



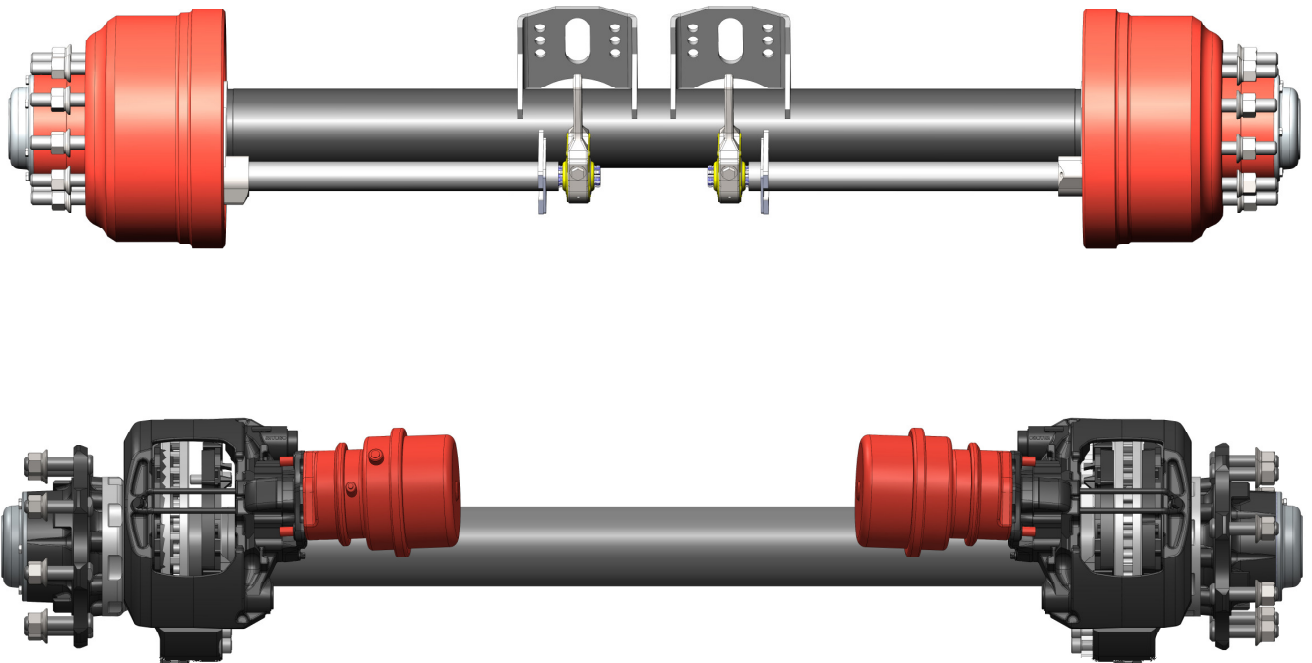
TMC Australia Pty Ltd

TMC Trailer Unitised Bearing Axle Service Manual UB82

TMC TRAILER AXLE

TMC UB82 UNITISED BEARING

SERVICE MANUAL



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Note: For service information relating to the disc brake calipers (adjustment and/or replacement), please refer to the TMC Manual “Pan 19 Disc Brake Axle Service Manual”.

TMC Australia’s policy is one of continuous development, we therefore reserve the right to change or modify the specifications without notification.

We Engineer Quality and Performance

RECOMMENDED SERVICE SCHEDULE.**First Service 500 km or on Delivery:**

- Check torque settings of all wheel nuts - On delivery.
- After all wheel changes.

Every 5,000 km:

Check and adjust the brakes, check brake linings for wear.

Every 25,000 km:

Lubricate slack adjusters and camshaft bushings using an EP2 type grease or equivalent.

Every 100,000 km:

With the axle end lifted rotate the hubs and determine if the wheel bearing has excessive movement or noise. If in doubt, please contact TMC or its approved service outlet.

Inspect hubcap and check for signs of damage to the gasket. Replace gasket if damaged.

Check inboard hub seal for leakage or damage, remove hub and replace seal if necessary.

Check the brake components for wear. Replace if necessary.

Note: TMC's range of "LMV", "LMVS", "SL10", and "SL10 VS" suspensions, TN, TP, UB90 and UB82 trailer axle combinations are generally designed for operating on clean paved roads. Although occasional use on graded or gravel roads is acceptable, for equipment that is regularly used "off-road" or "off-highway" TMC recommends that service intervals should be halved. In extremely severe operating conditions, weekly and in certain cases even daily inspections of the equipment may be required to ensure safe and correct operation of the suspension and axle combination.



10 Stud x Ø225 PCD M22 Hub
Ø335 x 160 'S' Cam Drum Brake
Ø335 x 210 'S' Cam Drum Brake



8 Stud x Ø275 PCD M22 Hub
Pan 19 Disc Brake

APPLICATION OF GREASE INTO HUB.

1. It is required to partially fill the cavity in between the seal and bearing with grease. This additional grease will extend the seal and bearing life by preventing contaminants entering into the bearing assembly. If there are any questions, please contact TMC engineering.

Type of grease: **Mobil grease XHP 222 OR an approved equivalent.**

Quantity: **50g to 100g.**

**AXLE SPINDLE NUT TIGHTENING PROCEDURE.**

1. Apply a light film of anti-seize grease to the spindle bearing surface. Install hub ensuring seal is not damaged during installation. Apply a light film of anti-seize grease to the spindle thread and fit the axle spindle nut (part 812015). Tighten to 1000 Nm.
2. Fit the axle lock tab washer (part 812017) onto the axle spindle.
3. Fit the axle spindle lock nut (part 812016) onto the axle spindle and tighten to 800 Nm.
4. Bend the lock tab washer tabs both inwards over the axle spindle nut and outwards over the axle spindle lock nut to ensure they cannot move. Apply a light smear of grease over all the parts on the axle spindle end to prevent rusting. Finally refit the axle hubcap and gasket onto the axle hub end. Tighten the hubcap studs (M8) to 20 / 25 Nm.



TMC Australia Pty Ltd

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TORQUE SETTINGS CHART.

Axle spindle nut M80	- 1000 Nm.
Axle spindle lock nut M80	- 800 Nm.
<u>Hub Cap Bolts:</u> M8 studs	- 20/25 Nm.
<u>Wheel nuts:</u> M22 ISO wheel studs	- 550/600 Nm.
Drum brake axle only <u>Inner Camshaft Bracket Bolts:</u> M10 bolt and nut	- 30/35 Nm.
<u>Camshaft Bolt:</u> M12 studs	- 50/55 Nm.
Disc brake axle only <u>Axle Hub to Disc Brake Rotor Studs:</u> M14 socket head studs grade 10.9	- 170/210 Nm.
<u>Brake Caliper Mounting Bolts:</u> M16 Bolts grade 10.9	- 250/290 Nm.

It is recommended on assembly that:

On the hub to rotor studs (M14) a small amount of loctite 243 is applied to the threads.

On the brake calliper mounting studs (M16) a small amount of anti seize is applied to the threads.

WELDING TO TMC AXLE BEAMS.

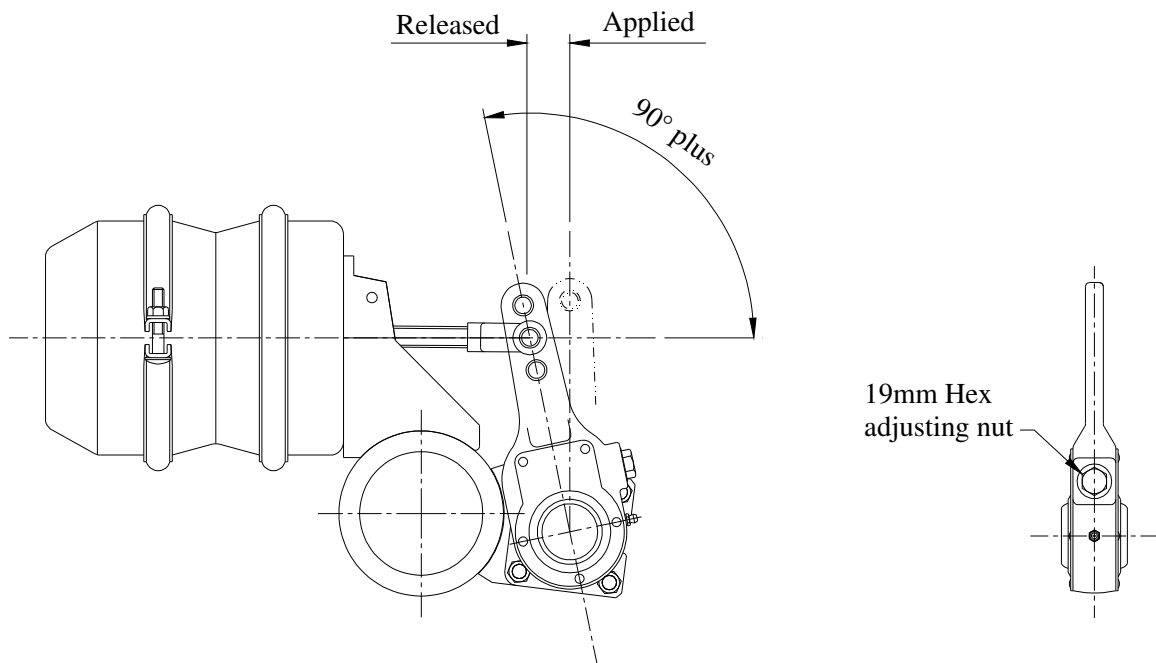
Recommended welding procedures:

1. Before any welding is conducted on the axle tube, the axle tube must be pre heated to 150 – 200C locally at the area to which the welding is to be done.
Caution: Do not apply excessive heat to the axle tube.
2. All welding is to be applied to the axle tube as near as possible to the axle's neutral axis. Do not weld circumferentially around the axle tube.
3. All welds must be conducted using low hydrogen rods or an approved equivalent MIG process.
Grounding/earth wire must be attached directly to axle beam not to the hub or components.

BRAKE ADJUSTMENT – MANUAL SLACK ADJUSTERS.

'S' Cam brakes are adjusted by the manual slack adjusters fitted to the camshafts on the axle.

1. With the brakes released, adjust the slack adjuster until the brake linings contact the brake drum. This is done by rotating the 19mm hexagonal nut clockwise.
2. Adjust the 19mm hexagonal nut counterclockwise approximately ¼ turn until the hub just rotates freely with no brake drag.
4. Finally check that with the brakes released and applied that the angle between the brake chamber push rod and slack adjuster is greater than 90 degrees. The angle can be adjusted by screwing the push rod clevis backwards or forwards along the push rod thread to achieve the correct angle. When finished always check that the push rod clevis lock nut is tightened.

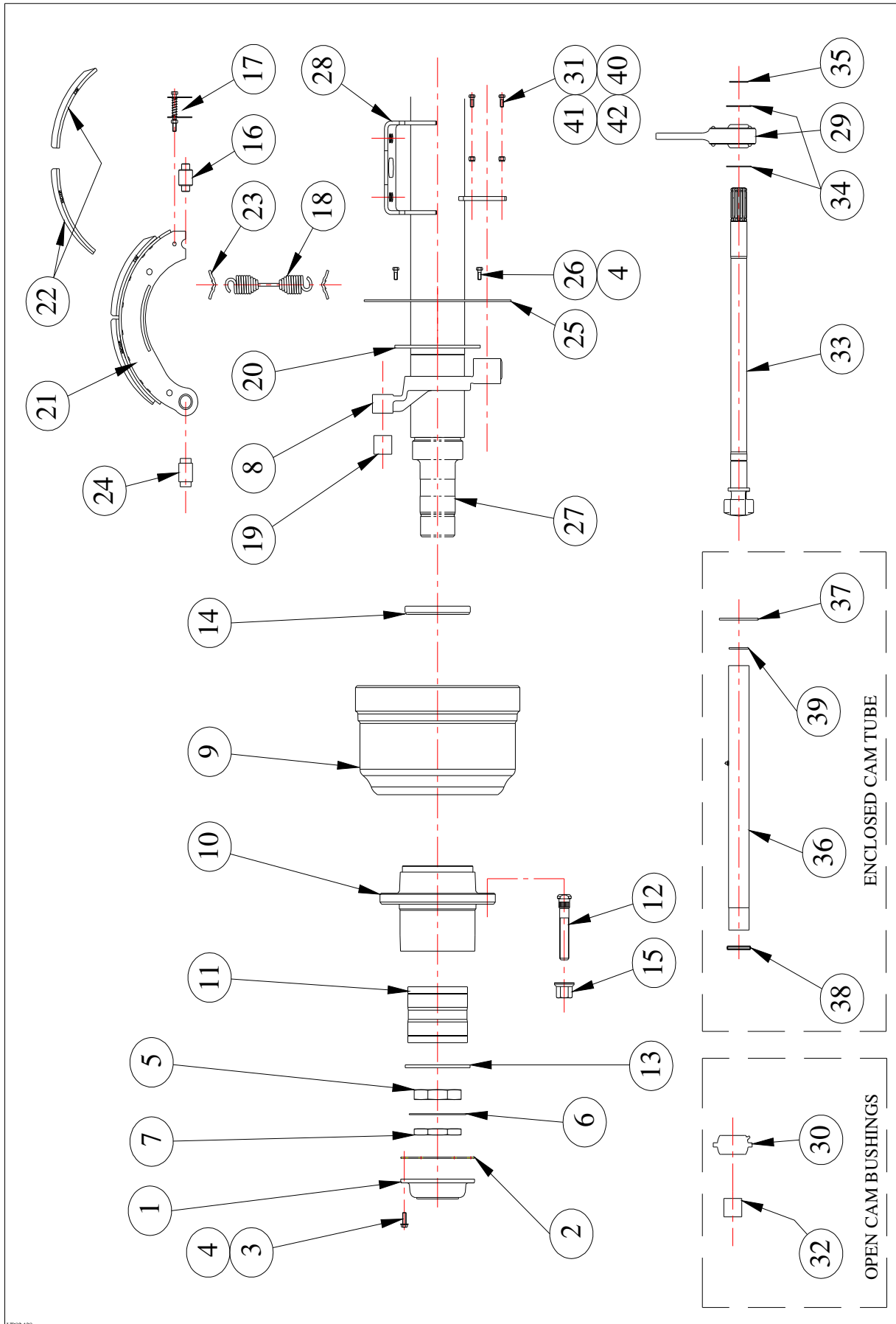
**BRAKE ADJUSTMENT - MANUAL SLACK ADJUSTER.****BRAKE ADJUSTMENT – AUTOMATIC SLACK ADJUSTERS.**

'S' cam brakes fitted with automatic slack adjusters should require no manual adjustment after the initial installation on the axle or initial re adjustment of the brakes after brake relines. All automatic slack adjusters have a specific set up and installation procedure as specified by the automatic slack adjuster manufacturer. This procedure must be adhered to. If in doubt contact the manufacturer of the automatic slack adjuster or the manufacturer's agent for these specific procedures.

Generally, automatic slack adjusters must be re adjusted similarly to the manual slack adjusters on initial installation or after brake relines.

Caution: Please refer to the manufacturer's recommendations.

PARTS DIAGRAM.





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TMC Trailer Unitised Bearing Axle Service Manual UB82

SPARE PARTS - Axles with 335 diameter x 210 wide 'S' cam brakes and Axles with 335 diameter x 160 wide 'S' cam brakes.

Item	Part Number	Description	335 x 210	335 x 160
1	812006	Hub cap	✓	✓
2	812007	Hub cap gasket	✓	✓
3	9HBM08125020	Hub cap stud M8 x 20 long	✓	✓
4	9SWM08	Spring washer	✓	✓
5	812015	Axle spindle adjusting nut	✓	✓
6	812017	Axle spindle lock tab washer	✓	✓
7	812016	Axle spindle lock nut	✓	✓
8	810100	Brake spider 335x210	✓	✓
9	812014	Brake drum – 10stud x 225 pcd 335x210	✓	
	812012	Brake drum – 10stud x 225 pcd 335x160		✓
	812022	Brake drum – 10.225, 335x160 - notched		✓
10	812005	Hub 10 stud x225 pcd assembly (Including Item*)	✓	✓
11*	812009	Wheel bearing UB82 (BTH 0055)	✓	✓
12*	810144	Wheel stud – M22 ISO x 100mm (short)	✓	✓
	810225	Wheel stud – M22 ISO x 115mm (long)	✓	✓
13*	812018	Retainer ring wheel bearing	✓	✓
14*	810135/02	Hub seal 46300	✓	✓
15*	810145	Wheel nut – M22 ISO	✓	✓
16	810094	Cam roller	✓	✓
17	800018	Cam roller retainer	✓	✓
	810093	Cam roller retainer – bolt on	✓	✓
18	810101	Brake return spring	✓	✓
19	800002	Anchor pin bush	✓	✓
20	810085	Dust cover mount ring	✓	
21	810095	Brake shoe lined – P brake	✓	
	813126	Brake shoe lined – P brake		✓
22	810096/810097	Brake lining set inc. rivets	✓	
	813110-07/08	Brake lining set		✓
23	800013	Brake return spring retainer pin	✓	✓
24	810092	Anchor pin – P brake bolt on	✓	✓
25	810084	Dust cover	✓	
26	9HBM08125020	Dust cover bolt M8 x 20 long	✓	
27	Contact TMC	Axle beam assembly	✓	✓
28	810292	Booster bracket	✓	✓
29	810120	Slack adjuster	✓	✓
30	810059	Inner cam bush	✓	✓
31	9HBM10150030	Bolt M10 x 30 long	✓	✓
32	810061	Outer cam bushing	✓	✓

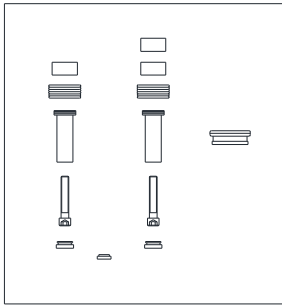


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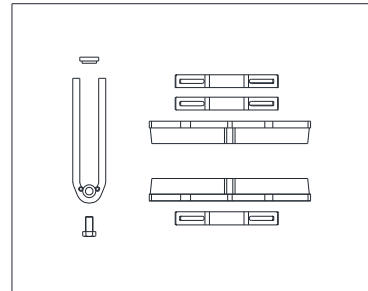
TMC Trailer Unitised Bearing Axle Service Manual UB82

Item	Part Number	Description	335 x 210	335 x 160
33	810105/616L& R	Camshaft 10 spline – 616 long (L&R)	✓	✓
34	810122	Camshaft washer	✓	✓
35	810121	Camshaft circlip	✓	✓
36	810091	Enclosed cam tube assembly	✓	✓
37	810087	Enclosed cam tube support plate	✓	✓
38	810081	Enclosed cam tube seal – inner	✓	✓
39	810082	Enclosed cam tube seal – outer	✓	✓
40	9HNM10	Hex nut M10	✓	✓
41	9FWM10	Flat washer M10	✓	✓
42	SWM10	Spring washer M10	✓	✓
Optional				
	810169	ABS pole wheel – 100 tooth		
	810169-80	ABS pole wheel – 80 tooth		

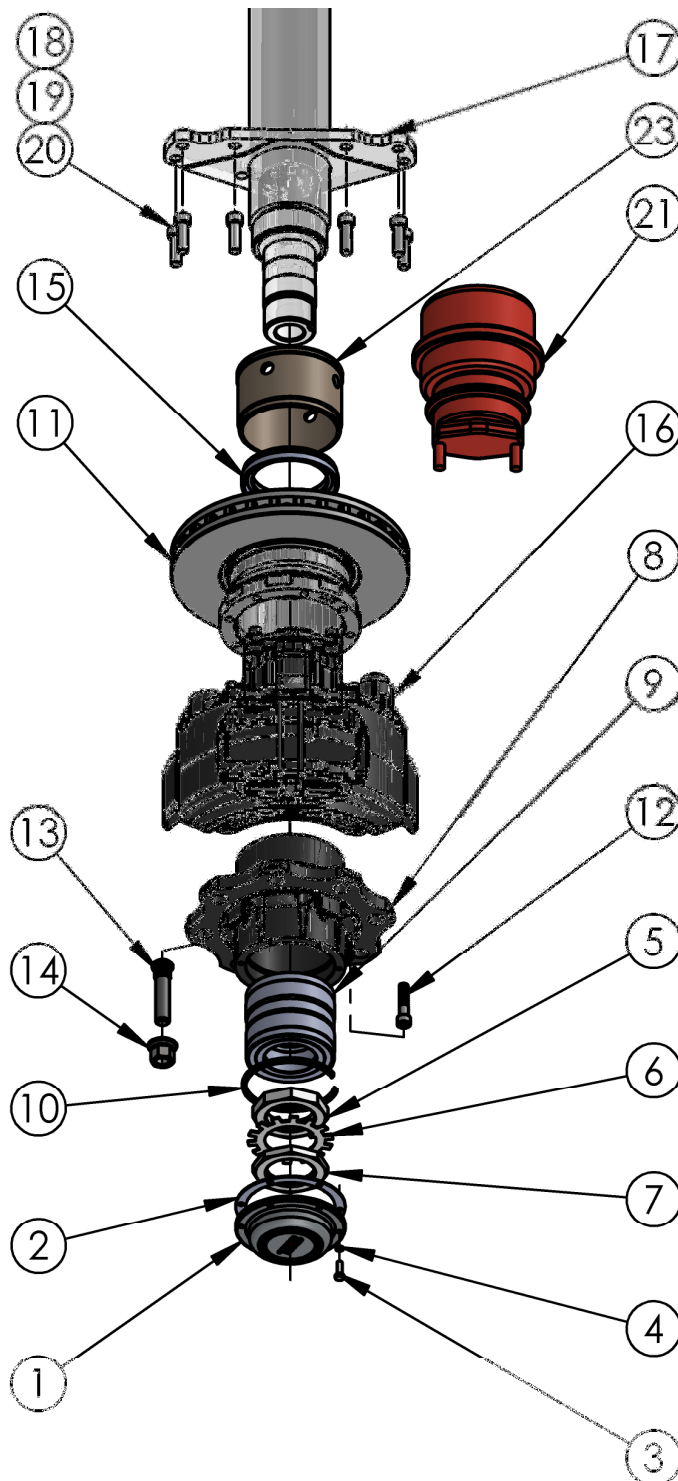
PARTS DIAGRAM



Brake Pad Kit (Item 24)



Guides and Pins Kit (Item 25)





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TMC Trailer Unitised Bearing Axle Service Manual UB82

SPARE PARTS - UB82 Axles with Pan 19 disc brake

Item	Part Number	Description
1	812006	Hubcap
2	812007	Hubcap gasket
3	9HBM08125020	Hubcap stud M8 x 20 long
4	9SWM08	Hubcap spring washer
5	812015	Axle spindle adjusting nut
6	812017	Axle spindle lock tab washer
7	812016	Axle spindle lock nut
8	820323	Hub 8 stud x 275 pcd assembly (including item *)
9 *	812009	Wheel bearing UB82 (BTH 0055)
10 *	812018	Retainer ring wheel bearing
11	820105	Rotor – 377mm diameter
	820105-01	Rotor – 377mm diameter with cast ABS pole wheel (Optional – to suit selfsteer axles)
12	9SHM14150060	Hub to rotor bolt M14 x 60 long Gr 10.9
13 *	810144	Wheel stud M22 x 100 long
14 *	810145	Wheel nut M22
15 *	810135	Hub seal
16	820107	Disc brake caliper assembly LH
	820106	Disc brake caliper assembly RH
17	Contact TMC	Axle beam assembly
18	9SWM16	M16 spring washer
19	9FWM16	M16 flat washer
20	9HBM16150050	Caliper attachment bolts M16 x 50 long Gr 10.9
	9HBM16150040	Caliper attachment bolts M16 x 40 long Gr 10.9 (suit self steer axle only)
21	820109	Brake chamber Type 16/24 universal
	820131	Brake chamber Type 16/16 universal
	820133	Brake chamber Type 12/16 universal
	820138	Brake chamber Type 14/16 universal
	820139	Brake chamber Type 14/24 universal
	820140	Brake chamber Type 20/16 universal
	820149	Brake chamber Type 20/24 universal
	820132	Brake chamber Type 16 universal
	820134	Brake chamber Type 12 universal
	820135	Brake chamber Type 20 universal
	820136	Brake chamber Type 24 universal
	820137	Brake chamber Type 22 universal
23	820116	ABS pole wheel – 100 tooth (OPTIONAL)
	820116-80	ABS pole wheel – 80 tooth (OPTIONAL)
24	820737	Replacement brake pad set (per axle)
25	820738	Replacement calliper guide pins and seals set (per calliper)
	820736	Main piston & seal set with piston (per calliper)