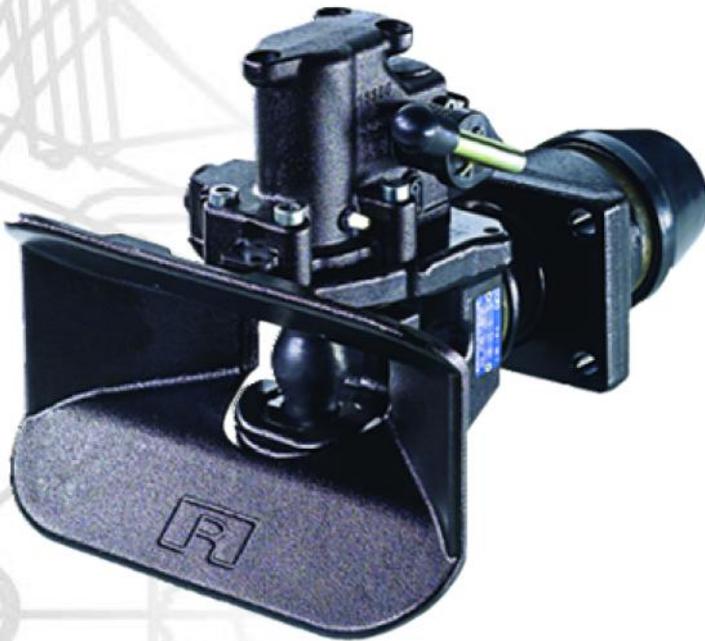


## What is the correct procedure to select a Rockinger 40 or 50 mm hitch and eye?



It all starts by doing the D-Value calculation which is available on our website at: [www.jost.co.za](http://www.jost.co.za).

Just select the D-Value for tow hitches calculation and fill in the blocks with the correct Gross Vehicle Masses.

For example: You have a single axle trailer GVM 9 ton pulled by a 6x4 rigid truck. In this case you will also have to do the V-Value calculation to make sure you do not exceed the V and Dc-Value of the hitch and eye.

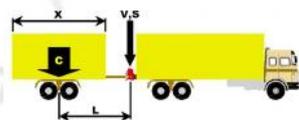
### TOW HITCHES



D & V-VALUE CALCULATIONS Transport Equipment



GVM DRAWBAR TRAILER	9.00	(TONS)
GVM TOWING VEHICLE	26.50	(TONS)
<b>D-VALUE</b>	<b>65.91</b>	<b>(kN)</b>



DIMENSION X	8.00	(meters)
DIMENSION L	7.00	(meters)
AXLE LOADING C	9.00	(TONS)
TYPE OF SUSPENSION ON TRAILER	2.40	Other suspension ▾ 3
<b>V-VALUE</b>	<b>28.21</b>	<b>(kN)</b>



Rockinger 40mm hitches max out at 130kN D-Value and the RO400G150 Hitch has a 35kN V-Value and a 90kN Dc-Value.

Should your trailer have a V-Value like this single axle trailer then the D-Value is cancelled, we now need to look at purely the Dc and V-Values of the hitch.

In this case the Dc-Value ratings of the hitch exceeds the calculated value, 90kN is higher than 65.91kN. The V-Value rating of the hitch also exceeds the calculated value, 35kN is higher than 28.21kN. You can use the RO400-G150 hitch in this application.

### RO400-G150 40mm Rockinger hitch specification sheet.

Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

									
		(mm)	D (kN)	Dc (kN)	S (kg)	V (kN)	(kg)	e1	ROE
RO400A51001	150	160 x 100	130	90,0	1000	35,0	35,0	00-0350	70971
RO400B51001	150	160 x 100	130	90,0	1000	35,0	35,0	00-0350	70971
RO400A51201	150	160 x 100	130	90,0	1000	35,0	35,0	00-0350	x 70971

Next let's take a 2 axle drawbar trailer pulled by the same 6 x 4 rigid truck. Since there is no V-Value or downward force we do not need to do a V-Value calculation. We use the D-Value calculation only.

The calculated D-Value is 105.15kN. The maximum D-Value on 40mm hitches is 130kN, in this case you could use a 40mm Rockinger RO400G150 or the Jost JAK22 hitch. Your selection between the 2 hitches is determined by how much V-Value load or downward force do you expect the hitch to be subjected to. For uneven or off road conditions we suggest the RO400G150 hitch because it can deal with up and downward forces, should the road conditions be very good and the forces impacting on the hitch and eye are in line the Jost JAK22 will be more than sufficient.



## TOW HITCHES



D & V-VALUE CALCULATIONS

Transport Equipment



GVM DRAWBAR TRAILER	18.00	(TONS)
GVM TOWING VEHICLE	26.50	(TONS)
<b>D-VALUE</b>	<b>105.15</b>	<b>(kN)</b>

Up till now any 40mm eyes and hitches would suffice.

## Rockinger 40mm tow eyes

Picture	Type & features	Specifications	Applications
	<b>Rockinger Type RO57229</b> Weld on 40mm eye  Initial fitment cost: Low Eye replacement cost: Low Downtime repair cost: Very High	D-value = 168 kN Weight = 8.7 kg Eye Weld on	High D-Value makes it suitable for all applications in the 40mm range
	<b>Rockinger Type RO57318</b> Bolt on Block type 40mm eye  Initial fitment cost: Moderate Eye replacement cost: Low Downtime repair cost: None	D-value = 125 kN Weight = 11 kg Block weld in Eye Bolt on replaceable	Only suited to applications with a D-Value range lower than 125kN
	<b>Rockinger Type RO57349</b> Flange Type 40mm towing eye  Initial fitment cost: Moderate Eye replacement cost: Moderate Downtime repair cost: None	D-value = 130 kN Weight = 8.8 kg Bolt on construction	Can be used in any application with 40mm hitches up to the max D-Value of 130kN

This is where it gets interesting. Let's take the same 6x4 rigid Truck and put a 3 axle drawbar trailer behind it.



TOW HITCHES		JOST	
D & V-VALUE CALCULATIONS		Transport Equipment	
			
GVM DRAWBAR TRAILER	27.00	(TONS)	
GVM TOWING VEHICLE	26.50	(TONS)	
<b>D-VALUE</b>	<b>131.20</b>	<b>(kN)</b>	

Calculated D-Value is 131.2kN. This means that we cannot use any 40mm hitch or eye anymore. We will have to go up to a 50mm hitch and eye.

There is just one small problem though. The 50mm replaceable bolt on tow eye only has a D-Value equal to the 40mm hitches and eyes at 130kN. This means that should your trailer have 3 axles you cannot use the RO57320 replaceable bolt on tow eye anymore.

In this case where your calculated D-Value is 131.5kN the correct hitch would be the RO50 Flex rated at 260kN for better road conditions because it has a 0kN V-Value and the RO500A66 hitch for poorer road conditions rated at 200kN D-Value and a 90kN V-Value with either the RO57005 Weld in Tow eye rated at 314kN or the RO57244 Flange type bolt on tow eye rated at 190kN.

The correct turntable for this application is the Jost HE18 rated at 10 tons to support 1 x 9 ton drawbar axle.

## Rockinger 50mm Tow eyes

	<p><b>Rockinger Type RO57005</b> Weld on 50mm towing eye</p> <p>Initial fitment cost: Low Eye replacement cost: Low Downtime repair cost: Very High</p>	<p>D-value = 314 kN Weight = 13.4 kg Eye Weld on</p>	<p>High D-Value makes it suitable for all applications in the 50mm range</p>
	<p><b>Rockinger Type RO57320</b> Bolt on Block type 50mm eye</p> <p>Initial fitment cost: Moderate Eye replacement cost: Low Downtime repair cost: None</p>	<p>D-value = 130 kN Weight = 12.6 kg Block weld in Eye Bolt on replaceable</p>	<p>Very limited applications with a D-Value lower than 130kN only.</p>
	<p><b>Rockinger Type RO57284/57244</b> Flange Type 50mm towing eye</p> <p>Initial fitment cost: Moderate Eye replacement cost: Moderate Downtime repair cost: None</p>	<p>D-value = 250/190 kN Weight = 17.9 kg/9.5 kg Bolt on construction</p>	<p>Can be used in any application with 50mm hitches up to the max D-Value of 260kN or 190kN respectively</p>

Should you hitch a 4 axle drawbar to a 6x4 rigid truck the D-Value calculates to 149.74kN. Both the RO50A66 and the RO50 Flex can be used subject to road conditions. Both the RO57005 weld in tow eye and the RO57244 flange type bolt eye can be used in this application.

Again the RO57320 tow hitch would not be suitable due to the limited 130kN D-Value rating.

The correct slewing ring for this application is the KDL900-6 rated at 21 Tons to support both 9 ton drawbar axles.

<b>TOW HITCHES</b>		<b>JOST</b>	
D & V-VALUE CALCULATIONS		Transport Equipment	
			
GVM DRAWBAR TRAILER	36.00	(TONS)	
GVM TOWING VEHICLE	26.50	(TONS)	
	<b>D-VALUE</b>	<b>149.74</b>	<b>(kN)</b>



In summary as a guideline 40mm hitches and eyes as well as the 50mm replaceable bolt on tow eye RO57320 are only suitable for trailers with a maximum of 2 x 9 ton axles.

Should your trailer have 3 or 4 axles you can only use 50mm hitches and either the RO57005 Weld in tow eye or the 50mm Flange type bolt on RO57284 flange type bolt on tow eye.

For more information please contact Christo de Clerk at JOST on: 082 774 9818.  
To view past bulletins please visit our website: [www.jost.co.za](http://www.jost.co.za)