

WINGET

OPERATING INSTRUCTIONS & SPARE PARTS LIST

FOUR A 80 DIESEL DUMPER (CAPACITY 80 CWT)

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INTRODUCTION

This Parts & Operators Manual is a re-print of the manual last published in 1981 and contains some amended part numbers.

Health & Safety legislation and working practices applicable to Site Dumpers, both 2 and 4 wheel Drive, Rigid Chassis and Articulated Chassis have changed considerably in the years since this manual was last published and immediately following this Introduction are notes on the Safe Use of Site Dumpers. These notes supersede and replace all previous 'Dumper Safety' notes issued with Winget FOUR A 80 Four Wheel Drive Dumpers.

Reference is made on a number of pages to 'bolt c/w nut and washer', this no longer the case, fixings such as nuts, bolts, screws and washers should be ordered as individual items. A number of Whitworth and B.S.F fixings are now no longer available, in these cases the nearest metric equivalent size will be supplied.

The contents of this manual although correct at the time of publication, may be subject to alteration by the manufacturers without notice and Winget Limited can accept no responsibility for any errors or omissions contained within the following pages. Nor can we accept any liability whatsoever arising from the use of this manual howsoever caused.

Winget Limited operate a policy of continuous product development. Therefore, some illustrations or text within this publication may differ from your machine.

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DUMPER SAFETY

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

MACHINE MODIFICATIONS

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



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

TRAINING

WARNING Only trained operators should use this machine.



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

It is strongly recommended that operators read the H.S.E. publication "Safe Working with Small Dumpers" which is available from government bookshops (HMSO) or from other bookshops quoting the following number ISBN 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.

OPERATION

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



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

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

ALWAYS check wheel nut tightness daily.

NEVER carry passengers.

Where seat belt restraints are fitted as part of Rops/Fops Protection they must be worn. Ensure that the seat and seat belt are securely fixed to the machine. 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.

DUMPER SAFETY

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

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

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

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

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

ALWAYS keep the floor plates and walkways clean.

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

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

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

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

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

Some articulating dumpers are manufactured with an articulation lock. If your machine has this feature proceed as follows:

ALWAYS fit the articulation lock when working within the articulation point crush zone.

NEVER attempt to lift the machine unless the articulation lock is engaged.

SKIPS AND LOADING

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



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

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

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

ALWAYS take extra care when tipping non free running loads.

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

DUMPER SAFETY

TOWING

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



Dumpers are not designed as towing vehicles, but loads (including weight of trailer) not exceeding the rated payload of the dumper may be towed on dry level ground in first gear, providing the dumper skip is loaded with half the rated payload to ensure tyre adhesion when braking.

ALWAYS use a purpose made towing pin.

NEVER tow loads up, down or across gradients.

GRADIENTS

WARNING NEVER operate *Four Wheel Drive articulated steer dumpers* on any gradients which exceed 25% (1 in 4), or across gradients which exceed 16% (1 in 6).



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

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

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

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

ALWAYS drive forwards up gradients when loaded.

ALWAYS reverse down gradients when loaded.

ALWAYS keep the load facing uphill.

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

NEVER attempt to turn on a gradient.

NEVER tow up, down or across a gradient.

NEVER operate high discharge or rotating skips on gradients.

HYDRAULICS

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



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

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

NEVER leave the machine unattended with pressure in the system.

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

ALWAYS practise the greatest cleanliness in maintaining hydraulic components.

DUMPER SAFETY

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 Hydraulics Warnings*).

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

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

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

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

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

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

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

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

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

ALWAYS dispose of waste oils and fuels into waste oil storage tanks. If storage tanks are not available consult your distributor or local authority for addresses of local designated disposal points. It is illegal to dispose of waste oil into drains or water courses or to bury it.

DUMPER SAFETY

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.

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

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

Some articulating dumpers are manufactured with an articulation lock. If your machine has this feature, ALWAYS fit the articulation lock when servicing or working on the machine.

Before the Dumper is put into service, always check the following points:-

ENGINE

Check the oil level on the dipstick, topping up if necessary to the full mark.

GEARBOX

Check the oil level on the dipstick, topping up if necessary to the full mark.

DRIVE AXLES AND TRANSFER CASE

Remove filler/level plugs from drive axles and filler/level plug from transfer case and check that oil is up to bottom of holes. Top up if necessary, through filler/level plugs.

FUEL TANK

Fill tank with diesel oil until approximately 1" from the top.

NOTE: Never allow fuel level to fall below 2" deep in the bottom of the tank.

HYDRAULIC TANK

Fill the hydraulic tank to within 2" of the top. Before removing the cap, clean the surrounding area to prevent the possible entry of foreign matter.

BRAKE SYSTEM

Ensure that the fittings are tight on hoses supplying the brake master cylinder from the main hydraulic tank.

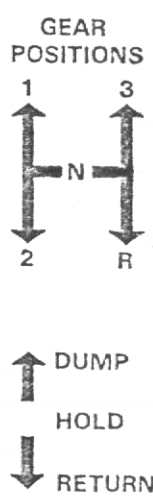
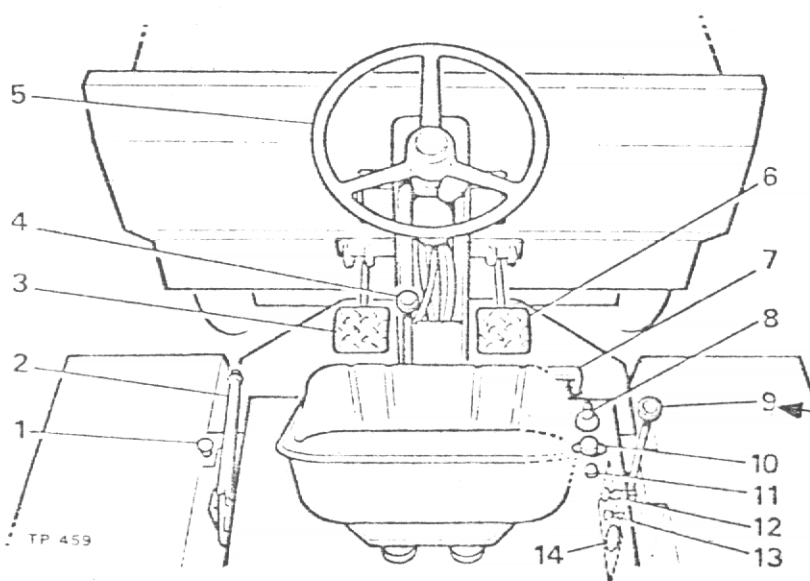
MISCELLANEOUS

Check all wheel nuts for tightness.

Check all nuts and bolts for tightness, loose nuts and bolts may lead to damage not covered by Warranty.

N.B. FOR FURTHER INFORMATION ABOUT LUBRICATION AND RECOMMENDED OILS SEE RECOMMENDED LUBRICANT CHART & GENERAL MAINTENANCE SECTION.

- | | | | |
|---|-----------------------|----|--------------------|
| 1 | ENGINE STOP CONTROL | 9 | DUMP CONTROL LEVER |
| 2 | HANDBRAKE LEVER | 10 | HORN PUSH * |
| 3 | CLUTCH PEDAL | 11 | NO CHARGE WARNING |
| 4 | GEAR LEVER | 12 | KEY SWITCH |
| 5 | STEERING WHEEL | 13 | LIGHT SWITCH * |
| 6 | BRAKE PEDAL | 14 | AMMETER |
| 7 | ACCELERATOR PEDAL | | |
| 8 | DIRECTION INDICATOR * | | |
- * IF FITTED



SPECIFICATION

A	Overall Height	2137 mm	(7' 0")
B	Skip Loading Height	1385 mm	(4' 6½")
C	Wheelbase	2134 mm	(7' 0")
D	Overall Length	3943 mm	(13' 0")
E	Ground Clearance	330 mm	(1' 1")
F	Overall Width	2096 mm	(6' 10½")
G	Skip Ground Clearance when Tipped	466 mm	(1' 6")
H	Overall Height Tipped	2280 mm	(7' 5¾")
J	Discharge Fwd. of Tyre	400 mm	(1' 4")
K	Overhang	958 mm	(3' 1¾")
L	Wheeltrack	1680 mm	(5' 6")
M	Prow Width	1930 mm	(6' 4")

SKIP

Water Level	1.61 M ³	(57 ft. ³)
Struck Level	2.12 M ³	(75 ft. ³)
Heaped Level	2.77 M ³	(98 ft. ³)
Max. Payload	4.064 Tonnes	

OIL CAPACITIES

Transfer Box	.85 Ltrs.	(1½ pts.)
Gearbox	1.31 Ltrs.	(2¼ pts.)
Drive Axle	9.1 Ltrs.	(16 pts.)
Engine	12.5 Ltrs.	(22 pts.)

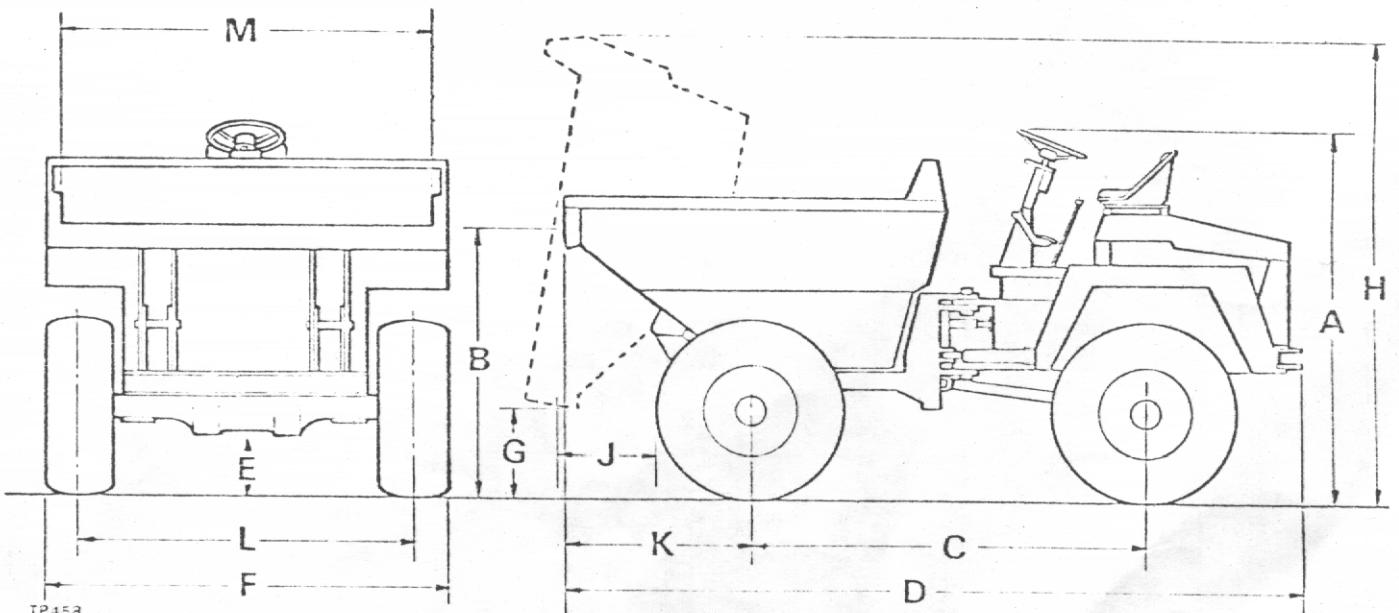
TANK CAPACITIES

Hydraulic	68 Ltrs.	(15 galls.)
Diesel	68 Ltrs.	(15 galls.)

Engine - Lister HR3 @ 2200 R.P.M.

ROAD SPEEDS

1st	4.16	(2.6)	Turning Circle	8385mm	(27' 6")
2nd	8.32	(5.2)	Unladen Height	3200 Kgs.	(7055 lbs.)
3rd	16.32	(10.2)	Hyd. Relief Valve	138 Kg.cm. ²	(2000 p.s.i.)
Rev.	4.64	(2.9)	Rear Axle Artic.	324 mm	(1' 1")



OPERATING INSTRUCTIONS

ELECTRIC STARTING MACHINES STARTING

1. Check that the Engine Stop Control Knob is fully down.
2. Insert the ignition key in the isolating switch and turn clockwise.
3. Turn key further clockwise against spring load. DO NOT operate starter motor for more than 20 seconds at a time.
4. When engine is cold, 'overload' may be required to facilitate starting. Where ambient temperature is -15°C (5°F) or below, a cold starting aid should be fitted.

STOPPING

Pull out stop control knob and hold fully out until engine stops. Release stop control knob when engine has ceased to turn. Turn key switch to OFF position.

BATTERY CHARGING EQUIPMENT

The following points must be strictly observed when an alternator is fitted otherwise serious damage can be done:-

1. Never disconnect the battery while the alternator is running.
2. Never disconnect a lead unless the alternator is stopped and all switches are in the off position.
3. Always ensure that these are fitted to their correct terminal. A short circuit or reversal of polarity will ruin the diodes or transistor.
4. Never connect a battery into the system without checking that the voltage and polarity are correct.
5. Never flash the connection to check the current flow. Never experiment with adjustment or repairs to the system.

IMPORTANT

1. DO NOT stop engine by means of decompression levers, this will lead to damaged valve seats and cylinder head joints.
2. DO NOT stop engine by closing fuel tap or by allowing fuel tank to run dry, this will allow air into fuel lines and necessitate bleeding and priming system.

GEAR CHANGING

The Dumper is fitted with three Forward and one Reverse gear. When changing gear, the clutch pedal is used in the normal way.

SKIP CONTROL LEVER (See Controls Layout)

1. Control lever has three positions DUMP (A), HOLD (B) and RETURN (C).
2. Push lever forward to DUMP (A) to deposit load.
3. Pull lever back to RETURN (C) to return skip to carrying position.

NOTE: If lever is released when in the DUMP or RETURN position, it will automatically return to HOLD (B) position and motion of skip will cease. In this way, speed at which load is deposited can be finely controlled.

PERIODIC MAINTENANCE

DAILY check engine oil level and fill to full mark on dipstick, if necessary.

DAILY fill fuel tank, or as often as proves necessary to approximately 1" of top. Never allow there to be a depth of less than 2" of fuel in tank.

DAILY check tyre pressures and condition of tyres (refer to specification page).

DAILY check all wheel nuts and tighten if necessary.

WEEKLY check oil level in gearbox and fill to full mark on dipstick if necessary.

WEEKLY remove filler/level plugs from drive axles and transfer case. Oil level should be to bottom of holes. Top up if necessary through filler/level plugs.

WEEKLY check oil level in hydraulic tank. Always clean the surrounding area before removing cap to prevent possible entry of foreign matter. Fill tank if necessary, to within 1" of top.

WEEKLY check that fittings are tight on feed pipe from hydraulic tank to master cylinder. Check for leaks.

WEEKLY apply grease to all grease nipples.

WEEKLY check all nuts and bolts and tighten if necessary.

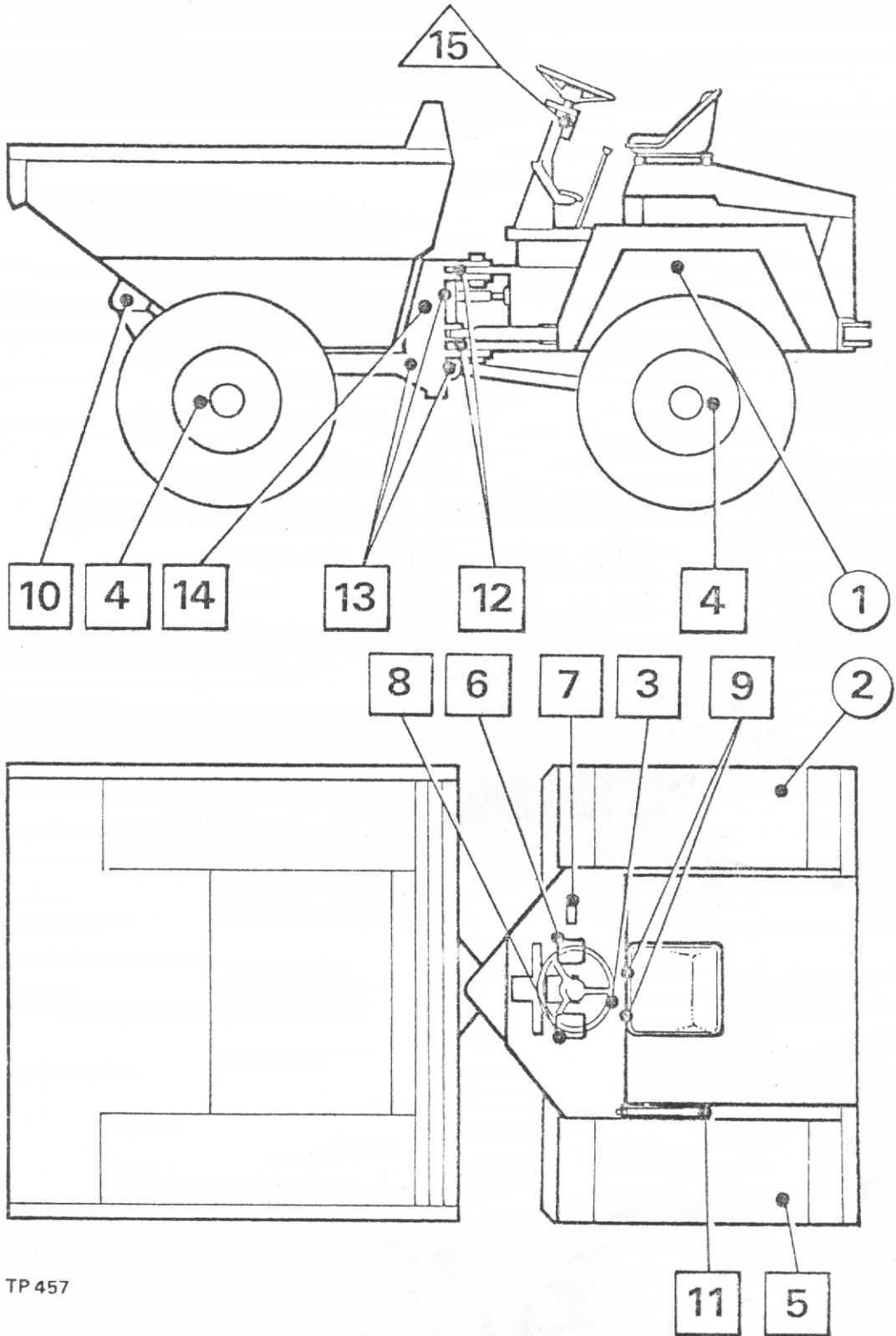
EVERY SIX MONTHS repack steering column with water repellent grease.

IMPORTANT: CHANGE HYDRAULIC OIL FILTER ELEMENT IN ACCORDANCE WITH INSTRUCTIONS ON THE MACHINE.

LUBRICATION

Period	Key	Description	Lubrication	No. of Points
Daily	1	Engine	Engine Oil	1
	2	Fuel Tank	Diesel Fuel	1
Weekly	3	Gearbox	Gearbox Oil	1
	4	Drive Axles	Axle Oil	2
	5	Hydraulic Tank	Hydraulic Oil	1
	6	Footbrake Pedal & Linkage	Grease Gun	2
	7	Accelerator Pedal	Grease Gun	1
	8	Clutch Pedal & Linkage	Grease Gun	2
	9	Clutch Cross Shaft	Grease Gun	2
	10	Skip Pivot	Grease Gun	2
	11	Handbrake Cable	Grease Gun	2
	12	Chassis Centre Pivot	Grease Gun	2
	13	Prop Shafts & Universal Joints	Grease Gun	9
	14	Transfer Case	Axle Oil	1
6 Monthly	15	Steering Column	Water Repellent Grease	1

- NOTES: 1. Rear Axle articulation points consist of bearings that require no lubrication.
2. For full details of the lubrication and maintenance of the engine, refer to Manufacturers Manual.



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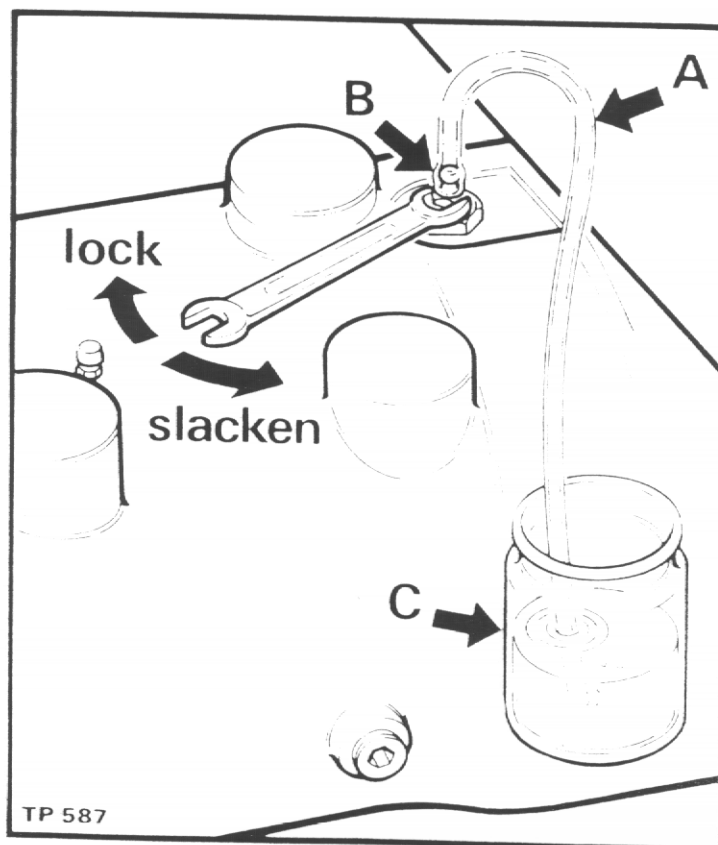
BRAKE SYSTEM (OIL IMMERSSED BRAKES)

The brake system is designed to require the minimum of maintenance and no defects should normally occur. If air is present in the system, it will be indicated by sluggish response of the brakes and by spongy action of the brake pedal. This may be due to air being introduced at a loose joint. Any defects must be remedied immediately and the complete system bled.

To bleed the system, proceed as follows:-

1. Check that all connections are tight and the bleed screws are closed.
2. Check that there is sufficient oil in main hydraulic tank.
3. Attach bleeder tube (A) to the bleed screw (B) on the L.H. side of the front axle and immerse other end in a small quantity of hydraulic oil contained in a glass jar (C). Slacken bleed screw and operate brake pedal up and down to its full stroke, until oil pumped into the jar contains no air bubbles. Hold down pedal and close bleed screw. Remove bleeder tube and release pedal.
4. Lock the bleed screw.
5. Repeat procedure for rear axle.
6. 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 EXISTS BETWEEN BRAKE PEDAL AND MASTER CYLINDERS. UNLESS THE PISTONS IN BOTH MASTER CYLINDERS ARE ALLOWED TO FULLY RETURN, BRAKE PRESSURE WILL BUILD UP AND THE BRAKES WILL REMAIN ON.



HYDRAULIC SYSTEM

The single hydraulic pump provides power for both the skip operation and steering. The main hydraulic valve splits the pump 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.

1. Check that hydraulic tank is full of oil.
2. Check that the return line filter element has been regularly changed in accordance with the maintenance schedule. If not, change filter element (E).
3. Check that the hydraulic pressures are correct.

TIP CIRCUIT

- a) Fit a 2500 lb/sq.in. gauge into the hydraulic system at the base of the skip ram.
- b) Operate control lever to dump skip and check that pressure reading on gauge is 2000 lb/sq.in. when ram is fully extended and relief valve is "blowing".

STEERING CIRCUIT

- a) Fit a 2500 lb/sq.in.gauge into the hydraulic system at the base of steering ram.
- b) Turn steering wheel with machine on "full lock" and check that the reading on the gauge is 2000 lb/sq.in.

NOTE: If correct pressure is not attained.

Unscrew suction filter (G) from tank and wash in white spirit.
Dry with moisture-free compressed air.

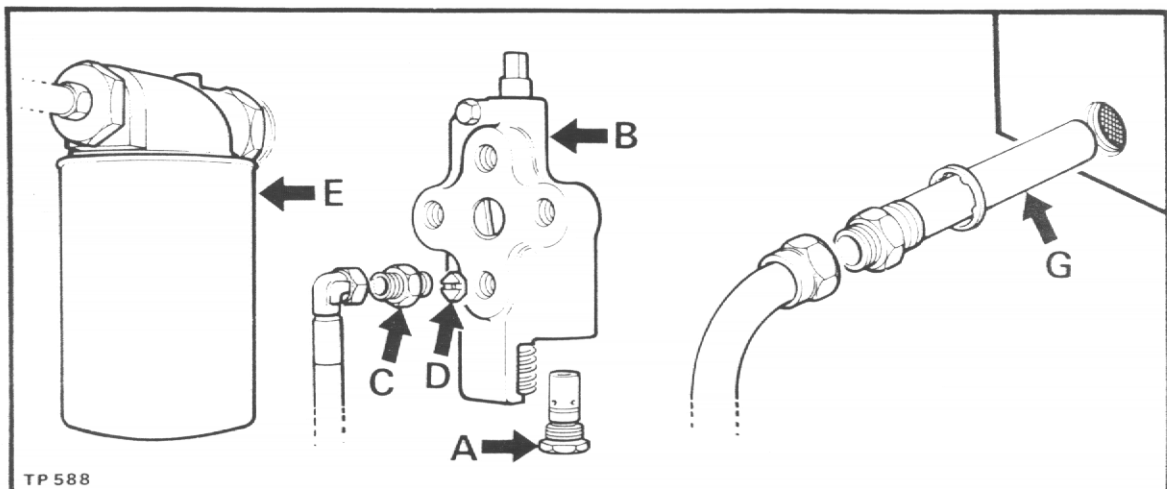
TIP CIRCUIT

4. Remove relief valve cartridge (A) (hexagon head) from the bottom of the control valve (B) and replace with a new one.
5. Remove hose adaptor (C) from control valve, remove hexagonal orifice plate (D) and wash in white spirit. Dry using moisture-free compressed air. DO NOT poke wire etc., into the orifice. Re-fit plate and hose adaptor with slot of orifice plate facing outwards.

STEERING CIRCUIT

6. Remove relief valve cartridge (A) (hexagon head) from the bottom of the control valve (B) and replace with a new one.

If none of these procedures correct the fault contact your agent. 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.



RECOMMENDED TORQUE FIGURES FOR FASTENERS

DESCRIPTION	TIGHTENING TORQUE	
	lb.ft.	Kg.m.
Bolt & Nut M6	8	(1.1)
Bolt & Nut M8	21	(3.0)
Bolt & Nut M10	42	(5.9)
Prop Shaft Bolts 3/8" UNF	29	(4.32)
Prop Shaft Bolts 7/16" UNF	46	(6.85)
Engine Bolts/Nuts M12	72	(10.7)
Axle Bolts ½" UNF	72	(10.7)
Wheel Nuts 5/8" BSF	180	(25)
Wheel Nuts 7/8" BSF	300	(42)
Wheel Nuts M18	200	(28)
Axle Bolts/Nuts M16	180	(26.8)
Steer Ram Nuts/Bolts 1½" UNF/BSF	1080	(161.0)

RECOMMENDED LUBRICATING OILS - NEWAGE AXLES

COMPANY	ENGINE	NEWAGE DRIVE AXLE	TRANSFER BOX	GEARBOX	WHEEL BEARINGS & OTHER GREASE POINTS	HYDRAULIC SYSTEM
(U.K.) ESSO SUMMER WINTER ABOVE 32°C 0°C - 32°C (OVERSEAS) BELOW 0°C	ESSOLUBE GDX 20W ESSOLUBE HDX 30 ESSOLUBE HDX 20W ESSOLUBE HDX 10W	TORQUE FLUID 62	GEAR OIL 85W/140 GEAR OIL GP 85W/140 GEAR OIL GP 85W/140 GEAR OIL GP 80W	ESSOLUBE HDX 30 ESSOLUBE HDX 30	BEACON 2 BEACON 2	NUTO H32 NUTO H68 NUTO H32 NUTO H22
(U.K.) CASTROL SUMMER WINTER ABOVE 32°C 0°C - 32°C (OVERSEAS) BELOW 0°C	DEUSOL CR1 20 DEUSOL CR1 30 DEUSOL CR1 20 DEUSOL CR1 10	AGRICASTROL AS AGRICASTROL AS SPECIAL	DEUSOL EP 90 DEUSOL GEAR EP 140 DEUSOL GEAR EP 90 DEUSOL GEAR EP 80	DEUSOL CR1 30 DEUSOL CR1 30	CASTROL SPHEEROL APT 2 CASTROL SPHEEROL APT 2	CASTROL HYSPIN AMS 32
(U.K.) SHELL SUMMER WINTER ABOVE 32°C 0°C - 32°C (OVERSEAS) BELOW 0°C	ROTELLA SX OIL 20/20W ROTELLA SX OIL 30 ROTELLA SX OIL 20/20W ROTELLA SX OIL 10W		SPIRAX 90 EP SPIRAX 140 EP SPIRAX 90 EP SPIRAX 80 EP	ROTELLA SX OIL 30 ROTELLA SX OIL 30	RETINAX A RETINAX A	TELLUS OIL 37
(U.K.) BP SUMMER WINTER ABOVE 32°C 0°C - 32°C (OVERSEAS) BELOW 0°C	VANELLUS M20W VANELLUS M30 VANELLUS M20W VANELLUS M10W		GEAR OIL SAE 90EP GEAR OIL SAE 140EP GEAR OIL SAE 90EP GEAR OIL SAE 80EP	VANELLUS M30 VANELLUS M30	ENERGREASE L2 ENERGREASE L2	ENERGOL HLP 65
(U.K.) MOBIL SUMMER WINTER ABOVE 32°C 0°C - 32°C (OVERSEAS) BELOW 0°C ALL TEMPERATURES	DELVAC 1320 DELVAC 1330 DELVAC 1220 DELVAC 1210 DELVAC SPECIAL 10W-30	Mobilfluid 422	MOBILUBE HD 90 MOBILUBE GX 90 MOBILUBE HD140 MOBILUBE GX 140 MOBILUBE HD 90 MOBILUBE GX 90 MOBILUBE HD 80 MOBILUBE GX 80	DELVAC 1230 DELVAC 1230	MOBILGREASE MP MOBILGREASE SUPER	DTE 24
(U.K.) WALKERS CENTURY SUMMER WINTER ABOVE 32°C 0°C - 32°C (OVERSEAS) BELOW 0°C	CENTLUBE SUPREME 20W-20 CENTLUBE SUPREME 30 CENTLUBE SUPREME 20W-20 CENTLUBE SUPREME 10W		EP 90 UNIVERSAL 80W-140 GEAR OIL	CENTLUBE SUPREME 30 CENTLUBE SUPREME 30	REGULUS A2 REGULUS A2	CENTURY PWL A HYD. OIL PWL PWL P313

IN THE UNLIKELY EVENT OF THE ABOVE OILS NOT BEING AVAILABLE EQUIVALENT OILS SUPPLIED BY A REPUTABLE MANUFACTURER MAY BE USED.

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REAR FRAME ASSEMBLY	1274
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SKIP	1615
TRANSFER CASE ASSEMBLY	1253
WHEELS & TYRES	1251
DUMPER LABELS	1278

FOOT PEDAL BRACKET & STEERING COLUMN 1034

Item No.	Part No.	Description	Qty.
1	40080.A01	Foot Pedal Bracket	1
2	30125.A01	Steering Column Assembly	1
3	11S.04D	Bolt - Hex. Hd. M10 x 30 Long	4
4	17S.05	Spring Washer - M10	4
5	7S.04	Nut - Hex. M10	4
6	CSE.182	Spacer) Steering	2
7	66S.03C	Bolt - Hex. Hd. 3/8" UNC x 1 1/4" Lg.) Valve Fixing	2
8	40064.A01	Steering Wheel	1
9	10314.A01	Steering Wheel Cap	1
10	20096.A03	Pedal Assembly	2
11	WB.1212	Bush	4
12	131S.03	Nipples - Grease	2
13	10368.A01	Pivot Pin Assembly - Pedals	2
14	64S.02B	Screw - Hex. Hd. M6 x 15 Long	2
15	65S.02	Nuts - Hex. Full M6	2
16	17S.03	Washer - Spring M6	2

ACCELERATOR PEDAL ASSEMBLY 1035

Item No.	Part No.	Description	Qty.
1	30147.A01	Accelerator Assembly	1
2	ASE.119	Bush	1
3	20104.A01	Pedal Assembly	1
4	54S.01A	Tension Pin	1
5	11S.04E	Bolt - Hex. Hd. M10 x 35	2
6	7S.04	Nut - Hex. M10	2
7	17S.05	Washer - Spring M10	2
8	10552.A01	Accelerator Lever	1
9	WB.0808	Bush	2
10	C.160B	Ball End	1
11	74S.02	Nut - Hex. 1/2" BSF	2
12	131S.02	Nipples - Grease	1

SEAT & FRAME ASSEMBLY 1176

Item No.	Part No.	Description	Qty.
1	4-35-301	Seat	1
2	11S.38	Screws - Seat M8 x 20 Long	4
3	17A.4	Washers - Spring M8	4
4	30148.A01	Frame Assembly - Seat	1
5	10519.A01	Rubber Spring	2
6	61S.04	Nut - Hex. M10 Binx	2
7	11S.4C	Setscrew - Hex. Hd. M10 x 25	2
8	C.180B	Washer - Plain 3/8" I.D. x 1 1/2" O.D. x .06" Thick.	2
9	10364.A0201	Pivot Block	2
10	10364.A0102	Plates	4
11	8S.02E	Bolts - Hex. Hd. M6 x 50 Long	4
12	61S.02	Nuts - Self Locking M6 Binx	4

REAR CHASSIS ASSEMBLY 1245

Item No.	Part No.	Description	Qty.
1	40071.A02	Rear Chassis	1

FRONT CHASSIS ASSEMBLY 1246

Item No.	Part No.	Description	Qty.
1	40072.A02	Front Chassis	1
2	131S.02	Nipples - Grease	2
3	10445.A01	Screw - Adjuster M20 x 100	2
4	56S.07	Nut - Hex. Thin M20	2

ARTICULATING FRAME ASSEMBLY 1247

Item No.	Part No.	Description	Qty.
1	40075.A01	Articulating Frame Assembly	1
2	8S.08S	Bolt - Hex. Hd. M24 x 130 Long	2
3	12S.10	Washer - M24	2
4	61S.08	Locknut - M24 Binx	2

'NEWAGE' AXLES & BRAKE FITTINGS 1248

Item No.	Part No.	Description	Qty.
1	30045.A02	Drive Axle (front & rear)	2
2	ESE 153	Plates - Axle Clamp	4
3	10449.A01	Bolt - Axle Mounting Front	8
4	40S.F51	Stud - Rear Axle 3/4" UNF x 250 Long	8
5	95S.07	Nut - Hex. Thin 3/4" UNF	16
6	132S.07	Nut - Hex. Self Locking 3/4" UNF 'Penloc'	16
7	105S.10	Washer - Taper (Axle Pads-Front Chassis)	8
8	20102.A02	Master Cylinder	2
9	10516.A02	Flexible Brake Hose (Rear Axle)	1
10	10517.A02	Flexible Brake Hose (Centre Pivot)	1
11	10577.A0101	Brake Pipe-6mm x 770 Lg.(M/cyl.-Rear Flex.)....	1
12	10577.A0108	Brake Pipe-6mm x 1265 Lg.(Flex.-Front Axle)....	1
13	10577.A0202	Brake Pipe-6mm x 425 Lg.(Axle Bridge)	2
14	10577.A0104	Brake Pipe-6mm x 1000 Lg.(M/cyl.-Centre Flex.)...	1
15	10542.A01	Stub - Pipe Assembly	2
16	C.174J	Clevis - 3/8" UNF	2
17	97S.01	Pipe Clip	4
18	110S.01A	Nozzle 1/4" BSP	2
19	29S.010	Hose - 1/4" Bore x 1270 Long	2
20	10582.A01	Nut - Hex. Half	3
21	114S.01	Banjo Coupling 3/8" UNF	2
22	115S.01	Banjo Bolt 3/8" UNF	2
23	116S.02	Washer - Copper 7/16"	2
24	116S.01	Washer - Copper 3/8"	2
25	69S.05E	Setscrew - Hex. Hd. 1/2" UNC x 1"	2
26	10666.A01	Bracket	1


To utilise our stock of M20 studs,(part number 4-60-341) a stud assembly 10449A02 will be used for machine serial numbers 7006 to 7040.

When using these stud assemblies, it is necessary that they be locked with two M20 half nuts, part number 56S.07.

(MODS TO BRAKE SYSTEM/WHEN FULL ROAD LIGHTING FITTED) 1248

Item No.	Part No.	Description	Qty.
1	10577.A0203	Pipe Assembly x 500mm)	1
2	10577.A0103	Pipe Assembly x 345mm) Replaces 10577.A0104	1
3	10387.A01	Brake Switch Adaptor Tee Assembly	1
4	116S.02	Washer 7/16" Copper	1
5	8S.02A	Bolt - Hex. M6 x 25 Long	2
6	7S.02	Nut - Hex. M6	2
7	12S.14	Washer - M6	2


ENGINE, GEARBOX & CLUTCH 1250

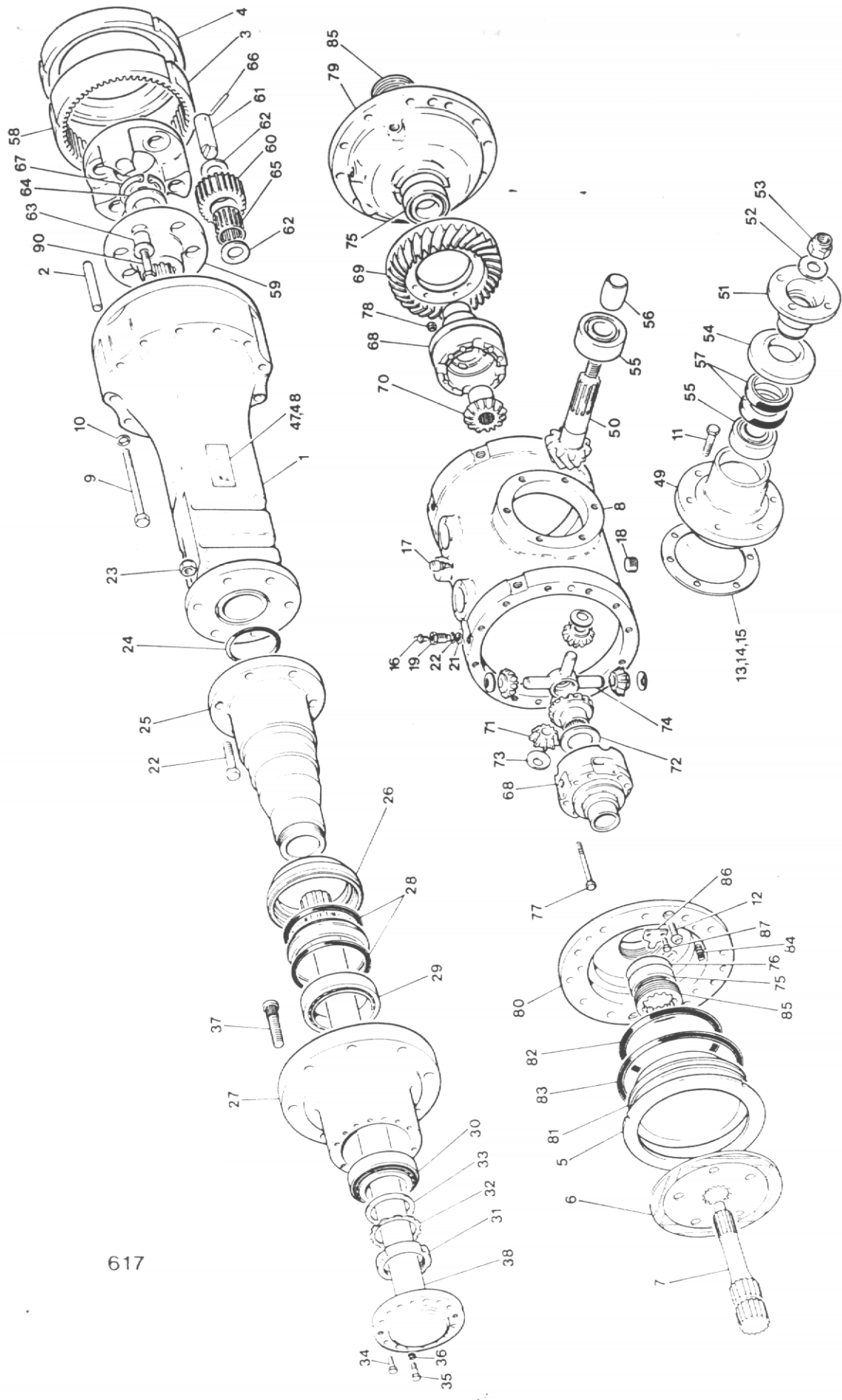
Item No.	Part No.	Description	Qty.
		Engine - Lister HR3 	
1	30107.A0101	Gearbox	1
2	10585.A01	Gear Lever	1
3	69S.03E	Setscrew-Hex.Hd. 3/8"UNC x 1"Lg.(G/Box-Engine)...	12
4	41S.05	Washer - Spring 3/8" (G/Box-Engine)	12
5	6S.06K	Bolt-Hex.Hd. 5/8"UNF x 3"Lg. (Mtg.Bolts)	2
6	87S.07	Locknut - 5/8" UNF Binx (Mtg.Bolts)	2
7	10S.16	Washer - Plain 5/8"	2
8	20114.A02	Gearbox - Mtg.Bracket	2
9	6S.03A	Bolt - Hex. Hd. 3/8"UNF x 1,1/8"Lg.(Brkt.-G/Box)	4
10	41S.05	Washer - Spring 3/8"	4
11	8S.05C	Bolt - Hex. Hd. M12 x 35 Lg.(Brkt.-Chassis).....	4
12	61S.05	Locknut - M12 Binx (Brkt.-Chassis)	4
13	10579.A02	Release Bearing - Clutch	1
14	10579.A0101	Retainer Spring	2
15	10597.A03	Cover Assembly 12"	1
16	10598.A04	Drive Plate 12"	1
17	29S.03D	Setscrew - Hex. 3/8" UNF x 3/4" Long	8
18	41S.05	Washer - Spring	8

WHEEL ASSEMBLIES 1251

Item No.	Part No.	Description	Qty.
1	24S.09	Wheel Assembly L.H.....	2
2	24S.10	Wheel Assembly R.H.....	2
3	30181.A01	Wheel 11 x 18	4
4	20S.12	Tyre 12.50 x 18 x 10 P.R.....	4
5	23S.05	Tube 12.50 x 18	4
6	10668.A02	Wheel Nuts	32

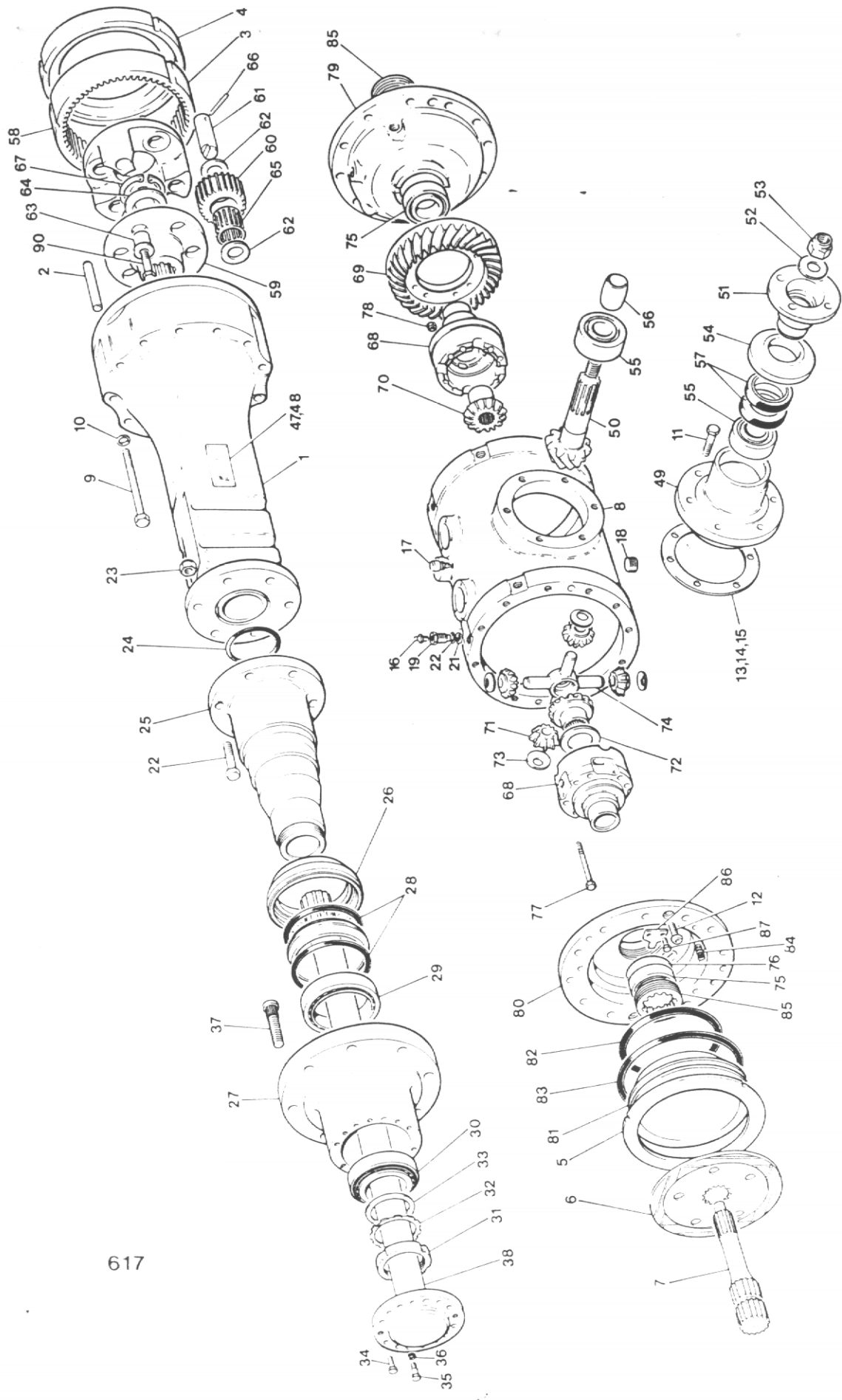
PROP SHAFTS 1252

Item No.	Part No.	Description	Qty.
1	30165.A01 	Prop Shaft - Gearbox to Transfer Box	1
2	30167.A01	Prop Shaft - Transfer Box to Rear Axle 40114.A06	1
3	40114.A01	Prop Shaft - Transfer Box to Front Axle	1
4	ESE 214	Bolts - Prop Shaft 7/16"	24
5	132S.04	Nuts - Lock 7/16" Penloc	24
	305A	Repair Kit Standard Joint	A/R
	205A	Repair Kit Wide Angle Joint	A/R



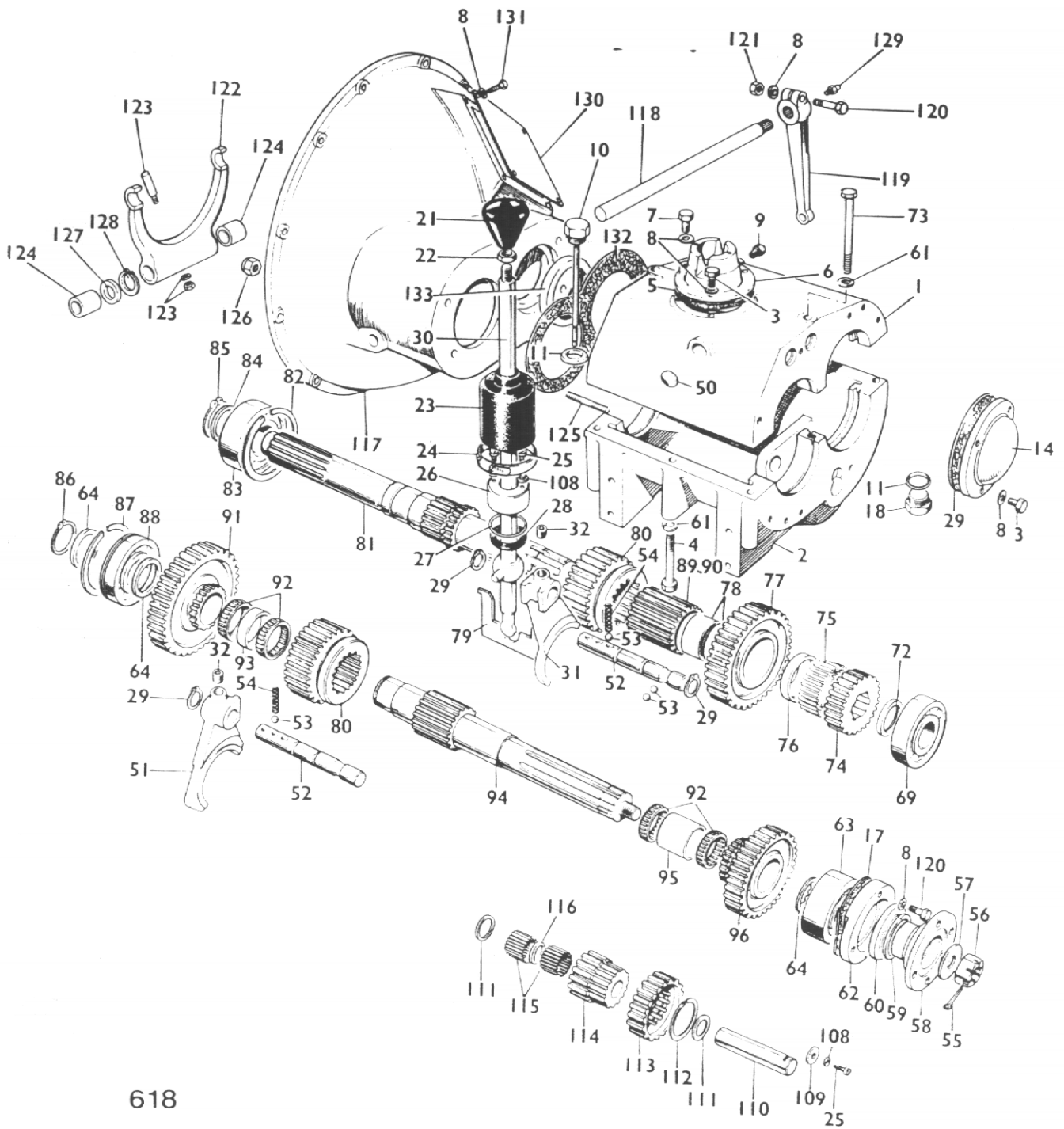
444M AXLE - 30045.A02

Item No.	Part No.	Description	Qty.
1	30045.A0237	Axle Arm	2
2	30045.A0238	Pin	6
3	30045.A0239	Annulus	2
4	30045.A0240	Plate - Brake Spear	2
5	30045.A0241	Fixed plate - Brake	2
6	30045.A0242	Disc - Brake	2
7	30045.A0243	Gear - Sun	2
8	30045.A0244	Casing - Main Axle	1
9	30045.A0245	Bolts - Main axle casing	24
10	30045.A0246	Washer - Spring	24
11	30045.A0247	Screw - Hex.	6
12	30045.A0248	Screw - Socket	4
13	30045.A0249	Shim - Pinion adjusting	A/R
14	30045.A0250	Shim - Pinion adjusting	A/R
15	30045.A0251	Shim - Pinion adjusting	A/R
16	30082.A0215	Valve - Brake Bleed	2
17	30082.A0214	Valve - Relief	1
18	30082.A0212	Plug - Hex. socket	2
19	30082.A0213	Adaptor - Brake pipe	4
20	49S.02	'O' Ring	4
21	30082.A0269	Washer - Sealing	4
22	30045.A0252	Bolt	12
23	30045.A0253	Nut	12
24	30045.A0254	'O' Ring	2
25	30045.A0255	Stub Axle	2
26	30045.A0256	Housing Oil Seal	2
27	30045.A0265	Hub	2
28	30045.A0257	Oil Seal - Hub	2
29	30045.A0258	Bearing - Hub inner	2
30	30082.A0220	Bearing - Hub outer	2
31	30045.A0259	Locknut - Bearing	2
32	30045.A0260	Washer - Tab	2
33	30045.A0261	Spacer - Hub bearing	2
34	30045.A0247	Setscrew	24
35	30045.A0263	Bolt	4
36	30045.A0264	Washer - Spring	4
37	30082.A0225	Wheel studs	16
38	30045.A0262	Axle shaft	2
47	30082.A0227	Label	1
48	15S.01A	Screw - Hammer Drive	4
49	30045.A0201	Cartridge - input pinion	1
50	30045.A0202	Spiral - Bevel pinion	1
51	30045.A0203	Drive Flange	1
52	30045.A0204	Washer - Drive Flange	1
53	30045.A0205	Nut - Drive Flange	1
54	30045.A0206	Cover - oil seal	1
55	30045.A0207	Bearing	2
56	30045.A0208	Spacer - pinion bearing	1
57	30045.A0209	Seal - Pinion	2
58	30045.A0220	Planet carrier	1
59	30045.A0221	Drive Flange - carrier	1
60	30045.A0222	Planet gear	3
61	30045.A0223	Planet pin	3
62	30045.A0224	Washer - Thrust	6
63	30045.A0225	Bush - planet carrier	3
64	30045.A0227	Spacer - Thrust	1



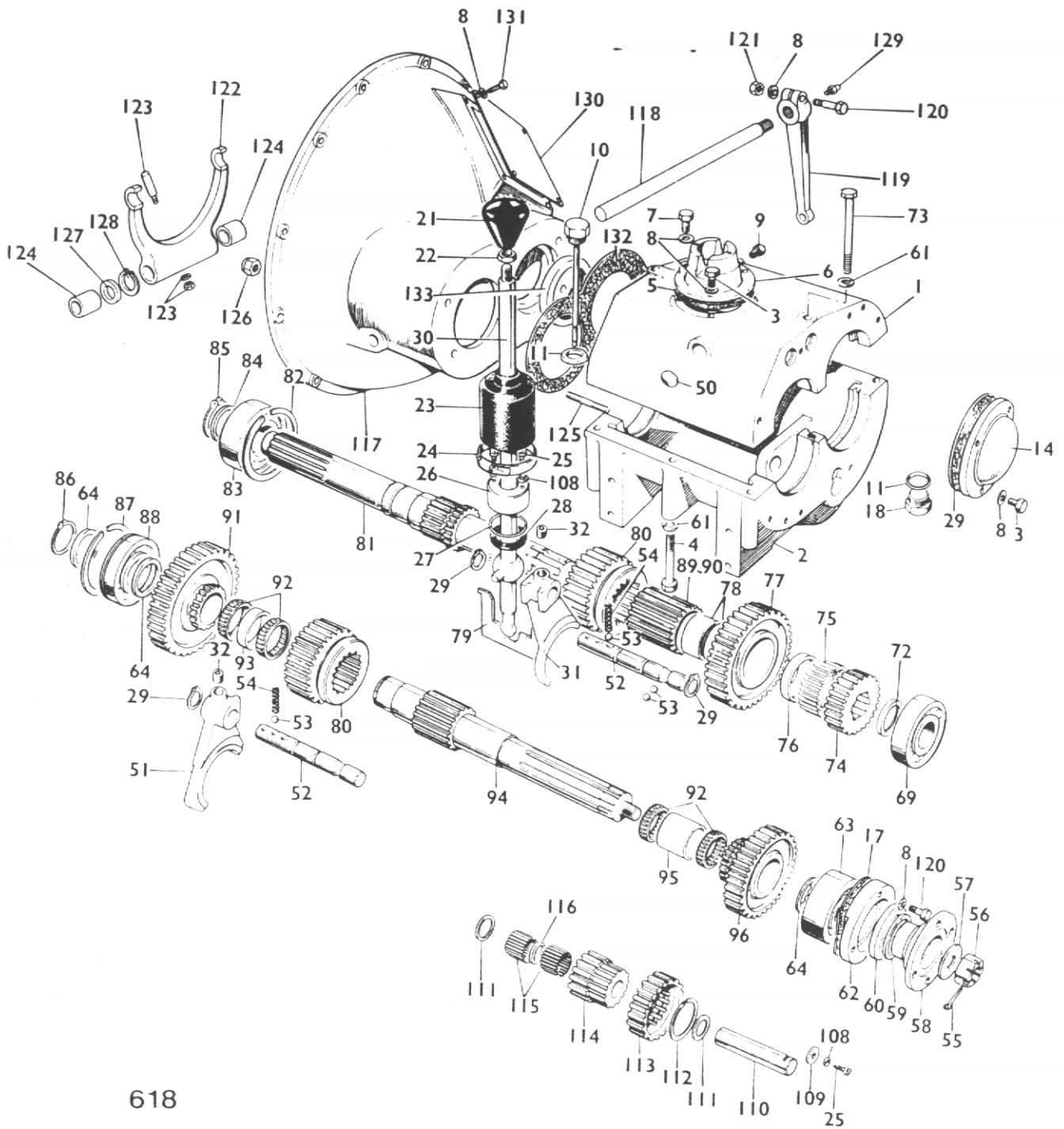
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Item No.	Part No.	Description	Qty.
65	30045.A0228	Roller - planet cage	3
66	30045.A0229	Dowel - Spring	3
67	30045.A0230	Circlip	1
68	30045.A0210	Diff. case process assy.	1
69	30045.A0211	Spiral Bevel wheel	1
70	30045.A0212	Diff. wheel	2
71	30045.A0213	Diff. pinion	4
72	30045.A0214	Thrust washer - Diff. wheel	2
73	30045.A0215	Thrust washer - Diff. pinion	4
74	30045.A0216	Spider - Diff.	1
75	30045.A0217	Bearing - Diff.	2
76	30044.A0208	Washer - Diff. Bearing	1
77	30045.A0218	Bolts	8
78	30045.A0219	Nuts	8
79	30045.A0236	Brake Cylinder - R.H.	1
80	30045.A0231	Brake Cylinder - L.H.	1
81	30045.A0232	Brake Piston	2
82	30045.A0233	Oil Seal ... Only supplied in pairs	2
83	30045.A0234	Oil Seal ...	2
84	30048.A0110	Spring	6
85	30045.A0235	Nut - Brg. adjusting	2
86	30082.A0260	Lock plate	2
87	30082.A0261	Screw	4
88			
89			
90	30045.A0226	Bolt	3

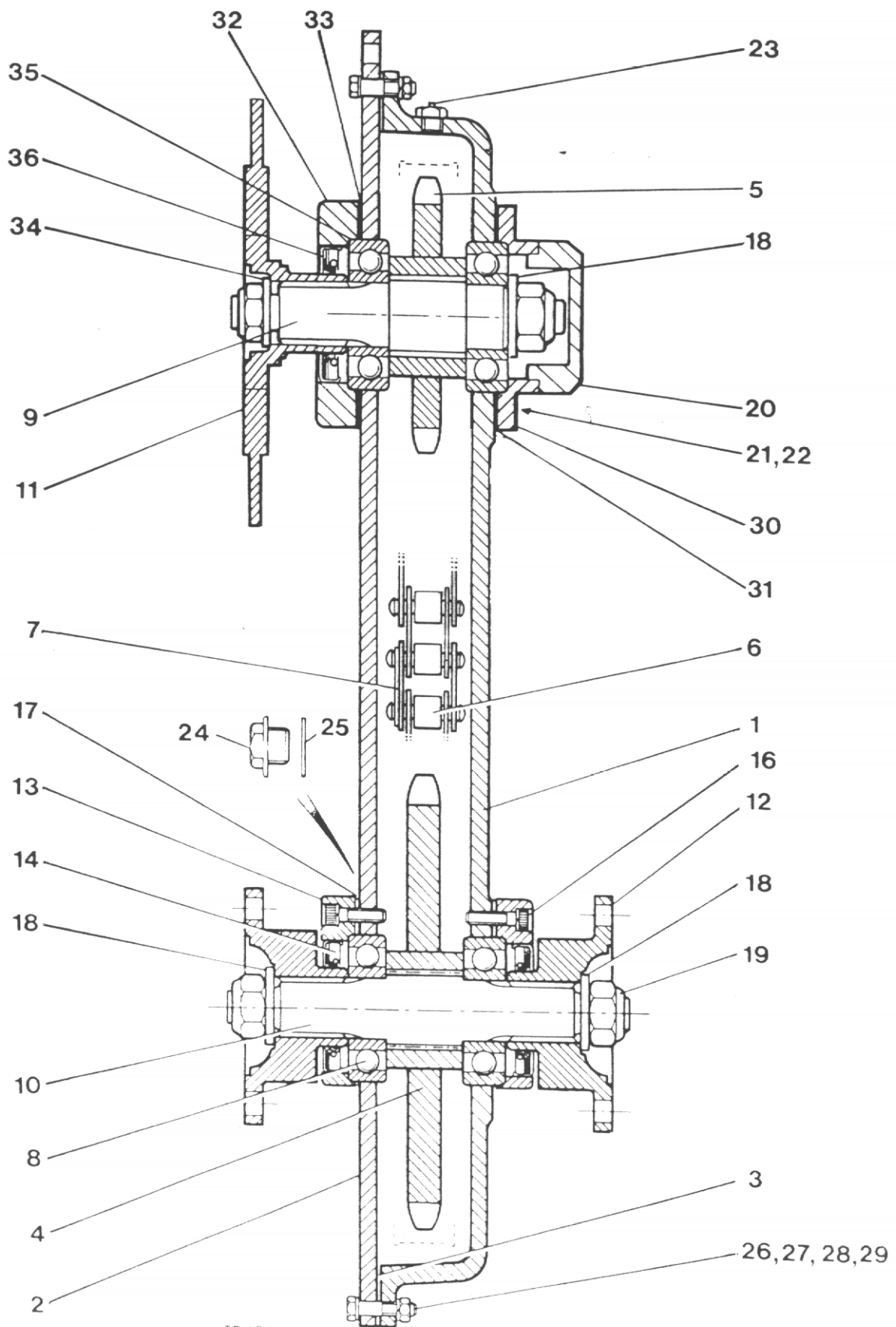


GEARBOX CM15.5 - 30107.A01

Item No.	Part No.	Description	Qty.
1	30107.A0101	Gear case	1
2			
3	28S.01D	Bolt - Turret	6
4	30102.A0102	Bolt - Gear Case	6
5	30102.A0103	Joint - Top Cover	1
6	30102.A0104	Top - Cover	1
7	6S.01C	Dowel Bolt - Top Cover	1
8	30102.A0105	Washer - Spring	16
9	30097.A0171	Breather	1
10	30107.A0103	Dipstick	1
11	30101.A0231	Washer	2
14	30107.A0104	End Cover	1
15	30107.A0131	Gasket	1
16	30107.A0105	Knob	1
17	30102.A0112	Gasket	1
18	30097.A0163	Drain plug	1
19	97S.12	Clip	1
22	95S.03	Locknut	1
23	30097.A0157	Rubber Cover - Gear lever	1
25	30102.A0116	Screw - Cheesehead	3
26	30102.A0117	Retainer - Felt washer	1
27	30102.A0118	Spring	1
28	30097.A0179	Washer - Felt	1
30	10585.A01	Gear lever	1
31	30107.A0106	Selector Fork (1st & 2nd)	1
32	30107.A0107	Grubscrew	2
33	30102.A0137	Selector Shaft (1st & 2nd)	1
50	30101.A0254	Sealing Disc	3
51	30107.A0108	Selector Fork (3rd & Rev.)	1
52	30107.A0132	Selector Shaft (3rd & Rev.)	1
53	30101.A0236	Detent Ball	4
54	30097.A0185	Detent Spring	3
56	30107.A0109	Nut	1
57	30102.A0139	Washer - Coupling	1
58	30102.A0140	Coupling	1
60	30097.A0132	Oil Seal	1
61	30102.A0141	Washer	8
62	30107.A0110	Bearing Cap	1
63	30190.A0111	Bearing - Layshaft Output	1
64	30107.A0111	Spacer - Bearing	2
69	30107.A0133	Bearing - Mainshaft	1
72	30107.A0134	Spacer - Bearing - Mainshaft	1
73	30102.A0152	Bolt	2
74	30107.A0112	2nd Speed wheel Mainshaft 19T	1
75	30102.A0154	Bearing - 2nd speed wheel ... V.602485 ...	1
76	30102.A0155	Spacer	1
77	30102.A0156	Rev. Wheel - Main Shaft	1
78	30102.A0157	Bearing	2
79	30102.A0158	Baulk plate	1
80	30102.A0159	Sliding Gear	1
81	30107.A0113	Primary shaft	1
82	30102.A0161	Circlip	1
83	30102.A0162	Input Bearing	1
84	30107.A0114	Spacer - Input	1
85	30107.A0115	Circlip	2
86	30101.A0243	Circlip - Layshaft	1
87	30101.A0209	Snap ring	1
88	30101.A0210	Bearing - Layshaft	1



Item No.	Part No.	Description	Qty.
89	30102.A0144	Spacer - Bearing - Layshaft	2
90	30102.A0166	Sliding Gear	1
91	30107.A0116	1st Speed Wheel (43T)	1
92	30102.A0168	Bearing	4
93	30102.A0169	Spacer - 1st Speed wheel	1
94	30107.A0119	Layshaft	1
95	30102.A0171	Spacer - 2nd Speed wheel	1
96	30107.A0135	2nd Speed wheel - Layshaft	1
108	30107.A0136	Washer	1
109	30102.A0182	Washer - Rev. spindle	1
110	30107.A0121	Reverse pinion shaft	1
111	30107.A0184	Thrust washer	2
112	30102.A0185	Circlip	1
113	30107.A0124	Reverse cluster wheel (22T)	1
114	30102.A0187	Reverse cluster pinion (11T)	1
115	30102.A0188	Roller - Reverse cluster	46
116	30102.A0189	Spacer - Reverse cluster	1
117	30102.A0190	Clutch Housing	1
118	30102.A0191	Clutch - Cross shaft	1
119	30097.A0109	Clutch - Op. Lever	1
120	6S.01A	Bolt	1
121	9S.01	Nut	1
122	30102.A0192	Clutch Op. Fork	1
123	30097.A0111	Cotter, Nut & Washer S.A.	1
124	30102.A0193	Bush - Cross shaft	2
125	30102.A0194	Stud - Clutch Housing	4
126	30107.A0129	Nut - Nyloc	4
127	30102.A0196	Washer - Cross shaft	1
128	30102.A0197	Circlip	1
129	30101.A0102	Nipples - grease	2
130	30102.A0198	Inspection cover	1
131	28S.01B	Setscrew - Inspection cover	4
132	30102.A0199	Gasket	1
133	30107.A0130	Input Shaft seal	1



TP 454

TRANSFER CASE

Item No.	Part No.	Description	Qty.
	40054.A02	Transfer Case	1
1	40061.A01	Case - Casting)	1
2	40062.A02	Plate - Cover) Supplied together only ...	1
3	30072.A01	Gasket - Main	1
4	20076.A01	Wheel - Output (26 teeth)	1
5	10294.A01	Wheel - Input (15 teeth)	1
6	80S.01	Roller Chain - 1" Pitch	1
7	81S.01	Conn. Link - 1" Pitch	1
8	88S.06	Bearing	3
9	4/60-262	Shaft - Input	1
10	4/60-253	Shaft - Output	1
11	20162.A01	Flange - Input	1
12	10297.A01	Flange - Output	2
13	4/35-102	Housing - Oil Seal	2
14	89S.01	Oil Seal	2
15			
16	90S.02H	Capscrew	12
17	10293.A01	Gasket	2
18	10S.06	Washer - $\frac{3}{4}$ " I/D (Flange fixing)	3
19	87S.08	Nut - $\frac{3}{4}$ " UNF (" ")	4
20	4/60-263	Cap - Bearing Housing	1
21	41S.03	Washer - Spring	4
22	28S.01D	Setscrew	4
23	10305.A01	Breather	1
24	10301.A01	Level/Filler plug	1
25	42S.05	Washer - (Fibre)	1
26	8S.02C	Bolt (Cover to Case)	24
27	7S.02A	Nut (" " ")	24
28	17S.03A	Washer - Spring (" " ")	24
29	12S.02A	Washer - Plain (" " ")	24
30	40M.622	Housing - Bearing	1
31	4/35-20A	Gasket	1
32	4/60-264	Housing - Seal	1
33	40M-712	Gasket	1
34	6/60-265	Washer	1
35	BRL.1 $\frac{1}{2}$	Bearing	1
36	SP.193	Oil Seal	1
	8S.05D	Bolt (Trans. case to chassis)	4
	61S.05	Nut (" " " ")	4
	12S.05	Washer(" " " ")	4

BRAKE PEDAL CONTROLS 1254

Item No.	Part No.	Description	Qty.
1	20117.A02	Brake Compensator	1
2	10572.A02	Brake Rod Assembly (Comp. to Bell Crank)	1
3	C.173B	Return Spring	1
4	C.174A	Clevis - 3/8" BSF	2
5	74S.04	Locknut - 3/8" BSF	2
6	10650.A17	Pins - Clevis 3/8" Dia.....	2
7	44S.02C	Pins - Split 3/32" Dia. x 1" Long	2
8	20111.A01	Bell Crank Assembly	1
9	43S.02	Bush	1
10	40091.A02	Brake Cylinder Bracket	1
11	C.174J	Clevis - 3/8" UNF).....	2
12	10650.A17	Pins - Clevis 3/8") M/Cyl.....	2
13	44S.02C	Pins - Split 3/32" Dia. x 1" Long).....	2
14	44S.03C	Pins - Split 1/8" Dia. x 1" Long	1
15	10S.06	Washer - 3/4" Plain	1
16	8S.04K	Bolt - Hex. Hd. M10 x 70 Long	2
17	61S.04	Nut - Hex. M10	2
18	12S.05	Washer - Plain	2
19	11S.04D	Bolt - Hex. Hd. M10 x 30 Long	2
20	61S.04	Nut - Hex. M10	2
21	12S.05	Washer - Plain M10	2
22	38S.C61	Rod (Brake Pedal to Bell Crank) 3/8" x 305 Lg....	1
23	C.174A	Clevis - 3/8" BSF	2
24	74S.04	Locknut - 3/8" BSF	2
25	10650.A17	Pins - Clevis 3/8" Dia	1
26	44S.02C	Pins - Split 3/32" Dia. x 1" Long	2


CENTRE PIVOT BOLTS & STEERING RAM BOLTS 1262

Item No.	Part No.	Description	Qty.
1	10421.A01	Bearing	2
2	10271.A01	Bolt-C.Pivot 1½" UNF x 138 Long	2
3	4-60-171	Nut-C.Pivot 1½" UNF	2
4	10S.10	Washer-C.Pivot 1,17/32" I.D.x 2,7/8" O.D.x.192 Thk.	2
5	10609.A03	Spacer-C.Pivot	4
6	44S.05L	Pins - Split 3/16" x 2" Long	2
7	131S.02	Nipples - Grease 1/8" BSP	2
8	10622.A01	Bolt - Steering Ram - Front 1¼" UNF x 5,7/8"	2
9	4-60-172	Nut - Steering Ram - Front 1¼" UNF	2
10	10601.A01	Spacer - Steering Ram - Front 1¼" I.D. x 50 Thk..	4
11	44S.05J	Pins - Split - Steering Ram - Front 3/16" x 2½" Lg	2
12	10601.A02	Spacer - Steering Ram - Front 1¼" x .875" Thk....	2
13	10622.A01	Bolt - Steering Ram - Rear 1¼" UNF x 5,7/8"	2
14	4-60-172	Nut - Steering Ram - Rear 1¼" UNF	2
15	10601.A02	Spacer - Steering Ram - Rear 1¼" x .875" Thk.....	4
16	44S.05J	Pins - Split - Steering Ram - Rear 3/16" x 2½" Lg	2

ACC.ROD, ACC.TRANSFER SHAFT, STOP CABLE 1264

Item No.	Part No.	Description	Qty.
1	C.240	Accelerator Rod Assembly	1
2	C.173D	Return Spring	1
3	20130.A01	Accelerator Transfer Shaft	1
4	4-60-162	Transfer Shaft Bracket Assembly	2
5	8S.02A	Bolt - Hex. Hd. M6 x 25 Long	4
6	7S.02	Nut - Hex. Hd. M6	4
7	17S.03	Washer - Spring	4
8	4-60-167	Rod (Pedal - Transfer Shaft)	1
9	4-60-165	Rod (Transfer Shaft - Rear Crank)	1
10	4-60-164	Accelerator Bell Crank Assembly	1
11	8S.05M	Bolt - Hex. Hd. M12 x 80 Long	1
12	7S.05	Nut - Hex. M12	1
13	17S.06	Washer - Spring M12	1
14	20099.A01	Side Plate Bracket Assembly	1
15	WB.1212	Bearing Bush	2
16	8S.04K	Bolt - Hex. Hd. M10 x 70 Long	2
17	61S.04	Nut - Hex. Self Lock M10 Penloc	2
18	C.160B	Ball End	6
19	2S.02	Nut - Hex. 1/2" BSF	6
20	ESE.194	Engine Stop Control Cable	1
21	ESE.242/2	Solderless Nipple	1
22	ESE.242/1	Bolt - Hex. Hd. 5BA x 3/8" Long	1
23	10350.A01	Pipe Clip ('P' Type)	1

CLUTCH RODS & BRG.PIVOT ASSY..... 1265

Item No.	Part No.	Description 	Qty.
1	20142.A01	Lever/Pin Assembly	1
2	10563.A01	Lever/Boss Assembly	1
3	10650.A17	Clevis Pin - 3/8" Dia.....	4
4	C.174A	Clevis - 3/8" BSF	4
5	74S.04	Nut - 3/8" BSF	4
6	38S.C29	Rod (Pivot to Pedal) 3/8" Dia. x 317 Long	1
7	131S.02	Nipple - Grease 1/8" BSP	1
8	55S.07L	Spiral Pin - M8 x 30 Long	1
9	C.173B	Return Spring	1
10	10573.A01	Clutch Rod	1

HANDBRAKE ASSEMBLY 1266

Item No.	Part No.	Description	Qty.
1	30124.A02	Brake Caliper Bracket	1
2	10578.A01	Caliper - Brake	1
3	10543.A01	Cable - Handbrake	1
4	10596.A01	Handbrake Lever	1
5	11S.04C	Setscrew - Hex. Hd. M10 x 25 Long	2
6	7S.04	Nut - Hex. M10	2
7	17S.05	Washer - Spring M10	2
8	L.309	Block - 3/4" x 1/2" x 1 1/2" Long	1
9	10650.A19	Clevis Pin - 3/8" Dia.....	1
10	10S.03	Washer - Plain 3/8"	1
11	44S.02B	Pins - Split 3/32" x 3/4" Long	1
12	10650.A13	Clevis Pin	1
13	44S.01C	Pins - Split 1/16" Dia. x 1"	1
14	10S.01	Washer - Plain 1/2"	1

L.H. MUDWING & HYD. TANK ASSEMBLY 1267

Item No.	Part No.	Description	Qty.
1	40078.A03	L.H. Mudwing & Hyd. Tank Assembly	1
2	20098.A03	Tank Filler Mounting Plate	1
3	10632.A02	Dipstick Assembly	1
4	10565.A01	Filler Cap	1
5	10565.A02	Filler Cap (Alternative)	1
6	82S.03F	Screw - Rd. Hd. 2BA x 3/4" Long	6
7	85S.01	Nut - Hex. 2BA 'Nyloc'	6
8	12S.01	Washer - Plain M5	6
9	5ST.18	Gasket	1
10	11S.03B	Screw - Hex. Hd. M8 x 20 Long	4
11	17S.04	Washers - Spring M8	4
12	11S.04C	Screw - Hex. Hd. M10 x 25 (Wing to Chassis)	5
13	61S.04	Nut - M10 Binx (Wing to Chassis)	6
14	11S.04E	Screw - Hex. Hd. M10 x 35 (Step/Wing/Chassis) ...	1
15	20145.A01	Step Bar	1

R.H. MUDWING & FUEL TANK ASSEMBLY 1268

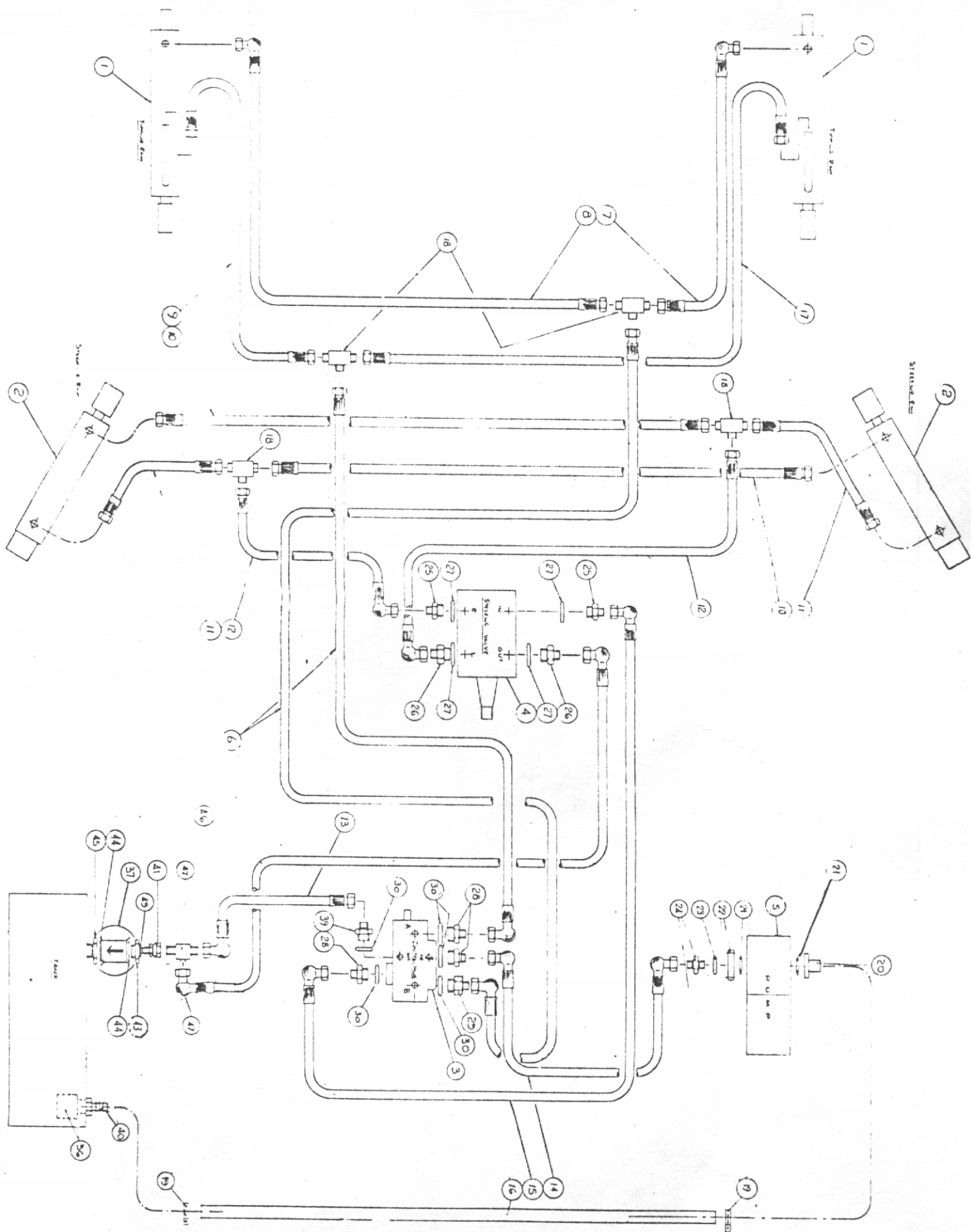
Item No.	Part No.	Description	Qty.
1	40079.A03	R.H. Mudwing & Fuel Tank	1
2	10565.A01	Filler Cap	1
3	10565.A02	Filler Cap (Alternative)	1
4	10442.A01	Cover Plate - Valve Bracket	1
5	64S.04C	Setscrew - Hex. Hd. M10 x 20 Long	1
6	61S.04	Nuts - Hex. M10 Binx	1
7	11S.04C	Screw - Hex. Hd. (Tank to Chassis) M10 x 25 Lg. ...	5
o	11S.04E	Screw - Hex. Hd. (Step/Tank/Chassis) M10 x 35 Lg ...	1
9	61S.04	Nut - Hex. Hd. (Step/Tank/Chassis) M10 Binx ...	6
10	20145.A01	Step Bar	1

FUEL PIPES & FITTINGS 1269

Item No.	Part No.	Description	Qty.
1	10357.A03	Fuel Leak Back Hose complete	1
2	122S.01	Straight Adaptor (Equal) 1/8" BSP x 1/8" BSP ...	1
3	10605.A04	Fuel Supply Pipe complete	1
4	119S.03	Straight Adaptor (Unequal) 1/2" BSP x 3/8" BSP ..	1

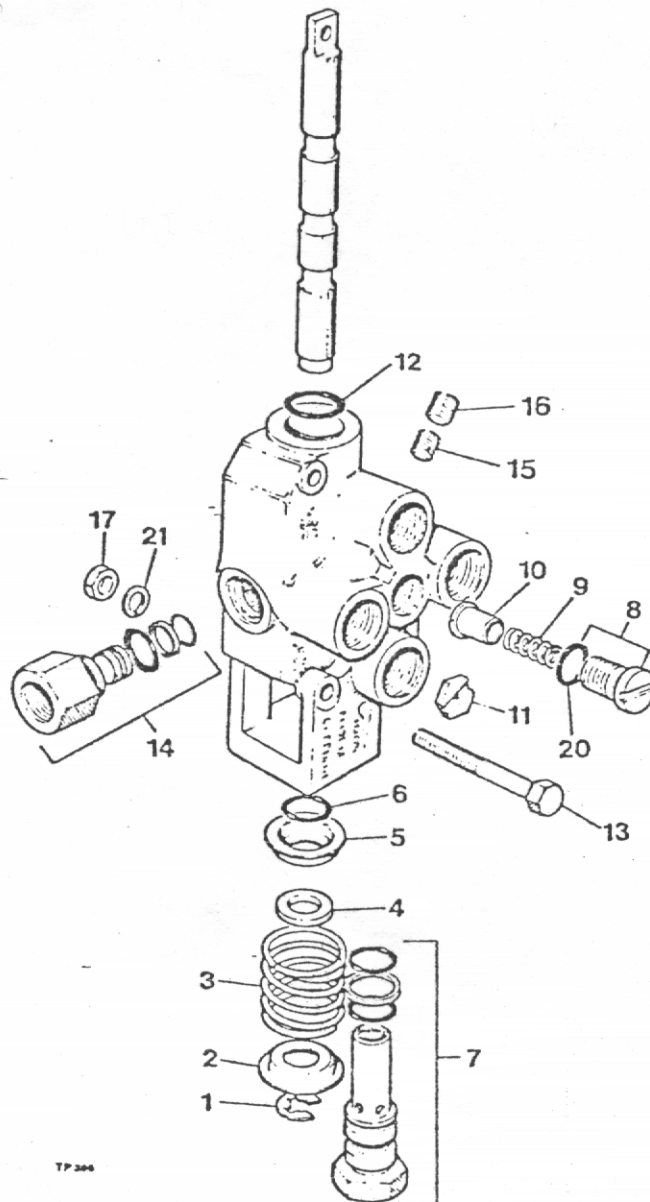
FLOOR PANEL ASSEMBLY 1270

Item No.	Part No.	Description	Qty.
1	40121.A04	Floor Panel	1
2	10538.A02	Plates - Bonnet Catch	2
3	82S.03C	Screws - Rd. Hd. 2 BA x 1/2" Long	4
4	85S.01	Nut - Self Locking 2BA Nyloc	4
5	12S.01	Washer - Plain M5	4
6	11S.03B	Screws - Hex. Hd. M8 x 20 Long	2
7	61S.03	Nuts - Hex. Hd. M8 Binx	2
8	64S.04C	Screws - Hex. Hd. M10 x 20 Long	2
9	61S.04	Nuts - Hex. Hd. M10 Binx	2



Item No.	Part No.	Description	Qty.
1	30162.A01	Hydraulic Ram - Tipping	2
2	30111.A01	Hydraulic Ram - Steering	2
3	30057.A02	Control Valve	1
4	4-60-393	Steering Valve	1
		Steering Column	1
		Cap Screws (supplied with Column)	2
5	10589.A01	Hydraulic Pump	1
6	31S.021	Hose 3/8" x 73" Long ST x 90°	2
7	31S.02P	Hose 3/8" x 43" Long ST x 90°	1
8	31S.02M	Hose 3/8" x 56" Long ST x 90°	1
9	35S.02C	Hose 3/8" x 57" Long ST x ST	1
10	35S.02K	Hose 3/8" x 18" Long ST x ST	2
11	35S.02R	Hose 3/8" x 13" Long ST x ST	2
12	31S.02N	Hose 3/8" x 51" Long ST x 90°	2
13	31S.03XX	Hose 1/2" x 78" Long ST x 90°	1
14	36S.02FF	Hose 3/8" x 51" Long 90°x 90°	1
15	36S.02E	Hose 3/8" x 73" Long 90°x 90°	1
16	37S.01R	Hose 3/4" Cotton Braid x 14"	1
17	35S.02B	Hose 3/8" x 71" Long ST x ST	1
18	2ST.72M	Equal Tee 3/8" BSP	4
19	97S.07	Hose Clip	2
20	10475.A01	Adaptor Plate	1
21	49S.11	'O' Ring	2
22	4-35-261	Outlet Adaptor	1
23	T-14.I	Sealing Washer	1
24	T.14.J	Adaptor - Straight 3/8" BSP	1
25	4-35-40K	Adaptor 3/8" BSP x 3/4" UNF (Short)	2
26	4-60-115	Adaptor 3/8" BSP x 3/4" UNF (Long)	2
27	49S.02	'O' Ring	4
28	HX.1318	Adaptor 3/8" BSP x 7/8" JIC. (Short)	3
29	4-60-158	Adaptor 3/8" BSP x 7/8" JIC. (Long)	1
30	49S.01	'O' Ring	5
31	6S.03H	Bolts - Hex. Hd. 5/16" UNF x 2½" Long	2
32	9S.02	Nuts - 5/16" UNF	2
33	41S.04	Washers - Spring	2
34	103S.03C	Capscrew - Socket Hd. 5/16" x 1" Long	2
35	103S.03H	Capscrew - Socket Hd. 5/16" x 2¼" Long	2
36	108S.01	Suction Strainer	1
37	10363.A01	Return Line Filter	1
	10363.A02	Filter Element	1
39	DSE.115	Adaptor 1/2" BSP x 7/8" JIC.....	1
40	110S.06F	Screwed Adaptor 3/4" BSP	1
41	112S.01	Adaptor Male/Female 1/2" BSP	1
42	113S.01	Unequal Male Tee 1/2" x 3/8" x 1/2" BSP	1
43	111S.01	Adaptor 1/2" BSP Female x 1½" BSP Male	1
44	100S.09	Bonded Seal	2
45	72S.07	Backing Nut 1½" BSP	1
46	31S.02D	Hose 3/8" x 112" ST x 90°	1

HYDRAULIC CONTROL VALVE

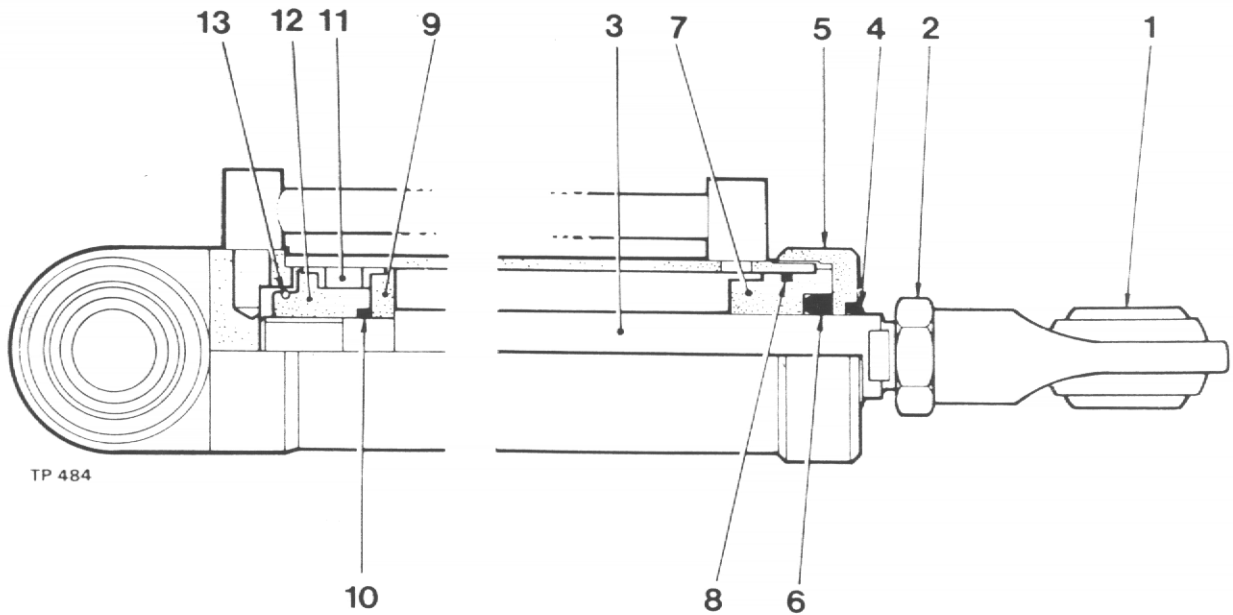


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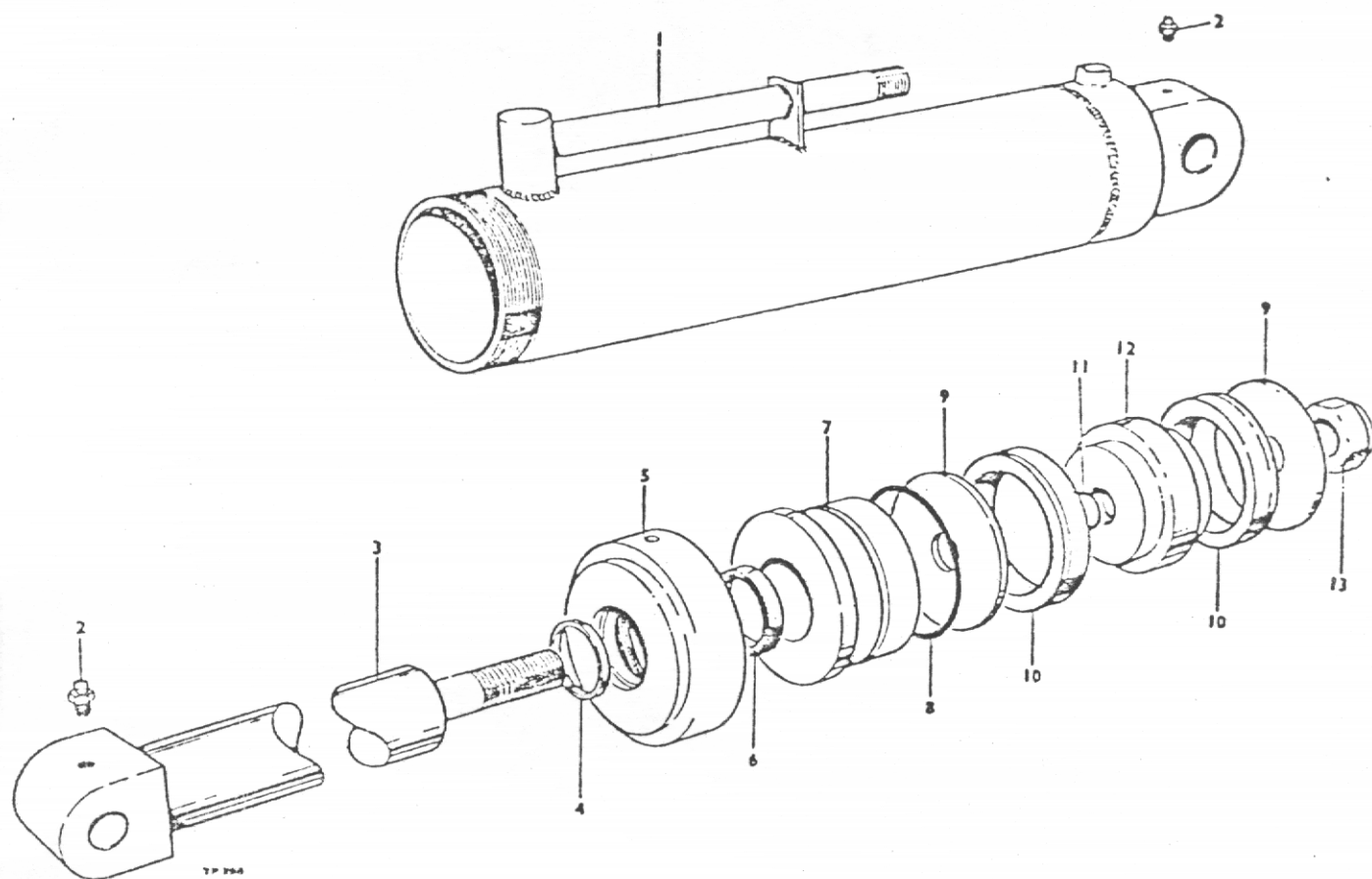
Item No.	Part No.	Description	Qty.
	30057.A02	Control Valve Complete	1
1	30131.A0101	Clip Ring	1
2	30131.A0102	Shallow Washer	1
3	30131.A0103	Spool Spring	1
4	30131.A0104	Washer Spacer	1
5	30131.A0105	Deep Washer	1
6	30057.A0101	"O" Ring	1
7	30131.A0107	Relief Valve Assembly 2000 p.s.i.	1
8	30057.A0103	Lift Check Plug Assembly	1
9	30131.A0109	Lift Check Spring	1
10	30131.A0110	Lift Check Plunger	1
11	30131.A0111	Orifice Plate	1
12	30057.A0104	"O" Ring	1
13	6S.3H	Bolt 5/16" UNF x 2½" Long	2
14	30057.A0105	Pressure Beyond Plug	1
15	30131.A0116	Plug 1/16"	1
16	30131.A0117	Plug 1/8"	1
17	9S.2	Nut 5/16" UNF	1
18	30057.A0106	Seal Repair Kit (Relief Valve).....	A/R
19	30057.A0107	Seal Repair Kit	A/R
20	30131.A0118	"O" Ring	1
21	41S.4	Spring Washer 5/16" Dia.....	2

STEERING RAM

Item No.	Part No.	Description	Qty.
	30111.A01	Ram Assembly complete	
1	20100.A02	Rod end	1
2	95S.09	Locknut	1
3	30121.A0302	Rod - Piston	1
4	30121.A0104	Wiper	1
5	30121.A0105	Cap - Tube	1
6	30121.A0106	Seal - Sleeve	1
7	30121.A0303	Sleeve	1
8	30121.A0108	'O' Ring - Sleeve	1
9	30121.A0109	Washer - Backing	1
10	30121.A0110	'O' Ring - Piston	1
11	30121.A0111	Seal - Piston	1
12	30121.A0112	Piston Head	1
13	30121.A0115	Ring - Spring	1
	CSE.189	Seal Kit (Compr. items 4,6,8,10 & 11)	A/R



TIPPING RAM



Item No.	Part No.	Description	Qty.
	30162.A01	Ram Assembly Complete	
1	30162.A0101	Ram Body	1
2	30162.A0102	Grease Nipple	2
3	30162.A0103	Piston Rod	1
4	30162.A0104	Wiper	1
5	30162.A0105	Tube Cap	1
6	30162.AC106	Sleeve Seal	1
7	30162.A0107	Sleeve	1
8	30162.A0108	Sleeve "O" Ring	1
9	30162.A0109	Backing Washer	2
10	30162.A0110	Piston Seal	2
11	30162.A0111	Piston "O" Ring	1
12	30162.A0112	Piston Head	1
13	30162.A0113	Lock Nut	1
	CSE 190	Seal Kit (comprising items 4,6,8,10 & 11)	A/R

EXHAUST ASSY. & STEP PLATE ASSEMBLY..... 1272

Item No.	Part No.	Description	Qty.
1	40106.A0401	Silencer	1
2	SYC.12	Clamp Assembly	1
3	40106.A0403	Pipe	1
4	40106.A0404	Manifold Adaptor	1
5	40106.A0405	Bracket	1
6	8S.04C	Bolt - Hex. Hd. M10 x 35 Long	1
7	61S.04	Nut - Hex. Hd. M10	1
8	12S.05	Washer - M10	1
9	20143.A01	Step Plate - L.H.....	1
10	20143.A02	Step Plate - R.H.....	1
11	8S.04C	Bolt - Hex. Hd. M10 x 35	2
12	61S.04	Nut - Hex. Hd. M10	4
13	12S.05	Washers - Plain M10	8

AIR CLEANER 1273

Item No.	Part No.	Description	Qty.
1	10532.A05	Air Cleaner - Coopers (8")	1
2	10534.A05	Stack Cap - Coopers	1
3	10533.A05	Mounting Bands - Coopers	2
4	10532.A0501	Replacement Element	1
5	10532.A06	Air Cleaner - Donaldson (8")	1
6	10534.A06	Stack Cap - Donaldson	1
7	10533.A06	Mounting Bands - Donaldson	2
8	10532.A0601	Replacement Element	1
9	166S.03	Flexible Connection Hose 2½" x 25"	1
10	97S.14	Hose Clip	2
11	1S.01A	Bolt - Hex.Hd. ½" BSF x ¾" Long	4
12	2S.02	Nut - Hex.Hd. ½" BSF	4
13	41S.03	Washer - Spring ½"	4
14	10320.A02	Adaptor Sleeve	2

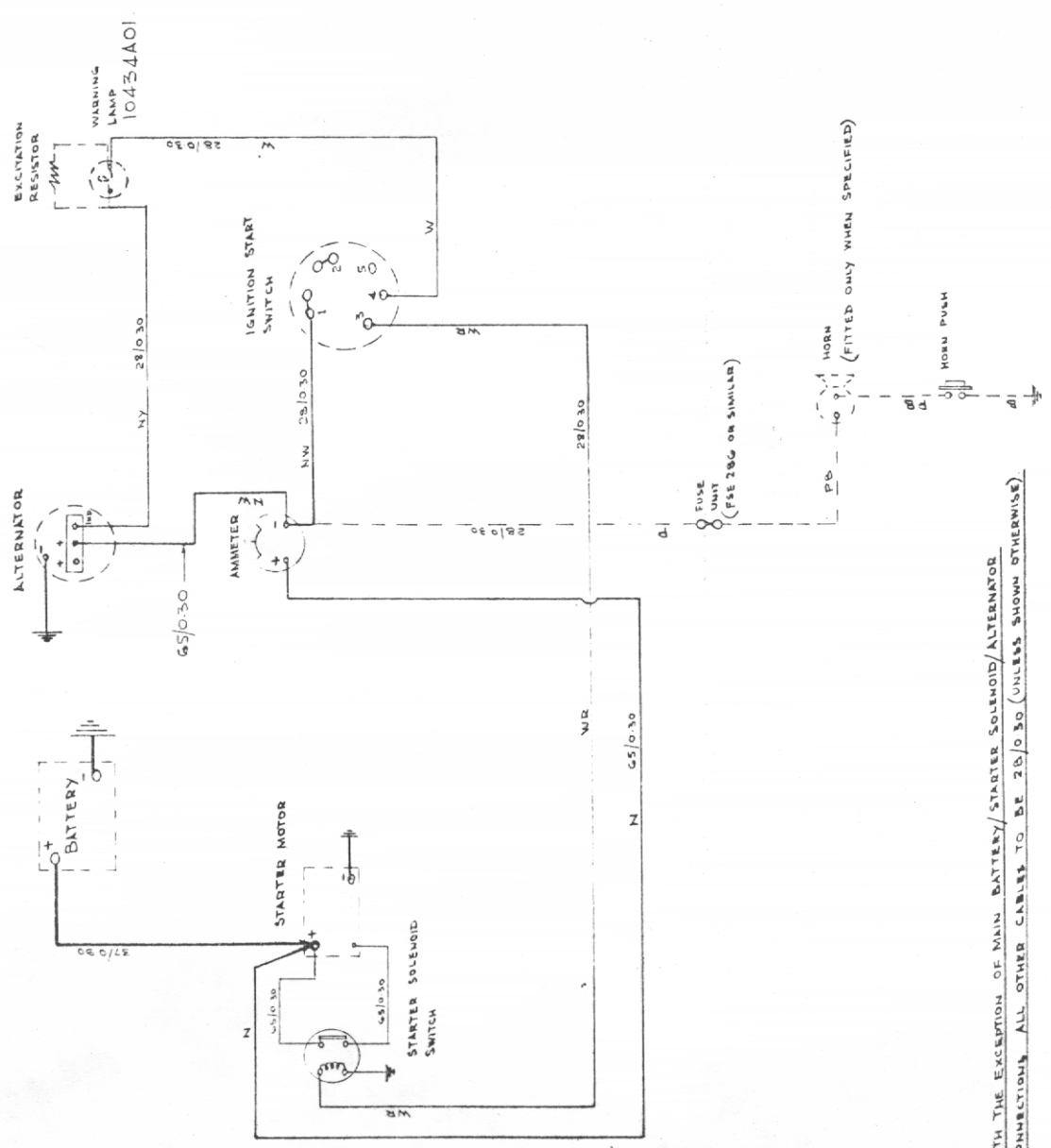
REAR FRAME ASSEMBLY 1274

Item No.	Part No.	Description	Qty.
1	40266.A01	Rear Frame Assembly	1
2	10364.A02	Pivot Block Assembly - complete	2
3	10364.A0201	Pivot Block	2
4	10364.A0102	Plate	2
5	10364.A0103	Bush Plate	2
6	8S.02F	Bolt - Hex. Hd. M6 x 50 Long	4
7	17S.03	Washer - Spring M6	4
8	61S.02	Nut - Hex. M6 Nyloc	4
9	8S.04D	Bolt - Hex. Hd. M10 x 40 Long	4
10	61S.04	Nut - Hex. M10 Binx	4
11	105S.03	Washer - 5° Taper M10	4

COLOUR CODE

N	BROWN
U	BLUE
R	RED
W	WHITE
Y	YELLOW
P	PURPLE
B	BLACK

NOTE: WHERE TWO COLOURS ARE SHOWN THE FIRST LETTER APPLIES TO THE MAIN COLOUR & THE SECOND LETTER TO THE TRACER



WITH THE EXCEPTION OF MAIN BATTERY/STARTER SOLENOID/ALTERNATOR CONNECTIONS, ALL OTHER CABLES TO BE 28/0/30 (UNLESS SHOWN OTHERWISE)

ENGINE COVER ASSEMBLY 1275

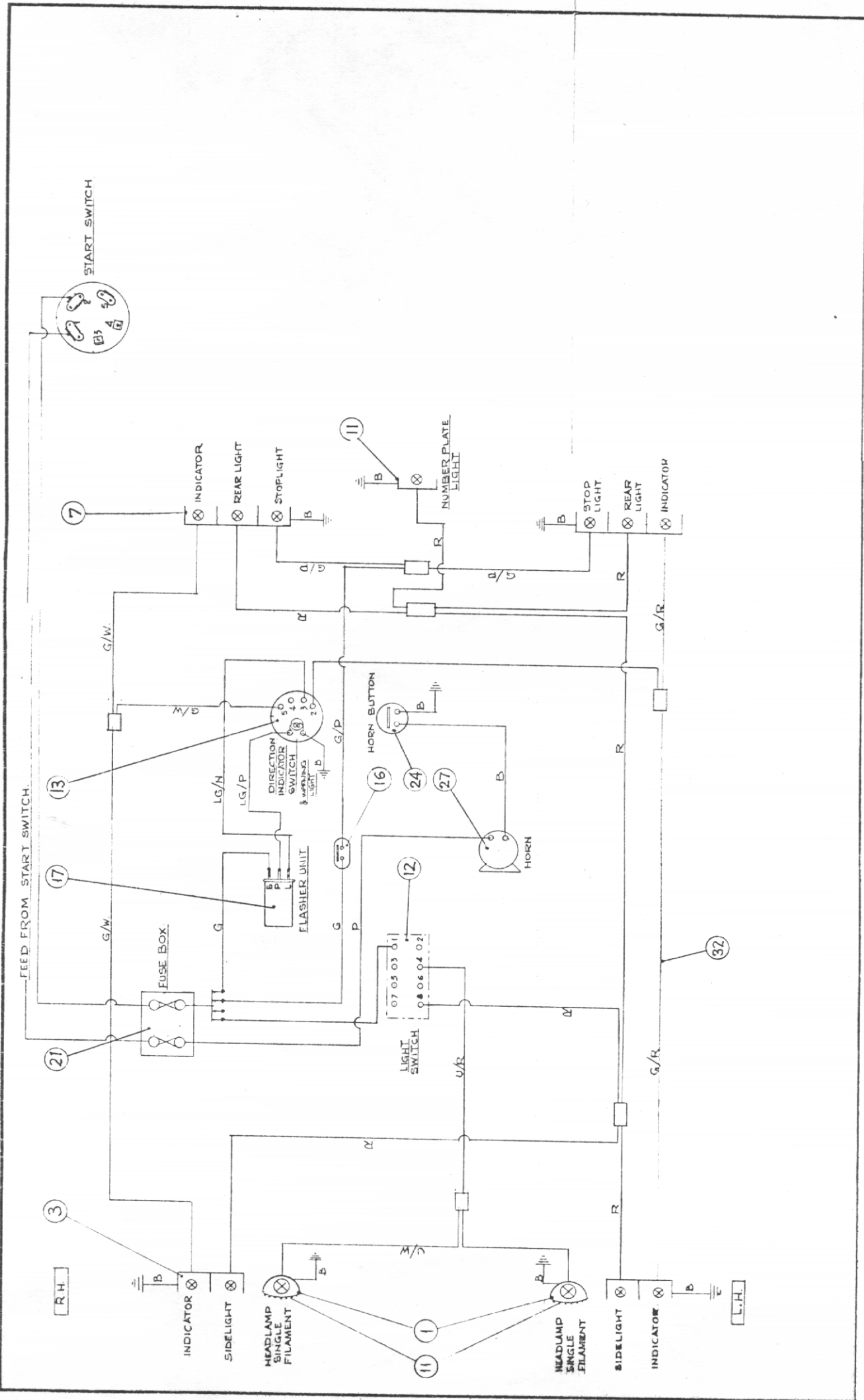
Item No.	Part No.	Description	Qty.
1	40112.A02	Engine Cover Assembly	1
2	10554.A01	Rubber Buffers	4
3	10537.A02	Toggle Fasteners	2
4	82S.03C	Screw - Rd. Hd. 2BA x ½" Long	4
5	85S.01	Nut - 2BA 'Nyloc'	4
6	10366.A02	Engine Cover Strap	1
7	10650.A19	Pins, Clevis - 3/8" O.D. x 1½" Long	1
8	44S.02A	Pins, Split - 3/32" Dia. x 3/4" Long	1
9	12S.05	Washer - M10	1
10	10566.A01	Grommet	1
11	10447.A02	Instrument Panel	1
12	61S.09	Nut - Hex. M4 Binx	8
13	10371.A02	Flexible Mountings	4

ELECTRIC START 1277

Item No.	Part No.	Description	Qty.
1	109S.01	Battery	1
2	109S.03	Battery (Alternative)	1
3	40S.A17	Battery Tie Rods ½" Dia. x 8¾" UNF	2
4	9S.01	Nuts - Hex. ½" UNF	8
5	10559.A01	Battery Clamp	1
6	10227.A02	Cable Assembly (Positive)	1
7	10228.A02	Cable Assembly (Negative)	1
8	20105.A03	Wiring Harness	1
9	FSE 448	Adhesive Clip	A/R
10	FSE 449	Adhesive Clip	A/R
11	30178.A01	Guard - Alternator Belt	1
12	10434.A01	Warning Light Assembly	1
13	10612.A02	Ammeter 12V	1
14	10614.A02	Start Switch	1

LABELS 1278

Item No.	Part No.	Description	Qty.
1	20128.A05	M/c Identification & Payload	2
2	10541.A05	Payload	1
3	DM.198	Steering Lock Warning	2
4	DM.157	Warning Label (Unpropped Skip)	1
5	10540.A04	Tyre Pressure Label	4
6	20132.A01	Dumper Safety & Instruction Label	1
7	10546.A01	Diesel Fuel Label	1
8	10546.A02	Hyd. Oil Only Label	1
9	10284.A01	Dump - Return Label	1
10	10317.A01	Chassis Label	1
11	10536.A01	Warning Label (Unpropped Cover)	1
12	DM.196	Lubrication Label	1
13	DM.154	Winget Label	3
14	ESE.236	Engine 'Stop' Label	1
15	10215.A02	Filter Instruction Label	1
16	4-60-233-1	Negative Earth Label	1
17	DM.195	Alternator Fitted Label	1
18	101S.01E	Pop Rivets	10
19	20134.A09	Label Location Drawing	1



SKIP ASSEMBLY 1615

Item No.	Part No.	Description	Qty.
1	40068.A02	Skip Assembly	1
2	10522.A02	Pins - Skip Pivot	2
3	54S.08S	Tension Pin - 10mm	2
4	10720.A01	Pins - Skip Ram	4
5	54S.07P	Tension Pin	4
6	10483.A01	Mudflap	2
7	10484.A01	Plate	2
8	11S.04F	Screw - M10 x 40 Long	6
9	7S.04	Nut - Hex. M10	6
10	12S.05	Washer - M10	6

FULL ROAD LIGHTING 1702

Item No.	Part No.	Description	Qty.
1	20013.A0112	Headlamps	2
2	10216.A01	Stone Guard	2
3	FSE 333	Sidelights/Indicators (Front)	2
4	82S.03E	Screw - Rd. Slotted Head 2BA x 3/4" Long	8
5	85S.01	Nut - Hex. 2BA Nyloc	8
6	12S.01	Washer - 5mm I.D.....	8
7	FSE 334	Stop/Side/Indicators (Rear)	2
8	82S.03E	Screw - Rd. Slotted Head 2BA x 3/4" Long	8
9	85S.01	Nut - Hex. 2BA Nyloc	8
10	12S.01	Washer - 5mm I.D.....	8
11	10615.A01	Number Plate Light	1
12	10620.A01	Light Switch	1
13	10617.A01	Indicator Switch	1
14	82S.07C	Screw - Rd. Slotted Head 6BA x 1/2" Long	2
15	85S.03	Nut - Hex. 6BA Nyloc	2
16	10744.A01	Brake Switch	1
17	10616.A01	Flasher Unit	1
18	82S.03C	Screw - Slotted Rd. Head 2BA x 1/2"	1
19	85S.01	Nut - Self Locking 2BA Nyloc	1
20	12S.01	Washer - 5mm I.D.....	1
21	10644.A01	Fuse Box	1
22	82S.03E	Screw - Rd. Slotted Head 2BA x 3/4" Long	1
23	85S.01	Nut - Hex. 2BA Nyloc	1
24	10619.A01	Horn Button	1
25	82S.07E	Screw - Rd. Slotted Head 6BA x 3/4"	2
26	85S.03	Nut - Hex. 6BA Nyloc	2
27	10618.A0101	Horn	1
28	10618.A0102	Horn Bracket	1
29	11S.01A	Screw - Hex. Hd. M5 x 16 Long	2
30	17S.02	Washer - Spring M5	2
31	7S.01	Nut - Hex. Full M5	2
32	20105.A04	Wiring Harness	1

DECIMAL, FRACTIONAL AND METRIC EQUIVALENTS

Inches		Milli- metres	Inches		Milli- metres
Fractions	Decimals		Fractions	Decimals	
1/64	0.015625	0.397	33/64	0.515625	13.097
1/32	0.03125	0.794	17/32	0.53125	13.494
3/64	0.046875	1.191	35/64	0.546875	13.891
1/16	0.0625	1.588	9/16	0.5625	14.288
5/64	0.078125	1.984	37/64	0.578125	14.684
3/32	0.09375	2.381	19/32	0.59375	15.081
7/64	0.109375	2.778	39/64	0.609375	15.478
1/8	0.125	3.175	5/8	0.625	15.875
9/64	0.140625	3.572	41/64	0.640625	16.272
5/32	0.15625	3.969	21/32	0.65625	16.669
11/64	0.171875	4.366	43/64	0.671875	17.066
3/16	0.1875	4.763	11/16	0.6875	17.463
13/64	0.203125	5.159	45/64	0.703125	17.859
7/32	0.21875	5.556	23/32	0.71875	18.256
15/64	0.234375	5.953	47/64	0.734375	18.653
1/4	0.250	6.350	3/4	0.750	19.050
17/64	0.265625	6.747	49/64	0.765625	19.447
9/32	0.28125	7.144	25/32	0.78125	19.844
19/64	0.296875	7.541	51/64	0.796875	20.241
5/16	0.3125	7.938	13/16	0.8125	20.638
21/64	0.328125	8.334	53/64	0.828125	21.034
11/32	0.34375	8.731	27/32	0.84375	21.431
23/64	0.359375	9.128	55/64	0.859375	21.828
3/8	0.375	9.525	7/8	0.875	22.225
25/64	0.390625	9.922	57/64	0.890625	22.622
13/32	0.40625	10.319	29/32	0.90625	23.019
27/64	0.421875	10.716	59/64	0.921875	23.416
7/16	0.4375	11.113	15/16	0.9375	23.813
29/64	0.453125	11.509	61/64	0.953125	24.209
15/32	0.46875	11.906	31/32	0.96875	24.606
31/64	0.484375	12.303	63/64	0.984375	25.003
1/2	0.500	12.700	1	1.000	25.400

INCHES INTO MILLIMETRES

Inches	0	1	2	3	4	5	6	7	8	9
0	0	25.40	50.80	76.20	101.60	127.00	152.40	177.80	203.20	228.60
10	254.00	279.40	304.80	330.20	355.60	381.00	406.40	431.80	457.20	482.60
20	508.00	533.40	558.80	584.20	609.60	635.00	660.40	685.80	711.20	736.60
30	762.00	787.40	812.80	838.20	863.60	889.00	914.40	939.80	965.20	990.60
40	1016.00	1041.40	1066.80	1092.20	1117.60	1143.00	1168.40	1193.80	1219.20	1244.60
50	1270.00	1295.40	1320.80	1346.20	1371.60	1397.00	1422.40	1447.80	1473.20	1498.60
60	1524.00	1549.40	1574.80	1600.20	1625.60	1651.00	1678.40	1701.80	1727.20	1752.60
70	1778.00	1803.40	1828.80	1854.20	1879.60	1905.00	1930.40	1955.80	1981.20	2006.60
80	2032.00	2057.40	2082.80	2108.20	2133.60	2159.00	2184.40	2209.80	2235.20	2260.00
90	2286.00	2311.40	2336.80	2362.20	2387.60	2413.00	2438.40	2463.80	2489.20	2514.61

Use in conjunction with above table.

Example: Find equivalent mm. for 84 5/8".

$$84'' = 2133.60 \text{ mm.}$$

$$5/8'' = 15.875 \text{ mm.}$$

$$84 \text{ } 5/8'' = 2149.475 \text{ mm.}$$

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