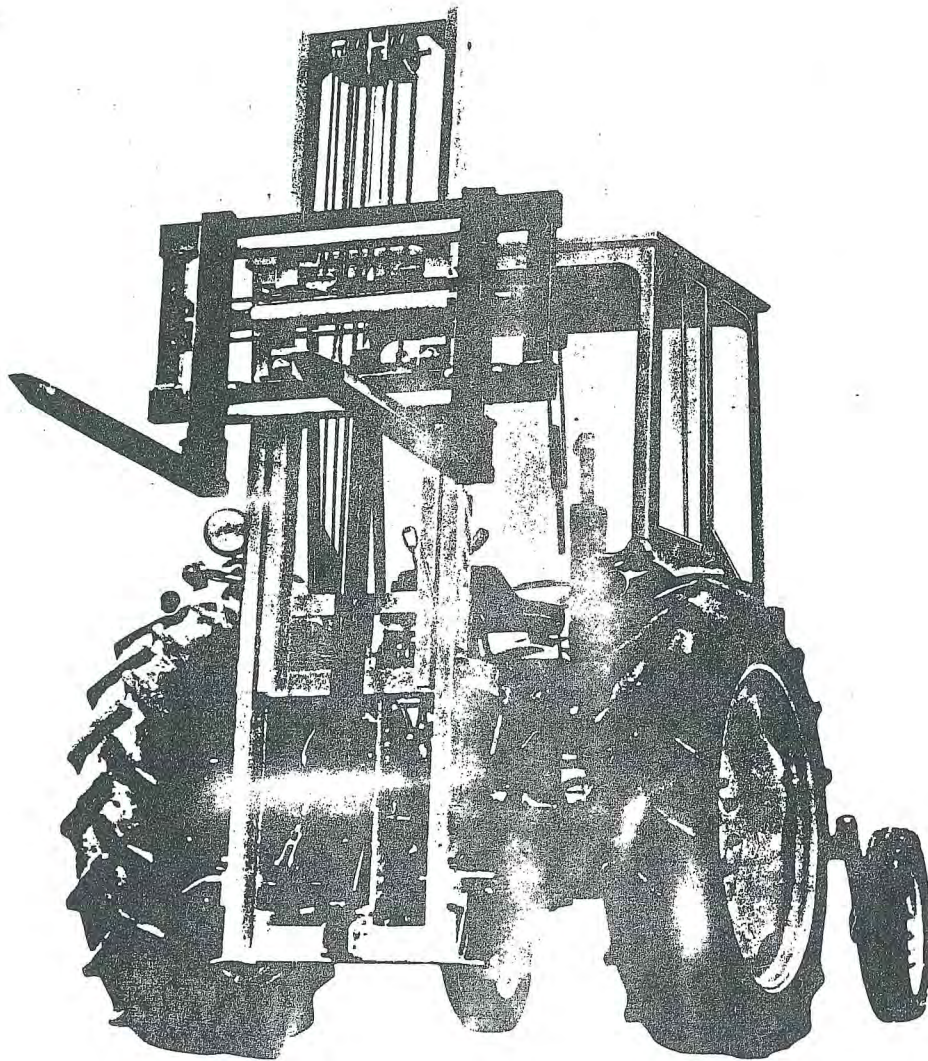
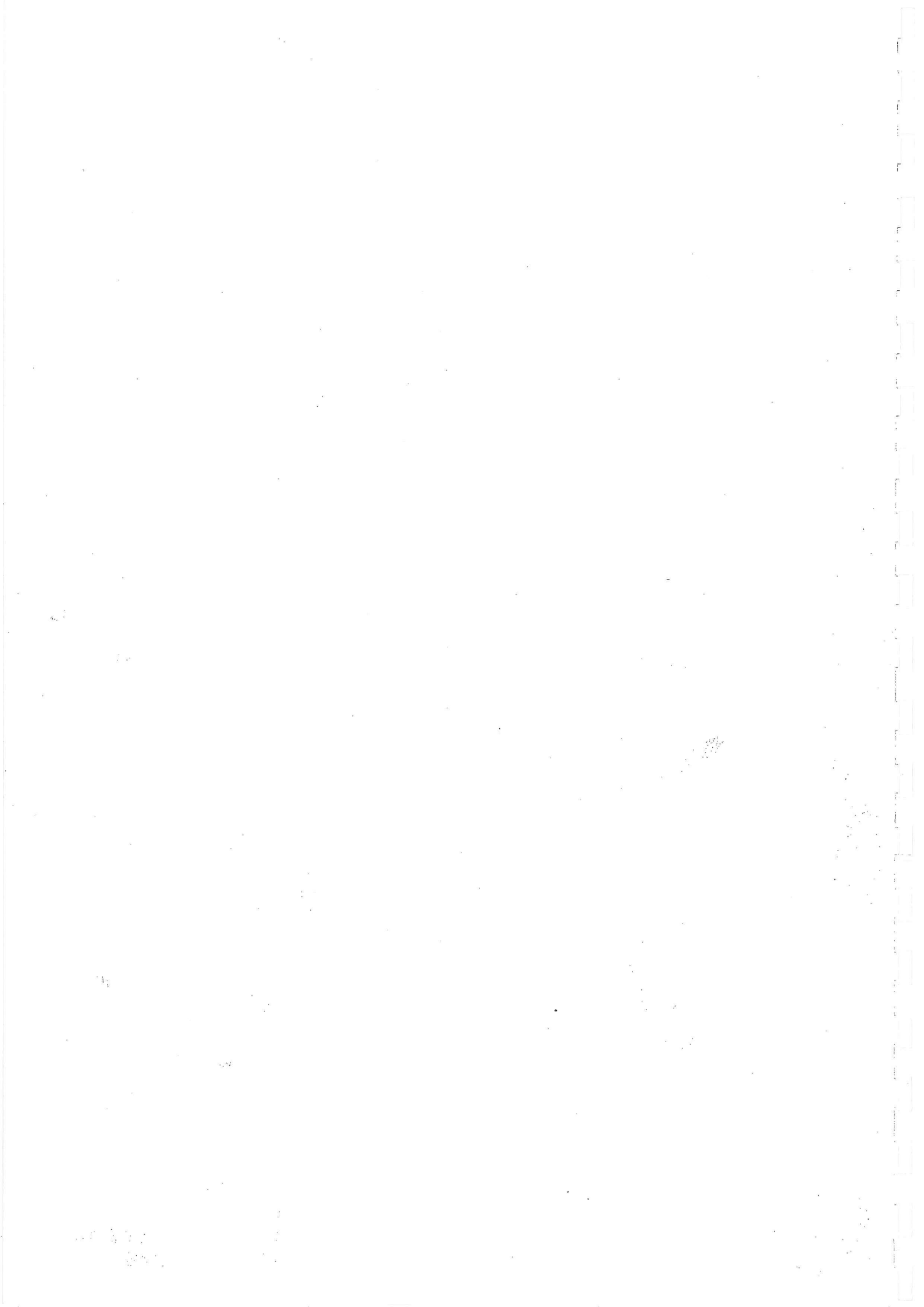


**OPERATION AND
SPARE PARTS MANUAL
FOR
TST 20/9 & 20/12 TAILSLAVE
TRACTOR MOUNTED
FORK LIFT**



**PUBLICATION 40
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**F.W. McCONNEL LTD.
TEMESIDE WORKS,
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Read this manual before fitting or operating the machine.
Whenever any doubt exists contact your dealer or the
McConnel Service Department for assistance.

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1945

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SAFETY INSTRUCTIONS

Do not allow inexperienced or unauthorised personnel to operate the machine without supervision.

Ensure that the tractor and machine are adjusted for maximum stability.

Prior to transporting any loads lower the forks to the minimum height, with allowance for uneven surfaces.

Never stand behind or under loaded forks.

Ensure that all hoses are not kinked, frayed or trapped.

Regular lubrication ensures safe operation and longer machine life.

Always lower the lift forks and stop the tractor engine prior to carrying out any adjustment or maintenance.

Ensure that the Tail Slave is removed from the tractor on firm surfaces only. (The jack legs may sink in soft soil thereby causing instability).

Whenever Tail Slaves with folding forks are detached from the tractor ensure that the fork locking pin is positioned to secure the forks at right angles to the vertical mast.

Prior to any loading/unloading operations check for any differences in pallet sizes and/or obstacles to ensure that the lift forks do not engage adjacent pallets or other obstructions.

Do not exceed a maximum towing load of three tons whenever using the Tail Slave auto hitch.

The following definitions are applicable throughout this manual:

WARNING

AN OPERATING PROCEDURE,
TECHNIQUE ETC. WHICH WILL
RESULT IN PERSONAL INJURY
OR LOSS OF LIFE IF NOT
OBSERVED CAREFULLY

CAUTION: An operating procedure, technique etc. which will result in the damage of either machine or equipment if not observed carefully.

NOTE: An operating procedure, technique etc. which is considered essential to emphasise.

KEY TO DIAGRAMS

Item No.	Item
1	Tractor drop link
2	Special linkage arm
3	Crossbeam
4	Crossbeam attachment pin
5	Special top link
6	Rocker
7	Linkage attachment slot
8	Jack locking screw
9	Jack leg
10	Self-sealing coupling
11	Pressure hose
12	Return hose
13	Tilt Ram lower location
14	Trip rod
15	Retaining catch
16	Angle stop

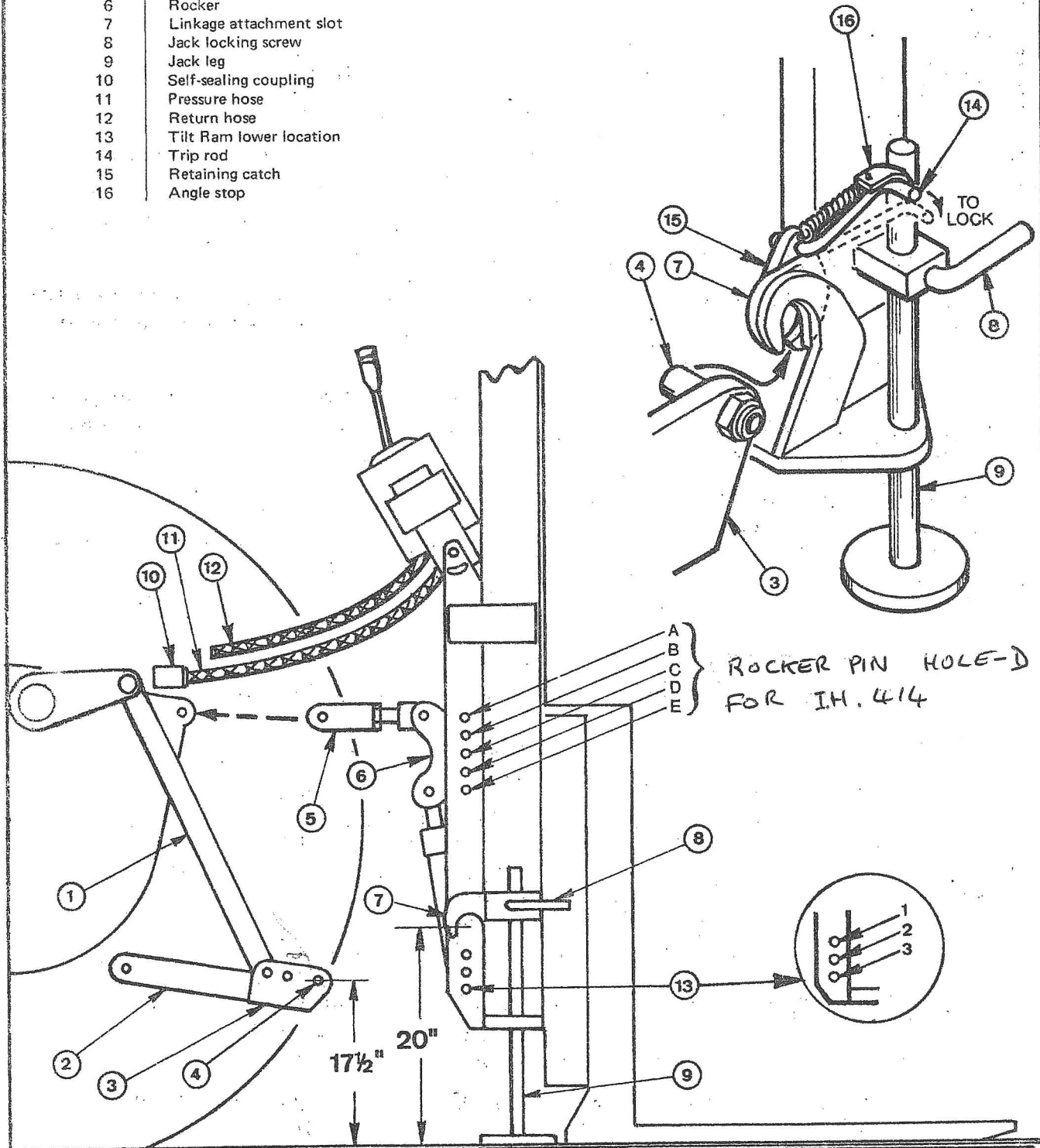


FIGURE 1 - TRACTOR/TAILSLAVE ATTACHMENT FEATURES

SECTION 1 FITTING & REMOVAL INSTRUCTIONS

The following instructions detail the correct sequence and procedure for the attachment of the TST 20/9 or TST 20/12 Tail Slave (with or without TK2 Side Shift) to the tractor:

1. Preparation of Tractor

a. Hydraulics (Refer to Section 2)

- (i) Ensure the pump is serviceable and capable of producing a minimum pressure of 2000 p. s. i.
- (ii) Ensure the auxiliary service port (trailer pipe) self-sealing coupling (male half) is fitted.
- (iii) Ensure a linkage isolation valve is fitted.

b. Stability

Set the rear wheel track and fit front weights as specified at Table 1.

NOTE:

Whenever weights are not available from your dealer alternative or partial front weighting can be achieved by a counter-balance, using front end loader, front pallet carriers, front tool boxes, etc. provided the total front weighting complies with Section 2.

c. Three Point Linkage (Refer to Section 2 and Figure 1)

NOTE:

The special linkage arms provide close coupling to the tractor, reducing rear overhanging loads and minimising front counterbalance weight.

- (i) Remove the tractor lower draft and top links.
- (ii) Fit the special linkage arms (2) to the tractor lower draft attachment points.
- (iii) Fit the crossbeam (3) to the special linkage arms.
- (iv) Connect the tractor drop links (1) to the crossbeam lugs.
- (v) Fully raise the tractor top drop linkage arms and then lower to set the crossbeam attachment pin centres $17\frac{1}{2}$ inches (45.5 cm.) above ground level, at the mechanically locked position. The setting is to be achieved by adjusting the tractor drop links.

NOTE:

Tractors not fitted with an integral mechanical linkage lock are to be fitted with a McConnell Linkage Lock to ensure the correct mounting height and operating ground clearance is maintained. (Refer to paragraph 6, McConnell Mechanical Linkage Lock).

- (vi) Carry out a linkage lowering check with the mechanical lock disengaged, to ensure that the Tailslave pick-up hitch will engage with the trailer tow bar.

2. Preparation of Tail Slave (Refer to Section 2 and Figure 1)

CAUTION:

Ensure all materials used for packing purposes are removed, with particular attention to the inner mast wooden restrainer.

- a. Ensure the Tail Slave is vertical and set the linkage attachment slot (7) centres 20 inches (50.8 cm.) above ground level, by extending the jack legs (9). Secure jack legs with jack locking screw (8).
- b. Ensure the tilt ram base end is located in the outer mast lower location (13).
- c. Determine the correct tilt ram rocker location (A-E) for tractor and fit rocker (6) to outer mast with rocker pin. Safety lock, using split pin.
- d. Fit the tilt ram rod to lower rocker arm location and secure with greaser attachment pin. Safety lock, using split pin.
- e. Set the special top link length (5) as specified at Section 2 and fit link to upper rocker arm location.

CAUTION:

It is essential that the rocker location and top link lengths are strictly observed for each tractor fitment to maintain the 5 degree rearwards/10 degree forwards Tail Slave mast tilt limits.

3. Attachment Procedure (Refer to Figure 1)

- a. Position the tractor with both crossbeam attachment pins abutting Tail Slave linkage attachment slot plates. Raise the tractor linkage frame to engage the crossbeam attachment pins (4) in both Tail Slave attachment slots (7).

CAUTION:

Ensure the retaining catches (15) engage under the crossbeam attachment pins and are locked by the disengagement of the trip rods (14) from the angle stops (16).

- b. Remove the tractor hydraulic return cap or plug and replace with a return connection as specified at Table 3. Connect the Tail Slave return hose (12) and secure using a jubilee clip.
- c. Connect Tail Slave pressure hose (11) to the tractor auxiliary service port, using the female self-sealing coupling (10).

NOTE:

Ensure the self-sealing couplings are fully engaged otherwise the internal spring loaded seals will remain closed.

- d. Engage the top link with the tractor top hitch dead pin point and secure using the top hitch pin.

NOTE:

Top hitch/link location and alignment can be assisted by use of the hydraulic system. Start the tractor, select hydraulics and align top link to tractor hitch point using the mast tilt ram.

WARNING
BEFORE CARRYING OUT THE
FOLLOWING OPERATION
ENSURE THAT THE MACHINE
IS FULLY SUPPORTED BY
THE TRACTOR

- e. Fully raise the jack legs and secure with jack locking screw.

4. Completion

- a. Operate the Tail Slave throughout full range and inspect hose connections for leaks.
- b. Ensure the top link does not foul the rocker when the mast tilt is in the fully forward position.
- c. Tractors fitted with integral mechanical linkage locks are to be checked for adequate Tail Slave operating clearance. Position drop linkage to lowest position and ensure that 10 to 11 inches clearance exists between underside of Tail Slave jack feet and ground level.

5. Fork Adjustment (Refer to Figure 2)

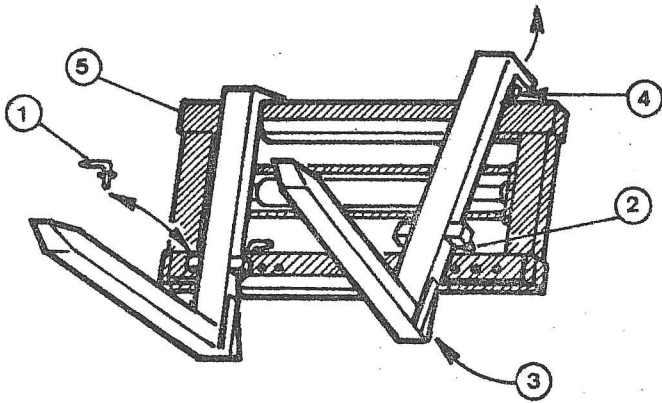
The Tail Slave fork width can be adjusted laterally from 21 to 37½ inches. Adjustments are to be carried out with the Tail Slave fitted to the tractor and the carriage assembly raised. Each fork is repositioned as follows:

- a. Remove the fork lower peg retaining pins (1).
- b. Disengage fork lower pegs (2) from frame lower cross member, by pressure applied to the fork heel (3).
- c. Raise fork, disengaging top peg (4) from frame upper cross member (5)

CAUTION:

Ensure each fork is positioned in corresponding locations, equidistant from the frame centre.

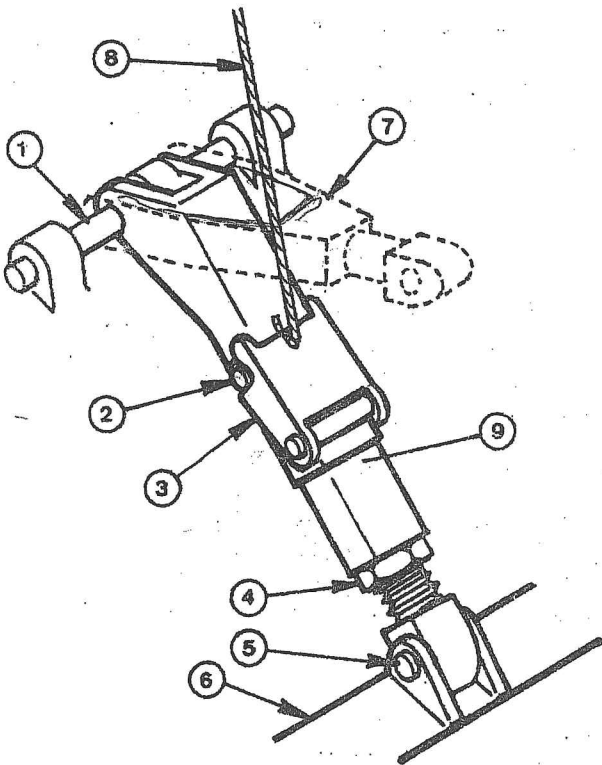
- d. Reset the fork by engaging the top peg in appropriate upper frame location and engage fork lower pegs by pressure applied to the inside of the fork heel.
- e. Refit the fork lower peg retaining pins.



KEY TO DIAGRAM

Item No.	Item
1	Fork retaining pin, lower
2	Fork lower peg
3	Fork heel
4	Fork top peg
5	Fork frame

FIGURE 2 - LIFT FORK ADJUSTMENT



KEY TO DIAGRAM

Item No.	Item
1	Tractor dead-pin
2	Linkage lock stop pin
3	Linkage lock catchlock
4	Locknut
5	Crossbeam attachment pin
6	Crossbeam
7	Top link
8	Linkage lock catch cord
9	Inner sliding section

FIGURE 3 - McCONNEL MECHANICAL LINKAGE LOCK

6. McConnel Mechanical Linkage Lock - Installation

Set the tractor linkage as previously described at paragraph 1. c. and proceed as follows:

Refer to Figure 3.

- a. Raise the tractor linkage to set the crossbeam attachment pin centres to 20 inches above ground level. Fit the upper linkage lock attachment lugs to the tractor and secure, using the tractor dead-pin or top link attachment pin. Ensure the inner sliding section is lubricated, using a medium Agricastrol grease or approved equivalent.
- b. Ensure the linkage lock is fully CLOSED, with the catchlock engaged over the stop pin. Fit the linkage lock to the crossbeam centre lugs and secure, using attachment pin, plain washers and split pins.

NOTE:

Adjustments to the linkage lock length are made by loosening the lock nut and screwing the eye-bolt in or out of the inner sliding section. Further adjustments can be made by repositioning the stop pin in the inner sliding body.

- c. Secure the linkage lock catch cord in a position that is convenient for the tractor operator to control.
- d. To attach the Tail Slave carry out the procedures detailed at paragraphs 2 and 3. The crossbeam/Tail Slave slot attachment is achieved by:
 - (i) Initially raise the linkage frame.
 - (ii) Disengage the linkage lock catchlock, by pulling the cord.
 - (iii) Lower the linkage frame, maintaining the catchlock disengagement by holding the cord.
 - (iv) Carry out the procedure at paragraph 3. a. and following the crossbeam/Tail Slave slot attachment release the catchlock cord. Complete the attachment procedure.

7. TK2 Side Shift Installation (Refer to Figure 4)

To facilitate installation of the Side Shift assembly the Tail Slave is to be tractor mounted.

WARNING
PRIOR TO COMMENCING THE
FOLLOWING OPERATIONS
LOWER THE FORKS AND STOP
TRACTOR ENGINE. ENSURE
CROSSBEAM ATTACHMENT
PIN RETAINING CATCHES ARE
ENGAGED AND LOCKED.

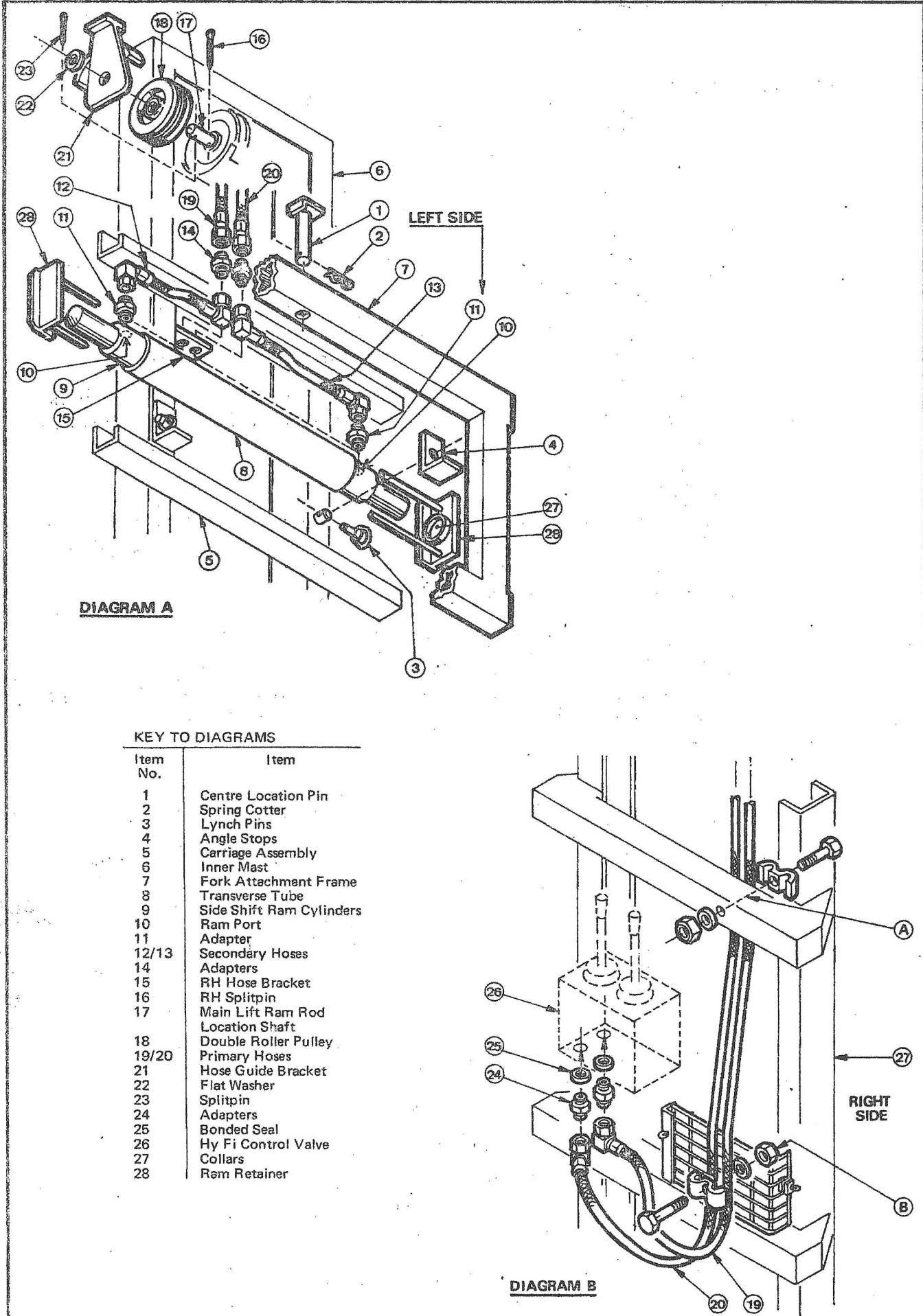


FIGURE 4 - TK2 SIDE SHIFT INSTALLATION FEATURES

a. Preparation of Tail Slave

- (i) Remove each fork, as described at paragraph 5.
- (ii) Remove spring cotters and withdraw centre location pin (1) from the fork attachment frame (7).

NOTE:

The centre location pin is not refitted to the Tail Slave with TK2 Side Shift installed.

- (iii) Remove lynch pins (3) and detach both angle stops (4) from the carriage assembly (5).
- (iv) Raise and detach the fork attachment frame (7) from the carriage assembly (5).

b. Side Shift Ram and Secondary Hose Fitment

Assemble the Side Shift ram cylinders (9) into the carriage assembly transverse tube (8) and proceed as follows:

- (i) Fit the $\frac{1}{4}$ " BSP x $\frac{1}{2}$ " JIC adaptor (11) to each ram port (10).
- (ii) Connect the secondary hoses (12, 13) to ram adaptors.

NOTE:

The 17 inch long hose is connected to the left-hand ram.

- (iii) Locate the two $\frac{1}{2}$ " x $\frac{1}{2}$ " JIC adaptors (14) in the carriage assembly right-hand hose bracket (15) and connect both secondary hoses.

c. Primary Hose Fitment

- (i) Remove right-hand split pin (16) from main lift ram rod location shaft (17). Assemble double roller pulley (18) onto shaft and position the two primary hoses (19, 20) in the pulley grooves.

NOTE:

The right-angle union end fittings attach to Hy-Fi control unit.

- (ii) Fit hose guide bracket (21) onto shaft and secure using flat washer (22) and split pin (23).
- (iii) Connect the primary hoses to the secondary hoses, at the adaptors (14) located in the carriage assembly.
- (iv) Pull the primary hoses tight over the top of the pulley, ensuring correctly seated, secure both hoses to the outer mast (A) and front of the weldmesh guard (B), using clamps, bolts, washers and nuts.
- (v) Remove the blanking plugs from the Hy-Fi control unit underside, extreme left, and fit the two $\frac{3}{8}$ " BSP x $\frac{1}{2}$ " JIC adaptors (24), together with the $\frac{3}{8}$ " BSP bonded seals (25).
- (vi) Connect both primary hoses to the Hy-Fi control unit.
- (vii) Ensure clearance exists between the hose guide bracket leading and trailing edges and primary hoses.

d. Completion

- (i) Position the ram retainer (28), with the T-sectioned heads towards the carriage assembly and extend each ram rod to locate in the collars (27).
- (ii) Position the fork attachment frame in the carriage assembly, ensuring the ram retainer seats at right angles to the frame.

NOTE:

Ensure the ram retainer does not foul the secondary hoses or end fittings.

- (iii) Refit the angle stops to the inner mast and secure with the lynch pins.
- (iv) Refit both forks, as described at paragraph 5.
- (v) Lubricate each ram rod and the side shift rollers with a light coating of grease.

TAIL SLAVE REMOVAL FROM TRACTOR

CAUTION:

Whenever the Tail Slave is to be removed from the tractor ensure that the machine will be standing on a firm surface.

8. Removal Procedure

- a. Set the mast in the vertical position and lower the forks to ground level.

CAUTION:

Ensure the forks are securely pinned, at right angles to the vertical mast.

- b. Lower the jack legs and lock in position using the jack locking screw.
- c. Disconnect the hydraulic pressure and return hoses from the tractor and fit blanking plugs.
- d. Release the retaining catches by engaging the trip rods into the angle stops and remove the top link pin from tractor.
- e. Lower the tractor linkage frame, disengaging the crossbeam attachment pins and top link from tractor. (Tractors fitted with the McConnell Mechanical Linkage Lock require the catchlock to be released prior to lowering the linkage frame).
- f. Drive tractor away from Tail Slave.

LUBRICATION

9. Regular lubrication ensures safe operation and longer machine life. The machine instruction plate, attached to the outer mast, recommends the grade of oil and grease to be used. Your dealer will supply a list of equivalent alternative lubricants whenever either recommendations are not available.

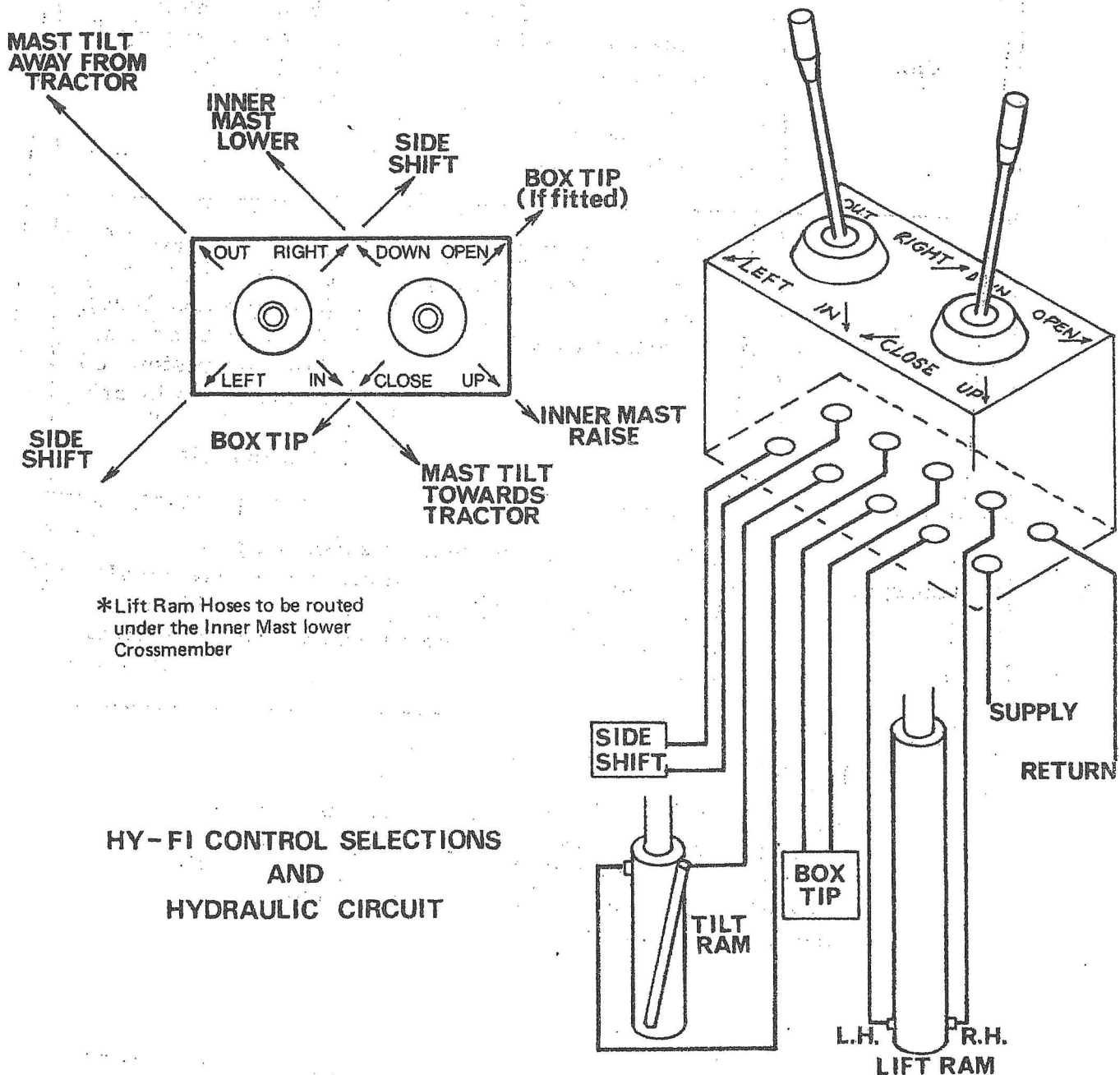
Periodicity	Oil	Grease
Daily	<ol style="list-style-type: none"> 1. Check hydraulic oil contents before any operation. 2. Outer carriage rollers (externally). 3. Chain pulleys. 	<ol style="list-style-type: none"> 1. Balance Chains. 2. Side shift sliding portion of carriage assembly.
Weekly	<ol style="list-style-type: none"> 1. Tractor/Tail Slave coupling and retaining catch. 2. Auto hitch latch. 	<ol style="list-style-type: none"> 1. Inner and Outer carriage rollers (8 nipple adapters). 2. Tilt ram base pin. 3. Tilt ram piston rod. 4. Rocker arm locating pin. 5. Top link pin.
Storage	<p>Carry out the lubrication as specified prior to storing your Tail Slave. Additionally, grease all sliding parts including ram piston rods and in particular where the rod passes through the wiper seal.</p>	

NOTE:

Machines Serial No. 00214 T onwards may not be fitted with carriage roller grease nipples. In this instance lubrication is to be carried out daily, using oil applied through the nipple adapter locations.

10. Tail Slave Operation

- a. Start the tractor and engage the hydraulics.
- b. Ensure the crossbeam attachment pin retaining catches are engaged with the trip rods disengaged from the angle stops. Additionally, ensure that all attachment pins are safety locked by spring cotters or split pins.
- c. Carry out a full range of movement check, ensuring that rearwards tilt of the mast does not foul against the tractor cab. Hold each selection and ensure that there are no leaks from either supply or return connections of both the Hy-Fi control unit or hydraulic rams. (Refer to control diagram below).
- d. Ensure that all hoses are not kinked, frayed or trapped.* Slight abrasions are to be protected using insulation tape to prevent further fraying.
- e. Refer to the Safety Instructions, Page 1.



SECTION 2 TRACTOR FITTINGS

The tables in this section detail the necessary fittings that are required to attach the TST 20/9 or 20/12 Tail Slave to each type of tractor, with the following exceptions:

WARNING

THE FOLLOWING TRACTORS
ARE NOT SUITABLE FOR USE
WITH THE TST 20/9 or 20/12
TAIL SLAVE

B M C MINI
FERGUSON TE 20
JOHN DEERE VINEYARD
LEYLAND 154
MASSEY FERGUSON VINEYARD

Stability

The recommended minimum rear wheel spacing and front ballast weighting is as follows:

		10 cwt Load	20 cwt Load
Minimum Wheel Spacing	Tractors below 50 H. P.	60"	72"
	Tractors above 50 H. P.	-	60"
Minimum Front Weight	Tractors below 50 H. P.	800 lbs	1200 lbs
	Tractors above 50 H. P.	-	800 lbs

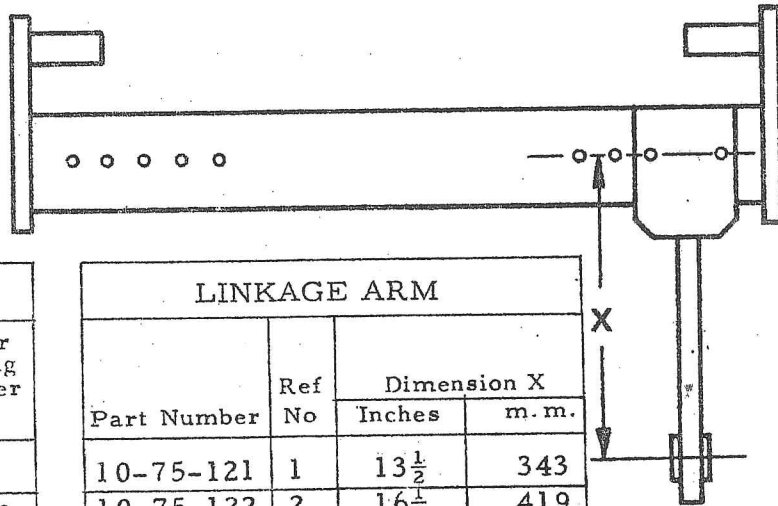
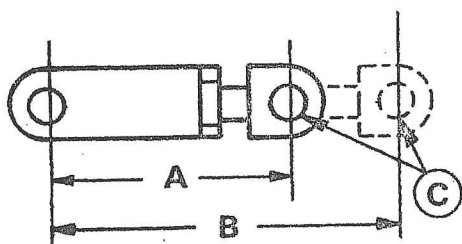
NOTE:

When operating or transporting a loaded Tail Slave, avoid slopes and uneven ground surfaces, e.g. ruts, bumps, etc. to prevent tilting the tractor.

To be read in conjunction with Figure 1
DAVID BROWN TRACTOR RANGE (Standard Tyres)

Model	Linkage Arm Part Number	Ref No.	Top Link Part Number	Ref No.	Hydraulic Supply	Coupling Return	Top Link Setting	Rocker Location	Tilt Ram Base Location
950 Imp	10-75-122	2	10-75-149	4		80-02-122	17½"	D	3
990 Imp	10-75-122	2	10-75-149	4		80-02-122	17½"	D	3
770 S	10-75-122	2	10-75-153	9		80-02-137	6.5/8"	C	3
780 S	10-75-122	2	10-75-153	9	85-90-043	80-02-137	6.5/8"	C	3
880 S	10-75-122	2	10-75-153	9		80-02-137	6.5/8"	D	3
990 S	10-75-123	3	10-75-153	9		80-02-137	7"	C	3
1200 S	10-75-124	4	10-75-146	3		80-02-137	9"	D	3

Note: All models require adaptor plates, see below.



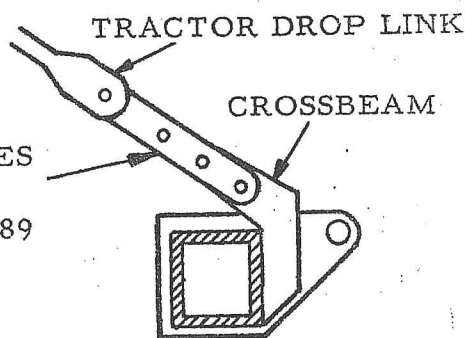
TOP LINK

Ref No.	Min/Max Dimensions		Tractor Coupling Diameter C
	A	B	
3	9.1/8"	12.5/8"	¾"
	232 mm	321 mm	19 mm
4	15¾"	19"	¾"
	400 mm	483 mm	19 mm
9	6½"	8½"	¾"
	165 mm	216 mm	19 mm

LINKAGE ARM

Part Number	Ref No.	Dimension X	
		Inches	m.m.
10-75-121	1	13½"	343
10-75-122	2	16½"	419
10-75-123	3	18½"	470
10-75-124	4	20½"	521

ADAPTOR PLATES
2 Required
Part No. 10-75-189



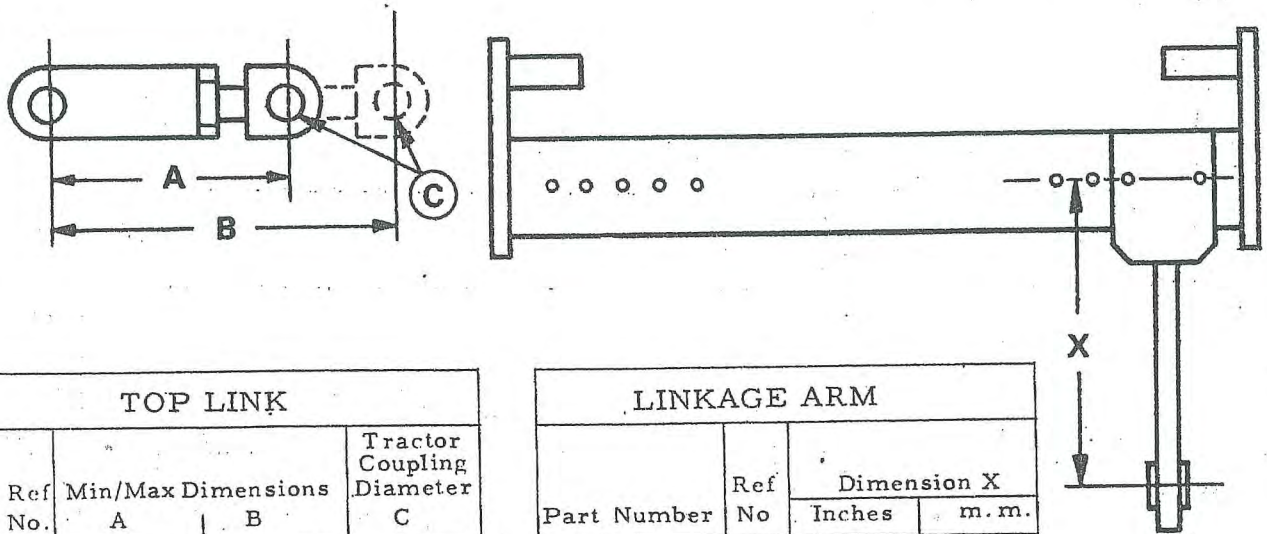
1. Tractors fitted with oversize tyres require the next consecutive longer linkage arms. Additionally, the top link is to be extended until the Tail Slave mast is vertical.

Note: Ensure the top link is adjusted in safety by reference to Dimension B and that at least one thread is exposed through the top link bracket.

2. The McConnel Mechanical Linkage Lock is not required.

To be read in conjunction with Figure 4
JOHN DEERE TRACTOR RANGE (Standard Tyres)

Model	Linkage Arm		Top Link		Hydraulic Supply	Coupling Return	Top Link Setting	Rocker Location	Tilt Ram Base Location
	Part Number	Ref No.	Part Number	Ref No.					
1020						Supplied By Tractor Manufacturer		C	3
1120								C	3
2020	10-75-125	5	10-75-156	8	85-90-053		10.5/8"	C	3
2120								C	3



TOP LINK			
Ref No.	Min/Max Dimensions		Tractor Coupling Diameter C
	A	B	
8	9.1/8"	12.5/8"	13/16"
	232 mm	321 mm	21 mm

LINKAGE ARM			
Part Number	Ref No	Dimension X	
		Inches	m. m.
10-75-156	5	17	432

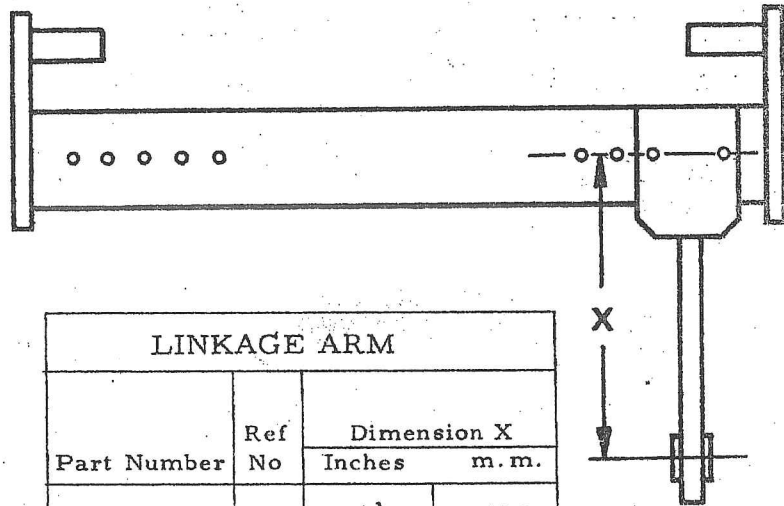
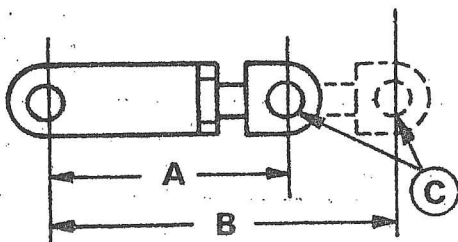
ALL MODELS : Require the McConnell Mechanical Linkage Lock
PART No. 10-75-158 c/w
PART No. 10-75-157 Crossbeam attachment Pin
and Spring Cotter

(Ref. to Fig 3.)

To be read in conjunction with Figure 4
MASSEY-FERGUSON TRACTOR RANGE (Standard Tyres)

Model	Linkage Arm Part Number	Ref No.	Top Link Part Number	Ref No.	Hydraulic Supply	Coupling Return	Top Link Setting	Rocker Location	Tilt Ram Base Location
35	10-75-122*	2	10-75-135	6			12 1/2"		
65	10-75-123	3	10-75-152	5			14.1/8"		
135	10-75-122*	2	10-75-135	6	85-90-043	80-02-127	12 1/2"	C	3
165	10-75-123	3	10-75-152	5			14.1/8"		
175	10-75-123	3	10-75-152	5			14.1/8"		
178	10-75-123	3	10-75-152	5			14.1/8"		

* 2 Linkage Arm Sleeves. Part No. 14-67-096, required to adapt Cat II to Cat I attachments.



TOP LINK			
Ref No.	Min/Max Dimensions		Tractor Coupling Diameter C
	A	B	
5	13"	16"	3 3/4"
	330 mm	406 mm	19 mm
6	11 3/4"	14 3/4"	3 3/4"
	299 mm	375 mm	19 mm

LINKAGE ARM			
Part Number	Ref No	Dimension X	
		Inches	m. m.
10-75-122	2	16 1/2"	419
10-75-123	3	18 1/2"	470
10-75-124	4	20 1/2"	521

ALL MODELS : Require the McConnel Mechanical Linkage Lock

PART No. 10-75-160 c/w

PART No. 10-75-157 Crossbeam attachment Pin and Spring Cotter

(Ref. to Fig 3.)

To be read in conjunction with Figure 4
FORD TRACTOR RANGE (Standard Tyres)

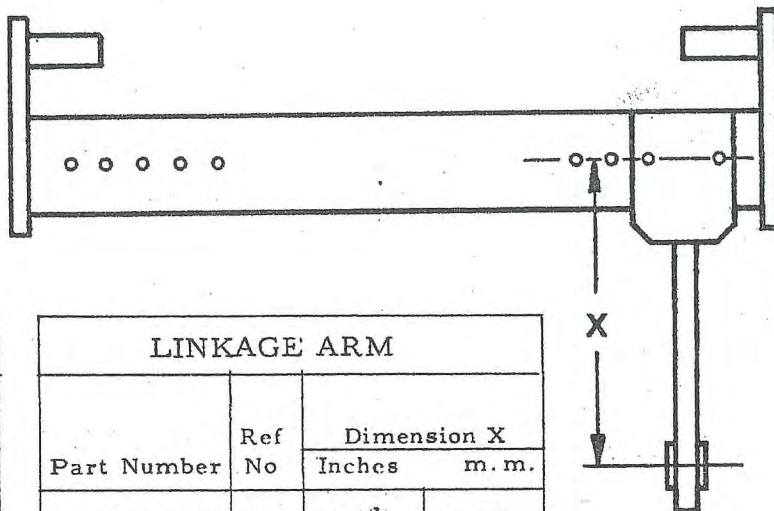
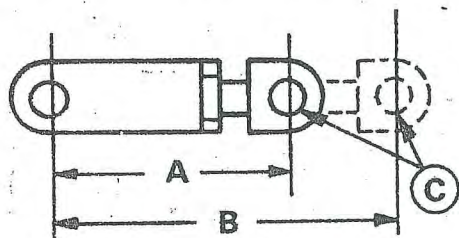
Model	Linkage Arm		Top Link		Hydraulic Supply	Coupling Return	Top Link Setting	Rocker Location	Tilt Ram Base Location
	Part Number	Ref No.	Part Number	Ref No.					
DEXTA	10-75-122*	2	10-75-135 ▽	6			13 $\frac{1}{4}$ "		
MAJOR	10-75-122	2	10-75-138 +	1			7 $\frac{1}{2}$ "		
SUPER MAJOR	10-75-124	4	10-75-143	2			11 $\frac{1}{4}$ "		
2000	10-75-122*	2	10-75-135 ▽	6	85-90-023	80-02-021	13 $\frac{1}{4}$ "	C	3
3000	10-75-122*	2	10-75-135 ▽	6			13 $\frac{1}{4}$ "		
4000	10-75-122	2	10-75-143	2			10 $\frac{1}{2}$ "		
5000	10-75-123	3	10-75-143 ^o	2	85-90-023	80-02-128	12 $\frac{1}{2}$ "		

* 2 Linkage Arm Sleeves, Part No. 14-67-096, required to adapt Cat. II to Cat. I attachments.

+ Part No. 81-03-250, Cut-off Valve c/w Self sealing coupling required.

▽ Part No. 11-51-810, Top Link attachment pin c/w Spring Cotter required.

o Part No. 71-01-130, Drop Link Connection c/w Pins and Sleeves required.



TOP LINK			
Ref No.	Min/Max Dimensions		Tractor Coupling Diameter C
	A	B	
1	6 $\frac{1}{2}$ "	8 $\frac{1}{2}$ "	1 inch
	165 mm	216 mm	25.4 mm
2	9.1/8"	12.5/8"	1 inch
	232 mm	321 mm	25.4 mm
6	11 $\frac{3}{4}$ "	14 $\frac{3}{4}$ "	$\frac{3}{4}$ "
	299 mm	375 mm	19 mm

LINKAGE ARM			
Part Number	Ref No	Dimension X	
		Inches	m. m.
10-75-122	2	16 $\frac{1}{2}$ "	419
10-75-123	3	18 $\frac{1}{2}$ "	470
10-75-124	4	20 $\frac{1}{2}$ "	521

The following models require a McConnell Mechanical Linkage Lock c/w cross beam attachment pin and spring cotter.

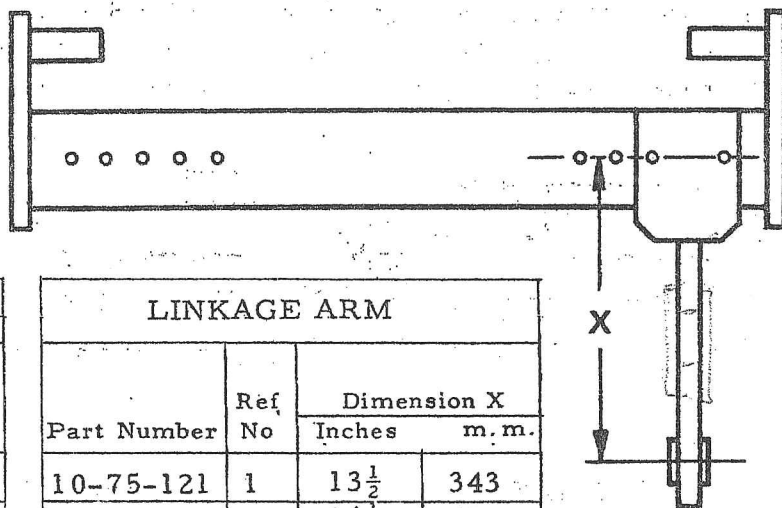
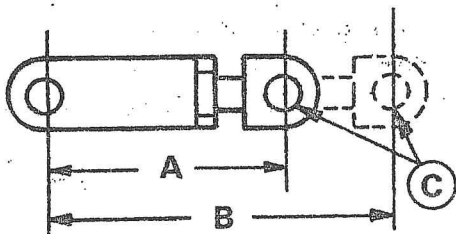
DEXTA)

2000) PART No. 10-75-185

3000) 10-75-157 (Ref. to Fig 3)

To be read in conjunction with Figure 1
INTERNATIONAL HARVESTER TRACTOR RANGE (Standard Tyres)

Model	Linkage Arm Part Number	Ref No.	Top Link Part Number	Ref No.	Hydraulic Supply	Coupling Return	Top Link Setting	Rocker Location	Tilt Ram Base Location
B275	10-75-121	1	10-75-143*	2		80-02-136	11 $\frac{1}{4}$ "	C	3
B276	10-75-121	1	10-75-155	7		80-02-136	11 $\frac{1}{4}$ "	C	3
B414	10-75-121	1	10-75-155	7		80-02-136	11 $\frac{1}{4}$ "	D	3
B434	10-75-121	1	10-75-155	7		80-02-136	11 $\frac{1}{4}$ "	D	3
B450	10-75-123	3	10-75-143	2	85-90-023	80-02-136	11.5/8"	D	3
B523	10-75-122	2	10-75-204	10		80-02-134	10.5/8"	D	3
B614	10-75-123	3	10-75-143	2		80-02-134	11 $\frac{1}{2}$ "	D	3
B634	10-75-123	3	10-75-143	2		80-02-134	11 $\frac{1}{2}$ "	D	3
B454	10-75-121	1	10-75-143 ▽	2		80-02-121	9 $\frac{1}{2}$ "	C	3
B574	10-75-121	1	10-75-143 ▽	2		80-02-121	9 $\frac{1}{2}$ "	C	3



TOP LINK			
Ref No.	Min/Max Dimensions		Tractor Coupling Diameter C
	A	B	
2	9.1/8"	12.5/8"	1"
	232 mm	321 mm	25.4 mm
7	11 $\frac{3}{4}$ "	14"	1"
	299 mm	356 mm	25.4 mm
10	9.1/8"	12.5/8"	29/32"
	232 mm	321 mm	23 mm

LINKAGE ARM			
Part Number	Ref No	Dimension X	
		Inches	m. m.
10-75-121	1	13 $\frac{1}{2}$	343
10-75-122	2	16 $\frac{1}{2}$	419
10-75-123	3	18 $\frac{1}{2}$	470
10-75-124	4	20 $\frac{1}{2}$	521

* B275 Tractors fitted with Vari-Touch Hydraulics fit Top Link Part No. 10-75-155, with the same settings as for Part No. 10-75-143.

▽ Additional requirement - Lock Plate, Part No. ~~10-75-157~~ c/w pin

ALL MODELS: Require the McConnel Mechanical Linkage Lock Part No. 10-75-205 (Ref to Fig 3)

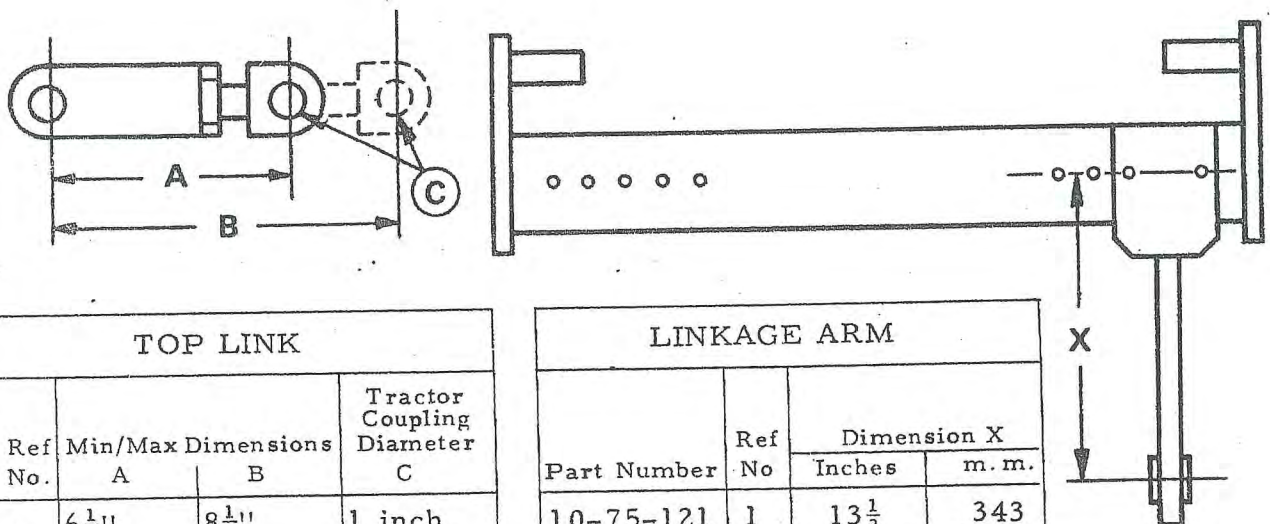
Tractors fitted with oversize tyres require the next consecutive longer linkage arms. Additionally, the top link is to be extended until the Tail Slave mast is vertical.

Note: Ensure the top link is adjusted in safety by reference to Dimension B and that at least one thread is exposed through top link bracket.

To be read in conjunction with Figure 1
BMC, NUFFIELD & LEYLAND TRACTOR RANGE (Standard Tyres)

Model	Linkage Arm		Top Link		Hydraulic Supply	Coupling Return	Top Link Setting	Rocker Location	Tilt Ram Base Location
	Part Number	Ref No.	Part Number	Ref No.					
342	10-75-122	2	10-75-143	2			8"	C	3
460	10-75-122	2	10-75-138	1			8"	C	3
10/42	10-75-122	2	10-75-143	2			8"	C	3
10/60	10-75-122	2	10-75-138	1	85-90-023	80-02-121	8"	C	3
3/45	10-75-123	3	10-75-143	2			9.1/8"	C Stop Plus	Pin 3
4/65	10-75-123	3	10-75-138	1			8.3/8"	C	1 3
344	10-75-123	3	10-75-143	2			9.1/8"	C Stop Plus	Pin 3
384	10-75-123	3	10-75-138	1			8.3/8"	C	3

Note: Attach top link to the tractor lower toplink pin location for BMC 3/45, 4/65 and LEYLAND 344, 384.



TOP LINK			
Ref No.	Min/Max Dimensions		Tractor Coupling Diameter C
	A	B	
1	6 1/2"	8 1/2"	1 inch
	165 mm	216 mm	25.4 mm
2	9.1/8"	12.5/8"	1 inch
	232 mm	321 mm	25.4 mm

LINKAGE ARM			
Part Number	Ref No	Dimension X	
		Inches	m. m.
10-75-121	1	13 1/2	343
10-75-122	2	16 1/2	419
10-75-123	3	18 1/2	470
10-75-124	4	20 1/2	521

1. Tractors fitted with oversize tyres require the next consecutive longer linkage arms. Additionally, the top link is to be extended until the Tail Slave mast is vertical.

Note: Ensure the top link is adjusted in safety by reference to Dimension B and that at least one thread is exposed through the top link bracket.

2. Tail Slaves supplied for BMC 3/45 and LEYLAND 344 include a rocker stop pin c/w lynch pin for fitment at next location A, Figure 4.
3. The McConnel Mechanical Linkage Lock is not required.

SECTION 3

SPARE PARTS MANUAL FOR TST 20/9 & 20/12 TAILSLAVE TRACTOR MOUNTED FORK LIFT

Always order spare parts from your dealer or stockist quoting the part number, machine type and serial number.

INTERPRETATION OF SPARE PARTS LIST

All machine parts, including accessories, are catalogued by a list of part numbers together with a description and an illustrated parts breakdown.

To ascertain that you are quoting the correct part number, locate the required item on the illustration, noting the illustration reference number. The illustration reference numbers are listed in numerical order and cross refer to the component part number, description and quantity fitted.

Many spares are supplied as Assemblies or Sub-assemblies and to help the customer determine the composition of an Assembly the Dot System is used.

The Main Assembly will not show a dot preceding its description and is printed in BLOCK CAPITALS. Subsequent listed parts are preceded by one or more dots until the next major assembly is reached. An increase in the number of preceding dots indicates that the item is an associated part of the preceding item. Whenever the number of dots are decreased by one this indicates the termination of an assembly.

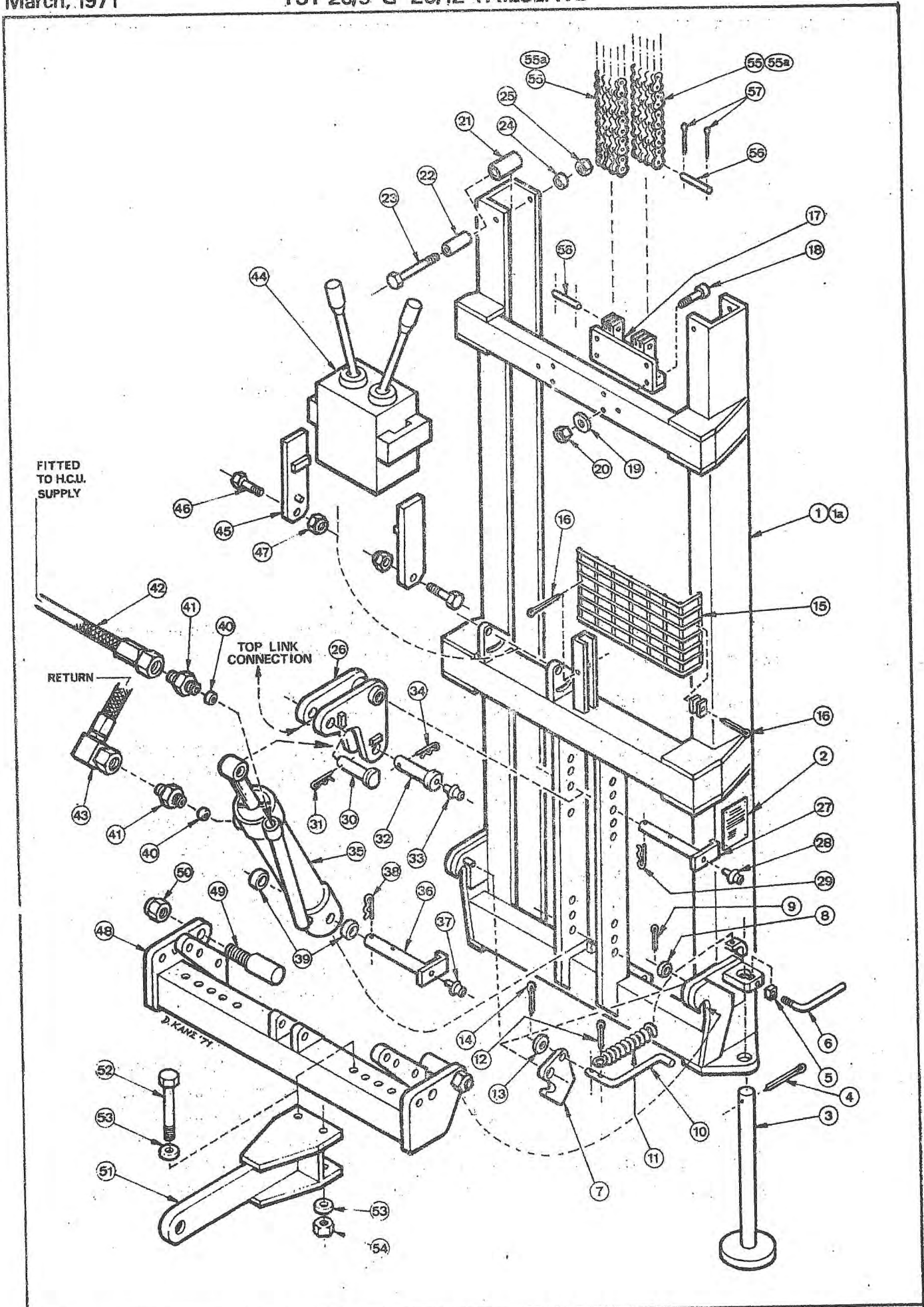


FIGURE 5 - PARTS BREAKDOWN, OUTER MAST ASSEMBLY

OPERATION AND SPARE PARTS MANUAL TST 20/9 & 20/12 TAILSLAVE

Publication 40
March, 1971

NOTE: Unless stated otherwise all parts are common to both TST 20/9 and TST 20/12 Tailslaves.

Illustration Ref. Number	Part Number	Qty.	Description
	10-75-212	1	OUTER MAST ASSEMBLY, TST 20/9
	10-78-212	1	OUTER MAST ASSEMBLY, TST 20/12
1	10-75-213	1*	. Outer frame, TST 20/9
1a	10-78-218	1*	. Outer frame, TST 20/12
2	10-71-151	1*	. Instruction and Serial Number plate
3	10-71-081	2	. Jack leg
4	05-03-203	2	. Split pin, 2.1/2" x 1/8" dia.
5	01-22-003	2	. Jack screw block
6	10-75-077	2	. Jack locking lever
7	10-71-071	2	. Lower linkage catch
8	01-00-105	2	. Flat washer, 1/2" dia.
9	05-03-063	2	. Split pin, 3/4" x 1/8" dia.
10	10-71-077	2	. Latch arm
11	10-71-080	2	. Latch spring
12	05-03-082	2	. Split pin, 1" x 3/32" dia.
13	01-00-102	2	. Flat washer, 5/16" dia.
14	05-03-082	2	. Split pin, 1" x 3/32" dia.
15	10-75-110	1	. Weldmesh guard
16	05-03-163	2	. Split pin, 2" x 1/8" dia.
17	10-75-078	1	. Chain retaining bracket
18	02-33-242	4	. Countersunk headed bolts, 3" x 5/16" BSF
19	01-00-102	4	. Flat washer, 5/16" dia.
20	01-43-002	4	. Aero nut, 5/16" dia.
21	10-71-067	2	. Outer mast side roller c/w bush
22	10-71-800	2	. Bearing bush
23	02-13-446	2	. Bolt, 5.1/2" x 5/8" BSF
24	01-00-106	2	. Flat washer, 5/8" dia.
25	01-43-006	2	. Aero nut, 5/8" BSF
	10-75-088	1	MAST TILT ASSEMBLY
26	10-75-090	1	. Rocker arm
27	10-75-093	1	. Rocker arm pin c/w grease nipple and spring cotter
28	09-01-141	1	. Grease nipple
29	04-31-104	1	. Spring cotter
30	10-75-097	1	. Top link pin c/w spring cotter
31	04-31-104	1	. Spring cotter
32	10-75-095	1	. Tilt ram top pin c/w grease nipple and spring cotter
33	09-01-141	1	. Grease nipple
34	04-31-104	1	. Spring cotter
35	10-75-254	1	TILT RAM (Refer to page 27)
36	10-75-093	1	. Tilt ram base pin c/w grease nipple and spring cotter
37	09-01-141	1	. Grease nipple
38	04-31-104	1	. Spring cotter
39	10-75-089	2	. Tilt ram base spacers
40	86-50-103	2	. Bonded seal, 3/8" BSP
41	10-75-115	2	. Adaptor, 3/8" BSP x 1/2" JIC
42	35-01-009 045	1	. HYDRAULIC FLEXIBLE PIPELINE, ^{72"} 36" long, SUPPLY (Refer to page 27)
43	35-01-015	1	. HYDRAULIC FLEXIBLE PIPELINE, 26" long, RETURN (Refer to page 27)
44	81-14-404	1	2-4S HY-FI CONTROL UNIT (Refer to page 31)
45	10-75-098	2	. Control unit attachment arm
46	02-13-103	2	. Bolt, 1.1/4" x 3/8" BSF
47	01-43-003	2	. Aero nut, 3/8" BSF
	10-75-229	1	CROSSBEAM ASSEMBLY
48	10-75-230	1	. Crossbeam
49	10-71-117	2	. Crossbeam linkage pin
50	01-43-007	2	. Aero nut, 3/4" BSF
51	(Refer to Section 2 Tractor Fittings)		LINKAGE ARM
52	02-17-366	4	. Bolt, 4.1/2" x 5/8" BSF
53	01-00-106	8	. Flat washer, 5/8" dia.
54	01-43-006	4	. Aero nut, 5/8" BSF
55	10-75-083	2	BALANCE CHAIN c/w END LINK, TST 20/9
55a	10-78-083	2	BALANCE CHAIN c/w END LINK, TST 20/12
56	10-71-084	2	. Chain end fitting
57	05-03-041	4	. Split pin, 1/2" x 1/16" dia.
57a	01-33-005	4	. Lock nuts, 1/2" BSF

* Outer frame replacement necessitates the transfer of the Instruction and Serial Number plate to the new item.

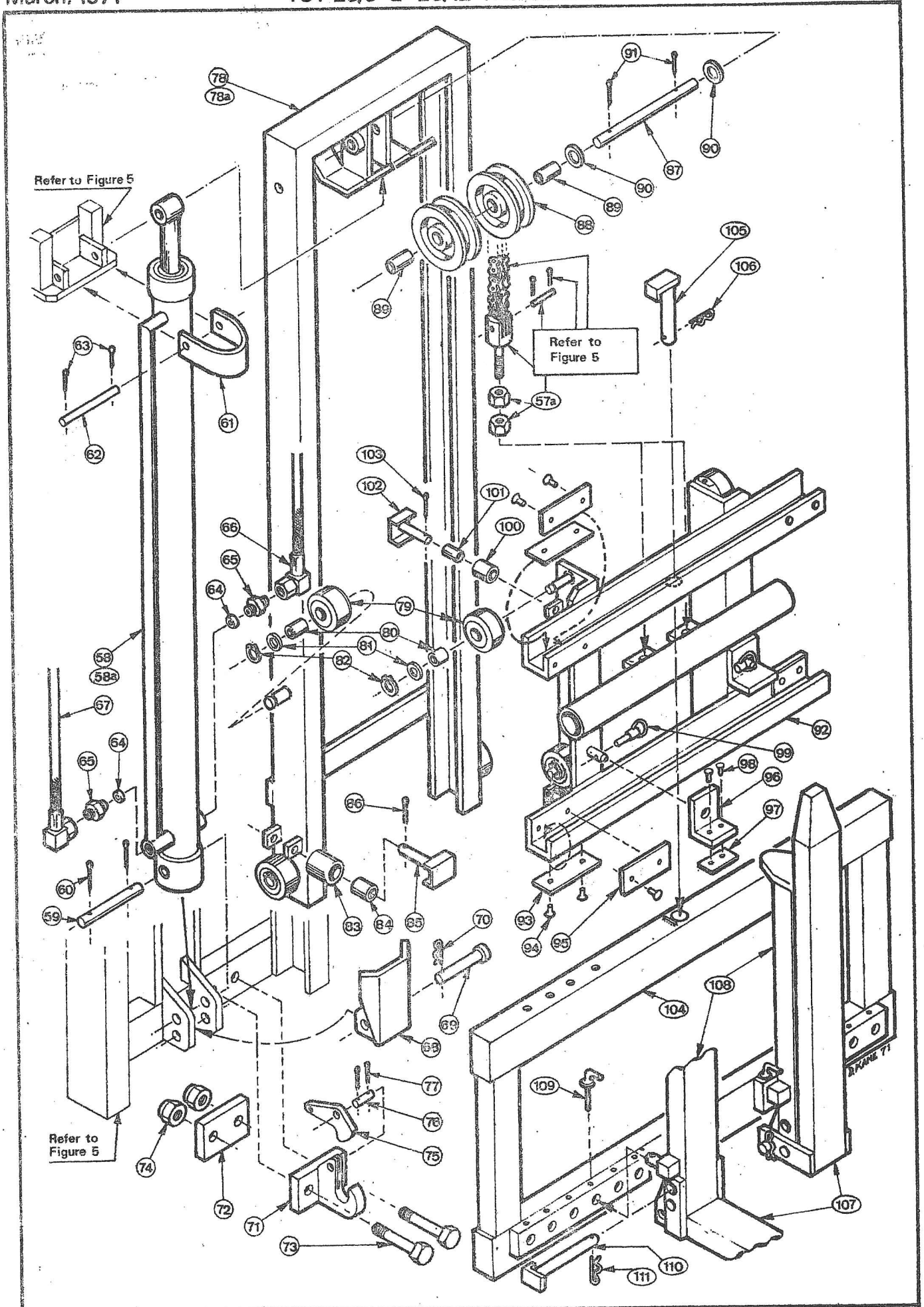


FIGURE 6 - PARTS BREAKDOWN, INNER MAST ASSEMBLY

**OPERATION AND SPARE PARTS MANUAL
TST 20/9 & 20/12 TAILSLAVE**

**Publication 40
March, 1971**

NOTE: Unless stated otherwise all parts are common to both TST20/9 and TST20/12 Tailslaves.

Illustration Ref. Number	Part Number	Qty.	Description
58	10-75-252	1	LIFT RAM, TST 20/9 (Refer to page 27)
58a	10-78-252	1	LIFT RAM, TST 20/12 (Refer to page 27)
59	10-75-075	1	. Lift ram base pin c/w split pins
60	05-03-165	2	. . Split pin, 2" x 3/16" dia.
61	10-75-081	1	. Lift ram retaining clip
62	10-75-082	1	. . Retaining clip pin c/w split pins
63	05-03-083	2	. . . Split pins, 1" x 1/8" dia.
64	86-50-103	2	. . Bonded seal, 3/8" BSP
65	10-75-115	2	. . Adaptor, 3/8" BSP x 1/2" JIC
66	85-01-016	1	HYDRAULIC FLEXIBLE PIPELINE, SUPPLY, (Refer to page 27)
67	85-01-017	1	HYDRAULIC FLEXIBLE PIPELINE, RETURN, (Refer to page 27)
68	10-75-180	1	RAM BASE GUARD
69	10-75-106	1	. Guard locating pin c/w spring cotter
70	04-31-104	1	. . Spring cotter
	10-75-172	1	PICK-UP HITCH ASSEMBLY
71	10-75-173	1	. Hitch hook
72	10-75-178	1	. Hitch back plate
73	02-13-327	2	. . Bolt, 4" x 3/4" BSF
74	01-43-007	2	. . Aero nut, 3/4" BSF
75	10-75-176	1	. . Hitch locking plate
76	10-75-177	1	. . Hitch locking plate pin c/w split pins
77	05-03-103	2	. . . Split pin, 1.1/4" x 1/8" dia.
	10-75-015	1	INNER MAST ASSEMBLY, TST 20/9
	10-78-015	1	INNER MAST ASSEMBLY, TST 20/12
78	10-75-016	1	. Inner mast, TST 20/9
78a	10-78-016	1	. Inner mast, TST 20/12
79	10-60-020	4	. . Carriage roller c/w bush
80	10-60-806	4	. . . Bearing bush
81	01-00-109	4	. . . Flat washer, 1" dia.
82	04-01-116	4	. . . External circlip
83	10-71-043	2	. . Side roller c/w bush
84	10-71-800	2	. . . Bearing bush
85	10-71-040	2	. . Lower side roller pin c/w split pin
86	05-03-123	2	. . . Split pin 1.1/2" x 1/8" dia.
87	10-75-074	1	. . Lift ram top locating shaft c/w split pins (91)
88	10-60-010	2	. Chain pulley c/w bearing bush
89	10-60-804	2	. . Bearing bush
90	01-00-109	2	. Flat washer, 1" dia.
91	05-03-125	2	. Split pin, 1.1/2" x 3/16" dia.
	10-75-020	1	CARRIAGE ASSEMBLY
92	10-75-021	1	. Carriage frame (Refer to Ref. Nos. 79 to 82 inclusive for rollers)
93	10-75-040	4	. . Bottom liner c/w rivets
94	10-75-047	16	. . . C/sunk liner rivets, 3/4" x 1/4" dia.
95	10-75-041	4	. . Side liner c/w rivets
	10-75-043	1	ANGLE STOP ASSEMBLY
96	10-75-045	2	. Angle stop
97	10-75-042	2	. . Top liner c/w rivets
98	10-75-047	4	. . . C/sunk top liner rivets, 3/4" x 1/4" dia.
99	04-31-217	2	. . Lynch pin
100	10-60-039	4	. Side roller c/w bush
101	10-60-807	4	. . Bearing bush
102	10-60-038	4	. Side roller pin c/w split pin
103	05-03-083	4	. . Split pin, 1" x 1/8" dia.
104	10-75-192	1	FORK ATTACHMENT FRAME
105	10-75-186	1	. Fork frame centre location pin c/w spring cotter
106	04-03-104	1	. . Spring cotter
107	10-75-195	2	HINGED FORK ASSEMBLY, Standard 42"
108	10-75-200	2	HINGED FORK ASSEMBLY, 36"
109	10-75-186	4	. Fork locating pin
110	10-75-064	2	. Fork locking pin c/w spring cotter
111	04-31-104	2	. . Spring cotter

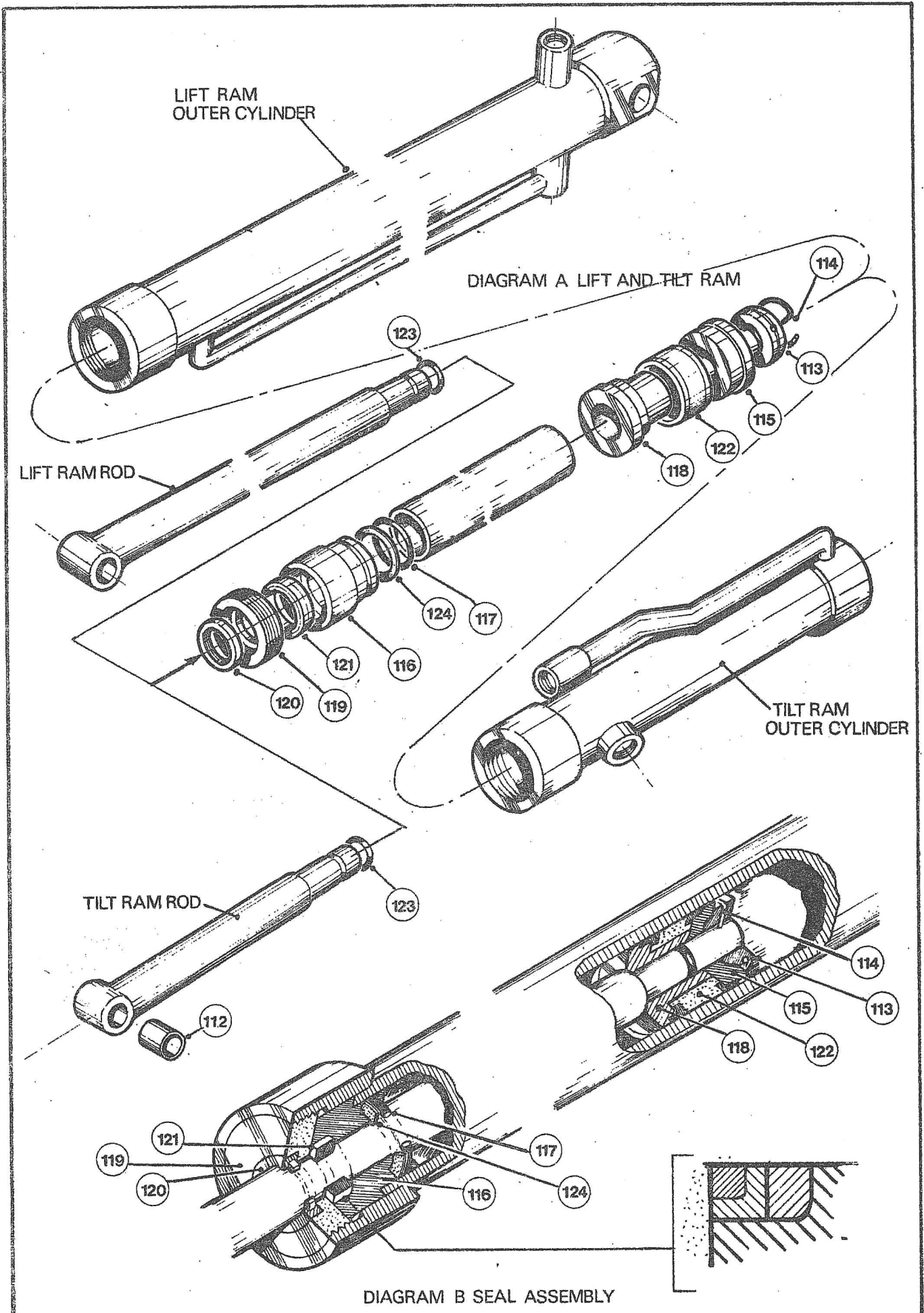


FIGURE 7 PARTS BREAKDOWN LIFT and TILT RAMS

HYDRAULIC SPARE PARTS

Contact your dealer whenever the major hydraulic components require maintenance. All dealers have the necessary tools and test equipment to ensure satisfactory overhaul and operation of the Tail Slave hydraulic components.

Refer to
Figure 7

Illustration Ref. Number	Part Number	Qty.	Description
	10-75-252	1	LIFT RAM ASSEMBLY, 54" STROKE, TST 20/9
	10-78-252	1	LIFT RAM ASSEMBLY, 72" STROKE, TST 20/12
	10-75-254	1	TILT RAM ASSEMBLY, 6" STROKE, (Fitted to both TST 20/9 and 20/12)
112	10-75-050	1	. Rod end bush (fitted to 10-75-254 only)
The following parts are common to both Lift and Tilt Rams:			
113	71-01-096	1	. Piston nut c/w locking ring
114	71-01-152	1	. . Locking ring
115	71-01-098	1	. Piston, outer
116	71-01-099	1	. Gland housing assembly
117	86-00-304	1	. . 'O' Ring, gland housing
118	71-01-097	1	. Piston, inner
119	71-01-100	1	. Gland nut c/w wiper
120	86-40-328	1	. . Piston rod wiper
121	86-22-127	1	. Gland seal
122	86-35-131	1	. Piston seal
123	86-00-119	1	. 'O' Ring, piston rod
124	86-09-304	1	. Anti-extrusion ring
	86-99-102	1 Set	SEAL KIT COMPLETE
The following parts are common to both TST 20/9 and TST 20/12 Tail Slaves			
	85-01-016	1	FLEXIBLE HYDRAULIC PIPELINE ASSEMBLY, LIFT RAM, SUPPLY, 37.1/4" LONG
Refer to Figure 5 & 6	85-01-017	1	FLEXIBLE HYDRAULIC PIPELINE ASSEMBLY, LIFT RAM, RETURN, 40.1/2" LONG
	85-01-009	1	FLEXIBLE HYDRAULIC PIPELINE ASSEMBLY, TILT RAM, SUPPLY, 26" LONG
	85-01-015	1	FLEXIBLE HYDRAULIC PIPELINE ASSEMBLY, TILT RAM, RETURN, 26" LONG
The flexible hydraulic pressure pipelines are assembled using the following parts (alternative lengths can be made up to suit customers individual requirements):			
	80-01-086	per foot	Hose (ordered in
	80-01-079		Straight end fitting
	80-01-078		90° Elbow end fitting
	80-01-085		45° End fitting
The following parts are required to connect the tractor hydraulic system to the Tail Slave hydraulic control unit:			
	85-01-018	1	HYDRAULIC SUPPLY PIPELINE
	10-75-115	1	1/2" JIC x 3/8" BSP Adaptor
	86-50-103	1	3/8" BSP Bonded seal
	85-90-023	1	Self-sealing coupling, Female half
or	95-90-043	1	Self-sealing coupling (EXACTOR), Female half
	85-95-060	1	HYDRAULIC RETURN HOSE, TRACTOR/HCU, c/w jubilee clips

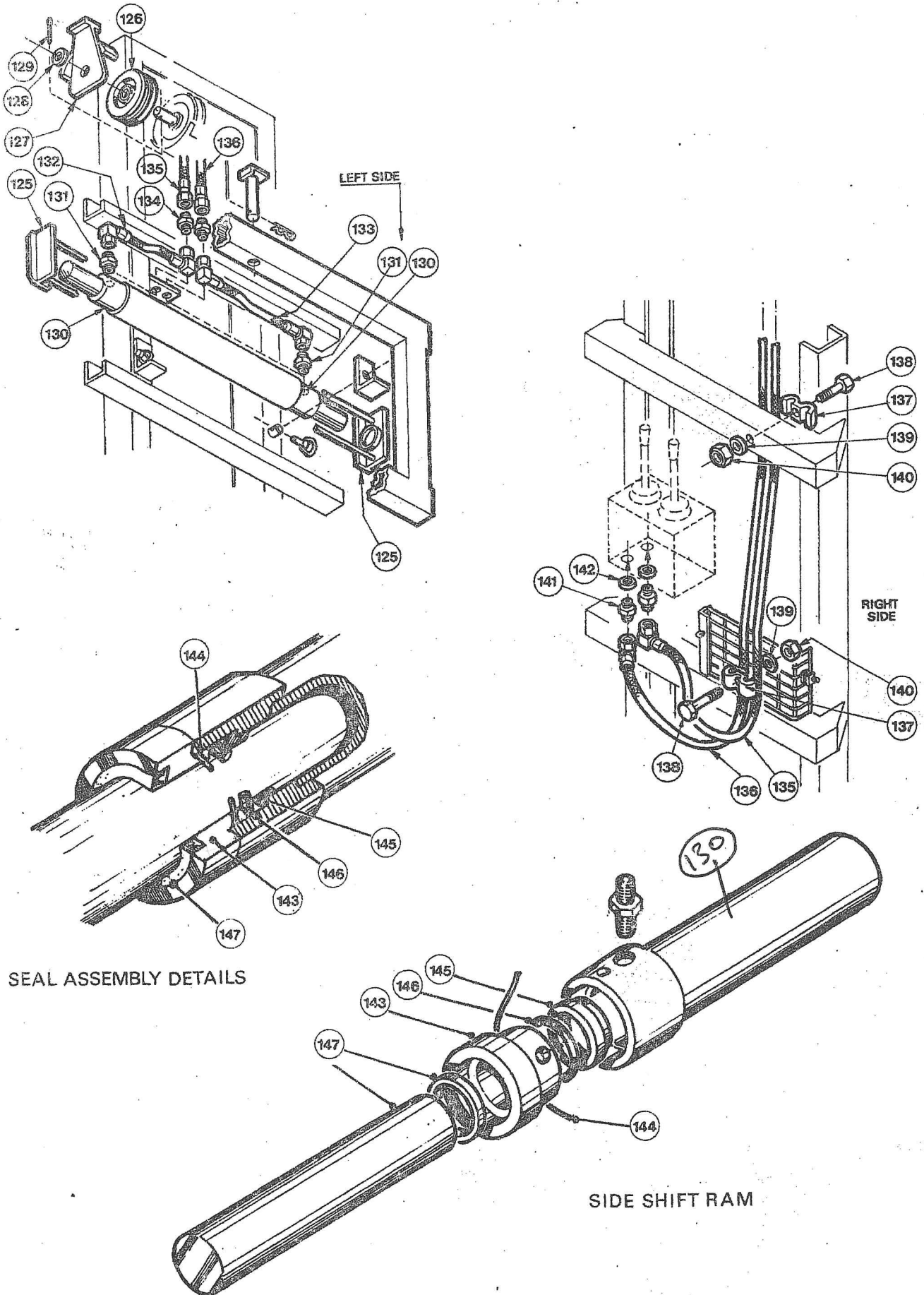


FIGURE 8 PARTS BREAKDOWN TK2 SIDE SHIFT

Unless stated otherwise all parts are common to both TST 20/9 and TST 20/12 Tail Slaves

Illustration Ref. Number	Part Number	Qty.	Description
	10-75-101	1	SIDE SHIFT ASSEMBLY, TST 20/9
	10-78-101	1	SIDE SHIFT ASSEMBLY, TST 20/12
125	10-75-066	1	. Ram retainer
126	10-75-068	1	. Hose guide roller c/w bearing bush
127	10-75-107	1	. Hose guide bracket
128	01-00-109	1	. Flat washer, 1" dia.
129	05-03-165	1	. Split pin, 2" x 3/16" dia.
130	10-75-250	2	. Side shift ram assembly (Refer to Illust. Ref. No's. 143 to 147 inclusive for Parts Breakdown)
131	10-75-117*	2	. Adaptor, 1/2" JIC x 1/4" BSP
132	85-01-013*	1	. Secondary flexible pipeline, R.H., 7.5/8" long
133	85-01-014*	1	. Secondary flexible pipeline, L.H., 17" long
134	10-75-116*	2	. Adaptor, 1/2" JIC x 1/2" JIC
135	85-01-011*	1	. Primary flexible pipeline, R.H., 122" long, TST 20/9 or
	85-01-019*	1	. " " " " 158" long, TST 20/12
136	85-01-012*	1	. Primary flexible pipeline, L.H., 125" long, TST 20/9 or -
	85-01-020*	1	. " " " " 161" long, TST 20/12
137	10-75-113	2	. Hose clip
138	02-13-201	2	. Bolt, 2.1/2" x 1/4" BSF
139	01-00-101	2	. Flat washer, 1/4" dia.
140	01-43-001	2	. Aero nut, 1/4" BSF
141	10-75-115	2	. Adaptor, 3/8" BSP x 1/2" JIC
142	86-50-103	2	. Bonded seal, 3/8" BSP
143	71-01-029	2	. Head bush
144	71-01-030	2	. Locking wire clip
145	71-01-031	2	. Insert
146	86-12-132	2	. Gland seal
147	86-40-230	2	. Piston rod wiper
	86-99-103	2	Side shift ram seal kit complete

12-22
02 32
02 12
02 15

* These flexible pipelines and fittings are not interchangeable with any other McConnell equipment.

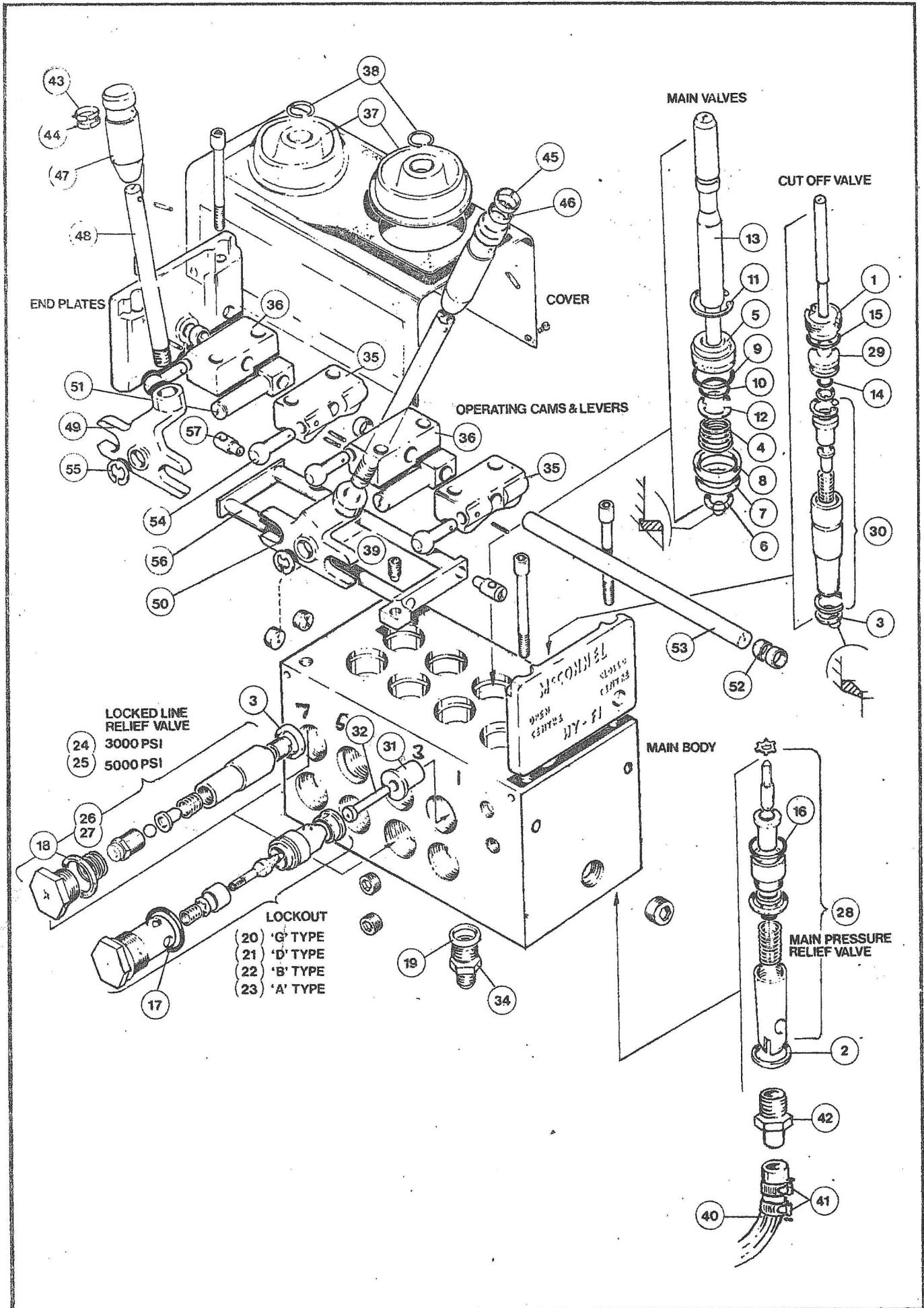


FIGURE 9 PARTS BREAKDOWN 2-4S HY-FI CONTROL UNIT

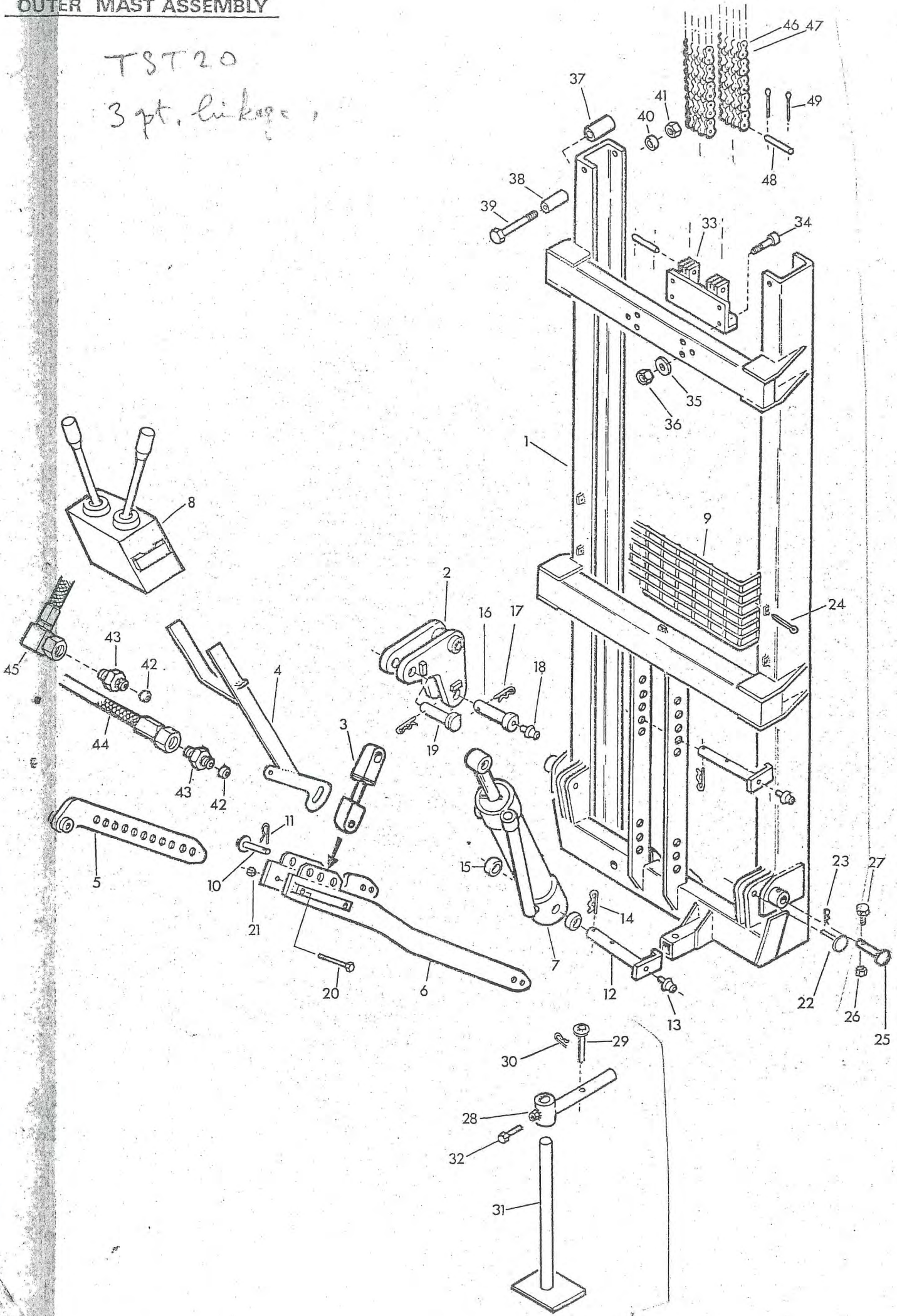
2 - 4S HY-FI CONTROL UNIT

Illustration Ref. Number	Part Number	Qty.	Description
	81-14-404	1	HY-FI CONTROL UNIT ASSEMBLY
1	81-14-069	1	Ring Nut
2	86-50-218	2	1.1/8" Bonded Seal
3	81-14-014	9	Nylon Seat
4	81-14-003	8	Conical Spring (spindle tensioners)
5	81-14-002	8	Brass Insert (spindle bearing)
6	81-14-005	8	Seal (spindle lower)
7	81-14-004	8	Backing Ring
8	81-06-022	8	Spindle Seal (Spindle upper)
9	86-00-401	8	'O' Ring 13/16" ID x 1" OD
10	86-00-110	8	'O' Ring 1/2" ID x 11/16" OD
11	81-14-077	8	Snap Ring (Heavy) 1" x .06" thick
12	81-14-058	8	Snap Ring 1/2" Ext (Locates conical spring to spindle)
13	81-14-001	8	Spindle
14	86-00-103	1	'O' Ring 3/16" ID x 5/16" OD (cut-off valve insert internal)
15	86-00-111	1	'O' Ring 9/16" ID x 3/4" OD (cut-off valve insert external)
16	86-00-113	1	'O' Ring 11/16" ID x 7/8" OD (Main Relief Valve) c/w
and	81-14-079		Backing ring
17	86-00-402	8	'O' Ring 7/8" ID x 1.1/16" OD (Lock outs)
18	86-50-104	8	1/2" BSP Bonded Seal (LL. relief valves)
19	86-50-103	10	3/8" BSP Bonded Seal
20	81-14-155	1	'G' Type Lockout Assembly (Forks lower)
21	81-14-153	2	'D' Type Lockout Assembly (Mast tilt in and out)
22	81-14-149	3	'B' Type Lockout Assembly (Box Tip open-close if fitted) (Fork up)
23	81-14-150	2	'A' Type Lockout Assembly (Swing LH & RHnd)
24	81-14-100	3	Locked Line Relief Valve Assembly (3000 PSI)
25	81-14-101	3	Locked Line Relief Valve Assembly (5000 PSI)
26	81-14-025	2	Spring (Locked line relief valves on Side Shift sections 1 & 2)
27	81-14-024	6	Spring (all other L/L R.V.)
28	81-09-100	1	Main relief valve 2000 PSI
29	81-14-012	1	Brass Insert (cut-off Valve)
30	81-14-006	1	Cut-off piston assembly
31	81-14-047	8	Actuator 1st stage
32	81-14-050	8	Actuator 2nd stage
34	71-03-062	9	Union 3/8" BSP x 3/4" JIC (Service Ports)
35	81-14-055	2	Nylon Rocker L.H. (connected to control levers)
36	81-14-054	2	Nylon Rocker R.H. (connected to control levers)
37	81-14-028	2	Boot (protects lever & spindle mechanisms)
38	04-05-108	2	1/2" ID Wire Ring (Boot Stop on control levers)
39	81-14-056	1	3/8" UNF x 5/8" LG Hex Socket setscrew (Cut off valve adjustment)
40	85-95-060	1	Return Hose Tractor/HY-FI
41	09-04-106	2	Hose clip
42	81-14-015	1	Return Adaptor
43	81-14-062	1	Ring - Red
44	81-14-063	1	Ring - Black
45	81-14-060	1	Ring - Yellow
46	81-14-061	1	Ring - Green
47	81-14-053	2	Knob
48	81-14-075	2	Lever
49	81-14-073	1	Lever Bracket RH
50	81-14-074	1	Lever Bracket LH
51	81-14-030	2	Lever Pivot
52	81-14-031	4	Spacer
53	81-14-029	1	Shaft
54	81-14-034	2	Ball End
55	81-14-058	2	Circlip
56	81-14-035	1	Cut-off Lever
57	81-14-036	2	Pin

Note: A service manual for the Hy-Fi Control Unit is available on request to F.W. McConnel Limited, Temeside Works, Ludlow, Shropshire, SY8 1JL. England.

OUTER MAST ASSEMBLY

T8T20
3 pt. linkage



Ref	Part No	Qty	Description
	10 75 265	1	OUTER MAST ASSEMBLY
1	10 75 226	1	.Outer Mast Welded Assembly
2	10 75 090	1	.Rocker Arm
3	10 75 146	1	.Top Link Assembly
4	10 75 276	1	.Hy-Fi Bracket
5	10 75 275	1	.Universal Tophitch Bracket
6	10 75 272	1	.Lock Link Welded Assembly
7	10 75 254	1	.Tilt Ram
8	81 14 404	1	.24S Hy-Fi Control Unit
9	10 71 086	1	.Wire Guard
10	10 75 277	1	.Top Link Pin
11	04 31 105	1	..Spring Cotter
12	10 75 093	2	.Rocker Arm Pin
13	09 01 141	1	..Greaser
14	04 31 104	1	..Spring Cotter
15	10 75 089	2	.Til Ram Base Spacer
16	10 75 095	1	.Tilt Ram Top Pin
17	09 01 141	1	..Greaser
18	04 31 104	1	..Spring Cotter
19	10 75 097	1	.Top Link Pin
20	02 11 326	2	.Bolt 5/8" dia. UNF x 4" long
21	01 41 006	2	.Aeronut 5/8" UNF
22	10 75 278	2	.Locking Link Pin
23	04 31 105	1	..Spring Cotter
24	05 03 083	5	.Split Pin 1/8" dia.
25	10 83 055	2	.CAT 2. Pin c/w Nut & Bolt
26	01 11 002	2	..Nut 5/16" UNF
27	02 11 202	2	..Bolt 5/16" UNF x 2½" long
28	10 83 061	1	.Jack Arm
29	10 83 064	1	.Jack Pin
30	04 31 105	1	..Spring Cotter
31	10 83 057	1	.Jack Leg
32	03 11 085	1	. Setscrew ½" UNF x 1" long
33	10 75 078	1	.Chain Retaining Bracket
34	02 33 242	4	..Countersunk head Bolt 3" x 5/16" BSF
35	01 00 102	4	..Flat Washer 5/16" dia.
36	01 43 002	4	..Aeronut 5/16" dia.
37	10 71 067	2	.Outer Mast Side Roller c/w bush
38	10 71 800	2	..Bearing Bush
39	02 13 446	2	..Bolt 5½" x 5/8" BSF
40	01 00 106	2	...Flat Washer 5/8" dia.
41	01 43 006	2	...Aeronut 5/8" BSF
42	86 50 103	2	.Bonded Seal 3/8" BSP
43	10 75 115	2	.Adaptor 3/8" BSP x ½" J.I.C.
44	85 01 009	1	.Hose, 26" long (supply)
45	85 01 015	1	.Hose, 26" long (return)
46	10 75 083	2	BALANCE CHAIN c/w END LINK TST 20/9
47	10 78 083	2	BALANCE CHAIN c/w END LINK TST 20/12
48	10 71 084	2	.Chain End Fitting
49	05 03 041	4	..Split Pin ½" x 1/16" dia.