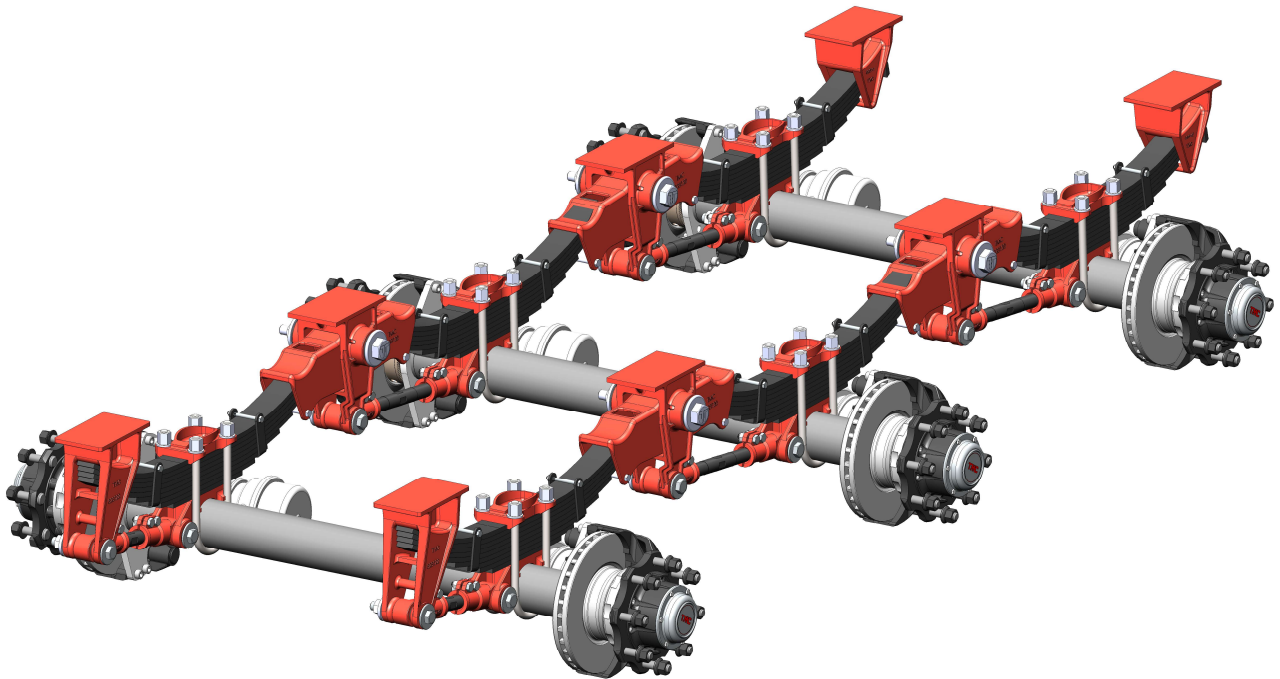




**TMC Australia Pty Ltd**  
**TMC 75 Spring Suspension Service Manual**

# TMC 75 SPRING SUSPENSION SERVICE MANUAL



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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**



# TMC Australia Pty Ltd

## TMC 75 Spring Suspension Service Manual

### **RECOMMENDED SERVICE SCHEDULE.**

#### **First Service 500 km or on Delivery:**

Check all torque settings and re torque.

#### **Every 10,000km:**

Check all torque settings and inspect for visual damage and wear.

Repair and replace parts as necessary.

#### **Every 50,000 km or Annually:**

Check all torque settings and inspect for visual damage and wear.

Check all suspension bushings for wear and deterioration replace or repair as necessary.

Check all leaf springs and U bolts for wear and deterioration, replace or repair as necessary.

Carry out a visual inspection of the suspension for wear and damage, repair or replace any worn or damaged parts as necessary.

Check the axle alignment and realign as necessary. Axle alignment must be checked when ever severe kerb contact, accident damage or the torque arm bushes are replaced.

**Note:** TMC's range of spring suspensions and TN 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.

### **TORQUE ARMS and TORQUE ARM BUSHES – ASSEMBLY.**

During servicing work the dismantling and re assembly of the adjustable torque arms may be necessary when replacing parts. The following is the recommended procedure. Assemble the adjustable torque arm to the same length as the matching fixed length torque arms. It is recommended that the fixed length torque arms are fitted on the near side (kerb) of the trailer and the adjustable torque arms are fitted on the off side of the trailer.

Fit the end of the torque arm into the suspension hanger or axle seat casting; lube the tapered rubber (or poly) torque arm bushes with soapy water (50% soap/50% water) and insert from either side. Fit the torque arm pin through the bushes, fit the torque arm washer and lock nut onto the end of the torque arm pin. Check that the torque arms are located centrally in the end of the hanger or axle seat and tighten the torque arm pin nut.

#### **Assembly torque.**

Torque arm pins:	1"UNF & M24 nut	- 150/200 Nm. (Rubber bush).
	1"UNF & M24 nut	- 200/250 Nm. (Poly bush).

#### **Assembly Notes:**

1. On two and three axle suspensions the middle and rear torque arms are longer than the torque arm fitted to the front axle.
2. On all underslung suspensions the adjustable torque arms are to be fitted with the clamp bolts to the top as shown on the assembly drawings.
3. On installation lubricate the rubber torque arm bushes with a soapy solution, do not use liquid detergent or rubber grease.
4. On installation lubricate the poly torque arm bushes with 50% dish soap/50% water only.

**AXLE ALIGNMENT and ADJUSTMENT PROCEDURE.**

Measure from the centre of the kingpin to a centre point on each end of the front trailer axle, adjust as needed the adjustable torque arms length to get the two dimensions equal.

Then align the remaining axles off the front trailer axle by adjusting the length of the adjustable torque arm(s) until the axle centres on both sides of the trailer are equal.

It is possible also to do the axle alignment using a laser or optical aligning device designed for axle alignment.

After the axle alignment is completed and re checked, tighten the adjustable torque arm clamp bolts.

**Assembly torque.**

Torque arm clamp bolts:      ½"UNF nut    - 130/140 Nm.  
   M14 nut        - 140/150 Nm.

**EQUALISER and EQUALISER BUSHES – ASSEMBLY.**

Fit the equaliser casting into the suspension hanger casting, lube the tapered rubber (or poly) equaliser bushes with soapy water (50% dish soap/50%water) and install from either side. Fit the equaliser shaft through the bushes, fit the equaliser shaft washer and lock nut onto the end of the equaliser shaft. Check that the equaliser casting is located centrally in the hanger casting and tighten the equaliser shaft nut.

**Assembly torque.**

Equaliser shaft:                1"UNF & M24 nut    - 220/270 Nm. (Rubber bush).  
   1"UNF & M24 nut    - 220/270 Nm. (Poly bush).

After or during when service work or repairs are being done on the suspension or any of its components a visual inspection of the suspension should be carried out to ensure that all components are correctly located and fitted. The incorrect fitment and installation of any components will greatly reduce the service life of the suspension and its components.

**GENERAL WELDING and REPAIR NOTES.**

All welding between the suspension hangers and the trailer frame is to be done using either low hydrogen electrodes or an approved equivalent MIG process. If a suspension hanger must be replaced during repair or service work, weld as follows.

**Weld all around the top of each suspension hanger in 10mm continuous fillet weld.**

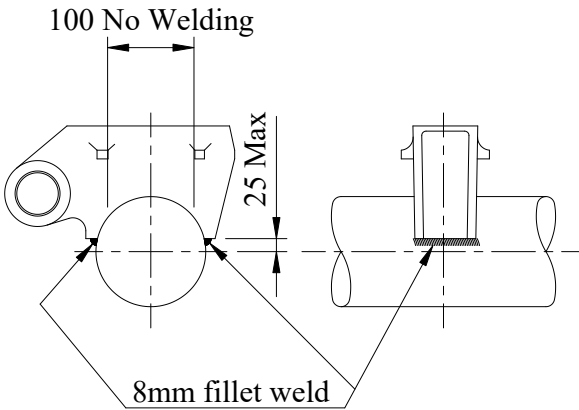
After installation of the suspension hanger it is recommended that either the pipe or channel type cross bracing which was fitted is replaced and re welded to the new hanger. Fully weld around the ends of the cross bracing to each suspension hanger.

When replacing axle seats be sure to re weld the axle seat as follows.

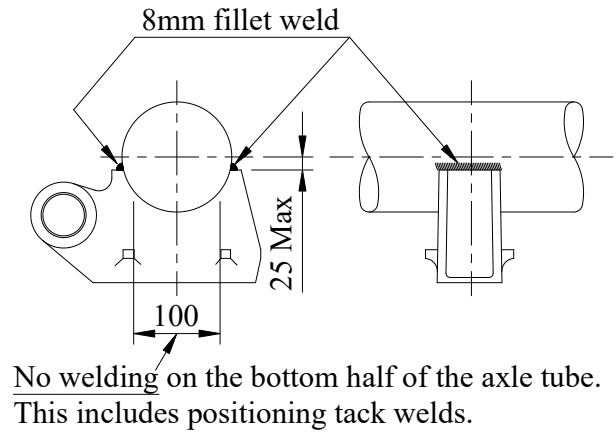
**Weld each axle seat in position using 8mm continuous fillet weld. The Axle manufacturer should be consulted with reference to welding technique and settings.**

Do not weld circumferentially around the axle and restrict all welding to within 25mm of the axles front and rear horizontal centre line.

### OVERSLUNG SUSPENSION



### UNDERSLUNG SUSPENSION



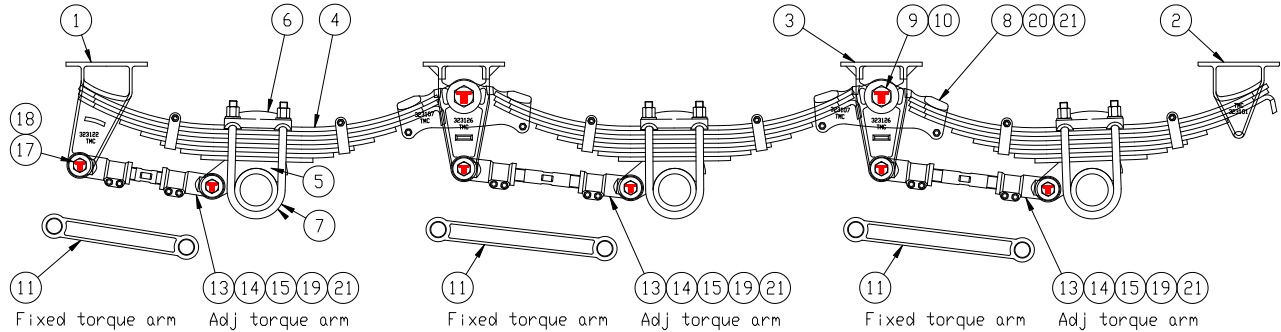
### TORQUE SETTINGS CHART

<b>U Bolts:</b>	- 500/540 Nm. (7/8" UNF & M22)
	- 750/800 Nm. (1" UNF & M24)
<b>Equaliser Shaft Locknut and Drawbar Shaft Locknut:</b>	- 220/270 Nm. (1" UNF & M24) rubber bushes.
	- 220/270 Nm. (1" UNF & M24) poly bushes.
<b>Torque Arm Pin Locknut:</b>	- 150/200 Nm. (1" UNF & M24) rubber bushes.
	- 200/250 Nm. (1" UNF & M24) poly bushes.
<b>Adjustable Torque Arm Eye Bolts:</b>	- 130/140 Nm. (1/2" UNF Grade 8)
	- 140/150 Nm. (M14 Grade 8)
<b>Equaliser Drop Out Bolts:</b>	- 75/85 Nm. (1/2" UNF Grade 5)
	- 65/75 Nm. (M12 Grade 8.8)

(Note: 1 Nm = 0.74 ft.lbs. approximately)

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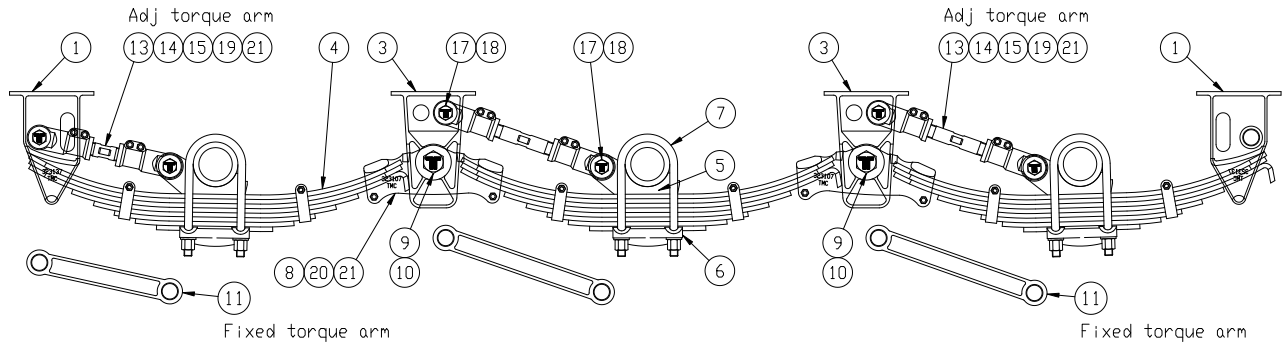
### TMC 75 Overslung Spring Suspension Spare Parts Listing:



Item	Part No.	Description
1.	323122	Front hanger
2.	323101	Rear hanger
3.	323126	Equaliser hanger -1232/1384
	323132	Equaliser hanger - 1538
4.	323105	9 leaf spring - 75x13
	323106	8 leaf spring - 75x13
	323111	10 leaf spring - 75x16
	323123	3 leaf spring – taper leaves
5.	323127	Axle seat 127 dia x 20 high
	323125	Axle seat 127 dia x 75 high
	323149	Axle seat 120 sq x 20 high
	323171	Axle seat 120 sq x 77 high
	323108	Axle seat 152 sq x 20 high
6.	323103	Spring top plate 127 axle
	323109	Spring top plate 152 axle
7.	323135/275	U bolt – 127 dia x 275
	323135/325	U bolt – 127 dia x 325
	323135/375	U bolt – 127 dia x 375
	323134/320	U bolt – 120 sq x 320
	323134/370	U bolt – 120 sq x 370
	323151/360	U bolt – 152 sq x 360
	323151/410	U bolt – 152 sq x 410
8.	323107	Equaliser 1232 spacing
	323120	Equaliser 1384 spacing
	323110	Equaliser 1538 spacing

Item	Part No.	Description
9.	323130	Equaliser shaft assembly
10.	323129	Equaliser bush - rubber
	323129PB	Equaliser bush - poly
11.	323100/370	Fixed torque arm – 370
	323100/380	Fixed torque arm – 380
	323100/395	Fixed torque arm – 395
	323100/470	Fixed torque arm – 470
	323100/480	Fixed torque arm – 480
	323100/495	Fixed torque arm – 495
	323100/545	Fixed torque arm – 545
	323100/565	Fixed torque arm – 565
13.	323124L	Adj torque arm end – LH
14.	323124R	Adj torque arm end – RH
15.	323133/01	Adj torque arm screw – 260
	323133/02	Adj torque arm screw – 350
	323133/03	Adj torque arm screw – 420
	323133/04	Adj torque arm screw – 470
17.	323131	Torque arm pin assembly
18.	323128	Torque arm bush – rubber
	323128PB	Torque arm bush - poly
19.	9HB1/2UNF2.00	Hex bolt ½”unf x 2” long
	9HB14150050	Hex bolt M14 x 50 long
20.	9HB1/2UNF5.00	Hex bolt ½”unf x 5” long
21.	9LN1/2UNF	Nyloc nut ½”unf
	9LNM14	Nyloc nut M14

### TMC 75 Underslung Spring Suspension Spare Parts Listing:



Item	Part No.	Description
1.	323137	Front/Rear hanger
3.	323136	Equaliser hanger 1232
	323189	Equaliser hanger 1384/1538
4.	323105	9 leaf spring - 75x13
	323106	8 leaf spring - 75x13
	323111	10 leaf spring - 75x16
	323123	3 leaf spring – taper leaves
5.	323127	Axle seat 127 dia x 20 high
	323149	Axle seat 120 sq x 20 high
	323108	Axle seat 152 sq x 20 high
6.	323103	Spring top plate 127 axle
	323109	Spring top plate 152 axle
7.	323135/325	U bolt – 127 dia x 325
	323134/320	U bolt – 120 sq x 320
	323151/360	U bolt – 152 sq x 360
8.	323107	Equaliser 1232 spacing
	323120	Equaliser 1384 spacing
	323110	Equaliser 1538 spacing
9.	323130	Equaliser shaft assembly

Item	Part No.	Description
10.	323129	Equaliser bush – rubber
	323129PB	Equaliser bush – poly
11.	323100/370	Fixed torque arm – 370
	323100/380	Fixed torque arm – 380
	323100/395	Fixed torque arm – 395
	323100/460	Fixed torque arm – 460
	323100/470	Fixed torque arm – 470
13.	323124L	Adj torque arm end – LH
14.	323124R	Adj torque arm end – RH
15.	323133/01	Adj torque arm screw – 260
	323133/02	Adj torque arm screw – 350
17.	323131	Torque arm pin assembly
18.	323128	Torque arm bush – rubber
	323128PB	Torque arm bush - poly
19.	9HB1/2UNF2.00	Hex bolt ½”unf x 2” long
	9HB14150050	Hex bolt M14 x 50 long
20.	9HB1/2UNF5.00	Hex bolt ½”unf x 5” long
21.	9LN1/2UNF	Nyloc nut ½”unf
	9LNM14	Nyloc nut M14