Reyco Granning
SUSPENSIONS

TRAILER SUSPENSIONS

Model 74B

On/Off Highway Severe Service Suspension System

Installation and Maintenance Instructions

QVAi

Quality: Providing worry free relibility
Value: Exceeding customer expectations
Availability: Delivering on our promise, on time, every time
Innovation: Helping you ?nd solutions

Installation Instructions Model 74B

Reyco Granning Suspensions was formed by the merger and acquisition of two well-known names in the heavy duty vehicle suspension industry—Reyco and Granning.

Reyco grew out of the Reynolds Mfg. Co and was first known as a major supplier of brake drums for heavy duty vehicles and later developed a full line of air and steel-spring suspensions for trucks, buses, trailers and motorhomes.

Granning Air Suspensions was founded in 1949 in Detroit, Michigan as a manufacturer of auxiliary lift axle suspensions. Granning later became an innovator of independent front air suspensions for the motorhome industry.

Reyco Granning LLC was formed in early 2011 through a partnering of senior managers and MAT Capital, a private investment group headquartered in Long Grove, Illinois.

Severe Service Trailer Steel Spring Suspension System

Installation Index Page

SAFETY FIRST

Be sure to read and follow all installation and maintenance procedures.

LIFTING

Practice safe lifting procedures. Consider size, shape and weight of assemblies. Obtain help or the assistance of a crane when lifting heavy assemblies. Make sure the path of travel is clear.

PARTS HANDLING

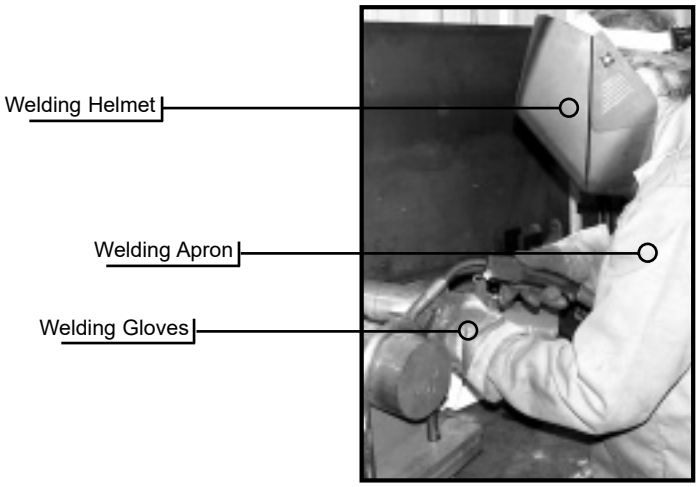
When handling parts, wear appropriate gloves, eyeglasses and other safety equipment to prevent serious injury.

WELDING

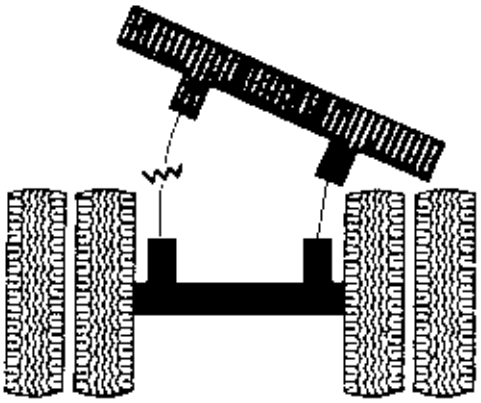
When welding, be sure to wear all personal protective equipment for face and eyes, and have adequate ventilation. When welding, protect spring beams and air springs from weld spatter and grinder sparks. Do not attach “ground” connection to springs.

Under normal use, steel presents few health hazards. Prolonged or repeated breathing of iron oxide fumes produced during welding may cause siderosis.

NOTE: DO NOT WELD ADI Components.



WARNING

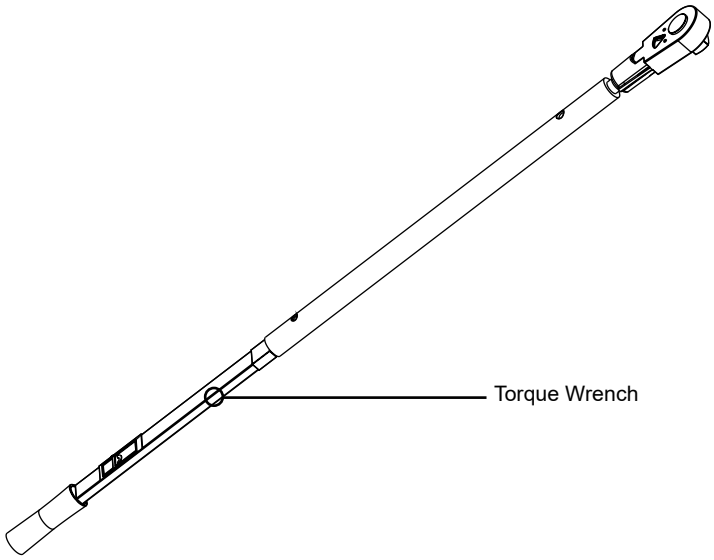


OVERLOADING

Overloading is the practice of transporting cargos that surpass the specified vehicle's ratings. Overloading can cause component failure, resulting in accidents and injuries.

This symbol indicates to the reader to use caution when seen and to follow specific requirements or warnings stated.

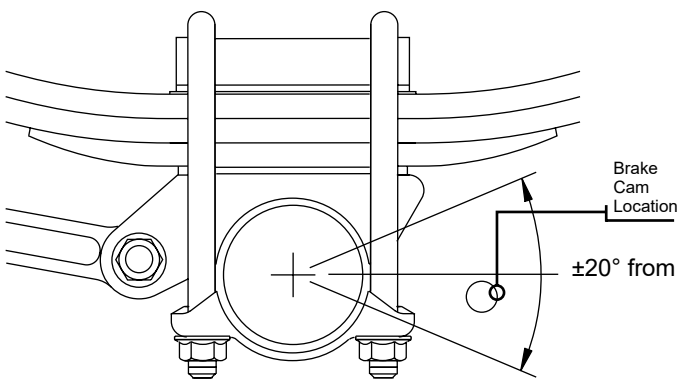
CAUTION: Specific torque requirements are needed.



TORQUE

Proper tightening of the U-bolt nuts and alignment bolts are high priority items. A fastener system is considered "loose" any time the torque is found below required values. Failure to maintain the specified torque and to replace worn parts can cause component failure resulting in accident with consequent injury.

NOTE: **It is extremely important after the first 1,000 to 3,000 loaded miles (1,600 - 4,800 kms) of operation, and with each annual inspection thereafter, that all of the bolt and nut tightening recommendations be followed. Any loose fasteners must be retorqued to comply with warranty requirements and to ensure long, trouble-free performance.**

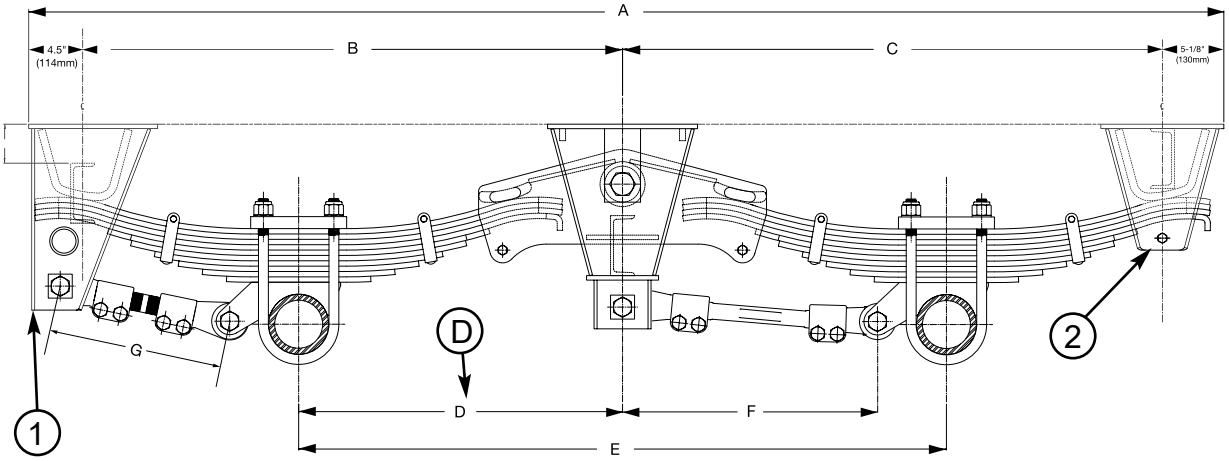


Brake camshafts are to be installed to the rear of the axle and chambers ±20º (recommended by axle manufacturer) from horizontal center of the axle. If camshafts are located differently, assembler must check for adequate clearances. Be sure that the selected axle seats provide brake chamber and brake camshaft assembly clearances.

Installation Instructions Model 74B

Based on your axle spread requirement, mark locations of axles on your frame, and compare to the axle placement dimension found on drawings on pgs. i.8 to i.9. Then, on the frame, mark the center of the equalizer hanger (item 3) from the axle location marked on your frame. (Typical 1270 mm (50") tandem setup shown below). See dimension “D” as shown on drawings pgs. i-8 to i.9.

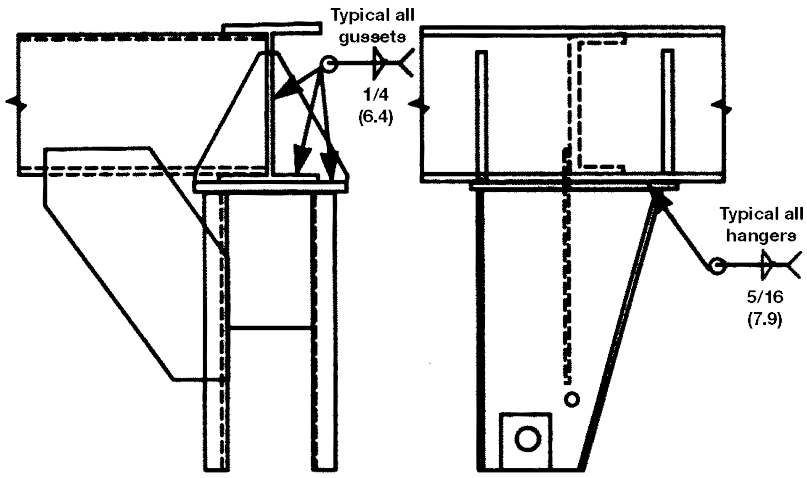
Using dimensions shown in drawings page i.8 to i.9 locate the center line of the front hanger side plate (item 1) and center line of the rear hanger side plate (item 2) from the equalizer hanger. Clamp or tack weld the hangers in position. Be sure the brackets are secure in both the horizontal and vertical planes and that the hangers are square in the frame. Hanger location must be in line within 1.6 mm (1/16"). Typical 50" tandem setup shown below.



NOTE: General Hanger Drawings shown... Not to Scale

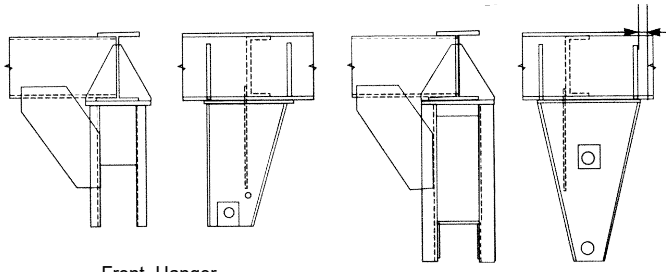
NOTE: Hanger dimensions are identical between topmount and underslung models.

Weld hanger to frame using AWS E7018 electrode specifications for proper results. Contact factory for optional gusset kits, used for heavier duty applications. When the suspension subjected to rougher service, gusseting should be increased accordingly.



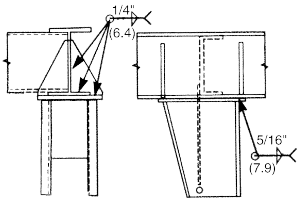
CAUTION: Specific welding procedures are required for installation.

NOTE: General Hanger Drawings shown... Not to Scale

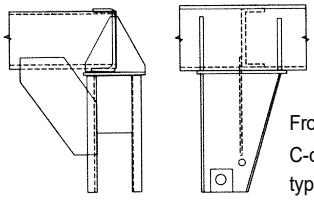


Front Hanger

Center Hanger All Axle Spacing



Rear Hanger



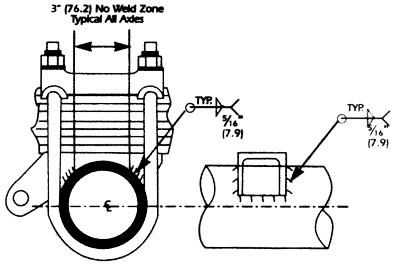
Front Hanger — C-channel installation frame typical for all hangers.

UNDERMOUNT HANGER INSTALLATION

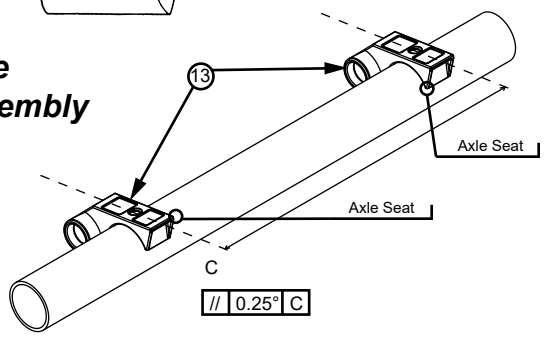
NOTES:

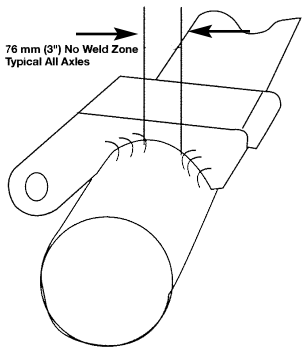
1. Use AWS E7018 rod or equal for all welds.
2. Bracing shown is the min. requirement. Heavy-duty use may require additional bracing. Contact factory for more information if uncertain of your application.
3. Use 4.8 mm (3/16") (minimum) material for all gussets.
4. If spring center line does not line up with center line of frame I-beam, adjust gusseting so that gussets extend to edges of top plate on all hangers.
5. Gussets from crossmember to rear hangers is not necessary unless suspension is subjected to heavy-duty use.

NOTE: General Hanger Drawings shown... Not to Scale



5" Round Axle Standard Assembly





Before axle seat installation, please review and follow the recommended procedures listed below.

AXLE ASSEMBLY INSTALLATION

Position the spring seats on the axle at the correct spring center spacing (same as the transverse distance between hanger centerlines are mounted to the sub-frame). The centerline of the spring bolt hole must pass through the axle camber line and the spring surface of the seats must be parallel to the ground. Clamp the seats in position securely and tack weld front and rear (not on the axle camber line).

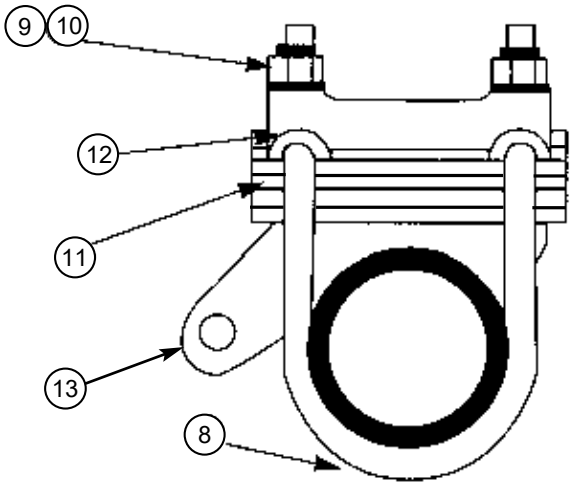
Weld the spring seats to the axle. Electrode must meet or exceed the requirements of AWS E7018. Do not weld 38 mm (1-1/2") each side of the axle center line. At this point, the spring beams and u-bolts should not be attached to the seat.

CAUTION: Specific welding procedures are required for installation.

NOTE: Refer to page m.3 for item part numbers shown here.

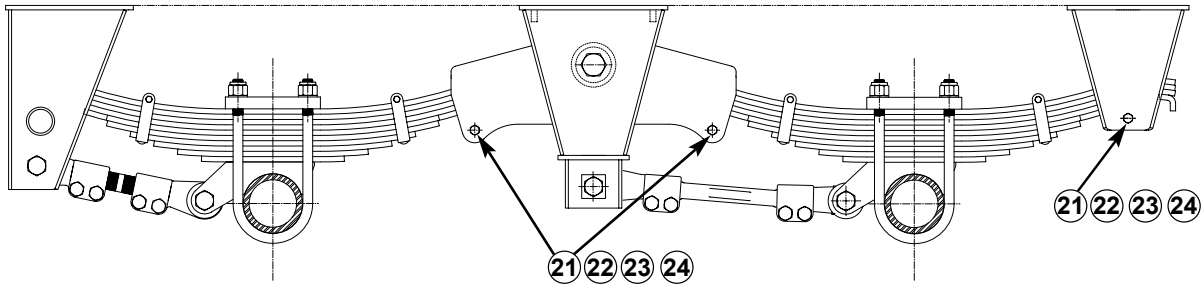
SPRINGS

Position spring (item 11) on spring seat. See installation drawing for proper location of spring hook ends. Secure the spring in place with the u-bolts, top plate and nuts (items 8, 9, 10 & 12) provided. Recheck springs for proper spring spacing and alignment. Tighten u-bolts 3/4" and 7/8" to 410-445 Nm (300-325 ft. lb.) torque.



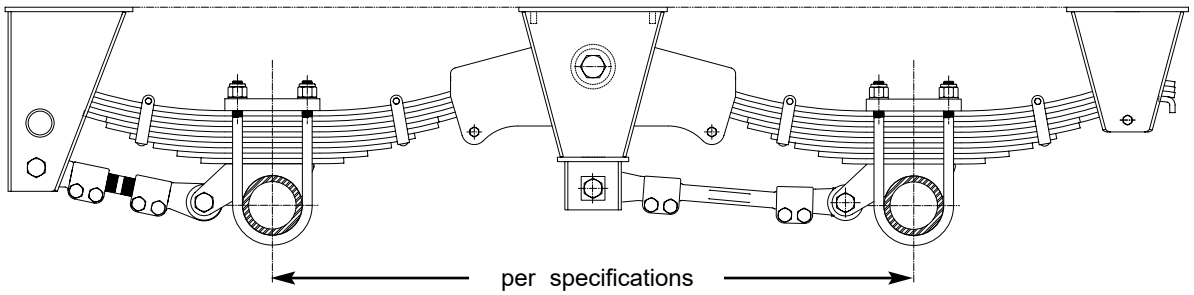
CAUTION: Specific torque procedures are required for installation.

Position the axle and spring assembly between the hangers. Secure the torque arms (adjustable on road, left side, item 14) & (rigid on curb, right side) to the front and center hangers. Install the spring retainer, retainer bolt, nut & lockwasher (items 21, 22, 23 & 24) in the equalizer and like items in the front and rear hangers.



Check to see that springs are seated, interference-free, on all bearing surfaces. Ensure springs are square inside of hangers with equal space on both sides of spring to the hanger (see bottom of page i.7 for drawing). Install bolts into axle seats to hold torque arms. DO NOT TORQUE at this time.

Position the frame at the desired mounting height and perform preliminary alignment by centering axle laterally, and aligning axles squarely with respect to frame to within 6 mm (1/4") (right and left compared). Torque arm bolts and nuts 1" can now be torqued to 815-850 Nm (600-625 ft. lb.). Use a suitable torque wrench (see page i.2 for details). DO NOT TIGHTEN the adjustable eye end clamp bolts in the torque arms at this time. Now, proceed with final alignment (see page i. 7).



NOTE: General Hanger Drawings shown... Not to Scale

The following steps are recommended and necessary for proper suspension alignment.

1. Trailer brakes must be released during the alignment process.

2. Release the brake system and pull the trailer forwards and backwards several times while keeping to a straight line to free the suspension from binding. The ground must be level and smooth.

3. For best results, the use of axle extensions and a “BAZOOKA” type king pin post, or a suitable optical alignment device are recommended. (Align front axle with king pin as shown in sketch.)

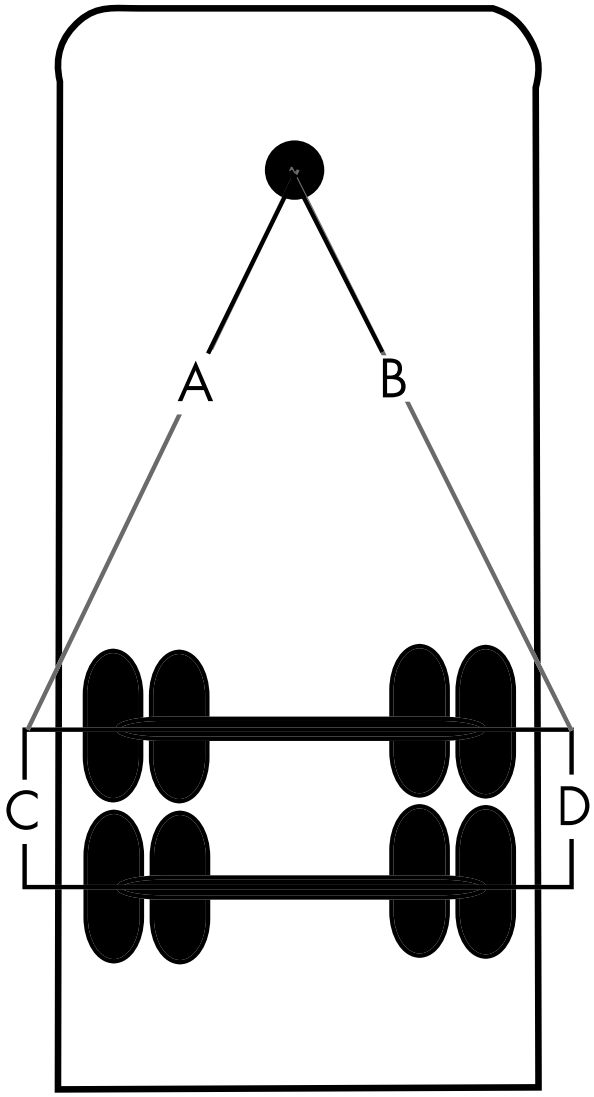
4. Align the front axle first. Left side and right side axle measurements should be equal to within ±3.2 mm (±1/8").

5. Align the rear axle with the front axle. Left side and right side axle measurements should be equal to within ±1.6 mm (±1/16"). When the axles are aligned, tighten the adjustable torque arm clamp nuts.

6. Tighten the 3/4" torque arm clamp nuts to 240-275 Nm (175-200 ft. lb.).

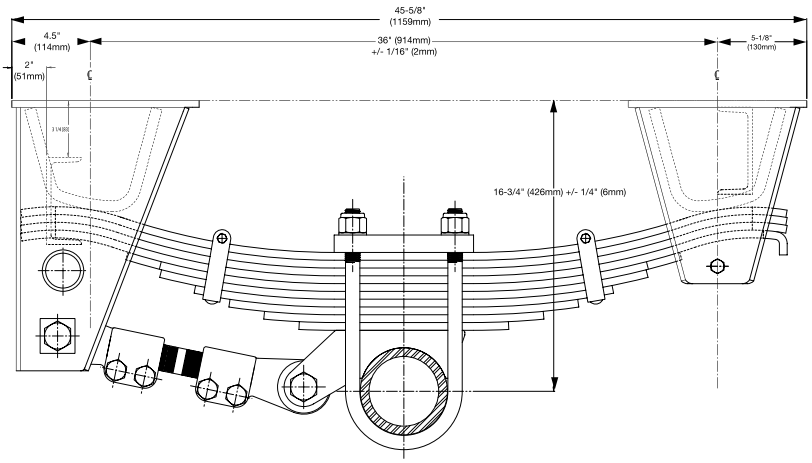
Specific Torque requirements needed.

7. After an initial loaded run-in period of approximately 1,600 km (1,000 miles), the alignment should be rechecked and corrected if necessary.

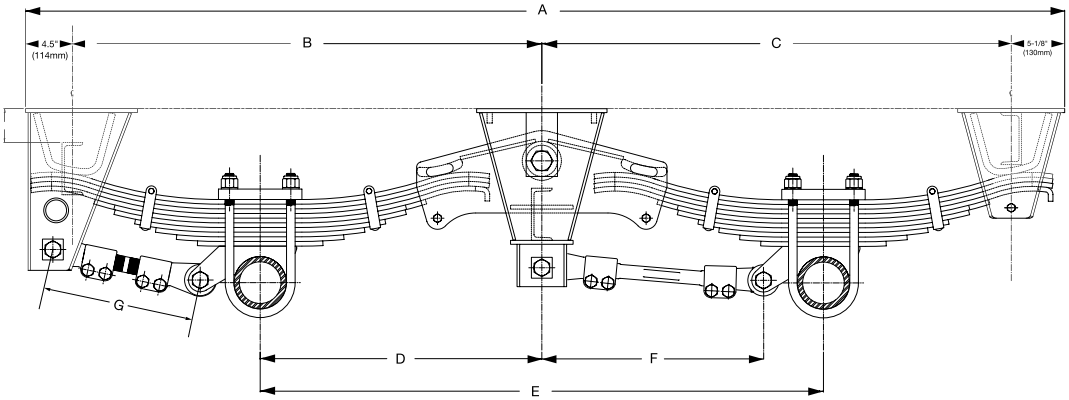


A = B +/- 3.2 mm (1/8")
C = D +/- 1.6 mm (1/16")

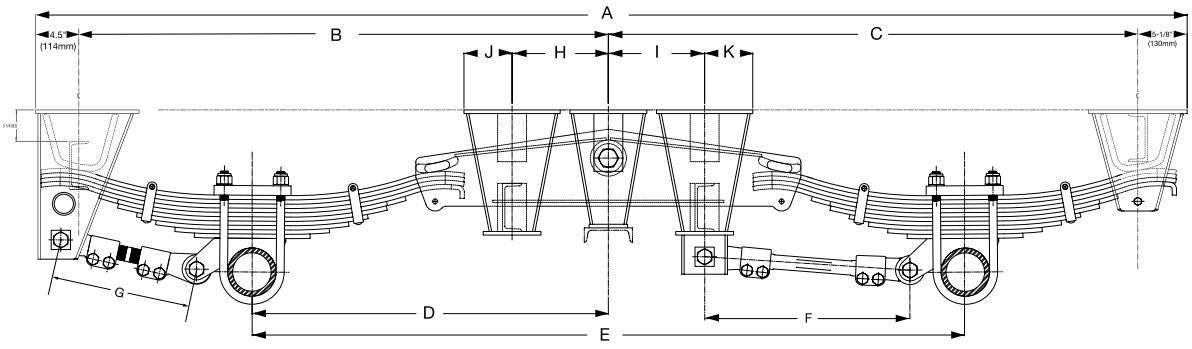
SINGLE AXLE
UNDERMOUNT HANGERS — DRAWING 88009-1



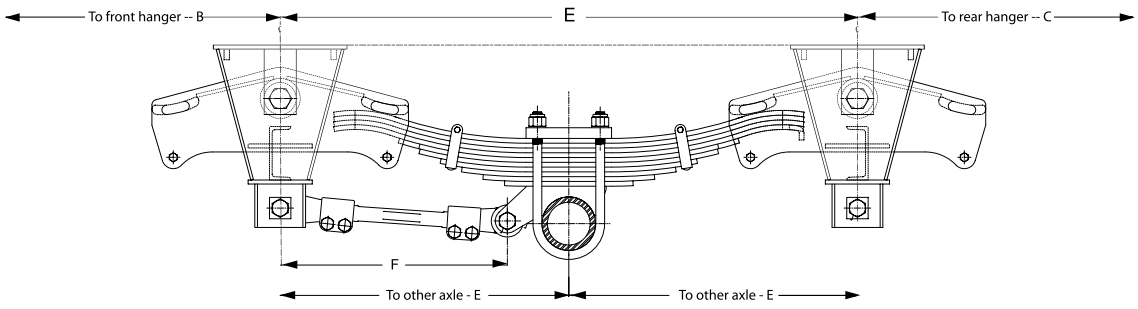
50" - 60" TANDEM AXLE SPACING
UNDERMOUNT HANGERS — DRAWING 88009-2



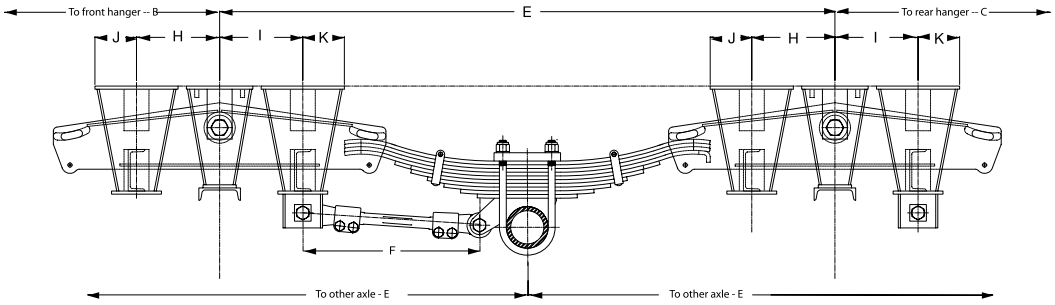
72" - 109" TANDEM AXLE SPACING
UNDERMOUNT HANGERS — DRAWING 88010-2



50" - 60" TRI AXLE SPACING
UNDERMOUNT HANGERS — DRAWING 88009-3



72" TRI AXLE SPACING
UNDERMOUNT HANGERS — DRAWING 88010-3



60" Tri Axle Spacing - Full View

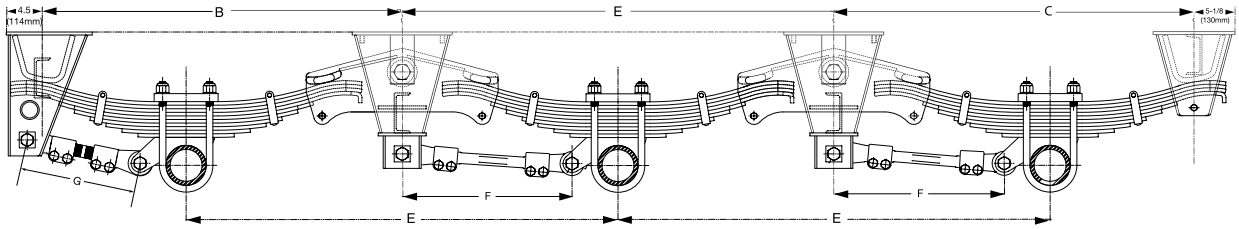


TABLE OF DIMENSIONS

SPACING	DIMENSION										
	A	B	C	D	E	F	G	H	I	J	K
50" 1270mm	95-5/8" 2429mm	43" 1092mm	43" 1092mm	25" 635mm	50" 1270mm	19-1/4" 489mm	14-1/4" 362mm	NA	NA	NA	NA
54" 1372mm	99-5/8" 2530mm	45" 1143mm	45" 1143mm	27" 686mm	54" 1372mm	21-1/4" 540mm	14-1/4" 362mm	NA	NA	NA	NA
60" 1524mm	106-1/8" 2696mm	48-1/4" 1226mm	48-1/4" 1226mm	30-1/4" 768mm	60" 1524mm	24-1/2" 622mm	14-1/4" 362mm	NA	NA	NA	NA
72" 1829mm	117-5/8" 2988mm	54" 1372mm	54" 1372mm	36" 914mm	72" 1829mm	20-1/4" 514mm	14-1/4" 362mm	10" 254mm	10" 254mm	5" 127mm	5" 127mm
97" 2464mm	142-5/8" 3623mm	66-1/2" 1689mm	66-1/2" 1689mm	48-1/2" 1232mm	97" 2464mm	21" 533mm	14-1/4" 362mm	21-3/4" 552mm	21-3/4" 552mm	5" 127mm	5" 127mm
109" 2769mm	154-5/8 3927mm	72-1/2" 1842mm	72-1/2" 1842mm	54-1/2" 1384mm	109" 2769mm	21" 533mm	14-1/4" 362mm	27-3/4" 705mm	27-3/4" 705mm	5" 127mm	5" 127mm

Notes

For Your Own Notes

Maintenance Instructions Model 74B

BUSHINGS

Inspect rubber bushings for large splits, tears and major wear. Rubber is attacked by sun, oils and greases. Replace any bushings which have noted damage.

Use P8D Rubber Lubricant, water or soap and water.

Note: Keep bushing cavities at top and bottom when installing.

The Model 74B series, severe service trailer suspensions, by design, require an absolute minimum of maintenance. However, they do require periodic checks to assure maximum performance and reliability.

We recommend that the following checks be made:

a) During pre-delivery inspection
b) After the first 1,600 km (1,000 miles) of operation
c) After each additional16,000 km (10,000 miles) of operation

1. Check U-bolt nuts to assure 410 - 440 Nm (300 - 325 ft. lb.) torque.
2. Check equalizer shaft nut 1 ¼" to assure 780 - 850 Nm (575 - 625 ft. lb.) torque.
3. Check torque arm bolt nuts 1" to assure 815 - 850 Nm (600 - 625 ft. lb.) torque.
4. Check torque arm clamping nuts ¾" to assure 240 - 270 Nm (175 - 200 ft. lb.) torque.
5. Check spring retainer nuts ½" to assure 95 - 110 Nm (70 - 80 ft. lb.) torque.
6. Check all bushings for proper fit and function also to determine if replacement is required.
7. Check all hanger and hanger bracing welds to assure rigid fastening to the frame.
8. Check all suspension axle component welds for signs of failure.
9. Check fit of springs in hangers and equalizers.
10. Check suspension alignment.

In addition to checking alignment at the recommended intervals, axle alignment should be checked when any of the following conditions prevail:

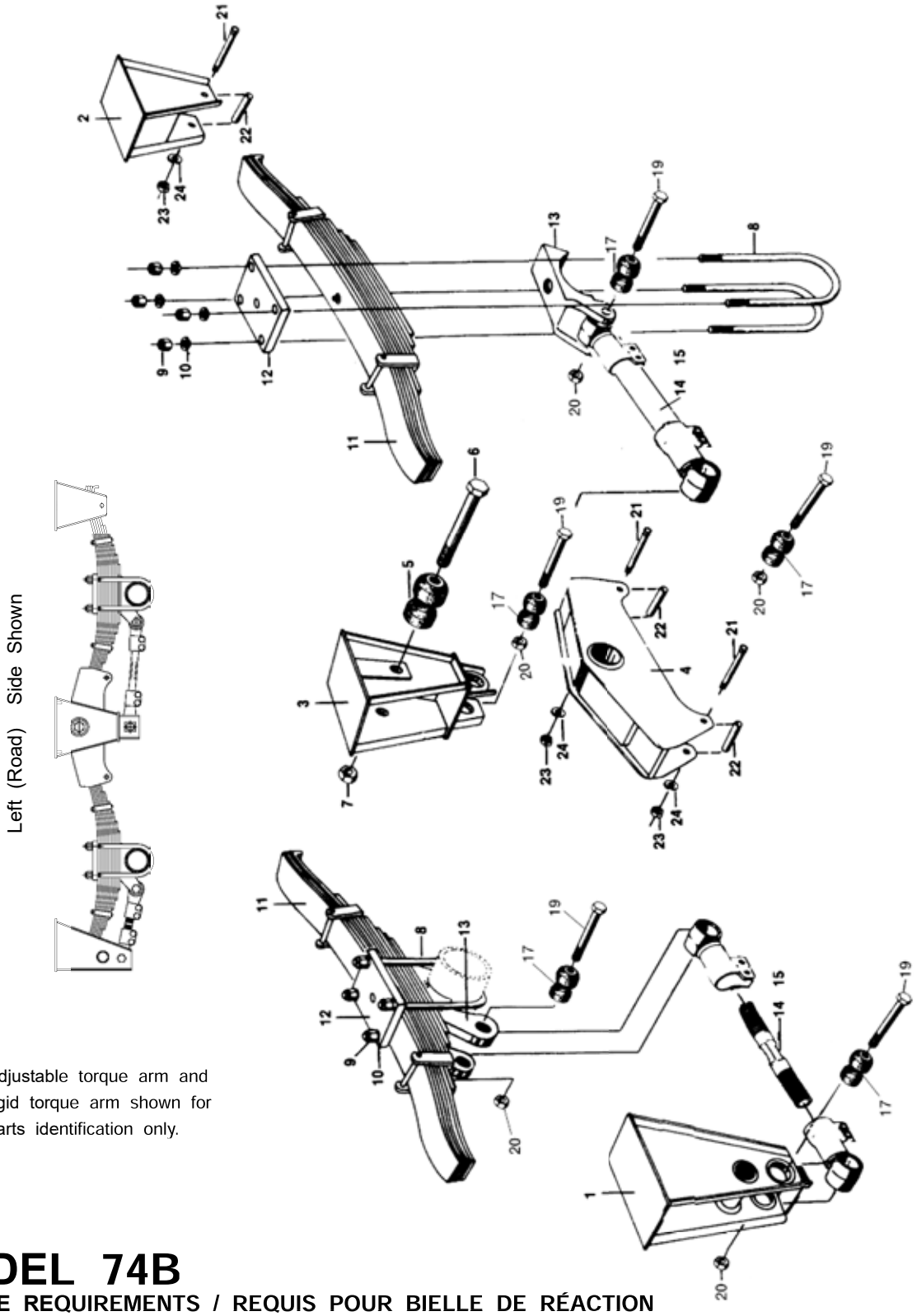
1. Discovery of loose suspension fasteners or components.
   (loose is defined as any torque below the torque values shown above.)
2. Discovery of elongated holes in a suspension component.
3. When bushings are replaced.
4. When excessive or abnormal tire wear is detected.

To ensure an accurate torque reading, the torque wrench used to check torque must prove a correct measurement, so the wrench should be calibrated periodically. Also, the nut & bolt threads should be clean (free of any dirt, grit, rust, etc) and lightly oiled with common motor oil (no special sprays or anti-seize agents.)

Failure to maintain specified torque values and/or replace worn parts can result in an adverse effect on the stability and safety of the vehicle.
To maintain your warranty and obtain the best possible performance from your ReycoGranning™ suspension system, use **ONLY GENUINE "REYCOGRANNING™"** replacement parts.

Bolts and hardware are US Standard. For identification purposes only, following is conversion of common hardware and dimensions to metric:

inch	mm	inch	mm	inch	mm	inch	mm
7/32 (.22)	5.56	1/4 (.25)	6.35	3/8 (.375)	9.53	1/2 (.5)	12.7
5/8 (.625)	15.88	3/4 (.75)	19.05	7/8 (.875)	22.23	1 (1.0)	25.4



Left (Road) Side Shown

NOTE: Adjustable torque arm and rigid torque arm shown for parts identification only.

MODEL 74B

TORQUE REQUIREMENTS / REQUIS POUR BIELLE DE RÉACTION

	FT/LBS	N.M.	
U-BOLT NUTS	300/325	410/440	ÉCROU DE BOULON EN U
EQUALIZER SHAFT NUT	575/625	780/850	ÉCROU DE PALONNIER
TORQUE ARM BOLT NUTS	600/625	815/850	ÉCROU DE JAMBE DE FORCE DE
TORQUE ARM CLAMP NUTS	175/200	240/270	ÉCROU DE BRIDE DE JAMBE DE FORCE
SPRING RETAINER NUTS 1/2"	70/80	95/110	ÉCROU D'ÉTRIER DE RESSORT DE 1/2 PO

THESE SETTINGS MUST BE MAINTAINED AT ALL TIMES

CES AJUSTEMENTS DOIVENT ÊTRE RESPECTÉS EN TOUT TEMPS

TANDEM 1270 MM (50"), 1371.6 MM (54"), 1524 MM (60") AXLE SPACING SHOWN

ITEM	PART NUMBER	DRAWING NO.	NO. REQ.	DESCRIPTION
1	16671-01	88006	2	front spring hanger - left/right
2	13814-01	80193	2	rear spring hanger - left/right
3	16672-01	88007	2	equalizer bracket
4 & 5	See Below		2	equalizer and bushing assembly
6	10949-01	72134	2	equalizer shaft
7	08914-01	93281	2	equalizer shaft nut
8	08513-01	68050	8	u bolt 22 mm x 127 mm x 330 mm (7/8" x 5" x 13")
	08950-01	69040	8	u bolt 22 mm x 146 mm x 343 mm (7/8" x 5 3/4" x 13 1/2")
9	14066-01	81088	16	locknut 7/8"
10	T7292	93403#2	16	flat washer 7/8"
11	13856-01	80230	4	spring - 101.6 mm (4") wide
12	13798-01	80177	4	top u bolt plate - 127 mm (5") round axle
	14527-01	57248	4	top u bolt plate - 146 mm (5 3/4") round axle
13	702856-01	702856	4	axle seat - 127 mm (5") round axle
	702857-01	702857	4	axle seat - 146 mm (5 3/4") round axle
14*	See below			adjustable torque arm assembly
15*	See below			rigid torque arm
17	15737-01	86046	2	torque arm bushing
19	T5492	62158#1	8	torque arm bolt 1" x 6 3/4"
20	T5495	93281	8	locknut 1"
21	13817-01	62158#2	6	cap screw 1/2" x 5 3/4"
22	13818-01	54166	6	spring roller
23	T1704	93280	6	hex nut 1/2"
24	T1705	62159	6	lockwasher 1/2"

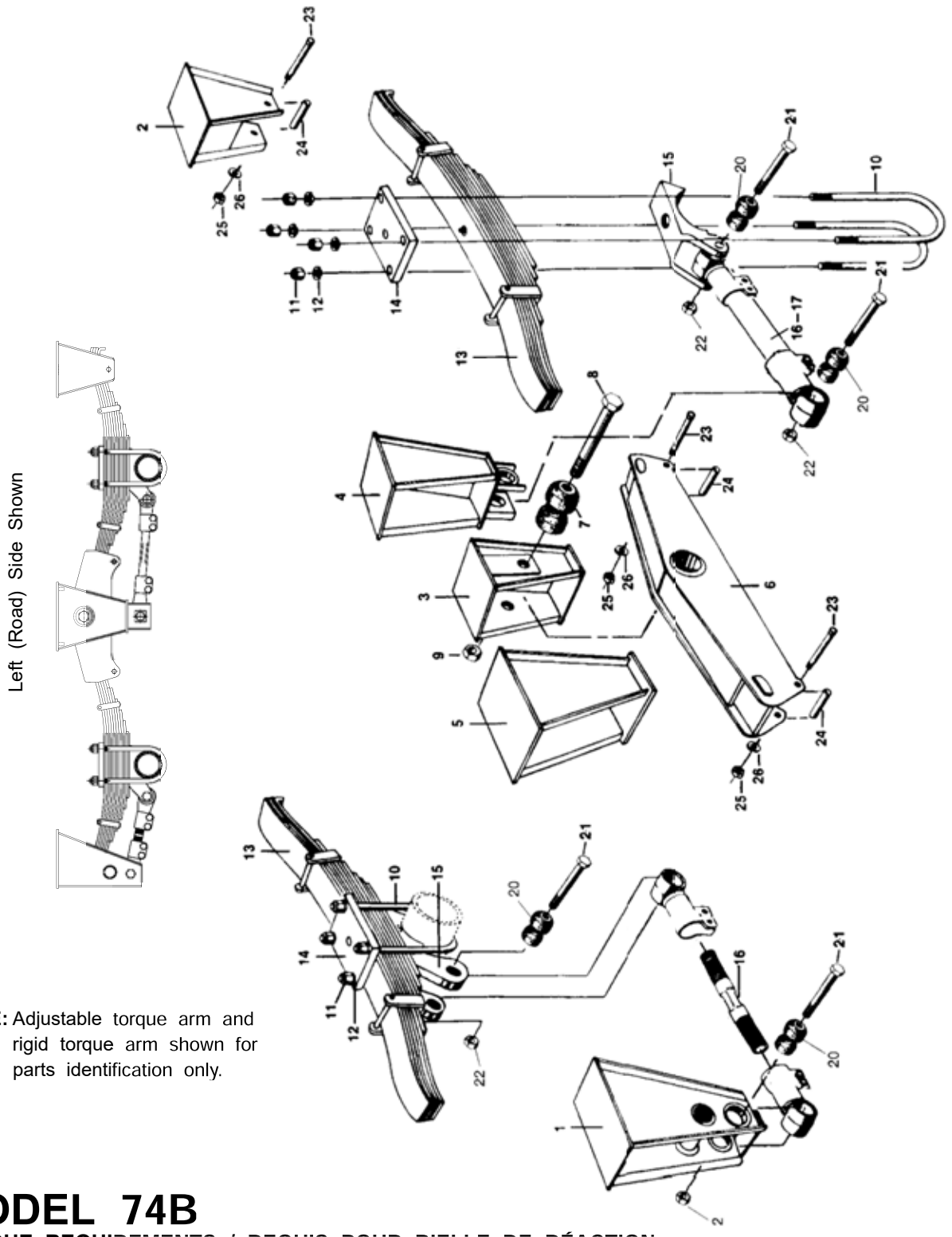
E L X A G N I C A P S	S M R A E U Q R O T L B M E S * D I G I R R A E R		G N I H
1270 mm (50")	17532-01 489 mm (19 1/4")	17534-01	17512-01
1371.6 mm (54")	16588-01 539.8 mm (21 1/4")	16596-01	13806-01
1524 mm (60")	16589-01 622.3 mm (24 1/2")	16597-01	14135-01

FRONT RIGID*	FRONT ADJ.*
16585-01 362 mm (14 1/4")	16595-01

* Includes 15737-01 bushings. Use 12916-01 cap screw and 11010-01 locknut to clamp adjustable torque arm ends.

NOTE: Rigid Torque Arms on Right Hand Side (Curb Side) Western Hemisphere
Adjustable Torque Arms on Left Hand Side (Road Side) Western Hemisphere

TK16660	Torque arm rebush kit	For one end of Torque arm.
TK16661	Torque arm rebush kit	For complete Tandem Suspension
TK16522	Equalizer rebush kit	For one Equalizer



Left (Road) Side Shown

NOTE: Adjustable torque arm and rigid torque arm shown for parts identification only.

MODEL 74B

TORQUE REQUIREMENTS / REQUIS POUR BIELLE DE RÉACTION

	FT/LBS	N.M.	
U-BOLT NUTS	300/325	410/440	ÉCROU DE BOULON EN U
EQUALIZER SHAFT NUT	575/625	780/850	ÉCROU DE PALONNIER
TORQUE ARM BOLT NUTS	600/625	815/850	ÉCROU DE JAMBE DE FORCE DE
TORQUE ARM CLAMP NUTS	175/200	240/270	ÉCROU DE BRIDE DE JAMBE DE FORCE
SPRING RETAINER NUTS 1/2"	70/80	95/110	ÉCROU D'ÉTRIER DE RESSORT DE 1/2 PO

THESE SETTINGS MUST BE MAINTAINED AT ALL TIMES

CES AJUSTEMENTS DOIVENT ÊTRE RESPECTÉS EN TOUT TEMPS

TANDEM 1828.8 MM (72"), 1955.8 MM (97"), 2563.8 MM (109") AXLE SPACING SHOWN

ITEM	PART NUMBER	DRAWING NO.	NO. REQ.	DESCRIPTION
1	16671-01	88006	2	front spring hanger - left/right
2	13814-01	80193	2	rear spring hanger - left/right
3	15735-01	86044	2	equalizer bracket
4	16673-01	88008	2	torque arm attachment bracket
5	13861-01	80237	2	equalizer guide bracket
6 & 7	See Below		2	equalizer and bushing assembly
8	10949-01	72134	2	equalizer shaft
9	08914-01	93281	2	equalizer shaft nut
10	08513-01	68050	8	u bolt 22 mm x 127 mm x 330 mm (7/8" x 5" x 13")
	08950-01	69040	8	u bolt 22 mm x 146 mm x 343 mm (7/8" x 5 3/4" x 13 1/2")
11	14066-01	81088	16	locknut 22 mm (7/8")
12	T7292	93403#2	16	u bolt flat washer 22 mm (7/8")
13	13856-01	80230	4	spring - 101.6 mm (4") wide
14	13798-01	80177	4	top u bolt plate - 127 mm (5") round axle
	14527-01	57248	4	top u bolt plate - 146 mm (5 3/4") round axle
15	702856-01	702856	4	axle seat - 127 mm (5") round axle
	702857-01	702857	4	axle seat - 146 mm (5 3/4") round axle
	w o l e B e e S 6 1 y l b m e s s a m r a e u q r e			
	w o l e B e e S 7 1 m r a e u q r o t d i g i r			
20	15737-01	86046	2	torque arm bushing
21	T5492	62158#1	8	torque arm bolt 25 mm x 171.5 mm (1" x 6 3/4")
22	T5495	93281	8	locknut 25 mm (1")
23	13817-01	62158#2	6	cap screw 13 mm x 146 mm (1/2" x 5 3/4")
24	13818-01	54166	6	spring roller
25	T1704	93280	6	hex nut 13 mm (1/2")
26	T1705	62159	6	lockwasher 13 mm (1/2")

AXLETORQUE ARMS SPACING	EQUALIZER ASSEMBLY REAR RIGID*	REAR ADJ.*	INCLUDES 13805-01 BUSHING
		1 0 - 6 9 5 6 1	) 1 " 4 0 / 9 0 0 9 2 3 (1 n
		1 0 - 6 9 5 6 1	)1 " 0 1 - 2 7 (2 m 2 5 m 1
		1 0 - 6 9 5 6 1	)1 " 0 1 - 2 4 (2 m 7 5 m 1
		1 0 - 6 9 5 6 1	)1 " 0 1 - 2 0 (2 m 7 5 m 1
	FRONT RIGID*	FRONT ADJ.*	
l l A	m m 2 6 3 1 0 1 - 6 - 9 5 5 8 6 5 1 6 1		

*Includes 15737-01 bushings. Use 12916-01 cap screw and 11010-01 locknut to clamp adjustable torque arm ends.

NOTE: Rigid Torque Arms on Right Hand Side (Curb Side) Western Hemisphere
Adjustable Torque Arms on Left Hand Side (Road Side) Western Hemisphere

For Your Own Notes

Reyco Granning

SUSPENSIONS

MISSOURI
Mount Vernon
1205 Industrial Park Drive
Mount Vernon,MO 65712
(800) 753-0050,Fax (417) 466-3964

www.reycogranning.com