

# **WINGET**

**OPERATING  
INSTRUCTIONS  
&  
SPARE PARTS  
LIST  
4FL2500  
FORKLIFT  
C/W  
HAMWORTHY  
AXLES  
(CAPACITY 1270Kg)**

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## INTRODUCTION

This Parts & Operators Manual is a re-print of the manual last published in 1980 and contains some amended part numbers.

**Note: This manual is applicable to machines with Serial Numbers from and including 4FL2500-651 with Hamworthy Axles.**

Health & Safety legislation and working practices applicable to Forklift Trucks, both 2 and 4 wheel Drive, Rigid Chassis and Articulated Chassis have changed considerably in the years since this manual was last published. We would recommend that only trained operators who are in possession of the relevant certification issued by a recognised Training Authority be allowed to operate this equipment.

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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## PREPARATION FOR USE

Before the 4FL-2500 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. Before removing the cap, clean the surrounding area to prevent the possible entry of foreign matter.

### Brake System

Ensure that both brake master cylinder reservoirs are full of fluid. Top up if necessary to within 1/4" of the top of the reservoirs. Use only brake fluid that conforms SAE J.1703.

### 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.

NB. FOR FURTHER INFORMATION ABOUT LUBRICATION AND RECOMMENDED OILS SEE PAGES 8 & 9.

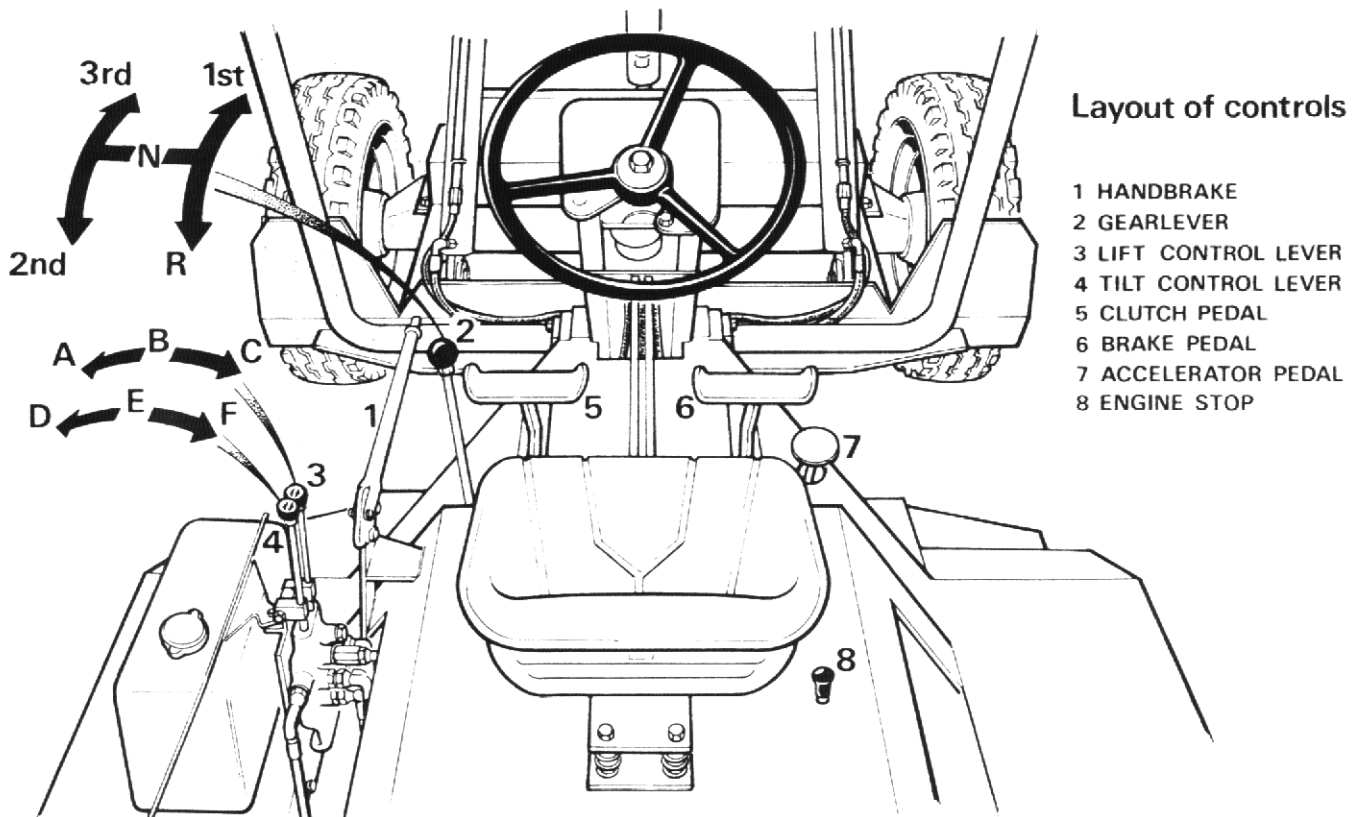
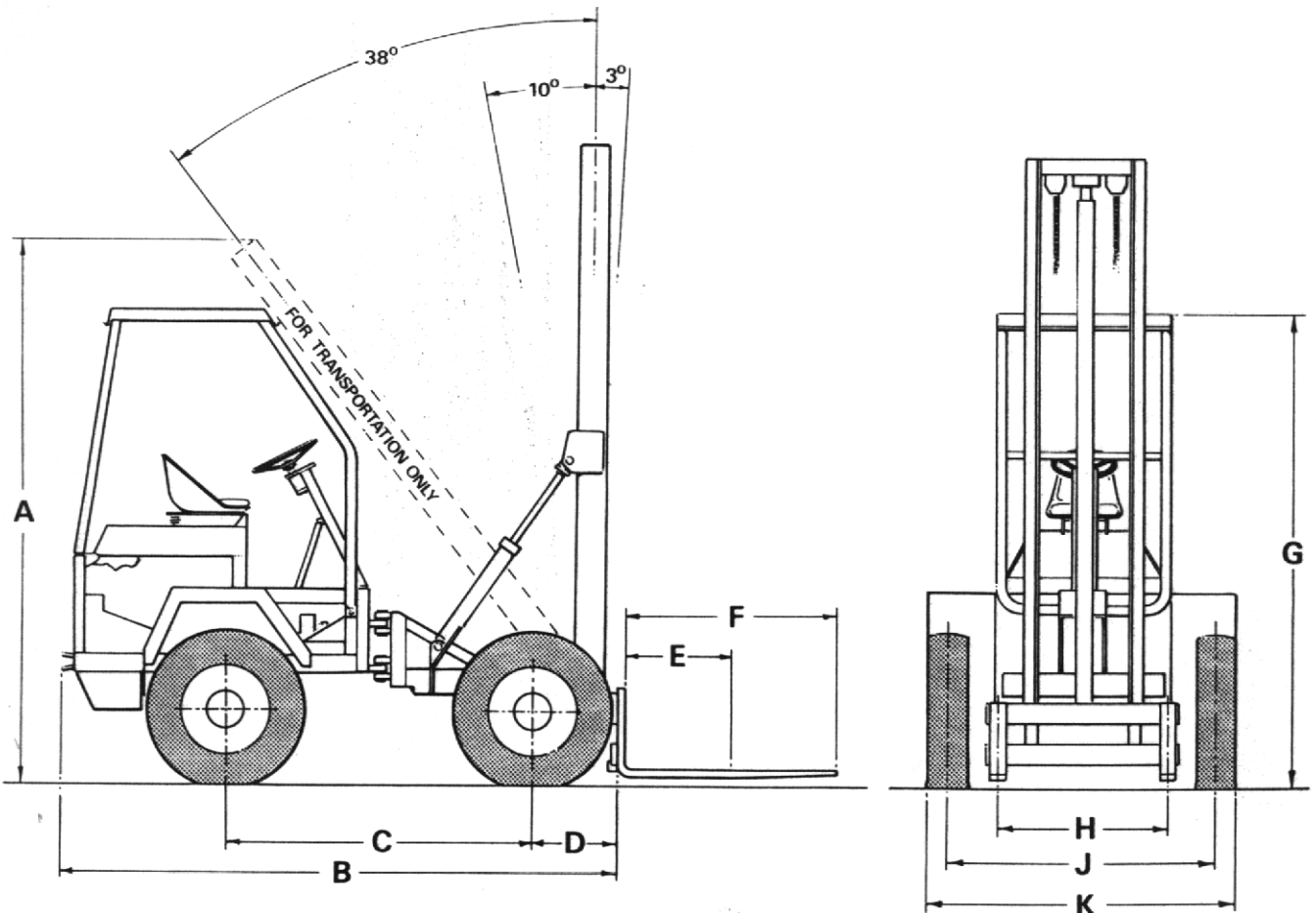


FIG.1

## SPECIFICATION

A	Overall height (Transportation position)	10'-7½"	(324 cm)
B	Overall length (minus forks)	10'-4½"	(316 cm)
C	Wheelbase	5'-7½"	(171 cm)
D	Length from front axle to front of carriage.	1'-7½"	(49 cm)
E	Load centre	2'-0"	(61 cm)
F	Fork length	4'-0"	(122 cm)
G	Overall height (forks lowered)	12'-1"	(368 cm)
H	Fork centres	Max. 3'-4"	(102 cm)
		Min. 5"	(13 cm)
J	Wheeltrack	5'-0"	(152 cm)
K	Overall Width	5'-10¼"	(178 cm)
	Maximum load at 2'-0" (61 cm) load centre	2800 lbs.	(1270 kg)
	Total lift of forks	18'-0"	(549 cm)
	Ground clearance	11½"	(29 cm)
	Turning Circle	23'-8"	(721 cm)
	Unladen weight	7616 lbs.	(3454 kg.)
	Hydraulic relief valve pressure	1750 lb/ins <sup>2</sup>	(123 kg/cm <sup>2</sup> )
	Rear axle articulation	1'-2"	(36 cm)
	Lifting time, loaded	30 sec.	(36 ft/min) (.182 m/sec.)
	Road Speeds at 2000 RPM	m.p.h.	k.p.h.
	1st	2.48	3.99
	2nd	5.76	9.26
	3rd	10.54	16.96
	Rev.	2.7	4.3
<b>Capacities</b>			
Transfer Box	1 pt. (.57 litres)	Drive Axle	12 pts. (6.82 litres)
Gear Box	1½ pts. (.85 litres)	Engine	12 pts. (6.82 litres)
Hydraulic Tank	6 gals. (27.3 litres)	Fuel Tank	4 gals (18.2 litres)
Load Moment	125,300 lb.in. (14158 Nm)		





## OPERATION

### Starting

- a) To start the engine, lift the red-painted overload stop (A) (See fig. 3) situated on the fuel pump rack above and to the rear of the priming levers (B) and move fuel pump rack (C) into fully-open position.
- b) Operate priming levers (B) six times.

NOTE:— This is unnecessary if engine is already warm.

- c) Lift decompression lever (D), positioned on top of engine and turn engine as fast as possible using starting handle. When engine is turning at a good speed, knock down decompression lever and engine should fire.
- d) If engine does not fire, lift decompression lever and slowly crank engine a few times before attempting to start again. Where ambient temperature is 5°F (-15°C) or below, a cold start aid should be fitted.

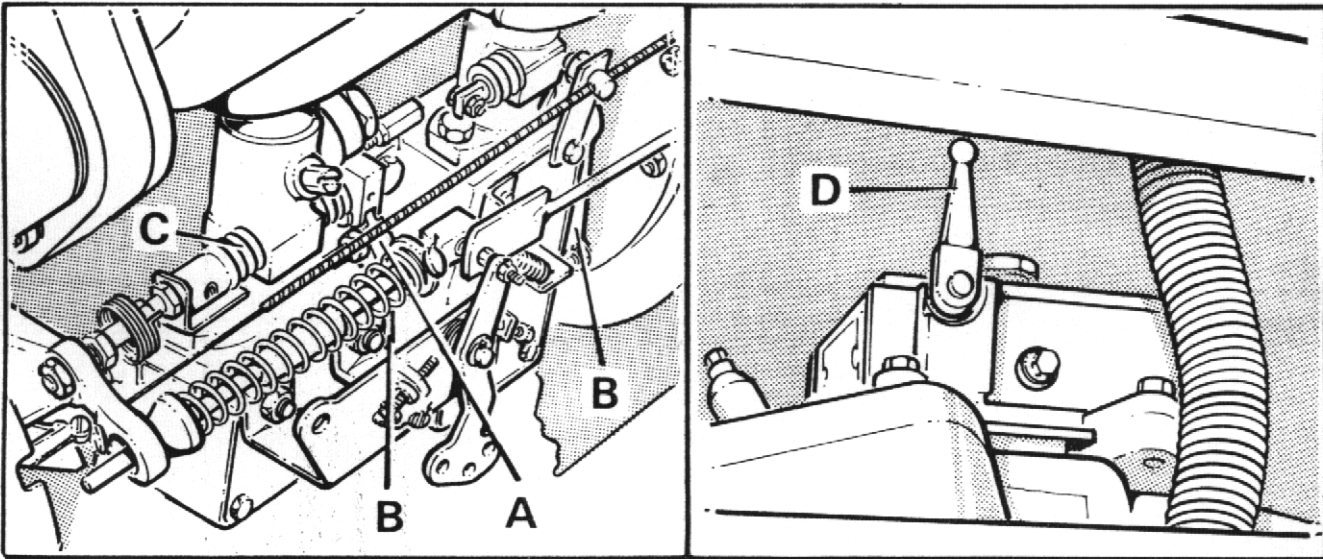
### Stopping the Engine

Pull up stop control knob (See fig. 1) and hold in its fully raised position until engine stops. Release stop control when engine has ceased to turn.

### IMPORTANT:

DO NOT stop engine by means of decompression levers, this will lead to damaged valve seats and cylinder head joints.

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.



TP 131

FIG. 3

### Gear Changing

The 4FL-2500 is fitted with forward gears (1), (2), (3), and one reverse gear (R), (See fig. 1). When changing gear the clutch pedal is used in the normal manner.

### Hydraulic Controls

There are two functions on the standard machine; to raise and lower the fork carriage and to tilt the mast backward and forward.

Each lever is spring biased to the centre (hold position) and can be moved either side of this position (See fig. 1) the lift control lever (3) positions are UP (A), HOLD (B) and DOWN (C). The tilt control lever (4) positions are FORWARD (D), HOLD (E) and BACKWARD (F), when either lever is released it will automatically return to the HOLD position. Each control lever may be used to vary the speed of the function by operating to allow partial opening of the valve; further control is available by varying the engine speed.

### Travelling with Load

The machine should NOT be driven with the load elevated, it should normally be carried with the forks at a height of approximately 400 mm (16") and with the mast tilted fully backwards. If site or load conditions make this operation impossible and the load must be carried higher, the machine should be moved only with extreme caution.

## MAINTENANCE

### Periodic Maintenance

#### DAILY (OR EVERY 10 HRS).

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

Fill fuel tank (more often if necessary), to approximately 1" from top. Never allow there to be a depth of less than 2" of fuel in the tank.

#### WEEKLY (OR EVERY 50 HRS)

Check oil level in the gearbox and fill to full mark on the dipstick if necessary.

Remove oil level plugs from drive axles and transfer case. Oil level should be to bottom of holes. Top up, if necessary through filler plugs on drive axles or through filler/level plug in transfer case.

Check oil level in hydraulic tank. Check level only when forks are lowered. Always clean the surrounding area before removing the cap to prevent the possible entry of foreign matter. Fill tank if necessary, to within 1" of the top.

Check brake fluid level in the master cylinder reservoirs and top up if necessary, to within ¼" of the top.

Apply grease to all grease nipples.

Liberally apply grease between the outer and inner frames of the mast assembly. (For clarification see items A and B in Fig. 8) Use Mobilgrease Special or Shell Alvania 2 with M.O.S.

Apply a light grade oil to the fork lift chains.

Check tyre pressures – 60 lb./sq.in.

Check all wheel nuts and tighten, if necessary.

#### FREQUENTLY

Check all nuts and bolts and tighten if necessary.

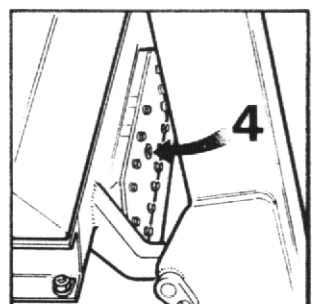
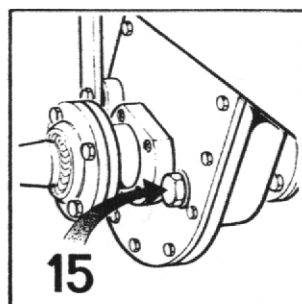
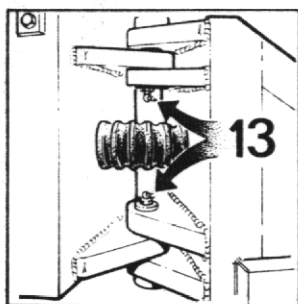
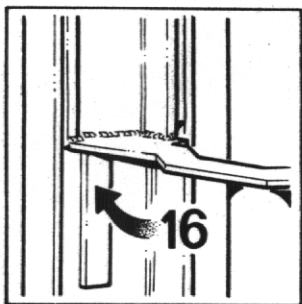
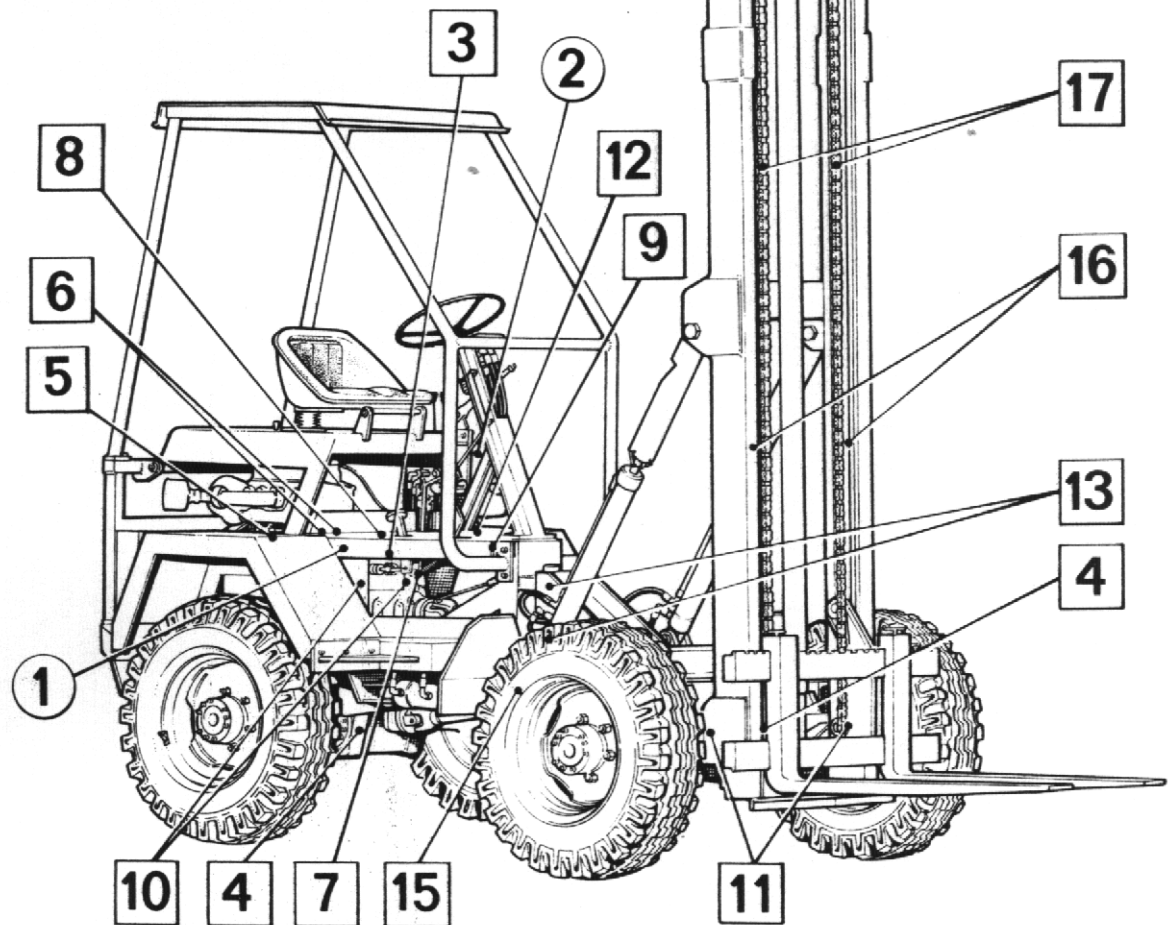
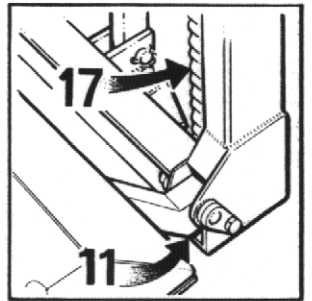
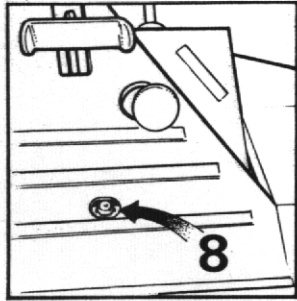
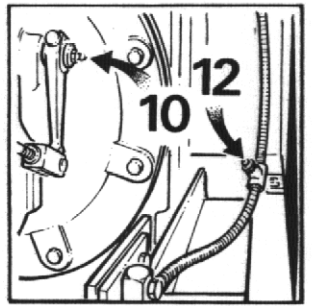
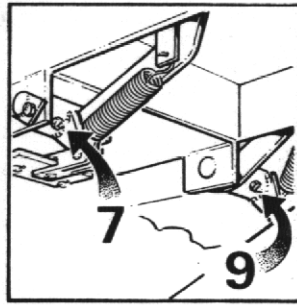
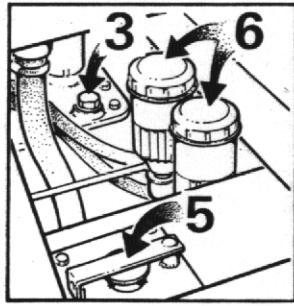
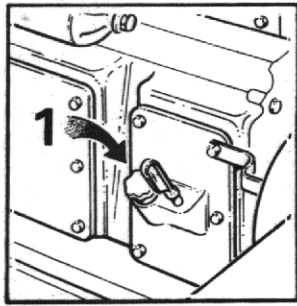
NOTE: Rear Axle articulation points consist of bearings that require no lubrication.

FOR COMPLETE ENGINE MAINTENANCE INSTRUCTIONS REFER TO ENGINE MANUFACTURERS HANDBOOK.

### Lubrication (See Fig. 4)

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 Fluid	1
	6	Brake Master Cylinder Reservoirs	Brake Fluid	2
	7	Footbrake Pedal	Grease Gun	1
	8	Accelerator Pedal	Grease Gun	1
	9	Clutch Pedal	Grease Gun	1
	10	Clutch Cross Shaft	Grease Gun	2
	11	Mast Pivot	Grease Gun	2
	12	Handbrake Cable	Grease Gun	1
	13	Chassis Centre Pivot	Grease Gun	2
	14	Prop Shafts & Universal Joints	Grease Gun	10
	15	Transfer Case	Axle Oil	1
	16	Mast Frame	Grease	
	17	Fork Carriage Chains	Oil	

N.B. FOR RECOMMENDED LUBRICATING OILS SEE CHART ON PAGE 13.



### Brake System

The brake system is designed to require the minimum of maintenance, and, providing the hydraulic fluid in the reservoirs is not allowed to fall below the recommended level, no defects should normally occur. Fluid loss must be supplemented by topping up the reservoirs with brake fluid that conforms to SAE J.1703. No other fluid may be used. 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 or by the reservoir fluid levels being allowed to fall very low. These 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 all bleed screws are closed.
2. Fill reservoirs with brake fluid.
3. Attach bleeder tube (A) (See fig. 5) to one of the bleed screws (B) and immerse other end in a small quantity of brake fluid contained in a glass jar (C). Slacken bleed screw and operate brake pedal up and down to its full stroke, until fluid pumped into the jar contains no air bubbles. Hold down pedal and close bleed screw. Remove bleeder tube and release pedal.
4. Repeat on the other bleed screw on the same axle.
5. Carry out the above procedure on the other axle and continue until the air has been bled from the system.
6. Lock all the bleed screws and top up the reservoirs to the correct level.
7. Apply normal working load on brake pedal for two or three minutes and examine the entire system for leaks.

**NOTE:— DURING THE OPERATION IT IS ESSENTIAL THAT THE RESERVOIR LEVELS ARE KEPT TOPPED UP TO PREVENT FURTHER AIR BEING DRAWN INTO THE SYSTEM. ONLY USE NEW FLUID FOR TOPPING UP.**

### Main Hydraulic System

The main hydraulic system controls the tilt of the mast, the raise and lower of the fork carriage and also provides the power for the steering. If the system fails to operate or does so extremely slowly, carry out the following procedure until the fault is rectified.

1. Check that hydraulic tank is full of oil.
2. Check that hydraulic filter is not blocked (See Fig. 6).
  - a) Remove the four setscrews (A) that secure the filler cap assembly (B) and remove assembly.
  - b) Unscrew suction filter (C) from inside tank (D) and wash in white spirit. Dry with moisture-free compressed air.
  - c) Replace suction filter and filler cap assembly.

**NOTE:** If suction filter cannot be thoroughly cleaned, fit a new one.

3. Check that hydraulic pressure is correct.
  - a) Fit a 2000 lb/sq. gauge into the hydraulic system at the base of the tilt ram.
  - b) Operate control lever to tilt mast forward, and check that pressure reading on gauge is 1750 lb/sq.in. when ram is fully extended and relief valve is 'blowing'.

**NOTE:** If correct pressure is not attained:—

4. Remove relief valve cartridge (A) (hexagon head) from the bottom of the control valve (B) (See Fig. 7) and replace with a new one.
5. Remove hose adaptor (C) from control valve (See Fig. 7), 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.

IF none of these procedures correct the fault, contact your Winget 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.

**IMPORTANT:— ON NO ACCOUNT SHOULD THE STEERING VALVE BE DISMANTLED, SHOULD IT REQUIRE ATTENTION REMOVE IT COMPLETE AND RETURN TO THE FACTORY.**

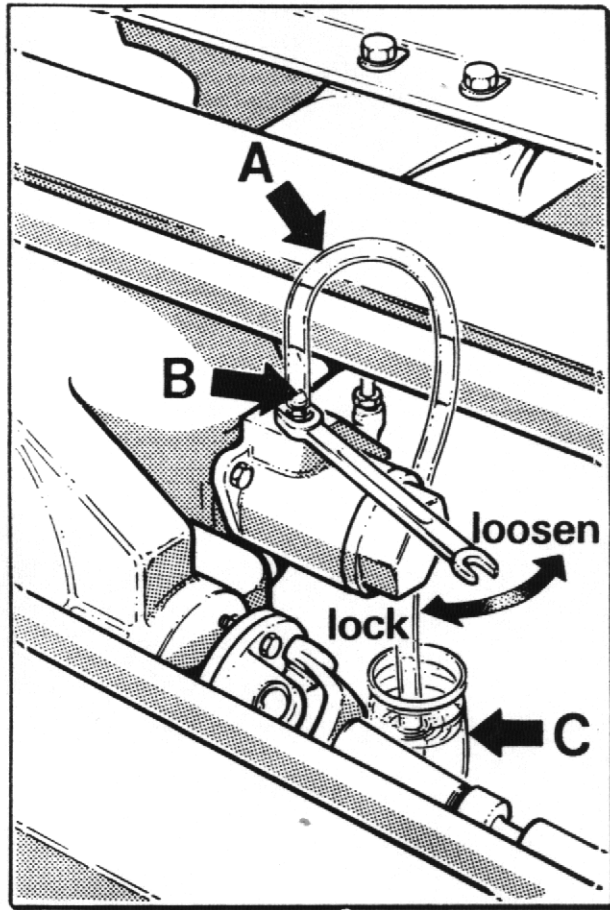


FIG.5

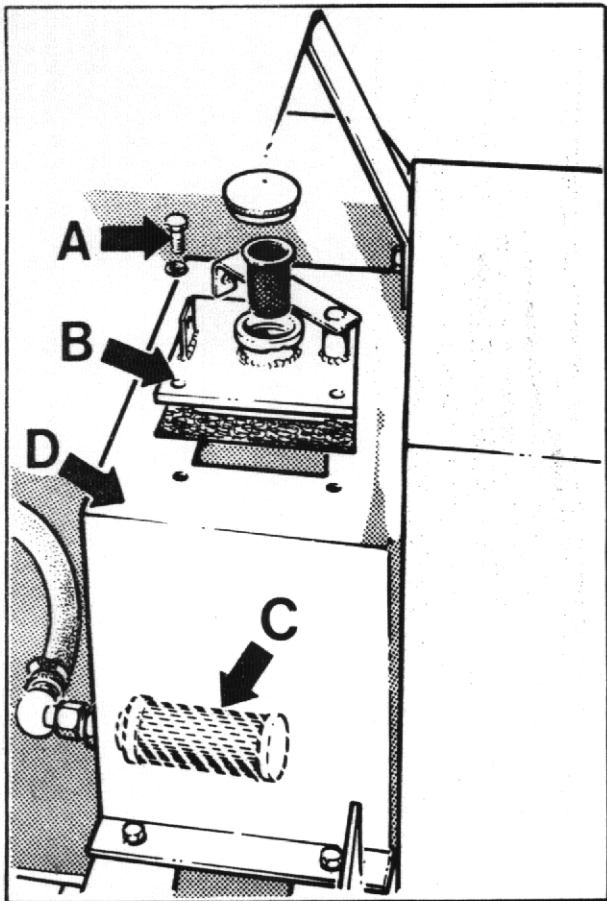


FIG.6

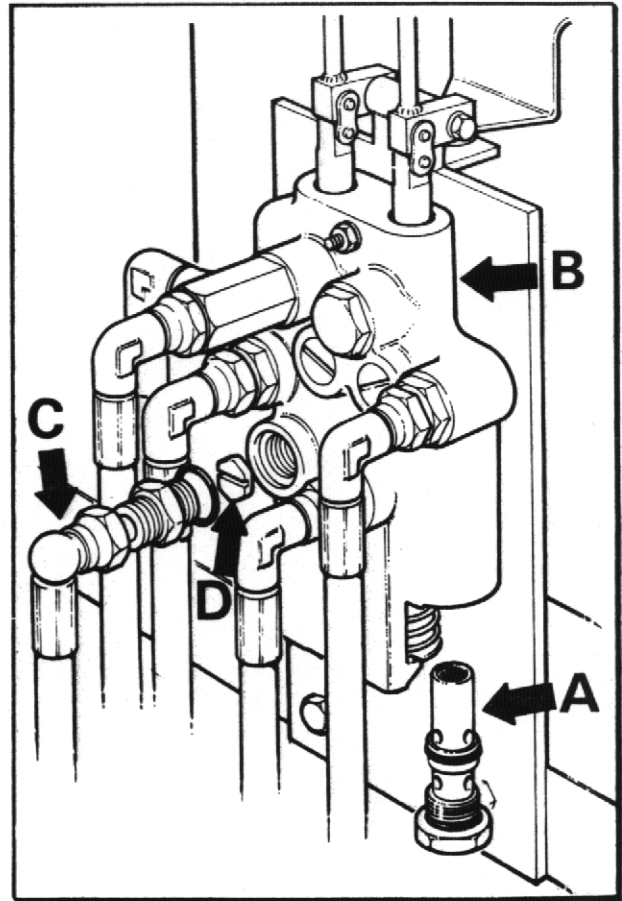


FIG.7

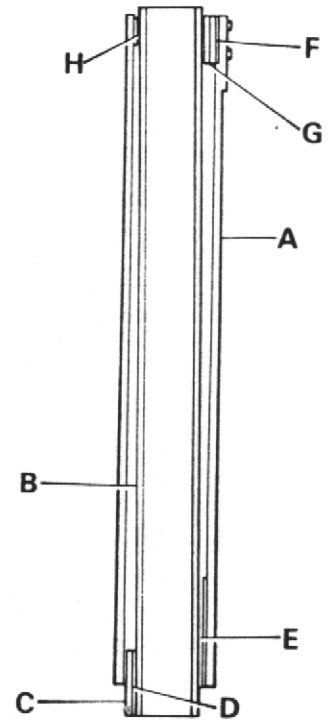


**Mast Maintenance**  
(See Fig.8)

1. PERIODICALLY adjust fork lift chains to keep fork mounting frame level.
2. PERIODICALLY check shims between bottom wear strip (C) and inner frame assembly (B). When wear has occurred fit additional shims (D) as necessary to maintain about 1/16" clearance, at gap (E), when the mast is lowered – check the gap through the full extension of the mast.

NOTE:– With mast fully lowered the bottom wear strip is accessible beneath the machine frame.

3. PERIODICALLY fully raise the inner mast and check the wear strip and block on the channel. at the top of the outer frame (A). If wear has occurred, fit additional shims (F) as necessary behind the wearstrip mounting block assembly (G) to maintain 1/16" clearance at gap (H) when mast is lowered, check gap through full extension of mast.



**FIG.8**

RECOMMENDED TORQUE FIGURES FOR FASTENERS

DESCRIPTION	TIGHTENING TORQUE	
	lb/ft.	Kg/m
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 )
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 )
Centre Pivot Nuts/Bolts 1½" UNF .....	1880	(279.7 )

## RECOMMENDED LUBRICATING OILS

COMPANY	ENGINE	DRIVE AXLE	TRANSFER BOX	GEARBOX	WHEEL BEARINGS & OTHER GREASE POINTS	HYDRAULIC SYSTEM
(U.K.) ESSO (Overseas)	ESSOLUBE HDX 20W  ESSOLUBE HDX 30 ESSOLUBE HDX 20W ESSOLUBE HDX 10W	IL 2082  IL 2082 IL 2082	GEAR OIL GP 90/140  GEAR OIL GP 140 GEAR OIL GP 90/140 GEAR OIL GP 80	ESSOLUBE HDX 30  ESSOLUBE HDX 30	BEACON 2  BEACON 2	NUTO H 44  NUTO H 54 NUTO H 44 NUTO H 40
(U.K.) CASTROL (Overseas)	DEUSOL CRB 20  DEUSOL CRB 30 DEUSOL CRB 20 DEUSOL CRB 10	AGRICASTROL AS  AGRICASTROL AS AGRICASTROL MD	DEUSOL EP 90  DEUSOL GEAR EP 140 DEUSOL GEAR EP 90 DEUSOL GEAR EP 80	DEUSOL CRI 30  DEUSOL CRI 30	CASTROL SPHEEROL APT 2  CASTROL SPHEEROL APT 2	CASTROL HYSPIN AWS 32
(U.K.) SHELL (Overseas)	ROTELLA SX OIL 20/20W  ROTELLA SX OIL 30 ROTELLA SX OIL 20/20W ROTELLA SX OIL 10W	S.7142 (INITIAL FILL) SPIRAX EP 80 (Top up only)  S.7142 (INITIAL FILL) SPIRAX EP 80 (Top up only) S.7224 (INITIAL FILL) SPIRAX HD 75 (Top up only)	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 27
(U.K.) BP (Overseas)	VANELLUS M20  VANELLUS M30 VANELLUS M20 VANELLUS M10W	B.P. HYDRAULIC TF-8  B.P. HYDRAULIC TF-8 B.P. TRACTRAN (Top up only)	GEAR OIL SAE 90 EP  GEAR OIL SAE 140 EP GEAR OIL SAE 90 EP GEAR OIL SAE 80 EP	VANELLUS M30  VANELLUS M30	ENERGREASE L2  ENERGREASE L2	ENERGOL HLP 65
(U.K.) MOBIL	DELVAC 1220  DELVAC 1230	MOBIL FLUID 422	MOBILUBE HD 90 MOBILUBE GX 90  MOBILUBE HD 140 MOBILUBE GX 140	DELVAC 1230	MOBILGREASE MP  MOBILGREASE SUPER	DTE 24
(Overseas) ALL TEMPERATURES	DELVAC 1220  DELVAC 1210 DELVAC SPECIAL 10W-30	MOBIL FLUID 422  MOBIL FLUID 427	MOBILUBE HD 90 MOBILUBE GX 90  MOBILUBE HD 80 MOBILUBE GX 80	DELVAC 1230		
(U.K.) WALKERS CENTURY (Overseas)	CENTLUBE HD 20  CENTLUBE HD 30 CENTLUBE HD 20 CENTLUBE HD 10	CENTLUBE F.76 COMPOUND  CENTLUBE F.76 COMPOUND CENTLUBE E.76 COMPOUND	CENTURY EP 90  CENTURY EP 140 CENTURY EP 90 CENTURY EP 80	CENTLUBE HD 30  CENTLUBE HD 30	REGULUS A2  REGULUS A2	CENTURY PWL A HYD. OIL  CENTURY PWL A HYD. OIL

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

## FORKLIFT SAFETY

1. Drivers should be aware of the load and stability limitations of the machine.
2. Drivers should be aware of the weight of the loads they are carrying and also of variations in those loads (e.g. wet or dry weight).
3. Drivers should take account of ground conditions which may affect stability.
4. Drivers must ensure that the intended load is in a safe condition to lift, e.g. loose bricks, banded pallets etc.
5. Do not allow anyone to stand or pass under the elevated part of any machine, whether loaded or empty.
6. Do not carry passengers.
7. Always set parking brake when loading or unloading.
8. Maintain specified tyre pressure at all times. Do not alter tyre pressures to suit ground conditions.
9. Be sure of sufficient headroom under overhead installations; lights, pipes, wiring etc.
10. Travel with load or load engaging forks low and where possible, tilted back. Do not Elevate the load except during stacking. If load and/or site conditions make this impossible (e.g. wide load and ground level obstructions) the machine should be moved only with extreme caution.
11. Modifications and additions which affect capacity and safe operation shall not be performed by the customer or user without the manufacturer's prior written approval.
12. Front end attachments other than those supplied as original equipment shall only be used with the manufacturer's prior written approval.
13. Never dismount while the machine is in motion.
14. Never start the engine from any position other than sitting in the driving seat.
15. Never drive the machine too close to the edge of any excavation, especially if the ground is loose or wet.
16. Never make any adjustments to the machine while it is in motion.
17. Never run the engine in a closed building or allow the exhaust pipe near to inflammable material.
18. Never fill the fuel tank with the engine running. Exercise caution when the engine is hot.
19. Always keep the floor plates clean.

## CARE OF THE FORKLIFT

### Preliminary Checks on Delivery

1. All oil and fluid levels.
2. Drain plugs for tightness.
3. Tyre pressures
4. Give the weekly grease check

### Cleanliness

Clean all external surfaces, and wipe all filling and drain plugs before removing or replacing. Store fuel and lubricating oil in closed containers under cover.

Fill fuel and hydraulic oil tanks only by means of a funnel fitted with a strainer.

Clean and dirt-free floor plates and well-lubricated pedal linkages assist the driver in controlling his machine.

### Storing

Prior to the machine remaining unused for a period of one month or longer, carry out the following instructions, together with the equivalent instructions for the engine to be found in the engine manufacturers handbook.

1. Clean the machine.
2. Lubricate all greasing points and exposed control joints.
3. Lubricate the mast assembly and lift chains
4. Set the tyres to maximum recommended pressure. Jack up the machine on a firm level surface and insert blocks under both sides of the front and rear axles thus releasing the machine weight from the tyres. It is essential that the wheels should be rotated at least half a turn, at intervals of one week.

Set the brakes in the 'off' position.

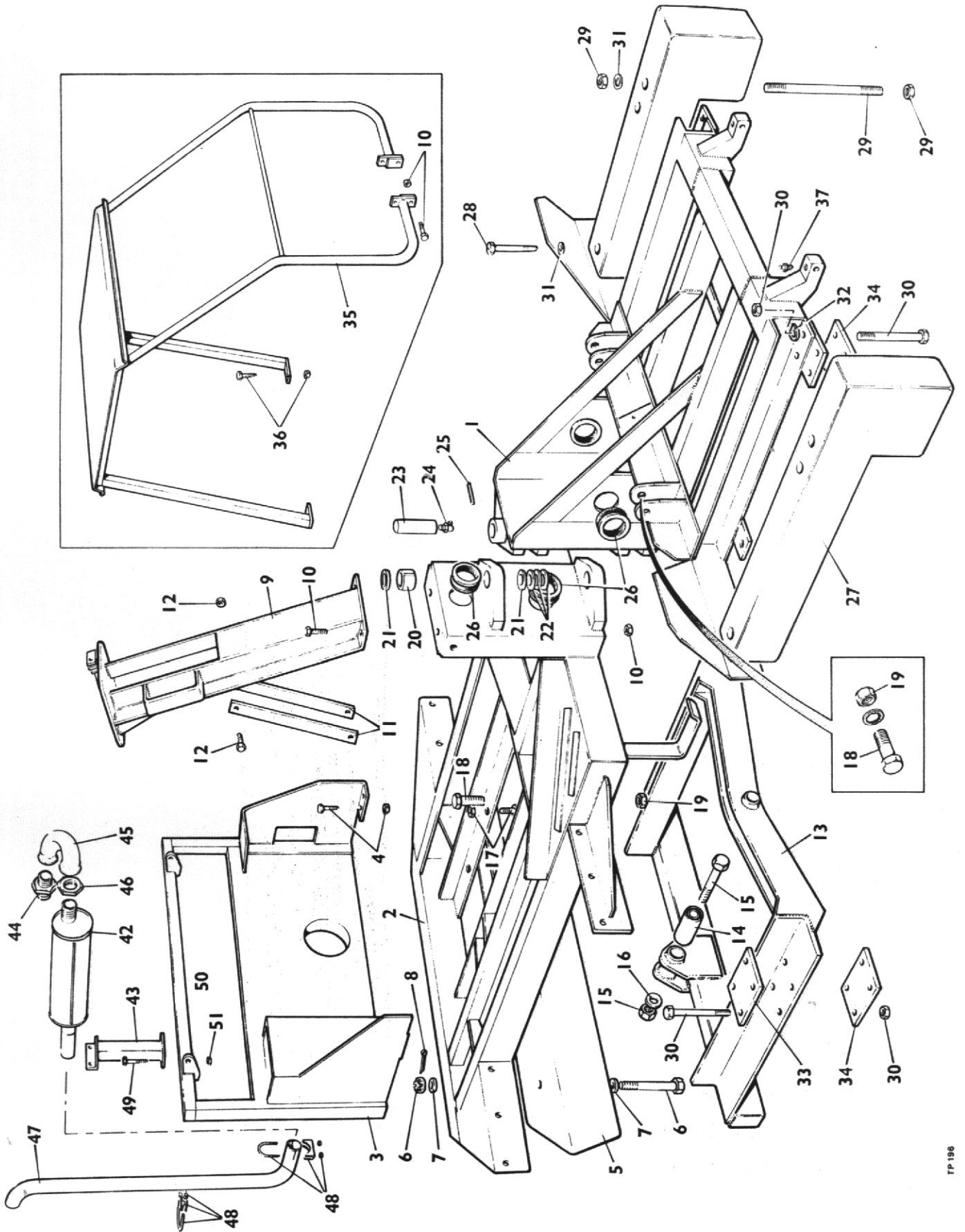
5. Cover the machine, preferably with a waterproof sheet.



# SPARE PARTS SECTION

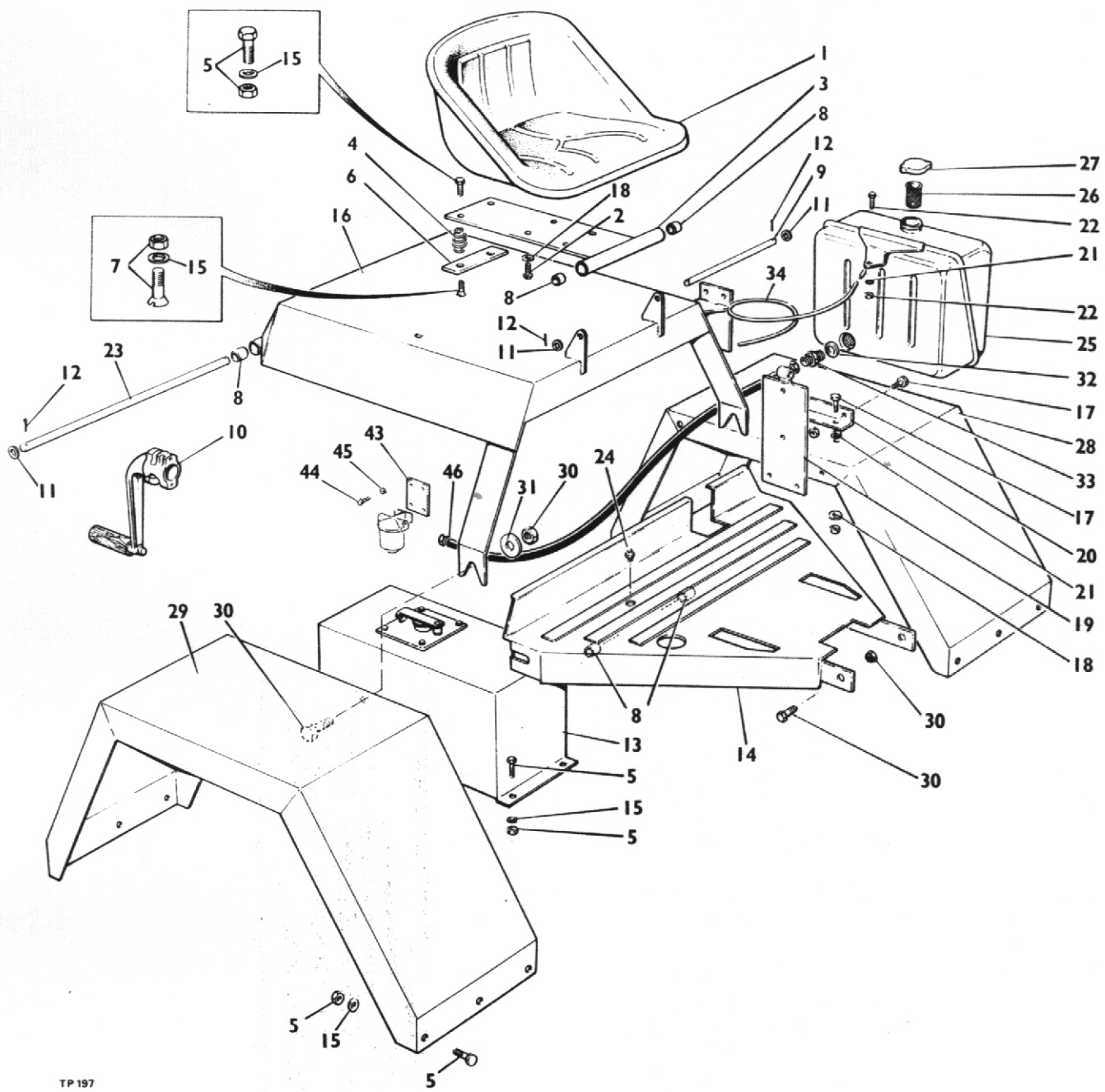
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MAST LIFT RAM (from & including M/C No.4FL2500-663) . . . . .	49
MAST LIFT RAM . . . . .	50
AIR CLEANER . . . . .	51
HYDRAULIC CONTROL VALVE . . . . .	52, 53
HYDRAULIC CONTROL VALVE (Hyd. Bucket only) . . . . .	54, 55
HYDRAULIC TIP BUCKET PIPES & FITTINGS . . . . .	56, 57
JIB & CONCRETE SKIP . . . . .	58, 59



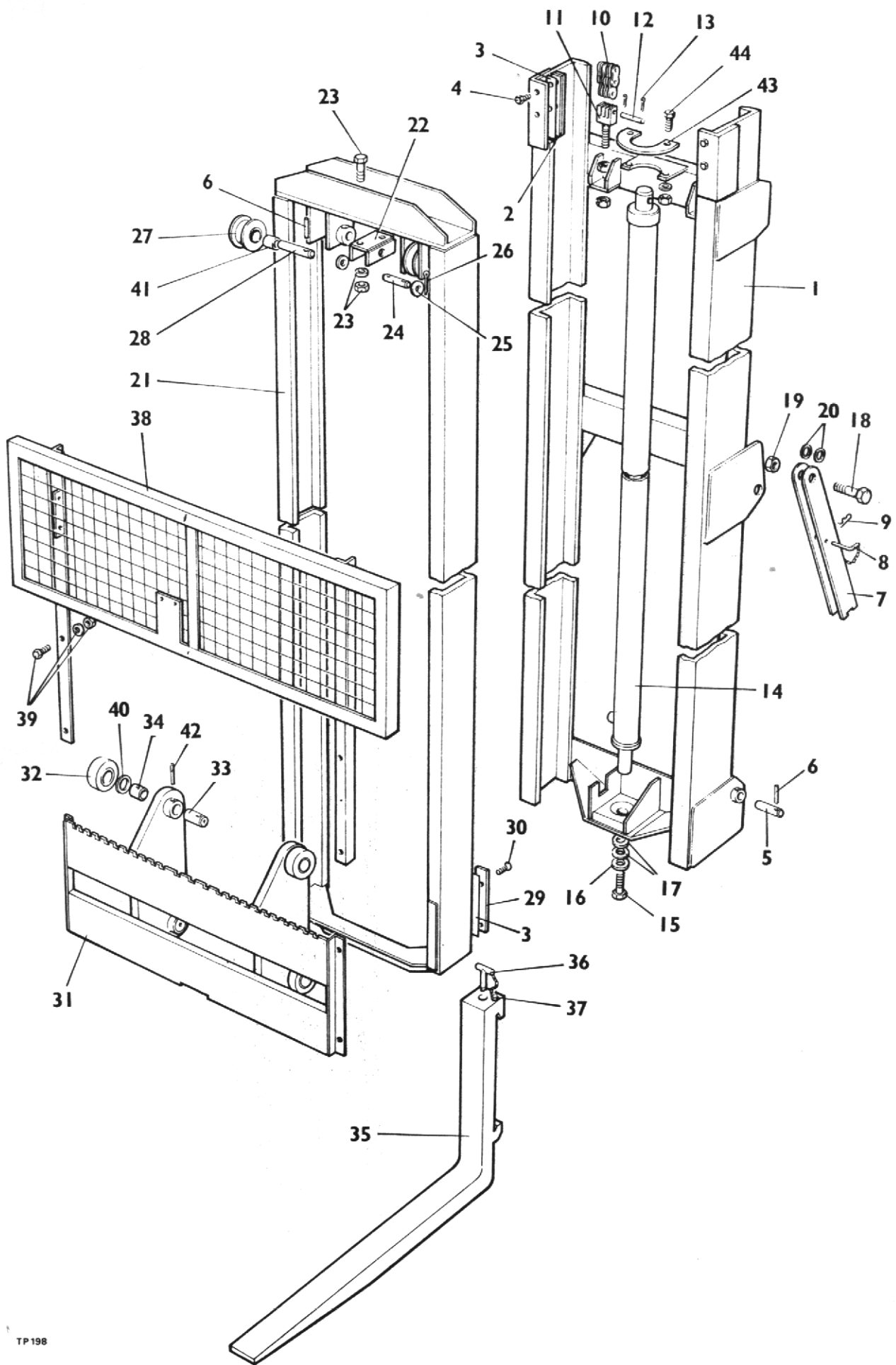
## CHASSIS

Item No.	Part No.	Description	Qty.
1	F4-45-144	Front Chassis .....	1
2	F4-45-145	Rear Chassis .....	1
3	40251.A01	Rear Frame .....	1
4	8S.4B	Bolt M10 x 30 Long & Nut - 7S.4.....	8
5	F4-45-147	Rear Ballast Weight .....	1
6	F4-45-106	Bolt 1" BSF x 9,3/8" Long & Castellated Nut ....	2
7	10S.8	Washer 1" I.D. ....	4
8	44S.5G	Split Pin 3/16" Dia. x 2" Long.....	2
9	CSE 107	Steering Column .....	1
10	8S.5E	Bolt M12 x 45mm Long & Nut - 7S.5.....	4
11	4-35-333	Steering Column Brace .....	2
12	8S.4D	Bolt M10 x 40mm Long & Nut - 7S.4.....	2
13	CSE 194	Axle Articulating Frame .....	1
14	MH-5236	Pivot Bush .....	2
15	8S.8S	Bolt M24 x 130mm Long & Nut - 7S.8.....	2
16	12S.10	Washer 24mm I.D. ....	2
17	8S.5G	Bolt - Engine Mtg. M12 x 55mm Long & Nut - 7S.5.	4
18	4-35-110A	Ram Pivot Bolt .....	4
19	4-35-110B	Ram Pivot Nut .....	4
20	4-35-29B	Centre Pivot Pin Bush .....	2
21	4-35-29C	Centre Pivot Thrust Washer - Bronze .....	4
22	ASE 178	Centre Pivot Thrust Washer - Mild Steel - 14SWG.	A/R
	ASE 179	Centre Pivot Thrust Washer - Mild Steel - 20SWG.	A/R
	ASE 180	Centre Pivot Thrust Washer - Mild Steel - 10SWG.	A/R
23	4-35-29	Centre Pivot Pin .....	2
24	T90	Grease Nipple 90° .....	2
25	4-35-29A	Tension Pin 5/16" Dia. x 2½" Long .....	2
26	F4-45-182	Grommet .....	4
27	F4-45-211	Side Ballast Weight .....	2
28	8S.6S	Bolt M16 x 130mm Long & Nut - 7S.6.....	2
29	F4-45-232	Axle Stud & 2 Nuts .....	4
30	8S.6W	Bolt M16 x 200mm Long & Nut .....	12
31	L279-1	Washer .....	6
32	10S.8	Taper Washer M16 .....	4
33	CSE 192	Articulating Frame Stop Plate .....	2
34	CSE 193	Axle Clamp Plate .....	4
35	F4-45-174	Safety Frame Assembly .....	1
36	8S.5M	Bolt M12 x 80mm Long & Nut - 7S.5.....	2
37	131S.1	Grease Nipple .....	2
38	40124.A01	Safety Guard (optional) (not illustrated) .....	1
39	153S.9	Pipe Clamp (optional) (not illustrated) .....	4
40	F4-45-146	Ballast Weight (if fitted) (not illustrated) ...	1
41	8S.6M	Bolt M16 x 60mm Long & Nut (if fitted)(not illust.)	2
42	10477.A01	Silencer .....	1
43	20153.A01	Support Bracket .....	1
44	40117.A0103	Hex. Nipple .....	1
45	40177.A0104	Return Bend .....	1
46	72S.5	Back Nut .....	1
47	20152.A01	Tail Pipe .....	1
48	153S.9	Pipe Clamp .....	2
49	8S.4L	Bolt Hex. Hd. M10 x 75mm Long .....	2
50	12S.5	Plain Washer 10mm Dia. ....	4
51	61S.4	Locknut M10 .....	2



## MUDWINGS AND COVERS

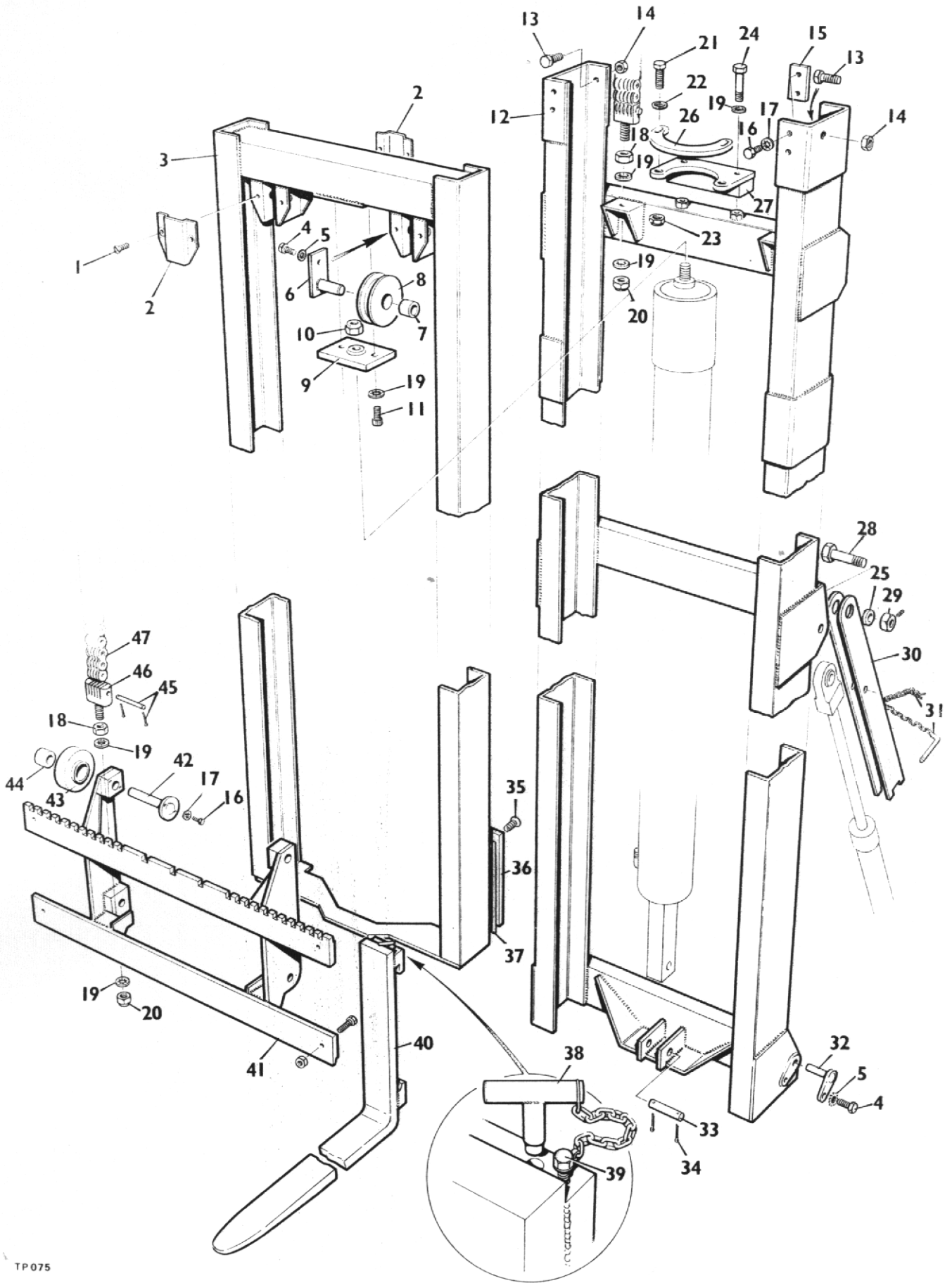
Item No.	Part No.	Description	Qty
1	4-35-301	Seat . . . . .	1
2	16S.8C	Seat Bolts 8mm x 20mm long-mushroom head . . . . .	4
3	CSE 116	Seat Frame . . . . .	1
4	5ST 99	Seat Spring . . . . .	2
5	8S.4A	Bolt M10 x 25mm long & locknut - 61S.4 . . . . .	22
6	4-35-331	Seat Spring Plate . . . . .	1
7	14S.6E	Bolt csk. M10 x 25mm long & locknut - 61S.4 . . . . .	2
8	WB0808	Bush . . . . .	6
9	4-35-307	Seat Pivot Rod . . . . .	1
10	C188	Starting Handle . . . . .	1
11	12S.6	Flat Washer 12mm dia. . . . .	4
12	44S.C	Split Pin 3/32" dia x 1" long . . . . .	4
13	CSE 123	Hydraulic Tank (See Page 45) . . . . .	1
14	40046.A02	Footplate. . . . .	1
15	12S.5	Flat Washer 10mm dia. . . . .	24
16	CSE 161	Engine Cover . . . . .	1
17	8S.3A	Bolt M8 x 25mm long & locknut - 61S.3 . . . . .	4
18	12S.4	Flat Washer 8mm dia. . . . .	6
19	F4-45-173	Hydraulic valve mounting Bracket (See Page 41) . . . . .	1
20	CSE 170	Angle . . . . .	1
21	CSE 158	Rubber bush . . . . .	3
22	8S.2B	Bolt M6 x 30mm long and locknut - 61S.2 . . . . .	1
23	CSE 168	Pivot Pin . . . . .	1
24	T-ST	Grease Nipple . . . . .	1
25	BAE 7E	Fuel Tank . . . . .	1
26	JE 13	Strainer . . . . .	1
27	CE 12	Cap . . . . .	1
28	F4-45-181	Left Hand Mudwing Assembly. . . . .	1
29	CSE 187	Right Hand Mudwing . . . . .	1
30	8S.5D	Bolt M12 x 40mm long & locknut - 61S.5 . . . . .	8
31	CSE 167	Blanking Plate . . . . .	2
32	4-35-364	Fibre Washer . . . . .	1
33	4-60-189	Adaptor . . . . .	1
34	258721	Leak back tube . . . . .	1
35	DM 184	Label - M/C identification (Not Illustrated) . . . . .	1
36	DM 154	Label - 'Winget' (Not Illustrated) . . . . .	3
37	DM 181	Label - Forklift safety (Not Illustrated) . . . . .	1
38	DM 106	Label - Handbrake (Not Illustrated) . . . . .	1
39	DM 113	Label - Tyre pressure (Not Illustrated) . . . . .	4
40	DM 111	Label - S.W.L. (Not Illustrated) . . . . .	2
41	DM 108	Label - Transport warning (Not Illustrated) . . . . .	1
42	DM 196	Label - Recommended lubricants (Not Illustrated) . . . . .	1
43	10628.A01	Filter Mtg. Brkt. . . . .	1
44	11S.2B	Bolt M6 x 20mm Long . . . . .	2
45	61S.2	Nut M6 . . . . .	2
46	10605.A03	Fuel Supply Pipe . . . . .	1





## MAST AND FORK ASSEMBLY

Item No.	Part No.	Description	Qty.
1	25-CSSC-038	Setscrew 1/4" UNC x 3/8" long csk. head	8
2	D280-324-1	Chain Guard	4
3	B289-10-A	Inner Frame Assembly (18' Fork Lift only)	1
	286-10	Inner Frame Assembly (13' Fork Lift only)	1
	B285-20	Inner Frame Assembly (10'6" Fork Lift only)	1
4	38-FSH-062	Setscrew 3/8" UNF x 5/8" long	4
5	38-WSP	3/8" Shakeproof Washer	4
6	E280-334	Pulley Pin Assembly	2
	E280-444-1	Chain Pulley Assembly (comprising items 7 & 8)	1
7	E280-1074	Bush	2
8	E280-445	Chain Pulley	2
9	E280-355	Keyte Bearing Assembly	1
10	62-BFNH(P)	Self-locking Nut 5/8" BSF	1
11	50-FSCS-150	Setscrew 1/2" UNF x 1 1/2" long Socket Hd.	2
12	A289-2-A	Outer Frame Assembly (18' Fork Lift only)	1
	A297-2	Outer Frame Assembly (13' Fork Lift only)	1
	B296-2	Outer Frame Assembly (10'6" Fork Lift only)	1
13	E285-46	Special Bolt	4
14	50-FNH	Nut 1/2" UNF	4
15	E285-44	Wear Strip and Block	2
16	31-FSH-100	Setscrew 5/16" UNF x 1" long	12
17	31-WSP	Shakeproof Washer 5/16" dia.	12
18	50-BFNH(J)	Locknut 1/2" BSF	4
19	50-WSP	Shakeproof Washer 1/2" dia.	12
20	50-BFNH(P)	Self-locking Nut 1/2" BSF	4
21	38-FSH-150	Setscrew 3/8" UNF x 1 1/2" long	2
22	38-WF	Flat Washer 3/8" dia.	2
23	38-FNH(P)	Self-locking Nut 3/8" UNF	2
24	50-FBH-300	Bolt 1/2" UNF x 3" long	2
25	F4-45-50	Spacer	4
26	E289-14	Capping Piece	1
27	D289-13	Main Ram Support Lug	1
28	F4-45-57	Cylinder Bolt	2
29	4-35-110-B	Cylinder Bolt Nut	2
30	F4-45-56	Tilt Cylinder Stop	2
31	F4-45-72	Pin and Chain Assembly	2
32	E400-58	Pin	2
33	E20-70	Pin	1
34	19-PC-150	Split Pin 3/16" x 1 1/2" long	2
35	31-FSSCS-075	Screw 5/16" UNF x 3/4" long csk. hd. skt.	4
36	D285-19	Bottom Wear Strip	2
37	D285-37	Shim	A/R
38	E288-15	Peg and Chain Assembly	2
39	38-FSH-087	Setscrew 3/8" UNF x 7/8" long	2
40	B288-48	Fork Arms 48" long	2
41	B288-1-1	Mounting Frame Assembly	1
42	E280-351	Roller Pin Assembly	4
	E285-40	Roller Assembly (comprising items 43 & 44)	1
43	E285-41	Roller	4
44	E280-920	Bush	4
45	280-443	Pin End Link (with 2 Split Pins)	4
46	280-442	Tensioner	4
47	280-1078	Chain (18' Fork Lift only)	2
	280-1075	Chain (13' Fork Lift only)	2
	280-1052	Chain (10'6" Fork Lift only)	2
	E280-1077	Chain Assembly (18' Fork Lift only)	1
	E280-1075	comprising items 18, 19, 20, 45, 46 and 47	
	E280-1051	Chain Assembly (13' Fork Lift only)	1
	E280-1051	comprising items 18, 19, 20, 45, 46 and 47	
	E280-1051	Chain Assembly (10'6" Fork Lift only)	1
	E280-1051	comprising items 18, 19, 20, 45, 46 and 47	



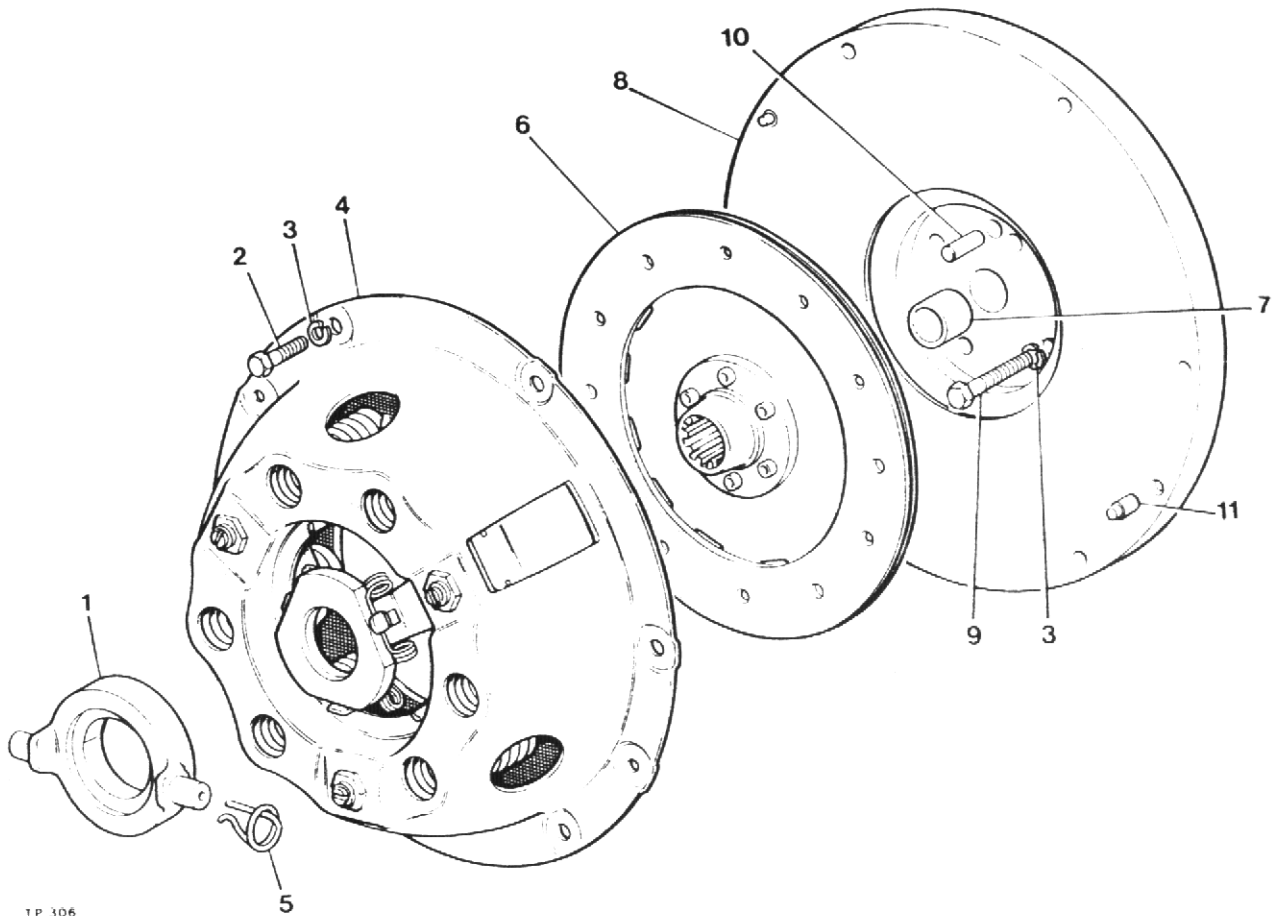


## MAST AND CARRIAGE ASSEMBLY

(fitted on m/c's with serial Nos. from and including 4FL2500-663)

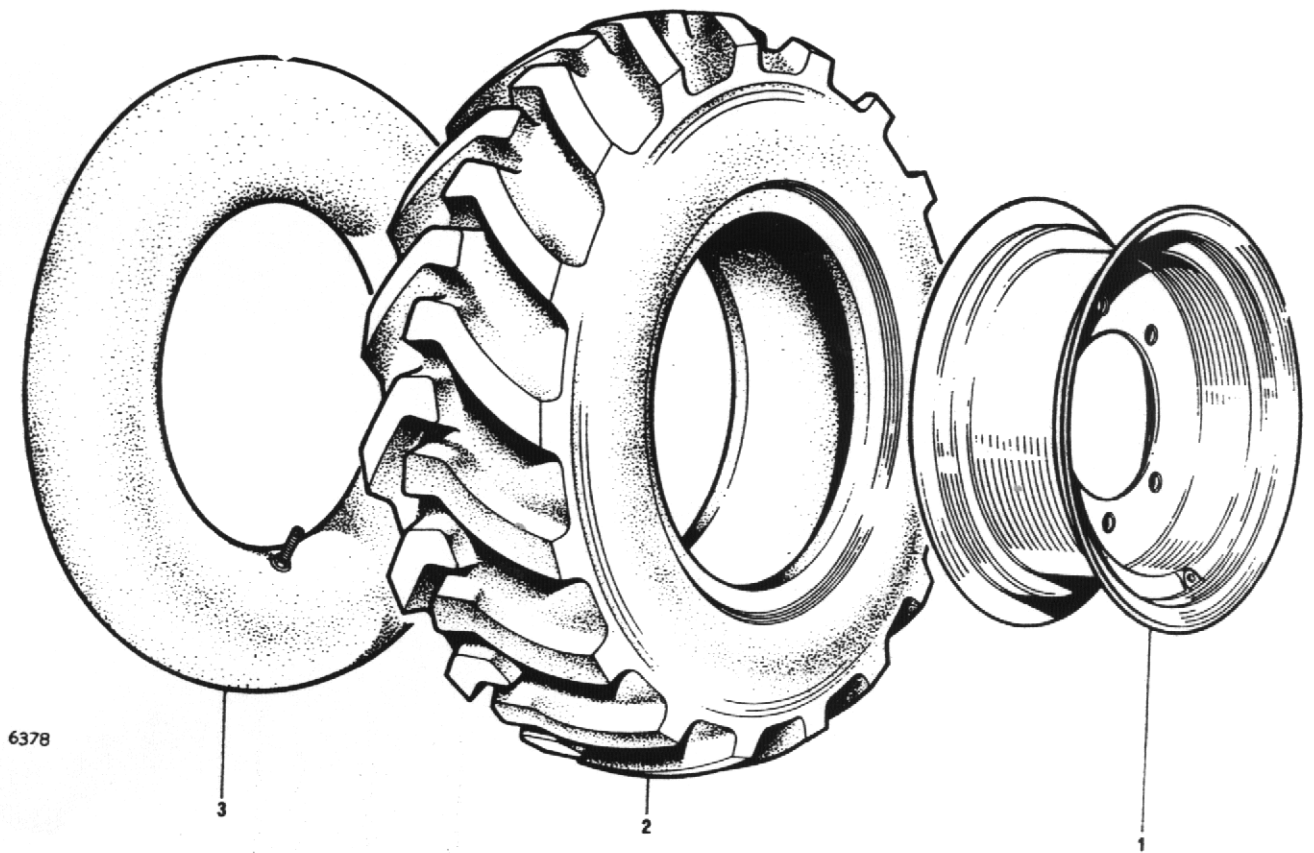
Item No.	Part No.	Description	Qty
1	F4-45-141	Outer Frame, Assembly . . . . .	1
2	FSE 195	Rubbing Strip Assembly . . . . .	2
3	FSE 373	Shim . . . . .	A/R
4		Hex. Head Screw M8 x 20mm long & springwasher . . . . .	4
5	F4-45-135	Pivot Pin . . . . .	2
6	4-35-29A	Tension Pin 5/8" dia . . . . .	4
7	F4-45-56	Tilt Cylinder stop . . . . .	2
8	F4-45-72	Tilt Cylinder stop Pin & Chain Assembly . . . . .	2
9	F4-45-77	Cotter Pin . . . . .	2
10	FSE 187-1	Chain . . . . .	2
11	FSE 187-2	Tensioner & 2 nuts . . . . .	4
12	FSE 187-3	Pin . . . . .	4
13	FSE 187-4	Split Pin . . . . .	8
14	F4-45-195	Lift Cylinder . . . . .	1
15		Bolt M12 x 25mm long . . . . .	1
16		Washer 17/32" I.D. x 3/16" thick . . . . .	1
17	C 180A	Felt Washer . . . . .	2
18	F4-45-57	Bolt . . . . .	2
19	4-35-110B	Nut . . . . .	2
20	F4-45-50	Spacer . . . . .	4
21	F4-45-140	Inner Frame Assembly . . . . .	1
22	F4-45-170	Cylinder Lift Block . . . . .	1
23		Bolt M10 x 35mm long + Nut + Springwasher . . . . .	2
24	F4-45-200	Pin . . . . .	1
25		Plain Washer 1" I.D. . . . .	2
26		Split Pin 3/16" x 1 1/2" long . . . . .	2
27	FSE 196	Chain Pulley . . . . .	2
28	F4-45-134	Pin Chain Pulley . . . . .	2
29	FSE 383	Rubbing Strip . . . . .	2
30		Screw M8 x 20mm long csk. Hd. . . . .	4
31	F4-45-178	Carriage Assembly . . . . .	1
32	FSE 215-5	Mast Roller . . . . .	4
33	F4-45-214	Pin . . . . .	4
34	FSE 236	Bush . . . . .	4
35	F4-45-199	Fork . . . . .	2
36	E288-15	Peg and Chain Assembly . . . . .	2
37		Setscrew 3/8" U.N.F. x 7/8" long . . . . .	2
38	F4-45-153	Brickguard . . . . .	1
39		Bolt 1/2" UNF x 1 1/2" long & Nut & Washer . . . . .	4
40	FSE 396	Shim 1.5mm thick . . . . .	A/R
41	FSE 348	Bush-chain pulley . . . . .	2
42	F4-45-216	Tension Pin . . . . .	4
43	F4-45-207	Clamp . . . . .	1
44		Screw M12 x 35mm long, Nut & Washer . . . . .	2

## FLYWHEEL AND CLUTCH



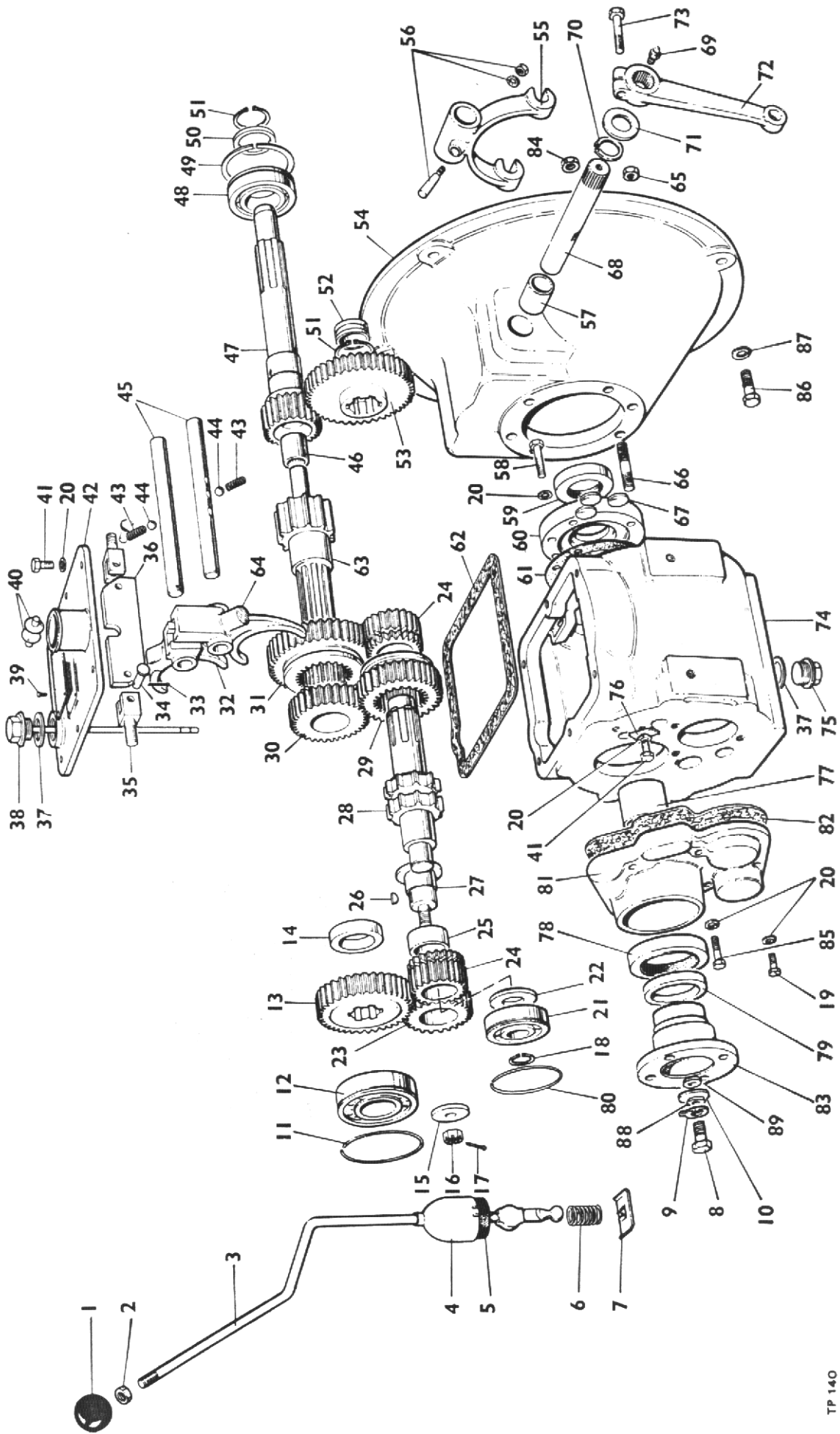
Item No.	Part No.	Description	Qty.
1	10579A01	Clutch Release Bearing	1
2	28S02D	Screw Set	6
3	41S04	Washer Spring	10
4	10597A01	Cover Assembly	1
5	10579A0101	Retainer Spring	2
6	10598A02	Drive Plate	1
7	10580A0101	Bush	1
8	10580A02	Flywheel Assembly (comprises of items 7, 8, & 11)	1
9	1S02C	Bolt, Petter PH Engine (drill for locking wire)	4
9A	6S02B	Bolt, Lister Engine (drill for locking wire)	4
10	C321	Dowel	1
11	10580A0102	Dowel	2
	10948A02	Clutch Kit (comprises of items 1, 4, 5 & 6)	1

It is recommended that instead of drilling the head of the bolts (item 9) for locking wire that one of each of tabwashers part no's 10531A02 and 10531A03 are used to prevent the bolts working loose.



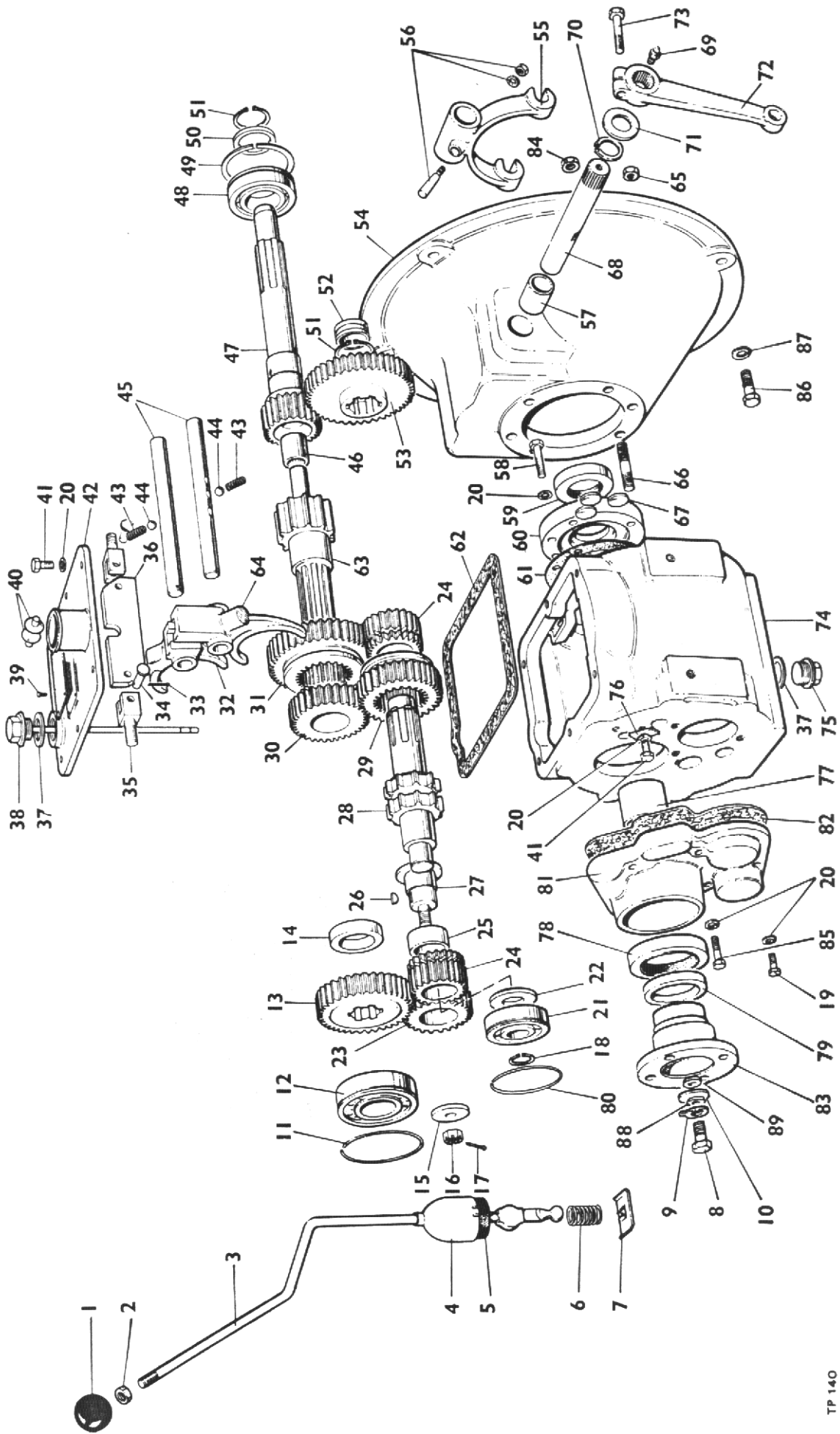
### WHEELS AND TYRES

Item No.	Part No.	Description	Qty.
	24S08	R/H Wheel Assembly	2
	24S07	L/H Wheel Assembly	2
1	30183A02	Wheel rim 9 x 18	4
2	20S02	Tyre 10.5 x 18-8 ply	4
3	23S04	Tube 10.05 x 18	4
4	10668A02	Wheel Nut	24



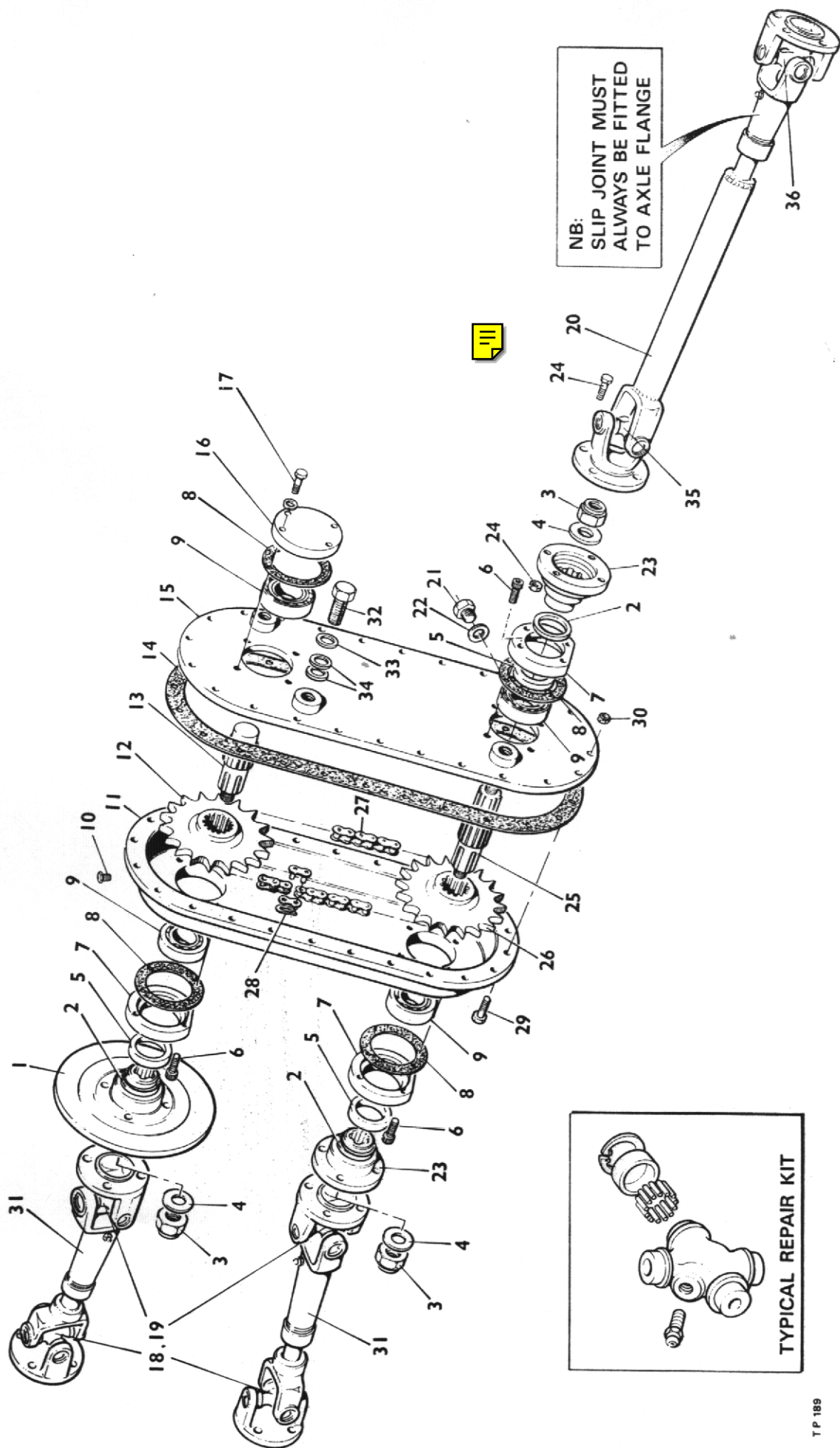
GEARBOX (30101.A01)

Item No.	Part No.	Description	Qty.
1	30101.A0201	Gear Lever Knob .....	1
2	95S.3	Gear Lever Locknut .....	1
3	40M 372	Gear Lever .....	1
4	30101.A0203	Gear Lever Cap .....	1
5	30101.A0204	Gear Lever Cover .....	1
6	30101.A0205	Gear Lever Spring .....	1
7	30101.A0206	Gear Lever Retaining Plate .....	1
8	28S.5E	Bolt .....	1
9	30101.A0207	Tab Washer .....	1
10	30101.A0208	Washer .....	1
11	30101.A0209	Snap Ring .....	1
12	30101.A0210	Bearing, Mainshaft Rear .....	1
13	30101.A0211	Output Gear .....	1
14	30101.A0212	Output Gear Spacer .....	1
15	30101.A0213	Reverse Pinion Shaft Washer .....	1
16	102S.4	Reverse Spindle Nut .....	1
17	44S.2C	Split Pin .....	1
18	30101.A0215	Circlip .....	1
19	28S.1D	Bolt .....	3
20	13S.2	Spring Washer .....	17
21	30101.A0216	Layshaft bearing .....	1
22	30101.A0217	Bearing spacer .....	1
23	30101.A0218	Reverse pinion .....	1
24	30101.A0219	Reverse speed gear .....	2
25	30101.A0220	Reverse pinion bush .....	1
26	30101.A0221	Reverse pinion shaft key .....	1
27	30101.A0222	Reverse pinion shaft .....	1
28	30101.A0223	Layshaft .....	1
29	30101.A0224	2nd. Speed sliding gear .....	1
30	30101.A0225	Second speed gear .....	1
31	30101.A0226	1st Speed gear .....	1
32	30101.A0227	2nd. and 3rd. Selector fork .....	1
33	44S.1C	Split pin, interlock .....	2
34	30101.A0228	Clevis pin, interlock .....	2
35	30101.A0229	Stud, interlock .....	2
36	30101.A0230	Interlock plate .....	1
37	42S.5	Sealing washer .....	2
38	30101.A0232	Dipstick .....	1
39	30101.A0233	Drive screw .....	4
40	30101.A0234	Gear lever pad .....	2
41	28S.1C	Bolt .....	7
42	30101.A0235	Top cover .....	1
43	30097.A0185	Detent spring .....	2
44	30101.A0236	Detent ball .....	2
45	30101.A0237	Selector shaft .....	2
46	30101.A0238	Bearing, Primary shaft .....	1
47	30101.A0239	Primary shaft .....	1

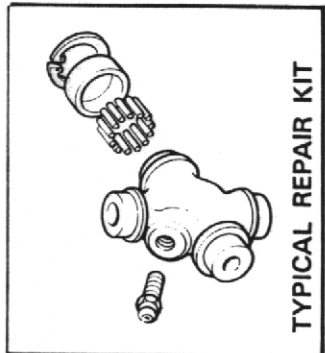


## GEARBOX (CONT'D)

Item No.	Part No.	Description	Qty.
48	30101.A0240	Input bearing .....	1
49	30101.A0241	Snap ring .....	1
50	30101.A0242	Bearing spacer .....	1
51	30101.A0243	Circlip .....	2
52	30101.A0244	Layshaft bush .....	1
53	30101.A0245	1st. Reduction gear .....	1
54	30101.A0246	Clutch housing .....	1
55	30097.A0110	Clutch release fork .....	1
56	30097.A0111	Cotter, nut and washer S/A .....	1
57	30097.A0114	Cross shaft bush .....	2
58	6S.1A	Front cover bolt .....	4
59	30101.A0247	Oil seal, input .....	1
60	30101.A0248	Front cover .....	1
61	30101.A0249	Front cover gasket .....	1
62	30101.A0250	Top cover gasket .....	1
63	30101.A0251	Mainshaft .....	1
64	30101.A0252	1st. and reverse selector fork .....	1
65	9S.1	Clutch lever nut .....	1
66	30101.A0253	Clutch housing stud .....	6
67	30101.A0254	Welch plug .....	3
68	30101.A0255	Clutch cross shaft .....	1
69	131S.1	Grease nipple .....	2
70	30101.A0256	Circlip .....	1
71	30097.A0133	Cross shaft washer .....	1
72	30097.A0109	Clutch release lever .....	1
73	6S.1C	Clutch lever bolt .....	1
74	30101.A0258	Gearcase .....	1
75	30097.A0163	Drain plug .....	1
76	30101.A0259	Selector locking strip .....	1
77	30101.A0260	Spacer .....	1
78	30097.A0132	Rear oil seal .....	1
79	30101.A0265	Dust shield .....	1
80	30101.A0261	Snap ring .....	1
81	30101.A0262	Output cover .....	1
82	30101.A0263	Output cover gasket .....	1
83	40M-589	Coupling .....	1
84	107S.3	Nut (Clutch housing) .....	6
85	6S.1	Bolt .....	2
86	1S.3B	Bolt 3/8" BSF x 1" long .....	6
87	41S.5	Springwasher 3/8" dia. ....	6
88	30143.A0111	Fibre Washer .....	1
89	30143.A0101	Fibre Washer .....	1



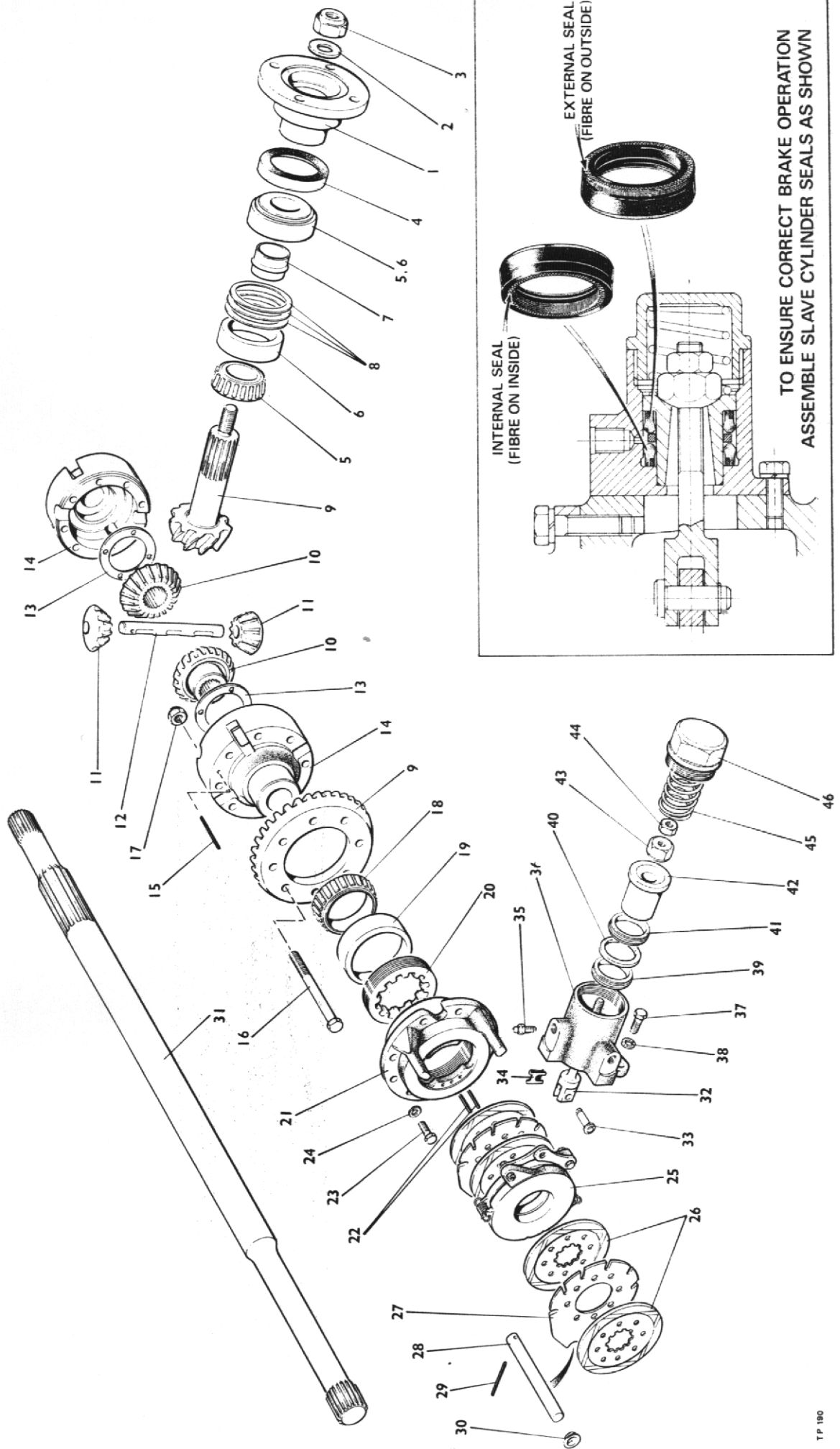
NB:  
SLIP JOINT MUST  
ALWAYS BE FITTED  
TO AXLE FLANGE





## TRANSFER BOX AND PROP SHAFTS

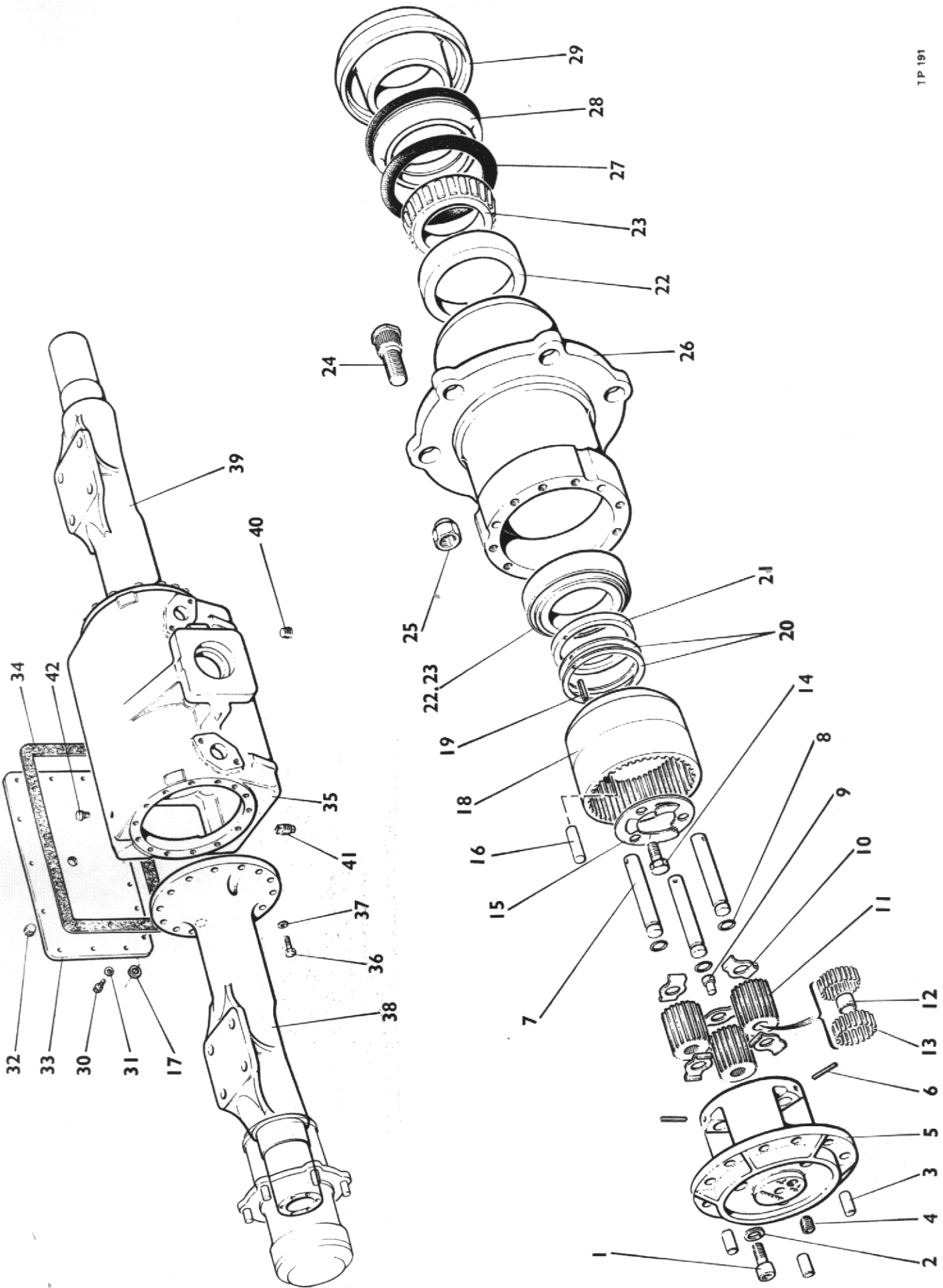
Item No.	Part No.	Description	Qty.
	CSE 124	Transfer Box (15/19 Teeth) Complete with disc	1
1	CSE 164	Brake Disc (222mm dia)	1
2	CM 2537	Dust Shield	3
3	UN 580	Self Locking Nut ¾" UNF	3
4	CP 1264	Thick Washer ¾" dia.	3
5	40M-167	Oil Seal	3
6	UFC 416	Cap Screw	12
7	4-35-102	Oil Seal Housing	3
8	CM 2073	Gasket	4
9	CM 2068	Bearing	4
10	CM 2106	Breather	1
11	4-35-96	Main Case	1
12	4-35-380	Chain Wheel (15 Tooth)	1
13	4-60-252	Input Shaft	1
14	4-35-20	Gasket	1
15	4-35-381	Main Case Cover	1
16	CM 2528	End Cover	1
17	UBF 51	End Cover Screws	4
18	K-5-GB-18	Repair Kit	4
19	94-GB-2459	Grease Nipple	4
20	CSE 146	Prop Shaft	1
21	CP 1189	Level/Filler Plug	1
22	CP 1068	Fibre Washer	1
23	40M 589	Companion Flange	2
24		Bolt, 7/16" BSF x 1¼" long & Nut	24
25	4-60-253	Output Shaft	1
26	4-35-17	Chain Wheel (19 Tooth)	1
27	4-35-353	Drive Chain (15/19 Teeth)	1
28	4-35-18A	Chain Connecting Link	2
29	UBF 71	Housing Screw	24
30	UN 501	Nut	24
31	1350 YSA	Prop Shaft Assembly	2
32		Bolt ½" BSF x 1¼" long (drilled for Wire Locking)	3
33		Flat Washer ½" dia.	3
34		Flat Washer ½" dia.	A.R.
35	K5-195	Repair Kit	1
36	K5-179	Repair Kit	1



## DRIVE AXLE

### DIFFERENTIAL, HALF-SHAFTS & BRAKE ASSEMBLY

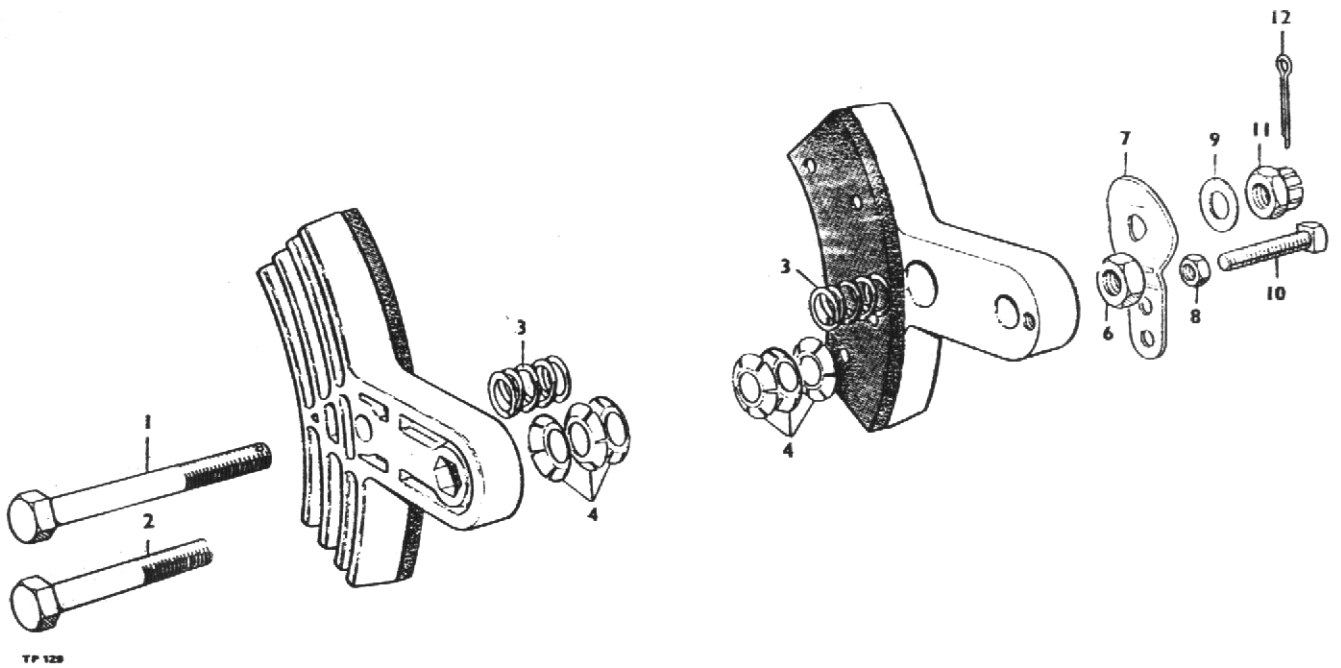
Item No.	Part No.	Description	Qty.
1	630130330	Coupling flange	1
2	630189112	Coupling flange washer	1
3	748415103	Coupling flange nut	1
4	742736074	Coupling flange oil seal	1
5	660101110	Bevel pinion bearing cone	2
6	660101128	Bevel pinion bearing cup	2
7	630075741	Bevel pinion bearing cone spacer	1
8	630041503	Bevel pinion bearing shim .05mm (.002")	A.R.
	630041511	Bevel pinion bearing shim .13mm (.005")	A.R.
	630041529	Bevel pinion bearing shim .25mm (.010")	A.R.
9	630127732	Bevel pinion	1
	630128730	Bevel wheel	1
10	630124101	Differential bevel wheel	2
11	630125058	Differential pinion	2
12	630126114	Differential trunnion	1
13	630031173	Differential bevel wheel thrust washer	2
14	630123350	Differential cage (recessed)	1
	630123368	Differential cage (bossed)	1
15	660170206	Roll pin	1
16	748230825	Differential cage bolt	8
17	748415061	Differential cage bolt nut	8
18	660100237	Differential bearing cone	2
19	660100245	Differential bearing cup	2
20	630033351	Differential bearing nut	2
21	630143184	Differential bearing housing	2
22	660390010	Roll pin	4
23	748211015	Differential bearing housing setscrews	16
24	660240116	Differential bearing housing setscrew spring washer	16
25	660020765	Actuator )	2
26	660020781	Middle plate ) Supplied as an Assembly - 680600281	8
27	660020773	Intermediate plate )	4
28	630096358	Torque pin	2
29	660170214	Retaining pin	2
30	630036636	Torque pin cover	2
31	630045728	Drive shaft	2
32	630066138	Brake pull rod	2
33	630096291	Brake link pin	2
34	660060258	Brake link pin circlip	2
35	660500055	Brake cylinder bleed valve	2
36	630062244	Brake cylinder	2
37	748210777	Brake cylinder setscrew	4
38	660240108	Brake cylinder setscrew spring washer	4
39	660300167	Brake piston seal (Internal)	2
40	630075774	Spacer	2
41	660300159	Brake piston seal (External)	2
42	630064190	Brake piston	2
43	630183255	Brake pull rod nut	2
44	748440077	Brake pull rod locknut	2
45	630069066	Brake piston spring	2
46	630036552	Brake cylinder cap	2
47	693300846	Drive Axle complete (not illustrated)	2



## DRIVE AXLE

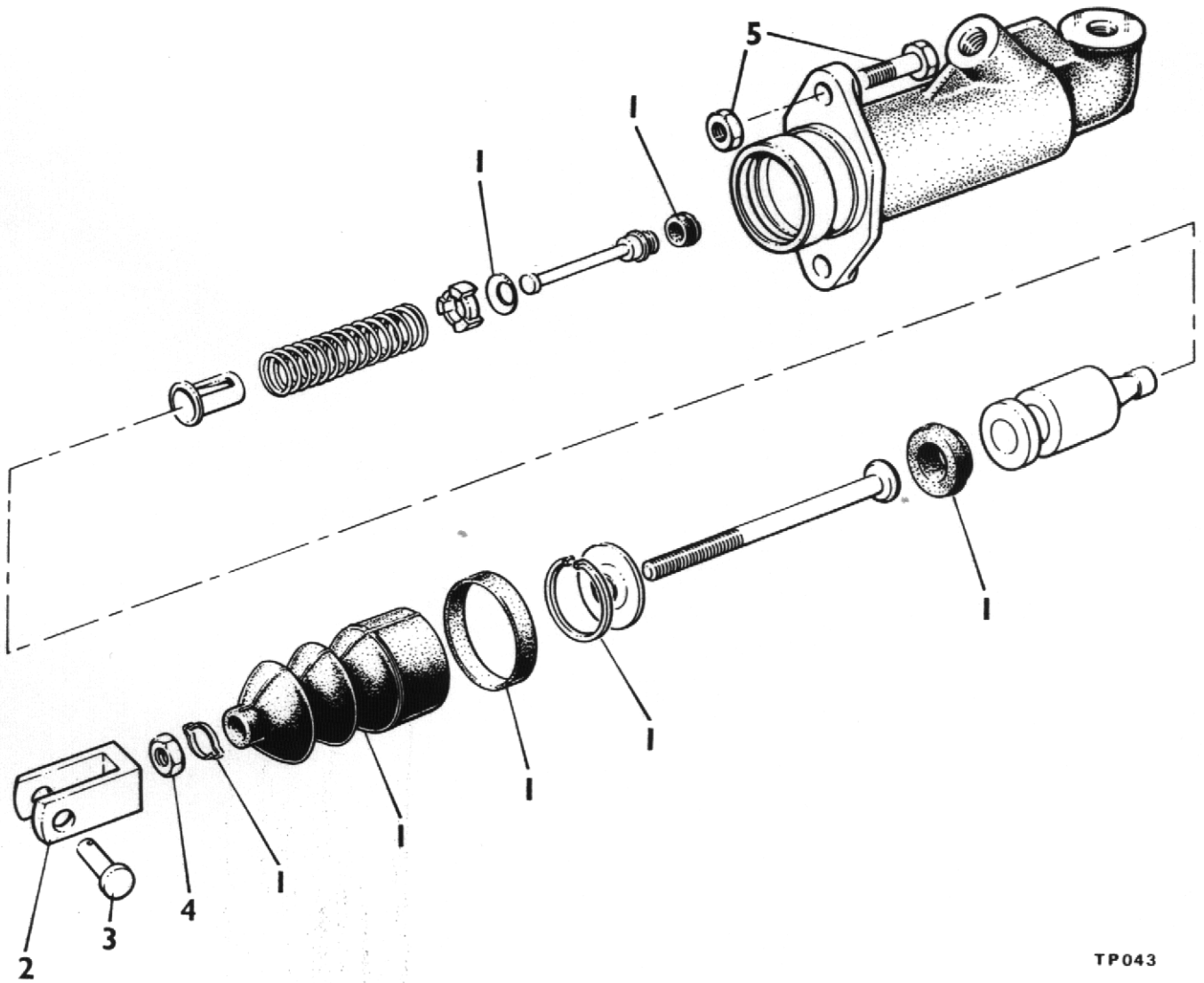
### CASING & HUB ASSEMBLY

Item No.	Part No.	Description	Qty.
1	748011068	Planet Carrier Capscrew .....	18
2	740773053	Planet Carrier Capscrew Spring Washer .....	18
3	740100679	Planet Carrier Dowel .....	6
4	742223016	Planet Carrier Plug (1/8" B.S.P.T.) .....	2
5	630029565	Planet Carrier .....	2
6	660390010	Planet Pin Retaining Pin .....	6
7	630030258	Planet Pin .....	6
8	742010082	Planet Pin "O" Ring .....	6
9	660420015	Planet Carrier Thrust Button .....	2
10	630031413	Planet Wheel Side Washer .....	12
11	630027247	Planet Wheel .....	6
12	630075873	Planet Wheel Needle Roller Spacer .....	6
13	660200185	Planet Wheel Needle Rollers .....	240
14	630180509	Annulus Setscrew .....	6
15	630023386	Retaining Plate .....	2
16	630048128	Dowel .....	6
17	742171033	Washer .....	7
18	630026439	Annulus .....	2
19	660170180	Bearing Spacer Pin .....	2
20	630041701	Shim Pack .....	A/R
21	630075550	Bearing Spacer .....	2
22	660101185	Hub Bearing Cup .....	2
23	660101193	Hub Bearing Cone .....	2
24	630020127	Wheel Stud .....	12
25	630021075	Wheel Nut .....	12
26	630017719	Hub .....	2
27	660310174	"O" Ring (Spares Only) .....	4
28	660300233	Hub Oil Seal .....	2
29	630016430	Distance Piece .....	2
30	748210751	Casing Cover Setscrew .....	16
31	660240108	Casing Cover Setscrew Springwasher .....	9
32	742222034	Filler/Lever Plug (As Item 40) .....	1
33	630036479	Axle Casing Rear Cover .....	1
34	630037378	Rear Cover Gasket .....	1
35	630001580	Axle Centre Casing .....	1
36	748230700	Mounting Arm Bolt .....	28
37	660240116	Mounting Arm Bolt Spring Washer .....	28
38	630006381	Mounting Arm - Left Hand .....	1
39	630006373	Mounting Arm - Right Hand .....	1
40	742222034	Plug - 1/2" B.S.P.T. (As Item 32) .....	1
41	660190097	Plug - Magnetic Drain .....	1
42	660500014	Breather .....	1
	680300478	Hub Assembly (comprising items 22, 24, 25 & 26) .....	
	680500143	Planet Carrier Assembly (comprising items 5-13 inclusive) ..	
	693300846	Drive Axle Complete (not illustrated) .....	2



## CALIPER, parking brake

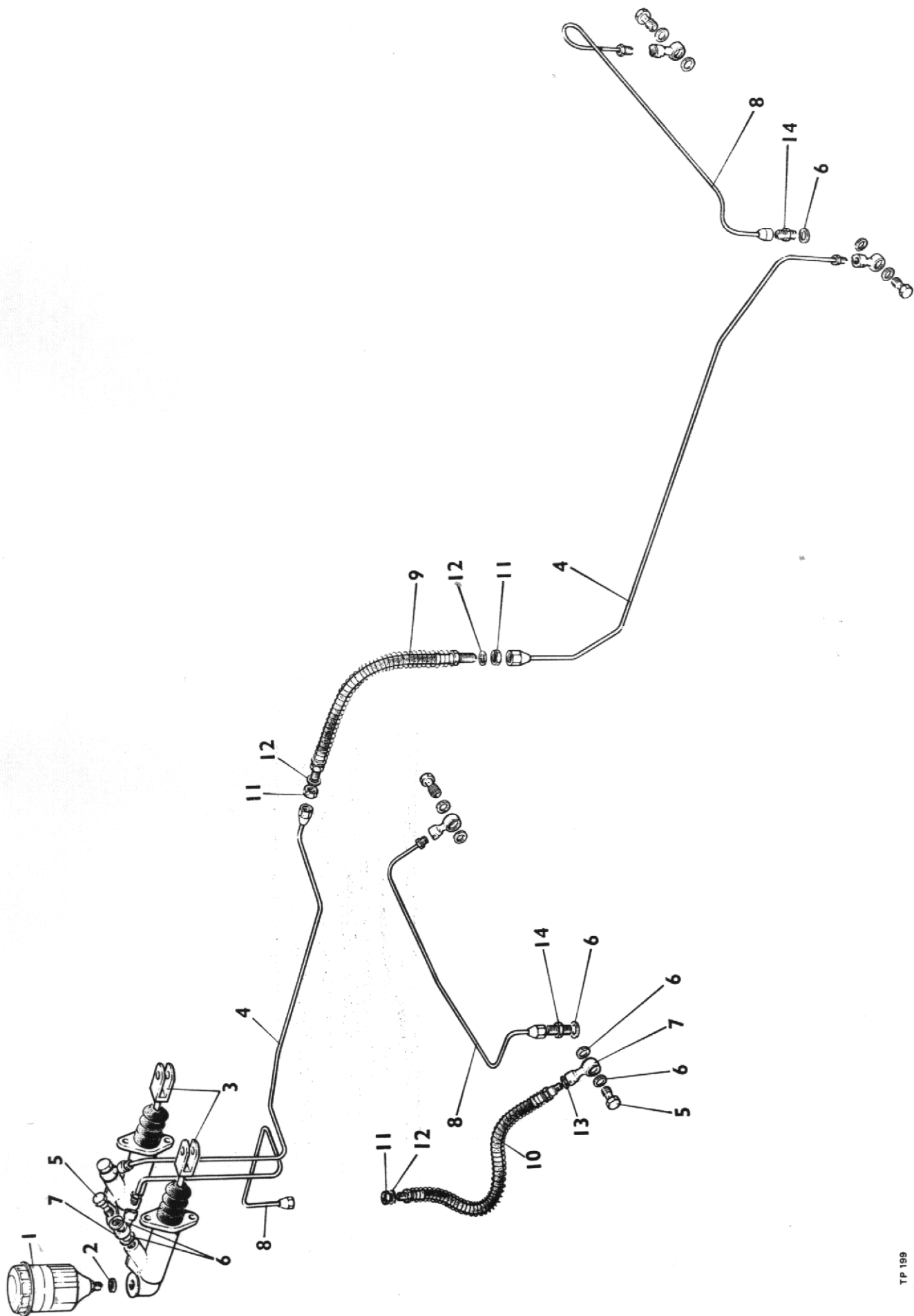
Item	Part no	Description	Qty
1A	10578A01	CALIPER, one pair, assembly	1
1	28S02T	SCREW	1
2	28S02P	SCREW	1
3	10578A0101	SPRING, centring	2
4	10578A0102	WASHER, tension	6
6	9S02	NUT	1
7	10578A0104	CAM	1
8	230S01	NUT, locking	1
9	10578A0105	WASHER	1
10	66S01H	SCREW, set	1
11	227S02	NUT, castle	1
12	44S01C	PIN, cotter	1
13	1072A4	PAD c/w rivets	2



TP043

### BRAKE MASTER CYLINDER ASSEMBLY

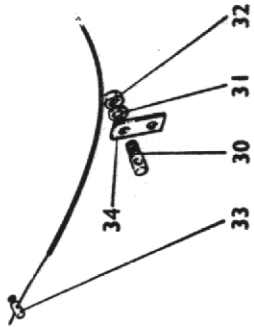
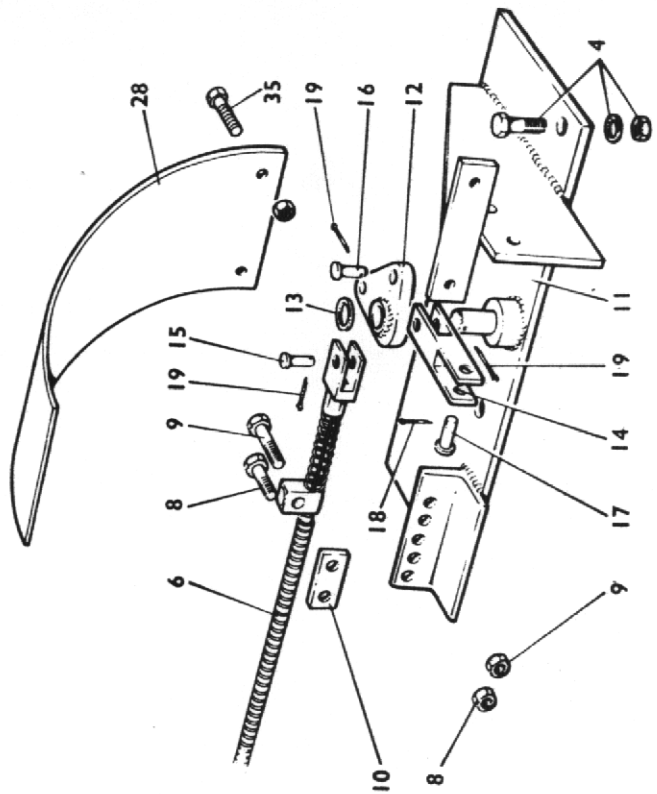
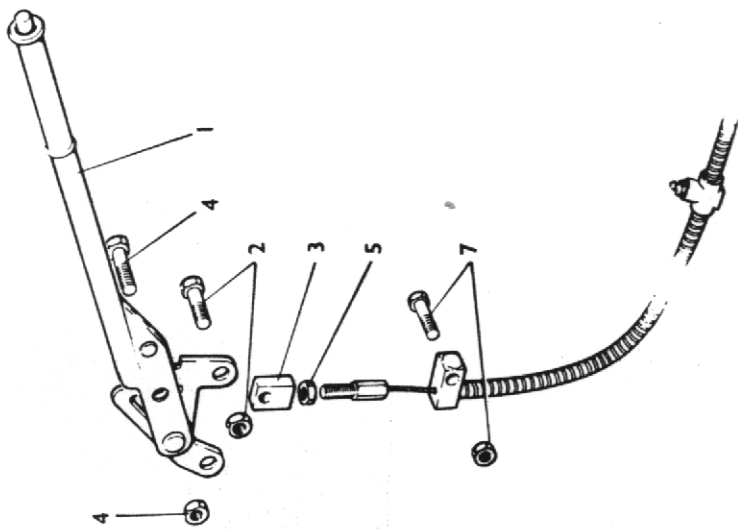
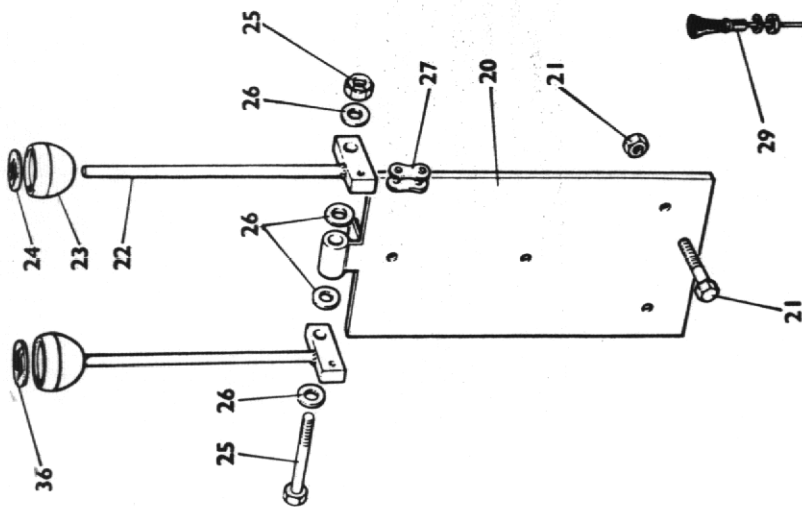
Item No.	Part No.	Description	Qty.
	64066004	Master Cylinder Complete .....	2
1	SP.2636	Service Kit .....	A/R
2	64671286	Clevis .....	1
3	C174Y	Clevis Pin .....	1
4	64100052	Locknut .....	1
5		Bolt M10 x 40mm long & locknut .....	2





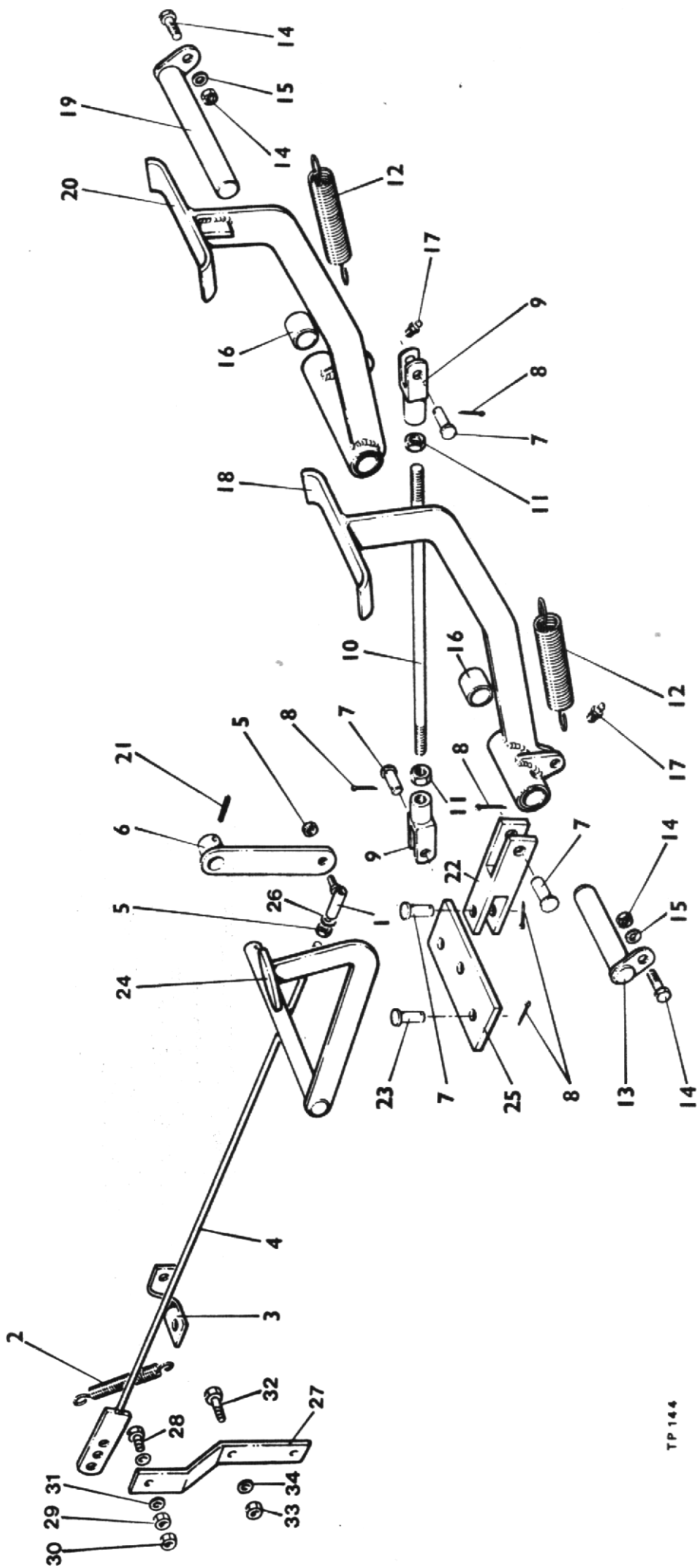
## BRAKE PIPES AND FITTINGS

Item No.	Part No.	Description	Qty
1	64046158	Header tank . . . . .	2
2	4-35-378	Thick copper washer . . . . .	2
3	64066004	Master cylinder (See page 37) . . . . .	2
4	DM-79-3	Pipe 3/16" dia x 38" long . . . . .	2
5	64473063	Banjo bolt . . . . .	6
6	678700	Washer . . . . .	14
7	64474287	Banjo . . . . .	6
8	DM-79-2	Pipe 3/16" dia x 19" long . . . . .	3
9	64046101	Flex Pipe 11" long . . . . .	1
10	64047903	Flex Pipe 11½" long . . . . .	1
11	64100050	Locknut . . . . .	3
12		Shakeproof washer 3/8" dia . . . . .	3
13	378703	Washer . . . . .	1
14	64473623	Adaptor 3/8" UNF x 7/16" UNF . . . . .	2



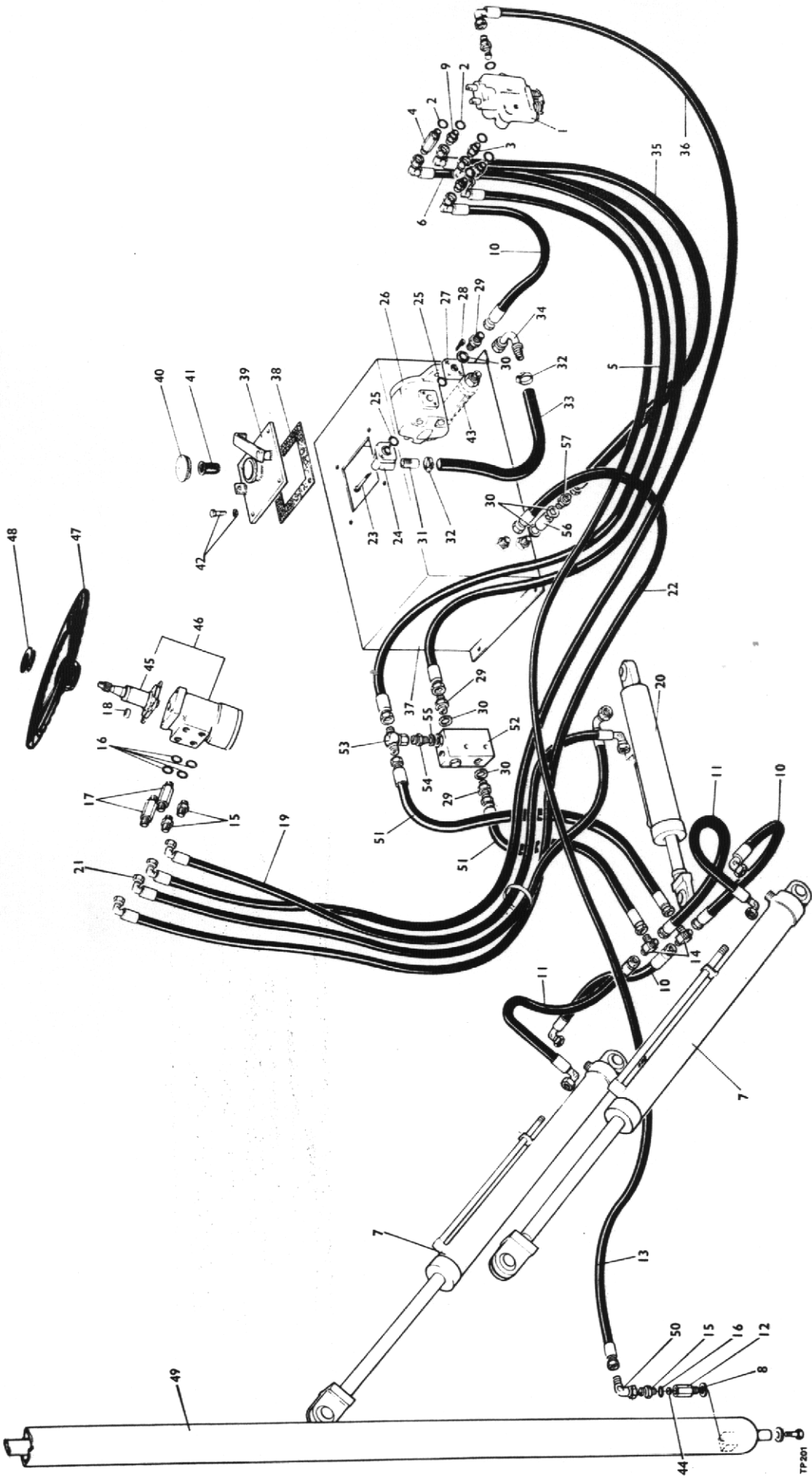
**HANDBRAKE, VALVE CONTROL LEVERS &  
ENGINE STOP CONTROL**

Item No.	Part No.	Description	Qty
1	10596.A01	Handbrake lever .....	1
2	8S.4A	Bolt M10 x 25mm long & locknut - 61S.4 .....	2
3	L309	Block .....	1
4	8S.4D	Bolt M10 x 40mm long & locknut - 61S.4 .....	4
5	2S.4	Nut 3/8" BSF .....	1
6	4-35-111	Handbrake cable .....	1
7	8S.3C	Bolt M8 x 35mm long & locknut - 61S.3 .....	1
8	8S.3A	Bolt M8 x 25mm long & locknut - 61S.3 .....	1
9	8S.3E	Bolt M8 x 45mm long & locknut - 61S.3 .....	1
10	4-35-349	Disc Brake adjusting Plate .....	1
11	CSE 166	Transmission Brake Mounting Bracket .....	1
12	4-35-256	Bell crank .....	1
13	10S.4	Flat washer 1/2" dia .....	1
14	4-35-253	Double clevis .....	1
15	C174X	Clevis Pin .....	1
16	C174Y	Clevis Pin .....	1
17	4-35-264	Clevis Pin .....	1
18	44S.1C	Split Pin 1/16" dia x 1" Long .....	1
19	44S.2C	Split Pin 3/32" dia x 1" Long .....	3
20	F4-45-173	Hydraulic Valve Mounting Bracket .....	1
21	8S.4B	Bolt M10 x 30mm long & locknut - 61S.4 .....	2
22	F4-45-185	Hydraulic Valve Lever .....	2
23	10211.A01	Knob .....	2
24	10280.A01	Label - Lift .....	1
25	8S.4K	Bolt M10 x 70mm long & locknut - 61S.4 .....	1
26	10S.3	Flat washer 3/8" dia .....	4
27	4-60-178	Connecting Link .....	1
28	CSE 165	Handbrake Disc Guard .....	1
29	4-60-239	Engine stop control cable assembly .....	1
30	4-60-242	Clamp Screw .....	1
31	10S.3	Springwasher 3/8" dia .....	1
32	9S.3	Nut 3/8" UNF .....	1
33	4-35-196	Solderless nipple .....	1
34	CSE 145	Stop Control cable bracket .....	1
35	11S.2B	Bolt M6 x 20mm long & locknut - 61S.2 .....	2
36	10281.A01	Label - Tilt .....	1



## PEDALS AND CONTROLS

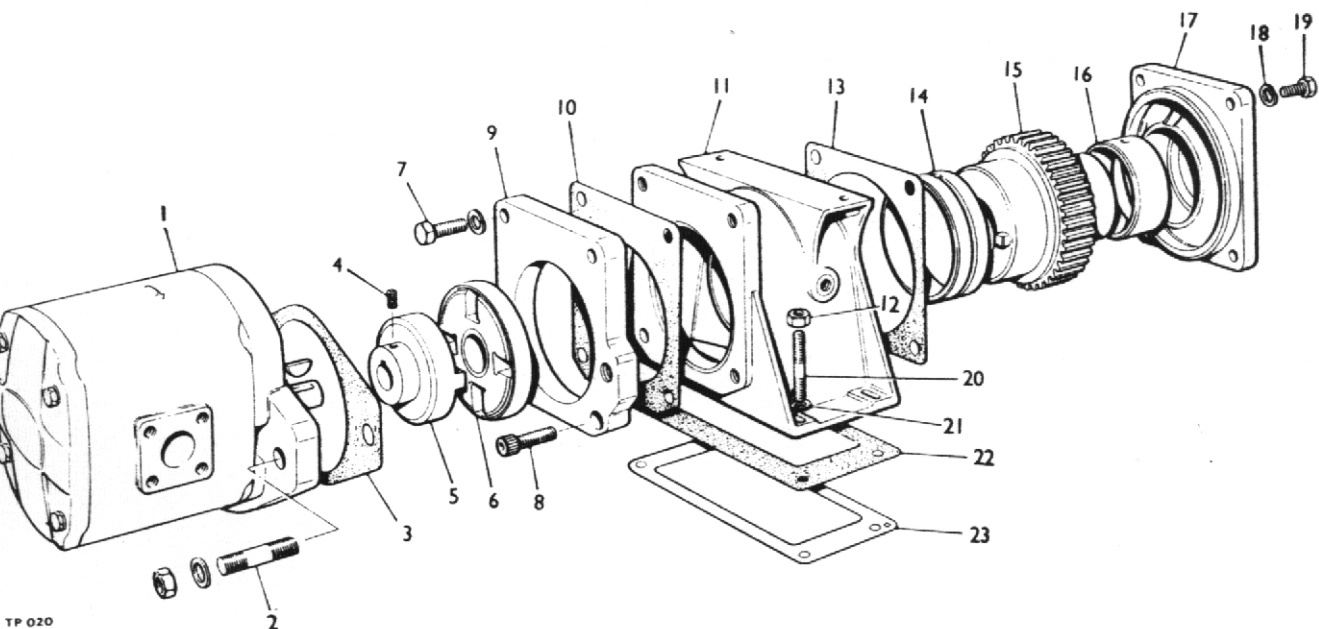
Item No.	Part No.	Description	Qty.
1	C160B	Accelerator Rod Ball End .....	1
2	C173D	Spring .....	1
3	C163	Spring Attachment Bracket .....	1
4	20166.A01	Accelerator Rod .....	1
5	2S.2	Nut ¼" BSF .....	2
6	10312.A01	Accelerator Lever .....	1
7	C174X	Pin .....	4
8	44S.02C	Split Pin 3/32" x 1" .....	6
9	C174A	Clevis .....	2
10	T21A	Clutch Rod 3/8" BSF x 12½" long .....	1
11	2S.4	Nut 3/8" BSF .....	2
12	C173B	Spring .....	2
13	CSE 114	Brake Pedal Pivot Pin .....	1
14	8S3A & 7S3	Bolts M8 x 25mm long & Nuts (Pedal pins) .....	2
15	12S.3	Plain Washer M8 .....	2
16	WB1010	Bush .....	4
17	T-ST	Grease Nipple .....	2
18	CSE 120	Footbrake Pedal .....	1
19	CSE 113	Clutch Pedal Pivot Pin .....	1
20	CSE 108	Clutch Pedal .....	1
21	54S.01A	Tension Pin .....	1
22	CSE 148	Brake Compensator Clevis .....	1
23	C174Y	Clevis Pin .....	2
24	CSE 111	Accelerator Pedal .....	1
25	CSE 147	Brake Compensator .....	1
26	67S.1	Washer .....	1
27	10311.A01	Speed Control Arm .....	1
28	6S.1B	Bolt Hex.Hd. ¼" x 1¼" UNF .....	1
29	9S.1	Nut ¼" UNF .....	1
30	87S.1	Nut ¼" UNF Binx .....	1
31	10S.1	Washer ¼" .....	2
32	11S.2A	Setscrew M6 x 16 lg. ....	2
33	61S.2	Nut M6 .....	2
34	12S.2	Washer M6 .....	2



## HYDRAULIC PIPES & FITTINGS

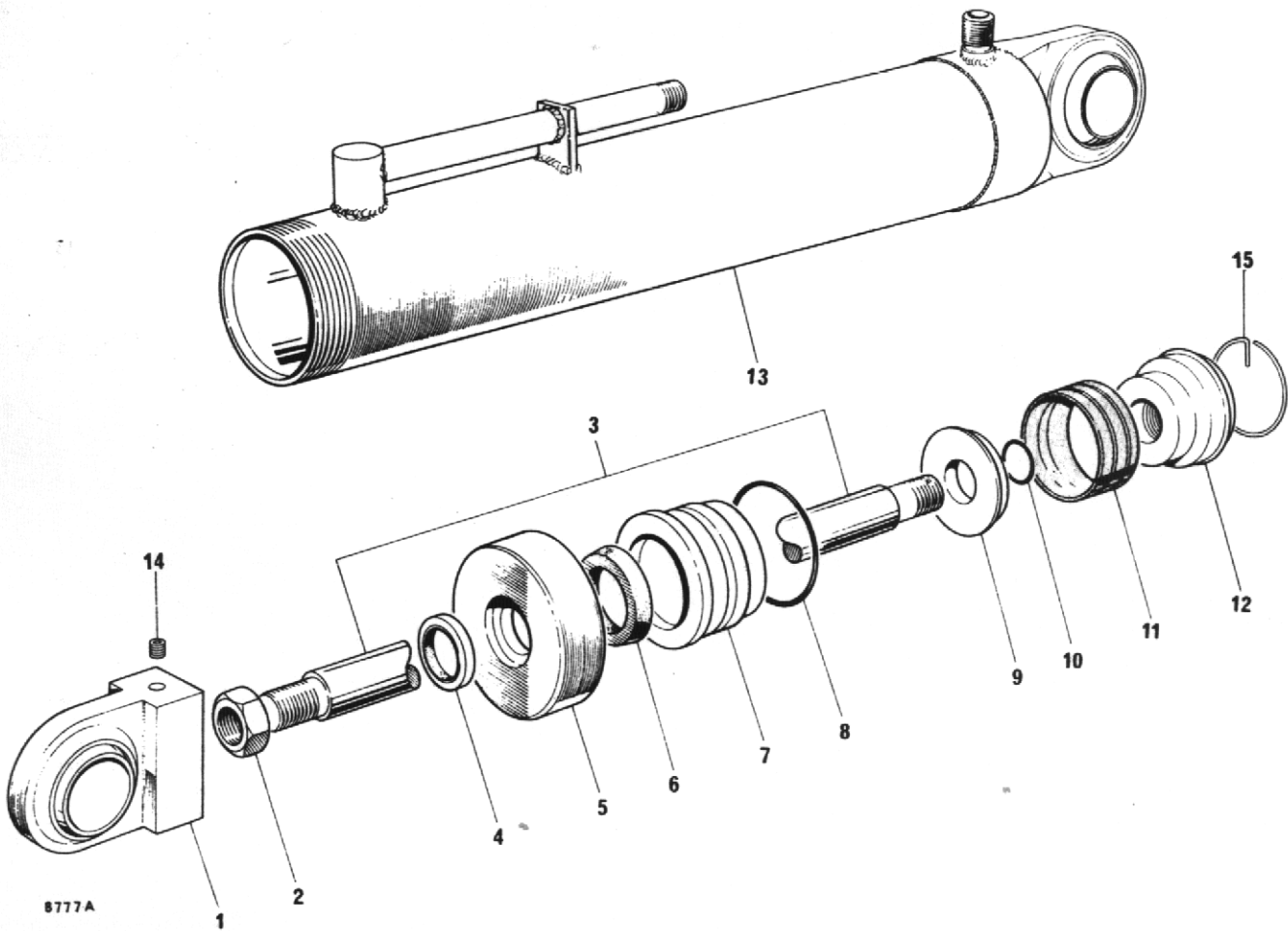
Item No.	Part No.	Description	Qty.
1	305-021-AAA	Control Valve (See Page 53)	1
2	S.9698	'O' Ring	5
3	CSE 186	Adaptor 7/8" UNF x 3/8" BSP - Short	4
4	F4-45-196	Adaptor 7/8" UNF x 3/8" BSP - Long	1
5	I 63 E	Hose 3/8" x 73" long ST - 90°	1
6	4SH 55	Hose 3/8" x 70" long ST - 90°	1
7	4-35-295	Mast Tilt Cylinder (See Page 48)	2
8	F4-45-68	Sealing Washer	5
9	F4-45-67	Restrictor Adaptor	4
10	F4-45-176	Hose 3/8" x 410mm long ST - 90°	3
11	3SH 63	Hose 3/8" x 23½" long ST - 90°	2
12	F4-45-59	Restrictor Adaptor	1
13	F4-45-177	Hose 3/8" x 3050mm long ST - 90°	1
14	2ST 72M	Tee	2
15	4-35-40K	Adaptor ¾" UNF x 3/8" BSP	3
16	2ST 72J	'O' Ring	5
17	4-60-115	Adaptor ¾" UNF x 3/8" BSP (Long)	2
18	CSE 182	Spacer	2
19	4SE 138	Hose 3/8" x 62" long 90°-90°	1
20	TD 389A	Steering Cylinder (See Page 47)	1
21	CSE 137	Hose 3/8" x 68" long 90°-90°	1
22	4-35-246	Hose 3/8" x 67" long ST - 90°	1
23		Cap Screw 5/16" UNC x 2 ¼" long	2
24	IPE 4	Elbow	1
25	DH69A5	'O' Ring	2
26	IP3072-CPSFB	Pump (See Page 46)	1
27	4-35-261	Adaptor Plate	1
28		Cap Screw 5/16" UNC x 1" long	2
29	T14J	Adaptor 3/8" BSP x 3/8" BSP	1
30	T14I	Bonded Seal 3/8" BSP	1
31	T48	Inlet Adaptor	1
32	T63M	Hose Clip	2
33	CSE126	Hose ¾" x 20" long Cotton Braid	1
34	BSE 109	Hose elbow ¾" BSP - 90°	1
35	4-60-133	Hose 3/8" x 48" long ST - 90°	1
36	4SHL 86	Hose 3/8" x 98" long 90°-90°	1
37	CSE 123	Hydraulic tank	1
38	T 18 B	Gasket	1
39	4-35-187	Cover Plate	1
40	P 2578-2	Cap	1
41	P 1145	Strainer	1
42		Bolt 5/16" UNF x ¾" long & shakeproof washer	4
43	UC1457	Filter	1
44	16097-358	Orifice Plate	1
45	099-530063	Steering Column	1
46	CSE 178	Steering Valve complete	1
47	347 K	Steering wheel	1
48	C 318	Dome Nut	1
49	B549-14-A	Mast Cylinder	1
50	2ST 72N	90° Swivel Nut Elbow (if fitted)	1
51	B549-14-A	Mast Cylinder (if fitted)	1





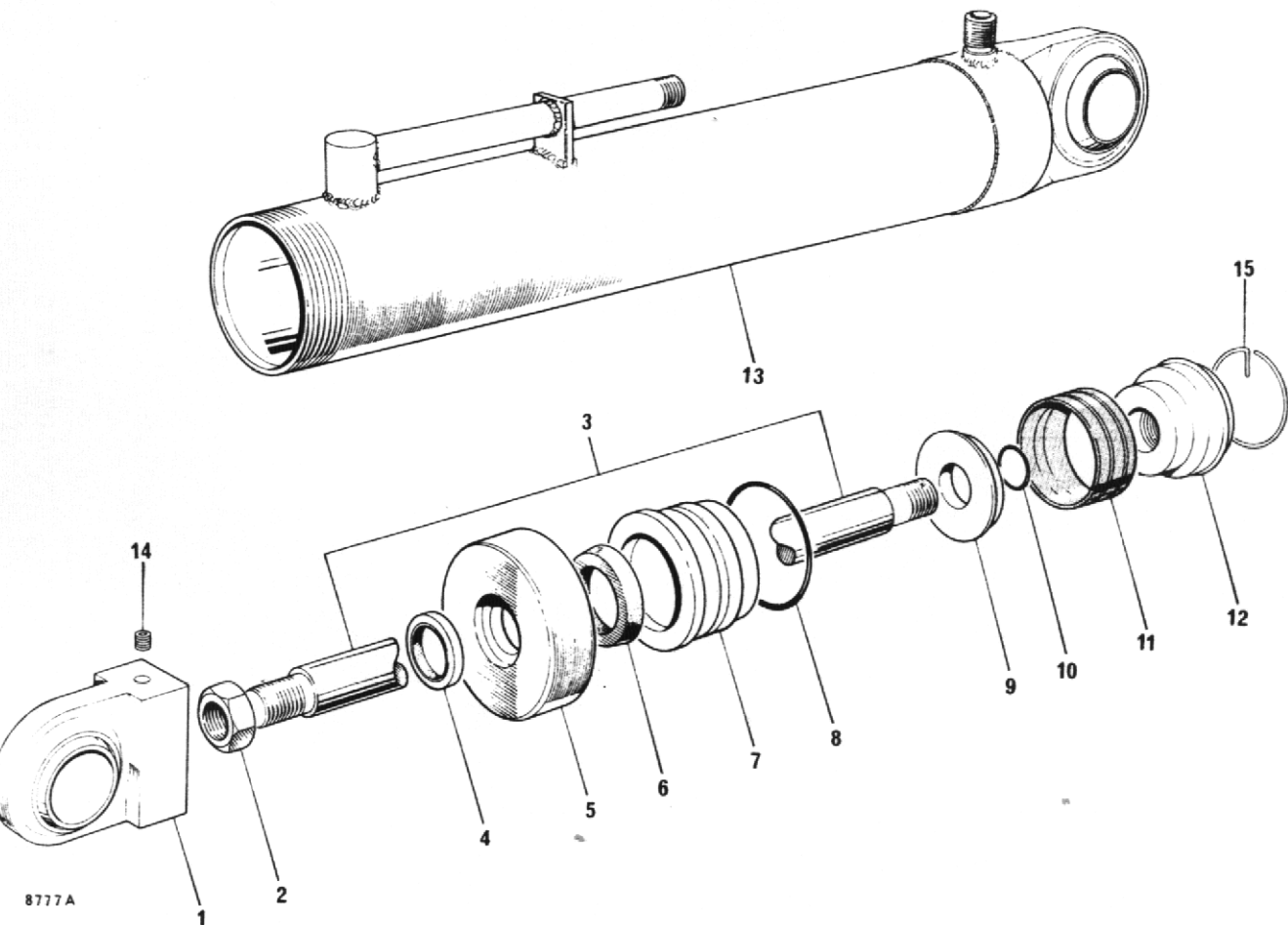
### HYDRAULIC PUMP & DRIVE

Item No.	Part No.	Description	Qty.
1	1P3072CPSFB	Pump complete .....	1
2		Stud, washer & nut .....	2
3	334932	Joint .....	1
4	724202	Socket Screw 1/4" BSF x 5/16" long .....	1
5	334967	Coupling (Pump Half) .....	1
6	266185	Coupling Assy .....	1
7	725049	Bolt 3/8" BSF x 1" long .....	2
8	724056	Cap Screw 3/8" BSF x 3/4" long .....	2
9	292709	Spigot Plate .....	1
10	266159	Joint .....	1
11	2-197597	Pump Housing .....	1
12	726003	Nut 3/8" BSF .....	4
13	264702	Joint .....	1
14	2-264704	Bearing .....	1
15	334968	Gearwheel .....	1
16	2-202485	Bearing .....	1
17	264701	Cover -- Pump Housing .....	1
18	786029	Spring Washer - 5/16" .....	4
19	722024	Bolt 5/16" BSF x 5/8" long .....	4
20	760061	Stud 3/8" BSF x 1 3/8" long .....	4
21	786030	Spring Washer - 3/8" .....	4
22	264700	Joint .....	1
23	264706	Shim .....	A.R.



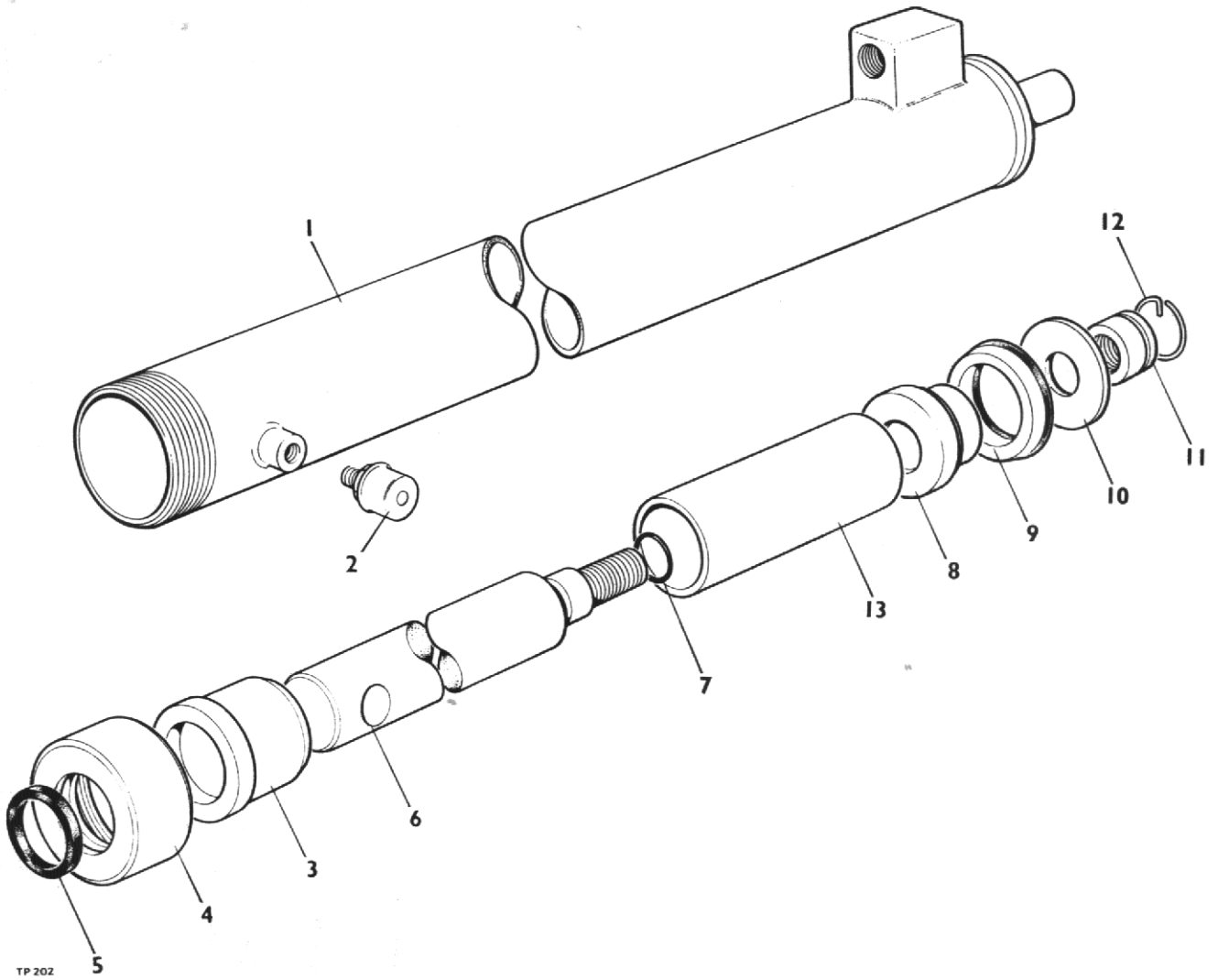
### STEERING RAM

Item No.	Part No.	Description	Qty.
	30121.A01	Ram Complete (1 Per Machine)	
1	30121.A0101	Piston Rod Fitting	1
2	30121.A0102	Locknut	1
3	30121.A0103	Piston Rod	1
4	30121.A0104	Wiper	1
5	30121.A0105	Tube Cap	1
6	30121.A0106	Sleeve Seal	1
7	30121.A0107	Sleeve	1
8	30121.A0108	Sleeve 'O' Ring	1
9	30121.A0109	Backing Washer	1
10	30121.A0110	Piston 'O' Ring	1
11	30121.A0111	Piston Seal	1
12	30121.A0112	Piston Head	1
13	30121.A0113	Cylinder, Bosses & End Cap	1
14	30121.A0114	Grub Screw	1
15	30121.A0115	Spring Ring	1
	CSE 189	Seal Kit (comprising items 4,6,8,10 & 11)	A/R



### MAST TILT RAM

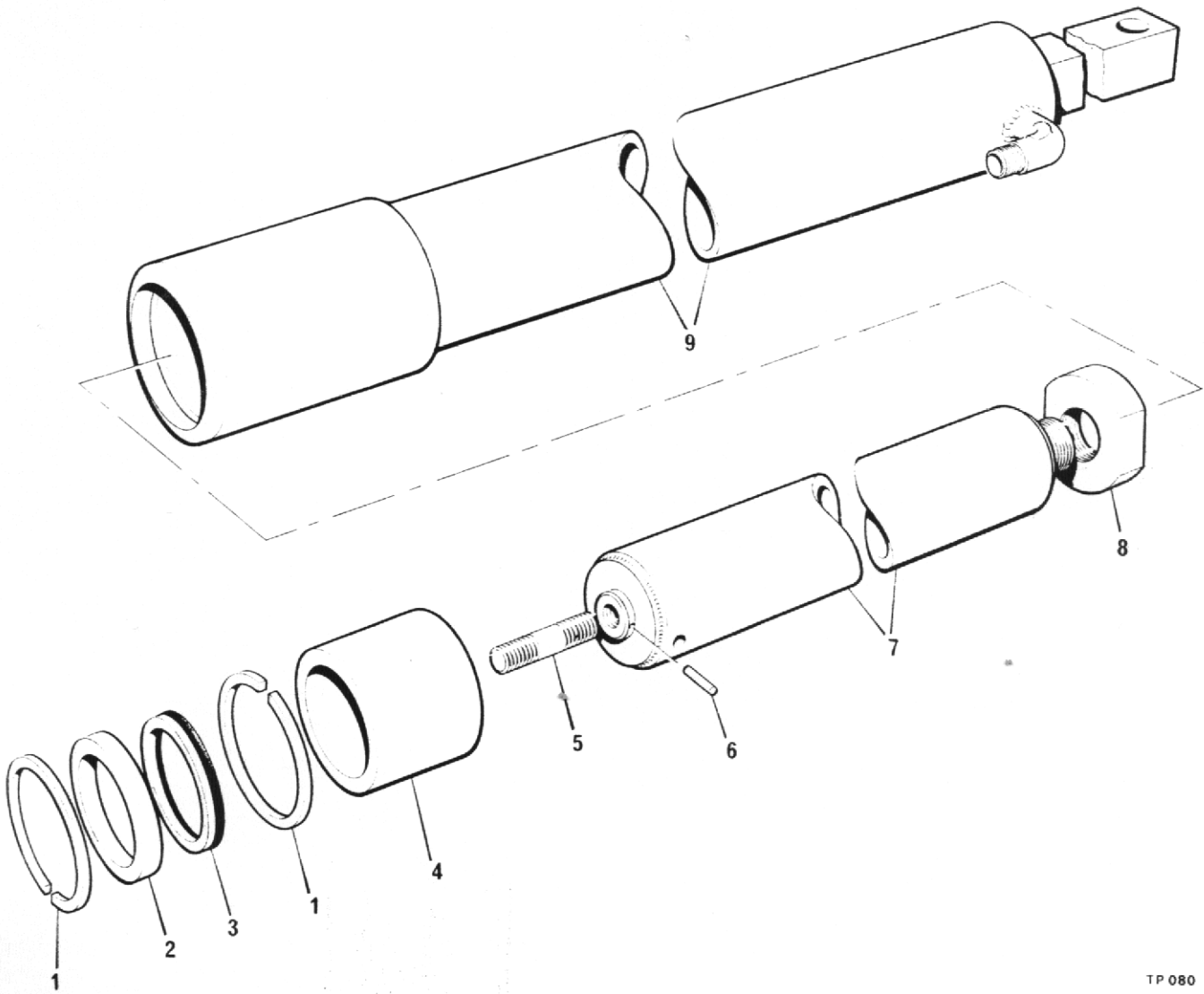
Item No.	Part No.	Description	Qty
	30161.A01	Cylinder Complete (2 per M/c)	
1	30121.A0101	Piston Rod Fitting .....	1
2	30121.A0102	Locknut .....	1
3	30161.A0101	Piston Rod .....	1
4	30121.A0104	Wiper .....	1
5	30121.A0105	Tube Cap .....	1
6	30121.A0106	Sleeve Seal .....	1
7	30121.A0107	Sleeve .....	1
8	30121.A0108	Sleeve 'O' Ring .....	1
9	30121.A0109	Backing Washer .....	1
10	30121.A0110	Piston 'O' Ring .....	1
11	30121.A0111	Piston Seal .....	1
12	30121.A0112	Piston Head .....	1
13	30161.A0102	Cylinder, Bosses and End Cap .....	1
14	30121.A0114	Grub Screw .....	1
15	30121.A0115	Spring Ring .....	1
	CSE 189	Seal Kit (comprising items 4,6,8,10 & 11) ..	A/R



### MAST LIFT CYLINDER

(Fitted on m/c's with serial Nos. from and including 4FL2500-663)

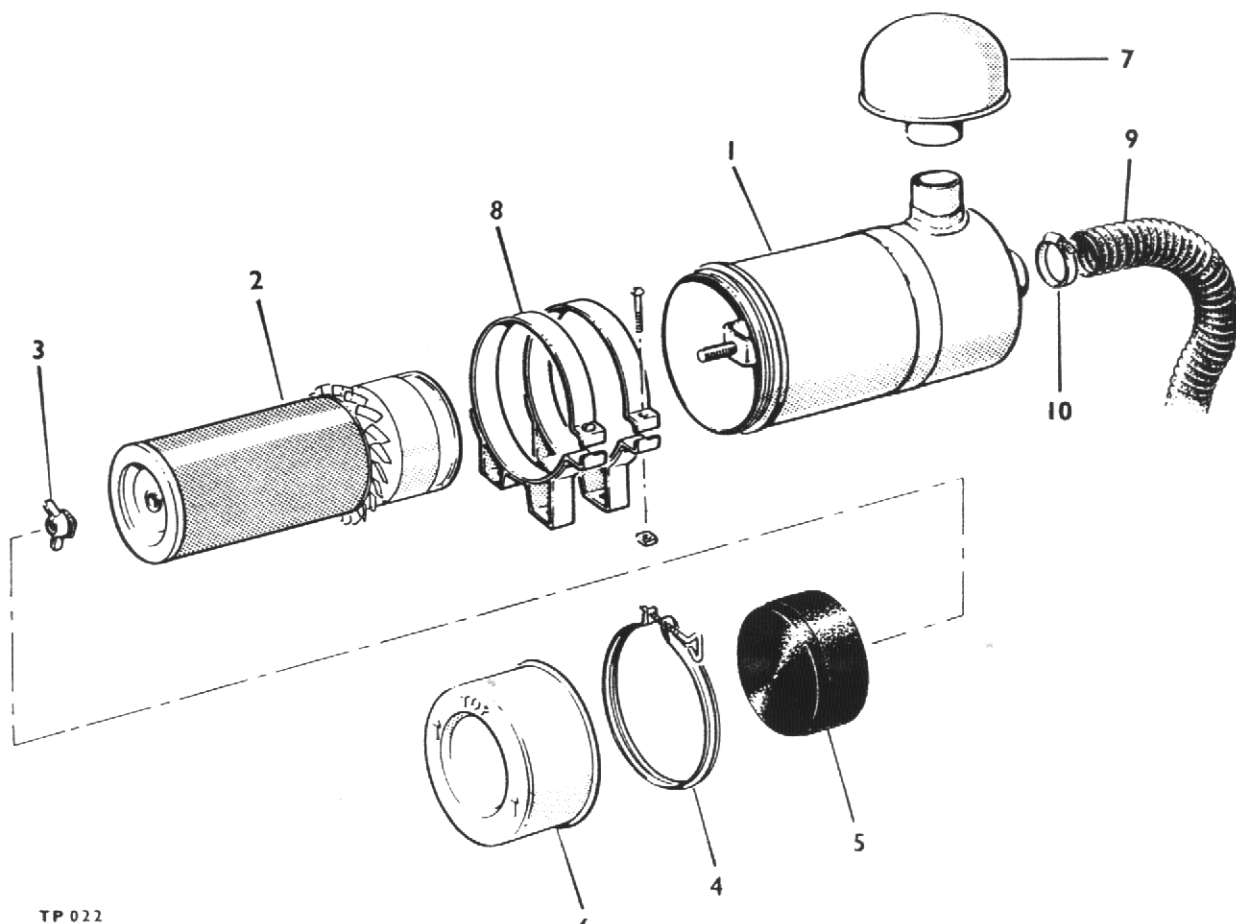
Item No.	Part No.	Description	Qty.
1	F4-45-195	Cylinder complete	1
2	TD9809-3	Barrel Assembly	1
3	FH 2610	Breather	1
4	TD 9809-7	Sleeve Assy	1
5	TD 9783	Tube Cap	1
6	PP 58/25	Wiper	1
7	TD 9784	Piston Rod	1
8	BS 214	'O' Ring	1
9	TD 6017	Piston Head	1
10	R 13691 SW	Piston Seal	1
11	LS104/14	Backing Washer	1
12	TD 8888	Locknut	1
13	TD 8891	Spring Clip	1
	TD 5011/13	Stop Tube	1



TP 080

### MAST LIFT CYLINDER

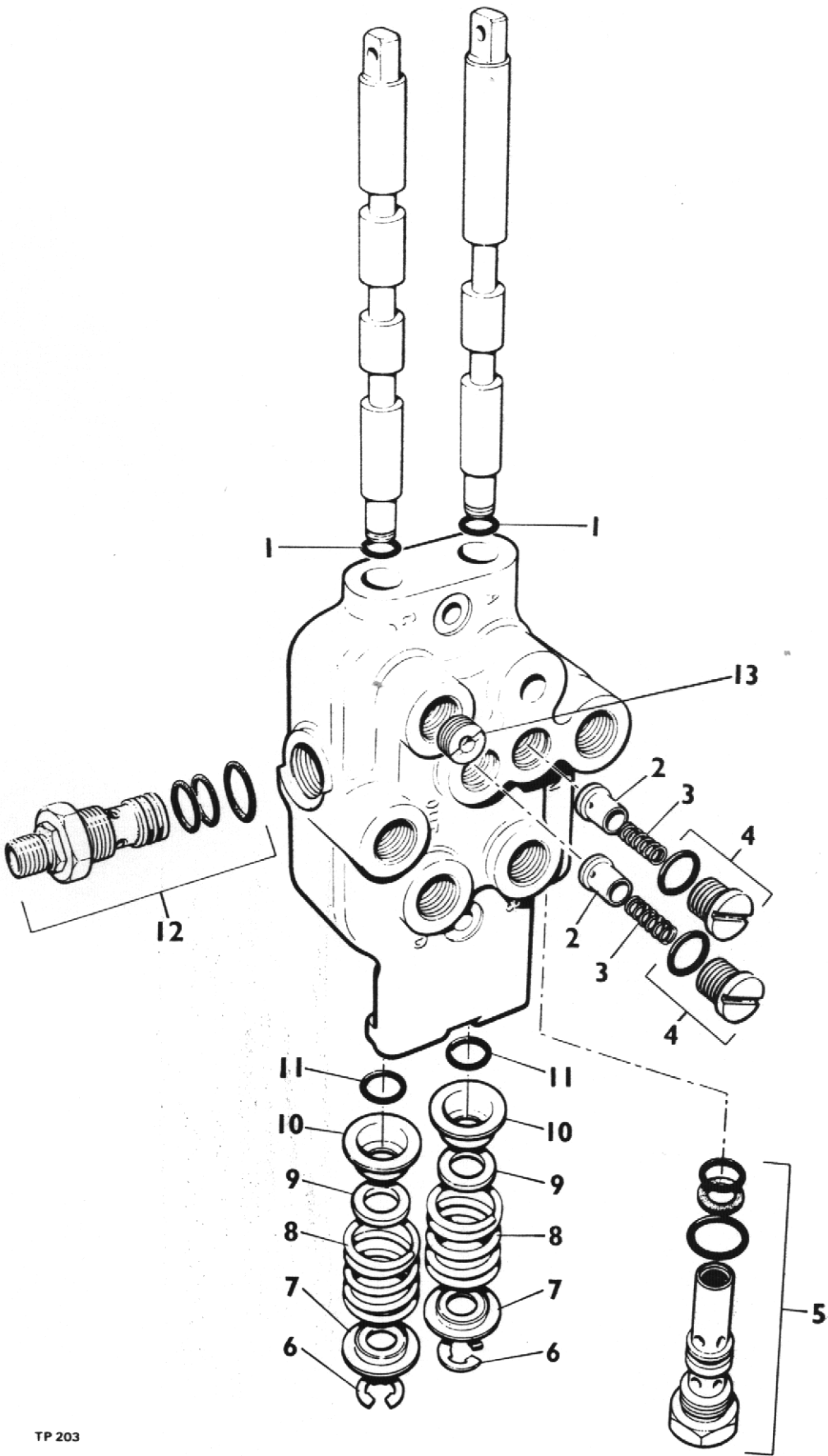
Item No.	Part No.	Description	Qty.
	B549-14-A	Cylinder Complete (18' Fork Lift only)	1
	B546-14	Cylinder Complete (13' Fork Lift only)	1
	B543-14	Cylinder Complete (10'-6" Fork Lift only)	1
1	506-6	Circlip (Type 1300-3 1/2" dia.)	2
2	E506-3	Junk Plate	1
3	506-4	Seal	1
4	E506-2	Cylinder Rod Guide	1
5	E500-29	Stud	1
6	12PG100	Groverlock Pin 1/8" dia. x 1" long	1
7	D549-5	Cylinder Rod Assembly (18' Fork Lift only)	1
	D546-5	Cylinder Rod Assembly (13' Fork Lift only)	1
	D543-5	Cylinder Rod Assembly (10'-6" Fork Lift only)	1
8	E509-16	Cylinder End Nut	1
9	C549-8	Barrel Assembly (18' Fork Lift only)	1
	C546-8	Barrel Assembly (13' Fork Lift only)	1
	C543-8	Barrel Assembly (10'-6" Fork Lift only)	1



TP 022

### AIR CLEANER

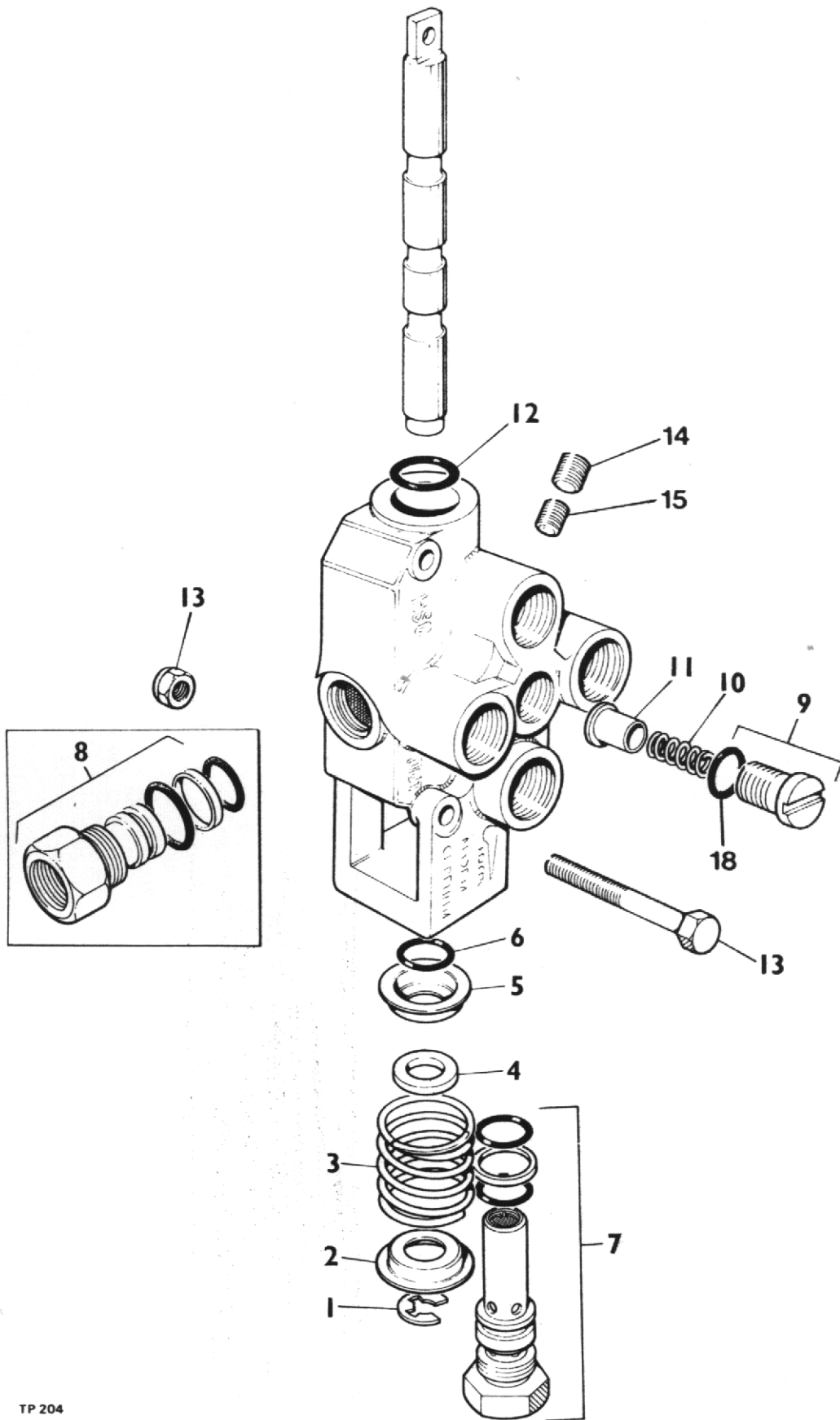
Item No.	Part No.	Description	Qty.
1	10532A02	Air Cleaner Assembly	1
2	10532A0101	Element	1
3	V600487	Nut & Gasket Kit	1
4	220229002	Clamp Body	1
5	220229003	Skirt, baffle	1
6	220229004	Cup	1
7	10534A02	Stack Cap	1
8	10533A02	Bracket	2
9	166S02	Hose Flexible 2" Bore x 17" Long order by metre	1
10	97S12	Hose Clip	2





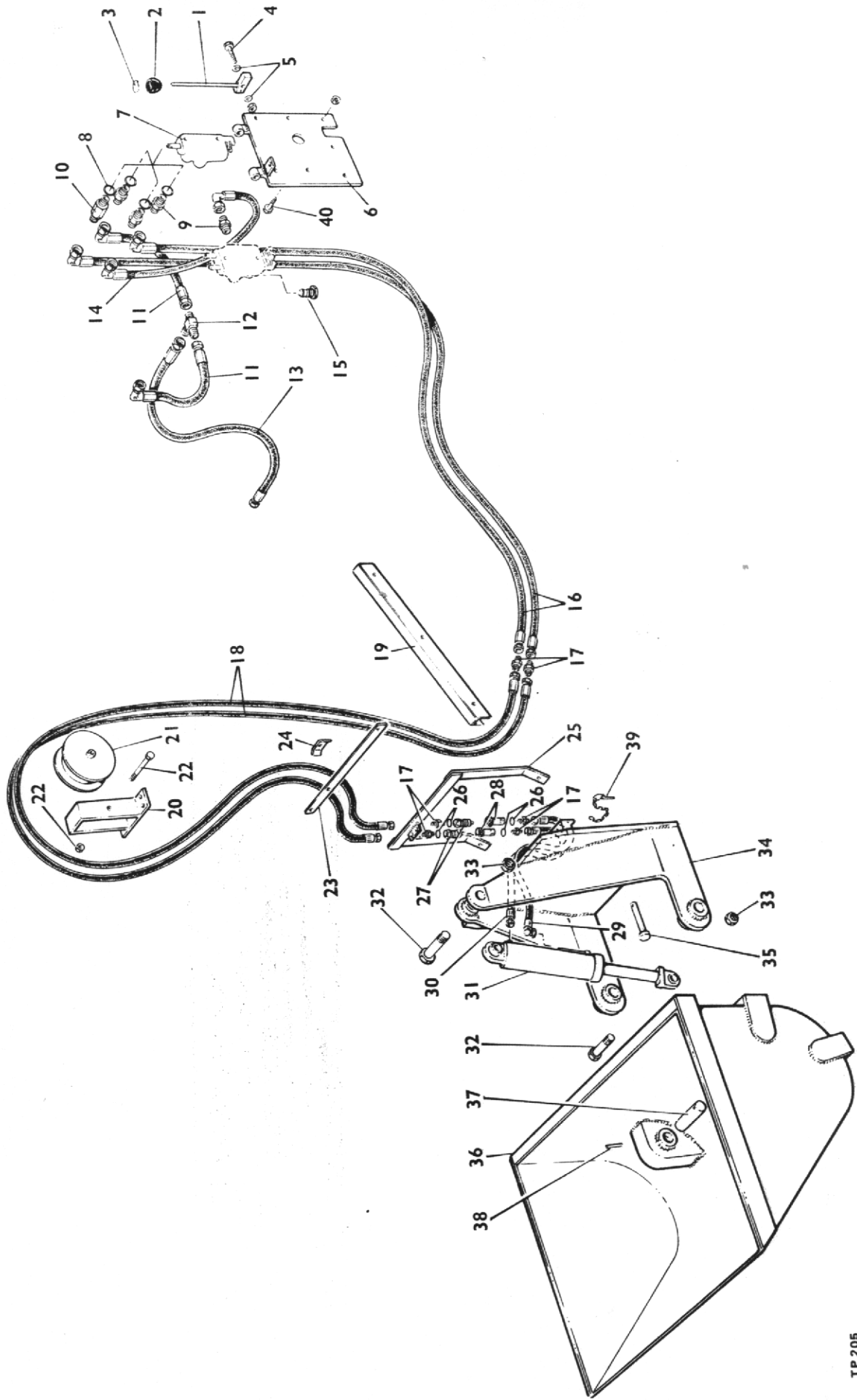
### HYDRAULIC CONTROL VALVE

Item No.	Part No.	Description	Qty.
	305-021-AAA	Control Valve Assembly c/w Flow Control Valve (1 per m/c)	
1	30057.A0104	'O' Ring	2
2	30131.A0110	Lift Check Plunger	2
3	30131.A0109	Lift Check Spring	2
4	30057.A0103	Lift Check Plug Assembly	2
5	32018-J9	Relief Valve Assembly	1
6	30131.A0101	Clip Ring (1/2" Shaft)	2
7	30131.A0102	Shallow Washer	2
8	30131.A0103	Spool Spring	2
9	30131.A0104	Spacer Washer	2
10	30131.A0105	Deep Washer	2
11	30057.A0101	'O' Ring 3/32" x 5/8" I.D.	2
12	326-001-SAA	Flow Control Valve	1
13	16166-424	Orifice plate (Screw in type)	1



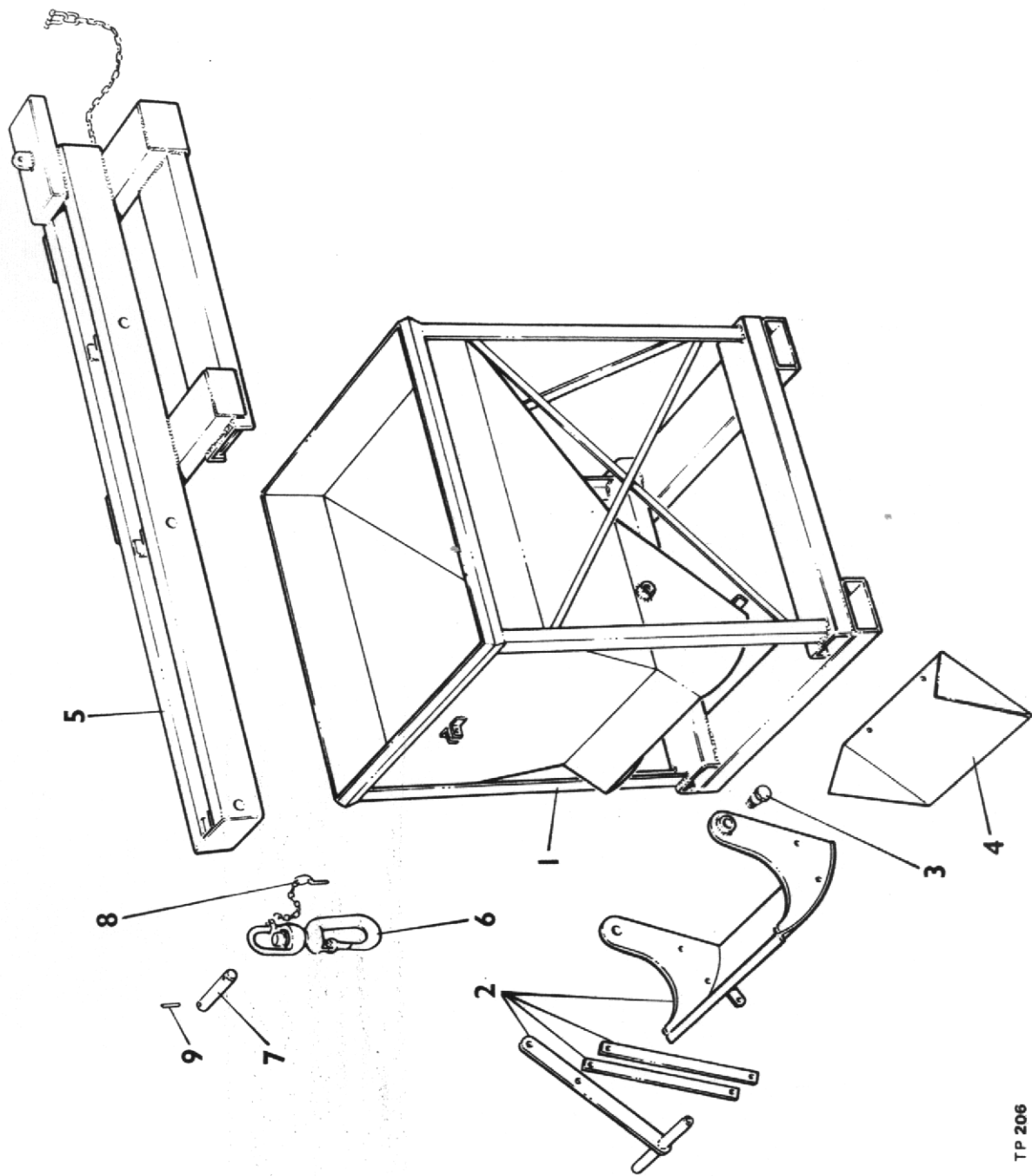
**HYDRAULIC CONTROL VALVE**  
**(only fitted on machines with hydraulic tip bucket)**

Item No.	Part No.	Description	Qty
	30057.A01	Control Valve Assembly (1 Per M/c)	
1	30131.A0101	Clip Ring (½" Shaft)	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 3/32" x 5/8" I/D	1
7	30057.A0102	Relief Valve Assembly	1
8	30057.A0105	Pressure Beyond Plug Assembly	1
9	30057.A0103	Lift Check Plug Assembly	1
10	30131.A0109	Lift Check Spring	1
11	30131.A0110	Lift Check Plunger	1
12	30057.A0104	'O' Ring	1
13	6S.2H	Bolt 5/16" UNF x 2 ½" Long and Nut - 9S.2	2
14	30131.A0117	Plug 1/8"	1
15	30131.A0116	Plug 1/16"	1
16	30057.A0106	Seal Repair Kit (Relief Valve)	A/R
17	30057.A0107	Seal Repair Kit	A/R
18	30131.A0118	'O' Ring	1
19	30131.A0111	Orifice Plate (not illustrated)	1



**HYDRAULIC TIP BUCKET, PIPES AND FITTINGS**  
 (This arrangement can only be fitted on machines with serial Nos up to and including 4FL2500-662)

Item No.	Part No.	Description	Qty.
1	F4-45-185	Hydraulic Valve Lever . . . . .	1
2	F4-45-184	Knob . . . . .	1
3	DM 155	Label . . . . .	1
4		Bolt 3/8" BSF x 2 1/4" long & Nut . . . . .	1
5		Flat Washer . . . . .	2
6	F4-45-183	Hydraulic Valve & Lever Bracket . . . . .	1
7	300-024-GAA	Hydraulic Valve - Bucket Control (See Page 55) . . . . .	1
8	S9698	'O' Ring 7/8" . . . . .	4
9	4-60-159	Adaptor 7/8" UNF x 3/8" BSP - short . . . . .	4
10	4-60-158	Adaptor 7/8" UNF x 3/8" BSP - long . . . . .	1
11	4-35-365	Hose 3/8" x 20" long ST-90 (Bucket valve to tee & tee to double valve) . . . . .	2
12	2ST 72M	Tee . . . . .	1
13	3SHD 65	Hose 3/8" x 48" long ST-ST (tee to tank) . . . . .	1
14	4SHL 96	Hose 3/8" x 17" long 90-90 (Valve to Valve) . . . . .	1
15	15655-01	Plug . . . . .	1
16	F4-45-177	Hose 3/8" x 3050mm long ST-90 . . . . .	2
17	T14J	Adaptor 3/8" BSP x 3/8" BSP . . . . .	6
18		Hose 3/8" x 5395mm long ST-ST . . . . .	2
19	F4-45-92	Hydraulic Hose Shroud . . . . .	1
20	F4-45-88	Hose Pulley Mounting Bracket . . . . .	1
21	F4-45-89	Hose Pulley Wheel . . . . .	1
22		Bolt 1/2" BSF x 4 3/4" long & Nut . . . . .	1
23	F4-45-95	Hose Support Bracket . . . . .	1
24	F4-45-114	Hose Clamp . . . . .	1
25	F4-45-94	Hose Support Bracket . . . . .	1
26	T141	Seal 3/8" BSP . . . . .	4
27	C23544	Snap Coupling Probe 3/8" BSP . . . . .	2
28	C23543	Snap Coupling Carrier 3/8" BSP . . . . .	2
29	4-35-108H	Hose 2'-9 1/2" ST-90 (Snap Coupling to Ram Stack) . . . . .	1
30	3SHD-65	Hose 2'-7 1/2" long ST-ST (Snap Coupling to Ram Base) . . . . .	1
31	TD3894	Bucket Ram (As standard steering ram - See page 60) . . . . .	1
32	4-60-104	Ram Bolt . . . . .	2
33	4-60-172	Ram Bolt Nut . . . . .	2
34	F4-45-84	Bucket Frame . . . . .	1
35	F4-45-93	Bucket Frame Retaining Pin . . . . .	1
36	F4-45-83	Bucket . . . . .	1
37	F4-45-96	Bucket Pivot Pin . . . . .	2
38		Tension Pin 5/16" dia x 2 1/4" long . . . . .	2
39	M9B	Lynch Pin and Chain . . . . .	1
40		Bolt M10 x 30mm long & nut . . . . .	1



## JIB AND CONCRETE SKIP

Item No.	Part No.	Description	Qty
1	F4-45-78	Concrete Pouring Skip . . . . .	1
2	F4-45-79	Concrete Pouring Skip Door & Handle Assembly . . . . .	1
3	S104	Door Pivot Bolt . . . . .	2
4	F4-45-80	Skip Chute . . . . .	1
5	GSE 100	Crane Jib . . . . .	1
6	775K	Swivel "Liverpool" Safety Hook . . . . .	1
7	F4-45-76	Swivel Hook Pin . . . . .	1
8	M9B	Pin and Chain . . . . .	1
9	54S.3C	Tension Pin 3/8" dia x 2 1/4" Long. . . . .	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**