

DIRECTORATE GENERAL BORDER ROADS
GENERAL REPAIR INSTRUCTION NO. 139

ON

UNDER CARRIAGE PARTS D 80 A-12 BEML TRACTOR : REPAIR LIMITS

INTRODUCTION :- This GRI lays down the repair limits and condemnation limits to be observed by Fd/Base Wksps in BRO when D80-A12 dozer or its associated assembly's are being repaired/overhauled.

AIM :- Deviation from these standards and limits is not permissible as 30 to 40% cost of eqpt is for the under carriage parts and the performance of the eqpt reduces considerably, if it is allowed to run with worn-out under carriage parts.

Details:- (a) ACTION BY UNITS :- Affected equipment should be sent to maintaining workshops (GREF) on work order for repair/replacement.

(b) Base/Fd Wksps (GREF) :- To carry out repair/replacement as per details given in para (c).

(c) This GRI gives details of permissible wear limits tolerances and instructions observed whene components parts are being examined or assembled or when assemblies are being tested. Those parts found to be worn beyond the permissible wear or clearance will be repaired or replaced. If the wear is measured as clearance between mating parts and the clearance are found to exceed the permissible limit, it may only be necessary to replace one of the parts affected to bring the clearance with in the specified limit. If both parts are replaced, planned clearances must be maintained. In this GRI, the specifications has been grouped into the following headings and is given in appendix 'A' :-

- | | |
|------------------------------------|----------------------|
| (i) IDLERS | (II) SPROCKETS |
| (III) TRACK ROLLERS | (IV) CARRIER ROLLERS |
| (V) TRACK (LINKS, PINS & BUSHINGS) | (VI) TRACK SHOES |

CONCLUDING :- Timely maintenance/reclamation of the under carriage parts as per limit laid down by the manufacturer will enhance the life and efficiency of the tractor. It will also reduce the cost of maintenance/overhaul as 30 to 40% cost of eqpt works out to be the cost of under carriage parts.

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REPAIR AND CONDEMNATION LIMITS – UNDER CHARGE PARTS D80 A-12

Unit : MM (M)

System		Items	Basic Size	Standard clearance	Repairable size limit	Service limit
GROUP	CARRIER ROLLER IDLER	Flange O.D, A	774		760	
		Riding face OD B	730		715	
		Flange width C	95.6		79.6	
		Riding face D	49.5		51.5	
		Width				
		Idler width E	204	0.4-0.85	194	
		Shaft end play				1.5
		Shaft to bush Clearance			0.27-0.394 -0.21.25	1.5
		Shaft O.D F	72			70.5
Shaft Flange width G	20	-0.05		18.5		
Ref Figure 1 (a) & (b)						
TRACK FREAM- E	SPORCKE- TS	Sprocket wheel				1.0
		Shaft deflection				
		Major O.D D1	893		-6	
		Minor O.D D2	797.152		-6	
		Widths B1	65			
Ref Figure (2)						
TRACK ROLLER CARRIER	Lange O . D	A	257	+ 0.5	247	
		A-	249		239	
		B	222	+ 0.5	207	
		C	55.6		66.6	
		C-	51.6		68.6	
		D	17.3		6	
		D-	18.2		6	
		Shaft end play			0.4-0.85	1.5
		Shaft to bush Clearance			0.27-0.394	1.5
		Roller to bush Clearance			0.017-0.15	
		Shaft O.D E	70	-0.21-0.26		68.5
Shaft flame width F	20	-0.05		18.5		
Ref Figure 2 (a), (b) & (c)						
CARRIER ROLLER	Flange O.D	A	200		190	
		B	168		155	
		C	57		66	
		D	16		7	
		Roller end play			0.1-0.123	
		Tapered Shaft OD roller	55	+ 0.021 +0.002		
		Bearing Roller I.D	100	-0.024 -0.059		
Ref Figure 4						
						Contd...P/02

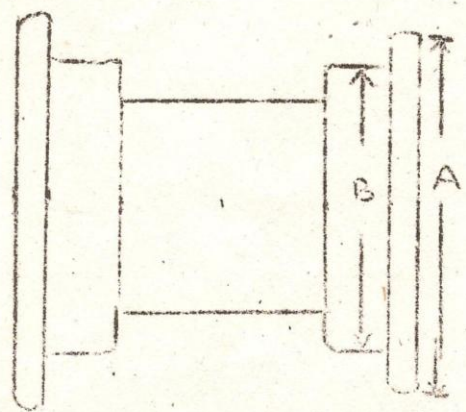
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Appx 'A' (Contd)
GRI No. 139

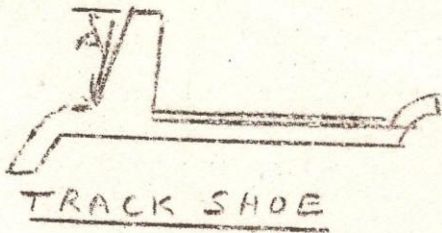
[02]

TRACK FRAME GROUP	Track	Link Pitch	216	± 0.1	219	227
		Single Grouser A height	65 123	± 1/3 + 0.1	25 115.5	20 113
		Link height				
		Bush O.D.	71	+ 0.314 +0.774	68	59
		Bush to link fit		0.102 0.314	Note :- When the maximum value is reached, repair by inverting pin and bush. Other parts can be repaired by depositing weld metal.	
		Pin to link fit pin	47	0.138 -0.3		
		Link	46.8			
		Pin to bush clearance		0-w-0.7		
		Master Bush to link fit		0.102-0314		
		Master pin to link fit		0.78-0.017		
		Master pins to master bush clearance		0.3-0.8		
		Shoe bolt torque limit 87 Kg'M ± 7 Kg'M ref Figure 5				
		Brake band linking thickness	9.5			5.0
		Brake drum OD	425			420
		Linking to brake drum clearance		0.3		
		Shaft dia and oil seal I.D	55	-0.019		
		Shaft dia and oil seal I.D	40	-0.016		
		Needle bearing : Shaft	55	-0.019		
		OD				
		154-33-11350 Cover I.D	68	-0.009 -0.039		
		Shaft OD	40	-0.016		
		Cover ID	47	-0.008 -0.033		

→ D | C ←

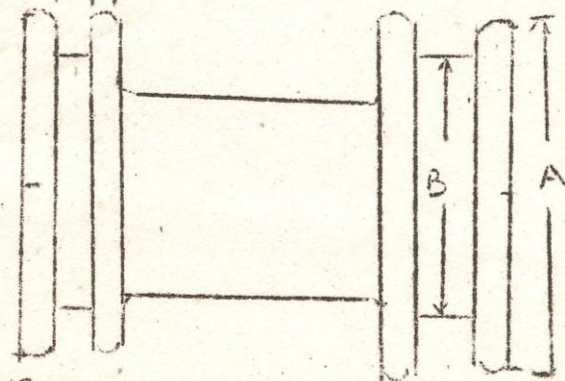


TRACK ROLLER SINGLE FLANGE (3a)

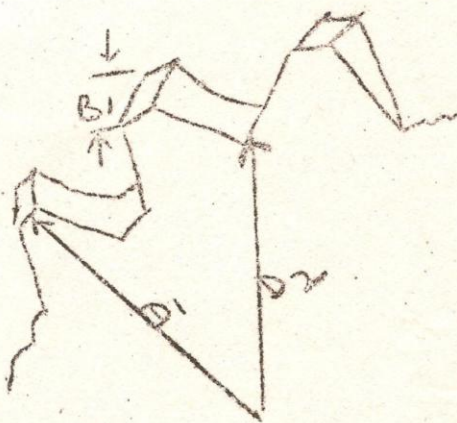


TRACK SHOE

→ D | D' ←



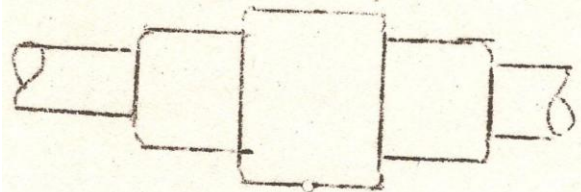
TRACK ROLLER DOUBLE FLANGE (3b)



SPROCKET (2)

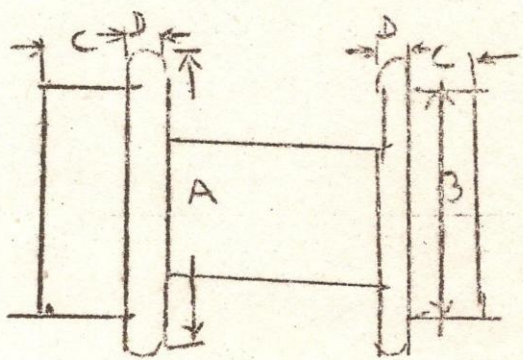
(NOT TO SCALE)

→ F ←

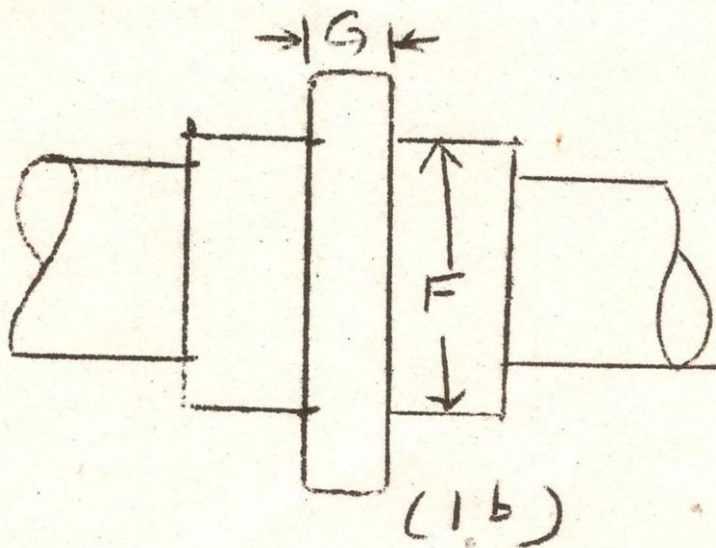
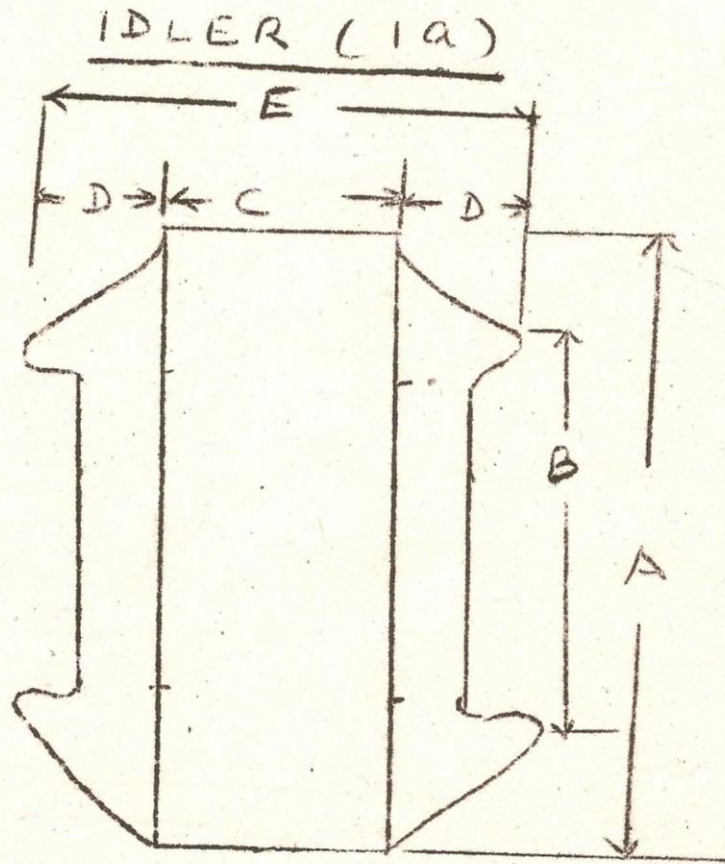


SHAFT (3c)

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CARRIER ROLLER (4)



NOT TO THE SCALE