



SHACKLES

LIFTING YOUR BUSINESS TO A HIGHER LEVEL

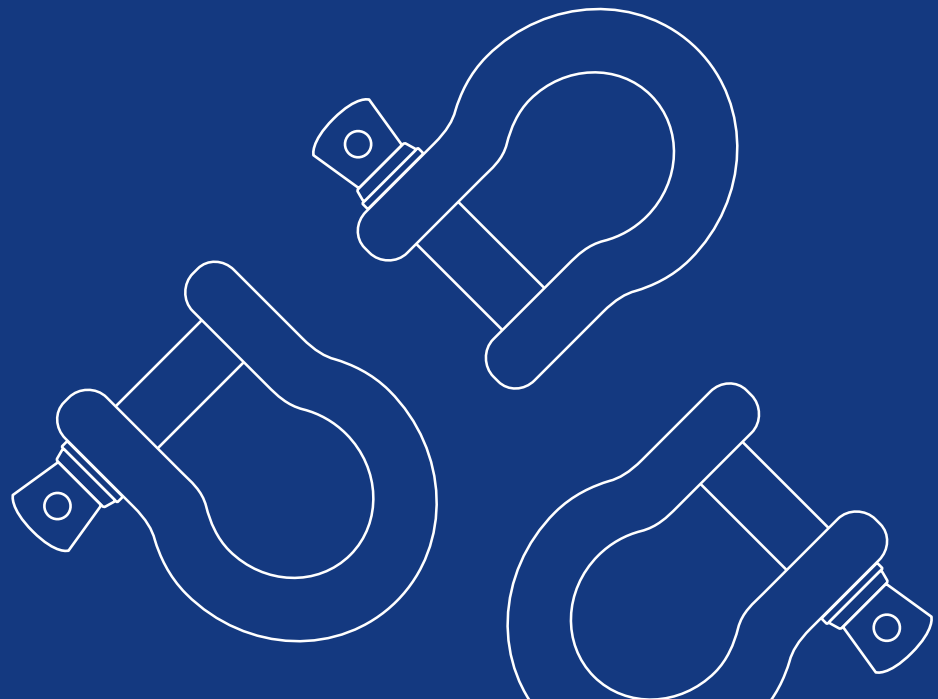
AUSTRALIAN LIFTING CENTRE PTY LTD

1300 100 120

www.austlift.com.au

Shackles

Lifting Shackles Information	131
Shackle Inspection Before Use	132
Commercial Grade Galvanised Bow Shackle	133
Commercial Grade Galvanised Dee Shackle	133
Special Purpose Shackle	133
Grade M Shackle	134
Grade S Shackle, Dee Type, Screw Pin	134
Grade S Shackle, Bow Type, Screw Pin	135
Grade S Shackle, Dee Type, Safety Pin	135
Grade S Shackle, Bow Type, Safety Pin	136
Grade 80 Shackle, Dee Type, Safety Pin	136



Lifting Shackles

IN ACCORDANCE TO AS2741

Type

In the lifting industry the most commonly used shackles are Grade M large dee and Grade S dee and bow.

The Grade S shackles come in safety pin and screw pin although there are other types of pin configurations available. For non-permanent applications screw pin shackles are generally used where as a safety pin shackle is recommended for long-term uses where the pin of the safety Shackle may rotate during loading.

Care & Use

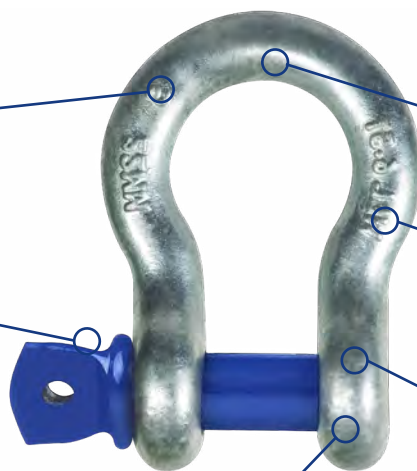
1. Check that the pin is of the correct length so that the thread is fully engaged in the screwed eye and allows the collar of the pin to be fully seated on the surface of the shackle eye.
2. If you find that the shackle pin does not seat properly, this is an indication that the pin may be bent, the mating thread is incorrect or the pin holes are not aligned correctly.
3. The original shackle pin is specially designed for the WLL of the Shackle, therefore, never replace it with a bolt as the bolt may not be suited to the WLL of the shackle.
4. With a safety pin shackle never use it unless the nut is fully secured and split pin in place.
5. Make sure the correct shackle is selected for the intended use and application. The shackle body should take the load along the axis of its centre-line. shackles should never be loaded in a manner that will cause bending of the body.
6. Ensure the load is on the centre of the pin, this can be achieved by placing loose spacers on either side of the shackle pin or use a smaller jaw width shackle of a similar load rated capacity.
7. Make sure the correct calculations are used to ensure the correct load capacity for angular loading of the shackle.
8. High temperatures affect the WLL of the shackle therefore the working load limit should be reduced by:
 - 10% for temperatures between 200 - 300°C.
 - 25% for temperatures between 300 - 400°C Grade S shackles should never be used at all for temperatures above 400°C.
9. Never attempt to weld or apply heat to shackles.



SHACKLE INSPECTION BEFORE USE

Shackles in use should be subject to periodic thorough examination by a competent person. The period between each examination will depend upon amount of use.

Ensure the correct type of pin is used and is fully engaged into the shackle body.

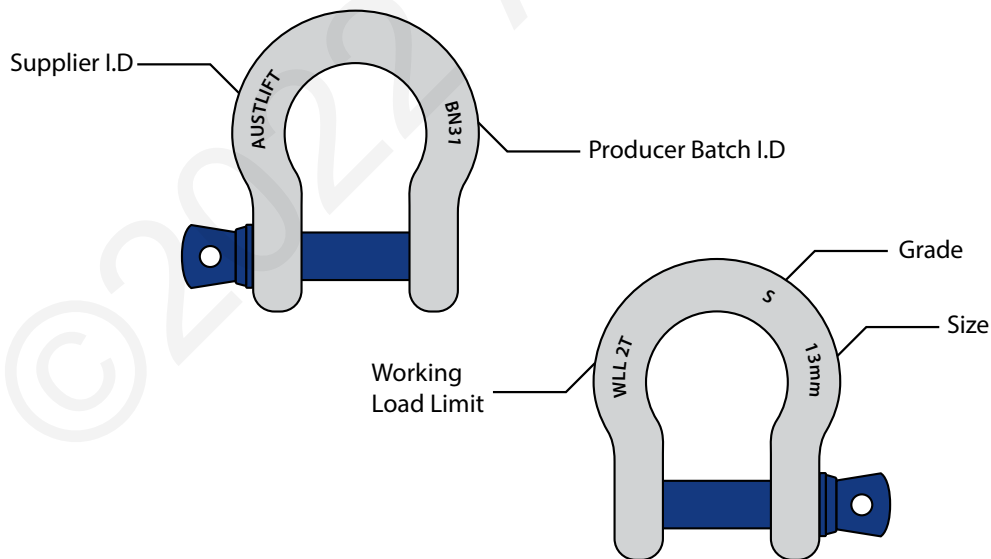


Maximum wear allowance must not exceed 10% of the original shackle dimensions.

Ensure all markings are legible & clear to read.

Ensure the shackle is free from corrosion, cracks, nicks, gouges, distortion and excessive wear

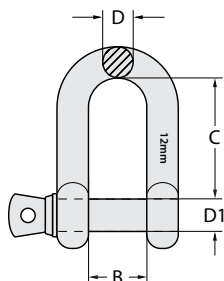
Make sure the threads are in good order on both pin and body for Screw Pin. For Safety Pin ensure that nut and split pin are in good condition.



Austlift's Shackle identification marks

1. Working load limit (WLL).
2. Manufactures identification mark.
3. Grade of shackle material.
4. Batch mark for traceability.
5. Size to correlate to body diameter.
6. As to AS 2741 requirements.

AS/NZS
2741



WARNING
NOT FOR LIFTING APPLICATIONS

Commercial Grade Shackle (Dee Type, Screw Pin, Galvanised)

Austlift commercial grade large dee shackles are used in domestic, mining and other industrial applications.

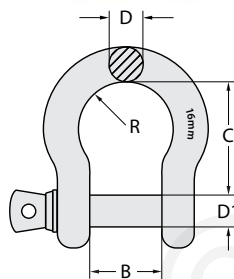
- Shaped in a dee pattern, they come with screw pin, made from mild steel material and hot dipped galvanised.
- NOT FOR LIFTING APPLICATIONS.**

SIZE (mm)	CODE	Wt. (kg)	DIMENSIONS (mm)			
			B	D	D1	C
5	501005	0.015	10	5	5	19
6	501006	0.025	12	6	6	24
8	501008	0.054	16	8	8	32
10	501010	0.109	20	10	10	40
12	501012	0.205	25	12	12	48
16	501016	0.48	32	16	16	64
20	501020	0.815	38	20	20	76
22	501022	1.285	44	22	22	85
25	501025	1.866	55	25	24	95

Commercial Grade Shackle (Bow Type, Screw Pin, Galvanised)

Austlift commercial grade large bow shackles have been used in domestic, mining and any other industrial applications.

- Shaped in a bow pattern, they come with screw pin, made from mild steel material and hot dipped galvanised.
- NOT FOR LIFTING APPLICATIONS. NOT RATED.**



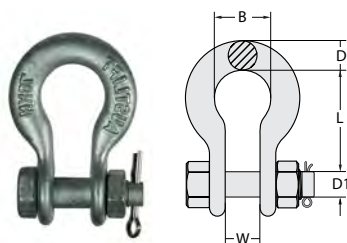
WARNING
NOT FOR LIFTING APPLICATIONS

SIZE (mm)	CODE	Wt. (kg)	DIMENSIONS (mm)				
			B	C	D	D1	R
5	501505	0.0143	10	19.5	5	5	15
6	501506	0.026	12	24	6	6	18
8	501508	0.054	16	32	8	8	24
10	501510	0.118	20	40	10	10	30
12	501512	0.225	25	49	12	12	36
16	501516	0.51	32	64	16	16	48
20	501520	0.86	38	80	19	20	60
22	501522	1.35	44	85	22	22	66
25	501525	2.05	50	100	25	24	75

Special Purpose Shackle

Austlift special purpose shackle are generally used for electrical industries and in railway lines.

- Generally conforms to AS1154.2.
- Made from high tensile steel in bow configuration with Safety Pin and hot dipped galvanised finish & stainless steel humpback split pin.
- Suitable for holding applications.
- Insulator & conductor fittings for overhead power lines.



High Tensile Steel
AS/NZS 1154.2

SIZE (mm)	CODE	MBF (kN)	MFL* (kN)	Wt. (kg)	DIMENSIONS (mm)				
					B	D	D1	L	W
16	505070	87.5	70	0.456	34	15	13	60	21

Grade M Shackle (Dee Type, Screw Pin)

Austlift grade M dee shackles are used where larger dimensional shackles are required for specific applications. Also ideal for the marine, agricultural & general industrial uses

- Grade M shackle is manufactured to comply in accordance with AS2741.
- Made from Grade 40 alloy steel, larger dee shape with screw pin, available in black or hot dipped galvanised finish.
- Suitable for lifting applications.

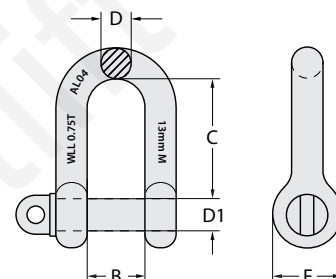
SIZE (mm)	CODE		WLL (T)	Wt. (kg)	DIMENSIONS (mm)				
	Galvanised	Black			B	C	D	D1	F
6	502006	502506	0.25	0.062	13	25	6	10	19
10	502010	502510	0.5	0.164	19	38	10	13	25
13	502013	502513	0.75	0.353	28	54	13	16	32
16	502016	502516	1.5	0.66	32	63	16	19	38
19	502019	502519	2.0	1.13	38	73	19	22	44
22	502022	502522	3.0	1.53	44	83	22	25	51
25	502025	502525	3.8	2.16	51	95	25	29	57
29	502029	502529	5.0	3.07	54	105	29	32	63
32	502032	502532	6.0	4.2	60	114	32	35	70
35	502035	502535	7.0	5.83	67	127	35	38	76
38	502038	502538	9.5	7.8	70	137	38	44	89
45	502044	502544	13.0	13	83	156	44	51	102
51	502051	502551	16.0	30.2	98	187	51	57	114



Galvanised



Self colour



AS/NZS
2741

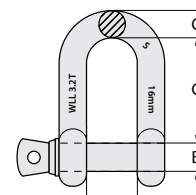
G40
Alloy Steel

Grade S Shackle (Dee Type, Blue Screw Pin)

Austlift blue screw pin dee shackles are most commonly used for lifting applications, providing connections to chain, wire rope and other rated fittings within the marine, agricultural, mining and engineering industries.

- Conforms to AS2741 manufactured from Grade S material in dee configuration with screw pin hot dipped galvanised.
- Marked with working load limit in tonnes, quality grade, batch numbered, nominal size in millimeter and supplier identification. Test certificates are available upon request. Also available in black color in all sizes upon request.
- Proof tested to 2 x working load limit, with a minimum break force of 6 x working load limit.
- Suitable for lifting applications.

SIZE (mm)	CODE	WLL (T)	Wt. (kg)	DIMENSIONS (MM)				
				A	B	C	F	G
6	504006	0.5	0.05	12	8	6	17	22
8	504008	0.75	0.09	13	10	8	21	26
10	504010	1	0.14	17	11	10	25	32
11	504011	1.5	0.17	18	13	11	27	37
13	504013	2	0.29	21	16	13	33	41
16	504016	3.2	0.63	27	19	16	40	51
19	504019	4.7	1.02	32	22	19	48	60
22	504022	6.5	1.53	37	25	22	54	71
25	504025	8.5	2.41	43	29	25	60	81
29	504029	9.5	3.09	46	32	29	67	90
32	504032	12	4.31	52	35	32	76	100
35	504035	13.5	6.01	57	38	35	84	113
38	504038	17	8.03	60	44	38	92	124
44	504044	25	11.48	73	51	44	110	146
51	504051	35	20.42	83	57	51	127	171
57	504057	42.5	26.06	95	63	57	143	181
63	504063	55	38.8	105	70	63	152	203



AS/NZS
2741

Certified

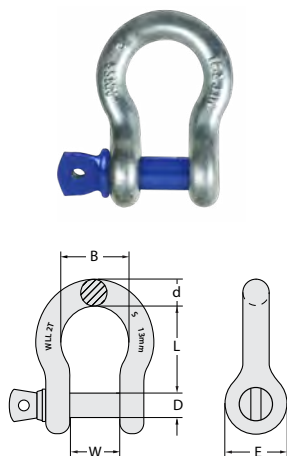
MBF
x6 WLL

Proof loaded
x2 WLL

Grade S Shackle (Bow Type, Blue Screw Pin)

Austlift blue screw pin bow shackles are most commonly used for lifting applications, providing connections to chain, wire rope and other rated fittings within the marine, agricultural, mining and engineering industries.

- Conforms to AS2741 manufactured from Grade S material in bow configuration with screw pin hot dipped galvanised.
- Marked with working load limit in T, quality grade, batch numbered, nominal size in mm and supplier identification.
- Proof tested to 2 x working load limit, with a minimum break force of 6 x working load limit.
- Test certificates are available upon request. Also available in black color in all sizes upon request.
- Suitable for lifting applications.



AS/NZS
2741

Certified

MBF
x6 WLL

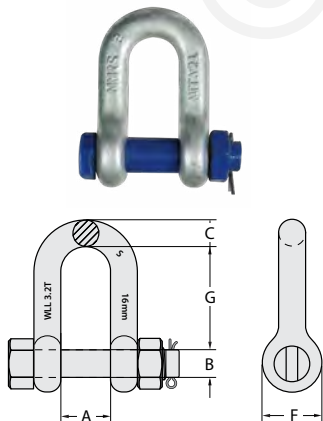
Proof loaded
x2 WLL

SIZE (mm)	CODE	WLL (T)	Wt. (kg)	DIMENSIONS (mm)					
				B	D	d	E	L	W
5	503005	0.33	0.02	15	6	5	14	22	10
6	503006	0.5	0.05	20	8	6	17	29	12
8	503008	0.75	0.09	21	10	8	21	31	13
10	503010	1	0.14	26	11	10	25	37	17
11	503011	1.5	0.17	29	13	11	27	43	18
13	503013	2	0.29	33	16	13	33	48	21
16	503016(B)	3.2	0.63	43	19	16	40	61	27
19	503019(B)	4.7	1.02	51	22	19	48	72	32
22	503022	6.5	1.53	58	25	22	54	84	37
25	503025	8.5	2.41	68	29	25	60	95	43
29	503029	9.5	3.09	74	32	29	67	108	46
32	503032	12	4.31	83	35	32	76	119	52
35	503035	13.5	6.01	92	38	35	84	133	57
38	503038	17	8.03	98	44	38	92	146	60
44	503044	25	13.79	127	51	44	110	178	73
51	503051	35	20.42	146	57	51	127	197	83
57	503057	42.5	26.06	160	63	57	143	222	95
63	503063	55	38.8	184	70	63	152	267	105

Grade S Shackle (Dee Type, Blue Safety Pin)

Austlift blue safety pin dee shackles are most commonly used for lifting applications, providing more permanent connections to chain, wire rope and other rated fittings within the marine, agricultural, mining and engineering industries. Suitable for equipment that may vibrate to ensure pin will not dislodge during use. The safety pin allows the pin to rotate during loading conditions.

- Conforms to AS2741 manufactured from Grade S material in dee configuration with safety pin hot dipped galvanised.
- Marked with working load limit in T, quality grade, batch numbered, nominal size in mm and supplier identification.
- Proof tested to 2 x working load limit, with a minimum break force of 6 x working load limit.
- Test certificates are available upon request. Also available in black color in all sizes upon request.
- Suitable for lifting applications.



AS/NZS
2741

Certified

MBF
x6 WLL

Proof loaded
x2 WLL

SIZE (mm)	CODE	WLL (T)	Wt. (kg)	DIMENSIONS (mm)				
				A	B	C	F	G
13	504513	2	0.36	21	16	13	33	41
16	504516	3.2	0.76	27	19	16	40	51
19	504519	4.7	1.23	32	22	19	48	60
22	504522	6.5	1.79	37	25	22	54	71
25	504525	8.5	2.78	43	29	25	60	81
29	504529	9.5	3.75	46	32	29	67	90
32	504532	12	5.31	52	35	32	76	100
35	504535	13.5	6.98	57	38	35	84	113
38	504538	17	9.44	60	44	38	92	124
44	504544	25	14.1	73	51	44	110	146
51	504551	35	23.71	83	57	51	127	171
57	504557	42.5	29.01	95	63	57	143	181
63	504563	55	40.86	105	70	63	152	203

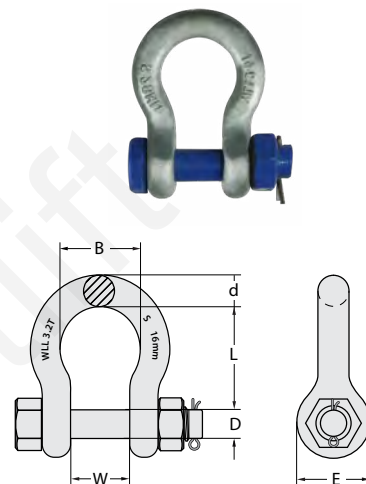
Grade S Shackle (Bow Type, Blue Safety Pin)

Austlift blue safety pin bow shackles are most commonly used for lifting applications, providing more permanent connections to chain, wire rope and other rated fittings within the marine, agricultural, mining and engineering industries. Suitable for equipment that may vibrate to ensure pin will not dislodge during use. The safety pin allows the pin to rotate during loading conditions.

- Conforms to AS2741 manufactured from Grade S material in bow configuration with safety pin hot dipped galvanised.
- Marked with working load limit in tonnes, quality grade, batch numbered, nominal size in millimetre and supplier identification.
- Proof tested to 2 x working load limit, with a minimum break force of 6 x working load limit.
- Test certificates are available upon request. Also available in black color in all sizes upon request.
- Suitable for lifting applications.

SIZE (mm)	CODE	WLL (T)	Wt. (kg)	DIMENSIONS (mm)					
				B	D	d	E	L	W
10	503510	1	0.16	27	11	10	25	37	18
11	503511	1.5	0.22	29	13	11.5	27	43	19
13	503513	2	0.36	33	16	13	33	48	21
16	503516	3.2	0.76	43	19	16	40	61	27
19	503519	4.7	1.23	51	22	19	48	82	32
22	503522	6.5	1.79	58	25	22	54	84	37
25	503525	8.5	2.78	68	29	25	60	95	43
29	503529	9.5	3.75	74	32	29	67	108	46
32	503532	12	5.31	83	35	32	76	119	52
35	503535	13.5	6.98	92	38	35	84	133	57
38	503538	17	9.44	98	44	38	92	146	60
44	503544	25	15.39	127	51	44	110	178	73
51	503551	35	23.71	146	57	51	127	197	83
57	503557	42.5	29.01	160	63	57	143	222	95
63	503564	55	44.58	184	70	63	152	267	105
76	503576	85	75.0	200	83	76	165	330	127
89	503589*	120	129.31	241	95	89	203	381	133.5
102	503590*	150	165.9	279	108	102	229	432	145

* 503589* & 503590* are crosby shackle type G2130 not AS type.



AS/NZS
2741

Certified

MBF
x6 WLL

Proofloaded
x2 WLL

The important points of Grade S Shackle quality:

1. The body and the pin shall have a hardness of not more than Rockwell 32RC.
2. Clearance between pin and body:

PIN DIAMETER	CLEARANCES
<20mm	1mm
20-45	1.5mm
>45mm	2mm

Grade 80 Shackle (Dee Type, Safety Pin)

AS/NZS
2741

Certified

G80
Alloy Steel

SIZE (mm)	CODE	WLL (T)	Wt. (kg)	DIMENSIONS (mm)				
				A	B	C	D	d
16	506016	8	0.89	30	66	79	20	17.5

