

CONSTRUCTION 285 - 2100

<u>SPECIFICATIONS</u>	<u>285</u>	<u>2100</u>
<u>WEIGHTS -- LEYLAND CAB FITTED</u>		
FRONT AXLE LB(KG)	2480	2510
REAR AXLE LB (KG)	5520	5960
TOTAL LB(KG)	8000	8470
<u>% DISTRIBUTION</u>		
FRONT AXLE	31%	30%
REAR AXLE	69%	70%
<u>POWER/WEIGHT RATIO</u>		
	94 : 1	80 : 1
<u>TYRES</u>		
FRONT	7.50 x 16 8 PLY	7.50 x 16 8PLY
REAR	15 x 30 6 PLY	14 x 34 8 PLY P.A.V.T.
<u>DIMENSIONS</u>		
LENGTH IN (MM)	144.5 (3670)	144.5 (3670)
MIN WIDTH	81.4 (2060)	84 (2135)
HEIGHT TO TOP OF CAB	99.4 (3535)	100 (2540)
WHEEL BASE	90 (2285)	90 (2285)
TURNING RADIUS	172 (4368)	172 (4368)
<u>GROUND CLEARANCE</u>		
FRONT AXLE	17.45 (443)	16.75 (425)
REAR AXLE	15.8 (401)	17 (432)

CONSTRUCTION 285/2100

CONTINUED

UNIT CONSTRUCTION

UNITS

- 1 ENGINE
- 2 CLUTCH
- 3 TRANSMISSION
- 4 REAR AXLE
- 5 HYDRAULICS
- 6 SAFETY CAB AND PLATFORM FLOOR

ALL MOUNTED ON STRESSED PLATE MAIN FRAMES WHICH STRETCHES FULL LENGTH OF UNIT

- | | | |
|--------------|---|--|
| ENGINE | - | RUBBER MOUNTED DEADENING ENGINE NOISE AT SOURCE - COMPLETELY ELIMINATES ENGINE CONSTRUCTIONAL STRESS |
| CLUTCH | - | LOWER CLUTCH PAN EASILY REMOVED TO ALLOW CLUTCH UNIT TO BE DROPPED DOWNWARDS FOR OVERHAULING. |
| | - | MAIN FRAMES ACT AS ANCHORS FOR CLUTCH SHAFTS |
| TRANSMISSION | - | SUPPORTED BY MAIN FRAME AT FRONT AND REAR |
| | - | NO CONSTRUCTIONAL STRESS |
| | - | MORE ROBUST TRACTOR |
| | - | GEARBOX REMOVAL EASIER |
| REAR AXLE | - | BOLTED TO MAIN FRAME USING FIXING PADS |
| HYDRAULICS | - | WITH EXCEPTION OF PUMP AND FILTERS UNIT IS SELF CONTAINED |
| | - | AIDS SERVICING |

SAFETY CAB - ATTACHED TO MAINFRAME AND REAR AXLE
& PLATFORM

MAIN FRAME - UNIT BUILT. FRONT END WEIGHT FRAME
FITTED DIRECTLY IN FRONT OF MAIN FRAME. IN
ADDITION TO CARRYING WEIGHTS IT ALSO
PROTECTS FRONT OF TRACTOR FROM DAMAGE AND
INCORPORATES TOWING HITCH

TRANSMISSION

TYPE - SLIDING SPUR
- TWO LEVER OPERATION
- 10 FORWARD 2 REVERSE

1 MAIN LEVER AT RIGHT SIDE OF SEAT OPERATES 5 FORWARD AND
1 REVERSE GEAR. TO START ENGINE MAIN LEVER MUST BE HELD
OVER TOWARDS OPERATOR TO ACTUATE SAFETY START SWITCH.

2 GEAR RATIO CHANGED BY HIGH/LOW LEVER, SITUATED AT LEFT SIDE
OF SEAT, GIVING 27% INCREASE AND 21% DECREASE BETWEEN HIGH AND
LOW RATIOS.

3 THE COMPLETELY MECHANICAL GEARBOX RESULTS IN - RELIABILITY -
ROBUSTNESS - EASE OF SERVICE AND OVERHAUL - SIMPLE LUBRICATION
AND LOW POWER LOSS.

4 GEARS RUN IN LOGICAL SEQUENCE:-

1ST	-	1 LOW)	
2ND	-	1 HIGH)	
3RD	-	2 LOW)	4 CREEP SPEEDS
4TH	-	2 HIGH)	
5TH	-	3 LOW)	
6TH	-	3 HIGH)	
7TH	-	4 LOW)	4 FIELD SPEEDS
8TH	-	4 HIGH)	
9TH	-	5 LOW)	2 ROAD SPEEDS
10TH	-	5 HIGH)	

REVERSE 1 - R LOW) 2 REVERSE SPEEDS
2 - R HIGH)

POWER TRANSMITTED FROM GEARBOX TO FINAL DRIVE THROUGH HEAVY DUTY PINION AND DIFFERENTIAL ASSEMBLY.

DIFFERENTIAL LOCK LOCKS BOTH WHEELS TOGETHER. OPERATED BY RIGHT HEEL AND AUTOMATICALLY DISENGAGES WHEN DIFFERENTIAL LOAD REDUCES..

OIL CAPACITY OF TRANSMISSION INCLUDING FINAL DRIVE AND HYDRAULICS 11.25 GALL (51.2 litres) 15 US GALL.

RECOMMENDED TRANSMISSION OILS

HP - BP TF8
CASTROL - AGRI CASTROL AS SPECIAL
ESSO - ESSO TORQUE FLUID 62
MOBIL - MOBIL 422
SHELL - 7884

	<u>ADVANTAGES</u>	<u>DISADVANTAGES</u>
SLIDING SPUR	RELIABILITY, SIMPLICITY COST/COST OF OVERHAUL UNSOPHISTICATED OIL	CHANGE ON THE MOVE ONLY WITH PRACTICE
SYNCHROMESH	CHANGE ON THE MOVE	COST/COST OVERHAUL RELIABILITY, SPIRAL OIL, SECOND HAND VALUE ?
HYDROSTATIC	INFINATELY VARIABLE SPEED WITHOUT AFFECTING PTO SPEED	INITIAL COST/OVERHAUL COST SPECIALISED MECH- ANICS SPECIAL OIL (PRICE) POWER ABSORPTION SECOND HAND VALUE
MULTI POWER/SLIDING SPUR	HIGH/LOW CHANGE ON THE MOVE WITHIN EACH GEAR	LOW MULTIPOWER - NO ENGINE BREAKING - 6 GEARS FOR ROTOVATING DANGEROUS. 6 GEARS FORAGE

	<u>ADVANTAGES</u>	<u>DISADVANTAGES</u>
HYDROSHIFT	CHANGE ON THE MOVE WITHIN SELECTED RANGES WITH SOPHISTICATED TRACTORS COST OF DEVELOPMENT AND TOOLING MUST BE SPREAD OVER COST OF THE TRACTOR	COST SECOND HAND VALUE SPECIAL OILS COST OF OVERHAUL

REAR AXLE

HOUSES FINAL DRIVE UNIT AND BRAKES ALSO USED TO LOCATE AND MOUNT
CAB REAR TRACK SETTINGS

285 15.00 x 30 MANUAL ADJUSTMENTS
2 POSITIONS
66" & 74" CENTRES

2100 14.00 x 34 P.A.V.T.
64" - 84" IN 4" STEPS

FINAL DRIVE

EPICYCLIC REDUCTION

POWER TRANSMITTED FROM DIFFERENTIAL TO CENTRAL SUN PINION WHICH
FEEDS THE LOAD RADIALY INTO THREE PLANETARY PINIONS. THE LOAD
IS NOW SPREAD OVER THREE PINIONS WHICH WALK AROUND OUTER PLANETARY
RING GEAR.

DRIVE TO WHEELS IS TAKEN FROM PLANETARY CARRIER GIVING LOW SPEED
HIGH TORQUE OUTPUT.

ALTHOUGH NOT QUITE AS EFFICIENT AS BULL GEAR AND PINION, THIS
REDUCTION UNIT SPREADS THE HIGHER LOADS MORE EVENLY.

BRAKES

8.75" (225MM) DIAMETER DISCS.

- INBOARD - OIL EMERSED - SEALED AGAINST INGRESS OF WATER
AND DUST

- LOCATED ON HIGH SPEED REDUCTION SHAFT
HIGH SPEED - LOW TORQUE - GREATER BRAKING EFFICIENCY
- HYDRAULIC OPERATION INCORPORATING CONVENTIONAL
AUTOMOTIVE MASTER AND SLAVE CYLINDERS.
- HYDRAULIC FLUID RESERVOIR. SITUATED ON BULKHEAD BELOW
BONNET. TRANSPARENT RESERVOIR ENSURES CORRECT LEVEL
WHEN SERVICING.
- 5 DISCS EACH SIDE, OPERATED BY THREE PENDANT PEDALS,
TWO OF WHICH OPERATE INDEPENDENTLY, THE THIRD
COMPENSATES FOR WEAR OR INCORRECT ADJUSTMENT AND SHOULD
BE USED FOR ROAD WORK. THIS PEDAL CAN BE FOLDED UP WHEN
NOT IN USE.
- HAND BRAKE
MECHANICALLY OPERATES BOTH AXLE BRAKES. LEVER POSITIONED
UNDER DRIVING SEAT

FRONT AXLE

CONSISTS OF FOUR UNITS

1. TRUNNION BLOCK
2. AXLE BEAM
3.) SLIDING AXLE EXTENSIONS
4.)

FRONT TRACK SETTINGS

285 & 2100

56" - 74" in 4" STEPS

BY REVERSING RIMS A MAXIMUM TRACK OF 82" CAN BE ACHIEVED

STEERING

HYDROSTATIC POWER STEERING

ENGINE MOUNTED PUMP, INDEPENDENT OF HYDRAULIC SYSTEM, FEEDS OIL
TO DIRECTIONAL VALVE WITHIN STEERING COLUMN.

NO MECHANICAL LINKAGE BETWEEN STEERING WHEEL AND FRONT WHEELS.

ALL STEERING PIPES TRAVEL ALONG RIGHT HAND SIDE PANEL WITH
CONNECTIONS AT BULKHEAD WHICH MAY BE DETACHED AT THIS POINT
FOR SERVICE.

AN ECCENTRIC PUMP MOUNTED IN THE BASE OF THE STEERING COLUMN WILL OPERATE AUTOMATICALLY WHEN THE ENGINE IS STATIONARY SO GIVING SLOW MANOEUVRABILITY.

THE STEERING RAM IS SITUATED WITHIN THE TRUNNION BLOCK BEING THEREBY SAFEGUARDED AGAINST DAMAGE

APPROVED LUBRICANTS FOR 285/485/2100/4100

POWER STEERING

B.P.	AUTRAN B
CASTROL	CASTROL TQF
DUCKHAMS	Q-MATIC OR FLEETMATIC F
ESSO	ESSO GLIDE OR ESSO A.T.F.
FILTRATE	A.T.F. "F"
MOBIL	MOBIL ATF 210
SHELL	DONAX T7
STERNOL	LYNX TYPE F

SAFETY CAB

FULLY TESTED TO O.E.C.D. STANDARDS

ACCESSIBILITY

Two, wide fully opening doors
 Comparatively low platform floor with steps outside cab for easy mounting.
 'DUREAR' raised pattern ensures non slip
 Clean side panels ensures no bashed knuckles
 Uncluttered floor gives quick safe access to seat.
 Spacious with maximum elbow room.

CONTROLS

Ergonomically placed controls, all of which may be operated when seated (except cold start).

NOISE LEVEL

VERY LOW
 Platform raised above gearbox
 Solid bulkhead plate prevents any external noises entering cab.
 Rubber mountings for engine captivates any noise at source.
 Rear mounted exhaust takes noise past driver.

VISABILITY

Rear section sealed with sliding windows.
Narrow corner posts
No exhaust or air cleaner to obstruct vision
Full length front glassed panels
Bottom section of doors have glass
Sliding windows at side and rear better
when a lot of muck about
Efficient, self parking wiper
Droop snoot bonnet

Dust entry from rotavators is impossible
with rear sliding windows closed.

VENTILATION

HOT WEATHER

Roof removable - two units
Doors removable
Front window opens to allow a through draught
Side and back windows open, or partially open,
may be held in any position by window catch.

COLD WEATHER

Foam tight door
Non perforated platform floor
Solid bulk head plate
Rear section sealed

SERVICABILITY

Top section removable.
Two pins at rear and 4 nuts and bolts at
front

UNIVERSAL DRAWBAR

COMBINED PICK UP HITCH AND SWINGING DRAWBAR

INCORPORATES

- 1 AUTOMATIC PICK UP HITCH
OPERATED BY THE MAIN LEVER IN DRAUGHT CONTROL, IT LOCKS
AUTOMATICALLY WHEN RAISED AND IS RELEASED HYDRAULICALLY BY
OPERATING A BUTTON ON THE CONTROL CONSUL.

- 2 CLOSE COUPLED DRAWBAR.
WHEN THE HITCH BAR IS REVERSED IT CAN BE PINNED TO
GIVE A CLOSE COUPLED CLEVIS DRAWBAR EITHER FIXED
OR SWINGING.

- 3 EXTENDED DRAWBAR.
THE DRAWBAR CAN BE EXTENDED TO COMPLY WITH THE BRITISH
STANDARD 14" FROM PTO SHAFT TO HITCH POINT FOR USE WITH
TRAILED PTO DRIVEN EQUIPMENT.

- 4 ONE JAW OF THE CLEVIS IS REMOVABLE TO ACCOMMODATE DOUBLE
CLEVIS HITCHING. A BALL SOCKET ON THE REMAINING JAW
FACILITATES COUPLING.