VEHICLE HEIGHT ADJUSTMENT

Safety: Unit isolated from traction supply.

Vehicles fitted with Mark 6 Motor and B5 Trailer Bogies

1. To compensate for reduced wheel diameter, timber multi-ply packings are fitted under the primary suspension springs in accordance with following:

Mark 6 Motor Bogie

Wheel Diameter (in.)	Total Packing Thickness (in.)
38.0	1.00
38.5	0.75
39.0	0.50
39.5	0.25
40.0	0

B5 Trailer Bogie

Wheel Diameter (in.)	Total Packing Thickness (in.)
33.5	1.25
34.0	1.00
34.5	0.75
35.0	0.50
35.5	0.25
36.0	0

2. With the vehicle on a straight and level track, check the bogie and vehicle heights (see below). Dimensions should be to the parent metal and not accumulated paint. If necessary adjust the primary spring packing to give the following dimensions.

- Mark 6 motor bogies - from rail level to top of bogie headstock 27½" ± ½".
- B5 trailer bogies - from rail level to top of bogie headstock 34¾" ± ½" (Class 421), 34⅜" ± ½" (Class 423).
- From rail level to underside of vehicle solebar 42" ± ½".

A difference of ¾" must not be exceeded between adjacent vestibule heights.

Vehicles fitted with Mark 4 Motor and Commonwealth Trailer Bogies

3. With the vehicle on a straight and level track, check the bogie and vehicle heights (see below). Dimensions should be to the parent metal and not accumulated paint. If necessary adjust the primary spring hangers on Mark 4 bogies, or adjust the primary spring packing shims on Commonwealth bogies, to give the following dimensions.

   On Commonwealth bogies the maximum thickness of shims above and below the springs is ¾". Shims are to be applied between the spring seat and insulation pad.

   - Mark 4 motor bogies - from rail level to top of bogie headstock (not including gussets) 31" ± ½".
   - Commonwealth trailer bogies - from rail level to top of bogie headstock 32½" ± ½".
   - From rail level to underside of vehicle solebar 42" ± ½".

   A difference of ¾" must not be exceeded between adjacent vestibule heights.

AUTOCOUPLER (BUCKEYE AND ALLIANCE) INCIDENT CHECK

SPECIAL TOOLS		
ITEM	**DESCRIPTION**	**BR CAT NO**
1	Buckeye Jaw Gauge, SC/DN27786	
2	Buckeye Not Go Gauge No. 62	

Safety:- Traction supply may be connected.

After an incident in traffic involving a Buckeye or Alliance coupler, the following procedure must be carried out.

Breakaway - Train Becoming Divided

1. **Drophead Buckeye Couplers**

   In the event of a train becoming divided arrangements must be made for the train to be reformed (where practicable) using an emergency screw coupling and worked to a maintenance depot for examination and 'pull-away' test. If for any reason the train cannot be returned to a depot in its original formation, the Fleet Manager in whose area the breakaway occurred must be consulted for disposal instructions or in exceptional circumstances, on-site examination.

2. **Solid Shank Alliance Couplers**

   Where solid shank couplers become uncoupled, no attempt must be made to recouple. The two portions of the train must be disposed of separately in accordance with the Sectional Appendix instructions. Both portions of the train should be returned to a maintenance depot for examination and 'pull-away' tests to be carried out.

3. Maintenance staff called to a breakaway must carry out the requirements of item 5 listed below (as far as possible) and report immediately to the Fleet Manager.

4. When the units/vehicles/locomotives are returned to a depot the examination as detailed in item 5 and 'pull-away' tests are to be conducted by the person nominated to investigate the incident.

5. Examination of the alleged defective couplers should be as detailed below:-

Drophead and Solid Shank

(a) Check and record the position of the knuckle (open or closed).

(b) Examine the front part of the knuckle for signs of bruising, ie evidence of attempted coupling with the knuckle closed.

(c) Examine top and bottom of couplers and vestibule buffers for signs of the couplers having separated vertically.

(d) Check the operation of the knuckle vertical lock and on drophead buckeyes the tell tale.

(e) Check the operation of the lock under coupling conditions as follows:-

With knuckle closed, place a straight edge vertically in line with the knuckle pivot pin against the tail of the knuckle and check that the profiles of the tail of the knuckle and body are approximately in line. If the knuckle tail is protruding or is excessively recessed beyond the profile of the body the lock may fail to drop correctly during a coupling operation (see fig. 1).

(f) Record, if any, the last overhaul date stamped on the head of each coupler. Measure and record the height of the coupler using the height gauge.

Drophead Couplers Only

(g) Examine the release chain for evidence of its having been entangled, and the lever and links for signs of stiffness.

(h) Examine the release chain arrangement and ensure that it is correctly assembled as detailed in fig. 2.

(j) Measure the length of the release chain and check that it is within the limits stated in fig. 2.

After carrying out the above checks, carry out the coupling and 'pull-away' tests with each knuckle open in turn.

6. If the initial examination and 'pull-away' tests are not considered satisfactory, the necessary repairs should be carried out and the couplers re-tested.

7. If the initial examination and 'pull-away' tests were considered satisfactory:-

   (a) Then providing it can be established without doubt that the breakaway occurred immediately after a coupling operation either in service or, in the case of a solid shank coupler, at a Level 4 or Level 5 depot , the vehicles may be returned to service.

   (b) In all other cases the couplers must be changed.

8. Any coupler changed, or any broken parts of the drawgear, should be retained for detailed examination.

9. In the event of the complete train not being returned to a depot for coupler examination and testing due to impracticalities (not just difficulties), the first portion to arrive should be dealt with and, unless the position of the alleged defective coupler is known, the couplers at each end of the unit/locomotive/vehicle must be examined and tested.

10. When the other portions of the alleged defective train arrive in a depot the requirements of item 5 must be carried out.

Failure to Couple Incidents

11. In the event of a failure to couple, (after making several attempts), the same arrangements as for a breakaway must apply.

Reporting

12. The results of all Buckeye coupler examinations and tests must be telephoned to the Fleet Manager in whose area the original breakaway or failure to couple occurred, and confirmed in writing.

Examination of Autocouplers Returned to Repair Shops

13. When autocouplers involved in a breakaway incident are returned to depots for examination, the following additional checks should be carried out:-

Drophead Buckeye Couplers

(a) Insert gauge SC/DN 27786, attempt to close the knuckle and check that the knuckle can fully close and the lock drop.

Carry out on both the top and bottom ears of the knuckle (see fig. 3).

(b) Use Not Go gauge No. 62 with the knuckle closed (see fig. 4).

(c) Dismantle the coupler and examine with particular reference to checking the following points:-

Worn spring locations on the top of the lock.

No spring stop on the top of the lock.

'Tell-tale' pin bent.

No radius on the lock knuckle contact face.

Evidence of the end of the drawbar hook fouling the lock through the back of the coupler body.

In the event of failure to couple incidents, examine the profile of the knuckle and coupler body and ensure that the knuckle profile is inside that of the coupler body.

Solid Shank Alliance Couplers

(d) Use Not Go gauge No. 62 with the knuckle closed (see fig. 4).

(e) Dismantle the coupler and examine with particular reference to checking the following points:-

Bruising on the corner of the lock and the top of the knuckle lock contact face.

Check the angle of the knuckle lock contact face using the appropriate gauge.

Check for bent kicker arms.

14. If after examination at a depot no defects can be found on the couplers in question, the couplers are to be fitted to two units such that the couplers can be coupled together, and arrangements made for a test run. Only after satisfactory completion of the test run are the couplers to be allowed back into service.

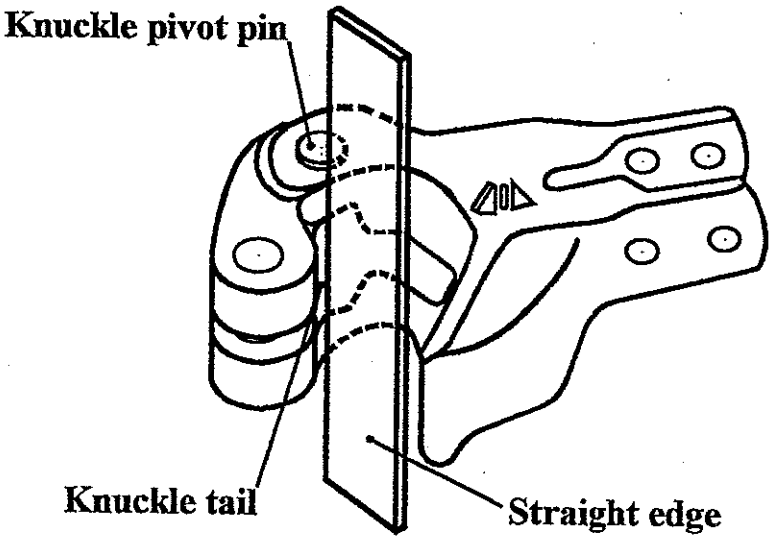

Figure 1 - Knuckle To Coupler Body Alignment

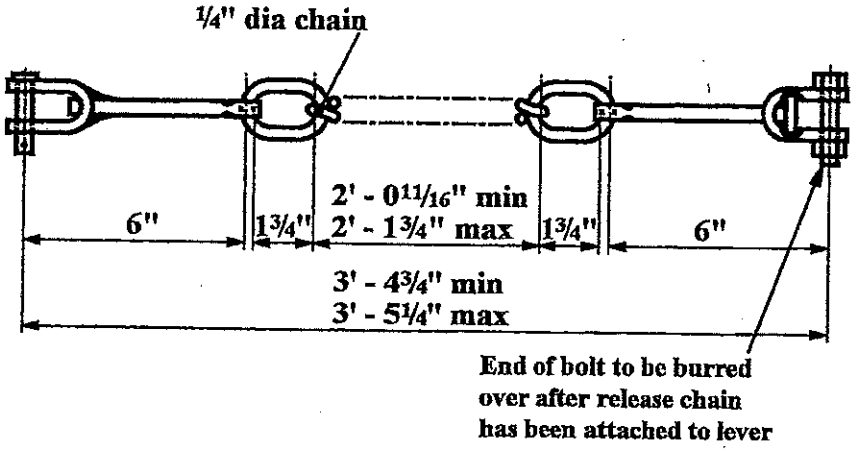

Figure 2 - Release Chain Arrangement

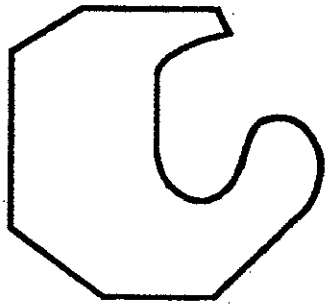

Figure 3 - Gauge Chain Arrangement

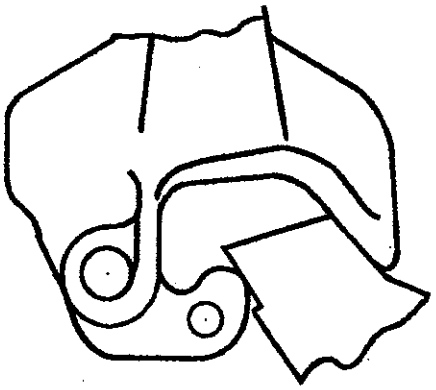

Figure 4 - Use Of No-Go Gauge

SEAT COVER RENEWAL

Safety:- Auxiliary supply connected.

Note:- (a) Seat covers are normally changed in unit sets.

(b) Where necessary to change individual covers because of damage or soiling, the replacements should, as far as possible, match the existing seat decor.

1. Remove the seat cushion by lifting the front edge of the cushion by approximately 2 inches to disengage the spring clip and then pulling the cushion forward to disengage the rear locating plates.

2. The squab is removed by pulling the bottom of the squab away from the set shell, so disengaging the spigots from the clips and then pulling down to release the top spigots from behind the top retaining plates.

3. Removing the squab allows the head roll to drop down disengaging its spigot from the retaining plate.

4. The covers are removed from the cushions by separating the black 'velcro' contact surfaces by gently pulling apart, and then working the cushion out of the cover.

5. Refitting is in the reverse order, the head roll being held in place while the squab is pushed up to engage its top retaining plates and thereby securing the head roll in position. The squab should be pushed up sufficiently to allow the bottom spigots to locate in the clips on the seat shell.

6. Ensure all cushions are correctly located and fitted so they do not become loose in service.

WINDSCREEN WIPERS AND WASHERS, RECTIFICATION OF DEFECTS

TORQUE FIGURES		
ITEM	**DESCRIPTION**	**TORQUE lbf. ft.**
1	BPM Wiper Arm Nut	10 (13.5 Nm)

Safety:- Auxiliary supply connected. Unit air system charged.

FPK and FPH Types

1. **Adjustment of Speed of Wipe**

With full main reservoir air pressure and the window under a continuous spray of water, slacken the locknut on the needle valve in the rear of the control valve. Turn the control valve to 'Run' and adjust the needle valve to obtain a speed of 108-120 single wipes per minute. (This is equal to 9-10 double wipes in 10 seconds). Tighten the needle valve locknut and ensure the speed of wipe remains constant.

2. **Failure to Operate**

If the motor will not run, check the air supply by disconnecting both air lines from the motor. Turn the control valve to 'Park' and air should flow from the 'Run' end line only. Turn the control valve to 'Run' and air should flow from both lines.

If no air flows, release the locknut on the needle valve in the rear of the control valve and unscrew the needle valve half to one turn.

If the air still does not flow, remove the supply line to the control valve and check that air is flowing. If air is now flowing check for a blockage in the supply line. If air supply line is clear, change the control valve then re-check the motor.

BPM Types

3. **Area Wiped**

If a small area of window only is being wiped then the wiper arm is loose on the drive shaft. To tighten proceed as follows:-

Remove the arm from the drive shaft. Wire brush the serrations on the end of the shaft to remove impacted material.

Fit the old cone, or preferably a new one, to the drive shaft followed by a plain washer. Reverse the arm retaining nut and use it on the shaft to tighten the drive cone securely.

Remove the nut and washer. Refit the arm in the correct position and tighten the retaining nut using a torque wrench.

Test to ensure the correct area of window is wiped and that the blade does not strike the window frame.

4. **Failure to Operate**

Check that wiper is not loose on its drive shaft. If it is, tighten as in item 3.

If tight, check that the air lines are connected correctly as below and as shown on fig. 1:-

Air lines from the filter

One to No. 1 on motor
One to No. 1 on control valve

Air lines from the control valve

No. 2 to No. 2 on motor
No. 3 to No. 3 on motor
No. 4 exhaust to atmosphere
No. 5 to pressure vessel.

The air flow from the pipes should be as follows:-

With control valve set to 'Slow' air flows from No. 2 pipe only.

With control valve set to 'Fast' air flows from Nos. 2 and 3 pipes.

With control valve set to 'Wash' air flows from Nos. 2, 3 and 5 pipes.

If the air flows are found to be correct and with all pipes connected the motor will not run, change the motor.

5. **Adjustment of Speed of Wipe**

If the air supply to the motor is correct adjust the speed of wipe of the motor as follows:-

(a) Turn the control valve to the 'Slow' position, and with the windscreen under a continuous spray of water adjust the lower of the two screws to obtain the correct speed of 108-120 single wipes per minute.

(b) Turn the control valve to the 'Fast' position, and with the windscreen under a continuous spray of water, adjust the upper of the two screws using a 2mm hexagon key to obtain the correct speed of 132-144 singles wipes per minute.

See also Figure 1.

Washer Equipment

6. If the washer does not function check the following:-

Water container if full.
Air issues from pipe No. 5 when control is turned to 'wash' position.
Air and water lines are connected to the pressure vessel.
Line from pressure vessel to jets is connected. Jets are clear.

7. If after above checks washer does not function, change the pressure vessel.

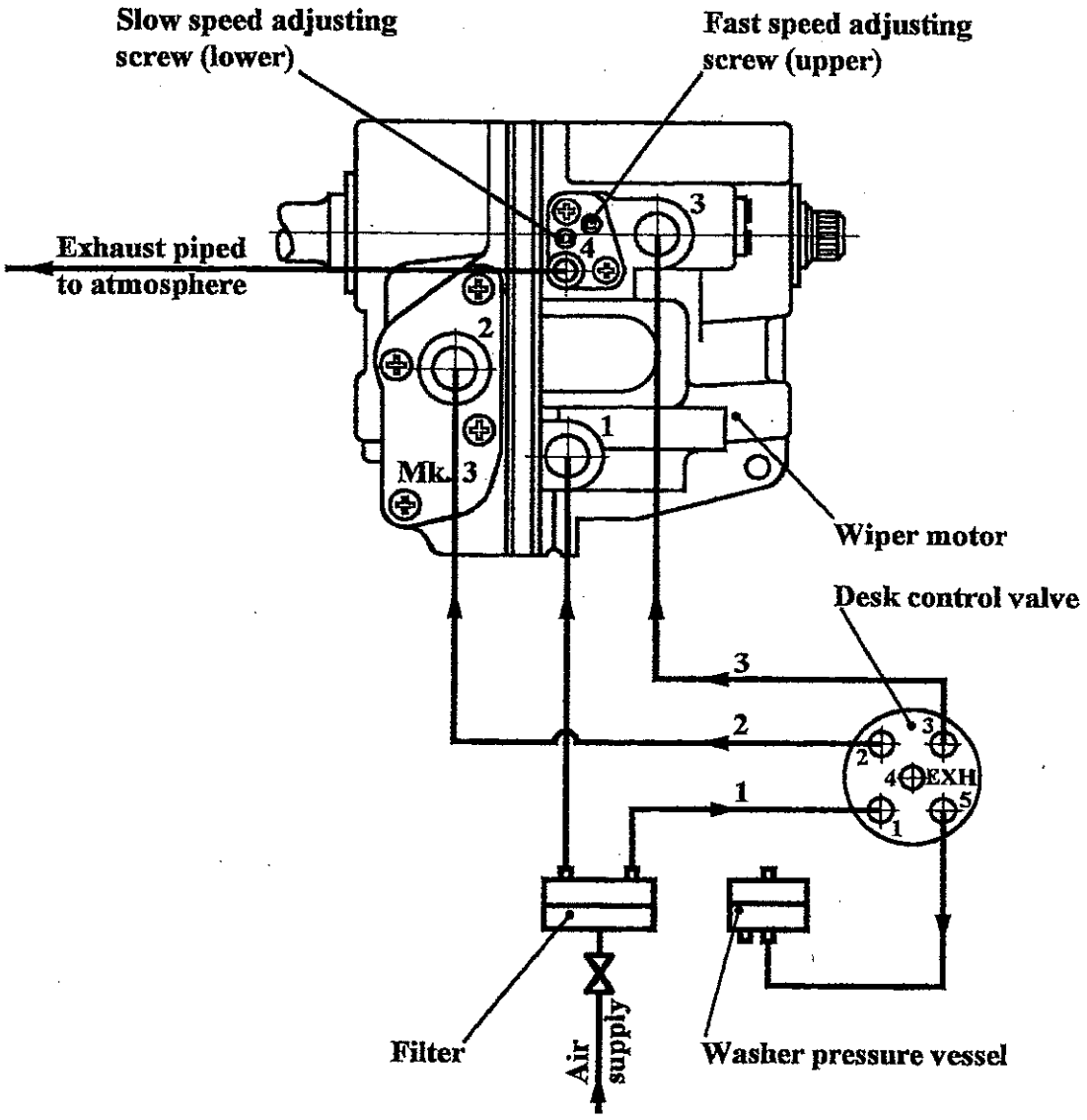

Figure 1 - Wiper Motor Adjustment And Details Of Air Connections

CHECKING INTERMEDIATE COUPLERS AFTER RECOUPLING VEHICLES

Safety:- Unit isolated from traction supply.

1. After vehicles have been recoupled ensure that the couplers are correctly coupled, i.e. the bottom lifter is hanging down from the underside of the coupler, indicating that the lock has dropped fully, and that the top of the side lever is against the side of the coupler head.

2. When the above checks have been made carry out a pull-away test on the relevant coupler(s).

BUCKEYE COUPLER HEIGHT ADJUSTMENT

Safety:- Unit isolated from traction supply.

If the height of the coupler above rail level is incorrect the following action must be carried out.

1. Check bogie and vehicle heights. If possible adjust to correct height or notify Supervisor if no adjustment is possible.

2. If the coupler height is still incorrect examine the ferrobestos wearing plate under the drawhook. This should be renewed if the wear exceeds 0.125 in. (A new plate is 0.75 in thick). If extra packing is required to compensate for any wear on the underside of the drawhook and spares are not available the amount of packing should not exceed the corresponding amount of wear on the drawhook. This extra packing MUST NOT be placed between the ferrobestos plate and the drawhook, but underneath the ferrobestos plate, thus suppressing any further wear on the drawhook.

3. If the coupler is still outside the allowable height range the drawgear must be dismantled. Examine support pin and renew if worn or bent. Using a new pivot pin as a gauge piece, gauge the hole in the coupler. If the wear exceeds 0.125 in. in diameter a reconditioned coupler must be fitted. Gauge also the hole in the drawhook which also should be changed if wear exceeds 0.125 in. in diameter.

4. Disconnect the drawhook and tail pin and examine the tail pin for damage or defect. Renew if bent or worn. Re-assemble drawgear and check height of coupler with the knuckle in the closed position. If the coupler is still outside the allowable height range notify the Supervisor for further action to be taken.

BUCKEYE COUPLER KNUCKLING SPRING RENEWAL

Safety:- Unit isolated from traction supply.

Removal

1. Open coupler with release lever.

2. Remove release lever split pin, pin and release lever. Note position of any packing washers fitted.

3. Remove split pin from knuckle pin, remove pin and knuckle. Note position of any packing washers fitted.

4. Remove lock bolt.

5. Remove split pin retaining spring stud, remove spring stud, broken knuckling spring and two distance pieces. These distance pieces will be of two different lengths and care should be taken to ensure that they are refitted at the correct ends of the spring.

Refitting

6. Fit knuckle spring, taking care to ensure that the barrel of the spring is correctly located on both the cast in spigot of the coupler body and the removable spring stud. Fit retaining split pin to spring stud. Ensure that distance pieces are the correct way round.

7. Fit lock bolt. Ensure that tail spring is correctly positioned in slot at top of bolt.

8. Fit release lever complete with pin and split pin.

9. Move lock bolt into the up position by means of the release lever.

10. Fit knuckle, taking care that 'T' end of spring is correctly positioned. Fit knuckle pin and split pin.

11. Test operation of coupler.

Note:- On stock fitted with vestibule buffer it is necessary to remove drop pin and lower coupler to enable knuckle pin to be removed. This should be carried out after item 2.

FRICTION DAMPER OVERHAUL

MATERIALS			
ITEM	**DESCRIPTION**	**QTY/UNIT**	**BR CAT NO**
1	Grease, Lithium 3 (50kg)	As req'd	027/001356
2	Damper Top Fixing Nut, 7/8" BSW Nyloc		003/079854
3	Damper Top Fixing Nut, M24 Nyloc		003/180062

TORQUE FIGURES		
ITEM	**DESCRIPTION**	**TORQUE Nm**
1	Top Fixing Nut (Imperial)	247
2	Top Fixing Nut (Metric)	266

Safety:- Unit isolated from traction supply.

Mark VI Bogie

1. Remove the split pin, sleeved nut, spring guide, compression spring, washers, shouldered bolt and friction discs.

2. Examine carrier bushes for damage, remove any dirt or corroded deposits and check that the bushes are secure in the housing.

3. Renew the friction discs and check that they move freely in the carrier bushes. Check that the diametral clearance of the friction disc in the carrier bush is not more than 3/32".

4. Examine the friction faces of the link for wear and renew if required.

5. If necessary remove the top fixing bolts, clean, apply a smear of grease (see Materials item 1) to the bolt shank only and re-assemble with new nuts (see Materials item 2 or 3), tightened to the correct torque setting (see Torque Figures item 1 or 2).

6. Assemble the friction discs, washers, shouldered bolt, compression spring, spring guide and sleeved nut. Tighten up the sleeved nut solid on the shouldered bolt, and check that the length of the compression spring is 2.3/16".

7. On completion fit a new 1/4" diameter x 1.3/4" in long split pin.

B5 Bogie

8. Remove split pin, castle nut, shouldered bolt, washers and tension spring.

9. Remove friction discs from carrier brackets.

10. Examine bores of carrier bracket for damage, and remove any dirt or corroded deposits. If bushes are fitted check that they are secure in carrier brackets.

11. Check the friction discs, and renew if damaged or down to scrapping (7/8" thickness overall and/or 3.3/4" in diameter).

12. Remove accumulated dirt from the friction discs, clean up the disc faces, and ensure they are flat and true.

13. Check the friction discs are free to move in the carrier brackets.

14. Check the shouldered bolt in the bottom link is tight, and the rubber bush is in good condition.

Note:- Before tightening bolt in bottom link, ensure that the link is in the vertical position.

15. Change defective items.

16. On re-assembly, the castle nut is to be pulled up solid on the shouldered bolt and the length of the tension spring checked.

17. The correct spring length (2.3/4" maximum, 2.11/16" minimum) must be obtained by the use of shims to Drawing No. ES17052/9 or 10, and NOT by altering the position of the castle nut.

18. On completion of re-assembly, fit a new 1/4" split pin to the castle nut.

SECURING SPEEDO GENERATORS AND AXLEBOXES

MATERIALS			
ITEM	**DESCRIPTION**	**QTY/UNIT**	**BR CAT NO**
1	SKF Cover/Adaptor Fixing Screw, $^{3}/_{8}$ in BSW X 1 in long		
2	SKF Lock Washer		003/090512 or 012/046389
3	Commonwealth Timken Cover/Adaptor Fixing Screw, $^{5}/_{8}$ in BSW X 1 $^{3}/_{4}$ in long		
4	Commonwealth Timken Lock Washer		003/090528 or 012/046389
5	Locking Wire		022/027558
6	MKIII and IV Timken and Hoffmann Adaptor Fixing Screw, $^{7}/_{8}$ in BSW		
7	Speedo Generator/Adaptor Fixing Screw, $^{7}/_{16}$ in BSF X 1 $^{1}/_{4}$ in long ECP 'R' grade		

TORQUE FIGURES		
ITEM	**DESCRIPTION**	**TORQUE lbf. ft.**
1	SKF Cover/Adaptor Fixing Screw	30
2	Speedo Generator/Adaptor Fixing Screw	45

Safety:- Unit isolated from traction supply.

Securing of Speedo Generator and Mileage Counter Adaptors

1. **SKF Axleboxes and Timken Axleboxes on Commonwealth Bogies**

On the above applications the fixing screws securing the speedo generator adaptors and mileage counter adaptors to axleboxes are to be wire locked. This wire locking is in addition to the lock washers presently used on these fixing screws.

The screws are to be torque tightened.

The locking wire must be threaded through the head of each screw in the direction which will resist loosening of the screws.

The locking wire securing the screws which fix the speedo generator to the adaptor and speedo generator cover must also be fitted in the correct way (See Figure 2).

Each time screws are refitted fresh locking wire must be used.

2. **Timken Axleboxes (except Commonwealth Bogies) and Hoffmann Axleboxes**

The adaptors are secured to the axleboxes as under:-

Hoffmann Type - 7/8 in BSW set screws, slotted nuts and split pins.

Timken Type - 7/8 in BSW set screws and tab washer.

Securing Speedo Generators, All Stock

3. All speedo generators are to be secured to the adaptor plate using 7/16 in BSF x 1 1/4 in long ECP 'R' grade set screws drilled with two 5/64 in diameter holes through the head for locking purposes. These are to be torque tightened and wire locked as shown in Figures 1 and 2.

Securing of Front Plain Covers

4. **SKF Axleboxes and Timken Axleboxes on Commonwealth Bogies**

These axlebox front cover set screws must be secured by lock washers of the types listed under Materials.

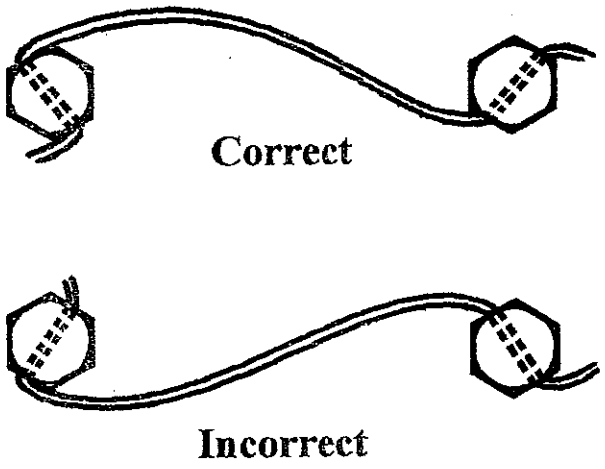

Figure 1 - Wire Locking Method

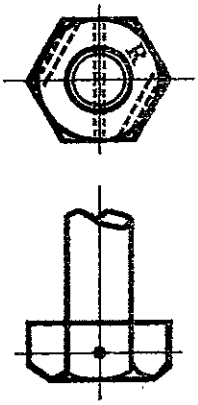

Figure 2 - Drilling Details

TIMKEN BEARING END CAP

MATERIALS			
ITEM	**DESCRIPTION**	**QTY/UNIT**	**BR CAT NO**
1	End Cap Set Bolt, $^{5}/_{8}$ in dia.		
2	Locking Wire		022/027558

TORQUE FIGURES		
ITEM	**DESCRIPTION**	**TORQUE lbf. ft.**
1	End Cap Set Bolt	100

Safety:- Unit isolated from traction supply.

1. This instruction applies to Timken bearings fitted to double thrust axleboxes on motor and trailer bogies, and must be adhered to whenever a bearing cap is removed during the course of ultrasonic axle testing.

2. The bearing retainer end cap is secured to the axle by three $^{5}/8$ in diameter set bolts and these should be tightened with a torque wrench. These bolts are then locked as normal by the 15 SWG galvanised wire.

REPAIR OF BODYSIDE LIGHT FRAME

MATERIALS AND EQUIPMENT			
ITEM	**DESCRIPTION**	**QTY/UNIT**	**BR CAT NO**
1	Avdel Monobolt (Avdel Pt. No. 2761-0821)	-	-
2	Avdel Genesis G3 Installation Tool (Avdel Pt. No. 71220-00201)	-	-
3	Priming Kit (Avdel Pt. No. 07900-00688)	-	-

REFERENCE DOCUMENTS		
ITEM	**DOCUMENT NO.**	**TITLE**
1	TB/TP0022	NSE Procedure for Maintenance Painting of T & RS (Class 411 and 412)
2	EV/TP1855	Vehicle Maintenance Painting Schedule (Class 421 and 423)
3	SWT-C0-2506001	Painting and Lettering Diagram NSE Livery - Class 411 and 412
4	TES-C0-8374907	Painting and Lettering Diagram SWT Livery - Class 411 and 412
5	EVL-C0-2000779	Painting and Lettering Diagram NSE Livery - Class 421
6	EVL-C0-2000782	Painting and Lettering Diagram SWT Livery - Class 421
7	EVL-C0-2000780	Painting and Lettering Diagram NSE Livery - Class 423
8	EVL-C0-2000781	Painting and Lettering Diagram SWT Livery - Class 423

Safety:- Unit isolated from traction supply.

1. Test the security of the bodyside light by applying heavy hand pressure to the glass from inside the vehicle, attempting to force it away from the bodyside. If any movement is detected, replace alternate rivets (i.e. every other one) and any rivets that are visually loose as follows:-

   Note:- Visually loose rivets are to be replaced to prevent water ingress.

   1.1 Remove rivet using a 1/4 inch drill taking care not to elongate the existing hole.

   1.2 Fit Avdel "monobolt" to Avdel Part Number 2761-0821 using Avdel Genesis G3 Installation Tool to Avdel Part Number 71220-00201 in accordance with manufacturer's instructions.

Note:- The installation tool shall be primed in accordance with manufacturer's instructions using priming kit to Avdel Part Number 07900-00688.

2. If movement is not detected in section 1 above, visually examine the exterior of the bodyside light frame for cracks in the paint around the rivet heads and along the bodyside/frame interface. If cracks are found or loose rivets are evident on visual examination, replace the rivet concerned in accordance with sections 1.1-1.2.

3. Repeat the push test specified in section 1 and rectify any movement found as required. If movement cannot be rectified, the bodyside may be corroded which will require removal of internal fixtures for confirmation. In such cases inform the Supervisor.

4. Paint exposed areas in accordance EV/TP1855 for Class 421 and 423, and TB/TP0022 for Class 411 and 412. Colours to be as specified on the relevant painting and lettering diagrams (see Reference Documents items 3 to 8).

APPLICATION OF FLUORESCENT TAPE TO BODYSIDE DOORS

MATERIALS AND EQUIPMENT			
ITEM	**DESCRIPTION**	**QTY/UNIT**	**BR CAT NO**
1	Scotchcal Tape, Saturn Yellow (3M Colour Code 3485, Self Adhesive, Premasked, 25mm Wide	-	056/134046

Safety:- Wheels scotched.

1. Prepare door edge by removing loose paint, scale or dirt and rubbing down any high spots.

2. Clean and degrease the door edge using industrial methylated spirits.

3. The tape is to be positioned approximately 1mm from the door check so as to maintain the 6mm dimension from the outside edge of the door wherever possible.

4. When fitting the tape it is to be:-

   (a) fitted to within 5mm of either side of the budget/private lock

   (b) fitted to within 5mm of either side of the doorlock

   (c) fitted to within 5mm of either side of the dovetails

   (d) cut 25mm short of the top and bottom of the door

5. The tape must be cut at right angles with a sharp knife.

6. After fitting the tape it must be pressed firmly onto the door edge using a plastic squeegee.

7. Paint the leading edge of the door to seal round the tape and allow to dry.

8. Peel-off the pre-masking from the tape.

9. Carry out a full door test ensuring that there is no contact between the between the door/tape and doorframe on opening and closing, and with the door closed that the tape has not in any way affected the correct operation of the lock. Refer to Job 625.