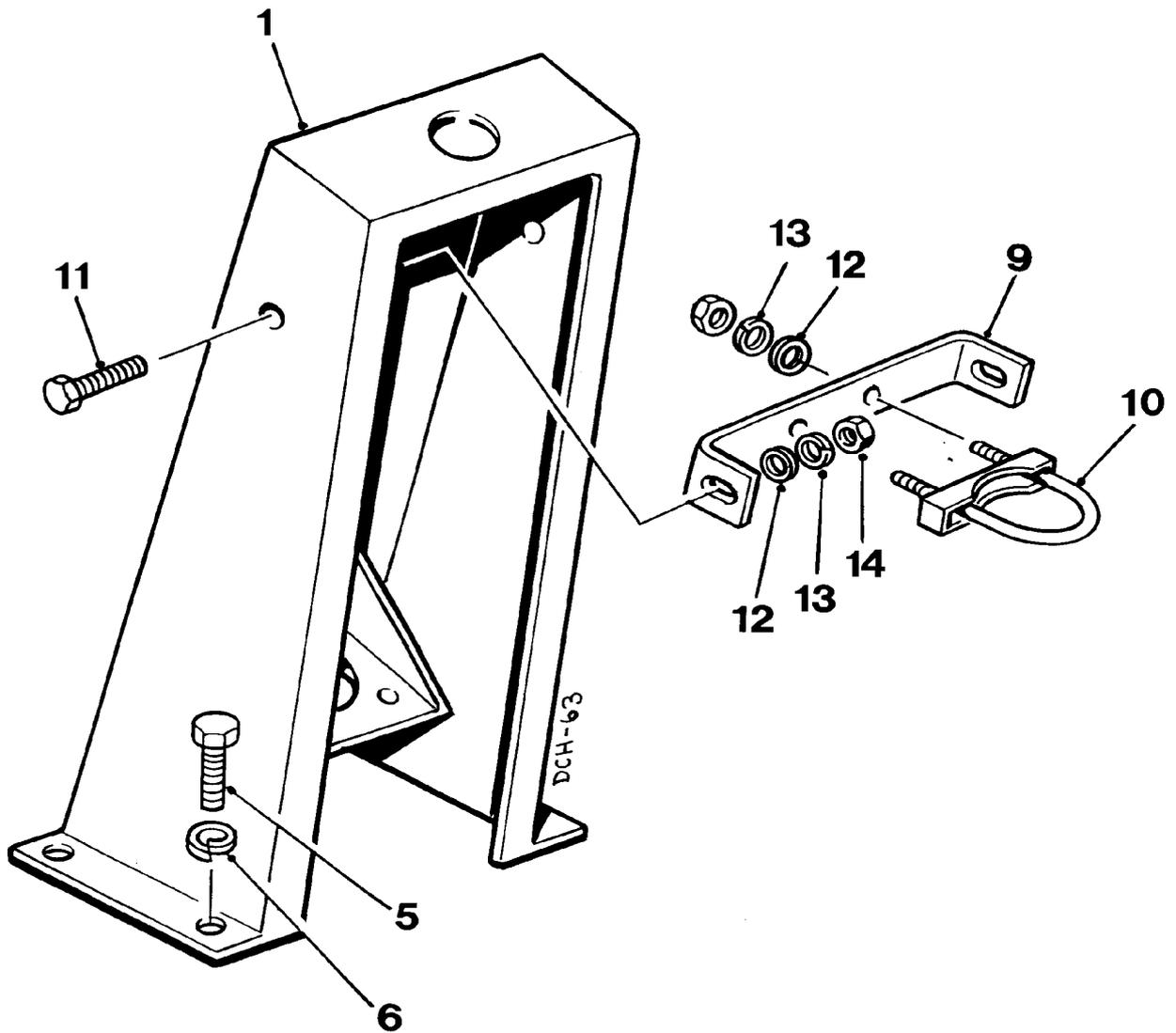
**REAR GUARD****8 - B - 2B**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
20	20355A07		BRACKET, starting handle support	1
21	11S04E		SCREW, set	2
22	267S06		WASHER, flat	2
23	17S05		WASHER, spring	2
24	7S04		NUT	2
40	V2003773		GUARD, rear	1
41	V2004301		PIN, towing	1
42	8S06Q		SCREW, set	2
43	17S08		WASHER, spring	2
44	7S06		NUT	2
45	11S06E		SCREW, set	2
46	17S08		WASHER, spring	2
47	267S09		WASHER, flat	4
55	V2004873		COVER, access	1
56	267S05		WASHER, flat	4
57	17S04		WASHER, spring	4
58	11S03B		SCREW, set	4



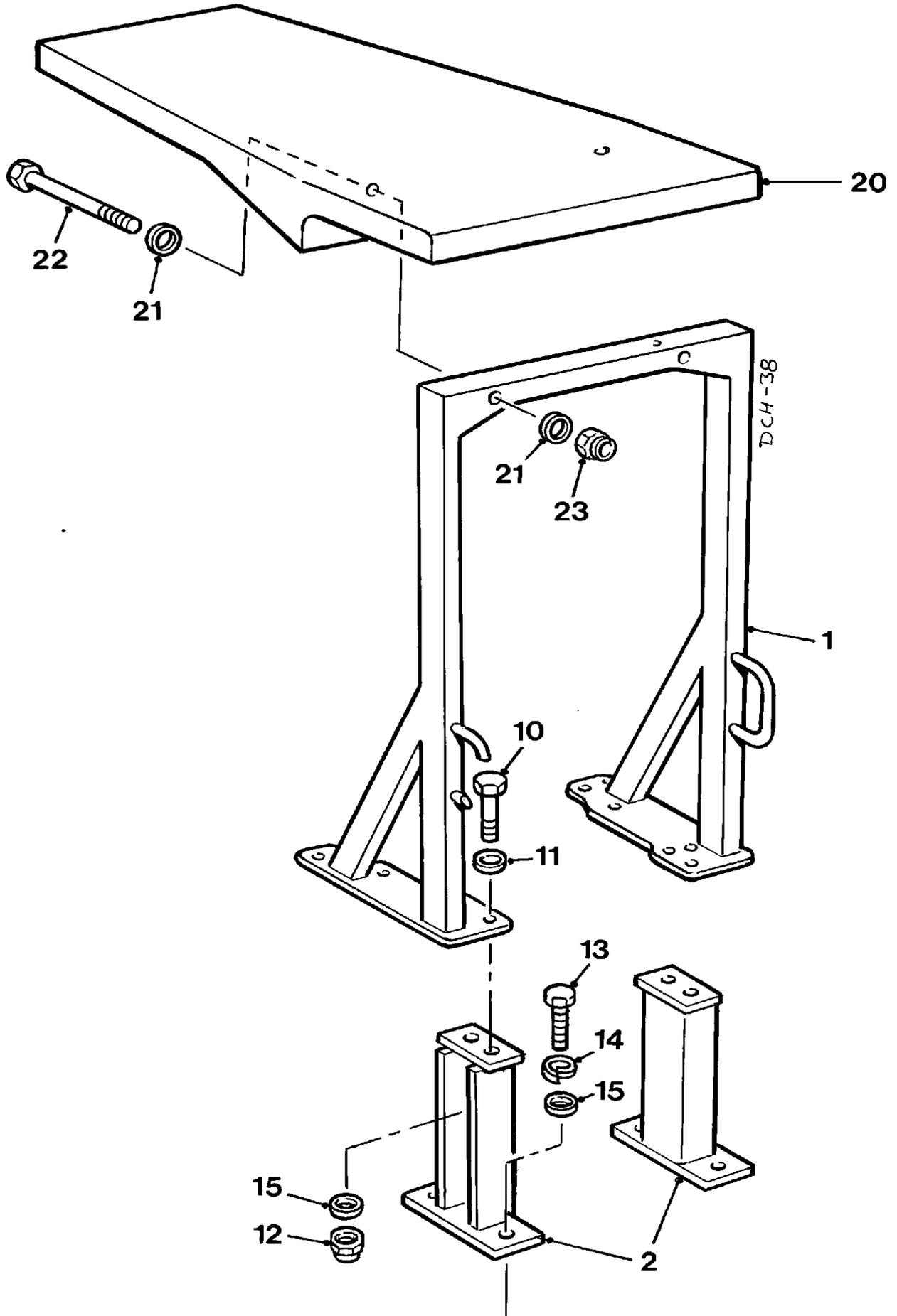
**CASING, steering column****8 - B - 3**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2003085		CASING, steering column	1
2	V2003086		PANEL, instruments	1
3	V2004174		PLATE, cover (hole for 1 switch)	1
3A	V2004306		PLATE, cover (holes for 9 switches)	1
4	11S02V		SCREW, set	8
5	11S04B		SCREW, set	5
6	17S05		WASHER, spring	5
7	267S04		WASHER, flat	8
8	V2003348		BLANK	1
9	V2003673		BRACKET	1
10	153S05		'U' BOLT, c/w clamp and nuts	1
11	11S03C		SCREW, set	2
12	267S05		WASHER, flat	4
13	17S04		WASHER, spring	4
14	7S03		NUT	2
15	V2003852		GROMMET	1
16	V2003853		GROMMET	2
17	V2004308		GROMMET	1



**CASING, steering column****8 - B - 3A**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2003749		CASING, steering column	1
5	11S04B		SCREW, set	5
6	17S05		WASHER, spring	5
9	V2003673		BRACKET	1
10	153S05		'U' BOLT, c/w clamp and nuts	1
11	11S03C		SCREW, set	2
12	267S05		WASHER, flat	4
13	17S04		WASHER, spring	4
14	7S03		NUT	2

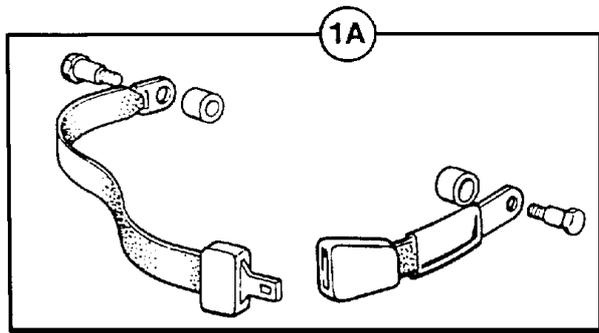


**FRAME (ROPS) & CANOPY (FOPS)****8 - B - 4**

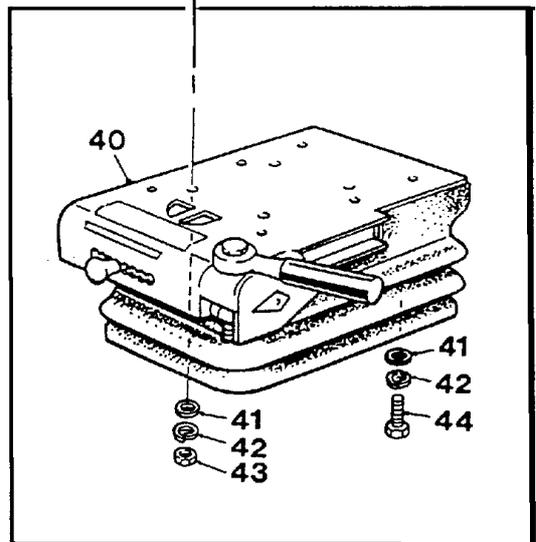
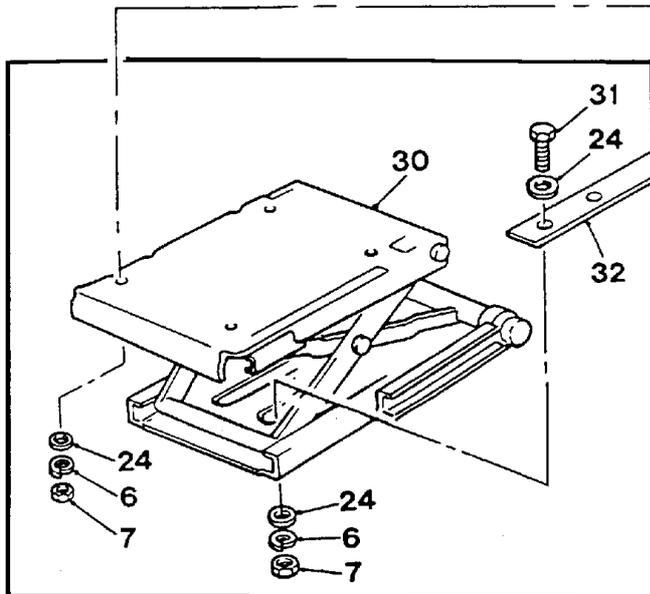
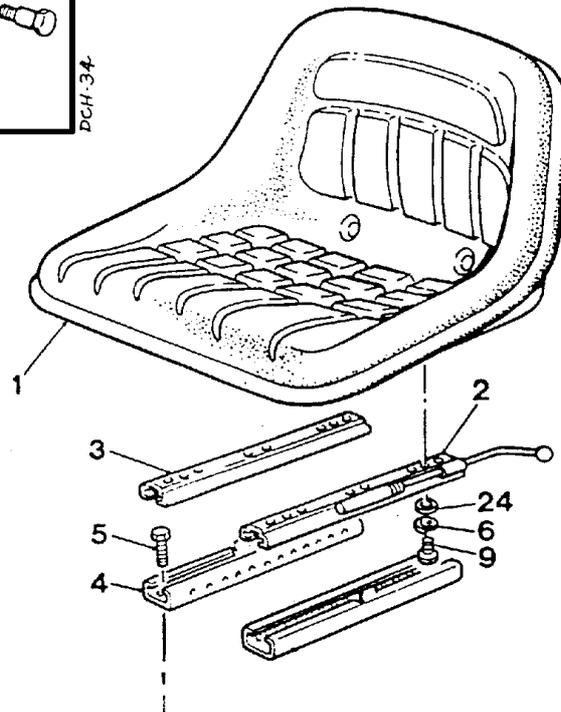
<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2004037		\$ FRAME (ROPS)	1
2	V2004033		MOUNT, rear	2
10	8S09H		BOLT	8
11	V2003892		WASHER, 'special'	8
12	59S15		NUT, nylon insert	8
13	8S09D		BOLT	4
14	17S07		WASHER, spring	4
15	267S08		WASHER, flat	12
20	V2004036		CANOPY (FOPS)	1
21	267S12		WASHER, flat	4
22	8S08W		BOLT	2
23	59S07		NUT, nylon insert	2

**\$ IMPORTANT**

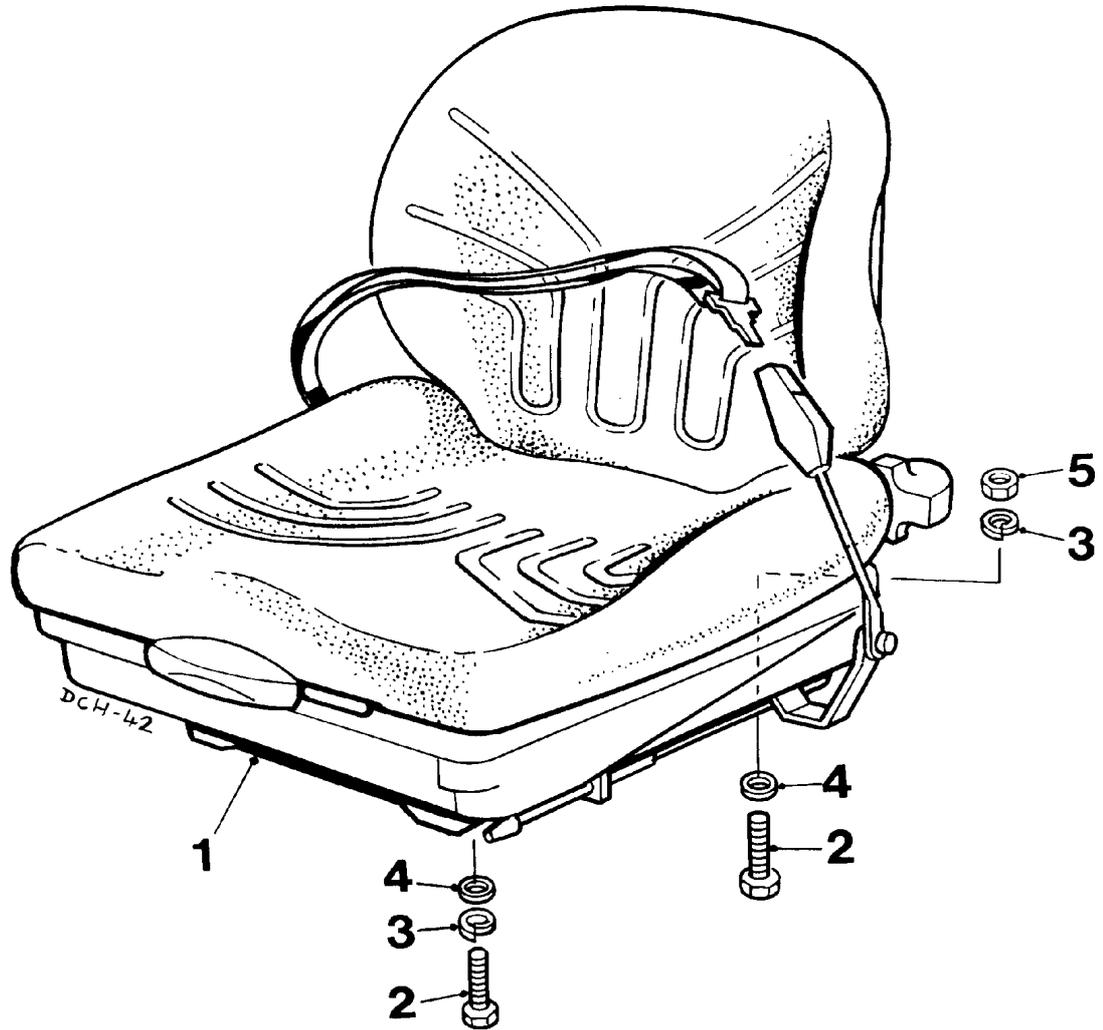
All machines (including those built before Jan '95) being retro-fitted with a ROPS / FOPS frame or a cab **MUST** also be fitted with a "Grammer" seat.  
(see page 8-C-2)



2CH-34



Item	Part no	Serial no	Description	Qty
<b>IMPORTANT</b>				
All machines (including those built before Jan '95) being retro-fitted with a ROPS / FOPS frame or a cab MUST be fitted with a "Grammer" seat. (See page 8-C-2)				
1	V2000954		SEAT, "KAB",	1
1A	V2003682		BELT, 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
<b>Up to Dumper serial numbers</b>				
		/20001	<b>4S2000</b>	
		/25002	<b>4S2500</b>	
		/30005	<b>4S3000</b>	
30	V2003654		SUSPENSION UNIT, "XL"	1
31	11S03C		SCREW, set	6
32	V2004206		PLATE, clamp	2
<b>From Dumper serial numbers</b>				
		20002 /	<b>4S2000</b>	
		25003 /	<b>4S2500</b>	
		30005 /	<b>4S3000</b>	
40	V2004231		SUSPENSION UNIT, "XH", c/w shroud	1
41	267S05		WASHER, flat	4
42	17S04		WASHER, spring	4
43	7S03		NUT	2
44	11S03C		SCREW, set	2

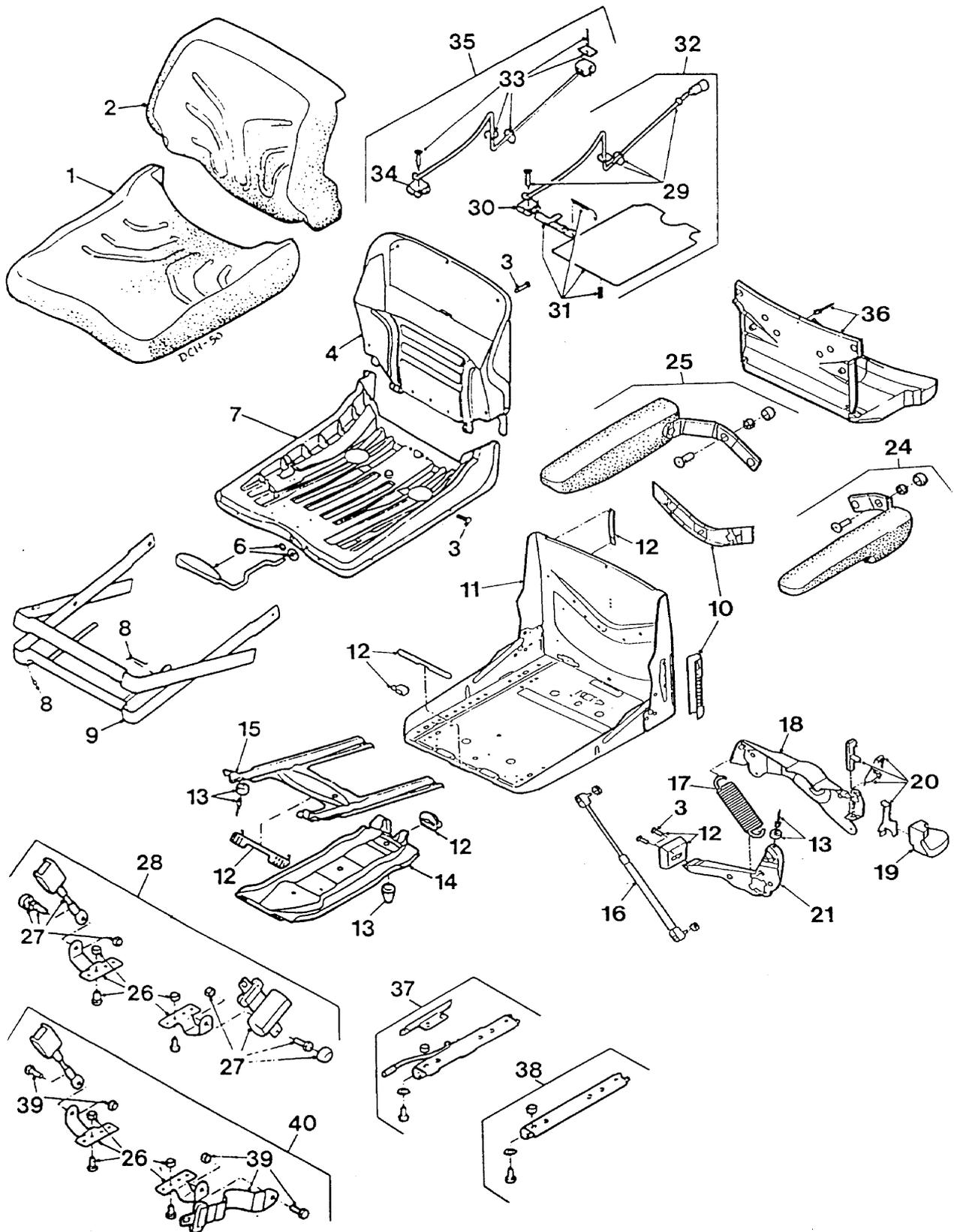


Item	Part no	Serial no	Description	Qty
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**IMPORTANT**

All machines (including those built before Jan '95) being retro-fitted with a ROPS / FOPS frame or a cab **MUST** be fitted with a "**Grammer**" seat.

1	V2004218	/ Feb 97	SEAT, "GRAMMER" <b>MSG20</b> (OBSOLETE: use V2004624)	1
1	V2004624	Feb-97 /	SEAT, "GRAMMER" <b>MSG12</b>	1
.....	V602594		BELT, seat	1
			<i>(See page 8-C-3 for parts of seats)</i>	
2	11S03B		SCREW, set	4
3	17S04		WASHER, spring	4
4	267S05		WASHER, flat	4
5	7S03		NUT	2



## SEATS,"Grammer", (models MGS12 and MGS20)

8 - C - 3

Item	Part no	Serial no	Description	Qty
1	V602577		CUSHION	1
2	V602578		BACKREST	1
3	-----		FITTINGS	3
4	V602579		PLATE, backrest	1
6	V602580		LEVER, adjustment	1
7	V602581		BASE, seat, <b>MSG20</b>	1
7	-----		BASE, seat, <b>MSG12</b>	1
8	V602582		FITTINGS, cover, <b>MSG20</b>	1
8	"NOT FITTED"		FITTINGS, cover, <b>MSG12</b>	1
9	V602583		COVER, <b>MSG20</b>	1
9	"NOT FITTED"		COVER, <b>MSG12</b>	1
10	V602584		FITTINGS, for seat frame	1
11	-----		FRAME, seat	1
12	V602585		FITTINGS, for frame & arms	1
13	-----		BUMPERS	(set)1
14	-----		ARM, swinging, inner	1
15	-----		ARM, swinging, outer	1
16	V602586		SHOCK ABSORBER, <b>MSG20</b>	1
16	"NOT FITTED"		SHOCK ABSORBER, <b>MSG12</b>	1
17	V602587		SPRING, tensioning, <b>MSG20</b>	1
17	-----		SPRING, tensioning, <b>MSG12</b>	1
18	-----		LEVER, weight adjustment	1
19	V602588		HANDLE	1
20	-----		FITTINGS, handle	1
21	-----		LEVER	1
24	V602589		ARMREST, L.H.	1
25	V602590		ARMREST, R.H.	1
26	V602591		FITTINGS, safety belt	1
28	"NOT FITTED"		BELT, safety, self-recoil type	1
29	-----		FITTINGS, for switch	1
30	-----		SWITCH	1
31	-----		FITTINGS, for switch	1
32	-----		SWITCH & FITTINGS assembly	
36	"NOT FITTED"		BOX, literature	1
37	V602592		RAIL, sliding, with lever	1
38	V602593		RAIL, sliding	1
39	V602594		BELT, safety	1
40	V602595		BELT & FITTINGS assembly	1

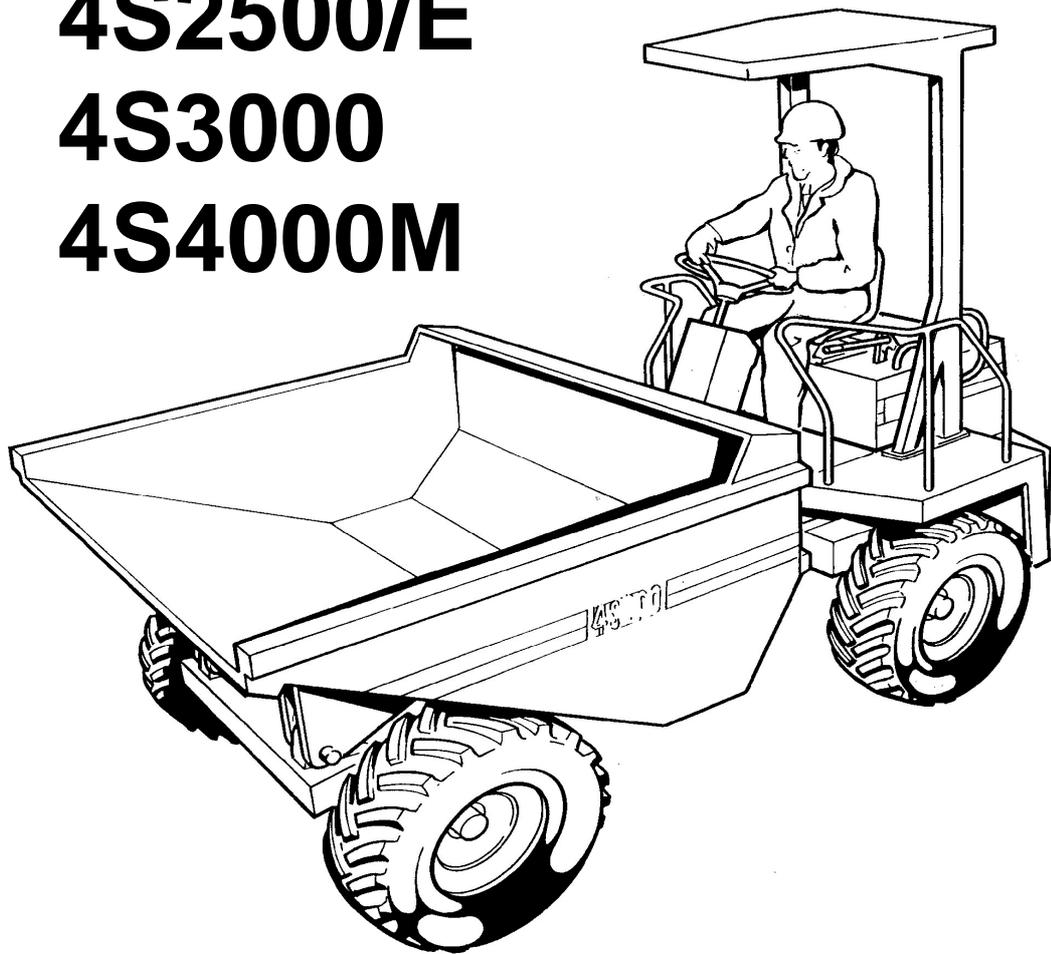
# 'S' Series Dumpers

**4S2000/E**

**4S2500/E**

**4S3000**

**4S4000M**



# ***DECALS & TOOLS***

**DECALS & PLATES**

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**9 - A - 1**

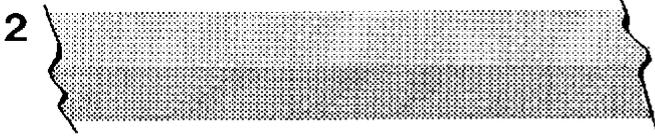
**SPECIAL TOOLS**

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**9 - T - 1**

**[<<< To beginning of Parts](#)**

1 **WINGET**



3A **4S2000**

3B **4S2500**

3C **4S3000**

3D **4S4000M**

4A **maximum payload 2000 kgs**

4B **maximum payload 2500 kgs**

4C **maximum payload 3000 kgs**

4D **maximum payload 4000 kgs**

5

<b>WINGET</b>		WINGET LIMITED P.O. Box 99, Spinehurst Lane, Bolton, Lancs. BL4 9WW Tel: 01204 651165 Fax: 01204 651206	
Model	<input type="text"/>		
Serial No.	<input type="text"/>		
Engine No.	<input type="text"/>		
Capacity	Mass (kg)	<input type="text"/>	<input type="text"/>
SRO No.	Power (kW)	<input type="text"/>	<input type="text"/>
Year Of Manuf.	Eng. (rpm)	<input type="text"/>	Drum (rpm) <input type="text"/>

A Sisson Group Company

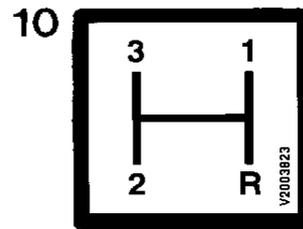
6 **TAKE EXTRA CARE WHEN TIPPING  
NON FREE RUNNING LOADS**

7 **WARNING  
DO NOT WORK UNDER  
UNPROPPED SKIP**

8 **SAFETY WARNING**

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

W1456/94600



11 **WARNING!**  
TIGHTEN WHEEL  
NUTS DAILY



13 **Top up with Hydraulic  
Oil ONLY  
DO NOT use Brake  
Fluid**

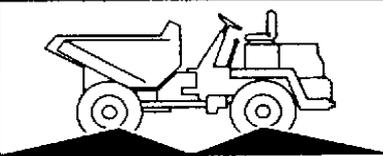
14 **DANGER  
KEEP ENGINE HOUSING  
LID CLOSED WHEN  
ENGINE IS RUNNING**

# DECALS & PLATES

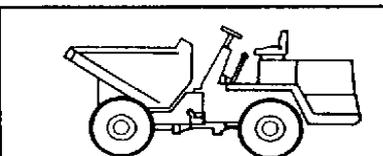
9 - A - 1

Item	Part no	Serial no	Description	Qty
—	V602655		# DECAL KIT, 4S2000 , 4S2500, 4S3000, 4S4000M # <i>Each kit contains all decals needed for one dumper. (Discard those decals in the kit that are not relevant to a particular dumper.)</i>	
1	V2003039		DECAL," Winget"	5
2	V2003038		DECAL, stripe, blue/red (order by metre)	
3A	V2003810		DECAL, "4S2000"	2
3B	V2003811		DECAL, "4S2500"	2
3C	V2003812		DECAL, "4S3000"	2
3D	V2001715		DECAL, "4S4000M"	2
4A	10541A13		DECAL, "Max payload 2000kgs"	1
4B	10541A20		DECAL, "Max payload 2500kgs"	1
4C	10541A22		DECAL, "Max payload 3000kgs"	1
4D	10541A27		DECAL, "Max payload 4000kgs"	1
5	V2003037		PLATE, "Dumper serial number"	1
—	15S01A		SCREW, drive type ( <i>not illustrated</i> )	4
6	10536A02		DECAL, "Non free running loads"	1
7	DM157		DECAL, "Do not work under unpropped skip"	2
8	504694600		DECAL, "Dumper safety"	1
9	V2003598		DECAL, "British made"	1
10	V2003823		PLATE, "Gear lever positions"	1
11	V2003142		DECAL, "Tighten wheel nuts daily"	1
12	10284A01		DECAL, "Dump / Return"	1
13	10848A01		DECAL, "Brake fluid"	1
14	504600900		DECAL, "Engine Housing Lid Closed"	2

1

	
<b>4S2000</b>	
10.0/75 x 15.3 -8ply	10.0/75 x 15.3 -8ply
3.45bar 50 P.S.I.	2.07bar 30 P.S.I.
<b>4S2500</b>	
11.5/80 x 15.3 -8ply	11.5/80 x 15.3 -8ply
3.10bar 45 P.S.I.	1.38bar 20 P.S.I.
<b>4S3000</b>	
11.5/80 x 15.3 -8ply	11.5/80 x 15.3 -8ply
3.79bar 55 P.S.I.	2.07bar 30 P.S.I.

2

	
<b>4S4000</b>	
12.5/80x18-10ply	12.5/80x18-10ply
3-10 bar 45 P.S.I.	1-75 bar 25 P.S.I.
<b>4S5000</b>	
12.5/80x18-12ply	12.5/80x18-12ply
3-75 bar 55 P.S.I.	1-75 bar 25 P.S.I.
<b>4S6000</b>	
16.0/70x20-10ply	16.0/70x20-10ply
3-45 bar 50 P.S.I.	1-75 bar 25 P.S.I.

3

 **L<sub>pA</sub>**  
**83**

4

 **L<sub>pA</sub>**  
**85**

5

 **L<sub>wA</sub>**  
**102**

6

 **L<sub>wA</sub>**  
**105**

7

**CE**

8



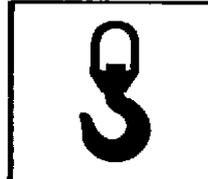
9



10



11



12



13







14





15





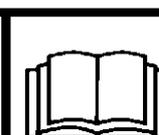
16



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

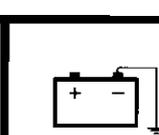
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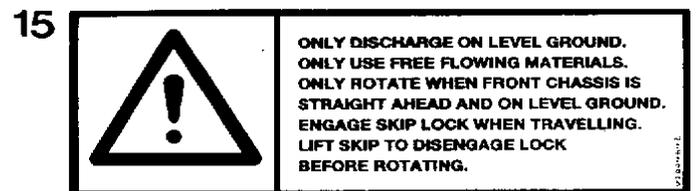
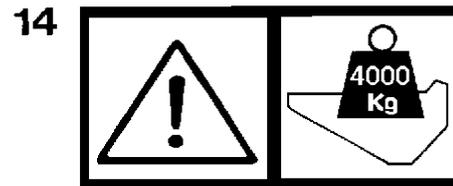
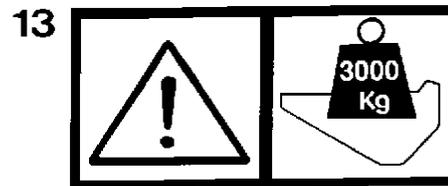
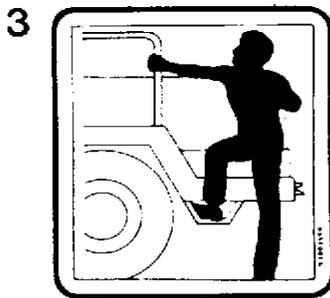
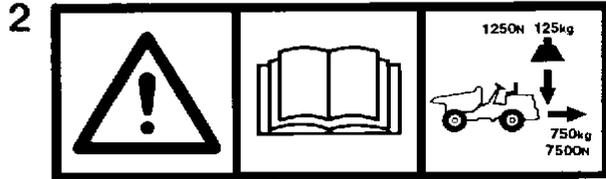
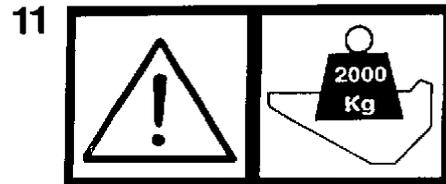
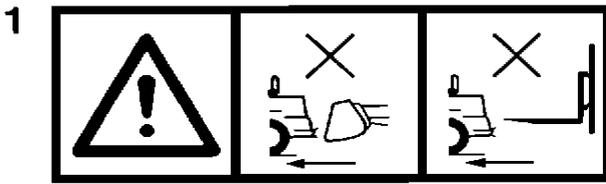
18





**DECALS & PLATES****9 - A - 2**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2004133		DECAL, Tyre pressures	2
3	V2003574		DECAL, "LPA 83"	1
4	V2004131		DECAL, "LPA 85"	1
5	V2004132		DECAL, "LWA 102"	1
6	V2003575		DECAL, "LWA 105"	1
7	V2004223		DECAL, "CE"	1
8	V2003100		DECAL, "Hydraulic oil"	1
9	V2003101		DECAL, "Diesel fuel"	1
10	V2004119		DECAL, "Do not sling"	2
11	V2003665		DECAL, "Sling point"	1
12	V2004191		DECAL, "Keep clear of crush zone"	1
13	V2004224		DECAL, "Chassis articulation lock"	1
14	V2004225		DECAL, "ISO skip support"	1
15	V2004226		DECAL, "Move seat forward"	1
16	V2004227		DECAL, "Battery isolator"	1
17	V2004229		DECAL, "Operators handbook"	1
18	V2004235		DECAL, "Negative Earth"	1

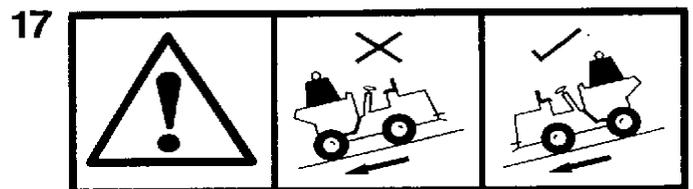


6

**CIRCUIT BREAKER**  
FOR PROTECTION OF FUEL CONTROL SOLENOID AND PROTECTION CIRCUIT.  
PRESS TO RESET.

16

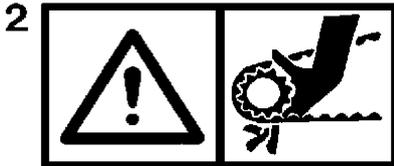
WHEN MACHINE UNATTENDED  
REMOVE STARTING HANDLE  
TO PREVENT UNAUTHORISED USE.



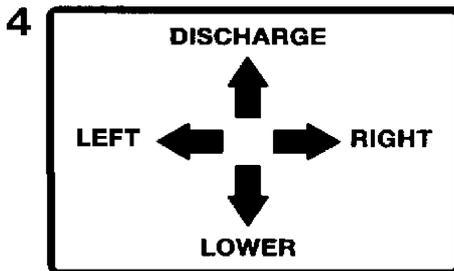
**DECALS & PLATES****9 - A - 3**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	V2004245		DECAL, "No buckets, No forks"	1
2	V2004237		DECAL, "Towbar loadings"	1
3	V2003594		DECAL, "Access points"	2
4	V2004282		DECAL, "Hot surfaces"	1
5	V2004307		DECAL, "Electrical hazard"	1
6	V2004439		PLATE, "Circuit breaker"	1
11	V2004608		DECAL, "Payload 2000Kg"	1
12	V2004789		DECAL, "Payload 2500Kg"	1
13	V2004788		DECAL, "Payload 3000Kg"	1
14	V2004787		DECAL, "Payload 4000Kg"	1
15	V2004642		DECAL, "Rotating hazard"	1
16	V2004288		DECAL, "Key/Handle"	1
17	V2004450		DECAL, "Gradiants"	1

1 **THIS HANDBRAKE OPERATES ON THE TRANSMISSION AND MUST ONLY BE USED FOR PARKING OR EMERGENCY STOPS. DAMAGE MAY BE CAUSED IF USED AS A SERVICE BRAKE**



3  **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.**



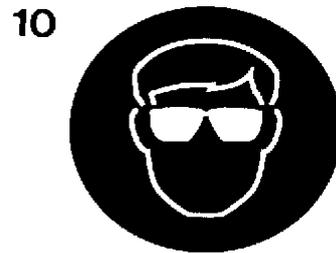
5 **TO AVOID DAMAGE TO THE TRANSMISSION, DO NOT USE THE DUMP PEDAL AS A FOOTREST**

6  **TO AVOID DAMAGE TO THE TRANSMISSION AND DRIVE TRAIN BRING MACHINE TO A STANDSTILL BEFORE CHANGING FORWARD OR REVERSE DIRECTION.**

7  **TIGHTEN SLEW RING BOLTS EVERY WEEK**

8  **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.**

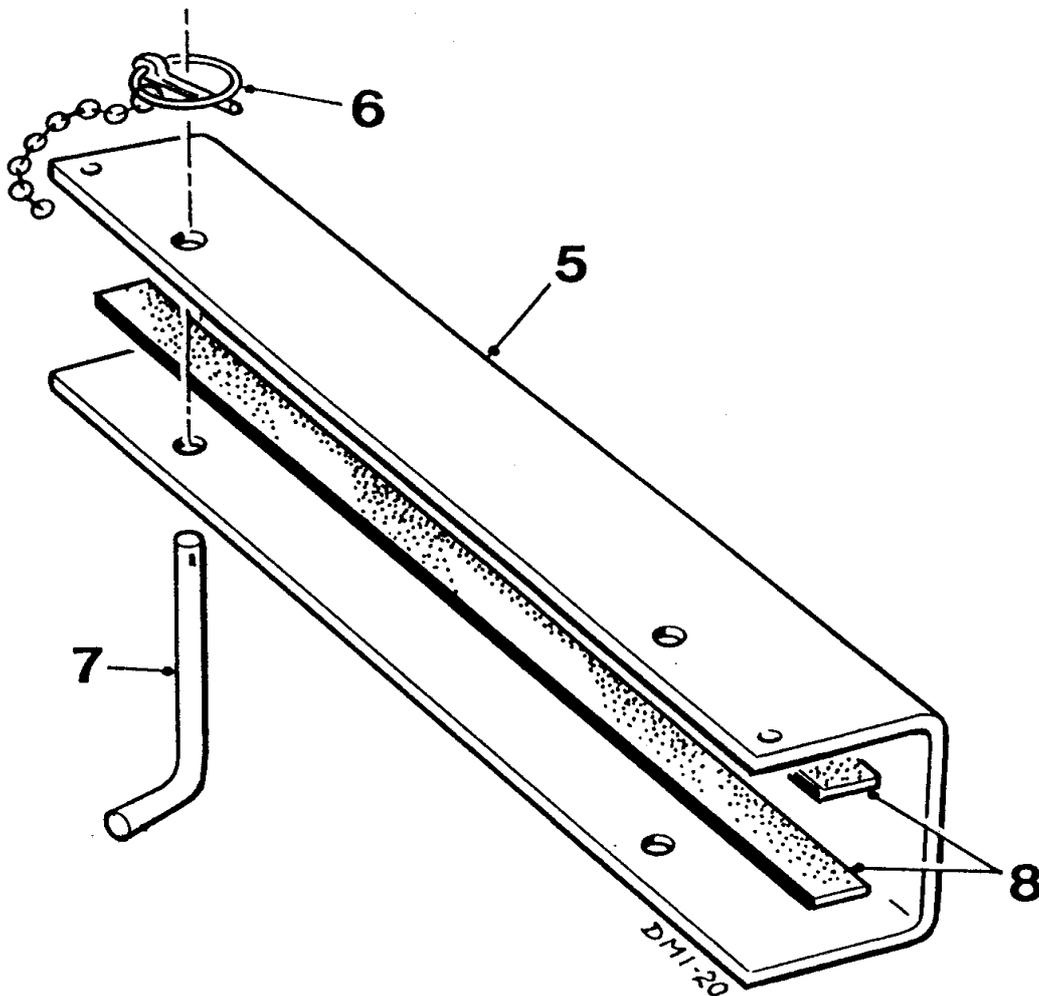
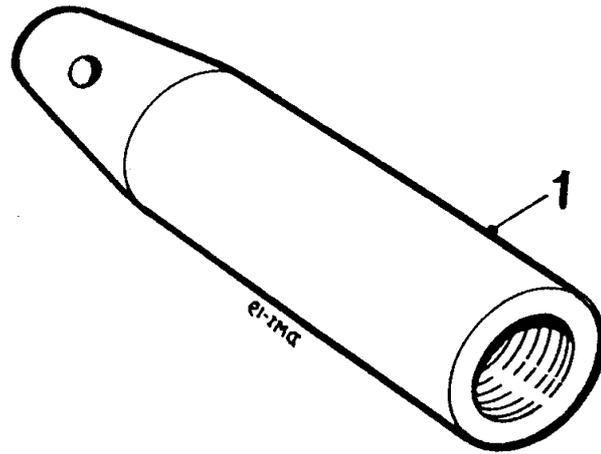
9  **TO AVOID INJURY DO NOT STAND BETWEEN THE SKIP AND MUDGUARDS AT ANY TIME UNLESS THE SKIP IS FULLY RAISED AND LOCKED IN POSITION.**



11  **ENSURE HEAPED LOAD DOES NOT RESTRICT FORWARD VISIBILITY**

**DECALS & PLATES****9 - A - 4**

<b>Item</b>	<b>Part no</b>	<b>Serial no</b>	<b>Description</b>	<b>Qty</b>
1	DM106		DECAL, "Handbrake"	1
2	V2004281		DECAL, "Hands clear"	1
3	V2004754		DECAL, "Damage to ROPS/FOPS"	2
4	V2004643		DECAL, "Dump slew return"	1
6	V2004748		DECAL, "Transmission damage"	1
7	V2004680		DECAL, "Slew ring bolts"	2
8	V2004798		DECAL, "Skip raised"	1
9	V2004799		DECAL, "To avoid injury"	2
10	V2004744		DECAL, "Eye protection"	1
11	V2005126		DECAL, "Heaped load"	1



# SPECIAL TOOLS

9 - T - 1

Item	Part no	Serial no	Description	Qty
1	V2004181	2001 /	<b>ALIGNMENT GUIDE</b> , centre pivot pins	1
5	V2004212	2082 /	<b>ISO SAFETY SUPPORT</b> , skip tip ram	1
6	902S02		PIN, lynch, c\w chain	2
7	V2004217		BOLT, 'special'	2
8	106209000		SEAL, strip, (2 metres)	1

## **CALIFORNIA**

### **Proposition 65 Warning**

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