

Calculation of mechanical lead

Front wheel lead % measurement

For the transmission unit of a 4-wheel drive tractor to operate correctly, the correct mechanical lead must be used. This rule does not apply in the case of 4 wheels of the same size.

Most tractor manufacturers impose a mechanical lead of between 0% and 6%. This lead is specific, and may vary depending on the manufacturer and the vehicle.

An inappropriate mechanical lead ratio

- increases fuel consumption,
- results in more rapid front and rear tire wear,
- results in more rapid wear on the transmission unit,
- results in poor tractor performance when doing some jobs (e.g. ploughing)

and causes

- abrupt front axle engagement,
- a loss in power and performance,
- deterioration of the top soil.

Note: The front axle must never be engaged on the road!

Calculation of mechanical lead:

$$\frac{(\text{RC Front} \times \text{R}) - \text{RC Rear}}{\text{RC Rear}} \times 100 = \text{mechanical lead in \%}$$

- RC Rear: Rear tire rolling circumference (specified in the technical documentation)
- RC Front: Front tire rolling circumference (specified in the technical documentation)
- R: inter-axle ratio (This is fixed initially by the manufacturer)



Put marks on the tires as picture above.

Step 1:

FRONT AXLE **NOT ENGAGED** (out of 4WD)

Do 10 turns of rear tires and count the number **N** of turns for front.

Step 2:

FRONT AXLE **ENGAGED** (in 4WD)

Do 10 turns of rear tires and count the number **N1** of turns for front.

$$\text{Calculation of measurement} = \frac{(\text{N1} - \text{N})}{\text{N}} \times 100$$

Step 1: selection of SRI (Speed Radius Index)*

Step 1: Determine the corresponding SRI using the original dimension.

RIM	DIMENSIONS	SRI
16	6.50R16	360
	7.50R16	390
	250/80R16	390
	260/70R16	360
	280/65R16	360
	280/70R16	390
	320/65R16	390
18	7.50R18	410
	280/70R18	410
	320/65R18	410
	340/65R18	425
20	7.50R20	425
	9.5R20	450
	11.2R20	475
	12.4R20	500
	13.6R20	525
	14.9LR20	525
	260/80R20	450
	280/70R20	425
	280/85R20	475
	300/70R20	450
	320/70R20	475
	320/85R20	500
	340/65R20	450
	340/75R20	500
360/70R20	500	
380/70R20	525	
380/75R20	525	
420/65R20	500	
440/65R20	525	
24	8.3R24	475
	250/85R24 (9.5R24)	500
	280/85R24 (11.2R24)	525
	300/70R24	500
	320/70R24	525
	320/85R24 (12.4R24)	550
	340/85R24 (13.6R24)	575
	360/70R24	550
	380/70R24	575
	380/85R24 (14.9R24)	600
	400/70R24	575
	420/65R24	550
	420/70R24	600
	420/85R24 (16.9R24)	625
	440/65R24	575
	460/70R24	600
	480/65R24	600
	480/70R24	625
500/70R24	625	
540/65R24	625	

RIM	DIMENSIONS	SRI
25	1000/50R25	750
26	480/70R26	650
	23.1-26	750
	520/80R26	700
	540/65R26	650
	580/70R26	675
	620/70R26	725
	620/75R26	750
	750/50R26	675
28	750/65R26	750
	9.5R28	550
	250/85R28	550
	280/85R28 (11.2R28)	575
	320/70R28	575
	320/85R28 (12.4R28)	600
	340/65R28	550
	340/85R28 (13.6R28)	625
	360/70R28	600
	380/70R28	625
	380/85R28 (14.9R28)	650
	420/65R28	600
	420/70R28	650
	420/75R28	650
420/85R28 (16.9R28)	675	
440/65R28	625	
480/60R28	625	
480/65R28	650	
480/70R28	675	
520/60R28	650	
540/65R28	675	
600/60R28	675	
600/65R28	700	
600/70R28	725	
30	380/85R30 (14.9R30)	675
	420/70R30	675
	420/85R30 (16.9R30)	700
	420/90R30	725
	460/85R30 (18.4R30)	725
	480/70R30	700
	480/75R30	700
	520/70R30	725
	520/85R30	775
	540/65R30	700
	600/60R30	700
	600/65R30	725
	600/70R30	750
	620/70R30	775
620/75R30	800	
650/70R30	800	
650/75R30	800	
710/55R30	725	
710/60R30	750	

*SRI: "Speed Radius Index" is a parameter used to calculate the theoretical speed of vehicles during EU certification procedures and for the interchangeability of tire dimensions.

RIM	DIMENSIONS	SRI
32	210/95R32 (8.3R32)	575
	230/95R32 (9.5R32)	600
	270/95R32 (11.2R32)	625
	320/85R32 (12.4R32)	650
	650/75R32 (24.5R32)	825
	680/75R32 (30.5LR32)	875
	680/85R32	925
	800/65R32	875
	800/70R32	925
	900/60R32	925
34	1000/55R32	875
	1050/50R32	875
	320/85R34	675
	380/85R34	725
	420/85R34 (16.9R34)	750
	460/85R34 (18.4R34)	775
	480/70R34	750
	520/70R34	775
	520/75R34	775
	540/65R34	750
	600/60R34	750
	600/65R34	775
	620/75R34	825
	650/60R34	775
650/65R34	825	
650/75R34	875	
710/60R34	825	
710/75R34	925	
36	210/95R36 (8.3R36)	625
	230/95R36 (9.5R36)	650
	270/95R36 (11.2R36)	675
	320/85R36 (12.4R36)	700
	340/85R36 (13.6R36)	725
	270/95R38 (11.2R38)	700
	320/85R38 (12.4R38)	725
	340/85R38 (13.6R38)	750
	380/80R38	750
	380/95R38	800
38	400/75R38 (15.5R38)	750
	420/85R38 (16.9R38)	800
	460/85R38 (18.4R38)	825
	480/70R38	800
	520/70R38	825
	520/85R38 (20.8R38)	875
	540/65R38	800
	600/60R38	800
	600/65R38	825
	650/60R38	825

RIM	DIMENSIONS	SRI
38	580/70R38	875
	620/70R38	875
	650/65R38	875
	650/75R38	925
	650/85R38	975
	680/75R38	925
	710/60R38	875
	710/70R38	925
	710/85R38	1025
	750/65R38	925
40	800/70R38	975
	900/60R38	975
	230/95R40 (9.5R40)	700
	270/95R42 (11.2R42)	750
	300/95R42 (12.4R42)	800
	320/90R42	800
	480/80R42 (18.4R42)	875
	520/85R42 (20.8R42)	925
	580/85R42	975
	620/70R42	925
42	650/65R42	925
	650/85R42	1025
	710/60R42	925
	710/70R42	975
	710/75R42	1025
	900/50R42	925
	900/60R42	1025
	210/95R44 (8.3R44)	725
	230/95R44 (9.5R44)	750
	270/95R44 (11.2R44)	775
44	270/95R46 (11.2R46)	800
	300/95R46 (12.4R46)	825
	320/90R46	825
	340/85R46 (13.6R46)	825
	380/90R46	875
	420/80R46	875
	480/80R46	925
	520/85R46 (20.8R46)	975
	620/70R46	975
	750/75R46	≥ 1075
46	900/65R46	≥ 1075
	230/95R48 (9.5R48)	800
	270/95R48 (11.2R48)	825
	340/85R48 (13.6R48)	875
	320/90R50	875
	380/90R50	925
	420/95R50	975
	480/80R50	975
	480/95R50	1025
	52	300/95R52 (12.4R52)
270/95R54 (11.2R54)		925
54	320/90R54	925
	380/90R54	975

Step 2: selection of the size

Step 2: Based on the SRI result from step 1, determine the possible dimensional equivalences.

This equivalence table is established by ETRTO and is not exhaustive. For other dimensions please consult Michelin for advice.

SRI	EQUIVALENT SIZES
360	6.50R16
	260/70R16
	280/65R16
390	7.50R16
	250/80R16
	280/70R16
	320/65R16
410	7.50R18
	280/70R18
	320/65R18
425	7.50R20
	280/70R20
	340/65R18
450	9.5R20
	260/80R20
	300/70R20
	340/65R20
475	11.2R20
	280/85R20
	320/70R20
	8.3R24
500	250/85R24 // 9.5R24
	300/70R24
	320/85R20 // 12.4R24
	340/75R20
	360/70R20
525	280/85R24 // 11.2R24
	320/70R24
	380/70R20
	380/75R20 // 13.6R20
	14.9R20
550	250/85R28 // 9.5R28
	320/85R24 // 12.4R24
	340/65R28
	360/70R24
	420/65R24
575	210/95R32 // 8.3R32
	280/85R28 // 11.2R28
	320/70R28
	340/85R24 // 13.6R24
	380/70R24
400/70R24	
440/65R24	

SRI	EQUIVALENT SIZES
600	230/95R32 // 9.5R32
	320/85R28 // 12.4R28
	360/70R28
	380/85R24 // 14.9R24
	420/65R28
	420/70R24
625	460/70R24
	480/65R24
	210/95R36 // 8.3R36
	270/95R32 // 11.2R32
	340/85R28 // 13.6R28
	380/70R28
650	420/85R24 // 16.9R24
	440/65R28
	480/60R28
	480/70R24
	500/70R24
	540/65R24
675	230/95R36 // 9.5R36
	320/85R32 // 12.4R32
	380/85R28 // 14.9R28
	420/70R28
	420/75R28
	480/65R28
750	480/70R26
	520/60R28
	540/65R26
	270/95R36 // 11.2R36
	320/85R34 // 12.4R34
	380/85R30 // 14.9R30
775	420/70R30
	420/85R28 // 16.9R28
	480/70R28
	540/65R28
	580/70R26
	600/60R28
750/50R26	

IMPORTANT:

- In no case does the SRI correspond to a specific value of the rolling circumference (RC). It is only given for information purposes only.
- Any change requires the front wheel lead % to be calculated using the vehicle's transmission ratios and verify if the wheel equipment is appropriate (see technical pages).

SRI	EQUIVALENT SIZES
700	230/95R40 // 9.5R40
	270/95R38 // 11.2R38
	320/85R36 // 12.4R36
	420/85R30 // 16.9R30
	480/70R30
	480/75R30
	520/80R26
	540/65R30
725	600/60R30
	600/65R28
	210/95R44 // 8.3R44
	320/85R38 // 12.4R38
	340/85R36
	380/85R34
750	420/90R30
	460/85R30 // 18.4R30
	520/70R30
	600/65R30
	600/70R28
	620/70R26
775	710/55R30
	230/95R44 // 9.5R44
	270/95R42 // 11.2R42
	340/85R38 // 13.6R38
	380/80R38
	400/75R38 // 15.5R38
	420/85R34 // 16.9R34
	480/70R34
	540/65R34
	600/60R34
600/70R30	
800	620/75R34
	650/75R30
	270/95R48 // 11.2R48
	300/95R46 // 12.4R46
	320/90R42
	340/85R46 // 13.6R46
	460/85R38 // 18.4R38
	520/70R38
	600/65R38
	620/75R34
825 (5.74 ft)*	650/75R32 // 24.5R32
	650/65R34
	650/60R38
	710/60R34
	320/90R50
	340/85R48 // 13.6R48
	380/90R46
	420/80R46
	480/80R42 // 18.4R42
	520/85R38 // 20.8R38
580/70R38	
875 (6.07 ft)*	620/70R38
	650/65R38
	650/75R34
	680/75R32 // 30.5LR32
	270/95R44 // 11.2R44
	460/85R34 // 18.4R34
	520/85R30
	520/70R34
	520/75R34
	600/65R34
620/70R30	
650/60R34	

SRI	EQUIVALENT SIZES
885 (6.40 ft)*	230/95R48 // 9.5R48
	270/95R46 // 11.2R46
	300/95R42 // 12.4R42
	320/90R42
	380/95R38
	420/85R38 // 16.9R38
	480/70R38
	540/65R38
	600/60R38
	620/75R30
925 (6.72 ft)*	650/70R30
	650/75R30
	270/95R48 // 11.2R48
	300/95R46 // 12.4R46
	320/90R46
	340/85R46 // 13.6R46
	460/85R38 // 18.4R38
	520/70R38
	600/65R38
	620/75R34
975 (6.72 ft)*	650/75R32 // 24.5R32
	650/65R34
	650/60R38
	710/60R34
	320/90R50
	340/85R48 // 13.6R48
	380/90R46
	420/80R46
	480/80R42 // 18.4R42
	520/85R38 // 20.8R38
580/70R38	
1025 (13.50 ft)*	620/70R38
	650/65R38
	650/75R34
	680/75R32 // 30.5LR32
	270/95R44 // 11.2R44
	460/85R34 // 18.4R34
	520/85R30
	520/70R34
	520/75R34
	600/65R34
620/70R30	
650/60R34	

SRI	EQUIVALENT SIZES
1075 (14.44 ft)*	270/95R54 // 11.2R54
	300/95R52 // 12.4R52
	320/90R54
	380/90R50
	480/80R46
	520/85R42 // 20.8R42
	620/70R42
	650/65R42
	650/75R38
	680/75R38
≥ 1075 (14.44 ft)*	680/85R32
	710/60R42
	710/70R38
	710/75R34
	750/65R38
	800/70R32
	900/50R42
	900/60R32
	380/90R54
	420/95R50
≥ 1075 (14.44 ft)*	480/80R50
	520/85R46 // 20.8R46
	580/85R42
	620/70R46
	650/85R38
	710/70R42
	800/70R38
	900/60R38
	480/95R50
	650/85R42
≥ 1075 (14.44 ft)*	710/75R42
	710/85R38
	900/60R42
	750/75R46
	900/65R46

* overall diameter given for information only.

Step 3: selection of the tire in MICHELIN offer

(except Trailers and Compact Line)

RIM	DIMENSIONS	AGRIBIB	YIELDIB	OMNIBIB	MULTIBIB XM108	XEOBIB	MACHXBIB XM27 / XM28	AXIOBIB	AXIOBIB 2	AGRIBIB RC	SPRAYBIB	CEREXBIB	MEGAXBIB	
16	320/65R16				X									
18	320/65R18				X									
20	420/65R20				X									
	440/65R20				X									
24	250/85R24 (9.5R24)	X												
	280/85R24 (11.2R24)	X												
	320/70R24			X										
	320/85R24 (12.4R24)	X												
	340/85R24 (13.6R24)	X												
	360/70R24			X										
	380/70R24			X										
	380/85R24 (14.9R24)	X												
	420/65R24				X									
	420/70R24				X									
420/85R24 (16.9R24)	X													
440/65R24				X										
480/65R24				X										
480/70R24				X										
540/65R24				X										
25	1000/50R25												X	
26	520/80R26						X					VF CFO		
	580/70R26						X					VF CFO		
	620/70R26												X	
	620/75R26												X	
	750/50R26												X	
750/65R26												X		
28	320/85R28 (12.4R28)	X												
	340/85R28 (13.6R28)	X												
	380/70R28			X										
	380/85R28 (14.9R28)	X												
	420/65R28				X									
	420/70R28			X										
	420/85R28 (16.9R28)	X												
	440/65R28				X									
	480/60R28						VF							
	480/65R28				X									
	480/70R28			X										
	520/60R28						VF							
	540/65R28				X									
600/60R28						VF								
600/65R28							X							
600/70R28							X							
30	380/85R30 (14.9R30)	X												
	420/85R30 (16.9R30)	X												
	420/90R30	X												
	460/85R30 (18.4R30)	X												
	480/70R30			X										
	520/85R30				X				VF				VF CFO	
	540/65R30													
	600/60R30						VF							
	600/70R30									IF				
	620/70R30													
620/75R30									IF	VF				
650/75R30									IF					
710/55R30							X							
32	650/75R32 (24.5R32)						X						X	
	680/75R32 (30.5LR32)						X							
	680/85R32												X	
	800/65R32												IF CFO	
	800/70R32												IF CFO	
	900/60R32												X	
	1000/55R32												IF CFO	
1050/50R32												IF CFO		

RIM	DIMENSIONS	AGRIBIB	YIELDIB	OMNIBIB	MULTIBIB XM108	XEOBIB	MACHXBIB XM27 / XM28	AXIOBIB	AXIOBIB 2	AGRIBIB RC	SPRAYBIB	CEREXBIB	MEGAXBIB
34	320/85R34	X											
	380/85R34	X	VF										
	420/85R34 (16.9R34)	X	VF										
	460/85R34 (18.4R34)	X											
	480/70R34				X								
	520/70R34				X								
	540/65R34					X							
	600/60R34						VF						
	600/65R34					X							
	620/75R34												X
	650/60R34								IF				
650/65R34								IF					
710/60R34								IF					
710/75R34												X	
36	12.4R36												
38	320/85R38 (12.4R38)	X								X			
	340/85R38 (13.6R38)	X											
	380/80R38	X	VF										
	380/95R38	X	VF										
	420/85R38 (16.9R38)	X											
	460/85R38 (18.4R38)	X											
	480/70R38				X								
	520/70R38				X								
	520/85R38 (20.8R38)	X											
	540/65R38				X								
	580/70R38				X								
	600/60R38						VF						
	600/65R38					X							
	620/70R38												X
	650/60R38								VF				
	650/65R38					X							
	650/75R38							X		IF			
650/85R38							X		IF				
680/75R38												IF CFO	
710/60R38							VF		IF				
710/70R38													
710/85R38							X		IF				
800/70R38							X		IF				
900/60R38												IF CFO	
												IF CFO	
42	320/90R42									X			
	480/80R42 (18.4R42)	X									VF		
	520/85R42 (20.8R42)	X										VF CFO	X
	580/85R42												X
	620/70R42					X							X
	650/65R42						X						
	650/85R42								VF	VF			
	710/60R42												IF CFO
	710/70R42												
	710/75R42												
900/50R42							X		IF				
900/60R42									IF				
46	340/85R46									X			
	380/90R46									X		VF	
	420/80R46	X											
	480/80R46	X	VF									VF	
	520/85R46 (20.8R46)	X											
	620/70R46												
	750/75R46												
900/65R46							X		IF				
									IF				
50	320/90R50												
	380/90R50									X			
	420/95R50									X		VF	
	480/80R50	X	VF									VF	
	480/95R50	X	VF									VF	
54	320/90R54										X		
	380/90R54											VF	