indespension

Customer Care Pack

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indespension.co.uk

By Appointment to
Her Majesty The Queen
Trailer Manufacturer
Indespension Ltd

indespension

Thank you for purchasing your Indespension trailer.

We want you to have many miles of carefree, safe towing and to assist with this, we have summarised some tips and advice to help try and prevent any unwanted problems along the way.

To ensure we bring you the most up to date information, this Customer Care Pack will be periodically updated, and further information added, so please visit the website occasionally to get the most up to date version as well as finding out what other information is available in the other sections of the site.

General Trailer Pre-Use Checks

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ALL CHECKS TO BE CARRIED OUT WITH TRAILER ON LEVEL GROUND

ENSURE TYRES HAVE GOOD TREAD, CORRECT PRESSURE AND HAVE NO VISIBLE DAMAGE INCLUDING BULGES, CRACKS AND SCUFFS. CHECK ANY WEAR IS EVEN.

CHECK WHEEL BEARINGS USING ROCK & ROLL TEST (SEE NEXT PAGE)

CHECK JOCKEY IS UNDAMAGED AND OPERATES SMOOTHLY

CHECK HANDBRAKE HAS FREE MOVEMENT AND BRAKE ROD HAS SUFFICIENT TENSION

CHECK BREAKAWAY CABLE IS FREE FROM DAMAGE AND CLIP FUNCTIONS CORRECTLY

CHECK HEAD LOCKS CORRECTLY OR CHECK EYE FOR EXCESSIVE OR WEAR OR ELENGATION

CHECK TAILGATE OPERATES SMOOTHLY, NO VISIBLE DAMAGE AND NUMBER PLATE IS FITTED

CHECK ALL LIGHTS/REFLECTORS ARE IN PLACE AND WORKING AND THERE IS NO DAMAGE TO WIRING OR CASINGS

CHECK MUDGUARDS ARE FREE FROM DAMAGE, SHARP EDGES AND HAVE SUFFICIENT TYRE CLEARANCE

DO NOT OPERATE THE TRAILER IF ANY OF THE ABOVE CHECKS FAIL

Wheels and Tyres:

- Ensure wheel check-locks are securely fitted and indicators are aligned.
- Check the condition of the tyres for any visible damage such as bulges, cuts, uneven wear, cracks or splits.
- Check tyre pressure is correct for the trailer model (this may vary on different trailer models).
- Check the wheels to ensure there are no dints, flat spots or gouges on the rim.

Wheel Bearings (Rock & Roll test)

- With each wheel off the ground, place hands at 9 O'clock and 3 O'clock on the tyre and push / pull to assess if there is any excessive play in the bearing.
- Repeat with hands at 12 O'clock and 6 O'clock.
- Spin the wheel and listen for any unusual noises. If a bearing is collapsing, grinding or crunching can be heard from the rollers inside the bearing. Spinning slowly with a hand on the tyre can highlight a rough feel to the bearing.

Jockey Wheel

- Check the securing handle operates smoothly and holds the jockey wheel firmly in place either when deployed or retracted ready for transport.
- Look for damage on the wheel and tyre and on the jockey shaft.

Handbrake

- Check that the handbrake operates effectively and does not bind when released.
- Apply the handbrake and check the brake holds the trailer in place and there is sufficient tension in the brake rod. Visually inspect the brake rod to ensure it is in good condition and free from damage.

Breakaway Cable

- Check the breakaway cable is connected correctly.
- Look for any damage that could affect the performance of the cable and ensure the clip functions correctly.

Towing eye / Head

- Check that the towing eye is securely in position and has not become elongated or excessively worn.
- Check the head is suitably clean and lubricated and locks securely on the towing ball.

Tailgate / side panels

- If present, check the tailgate opens and closes smoothly and has no visible damage and any side panels are secured.
- Ensure the correct number plate is fitted securely and is clean and clearly visible.

Lights

- Check lights are in good working order with no cracks to lenses or casings.
- Check any accessible cable is free from damage or splits and none of the connector pins are bent or corroded.

Mudguards

- Check mudguards are securely fixed in place and have no damage or sharp edges.
- Check there is sufficient tyre clearance.

VIN Plate

- Check the VIN plate is fitted, and the details are legible.

Trailer floor and chassis

- Check for visible damage to the floor including splits or cracks in the chassis.
- Visually check the A frame from damage, ensuring it is not bent or distorted.
- Check there are no cracks in welded joints and there are no loose bolts.

Indespension trailers: Post-Manufacture Actions

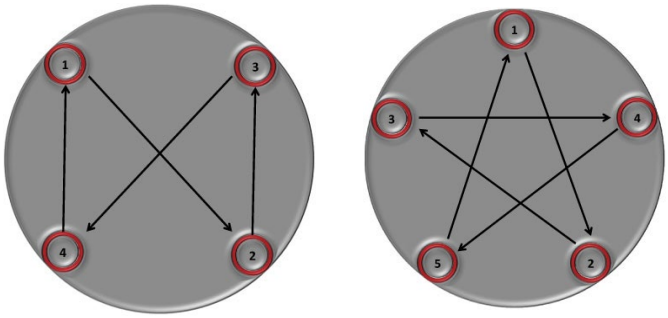
When assembly operations are required on Indespension trailers after they have left the manufacturing plant, such as fitting wheels etc. it is important that the correct procedures are followed to ensure safe operation.

The information below refers to wheel replacement and is an example only. Similar care and attention should be used for fitting or replacing other components.

Wheel Nut / Bolt Tightening Sequence

It is important to tighten wheel nuts or bolts nuts properly to ensure safe operation. Tightening the nut or bolt to the right torque specification and in the right order, helps to ensure that the wheel gets centred which is not only safe but also reduces the chance of high-speed vibrations.

When you tighten nuts or bolts in a circular pattern, the wheel can shift slightly and may not seat properly against the hub.



Start by hand tightening or loosely fitting with a nut runner – DO NOT FULLY TIGHTEN. Then tighten the nuts or bolts using a calibrated torque wrench across in a star pattern as seen in the diagrams. Once tight, repeat the sequence to ensure all nuts or bolts are torqued securely to the proper specifications.

Certificate of Conformance

All new Indespension trailers are released with a Certificate of Conformance (CoC). This is a legal document which may be required to obtain trailer registration with border control authorities or similar and should therefore be kept safe.
The CoC contains a range of data which includes details of trailer weights with components fitted at the time of release for despatch. It should be noted that if other components are later fitted such as side panels or mesh kits etc. the weights listed may be affected. Therefore, if in any doubt, please contact Indespension at the email address below, who will advise if a revised CoC needs to be issued (email: R&D@indespension.co.uk).

Trailers are also provided with information relating to spring loaded energy store instructions and torque value settings. As this is safety critical information, it should be read and understood before carrying out any such related activities. Other information may be available on request, such as servicing and maintenance advice.

***Please Note**: Information and advice provided is not exhaustive and other actions may be required. Whilst every effort is made to ensure the information is correct, Indespension cannot be responsible for any damage or injury resulting from following the procedures and advice.*
It is recommended that all procedures other than basic visual checks are carried out by an experienced fitter with the appropriate level of technical and mechanical knowledge.
All actions carried out by anyone who is not an employee of Indespension, is done at their own risk.

Torque Setting Values

1. Wheel Attachments

Wheel Nuts

Size UNF	Torque Nm
3/8”	57
7/16”	67
1/2”	76
5/8” (&M16)	115

Wheel Stud Bolts

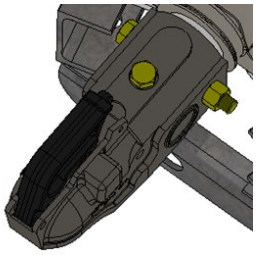
Size UNF	Torque Nm
M12	110
M14	120

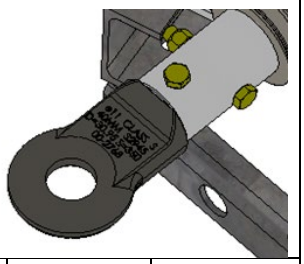
AL-KO Spherical

M10 x 1.25	52

2. Coupling Head Attachments

Size	Torque Nm
M12	81
M14	90

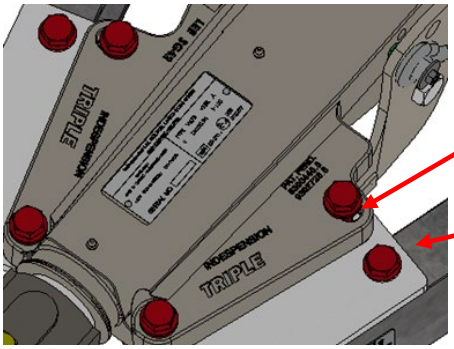




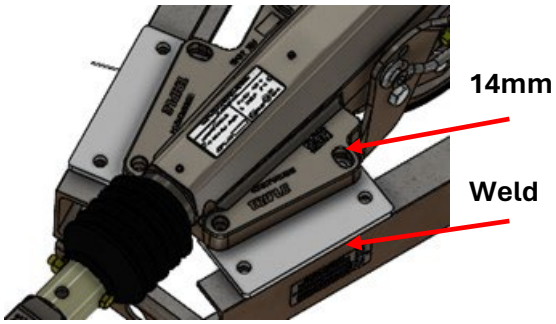
3. General Fixings

Size	M8	M10	M12	M14	M16
Torque Nm	23	47	88	137	196

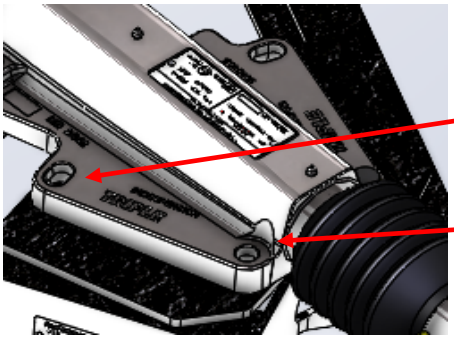
AD2000 / 2700Kg Diggadoc / 9x4 BT



10 x 5 BT / 12 x 6 BT



AD2800



4. U-Bolts

Size	Torque Nm
U-bolt – Nyloc nuts)	(Axle
M10	34
M12	54
M16	145

5.Brake Drum One-Shot Nuts

Size	Manufacturer	Torque Nm
M24 - 32mm	AL-KO (1367/2051)	290
M27 - 36mm	AL-KO (2361)	290
M27 – 36mm	Indespension	290
M24	Knott	280
M30	Ifor	350

ALWAYS REPLACE A ONE-SHOT NUT ONCE YOU REMOVE IT – NEVER RE-USE!

Trailer Inspection and Servicing

Although trailers do not have engines to go wrong, it is still essential to remember that they are road going vehicles. They therefore need appropriate servicing to ensure they are always 'road safe' and they are not going to let you down through technical problems away from home or during an important business trip.

Indespension want you to have trouble free use from your trailer and the following information will help you to achieve this. However, it should be recognised that some of the techniques described require a certain level of mechanical and technical expertise. Therefore, before commencing your servicing please read these instructions and if in doubt consult your local Indespension depot.

It is also important to note that depending on the model and purpose of the trailer, the impacts of use will differ and therefore some will be subjected to more rigour than others and as such the servicing frequency will vary. For example, a plant trailer used daily with a load capacity of up to 3500Kg will require more frequent servicing than a camping and utility trailer designed to carry weights up to 750Kg that is used infrequently. Therefore this information should be used as a guide only, but as a general rule of thumb, plant trailers should be checked daily and serviced every 3 months and light weight trailers should be checked before each use and serviced at least annually. The important thing about servicing is that it is systematic and regular. This information is divided into the following sections:-

1. The walk round service check
2. The 2000 miles lubrication service
3. The full service

The Walk Round Service

This is a technique that if conducted in a disciplined way will alert you to potential problems before they arise. Firstly, a simple walk round check will not work unless you concentrate on the main problem areas, so please do not think a 30 second walk round will guarantee no problems – it is only as good as your searching eye and probing mind.

1. Electrical

a) Using the vehicle cable connector, plug into towing vehicle and test each light function systematically
b) Make sure all light lenses are secured in position and are not damaged.
c) Run the cable of the vehicle connector through your hands and feel for any irregularities. For example to ensure it has not been damaged by being dragged along the ground.
d) Check the cable is secure in the plug at both ends.
e) Glance under the trailer to ensure no wires are hanging loose or damaged.

2. Tyres and Wheels

a) Inspect for tyre thread wear and for damage to side walls and check tyre pressures (this may vary on different trailer models).
Note: Uneven tyre wear could be a symptom of a problem relating to wheel misalignment that should be investigated without delay.
b) Make sure all wheel nuts are tight to the correct torque value (see table) and on removal, check the condition.

Wheel Nuts	Torque Setting Nm
3/8"	57
7/16"	67
1/2"	76
5/8"	115
Wheel Bolts	**Torque Setting**
M12	110
M14	120

3. Bearings – Rock and Roll Check

a) With each wheel off the ground, place hands at 9 O'clock and 3 O'clock on the tyre and push / pull to assess if there is any excessive play in the bearing. Anything more than slight movement should be investigated further.
b) Repeat with hands at 12 O'clock and 6 O'clock.
c) Spin the wheel and listen for any unusual noises. If a bearing is collapsing, grinding or crunching may be heard from the rollers inside the bearing.
d) Spinning slowly with a hand on the tyre can highlight a rough feel to the bearing.

4. Couplings

Coupling Bolts	Torque Setting Nm
M12	81
M14	90

a) Check all securing bolts are tight to the correct torque value (see table).
b) Check the breakaway cable is attached and is in good condition. This is a legal requirement on braked trailers.
c) If the coupling is a braked version, lift the head up and down to check for excessive movement.
d) With the wheels chocked, push the coupling head towards the rear of the trailer. It should move slowly – if it is solid or moves with little resistance the damper needs replacing. This should only be carried out by an experienced fitter, if in doubt, consult your local Indespension depot.

5) Bodywork

a) Check all fasteners are secure and that all attachments are firmly fitted in their correct place.
b) Check the condition and mountings of the mudguards.
c) Check all moving parts operate correctly.

6) Jockey Wheel

a) Check the securing handle operates smoothly and holds the jockey wheel firmly in place either when deployed or retracted ready for transport.
b) Look for damage on the wheel and tyre and on the jockey shaft.

7) Handbrake (if fitted)

a) Check that the handbrake operates effectively and does not bind when released.
b) Apply the handbrake and check the brake is taut and holds the trailer in place.
c) Look under the trailer to check the brake rod is not damaged or bent, is connected securely at both ends and that there is sufficient tension and movement in the brake rod.

8) Towing eye or head

a) Check that the towing eye or head is securely in position and is not excessively worn.

9) VIN Plate

a) Check that the VIN plate is fitted, and the details are legible.

The 2000 Mile Lubrication Service

There are three main lubrication requirements on trailers.

1. Coupling
2. Brake Linkages
3. Wheel bearings

1. Coupling

a) On most couplings you will find 2 or 3 grease nipples which signify greasing points. Using a good quality grease (recommendation is 'Aqualube'), pack the coupling with grease using a pressure grease gun. It is possible to over-grease a coupling but err on the excessive side rather than frugal – without going wild!

b) Put a small amount of grease on your finger and smear the coupling socket which fits on the towing ball, unless there is an Alko stabilising head fitted (grease should not be applied to this).

2. Brake Linkages

a) If these are rusty or dirty use a wire brush to remove surface residue.

b) Wash off with paraffin or WD40.

c) Smear all moving parts from coupling to compensator (under trailer) with grease.

d) Do not apply grease to the brake backplate.

3. Wheel Bearings

Most trailers are fitted with sealed for life bearings that do not require stripping down and they should simply be replaced by following the correct procedure if evidence of wear or damage is found. The procedure for taper roller bearings is different.

For bearing part numbers and dimensions etc, refer to the Indespension website for further information.

Important: Before removing one-shot nuts (or similar) the thread at the end of the axle should be checked to ensure it is not damaged or contaminated with rust or debris. If the nut is removed over such conditions, it may cause irreparable damage to the axle thread meaning it may need to be replaced. The axle thread should be cleaned with a suitable lubricant to remove all debris and the thread condition closely examined. In some cases it may be possible to 'dress up' the thread form, however, this is a technique that requires a level of engineering experience and should only be carried out by suitably qualified Technicians.

Sealed For Life Bearings

a) Ensure a set of new one-shot nuts are available to replace the existing nuts.

b) Carefully remove the dust cap to expose the circlip and one-shot nut.

c) Remove the circlip and place with dust cap for reuse.

d) Check the thread is clean and free from dirt, debris, or foreign matter, undo the one-shot nut and dispose of it.

Evidence has shown that reusing the one-shot nut will cause damage to the axle thread.

e) The brake drum can now be removed to expose the brakes and bearings for service (See 'The Full Service').
f) When the brakes / bearings have been serviced and the brake drum replaced, ensure that the thread on the stub axle is clean and in good condition.
g) Using a new one-shot nut, carefully wind the nut onto the thread using fingers only until the locking section of the nut binds on the thread.**(Do not use a power tool).**
h) The stub axle should be recessed within the nut by approximately 3mm.
i) Using a socket and ratchet / torque wrench, tighten the nut until it is fully seated and torque to the recommended torque setting. (ALKO one-shot nuts 290Nm, Knott one-shot nuts 280Nm).
j) Replace the circlip ensuring that it fits correctly within the groove on the end of the stub axle.
k) Replace dust cap.

Please note: The information on taper roller bearings below is a generic servicing procedure that may require amending in line with the type of bearing fitted.

Taper Roller Bearings

a) Remove the hub cap to reveal the castle nut.
b) If grease looks in good condition, just apply more using a pressure gun.
c) If the grease is dirty or emulsified, then it may be appropriate to strip the bearing.
d) Check each bearing in turn and when finished ensuring that the hub caps are replaced properly.
e) Some unbraked hubs have a grease nipple which allows direct access to the rear bearing. If fitted pack with grease.

Note: If the wheel bearings are likely to be immersed in water, a water repellent grease solution should be used, preferably with bearing savers.
Always let bearing s cool down before they are placed in water or serious damage could result.

The full Service

1. Release handbrake
2. Jack the trailer up so the wheels can rotate. – PROP SECURELY.
3. Remove wheels
4. Remove all surface dirt, rust and grease from the brake linkages.

Remove the Brake Drum

5. Remove the hub cap, split pin, castle nut and thrust washer.
6. Back off the brake adjusters so that the drum clears the shoes and remove drum.
7. Wash out all debris and dust with brake / clutch cleaner.
8. Inspect springs and lining carriers to ensure they are moving freely. If not, remove, wire brush, clean with WD40 (or similar solvent) ensuring no solvent gets into the linings and reassemble.
9. If the springs are rusty, they must be replaced, otherwise the brakes will drag and overheat.
10. Ensure there is adequate lining left on the shoes and they are wearing evenly. If not, they should be replaced.
11. Inspect the swept area of the drum. Deep scouring due to running with worn out brake shoes will necessitate replacement.
12. Remove bearing covers from the rear of the brake drum and rinse them in paraffin or a de-greaser.

13. Inspect the bearings (in line with section 3, Wheel Bearings) depending on bearing type.
14. Take special care to ensure no grease from the bearing comes is in contact with the brake linings or the bearing surface on the drum.
15. Inspect bearings to ensure there are no flats on the rollers. If there are, they should be replaced.
16. Re-assemble the brake drum ensuring to first put a good smear of grease on the bearing cups and cones and carefully slide back over the stub axle.
17. Replace the thrust washer and castle nut with fingers and then tighten to 20lbft (around 27Nm).
18. Slacken off the castle nut a quarter of a turn and then fit the split pin. This should leave 0.1mm (0.004”) end float.
    Note: If in doubt on which castellation to use when refitting the split pin, a roller bearing performs better slightly slack than tight.

Set the brakes

This procedures requires specific technical knowledge and should only be carried out by an experienced trailer fitter. In addition, different brake types, require different setting procedures.
Incorrectly set brakes can potentially result in serious consequences.

Please Note: The servicing information contained is not exhaustive and other actions may be required. Whilst every effort is made to ensure the information contained in this guide is correct, Indespension cannot be responsible for any damage or injury resulting from following the procedures.

It is recommended that all procedures other than basic visual checks are carried out by an experienced fitter with the appropriate level of technical and mechanical knowledge.
All actions carried out by anyone who is not an employee of Indespension, is done at their own risk.

IT IS RECOMMENDED THAT THE FOLLOWING IS CARRIED OUT BY INDESPENSION BRANCH STAFF

INSTRUCTION TO CHANGE THE SPRING ENERGY STORE POSITION TO SUIT ALL INDESPENSION COUPLINGS

WARNING – SPRING LOADED HANDBRAKE SYSTEM!

In the interests of safety, the following instructions must be carried out exactly. However they are only required if you find that the energy store makes contact with the handbrake in position 1, indicated in the diagram.

1. If removed, replace safety bolt 'A'. If the coupling is fitted to a trailer, chock the wheels and disconnect the brake rod.
   Otherwise ensure the trailer is fitted to a solid object, allowing the handbrake mechanism to move freely.

2. Ensuring yourself and any other person is not in line with the handbrake lever, remove the safety bolt 'A' and whilst standing at the front of the coupling, slowly put the handbrake in position '2'. Note – The movement of the handbrake will be assisted by the energy store and therefore will go into position '2' with force!

3. Remove the 2 bolts from area 'G'.

4. Back off nut 'B' located in the energy store until the spring is loose. A long series 19mm socket may be useful. Note – Never carry out this procedure when the handbrake is in position '1'.

5. Once this system is suitably loose, using a 4mm Allen key remove fastener 'E'. Using a 19mm spanner remove bolt 'C' and slide the handbrake plate down and relocate bolt 'C' in hole 'D' and torque to a setting of 65lb/ft.

6. Relocate the spring energy store rod on the handbrake peg 'F' and using fastener 'E' fix in position. We recommend that a 'stud lock' solution is used with fastener 'E' to ensure secure fixing.

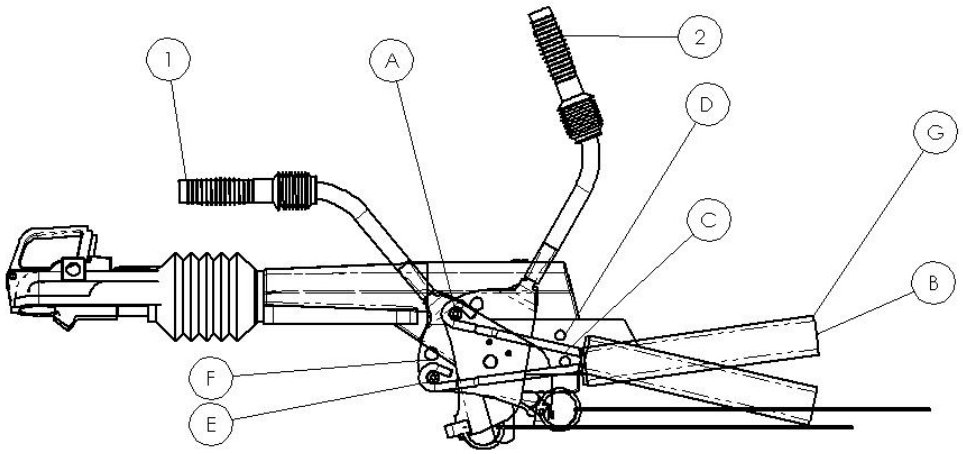
7. Using a 19mm long series socket start to fasten bolt 'B'.
   However, the distances which bolt 'B' is threaded onto the rod is *critical* and therefore must be measured. Use the table to find the correct dimension depending on your coupling type, look at the weight range indicated on the weight plate. The dimensions in the table relate to the distance from the end of the rod to the front face or the top of the nut.

Coupling Type	Weight Range	Dimensions
CP082 / CP083	350 – 750Kg	25mm
CP035 / CP038 / CP041 / CP056	800 – 1800Kg	25mm
CP036 / CP039 / CP042 / CP057	1400 – 2600Kg	28mm
CP037 / CP040 / CP043	2200 – 3500Kg	32mm

8. Ensure both bolts removed earlier from area ‘G’ are replaced properly.

9. Ensuring all parts have been fastened the handbrake can be put back into position ‘1’ and the safety bolt replaced, or alternatively if fitted to a trailer, the brake rod can be attached and adjusted.

ESSENTIAL MAINTENANCE – EVERY 3 MONTHS



To ensure correct operation of handbrake & to allow the SES box to rotate, the pivot must be kept *GREASED AT ALL TIMES*. To achieve this you must:

1. Detach trailer from towing vehicle.

2. Adjust height of trailer with jockey wheel unit until trailer is approximately level (It is important to do this at ground level).

3. Apply handbrake (See diagram A).

4. Push trailer back (so that the wheels are operating in reverse direction). The handbrake should now be in the auto-reverse position (As shown diagram A).

5. SLACKEN off the nut to the end of pivot pin thread
(See diagram B) It is important that the nut is NOTREMOVED.

6. Smear both sides of the washer generously with grease (As shown in diagram B).

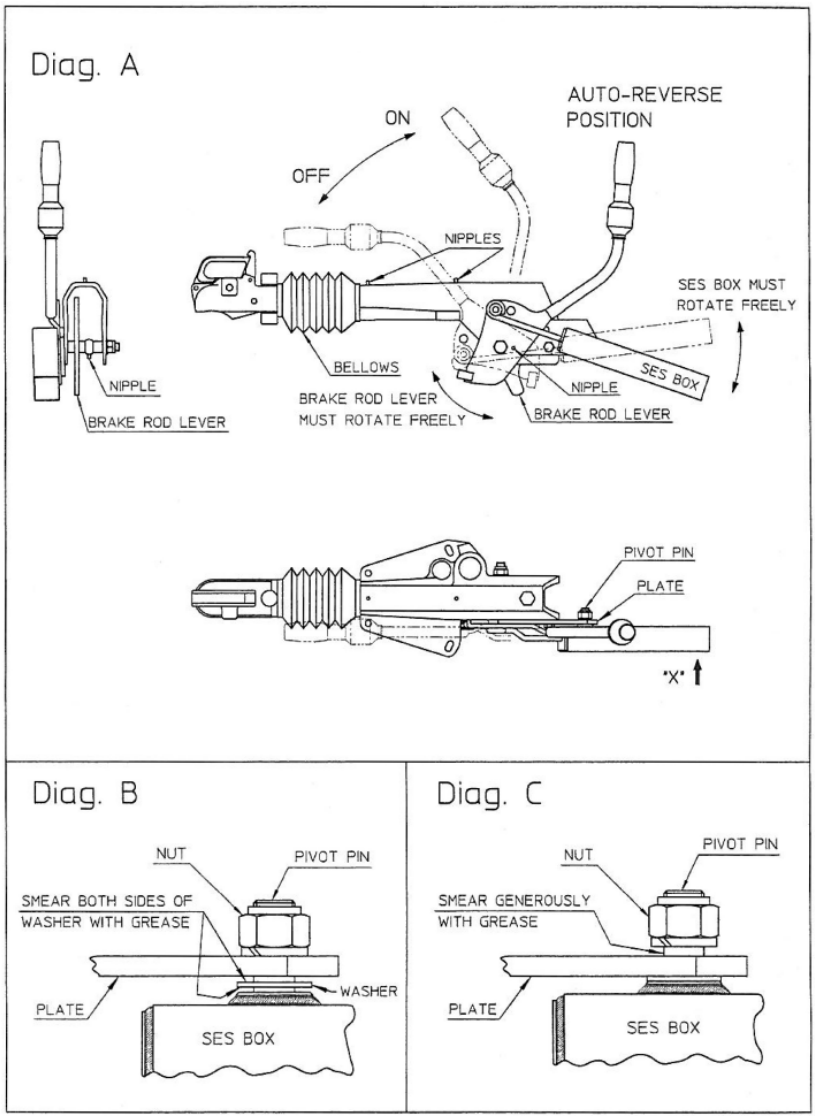
7. Smear the pivot pin generously with grease (As shown in diagram C). To achieve this you must push SES box in the direction of arrow ‘X’ (As shown in diagram A).

8. Tighten the nut until it nips against the plate & then back off by a maximum of a ¼ turn.

9. Check that the SES box rotates freely when the handbrake is used (See diagram A).

MAINTENANCE TO BE COMPLETED AT LEAST TWICE A YEAR

1. Grease all nipples.
2. Grease inside the coupling head & grease towing ball.
3. Check brake rod lever rotates freely.
4. Check all pivot points.
5. Check bellows



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