



NOTE 1 :- SUSPENSION SELECTION

THIS SUSPENSION IS ONLY SUITABLE FOR FITMENT WITH SINGLE R22.5" TYRES.  
IF ANY DEVIATION FROM THIS IS REQUIRED CONTACT GRANNING LYNX ENGINEERING.  
1) ON A FLAT LEVEL SURFACE MEASURE FROM THE GROUND TO THE UNDERSIDE OF THE CHASSIS - ..... DIM 'H'

IF THE VEHICLE IS FITTED WITH DRIVE AXLE AIR SUSPENSION;  
2a) DECIDE WHETHER VEHICLE IS LADEN OR UNLADEN.

IF LADEN 'RIDE HEIGHT' = DIM 'H' - PROPOSED TYRE STATIC LADEN RADIUS.

IF UNLADEN 'RIDE HEIGHT' = DIM 'H' - PROPOSED TYRE ROLLING RADIUS + MAX RADIUS

RIDE HEIGHT LADEN = RIDE HEIGHT UNLADEN

IF THE VEHICLE IS FITTED WITH MECHANICALLY SUSPENDED DRIVE AXLE

2) DECIDE WHETHER VEHICLE IS LADEN OR UNLADEN.

IF LADEN 'RIDE HEIGHT' = DIM 'H' - PROPOSED TYRE STATIC LADEN RADIUS.

IF UNLADEN 'RIDE HEIGHT' = DIM 'H' - PROPOSED TYRE ROLLING RADIUS + MAX RADIUS

IF ONLY ONE CASE OR AN INTERMEDIATE LOADING IS ALL THAT CAN BE MEASURED THEN REFER TO THE VEHICLE BRAKE LOAD SENSING VALVE SETTING PLATE FOR THE DEFLECTION OF THE DRIVE AXLE SPRINGS BETWEEN LADEN(DRIVE AXLE PLATED MAX MASS) AND AN UNLADEN DRIVE AXLE MASS, TO BE ESTIMATED BY THE CONVERTOR:- DIM'F.

LADEN RIDE HEIGHT + DEFLECTION 'F' = RIDE HEIGHT UNLADEN  
UNLADEN RIDE HEIGHT - DEFLECTION 'F' = RIDE HEIGHT LADEN

3) REFER TO TABLE ON SHEET 1 OF THIS DRAWING.  
SELECT A SUITABLE SUSPENSION SO THAT BOTH LADEN AND UNLADEN RIDE HEIGHTS REMAIN WITHIN THE RIDE HEIGHT RANGE OF THE SUSPENSION.  
FOR MECHANICALLY SUSPENDED VEHICLES ATTENTION SHOULD BE PAID TO WHETHER THE VEHICLE IS BODIED WHEN MEASURED. WHAT TYPE OF BODY IS GOING TO BE FITTED AND WHAT IMPLICATIONS THIS MAY HAVE ON THE CHASSIS HEIGHT.

FOR MECHANICALLY SUSPENDED DRIVE AXLES IT IS PERMISSIBLE TO EXTEND THE TRAVEL UP TO 30mm INTO THE REBOUND RANGE ON THE ASSUMPTION THAT WHEN UNLADEN THE AXLE SHOULD BE LIFTED.

IF TWO SUSPENSION RANGES ARE APPLICABLE IT IS USUAL TO FIT THE SHORTER SUSPENSION IN ORDER TO OBTAIN GREATER GROUND CLEARANCE WHEN THE AXLE IS LIFTED AND GREATER GROUND CLEARANCE OF THE HANGER BRACKETS.

NOTE 2:- PRE-HEATING  
AXLE TUBE SHOULD BE PRE-HEATED IF AMBIENT TEMPERATURE IS LESS THAN 68°F, 20 °C.

NOTE 3:- AXLE TRACKING  
TRACKING PLATE (ITEM 10) WELD AFTER TRACKING AXLE.  
ARCING AND SPLATTER.

NOTE 4:- BOLT TORQUES  
ALL BOLTS TO BE TORQUED WITH SUSPENSION IN RIDE HEIGHT POSITION, SEE THIS DRAWING AND 12678 TORQUE SETTING PLATE FOR CORRECT TORQUE-SETTING SPRING BEAM FROM 12678 TORQUE SETTING PLATE TO BE ATTACHED TO CHASSIS BY CONVERTOR.

NOTE 5 :- AIRSPRING LONGITUDINAL POSITIONING

IF VEHICLE FITTED WITH MECHANICALLY SUSPENDED DRIVE AXLE SUSPENSION.  
DIM 'X' = 575mm DIM 'Y' = 100mm

REFER TO DRAWING 18734 (AM521) & 18567 FOR SUSPENSION AIR PIPING, AND DRAWING 80107 FOR SUSPENSION PRESSURE CHARACTERISTIC.

IF VEHICLE FITTED WITH AIR SUSPENDED DRIVE AXLE SUSPENSION.  
WRITE HERE AXLE PLATING:

DRIVE AXLE ..... kg :- MASS 'DR'  
MID AXLE ..... kg :- MASS 'M'

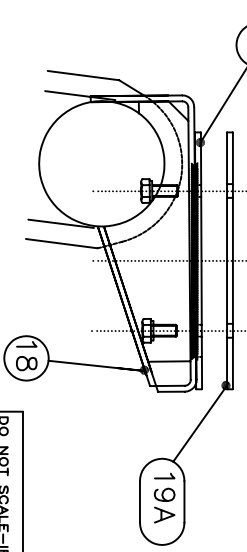
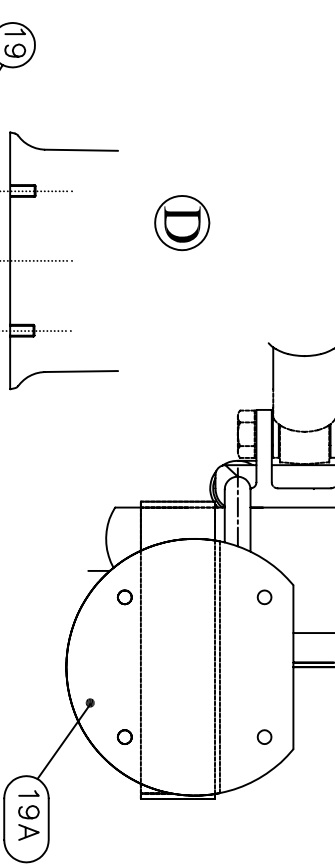
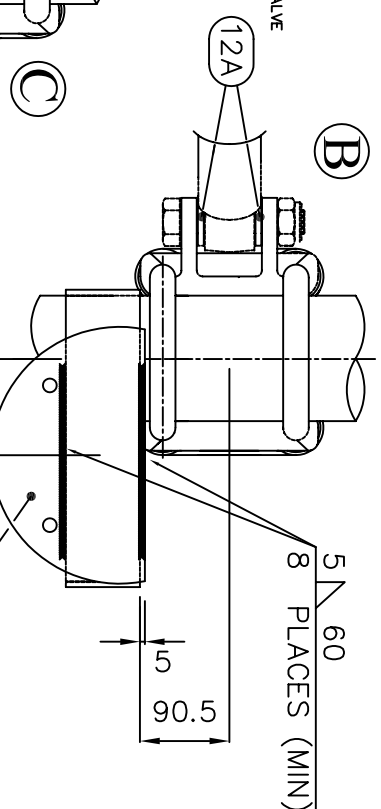
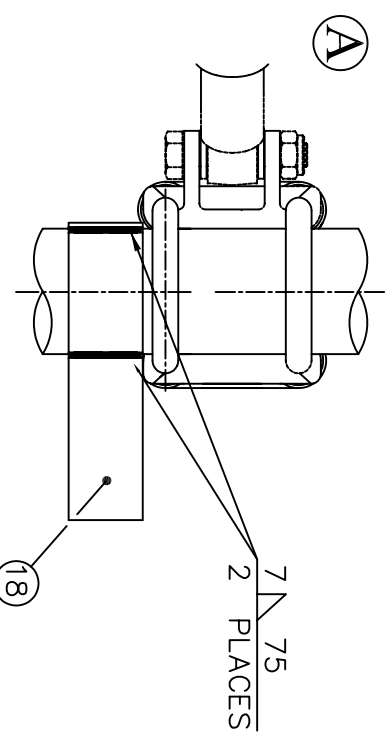
FROM VEHICLE BRAKE LOAD SENSING VALVE SETTING PLATE ASCERTAIN THE PRESSURE (IN BAR) IN THE DRIVE AXLE SUSPENSION FOR MASS 'DR' DRIVE SUSPENSION PRESSURE :- ..... bar :- PRESS 'P'

USE THE BELOW FORMULA TO CALCULATE DIMS 'X' & 'Y'. (SEE PAGE 1).  
DIM 'Y' =  $\frac{FRAY \text{ RATIO} \times 0.565 \times (\text{MASS 'M'} - 700)}{\text{PRESS 'P'}} - 530$   
if REQUIRED

DIM 'Y' NEEDS TO BE IN THE ORDER OF -50 to + 200 FOR EASE OF ASSEMBLY IF IT FALLS OUTSIDE OF THESE DIMENSIONS THEN USE FIXED RATIO REDUCTION VALVE AS PER PIPING DIAGRAM, 18704 FOR AM505 & 18705 FOR AM506.  
INSERT RATIO INTO FORMULA. RATIOS AVAILABLE ARE:-

- 1.15 : 1
- 1.25 : 1
- 1.35 : 1
- 1.5 : 1
- 1.8 : 1
- 2.0 : 1

DIM 'X' = DIM 'Y' + 475



DO NOT SCALE-IF IN DOUBT ASK		DESIGNED FOR		THIRD ANGLE PROJECTION		RETRO - MD AXLE CONVERSIONS - 7300 kgs		DRAWN BY MORAN		CHECKED		TITLE	
ALL DIMENSIONS ARE IN MILLIMETRES		UNSPECIFIED TOLERANCES TO BE AS PER CAD		CONVERSIONS TO CAREY PART NO. 1		NO DECIMALS		08 DEC 1999		SCALE		INSTALLATION	
ORIGINAL FRAME SIZE 809mm x 562mm		ANGULAR		SUPERSEDES		ACTUAL		1:5		SUPERSEDES		DRAWING NO. 18200	
BURNS AND SHARP EDGES TO BE REMOVED		ANGULAR		SUPERSEDES		ACTUAL		1:5		SUPERSEDES		SHEET 2 OF 2	
A FIRST ISSUE - ENGLISH		MATERIAL		DISPOSITION		FINISH		SEE BILL OF MATERIALS		SEE BILL OF MATERIALS		SEE BILL OF MATERIALS	
PART NO. 18200		DESCRIPTION		NOTES		BILL OF MATERIALS		GRANNING UK LTD		GRANNING LYNX		GRANNING LYNX	



**SUSPENSION**  
**CHARACTERISTIC**

1000	0.268886	<b>DIMENSION L<sub>1</sub></b> (mm)	528
2000	1.153379	<b>DIMENSION L<sub>2</sub></b> (mm)	628
3000	2.037872		
4000	2.922365	<b>SPRING RATE :</b>	0.840764
5000	3.806858		
6000	4.691351		
7000	5.575844	<b>AIRSPRING TYPE :</b>	<b>IT15M-6</b>
8000	6.460338		
9000	7.344831	<b>MAX LOAD</b> (N)	31660
10000	8.229324	<b>MIN LOAD</b> (N)	13010
11000	9.113817	<b>MAX PRESS</b> (bar)	7
		<b>MIN PRESS</b> (bar)	3
			4662.5 (N/bar)
			0.000214 (bar/N)